



Your ENT Visualization Partner: From Consultation to Surgery

BEHIND THE SCENES AT LEICA MICROSYSTEMS

By Sonia BELLI - Audiology infos - N°57 - Juillet - Août - Septembre 2019

For nearly 40 years, Leica Microsystems has been developing surgical and examination microscopes in the Swiss town of Heerbrugg. In the manufacturer's three-story medical HQ, its 100-strong workforce dreams up tomorrow's ENT visualization technologies today.

While, at first glance, Heerbrugg might seem a surprising choice as the location for Leica Microsystems' Medical world HQ, it owes nothing to chance. It was in this Swiss town, nestling in the heart of the mountains of the Saint-Gall canton, that the manufacturer first moved into the medical sector. This came directly from the Swiss optical equipment manufacturing company, Wild Heerbrugg. The merger of the latter with the firm Leitz, in 1986, gave rise to the Wild Leitz group, soon joined by other companies, including Leica Holding B.V in 1990, which ultimately, in 1997, was split into two entities: Leica Geosystems and Leica Microsystems.

Our host, Ohm Savanayana, Portfolio Director - Microsurgery and Advanced Applications, explained: «*The world HQ of Leica Microsystems is located in Wetzlar in Germany, where we develop our microscopes for research and Life Sciences. Here in Heerbrugg, we concentrate on 3D stereo microscopes, particularly for medical and industrial applications.*» In 1981, Leica Heerbrugg started to develop its expertise in medical microscopy, with the M690 surgical microscope, specifically designed for ophthalmology. Since then, the company's portfolio has burgeoned. The brand now offers an ENT range: diagnostic microscopes, microscopes for middle ear surgery (PROvido, launched in September 2018), and microsurgery microscopes with built-in augmented reality.



ENT surgeons were among the first to use microscopes

HEERBRUGG, MEDICAL HQ OF LEICA MICROSYSTEMS

The Heerbrugg site is dedicated mainly to the medical division. Ohm Savanayana, who started out in 1986, in the Wild Heerbrugg era, confirmed: *«Heerbrugg is a site where we design the products: product portfolio definition, research and development, quality and regulatory affairs are all done here, while the manufacturing is done in Singapore.»*

A large part of his work in Heerbrugg consists in working closely with R&D to supervise project scheduling and management. For the particularly big ones, the teams meet every day, including the Singapore teams, to check that everything is on the right track. *«We meet at least twice a day with our team of product managers and project managers. And every week, we hold a progress review with our Medical Vice-President, Maxim Mamin, and the Medical Business Director, Stefano Bazzari. This dialog is essential: for things to progress, support from all sides is vital,»* continues Ohm Savanayana. In parallel, Ohm keeps very close contacts with the surgeons: *«We go to the operating rooms on a very regular basis,»* he says. *«To understand what needs to be improved and for us to develop solutions that meet their needs and requirements, we need to keep our ears open, get close and face their reality.»*



Ohm Savanayana, Portfolio Director
Microsurgery and Advanced Applications

NO INNOVATION WITHOUT SURGEONS

At Leica Microsystems, the «house» philosophy has it that innovation starts with the surgeons, because it is important to have an overall understanding of their practice, and not only how they use the microscope: often, the surgeons are not aware of the friction points, because they are used to the technology that they have.

«So it is up to us to ask questions and to think of a solution, starting by sending our product managers out to the operating rooms, so that they can observe and understand how the surgeons work,» explains Ohm. Leica Microsystems also regularly invites surgeons to workshops at Heerbrugg, to work on new ideas and products. *«For example, after obtaining the necessary consents, hospitals worldwide, particularly in Europe and France, are currently testing products which are not yet available on the market. That is how we work: we offer pilot version microscopes to hospitals for their operating rooms, with the approval of the ethics committee,»* Ohm continues.

A COMPREHENSIVE PORTFOLIO FOR ENT PROCEDURES

In 1980, Leica Microsystems introduced its microscope for ophthalmology, and started to contemplate other applications. «If you really think about it, the pioneers in surgical microscopes were the ENT surgeons, who were the first ones to use them, Ohm points out. So, in the 1990s, the manufacturer decided to apply the technology acquired in ophthalmology to ENT, and since then

have offered a wide portfolio of products, from manual microscopes to more sophisticated solutions, including electromagnetic brakes, which are more ergonomic, motorized multifocal lenses for visualization quality, and multiple applications for ear, larynx and neurosurgery.

«We start with a standard solution, the M320 F12 microscope, which is suitable for diagnostic applications

and minor surgery, in particular middle ear surgery, thanks to its high-quality optics and its maneuverability,» explains Stefano Bazzari, Medical Business Director. *«Then we have the M525 F20 microscope, the standard for ENT surgery, because it provides excellent-quality optics and a great maneuverability, combined with a large depth of field in terms of visualization.»*

After the M320 and M525 F20, the manufacturer introduced solutions equipped with electromagnetic brakes, thanks to which the surgeon can move the microscope with the press of a button. The PROvido – the newest creation – and the M530 OHX are both equipped with cutting-edge Leica M530 optics and FusionOptics technology from Leica Microsystems. This technology combines high resolution and a large depth of field for 3D optical images.



Leica Microsystems showroom in Heerbrugg

FROM INNOVATIONS TO VALUE CREATION FOR THE SURGEON

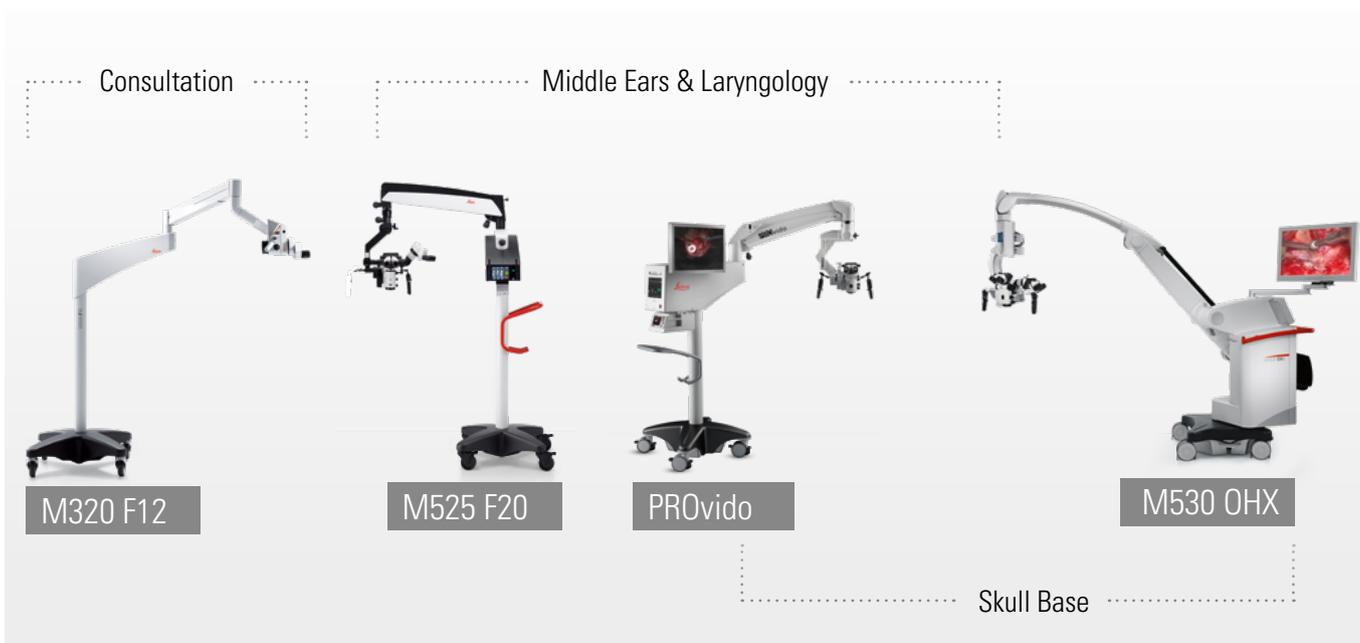
«In the future, our portfolio will shift toward new technologies, which will be able to facilitate the job of ENT specialists, surgeons and their teams, and improve quality,» continues Stefano. *«We can see that their needs are changing, and we are really focused on that. That is why we are working on ever greater integration of digital technologies and optics, to enrich the functions of the surgical microscopes.»* Manufacturers are all trying to design systems that are easy to use for anyone, and increasingly multi-disciplinary, to enable an easier return on investment for hospitals.

Ohm Savanayana, Portfolio Director - Microsurgery and Advanced Applications, confirms: *«Digital imaging technologies are improving, so we are now concentrating on a way to help surgeons to see things that they cannot see with 'normal' optics. If we take the case of a tumor, for example, by injecting a contrast agent and illuminating it with a special light, we can manage to see it with our own eyes. That is what we are offering ENT surgeons through combining different images: the 'normal' image, but also that of the tumor. This is no longer an optical image but a digital image, which is known as augmented reality. For me, we can imagine the future of the microscope along the same lines as the smartphone: would you buy a smartphone without apps? No. So we will add various applications to our microscopes, so that the surgeons can select which ones they need.»* Although surgeons should not expect to be able to play Candy Crush!



Stefano Bazzari, Medical Business Director

LEICA MICROSCOPE PORTFOLIO FOR ENT APPLICATIONS



Leica Microsystems (Schweiz) AG
Max Schmidheiny-Strasse 201
9435 Heerbrugg, Switzerland



Class I surgical microscopes M320 F12, M525 F20,
PROvido, and M530 OHX.

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Leica Microsystems (Schweiz) AG · Max Schmidheiny Strasse 201 · CH-9435 Heerbrugg
T +41 71 726 3333 · F +41 71 726 3399

www.leica-microsystems.com

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