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A First for the Chemical Industry:

Merck Introduces Modular Automation for Laboratories

* Modular approach enables the necessary flexibility and diversity in the laboratory environment
* Automation software by COPA-DATA enables more efficient interaction between research and development and production
* Market launches of new products to be accelerated by up to 50%

Darmstadt/Germany, July 14, 2022 – Merck, a leading science and technology company, today announced its intention to automate the global laboratory environment of its Electronics business sector in addition to digitalizing production.

When selecting system partners for its automation solutions, Merck attaches the greatest importance to open platforms and the independence of individual applications. For this reason, Merck and Siemens started a modularization project in 2021 for production facilities that manufacture innovative materials and products in the three business sectors Healthcare, Life Science and Electronics. Independent of this, Merck has taken a further step, introducing an automation software by COPA-DATA to the research and development laboratories of the Electronics Technology Center at its global headquarters in Darmstadt, which was newly opened in 2020. This automation software will now be implemented globally in numerous other laboratories. This should result in a more efficient interaction between production and research and development (R&D) and accelerate the market launch of new products by up to 50%.

“During market launch, speed is a crucial competitive advantage and is especially important for our products,” said Hajo Neumann, Head of Integrated Supply Chain within the Electronics business sector of Merck. “We also expect that the boundaries between R&D and production will become increasingly blurred in the future. These days, the batches produced in the laboratory are becoming ever smaller but also much more individualized,” added Neumann, explaining the progress of this trend.

“Configuring a laboratory environment in which hardware and software work in tandem should be as simple as connecting a printer to a PC. Speed, flexibility and efficiency are thus improved considerably. The joint project with Merck will set an example internationally,” said Thomas Punzenberger, CEO and founder of COPA-DATA, commenting on the future of the laboratory.

Merck is now also applying tried and tested approaches used in production halls, such as Industry 4.0, Smart Factory and the Industrial Internet of Things, in the laboratory environment for the first time. While automating laboratories was previously considered unthinkable, by applying this approach, the company is responding to the needs of a market that demands ever shorter lead times and customized products. In contrast to the production hall, everyday work in a research laboratory is characterized primarily by the fact that systems regularly have to be reconfigured and work steps continually changed. This makes the laboratory an environment that, at first glance, appears to have little automation potential.

Merck has found the key to success in modular production and is relying on an industry standard called Module Type Package (MTP) to implement it. MTP is a solution approach that enables all the equipment within a central control system to communicate independently of the typically fragmented hardware and software landscape in use. Individual work steps are saved in completed modules and researchers can repeatedly and quickly combine them into new applications and processes in just a few clicks and without the need for programming knowledge. One important benefit is that MTP modules can be transferred seamlessly from the laboratory to production. This means formulas currently being developed in the laboratory can immediately enter mass production without the need to waste effort on manually reconfiguring the production lines.

Captions:

Hajo Neumann\_Merck.png:  
“During market launch, speed is a crucial competitive advantage and is especially important for our products,” said Hajo Neumann, Head of Integrated Supply Chain within the Electronics business sector of Merck.

Thomas\_Punzenberger\_COPA-DATA.jpg:  
"The joint project with Merck will set an example internationally," said Thomas Punzenberger, CEO and founder of COPA-DATA.

Laboratory\_Merck\_Darmstadt.jpg:  
Merck announced to automate its worldwide laboratory environment in the Electronics business sector in cooperation with software from COPA-DATA.

Electronics Technology Center Darmstadt Laboratory.png:  
Starting from the Electronics Technology Center in Darmstadt, Merck is automating its worldwide laboratory environment based on Module Type Package (MTP).

About Merck

Merck, a leading science and technology company, operates across life science, healthcare and electronics. More than 60,000 employees work to make a positive difference to millions of people’s lives every day by creating more joyful and sustainable ways to live. From advancing gene editing technologies and discovering unique ways to treat the most challenging diseases to enabling the intelligence of devices – the company is everywhere. In 2021, Merck generated sales of € 19.7 billion in 66 countries.

Scientific exploration and responsible entrepreneurship have been key to Merck’s technological and scientific advances. This is how Merck has thrived since its founding in 1668. The founding family remains the majority owner of the publicly listed company. Merck holds the global rights to the Merck name and brand. The only exceptions are the United States and Canada, where the business sectors of Merck operate as MilliporeSigma in life science, EMD Serono in healthcare, and EMD Electronics in electronics.

About COPA-DATA

COPA-DATA is an independent software manufacturer that specializes in digitalization for the manufacturing industry and energy sector. Its zenon® software platform enables users worldwide to automate, manage, monitor, integrate and optimize machines, equipment, buildings and power grids. COPA-DATA combines decades of experience in automation with the potential of digital transformation. In this way, the company supports its customers to achieve their objectives more easily, faster and more efficiently.  
The family-owned business was founded by Thomas Punzenberger in 1987 in Salzburg, Austria. In 2021, with more than 300 employees worldwide, it generated revenue of EUR 64 million.

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