ISSUE
106
March 2018

JETRO Switzerland Newsletter

Japan External Trade Organization

Inside this issue

Flyability: "Our very first customer was in Japan" 1 + 2

Cars: hybrid instead of diesel 3

Impulse Event: Japan 3

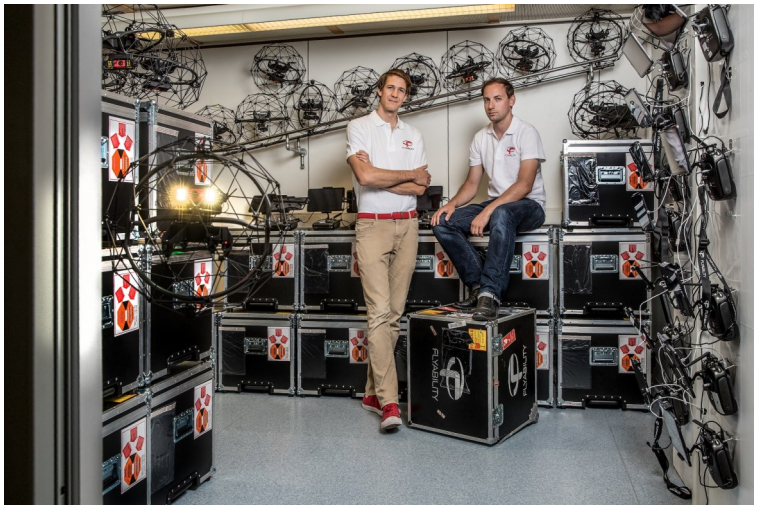
Japan H2 Mobility 4

会見
INTERVIEW

Flyability: "Our very first customer was in Japan"

Interview with Patrick Thévoz, co-founder and CEO

Flyability SA is a Swiss company founded in 2014 and based in Lausanne. The company is a spin-off from the "Ecole Polytechnique de Lausanne" (EPFL). The two founders, Adrien Briod (CTO) and Patrick Thévoz (CEO) are engineers in the field of robotics. The company builds safe drones for operating indoors, in complex and confined spaces. The latest product is the Elios, a sophisticate collision-tolerant drone. The company growth fast with more than 60 employees and 300 drones operating worldwide. Mr. Thévoz kindly answered our questions in Flyability's headquarter in Lausanne.



Adrien Briod and Patrick Thévoz, the two founders of Flyability
Photos courtesy of Flyability

Could you please briefly introduce Flyability?

Flyability is an EPFL spin off. The idea comes from a thesis: how send drones instead of humans in a dangerous or complex area?

Normal drones are difficult to use in small spaces because they cannot afford to have any sort of impact. So, our idea was to create a collision-tolerant drone for confined spaces.

We turned our idea into a video and had a lot of demand. So we decided to do it. Three years later, Flyability is a company with 65 employees.

How did you come up with this idea?

With Adrien Briod, the co-founder of Flyability, we looked at how insects can escape from a closed space. Flies for instance, are going to bump everywhere until they can find a way out. So we decided to create a drone that will be able to "bump" into obstacles.

What was the biggest challenge for you?

Every month we have a different one. During the first stage it was to identify the right market for our product. Was it first responders? The industry?

The second challenge was to find investors. The first rounds were a challenge. Once we had the money, we had to develop a first model. The challenge at this stage is to have a product that can answer customers' needs and be doable. Last but not least, having a good product is nice, but you still have to sell it all over the world.

Now that our product is successful, it is time to start a new cycle with a new product.

What is the added value that you are offering in the field of drones?

Our product is a very unique product. There are a lot of drones, but most of them focus on the outdoor market. We, on the contrary, focus on the inside. So we are a bit aside, not a direct competitor for others. To be more specific, our product has special features that make it operable in confined spaces. As you can see on the picture, the Elios is protected by a "skeleton-armor". It makes it collision-

Flyability: "Our very first customer was in Japan"

会見
INTERVIEW

tolerant and consequently ideal for complex and confined spaces.

Which kind of companies can benefit from your collision-tolerant drone?

Half of our customers are inspection companies. Be using it instead of a human, there is no risk and it helps companies to reduce down-times and cut inspections costs.

The other half is composed by companies having large industrial assets like power plants, nuclear plants, oil and gas facilities, etc.

Our product is also used by first-responders. Currently, 10 police forces in the world are using Elios.

Elios is deployed in more than 100 countries and is growing fast in Asia; Japan, China and South Korea.

Japan is a historically important market for us as our very first customer was in Japan. The Japanese market is more mature when it comes to drones. Robot and drones are seen as being an answer to the manpower shortage.

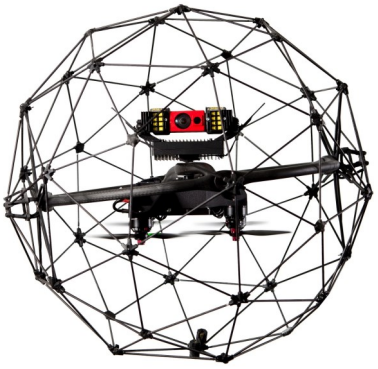
How do you use the data collected by your drones?

Our drones get image and a thermal image (thermal map). In most of the cases, Elios works in dark spaces. We can provide a live video through a strong signal and the operator can have real time vision. Of course image can be used to set a post-operation engineering report.

Today, drones are still mostly controlled by human, especially indoors where the GPS is unavailable. But in the future, IoT and sophisticated software are going to make them more and more autonomous. In the end, it will be possible to remove the human from the loop. At Flyability we are working on fully autonomous drones but in the meantime, our products already bring a strong added value.

How would you explain the high number of companies working in the field of drones in Switzerland and particularly in the region of Lausanne?

I think that inspiration is the most important thing. Pioneers like "senseFly" and Pix4D showed us that it was possible to create a company and be successful. Then, of course, we have great universities active in this field. It helps as well as an open-minded legislation, that allows us to test new things, but the example of those pioneers created a virtues cycle. Because those success-stories exist, students are more willing to work on drones and investors are more confident to invest in it.



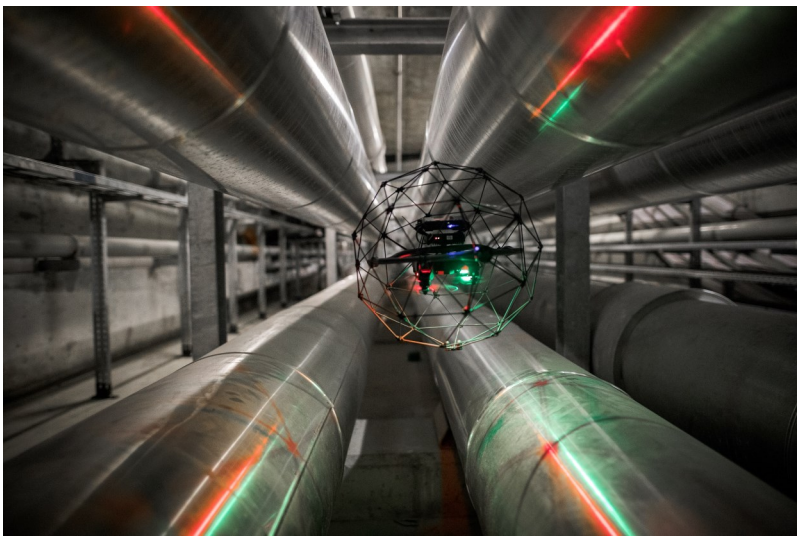
The Elios, the collision-tolerant drone

Today, five countries are doing well for drones (non-military drones). Switzerland is probably number one for commercial purpose. China is strong for the hardware representing 60% of the production, but cannot offer the level of service we can. Japan is strong in terms of research but probably less for commercial application. France also has a strong ecosystem. Finally, the US are good but surprisingly a bit late in this field.

What are the next steps for Flyability?

To maintain the leadership we created on this market. We want to increase the number of customers, because the potential for our products is huge. We also are closely listening to our customers to develop the new products that are going to answer their needs even better.

More details: www.flyability.com



Cars: hybrid instead of diesel

動向
SITUATION

Hybrid cars are enjoying the diesel crisis in Europe. Within the European Union, they represent nearly four cars out of ten. In Switzerland, hybrid cars represent 3.7% of the new cars sold in 2017. If the percentage is lower in Switzerland, the trend is similar with a 17% increase for hybrid engines. Diesel, on the other hand, is decreasing with -9% according to "Auto-Schweiz", the Swiss association of official importers. Visiting the Geneva International Motor Show, it was quite obvious that hybrid cars are currently the only solution to achieve a significant reduction of CO2 emissions waiting for a larger and more adequate offer of electric cars.

Pioneers of this technology, Japanese manufacturers, starting with Toyota, are benefiting from this increasing demand for hybrids.
According to the European Automobile Manufacturers Association, Toyota's sales are growing faster than average with a 13% growth.
Toyota still has the wider range of vehicles with hybrid technology. The company also announced recently that Toyota will no longer sell diesel cars in Europe by the end of this year.

Impulse Event: Japan

活動
ACTIVITY

The joint event in Zurich was a huge success. Whether to learn more about Japan or for networking purpose, almost 130 people interested in the Japanese market attended this seminar.
H.E. Ambassador Eric Jakob from SECO and Prof. Patrick Ziltener explained the good trade relationship between Switzerland and Japan and the high value of direct investments from both sides. They also advocated for an update of the Swiss-Japanese Economic Trade Agreement that might be a bit old compared to the one Japan and the EU recently signed.
Particularly interesting were the presentations made by four companies about their experiences with the Japanese market.
U-blox, Plumettaz, M-Industry and Ziemer Ophtalmic System told us how much the Japanese market can be interesting for companies in the field of ICT, infrastructure, retail and pharma/medtech.
Those four companies are well established today. According to their experiences, cultural differences are not a big deal. With good products and patience, Japan is truly a top market for Swiss companies.
We are particularly proud that those companies mentioned how much JETRO supported them with their projects.
Among other things, JETRO can provide information about the Japanese market and help you to identify the right local partner for your project.

Mr. Noel Matos, Head Strategic Internationalisation at M-Industry

Japan H_2 Mobility

革新
INNOVATION

In order to reduce its dependence on fossil energy, Japan has developed a great knowledge on hydrogen-based energy. In order to accelerate the dissemination of fuel-cell vehicles, 11 companies, including hydrogen station operating businesses, automobile manufacturers, and financial investors, jointly established Japan H2 Mobility (JHyM), a new company with the mission of full-fledged development of hydrogen stations.

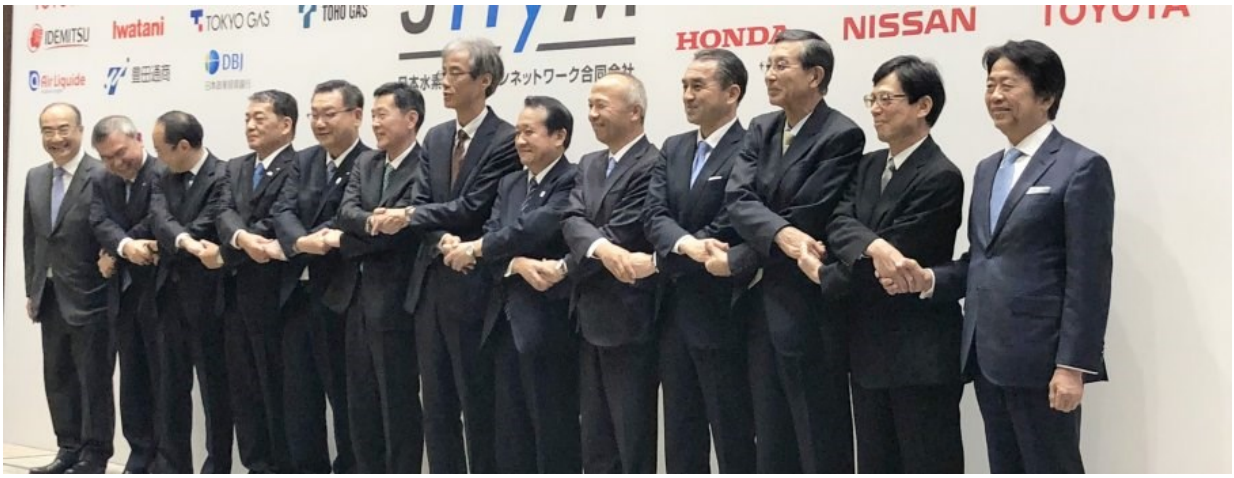
Japan already has the widest network of hydrogen stations and with this new joint company, this number will rapidly increase.

The Ministry of Economy, Trade and Industry (METI) will support this project.

For the record, fuel-cell vehicles (FCV) are electric cars with a hydrogen tank. The chemical reaction between hydrogen and the oxygen present in the air generates electricity and releases only water. Consequently, if the production of hydrogen is made using renewal energy, it significantly decreases the pollution generated by the car.

Compared to the electric car using batteries, the advantage of fuel-cell vehicles is the range and speed to recharge the car. Basically, it is similar to traditional cars. Currently, the main issue remains the cost of the car itself that needs precious metal to generate the fusion between hydrogen and oxygen.

Full press release on:
Air Liquide's website
Additional information on:
METI's website



Japan H2 Mobility has been established by eleven companies: Toyota Motor , Nissan, Honda, JXTG Nippon Oil & Energy, Idemitsu Kosan, Iwatani, Tokyo Gas, Toho Gas, Air Liquide Japan, Toyota Tsusho, Development Bank of Japan

Credit: Air Liquide

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

JETRO
Japan External Trade Organization

JETRO Geneva
80, Rue de Lausanne
1202 Geneva
Phone: 022 732 13 04
Fax: 022 732 07 72
E-mail: SWG@jetro.go.jp