



## **PERSEE Study Demonstrates Applicability of Cellvizio in Surgical Interventions for Digestive Cancers, Triggering Milestone Payment from BpiFrance**

***Results from PERSEE Study Published in Surgical Endoscopy and European Journal of Gastroenterology & Hepatology***

***Mauna Kea Technologies receives milestone payment of €626,000 from BpiFrance***

**Paris, France and Cambridge, MA, USA, November 30, 2016 - Mauna Kea Technologies** (Euronext: MKEA, OTCQX: MKEAY) inventor of Cellvizio®, the multidisciplinary confocal laser endomicroscopy platform, today announced that the first results from the PERSEE Study examining the use of Cellvizio in digestive surgery were published in *Surgical Endoscopy* and *European Journal of Gastroenterology & Hepatology*.

The two scientific publications report on outcomes of 30 consecutive patients that underwent digestive surgery at the Institut Mutualiste Montsouris (IMM) in Paris, France between 2014 and 2015. During the surgeries, Cellvizio provided ex-vivo images of excised lesions that were analyzed by surgeons, pathologists and physicists and compared to histology standard of care. Diagnosis was complete using both traditional and new remote digital pathology methods.

To distinguish between normal and cancerous tissue, several factors were assessed including completeness of response to chemotherapy in the liver<sup>1</sup> and the differentiation of peritoneal nodules<sup>2</sup>. Both studies demonstrate excellent sensitivity, specificity, and positive and negative predictive values to detect malignant lesions. Overall, sensitivity ranges from 75% to 100% and specificity ranges from 89% to 100%<sup>3</sup>.

"These results add to the growing evidence that the Cellvizio platform can help surgeons make appropriate real-time decisions and eliminate uncertainties during procedures," said Brice Gayet, Professor of Digestive Surgery at Institut Mutualiste Montsouris. "In addition, for the first time my team used remote collaboration through live streaming techniques, enabling communication from multiple locations and better informed decision making."

Sacha Loiseau, Ph.D., Founder and Chief Executive Officer of Mauna Kea Technologies, added, "The PERSEE study confirms that Cellvizio can add significant value in cancer surgeries, by bringing the same proven accuracy level in tissue characterization obtained in other indications and helping confirm surgical margins in real-time. As the body of clinical evidence grows in surgical procedures, we hope to see an acceleration of Cellvizio adoption, not only as a stand-alone technology but also integrated into other surgical platforms."

Dr. Loiseau added, "These results represent a key step in the ongoing development of the PERSEE program. The milestone payment from BpiFrance will fund the fourth phase of the program, which will extend the clinical evidence and support technical innovation applied to surgical indications for the Cellvizio platform."

### **About the PERSEE project**

The PERSEE project was awarded 7.6 million euros in April 2010 from OSEO (now BpiFrance) in order to develop a robotized, miniature, flexible endomicroscope for the minimally invasive exploration of the abdominal cavity. Mauna Kea Technologies is the leader of this collaborative project along with EndoControl, a developer of robotic solutions to assist surgeons and physicians, the Institut des Systèmes Intelligents et de Robotique (ISIR) at the Université Pierre et Marie Curie, the digestive diseases department of the Institut Mutualiste Montsouris (IMM) and the departments of Cellular Imaging, Gastroenterology and Pathobiology of the Institut de Cancérologie Gustave Roussy (IGR).

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<sup>1</sup> Angelo Pierangelo, Pierre Validire, Ali Benali, David Fuks and Brice Gayet - "Diagnostic accuracy of confocal laser endomicroscopy for the characterization of liver nodules", *European Journal of Gastroenterology & Hepatology*, 2016.

<sup>2</sup> Angelo Pierangelo, David Fuks, Ali Benali, Pierre Validire and Brice Gayet - "Diagnostic accuracy of confocal laser endomicroscopy for the ex vivo characterization of peritoneal nodules during laparoscopic surgery", *Surgical Endoscopy*, 2016.

<sup>3</sup> Full results included overall sensitivity, specificity, and positive and negative predictive values to detect malignant peritoneal nodules were 75%, 100%, 100% and 89 %, respectively. For the detection of malignant liver nodules, the diagnostic performance of surgeon and the pathologist, Cellvizio demonstrated, 78% and 100% sensitivity, 100% and 89% specificity, 90% and 100% positive predictive value, and 90% and 100% negative predictive value.



## About Mauna Kea Technologies

Mauna Kea Technologies is a global medical device company focused on eliminating uncertainties related to the diagnosis and treatment of cancer and other diseases thanks to real time in vivo microscopic visualization. The Company's flagship product, Cellvizio, has received clearance to sell a wide range of applications in more than 40 countries, including the United States, Europe, Japan, China, Canada, Brazil and Mexico.

For more information on Mauna Kea Technologies, visit [www.maunakeatech.com](http://www.maunakeatech.com)

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