### Strategic realignment

# Focus and grow.

In recent years Comet has developed into an important partner to customers in the semiconductor and electronics industry. With the increasing digitalization of industry and society, this attractive growth market is becoming an even greater focus for the Group. Through the strategy revised and honed in 2019, Comet intends to support its customers' progress in this market even more effectively and grow in step with them.

# Megatrend of digitalization powering upside impetus for Comet

Smartphones that control our home heating, driver assistance systems that park the car for us, watches that measure our heart rate, drones that help save lives in hazard zones – our world is more and more interconnected. Vast amounts of data are exchanged and processed every second. Semiconductors and sensors form the basis for this digital world. The semiconductor industry, with estimated global sales of USD 412 billion in 2019 (source: WSTS), has matured into one of the largest and fastest-growing markets –

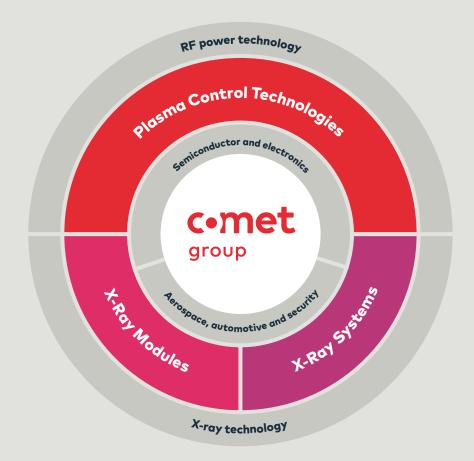
and yet it is just getting started. Trends such as the rise of the Internet of Things, artificial intelligence, the cloud, and autonomous driving provide key impetus for a more sustained, more stable semiconductor demand over time – even when taking into account the fluctuations typical of the sector. Additionally, expanded technologies are coming into play. For instance, in the fabrication of flash memory using so-called 3D-NAND technology, the number of stacked layers is currently increasing from 64 to 128. The gradual introduction of 5G standards is also paving the way for the coming even faster exchange of large quantities of data and thus for a new burst of technological development. The industry will have to adjust and expand its production capacity in the coming years in order to meet the global need for semiconductors.

The speed of these changes is difficult to predict and depends in part on global developments. The fact remains, however, that demand in the semiconductor market is supported by a large number of mutually reinforcing trends. Market analysts are forecasting that the cyclical

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# **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

### Products

- Systems solutions to provide RF technology, consisting of:
- Impedance matching networks ("matchboxes")
- Vacuum capacitors
- RF generators

## X-Ray Modules

Powerhouse for x-ray components and modules

### Technology

X-ray

### Products

- Stationary and portable x-ray modules and components
- X-ray tubes
- High-voltage generators

# X-Ray Systems

Manufacturing partner for the Industry 4.0 environment

### Technology

X-ray

### Products

- X-ray and computed tomography inspection systems
- Software
- Customized services based on machine learning and artificial intelligence

### Total addressable market of CHF 2.5 billion

Radio frequency and x-ray products



Sources: 1 VLSI, 2 Comet estimates

By 2025 the Group's total addressable market will expand by an estimated CHF 940 million as a result of the high forecast growth in the core markets and a focused expansion of the divisions' product portfolio. The strong drivers are digitalization, automation, miniaturization, complexity of the microchips produced, and thus high demand for sophisticated plasma control and x-ray inspection solutions.

sales contraction of 2019 will be followed by several years of growth averaging about 7% per year.

# Comet technologies gain further in importance

These developments bring great growth opportunities for Comet's plasma control and x-ray technologies. This is because in their various applications, both technologies ensure the efficiency, quality and reliability of highly critical manufacturing steps. As it leverages this positioning, Comet is able to build on its decades of experience, innovation and close collaboration with customers.

Opportunities are especially rich for Comet's Plasma Control Technologies business. The fabrication of high-performance microchips involves a growing number of process steps and, for every plant, requires ever more precise, highly reliable and stable plasma control modules such as Comet offers. In addition, there is a rising need for integrated, softwarebased solutions that allow the manufacturing of microchips to be continuously improved and accelerated. All this is precisely the potential that Comet is addressing with its plasma control products. As the global market leader in vacuum capacitors and impedance matching networks (also known as matchboxes), Comet enjoys a strong starting position. Its aim is to provide semiconductor equipment suppliers and chip manufacturers with the latest solutions to their growing challenges. Comet will do this through innovations - led by the RF generator currently in development that will support data-driven process analysis. The new generator will in the medium term enable the Group to tap into an additional market worth about USD 700 million which analysts predict will grow by an average of 9% per year.

+ CHF 40 million

CHF 90 million

Security<sup>2</sup>

For the Group's x-ray businesses as well, the trends in the semiconductor and

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electronics market hold high potential:
Electronics firms are increasingly automating the production of critical components, building them additively, making them smaller and using less and less material. Individual microchips are combined into high-performance packages.
Reliably inspecting the connections within and between these chips is an exacting

Electronics firms are increasingly automating the production of critical components, building them additively, making them smaller and using less and less material. Individual microchips are combined into high-performance packages. Reliably inspecting the connections within and between these chips is an exacting task that requires ever more use of high-resolution x-ray technology. As well, manufacturers are placing growing emphasis on high-volume series testing and the continuous improvement of their processes. Only in this way can they safeguard the quality and reliability of products used in safety-sensitive segments such as self-driving cars. Comet is addressing these trends by strengthening its x-ray product portfolio and investing in the expansion of data analytics and the development of new services based on artificial intelligence. As the market leader in x-ray tubes and one of the top equipment suppliers for in-line and 3D inspection of electronic components, the Comet Group is well positioned with its two x-ray divisions to help industry master its challenges.

# Comet technologies for a sustainable future

An increasingly connected world offers not just conveniences but also numerous opportunities for making the economy more sustainable and the future a better one. In manufacturing, as resources are limited, it is becoming more and more important to utilize them as fully as possible by using less per product and avoiding scrap, while maintaining and improving product safety. The digital transformation holds great promise for this: Through a more networked world, it creates the basis for greater transparency, better control and the more efficient

use of resources. In this way, as studies show, digitalization can help reduce greenhouse gas emissions by significantly more than it adds to them. Comet's plasma control and x-ray businesses play an important role in this: They support the efficient and resource-saving production of increasingly powerful, complex and smaller building blocks of the digital and analog world. Moreover, through high-precision inspection technology they create the foundation for the safe use of these elements.

"We are clearly focusing

### Focus, become stronger, grow

In 2019, in order to utilize the large potential of digitalization, the leadership team revised and optimized the Group's strategic direction. Both on the technology and the market side, Comet's focus is sharpened. The Group will concentrate on its established technology segments of plasma control and x-ray, and thus on its three divisions Plasma Control Technologies, X-Ray Modules and X-Ray Systems. The ebeam business will be transferred to a partner. Comet's x-ray systems business is being realigned: It will focus on modular, standardized systems and increasingly on digital services based on analytics, artificial intelligence and machine learning.

Comet is bringing down the number of markets from more than nine to four, now focusing on the semiconductor and electronics focus on the semiconductor and electronics market and the three further high-volume markets of aerospace, automotive and security. Comet expects that, in the medium term with its two technologies, up to 70% of the Group's total volume will be generated in the semiconductor and electronics market. It also sees attractive potential for its x-ray business in the aerospace, automotive and security inspection markets: Over the medium to long term, automotive and aerospace should benefit from

the global growth in population and purchasing power and the rising pressure on manufacturers to introduce more efficient motors and engines.

The increase in energy-efficient electric and hybrid vehicles is associated with rising demand for semiconductors, more powerful batteries, and components that ensure maximum safety even in autonomous operation.

In the security market, demand for x-ray solutions for the screening of baggage, freight and parcels is expected to be buoyed by tourism, immigration and the rapid growth in e-commerce.

Applying important operational and strategic levers, the Group is combining resources and strengthening its organization, as well as expanding its presence in Asia as a crucial market region. Comet plans to become more high-performing, more flexible and faster. That is why it has launched the Boost improvement program, with the involvement of all staff. Through the Boost initiatives and the heightened strategic focus, Comet is paving the way for growing faster than the market in the medium term and reaching an EBITDA margin of about 25%.

Our financial ambitions by 2025:

**CAGR** of

~15%

**EBITDA** of

~25%

**ROCE** of

~30%