

The Next Surgical Robotics Powerhouse Plants Its Roots in Aix

Formed from the merger of three tech gems, Carvolix—led by Sébastien Ladet—aims to become the global leader in AI-powered surgery. The Aix-based company is preparing to launch a major medical revolution.

At 50, Sébastien Ladet has a flawless track record: a doctorate in biomaterials from Lyon, 16 years with the giant Medtronic—including six years in the US. When he was recruited at the end of 2022 to lead Affluent Medical, he oversaw its transformation into Carvolix. *"I'm originally from Perpignan. When Aix was suggested, my wife immediately said yes—we have a much better quality of life here than in the chaos of Paris,"* says the man now at the helm of a mid-sized company with 115 employees, a far cry from the start-up stereotype.

Cardiology: How AI is Empowering Doctors

The company recently acquired Caranx Medical (Nice) and Artedrones (Paris), two firms from the portfolio of its longtime investor, Truffle Capital. *"This is a strategy driven by our founder Philippe Pouletty, who already proved it works at Abivax,"* explains Sébastien Ladet. This consolidation helps spread out the risks: if one product fails, the others can keep the growth going. There's also a political dimension: *"Keeping the company in France, so it doesn't*

get sold off to Americans, Chinese, or Indians." Carvolix focuses on the heart's four valves—the "gates" that can leak as we age. *"Just to be clear, we don't make stents, clarifies the CEO, which are used for clogged arteries around the heart (heart attacks). We actually replace the valves inside the heart."*

Currently, only 4% of patients with mitral valve issues undergo surgery, because the procedure is so complex. Carvolix's answer? A robotic platform. With AI, the robot identifies the natural valve and the implant on the control screen. The surgeon simply lines up two markers. *"In just two minutes, they complete the task far more precisely than it would take 20 minutes by hand."* This improvement means you only need one cardiologist in the OR instead of three, which allows many more patients to be treated. The software is already being sold in the US, with a European launch planned for late 2026.

The second focus is on strokes. *"If the clot isn't removed within two hours,*



Headquartered in Aix, Carvolix is developing a new generation of surgical robots powered by artificial intelligence to treat heart and brain conditions. / PHOTO DR

it can mean paralysis or death. In France, only 30% of patients get treated in time—and that drops the farther you are from a major city." Carvolix is developing a micro-robot guided by an external magnet. This device

can navigate the winding branches of the brain's arteries to suction out the clot. The goal is to let interventional cardiologists—who outnumber neurosurgeons 30 to 1—perform this

emergency procedure. First-in-human clinical trials are scheduled for 2027. Listed on Euronext, Carvolix has already invested 170 million euros. A 30-million-euro fundraising round is underway, with 10 million already secured in

December. Global leader Edwards Lifesciences is backing the project and has already placed an option to acquire the mitral ring (the smallest item in the portfolio) to help fund robotics R&D.

Medical Revolution

The company now operates across five locations: Aix (headquarters), Nice, Paris, Italy, and Besançon. *"We'll gradually phase out the urology business (based in Besançon) to focus on the heart and brain,"* announces Sébastien Ladet. Next step: acquiring a site near Aix, if possible, to manufacture their own robots and implants. *"We're laying the groundwork to become a world leader."*

By combining artificial intelligence with robotic precision, Sébastien Ladet isn't just modernizing surgery—he's laying the foundations in Aix for a future health tech giant, one that can treat patients faster, more accurately, and help secure France's place at the forefront of medtech worldwide.

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