An interview with Mr Luc VAN DEN HOVE

President & CEO, imec

What are the key figures of R&D at imec?

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As a global team of over 5,500 talented employees from more than 100 nationalities, we are headquartered in Flanders, Belgium and have distributed R&D groups at a number of Flemish universities, as well as in the Netherlands, the USA, and representation in 3 continents. Our collaborative approach bridges the gap between academia and industry, facilitating the rapid transfer of knowledge and technology from the research lab to the market.

Could you introduce your expertises?

The combination of top talent, unique infrastructure, and our worldwide partner network makes us a world leader in nanoelectronics and digital technologies. Since our inception, 40 years ago, we are at the forefront of advancing semiconductor technology to smaller nodes at higher performance at affordable cost and more sustainable. Every smartphone includes microchip technology invented by imec.

While microchip technology is at the core of what we do, our impact extends significantly across key application domains. We play a vital role in advancing innovation in health, automotive, agritech and energy. Our R&D expertise is dedicated to driving disruptive changes and advancements within these crucial application domains and beyond.

How is imec collaborating with companies across the world?

We offer R&D partnerships as well as innovation services. We firmly believe in the synergy of R&D collaboration. Together with universities, companies and public stakeholders, we aim to maximize knowledge and expertise to push technology forward. All our R&D partners benefit from the unique assets that imec offers such as our state-

of-the-art infrastructure, our top-of-the-class international talent with multidisciplinary scientific background, our unique IP, and our one-of-a-kind ecosystem of local and global partners including universities and world-leading companies from a multitude of industries.

Our unique environment ensures more interactions, higher creativity and better integrated technologies. Next to our R&D program offering, we also work together with companies on a bilateral basis, for private research. This can be an R&D collaboration supporting companies with the development of technological solutions to innovate their products and services. But this is not limited to R&D support: we offer support throughout the entire lifecycle of the innovation process. Whether it is hardware, software, or both. And for innovators from around the world, as well as for local initiatives in Flanders.

In 2024, imec announced that it received funding from the EU and from the Flemish Government to install the NanoIC pilot line. What is the NanoIC pilot line?

The NanoIC pilot line is an initiative set to boost Europe's economy, aligned with the European Chips Act's vision of achieving global leadership in semiconductor innovation. It entails the design of a beyond-2nm system-on-chip (SoC) pilot line to develop advanced logic, novel memories, and innovative interconnects to enable future compute systems that will significantly impact critical markets such as automotive, consumer electronics, high-performance computing, and healthcare. The NanoIC pilot line will provide the semiconductor ecosystem access to these advanced technologies at a higher TRL level compared to imec's current R&D offering. By doing so, European innovation and competitiveness across the value chain can be ensured – from semiconductor materials, equipment and design to systems and applications.

How does the NanoIC project foster collaboration across Europe?

We are proud to partner with top European research institutes CEA-Leti, Fraunhofer, VTT, CSSNT-UPB, and Tyndall for the NanoIC pilot line. Together, we will accelerate R&D and advance technologies. The project also invites collaboration from foundries, IDMs, material suppliers, equipment suppliers, and system companies to jointly develop the materials, process modules, and integration flows necessary for beyond-2nm SoC technology.

Additionally, the NanoIC pilot line offers training programs, internship opportunities, and access to affordable design tools and prototyping services to build a skilled EU semiconductor workforce.