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INTERVIEW

Akselos: “Simulation at the speed of thought”™

Interview with Mr. Leurent, co-founder and CEO of Akselos

Innovation is the very essence of Akselos. This company is born from MIT, headquartered in EPFL and won several prestigious award since 2012. The company has developed the next-generation engineering simulation technology that runs 1000 times faster than the standard of the industry.

Mr. Leurent, co-founder and CEO, answered our questions about the company, its predictive digital twin technology and its business in Japan.



Mr. Thomas Leurent, co-founder and CEO of Akselos

Could you please introduce Akselos to our readers?

Founded in 2012, the company headquarters is located in the Innovation Park of the EPFL in Lausanne. The company has 6 international hubs and more than 40 employees.

Akselos is a spin-off of the Massachusetts Institute of Technology. We are one of the few companies selected in the annual Top STEX 25; the 25 most promising spin-offs of MIT.

How did your extensive professional background help to create Akselos?

Our goal is to help companies to protect their most valuable assets; some worth several billions.

The companies we work with proceed with great attention to validate new technology solutions

Therefore, the fact that we have some of the best scientists and engineers in the world on our team certainly helps. Regarding myself, I am an engineer graduate from MIT and I have an extensive background in technology and risk management.

What is digital twin technology and why do you have the best one?

A digital twin is a virtual copy of something preexisting, like a ship, a car or an electric power plant. Akselos is, more specifically, providing a predictive digi-

tal twin.

Our technology was initially developed by MIT. Since then, some of the very best applied mathematicians from MIT, the EPFL and other leading research centers contributed to improving it.

Combined with sensors, cyber physical model of object and machine learning, our technology is the only one of its kind that can offer real-time access to the condition of your assets through a living, learning virtual replica. We can run real-time simulations that will predict how your asset will age or react in case of a collision, an earthquake, etc.

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Akselos: “Simulation at the speed of thought”™

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INTERVIEW

In addition, our technology can be parameterized, meaning that the 3D models generated by our software can be reconfigured and resolved in seconds. Amazingly, Akselos solutions run 1000 times faster than the industry standard engineering simulations.

For which industries do you provide solutions?

Currently, our most advanced solutions are in the upstream industry and for offshore wind farms.

The largest asset we secure is a 300,000-ton FPSO (floating production storage and offloading are huge vessels that produce, process and store oil. They are larger than aircraft carriers and the ship and the content worth several billions). As far as I know, the FPSO we manage is currently the largest asset protected by a digital twin solution.

This said, our technology can secure all sorts of assets. It particu-

larly makes sense for large critical assets, but also possibly for small pieces that are highly redundant, like in the automotive industry where we have good partners. By using our predictive tools during the development of a new car or a plane, it is possible to identify potential weaknesses.

On January 2018, Akselos and the Japanese company TechnoStar joined their forces. Could you tell us more about it?

We are very happy with our partnership with TechnoStar. The CEO is a visionary who understand the technology very well. The collaboration started because TechnoStar hired one of our engineers, with our blessing, which turned out to be good for both companies. Thanks to this, TechnoStar understood the potential of our solutions and became our distributor in Japan. Since then, several Japanese companies, including leaders in their fields, are using our products.

One positive aspect of our partner-

ship with TechnoStar is that we can provide after-sales service in Japan.

Is the Japanese market interesting for your business?

Yes it is. Our collaborations with Japanese companies brought us to adapt our technologies to new fields which is always good. Japan is the third largest economy in the world; it is a technology-oriented market that values a high level of security.

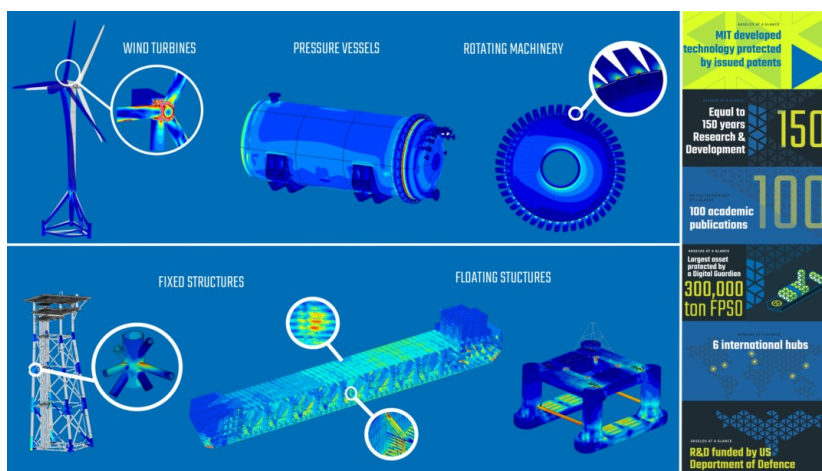
In our core businesses, upstream and offshore wind, Japan could naturally become an important partner for us.

What are the next steps for Akselos in Japan and elsewhere?

2018 has been a very good year for Akselos. Among others, we started this partnership with TechnoStar, we were awarded by the EU for our contribution in reducing offshore wind material costs and we have received additional USD 10 million from two of our main partners in the upstream industry.

For 2019, we will continue to scale-up, working closely with our historical partners and finding new ones. Our technology will soon be used to design and protect the next generation of very large offshore wind farms.

Regarding Japan, we expect to continue the good collaboration we have with TechnoStar. We will bring the best service to our existing customers and we look forward to forging new partnerships.



Leading technology to protect your assets

22 Japanese startups in the CES 2019 thanks to JETRO

The Consumer Electronic Show (CES) has become the place to be for innovative companies. For promising startups, it's a great opportunity to drastically increase their audience, thanks to the thousands of visitors.

JETRO supported 22 Japanese startups through its J-Startup Program, which mentors and provides the resources for Japanese startups to succeed in the global market.

For the 2019 edition that took place in early January, 8 of those 22 startups were selected for the CES Unveiled, a special anticipated event during which the most innovative startups are presented to the press. More than 1,500 members of the media attended.

Among others, [ispace](#) might be the company you will use to visit the



Las Vegas: More information available on [JETRO United States Website](#)

moon in the near future. [Idein](#) and [Dfree](#) are making senior and disabled citizen's lives easier thanks to IoT.

[Life is Tech](#) is already the largest tutoring service in Japan that teaches programming to people. [Shiftall](#) supports manufacturing industries to bring in-house developed advanced IoT products to the market in only 10 months.

The perfect mix between technolo-

gy and tradition, [Load&Road](#) created an IoT-based teapot to keep tea at the perfect temperature.

[Mui Lab](#) and [Groove X](#) making technology looking nice in common. The first by producing a wood-based device able to display information. The second by making robots friendlier, like a health monitoring one that looks like a soft, plush pillow.

革新
INNOVATION

Fiscal Year 2019 Economic Outlook

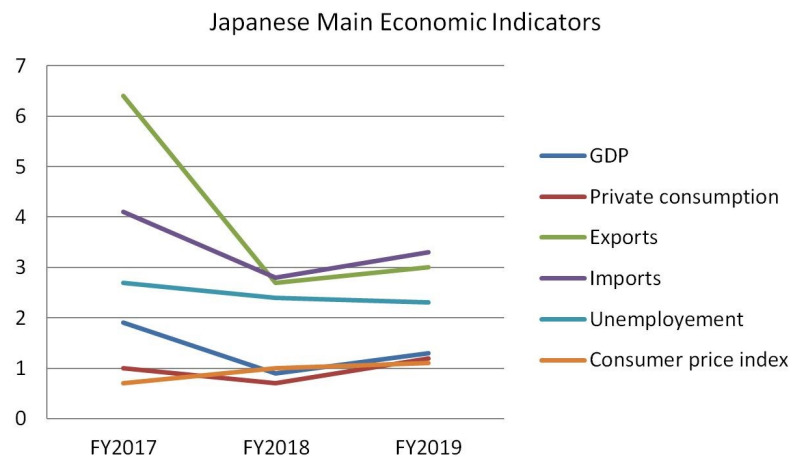
The Japanese Cabinet Office has published the Economic Outlook for the next Fiscal Year (starting in April). The Government expects FY2019 to be slightly better than FY2018 that was affected by natural disasters and tensions in global trade.

The Gross Domestic Product growth is expected to reach 1.3% (against 0.9% in 2018). This expansion of the Japanese economy should be possible thanks to an improvement in the domestic consumption. Trade should increase both ways, with 3% growth in the

exports of goods and services and 3.3% for the imports. Both the unemployment rate (2.4%) and inflation (1.1%) should be relatively sim-

ilar than the previous year (respectively -0.1% and +0.1%).

Source: [Cabinet Office](#)



動向
TREND

Survey on Business Conditions of Japanese Companies in Europe

活動

ACTIVITY

The annual JETRO survey on business conditions in Europe showed that the main challenges for this year are Brexit and adjustments regarding the Japan EU Economic Partnership.

Brexit, and the uncertainties related to it, are one of the key challenges for Japanese companies in Europe. It is especially true for UK-based companies. Two-thirds of the companies in UK believe that Brexit will affect their business and 60% of the companies using the UK as regional headquarters have started

to or are planning to partially relocate their offices in the EU.

To the question of whether Brexit had an impact so far on your business, 30% of Swiss companies answered that it had a negative impact. Only Ireland-based companies had a higher rate of negative impact on their business, at 38.1%

Regarding the Japan-EU EPA coming into effect soon, companies said that they will have to operate some adjustments in their in-house system (47.4%). Uncertainties regard-

ing the documentation, especially the certificate of origin, follow in second and third place with: "cooperation with supplier/business partner e.g. completion of certificate of origin documentation" at 43.1% and "Proof of origin procedures (self-certification)" at 34.6%.

The report is available on [JETRO's website](#).

Agenda

- ✓ Save the date:
Impulse Japan Zurich
Organizers: JETRO, Switzerland Global Enterprise and the Swiss-Japanese Chamber of Commerce
March 7th, 13:30-19:30
Venue: Forum St. Peter, St. Peterstrasse 19, 8001 Zurich

JETRO is a government-related organization that works to promote mutual trade and investment between Japan and the rest of the world. Originally established in 1958 to promote Japanese exports abroad, JETRO's core focus in the 21st century has shifted toward promoting foreign direct investment into Japan and helping small to medium size Japanese firms maximize their global export potential.

*The JETRO Switzerland Newsletter can also be viewed and/or downloaded online:
<http://www.jetro.go.jp/switzerland/newsletter>*

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