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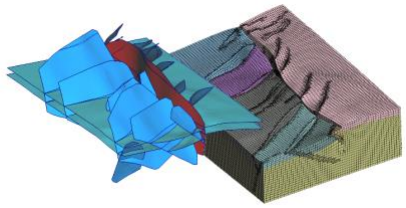
Press release

Tessael, a new start-up specialising in subsurface meshing



© Tessael GeO_2 geological meshing technology for subsurface use

In 2018, Wan-Chiu Li took a gamble in deciding to launch a start-up specialising in geological meshing, the aim being to help subsurface operators limit environmental risks and make their operations more efficient. In May 2020, his start-up Tessael was launched. Tessael provides meshing solutions based on GeO_2 technology, which has been developed since 2010 by Alice/Pixel, a joint undertaking between Inria and Loria.

Through its new GeO_2 geological meshing technology, Tessael is able to perform and optimise extremely accurate 3D simulations of subsurface environments, opening up new opportunities in three sectors: **geothermal energy, geological storage and the oil and gas industry.**

Performing and optimising extremely accurate 3D simulations

For the purposes of these simulations, an underground space and its surfaces are divided up into geometric units, with the overall picture referred to as a "mesh". GeO_2 uses the "high quality" meshes it generates, coupled with 3D visualisation technology, to make precise and accurate measurements within complex geological formations - a major breakthrough in the field of subsurface exploitation. GeO_2 is also a decision-making aid for those operating in these industries, helping them minimise both environmental and financial risks while making exploration and production operations as efficient as possible.

All roads lead back to Inria

GeO2's development dates back to 2010, when the Alice project team first began working on it. It can be used to create specialised meshes for subsurface operators for the purposes of geomechanical studies or fluid analysis. GeO2, the development of which was based on the results from two ERC projects (Goodshape and Vorpaline), can be used to simulate highly complex geological structures, delivering extremely precise results with no drop in performance during simulations. Convinced of GeO_2's potential as a technological breakthrough, Wan Chiu-Li took the decision to launch a start-up. Starting out as an engineer with Alice, it was during his time spent with the team that he studied for his PhD. After a long period spent working in the software publishing industry, Chiu-Li returned to Inria in 2018 to head up the GeO_2 project.
It was then that he was joined by Cédric Borgese, an expert in software architecture, and received support from Inria's Startup Studio, in addition to a grant from France's Grand-Est region in May 2020. The next steps will involve establishing Tessael's reputation and getting the technology on the market.

As stated in the Institute's Performance Agreement, the impact of its activity on France's economy and manufacturing industry is of utmost importance to Inria. Over the past 30 years, Inria has developed unique expertise in supporting tech start-ups, having launched and supported more than 170 of them (including many that had begun life outside of the institute) through seed funds and then tech super seed funds (I-Source, IT-Translation), as well as the Institute's internal support schemes.

"I firmly believe that our GeO_2 geological meshing technology will play a key role, not only in the fossil fuel chain, but also in the energy transition. We intend to be active participants in the development of the industrial fabric linked to geothermal energy and the underground storage of CO_2, both in France and overseas.
The close collaboration between Tessael, Inria, the University of Lorraine and Loria will enable us to overcome the technological obstacles currently standing in the way of manufacturers.
The support from Inria's Startup Studio through internal schemes, such as entrepreneurship coaching (DigitalStartup) and continuous support, made the transition to my new capacity as an entrepreneur very smooth." *Wan Chiu-Li*

More information on...

- A short film about Tessael:
French version: https://www.youtube.com/watch?v=E734jfc6_nI&feature=youtu.be
English version: https://www.youtube.com/watch?v=C8Zu97HknTU&feature=youtu.be
- About GeO_2 technology: https://www.inria.fr/fr/geo2-une-startup-en-devenir-dans-le-maillage-3d

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- Linkedin : https://www.linkedin.com/company/tessael/

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