

# EMC-proofing and corporate branding of printer design.

DEMCON LIFE SCIENCES & HEALTH



The redesign of a successful product can be requested for many reasons, ranging from new requirements to component end-of-life to corporate rebranding. It is one of the challenges we often encounter as a development and production partner of customers such as medical technology company Laborie, which supplies diagnostic systems for urodynamics (bladder and urinary tract) and gastroenterology (gastrointestinal tract), among other things.

## CORE COMPETENCIES

1. Electrical engineering
2. Multi-physics simulation
3. Industrial design
4. Design-for-assembly

### Redesign to solve end-of-life issues

One of Laborie's high-performing products is the compact digital Flowstar uroflowmeter, provided with a lightweight thermal printer unit for recording the uroflow. We were commissioned by Laborie to do a complete redesign of this long-serving printer, without changing the functionality. The objective was to address end-of-life issues: the printer's core module was approaching the end of its lifecycle, while the industrial design of the housing and the user interface had long become outdated.

### Our challenges

We developed the functionally unchanged redesign of a printer for a medical application. In the process, we selected a new core module and had to ensure its EMC compatibility. We also optimized the printer's design for efficient assembly, while aligning it with the customer's current brand image.

### Our solutions

We started the redesign by selecting a suitable new OEM printer module. However, we found out that it was not EMC compatible and therefore referred to the OEM partner for modifying the design accordingly. This required a big electrical engineering effort, including advanced multi-physics simulations to guide the improvement of EMC properties. In addition, we made a new industrial design for the printer's housing and user interface to meet contemporary standards and reflect the customer's corporate branding.

**“we successfully  
handed over  
our redesign to  
production”**

To facilitate assembly, we also optimized the design for cabling, taking into account assembly constraints. We then produced prototypes in our own workshop and performed EMC pre-tests to demonstrate compliance of the printer module, while Laborie finalized the formal CE certification, including EMC compatibility, of the complete Flowstar system.

### Our teamwork

This was typically a small project for us, but it still came with quite a challenge. We had to put a lot of effort into consulting with our OEM partner for the printer module and making it EMC compatible. After finishing the redesign, we handed it over to our colleagues from Demcon production, who had provided their input for the cabling design-for-assembly. They could then start production smoothly.