

A **SUCCESS** STORY

NEW HIGH-RESOLUTION **MICROSCOPE**

The SME **Axis Photonique inc.** sought to break into the biomedical field and strengthen its presence in the field of advanced materials characterization. For its part, the SME **few-cycle inc.** sought to develop new markets by developing a new product, a secondary light source (high-flux soft X-ray source) generated by a femtosecond laser, which is currently under development.

Both SMEs formed an alliance with **Prof. François Légaré** at **INRS-Énergie, Materials and Telecommunications** to explore the possibilities of matter imaging through certain recent developments in laser technology, which offer the possibility of imaging matter with a spectroscopic contrast specific to carbon and nitrogen-rich chemical entities.

The project led to the development of a new gas cell used to generate high water window harmonics, creating the prospect of developing an X-ray microscope.

The two SMEs will continue their collaboration, which includes the participation of four Ph.D. students and three postdoctoral researchers.

 *We are pleased with this collaborative project and with this type of microscopy; thanks to the development of the high-pressure XUV source prototype, we learned a great deal about the potential surrounding conventional femtosecond laser sources. We are especially pleased with the collaboration that took place between our team, Prof. Légaré and every member of the ALLS laboratory.* 

- **Bruno Schmidt**,
President and CEO,
few-cycle inc.



SECTOR
Scientific
instrumentation



APPLICATION
Molecular imaging



TRL
1-3



DURATION
24 months
(2017-2019)