



## High-performance cabling solutions

When LAPP's Stuttgart production site needed to update their coding system, they teamed up with Markem-Imaje to develop a cutting-edge solution that couples black ink and white ink printers on each line. Controlled by CoLOS software and equipped with inks suited to all their types of substrates, the solution offers LAPP a significant advance in efficiency.



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Stuttgart / **Germany**

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Founded in **1959**

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**4,650** employees across the world, at 18 production sites and approx. 44 sales companies

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Global market leader in **integrated cabling solutions** for a range of sectors, including industrial machinery, plant engineering, transport, energy, food processing, etc.

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Over **€1.2 billion** in annual turnover

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▲ Black ink codes on light-colored cables



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**LAPP:**  
Connecting the world



“We challenged Markem-Imaje to help us develop this project, which is pioneering in the cable industry. I’ve never seen a printing solution this advanced in any other plant.”

◀ **Michael Zahl,**  
Operation Manager  
(LAPP, Stuttgart)



▲ At the LAPP's Stuttgart site, cable production speeds can vary from 40 to 120 m/min

In West Germany during the 50s, industry was booming. But in factories, workers still had to manually insert single cores into outer sheaths when cabling machinery, a complex and time-consuming process. In 1957, Oskar Lapp found a better idea and developed the first flexible, oil-resistant, industrially manufactured control cable with different colour coding. ÖLFLEX®, the first protected trademark in the industry, was born. LAPP has

remained a family business since it was founded in 1959. Today, the company is a leading supplier of integrated solutions and branded products in the field of cable and connection technology. The company also specialises in customised cables: it recently produced 3 km of extremely robust power and data transmission cables for a network of seismometers on a volcano in Iceland. “In cable production, coding is one of the biggest challenges,” says

Michael Zahl, Operation Manager. “Each different cable has specific marking requirements – the brand name, where it was produced, temperature, wattage, compliance information for each market – there is a huge variety of possible combinations. This information has to be accurate and readable: if it’s not, we have to stop the line; or worse, scrap cables that have been poorly printed.”







## Saving time and reducing errors

To improve their coding process, in 2019, LAPP's production site in Stuttgart implemented an innovative system developed with Markem-Imaje. Each of the four production lines is equipped with a pair of Markem-Imaje 9450 contrast inkjet printers. One is a 9450 E with MB554 black ink (for light-colored cables) and the other is a 9450 Ec with MW420 white ink (for dark cables). "Installing the two printers side by side significantly reduces change-over time when we have to switch production," explains Michael Zahl. "Another major advantage is that Markem-Imaje came up with one ink that adheres to all the different surfaces we have in production." The entire process is controlled by CoLOS software, which handles 1,500 different possible messages. "Previously we had to manually upload every message into every

◀ Each line is equipped with two 9450 (E/Ec) to code cables either in black or in white

single printer," notes Oliver Kast, Process Design engineer with LAPP. "Now the operator just scans the barcode and the correct information is automatically sent from the central database to the printer." At production speeds ranging from 40 to 120 metres per minute, CoLOS manages the complexity of all the printing variations, saving time and dramatically reducing errors.

Today the two companies are working on a new project for marking the conductors within a cable in a partnership that is always seeking to push new boundaries.

For more case studies:  
[www.markem-imaje.com](http://www.markem-imaje.com)

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At its Stuttgart production site, LAPP has boosted its efficiency with a smart coding solution consisting of four pairs of Markem-Imaje 9450 contrast inkjet printers specially designed for cable marking and using high-contrast, resistant inks that work on any coating. The printing process is managed by CoLOS software, optimizing productivity.



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