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The Getinge team behind a new OR light feature

The new Volista VisioNIR feature in Getinge's Maquet Volista enables surgical teams to keep the OR light on during NIR (Near-Infrared) guided procedures. Meet the team behind this game-changing innovation, which paves the way for improved patient outcomes by enhancing surgeons' hand-eye coordination.

With passion for life and assisted by new, sophisticated technology, Getinge's OR light team in France, managed to solve one of the major challenges for surgeons working with NIR fluorescence imaging.

"NIR imaging enables surgeons to see what is invisible for the naked human eye. The technology is used for distinguishing structures that should be removed, such as sentinel lymph nodes and malignant cells, from nerves, blood vessels and other structures that must be avoided," says Robin Jousse, R&D Director Surgical Lights at Getinge.

He continues: "The downside is that traditional OR lights disturb NIR imaging. Until now, there have been no OR light on the market that can be remained turned on when the surgeon is assisted by a NIR camera."

Working in close cooperation with surgeons in France and Argentina, the project team set out to optimize the three-filter configuration in Maquet Volista for working in harmony with the NIR imaging device.

Minh Hong Vu Thi, optical engineer at Getinge, explains:

"We cooperated with our filter coating supplier with the aim to keep the good characteristics of the visible light spectrum, while suppressing the signal within the NIR range. We wanted to eliminate the parts of the surgical light that disturb the fluorescence signal from the NIR device."

During the development process, Volista VisioNIR was evaluated by doctors in real surgery conditions.

"It has been vital for us to have a direct link between our R&D team and experts working with NIR imaging. It was helpful for learning about the different surgical protocols, and for understanding the

constraints of the OR team. After several design loops, followed by feedback, the surgeons were really satisfied with the result,” says Robin Jousse.

Maquet Volista VisioNIR and NIR guided surgery cameras can now be used simultaneously inside the operating room during the entire procedure. Getinge’s solution retains surgical light standard, with good color rendering and no compromises when it comes to shadow dilution or dimming.

“Without having to switch OR lights on and off, the surgical team benefits from better hand-eye coordination and an uninterrupted workflow. This makes it possible to have constant focus on the patient,” Robin says.

When asked about a key moment during the research process, Robin Jousse and Minh Hong Vu Thi both mention the ability to pinpoint the NIR irradiance in the OR light. This was crucial for determining what they needed to eliminate.

“The detection of a very weak NIR signal when you have a strong visible light is particularly challenging. We needed a specific NIR spectrometer to achieve enough noise reduction for measuring the NIR signal accurately,” Minh Hong explains.

“With this device, we found the explanation to why some filter combinations didn’t give the desired result. It was a decisive milestone on the road to creating this powerful feature, which we believe will have a great impact on surgery for years to come,” Robin concludes.

Learn more about Maquet Volista VisioNIR >>

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