

Led by experience. Driven by curiosity.

Solving for what's next.

Comet Holding AG
Annual Report
2021



c•met
group

As a leading technology company in the plasma control and x-ray space, we are part of the digital transformation. In all our markets, this megatrend is powering sustained growth. Focused and flexibly positioned, we want to take advantage of this driving force and grow more quickly than the market in a sustainable way. Our strong underpinnings for this are our experience and our highly skilled employees, the confidence of our customers and our sound capital base.

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Comet Group locations



Statement of the Chairman and the CEO

Comet surpasses expectations in a challenging year.

In 2021, Comet achieved its best results ever. For the first time, we broke the CHF 500 million sales barrier and generated net income of CHF 67.4 million. This was above guidance and expectations, despite all the challenges and headwinds from pandemic-related disruptions and supply chain issues.



"The Group successfully overcame the pandemic-related bottlenecks."

Heinz Kundert

Chairman of the Board of Directors

COVID-19 was a fact of life in 2021, and we have learned to live with it. In fact, living, working, learning, and consuming in the virtual space has become part of our new "normal". Not only have we adapted to this situation, but in many ways we have thrived.

Thanks to a continued focus on Comet's core businesses in the areas of critical high-performance subsystems for semiconductor manufacturing as well as systems and modules for non-destructive testing, we launched new products, expanded our subsidiaries worldwide to meet increased demand, and ultimately improved our customer satisfaction. This is the result of our employees' high commitment to innovation and to going above and beyond for our customers. We thank our customers for their trust, and our employees for their great efforts to manage such a challenging but ultimately successful year.



**"Comet kept focus
and emerged
stronger."**

Kevin Crofton
CEO of the Comet Group

Comet will continue to invest in new technologies and operational improvements to keep pace with the demands in our sectors. We will continue our global expansion in the coming years as the demand for semiconductor devices and high-performance testing equipment remains strong. Our addressable markets offer diverse opportunities driven by the world's need to improve connectivity and confront societal challenges such as climate change and the generation of renewable, clean energy. Device performance will continue to increase and become more efficient. Big Data and artificial intelligence will lead us to smarter decisions, greater efficiency, and the elimination of waste. Digital transformation will continue to require new, forward-looking technologies. At the same time, we see accelerated investments triggered by post-COVID-19 shortages and the trend toward regional resilience and independence – which spurs additional demand.

Sustainability is integral to the high-performing organization we want to be. Solidarity with those in need, support for educational projects, purchasing of green electricity, conservation of resources, and diversity have all been practiced and embraced at Comet for many years. But we want to do even more. To live up to our responsibility as a global corporate citizen, we will tackle these issues in a structured way, set long-term goals, and make incremental improvements. In 2021, we launched our formal sustainability initiative and took stock of where we stand. The result is our first sustainability report. Our aim is to use future-proof, measurable sustainability criteria to create value that goes beyond shareholder returns and to systematically improve our environmental, social and governance performance.

To enhance shareholder value, we are committed to good corporate governance. Compliance remains a priority to protect the long-term interests of our shareholders, customers and employees. The entire Board of Directors and management team are committed to enhancing our position as a model of compliance and social responsibility.

We want to thank you, our shareholders, for your support of the company. We also wish to again thank our customers for their confidence in us, and our suppliers for their good collaboration. And finally, we thank our employees for their tireless focus on execution.

Expert view



Trends - Enabling an even more connected future.

[▶ Read more](#)



Technologies - Innovation of tomorrow: faster, more energy-efficient, networked.

[▶ Read more](#)



People & Planet - Driving change for a more sustainable future.

[▶ Read more](#)

Trends – Technologies – People & Planet

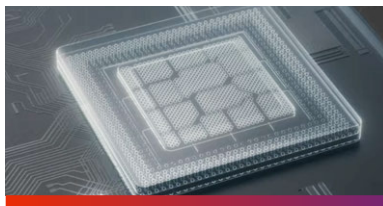
How Comet is solving for what's next.

Highlights of 2021



Prepared to exploit new potential in Asia.

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First inspection workflow for the semiconductor industry

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Comet technologies at the heart of critical manufacturing processes.

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Rapid innovation and shorter time to market for our customers.

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Mission ongoing: Supporting change for a sustainable future.

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Values for success.

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Review of 2021

Comet delivers strong performance.

In the second year of the COVID-19 pandemic, Comet again achieved robust results. The Group successfully managed the pandemic-related bottlenecks in the global supply chains, maintaining the ability to deliver dependably to customers. The Group continued on its growth trajectory and achieved a strong improvement in EBITDA operating earnings.



"Our focus on executing the strategy paid off: Comet reached all-time high EBITDA operating earnings of CHF 102.7 million."

Lisa Pataki
CFO of the Comet Group

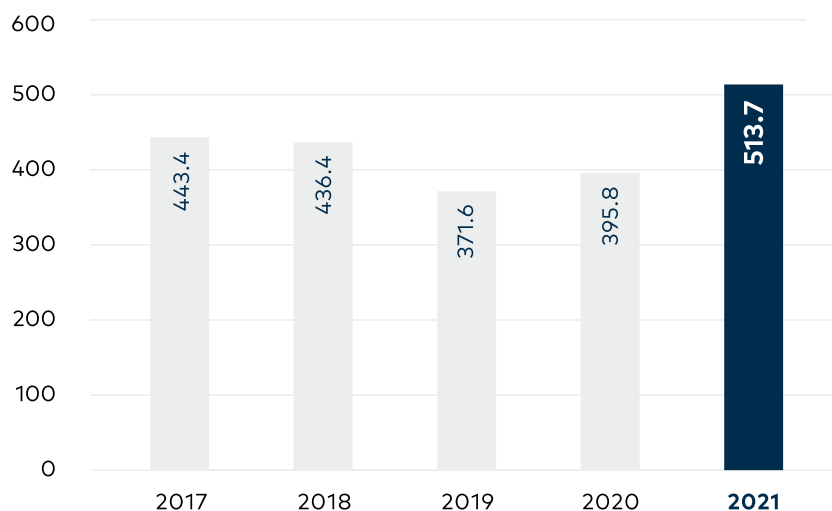
Net sales grew by 29.8% from the prior year to CHF 513.7 million. Thanks to strong sales volumes and more efficient processes, the EBITDA margin improved from 14.8% to 20.0%. Net income rose by 143.8% to a new all-time high of CHF 67.4 million, or CHF 8.68 per share. The increase in profitability buoyed free cash flow, which grew from CHF 41.6 million to CHF 57.8 million. The Group's balance sheet is very sound, with an equity ratio of 56.1% and a net debt/EBITDA ratio of -0.4.

Substantial growth amid the strong demand from digitalization, improving travel conditions and pick up in select automotive areas – overcoming supply bottlenecks

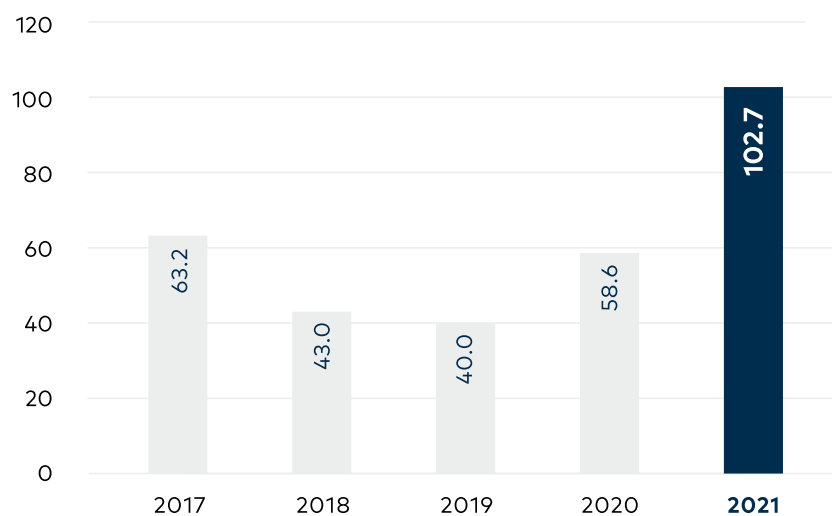
In 2021, the Group took advantage of its opportunities in the semiconductor and electronics industry. This market is booming thanks to the increasing interconnectedness of our world and the accelerated investment triggered by post-COVID-19 shortages and by the trend toward regional independence and resilience, all of which are driving a sharp rise in demand for semiconductors and electronics. In addition, the automotive, aerospace and security inspection markets picked up as travel increased, and despite the resurgence of the pandemic in the final months of the year. By taking swift and proactive measures, Comet was able to maintain its readiness to supply customers in spite of global bottlenecks. Furthermore, Comet continued to see a regional shift in its revenues. In 2020, Asia, Europe, and North America had accounted for a respective 33.0%, 17.8% and 47.0% of Group sales. In 2021, Asian regional sales grew by 60.3% year-over-year to 40.8% of Group sales. This shift is due both to the efforts of Asian nations to enter the semiconductor industry, and to Comet's deliberate investments in this region.

The Plasma Control Technologies division, with sales growth of 36.2% to CHF 306.1 million, accounted for the largest portion of the Group's sales of CHF 513.7 million. The x-ray businesses benefited from their increasing focus on the semiconductor and electronics market, the gradual recovery in their core automotive, aerospace and security markets, and successful new product launches: The X-Ray Systems division grew its sales by 30.1% to CHF 138.9 million, and sales of the X-Ray Modules division rose by 28.4% to CHF 78.9 million.

Net sales in CHF million



EBITDA in CHF million



Significant increase in profitability, ROCE almost doubled

In 2021, the sales growth combined with efficiency measures led to a 75.3% jump in the Comet Group's operating earnings at EBITDA level from CHF 58.6 million to CHF 102.7 million – despite higher procurement costs due to bottlenecks in raw materials, components and logistics.

The lion's share of the group's growth came from Plasma Control Technologies (PCT): Double-digit sales growth and more efficient manufacturing processes helped the division to increase its EBITDA operating earnings from CHF 49.3 million to CHF 80.5 million, corresponding to an EBITDA margin of 26.3%. In the x-ray businesses as well, the high sales volume and efficiency gains through optimized, faster production processes were reflected in earnings. After a loss of CHF 1.0 million in 2020, the X-Ray Systems division (IXS) returned to profitability with EBITDA of CHF 8.9 million and an EBITDA margin of 6.4%. X-Ray Mod-

ules (IXM) improved its EBITDA by 69.2% from CHF 9.0 million to CHF 15.3 million, representing a margin of 19.4%.

Group net income rose markedly from CHF 27.7 million to CHF 67.4 million. Return on capital employed increased from 13.6% in the year before to 26.8%.

Comet Group key consolidated financial results

In thousands of CHF	2021	2020	2019	2018	2017
Net sales	513,721	395,816	371,606	436,356	443,370
Operating income	84,085	39,329	19,939	18,771	50,737
In % of net sales	16.4%	9.9%	5.4%	4.3%	11.4%
EBITDA	102,749	58,616	39,974	42,966	63,203
In % of net sales	20.0%	14.8%	10.8%	9.8%	14.3%
Net income	67,437	27,661	12,027	12,347	35,336
In % of net sales	13.1%	7.0%	3.2%	2.8%	8.0%
Operating cash flow ¹	70,489	57,045	48,688	27,727	38,353
In % of net sales	13.7%	14.4%	13.1%	6.4%	8.7%
Total assets	490,415	429,271	391,710	380,266	389,789
Shareholders' equity	274,981	214,956	195,948	198,292	201,548
In % of total assets	56.1%	50.1%	50.0%	52.1%	51.7%
Number of employees (year-end)					
Switzerland	565	474	494	509	535
International	1,006	929	836	837	900
Total	1,571	1,403	1,330	1,346	1,435

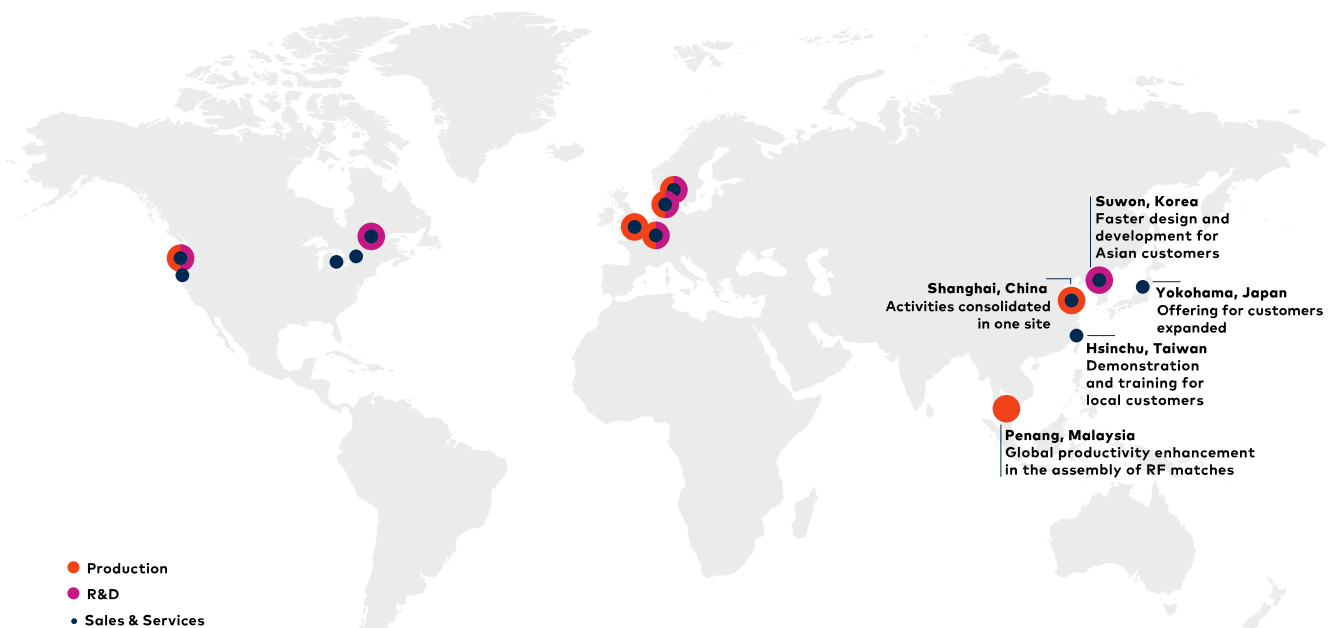
¹ Net cash provided by operating activities, as per consolidated statement of cash flows.

Efficiency, growth, culture – strategy execution broadly successful

Following the successful divestiture of the ebeam business in 2020, 2021 was the first year in which Comet was able to fully focus on the established technologies of plasma control and x-ray, as well as on the expansion of the service business based on artificial intelligence. The fruits of the strategy implementation are evident in all divisions and in all three dimensions of the strategy program: growth, efficiency and culture.

Strengthened product portfolio, full pipeline: With new RF design wins, four x-ray systems releases for faster and more precise non-destructive inspection, and a module portfolio reinforced with several innovations, Comet is positioned for broad-based future growth. Highlights include the first x-ray inspection workflow for electronics evaluation realized in collaboration with the ORS team acquired in 2020 and the first x-ray system sale for the inspection of advanced packages in the semiconductor market. The pipeline of RF power products is also full: Comet's new RF generator was successful in customer beta tests, with the first sales planned for 2022. A new matching network controller and more powerful vacuum capacitors are close to their market launches.

Increased presence in the growing Asia region: With the opening of the new site in Taiwan, the expanded sales and service organization in Japan and the expansion of the R&D and demo center in Korea, Comet is ideally positioned to serve the needs of its clientele in Asia. Production was also successfully ramped up at the previously opened site in Malaysia.



Global footprint with increased presence in Asia

More efficient organization and processes: In 2021, Comet boosted its productivity per employee. To drive further improvements, Comet established Operational Excellence and Strategic Purchasing functions at Group level. To improve interaction between functions as well as their collaboration across regions worldwide, it also aligned support functions more globally. A worldwide pulse survey of all employees confirmed the good progress made toward becoming a higher-performing organization.

Important advances were achieved in the realignment of the X-Ray Systems business; this led to close collaboration with major customers in the semiconductor industry.

Stronger culture – with shared values, large-scale training and global talent development program: Comet in 2021 refined its common values of collaboration, customer orientation and empowerment. These values were conveyed and reinforced in dedicated training sessions for 240 team leaders, who then each held a workshop for their own team. In addition, Comet enabled sales training for 75 employees and provided corporate governance-related training for all staff. Comet also launched a new program in 2021 to systematically identify and develop its existing talent.

Board changes

Tosja Zywietz was elected to the Board of Directors by shareholders in 2021. He is a proven expert in semiconductors, electronics, sensor technology and operations – areas of great importance for Comet. Tosja Zywietz succeeded Rolf Huber, who after 13 years of service as a Board member had decided not to stand for re-election.

Dividend

At the Annual Shareholder Meeting on April 14, 2022, the Board of Directors will propose a dividend of CHF 3.50 per share (2021: CHF 1.30). This represents a distribution of 40% of the Group's net income (2021: 37%).

Plasma Control Technologies

The boom in the semiconductor industry continued in 2021. Major trends such as artificial intelligence, machine learning, high-performance computing and data storage applications are driving the development of more sophisticated chips with ever growing capabilities. The steady increase in complexity in the latest chip designs continues unabated, which requires more and more plasma processes in production, thus opening up more opportunities for the Plasma Control Technologies division (PCT).



"We managed our growth very effectively and reliably served our customers."

Michael Kammerer
President, Plasma Control Technologies

In this extremely favorable environment, PCT has further expanded its leading market position in vacuum capacitors and impedance matching networks (also known as matches). This is reflected in an increased number of design wins compared to the previous year. The Asia Design Center, opened in Korea at the end of 2020, also made a gratifying contribution to this success. To meet the growing demand, PCT increased its investments in production capacity, operational efficiency and a customer-centric mindset. This focus was recognized with a "Supplier Excellence" award and an "Excellent Partner" award from our customers. Comet ramped up its new production of matches in Penang according to plan and, in the course of this, transferred products from the San José factory to Malaysia. With 20% capacity utilization at year-end, Penang has already operated profitably. By the end of 2022, capacity utilization is expected to be raised to around 60%. Growth in vacuum capacitor demand was met by adjusting capacity in Flamatt.

In addition to growth in market-leading products, the new innovative family of high-frequency generators opens up the possibility for the division to tap into an additional addressable market currently estimated to reach about CHF 1.2 billion by 2025. Beta tests with the first generators have thus far yielded encouraging results with a number of potential customers. The first sales are expected in 2022.

Thanks to booming demand and a continued expansion of market share, PCT succeeded in increasing sales by 36.2% to CHF 306.1 million, compared to CHF 224.7 million in the previous year. Reflecting the start of production in Penang as well as continued cost discipline and further efficiency improvements, PCT achieved 63.1% higher operating earnings of CHF 80.5 million at EBITDA level (2020: CHF 49.3 million). The EBITDA margin thus improved to 26.3%, from 22.0% in the prior year.

Key financials of Plasma Control Technologies at a glance

CHFm	2021	2020
Net sales	306.1	224.7
EBITDA	80.5	49.3
EBITDA margin	26.3%	22.0%
Number of employees worldwide	826	679

Sales of Plasma Control Technologies division by market



X-Ray Systems

The realignment of the IXS division gained momentum in 2021. Although this journey is not yet fully completed, the division reached important milestones, achieving full-year profitability on an EBITDA basis. The division continued to shift toward the semiconductor device arena, reducing the complexity existing in part of its product portfolio and focusing on value-driven offerings. Work continued on the cost base, which remained stable despite a gradual recovery in the end markets and made a significant contribution to the improved operating result.



“We reached important milestones and see big opportunities for the division.”

Kevin Crofton
 CEO of the Comet Group and
 Interim President, X-Ray Systems

In 2021, IXS continued to develop a standardized product portfolio designed to fit market needs. In addition to the launch of new x-ray systems releases (Cougar & Cheetah EVO, FF20/35/85 CT, MTIS, UX20), this was reflected in a focus of R&D investment on the high-growth, high-margin semiconductor and electronics sector. This market offers great opportunities for the division. Executing on the focus strategy, IXS was able to reduce the number of customer-specific systems from thirteen to two, the number of software platforms from seven to three, and the number of distribution partners from over 300 to 50.

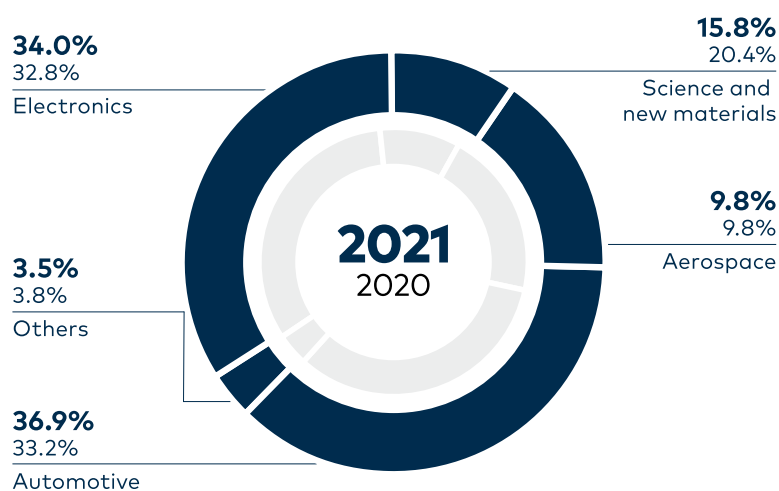
Despite the demands placed on the team by the restructuring measures, the division was able to ensure customer satisfaction and kept pace with the increasing market demand. A highlight of the year was the first win of an order with the new FF 35 Semi system for testing advanced packages. The division successfully won business with one of the largest device foundries in Taiwan, a top-five OSAT company (a provider of outsourced semiconductor assembly and testing). In order to be successful in this market, it is also necessary to use the latest 3D visualization and analysis software for extremely demanding 2D/3D imaging tasks. In close collaboration with ORS, a specialist in AI-based image processing that became part of the Comet Group at the end of 2020, IXS has developed a solution that enables customers to detect defects in such advanced packages faster and with greater reliability.

IXS recorded 30.1% higher sales of CHF 138.9 million in 2021 (prior year: CHF 106.8 million), signaling a return to the pre-pandemic level. With EBITDA of CHF 8.9 million, the division has achieved an impressive turnaround (2020: loss of CHF 1.0 million). The EBITDA margin rose from –0.9% in the prior year to 6.4%.

Key financials of X-Ray Systems at a glance

CHFm	2021	2020
Net sales	138.9	106.8
EBITDA	8.9	(1.0)
EBITDA margin	6.4%	– 0.9%
Number of employees worldwide	435	431

Sales of X-Ray Systems division by market



X-Ray Modules

The market for X-ray tubes and modules largely recovered from the previous year's slump. After a gradual recovery in the first six months, the demand in the core markets of non-destructive testing and safety inspection stabilized in the course of the second half of the year. The upturn was visible in all regions, with IXM achieving above-average growth rates in Europe and China in particular.



“We were ready to launch our new products with the upswing in the market.”

Stephan Haferl
President, X-Ray Modules

The strengthened product portfolio paid off. Thanks to solid R&D funding, IXM was able to push ahead with new developments in the EVO, ION, XP, MF and FXE product series despite the weak state of the end markets in 2019 and 2020, and successfully launch them in 2021 in step with the market recovery. The trend toward miniaturization makes it necessary to detect defects in ever smaller, more complex, denser components – and to do it faster and with ever less effort. IXM addresses exactly these needs with its strengthened product portfolio. This not only enables IXM to offer existing customers more powerful x-ray modules, but also to increasingly expand the business into new applications in the areas of semiconductors, electronics and batteries.

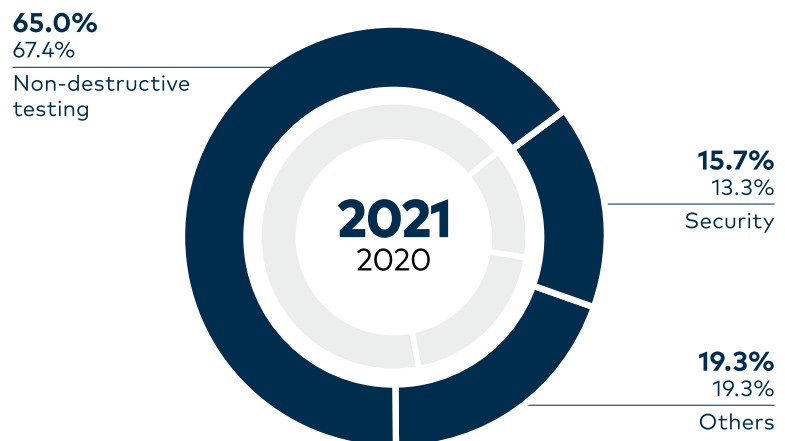
Despite the improved condition of the end markets and a high order backlog, the division at no time lost its focus on costs and efficiency. Cost discipline as well as the optimization of production processes contributed significantly to the improvement in profitability.

Net sales increased by 28.4% to CHF 78.9 million (2020: CHF 61.5 million), thus already returning to the 2019 pre-COVID level. EBITDA improved by 69.2% to CHF 15.3 million (2020: CHF 9.0 million), representing an increase in the EBITDA margin from 14.7% to 19.4%.

Key financials of X-Ray Modules at a glance

CHFm	2021	2020
Net sales	78.9	61.5
EBITDA	15.3	9.0
EBITDA margin	19.4%	14.7%
Number of employees worldwide	310	293

Sales of X-Ray Modules division by market



Information for investors

		2021	2020	2019	2018	2017
Capital stock	CHF	7,769,534	7,767,887	7,764,208	7,759,882	7,753,658
Number of shares (Dec. 31)		7,769,534	7,767,887	7,764,208	7,759,882	7,753,658
Weighted average number of shares outstanding		7,768,812	7,766,108	7,762,845	7,757,904	7,750,232
Stock price						
High for the year (Nov. 9, 2021)	CHF	378.00	198.20	127.00	168.90	165.40
Low for the year (Jan. 6, 2021)	CHF	195.00	71.30	76.90	74.45	95.40
Year-end (Dec. 31)	CHF	336.50	198.20	122.60	79.75	153.40
Earnings per share	CHF	8.68	3.56	1.55	1.59	4.56
Distribution per share ¹	CHF	3.50	1.30	1.00	1.20	1.50
P/E ratio (at year-end price) ²		39	56	79	50	34
Distribution yield (at year-end price)	%	1.0%	0.7%	0.8%	1.5%	1.0%
Equity per share ³	CHF	35.4	27.7	25.2	25.6	26.0
Market capitalization (Dec. 31)	CHFm	2,614	1,540	952	619	1,189

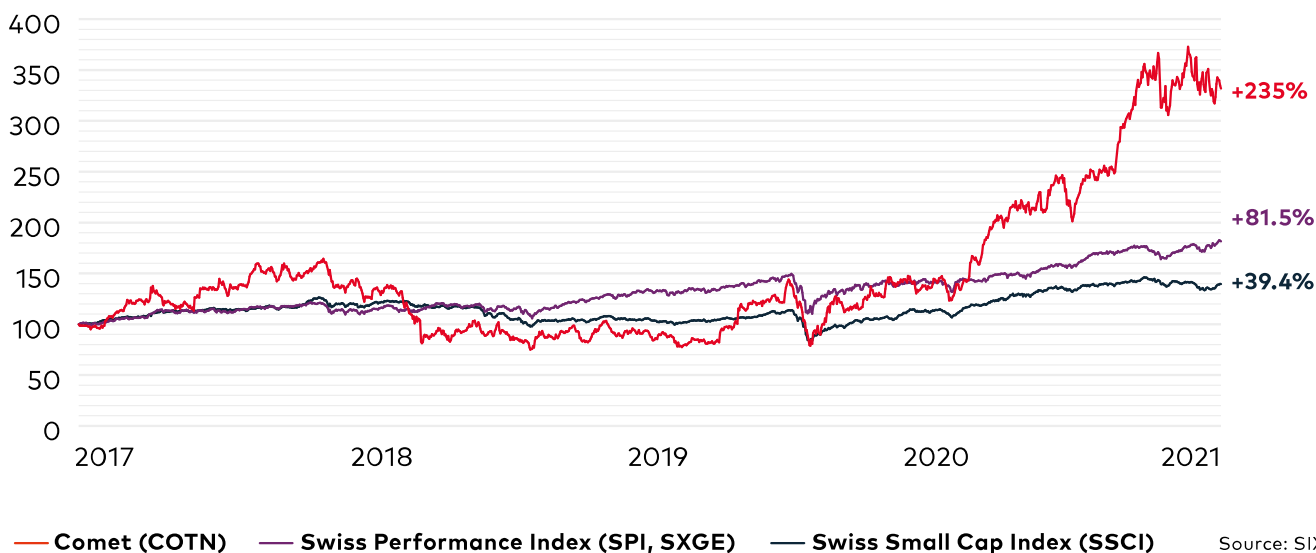
¹ 2021: Proposal by the Board of Directors.

² Year-end share price divided by earnings per share

³ Shareholders' equity divided by the weighted average number of shares outstanding.

Comet stock price

01.01.2017 = 100, Prices indexed



Financial metrics

Alternative performance measures

Comet uses key indicators defined in the International Financial Reporting Standards (IFRS) in its entire financial reporting, as well as selected alternative performance measures (APMs). These APMs provide useful information on the Group's financial situation and are used for financial management and controllership purposes. As these measures are not defined under IFRS, their definition and calculation may differ from those used by other companies. It should be noted that comparability across companies may therefore be limited.

The key alternative performance measures used in the reporting of fiscal year 2021 are defined as follows:

Key performance measures	Comet definitions
Gross profit, gross profit margin	Gross profit is calculated as net sales less cost of sales. Gross profit margin represents gross profit as a percentage of net sales.
Earnings before interest, taxes, depreciation and amortization (EBITDA) margin	Operating income as per consolidated statement of income before depreciation on property, plant and equipment & right-of-use assets, amortization of intangible assets and impairment losses. EBITDA as a percentage of net sales.
Net debt	Interest-bearing debt (such as current and non-current debt and lease liabilities) less cash and cash equivalents.
Debt ratio	Net debt divided by EBITDA.
Equity ratio	Total equity attributable to the shareholders of Comet Holding AG divided by total assets.
Free cash flow (FCF)	Sum of net cash flows from operating and investing activities.
Return on capital employed (ROCE)	ROCE is the ratio of operating income less income tax (NOPAT) to total capital employed. Capital employed is defined as net working capital (aggregated amount of net trade receivables, inventories, trade payables, sales commissions and contract liabilities) plus non-current assets employed (aggregated amount of property, plant and equipment, right-of-use assets and intangible assets).

Calculation of net debt and of debt ratio

In thousands of CHF	December 31, 2021	December 31, 2020
Current debt and lease liabilities	3,949	64,174
+ Non-current debt and lease liabilities	75,462	17,644
./. Cash and cash equivalents	115,533	74,681
Net debt	(36,122)	7,137
EBITDA	102,749	58,616
Debt ratio (to EBITDA)	(0.4)	0.1

Calculation of free cash flow

In thousands of CHF	December 31, 2021	December 31, 2020
Net cash provided by operating activities	70,489	57,045
Net cash (used in) investing activities	(12,722)	(15,396)
Free cash flow	57,767	41,649

Calculation of return on capital employed

In thousands of CHF	December 31, 2021	December 31, 2020
Trade receivables, net	65,057	50,299
Inventories	99,268	94,188
Trade payables	(26,095)	(26,733)
Sales commissions	(3,593)	(4,890)
Contract liabilities	(35,161)	(43,421)
Net working capital (NWC)	99,476	69,443
Property, plant and equipment	111,703	112,629
Right-of-use assets	18,791	20,610
Intangible assets	41,027	43,862
Non-current assets employed	171,521	177,101
Total capital employed	270,997	246,544
Average capital employed¹	258,771	246,485
Operating income	84,085	39,329
./. Income tax	(14,771)	(5,827)
Net operating profit after tax (NOPAT)	69,314	33,502
NOPAT	69,314	33,502
Capital employed	258,771	246,544
Return on capital employed (ROCE)¹	26.8%	13.6%

¹ Return on capital employed (ROCE) is calculated using the average capital employed, based on the beginning and ending balance of capital employed in the period under review.



What we care about

Making the future, better.

At Comet, we firmly believe that in a world of finite resources, innovation makes all our lives better. That's why we are committed to working with our customers to find solutions that enable sustainable progress and improve safety, security and quality of life for us all. Our vision is to be the high-tech company of choice for all those who actively shape the future.

Our business model

How we generate value and contribute to a world that is good to live in

As a trailblazing, leading tech company in radio frequency power and x-ray technology, we make a growing contribution to a safer, more efficient and sustainable world of manufacturing, communication and mobility.

Our high-tech products and services create value for countless people. Part of this value comes from our setting goals that go beyond shareholder returns. In everything we do, we aim to balance economic, environmental and social aspects in order to support a sustainable future alongside profitable long-term growth.

As a close and trusted partner to our customers, we expect to:

- Develop innovative and sustainable products that support our customers in realizing their strategies
- Leave the smallest possible environmental footprint along the entire value chain
- Provide career opportunities for employees in all our businesses and at all our sites
- Build relationships with suppliers and business partners based on fairness and transparency
- Take a leading role in sustainable development in our industry

Our ESG program serves as a compass for managing our environmental footprint, taking responsibility for our employees and satisfying the highest standards of compliance and governance. Our focus is on the long term.

Our business model

We strongly believe that in a world of finite resources, innovation improves all our lives.

The resources we draw on



Environmental

- Implement roadmap for efficiency gains and renewable energy use
- Enforce sustainability through supplier selection



Social

- Build customer relationships and co-creation capabilities
- Invest in people, culture and values
- Engage in communities



Governance

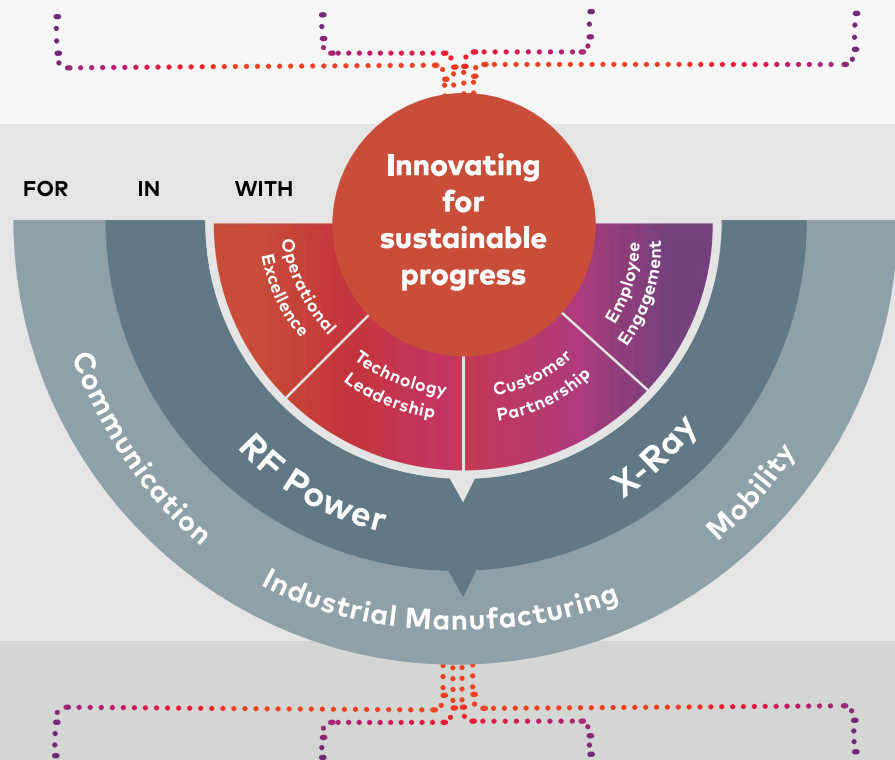
- Monitor and train adherence to Code of Conduct and ethical principles
- Embed regulatory standards in operations



Economic

- Maintain access to capital
- Achieve high brand recognition
- Make targeted investments

How we create value



The outcome we achieve

- Optimized efficiency and reduced greenhouse gas emissions
- Resilient and sustainable supply chain
- Increased customer loyalty and satisfaction
- Engaged, skilled and diversified workforce
- Strengthened license to operate
- High standards of behavior
- Full compliance with regulatory standards
- Sustainable financing of growth strategy
- Higher share of sales from semiconductor market
- Higher returns
- Capability to meet future customer needs

The impact of our actions



We provide stable and fair work for staff at all Comet locations worldwide



Through innovation we contribute to a sustainable infrastructure



We satisfy customer standards through binding supplier standards



We contribute to emission reduction and the efficient use of energy

Along our value chain, we rely on numerous resources to manufacture our products and provide our services. This is always done with the aim of using these resources as efficiently as possible.

Environmental: As a manufacturing company, we depend on a reliable supply of energy and raw materials. Wherever possible, we procure electricity from renewable sources such as hydropower, solar or wind energy. When procuring raw materials, we work with suppliers who can provide us with information about the origin of their products and who are interested in long-term business relationships. In our own production sites around the world, we are always working to keep our processes and facilities up to date in order to continuously improve production efficiency and thus reduce material and energy consumption.

Social: As a corporate citizen, we are aware of our responsibility in a world with ever more people and limited resources. Qualified employees with a high level of commitment are central to our past

and future success. That is why we invest in a corporate culture that is based on customer orientation, on empowering people and on trustful collaboration in all that we do.

Governance: The individual behavior of all of us – how we interact with colleagues, customers, suppliers, and all other stakeholders – determines our success as a company. The values and principles of the Code of Conduct developed in 2020 form the foundation of our corporate culture and the basis for all our actions and decisions.

Economic: We invest a high proportion of our profit in targeted long-term and sustainable growth. Access to sufficient equity and debt capital is ensured thanks to our company's balanced and conservative financial policy. Operating from this position of financial strength, we have consistently delivered value for our stakeholders over the past decades. Our success story is reflected in high awareness of the Comet brand among customers and competitors.

As a pioneering and leading technology company in radio frequency power and x-ray technology, we are making a growing contribution to a safer, more efficient, and more sustainable world in industrial production, communications, and mobility. We are the high-tech company of choice for all those who are actively shaping the future and an employer for all who want to get involved, make a difference, and explore new territory. We are committed to continuously developing our four core competencies of operational excellence, technology leadership, customer relationships and employee engagement. With our forward-looking technologies, we are a preferred partner to the most innovative companies in our markets. We stand for solutions and services that create high added value and sustainable progress. In pursuing our aims, we are guided by our long experience and keen spirit of discovery and innovation.

Led by experience. Driven by curiosity.

Environmental: The thoughtful use of energy and resources, the development of renewable energy sources, and a constant increase in efficiency throughout the entire value chain – with a focus on suppliers and production – together lead to a reduction in the emissions we cause. Systematic data collection will form the basis for developing a climate action roadmap, which is part of our objectives for fiscal year 2022.

Social: Through our continual efforts, we create value for our employees, our customers and our communities worldwide. Our employees benefit from progressive working conditions, a well-managed occupational health and safety program and a culture based on trust. This creates the foundation for superior performance and thus a high level of customer satisfaction and loyalty, in many cases extending over years. Finally and importantly, we fulfill our social responsibility by supporting community projects and privately funded initiatives.

Governance: Strict adherence to and full compliance with laws, policies and regulatory standards at the local, national and international level is an important asset on which our reputation is based. The ethical conduct of all individuals and partner organizations with whom we work also contributes to this. All internal and external stakeholders can rely on us to treat them fairly and ethically at all times.

Economic: Thanks to our strong positioning, solid financial footing, secure access to capital and the successful implementation of our focus strategy, we are growing our business. Anticipating customer needs and investing in advance are key in helping customers succeed with our leading-edge technologies. Backed by the Group's sustainable financing, we will continue to fulfill these activities in the long term and thus add value for all stakeholders.

The Comet Group contributes to the achievement of the Sustainable Development Goals developed by the United Nations as part of the 2030 Agenda. With our long-term and sustainable focus strategy, we aim to provide measurable added value as well as a clearly identifiable contribution to the improvement of the environment, society and the economy. Our focus is on those objectives over which we have the greatest influence in our business:

Decent work and economic growth: Our technologies are at the heart of digitalization. As a company with a long teaching tradition, we support dozens of apprentices, trainees and young professionals and help pave their road to success. By doing this, we actively contribute to economic growth, as these young talents become crucial for developing our innovative products that play a vital role in the digitalization of society.

Industry, innovation and infrastructure: As a critical supplier and partner to the semiconductor/electronics industry as well as to the automotive, aerospace

and security market, we are co-creating with our customers to develop the innovative solutions that provide sustainable progress and improve safety, security and quality of life for people everywhere.

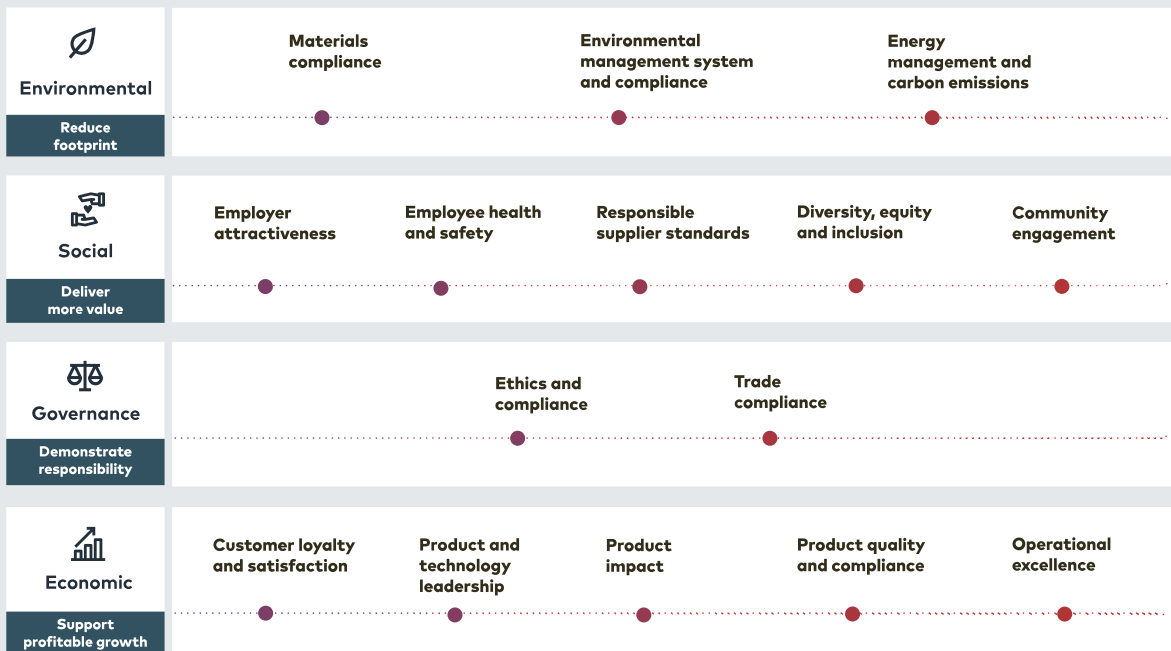
Responsible consumption and production: We reject the ruthless pursuit of profit at the expense of the environment and society. We strive for a balance between economic, environmental, and social goals by training and sensitizing our employees worldwide to environmental and social aspects, and also involving customers, suppliers and other interest groups.

Climate action: We are committed to actively addressing climate change and contributing to the climate goals of the 2030 Agenda for Sustainable Development. To this end, we plan to develop and implement a climate action roadmap for Comet.

Our material topics for sustainability reporting

In 2021, Comet identified 15 financial and non-financial topics that we consider material. The topics selected are the result of an in-depth assessment of those sustainability issues in our value chain that have the greatest impact on the environment, society and the economy in the medium and long term (known as a materiality analysis). The individual topics are discussed in more detail in the respective sections of the annual report and in the [GRI report](#).

Material Topics



Strategy execution on track

Comet technologies: More important than ever for a connected world.

For more and more people on our planet, the future is digital, networked and mobile. Driven by this advancing digitalization of industry and society, and accelerated by COVID-19, the semiconductor and electronics market is in a growth cycle of a completely new magnitude. As a supplier of critical technologies, Comet helps its customers manufacture the necessary ever-smaller and more powerful components more efficiently and in ways that conserve more resources. Comet is on track in the implementation of its focus strategy. As a preferred partner to our customers in the semiconductor and electronics industries as well as the automotive, aerospace and security sectors, we want to grow side by side with our clientele and contribute to a progressive world that remains good to live in.

Growing digitalization and use of artificial intelligence, with pandemic accelerating demand

We live in an ever more interconnected world, one that relies on semiconductors. In fact, since 2018, more data is created, stored and processed by machines than by people (see [IDC Datasphere growth](#)). From cars and cell phones to coffee makers, virtually no modern industrial product is conceivable today without microchips inside it. Algorithms based on artificial intelligence (AI) send us recommendations for new contacts, travel routes and product offers via smartphone, support medical diagnoses, help detect malware on our PC or suggest movies and TV series that match our profile. Companies and governments are stepping up the use of AI to write software programs, bring vaccines to market in record time, or design sustainable cities using digital twins. All this has led to a vast increase in the amount of data exchanged and processed, a further rise in demand for computing power, and an expansion of data infrastructure.

Demand for computer chips, already burgeoning thanks to the ever-growing number of digital applications, has been further boosted by the global COVID-19 pandemic. Microchip demand outstripped supply in 2021 and, in combination with extreme weather events and product shipping backlogs, led to chip shortages in many applications. This has motivated governments to increase their investment in local production and supply chains.

Comet technology enables critical manufacturing process

Semiconductor chips and sensors are the key building blocks of this digital world. In their manufacture, Comet's technologies play a critical role. The rapid and inexorable progression of digitalization therefore

offers Comet excellent growth opportunities in its two core technologies of plasma control and x-ray. What both do for customers is to safeguard the efficiency, quality and reliability of highly complex manufacturing steps in the respective applications.

The further advancement of computer chips, which for decades progressed in line with Moore's Law (according to which the density of integrated circuits regularly doubles with minimum component costs), is approaching its physical limits. The market demands high-performance chips with faster processing speeds – in ever shorter development cycles. The fabrication of these powerful microchips requires even more precise, reliable and stable production processes. This manifests itself in rising demand for plasma technology-based equipment for the production of 3D chip structures, new memory (3D NAND) and even new microprocessor chips.

Comet's products are essential to the fabrication of advanced chips and components

As the global market leader in vacuum capacitors and RF matching networks, Comet already enjoys a strong market position. By further strengthening our product portfolio, we aim to provide semiconductor equipment manufacturers and chipmakers with cutting-edge technologies for solving their increasing challenges, and to expand our market, i.e., the RF power subsystem market, which is worth about USD 1.6 billion and, according to analysts, is growing at an average of about 5% a year. In particular, Comet intends to participate in this growth through the new radio frequency generator Synertia^(TM) – which supports data-driven process analysis and has been successful in early beta tests with customers – as well as through other innovations such as a new RF match controller.

For the Group's x-ray businesses as well, the trends in the semiconductor and electronics market hold rich potential. Electronics firms are increasingly automating the production of critical components, building them additively, making them smaller and with ever less material. Individual "chipselets" are combined into high-performance multi-chip modules. Their inspection is demanding and requires the increased use of x-ray technology. As well, to ensure the quality and safety of their products, manufacturers throughout industry are placing growing emphasis on high-volume series testing and the automated improvement of their processes.

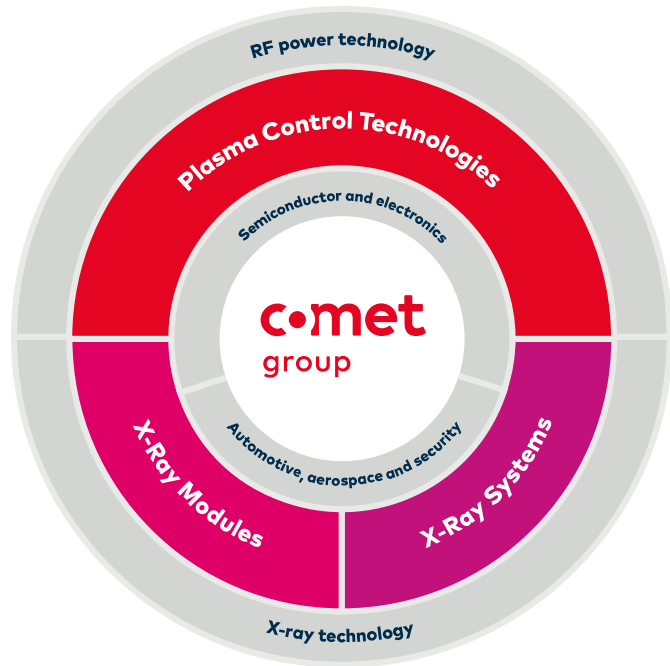
Data analysis and the development of new digital services are therefore fast gaining in importance for Comet. As the market leader in high-performance x-ray tubes and one of the top vendors for 3D inspection of electronic components, the Comet Group is very well positioned with its two x-ray divisions. Thanks to the first joint development projects and workflows realized with the subsidiary Object Research Systems, acquired in 2020 as a leading provider of 3D visualization and analysis software for sophisticated 2D/3D imaging studies, Comet is enabling its x-ray system customers to identify defects in such complex microchips ever more quickly and reliably (see video: [How are microchips built?](#)). With the successful expansion of the product portfolio of high-performance x-ray tubes (through introduction of the MesoFocus and FXE series), Comet's modules business too made inroads in the semiconductor and electronics market in 2021. It is to become the division's largest market by the end of 2025.

Focus strategy being executed

By focusing on plasma control and x-ray technologies, Comet intends to exploit the significant potential of the digital world. Following the divestiture of the ebeam business, 2021 was the first year in which Comet was able to focus fully on the three divisions' established technologies of plasma control and x-ray, as well as on expanding the service business by leveraging artificial intelligence.

The Comet Group

2 core technologies, 3 businesses, 4 markets, with the primary focus on semiconductor & electronics



Plasma Control Technologies
Radio frequency components and systems solutions for plasma applications

Technology
Radio frequency (RF) power

Product
Systems solutions to provide RF technology, consisting of:

- Impedance matching networks
- RF generators
- Vacuum capacitors

X-Ray Modules
Powerhouse for x-ray components and modules

Technology
X-ray

- Products**
- Industrial x-ray modules and components
 - X-ray tubes
 - High-voltage generators
 - Software
 - Accessories

X-Ray Systems
High-end x-ray system solutions for industrial environments, from R&D to production settings.

Technology
X-ray

- Products**
- X-ray and computed tomography inspection systems
 - Software for x-ray visualization and analytics
 - Customized services based on machine learning and artificial intelligence

Four growth markets, with semiconductor & electronics the primary focus

Strong prospects for RF power

Comet is focused on four core markets with expected strong long-term growth. First and foremost, the semiconductor and electronics sector offers the largest growth potential for both the plasma control and x-ray businesses. The automotive, aerospace and security markets are also an important focus, as these sectors provide growth opportunities in selected areas (e.g., inspection of batteries for electric vehicles).

The semiconductor and electronics space is Comet's key market. This focus has taken on even greater significance amid the accelerated pace of digitalization and the ceaseless development of new, more powerful and more energy-efficient technologies. We are experiencing demand on an unprecedented scale. Based on existing announcements alone, 112 new semiconductor fabrication plants are expected to come on stream between 2021 and 2025. Further announcements of new fabs can be expected. While at the end of 2020, experts were forecasting semiconductor industry investment of USD 1.33 billion in RF power subsystems in 2025, as of the end of 2021 the prediction for 2025 had increased to USD 1.98 billion. At the same time, the industry's spending for RF power subsystems as a share of its total wafer fabrication equipment spend will rise at a disproportionately stronger rate (source: VLSIresearch). In this market, Comet expects its high-tech x-ray and plasma control solutions to generate up to 70% of the Group's sales in 2025.

Growing opportunities for x-ray

In addition, Comet sees attractive long-run potential to continue to utilize its technology in the automotive, aerospace and security inspection markets. These "traditional" markets are in a gradual process of recovery after the dramatic drop in demand caused by the pandemic. In the medium and long term, Comet identifies clear opportunities in these markets, which are themselves becoming more and more digital and are expected to account for approximately 30% of the Group's sales in 2025. With the heightened awareness of climate change, it appears likely that companies and consumers will increasingly switch to electric transport. Experts project that from 2020 to 2025, worldwide sales of light vehicles will increase at a rate (CAGR) of 6% annually, and that in 2025 around 20% of all new light vehicle registrations will be for fully electric vehicles or plug-in hybrids. This means the content of semiconductor technology in vehicles is rising, and with it the volume of non-destructive inspection of these components to ensure that safety and other requirements are met. A similar situation can be seen in the aerospace sector. With the growing number of people vaccinated against COVID-19 and the loosening of government restrictions, a renewed rise in travel is already apparent. Industry analysts expect flights to increase by about 28% per year between 2020 and 2025. In airplanes, too, the trend is toward use of hybrid electric drives (which are more environmentally friendly) and hence implies the use of more semiconductors and thus additional need for inspection.

Our path to becoming a higher-performing organization.

Comet strives to become higher-performing, more flexible and faster. Our goal is to grow into a highly profitable CHF 1 billion company with clear market leadership in each of the markets we serve. As important levers for achieving this, the Group is pooling internal resources and strengthening and scaling its organization. For this transformation, we are focusing on three key thrusts: "boost growth", "enhance efficiency" and "strengthen culture".

Boost growth.

Product portfolio: The expansion of the product and service portfolio remains central to Comet as a technology leader – always with the aim of helping customers in existing and new markets to raise their productivity with a more powerful offering. Thus, the launch of the new RF generator, which is currently in advanced testing by customers, is a top priority for the PCT division, along with the new match controller and new vacuum capacitor features. In the IXS division, building on the successful launch of a new automated workflow and new x-ray systems such as the UX50, the aim is to develop the offering further in the direction of digital services and 3D inspection in order to become a true manufacturing partner for customers. The four system releases in 2021 enable customers to achieve more efficient, time-saving examination and more accurate inspection results. At IXM, the focus is on high-end x-ray modules for the adjacent market of electronics and battery inspection. In 2021, Comet comprehensively strengthened its module portfolio (with the XP/UP, Ion, MF and FXE series).

Presence in Asia: A core priority for Comet remains the further expansion in Asia. Already, more than 70% of the world's RF power and x-ray products for the semiconductor industry are deployed in this high-growth region. The ability to operate locally is becoming even more important as geopolitical tensions rise and individual governments invest in local supply chains. For Comet, the main focus here is on strengthening our local presence with manufacturing facilities in China and Malaysia, expanding R&D and demo centers such as in Korea, and enlarging our sales and service organization, as in Japan and Taiwan ([Prepared to exploit new potential in Asia](#)).

Enhance efficiency.

Processes: In the wake of the substantial expansion of production capacity in Penang, Malaysia, in Flamatt, Switzerland, and in Aachen, Germany ([annual report 2020: More room for growth](#)), Comet's top objectives include the continuous optimization of the supply chain at

the global and local level, the elimination of duplication and unnecessary costs, the further automation of production and "soft" business processes, the standardization of products, and the implementation of lean measures. To better support these efforts, Comet in 2021 established an Operational Excellence function at Group level. The first results are evident in improved productivity per employee and in reduced scrap. They are also reflected in customer recognition such as the Supplier Excellence Awards for the Plasma Control Technologies division. As well, the Group set up a central Strategic Purchasing team in order to achieve volume effects particularly in the area of indirect cost items, such as travel.

Organization: Based on the organizational model honed in 2020, Comet will continue to further improve the worldwide interaction of functions both across regions and with other functions. A pulse survey of all employees globally in the summer confirmed Comet's early progress toward becoming a higher-performing organization, and identified further potential for improvement. The goal is a scalable organization that can respond to regional needs with agility. An important step in this direction was taken in 2021 by giving the support functions a more global focus.

Strengthen corporate culture.

Learning, developing, and empowering are central themes for Comet, especially when it comes to promoting improved collaboration, customer focus, and speed. With dedicated training on topics such as leadership (through the IMD business school in Lausanne) and sales, Comet continually supports the development of its employees at various levels of the organization and creates common foundations for better collaboration. For example, in 2021, with the involvement of all regions, functions and divisions, Comet refined its values and behaviors, reinforced them in training sessions, and introduced a spot award program (see People & Planet). Seventy-five employees received intensive sales training by one of the world's leading providers. Internal training programs also helped to ensure adherence to good corporate governance, through refresher trainings such as on the Group's Code of Conduct.

Attractive employer: Comet's most important resource are its employees. In view of the shortage of skilled personnel, particularly of R&D experts and engineers, Comet is expanding activities that support its visibility and attractiveness as an employer. Networking, attracting and retaining talented young people early on, during their studies, is therefore high on the agenda, along with identifying and developing talent within the company and improving terms of employment. Comet thus initiated a partnership with the University of Illinois in 2021 to support students, invested in a workshop facility for training apprentices at the Swiss site in Flamatt and supported a research project at the Federal Institute of Technology (ETH) in Zurich, Switzerland.

Since 2021, Comet also has a new program for the continuous and systematic identification and development of in-house talent. The terms of employment were enhanced. In Switzerland in summer 2021, Comet received the "Fair-ON-Pay +" certificate for gender pay equity.

Our strategic initiatives until 2025

Plasma Control Technologies

Growing stronger.

Increase sales volume with existing customers, add new applications and heighten flexibility

Initiatives

Boost growth.

Expand product portfolio

- Launch new RF generator and match controller
- Launch vacuum capacitors with high power density
- Intensify key account management
- Win new tier 2 customers
- Strengthen presence in Asia

Enhance efficiency.

- Use Penang as a strategic manufacturing site to expand capacity for the production of RF matches
- Achieve best-cost supply chain management through the new site in Malaysia
- Increase efficiency and flexibility of functional departments

X-Ray Modules

Exploiting potential.

Expand the product portfolio to tap new, adjacent market segments

Initiatives

Boost growth.

- Enter the semiconductor and electronics inspection market
- Expand the components and modules portfolio with a focus on the core markets of automotive, aerospace, and semiconductor & electronics inspection
- Launch new platforms for x-ray tubes and for high-voltage generators for even more flexibility in designing the offering

Enhance efficiency.

- Achieve best-cost supply chain management
- Drive operational and business excellence through digitalization and more systematic application of lean approaches

X-Ray Systems

Focusing.

Focus on volume markets, standardized systems, and expansion of services that are based on artificial intelligence and machine/deep learning

Initiatives

Boost growth.

- Expand portfolio in the fast-growing semiconductor & electronics market, exploit volume potential in automotive and aerospace, and leverage Labs R&D as future pipeline
- Expand digital services, leveraging the expertise of AI specialist ORS, with a focus on improving customers' production processes and product quality

Enhance efficiency.

Standardize throughout, aiming for:

- Increase in modular standardized product offering
- One product software platform instead of seven (currently: three)
- Accelerated phase-out of one-off customized solutions from 13 to zero by focusing on product tailoring and integration (currently: two)

Trends – Expert view

Enabling an even more connected future.

[Watch the video](#)



About Bettina Weiss

Bettina Weiss is Chief of Staff and Corporate Strategy for the industry association SEMI, where she leads SEMI's strategic planning process, thought leadership activities, strategic partnerships and its global Smart Mobility initiative.

Bettina Weiss is the brains behind thought leadership activities and strategic partnerships at SEMI, the global industry association representing the electronics manufacturing and design supply chain. Weiss is a translator by training with a focus on Anglo-American law and economics. While working for the general manager of Metron – “a fantastic boss and mentor” – in the 1990s, she caught the semiconductor bug. “30 years later,” says Weiss, “I’m still enjoying it – I wouldn’t trade it for the world.”

The semiconductor sector doesn't get enough attention, Weiss believes: “I think it's a largely unsung industry, strangely enough, because it enables really everything that we know today, but it is the most fascinating industry that I can imagine working in.”

Demand for semiconductors has steadily increased since their introduction in the 1950's, but more so in recent years. According to Weiss, mobile phones sparked quite possibly the largest increase in demand. “Virtually everyone has one in their hand,” she says. “It's among the biggest disruptions in our lifetime. My parents never had a computer. My father didn't have his first mobile phone until late in life, and now every child that I see on the street is connected, and that means semiconductors.”

Although semiconductor supply is currently constrained, Weiss believes that shortages will ease in the next year or so as more capacity comes on stream. “In 2022,” she says, “more than twenty 300- and 200- millimeter fabs are expected to come on line, and even more in 2023 and beyond. That should start eliminating the huge shortages that we see right now.”

“I think it’s a largely unsung industry, strangely enough, because it enables really everything that we know today.”



Smart Mobility: one of SEMI’s four “Smart Initiatives”

Smart Mobility is a big focus for SEMI, and one of four Smart Initiatives the organization is currently focused on.

Smart Mobility includes autonomous driving, which Weiss believes will be a major disruption. Artificial intelligence (AI) is the key enabling technology for autonomous driving, and what gives autonomous vehicles the ability to collect, analyze and learn from data – to make them smarter and safer over time. Consider the intelligence needed for a vehicle to sense a person or another vehicle in front of them and brake. This not only brings increased safety, but also means a much higher concentration of chips is needed, and they have to last for the lifetime of the car.

“These devices are sometimes in very sensitive areas of the car responsible for safety as well as data security,” says Weiss. “Some need to operate under any kind of weather conditions. Reliability is a big, big issue.”

The biggest barrier to autonomous driving today is public trust, Weiss believes – people need to be convinced that it’s safe. In addition, electrification appears to be the bigger priority for the auto industry at the moment – though in the years ahead, electrification and autonomous driving will come together.

Smart Cities provide the foundation for a connected world

Smart Mobility also encompasses Smart Cities – consider the infrastructure required to support electric cars, for instance. Weiss says we’re already starting to see Smart City initiatives around the world. “Singapore is doing a great job here,” says Weiss. “For instance, they have streetlamps that light up when a person is near” – saving energy while ensuring safety. Other cities are experimenting with new types of asphalt that use sensors to measure traffic congestion, collecting data that can be used to re-route and relieve traffic. Smart Cities will drive enormous demand for semiconductors.

The other three SEMI Smart Initiatives are:

“The only way forward for innovation, is to do it together.”

- Smart MedTech, which is about semiconductor content in the medical industry – not only medical devices but also innovations such as remote diagnostics.
- Smart Manufacturing, which involves making factories and fabs smart, effective and efficient – for example, with robotics and automation.
- Smart Data-AI, as the basis for technologies that enable the intelligent future.

SEMI intends to bring companies together

“Companies realize that it’s difficult to go it alone and not be connected to a more collaborative effort,” says Weiss. “Automakers have realized it in the past few years. Phone makers have as well – they are now routinely co-designing and co-developing next generation phones along with chip makers.” Medical device makers are next, says Weiss. SEMI is also encouraging all semiconductor stakeholders to collaborate on sustainability efforts, which are crucial for the industry going forward.

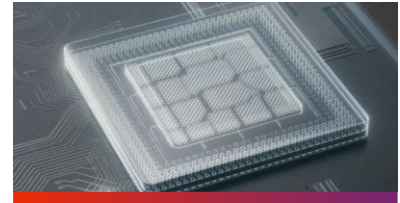
“The only way forward for innovation,” says Weiss, “is to do it together.”

How Comet is solving for what’s next.



Prepared to exploit new potential in Asia.

[▶ Read more](#)



First inspection workflow for the semi industry.

[▶ Read more](#)

Prepared to exploit new potential in Asia.

The markets in Asia continue to grow and Comet is on site – with enlarged manufacturing capacity, strengthened know-how, and a new Asia design center as well as sales and service close to local customers.

Following the successful ramping of its new production site in Malaysia, the Comet Group further expanded its presence in the Asia region in 2021. The goal: to even better serve the promising markets in Asia and to fully exploit its potential as one company with two technologies and common markets. This approach also created the best footing for continuing to respond flexibly to geopolitical changes and to new trends in the markets.

Boosting productivity thanks to volume production in Malaysia

After being set up in 2020, the new production facility in Malaysia was certified by our customers at the beginning of 2021. Since then, volume has been ramped to 20% of available capacity. With the further vigorous ramp-up of production to 60% of capacity by the end of 2022, we will be able to serve our customers more quickly in Asia and further raise productivity in the manufacture of impedance matching networks (also known as RF matches). The additional production capacity in Malaysia is to help Comet increase efficiency globally.

Faster development times for customers in Asia thanks to new design center in South Korea

The semiconductor industry is booming worldwide. In light of the recent pandemic experience, governments wish to see important products manufactured in their own region if possible. In Asia, too, there is a growing trend to rely on local product development and design to produce the ever more powerful microchips and do so more and more rapidly. Comet is addressing this need with its new design center in Suwon, South Korea.

"We have reinforced our research and development team in the area of radio frequency power applications in order to design our products locally and even more specifically for Asian customers than before," says Yong Tae Kim, Country General Manager, Suwon, Korea. And with success: The geographic proximity to China, with only a small time difference, allows closer collaboration with Comet's Chinese team and their customers, as well as with the key accounts in the semiconductor industry in Taiwan. This has helped the team to land its first design wins. "The new design center enables us to respond more quickly to the needs of our Asian customers and reduce the lead time for customization," observes Kim, "which is a big advantage given our customers' very tight development schedules."



"The new design center enables us to respond more quickly to the needs of our Asian customers."

Yong Tae Kim

Country General Manager, Suwon, Korea

Space for product development and more at the new demonstration and training center in Taiwan

Taiwan is a hotspot for the semiconductor and electronics industry. The production of microchips requires not only advanced plasma control equipment, but also x-ray technology for quality inspection of the substrates and the interconnects in the increasingly complex chip structures. Electronic products such as camera lenses, batteries, smartphones and LED screens, for which Taiwanese electronics manufacturers are known worldwide, are tested for quality using x-rays, as are made-in-Taiwan components for electric cars.

To better serve the needs of local customers, Comet opened a small but sophisticated sales and service subsidiary in Hsinchu Science Park, Taiwan's Silicon Valley, in late 2020. Significantly, it also includes a training center and an x-ray demo lab. "The central location makes it easy for us to have direct contact with our local customers," says Gordon Shyu, Country General Manager, Taiwan. "Often customers come to see us at an early stage of the collaboration and then we work together on product development in the demo center."



"The Japanese technology market is experiencing a renaissance that brings unprecedented opportunity."

Mineto Nakajo
Country General Manager,
Yokohama, Japan

Expanded offering for customers in Japan

Japanese customers have long valued the quality of Yxlon x-ray systems for non-destructive testing. In order to now also make the attractive range of Comet x-ray modules available to the broader NDT market in Japan, Comet strengthened its team and offering in Yokohama. But new opportunities could also arise in semiconductors, now that Japan has declared the growth of the semiconductor industry a "national project" amid the computer chip shortage. "The Japanese technology market is experiencing a renaissance that brings unprecedented opportunity. By acting as one company in Japan, we can make the most of this potential," says Mineto Nakajo, Country General Manager, Japan. In mid-2021, Yxlon International was therefore renamed Comet Technologies Japan.

Organization in China now concentrated in Shanghai

In China, Comet has concentrated its resources in one location. The X-Ray Systems division site in Beijing was integrated into the cross-divisional Comet Group facility in Shanghai at the end of 2021. "With a central location and a shared infrastructure, we create synergies and can thus offer the local customers of all our divisions even faster and better solutions," points out Andy Guo, General Manager, IXS China.

First inspection workflow for the semiconductor industry.

Out of the collaboration of the X-Ray Systems team in Hamburg and the recently acquired software developer Object Research Systems (ORS) in Montreal has come a potentially game-changing new offering: VoidInspect, the first x-ray inspection workflow for the semiconductor and electronics market, was developed in 2021 and successfully completed its first customer deployment.

"Last year, we expressed our excitement about the possibility of further leveraging x-ray data to improve our customers' manufacturing processes," says Peter Koch, Product Manager, semiconductor/electronics market expert and VoidInspect project lead. "Together with our colleagues in Montreal, we truly brought our vision to life."



"We can analyze images up to 80% faster and make the operation available to any user in only three steps."

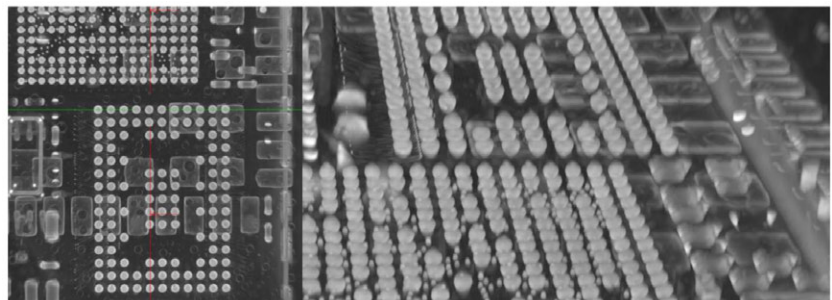
Peter Koch

Product Manager, semiconductor/electronics market expert and VoidInspect project lead, Hamburg, Germany

X-ray data analysis to reduce waste and drive 80% gain in inspection speed

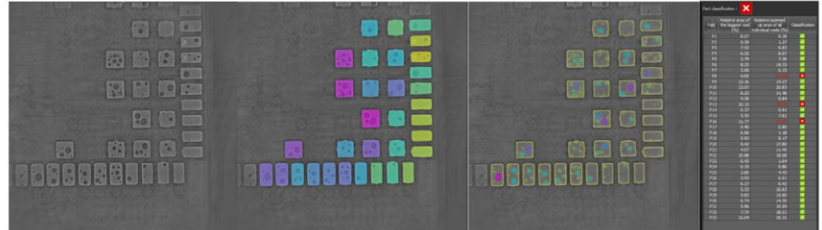
Launched in 2019, the VoidInspect workflow project between ORS and IXS had a tangible customer problem to solve from the start: Enabling the rapid non-destructive analysis of voids (enclosed cavities) inside the solder joints of board components, especially for ball grid arrays, to ensure the proper thermal stability.

The choice of laminography, as opposed to conventional computed tomography (CT), seemed the obvious solution to this challenge. This is because CT requires a small sample size to create a high-quality 3D model. In surface mount technology, this means destroying the printed circuit board, as the area of interest must be separated out. But computed laminography, which cuts a 3D volume into virtual slices for analysis, is non-destructive and can be performed over the entire inspection area while achieving high resolution. This technique, combined with new intelligent algorithms, reduces waste and inspection time by automatically localizing the slice with the best resolution to highlight and evaluate the problematic defects. As Peter Koch reports, "We can gain up to 80% in speed compared to conventional methods".



Visualization of the reconstructed laminography data with the FF CT software.

In order to complete the evaluation even faster, its execution can be performed even by an untrained operator – with a minimum number of steps and no physical interaction. A goal that was clear from the beginning was that VoidInspect's user interface needed to be user-friendly.



Visualization made easy for the operator.

The rapid, high-quality results are achieved through a combination of several ingredients: the Yxlon image processing (the best on the market), the workflow itself, the high-end hardware, and the FF CT software ensuring quality in the reconstruction of the laminography data. It all adds up to a perfect recipe for precision. Even now, the VoidInspect workflow can be added to any FF CT software from Yxlon for off-line applications.



“The requirements we received from the team in Hamburg were extremely precise. We knew from day one what was expected and where we were headed.”

Mathieu Gendron
Lead Architect for VoidInspect,
Object Research Systems (ORS),
Montreal, Canada

It is not just about collaborating, but co-creating

Completed in only nine months, the workflow based on the AI capabilities of Dragonfly, ORS's flagship software, is an example of effective project management across teams. Mathieu Gendron, Lead Architect at ORS, recalls that the project's success was closely related to the feedback rounds initiated with IXS at a very early stage, allowing for the quick creation of mockups that could be critiqued and precisely adjusted before programming. For the two teams, accustomed to agile project management, it was not only about collaboration, but co-creation. “We saved a lot of time by communicating closely, and thus knowing exactly what to do. We were able to split up the tasks efficiently among the developers,” Mathieu Gendron explains.

A game changer for semiconductor customers?

Until now, void measurement in complex boards was very time-consuming and only possible to a limited extent. It is therefore no surprise that the first semi-automatic high quality void analysis done via an algorithm in laminography may well be a game-changer. For the semiconductor industry, which must ensure flawless quality for complex advanced chip and wafer-level packaging, the solution created by the ORS and IXS teams is a very welcome one. Peter Koch confirms the interest aroused: “Customers started to send us their samples to try the workflow – and they are impressed. We are seeing the sales numbers increasing.”

VoidInspect is just the beginning

Motivated by the outcome of this cross-team collaboration, the teams are already planning how they can advance x-ray data processing further to solve customers' pain points. One thing is certain: By releasing this first workflow, they have unleashed enormous potential for the future of inspection.

Technologies – Expert view

Innovation of tomorrow: faster, more energy-efficient, networked.

[Watch the video](#)



About Luc Van den hove

Luc Van den hove is President and CEO of imec, a leading research hub for the semiconductor industry. He joined imec in 1984, starting his research career in the field of silicide and interconnect technologies and went on to become COO and EVP of the silicon process and device technology division before becoming CEO in 2009. He is a professor of electrical engineering at KU Leuven, Belgium, where he also received his PhD in electrical engineering, and has authored or co-authored more than 200 publications and conference contributions. He is a passionate speaker on technology trends and applications for nanoelectronics at major conferences.

Imec's Luc Van den hove has spent his entire career working to accelerate collaboration and innovation in the semiconductor space. "When I entered this field," he says, "the industry was just transitioning from microelectronics to nanoelectronics. The first desktop PCs were going on desks." Van den hove knew it was the beginning of a revolution, and he wanted to be on the front lines.

Thirty-seven years later, as the industry once again comes up against the limits of Moore's Law, Van den hove is as enthusiastic as he was on his first day at imec.

The industry is seeing unprecedented demand for semiconductors due to a confluence of factors. One is the sheer amount of data being created. Another is the growth of new and expanded applications such as in cars, which now have hundreds of sensors each, and new healthcare innovations such as precision medicine.

Other areas driving semiconductor demand are the Internet of Things (IoT), artificial intelligence (AI), smart energy and smart cities. Together, these trends will lead demand for chips to double within the next ten years, Van den hove predicts, as tech innovation permeates virtually every sector of the world economy.



Van den hove foresees a future where AI calculations move away from the cloud. Transferring the data not only consumes too much energy, but also too much time. "We're going to see a lot more of what we like to call distributed AI, where we bring intelligence much closer to the sensors," says Van den hove.

Perhaps the best example to imagine is autonomous driving. You can't have latency when that car needs to stop suddenly. This means more ICs in cars which, Van den hove says, "are becoming computers on wheels."

"We need technologies that consume less power, and we need to develop those technologies in a more sustainable way."

New technologies for less energy consumption

A key challenge for the industry is that the exponential increase in data that we all generate and consume every day also results in exponential growth in the amount of energy consumed, which at some point would outpace the amount of energy available on Earth. "We need technologies that consume less power, and we need to develop those technologies in a more sustainable way," says Van den hove. "At imec, we're doing a lot of work to reduce what's needed to produce."

There are two trends Van den hove is watching on the manufacturing side: scaling and 3D heterogeneous integration.

Scaling is about reducing feature sizes. However, Van den hove says, "Scaling alone will not provide the required improvement needed as we evolve towards ever more complex circuitry. And that's why a lot of focus now goes into exploring the third dimension and stacking those chips on top of each other. This is what we call 3D heterogeneous integration." Using the third dimension is one of the advancements that will allow the industry to keep Moore's Law in force, says Van den hove.

New plasma processing technologies are playing a crucial role in this. "We not only need to finetune the plasma processes to do the patterning," says Van den hove "but once we explore the third dimension more and more, the number of sequential processing steps increases, and this will also require a lot more plasma processing."

“We are bringing together key players and moving from a sequential to a network innovation model. This accelerates innovation.”

How Comet is solving for what’s next.

Industry collaboration accelerates progress

Collaboration in the supply chain is crucial in working toward these goals and is a primary aim for imec. Collaboration is also important because the industry is hitting the wall of physical limits.

Another dimension of collaboration is making sure suppliers have five to ten years’ notice of what will be needed to produce ICs of the future – for instance, new materials such as gallium nitride and silicon carbide, and new plasma processing equipment.

“In the past, innovation was sequential, and that took time. We are bringing together key players and moving from a sequential to a network innovation model. This accelerates innovation,” says Van den hove.



Technologies at the heart of critical manufacturing processes.

 [Read more](#)



Rapid innovation and shorter time to market for our customers.

 [Read more](#)

Technologies at the heart of critical manufacturing processes.

[Watch the video](#)

Technology is evolving rapidly, and with each generation, the pace accelerates.

Exciting developments such as artificial intelligence (AI) and the emerging metaverse are changing the way we live and work. All of this helps drive growing demand for Comet solutions – we enable the manufacturing of essential building blocks of the digital world.

Radio frequency (RF) power technology

In recent years, technological advances such as the Internet of Things, big data and high-performance computing have greatly increased the need for computing power. Devices are becoming ever smaller, even as they must handle vastly more data. That means the electronics inside need to be more and more precise, reliable and powerful. Comet's high-quality RF match networks, vacuum capacitors and RF generators are vital to the core process of microchip production, as they help to precisely control the activity in the plasma chamber.

X-ray

Everywhere in the electronics, automotive and aerospace industries, components and parts are becoming progressively smaller, lighter and more complex. Yet they must function absolutely reliably, especially in safety-sensitive applications such as vehicles. This can be assured through rigorous quality inspection using x-rays. With its innovative, premium-quality x-ray sources and systems, as well as services that are increasingly based on data analysis and AI, Comet is making an important contribution to a safer world.

Our plasma control and x-ray technologies are used in critical production processes.

To find out where specifically, watch this short video.



Rapid innovation and shorter time to market for our customers.

2021 was a year rich in product development. Teams focused on more agile working methods and modular product concepts that optimized time to market in response to the fast-changing environment and innovation-hungry customers. The result: a fireworks display of new relevant offerings.

X-Ray Systems (IXS)

The IXS division is delivering on its promises. The division's redesign toward greater standardization, modularity, and more efficient production processes has borne fruit in new market-oriented product launches.



UX50

The versatile CT system equipped with scalable software

The UX50, equipped with the Geminy modular cross-system software, is a compact and versatile CT system ideally suited for the inspection of medium and large parts in industrial environments.

Development completed in 2021 – launch in Q1 2022.



Cougar EVO & Cheetah EVO

The compact solution for semiconductor and electronics inspection, with an evaluation workflow powered by deep learning

The two microfocus systems are now equipped with VoidInspect CL, the Group's first inspection workflow based on ORS Dragonfly software, enabling customers to save time when verifying BGA package connections thanks to advanced image analysis using deep learning.



FF20/35/85 CT

Dedicated FF35 CT for the semiconductor market, improved usability of FF85 CT LDA. The FF CT product family is suitable for all of IXS's key markets – electronics, automotive and aerospace as well as Labs R&D – and thus serves as a future pipeline for these sectors.

While the FF35 CT SEMI adds the SEMI-certified version of this product line, addressing the specific requirements of the semiconductor industry, the FF 20 CT saw a major software upgrade.

With the FF85 CT LDA running on the Geminy cross-system software, users now benefit from improved usability that saves inspection time, while obtaining the highest-quality scans using the best-in-class linear detector array (LDA) built by IXS.

The FF CT product family is perfectly suited for the inspection of medium to large parts.



MTIS

New Teaching Assistant feature saves 80% of inspection setup time

The new Teaching Assistant software feature offers guided workflows for programming the inspection and automatic defect recognition of truck tires, significantly speeding the setup of new parts by the customer. The data gained from the x-ray images improves quality and comparability for statistical process control in the plant.



UX20

Now even more user-friendly: equipped with MesoFocus 225

The easy-to-use system for the inspection of medium to large castings in industrial environments, such as in the automotive and aerospace industry, is now available with the MesoFocus 225 tube, combining improved detail resolution with robust and reliable operation.

X-Ray Modules (IXM)

IXM is at a turning point. Taking advantage of the miniaturization trend, Comet x-ray modules are gaining importance in the growing, key markets requiring precision and reliability.



MesoFocus 450kV

The x-ray module for high-resolution 3D CT applications, large parts and dense materials; needed for emerging applications such as additive and battery manufacturing

With its greater penetration power and a very high system availability for the 25–500 micrometer inspection application range, the iXRS 450 MesoFocus strikes the right balance between precision and the easy maintenance of a sealed tube, reducing inspection times by up to 60% compared to standard open-microfocus modules.



EVO 300D/1200

Portable x-ray system perfectly suited for high-performance field inspection

PXS EVO 300D/1200 features a superior combination of 300 kV and 1200 W constant potential x-ray power, coupled with outstanding cooling performance that allows long exposures even in extreme ambient conditions.



FXE series

High-resolution modules responding to the growing customer demand for inspection of ever smaller parts

With feature recognition from 500 nanometers up to a few millimeters, FXE is ideal for performing NDT quality control, offline inspection and measurements of a broad range of products with small feature sizes, perfectly addressing needs in key applications where high resolution is needed, such as semiconductors and electronics, battery manufacturing and laboratories.

Plasma Control Technologies (PCT)

To address important needs of the fast-changing digital world, PCT continues to strengthen its leadership position by further developing its products and continuing to focus on major innovations.



XtraVolt

Vacuum capacitor product range for low-frequency applications

High power density in processing modules is a requirement of many RF system designers. With the new product range, Comet meets these needs with higher voltage capability compared to previous products. Delivering significantly higher voltage in a compact size, these vacuum capacitors keep the same form factor, saving valuable design space.



Impedance matching networks

Improved performance of customized RF matches

Impedance matching networks are highly customized power delivery subsystems that enable a wide variety of application-specific solutions deployed in leading-edge semiconductor plasma processes. Comet delivered more than ten new designs in 2021 that provide superior performance in our customers' systems.



RF generator

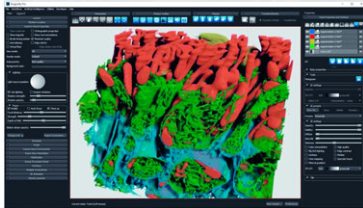
High-precision radio frequency power supply in plasma chambers used for the fabrication of microchips in the semiconductor market

Ultra-fast control, repeatability and stability of process plasma is critical to ensure maximum process performance and production yield in semiconductor manufacturing. With the new, integrated radio frequency (RF) power platform, Comet is responding to the semiconductor industry's most challenging applications and will be delivering advanced solutions in 2022.

Field tests are ongoing with various customers.

Object Research Systems (ORS)

In its first year with the Comet Group, the ORS team has been active, demonstrating its ability to respond quickly to a competitive technology environment by continually strengthening the leading position of its flagship software, Dragonfly.



Dragonfly

Improved AI capabilities, usability and rendering

ORS released a series of tools and features for Dragonfly that aim to ease users' quick implementation of powerful deep learning- and machine learning-based segmentation of multidimensional images that enhance model training, as well as visualization in real time.



Dragonfly Enterprise

For distributing compute-heavy operations to other Dragonfly workstations, high-performance computing clusters, or the cloud

Ideal for large imaging centers and research facilities, enhancements for Dragonfly's enterprise suite in 2021 include a new look and new options for managing data-intensive projects.

People & Planet – Expert view

Driving change for a more sustainable future.

Watch the video



About Matthew Gardner

Sustainserv cofounder and Managing Partner Matthew Gardner holds a PhD in chemistry and has worked in the corporate sustainability field for 30 years. Prior to founding Sustainserv 20 years ago to help corporations improve their sustainability efforts, he spent ten years on the staff of MIT. In addition to his consulting work, Dr. Gardner teaches sustainability strategy and entrepreneurship at the Harvard University Extension School.

Matthew Gardner, PhD, Managing Partner at Sustainserv, got hooked on the corporate sustainability field after working in environmental research at MIT, where he had the opportunity to assist large corporations that wanted to improve their environmental profile.

While leading an environmental workshop in the Swiss Alps in 2001, he met his two future Sustainserv partners. After talking, they all realized they wanted to do this full time, for corporations, where they knew they could make a big impact. Gardner says, "We like to say that Sustainserv was born on the side of a mountain."

Sustainability (also known in some circles as corporate social responsibility, or taking care of environmental, social and governance (ESG) issues) "is not just about doing the right thing", Dr. Gardner says. "It's also about issues that drive value creation for stakeholders." He helps corporations zero in on those issues and address them.

"If I were to grade corporate performance on sustainability over the past couple of years, I'd give them a C (a middling grade), maybe a C+," he says. "A lot of progress has been made, and there's a lot of awareness around environmental, social and governance-related issues," he says. "But too many companies are still box-ticking – preparing sustainability reports because people are asking them to. They aren't internalizing the values."

"Sustainability is not just about doing the right thing, it's also about issues that drive value creation for stakeholders."



Corporate sustainability drivers: risk management and more

Part of Dr. Gardner's work is helping corporations understand that good sustainability management is an exercise in risk management. And risk management is important to investors, so that's one driver for corporate sustainability efforts. Another driver is new revenue opportunities or cost reduction. "Some companies recognize an opportunity to bring a new product or a new service to market that is more environmentally friendly or more socially responsible and that can generate new revenue for them," says Dr. Gardner. "There are also companies that are motivated by the opportunity to realize efficiencies in how they operate. If I can produce a product using less raw materials, using less energy, then my costs are lower."

While most sustainability efforts are centered on climate-change-related issues, there are other areas of sustainability to consider. Examples are diversity and inclusion (D&I), human rights and cybersecurity.

Regardless of the reasons, Dr. Gardner is happy to see more corporations interested in the topic. "Companies should pay more attention to sustainability because of the risks and opportunities that sustainability represents," he says.

Steps to improve corporate sustainability

To help them make measurable sustainability improvements, Dr. Gardner takes companies through a four-step process: determining in what ways they want to improve their sustainability profile, determining KPIs for the journey, developing new processes and policies for effecting change, and communicating progress.

The first step is crucial, because that's where companies decide where they can have the biggest impact on the world – answering the question, "In what ways are we uniquely positioned to drive change?" Is it energy consumption, water usage, human rights, diversity, or something else?

"Companies should pay more attention to sustainability because of the risks and opportunities that sustainability represents."

Technology and people both play a role

Technology plays a key role in helping companies improve their sustainability profile. "It helps in all kinds of ways – reducing energy usage, water usage, more efficient equipment," says Dr. Gardner. "But there is also a human component to this. It's ultimately people who initiate sustainability programs, who innovate and commit to change and are willing to explore unfamiliar areas."

At the end of the day, Dr. Gardner aspires to be a catalyst for change. "Helping people become aware of these issues, helping people and corporations understand how they can make a difference – it's my life's work. We want to have the greatest impact in a way that works for the world and for the business."

How Comet is solving for what's next.



Mission ongoing:
Supporting change for a sustainable path to the future.

[▶ Read more](#)



Values for success.

[▶ Read more](#)

Values for success.



"Organizations and their culture are changed by people."

Catherine MacGillivray-Prantl
VP HRBP, Group Functions & Integrated Talent Management,
Flamatt, Switzerland

A company's culture provides a key foundation for the ability to adapt to rapidly changing conditions in a world that never stands still. With strong shared values, we want to work together even better in the future, learn from each other, create a more attractive working environment and so remain innovative and fit for tomorrow.

"To stay successful in the future, we need to be a company that world-leading companies want to work with and dedicated people want to work for," says Kevin Crofton, CEO of the Comet Group. "For this to happen, it must be clear to us – and to the world around us – what we stand for as a company. That's possible only with a strong shared corporate culture."

Our journey to a strong culture

In 2021, we worked with the IMD business school to further our development as one company and one global team. A key focus was on our culture and our values and behaviors.

The global leadership program we launched in 2020 ([annual report 2020: Learning together and achieving our full potential](#)) was the starting point: With a Culture and Values task force and selected experts, we worked out together which values are particularly important to us at Comet. The management team then discussed the proposed values and prioritized three. They are "trustful collaboration", "challenge and empower", and "customer orientation."





“It was about us as a team and ultimately as a unified company.”

Christopher Cherry
Technical Service Manager,
Hudson, Ohio, USA

Values dialog across all organizational levels

“Organizations and their culture are changed by people,” affirms Catherine MacGillivray-Prantl, VP HRBP, Group Functions & Integrated Talent Management, Flamatt, Switzerland, who was responsible for the leadership trainings. “We need employees across all levels and functions who say: ‘Yes, that’s the culture we want as a company, and I am going to lead by example to help us get there.’”

To instill and reinforce the values and the corresponding behaviors in the organization, we relied on dialog. Over the course of the year, 240 team leaders worldwide received leadership training and then in turn each led workshops with their respective team. The goal: to actively engage every employee at Comet in the conversation about our culture, values and behaviors.

“When I was first invited to the values leadership training, I thought that maybe I would learn a few new buzz-phrases and hear some insightful stories,” says Christopher Cherry, Technical Service Manager in Hudson, Ohio, USA. “But the training was organized in a way that allowed for people from diverse regions, backgrounds, and cultures to share experiences and learn from each other. It was about us as a team and ultimately as a unified company.”



IMD and Comet: values leadership training, virtually



"We received a lot of support from our colleagues worldwide. Without this close cooperation, it would have been difficult for the team in China to win this award."

David Dai

Senior Key Account Manager,
Plasma Control Technologies,
Shanghai, China

Promoting shared values – Kudos and spot award

To help promote the values of "trustful collaboration", "challenge and empower" and "customer orientation" in everyday work, each employee received a set of 30 Kudos cards. With these cards, every employee is encouraged to thank colleagues for valued behaviors, such as particularly good collaboration, and to offer recognition for behavior that supports the Comet values. Our Group management as well took the opportunity to award Kudos, including to the whole team at the end of the year.

In late 2021, Comet introduced a global "Up and Beyond" employee spot award. The award will be presented from 2022 on for outstanding collaboration within the Group, for exceptional initiatives, and to employees who model and embody Comet's values.

Practicing customer orientation even more completely

In 2021, Comet won much recognition from its customers. Notably, Comet's Plasma Control Technologies division was honored with a customer's Supplier Excellence Award 2021 for superior performance and PCT's contribution to their success.

Similarly, at the supplier conference of a semiconductor manufacturing equipment maker in Beijing in October 2021, Comet Plasma Control Technologies was recognized as an "excellent partner 2021". "We received a lot of support from our sites in Flamatt, Aachen, San Jose and especially from our Asia Design Center in Suwon. Without this close cooperation, it would have been difficult for the team in China to win this award," says David Dai, Senior Key Account Manager, Plasma Control Technologies in Shanghai.

At Comet, we work hand in hand with our customers to develop forward-thinking solutions. We seek to earn customers' loyalty by fully understanding and meeting their needs. To create the best conditions for this, we invested in the further training of our global sales team in 2021. From September to November 2021, more than 75 sales employees worldwide received sales training, tailored to Comet, by one of the world's leading providers of such programs.



“We know that companies which emphasize diversity and inclusion are generally more successful.”

Anthony Williams
Senior Market Segment Manager and coordinator of the diversity and inclusion initiative, San Jose, California, USA

Encourage diversity of perspectives and develop talents

In a rapidly changing world, organizations and teams must constantly adapt to new circumstances. In this fluid environment, learning is the key to success. With the value of “challenge and empower”, Comet strives for an organization in which each and every employee can learn and develop according to their abilities and contribute to the company’s success. To move closer to this goal, we have launched a global talent management program.

At Comet, we recognize the importance of equality and of valuing diversity and want to ensure that all employees are treated equally, regardless of gender, age, origin or other protected personal characteristics. We also know that the different experiences and perspectives of our colleagues help us to learn from each other and find better solutions together. For all these reasons, we want to promote diversity and inclusion in the company. A pioneering role in this is played by our Comet Technologies team in the USA, which has already established a diversity and inclusion board. “We know that companies which emphasize diversity and inclusion are generally more successful,” remarks Anthony Williams, Senior Market Segment Manager, IXM USA, and coordinator of the diversity and inclusion initiative. “Not only are employees more engaged and satisfied, but customers are happier and the companies are more innovative.”

Comet received the “Fair-ON-Pay +” certification for gender pay equity for the Flamatt, Switzerland, site in 2021. We are on the right track and are committed to do more in the area of diversity, equity and inclusion in order to realize our full potential as the Comet Group.

Mission ongoing: supporting change for a sustainable future.



"Sustainability is an essential attribute of the high-performing organization we strive to be."

Kevin Crofton
CEO of the Comet Group, Flamatt,
Switzerland

Comet must assume even more social responsibility than before and do its part for a more sustainable future. At the beginning of 2021, we therefore integrated the numerous individual initiatives existing in the Group into a global ESG program, and we are now working systematically to evolve further in this area.

"Sustainability is an essential attribute of the high-performing organization we strive to be," says Kevin Crofton, CEO of the Comet Group. "Going forward, responsible practices in the environmental, social and corporate governance spheres will therefore also be entrenched in our organization globally through the use of measurable, demonstrable and attainable targets. To this end, Comet launched an official sustainability program at the beginning of 2021.

Many initiatives already underway

Comet is not new to the quest for sustainability, with many initiatives already in place across the Group. "Much of what we now do under the banner of "ESG", we have actually been doing for years," points out Ulrich Steiner, VP Investor Relations and head of the ESG program, "in the form of a multitude of initiatives in the divisions and at the individual Group sites." To prepare for a structured and global approach to sustainability in the future, our first step in 2021 was to take stock of where the Group stands now. We report on this in our first integrated annual report.

Next, in 2022, we will look at which areas we can do more in and what additional topics we should tackle. As our consulting ESG expert Matthew Gardner aptly points out in the [interview published in this report](#), no company is able to do everything at once. "That's true for Comet, too," says Crofton. "We need to focus where we can make the most difference and set clear goals in those areas, ensure that progress is made measurable, and improve incrementally."



“The use of renewable energy is front and center for us in the continuous improvement of our environmental performance.”

Tina Walloschek

Environmental Management and Data Privacy Officer, Hamburg, Germany

As the following examples show, many actions on ESG topics are already well underway at the Comet Group. On some, we have been working for many years.

Making efficient use of renewable energy

The manufacturing of Comet’s products, and also their use by customers, requires, first of all, large amounts of electrical energy. The same applies to the day-to-day operation of the Group’s sites worldwide. Efforts to use energy more efficiently and employ renewable energy have therefore long been a high priority in the Comet Group. At the headquarters in Flamatt, Switzerland, for many years now we have been using only electricity from renewable sources (certified by Groupe E AG). “Saving energy is very important to us,” says Fritz Scheidegger, Director of Facility Management in Flamatt, “so we have also invested in various optimization measures for the building and the infrastructure in recent years.” We are also continually working to make our production processes more and more energy-efficient.

The pursuit of greater sustainability is already very well established at our X-Ray Systems (IXS) site in Hamburg. Every year, several new projects are started here that focus on reducing raw material consumption, waste, emissions, and especially on energy efficiency. Since the ISO 14001 certification in 2020, these initiatives are also firmly integrated in an annual environmental management plan. “The use of renewable energy is front and center for us in the continuous improvement of our environmental performance,” says Tina Walloschek, Environmental Management and Data Privacy Officer at IXS. “We have begun to lay the groundwork by using our own photovoltaic system.”



Photovoltaic system at X-Ray Systems site in Hamburg

Promoting education and knowledge in the technology space

Comet aims to contribute to a more sustainable future with its technologies. Innovation in the technology sector requires a great deal of knowledge and highly trained people. The training of apprentices, interns and young specialists has a long tradition at Comet and is continuously being expanded; a current example of these efforts is a new training center for apprentices of the X-Ray Modules division in Flamatt. Continuing education is also encouraged.

Comet's commitment is not limited to its employees, however; we also assume social responsibility beyond our ranks. In addition to various local projects, we supported UNICEF's global education program with a worldwide campaign of our own at the end of 2021, as we did in 2020. "We believe that fair access to education is a cornerstone of a more equitable and cohesive society," remarks Kevin Crofton, CEO, Comet Group, "and at the same time is the most important prerequisite for sustainable technological progress."

A more recent engagement in this arena is Comet's collaboration with universities. Thus, we invest in young researchers at the Swiss Federal Institute of Technology (ETH) in Zurich and at the University of Illinois Urbana-Champaign.



"Seeing the children's smiling faces was a happy and unforgettable experience for us."

Lay Yen Yeoh
Senior Human Resources Manager,
Penang, Malaysia

Global company, local community member

We are not only a global company in a global society, but also a local employer at our sites around the world and are thus part of the local community there. Engaging where they live, our employees show great initiative in supporting disadvantaged people nearby.

Last year, for example, we reported on Comet Technologies USA's established commitment to a charity's back-to-school drive and to Second Harvest (Annual Report 2020: [Engaged for the next generation](#)). Out of our Swiss headquarters in Flamatt, we support Young Tinkerers (a national organization that fosters youths' interest in technology and science), as well as Technorama, the Swiss Science Center. Both in Switzerland and at our locations in Germany, we also participate in the national Future Day, a long-standing initiative for bringing one's children to work and widening their perception of the range of choices they will have in choosing a profession.

This year, the staff at our new facility in Malaysia donated blankets, pillows, clothes, toys and food to the Pusat Jagaan Kasih Abadi orphanage. "We had the opportunity to get to know the kids and play with them. Seeing the children's smiling faces was a happy and unforgettable experience for us," says Lay Yen Yeoh, Senior Human Resources Manager, Comet Technologies Malaysia. "Thank you to all Penang employees who took part!"



Comet Penang CSR Committee visiting Pusat Jagaan Kasih Abadi orphanage.



"The team simply couldn't stand by and do nothing in the face of all the misery caused by the floods."

Alexandra Fotteler

VP Human Resources, Hamburg,
Germany

During the catastrophic flooding in Germany in the summer of 2021, our employees spontaneously collected donations for the "Aktion Deutschland Hilft" disaster relief alliance, and were immediately supported in this by the local management team in Hamburg and the global teams. "The team simply couldn't stand by and do nothing in the face of all the misery caused by the floods," says Alexandra Fotteler, VP Human Resources, X-Ray Systems. "I really appreciated how swiftly and unbureaucratically we were able to act. I hadn't been with the company for long at that point, and this initiative immediately made me very proud to be part of the Comet family."

We want to hold on to this spirit in the Comet Group and nurture it globally.

For more details on Comet's ESG program, please see the [GRI report](#).

Outlook for 2022

Play to strengths, seize opportunities.

The Comet Group has entered 2022 with significant momentum. Our customers continue to place their trust in us and have given us new opportunities. The Group is focused, and is financially and structurally more robust than ever before. With more flexible and leaner processes, an invigorated corporate culture and a high order backlog, Comet is well-placed to leverage the potential of the growing digitalization of society. At the same time, it is equipped to successfully counter macroeconomic risks.

“Robust, flexible, alert – Comet is well-placed to seize its market opportunities, address risks and continue on its growth trajectory.”

Kevin Crofton
CEO of the Comet Group

Strong market growth expected

The outlook in Comet’s core markets is bright. The long-term drivers for the semiconductor and electronics market, which are Comet’s primary focus, are intact. Artificial intelligence, augmented and virtual reality, autonomous driving, and new technological developments and processes in microchip production will fuel demand for semiconductors, and thus for our plasma and x-ray solutions, in 2022 and beyond. The already strong long-term demand is currently further boosted by the near-term shortage of chips.

Comet is also witnessing various degrees of recovery in the automotive, aerospace and security industries – driven by the pent-up demand reflecting the current aging of vehicles in use, the increasing replacement of internal combustion vehicles with electric vehicles, and pick up in air travel from the pandemic bottom. These market changes will have a positive impact especially on demand for x-ray inspection solutions for non-destructive testing.

For Comet, 2022 will therefore be about expanding its capacity and adapting to the growing needs of its customers, controlling its supply chains, and remaining ready to deliver – all while balancing macroeconomic risks.

Macroeconomic imponderables

Political, economic and public health developments worldwide remain difficult to predict in 2022. COVID-19 will remain a fixture in 2022. Pitted against expectations of stronger growth of the global economy are inflation fears. How quickly will central banks reduce monetary stimulus? What will governments do with regard to trade restrictions? Among the biggest challenges continue to be supply chain bottlenecks and rising logistics and energy costs. The extent of the recovery in global demand will thus depend on many factors.

On a positive note, over the past year, the industry has learned to deal with supply shortages, whether by using alternative compatible components, finding hidden stock in its supply chains, staggering the introduction of product feature sets, dual sourcing, etc. These innovative responses and others will continue throughout 2022 and potentially open new opportunities for Comet to further satisfy our customers.



Michael Kammerer (President, Plasma Control Technologies), Kevin Crofton (CEO and interim President, X-Ray Systems), Elisabeth Pataki (CFO), Keighley Peters (CIO), Stephan Haferl (President, X-Ray Modules)

Exploiting growth opportunities, managing risks

Comet has the financial and organizational strength and flexibility to continue to invest in innovation in this environment, remain a reliable partner to its customers and manage the macroeconomic risks. The corporate strategy, centered on growth, efficiency and culture, will therefore continue to be vigorously implemented in 2022. We will go on with our focused investments in R&D and the expansion of capacity at our locations worldwide. In addition, we will enhance our investment in IT, data security and digitalization.

Protecting employee health, in ways that are flexibly tailored to local circumstances, remains very important in the face of the coronavirus.

Having overcome the upstream supply challenges effectively in 2021, the Comet teams will continue to focus on the close management of the supply chains in 2022. The overarching priority is to be able to reliably fulfill the wishes of our customers at all times.

Another important task on the corporate agenda for 2022 is the further development of the ESG program launched in 2021, particularly by setting long-term sustainability goals and targets for the company.

Comet aspires to be a place where dedicated, talented people can develop their potential and make new things happen. The initiatives underway in the areas of culture, learning and talent management will therefore be continued and built upon in 2022.

"As a team and in close collaboration with our customers and suppliers, I am confident we will master the challenges of 2022."

Kevin Crofton
CEO of the Comet Group

Full pipeline of opportunities in all divisions

Plasma Control Technologies – Managing the division's growth in the semiconductor market: Given the enduring strong demand from the semiconductor industry, the focus of the Plasma Control Technologies division in 2022 is on maintaining flexibility, responsiveness and delivery readiness for its customers. The aim is to further optimize production capacity, quality and delivery times – further ramping up the mass production of impedance matching networks at the new site in Penang, Malaysia, and building the San Jose, USA, location into the dedicated new-product introduction site for new matching network development. In Asia the aim will be to serve even more customers from the Asia Design Center in South Korea.

The most pivotal project in terms of future impact remains the work on a Comet RF power subsystem for the semiconductor industry. In addition to the generator, it involves launching a new match controller and improved vacuum capacitors to provide customers with the best results. After successful beta testing of the new generator in 2021, customers can expect the advanced solutions in 2022.

X-Ray Systems – Realignment and new services: In 2022, IXS will continue its realignment and further advance the modular standardization and strengthening of the product portfolio – for example, with new offerings such as the UX50 system – and of the software platform. Following early successes with workflows based on artificial intelligence, more digital services will be offered to customers. An important driver of future growth is the further successful collaboration with leading manufacturers of advanced packages in the Asian semiconductor market. Here, the division intends to build on its initial successes and add to its offering.

X-Ray Modules – Bolstering the offering for electronics, semiconductors, batteries and high-end CT: The positive sentiment in the traditional non-destructive testing business in the automotive, aerospace, oil and gas markets provides good conditions for a successful 2022 for the X-Ray Modules division. The division's main focus will therefore be on the vigorous marketing of its newly launched products and on enlarging its offering for the examination of electronics, semiconductors and batteries and for high-end computed tomography.

Comet Group Consolidated Financial Statements

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Consolidated statement of income

In thousands of CHF	Note	2021	%	2020	%
Net sales	3/4	513,721		395,816	
Cost of sales		(290,921)		(238,249)	
Gross profit		222,800	43.4%	157,567	39.8%
Other operating income	5	3,682	0.7%	5,428	1.4%
Development expenses	7	(55,344)	- 10.8%	(53,220)	- 13.4%
Marketing and selling expenses		(47,637)	- 9.3%	(43,369)	- 11.0%
General and administrative expenses		(39,416)	- 7.7%	(31,063)	- 7.8%
Gain on disposal of businesses	8	—	—	3,986	1.0%
Operating income		84,085	16.4%	39,329	9.9%
Financing expenses	10	(5,106)	- 1.0%	(8,657)	- 2.2%
Financing income	10	3,229	0.6%	2,816	0.7%
Income before tax		82,208	16.0%	33,487	8.5%
Income tax	11	(14,771)	- 2.9%	(5,827)	- 1.5%
Net income		67,437	13.1%	27,661	7.0%
Earnings per share in CHF, diluted and basic	12	8.68		3.56	
Operating income		84,085	16.4%	39,329	9.9%
Depreciation, amortization and impairment	9	18,663	3.6%	19,287	4.9%
EBITDA		102,749	20.0%	58,616	14.8%

Consolidated statement of comprehensive income

In thousands of CHF	Note	2021	2020
Net income		67,437	27,661
Other comprehensive income			
Foreign currency translation differences		(242)	(2,618)
Total items that will be reclassified to the income statement on realization		(242)	(2,618)
Actuarial gains on defined benefit plans	26	1,954	1,392
Income tax	11	(283)	(181)
Total items that will not subsequently be reclassified to the income statement		1,671	1,211
Total other comprehensive income or (loss)		1,429	(1,407)
Total comprehensive income		68,867	26,254

Consolidated balance sheet

In thousands of CHF	Note	Dec. 31, 2021	%	Dec. 31, 2020	%
Assets					
Cash and cash equivalents		115,533		74,681	
Trade and other receivables	13	80,767		61,784	
Other assets	14	1,925		1,813	
Tax receivables		2,612		1,168	
Inventories	15	99,268		94,188	
Prepaid expenses	16	4,269		4,674	
Total current assets		304,373	62.1%	238,308	55.5%
Property, plant and equipment	17	111,703		112,629	
Right-of-use assets	18	18,791		20,610	
Intangible assets	19	41,027		43,862	
Other assets – non-current financial assets	14	3,122		3,209	
Deferred tax assets	11	11,398		10,653	
Total non-current assets		186,042	37.9%	190,963	44.5%
Total assets		490,415	100.0%	429,271	100.0%
Liabilities and shareholders' equity					
Current debt	22	–		59,976	
Current lease liabilities	18	3,949		4,198	
Trade and other payables	23	36,437		37,289	
Contract liabilities	3	35,161		43,421	
Other financial liabilities	14	894		1,471	
Tax payables		7,132		4,399	
Accrued expenses	24	35,716		21,429	
Current provisions	25	6,743		8,466	
Total current liabilities		126,033	25.7%	180,649	42.1%
Non-current debt	22	59,571		–	
Non-current lease liabilities	18	15,891		17,644	
Non-current provisions	25	267		69	
Employee benefit plan liabilities	26	12,997		14,808	
Deferred tax liabilities	11	676		1,145	
Total non-current liabilities		89,402	18.2%	33,666	7.8%
Total liabilities		215,435	43.9%	214,315	49.9%
Capital stock	27	7,770		7,768	
Capital reserve		1,918		11,631	
Retained earnings		294,430		224,452	
Foreign currency translation differences		(29,137)		(28,895)	
Total equity attributable to shareholders of Comet Holding AG		274,981	56.1%	214,956	50.1%
Total liabilities and shareholders' equity		490,415	100.0%	429,271	100.0%

Consolidated statement of cash flows

In thousands of CHF	Note	2021	2020
Net income		67,437	27,661
Income tax	11	14,771	5,827
Depreciation, amortization and impairment	9	18,663	19,287
Net interest expense	10	1,322	1,838
Share-based payments	31	1,256	518
Losses on disposal of property, plant and equipment		51	199
Losses on disposal of intangible assets		—	7
(Gain) on disposal of businesses	8	—	(3,986)
Other non-cash (income)/expense		(119)	1,860
Change in provisions	25	(1,549)	(52)
Change in other working capital		(16,440)	10,789
Taxes paid		(14,903)	(6,903)
Net cash provided by operating activities		70,489	57,045
(Outflow)/inflow from disposal of businesses	8	(261)	7,542
(Outflow) from acquisitions	20	(101)	(8,391)
Purchases of property, plant and equipment	17	(9,991)	(12,635)
Purchases of intangible assets	19	(1,476)	(931)
Disposals of property, plant and equipment	17	230	321
Purchase of other assets		(1,724)	(1,379)
Lease payments received		378	—
Interest received		222	77
Net cash (used in) investing activities		(12,722)	(15,396)
Net proceeds from issue of bond (2021 – 2026)	22	59,503	—
Repayment of bond (2016 – 2021)	22	(60,000)	—
Repayment of bank debt	22	—	(12,000)
Repayment of lease liabilities	18	(4,927)	(4,715)
Interest paid		(1,697)	(1,847)
Dividend payment to shareholders of Comet Holding AG	34	(10,098)	(7,764)
Net cash (used in) financing activities		(17,219)	(26,326)
Net increase in cash and cash equivalents		40,548	15,323
Foreign currency translation differences on cash and cash equivalents		304	(897)
Cash and cash equivalents at January 1		74,681	60,255
Cash and cash equivalents at December 31		115,533	74,681

Consolidated statement of changes in equity

In thousands of CHF	Note	Equity attributable to shareholders of Comet Holding AG				Total shareholders' equity
		Capital stock	Capital reserve	Retained earnings	Foreign currency translation differences	
January 1, 2020		7,764	11,184	203,277	(26,277)	195,948
Net income		—	—	27,661	—	27,661
Other comprehensive income		—	—	1,211	(2,618)	(1,407)
Total comprehensive income		—	—	28,872	(2,618)	26,255
Dividend payment to shareholders of Comet Holding AG	34	—	—	(7,764)	—	(7,764)
Increase in capital (for stock compensation)	27	4	447	(363)	—	88
Share-based payments	31/32	—	—	431	—	431
December 31, 2020		7,768	11,631	224,454	(28,895)	214,956
Net income		—	—	67,437	—	67,437
Other comprehensive income		—	—	1,671	(242)	1,429
Total comprehensive income		—	—	69,108	(242)	68,866
Dividend payment to shareholders of Comet Holding AG	34	—	—	(10,098)	—	(10,098)
Alignment of capital reserve ¹		—	(10,118)	10,118	—	—
Increase in capital (for stock compensation)	27	2	405	(409)	—	(2)
Share-based payments	31/32	—	—	1,258	—	1,258
December 31, 2021		7,770	1,918	294,430	(29,137)	274,981

¹ In the year under review, the amount of the capital reserve reported in the consolidated financial statements was aligned to that of the capital reserve reported in the separate financial statements of Comet Holding AG.

Notes to the consolidated financial statements

01 Nature of the business activities

The Comet Group ("Comet", the "Group") is one of the world's leading vendors of x-ray and radio frequency (RF) power technology. With high-quality components, systems and services, marketed under the "Comet" and "Yxlon" brands, the Group helps its customers optimize the quality, reliability and efficiency of their products and processes. Yxlon x-ray systems for non-destructive inspection are supplied to end customers in the electronics, automotive, aerospace and energy sectors. Under the Comet brand, the Group builds components and modules such as x-ray sources, vacuum capacitors, RF generators and impedance matching networks, marketed to manufacturers in the semiconductor, automotive and aerospace industries as well as the security sector. Under the ebeam brand, Comet also developed, manufactured and marketed compact ebeam sets for the treatment of surfaces in the food and printing industries. Comet sold the ebeam lamp business to Tetra Pak eBeam Systems SA, Pully, Switzerland, effective November 30, 2020 (see note 2.4.1 and notes, 4 and 8).

02 Accounting policies

The consolidated financial statements (except with respect to certain financial instruments) have been drawn up under the historical cost convention. The fiscal year-end for the financial statements of all Group companies is December 31. These consolidated financial statements have been prepared in compliance with Swiss stock corporation law and International Financial Reporting Standards (IFRS). All IFRS in force at the balance sheet date and all interpretations (IFRIC) of the International Accounting Standards Board (IASB) were applied. Comet did not early-adopt new standards and interpretations unless specifically stated. The significant accounting policies applied are unchanged from the prior year except as set out below.

As a result of rounding and the presentation in thousands of Swiss francs, individual numbers in the consolidated financial statements may not sum precisely to the totals indicated.

02.1 Changes in accounting policies

Revised and new accounting rules

With effect from January 1, 2021, Comet has applied the following new or adjusted IFRS/IFRIC for the first time:

- IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 – Interest Rate Benchmark Reform – Phase 2 (Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16)

On May 28, 2020, the International Accounting Standards Board (IASB) published an amendment to IFRS 16 concerning COVID-19-related rent concessions. The amendment was effective from June 1, 2020 and initially applied to rent concessions granted up to and including June 30, 2021. On March 31, 2021, the IASB published an additional amendment to extend the applicability period to cover grant dates up to and including June 30, 2022. Comet applies this practical expedient. However, in the year under review this had no impact on the consolidated financial statements (prior period: relief effect of CHF 0.1 million in income before tax).

The new or amended standards and interpretations had no material effect on the Group's financial position, results of operations and cash flows.

02.2 New accounting rules becoming effective in subsequent periods

Standard	Expected impact	Effective date	Planned adoption by Comet
IAS 37 – Provisions, contingent liabilities and contingent assets: Onerous Contracts, Cost of Fulfilling a Contract (Amendments to IAS 37)	*	Jan. 1, 2022	Fiscal year 2022
IAS 16 – Property, Plant and Equipment: Proceeds before Intended Use (Amendments to IAS 16)	*	Jan. 1, 2022	Fiscal year 2022
IFRS 3 – Business combinations: Reference to the Conceptual Framework (Amendments to IFRS 3)	*	Jan. 1, 2022	Fiscal year 2022
IAS 1 – Presentation of Financial Statements: Classification of Liabilities as Current or Non-current (Amendments to IAS 1)	*	Jan. 1, 2023	Fiscal year 2023
IAS 1 – Presentation of Financial Statements: Disclosure of Accounting Policies (Amendments to IAS 1 and IFRS Practice Statement 2)	*	Jan. 1, 2023	Fiscal year 2023
IAS 8 – Accounting Policies, Changes in Accounting Estimates and Errors: Definition of Accounting Estimates (Amendments to IAS 8)	*	Jan. 1, 2023	Fiscal year 2023
IAS 12 - Income Taxes: Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction (Amendments to IAS 12)	*	Jan. 1, 2023	Fiscal year 2023

* Expected to have no, or no significant, impact on the financial position, results of operations and cash flows.

02.3 Estimates

Comet's consolidated financial statements contain assumptions and estimates that affect the reported financial position, results of operations and cash flows. These assumptions and estimates were made on the basis of management's best knowledge at the time of preparation of the accounts. Actual results may differ from the values presented. The following estimates have the greatest effects on the consolidated financial statements:

- Intangible assets (see notes 19 to 21): For acquisitions, the fair value of the acquired net assets (including acquired intangible assets) is estimated. Any amount paid in excess of this estimate represents goodwill. Intangible assets with a finite life are written off over the expected period of use; those with an indefinite life (primarily goodwill and rights to trademarks and names) are not amortized but are tested annually for impairment. Especially in the determination of the value in use of goodwill and rights to trademarks and names, differences between assumed and actual outcomes could lead to changes in the results of impairment testing. The assumptions concerning the achievable margins and the growth rates have a significant impact on impairment test outcomes. The valuation of goodwill and other intangibles, as well as the estimation of useful life, have an effect on the consolidated financial statements.
- Provisions (see note 25) are, by definition, liabilities of uncertain amount. Future events can thus lead to adjustments that affect income.
- Deferred tax assets (see note 11) are recognized only if it is likely that taxable profits will be earned in the future. The tax planning is based on estimates and assumptions as to the future profit trajectories of the Group companies that may later prove incorrect. This can lead to changes with an effect on income.

- Employee benefit plans (see note 26): The Group operates employee benefit plans for its staff that are classified as defined benefit plans under IFRS. These defined benefit plans are valued annually, which requires the use of various assumptions. Differences between the actual outcomes and the assumptions, particularly as to the discount rate for future obligations and as to life expectancy, may have effects on the valuation of plan assets and thus on the financial position of the Group. The impact of the most important parameters on the net present value of the obligation is presented in note 26.

Impacts of COVID-19

Driven by the digitalization of society, the demand for semiconductor chips, and thus for products of the PCT division (vacuum capacitors and matchboxes), continues to be strong. After a decline in 2020, the x-ray divisions, IXM and IXS, are benefiting again from stable demand in their primary end markets: semiconductor & electronics, automotive, aerospace and security. With respect to on-going uncertainties (for example, potential supply chain issues) and geopolitical tensions, Comet critically reviewed the assumptions and estimates that affect the financial position, results of operations and cash flows. In this review, no relevant changes were identified that would have a material impact on these financial statements.

In connection with the COVID-19 pandemic, Comet received no government support in fiscal year 2021 (prior year: government support with a positive effect of CHF 0.9 million on income before tax, mainly consisting of reductions in social security contributions).

02.4 Consolidation

02.4.1 Basis of consolidation

In 2021, there were no changes in the basis of consolidation from the prior year.

Effective November 30, 2020, Comet sold the ebeam lamp business to Tetra Pak eBeam Systems SA, Pully, Switzerland. As a result, the ebeam Technologies division (EBT) was dissolved with effect from January 1, 2021. Therefore, the segment reporting for 2020 has been restated in accordance with IFRS 8. Any activities of the former EBT division that remain with Comet are allocated to the respective divisions, while the divested EBT activities are included under "Corporate" (see notes 4 and 8).

In addition, effective December 31, 2020, Comet acquired sole ownership of the software developer Object Research Systems (ORS) Inc., a leading provider of 3D visualization and analysis solutions for research and industrial applications based in Montreal, Canada. The related information is provided in note 20.

Two subsidiaries, Comet Technologies Malaysia Sdn. Bhd., Penang, Malaysia, and Comet Solutions Taiwan Ltd., Hsinchu County, Taiwan, were founded in fiscal year 2020. The companies are wholly owned by Comet Holding AG.

The consolidated financial statements thus comprise the accounts of the companies listed below:

Company	Registered office	Equity interest and voting rights in %	
		2021	2020
Comet Holding AG	Flamatt, Switzerland	100%	100%
Comet AG	Flamatt, Switzerland	100%	100%
Comet Electronics (Shanghai) Co. Ltd.	Shanghai, China	100%	100%
Comet Mechanical Equipment (Shanghai) Co. Ltd.	Shanghai, China	100%	100%
Comet Technologies USA, Inc.	Shelton, CT, USA	100%	100%
Comet Technologies Korea Co. Ltd.	Suwon, Korea	100%	100%
Yxlon International GmbH	Hamburg, Germany	100%	100%
Comet Technologies Denmark A/S	Taastrup, Denmark	100%	100%
Comet Technologies Japan KK ¹	Yokohama, Japan	100%	100%
Yxlon (Beijing) X-Ray Equipment Trading Co. Ltd.	Beijing, China	100%	100%
Comet Technologies Malaysia Sdn. Bhd.	Penang, Malaysia	100%	100%
Object Research Systems (ORS) Inc.	Montreal, Canada	100%	100%
Comet Solutions Taiwan Ltd.	Hsinchu County, Taiwan	100%	100%

¹ The company was renamed "Comet Technologies Japan KK" from "Yxlon International KK".

02.4.2 Method of consolidation

The consolidated financial statements represent the aggregation of the annual accounts of the individual Group companies, which are prepared using uniform accounting principles. Those companies controlled by Comet Holding AG are fully consolidated. This means that these companies' assets, liabilities, equity, expenses and income are entirely included in the consolidated financial statements. All intragroup balances and transactions, unrealized gains and losses resulting from intragroup transactions, and dividends are eliminated in full.

Acquisitions and goodwill

Companies are consolidated from the date on which effective control passes to the Group. Consolidation ends only when effective control ceases. On acquisition, the identifiable assets, liabilities and contingent liabilities are measured at fair value and included in the accounts using the acquisition method. For acquisitions, intangible assets that arise from a contractual or legal right or are separable from the business entity, and whose fair value can be measured reliably, are reported separately. Goodwill, being the excess of the aggregate consideration transferred over the fair value of the net assets of the acquired subsidiary, is initially measured at cost. If the aggregate consideration transferred is lower than the fair value of the acquired net assets, the difference is recognized as negative goodwill in other operating income at the acquisition date. Goodwill and other intangible assets are allocated on acquisition to those cash generating units expected to benefit from the acquisition or to generate future cash flows as a result of it. When Group companies are sold, the difference between their sale price and their net assets, plus accumulated currency translation differences, is recognized as operating income in the consolidated statement of income.

Foreign currency translation

The functional currency of the Group companies is the respective national currency. Transactions in a currency other than the functional currency are translated at the exchange rate prevailing at the transaction date. Financial assets and liabilities are translated at the balance sheet date at the exchange rate as of that date; the resulting currency translation differences are reported in the income statement. The consolidated financial statements are presented in Swiss francs. The financial statements of the Group companies are translated at the aver-

average exchange rates for the year (the "average rate" in the table below) for the income statement and at year-end rates (the "closing rate") for the balance sheet. The resulting currency translation differences are recognized in other comprehensive income. Currency translation differences from intragroup loans for the long-term financing of Group companies are also recognized in other comprehensive income, to the extent that repayment is neither planned nor is likely to occur in the foreseeable future.

The exchange rates used to translate the most important currencies are listed below:

Country or region			Closing rate		Average rate	
			Dec. 31, 2021	Dec. 31, 2020	2021	2020
USA	USD	1	0.914	0.882	0.915	0.939
Eurozone	EUR	1	1.035	1.084	1.079	1.070
China	CNY	1	0.143	0.135	0.142	0.136
Japan	JPY	100	0.794	0.855	0.831	0.879
Denmark	DKK	1	0.139	0.146	0.145	0.144
Republic of Korea	KRW	1,000	0.768	0.812	0.797	0.796
Malaysia	MYR	1	0.219	0.220	0.221	0.222
Canada	CAD	1	0.718	0.692	0.729	0.692
Taiwan	TWD	100	3.294	3.141	3.279	3.166

02.5 Measurement and recognition policies

Revenue recognition (sales and other income)

Net sales represent the revenue from the sale of goods and services to third parties, net of rebates and other price reductions. The Group's revenue is derived from the sale of goods (including spare parts) by the PCT and IXM divisions and the sale of systems (including services such as installation) by the IXS division. Revenue from the sale of goods, including spare parts, systems and system-related services, is as a rule recognized on the basis of a single performance obligation, which is satisfied at a specific point in time. The performance obligation is satisfied, and the revenue recognized, when the customer acquires control of the product or service. In the sale of goods that are not systems, the transfer of control generally occurs at the time of delivery. Performance obligations for system sales (including for installation) are fulfilled at the time of acceptance by the customer. In connection with both non-system goods and with systems, Comet also offers services. Warranty obligations for providing an additional service to the customer (service-type warranties), such as an extension of the warranty period, are separate performance obligations and the revenue associated with them is recognized over time. For general maintenance services and defect correction intended to ensure that the delivered good is, or performs, as specified in the contract (assurance-type warranties), the estimated cost of the liability is recognized as a provision in accordance with IAS 37.

Customer contributions to development projects and payments for the delivery of the respective first prototype are recorded in other operating income; subsequent deliveries of prototypes are reported as sales.

Variable price elements (variable consideration) exist both in retroactive rebates when the quantity of products purchased exceeds a certain threshold in the calendar year, and in individual discounts on products. The amount of the rebate is estimated using the most-likely-

amount method and as a rule is allocated proportionately to all performance obligations under the contract.

Sales commissions owed for agent activities are capitalized at contract inception as incremental costs attributable to obtaining a contract and a liability of equal amount is recognized for sales commissions. Their recognition as an expense occurs as soon as Comet has transferred control of the products to the customer. No interest effect is recognized for contract liabilities and prepayments by customers, as the period between the time of transfer of a promised good or service to the customer and the time of payment is not more than one year.

Cash and cash equivalents

In addition to cash on hand and balances in checking accounts at banks, cash and cash equivalents can also include fixed-term deposits with original maturities of up to three months.

Trade and other receivables and contract assets

Trade receivables, other receivables and contract assets are reported at their face value less any necessary impairment charges. Comet provides for impairment using the simplified approach by recognizing an allowance in the amount of the losses expected over the remaining life of the instruments (known as the expected credit loss model). For specific doubtful arrears with objective indications of impairment, impairment charges are applied individually.

Whether a receivable or a contract asset is recognized is governed by whether the right to consideration is unconditional (leading to recognition of a receivable) or conditional (leading to recognition of a contract asset).

Financial assets and liabilities

Financial assets are initially measured at fair value (market value), including transaction costs, except in the case of financial assets categorized as at fair value through profit or loss, for which transaction costs are recorded directly in financing expenses. All purchases and sales of financial assets are recognized at the transaction date.

- Financial items at fair value through profit or loss: These include all derivatives, trading positions, and certain financial assets and liabilities designated as falling into this category. These assets are recognized at fair value in the balance sheet. Changes in value are reported as financing income or expense in the reporting period in which they occur.
- Financial items at amortized cost: These are measured at cost using the effective interest method.

Fair value is determined based on quoted or other market prices. In the fiscal year as in the prior year, no hedge accounting under IFRS 9 or IAS 39 was applied to any hedging transactions. Financial assets are recognized as soon as Comet acquires control of them, and derecognized when it ceases to have control, i.e., when it has sold the rights or they have lapsed. Financial liabilities are derecognized when the obligation specified in the contract is discharged or is canceled or expires.

Inventories

Inventories are recorded at the lower of cost and net realizable value. Net realizable value represents the estimated normal sale price less the

costs of completion, marketing, selling and distribution. Raw materials and purchased products are measured using the weighted-average method; internally produced goods are measured at standard costs. Inventories include proportionate shares of production overheads.

Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and impairment. Borrowing costs related to qualifying assets form part of the historical cost. Depreciation is provided on a straight-line basis over the estimated useful life of the assets. The expense for depreciation of property, plant and equipment is recognized in the income statement under that expense category which corresponds to the function of the particular asset in the Group. Land values are not depreciated. Impairment charges are recognized as a separate line item under accumulated depreciation and impairment. Maintenance costs are recognized as assets only if the maintenance extends the expected life of the asset, expands production capacity or otherwise increases asset values. The costs of maintenance and repair that do not increase asset values are charged directly to income. The following estimated useful lives are applied in determining depreciation:

Buildings	20 – 40 years
Plant and equipment	6 – 10 years
Other tangible assets	3 – 10 years

Right-of-use assets and lease liabilities

As a lessee, Comet recognizes leases on the basis of a right-of-use model. At the inception of every contract, Comet assesses whether it includes a lease, separating lease components from non-lease components. No assets and liabilities are recognized for leases with a term of one year or less and for leases of low-value assets (with a value when new of less than CHF 5,000); the expenses for these are recognized directly in the income statement. The initial measurement of the right of use for a leased asset is made by calculating the present value of the lease payments, plus initial direct costs, plus estimated costs for dismantling, removal and restoration, less lease incentives received. The lease liabilities correspond to the present value of the discounted payment obligations. For discounting the lease payments, Comet uses the interest rate implicit in the lease. In doing so, the currency area in which the leased asset is located and the Comet-specific credit risk are taken into account. Comet primarily has leases with fixed payments, which includes leases with rent-free periods and ones with rising payments. Leases with variable payments are immaterial.

Comet's leases may include renewal options. These are included in the calculations only if, taking into account all significant determining factors, they are considered highly likely to be exercised. For indefinite leases, the following principles apply (the extension periods cited are from the lease inception or from the expiry of the minimum lease term):

	Maximum extension
Buildings and warehouses	3 years
Plant and equipment	2 years
Vehicles and other tangible assets	1 year

In the event of a material modification, Comet remeasures the lease liability at the date of the change. Adjustments to the lease liability are deducted from or added to the corresponding right-of-use asset. Any difference remaining upon early termination of a lease is recognized through profit or loss.

Where Comet is the lessor, the lease is accounted for either as an operating or a finance lease, depending on its terms.

Intangible assets

The intangible assets recognized are goodwill, rights to trademarks and names, customer lists, technology, licenses, patents, and software. Intangible assets are recognized at cost and generally amortized on a straight-line basis over their expected useful life. Goodwill and acquired rights to trademarks and names are not amortized but are tested annually for impairment (see section "Impairment of non-current assets"). The expense for amortization of intangible assets with finite useful lives is recognized in the income statement under that expense category which corresponds to the function of the particular asset in the Group. The following estimated useful lives are generally applied in determining amortization:

Customer lists	10 – 15 years
Technology	5 – 10 years
Computer software	3 – 5 years

Provisions

Provisions are recognized only where Comet has a present obligation to a third party arising from a past event and the amount of the obligation can be estimated reliably. No provisions are recognized for possible losses that may result from future events.

Provisions are classified as current to the extent that the related cash outflows are expected to occur within one year from the balance sheet date. Conversely, the cash outflows in respect of non-current provisions are expected to occur more than twelve months after the balance sheet date. If the interest effect is material, the cash outflows are discounted.

Post-employment benefits

Comet maintains post-employment benefit plans for its employees which differ according to the local circumstances of the individual Group companies. The benefit plans are financed by contributions to benefit arrangements that are separate legal entities (foundations or insurance companies) or by the accumulation of reserves in the balance sheet of the respective Group company. In the case of defined contribution plans or economically equivalent arrangements, the expenses accrued in the reporting period represent the agreed contributions of the Group company. For defined benefit plans, the service costs and the present value of the defined benefit obligation are calculated in actuarial valuations by independent experts, using the projected unit credit method. The calculations are updated annually. The surplus or deficit recognized in the balance sheet is equal to the present value of the defined benefit obligation as determined by the actuary, less the fair value of plan assets. Any resulting net surplus is recognized as an asset only to the extent of the potential economic benefit that may be realized from this asset in the future, taking into consideration IFRIC

14. The expense charged to income is the actuarially determined service cost plus the net interest cost. Actuarial gains and losses are recognized in other comprehensive income. They comprise experience adjustments (the effects of differences between the previous actuarial assumptions and the observed outcomes) and the effects of changes in actuarial assumptions (particularly regarding the discount rate and life expectancy).

Length-of-service awards

Comet grants length-of-service awards to its employees after a certain number of years of service, in the form of lump-sum payments that increase in amount with the number of years of employment. Comet calculates the resulting obligation using the projected unit credit method. The calculation is updated annually. Any actuarial gains or losses from the remeasurement are immediately taken to income.

Share-based payments

Part of the variable compensation of the members of the Executive Committee under the short-term incentive plan (STIP), and part of the fixed compensation of the Board of Directors, is paid in stock. In addition, the Executive Committee is granted stock under a long-term incentive plan (LTIP). The expense is recognized at the value of the stock earned, measured at the quoted market price (fair value) at the grant date. The amount accrued for those components of compensation which must be equity-settled (i.e., for which there is no option of cash payment) is recognized directly in equity. For components which the beneficiary can choose to receive in equity or in cash, the value of the option which this choice represents is determined and recognized as an increase in equity, while the rest of the obligation is recorded as a liability.

Income tax

The income tax expense for the reporting period is composed of current taxes and deferred taxes.

Current taxes

Current tax liabilities and assets for the current period and prior reporting periods are recognized based on the amount expected to be payable to or refunded by the tax authorities. They are calculated based on the tax regulations and tax rates in effect at the balance sheet date.

Deferred taxes

Deferred taxes are accounted for by the liability method. Under this approach, the income tax effects of temporary differences between the tax bases and the values used in the consolidated financial statements are recorded as non-current liabilities or non-current assets. Deferred taxes are calculated at actual or expected local tax rates. Changes in deferred taxes are included in income tax expense in the income statement, except for deferred taxes in respect of items that are recognized outside profit or loss. These latter deferred taxes are likewise recognized outside profit or loss; according to the underlying accountable event, they are recognized either in other comprehensive income or directly in equity. Deferred tax liabilities are recognized on all taxable temporary differences except for goodwill. Deferred tax assets are recognized for all deductible temporary differences, the carryforward of unused tax credits and any unused tax losses. Deferred tax assets are recognized to the extent that it is probable that taxable profit

will be available against which the deductible temporary differences and the carryforward of unused tax credits and unused tax losses can be utilized, except:

- When the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit for the period nor taxable profit or loss.
- In respect of deductible temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, deferred tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future.

Impairment of non-current assets

The value of property, plant and equipment and other non-current assets, including intangibles, is reviewed whenever it appears possible, as a result of changed circumstances or events, that the assets' carrying amount represents an overvaluation. Intangible assets that are in the process of being generated are tested for impairment annually. If the carrying amount exceeds the amount recoverable through use or sale of the asset, the carrying amount is reduced to this recoverable amount and the difference is recorded as an impairment charge in the income statement. The recoverable amount is the higher of realizable value or value in use. Value in use is determined on the basis of discounted expected future cash flows. Any acquired goodwill and any rights to trademarks or names with an indefinite useful life are not amortized but are reviewed annually at the same date for impairment. This impairment test is based on the results for the fiscal year, the rolling multi-quarter forecast and the rolling multi-year plan.

03 Revenue from contracts with customers

In the following tables, sales revenue is analyzed by region and by market sector.

In thousands of CHF	Plasma Control Technologies (PCT)		X-Ray Systems (IXS)		Industrial X-Ray Modules (IXM)		ebeam Technologies (EBT)		Consolidated	
	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Geographic region										
Europe	10,644	7,878	33,936	29,116	32,280	21,363	—	12,137	76,860	70,494
North America	184,871	157,125	13,746	12,980	18,261	15,400	—	553	216,879	186,057
Asia	110,263	59,516	81,309	58,021	17,907	11,493	—	1,611	209,479	130,641
Rest of world	312	200	9,381	6,331	811	1,796	—	297	10,503	8,625
Total	306,091	224,718	138,371	106,449	69,259	50,052	—	14,598	513,721	395,816

Sales split by market sector		
In thousands of CHF	2021	2020
PCT		
Semiconductor	286,329	205,171
Others	19,762	19,548
Total, PCT	306,091	224,718
IXS		
Automotive	51,254	35,430
Electronics	47,276	34,972
Science & new materials	21,836	21,825
Aerospace	13,587	10,508
Others	4,418	3,715
Total, IXS	138,371	106,449
IXM		
Non-destructive testing	41,646	32,380
Security	12,358	8,151
Others	15,254	9,522
Total, IXM	69,259	50,052
Total, EBT	—	14,598
Total net sales	513,721	395,816

Comet sold the ebeam lamp business to Tetra Pak eBeam Systems SA, Pully, Switzerland, effective November 30, 2020 (see notes 4 and 8).

Unsatisfied performance obligations

The unsatisfied or partly unsatisfied performance obligations (so-called order backlog) as of December 31, 2021 amounted to CHF 255 million (prior year: CHF 166 million). Comet will realize this revenue as soon as the performance obligations have been fulfilled and the customers have acquired control of the products or services. This is expected generally to be the case in the next 12 to 24 months.

Contract balances

Opening and closing balances of receivables and contract assets are reported in note 13. Contract liabilities from contracts with customers are presented in the balance sheet. The contract assets consisted mainly of the rights to consideration for product deliveries and services of the X-Ray Systems division that were completed but not yet billed at the balance sheet date. The contract liabilities consisted of prepayments received from customers. The revenue recognized in 2021 from contract liabilities existing at the beginning of the reporting period amounted to CHF 33.4 million (prior year: CHF 18.4 million). Material changes in contract balances result from the receipt of customer payments and the invoicing of satisfied performance obligations.

04 Segment reporting

The Group is managed on the basis of the following three operating divisions, which are delineated based on their products and services. For financial reporting purposes the divisions are also referred to here as "operating segments" or "segments".

- The **Plasma Control Technologies (PCT)** division develops, manufactures and markets vacuum capacitors, radio frequency (RF) generators and RF impedance matching networks for the high-precision control of plasma processes required, for instance, in the production of memory chips and flat panel displays.
- The **X-Ray Systems (IXS)** division develops, manufactures and markets x-ray systems, and provides related services, for non-destructive examination using x-ray and microfocus technology and computed tomography.
- The **Industrial X-Ray Modules (IXM)** division develops, manufactures and markets highly compact x-ray sources and portable x-ray modules for non-destructive examination, steel metrology, and security inspection.

Comet sold the ebeam lamp business to Tetra Pak eBeam Systems SA, Pully, Switzerland, effective November 30, 2020. The ebeam Technologies (EBT) division developed, manufactured and marketed compact ebeam sets for the treatment of surfaces in the food and printing industries. Assets and liabilities having a future value in use and remaining with Comet after the divestiture were allocated to other divisions of the Group according to their intended use, and the EBT segment was dissolved with effect from January 1, 2021. Therefore, the segment reporting for fiscal year 2020 has been restated in accordance with IFRS 8. Any activities remaining with Comet are allocated to the respective divisions, while the divested EBT activities are included under "Corporate" for the prior year.

Segment operating income represents all revenues and expenses attributable to a particular division. The only revenues and expenses not allocated to the segments are those of Comet Holding AG, net financial items and income taxes. These unallocated expenses and revenues are reported in the "Corporate" column. Transactions between the segments are invoiced at prices also charged to third parties.

The segment assets and liabilities represent all operating items. The following assets and liabilities are not allocated to operating segments: the assets and liabilities of Comet Holding AG, all cash and cash equivalents, all debt and all income tax assets and liabilities. These unallocated assets and liabilities are reported in the "Corporate" column.

04.1 Operating segments

Fiscal year 2021						
In thousands of CHF						
	Plasma Control Technologies (PCT)	X-Ray Systems (IXS)	Industrial X-Ray Modules (IXM)	Elimination of intersegment sales	Corporate	Consolidated
Net sales						
External net sales	306,091	138,371	69,259	—	—	513,721
Intersegment sales	—	535	9,687	(10,222)	—	—
Total net sales	306,091	138,906	78,946	(10,222)	—	513,721
Earnings						
Segment operating income	71,864	3,634	10,548	294	—	86,340
Unallocated costs	—	—	—	—	(2,255)	(2,255)
Operating income	71,864	3,634	10,548	294	(2,255)	84,085
Financing expenses						(5,106)
Financing income						3,229
Income before tax						82,208
Income tax						(14,771)
Net income						67,437
EBITDA	80,487	8,931	15,292	294	(2,255)	102,749
EBITDA in % of net sales	26.3%	6.4%	19.4%			20.0%
Assets and liabilities at Dec. 31, 2021						
Segment assets	153,907	116,142	85,470	—	134,897	490,415
Segment liabilities	(50,890)	(75,497)	(20,290)	—	(68,757)	(215,435)
Net assets	103,017	40,645	65,180	—	66,140	274,981
Other segment information						
Expenditure for right-of-use asset	1,165	861	1,597	—	—	3,623
Expenditure for property, plant and equipment & intangible assets	6,586	1,870	3,011	—	—	11,467
Depreciation, amortization and impairment	8,622	5,297	4,744	—	—	18,663
Change in provisions	262	(1,887)	77	—	—	(1,549)
Other non-cash expense/(income)	(203)	(293)	(47)	24	400	(119)
Number of employees at year end	826	435	310	—	—	1,571

Fiscal year 2020 - Restated						
In thousands of CHF						
	Plasma Control Technologies (PCT)	X-Ray Systems (IXS)	Industrial X-Ray ¹ Modules (IXM)	Elimination of intersegment sales ¹	Corporate ¹	Consolidated
Net sales						
External net sales	224,718	106,449	51,268	—	13,382	395,816
Intersegment sales	—	314	10,218	(10,532)	—	—
Total net sales	224,718	106,762	61,486	(10,532)	13,382	395,816
Earnings						
Segment operating income/(loss)	41,781	(6,677)	4,080	156	2,158	41,498
Unallocated costs	—	—	—	—	(2,169)	(2,169)
Operating income or (loss)	41,781	(6,677)	4,080	156	(11)	39,329
Financing expenses						(8,657)
Financing income						2,816
Income before tax						33,487
Income tax						(5,827)
Net income						27,661
EBITDA	49,338	(1,009)	9,040	156	1,091	58,616
EBITDA in % of sales	22.0%	- 0.9%	14.7%			14.8%
Assets and liabilities at Dec. 31, 2020						
Segment assets	129,908	124,183	83,828	—	91,351	429,271
Segment liabilities	(44,235)	(86,261)	(16,793)	—	(67,025)	(214,315)
Net assets	85,673	37,923	67,035	—	24,326	214,956
Other segment information						
Expenditure for right-of-use asset	3,292	10,279	33			13,604
Expenditure for property, plant and equipment & intangible assets	8,531	1,090	3,636	—	254	13,511
Depreciation, amortization and impairment	7,557	5,669	4,959	—	1,102	19,287
Change in provisions	700	(353)	(35)	—	(364)	(52)
Other non-cash expense/(income)	646	(495)	359	14	1,336	1,860
Number of employees at year end	679	431	293	—	—	1,403

¹ The ebeam Technologies division (EBT) was dissolved with effect from January 1, 2021. Therefore, the segment reporting for the fiscal year 2020 has been restated in accordance with IFRS 8. Any of the EBT activities remaining with Comet are allocated to the respective divisions, while the divested EBT activities are included under "Corporate".

Reconciliation of aggregate segment assets and liabilities to consolidated results

In thousands of CHF	2021	2020
Operating segments' assets	355,519	337,919
Total cash and cash equivalents	115,533	74,681
Other assets	4,863	4,791
Tax receivables	2,612	1,168
Deferred tax assets	11,398	10,653
Comet Holding AG's receivables from third parties	490	60
Total assets	490,415	429,271
Operating segments' liabilities	(146,678)	(147,289)
Current and non-current debt	(59,571)	(59,976)
Derivatives used for foreign exchange hedging	(177)	(45)
Tax payables	(7,132)	(4,399)
Deferred tax liabilities	(676)	(1,145)
Comet Holding AG's payables to third parties	(1,201)	(1,461)
Total liabilities	(215,435)	(214,315)

04.2 Geographic information

Comet markets its products and services throughout the world and has its own companies in Switzerland, Germany, Denmark, the USA, China, Japan, South Korea, Malaysia, Canada and Taiwan. Net sales are allocated to countries on the basis of customer location.

Net sales by region		
In thousands of CHF	2021	2020
Switzerland	7,918	11,581
Germany	30,887	26,914
Rest of Europe	38,055	31,998
Total, Europe	76,860	70,494
Total, North America	216,879	186,057
China	98,561	55,101
Japan	26,552	21,775
Rest of Asia	84,365	53,765
Total, Asia	209,479	130,641
Rest of world	10,503	8,625
Total	513,721	395,816

Property, plant and equipment, right-of-use assets and intangible assets are allocated to the regions based on the country entities' location.

Property, plant and equipment, right-of-use assets and intangible assets by region		
In thousands of CHF	2021	2020
Switzerland	107,062	108,786
Germany	44,288	48,343
North America	13,428	14,053
Rest of world	6,743	5,918
Total	171,521	177,101

04.3 Sales with key accounts

In the year under review, the Plasma Control Technologies division recorded sales of CHF 156 million with its largest customer, which represented 30.4% of Group sales (prior year: CHF 128 million and 32.4%, respectively).

05 Other operating income

In thousands of CHF	2021	2020
Income from the development of prototypes	2,134	3,134
Customers' contributions to development projects	327	2,039
Government grants	128	227
Miscellaneous income	1,093	28
Total other operating income	3,682	5,428

06 Staff costs and staff count

06.1 Staff costs

In thousands of CHF	2021	2020
Wages and salaries	143,010	125,669
Employee benefits	23,246	20,505
Total staff costs	166,256	146,174

06.2 Staff count

	2021	2020
Number of employees (year-end)	1,571	1,403
Average full-time equivalents during the year	1,432	1,325

07 Development expenses

Development expenses comprise the costs of new-product development, improvement of existing products, and process engineering. Comet's development activities focus on the fields of vacuum technology, high voltage engineering and material science, and on the further development of the divisions' core products. In view of the uncertainty of future economic benefits that may flow from development projects, Comet as a rule does not capitalize development costs but charges them directly to the income statement.

08 Gain on disposal of businesses

08.1 Disposal of businesses in 2021

In fiscal year 2021, no businesses were divested and there were no changes in the ownership interests that the Group controlled in companies.

In January 2021, the liability for purchase price adjustment of CHF 0.3 million (see note 8.2) was paid to Tetra Pak eBeam Systems SA, Pully, Switzerland.

08.2 Disposal of businesses in 2020

Effective November 30, 2020, Comet sold the ebeam lamp business (part of the EBT division) to Tetra Pak eBeam Systems SA, Pully, Switzerland. The following assets and liabilities were transferred as an asset group to the new owner:

In thousands of CHF	Carrying amount at Nov. 30, 2020
Prepaid expenses	256
Inventories	1,266
Property, plant and equipment	2,492
Total assets	4,015
Accrued expenses	(246)
Provisions	(474)
Total liabilities	(720)
Total net assets	3,295
Cash payment from new owner	7,542
Liability for purchase price adjustment	(261)
Gain on disposal of businesses	3,986

The gain of CHF 4.0 million on the disposal was taxable in 2020. The expected tax rate was 13% and the tax effect was therefore CHF 0.5 million.

09 Amortization, depreciation and impairment

In thousands of CHF	2021	2020
Amortization of intangible assets	3,579	4,526
Depreciation of right-of-use assets	4,765	4,280
Depreciation of property, plant and equipment	10,319	10,481
Total amortization and depreciation	18,663	19,287
Impairment of property, plant and equipment	—	—
Total impairment	—	—

10 Financing income and expenses

In thousands of CHF	2021	2020
Interest expense	1,544	1,916
Losses on derivatives used for currency hedging	1,009	1,642
Foreign currency translation losses	2,554	5,099
Total financing expenses	5,106	8,657

In thousands of CHF	2021	2020
Interest income	222	77
Gains on derivatives used for currency hedging	514	2,155
Foreign currency translation gains	2,493	584
Total financing income	3,229	2,816

In thousands of CHF	2021	2020
Net interest expense	1,322	1,838
Net foreign currency translation losses	556	4,002

Foreign currency translation gains and losses resulted largely from items denominated in US dollars and euros.

11 Income tax

11.1 Current and deferred income tax expense	In thousands of CHF	2021	2020
		17,904	9,791
		(1,643)	(1,161)
		(1,490)	(2,802)
		14,771	5,827
<hr/>			
11.2 Reconciliation of tax expense	In thousands of CHF	2021	2020
		82,208	33,487
		18,086	8,037
		(231)	(625)
		(1,060)	(351)
		88	215
		16	121
		—	(248)
		(535)	(435)
		(1,643)	(1,161)
		190	201
		(141)	74
		14,771	5,827
		18.0%	17.4%

The expected income tax rate represents the Group's experience-based long-term tax rate and takes into account the local income tax rates of the individual Group companies.

Comet AG, based in Flamatt, has been granted conditional tax relief by the canton of Fribourg, Switzerland, in the form of a reduction in cantonal and municipal taxes for the period to 2022. For 2021 the tax reduction amounted to 50% (prior year: 50%).

11.3 Deferred tax assets and liabilities

Deferred tax assets and liabilities can be analyzed as follows:

In thousands of CHF	2021		2020	
	Assets	Liabilities	Assets	Liabilities
Financial instruments	46	(44)	46	(95)
Receivables	2,431	(436)	4,272	(854)
Inventories	5,778	(1,399)	5,420	(2,370)
Property, plant and equipment	154	(430)	266	(461)
Right-of-use assets	—	(5,616)	—	(6,286)
Intangible assets	288	(1,976)	353	(2,466)
Trade payables and other liabilities	572	(328)	323	(498)
Lease liabilities	5,822	—	6,535	—
Accrued expenses	2,630	—	1,797	—
Provisions	1,084	—	886	—
Employee benefit plan liabilities	1,499	—	1,577	—
Tax loss carryforwards, and tax credits for R&D and domestic manufacturing	647	—	1,061	—
Total gross deferred tax of Group companies	20,951	(10,229)	22,537	(13,030)
Netting of deferred tax by Group companies	(9,553)	9,553	(11,885)	11,885
Amounts in the consolidated balance sheet	11,398	(676)	10,653	(1,145)

The deferred tax assets and liabilities were measured at local tax rates, ranging from 13% to 33%. No deferred tax liabilities were established for temporary differences of CHF 141.7 million (prior year: CHF 85.2 million) in respect of the value of the ownership interests in Group companies. Distributions of retained earnings by subsidiaries are not expected to have an effect on income taxes, except for future distributions from China, Korea, Taiwan and Canada. There were no tax provisions for non-refundable withholding taxes on future distributions of foreign subsidiaries to Comet Holding AG. Distributions by Comet Holding AG to its shareholders have no effect on the reported or future income taxes.

11.4 Movement in deferred tax assets and liabilities

In thousands of CHF	2021	2020
Net asset at January 1	9,508	8,397
Origination and reversal of temporary differences recognized in the income statement	1,780	3,360
Recognition of deferred tax assets on loss carryforwards and R&D credits	287	83
Use of tax loss carryforwards	(577)	(641)
Deferred tax credit in the income statement	1,490	2,802
Deferred tax liability related to the acquisition of a subsidiary	—	(1,019)
Origination and reversal of temporary differences recognized in other comprehensive income	(283)	(181)
Foreign currency translation differences	6	(490)
Net asset at December 31	10,722	9,508
Reported as assets	11,398	10,653
Reported as liabilities	(676)	(1,145)

11.5 Tax loss carryforwards

Deferred tax assets, including tax loss carryforwards and expected tax credits, are recognized only if it is likely that future taxable profits will be available to which these deferred tax assets can be applied. Temporary differences for which no tax assets were recognized were nil (prior year: nil).

At the balance sheet date of December 31, 2021, tax loss carryforwards stood at CHF 2.5 million (prior year: CHF 3.2 million). Including tax credits for R&D and domestic manufacturing, the resulting deferred tax assets were CHF 0.6 million (prior year: CHF 1.1 million). The existing loss carryforwards can be carried forward indefinitely.

In the fiscal year, there were no unrecognized deferred tax assets from tax loss carryforwards (prior year: nil).

12 Earnings per share

Basic earnings per share represents the reporting period's consolidated net income divided by the average number of shares outstanding.

	2021	2020
Weighted average number of shares outstanding	7,768,812	7,766,108
Net income in thousands of CHF	67,437	27,661
Net income per share in CHF, diluted and basic	8.68	3.56

There are no outstanding stock options or stock subscription rights that could lead to a dilution of earnings per share.

13 Trade and other receivables

In thousands of CHF	2021	2020
Trade receivables, gross	66,007	51,232
Impairment of trade receivables	(950)	(933)
Trade receivables, net	65,057	50,299
Refundable sales taxes and value-added taxes	2,291	2,415
Prepayments to suppliers	1,475	1,206
Contract assets	9,793	5,561
Sundry receivables	2,151	2,303
Total other receivables	15,710	11,485
Total trade and other receivables	80,767	61,784

The allowance account for impairment of trade receivables showed the following movement:

In thousands of CHF	2021	2020
January 1	933	495
Added	92	575
Released	(74)	(116)
Foreign currency translation differences	(2)	(21)
December 31	950	933

The impairment test of trade receivables performed in light of the effects of the COVID-19 pandemic identified no material change in the risk of default in the year under review.

At the balance sheet date, complete impairment was recognized on CHF 0.7 million (prior year: CHF 0.7 million) of trade receivables. Within the item "total other receivables", there were no amounts past due

or written down. The Group does not hold security against trade and other receivables.

The aging schedule for past-due trade receivables on which impairment has been recognized is summarized in the table below:

Fiscal year 2021				
In thousands of CHF	Expected loss rate	Gross carrying amount	Expected credit loss	Net carrying amount
Trade receivables		66,007	950	65,057
Not past due	0.3%	59,922	209	59,713
Over 30 days past due, impairment recognized	0.5%	3,133	14	3,118
Over 60 days past due, impairment recognized	0.8%	741	6	736
Over 90 days past due, impairment recognized	1.3%	1,050	13	1,037
Over 120 days past due, impairment recognized	1.8%	124	2	122
Over 150 days past due, impairment recognized	68.0% ¹	1,036	706	331

¹ Individual impairment allowances included.

Fiscal year 2020				
In thousands of CHF	Expected loss rate	Gross carrying amount	Expected credit loss	Net carrying amount
Trade receivables		51,232	933	50,299
Not past due	0.4%	48,257	180	48,077
Over 30 days past due, impairment recognized	1.0%	1,261	13	1,248
Over 60 days past due, impairment recognized	1.0%	463	4	458
Over 90 days past due, impairment recognized	38.4% ¹	179	69	110
Over 120 days past due, impairment recognized	2.0%	74	1	72
Over 150 days past due, impairment recognized	67.0% ¹	998	666	333

¹ Individual impairment allowances included.

14 Other assets (including financial assets) and financial liabilities

		In thousands of CHF	2021	2020
14.1	Other assets, including financial assets			
	Other assets at fair value through profit or loss			
	Derivatives used for foreign exchange hedging		133	394
	Total other assets at fair value through profit or loss		133	394
	Other assets at amortized cost			
	Lease receivable		2,842	1,465
	Restricted cash – post-combination compensation		1,171	1,506
	Restricted cash – purchase price holdback for warranties		718	1,426
	Other non-current financial assets		184	231
	Total other assets at amortized cost		4,914	4,628
	Total other assets		5,047	5,022
	Total current		1,925	1,813
	Total non-current		3,122	3,209

14.2 Other financial liabilities

In thousands of CHF	2021	2020
Other financial liabilities at fair value through profit or loss		
Derivatives used for foreign exchange hedging	176	45
Total other financial liabilities at fair value through profit or loss	176	45
Other financial liabilities at amortized cost		
Liability for purchase price holdback for warranties	718	1,426
Total other financial liabilities at amortized cost	718	1,426
Total other financial liabilities	894	1,471
Total current	894	1,471

14.3 Derivative financial instruments

At the balance sheet date, open positions in forward exchange contracts were as follows:

In thousands of CHF	2021	2020
USD forward exchange contracts		
Contract amounts	21,573	11,728
Positive fair values	129	394
Negative fair values	160	1
JPY forward exchange contracts		
Contract amounts	385	2,181
Positive fair values	4	—
Negative fair values	—	11
CNY forward exchange contracts		
Contract amounts	502	1,239
Positive fair values	—	—
Negative fair values	16	33

The gains and losses from foreign exchange contracts are recognized as financing income or expense (see note 29). The contract amounts shown represent the notional principal amounts of the forward contracts. Consistent with the nature of the Group's activities, the forward exchange contracts have maturities of less than one year; most are due within six months.

14.4 Other assets at amortized cost

Lease receivables

As part of the divestiture of the ebeam lamp business in fiscal year 2020, property, plant and equipment is leased to Tetra Pak eBeam Systems SA, some of it with a financing component (non-variable rent payments). In connection with this, equipment with a residual carrying amount of CHF 1.5 million was reclassified to other assets at the end of 2020. The lease receivable showed the following movement in 2021:

Lease receivable movement	
in thousands of CHF	Lease receivable
January 1, 2021	1,465
Additions	1,688
Accretion of interest	66
Lease payments received	(378)
December 31, 2021	2,842

The maturity analysis of the lease receivable is as follows:

Lease receivable maturity analysis				
In thousands of CHF	2022	2023 – 2026	After 2026	Total lease receivable
Maturity analysis as of December 31, 2021				
Undiscounted lease payments	412	1,407	1,321	3,141
Interest portion	(61)	(176)	(62)	(299)
Lease receivable	351	1,231	1,259	2,842
	2021	2022 – 2025	After 2025	Total lease receivable
Maturity analysis as of December 31, 2020				
Undiscounted lease payments	181	621	737	1,539
Interest portion	(12)	(42)	(19)	(74)
Lease receivable	169	578	718	1,465

Restricted cash

At the time of the acquisition of Object Research Systems (ORS) Inc., an agreement for compensation of CHF 1.5 million in the post-combination period was concluded with key ORS personnel as a separate transaction. An initial purchase price holdback of CHF 1.4 million for warranties regarding acquired software technology was also agreed. For the settlement of these elements, cash was transferred to an escrow account in fiscal year 2020, thus restricting access to these funds (see note 20).

In December 2021, the first payments to the former shareholders of ORS and key ORS personnel were released. The payments included CHF 0.3 million of post-combination compensation and CHF 0.7 million of purchase price holdback. As of December 31, 2021, the restricted cash amounted to CHF 1.9 million after the payments (prior year: CHF 2.9 million).

14.5 Other financial liabilities at amortized cost

As part of the acquisition of Object Research Systems (ORS) Inc., a purchase price holdback of CHF 1.4 million was agreed for warranties regarding the acquired software technology (also see explanations in note 14.4). In December 2021, a first payment of CHF 0.7 million of purchase price holdback was issued. As of December 31, 2021, the liability for purchase price holdback for warranties therefore amounted to CHF 0.7 million.

15 Inventories

In thousands of CHF	2021	2020
Raw materials and semi-finished products	46,176	37,646
Work in process	17,111	16,198
Finished goods	35,980	40,344
Total inventories	99,268	94,188

The inventory amounts reflect any necessary individual write-downs for items with a market value below manufacturing cost. The expense recognized for inventory write-downs was CHF 2.8 million (prior year: CHF 4.7 million).

16 Prepaid expenses

In thousands of CHF	2021	2020
Contract costs	539	1,754
Other prepaid expenses	3,730	2,920
Total prepaid expenses	4,269	4,674

The contract costs represent capitalized sales commissions for agent activities (incremental costs directly attributable to obtaining a contract). In the fiscal year, sales commissions of CHF 2.9 million were recognized in the income statement (prior year: CHF 2.4 million).

The other prepaid expenses consisted largely of prepayments made for the subsequent fiscal year.

17 Property, plant and equipment

Fiscal year 2021 In thousands of CHF	Real estate	Plant and equipment	Other tangible assets	Assets under construction	Total property, plant and equipment
Cost					
January 1, 2021	97,681	94,593	17,593	7,968	217,834
Additions	34	3,539	3,272	3,098	9,943
Commissioning of assets under construction	276	4,231	826	(5,333)	—
Reclassifications	—	33	(33)	—	—
Disposals	—	(1,409)	(2,635)	—	(4,045)
Foreign currency translation differences	—	(176)	(66)	(45)	(287)
December 31, 2021	97,991	100,810	18,956	5,688	223,446
Accumulated depreciation					
January 1, 2021	30,689	60,998	13,517	—	105,204
Additions	2,518	5,560	2,242	—	10,320
Reclassifications	(0)	25	(25)	—	—
Disposals	—	(1,289)	(2,475)	—	(3,763)
Foreign currency translation differences	—	36	(54)	—	(18)
December 31, 2021	33,207	65,330	13,205	—	111,743
Carrying amount					
January 1, 2021	66,991	33,595	4,076	7,968	112,629
December 31, 2021	64,784	35,480	5,751	5,688	111,703

The disposals of other tangible assets in the fiscal year included no re-classifications of internally produced demonstration equipment to inventories (prior year: CHF 0.5 million), which thus did not result in an flow of funds.

Fiscal year 2020					
In thousands of CHF	Real estate	Plant and equipment	Other tangible assets	Assets under construction	Total property, plant and equipment
Cost					
January 1, 2020	96,236	94,832	18,262	9,940	219,269
Acquisition of a subsidiary	—	34	—	—	34
Additions	1,965	4,260	883	5,473	12,581
Commissioning of assets under construction	15	5,428	2,182	(7,625)	—
Reclassifications	—	683	(683)	—	—
Disposals	(528)	(9,725)	(2,551)	—	(12,804)
Foreign currency translation differences	(7)	(919)	(501)	180	(1,247)
December 31, 2020	97,681	94,593	17,593	7,968	217,834
Accumulated depreciation					
January 1, 2020	28,524	61,519	13,524	—	103,568
Additions	2,479	5,827	2,176	—	10,482
Reclassifications	—	18	(18)	—	—
Disposals	(310)	(5,734)	(1,867)	—	(7,911)
Foreign currency translation differences	(4)	(631)	(299)	—	(934)
December 31, 2020	30,689	60,998	13,517	—	105,204
Carrying amount					
January 1, 2020	67,712	33,312	4,738	9,940	115,702
December 31, 2020	66,991	33,595	4,076	7,968	112,629

In 2020, the disposals of plant and equipment included costs of CHF 4.7 million and cumulative depreciation of CHF 2.2 million associated with the divestiture of the ebeam lamp business (see note 8). Also in connection with the sale of the ebeam lamp business, property, plant and equipment with a financing component was leased to Tetra Pak eBeam Systems SA (with non-variable rent payments). As a result, plant and equipment with a residual carrying amount of CHF 1.5 million was reclassified in 2020 to other assets (see note 14.4). This reclassification did not lead to an outflow of funds in the consolidated cash flow statement.

Assets pledged or assigned as collateral for Group obligations

At December 31, 2021 and December 31, 2020, all real estate liens (mortgage notes in the amount of CHF 30.0 million) were held within the Group.

18 Right-of-use assets and lease liabilities

The rights of use and liabilities arising from leases showed the following movement:

Fiscal year 2021	Right-of-use assets				Lease liabilities
	Buildings	Equipment	Other assets	Total	
In thousands of CHF					
January 1, 2021	19,973	626	11	20,610	21,842
Additions	3,236	378	9	3,623	3,623
Disposals	(36)	(0)	–	(36)	(36)
Depreciation, amortization and impairment	(4,372)	(383)	(10)	(4,765)	–
Accretion of interest	–	–	–	–	414
Repayment of lease liabilities	–	–	–	–	(4,927)
Payment of interest on lease liabilities	–	–	–	–	(414)
Foreign currency translation differences	(616)	(26)	–	(642)	(662)
December 31, 2021	18,185	595	10	18,791	19,840

The non-current lease liabilities largely have remaining maturities of two to ten years. The expected future lease payments are presented in note 30.2.3.

The additions to right-of-use assets and lease liabilities were non-cash items and are thus not included in cash flow from investing activities.

Fiscal year 2020	Right-of-use assets				Lease liabilities
	Buildings	Equipment	Other assets	Total	
In thousands of CHF					
January 1, 2020	11,033	640	9	11,682	13,389
Acquisition of a subsidiary	69	–	–	69	69
Additions	13,207	387	10	13,604	13,604
Disposals	(316)	–	–	(316)	(343)
Depreciation, amortization and impairment	(3,878)	(393)	(9)	(4,280)	–
Accretion of interest	–	–	–	–	446
Repayment of lease liabilities	–	–	–	–	(4,715)
Payment of interest on lease liabilities	–	–	–	–	(445)
Foreign currency translation differences	(142)	(8)	0	(149)	(162)
December 31, 2020	19,973	626	11	20,610	21,842

The increase in right-of-use assets and in lease liabilities in 2020 was related mainly to the extension of the lease for the Hamburg site.

The composition of the lease expenses in fiscal 2021 and 2020 is shown below:

In thousands of CHF	2021	2020
Depreciation, amortization and impairment	4,765	4,280
Interest expenses	414	446
Expenses for short-term leases and other items	59	51
Expense for low-value leases	7	4
Expense for variable lease payments not included in the measurement of lease liabilities	33	29
Total lease expenses	5,277	4,809

Comet has lease agreements containing extension and termination options (see note 2.5). At December 31, 2021, all options either deemed highly likely to be exercised or not to be exercised were taken into account in the valuation of the lease liabilities.

The undiscounted payments of options that were not exercised as at December 31, 2021 amounted to CHF 3.0 million due within the subsequent five years (prior year: CHF 5.8 million) and to CHF 9.1 million for option periods of more than five years (prior year: CHF 11.8 million).

19 Intangible assets

Fiscal year 2021 In thousands of CHF	Goodwill and trademarks	Customer lists	Technology	Software	Other intangible assets	Total intangible assets
Cost						
January 1, 2021	32,385	21,730	5,023	25,222	122	84,482
Acquisition of a subsidiary	(67)	—	—	—	—	(67)
Additions	—	—	—	1,473	52	1,525
Disposals	—	—	—	(92)	(9)	(101)
Foreign currency translation differences	(772)	(519)	9	(365)	(1)	(1,649)
December 31, 2021	31,547	21,210	5,032	26,237	164	84,190
Accumulated amortization						
January 1, 2021	0	17,996	2,012	20,578	34	40,620
Additions	1	1,426	494	1,632	26	3,579
Disposals	—	—	—	(92)	(9)	(101)
Foreign currency translation differences	—	(560)	(93)	(280)	(1)	(934)
December 31, 2021	1	18,861	2,413	21,837	50	43,163
Carrying amount						
January 1, 2021	32,385	3,734	3,012	4,644	88	43,862
December 31, 2021	31,545	2,349	2,619	4,400	114	41,027

The categories "goodwill and trademarks", "customer lists" and "technology" were capitalized in connection with business combinations. More details on the acquisition in fiscal year 2020 are presented in note 20.

Under a long-term brand strategy, the established Yxlon name is used alongside the Comet brand. The Group therefore deems the capitalized Yxlon brand to have an indefinite useful life.

Fiscal year 2020						
In thousands of CHF	Goodwill and trademarks	Customer lists	Technology	Software	Other intangible assets	Total intangible assets
Cost						
January 1, 2020	27,615	20,382	2,357	24,613	34	75,000
Acquisition of a subsidiary	4,780	1,793	2,667	—	—	9,241
Additions	—	—	—	843	88	931
Disposals	—	—	—	(169)	—	(169)
Foreign currency translation differences	(11)	(445)	(1)	(64)	(0)	(521)
December 31, 2020	32,385	21,730	5,023	25,222	122	84,482
Accumulated amortization						
January 1, 2020	0	17,138	1,737	17,774	34	36,683
Additions	—	1,254	273	2,998	—	4,525
Disposals	—	—	—	(152)	—	(152)
Foreign currency translation differences	—	(396)	2	(42)	(0)	(436)
December 31, 2020	0	17,996	2,012	20,578	34	40,620
Carrying amount						
January 1, 2020	27,615	3,244	620	6,839	0	38,318
December 31, 2020	32,385	3,734	3,012	4,644	88	43,862

20 Acquisitions

20.1 Acquisitions in 2021

In fiscal year 2021, no companies were acquired and there were no changes in the ownership interests that the Group controlled in companies.

20.2 Acquisitions in 2020

At December 31, 2020, Comet acquired sole ownership of Object Research Systems (ORS) Inc., Montreal, Canada. ORS is a leading provider of 3D visualization and analysis solutions for research and industrial applications. Through the acquisition, Comet has expanded its expertise in machine learning and artificial intelligence. The subsidiary is reported under the Group's IXS division.

20.3 Acquired net assets

The measurement of the assets and liabilities was completed within fiscal year 2021. The liability for purchase price adjustment had been estimated at CHF 0.2 million as of December 31, 2020. The actual payment of the purchase price adjustment amounted to CHF 0.1 million, while the remaining CHF 0.1 million was recorded as a goodwill adjustment in the period under review. As a result, the presentation of the assets and liabilities identified at acquisition has been restated to the following:

In thousands of CHF	Fair value at acquisition date
Cash and cash equivalents	488
Trade receivables	152
Other receivables	11
Tax receivables	459
Property, plant and equipment	34
Right-of-use assets	69
Intangible assets – brand name	2
Intangible assets – technology	2,667
Intangible assets – client relationships	1,793
Total assets	5,677
Trade payables	(8)
Other payables	(235)
Accrued expenses	(78)
Short term lease liabilities	(23)
Deferred taxes	(1,019)
Non-current lease liabilities	(46)
Total liabilities	(1,408)
Total identified net assets, at fair value	4,268
Total consideration transferred ¹	8,978
Goodwill, capitalized ¹	4,710

¹ After adjustment of the liability for purchase price and goodwill in fiscal year 2021.

The purchase was treated as a share deal and therefore no deferred taxes on the goodwill arose at the acquisition date. In the future, deferred taxes are expected to be incurred on the intangible assets capitalized (i.e., on technology and client relationships).

20.4 Purchase price

In thousands of CHF	Cash flow from acquisition
Non-contingent consideration ¹	7,552
Purchase price holdback at date of acquisition	1,426
Total consideration	8,978
Liability for purchase price adjustment ¹	(101)
Cash and cash equivalents acquired	(488)
Net cash outflow on acquisition	8,389

¹ After adjustment of the liability for purchase price and goodwill in fiscal year 2021.

The non-contingent consideration was paid in cash, with the exception of the liability for purchase price adjustment at the balance sheet date. As part of the acquisition, a purchase price holdback of CHF 1.4 million was agreed for warranties regarding the acquired software technology. This purchase price holdback was paid into an escrow account (see note 14).

To ensure the full transfer of expertise, arrangements for contingent compensation of CHF 1.5 million were agreed with key personnel. This is deemed compensation for post-combination services and is therefore not counted as part of the consideration for the acquisition. Cash for the payment of this contingent compensation was likewise transferred to an escrow account (see note 14).

20.5	Effect on consolidated results	<p>The 2020 consolidated income statement did not include any sales or net income from the acquisition, as the transaction closed on December 31, 2020.</p> <p>If the acquisition had been completed one year earlier, at January 1, 2020, additional sales of CHF 1.6 million and a net loss of CHF 0.5 million from the subsidiary would have been recognized by the Comet Group in fiscal 2020.</p>
20.6	Transaction costs	<p>The transaction costs of CHF 0.3 million incurred were recognized in general and administrative expenses in fiscal year 2020.</p>

21 Impairment test of goodwill and intangible assets with indefinite useful lives

The impairment test for goodwill and other intangible assets with indefinite useful lives was performed as at September 30, 2021. For the purpose of the impairment test, the assets to be tested were allocated to and measured as the following two cash generating units, at the level of the IXS division and (within the IXM division) at the level of the IXT business unit:

- X-Ray Systems (IXS), as the relevant cash generating unit for all activities of the historically acquired Yxlon group and for the FeinFocus product group, with the exception of the generator business;
- Industrial X-Ray Technology (IXT), for the generator business acquired as part of the acquisition of Yxlon.

The impairment test is based on the value in use method. The recoverable amount is determined from the present value of the future cash flows (DCF valuation). The calculations are based on the Board-approved rolling forecast current at the time of the impairment test, and on the Board-approved rolling medium-term plan for 2022 to 2024. Using experience-based estimates, the amounts in the forecast and in the medium-term plan are based on growth projections for net sales, operating income and other parameters, taking into consideration the estimated market trends in the various regions. Cash flows beyond the forecast period are extrapolated using an assumed growth rate of 1.5%, which is within the expected rate of market growth. The assumptions applied in determining value in use correspond to the expected long-term average growth rate of the X-Ray Systems division's operating business and of the generator business of Industrial X-Ray Modules. Input variables with a critical impact on the outcome of the impairment test are the assumed rates of sales growth and the projected trend in operating income.

In connection with the acquisition of Object Research Systems (ORS) Inc. effective December 31, 2020, the X-Ray Systems (IXS) division recognized goodwill in the amount of CHF 4.7 million (see note 20). The goodwill was included in the impairment testing as of September 30, 2021.

Carrying amount of the assets tested

	X-Ray Systems (IXS) CGU		Industrial X-Ray Technology (IXT) CGU		Total	
	2021	2020	2021	2020	2021	2020
In thousands of CHF						
Goodwill	22,601	23,341	6,873	6,873	29,475	30,214
Trademarks (Yxlon)	2,071	2,171	—	—	2,071	2,171
Total carrying amount	24,672	25,512	6,873	6,873	31,545	32,385

Assumptions applied in the valuation model

	X-Ray Systems (IXS) CGU		Industrial X-Ray Technology (IXT) CGU	
	2021	2020	2021	2020
Discount rate (WACC) before tax	10.3%	12.0%	11.2%	11.1%
Growth rate of terminal value	1.5%	1.0%	1.5%	1.5%

Sensitivities to the assumptions applied in the valuation model

The measurement of the values in use of the X-Ray Systems CGU (IXS) and the Industrial X-Ray Technology CGU (IXT) is sensitive to the following assumptions in the planning period (2022 to 2024):

- Growth assumptions: Sales revenue is projected by product group and region. Based on the recovering situation of 2021 as the starting point, the average annual rate of sales growth is assumed to be 9.5% for IXS (prior year: 17%) and 16.2% for IXT (prior year: 12%).
- Gross margins: Gross margins in the medium term are expected to average approximately 39% for IXS (prior year: 37%) and 50% for IXT (prior year: 44%). Target achievement also depends in part on the trend in the purchasing prices of materials.
- Foreign exchange rates: The movement in exchange rates between the Swiss franc and the euro and US dollar has an effect on company value. The forecasts are based on September 2021 exchange rates.
- Discount rate (WACC): The capital costs were determined based on borrowing costs (before tax) and on the long-term risk-free rate, a small-cap premium, and a market risk premium weighted by a Comet-specific beta factor.

No impairment was recognized in the year under review and Comet believes that, with a realistic change in the material assumptions, the recoverable amount would not fall below the carrying amount.

22 Debt

The bond maturing on April 20, 2021 was repaid and refinanced using a new bond issued by Comet Holding AG on April 20, 2021 in the amount of CHF 60 million. The bond was issued at par. The term of the bond is five years and it matures on April 20, 2026. The fixed coupon rate over the term is 1.30%, payable annually on April 20. The bond is listed on the SIX Swiss Exchange (Swiss security number 110 109 656, ticker symbol COT21).

At the end of the fiscal year under review, Comet had undrawn credit facilities of CHF 57.3 million (prior year: CHF 58.5 million). Of this total, CHF 3.8 million (prior year: CHF 6.2 million) was reserved for hedging transactions.

22.1 Movement in debt

Fiscal year 2021						
In thousands of CHF	Jan. 1, 2021	Cash flows	Reclassif. from non-current to current	Unwinding of discount, and remeasurement	Foreign currency translation differences	Dec. 31, 2021
Current debt	59,976	(60,000)	—	24	—	—
Non-current debt	—	59,503	—	68	—	59,571
Total debt	59,976	(497)	—	93	—	59,571

Fiscal year 2020						
In thousands of CHF	Jan. 1, 2020	Cash flows	Reclassif. from non-current to current	Unwinding of discount, and remeasurement	Foreign currency translation differences	Dec. 31, 2020
Current debt	12,000	(12,000)	59,893	83	—	59,976
Non-current debt	59,893	—	(59,893)	—	—	—
Total debt	71,893	(12,000)	—	83	—	59,976

23 Trade and other payables

In thousands of CHF	2021	2020
Trade payables	26,095	26,733
Sundry payables	5,428	4,985
Sales commissions	3,593	4,890
Total financial liabilities	35,116	36,608
Sales tax and value-added tax	1,321	681
Total other payables	1,321	681
Total trade and other payables	36,437	37,289

24 Accrued expenses

In thousands of CHF	2021	2020
Accrued staff costs	21,256	8,613
Other accrued expenses	14,460	12,816
Total accrued expenses	35,716	21,429

Accrued staff costs consist mainly of the amount accrued for performance-based compensation, and employees' vacation and overtime credits. The item "other accrued expenses" relates to outstanding invoices and payables of the fiscal year.

25 Provisions

Fiscal year 2021			
In thousands of CHF			
	Warranties	Other provisions	Total provisions
January 1, 2021	6,000	2,535	8,535
Added	6,717	307	7,024
Used	(5,624)	(1,524)	(7,148)
Released	(1,015)	(410)	(1,425)
Foreign currency translation differences	59	(35)	24
December 31, 2021	6,137	873	7,010
Of which:			
January 1, 2021			
Current provisions	6,000	2,466	8,466
Non-current provisions	—	69	69
December 31, 2021			
Current provisions	6,137	605	6,743
Non-current provisions	—	267	267

The provision for warranties covers the risk of expenses for defects that have not occurred to date, but could potentially occur until the end of the warranty periods. Warranty provisions are measured based on historical experience.

26 Employee benefits

26.1 Employee benefit plan liabilities

The employee benefit plan liabilities of the Group are summarized in the following table.

In thousands of CHF	2021	2020
Defined benefit liability in Switzerland	10,806	12,448
Defined benefit liability in Germany	776	892
Total defined benefit liability	11,582	13,340
Provision for length-of-service awards	1,415	1,468
Total employee benefit plan liabilities	12,997	14,808

26.2 Defined benefit plans

Comet maintains defined benefit pension plans in Switzerland and Germany. These plans differ according to their particular purpose and are based on the legal requirements in the respective countries.

Switzerland

The defined benefit plans are managed within a collective foundation. This is a separate legal entity falling under the Swiss Federal Act on Occupational Retirement, Survivors' and Disability Pensions (the BVG). The pension fund maintains a main ("base") plan for employees that provides the legally required benefits, and a supplemental plan that provides benefits in respect of pay components above the statutory range. Both plans are managed under a fully insured pension model and thus, all investment risk is carried by the pension fund, or ultimately by the insurer. The plans are administered by the collective foundation, which is in the form of a foundation organized by an insurance company. The pension fund is managed by the foundation's board of directors, which is composed of equal numbers of employee and employer representatives and is required to act in the interests of the plan participants.

Plan participants are insured against the financial consequences of old age, disability and death. The benefits are specified in a set of regulations. Minimum levels of benefits are prescribed by law. Contribution levels are set as a percentage of the insured portion of employees' pay. The retirement benefit is calculated as the retirement pension asset existing at the time of retirement, multiplied by the conversion rate specified in the regulations. Plan participants can opt to receive their principal as a lump sum instead of drawing a pension. The supplemental plan as a rule pays out a lump sum. The amounts of the disability and survivor pensions are defined as a percentage of insured pay.

Germany

In Germany there is a closed plan with pension commitments which no longer has active participants. The obligations in respect of current pension payments and deferred pensions are recognized in the balance sheet.

Principal actuarial assumptions	Switzerland		Germany	
	2021	2020	2021	2020
Discount rate at January 1	0.15%	0.20%	0.40%	0.60%
Discount rate at December 31	0.30%	0.15%	0.80%	0.40%
Expected rate of salary increases	1.00%	1.00%	–	–
Life tables used as basis for life expectancies	BVG 2020 GT	BVG 2015 GT	Heubeck 2018 GT	Heubeck 2018 GT

In the year under review, the life expectancy for Switzerland is based on the generation table BVG 2020, which is the latest available database (prior year: generation table BVG 2015).

**Movement in present value of defined benefit obligation, in plan assets
and in net carrying amount for defined benefit plans**

Fiscal year 2021 In thousands of CHF	Present value of defined benefit obligation	Fair value of plan assets	Net carrying amount recognized in balance sheet
January 1	(76,823)	63,484	(13,340)
Current service cost	(3,482)	—	(3,482)
Past service cost	545	—	545
Administration cost, excl. cost of managing plan assets	(37)	—	(37)
Current service cost	(2,974)	—	(2,974)
Interest (expense)/income	(169)	101	(68)
Defined benefit cost recognized in the income statement	(3,143)	101	(3,042)
Return on plan assets, excluding interest income	—	310	310
Actuarial gain arising from changes in financial assumptions	746	—	746
Actuarial gain arising from changes in demographic assumptions	1,786	—	1,786
Actuarial loss arising from experience adjustments	(889)	—	(889)
Defined benefit cost recognized in other comprehensive income	1,644	310	1,954
Benefits paid-in/deposited	1,015	(996)	19
Employee contributions	(2,107)	2,107	—
Employer contributions	—	2,790	2,790
Foreign currency translation differences	86	(50)	36
December 31	(79,329)	67,747	(11,582)
Reported on the face of the balance sheet as:			
an asset			—
a liability			(11,582)

The board of directors of the foundation decided in March 2021 to reduce the pension conversion rates with effect from the year 2022 and 2023. Under IAS 19, these plan amendments led to a negative past service cost (i.e., they resulted in income) and a corresponding reduction in the defined benefit obligation with a positive pre-tax effect of CHF 0.5 million.

The average duration of the defined benefit obligation was 11.7 years.

Fiscal year 2020			
In thousands of CHF	Present value of defined benefit obligation	Fair value of plan assets	Net carrying amount recognized in balance sheet
January 1	(88,042)	74,268	(13,774)
Current service cost	(3,561)	–	(3,561)
Administration cost, excl. cost of managing plan assets	(43)	–	(43)
Current service cost	(3,604)	–	(3,604)
Interest (expense)/income	(179)	147	(32)
Defined benefit cost recognized in the income statement	(3,782)	147	(3,636)
Return on plan assets, excluding interest income	–	248	248
Actuarial loss arising from changes in financial assumptions	(463)	–	(463)
Actuarial gain arising from experience adjustments	1,607	–	1,607
Defined benefit cost recognized in other comprehensive income	1,144	248	1,392
Benefits paid-in/deposited	15,903	(15,880)	24
Employee contributions	(2,049)	2,049	–
Employer contributions	–	2,654	2,654
Foreign currency translation differences	2	(1)	1
December 31	(76,823)	63,484	(13,340)
Reported on the face of the balance sheet as:			
an asset			–
a liability			(13,340)

Key figures by country

In thousands of CHF	Switzerland		Germany	
	2021	2020	2021	2020
Present value of defined benefit obligation	(77,525)	(74,829)	(1,804)	(1,994)
Fair value of plan assets	66,719	62,381	1,028	1,103
Net carrying amount recognized in the balance sheet	(10,806)	(12,448)	(776)	(892)
Defined benefit cost recognized in the income statement	(3,038)	(3,631)	(4)	(5)
Defined benefit cost recognized in other comprehensive income	1,890	1,382	64	10

The employer contributions to the plans in Switzerland for fiscal year 2022 are expected to amount to CHF 3.6 million.

Major categories of plan assets

In thousands of CHF	2021	2020
Assets from insurance contract	67,747	63,484
Total plan assets without a quoted market price	67,747	63,484

As the base plan and the supplemental plan are managed under a fully insured model, all investment risk is carried by the pension fund, or ultimately by the insurer. The plan assets are therefore reported as the item "assets from insurance contract".

Companies of the Group do not make loans to the pension plans and do not utilize any real estate held by the plans.

Sensitivities

The following table presents an analysis of how the reported present value of the defined benefit obligation would change in response to hypothetical changes in the actuarial assumptions.

Sensitivity of present value of defined benefit obligation to different scenarios

In thousands of CHF	Switzerland		Germany	
	2021	2020	2021	2020
Discount rate: 0.25% decrease	79,861	77,294	1,749	2,059
Discount rate: 0.25% increase	75,339	72,529	1,859	1,932
Expected rate of salary growth: 0.25% decrease	77,405	74,704	1,803	1,994
Expected rate of salary growth: 0.25% increase	77,633	74,947	1,803	1,994
Life expectancy: 1-year increase	78,282	75,601	1,889	2,089
Life expectancy: 1-year decrease	76,770	74,055	1,717	1,900

26.3 Defined contribution plans

The contributions paid to defined contribution plans in the fiscal year amounted to CHF 6.8 million (prior year: CHF 5.7 million).

26.4 Length-of-service awards

Comet grants length-of-service awards to its employees after a certain number of years of service, in the form of lump-sum payments that increase in amount with the number of years of employment. The provision for this item changed as follows in the year under review:

In thousands of CHF	2021	2020
Provision at January 1	1,468	1,476
Current service cost	184	181
Interest cost	4	5
Benefits paid	(188)	(143)
Actuarial losses/(gains)	(10)	(46)
Foreign currency translation differences	(43)	(5)
Provision at December 31	1,415	1,468

27 Equity capital structure and shareholders
27.1 Capital stock

The capital stock at January 1, 2021 was CHF 7,767,887, divided into 7,767,887 registered shares with a par value of CHF 1.00 per share.

In fiscal year 2021 the capital stock was increased by 1,647 shares from the portion of authorized capital designated for equity-based compensation. Including the increase of 1,647 shares from this portion of authorized capital, Comet Holding AG at December 31, 2021 thus had a new total of CHF 7,769,534 of capital stock, divided into 7,769,534 registered shares with a par value of CHF 1.00 per share. The capital stock is fully paid in.

At its meeting on June 10, 2021 the Board of Directors established that the capital increase from authorized capital for equity-based compensation was properly performed. The information in the commercial register, and the Articles of Association of Comet Holding AG, were updated to reflect the change in capital stock.

	2021		2020	
	Number of shares	Par value in CHF	Number of shares	Par value in CHF
January 1	7,767,887	7,767,887	7,764,208	7,764,208
Increase in capital from the portion of authorized capital designated for equity compensation	1,647	1,647	3,679	3,679
December 31	7,769,534	7,769,534	7,767,887	7,767,887

At the balance sheet date, Comet Holding AG held no treasury stock (prior year: nil).

27.2 Authorized capital for equity compensation

Under article 3b of its Articles of Association, a portion of the Company's unissued authorized capital is designated for use only as equity-based compensation (in German this portion is known as "bedingtes Aktienkapital"). In such a capital increase, stock is issued to Executive Committee members and/or Board members of Comet Holding AG. With respect to this portion of authorized capital, the other shareholders' pre-emptive rights are excluded. The issuance of stock or stock subscription rights is based on a compensation plan (in the form of a written regulation) adopted by the Board of Directors.

In May 2021, in accordance with the compensation plan, the members of the Board of Directors were granted a total of 570 shares of stock in payment of CHF 131,864 of fixed retainers due for fiscal year 2020. In addition, as part of their compensation for 2021, the members of the Board of Directors were granted a total of 283 shares in payment of CHF 65,469 of fixed retainers due for the period from January 1, 2021 to the 2021 Annual Shareholder Meeting. The fully paid shares were applied to the retainers due at a price of CHF 231.34 per share.

Members of the Executive Committee were granted a total of 794 shares in payment of CHF 183,684 of profit-sharing compensation due for fiscal year 2020. The fully paid shares were applied to the compensation due at a price of CHF 231.34 per share.

The shares are issued at the applicable stock price at the time of issuance, which may differ from the above-mentioned allotment price. As a result of these grants of a total of 1,647 shares made in 2021, the Company's unissued authorized capital for equity-based compensation showed the following movement:

	2021		2020	
	Number of shares	Par value in CHF	Number of shares	Par value in CHF
January 1	195,233	195,233	198,912	198,912
Increase in capital (awards to Board of Directors for prior term's retainer and to Executive Committee for prior year's profit-sharing compensation)	(1,647)	(1,647)	(3,679)	(3,679)
December 31	193,586	193,586	195,233	195,233

At the end of the year, the remaining unissued authorized capital for equity-based compensation was CHF 193,586, or 2.5% of the existing capital stock.

27.3 Authorized capital for other capital increases

At December 31, 2021, in addition to shares outstanding and to unissued authorized capital for equity compensation, the Company had unissued authorized capital for purposes set out in article 3a of the Articles of Association (in German: "genehmigtes Aktienkapital"). The Annual Shareholder Meeting on April 23, 2020 authorized the Board of Directors to increase the capital stock, at any time until April 23, 2022, by a maximum of CHF 0.8 million by issuing up to 800,000 fully payable registered shares with a par value of CHF 1.00 per share, which represents 10.3% of the existing capital stock. Increases by way of firm commitment underwriting and increases by part of the total authorized amount are permitted. The amount of the respective issue, the date when entitlement to dividend commences, the terms of any exercise of pre-emptive rights and the nature of the contributions are determined by the Board of Directors.

The Board of Directors is authorized to exclude shareholders' subscription rights and assign these rights to third parties if the shares in question are to be used for the acquisition of companies via equity swaps or to finance the cash purchase of companies or parts of companies, or to finance new investment projects of Comet Holding AG, or for providing an ownership interest to an industrial partner (either in order to cement a strategic alliance or in the event of a takeover offer for the Company). Stock for which pre-emptive rights are granted but not exercised must be sold by the Company at market prices.

27.4 Significant shareholders

At December 31, 2021 the Company, according to disclosure notifications, had the following significant shareholders (defined for this purpose as shareholders with voting rights representing 3% or more of the Comet capital stock recorded in the Swiss commercial register of companies):

Beneficial owner	Direct shareholder	Share of voting rights as disclosed by shareholders
UBS Fund Management (Switzerland AG)		5.23%
Pictet Asset Management SA (Direction de Fonds)		4.85%
Credit Suisse Funds AG		3.22%
The Capital Group Companies Inc.	Capital Research and Management Company	3.16%
Universal Investment Gesellschaft mit beschränkter Haftung		3.04%
Blackrock Inc.		3.02%

The Company has not been notified of nor is aware of any other shareholders that held 3% or more of its shares. To the best of the Company's knowledge, there were no voting pool agreements.

28 Off-balance sheet transactions

28.1 Contingent liabilities

As a global company, Comet is exposed to numerous legal risks. These can include, especially, risks relating to product liability, trade secret misappropriation, patent law, export regulations, tax law and competition law. The outcomes of currently pending and future legal proceedings cannot be predicted with certainty and may thus have adverse or positive effects on the business trajectory and on future financial results.

Provisions are established inasmuch as the financial consequences of a past event can be estimated reliably and the estimate can be confirmed by independent expert opinion. Contingent liabilities that are likely to result in an obligation are included under provisions.

28.2 Other off-balance sheet obligations

As part of its operating activities, Comet had purchase obligations at the balance sheet date totaling CHF 37.9 million (prior year: CHF 17.5 million), of which CHF 20.3 million were current in nature (prior year: CHF 9.4 million) and CHF 17.6 million mature in the five-year period that begins in 2023 (prior year: CHF 8.1 million). The payment obligations arise from off-balance sheet offtake agreements with suppliers, most of which are set out in master agreements.

There were no investment or capital commitments at December 31, 2021 (prior year: nil).

29 Financial instruments

29.1 Classes of financial instruments

Fiscal year 2021

In thousands of CHF

	Financial assets		Financial liabilities		Fair value
	FVTPL ¹	At amortized cost	FVTPL ¹	At amortized cost	
Cash and cash equivalents	—	115,533	—	—	*
Trade and other receivables, net	—	67,208	—	—	*
Derivatives	133	—	176	—	(44)
Other assets – financial assets, excluding derivatives	—	3,744	—	—	*
Trade and other payables	—	—	—	35,116	*
Liability for purchase price holdback for warranties	—	—	—	718	*
Lease liabilities	—	—	—	19,840	*
Non-current debt, fixed rate	—	—	—	59,571	62,820
Total	133	186,484	176	115,244	
Interest income or (expense)	—	222	—	(1,544)	
Gain or (loss) on derivatives	514	—	(1,009)	—	
Change in impairment and losses on trade receivables	—	(17)	—	—	
Total net gain or (loss) recognized in the income statement	514	205	(1,009)	(1,544)	

¹ At fair value through profit or loss.
The carrying amount approximates fair value.

Fiscal year 2020					
In thousands of CHF					
	Financial assets		Financial liabilities		Fair value
	FVTPL ¹	At amortized cost	FVTPL ¹	At amortized cost	
Cash and cash equivalents	—	74,681	—	—	*
Trade and other receivables, net	—	52,602	—	—	*
Derivatives	394	—	45	—	349
Other assets – financial assets, excluding derivatives	—	3,122	—	—	*
Current debt, fixed rate	—	—	—	59,976	60,180
Trade and other payables	—	—	—	36,608	*
Liability for purchase price holdback for warranties	—	—	—	1,426	*
Lease liabilities	—	—	—	21,842	*
Total	394	130,404	45	119,852	
Interest income or (expense)	—	77	—	(1,916)	
Gain or (loss) on derivatives	2,155	—	(1,642)	—	
Change in impairment and losses on trade receivables	—	(438)	—	—	
Total net gain or (loss) recognized in the income statement	2,155	(361)	(1,642)	(1,916)	

¹ At fair value through profit or loss.
The carrying amount approximates fair value.

IFRS require all financial instruments which are held at fair value, and all reported fair values, to be categorized into three classes (or "levels") according to whether the fair values are based on quoted prices in active markets (Level 1), on models using other observable market data (Level 2), or on models using unobservable inputs (Level 3).

The only financial instruments that Comet recognized at fair value are derivatives held for currency hedging. The measurement of the derivatives falls into Level 2 of the fair value measurement hierarchy under IFRS 13.

29.2 Fair values of financial instruments

The only differences between fair values and carrying amounts occurred for the CHF 60 million bond, where the quoted market price is used as the fair value (Level 1). As of December 31, 2021 the bond is presented under non-current debt, fixed rate (prior year: presented under current debt, fixed rate).

30 Management of financial risks

Comet operates its own subsidiaries in a number of countries and also exports products to still other countries. As an international company, the Group is subject to various financial risks which are inseparable from its business activities. Comet seeks to avoid unreasonable financial risks and to mitigate risks through appropriate hedges. The key elements of risk management form an integral part of Group strategy. Clearly defined management information and control systems are used to measure, monitor and control risks. Detailed risk reports are produced on a regular basis.

30.1 Capital management

The primary goal of capital management is to manage equity and debt capital in such a way as to ensure the Group's high creditworthiness and an equity ratio appropriate to the Group's risk profile, thus supporting its business activities. Comet manages the Group's capital structure to meet liquidity requirements and pursue growth and profitability targets, taking into account the economic environment and the financial results achieved and planned. On this basis, the Board of Directors proposes dividend payments or capital repayments to the shareholders or recommends increases in capital stock.

Comet monitors and evaluates its capital structure by reference to net debt and the equity ratio, with the aim of ensuring that the capital structure covers the business risks and assures the Group's lasting financial flexibility.

In thousands of CHF	2021	2020
Current debt and lease liabilities	3,949	64,174
+ Non-current debt and lease liabilities	75,462	17,644
./. Cash and cash equivalents	115,533	74,681
Net debt	(36,122)	7,137
EBITDA	102,749	58,616
Debt ratio (divided by EBITDA)	(0.4)	0.1
Shareholders' equity	274,981	214,956
Equity ratio (equity in % of total assets)	56.1%	50.1%

30.2 Risks in connection with financial instruments

Comet is exposed to many risks associated with financial instruments. These can be divided into market risks, credit risks and liquidity risks.

30.2.1 Market risk

Market risk is the risk of changes in the price of financial assets, in currency exchange rates, interest rates and the price of exchange-traded commodities. As a manufacturer, Comet is inherently exposed to commodity price risks (for example, for inputs such as energy, copper and ceramics), but these are not considered financial risks for the purposes of IFRS 7, as Comet procures commodities only for use in manufacturing, not for trading of commodity contracts. Consequently, these risks are not explicitly determined and are not separately disclosed in the consolidated financial statements.

Exchange rate risk

With its worldwide activities and strong focus on exports, Comet has particularly high exposure to exchange rate risks, as revenues and costs often do not arise in the same currency. The currency risk from operations is reduced by purchasing and selling in local currency where possible, an approach known as natural hedging. In addition, to protect against fluctuation in exchange rates, significant foreign currency orders in the X-Ray Systems division are already partially hedged on receipt of the order, using forward exchange contracts. The Industrial X-Ray Modules and Plasma Control Technologies divisions non-selectively hedge a large portion of the expected cash flows in foreign currency up to a one-year time horizon, by means of forward exchange contracts. As Comet hedges only cash flows, there are no hedges of net investments in foreign operations. The table below shows the sensitivity of income before tax and of shareholders' equity to a possible movement in those exchange rates that are material for Comet, with all other variables held constant. The most important monetary foreign curren-

cy positions in the balance sheets of the Group companies are in euros and US dollars. The percentages of movement in exchange rates are based on an estimated potential range of fluctuation.

Fiscal year 2021			
	Increase in exchange rate in %	Effect on income before tax in thousands of CHF	Effect on equity in thousands of CHF
EUR / CHF	+10	+2,131	+310
USD / CHF	+10	+7,788	—

Fiscal year 2020			
	Increase in exchange rate in %	Effect on income before tax in thousands of CHF	Effect on equity in thousands of CHF
EUR / CHF	+10	+1,619	+542
USD / CHF	+10	+4,059	+661

A reduction in exchange rates by the same percentage amount produces an opposite effect of equal size. The sensitivity analysis covers only monetary balance sheet items that, relative to the functional currency of the respective Group company, are settled in foreign currencies.

Interest rate risk

Comet's debt financing exposes it to the risk of interest rate fluctuation in the refinancing of current debt. However, all debt – i.e., the bond – is measured at amortized cost; consequently, in the year under review and the prior year, changes in market interest rates did not have an effect on the carrying amounts of the debts, nor therefore on income before tax or on equity.

30.2.2 Credit risk

Credit risk is the risk that a counterparty will not be willing or able to meet its obligations. To mitigate this risk, Comet deals with multiple well-established banks and spreads the credit risk as widely as necessary and reasonable.

Banking transactions

Comet spreads its cash holdings among different banks in order to minimize the potential for losses from credit risk. Banking transactions are conducted only with reputable banks of national and international standing. The types of transactions in which subsidiaries are permitted to engage is determined centrally. The following table shows the amounts held at the most important counterparties at the balance sheet date:

In thousands of CHF	Rating *	2021	2020	
		Balance	Rating *	Balance
Bank A	A-	62,705	A+	31,620
Bank B	AAA	5,091	AAA	4,271
Bank C	A	17,306	A	7,467
Bank D	n/a	3,445	n/a	4,045
Bank E	BBB+	4,920	A-	15,411
Bank F	A-	12,739	A+	7,564
Other counterparties		9,327		4,303
Total bank deposits		115,533		74,681

* Long-term credit rating from Standard & Poor's.

Trade receivables

Comet operates worldwide, selling its products in various countries and to a large number of customers. Payment terms vary according to the market and customer. The credit limits for and payments received from each customer are monitored by the individual Group companies; the resulting information is made available to Group management in the form of monthly special reports. Appropriate allowance for expected risk of default is made through the recognition of impairment on doubtful accounts. Receivables and contract assets are written off only when payment is highly unlikely to be forthcoming. Detailed information on impairment of receivables and contract assets and its movement in the year can be found in note 13.

The amount of exposure to credit risk equals the carrying amount of the respective financial instruments in the balance sheet.

30.2.3 Liquidity risk

Comet defines liquidity risk as the risk that, at any time, the Group will not be able to meet its financial obligations fully as they become due. The foremost goal of financial management is the permanent assurance of the Group's solvency in order to prevent such a contingency. To this end, using liquidity planning, Comet always maintains sufficient liquid assets and credit lines to avoid shortages of liquidity. Ensuring solvency also includes active working capital management. The Group's credit quality is safeguarded by monitoring the leverage ratio of net debt to EBITDA. Liquidity planning and liquidity procurement are to a large extent performed centrally for the whole Group. A rolling three-month cash flow forecast is prepared monthly based on a decentralized, bottom-up approach. The long-term financing of subsidiaries is normally arranged through loans of Comet Holding AG. Following is an overview of all contractual payment obligations as at the balance sheet date, on an undiscounted basis:

Fiscal year 2021

In thousands of CHF

	Carrying amount	Payments due by period			
		Total	2022	2023 – 2026	after 2026
Debt	59,571	63,358	780	62,578	—
Lease liabilities	19,840	21,766	4,278	8,933	8,554
Financial liabilities	35,116	35,116	35,116	—	—
Other financial liabilities	894	894	894	—	—
Total	115,421	121,134	41,068	71,512	8,554

Fiscal year 2020

In thousands of CHF

	Carrying amount	Payments due by period			
		Total	2021	2022 – 2025	after 2025
Debt	59,976	61,125	61,125	—	—
Lease liabilities	21,842	24,544	5,655	8,207	10,682
Financial liabilities	36,608	36,608	36,608	—	—
Other financial liabilities	1,471	1,471	1,471	—	—
Total	119,897	123,748	104,859	8,207	10,682

The item "debt" represents the principal amounts of current and non-current debt as well as the contractual interest payments. The key assumptions of the above summary of payment obligations are:

- For variable-rate debt, the interest rates at the balance sheet date are used.
- All amounts denominated in foreign currencies are translated at the rate prevailing at the balance sheet date.
- The maturity date assumed is the earliest possible.

The contract amounts of open derivative positions are presented in note 14.3.

31 Share-based payments**Main elements of the compensation system**

The remuneration of the members of the Executive Committee consists of fixed compensation and a performance-based component. The total compensation takes into account the recipient's position and level of responsibility.

The profit-sharing remuneration of the members of the Executive Committee consists of annually paid compensation under a short-term incentive plan (STIP) and a long-term incentive plan (LTIP). Two-thirds of the compensation under the STIP is paid in cash and one-third of it is paid in stock. The compensation under the LTIP is paid only in stock. The total variable compensation (STIP and LTIP combined) is capped by an upper limit. The profit-sharing compensation of employees who are not members of the Executive Committee is paid only in cash.

Share-based compensation of the members of the Board of Directors

To ensure the independence of the Board of Directors in its supervision of the Executive Committee, the Board members receive only a fixed retainer, of which two-thirds is paid in cash and one-third is paid in stock. The stock awarded is subject to a holding period of three years during which it cannot be sold.

Share-based compensation of the members of the Executive Committee

In addition to the fixed compensation, the members of the Executive Committee can earn a performance-related, STIP pay component, of which one-third is paid in stock. The remaining balance of the STIP amount is paid in cash. Additionally, further stock compensation can be granted, under the LTIP. The stock transferred under the STIP is subject to a holding period of three years from the date of the award. Stock transferred under the LTIP does not have a holding period.

Calculation of grant price for share awards

The grant price, at which the stock is awarded and transferred to recipients, is the average closing market price of the stock in the period between (and excluding) the date of the annual results press conference and the date of the Annual Shareholder Meeting.

Expenses recorded

The expense recognized for share-based payments in the year under review was CHF 1.3 million (prior year: CHF 0.4 million). The amount included CHF 0.1 million for stock already awarded to the Board of Directors in 2021.

32 Compensation of the Board of Directors and Executive Committee

The expense for compensation of the members of the Executive Committee and Board of Directors can be analyzed as follows:

in thousands of CHF	2021	2020
Cash compensation, including short-term employee benefits	4,631	2,634
Contributions to post-employment benefit arrangements	311	234
Expense for share-based payments	1,258	431
Total compensation	6,200	3,299

Related party transactions

In the fiscal year there were no transactions with related parties (prior year: nil).

33 Events after the balance sheet date

There have been no events after the balance sheet date with a material effect on the amounts in the consolidated financial statements.

34 Proposed distribution to shareholders

The Board of Directors will propose at the 2022 Annual Shareholder Meeting to pay a dividend of CHF 3.50 per share in relation to fiscal year 2021, from retained earnings. In relation to the prior year, Comet paid a dividend of CHF 1.30 per share from retained earnings. The total amount of the proposed dividend in relation to fiscal year 2021 is CHF 27.2 million (prior year: CHF 10.1 million).

35 Release of the consolidated financial statements for publication

On March 1, 2022, the Board of Directors released these financial statements for publication. The Board will present the financial statements to the Annual Shareholder Meeting on April 14, 2022 for approval.



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To the General Meeting of
Comet Holding Ltd., Flamatt

Berne, 1 March 2022

Statutory auditor's report on the audit of the consolidated financial statements



Opinion

We have audited the consolidated financial statements of Comet Holding Ltd. and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2021 and the consolidated statement of income, consolidated statement of comprehensive income, consolidated statement of cash flows and consolidated statement of changes in equity for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements (pages 65 to 114) give a true and fair view of the consolidated financial position of the Group as at 31 December 2021, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRS) and comply with Swiss law.



Basis for opinion

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the *Auditor's Responsibilities for the Audit of the Consolidated Financial Statements* section of our report.

We are independent of the Group in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession, as well as the *International Code of Ethics for Professional Accountants (including International Independence Standards) of the International Ethics Standards Board for Accountants (IESBA Code)* and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.



Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.



We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the consolidated financial statements.

Impairment of intangible assets – goodwill and other

Risk	<p>The group reviews the carrying amount of its cash generating units annually or more frequently if any impairment indicators are present with respect to goodwill or other intangible assets with indefinite useful life (trademarks). The impairment assessment involves performing a comparison of the estimated recoverable amount (fair value or higher net present value of each cash-generating unit) with its carrying amount. These annual impairment tests were significant to our audit because the balances for goodwill and trademarks of CHF 31.5 million as of 31 December 2021 are material to the financial statements. Furthermore, the underlying estimations to the impairment assessment are complex and any impairment of goodwill, trademarks or other intangible and tangible assets can have a material impact on the net income of the Comet Group. The valuation also depends on assumptions regarding the future development of the business and on judgments made by management. The impairment tests are complex and described in Note 21. The recoverable amount calculated via discounted cash flow analysis is based on various assumptions such as future cash flows, terminal value growth rates, inflation rate and discount rate (WACC) of each cash-generating unit. These assumptions are determined by management and are therefore considered to be material judgments.</p>
Our audit response	<p>We assessed the assumptions made in the impairment tests and discussed them with management. We involved our own valuation specialists to test the accuracy of the impairment calculation. We compared the terminal value growth rate as well as the inflation rate with externally available data and checked the clerical accuracy of the model. In addition, we evaluated the estimates made by management in previous years in terms of the actual income generated, as well as assessed management's process for identifying possible impairments. Moreover, we evaluated the disclosures regarding impairment testing on goodwill and intangible assets with indefinite useful life with regard to the assumptions made.</p> <p>Our audit procedures did not lead to any reservations concerning the measurement of intangible assets – goodwill and other.</p>



Other information in the annual report

The Board of Directors is responsible for the other information in the annual report. The other information comprises all information included in the annual report, but does not include the consolidated financial statements, the stand-alone financial statements, the remuneration report and our auditor's reports thereon.

Our opinion on the consolidated financial statements does not cover the other information in the annual report and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information in the annual report and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.



Responsibility of the Board of Directors for the consolidated financial statements

The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.



Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

A further description of our responsibilities for the audit of the consolidated financial statements is located at the website of EXPERTsuisse: <http://www.expertsuisse.ch/en/audit-report-for-public-companies>. This description forms part of our auditor's report.



4

**Report on other legal and regulatory requirements**

In accordance with article 728a para. 1 item 3 CO and the Swiss Auditing Standard 890, we confirm that an internal control system exists, which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

Ernst & Young Ltd

MARTIN MATTES
Licensed audit expert
(Auditor in charge)

PHILIPPE WENGER
Licensed audit expert

Separate Financial Statements of Comet Holding AG

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Statement of income

In thousands of CHF	2021	%	2020	%
Dividend income	17,374		14,482	
Other financing income	1,781		2,260	
Total income	19,155	100.0%	16,742	100.0%
Financing expenses	(1,081)		(1,697)	
Other operating expenses	(2,343)		(2,523)	
Total expenses	(3,423)	- 17.9%	(4,219)	- 25.2%
Net income for the year	15,732	82.1%	12,522	74.8%

Balance sheet

In thousands of CHF	Note	Dec. 31, 2021	%	Dec. 31, 2020	%
Assets					
Cash and cash equivalents		846		655	
Other current receivables from subsidiaries		196		88	
Prepaid expenses		490		60	
Total current assets		1,532	0.7%	804	0.4%
Non-current financial assets – loans	3	117,240		112,401	
Investments in subsidiaries	2	86,632		86,632	
Total non-current assets		203,873	99.3%	199,033	99.6%
Total assets		205,405	100.0%	199,836	100.0%
Liabilities and shareholders' equity					
Other current liabilities to non-Group entities		113		–	
Other current liabilities to shareholders and governing bodies		132		344	
Current interest-bearing liabilities		–		60,000	
Accrued expenses		1,088		1,461	
Non-current interest-bearing liabilities	8	60,000		–	
Total liabilities		61,333	29.9%	61,805	30.9%
Capital stock	5	7,770		7,768	
Statutory capital reserve		1,918		1,540	
Statutory earnings reserve		4,967		4,967	
Retained earnings brought forward		113,685		111,235	
Net income for the year		15,732		12,522	
Total retained earnings		129,417		123,757	
Total shareholders' equity		144,072	70.1%	138,031	69.1%
Total liabilities and shareholders' equity		205,405	100.0%	199,836	100.0%

Statement of changes in equity

In thousands of CHF	Capital stock	Capital reserve	General legal reserve	Retained earnings	Total shareholders' equity
December 31, 2018	7,760	8,434	4,967	106,479	127,639
Net income	–	–	–	14,044	14,044
Dividend payment to shareholders of Comet Holding AG	–	(7,760)	–	(1,552)	(9,312)
Increase in capital stock	4	420	–	28	452
December 31, 2019	7,764	1,093	4,967	118,999	132,823
Net income	–	–	–	12,522	12,522
Dividend payment to shareholders of Comet Holding AG	–	–	–	(7,764)	(7,764)
Increase in capital stock	4	447	–	–	450
December 31, 2020	7,768	1,540	4,967	123,757	138,031
Net income	–	–	–	15,732	15,732
Dividend payment to shareholders of Comet Holding AG	–	–	–	(10,098)	(10,098)
Increase in capital stock	2	405	–	–	407
Alignment of capital reserve ¹	–	(27)	–	27	–
December 31, 2021	7,770	1,918	4,967	129,417	144,072

¹ In the period under review, the amount of the capital reserve reported in these financial statements was aligned to the amount of the capital reserve reported to the tax authorities.

Notes to the separate financial statements of Comet Holding AG

General information

Comet Holding AG has its registered office in Flamatt, Switzerland and is the Comet Group's parent holding company listed on the Swiss stock exchange. The separate financial statements of Comet Holding AG at and for the year ended December 31, 2021 comply with the provisions of the Swiss Code of Obligations. The manner of the inclusion of Comet Holding AG in the consolidated accounts is governed by the measurement principles set out in the notes to the consolidated financial statements.

01 Accounting principles

These separate financial statements were prepared in accordance with the principles of the applicable Swiss Accounting Law (title 32 of the Swiss Code of Obligations).

Receivables and loans

Receivables and loans are stated at nominal amounts less any necessary write-downs.

Investments in subsidiaries

Investments in subsidiaries are recognized at historical cost less necessary impairment charges, and are individually tested annually for impairment.

02 Investments in subsidiaries

Comet Holding AG directly held the following companies at December 31, 2021:

Company	Registered office	Currency	Capital stock	Equity interest in % ¹	
				2021	2020
Comet AG	Flamatt, Switzerland	CHF	2,000,000	100%	100%
Comet Electronics (Shanghai) Co. Ltd.	Shanghai, China	CNY	5,466,148	100%	100%
Comet Mechanical Equipment (Shanghai) Co. Ltd.	Shanghai, China	CNY	1,655,420	100%	100%
Comet Technologies USA, Inc.	Shelton, CT, USA	USD	1,000	100%	100%
Comet Technologies Korea Co. Ltd.	Suwon, Korea	KRW	500,000,000	100%	100%
Xylon International GmbH	Hamburg, Germany	EUR	110,000	100%	100%
Comet Technologies Denmark A/S	Taastrup, Denmark	DKK	601,000	100%	100%
Comet Technologies Japan KK ²	Yokohama, Japan	JPY	10,000,000	100%	100%
Xylon (Beijing) X-Ray Equipment Trading Co. Ltd.	Beijing, China	CNY	1,077,000	100%	100%
Comet Technologies Malaysia Sdn. Bhd.	Penang, Malaysia	MYR	3,000,000	100%	100%
Object Research Systems (ORS) Inc.	Montreal, Canada	CAD	15,001,000	100%	100%
Comet Solutions Taiwan Ltd.	Hsinchu County, Taiwan	TWD	5,000,000	100%	100%

¹ Comet Holding AG also holds 100% of the voting rights in all companies.

² The company was renamed "Comet Technologies Japan KK" from "Xylon International KK".

**03 Non-current financial assets
– loans**

Loans to subsidiaries were as follows:

In thousands of CHF	2021	2020
Comet AG	95,133	77,063
Comet Technologies USA, Inc.	1,566	14,080
Yxlon International GmbH	10,943	14,792
Comet Technologies Denmark A/S	2,225	2,059
Comet Technologies Malaysia Sdn. Bhd.	7,193	4,407
Comet Solutions Taiwan Ltd.	180	–
Total loans to subsidiaries	117,240	112,401

04 Listing and shareholders

Comet Holding AG (the “Company”) is the Group’s only company listed on a stock exchange. The Company’s registered office is in Flamatt, Switzerland. The registered shares of Comet Holding AG have been listed in the main market segment of the SIX Swiss Exchange in Zurich since December 17, 2002.

Ticker symbol	COTN
Swiss security number	36082699
ISIN	CH0360826991
Closing price at December 31, 2021	CHF 336.50
Market capitalization at December 31, 2021	CHF 2,614 million

Assorted financial metrics on the stock of Comet Holding AG are provided in section “information for investors” of the annual report.

Listed and non-listed Group companies

Comet Holding AG has no publicly traded subsidiaries. The companies consolidated in the Group are presented in note 2, “Investments in subsidiaries”.

Registered shareholders

At December 31, 2021, Comet Holding AG had 6,206 voting shareholders of record (i.e., voting shareholders registered in the share register; prior year: 3,853). Of the total issued registered stock, 100% (prior year: 100%) represented free float. Comet Holding AG held no treasury stock at December 31, 2021 (prior year: nil). The structure of share ownership size classes among the shareholders of record at December 31, 2021 was as follows:

Number of shares	Number of shareholders
1 to 1,000	5,837
1,001 to 10,000	306
10,001 to 50,000	47
50,001 to 100,000	12
More than 100,000	4

This analysis includes only the stock of shareholders who were registered in the share register. At December 31, 2021 the shares of unregistered owners amounted to 46% of the total (prior year: 36%).

Significant shareholders

Ownership interests in companies domiciled in Switzerland whose shares are listed at least partly in Switzerland must be notified both to the issuer company and to the SIX Swiss Exchange when the holder's voting rights reach, increase above or fall below certain thresholds. These notification thresholds are 3%, 5%, 10%, 15%, 20%, 25%, 33 ⅓%, 50% and 66 ⅔% of voting rights. The relevant details are set out in the Financial Market Infrastructure Act (FinMIA) and in the Ordinance of the Swiss Financial Market Supervisory Authority on Stock Exchanges and Securities Trading (the FINMA Stock Exchange Ordinance).

At December 31, 2021 the Company, according to disclosure notifications, had the following significant shareholders (defined for this purpose as shareholders with voting rights of 3% or more of the Comet capital stock recorded in the Swiss commercial register of companies):

Beneficial owner	Direct shareholder	Share of voting rights as disclosed by shareholders
UBS Fund Management (Switzerland AG)		5.23%
Pictet Asset Management SA (Direction de Fonds)		4.85%
Credit Suisse Funds AG		3.22%
The Capital Group Companies Inc.	Capital Research and Management Company	3.16%
Universal Investment Gesellschaft mit beschränkter Haftung		3.04%
Blackrock Inc.		3.02%

The Company has not been notified of nor is aware of any other shareholders that held 3% or more of its shares. To the best of the Company's knowledge, there were no voting pool agreements.

Reportable changes during fiscal year 2021

In the fiscal year, 24 reportable announcements were published. For a complete list of all announcements under section 125 FinMIA, refer to the publication platform of the disclosure section of the SIX Swiss Exchange: www.six-exchange-regulation.com/en/home/publications/significant-shareholders.html

Cross-shareholdings

There were no cross-shareholdings with other publicly traded companies.

05 Equity capital structure

Capital stock

The capital stock at January 1, 2021 was CHF 7,767,887, divided into 7,767,887 registered shares with a par value (nominal value) of CHF 1.00 per share.

In fiscal year 2021 the capital stock was increased by 1,647 shares from the portion of authorized capital designated for equity-based compen-

sation. Including the increase of 1,647 shares from this portion of authorized capital, Comet Holding AG at December 31, 2021 thus had a new total of CHF 7,769,534 of capital stock, divided into 7,769,534 registered shares with a par value of CHF 1.00 per share. The capital stock is fully paid in.

At its meeting on June 10, 2021 the Board of Directors established that the capital increase from authorized capital for equity-based compensation was properly performed. The information in the commercial register, and the Articles of Association of Comet Holding AG, were updated to reflect the change in capital stock.

	2021		2020	
	Number of shares	Par value in CHF	Number of shares	Par value in CHF
January 1	7,767,887	7,767,887	7,764,208	7,764,208
Increase in capital from the portion of authorized capital designated for equity compensation	1,647	1,647	3,679	3,679
December 31	7,769,534	7,769,534	7,767,887	7,767,887

At the balance sheet date, Comet Holding AG held no treasury stock (prior year: nil).

Authorized capital for equity compensation

Under article 3b of its Articles of Association, a portion of the Company's unissued authorized capital is designated for use only as equity-based compensation (in German this portion is known as "bedingtes Aktienkapital"). In such a capital increase, stock is issued to Executive Committee members and/or Board members of Comet Holding AG. With respect to this portion of authorized capital, the other shareholders' pre-emptive rights are excluded. The issuance of stock or stock subscription rights is based on a compensation plan (in the form of a written regulation) adopted by the Board of Directors.

In May 2021, in accordance with the compensation plan, the members of the Board of Directors were granted a total of 570 shares of stock in payment of CHF 131,864 of fixed retainers due for fiscal year 2020. In addition, as part of their compensation for 2021, the members of the Board of Directors were granted a total of 283 shares in payment of CHF 65,469 of fixed retainers due for the period from January 1, 2021 to the 2021 Annual Shareholder Meeting. The fully paid shares were applied to the retainers due at a price of CHF 231.34 per share.

Members of the Executive Committee were granted a total of 794 shares in payment of CHF 183,684 of profit-sharing compensation due for fiscal year 2020. The fully paid shares were applied to the compensation due at a price of CHF 231.34 per share.

As a result of these grants of a total of 1,647 shares made in 2021, the Company's unissued authorized capital for equity-based compensation showed the following movement:

	2021		2020	
	Number of shares	Par value in CHF	Number of shares	Par value in CHF
January 1	195,233	195,233	198,912	198,912
Increase in capital (awards to Board of Directors for prior term's retainer and to Executive Committee for prior year's profit-sharing compensation)	(1,647)	(1,647)	(3,679)	(3,679)
December 31	193,586	193,586	195,233	195,233

At the end of the year, the remaining unissued authorized capital for equity-based compensation was CHF 193,586, or 2.5% of the existing capital stock.

Authorized capital for other capital increases

At December 31, 2021, in addition to shares outstanding and unissued authorized capital for equity-based compensation, the Company had unissued authorized capital for purposes set out in article 3a of the Articles of Association (in German: "genehmigtes Aktienkapital"). The Board of Directors is authorized to increase the capital stock, at any time until April 23, 2022, by a maximum of CHF 0.8 million by issuing up to 800,000 fully payable registered shares with a par value of CHF 1.00 per share, which represents 10.3% of the existing capital stock. Increases by way of firm commitment underwriting and increases by part of the total authorized amount are permitted. The amount of the respective issue, the date when entitlement to dividend commences, the terms of any exercise of pre-emptive rights and the nature of the contributions are determined by the Board of Directors.

The Board of Directors is authorized to exclude shareholders' subscription rights and assign these rights to third parties if the shares in question are to be used for the acquisition of companies via equity swaps or to finance the cash purchase of companies or parts of companies, or to finance new investment projects of Comet Holding AG, or for providing an ownership interest to an industrial partner (either in order to cement a strategic alliance or in the event of a takeover offer for the Company). Stock for which pre-emptive rights are granted but not exercised must be sold by the Company at market prices.

06 Disclosure of shareholdings of the Board of Directors and Executive Committee

The ownership interests in Comet Holding AG held by members of the Board of Directors and Executive Committee are disclosed below. This disclosure includes all persons who held positions on the Board of Directors or Executive Committee for all or part of the year under review, regardless of whether they still did so at the balance sheet date. The shareholdings shown include those of respective related parties.

	Total number of shares		Of which: number of shares subject to holding periods ending on			Freely disposable	Share of voting rights	
	2021	2020	4/26/2022	4/24/2023	4/23/2024		2021	2020
Heinz Kundert Chair of the Board / Chief Executive Officer (CEO until August 31, 2020)	4,505	4,220	–	656	285	3,564	0.1%	0.1%
Mariel Hoch Vice Chair (since April 22, 2021) and member of the Board	1,344	1,202	359	328	142	515	0.0%	0.0%
Rolf Huber Vice Chair and member of the Board (until April 22, 2021)	879	14,292	359	328	142	50	0.0%	0.2%
Gian-Luca Bona Member of the Board	5,994	6,352	359	328	142	5,165	0.1%	0.1%
Patrick Jany Member of the Board	2,855	2,713	–	328	142	2,385	0.0%	0.0%
Tosja Zywietz Member of the Board (since April 22, 2021)	–	–	–	–	–	–	–	–
Kevin Crofton Chief Executive Officer (since September 1, 2020)	9,168	8,000	–	–	165	9,003	0.1%	0.1%
Stephan Haferl President of X-Ray Modules division	488	367	104	99	118	167	0.0%	0.0%
Michael Kammerer President of Plasma Control Technologies division	377	1,051	122	116	139	–	0.0%	0.0%
Lisa Pataki Chief Financial Officer (since October 1, 2020)	36	–	–	–	36	–	0.0%	–
Keighley Peters Chief Information Officer (since December 28, 2020)	1	–	–	–	1	–	0.0%	–
Eric Dubuis Chief Information Officer (until January 31, 2021)	280	455	90	86	104	–	0.0%	0.0%
Thomas Wenzel President of X-Ray Systems division (until April 30, 2021)	258	158	–	83	99	76	0.0%	0.0%

Each 10,000 registered shares of Comet Holding AG, of a par value of CHF 1.00 per share, represented 0.1287% of all voting power (prior year: 0.1287%). The members of the Board of Directors and Executive Committee held an aggregate total of 0.3% of voting rights (prior year: 0.5%). No material changes in ownership interests arose after the balance sheet date of December 31, 2021.

07 Options and conversion rights

Comet Holding AG has not issued any conversion rights or stock options.

08	Bond	The bond maturing on April 20, 2021 was repaid and replaced with a new bond issued by Comet Holding AG on April 20, 2021 in the amount of CHF 60 million. The bond was issued at par. The term of the bond is five years and it matures on April 20, 2026. The fixed coupon rate over the term is 1.30%, payable annually on April 20. The bond is listed on the SIX Swiss Exchange (Swiss security number 110 109 656, ticker symbol COT21).
09	Guarantees and pledged assets	The Group is taxed as a single entity for purposes of value-added taxation, and Comet Holding AG therefore has joint and several liability for the value-added tax obligations of its Swiss subsidiary.
10	Number of full-time equivalents	The number of employees of Comet Holding AG in 2021 and 2020 in terms of the annual average number of full-time equivalents was less than ten.
11	Events after the balance sheet date	There have been no events after the balance sheet date with a material effect on the amounts in the financial statements.
12	Release of the separate financial statements for publication	The Board of Directors released these annual financial statements on March 1, 2022 for publication and will present them to shareholders for approval at the Annual Shareholder Meeting on April 14, 2022.

Board of Directors' proposal for the appropriation of retained earnings

01 Retained earnings in 2021

In thousands of CHF	2021
Earnings brought forward	113,685
Net income for the year	15,732
Retained earnings available for distribution	129,417

02 Proposal for the appropriation of retained earnings

At the Annual Shareholder Meeting the Board of Directors will propose to pay a dividend of CHF 3.50 per share from retained earnings.

Provided this dividend is approved, it will result in the following movement in retained earnings:

In thousands of CHF	2021
Retained earnings at December 31, 2021	129,417
Dividend payment of CHF 3.50 per share	(27,193)
Retained earnings carried forward	102,224

Provided the proposal is approved, the dividend of CHF 3.50 per entitled share, less 35% withholding tax, will be paid on April 22, 2022.



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To the General Meeting of
 Comet Holding Ltd., Flamatt

Berne, 1 March 2022

Report of the statutory auditor on the financial statements

As statutory auditor, we have audited the financial statements of Comet Holding Ltd., which comprise the income statement, balance sheet and notes (pages 120 to 128), for the year ended 31 December 2021.



Board of Directors' responsibility

The Board of Directors is responsible for the preparation of the financial statements in accordance with the requirements of Swiss law and the company's articles of incorporation. This responsibility includes designing, implementing and maintaining an internal control system relevant to the preparation of financial statements that are free from material misstatement, whether due to fraud or error. The Board of Directors is further responsible for selecting and applying appropriate accounting policies and making accounting estimates that are reasonable in the circumstances.



Auditor's responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Those standards require that we plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers the internal control system relevant to the entity's preparation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control system. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



Opinion

In our opinion, the financial statements for the year ended 31 December 2021 comply with Swiss law and the company's articles of incorporation.



Report on key audit matters based on the circular 1/2015 of the Federal Audit Oversight Authority

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor's responsibility* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the financial statements.

Impairment of investments and loans

Risk	The company holds as parent of the group investments in various subsidiaries. Furthermore, the parent company uses intragroup loans to fund a number of subsidiaries. Investments and loans each amount to approx. 40% resp. 60% of total assets and are therefore material. By definition, these amounts recognized on the balance sheet are subject to an impairment risk. When there are indications of possible impairments, management prepares the required calculations and, if applicable, records an allowance. The calculations are based in part on simplified principles, especially when management considered the risk of an impairment to be low.
Our audit response	We reviewed the calculations performed by management, which were based on statutory financial statements or assessments in connection with the consolidated financial statements. For more complex cases, we involved our valuation specialists in checking particularly the plausibility of the discount rates used. Our audit procedures did not lead to any reservations concerning the measurement of the investments and loans.



3

**Report on other legal requirements**

We confirm that we meet the legal requirements on licensing according to the Auditor Oversight Act (AOA) and independence (article 728 CO and article 11 AOA) and that there are no circumstances incompatible with our independence.

In accordance with article 728a para. 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists, which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of available earnings complies with Swiss law and the company's articles of incorporation. We recommend that the financial statements submitted to you be approved.

Ernst & Young Ltd

MARTIN MATTES
Licensed audit expert
(Auditor in charge)

PHILIPPE WENGER
Licensed audit expert

Corporate Governance 2021

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Corporate governance in 2021

Corporate governance is defined by Comet as the entirety of the principles and practices aimed at safeguarding shareholder interests. While maintaining management's decision-making capability and efficiency, the aim of good corporate governance is to ensure an appropriate balance of leadership and control, together with transparent reporting.

This corporate governance report describes the management structure and control principles in place at the top organizational levels of the Group. The key elements are defined in Comet's Articles of Association (also known as its Bylaws) and in its Organizational Regulations (specifying the Company's governance structure and governance policies). The corporate governance report is based on the requirements of the SIX Swiss Exchange's Directive on Information Relating to Corporate Governance (DCG). The disclosure requirements of the Ordinance Against Excessive Compensation at Listed Companies (OAEC) are fully met. Comet also takes into account the recommendations of the Swiss Code of Best Practice for Corporate Governance issued by *economiesuisse*.

Information policy

Comet informs its shareholders, the media, financial analysts and other stakeholders with the greatest possible transparency and based on the principle of equal treatment. The Group publishes semi-annual media releases to update investors on its business and financial results. Comet also publishes annual reports and half-year reports, which are prepared in compliance with Swiss stock corporation law and International Financial Reporting Standards (IFRS). As well, information is provided to additional audience segments via the following events:

- To shareholders, in connection with the Shareholder Meeting
- To media representatives and financial analysts, through press conferences
- To institutional investors, through road shows and an annual Capital Markets Day

Important price-sensitive events are communicated in a timely manner via electronic media and in accordance with the directive on ad-hoc publicity (i.e., the ad-hoc disclosure requirements) of SIX Exchange Regulation, a division of the SIX Swiss Exchange.

Key dates

The dates of the most important publications and events are given below:

End of fiscal year	December 31, 2021
Annual results press conference	March 4, 2022
Publication of annual report	March 4, 2022
Annual Shareholder Meeting	April 14, 2022
End of first half of fiscal year	June 30, 2022
Half-year results press conference	July 28, 2022
Publication of half-year report	July 28, 2022

Publication media

Comet's annual report and half-year report, its Articles of Association and its compensation report are published on the Group's website at www.comet-group.com/en/investors/downloads.

For disclosure announcements for stock exchange purposes, Comet Holding AG uses the electronic publication platform operated by the SIX Swiss Exchange: <https://www.six-group.com/en/products-services/the-swiss-stock-exchange/market-data/news-tools/official-notice.html>. The Group's website at www.comet-group.com offers a wealth of information, including details of the Group's business activities and access to the media releases and presentations for press conferences. As well, anyone may register on the website to automatically receive all press releases in electronic form.

Group structure and shareholders

Structure of the operating activities of the Comet Group

Comet Holding AG is a stock corporation with limited liability under Swiss corporate law. It is registered with the commercial register of the Canton of Fribourg, Switzerland under company registration number CHE-101.348.386. The registered office of Comet Holding AG is located at Herrengasse 10, 3175 Flamatt, Switzerland. Business operations are conducted through the group of companies listed in note 2 of the separate financial statements of Comet Holding AG. All companies are wholly owned by Comet Holding AG.

The Group's commercial activities are divided into three divisions: Plasma Control Technologies (PCT), X-Ray Systems (IXS) and Industrial X-Ray Modules (IXM). Financial reporting is segmented along these divisional lines. The financial data for the individual divisions is found in the segment reporting within the notes to the consolidated financial statements (note 4, "Segment reporting").

Listed Group company: Comet Holding AG

Comet Holding AG is the Group's only company listed on a stock exchange. The registered shares have been listed in the main market segment of the SIX Swiss Exchange in Zurich, Switzerland, since December 17, 2002 (ISIN no. CH0360826991). The closing share price on December 31, 2021 was CHF 336.50 (prior year: CHF 198.20), which resulted in a market capitalization of CHF 2,614.4 million (prior year: CHF 1,539.6 million). Further information is provided in note 4, "Listing and shareholders" of the separate financial statements of Comet Holding AG and in the section "Information for investors" in the annual report.

At December 31, 2021, Comet Holding AG had 6,206 voting shareholders of record (i.e., voting shareholders registered in the share register; prior year: 3,853). Of the total issued registered stock, 100% (prior year: 100%) represented free float. Comet Holding AG thus held no treasury stock at December 31, 2021 (prior year: nil). Information on the ownership structure and significant shareholders is disclosed in the separate financial statements of Comet Holding AG in note 4, "Listing and shareholders". Disclosure notifications of significant shareholdings in Comet Holding AG that were filed with Comet Holding AG and SIX Swiss Exchange are available from the online publication platform of the SIX Swiss Exchange through the following database search page:

www.six-exchange-regulation.com/en/home/publications/significant-shareholders.html.

At December 31, 2021, Comet Holding AG had no cross-shareholdings with other publicly traded companies (prior year: nil).

Capital structure

Share capital

As of December 31, 2021, the share capital of Comet Holding AG amounted to CHF 7,769,534, divided into 7,769,534 fully paid-in, registered shares with a par value (nominal value) of CHF 1.00 per share. With the exception of any treasury stock held by the Company, every share carries dividend rights. Each share represents one vote at the Shareholder Meeting, provided that the shareholder is recorded in the share register.

Under article 3a of Comet's Articles of Association, the Board of Directors is authorized to increase the share capital by a maximum of CHF 0.8 million, by issuing up to 800,000 shares with a par value of CHF 1.00 per share at any time until April 23, 2022, for purposes set out in the same article 3a (known in German as "genehmigtes Aktienkapital", this is authorized capital for capital increases other than for equity compensation purposes). This corresponded to approximately 10.3% of the existing share capital at December 31, 2021. Shareholders' subscription rights can be suspended and transferred to a third party under article 3a of the Articles of Association.

Under article 3b of the Articles of Association, some of Comet's unused authorized capital is designated for use as equity-based compensation for members of the Executive Committee and of the Board of Directors of Comet Holding AG only. At December 31, 2021, this portion (referred to in German as "bedingtes Aktienkapital", or conditional capital) consisted of 193,586 shares with a nominal value of CHF 1.00 per share. It corresponded to approximately 2.5% of the existing share capital. The issuance of stock or stock subscription rights is based on a compensation plan adopted by the Board of Directors. Further information about equity-based compensation can be found in the compensation report.

Further details on the structure of and changes in shareholders' equity of Comet Holding AG are disclosed in the separate financial statements of Comet Holding AG in the statement of changes in equity and within note 4, "Listing and shareholders", note 5, "Equity capital structure" and note 7, "Options and conversion rights". As of December 31, 2021, Comet Holding AG had no participation certificates or dividend-right certificates outstanding (prior year: nil).

Limitations on transferability and nominee registrations

The Company keeps a share register in which the shares' owners and beneficial owners and the number of their shares are recorded. The share register is operated on behalf of Comet by Devigus Engineering AG. For the purposes of the legal relationship with the Company, shareholders or beneficial owners of shares are recognized as such only if they are registered in the share register. Purchasers of registered stock or of beneficial rights with respect to registered stock are upon their request recorded as voting shareholders in the share

register by the Board of Directors if the purchasers state explicitly that they have acquired, and will hold, the stock or beneficial interest for their own account. Registration in the share register requires evidence of the acquisition of full legal title to the shares or evidence of the establishment of beneficial ownership. For the purpose of this condition, nominee shareholders (nominees) are deemed to be those persons who do not explicitly state in their registration application that they hold the shares for their own account. The Board of Directors registers nominees as holding voting shares only up to a maximum of 5% of the share capital recorded in the Swiss commercial register of companies. Where legal entities or groups with joint legal status are connected by capital, voting rights, management or in some other manner, they are deemed to constitute a single nominee, as are all natural persons, legal entities or groups with joint legal status that by agreement, as a syndicate or in any other way act in a coordinated manner in circumventing the nominee rules. The Company may, after hearing the affected party, void registrations in the share register with retroactive effect from the date of registration if they were based on false information given by the purchaser. The purchaser must be informed of the deletion immediately. The Board of Directors determines the details of the application of these provisions and makes the arrangements necessary to ensure compliance with the rules outlined in the Company's Articles of Association.

In fiscal year 2021, the Board of Directors did not recognize any acquirers of shares holding more than 5% of all registered shares as a shareholder or beneficial holder with voting rights, did not reject any requests for registration, and did not remove any shareholders with voting rights from the share register on the grounds of provision of false information.

Convertible bonds and options

As of December 31, 2021, Comet Holding AG had no conversion rights or stock options outstanding (prior year: nil).

Management transactions and measures to prevent insider-trading offenses

The Listing Rules of the SIX Swiss Exchange require the disclosure of management transactions in stock of the Company and related financial instruments. The Board of Directors has issued a corresponding regulation in order to comply with these requirements. The parties whose transactions of this nature are reportable to the Company are the members of the Board of Directors and of the Executive Committee (the Executive Committee is the most senior level of operational management). In fiscal year 2021, five disclosures were filed. Published disclosures can be found on the website of the SIX Swiss Exchange: www.ser-ag.com/en/resources/notifications-market-participants/management-transactions.html#/.

For Comet, regular closed periods (also referred to as blackout periods) for trading in securities of Comet Holding AG are defined as the periods from December 16 and June 16 up to and including the trading day following the publication of the annual or half-year report, respectively, or the publication of the relevant key figures. These closed periods apply to the members of the Board of Directors and the Executive Committee, as well as members of group functions in finance, investor

relations and communication. No exceptions were granted in fiscal year 2021.

Board of Directors

The Board of Directors has ultimate responsibility for supervising the Group's top-level operational management personnel. The Board sets the Group's strategic goals and the guidelines for organizational structure and financial planning.

As prescribed by the Articles of Association, the Board of Directors of Comet Holding AG consists of a minimum of five members. The composition of the Board of Directors is designed to ensure effectiveness. Key qualities sought in the recruitment of Board members are independent thinking and willingness to work in a team focusing exclusively on the interests of the Company and its principal stakeholders. The Board of Directors nominates non-executive and independent members within the meaning of the Swiss Code of Best Practice for Corporate Governance to be elected by the Annual Shareholder Meeting as members of the Nomination & Compensation Committee.

Composition of the Board of Directors of Comet Holding AG

On December 31, 2021, the Board of Directors of Comet Holding AG had the following five members:

	Nationality	Position on the Board	Member since	Elected until
Heinz Kundert	Swiss	Chair and non-executive member	2019	2022
Mariel Hoch	Swiss and German	Vice Chair and non-executive member	2016	2022
Gian-Luca Bona	Swiss	Non-executive member	2012	2022
Patrick Jany	German	Non-executive member	2019	2022
Tosja Zywiets	German	Non-executive member	2021	2022

Secretary of the Board (since 2010) and non-member of the Board: Ines Najorka, Vice President of Global Communications.

Additional information on the members of the Board of Directors

The information below outlines the education, significant professional experience and current position of each Board member. Where a place name is not followed by a country or state, the country is Switzerland.



Heinz Kundert
(b. 1952, Swiss citizen)

Education

Degree in industry management from Institute of Technology (ITA), Zurich; degree in business management from University of St. Gallen (HSG)

Professional experience

1981 to 1991: regional director Asia, Balzers AG; 1991 to 1999: division manager, Semiconductor and Data Storage, Balzers AG; 1999 to 2002: COO of Oerlikon-Bührle; 2002 to 2004: CEO of Unaxis AG; 2005 to 2015: VP of SEMI Intl. USA and president of SEMI Europe; 2015 to 2018: CEO of VAT Group



Gian-Luca Bona
(b. 1957, Swiss citizen)

Education

Dipl. Phys. master's degree in physics from Swiss Federal Institute of Technology (ETH), Zurich and Dr. sc. nat. doctorate in physics from ETH, Zurich

Professional experience

1987 to 2002: IBM Research Laboratory, Rüschlikon; 2002: IBM Watson Research Center, Yorktown Heights, NY, USA; 2003 to 2004: research manager, Photonics Networks, IBM Research Laboratory, Rüschlikon; 2004 to 2008: research functional manager, Science and Technology, IBM Almaden Research Center, San José, CA, USA; 2008 to 2009: director of tape storage solutions, IBM, Tucson, AZ, USA; since September 2009: CEO of Empa (the Swiss Materials Science & Technology Laboratory) and professor of photonics at the Swiss Federal Institutes of Technology (ETH, Zurich and EPF, Lausanne)



Mariel Hoch
(b. 1973, Swiss and German citizen)

Education

Admitted to the Zurich bar in 2005; Dr. iur doctorate in law from University of Zurich and Lic. iur degree in law from University of Zurich

Professional experience

Partner at the law firm Bär & Karrer AG, Zurich



Patrick Jany
(b. 1968, German citizen)

Education

Degree in business administration from École Supérieure de Commerce de Paris (ESCP), France

Professional experience

1990 to 2006: Various positions at Sandoz, later Clariant, including CFO for ASEAN region, head of country organization of Clariant Mexico, and head of corporate development; 2006 to 2020: CFO and member of the Executive Committee of Clariant AG; since May 2020: EVP and CFO at A.P. Moller-Maersk A/S, Denmark



Tosja Zywietz
(b. 1971, German citizen)

Education

Dr. rer. nat. doctorate in physics from Fritz Haber Institute of the Max Planck Society, Berlin, Germany and Dipl. master's degree in physics from University of Göttingen, Germany

Professional experience

Since 2020: executive committee member responsible for production, procurement and quality at Sick AG, Germany; 2009 to 2019: chief strategy officer and later CEO at Rosenberger Hochfrequenztechnik GmbH & Co. KG, Germany; 2002 to 2009: founder and owner of and director at Biosigna GmbH, Institut für Biosignalverarbeitung und Analyse, Germany; 2003 to 2004: project leader at Boston Consulting Group UK LLP; 2001 to 2003: consultant in health care, information technology and financial services practices at Boston Consulting Group GmbH

Operational management functions

With the exception of Heinz Kundert (who was interim CEO from June 21, 2019 to August 31, 2020), no Board member is or was a member of the operational management of Comet Holding AG or any of its subsidiaries over the last three fiscal years ending December 31, 2021.

Disclosure of potential conflicts of interest

No member of the Board of Directors has any material business relationship with Comet Holding AG or any of its subsidiaries. In the event of a potential or impending conflict of interest, the Board member concerned is required to inform the Chair of the Board of Directors immediately.

Activities and interests outside the Group

Article 27 of the Articles of Association, which are compliant with the OAEC, specifies the allowable number of other, external positions that members of the Board of Directors may hold on top management or supervisory bodies, as follows:

- Members of the Board of Directors may each not hold more than five external positions on top management or supervisory bodies of listed (i.e., exchange-traded) companies and not more than seven such external positions in non-listed companies.
- Members of the Board of Directors may each not hold more than ten such positions in associations, non-profit foundations, family foundations and employee pension funds.
- Positions in companies controlled by Comet Holding AG, or positions controlled by it, are not subject to restriction.

In fiscal year 2020 and 2021, no member of the Board of Directors exceeded any limits for additional positions held. At December 31, 2021 the members of the Board of Directors had the following additional positions on top management or supervisory bodies of significant Swiss and foreign private sector and public sector companies, institutions and foundations:

Heinz Kundert

Board vice chairman, VAT Group, Haag; board member, Variosystems AG, Steinach; board chairman, VT5 Acquisition Company AG, Pfäffikon

Gian-Luca Bona

Board member, Bobst Group SA, Mex, Switzerland; board member Switzerland Innovation Park Ost AG, St. Gallen; board member, Technopark Zürich Foundation; member, ETH Board (the board of the Swiss Federal Institutes of Technology); chairman, glaTec technology center, Dübendorf; board member, Innovation Park Zurich foundation; advisory council member, German Federal Institute for Materials Research and Testing (BAM), Berlin, Germany

Mariel Hoch

Board member and member of the audit and risk committee and compensation committee, SIG Combibloc Group AG, Neuhausen am Rheinfall; board member and member of the audit committee, Komax Holding AG; board member, MEXAB AG; board member, The Schörling Foundation, Lucerne; board member Law & Economics Foundation, St. Gallen; board member Irene M. Staehelin Stiftung (a foundation), Zurich

Tosja Zywietz

Non-executive member of the board, Alupak AG, Belp; non-executive chairman, Wiferion GmbH, Freiburg, Germany

Board elections and terms

The Board members are elected by the Annual Shareholder Meeting for a term of one year. They are individually elected when standing for election or re-election. The Annual Shareholder Meeting also elects one member of the Board of Directors as the Board Chair and elects the members of the Nomination & Compensation Committee.

The term of office ends at the conclusion of the next Annual Shareholder Meeting. Re-election for consecutive terms is permitted. If elections are held during a term to replace or add Board members, the newly elected members serve for the remainder of the current term.

The Articles of Association are in accordance with the legal requirements of the OAEC.

Internal organization

Except for the election of the Board Chair and the members of the Nomination & Compensation Committee by the Annual Shareholder Meeting, the Board of Directors constitutes itself at its first meeting after its election or re-election by the Annual Shareholder Meeting. The Board appoints its Vice Chair, the members of the other Board committees and the Board Secretary. The Secretary need not be a member of the Board.

The Chair of the Board of Directors has the following duties and powers:

- Act as Chair of the Shareholder Meetings
- Call meetings of the Board of Directors and set the agenda
- Supervise, comply with and implement the resolutions of the Board of Directors

- Immediately inform all members of the Board of Directors of extraordinary events
- Ensure that urgent business matters are transacted within the required timeframe
- Interact with the senior management of the Comet Group
- Monitor the implementation of measures decided by the Board of Directors
- Take all measures required to safeguard the interests of the Comet Group
- Represent the Board of Directors internally and externally

The Vice Chair of the Board assumes the powers and duties of the Chair in his or her absence. The chairs of the Board committees lead their respective committees and report to the Board of Directors.

The Board meets at the invitation of the meeting's chair as often as business requires, or when requested by a Board member in writing for a stated purpose. The Board has a quorum when the majority of members are present. The Board passes its resolutions and performs its elections by an absolute majority of votes cast. In the event of an equality of votes, the chair of the meeting has the casting vote.

Resolutions on a motion may alternatively be reached in writing if no Board member objects to this method. Minutes must be kept of the deliberations and resolutions and be signed by the meeting's chair and the Board Secretary. The minutes are submitted to the Board for approval at its next meeting.

Functioning of the full Board of Directors

A total of eight regular meetings of the full Board were held in the year, as well as several teleconferences. In addition, several meetings of the Board committees were held. An overview of the meetings of the Board of Directors and the members in attendance is shown below.

Name	February	March		April		June	August		November	December	
	BoD	AC	BoD	BoD	BoD	BoD	AC	BoD	BoD	AC	BoD
Heinz Kundert	x	x	x	x	x	x	x	x	x	x	x
Mariel Hoch	x	--	x	x	x	x	--	x	x	--	x
Patrick Jany	x	x	x	x	x	x	x	x	x	x	x
Gian-Luca Bona	x	--	x	x	x	x	--	x	x	--	x
Rolf Huber	x	x	x	x	--	--	--	--	--	--	--
Tosja Zywietz	--	--	--	--	x	x	x	x	x	x	x

BoD: Regular meeting of the Board

AC: Audit Committee

x: attended

--: not attended or not a member of the Board or Committee at that time

All meetings held up to and including April 2021 were virtual meetings. After April 2021 up to and including November 2021 all meetings were attended by Board members physically. In December 2021 all meetings were again virtual meetings.

The Board of Directors is regularly kept informed of the course of business by the CEO and CFO at its meetings, and also on an ad hoc basis as needed. Other members of the Executive Committee, other management staff and specialists of the Group regularly attend Board meetings to report on particular projects in their area of responsibility. In addition, external advisors are consulted as required to deal with specific matters. The Board receives monthly written financial reports on the current business performance.

Board committees

In fiscal year 2021 the Board committees had the following members:

Committee	Members
Nomination & Compensation Committee (NCC)	Mariel Hoch (Committee chair) Rolf Huber (until April 2021) Gian-Luca Bona (from April 2021)
Audit Committee (AC)	Patrick Jany (Committee chair) Rolf Huber (until April 2021) Tosja Zywiets (from April 2021)
Technology Committee (TC)	Gian-Luca Bona (Committee chair) Tosja Zywiets (from April 2021)

The Annual Shareholder Meeting elects the members of the Nomination & Compensation Committee. The members of the other committees are elected by the Board from among the Board members for a term of one year. Every committee normally consists of at least two members of the Board and meets at least twice per year, or as often as business requires.

The committees' principal function is to prepare decision support for the full Board in special subject areas. At the regular meetings or as required, the full Board is kept informed of the activities of the individual committees. Reports to the full Board are made orally or in writing as required. The overall responsibility for the tasks assigned to the committees remains with the full Board, which decides as a body on all proposals.

Nomination & Compensation Committee

The Nomination & Compensation Committee (NCC) is made up of two members of the Board, who are elected to the Committee yearly by the Annual Shareholder Meeting. The term of office is one year. Re-election for consecutive terms is permitted. The NCC prepares all agenda items related to the nomination and compensation of Board members and Executive Committee members. The NCC itself does not make decisions, but prepares proposals for the approval of the full Board of Directors. The Committee has the following responsibilities in particular (additional responsibilities may be assigned to it as required):

- Address both the compensation policy for the remuneration of the Board of Directors and Executive Committee, and the Comet Group's compensation structure
- Prepare the compensation report and support the Board of Directors in preparing resolutions for the Annual Shareholder Meeting for the approval of compensation

- Develop proposals for guidelines for the compensation of the Board of Directors and Executive Committee
- Review stock ownership plans and recommend adjustments as appropriate
- Propose new Board members and Executive Committee members for appointment
- Provide support to the CEO in evaluating candidates for the Executive Committee

In fiscal year 2021, the NCC handled the following compensation- and nomination-related tasks on behalf of the Board of Directors:

- Identification and assessment of potential candidates for positions on the Board based on predefined criteria, and recommendation to the full Board regarding their nomination for election or re-election at the Shareholder Meeting.
- Identification and assessment of potential candidates for positions on the Executive Committee based on predefined criteria, and recommendations to the full Board.
- Review of the succession planning and of the list of possible substitutes in case of absences on the Executive Committee, and preparation of corresponding proposals to the full Board.
- Recommendation to the full Board for approval of the annual compensation report.

In the year under review, the Committee held seven meetings, all of which were attended by both of its members and Luigi Cornacchia, Global Head of HR as secretary. In an advisory role, the Chairman of the Board and the CEO also attended. The Committee may invite other Board members, Executive Committee members and specialists to its meetings as required. However, the members of the Executive Committee do not attend the compensation-related Board meetings and do not have a say in their compensation. The NCC chair briefs the Board of Directors on the activities at the next Board meeting and submits the necessary proposals and recommendations. Minutes of the NCC meetings are taken and signed by the chair of the NCC and its secretary. Once the minutes are approved, they are circulated to all members of the Board.

Audit Committee

The Audit Committee supports the full Board in exercising oversight of accounting and financial reporting and in monitoring compliance with legal requirements. The Committee has the following responsibilities in particular:

- Evaluate the structure and form of the Group's accounting system
- Gauge the effectiveness of the independent auditors and the internal controls; evaluate the coordination of external and internal auditing, and review the performance and compensation of the external independent auditors
- Evaluate the effectiveness of risk management
- Review the financial reporting to shareholders and the public
- Issue directions to the internal audit function and, as may be required on a case-by-case basis by the resulting findings, issue directions to the Executive Committee

During the fiscal year, three meetings were held by the Audit Committee. They were attended by the external auditors, internal audit, the

CEO and the CFO. The Committee may invite other Board members, Executive Committee members and specialists to its meetings as required. At each Board meeting, the Audit Committee reports on its activities to the Board of Directors and submits the necessary proposals and recommendations to the Board.

Technology Committee

The Technology Committee provides support to the full Board in matters of technology. The Committee has the following responsibilities in particular:

- Monitor international developments in technology and evaluate the emerging trends for their relevance to the Comet Group
- Assess the Group's internal research and development activities
- Ensure the Group holds at least one technology day or equivalent event per year

The Committee meets as often as business requires. In fiscal year 2021, it held two meetings. During the year the appraisal of technology sector developments, as well as the development measures taken by the Group, were regularly discussed with the division presidents in the course of the Committee meetings and the Board's scheduled meetings.

Division of authority

The Board of Directors is responsible for the overall direction and management of the Group and for the supervision of its most senior operational management. The non-delegable and inalienable duties of the Board of Directors are established by article 716a of the Swiss Code of Obligations. The Board's specific responsibilities and scope of authority are set out in the Company's Organizational Regulations and include the following areas among others:

- Determine the Group's strategic direction and financial targets and allocate the resources required to achieve them
- Establish the Group's objectives, business policy and strategy, and organizational structure
- Approve the rolling short- and medium-term financial plans
- Approve the acquisition and disposal of subsidiaries and of equity interests in other companies, and approve collaborations with other firms
- Approve the purchase and sale of real estate
- Appoint and withdraw members of the Group's Executive Committee and the presidents of its subsidiaries and exercise oversight and control of their activities

The Board of Directors has delegated all operational management of the Group to the CEO and the Executive Committee, except as otherwise required by law, the Company's Articles of Association and the Organizational Regulations. The CEO and Executive Committee have the necessary powers to execute the business strategy within the parameters set by the Board of Directors. In particular, the CEO has the authority to:

- Manage the Comet Group, implement the Board's strategic directions and decisions, and ensure timely and appropriate reporting to the Board

- Develop business targets within the general objectives established by the Board and present proposals for the rolling forecasts and for the strategic multi-year planning
- Request items of business to be placed on the agenda of Board meetings, prepare such business for transaction by the Board, and ensure the implementation of the Board's decisions
- Implement an internal control and management information system based on the specifications of the Board
- Regularly review the business risks, and establish a Board-approved risk management system for this purpose
- Regularly review the degree of achievement of the financial targets and strategic goals, as well as the Group's liquidity
- The members of the Executive Committee report to the CEO

Monitoring and control with respect to the Executive Committee

The Chair of the Board may attend the meetings of the Executive Committee and receives the minutes of all its meetings. The Board of Directors also receives regular reports on the course of business from the Executive Committee at Board meetings. In the case of extraordinary events, the Executive Committee informs the Board immediately. The CEO and CFO attend all regular meetings of the Board. At least one to two times per year, in the context of Board meetings, the other members of the Executive Committee also report to the Board on their business area.

Management information system

The monthly financial reporting by the Executive Committee on the current course of business and important transactions gives the full Board of Directors the information needed to properly discharge its responsibilities. The standardized internal reporting of the Group consists of the IFRS-based consolidated balance sheet, statement of income and cash flow statement, as well as detailed management reporting. Complementing the monthly consolidated financial statements and a comprehensive range of financial ratios, the management reporting presents and comments upon additional information such as new orders and order backlog, staffing levels and accounts past due, provided in table and chart form. This data is presented both by division and on a consolidated basis for the Group and is compared to the prior year and the rolling forecast. The resulting insights and actions are discussed monthly by the Executive Committee. All monthly financial statements are submitted to the Board of Directors, which discusses them at its meetings. As a longer-term control tool, a rolling multi-year plan is prepared annually for the subsequent three years. In addition, every quarter, management generates a rolling forecast for the following five quarters. These forward-looking control tools, which are accompanied by detailed commentary and documented with charts, enable the Board to continually evaluate the financial effectiveness of the adopted business strategy and then to take action if and as required.

Internal audit

The internal audit function provides an objective and effective value-added internal audit service using a systematic and disciplined approach to assist management in monitoring compliance, controlling risks and improving the effectiveness and efficiency of internal control systems and governance processes.

The internal auditor reports directly to the Audit Committee of the Board of Directors, at least twice per year and more frequently as required. On completion of each audit, an audit report is prepared and is discussed in the Executive Committee and reviewed with the national lead personnel responsible (typically the local company presidents responsible for the relevant business) and/or the persons directly affected by the audit, in order to initiate the implementation of the planned measures. The internal auditor then prepares a final audit report for the Board of Directors, with a corresponding action plan. The reporting is based on the current audit priorities approved by the Board each year. The nature of the coordination and cooperation between the internal audit function and the external audit firm, complete with the identification of the respective responsibilities, has been specified in writing and approved by the Board.

From 2006 until end of 2021 the internal audit function was performed on a consulting basis by Robert Kruijswijk, Switzerland. His compensation was determined by the amount of work performed. In 2021, Robert Kruijswijk carried out various audits at a number of locations. The following audits were performed in the fiscal year:

- Production of IXM division, Flamatt, Switzerland
- Production of PCT division, Flamatt, Switzerland
- Contracts related to ebeam spin-off
- Research and Development and life cycle management in IXM division
- Research and Development and life cycle management in PCT division
- Central services at Yxlon, Hamburg, Germany

Comet entered into an internal audit outsourcing service agreement with KPMG AG Switzerland effective January 1, 2022. The internal audit function is functionally reporting to the Audit Committee and administratively to the Group CFO. The compensation is determined by the amount of work performed under the service agreement and approved by the Audit Committee.

Risk management system

Risk management includes the annual evaluation of strategy by the Board of Directors and the assessment by the Executive Committee of insurance cover, of the general business risks and of the major balance sheet items. The approach to risk management is described in a risk strategy approved by the Board and is specified in a written risk management procedure for implementation by the Executive Committee. The significant risks in the individual business areas and departments are identified in quarterly working group sessions and systematically described and categorized in a risk matrix. The risks are assessed using a risk rating based on the probability of occurrence and the potential severity of loss, as well as by calculating potential absolute financial risk. For the risks classified as important, action plans are formulated to minimize the probability and/or potential severity of loss. The Group's Executive Committee regularly reviews the effectiveness of the actions taken and decides on a potential updating of the risk portfolio. Newly identified risks are added to the portfolio and action plans are formulated to manage them. Through separate reports, the Audit Committee at each of its meetings is kept advised of the current assessment of the Group's risks.

Internal control system

Comet operates a system of internal control (the "internal control system") to provide reliable internal and external financial reporting and to prevent false information and errors in business transactions. The internal control system provides the necessary processes and controls to ensure that risks relating to the quality of the company's financial reporting can be detected and managed in a timely manner. A review of the existence of the processes and controls of the implemented internal control systems is carried out by the external auditors annually.

In the fiscal year, where required, Comet further expanded, trained or documented the existing internal control system. The internal control system is in use at all levels of the enterprise and in all significant locations. The significant risks and controls are in accordance with the objectives and quality requirements established by the Board of Directors. The staff members responsible for the internal control system have been designated Group-wide, the employees involved have been trained and the control functions clearly assigned. The controls are integrated in the respective processes and are periodically tested for effectiveness, logical sense and efficiency. The introduction of a uniform, systematic process for risk detection and assessment has enhanced the reliability and completeness of bookkeeping and the timeliness and dependability of financial reporting.

Executive Committee

The Executive Committee – the Group's most senior management below the Board level – is responsible for the operational management of the Group within the powers delegated to it.

In the prior year, effective September 1, 2020, Kevin Crofton assumed operational leadership of the Group as CEO. On October 1, 2020, Elisabeth Pataki took office as CFO, responsible for Comet's financial management. In addition, Keighley Peters became Chief Information Officer (CIO), joining the Executive Committee on December 28, 2020. Departures from the Comet Group were that of CIO Eric Dubuis on January 31, 2021 and Thomas Wenzel, President of the X-Ray Systems division, on April 30, 2021.

No member of the Executive Committee performed any services for Comet Holding AG or any of its subsidiaries before their appointment to the Executive Committee.

As of December 31, 2021, the Group's Executive Committee had the following five members.


Kevin Crofton

(b. 1961, US & UK citizen)
Chief Executive Officer
since Sep. 1, 2020 and
interim President of X-
Ray Systems division

Education

MBA in International Business, American University, Washington, DC, USA; Bachelor's degree in Aerospace Engineering, Virginia Tech University, VA, USA

Professional experience

2009 to 2020: President/CEO of SPTS Technologies, UK; 2006 to 2009: President and COO of Aviza Technology UK (a precursor to SPTS Technologies); 1994 to 2006: various executive management and divisional leadership positions at Newport Corporation, NEXX Systems and Lam Research Corporation, USA


Elisabeth Pataki

(b. 1981, US citizen) Chief
Financial Officer since
Oct. 1, 2020

Education

Bachelor of Science degree in Finance and Spanish, Boston College, Mass., USA; Master of Business Administration, The Wharton School of the University of Pennsylvania, USA

Professional experience

2015 to 2020: Global Head of Internal Audit, Switzerland, at EF Education First, and before that CFO North America, USA, at EF; 2008 to 2015: various senior management positions at Raytheon Company in USA and Europe, including CFO for NATO Business Line, France, part of a joint venture between Raytheon and Thales Group


Keighley Peters

(b. 1971, UK citizen) Chief
Information Officer since
Dec. 28, 2020

Education

Master of Sciences in Information Technologies, University of Liverpool, UK

Professional experience

2011 to 2020: Senior Director Global IT, SPTS Technologies, UK; previously CIO in interim functions, IT Services Associate Director, Global IT, Cenduit Ltd and IT Consultant for the pharmaceutical industry as well as in the insurance and IT services sectors


Michael Kammerer

(b. 1961, Swiss citizen)
President of Plasma
Control Technologies
division since Jan. 1, 2008

Education

Eidg. dipl. Einkäufer degree in procurement, SVME; MBA in strategy and procurement management from University of Birmingham, UK

Professional experience

1997 to 2000: head of purchasing and logistics, Von Roll Betec AG, Switzerland; 2000 to 2002: head of purchasing and logistics, Swisscom Solutions AG, Switzerland; 2002 to 2007: head of purchasing and supplier quality assurance, automotive, Saia-Burgess AG, Switzerland/Johnson Electric, Hong Kong



Stephan Haferl

(b. 1972, Swiss and Norwegian citizen)
President of X-Ray Modules division since Jan. 1, 2018

Education

Dr. sc. tech. doctorate in mechanical and process engineering from ETH Zurich; Advanced Management Program, The Wharton School of the University of Pennsylvania, USA

Professional experience

2002 to 2007: various management positions at the Bartec Group, Switzerland; from 2007: various management positions in Comet's X-Ray Technology business (VP of Supply Chain, VP of R&D, General Manager of Industrial X-Ray Technologies (IXT))

Activities and interests outside of the Group

Article 27 of the Articles of Association, which is compliant with the OAEC, specifies the allowable number of other external positions that members of the Executive Committee may hold on top management or supervisory bodies as follows:

- Members of the Executive Committee may each not hold more than one external position on the top management or supervisory body of an exchange-traded (i.e., listed) company and not more than four such external positions in non-listed companies.
- Not more than ten such positions may be held in associations, non-profit foundations, family foundations and employee pension funds.
- Positions in companies controlled by Comet Holding AG, or positions controlled by it, are not subject to restriction.

Some members of the Executive Committee hold board positions at subsidiaries of the Group. In addition, as of December 31, 2021, Kevin Crofton was Vice Chairman of SEMI industry association, Milpitas, CA, USA. Also, Stephan Haferl was a board member of Belimed AG, Zug. The other members of the Executive Committee did not hold positions outside Comet on management or supervisory bodies of significant Swiss or foreign private sector or public sector companies, institutions or foundations at the balance sheet date. Therefore, no member of the Executive Committee of Comet Holding AG exceeded any limits for additional positions.

Management contracts

As of December 31, 2021, Comet had not entered into any management contracts with companies or natural persons not belonging to the Group (prior year: nil).

Disclosure of potential conflicts of interest

No member of the Executive Committee had any material business relationships with Comet Holding AG or any of its subsidiaries in fiscal year 2020 and 2021. In the event of a potential or impending conflict of interest, the Executive Committee member concerned is required to inform the Chair of the Board of Directors immediately.

Compensation, shareholdings and loans

Information regarding compensation and loans relating to members of the Board of Directors and the Executive Committee are set out in the compensation report. Information on their shareholdings of Comet stock is disclosed in the separate financial statements of Comet Holding AG in note 6, "Disclosure of shareholdings".

Shareholders' participation rights

Shareholders' participation rights (such as rights with respect to voting), are set down in the Swiss Code of Obligations, and this legal framework is supplemented by provisions in the Articles of Association of the Company. The Articles of Association, which are compliant with the legal requirements under the OAEC, can be found on the Company's website at <https://www.comet-group.com/en/investors/downloads>.

Voting rights restrictions and representation

Each share that is registered carries one vote, subject to the provisions on nominee shareholders in article 5 of the Articles of Association. The Board of Directors registers nominees as holding voting shares only up to a maximum of 5% of the share capital recorded in the Swiss commercial register of companies. Further information is provided in the section "Capital structure"/"Limitations on transferability and nominee registration".

Proxy voting

At the Annual Shareholder Meeting, the shareholders elect an independent proxy. The term of office of the independent proxy is one year, ending at the conclusion of the next Annual Shareholder Meeting. Re-election for consecutive terms is permitted.

A shareholder may be represented at the Annual Shareholder Meeting by the independent proxy, by the shareholder's legal representative or – under a written power of attorney – by another shareholder entitled to vote. Powers of attorney and instructions may be given in writing or, to the independent proxy, may also be given electronically. The Board of Directors ensures that the shareholders have the opportunity to use electronic means to authorize and instruct the independent proxy.

Calling of the Annual Shareholder Meeting

The Annual Shareholder Meeting is called by the Board of Directors or, if necessary, by the independent auditors. Notice of the Annual Shareholder Meeting is sent to the shareholders of record by mail at least 20 days before the meeting date.

The notice of the Annual Shareholder Meeting states the day, time and place of the meeting, the agenda items as well as the proposals by the Board of Directors and, if applicable, names the shareholders who requested the Shareholder Meeting or the inclusion of a business item on the agenda, and states the nature of the shareholder proposal(s).

Inclusion of items on the agenda

Under the Articles of Association, shareholders representing at least 3% of the total share capital outstanding at the time may request items of business to be included in the agenda. Shareholders' requests under section 699 para. 3 of the Swiss Code of Obligations to place

business on the Meeting agenda, and the actual shareholder proposal involved, must be submitted to the Board of Directors in writing no later than 35 days before the Shareholder Meeting in question.

Entries in the share register

In accordance with article 12 of the Articles of Association, in the notice of the Shareholder Meeting the Board of Directors announces the record date (at which registration in the share register is required for participation in and voting at the meeting) and the details of the written and electronic proxies and instructions.

The share register is closed to new entries from the record date until and including the day of the Shareholder Meeting. No exception to this rule was made in the year under review nor at any previous Shareholder Meeting. Shareholders who sell their stock before the Shareholder Meeting are not entitled to vote the shares sold.

Further information is provided in the section "Capital structure"/"Limitations on transferability and nominee registration".

Changes of control and defense measures

Requirement to make a public tender offer

Under article 135 of the Financial Market Infrastructure Act (FinMIA), any party whose shareholding reaches 33 ⅓% or more of all voting rights must make a public tender offer. The Articles of Association of Comet Holding AG contain neither an opting-up clause nor an opting-out clause; this means that they neither raise this percentage threshold, nor waive the requirement of a tender offer.

Provisions on changes of control

With respect to members of the Board of Directors and the Executive Committee, there are no contractual obligations of unusually long duration, nor provisions for termination benefits, that would result from a change of control. Under the share-based compensation plan, the Board of Directors may in its discretion decide to early-terminate the holding period for the stock awarded as performance-based compensation. Except as otherwise required by law, in the event of an attempted change of control of Comet Holding AG, the holding period on stock ends when a public tender offer is validly made.

Auditors

Duration of the mandate and term of office of the lead auditor

The independent audit firm is appointed annually by the Annual Shareholder Meeting following a proposal submitted by the Board of Directors. Re-election is permitted.

Ernst & Young AG (EY), Switzerland, have been the independent auditors of Comet Holding AG since 1999. The lead audit partner, Martin Mattes, has been responsible for the engagement since fiscal year 2021. The rotation cycle for the lead audit partner at EY is seven years.

Audit fees

The compensation of EY for services in connection with auditing the consolidated financial statements and as the independent audit firm

for most Group companies amounted to CHF 373 thousand (prior year: CHF 370 thousand).

Including the other audit firms, the total audit fees in the year under review amounted to CHF 437 thousand (prior year: CHF 437 thousand). The audit fees are set annually upon discussion with the Audit Committee and are based on the audit scope at the individual Group companies, any special in-depth audits and the auditing of protection against specifically identified risks.

Additional fees

In the fiscal year, EY received the following compensation for consulting services in connection with accounting and tax matters:

In thousands of CHF	2021	2020
Audit-related consulting services	10	10
Tax consulting services	206	254
Total consulting services	216	264

Information instruments pertaining to the external audit

The Audit Committee of the Board of Directors annually reviews the performance, compensation and independence of the audit firm. The Committee also examines the scope of the independent audit, reviews action plans developed to resolve any issues identified in the audit and recommends candidate independent auditors to the Board to propose for election by the Annual Shareholder Meeting. The Board has not specified a fixed rotation cycle. In selecting the external auditors, particular importance is attached to independence and documented experience.

After the first six months of the year, the Audit Committee at its meeting discusses the unaudited half-year results with the independent auditors. In addition, the annual financial statements are planned and the auditing costs for the fiscal year are approved. Additional meetings are held as needed.

After the audit of the annual financial statements, the Audit Committee convenes for a meeting at which it discusses the audited annual report for the fiscal year with the independent auditors. The audit firm reports its findings on the basis of a comprehensive report to the Board of Directors and through the reports of the independent auditors to the Annual Shareholder Meeting.

Further information is provided in the section "Board of Directors"/"Audit Committee".

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Compensation Report 2021

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01 Introduction

The compensation report has been prepared in accordance with the Ordinance against Excessive Compensation in Listed Stock Corporations (OAEC), the principles of the Swiss Code of Best Practice for Corporate Governance of *economiesuisse*, as well as the corporate governance reporting directive of the SIX Swiss Exchange (its Directive on Information Relating to Corporate Governance).

The compensation report discloses the compensation of the members of the Board of Directors and Executive Committee for fiscal years 2020 and 2021. The shareholdings of the Board and Executive Committee (disclosed in accordance with the Swiss Code of Obligations) are presented in the notes to the separate financial statements of Comet Holding AG within note 6, "Disclosure of shareholdings of the Board of Directors and Executive Committee". The expense for their compensation (disclosed in accordance with International Financial Reporting Standards) is presented in the consolidated financial statements of Comet Holding AG within note 32, "Compensation of the Board of Directors and Executive Committee".

02 OAEC-related provisions and compensation governance

02.1 OAEC-related provisions under the Articles of Association

Compensation-related provisions are specified in the Articles of Association and implemented in corresponding regulations of the Group. Articles 21 to 28 of the Articles of Association govern compensation approval, the compensation of the Board of Directors and Executive Committee, the composition of performance-based compensation, and the terms of stock awards.

Every year, the Board of Directors submits to the Annual Shareholder Meeting for approval its proposals for the maximum aggregate amounts of compensation of the Board of Directors and of the Executive Committee.

02.2 Shareholders' say on pay

Under the OAEC and the Articles of Association of Comet Holding AG, the amounts of the respective aggregate compensation of the Board of Directors and Executive Committee require shareholder approval in a binding vote at the Shareholder Meeting. Specifically, under article 21 of the Articles of Association of Comet Holding AG, shareholders vote on the following:

- The compensation of the Board of Directors for the coming term of office (prospectively)
- The fixed compensation of the Executive Committee for the next fiscal year after the year of the Annual Shareholder Meeting (prospectively)
- The performance-based compensation of the Executive Committee for the last fiscal year before the year of the Annual Shareholder Meeting (retrospectively)

The prospectively binding voting in combination with retroactive approval of the performance-related remuneration give shareholders an extensive "say on pay".

03 Determination of compensation and compensation principles

03.1 Determination of compensation

The design, regular review and evaluation of the compensation system are the responsibility of the Nomination and Compensation Committee (NCC). The composition and responsibilities of the NCC are outlined in the corporate governance report.

In fiscal year 2020, the NCC initiated an overall review of the compensation structure applicable to the Executive Committee with the support of Agnès Blust Consulting AG, independent Swiss experts for executive compensation. As a result of this review, the NCC discussed the potential redesign of the long-term incentive plan as a forward-looking performance share unit (PSU) plan based on a new set of key performance indicators and potential broader international peer group of companies in Comet's industry. In addition, the NCC explored the possibility of introducing an employee stock purchase plan (ESOP). These project activities are still in progress and the results will be presented in the 2022 compensation report.

Subject to the limits of the maximum aggregate amounts approved by the Annual Shareholder Meeting, the Board of Directors annually prepares the compensation proposals, as follows:

Decision on	CEO	NCC	Board of Directors	Shareholder Meeting
Compensation policy and guidelines under the Articles of Association		Proposes	Approves	
Maximum aggregate compensation of the Board of Directors		Proposes	Reviews	Binding vote
Individual compensation of Board members		Proposes	Approves	
Fixed compensation of the CEO		Proposes	Approves	Binding vote as part of vote on aggregate fixed compensation of Executive Committee
Fixed compensation of the other members of the Executive Committee	Proposes	Reviews	Approves	Binding vote as part of vote on aggregate fixed compensation of Executive Committee
Profit-sharing and LTIP plans of the CEO		Proposes	Approves	Binding vote as part of vote on aggregate variable compensation of Executive Committee
Profit-sharing and LTIP plans of the other members of the Executive Committee	Proposes	Reviews	Approves	Binding vote as part of vote on aggregate variable compensation of Executive Committee

On behalf of the Board of Directors, the external audit firm verifies whether the quantitative disclosures on compensation, loans and other credit made in the compensation report pursuant to articles 14 to 16 OAEC comply with the law and the OAEC.

03.2 Compensation of the Board of Directors

Compensation principles

Every year, the Board of Directors submits its proposal for the maximum aggregate amount of Board compensation to the Annual Shareholder Meeting for approval. The amounts of Board members' compensation are set to reflect the industry environment and are regularly reviewed against benchmarks. The latest such review was performed in fiscal year 2021. The compensation details are specified in a Board-approved compensation plan in the form of a set of regulations.

To ensure the independence of the Board of Directors in its supervision of the Executive Committee, the Board members receive only a fixed retainer, of which two-thirds is paid in cash and one-third is paid in stock. Hence, the compensation system for the Board of Directors does not have a performance-based element. The stock is subject to a holding period of three years from the date of the award during which it cannot be sold.

Structure of the compensation system

Overview of Board of Directors compensation structure:

In CHF (gross)

	Cash portion of retainer (two-thirds)	Stock portion of retainer (one-third)	Total reported value of compensation	Flat expense allowance (additional)
Chairman of the Board	132,000	66,000	198,000	8,000
Member of the Board	66,000	33,000	99,000	4,000

The reported compensation in section 4.1 includes the cash portion of the retainer, the value of the stock portion and, additionally, the actual employer contributions to social security plans. In addition, a flat expense allowance is provided, which is paid in cash. This allowance qualifies as reimbursement of expenses and is therefore not considered part of the compensation itself.

The Board members' normal term of office begins on the date following the day of the Annual Shareholder Meeting that elects them and ends on the date of the next Annual Shareholder Meeting. When a new member joins the Board of Directors, the compensation is paid on a pro-rated basis from the day of election. If a member leaves the Board before the end of a term, the retainer is calculated on a pro-rated basis to the date of departure. In the case of pro-rated retainers as well, two-thirds is paid in cash and one-third is paid in stock.

03.3 Compensation of the Executive Committee

Compensation principles

The compensation system is designed to attract and retain excellent management and specialist staff. Comet seeks to set compensation levels that reflect the individual levels of skills and responsibility in the Group and that bear comparison with other employers competing with Comet for talent. This aim is supported by a fair system of remuneration designed to match levels of pay offered by listed peer companies.

The compensation elements thus take into account short-term and long-term aspects of sustainable company performance and development. Comet believes that its remuneration architecture creates an effective link between compensation and performance that generates lasting value for shareholders.

The compensation of the Executive Committee is specified in Board-approved regulations. The CEO recommends the amounts of fixed compensation for the other Executive Committee members to the NCC. The NCC then prepares a specific proposal for the amounts of the individual fixed compensation of the CEO and each of the other Executive Committee members, for approval by the full Board of Directors. The NCC also bases its proposals on general experience and on levels of compensation at peer companies. The full Board of Directors periodically reviews, sets and approves the compensation levels, based on the proposal of the NCC. The latest review of the compensation of the Executive Committee was performed in fiscal year 2021 with the support of Korn Ferry, independent executive compensation experts. The analysis was conducted using the Korn Ferry Hay Guide Chart® Profile method of job evaluation, which provides a consistent and objective framework for analyzing organizational structures and developing an effective reward strategy.

Every year, the Board of Directors submits its proposals for the maximum aggregate amounts of Executive Committee compensation to the Annual Shareholder Meeting for approval, specifically:

- The fixed compensation of the Executive Committee for the next fiscal year after the year of the Annual Shareholder Meeting (prospectively)
- The performance-based compensation of the Executive Committee for the last fiscal year before the year of the Annual Shareholder Meeting (retrospectively)

To new members joining the Executive Committee during a period for which the Shareholder Meeting has already approved the compensation, Comet Holding AG or its subsidiaries are authorized to pay an additional amount if the already approved maximum aggregate amount is not sufficient to cover the compensation. The aggregate additional amount per compensation period must not exceed 40% of the approved maximum aggregate amount of compensation of the Executive Committee.

Structure of the compensation system

The remuneration consists of fixed compensation and a performance-based, profit-sharing component. The total compensation takes into account the recipient's position and level of responsibility. The profit-sharing compensation of the Executive Committee members is structured as a short-term incentive plan (STIP) and a long-term incentive plan (LTIP). It is designed to heighten the commitment of the CEO and the other Executive Committee members. The profit-sharing compensation is based on the regulations approved by the Board of Directors. The requirement for this group of individuals to draw part of their profit-sharing compensation in stock is detailed in a separate set of regulations.

Two-thirds of the compensation under the STIP is paid in cash and one-third of it is paid in stock. The compensation under the LTIP is paid only in stock. The grant price, at which the stock is awarded and transferred to recipients, is the average closing market price of the stock in the period between (and excluding) the date of the annual results press conference and the date of the Annual Shareholder Meeting.

The stock transferred under the STIP is subject to a holding period of three years from the date of the award, during which it cannot be sold. However, all other shareholder rights are effective during the holding period, including rights to dividends and similar distributions and the right to participate in Shareholder Meetings. Except as otherwise required by law, in the event of an attempted change of control of Comet Holding AG, the holding period on stock ends when a public tender offer is validly made. The holding period remains in place in all other cases, including in the event of termination. The stock awarded under the LTIP does not have a holding period.

There are individual upper limits on the total profit-sharing compensation of the CEO and the other members of the Executive Committee. The upper limit thus caps the individual's combined total of STIP and LTIP profit-sharing compensation. For the CEO this maximum (the upper limit for the combined total of STIP compensation and LTIP stock) is 200% of the fixed compensation. For each of the other members of the Executive Committee, this upper limit for the combined total of STIP compensation and LTIP stock is 150% of the fixed compensation.

The members of the Executive Committee have employment agreements with a notice period of not more than nine months. There is no entitlement to hiring bonuses or termination benefits of any kind, nor any provision in case of a change of control except for the waiving of the remaining holding period on the stock awarded under the STIP.

The compensation system is structured as follows:

Type of compensation	Form of delivery	Purpose	Drivers
Fixed compensation	Monthly payment in cash	Pay for position	Nature and level of position, individual qualifications, market conditions
Short-term profit-sharing plan (STIP)	Annual payment in cash	Profit-sharing based on corporate financial results	Corporate financial results in terms of profitable growth
Short-term profit-sharing plan (STIP)	Annual payment in stock (with a holding period)	Long-term alignment with interests of shareholders	Corporate financial results in terms of profitable growth
Long-term incentive plan (LTIP)	Annual payment in stock (without holding period)	Alignment with long-term corporate targets	Corporate financial results relative to the peer group in terms of achievement of two performance targets for growth and profitability over a three year period
Social benefits	Company pension, social security contributions, short-term disability and accident insurance	Risk protection	Local legislation and voluntary benefits in line with market
Flat expense allowance	Monthly payment in cash	Defraying of minor expenses	Local legislation, tax authorities
Other benefits, incl. benefits in kind	Costs paid directly by company or reimbursed in cash	Pay for position	Local market practice

Fixed compensation

All members of the Executive Committee receive fixed compensation that is paid monthly, as well as a flat expense allowance. The fixed compensation is determined by the individual's amount of responsibility, role, performance, experience and skills, and by local market conditions. These elements of compensation are paid in cash.

Short-term profit-sharing compensation (STIP)

In addition to the fixed compensation, the Executive Committee members are eligible for STIP profit-sharing compensation. The total pool of profit-sharing compensation is calculated as a percentage of the consolidated net income of the Group. This percentage rate is dependent upon the Group's rate of sales growth compared with the prior year. For fiscal year 2021, the percentage rate was determined according to the following model, unchanged from fiscal year 2020:

Sales growth	Percentage of net income
Less than 5%	15%
5% – 15%	Linear increase between 15% and 25%
More than 15%	25%

In all in fiscal year 2021, 25.0% of the Group's total consolidated net income (before profit-sharing) was accrued for distribution as short-term profit-sharing compensation (fiscal year 2020: 16.5%).

The members of the Executive Committee and all employees eligible for profit-sharing are assigned to one of five compensation groups. These five groups consist of the CEO, the other members of the Executive Committee, and, subdivided into three groups, the other eligible employees. Each compensation group is assigned a different multiplier. The values of the multipliers are set by the Board of Directors of Comet Holding AG. Within a given compensation group, the same multiplier is used for each member of the group. This multiplier together with the gross annual base salary determines the respective share assigned to the individual member of the Executive Committee and individual employee in the allocation of the total profit-sharing pool. The individual share of the total profit-sharing pool (under the STIP) is calculated using the following model:

a) Calculation of individual's percentage share of total profit-sharing pool

$$\frac{\text{Gross base salary of employee} \times \text{multiplier} \times 100}{\text{Total weighted gross salaries of all staff}^1} = \% \text{ share of total profit-sharing pool}$$

¹Represents the aggregate of the multiplier-weighted gross salaries of all employees and the retainers of the Board of Directors.

b) Calculation of effective profit-sharing compensation

$$\% \text{ share of total profit-sharing pool} \times \text{amount of profit-sharing pool that is actually distributed}$$

At least 80% of the profit-sharing pool is allocated among the members of the Executive Committee and all employees, using a general allocation formula. Up to an aggregate maximum of 20% of the profit-sharing pool may be allocated selectively to individual members of the Executive Committee or individual other employees, using an individual allocation formula. This is to enable the Board and the CEO to recognize individual performance distinctively. Performance is evaluated by the Board and CEO at the end of the fiscal year, and a decision is made on whether to allocate part or all of the 20% individual allocation pool to individual employees. Any unused portion of the individual allocation pool is also distributed by the general allocation formula. The Board of Directors did not allocate any of the 20% individual allocation pool in the year under review.

A precondition for paying any profit-sharing compensation is that, after the accrual of this distribution, the Group is still able to report positive consolidated net income. Members of the Executive Committee, or other employees, joining Comet intra-year participate in profit-sharing on a pro-rated basis. In the event of intra-year termination of the employment relationship, the pro-rated amount due is calculated based on the approved consolidated financial statements and is paid out in cash and stock upon approval of the profit-sharing compensation by the Annual Shareholder Meeting. Profit-sharing awards to the CEO and the other members of the Executive Committee are approved by the Board, with ratification by the shareholders at the Annual Shareholder Meeting as part of the binding retrospective vote on the compensation of the Executive Committee.

Long-term profit-sharing compensation (LTIP)

The aim of the LTIP, which was introduced in fiscal year 2017, is to tie the CEO and the other members of the Executive Committee more closely to the company and to strengthen the alignment of part of their compensation with the achievement of long-term corporate targets. Stock transferred under the LTIP does not have a holding period.

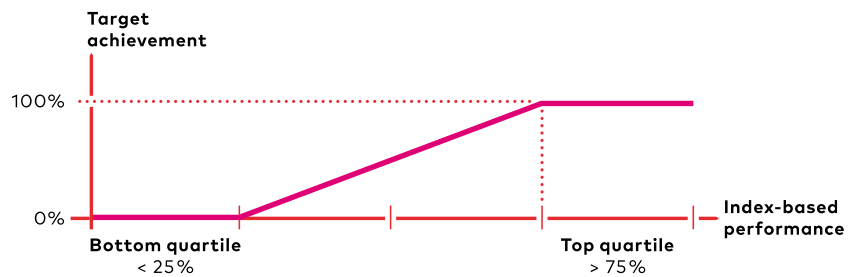
The amount of the LTIP compensation is dependent on the value of the stock earned as short-term profit-sharing compensation (STIP) in the previous three years. LTIP stock is granted each year based on the extent to which the performance targets for the previous three years were achieved. The LTIP amount is based on performance against the following two targets:

- a growth target (T1), and
- a profitability target (T2)

Target achievement is measured relative to a group of 13 listed Swiss manufacturing companies similar to Comet in revenue size and market capitalization.

Autoneum Holding AG	Interroll Holding AG	Rieter Holding AG
Feintool International Holding AG	Kardex Holding AG	Tecan Group AG
Gurit Holding AG	Komax Holding AG	u-blox Holding AG
Huber+Suhner AG	Phoenix Mecano AG	VAT Group AG
INFICON Holding AG		

For both targets, target achievement is assessed by measuring the index-based relative performance, thus comparing the Group's performance with that of the companies in the peer group. The degree of target achievement is 0% if the Group's result ranks in the bottom quartile of the index (i.e., among the 25% of companies with the lowest performance). Target achievement is 100% (the maximum) if the result attained is in the top quartile of the index (i.e., in the top 25% of all companies). If the result falls between these two outcomes, the percentage of target achievement is interpolated on a straight-line basis between 0% and 100%.



The value of the stock granted under the LTIP is based on the average annual achievement of the two performance targets (T_1 and T_2 , in percent) multiplied by the average annual value of the stock (V_s) actually transferred to employees in the preceding three years as STIP short-term profit-sharing compensation, multiplied by a calibration factor C :

$$\text{LTIP} = (T_1 + T_2)_s * V_s * C$$

Growth target T_1 : The growth target is defined in terms of the compound annual growth rate (CAGR) of sales for the respective last three years. The performance on this metric is compared with that of the peer group (a group of manufacturing firms listed on the Swiss stock exchange). The achievement of the growth target is measured by the relationship of the average CAGR of the Group over the last three years to the results of the peer group.

Profitability target T_2 : The profitability target is defined in terms of the average ratio of ROCE to WACC for the respective last three years (ratio of return on capital employed to weighted average cost of capital). The performance on this metric is compared with that of the peer group (a group of manufacturing firms listed on the Swiss stock exchange). The achievement of the profitability target is measured by the relationship of the average ROCE-to-WACC ratio of the Group over the last three years to the results of the peer group.

Calibration factor C : The calibration factor is set by the Board of Directors. The calibration is normally reviewed every three years and, when necessary, adjusted so that the long-term incentive corresponds to the performance of the company and the purpose of the LTIP. When doing so, the Board ensures the adjustment is fair to all participants. No such adjustment was made in the fiscal year.

Calculation of the value V_s of the average annual amount of STIP stock transferred: The amount of stock transferred under the LTIP is based on the value of the stock transferred under the short-term profit-sharing plan (STIP) over the last three years. That value of transferred STIP stock is measured as of the time of its transfer. For determining the amount of LTIP stock to be transferred in year n , the underlying average annual value of STIP stock, V_s , is calculated as follows:

$$V_s = \frac{1}{3} (V_{n-2} + V_{n-1} + V_n)$$

Where V_{n-2} represents the value of the stock transferred in year $n-2$, V_{n-1} represents the value of the stock transferred in year $n-1$, and V_n represents the value of the stock transferred in year n .

Target achievement is determined at the end of each year. As the data for the peer group companies only becomes available with a time lag, the current year-end data for Comet is compared with that data for the peer group which is available at December 31.

The amount of stock to be transferred under the LTIP is based on the amount of stock already transferred under the short-term profit-sharing plan and is thus inherently pro-rated in the case of an intra-year hire or promotion. Employees who have given or received notice of termination of employment are not entitled to the LTIP compensation for the year of their departure.

The long-term profit-sharing compensation is disbursed on the basis of the approved consolidated financial statements and the approval of the profit-sharing compensation by the Annual Shareholder Meeting of Comet Holding AG in the subsequent year.

In the event of a public tender offer for the stock of Comet Holding AG, the LTIP compensation for the fiscal years that are not yet compensated under the LTIP at the time the public tender offer is validly made, is paid entirely in cash instead of stock.

03.4 Compensation system for employees below the Executive Committee level

Compensation principles

The description in the next three paragraphs excludes the compensation systems for the Board of Directors and the Executive Committee, which are covered in separate sections above.

The compensation system for Comet's other employees has two main elements: All employees receive fixed compensation, and employees eligible for profit-sharing under the STIP may earn a performance-based pay component.

Structure of the compensation system

Fixed compensation

All employees receive fixed compensation that is paid monthly in cash. The fixed compensation is determined by the individual's amount of responsibility, role, performance, experience and skills, and by local market conditions.

STIP

The calculation of an individual's effective profit-sharing compensation is based on that portion of the total profit-sharing pool which has been allocated by the general allocation formula. In addition to that general portion, the Board of Directors may award an individual share of profit. Unlike the Executive Committee, the STIP for other employees is settled in cash only (i.e., it has no stock portion and thus involves no holding period). Detailed information on the determination of STIP profit-sharing compensation for employees is provided in section 3.3 "Compensation of the Executive Committee".

04 Disclosure of compensation of the Board of Directors and Executive Committee

The following disclosures represent all compensation of the members of the Board of Directors and Executive Committee and their related parties¹ for fiscal years 2020 and 2021, disclosed in accordance with the Ordinance against Excessive Compensation in Listed Stock Corporations (OAEC). Further details on the included individuals and their positions in the Group are provided in the corporate governance report within this annual report.

¹ Related parties are persons outside Comet who are related to members of the Board of Directors or Executive Committee within the meaning of article 678 of the Swiss Code of Obligations by virtue of close personal or economic ties in law or in fact.

04.1 Current members of the Board of Directors (including related parties)

The compensation of the Board of Directors is set at the Annual Shareholder Meeting for a period of one year. The Board's term of office, and therefore its annual compensation period, do not match the fiscal year.

The Annual Shareholder Meeting prospectively approves the Board's compensation for a period of one year, ending at the subsequent Annual Shareholder Meeting. The following tables show the actual compensation for the Board of Directors for fiscal year 2021 and 2020. As can be seen from the tables, the Board compensation for the term of office ending at the 2022 Annual Shareholder Meeting will be within the maximum aggregate amount approved by the Annual Shareholder Meeting. The aggregate amount of the Board's compensation was lower in fiscal year 2021 than in the prior fiscal year due to a reduction in the number of Board members.

Fiscal years 2021 and 2020

In CHF (gross)

	Total cash compensation ¹	Stock compensation ²	Total before social security contributions	Social security contributions ³	Total compensation in fiscal year 2021	Total compensation in fiscal year 2020
1/1/2020 to 4/23/2020						
Christoph Kutter, member	—	—	—	—	—	22,000
Franz Richter, member	—	—	—	—	—	22,000
1/1/2020 to 4/22/2021						
Rolf Huber, Vice Chairman	22,000	—	22,000	2,027	24,027	107,702
1/1/2020 to 12/31/2021						
Heinz Kundert, Chairman	132,000	66,000	198,000	—	198,000	211,968
Gian-Luca Bona, member	66,000	33,000	99,000	8,632	107,632	107,702
Mariel Hoch, Vice Chairwoman	66,000	33,000	99,000	8,632	107,632	107,702
Patrick Jany, member	66,000	33,000	99,000	8,632	107,632	107,702
4/22/2021 to 12/31/2021						
Tosja Zywietz, member	44,000	33,000	77,000	—	77,000	—
Board of Directors, total	396,000	198,000	594,000	27,923	621,923	686,777

Total Board compensation prospectively approved at the Annual Shareholder Meeting on April 22, 2021 and April 23, 2020, respectively

800,000 **700,000**

The total compensation paid to members of the Board of Directors (for the period from the Annual Shareholder Meeting to the year-end) plus estimated amounts yet to be paid in the following fiscal year (for the period from January to the next Annual Shareholder Meeting) are within the maximum aggregate amount approved by the Annual Shareholder Meeting indicated above

YES **YES**

¹ The compensation consists of a fixed retainer; two-thirds of it is paid in cash and disclosed in this item.

² This item represents the one-third of the fixed retainer which is paid in stock. The actual transfer of the stock occurs in the subsequent year. The stock is subject to a holding period of three years from the date of the award, during which it cannot be sold.

³ This item represents employer contributions to social security plans and to the family allowance fund. No pension fund contributions, short-term disability insurance premiums or accident insurance premiums are paid.

04.2 Current and former members of the Executive Committee (including related parties)

A total of seven persons served as Executive Committee members during fiscal year 2021. On average for the fiscal year, this represented 5.4 full-time equivalents (fiscal year 2020: 5.8). The total compensation of the current and former members of the Executive Committee, as well as the highest individual compensation, are presented in the table below. Former members of the Executive Committee are those members who were no longer active in the fiscal year but who, as a result of notice periods under their employment contracts, still received compensation.

Fiscal year 2021 In CHF (gross)	Footnote	Current Executive Committee members ¹	Former Executive Committee members ²	Total, Executive Committee	Of which K. Crofton (CEO)
Fixed compensation (cash)	3	2,006,699	—	2,006,699	650,000
Short-term incentive compensation (STIP, cash)	4	1,737,924	—	1,737,924	794,748
Short-term incentive compensation (STIP, stock)	5	868,962	—	868,962	397,374
Long-term incentive compensation (LTIP, stock)	6	104,595	—	104,595	44,297
Subtotal		4,718,180	—	4,718,180	1,886,419
Other benefits, incl. benefits in kind	7	24,776	—	24,776	20,112
Employer contributions to social security plans	8	436,750	—	436,750	180,360
Retirement benefits	9	310,659	—	310,659	148,580
Total compensation to members of the Executive Committee		5,490,365	—	5,490,365	2,235,471

¹ The composition of and changes in the Executive Committee membership are presented in the corporate governance report.

² In the fiscal year, no compensation was paid to former Executive Committee members.

³ For their work, the members of the Executive Committee receive a fixed compensation component, which is paid in cash. This item also includes any other, one-time cash compensation, such as length-of-service awards.

⁴ This item represents the portion of the STIP compensation paid in cash for 2021, which is calculated based on the criteria of the compensation system. The actual payment occurs in the respective subsequent year.

⁵ This item represents the portion of the STIP compensation paid in stock for 2021. The actual transfer of the stock occurs in the respective subsequent year. The stock is subject to a holding period of three years from the date of the award, during which it cannot be sold.

⁶ This item represents the LTIP compensation awarded for 2021, all of which is paid in stock. The actual transfer of the stock occurs in the respective subsequent year.

⁷ This item represents the annual cost of public ground transportation for certain members of the Executive Committee for 2021.

⁸ This item represents employer contributions to the old age and survivors (AHV) and unemployment insurance plans (ALV), to the family allowance fund (FAK) and to the short-term disability insurance and accident insurance plans.

⁹ This item represents employer contributions to the employee pension plans.

Fiscal year 2020					
In CHF (gross)	Footnote	Current Executive Committee members ¹	Former Executive Committee members ²	Total, Executive Committee	Of which M. Kammerer (President, PCT division)
Fixed compensation (cash)	3	1,529,849	182,500	1,712,349	300,000
Short-term incentive compensation (STIP, cash)	4	307,774	55,914	363,688	64,572
Short-term incentive compensation (STIP, stock)	5	153,887	27,957	181,844	32,286
Long-term incentive compensation (LTIP, stock)	6	3,437	—	3,437	1,040
Subtotal		1,994,947	266,371	2,261,318	397,898
Other benefits, incl. benefits in kind	7	12,553	—	12,553	—
Employer contributions to social security plans	8	185,353	26,970	212,323	40,292
Retirement benefits	9	197,744	35,907	233,651	50,481
Total compensation to members of the Executive Committee		2,390,597	329,248	2,719,845	488,671

¹ The composition of and changes in the Executive Committee membership are presented in the corporate governance report.

² In 2020, compensation was paid to two former Executive Committee members: René Lenggenhager and Prisca Hafner.

³ For their work the members of the Executive Committee receive a fixed compensation component, which is paid in cash. This item also includes any other, one-time cash compensation, such as length-of-service-awards.

⁴ This item represents the portion of the STIP compensation paid in cash for 2020, which is calculated based on the criteria of the compensation system. The actual payment occurs in the respective subsequent year.

⁵ This item represents the portion of the STIP compensation paid in stock for 2020. The actual transfer of the stock occurs in the respective subsequent year. The stock is subject to a holding period of three years from the date of the award, during which it cannot be sold.

⁶ This item represents the LTIP compensation awarded for 2020, all of which is paid in stock. The actual transfer of the stock occurs in the respective subsequent year.

⁷ This item represents the annual cost of public ground transportation for certain members of the Executive Committee for 2020.

⁸ This item represents employer contributions to the old age and survivors (AHV) and unemployment insurance plans (ALV), to the family allowance fund (FAK) and to the short-term disability insurance and accident insurance plans.

⁹ This item represents employer contributions to the employee pension plans.

04.3 Shareholders' say on pay regarding Executive Committee compensation and compensation mix

The tables below provide a comparison of the prospective approval of the fixed compensation and the retrospective approval of the variable compensation of the Executive Committee members by the Annual Shareholder Meeting. For fiscal years 2021 and 2020, the fixed compensation was within the maximum aggregate amount approved by the Annual Shareholder Meeting. In addition, the subsequent information provides an overview of the compensation mix for 2021 and 2020.

In CHF (gross)	Total, Executive Committee	
	2021	2020
Fixed compensation		
Fixed compensation - cash portion	2,006,699	1,712,349
Employer contribution to social security and, retirement plans that is based on fixed compensation and other benefits, incl. benefits in kind	522,432	408,958
Total fixed compensation	2,529,131	2,121,307
Prospective approval of total fixed compensation by the preceding Annual Shareholder Meeting	3,500,000	3,300,000
Within range	YES	YES

In CHF (gross)	Total, Executive Committee	
	2021	2020
Variable compensation		
Short-term incentive compensation (STIP) – cash portion	1,737,924	363,688
Short-term incentive compensation (STIP) – stock portion	868,962	181,844
Long-term incentive compensation (LTIP) – stock	104,595	3,437
Employer contribution to social security and retirement plans that is based on variable compensation	249,753	49,569
Total variable compensation	2,961,234	598,538
Total variable compensation retrospectively approved by the subsequent Annual Shareholder Meeting		598,538

In CHF (gross)	Total, Executive Committee		Highest-paid member of the Executive Committee	
	2021	2021	2020	2020
Total compensation to members of the Executive Committee	5,490,365	2,235,471	2,719,845	488,671
Total fixed compensation in % of total compensation	46%	40%	78%	78%
Total variable compensation in % of total compensation	54%	60%	22%	22%
Variable compensation paid in cash in % of total STIP/LTIP variable compensation (excl. social security/retirement benefits)	64%	64%	66%	66%
Variable compensation paid in stock in % of total STIP/LTIP variable compensation (excl. social security/retirement benefits)	36%	36%	34%	34%

04.4 Supplementary information on compensation

In fiscal year 2021, no signing bonuses were paid to present or former members of the Board of Directors or of the Executive Committee (fiscal year 2020: nil). No termination benefits were granted or paid (fiscal year 2020: nil).

In fiscal year 2021, no transactions with related parties were recorded (fiscal year 2020: nil) and no interim management contracts were in place (fiscal year 2020: nil).

No loans or other credits were granted to members of the Board of Directors or Executive Committee in the year under review (fiscal year 2020: nil). No loans or other credits were outstanding at the balance sheet date (December 31, 2020: nil). As well, Comet has not provided any guarantees or other security in the year under review (fiscal year 2020: nil).

No material changes related to compensation have occurred after the balance sheet date of December 31, 2021.

05 Disclosure of shareholdings of the Board of Directors and Executive Committee

As of December 31, 2021, the members of the Board of Directors and Executive Committee held a combined total of 0.3% of the outstanding shares of Comet Holding AG (December 31, 2020: 0.5%).

A detailed analysis of the shareholdings of the members of the Board of Directors and Executive Committee is presented in the notes to the separate financial statements of Comet Holding AG, in note 6.

06 Proposals to the 2022 Annual Shareholder Meeting for compensation of the Board of Directors and Executive Committee

At the 2022 Annual Shareholder Meeting, the Board of Directors will propose the resolutions for the compensation of the Board and the Executive Committee.

The detailed proposals and the supporting reasoning will be delivered to shareholders with the notice of the 2022 Annual Shareholder Meeting.

07 Compensation outlook for 2022

In fiscal year 2021, a review of the Board of Directors' compensation structure was conducted. A revised framework will take effect after the Annual Shareholder Meeting of April 14, 2022. The main change is that the new structure will involve a combination of an annual fixed board retainer and additional committee fees, with the committee fees paid as a fixed annual amount. The board compensation is delivered as a mix of cash and stock compensation. To better reflect the performance of the market and of the company, 60% (previously 66.6%) of the fee will be paid in cash and 40% (previously 33.3%) will be paid in stock. The Board Chair will be paid a flat, all-inclusive retainer, while the other Board members will be compensated through a combination of a fixed retainer and committee fees. This structure corresponds to standard market practice for companies listed on the SIX Swiss Exchange.



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To the General Meeting of
Comet Holding Ltd., Flamatt

Berne, 1 March 2022

Report of the statutory auditor on the compensation report

We have audited the compensation report of Comet Holding Ltd. for the year ended 31 December 2021. The audit was limited to the information according to articles 14–16 of the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance) contained in Section 04 – Disclosure of compensation of the Board of Directors and Executive Committee on pages 165 to 168 of the compensation report.



Board of Directors' responsibility

The Board of Directors is responsible for the preparation and overall fair presentation of the compensation report in accordance with Swiss law and the Ordinance. The Board of Directors is also responsible for designing the remuneration system and defining individual remuneration packages.



Auditor's responsibility

Our responsibility is to express an opinion on the compensation report. We conducted our audit in accordance with Swiss Auditing Standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the compensation report complies with Swiss law and articles 14–16 of the Ordinance.

An audit involves performing procedures to obtain audit evidence on the disclosures made in the compensation report with regard to compensation, loans and credits in accordance with articles 14–16 of the Ordinance. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatements in the compensation report, whether due to fraud or error. This audit also includes evaluating the reasonableness of the methods applied to value components of remuneration, as well as assessing the overall presentation of the compensation report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.



Opinion

In our opinion, the compensation report for the year ended 31 December 2021 of Comet Holding Ltd. complies with Swiss law and articles 14–16 of the Ordinance.

Ernst & Young Ltd

MARTIN MATTES
Licensed audit expert
(Auditor in charge)

PHILIPPE WENGER
Licensed audit expert

Sustainability 2021

Material Topics

Environmental

- Materials Compliance
- Environmental Management System and Compliance
- Energy Management and Carbon Emissions

Social

- Employer Attractiveness
- Employee Health and Safety
- Responsible Supplier Standards
- Diversity, Equity and Inclusion
- Community Engagement

Governance

- Ethics and Compliance
- Trade Compliance

Economic

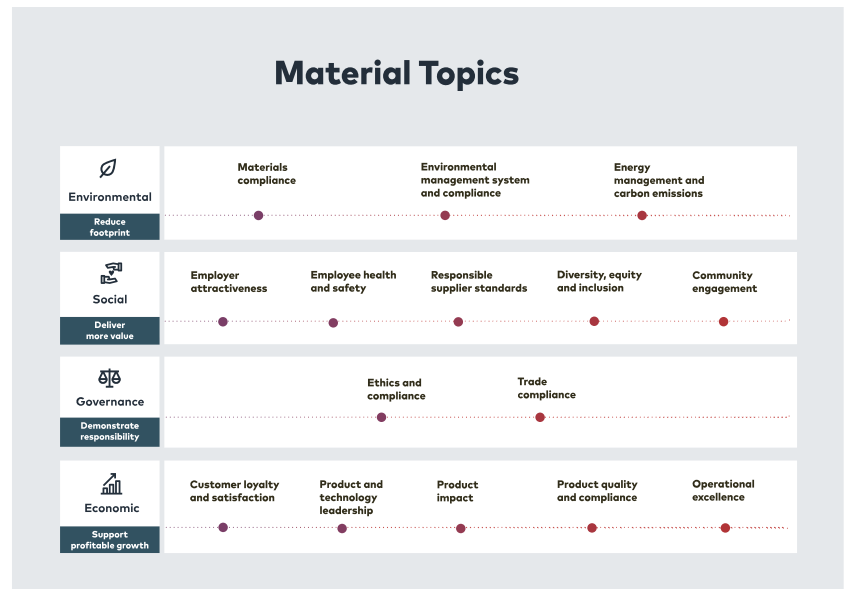
- Customer Loyalty and Satisfaction
- Product and Technology Leadership
- Product Impact
- Product Quality and Compliance
- Operational Excellence

GRI Content Index

GRI Report of the Comet Group

Materiality analysis

For fiscal year 2021, we are for the first time presenting an integrated annual report and a separate GRI report that provide information on both our financial and our non-financial performance in the reporting year. The content of the GRI report is based on an assessment, known as materiality analysis (GRI 102-46, GRI 102-47), of those issues in our value chain that have the greatest impact on the environment, society and the economy in the medium and long term.



The material topics shown above were developed in three steps. First, from a large number of topics, a shortlist of possible material issues was drawn up with the support of outside experts. This selection was made on the basis of the Comet Group's corporate profile. In the second step, a materiality analysis in accordance with GRI standards was carried out in an expanded project group. As part of this analysis, the topics were assessed in terms of their relevance to stakeholders, their impact on the sustainable development of the company and – as a third dimension – their relevance for value generation. This three-dimensional approach ensures that the results support not only corporate reporting but also strategy development. In the final step, the draft materiality matrix was discussed, adapted, and approved by the Executive Committee.

This first-ever materiality analysis was performed without the involvement of external stakeholders, but with support from recognized external experts. In order to take into account the perspective of the various stakeholders on a proxy basis, employees from all levels of the organization, from all divisions and from a variety of other functions were included in the process.

As a result of this process, the 15 topics shown above were identified as material. More information on the individual topics is provided in the relevant sections of the annual report and in the GRI report.

To improve performance on our material topics, we closely partner with Comet's stakeholders. Our key stakeholders are our employees, customers, suppliers, and shareholders (GRI 102-40). Some of these stakeholders have a direct impact on the improvement of material issues, while others are impacted by our actions (GRI 102-42). We are therefore in regular communication with those stakeholders, in some cases on a daily basis. Typical interactions include quarterly "all hands" conference calls between the CEO and CFO and the employees, interactions on the Yammer social networking platform, regular meetings and calls with customers and suppliers, investor conferences, capital markets days with financial analysts and shareholders, and the annual shareholder meeting (GRI 102-43). In 2021, interactions with stakeholders resulted in management actions such as increasing inventories to manage supply chain issues, virtual installations of x-ray systems, and the initiation of an ESG program (GRI 102-44).

Environmental

Materials Compliance

Materials compliance is compliance with any laws, regulations and specifications that restrict or even prohibit the use of various substances and/or materials in products, including, for instance, environment-related legislation, international law, religiously motivated specifications and specifications by companies. As a manufacturer of industrial products, an indispensable requirement for doing business worldwide is compliance with regulations relevant to the environment and market access – such as Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), Restriction of Hazardous Substances (RoHS), and the Toxic Substances Control Act (TSCA) – as well as with legislation driven by international law and ethics, including Conflict Minerals legislation, the Dodd-Frank Act and Regulation (EU) 2017/821.

We are committed to provide our customers with the highest-quality supply chain that meets all established product performance standards and expectations. Our purchasing department maintains these high standards by continuously evaluating the performance of our established suppliers.

Comet's Supplier Code of Conduct (Supplier CoC) is based on the Code of Conduct of the Responsible Business Alliance (RBA) and sets out the basic requirements for our suppliers and external service providers regarding their responsibility toward their stakeholders and the environment. We reserve the right to amend the requirements of our Supplier CoC to reflect changes in our compliance policies.

In addition to supplier self-declaration in the form of the signed Supplier CoC, we work with third-party supply chain specialist Assent Compliance Inc. The Assent platform collects the data required to comply with REACH, RoHS, Conflict Minerals and TSCA. This solution provides

assurance that our suppliers are compliant with all relevant laws and regulations. Suppliers who do not submit data to Assent are contacted directly by us and requested to provide the necessary documentation. When appropriate, we work together with our suppliers to identify actions to achieve improvement. However, we reserve the right to terminate the business relationship with the supplier subject to applicable laws if the supplier fails to comply with the code, and we reserve the right to take legal action against the supplier.

The responsibilities for the processes are mapped in the Comet Group management system. Essentially, the specifications for materials compliance are made at the Group level by the Vice President of Global Operational Excellence (VP GOE), who reports directly to the CEO. The VP GOE defines the compliance regulations together with the Group legal experts. The responsibility for implementation in the regions rests with the divisions, and accountability for it lies with the respective country general managers. Materials compliance activities are coordinated worldwide within the Quality & Excellence Board.

Environmental Management System and Compliance

The principle of sustainability is an integral part of Comet's corporate culture. We strive to offer our customers high-quality products and services while avoiding environmental risks and producing in a resource-conserving manner. The principles of this approach are set out in the Comet Group's Quality, Environmental and Safety Policy, with supplementary information in the Code of Conduct.

While all our production and research and development sites are certified to ISO 9001:2015, only Yxlon International (IXS division) in Hamburg has designed and implemented an environmental management system in accordance with ISO 14001:2015. Smaller entities with only sales and marketing activities are not certified. To ensure compliance with environmental regulations, however, internal audits, customer and certification audits, benchmarking and best-practice applications are conducted at regular intervals at all production sites.

Comet plans to achieve one single Group-wide ISO 9001 and ISO 14001 certification by 2023. As most of Comet's major sites will be due for recertification in 2023, that year will be a natural opportunity to unify the quality management systems and achieve single certification.

The Vice President of Global Operational Excellence (VP GOE) is responsible for the performance of the Comet quality management system, including the process framework and architecture. The VP GOE drives the definition, implementation, and improvement of Group-wide processes in close cooperation with the divisions. Among other responsibilities, the VP GOE sets minimum standards for non-financial KPIs and ensures certification and compliance with ISO standards. In this function, support comes from various boards and councils, such as the Operations Council and the Quality & Excellence Board, which includes the Q&E heads of the divisions. Accountability for environmental compliance lies with the country general manager of each country, while responsibility for this topic lies with the division country manager. In the year under review, the Comet Group did not face any ongoing or completed proceedings for non-compliance with environmental laws or regulations. Likewise, no fines were imposed on the company.



Successful recertification of IXS

Two external auditors audited the management system of IXS in a total of 36 hours of audit meetings. IXS achieved recertification to ISO 9001:2015 and ISO 14001:2015. The certification has great importance for the division, as customers prefer to work with reliable partners who both operate according to a standardized management system such as ISO 9001 and are exemplary in terms of sustainability, compliance with environmental regulations, and resource-efficient systems and services (ISO 14001).

ISO certification of new production site in Penang, Malaysia

Comet has established a manufacturing operation for the PCT division in Penang, Malaysia, which was successfully certified under ISO 9001:2015 in September 2021.

Energy Management and Carbon Emissions

All steps of the Comet value chain involve energy consumption and associated greenhouse gas emissions. Electricity consumption dominates in the production and use phases of the products. Energy consumption and emissions in the upstream chain are also significant, especially in the production and transport of raw materials and semi-finished products.

Thus far, Comet has focused on energy management in its production and has adopted a decentralized approach, setting division- and site-specific environmental targets, providing the appropriate resources and structures, and regularly reviewing target achievement. With this annual report 2021, Comet has consolidated and reported Group-wide environmental KPIs for its production (Scope 1 and 2) for the first time.

Certificate of the Swiss Private Sector Energy Agency
Voluntary Climate Protection and Energy Efficiency



COMET AG
COMET AG is convinced of the need to stand up for sustainable climate protection, by actively ensuring its adherence to the Swiss Private Sector Energy Agency programme. COMET AG commits to actively reducing CO₂ emissions and optimising energy efficiency. The Swiss Federal Government, cantons and private sector partners honor its engagement.

Signature 1 *Signature 2*
Swiss Private Sector Energy Agency 27 January 2021 Swiss Private Sector Energy Agency

ENERGY AGENCY
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Environmental metrics ¹⁾		2020
Energy consumption (total)	MWh	15,787
Electricity (total)	MWh	11,571
of which renewable	MWh	8,283
Heating (total)²⁾	MWh	3,637
Natural gas	MWh	2,535
LPG/propane	MWh	1,102
Fuels (total)	MWh	579
Diesel	MWh	467
Petrol	MWh	112
Greenhouse gas emissions (total)³⁾	tCO₂e	2,923
Greenhouse gas emissions (total)		
Scope 1 (total)	tCO₂e	927
Heating	tCO ₂ e	774
Fuels	tCO ₂ e	153
Scope 2 (total)	tCO₂e	1,996
Electricity ⁴⁾	tCO ₂ e	1,996
Resource efficiency metrics ¹⁾		2020
Waste (total)	t	513
Water consumption	m³	21,151

¹⁾ Scope covers all of Comet's companies excluding Comet Solutions Taiwan Ltd., Comet Technologies Japan KK, Comet Technologies Korea Co. Ltd., and Object Research Systems (ORS) Inc.

²⁾ Does not include Comet Technologies USA, Inc., Shelton, and Yxlon X-Ray Equipment Trading Co. Ltd., Beijing.

³⁾ Calculations in accordance with the WRI/WBCSD Greenhouse Gas Protocol guidelines. Scope 1: GHG emissions from own sources, e.g., boilers and fuels. Scope 2: GHG emissions stemming from the

⁴⁾ production of electricity and district heating. Sources for emission factors: Defra & IEA.

With the exception of Flamatt, greenhouse gas emissions associated with the production of electricity were accounted for in accordance with the 'location-based approach' under the Greenhouse Gas Protocol Scope 2 standard. No emissions stem from electricity consumption in Flamatt, as the site runs entirely on renewable electricity.

We are fully committed to developing a roadmap for our Group-wide production to become more energy-efficient and increase the share of green electricity in our energy mix. In a broader context, we also started to further refine the Group's approach to energy management and emission reduction.

For energy management and carbon emissions, the same management approach with the same roles and responsibilities is followed as described in the section on the material topic of "environmental management systems and compliance".

In order to achieve sustainable ongoing improvements in our electricity consumption and thus our environmental performance, we launch several projects each year to increase our energy efficiency.



Read more [about our efforts to use energy more efficiently](#)

Innovative HVAC design at Comet's Swiss headquarters

In November 2021, Comet and external project manager Alain Escher of Eicher+Pauli AG were announced as winners of the "4th Building Award", organized by the Swiss foundation for the promotion of young engineers in civil engineering, in the "Young Professionals" category. The award recognizes outstanding engineering achievements in the construction industry. As part of the 2018 expansion of the Flamatt site by the addition of a second building with an area of 18,000 square meters, a holistic, forward-thinking, cross-site HVAC energy concept for heating, ventilation and air conditioning was developed. As a result, Comet achieved greater flexibility of utilization, increased use of renewable energy and exhaust heat, and thus an all-round economical solution.



Beyond an overall reduction of 350 MWh in electricity consumption per year, Comet gained improved production reliability and better redundancies to ensure security of process cooling. In addition to the environmental benefits of the project, Comet supported a young building process engineer in the person of Alain Escher who is highly motivated to contribute to achieving the energy targets set by the Swiss government.



Certified renewable energy

In Flamatt, Switzerland, we have decided to rely exclusively on electric power from renewable sources. In 2020, we received a certificate from our electricity supplier, Group E AG, stating that it sources 100% renewable energy from European hydropower plants. The certificate is valid for the years 2020 to 2022. With this decision, we contribute to the conservation of natural resources and set a concrete example of a conscious approach to the environment.

Social

Employer Attractiveness

People are our most important asset. In view of the shortage of skilled personnel, particularly of research and development experts and engineers, we are expanding activities that support our visibility and attractiveness as an employer. Networking, attracting and retaining talented young people early on, during their studies, is therefore high on the agenda, along with identifying and developing diverse talents within the company and ensuring an attractive, flexible and inclusive work environment. We thus initiated a partnership with the University of Illinois Urbana-Champaign in 2021 to support students, invested in a workshop facility for training apprentices at the Swiss site in Flamatt and supported a research project at the Swiss Federal Institute of Technology (ETH) in Zurich. Since 2021, Comet also has a new program for the continuous and systematic identification and development of in-house talents. The general terms of employment were enhanced. In Switzerland in summer 2021, Comet received the Fair-ON-Pay+ certificate for gender pay equity.

The retention and engagement of our employees and their loyalty to the company play just as important a role as hiring new talents. We therefore periodically conduct market benchmarking and perform employee pulse surveys to monitor the level of satisfaction and engagement of our employees, and, when needed, initiate measures to strengthen it. In order to recruit new talents, we conduct needs analysis and regularly review policies and regulations, adjusting them as appropriate.

We also value the employee retirement experience. Our Human Resources team focuses on successful transitions, whether the employee is retiring or leaving the company voluntarily or involuntarily.



In 2019 and again in 2021, we conducted a worldwide engagement survey. This "pulse check" confirmed the good progress made toward becoming a higher-performing organization. The message from it was that we should continue on our chosen path and improve organizational development and, where necessary, improve organizational development and excellence in appropriate ways. For example, it was recommended to:

1. Continue to leverage go-to-market initiatives, such as a common Group framework for sales processes and the introduction of global sales training with one integrated, state-of-the-art training program
2. Focus on integrated talent management, improving talent acquisition in a very competitive market for top talents, developing and retaining our top talents and providing diverse career opportunities within the Group.

To address the latter thrusts, we implemented initiatives to develop talent, train apprentices in our own apprentice workshops, and offer progressive social benefits as an important part of our culture.

With respect to training, we provide our employees at all levels with regular vocational training in subjects such as quality and excellence, health and safety, product and sales, management and leadership. For example, 90% of our employees have completed at least one corporate compliance eLearning module. At the senior management level, we worked with the IMD business school to further develop as one company and one global team. A key focus was to strengthen and refine our culture, our values and our behaviors. We deepened our common values of trustful collaboration, of customer orientation and of challenging and empowering. Those values were then conveyed and reinforced in dedicated training sessions for 240 team leaders and, subsequently, by each of these leaders to their teams in workshops. In addition, Comet enabled sales training for 75 employees and provided corporate governance-related training for all staff. Comet also launched a new program in 2021 to systematically identify and develop talents already present in the Group.

Composition of the workforce	2021	
	Male	Female
Workforce by employment contract	1,191	380
Permanent	1,057	317
Temporary	134	63
Workforce by employment type ¹⁾	1,057	317
Full-time	958	250
Part-time	99	67

¹⁾ permanent staff only

Workforce by category ¹⁾	2021	
	Male	Female
Total	1,057	317
Production-related	577	134
Marketing and sales	150	64
General and administration	86	94
Research and development	244	25

¹⁾ permanent staff only

Turnover by gender ¹⁾	2021	
	Entries	Departures
Total	241	183
Male	179	145
Female	62	38

¹⁾ permanent staff only

Employee Health and Safety

Both our products and our manufacturing processes require appropriate attention and compliance with health and safety standards. The basic principles for this are set out in the Quality, Environmental and Health & Safety policy.

Occupational safety is ensured, practiced and documented in our management system, which covers all employees, without exception, including external/temporary service providers, i.e., anyone working on our sites and in our buildings. Depending on the location, the organization of health and safety is tailored to the size of the unit and the potential hazards. In all locations, the local laws and regulations are reflected in how we safeguard health and safety. In Germany, for example, these include the Occupational Safety and Health Act ("Arbeitsschutzgesetz") and the rules and regulations of the Social Accident Insurance system ("Deutsche Gesetzliche Unfallversicherung"), while in Switzerland, key norms are the ten points of the Federal Coordination Commission for Accident Safety ("Eidgenössische Koordinationskommission für Arbeitssicherheit", or EKAS).

Very importantly, besides these legal and regulatory requirements and the business continuity aspect, we also have an ethical and moral obligation to our employees. We have no higher priority than to protect the safety and health of those who work for us, and we strive to reduce the number of accidents to an absolute minimum. As notable examples,

the use of lasers and chemicals as well as the emission of ionizing radiation in our production processes require corresponding measures to protect our employees from exposure to those potentially dangerous sources.

Our management cares about the well-being of our employees and customers. The organizational units of our company and all employees are responsible for safety and health at work. We are committed to comply with the appropriate laws and safety standards and conduct annual audits, depending on location and exposure. Beyond this, we report deficiencies or violations immediately so that they can be remedied as quickly as possible or avoided in the future, and strive for improvements in safety at work.

Preventive measures are essential to us. Occupational health and safety are regularly addressed in training or development. Each employee should feel physically and mentally comfortable at work and in the work environment.

The achievement of and improvement in occupational health and safety objectives is ensured by continuous process monitoring and review of the effectiveness of these processes. Policies and guidelines are reviewed at regular intervals to ensure that the management system is up to date and effective. If necessary, they are amended. Such reviews are also and especially triggered by changes in customer requirements.

The responsibilities for health and safety are mapped in the Comet Group management system. Essentially, the country general manager ensures and is accountable for compliance with the local health and safety standards and procedures. Their implementation is the responsibility of the country division general managers.

Thanks to the deeply entrenched awareness of occupational health and safety in our Group, we had no fatalities in our factories in the year under review.



Occupational health and safety management in practice

Identifying work-related hazards and assessing related risks is of the utmost importance in reducing the number of accidents. In Switzerland, for example, a risk assessment is carried out by occupational physicians and other occupational safety specialists (“ASA specialists”). The risks are then classified according to the risk portfolio. To ensure the quality of these processes, a systematic revision of the portfolio is performed, and new jobs are integrated. The results then feed into the EKAS ten-point system for occupational health and safety management.

Should a work-related hazard or a hazardous situation still occur, employees and workers can report by means of the two-part “Safer card”. The first part is filled out by the employee or worker with his or her assessment, so that the hazard is immediately signposted. The second part is used by the manager to record a hazard report. The hazard must be eliminated within 24 hours. In addition, an employee may refuse to work if the situation is too dangerous for him or her, as Comet is committed to the safety charter of Suva, the Swiss Accident Insurance Agency (“Schweizerische Unfallversicherungsanstalt”).

If a work-related incident occurs, an investigation is carried out. When appropriate, a root cause analysis is performed with the involvement of external specialists.

Comet has issued and integrated into its management system a comprehensive portfolio of policies and guidelines for all types of hazards, notable examples being the Comet AG Safety Regulations, the guideline for external companies/contractors, and the guideline for dealing with non-ionizing radiation (NIR) and noise sources. Employees and workers are involved in the development, implementation and evaluation of the occupational health and safety management system through the application of element 8 of the ten-point EKAS, which deals with the inclusion of employees. The employees are included in the planning of measures, especially important when purchasing personal protective equipment. Upon joining the company, continual in-depth safety training is provided depending on the employee’s role. In addition, occupational health and safety is regularly addressed in training and development.

Occupational health and safety metrics ¹⁾	2021
Injuries ²⁾	35
Lost workdays due to work-related injuries	120
Lost workdays due to illness	6,739

¹⁾ Scope covers all of Comet’s companies excluding Comet Solutions Taiwan Ltd., Comet Technologies

²⁾ Japan KK, Comet Technologies Korea Co. Ltd., and Object Research Systems (ORS) Inc.

Injury arising out of, or in the course of work. Definition of injury according to local labour law (if applicable), otherwise according to internal organizational provision: recordable injuries only.

Responsible Supplier Standards

We are committed to provide our customers the highest quality supply chain that meets all established product performance standards and expectations. Our purchasing department maintains these high standards by continuously evaluating the performance of our established suppliers.

The Supplier Code of Conduct (Supplier CoC), which has been in force since January 1, 2021, is based on the Code of Conduct of the Responsible Business Alliance and sets out the basic principles and requirements for Comet suppliers and external service providers regarding their responsibility towards their stakeholders and the environment. The Supplier CoC covers the following topics:

- Compliance with the law
- Prohibition of corruption and bribery
- Fair competition conditions, antitrust laws and intellectual property rights
- Conflicts of interest
- Respect of the fundamental human rights of workers
- Prohibition of child labor
- Health and safety of employees
- Environmental protection
- Supply chain
- Materials compliance

By signing the Supplier CoC, our suppliers agree to abide by the principles and requirements of this Code in addition to their obligations under other contracts with us. We reserve the right to amend the requirements of the Supplier CoC to reflect changes in our compliance policies.

In general, we do not operate in business sectors or regions that pose significant risks, including risks related to child labor or to the respect for the fundamental human rights of employees. Concerning child labor, our suppliers certify that they do not hire workers who are less than 15 years of age (in accordance with ILO Convention 138) and that they comply with the domestic standards for the protection of children. Regarding forced or compulsory labor, our suppliers certify that they respect the fundamental human rights of workers, such as, among other aspects, refusing to hire or allow someone to work against their will.

To minimize the risk of violations of the Supplier CoC, we strive for long-term partnerships with reliable suppliers. However, if a supplier has knowledge of abusive behavior by the supplier or one of our employees, or if the supplier suspects such behavior, the supplier must inform us immediately. In addition, suppliers agree that we, the Comet Group, including our subsidiaries or designated agents (which includes third parties), may verify compliance with the Supplier CoC, including through audits, on-site inspections of facilities or the review of books and records. In case of a nonconformance, we follow the procedure set out in the ISO 9001 standard. When appropriate, we work together with our suppliers to identify measures to resolve issues. However, we reserve the right to terminate the business relationship with suppliers (subject to applicable laws) if they fail to comply with

the Supplier CoC. We also reserve the right to take legal action against them.

Other important elements of the Supplier CoC are social and environmental aspects. By signing the code, suppliers promise, for example, to:

- Promote equal opportunity and equal rights for employees regardless of color, ethnicity, national origin, social background, disabilities, sexual orientation, political or religious beliefs, gender or age
- Not tolerate any unacceptable treatment of workers, such as psychological violence, sexual harassment or discrimination, and
- Act in accordance with applicable legal requirements and international standards regarding environmental protection.

Diversity, Equity and Inclusion

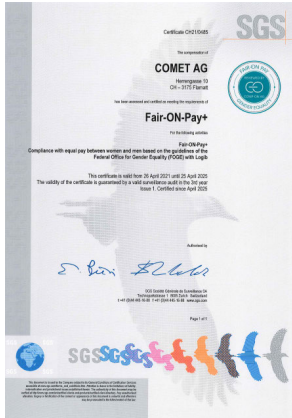


Read more about how we encourage diversity of perspectives and develop talents

We see diversity, equity, and inclusion (DEI principles) and the belonging of all people as key to our business success. We believe that by embracing diversity, we are more successful in recruiting talent, better aligning ourselves with customers, increasing employee satisfaction, and providing a better, broader foundation for decision-making. Evidence shows that companies which cultivate diversity, equity and inclusion are more successful in the long term.

Our Code of Conduct as well as our equal opportunity employer guideline state that no employee may be discriminated against by the company or by other employees. We are strongly committed to providing equal opportunity in every aspect of employment. Discrimination against employees by the company or by other employees based on nationality, ethnic origin, religion, sex, age, sexual orientation or of any other protected characteristic is strictly prohibited. Two minor incidents of discrimination occurred in the year under review. In accordance with Comet's zero tolerance policy, the HR department discussed the incident with the persons concerned and issued warnings. In the event of a repeat incident, the employment relationship may be terminated.

All job applicants are treated fairly and judged solely on their merits. We strive to maintain a recruitment process that is open, honest and fair and to build a team that represents a variety of backgrounds, perspectives and expertise. Our recruitment choices are based on objective criteria such as skills, qualifications, experience and other capabilities relevant to the job. The more inclusive we are, the better our work will be.



Fair-ON-Pay + certificate

In 2020, Comet Technologies USA, Inc., as a frontrunner in the Group, created a Diversity, Equity & Inclusion Board with the goal of driving public awareness highlighting Comet Technologies USA, Inc. as a diverse, equitable, and inclusive employer recognized by top talent, as a go-to place for exciting career opportunities and growth potential.

Comet Technologies USA will focus its DEI efforts on organizational structure, role definition, advancement, communication, and instructor-led seminars. We believe the conscious pursuit of DEI and belonging will provide benefits in business growth (top- and bottom-line), innovation, time to market, employee and customer satisfaction, and attracting and retaining top talent.

Comet received the "Fair-ON-Pay +" certification for gender pay equity for the Flamatt, Switzerland, site in 2021. We are on the right track and are committed to do more in the area of diversity, equity and inclusion in order to realize our full potential as the Comet Group.

Diversity of governance bodies (gender) [%]	Male	Female	
Board of Directors	80	20	
Executive Committee	80	20	
Diversity of governance bodies (age) [%]	<30	30–50	>50
Board of Directors	0	20	80
Executive Committee	0	40	60

Community Engagement

Our innovative power is one of our success factors. By entering into targeted and meaningful collaborations, we let society share in our ideas, know-how and technological developments.

We believe that technology can improve education. But we also believe that, conversely, fair access to education improves technology, which provides sustainable progress, security and quality of life for all of us. This forms the basis of our commitment to acting in a socially and environmentally responsible manner.

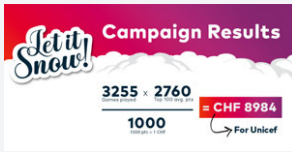
Our approach to community engagement is twofold:



Read more about our engagement for the local community

1. At the level of the Group: As a learning organization and a company with a long tradition of staff training and development, we pave the way to success for dozens of apprentices, interns and young professionals at any one time. Moreover, we support institutions that are committed to a similar mission in technology and education on a local and global basis. We also launch Group-wide initiatives such as our traditional fundraising before the New Year holiday season to support UNICEF in its educational program.

2. Our regional teams and sites involve themselves opportunistically at the local level in social issues such as the distribution of food during the pandemic, school projects, and support for flood victims. The impetus often comes from committed employees who are encouraged and supported in their activities by the local management.



UNICEF fundraising campaign

At the end of 2021 we launched the "Let it snow" campaign. The aim was to engage with all our stakeholders for a common cause: fair access to education for every child.

We invited our partners, suppliers, employees and social media followers to take a little time over the holiday season to play our online mini game. For every 1,000 points scored, we donated 1 Swiss franc to UNICEF to help improve education conditions worldwide. The game was played over 3,000 times and generated a sum of nearly CHF 9,000 donated to UNICEF.

Governance

Ethics and Compliance

Our Code of Conduct requires all employees to comply with all laws and ethical standards.

As part of the risk management process for which the Board of Directors is responsible, Group risks are assessed twice a year in the Audit Committee. The most important points are then also reported to the Board of Directors and discussed as part of the general business risks. Material risks are systematically identified and recorded in a risk matrix.

At Group level, policies, processes, training, monitoring and continuous improvement measures are in place to maintain the highest level of ethics and compliance awareness among the workforce. Currently, Comet focuses on the following areas: (i) data protection, (ii) code of conduct, (iii) anti-corruption, and (iv) anti-trust.

Accountability for the implementation of these topics lies with the country general managers, while responsibility for it rests with the divisions. Compliance officers report to the country general manager and support the divisions and sites in implementing the compliance requirements. Where necessary, adjustments are made in accordance with legal requirements. The responsibility for issuing rules and guidelines for other compliance topics such as health protection and occupational safety lies with the respective country general manager, and these are implemented by the country GM of the division to which the site is assigned.

These structures and efforts are reflected in the fact that, in the year under review, we were not involved in legal proceedings nor were issued significant fines resulting from non-compliance with any laws or regulations.

Trade Compliance

When selling our products worldwide, we comply with a wide range of foreign trade laws and regulations. Under no circumstances may exports, brokering, transit or transfer by persons acting on behalf of the Company violate those trade laws and regulations. To ensure this, Comet has set up and implemented a Trade Compliance Policy which is integrated in the company's management system, lists the essential requirements and defines the roles and responsibilities within the global organization. In addition, it is intended not only to promote and protect personal and corporate interests, but also to ensure compliance with regard to the various supply chains.

Under our management system, the country general manager is responsible for ensuring that trade in his or her country or region is conducted in accordance with Comet's Trade Compliance Policy and applicable regulations. The organizational design and implementation are the responsibility of the country general manager. In order to meet the specific trade compliance requirements, a trade compliance officer is appointed for each country. This officer is responsible for trade compliance and is supported by trade specialists. The trade specialists and the trade compliance officer have the authority to stop transactions. We reinforce trade compliance through annual training for the appropriate employees.

In 2021, we were not defendants in legal proceedings nor were issued any significant fines for non-compliance with trade-related laws and regulations.

Economic

Customer Loyalty and Satisfaction

The needs of our customers determine our actions. As a market leader in high-frequency power and x-ray technology we serve a wide range of customers, from global market leaders to SMEs. Regardless of our customers' size and business sector, we follow four basic principles in serving each one: Ask what problem really needs to be solved and why; inspire through our expertise; provide or co-create solutions with a clear benefit; and deliver what we promise, while saying early on when we cannot meet a need.

In order for us to deliver on these principles successfully, proximity and customer loyalty are crucial. Besides best-in-class products, a strong R&D organization, local presence with skilled sales and service teams in our key markets in Europe, North America and increasingly in Asia, another pillar supporting sustainable business relationships with our customers is our effective and efficient after-sales support.



SEMICON West 2021

We take every opportunity to stay in close contact with our customer base, in order to share ideas with customers and to understand and anticipate technological developments. This exchange takes place at various levels: in direct interactions between the account manager and the customer, in joint teams that solve specific problems, at trade fairs where we can present innovations from our portfolio, or at trade conferences such as SEMICON West. During SEMICON West 2021, we met once again with key customers of our PCT division, while also gaining detailed insights into the latest trends and growth opportunities.

The three divisions – PCT, IXM and IXS – are also responsible for measuring customer satisfaction. The approach to customer satisfaction surveys is not standardized at the Group level, as the customer structure differs between the divisions. The surveys are intended to help evaluate customer satisfaction by category (e.g., region), to identify possible negative influences on customer satisfaction (such as re-sponse time), and to draw conclusions about the expected influence on customer loyalty (e.g., through correlation analysis). In addition to quantitative methods such as tracking of account complaints, issue management, delivery performance, or re-order behavior and portfolio trends, qualitative methods are also used – for instance, customer interviews as part of key account management, and detailed customer surveys with selected major customers.

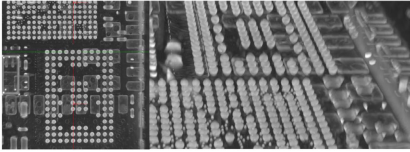
Product & Technology Leadership

Serving some of the most innovative customers, we manufacture products at the frontier of what is technologically feasible. With our forward-looking technologies, we strive to be the partner of choice to the most innovation-driven companies in our markets. And we work hard to defend and expand our technology and product leadership in order to remain among the leaders in our markets in the long term.

Product leadership is not defined by technology alone. Rather, achieving it is the result of implementing key strategic decisions such as gaining market leadership for selected products or a focus on standardized products (modular standardization). These strategic issues are regularly aligned with the Technology Committee of the Board of Directors.

To remain the product and technology leader in our markets, we invest between 11% and 13% of our sales in research and development each year. To ensure that these funds are used effectively and efficiently, we employ 242 people in R&D – or about 18% of our total workforce – with proven R&D specialists working at all organizational levels and in all functions.

We measure our targets in terms of market share, on which we collect and analyze data regularly based on internal and external sources. We use other key performance indicators to measure how successfully we sell newly launched products. With the exception of external market share data, these KPIs are presented to and discussed with the Executive Committee at quarterly business review meetings.



Read more [about the first inspection workflow for the semiconductor industry](#)

VoidInspect

Out of the collaboration of the X-Ray Systems team in Hamburg and the recently acquired software developer Object Research Systems (ORS) in Montreal has come a potentially game-changing new offering: VoidInspect, the first x-ray inspection workflow for the semiconductor and electronics market, was developed in 2021 and successfully completed its first customer deployment.

Product Impact

Our products can impact society and the environment in many ways. For society, our technologies play an essential role in the manufacturing of semiconductor chips and sensors that are the central building blocks of the digital world. And environmentally, the impact begins with the sourcing of raw materials and continues through the product use stage to the end of the product's life cycle.

For Comet, assessing environmental impact is becoming more and more important. This is partly because customers are increasingly looking for products that have as little impact on the environment as possible, and partly because, going forward, we will give even greater weight to this aspect in the selection of our suppliers in order to improve our own environmental footprint.

As of 2021, we did not prepare systematic life cycle assessments for our products. However, in our product development process, we take great care to develop durable products that can adapt to new requirements and thus need to be replaced less often. In the x-ray business, our products provide customers with solutions for non-destructive material testing and analysis. In the course of digitalization, this opens up numerous opportunities for us and our customers to optimize products and production processes and thus save resources.



How non-destructive testing enables the development and reliability of electromobility

The market penetration of electric vehicles is increasing rapidly worldwide. As an example, the share of electric cars in the total vehicle fleet in Western Europe is expected to rise from around 1% in 2020 to about 20% in 2030. As the market expands, so do expectations for performance and reliability, in particular for batteries. The inspection of components using x-ray methods is of great importance in the production process. It allows failure detection much earlier in development and production cycles, reducing downstream cost implications.

The x-ray systems from the IXS division and the x-ray modules from IXM are used for inspection in a wide variety of areas, such as cast parts, tires, battery packs, and the whole range of electronic components, including sensors.

- Large battery packs needed for the latest technology of EVs are examined with Comet x-ray systems to assure their reliability and long life. This dependability heightens the attractiveness of electric vehicles as a replacement for vehicles with combustion engines, which is accompanied by a reduction in CO₂ emissions. Another important application is the quality inspection of electronic components (e.g., sensors). Such components enable the safe operation of features and functionalities in the latest EV technology. All this minimizes additional development cycles, expensive recalls, and the opportunity cost of lost resources in ruined batteries and electronic components from destructive battery testing.
- Design and process optimizations are pursued with the help of x-ray systems in R&D applications to achieve optimum designs and process parameters and, as a consequence, maximum energy efficiency and performance in electric-motor components such as rotors and stators. For example, computed tomography allows the detection of porosities within conducting parts that impact their electrical behavior. Their design and manufacturing process can thus be optimized for peak performance. Once in production, the process is continuously monitored and improved based on the same data derived from CT inspection of the parts.
- Light alloy cast parts are also inspected early in the production process to find critical casting defects such as blowholes and porosities before the polishing and painting processes. This means less energy consumption because the later process steps can be omitted – also resulting in less use of chemicals in the recycling of defective parts, as well as a better raw material yield thanks to 100% re-use in the production process.

Product Quality & Compliance

The quality of our products and their conformity with all product-related regulations and directives are a fundamental element of our corporate culture and the basis for our business success. Our quality principles are an important argument for our customers. We are committed to providing our customers with high-quality products and services. Our products are competitive, defect-free, safe and environmentally compatible in their application and thus make a decisive contribution to the success of our customers. Therefore, we strive to avoid any risk

that could compromise quality. In addition, we are committed to continuous improvement that starts with the planning of new products, activities and processes. Our management sets division- and site-specific quality objectives, provides the appropriate resources and structures and regularly reviews achievement. Internal audits, customer and certification audits, benchmarks and best practice applications help to continuously develop the quality management system.

The process responsibilities are mapped in the management system of the Comet Group. Essentially, product quality and conformity are defined by the divisions, with responsibility assumed by the division country general manager and the accountability lying with the respective country general managers.

Operational Excellence

The Comet Group wants to become more efficient, more flexible, and faster. Our goal is to grow into a highly profitable company with CHF 1 billion in sales and clear market leadership in each of the markets we serve. A key lever in achieving this is the pooling of resources and strengthening of the organization. To this end, Comet launched an improvement program in 2019 involving all employees. Focused on global collaboration, we will continue to improve business and operational excellence.

Operational Excellence is a process set out in the management system, which provides the framework for making Comet a sustainable, high-performing organization. The Group function Quality & Excellence is responsible for the management system, including the process framework and architecture. Within this framework, the following tasks, among others, fall into this area of responsibility:

- Define/implement/improve Group-wide processes in close cooperation with the divisions
- Set minimum standards for non-financial KPIs for the Group and the divisions
- Monitor the state of the overall management system, and prioritize improvements
- Ensure certification and compliance with ISO standards throughout the Group
- Lead the Quality & Excellence Board to drive and support collaboration and execution between divisions and corporate functions

Target achievement is monitored on the basis of defined KPIs such as the number of successfully implemented improvement projects, automated availability of the selected KPIs, and the certification of all Comet sites to ISO 9001.

The Quality & Excellence Board acts as a committee for the person in charge of the Quality & Excellence group function. The Q&E Board supports the VP Global Operational Excellence in implementing projects and initiatives in the divisions and corporate functions.



Scrap reduction program in the PCT division

Together with the PCT department, the Global Operations Excellence function is working on a project to reduce non-conformance costs by increasing yields in the production of vacuum capacitors. The project has an immediate positive impact on profitability and customer satisfaction.

In 2021, non-conformance costs were brought down incrementally, and measures driving expected further reductions are to continue throughout 2022.



Line-detector array optimization at X-Ray Systems

In the X-ray Systems division (IXS), a growing market for large-scale computed tomography systems, such as the FF85 and the new UX50, requires more line-detector arrays (LDA).

The IXS team has prioritized LDA optimization as an operational excellence initiative in 2022. Results are expected to improve quality, meet customer needs and enhance business resilience.

GRI Content Index



For the Materiality Disclosures Service, GRI Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102-40 to 102-49 align with appropriate sections in the body of the report. The GRI Materiality Disclosures Service was performed on the English version of the report.

UNIVERSAL STANDARDS		Further information
GRI 101	Foundation (2016)	
GRI 102	General Disclosures (2016)	
	1. Organizational profile	
GRI 102 – 1	Name of the organization	Comet Holding AG High-tech components, systems and services in x-ray and plasma control technology for steering critical processes in the semiconductor industry and for non-destructive testing and security inspection. The Plasma Control Technologies division and X-Ray Modules division use the "Comet" brand, while the X-Ray Systems division uses the "YXLON" brand.
GRI 102 – 2	Activities, brands, products, and services	Comet Holding AG, Herrengasse 10, 3175 Wünnewil-Flamatt, Switzerland
GRI 102 – 3	Headquarters	
GRI 102 – 4	Location of operations	
GRI 102 – 5	Ownership and legal form	
GRI 102 – 6	Markets served	North America, Asia, Europe; semiconductor, electronics, automotive, aerospace, security; all types and sizes of customers served
GRI 102 – 7	Scale of the organization	
GRI 102 – 8	Information on employees and other workers	Due to its product portfolio and global presence, Comet has several thousand suppliers. Supply chains are established globally or regionally, depending on the availability of materials. For many products, there are only a few suppliers worldwide. The internal Supply Chain Council promotes and develops common standards within the purchasing organizations. In addition, the SCC helps to unify the standard processes of the divisions into Group standards.
GRI 102 – 9	Supply chain	
GRI 102 – 10	Significant changes to the organization and its supply chain	No significant changes
GRI 102 – 11	Precautionary principle or approach	
GRI 102 – 12	External initiatives	Sustainability reporting under Global Reporting Initiative (GRI), membership in Responsible Business Alliance (RBA), voluntary participation in the Swiss Energy Agency Association (EnAW) program for climate protection (CO2 reduction) and energy efficiency SEMI (global industry association that encompasses the entire electronics manufacturing and design supply chain), EUROBAT, JIMA (Japan Inspection Instruments Manufacturers' Association), Swiss Malaysian Chamber of Commerce
GRI 102 – 13	Membership of associations	
	2. Strategy	
GRI 102 – 14	Statement from senior decision-maker	
	3. Ethics and integrity	

GRI 102 – 16	Values, principles, standards, and norms of behavior	
4. Governance		
GRI 102 – 18	Governance structure	
5. Stakeholder engagement		
GRI 102 – 40	List of stakeholder groups	
GRI 102 – 41	Collective bargaining agreements	Less than 5% of employees are covered by collective bargaining agreements
GRI 102 – 42	Identifying and selecting stakeholders	
GRI 102 – 43	Approach to stakeholder engagement	
GRI 102 – 44	Key topics and concerns raised	
6. Reporting practice		
		In general, the report covers the entire Comet Group and the fiscal year 2021. If only part of the company is meant (as an example, or due to the availability of data), this is clearly indicated. For the reporting boundaries in the consolidated financial statements, see section O2.4.1 of the notes to the consolidated financial statements
GRI 102 – 45	Entities included in the consolidated financial statements	
GRI 102 – 46	Defining report content and topic boundaries	
GRI 102 – 47	List of material topics	
GRI 102 – 48	Restatements of information	No restatements
GRI 102 – 49	Changes in reporting	No changes, first year of GRI reporting
GRI 102 – 50	Reporting period	Jan 1, 2021 to Dec 31, 2021; environmental data: Jan 1, 2020 to Dec 31, 2020
GRI 102 – 51	Date of most recent report	March 18, 2021
GRI 102 – 52	Reporting cycle	Annually, fiscal year from Jan 1 to Dec 31
GRI 102 – 53	Contact point for questions regarding the report	
GRI 102 – 54	Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards: Core option
GRI 102 – 55	GRI content index	
GRI 102 – 56	External assurance	No external assurance

TOPIC-SPECIFIC STANDARDS

GRI 200	Economic	
GRI 201	Economic Performance (2016)	
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)	
GRI 201 – 1	Direct economic value generated and distributed	
GRI 205	Anti-Corruption (2016)	
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)	
GRI 205 – 3	Confirmed incidents of corruption and actions taken	None
GRI 206	Anti-competitive Behavior (2016)	
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)	
GRI 206 – 1	Legal actions for anti-competitive behaviour	None
GRI 300	Environmental	
GRI 302	Energy (2016)	
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)	
GRI 302 – 1	Energy consumption within the organization	
GRI 302 – 4	Reduction of energy consumption	
GRI 302 – 5	Reduction in energy requirements of products and services	
GRI 305	Emissions (2016)	

GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)
GRI 305 – 1	Direct (Scope 1) GHG emissions
GRI 305 – 2	Energy indirect (Scope 2) GHG emissions
GRI 305 – 5	Reduction of GHG emissions
GRI 307	Environmental Compliance (2016)
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)
	Non-compliance with environmental laws and regulations
GRI 307 – 1	
GRI 308	Supplier Environmental Assessment (2016)
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)
	New supplier screening using environmental criteria
GRI 308 – 1	
GRI 400	Social
GRI 401	Employment (2016)
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)
GRI-401 – 1	New employee hires and employee turnover
GRI 403	Occupational Health and Safety (2018)
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)
	Occupational health and safety management system
403 – 1	
	Hazard identification, risk assessment, and incident investigation
403 – 2	
403 – 3	Occupational health services
	Worker participation, consultation, and communication on occupational health and safety
403 – 4	
	Worker training on occupational health and safety
403 – 5	
403 – 6	Promotion of worker health
	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships
403 – 7	
	Workers covered by an occupational health and safety management system
403 – 8	
403 – 9	Work-related injuries
GRI 404	Training and Education (2016)
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)
	Programs for upgrading employee skills and transition assistance programs
GRI 404 – 2	
GRI 405	Diversity and Equal Opportunity (2016)
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)
GRI 405 – 1	Diversity of governance bodies and employees
GRI 406	Non-discrimination (2016)
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)
	Incidents of discrimination and corrective actions taken
GRI 406 – 1	
GRI 408	Child Labor (2016)
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)

GRI 408 – 1	Operations and suppliers at significant risk for incidents of child labor	Comet does not operate in businesses or regions that pose significant risks, including risks related to child or forced labor or to the respect for the fundamental human rights of employees
GRI 409	Forced or Compulsory Labor (2016)	
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)	
GRI 409 – 1	Operations and suppliers at significant risk of incidents of forced or compulsory labor	Comet does not operate in businesses or regions that pose significant risks, including risks related to child or forced labor or to the respect for the fundamental human rights of employees
GRI 413	Local Communities (2016)	
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)	
GRI 413 – 1	Operations with local community engagement, impact assessments, and development programs	
GRI 414	Supplier Social Assessment (2016)	
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)	
GRI 414 – 1	New suppliers that were screened using social criteria	
GRI 419	Socioeconomic Compliance (2016)	
GRI 103: 103 – 1/103 – 2/103 – 3	Management Approach (2016)	
GRI 419 – 1	Non-compliance with laws and regulations	

Publication information

Published by
Comet Holding AG,
Flamatt, Switzerland

Copywriting

Comet Group, Flamatt
Big Swing Communications,
Boston

Design

Comet Group Global
Communications, Flamatt

Photography

Dan Cermak
(Photo Heinz of Kundert)
Alessandra de Oliveira Banholzer,
Comet Group
Komsan Loonprom,
Shutterstock.com
Athanasia Nomikou,
Shutterstock.com
Hamperium Photography,
Shutterstock.com
Comet Group

Video

Comet Group Global
Communications, Flamatt
(interview with Luc Van den hove
and Matthew Gardner, interviews
with the Executive Committee)
Pitchlab, Paris (Technology video
& „2021 financials in 90 seconds“)
RCD Except, Paris (animation
on homepage)
Heck Inc, California (interview
with Bettina Weiss)

Production and printing

NeidhartSchön AG, Zürich

Sustainability consultant

Sustainserv, Zurich,
Frankfurt, Boston, Nashville

Language and translation

German: Comet Group Global
Communications, Flamatt
English: Martin Focken, Ontario

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