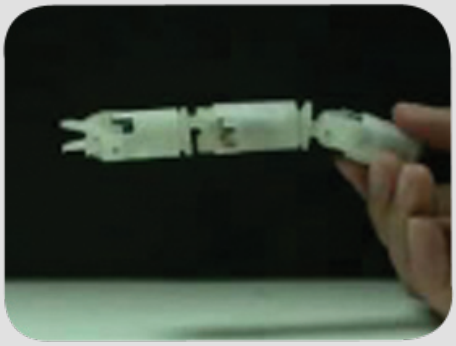
3D PRINTER CASE STUDY

ProJet™ HD 3000 Success at Sant'Anna

The Scuola Superiore Sant'Anna, a public university in Pisa, Italy is a leader in experimental and innovative paths in education and research to meet the modernization and future expectations of society. Their mission, supported by the CRIM (Centre for applied research in micro-engineering) Lab is pursued by providing the tools, autonomy and flexibility needed to achieve the mission and vision of leadership in the research and development of bio-inspired and/or bio-applied micro- and nano-robots and systems.

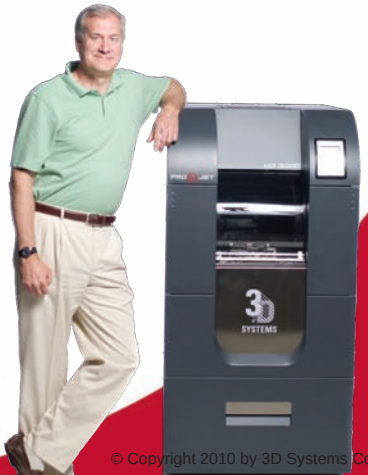


The application of new robotic technologies in flexible endoscopy and laparoscopy to natural orifice surgery promises significant benefits to the patient in terms of comfort and recovery time by eliminating abdominal incisions, scarring, and the pain associated with these incisions. In support of this goal, students at the University engage in projects and experiments to find new solutions for this type of surgical procedure through high-performance, artificial locomotion robotic tools that offer fast-response, adaptability, reliability, energy efficiency and control. The ProJet™ HD 3000 Professional 3D Printer makes this development effort possible.

All of the ultra-fine feature detailed parts used for their submersible capsule endoscopy are manufactured with the ProJet™ 3000. Previous capsules had failed to perform complete small-bowel examinations. The students designed micro propellers with 3D technologies and added them to the capsules. The propeller-based force, when applied to the capsule, enabled the controlled navigation required for complete examinations.

The students were also able to make some major technological improvements through the use of the 3D Systems ProJet™ 3000 by 'printing' prototypes to be used in major projects such as the ARES project, the LAMPETRA project, and in the creation of their Jumping Robot. The latest prototype of their jumping robot integrated wings, an elastic energy source and sophisticated electronics.

The commitment to innovative education and research continues at Sant'Anna – as does the student's reliance on the ProJet™ 3000 3D Printing System.



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