

GREATER
ZURICH
AREA



GGB^a
Invest
Western
Switzerland



LIVE STREAMING EVENT

Virtual Swiss Drone Industry Tour **Switzerland: Home of Drones**

16

Monday
November
2020

Your hosts



Matt Julian

Director US

Greater Geneva Bern area (GGBa)

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Lukas Sieber

Executive Director North America

Greater Zurich Area Ltd (GZA)

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Greater Zurich Area (GZA) & Greater Geneva Bern Area (GGBa)

Your Swiss business concierges



Site selection & site visits

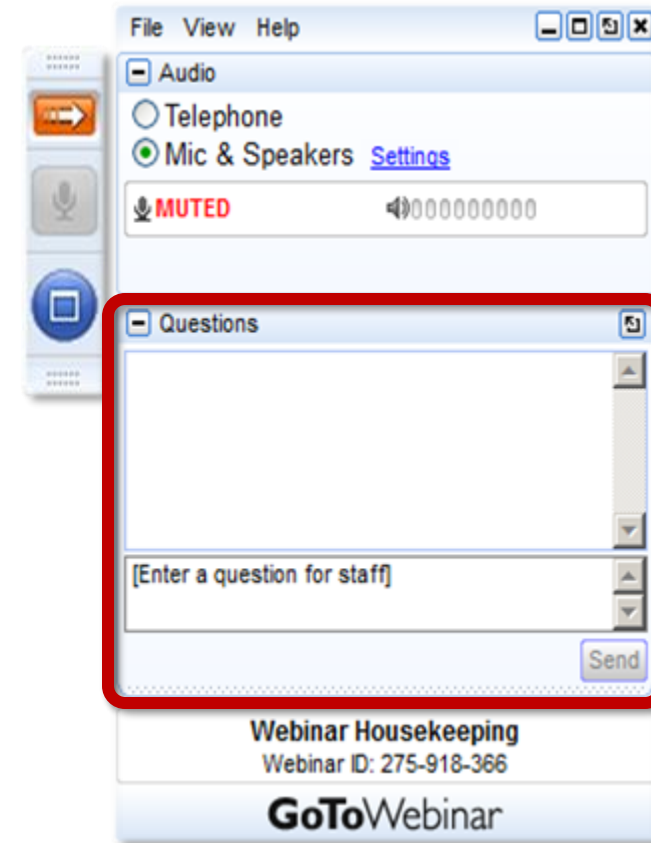
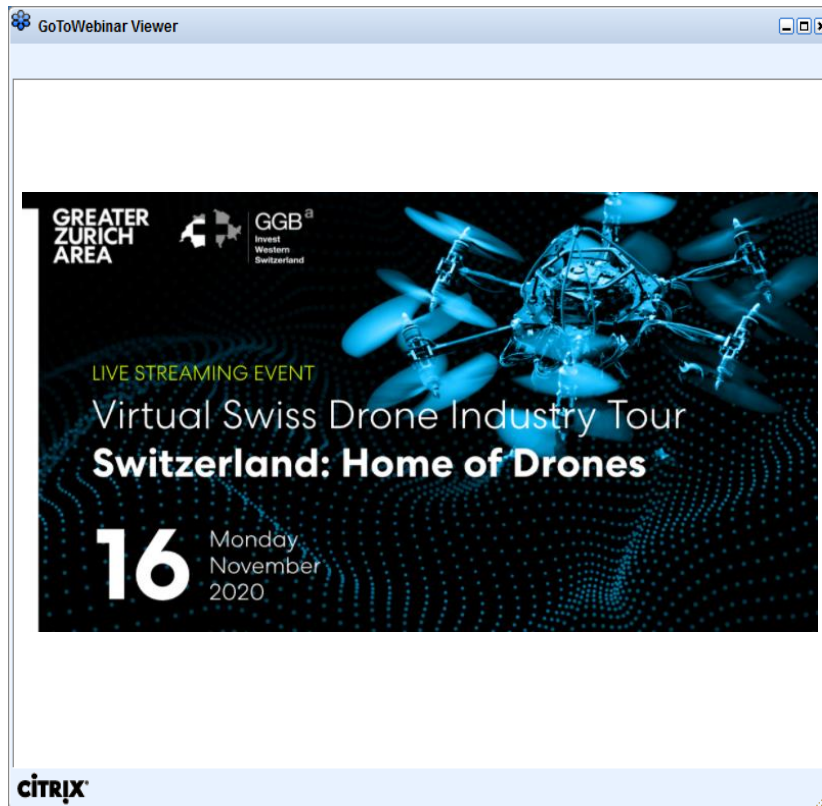


Connect & integrate



Advice & support

Webinar Housekeeping



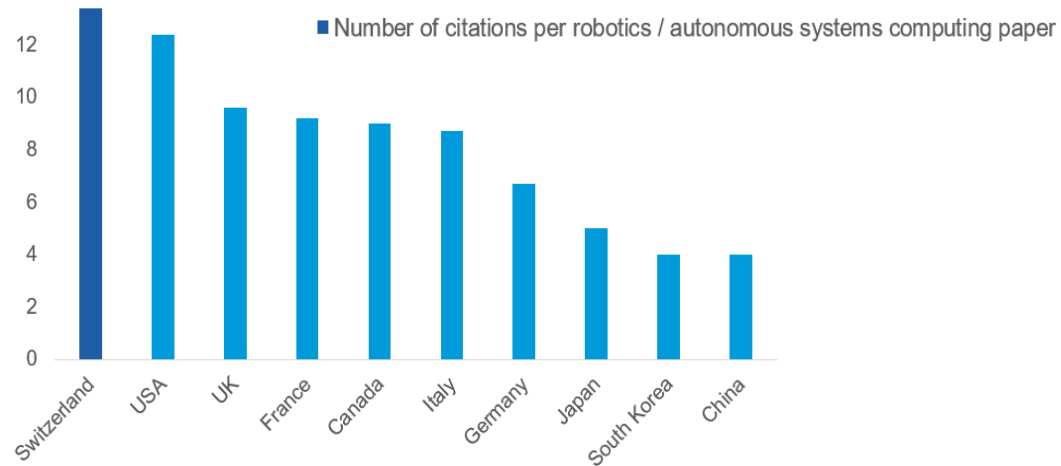
All webinar recordings available on: greaterzuricharea.com/webinars
ggba-switzerland.ch/en/webinars



"Switzerland is the Silicon Valley of robotics"

“The Silicon Valley of Robotics & Autonomous Systems”

Global #: influential research and development



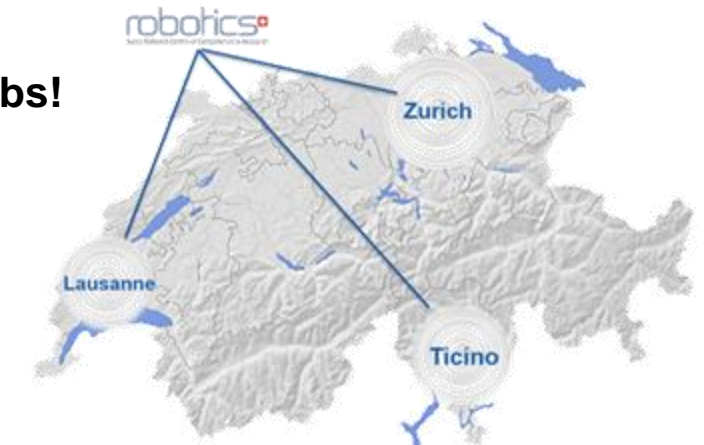
...world leading institutes & initiatives



Disruptive Companies



Biggest Swiss Hubs!



Sources: Web of Science Thomson Reuters, 2018; CB Insights; Gottlieb Duttweiler Institute, GDI, investiere.ch ranking 2018, EIGE 2018

Manu Lubrano

President DIAS
CEO & Co-Founder Involi

Ph.D. in Manufacturing Systems and Robotics,
Lausanne (EPFL)

Career: GUTMA Board member, former Head
Industrialization at senseFly

manu.lubrano@involi.com



Marcel Kägi

Innovation and Digitalization Manager FOCA

MA political science and law, University of Bern,
Executive Master in Public Administration, London
(LSE).

Career: Head International Aviation Safety Regulation,
rep. Switzerland at the UN General Assembly.

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Kevin Sartori

Co-Founder Auterion
Board Director of the Dronecode Foundation

Master in Robotics from ETH Zurich
MBA from UC Berkeley

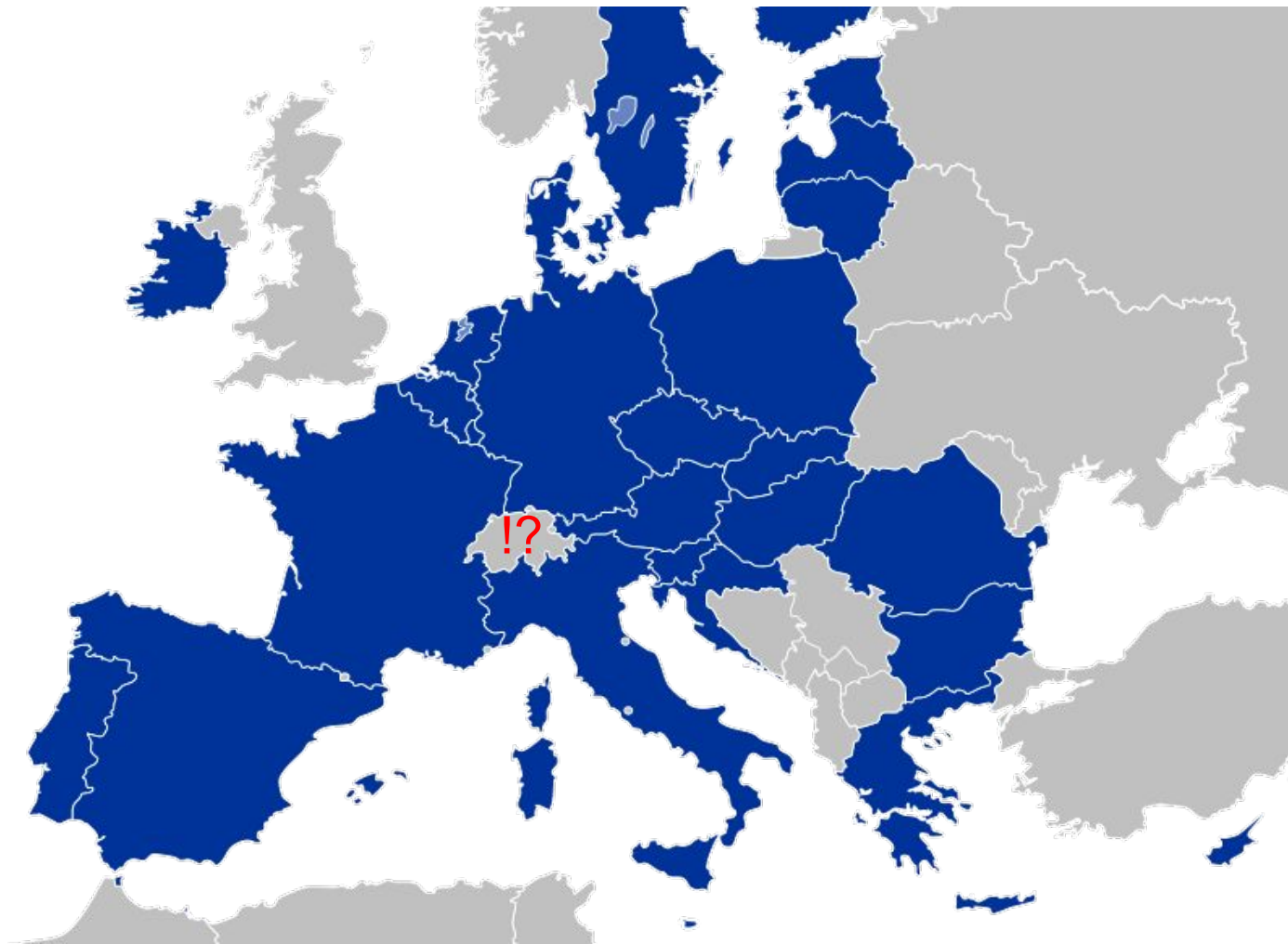
Career: Pixhawk team at ETH Zurich,
Boston Consulting Group, 3D Robotics

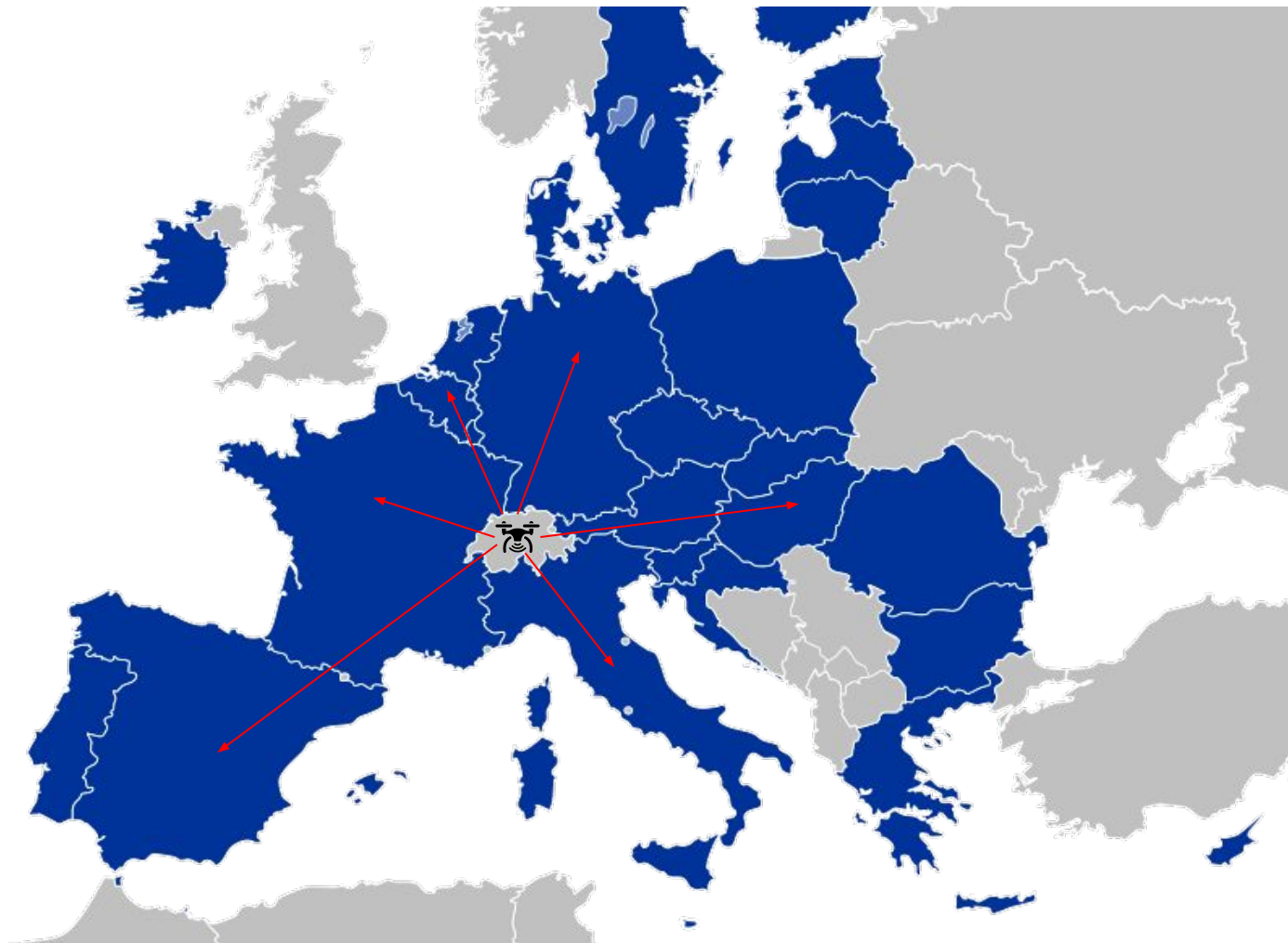
kevin@auterion.com



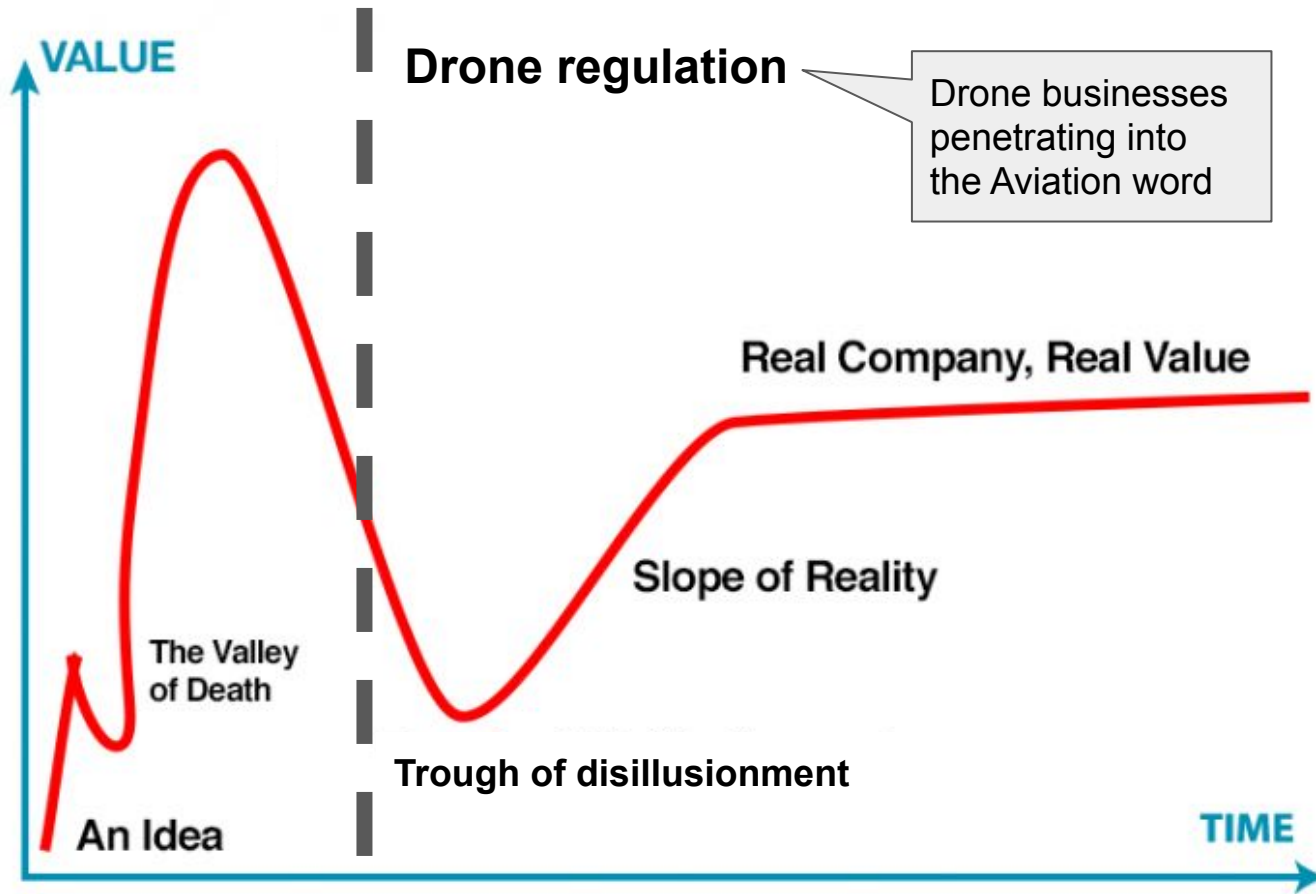
Introduction to DIAS

November 16, 2020
Manu Lubrano - President, DIAS









Our Mission

1. Facilitate access to **Standards** and **Regulations**
2. Foster **Collaboration** within the DIAS community
3. **Promote/Support** the Swiss Drone Industry **Abroad**
4. **Communicate with the Public** and Promote DIAS Members



Our Members



AIRMAP



Auterion



FIXPOSITION



INVOLI



SONY



verity



YUNEEC





Active across all industries



Activities and Working Groups

- Permanent link between **FOCA and DIAS Members**
- **Working groups** on standards and certifications
- Participation to **events** and road shows abroad with Presence Suisse, Swissnex, S-GE, etc.
- Linking Swiss **academic** drone scene with DIAS members
- Organization of **events and networking** opportunities in Switzerland (next slides)
- DIAS WhatsApp group and Slack channels for information **exchange between members**



Joint lobbying with regulators

April 2020

Coordinated response by FOCA, DIAS and several members to push back on EASA regulations

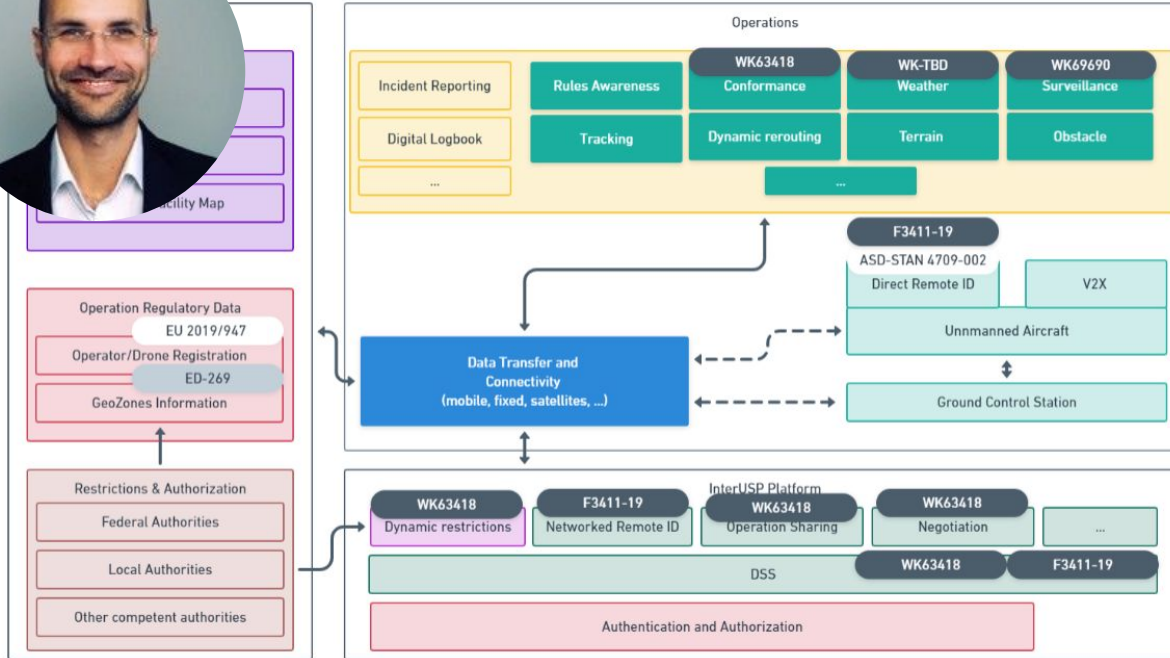


NPA 2020-07

Unmanned aircraft system beyond visual line operations over populated areas or assemblies of people in the 'specific' category

 16 Apr 2020

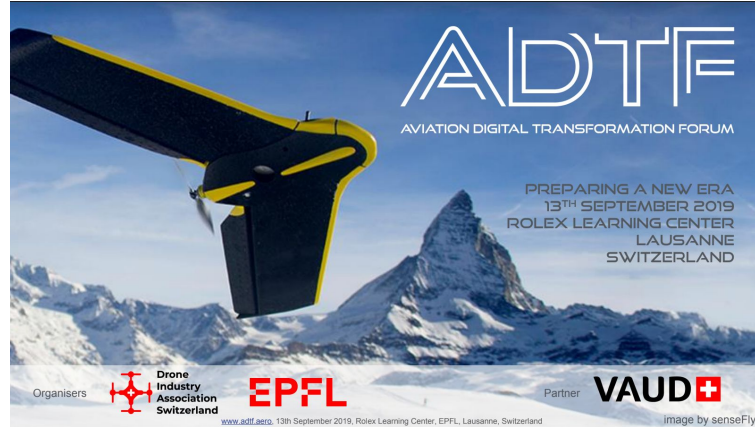
Standards virtual workshops with FOCA



DIAS is point of contact for all our members with FOCA

July 2020
First webinar on current and upcoming standards affecting the drone industry

Aviation Digital Transformation Forum



EPFL Rolex Center
September 13th, 2019
180 participants from around the world

Drone Innovation Network 2018



ETH Zurich
June 26th, 2018

**First demonstration of U-Space
in Switzerland**

In collaboration with The **World
Economy Forum**

Attended by **Swiss Councillor
Doris Leuthard**

Swiss Drone Industry Day 2018



Swiss Innovation Park Zurich
April 19th, 2018

First official Event of DIAS

Attended by all main drone
companies

Partnerships with Academia and Government

Fostering students as future professionals in the drone industry.

Associated labs are a special class of member

Promoting our members through government programs and private regional organizations.

Coordinating external communications and trade show pavilions



University of
Zurich ^{UZH}



HAUTE ÉCOLE
D'INGÉNIERIE ET DE GESTION
DU CANTON DE VAUD
www.heig-vd.ch



GGB^a
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Switzerland



enabling new business



Our Board



Manu Lubrano
(INVOLI)

President



Adam Klaptocz
(RigiTech)

Vice President



Simon Johnson
(OpenStratosphere)



Frederic Hemmerle
(Aero 41)

Treasurer



Kevin Sartori
(Auterion)

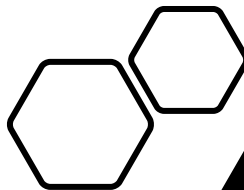
Conclusions

- Switzerland is the entry door to the **European Drone Market**
- **Drone regulation** in Switzerland is more advanced than anywhere else
- Companies getting drone regulations implemented have **more chances to succeed**
- DIAS is the **interface with FOCA** (Swiss aviation authority)
- DIAS helps with **Export**
- DIAS facilitates **communication** between its members and the public



Federal Department of the Environment, Transport,
Energy and Communication DETEC

Federal Office of Civil Aviation
Innovation and Digitalization



Marcel Kägi, head of strategy
and co-leader of the
Innovation and Digitalization
Unit at FOCA

Drone policy of the Swiss Federal Office of Civil Aviation



FOCA's role in enabling innovation

How Switzerland became the home of drones





Swiss Post / Matternet

- Swiss/American companies
- Delivery of blood samples between hospitals
- Flights in Zurich, Lugano and Bern
- Received the world's first authorization to fly BVLOS over a city and in CTR
- Started to operate in other countries (e.g. US) recently







Meteomatics

- Swiss company
- Provides meteorological data with drones
- Authorized to fly at a height of 19500 ft (5 km) in certain areas
- International reach







Crop Spraying

- Approximately 20 authorized companies in CH
- FOCA is the competent authority and coordinates the work between the various offices
- Facilitated authorization procedure thanks to a simplified methodology
- Leads to lower cost, more accuracy and sustainability
- Still not common elsewhere in Europe to restrictive regulation





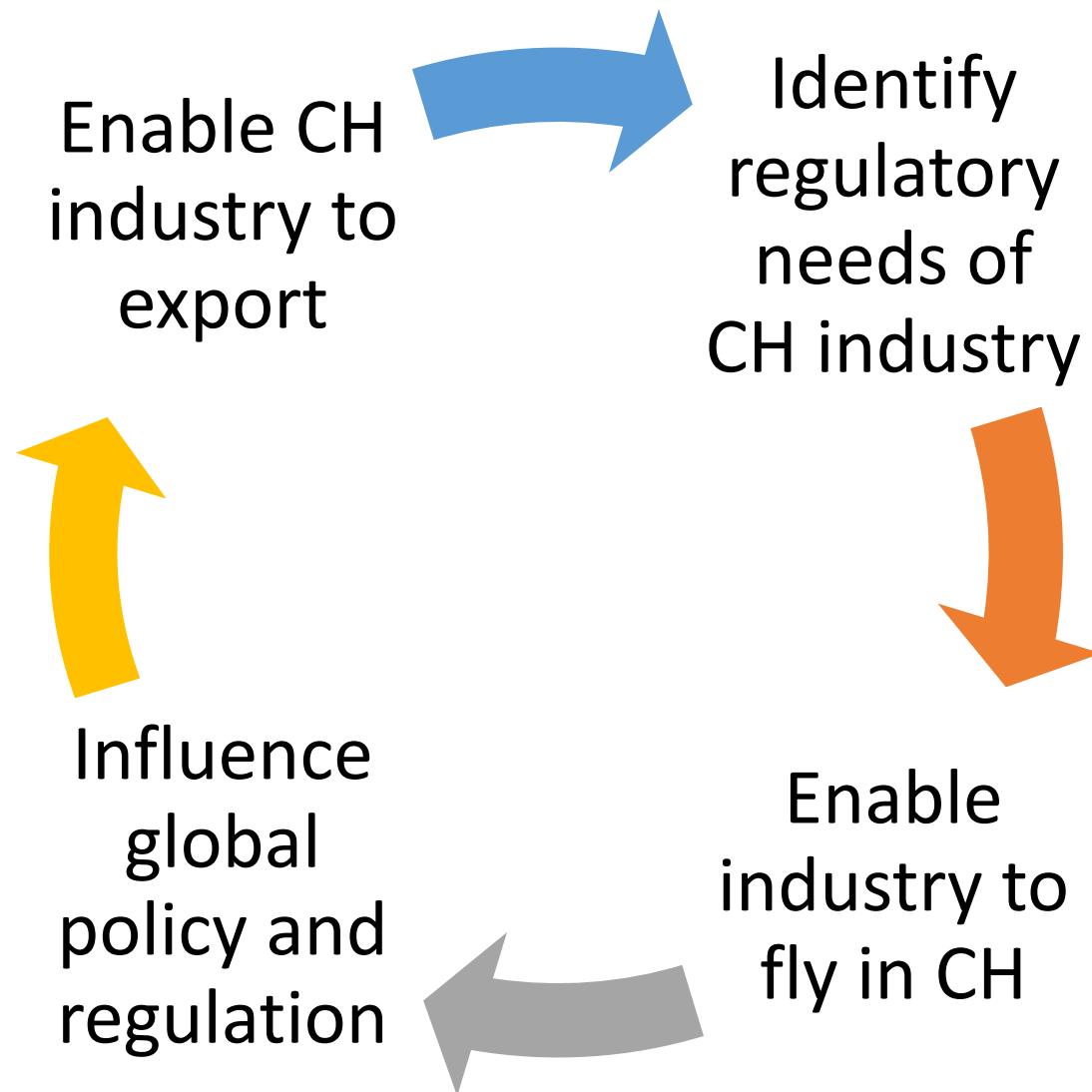


Swiss drone regulation - Specific Operation Risk Assessment (SORA)

- Non-prescriptive
- Risk based
- Applicant / industry can propose safety case
- In the process of becoming a global standard

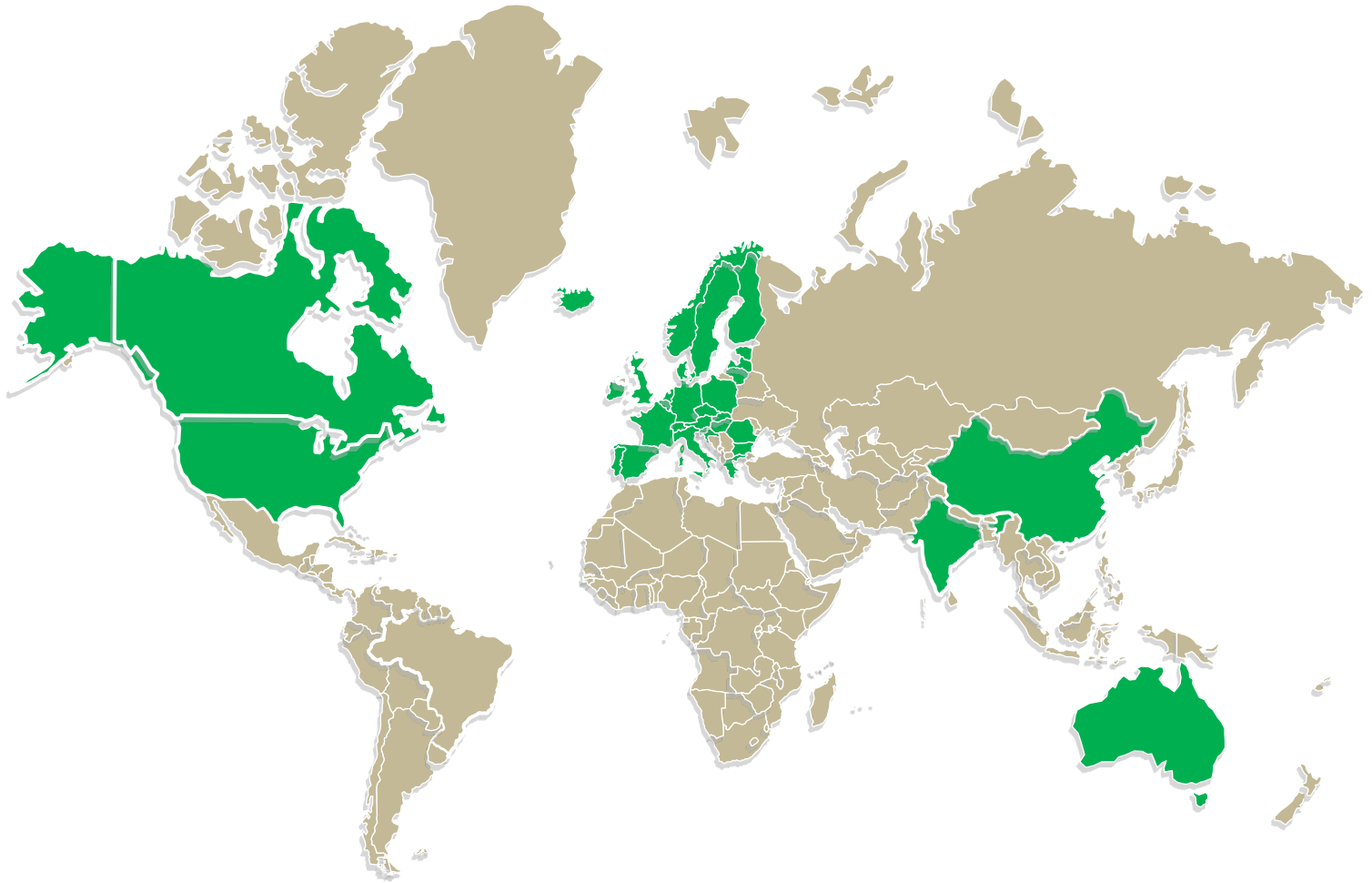


FOCA as an innovation enabler – SORA



SORA

An emerging global standard for drone regulation

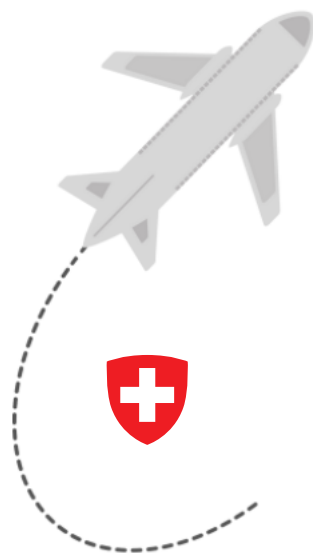




Committed to cooperate



ICAO



Excellent exchange with universities and institutes



FOCA is involved with all drone associations in Switzerland
(DIAS; IG Drohnen;...)



Declaration of Intent with the FAA



SUSI: An exemple of collaboration

AIRBUS

AIRMAP



AV/SION



droit



Next milestone – network based

FLARM



INVOLI

INNOV

ATM



MATTERNET



meteo matics



2020



swisscom



TruWeather SOLUTIONS

UNICOOPHERE



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation

Bundesamt für Zivilluftfahrt BAZL
Office fédéral de l'aviation civile OFAC
Ufficio federale dell'aviazione civile UFAC
Federal Office of Civil Aviation FOCA



So why Switzerland?

- Civil Aviation Authority with innovation friendly track record and highly qualified staff;
- Highly connected at international level with proven impact on global policy, regulation and standards;
- Among the best universities worldwide in the field of engineering and technology, ensuring availability of highly qualified potential employees;
- Already existing digital aviation ecosystem;
- World leading digital infrastructure for the integration of drones in the airspace (UTM/U-Space);

Auterion and the story of PX4



Kevin Sartori

Co-founder

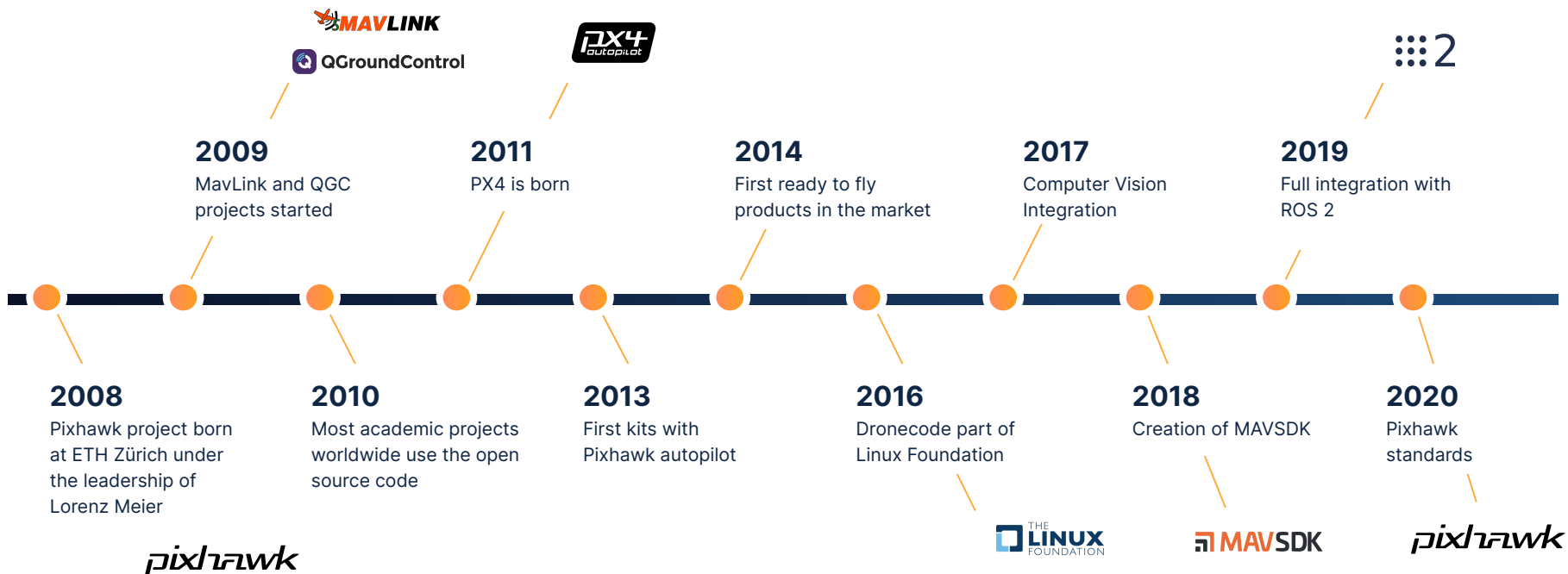
kevin@auterion.com

November 2020

ETH Zurich in 2008: The Pixhawk team



On the same mission for over a decade



PX4 powers anything from consumer drones to eVTOL

List of some of the PX4 adopters.



KITTYHAWK



YUNEEC



Altavian



IMPOSSIBLE
AEROSPACE



Auterion and the story of PX4



PX4
autopilot





PX4
autopilot









The PX4 ecosystem in numbers

10,000+

developers using PX4

1,000,000+

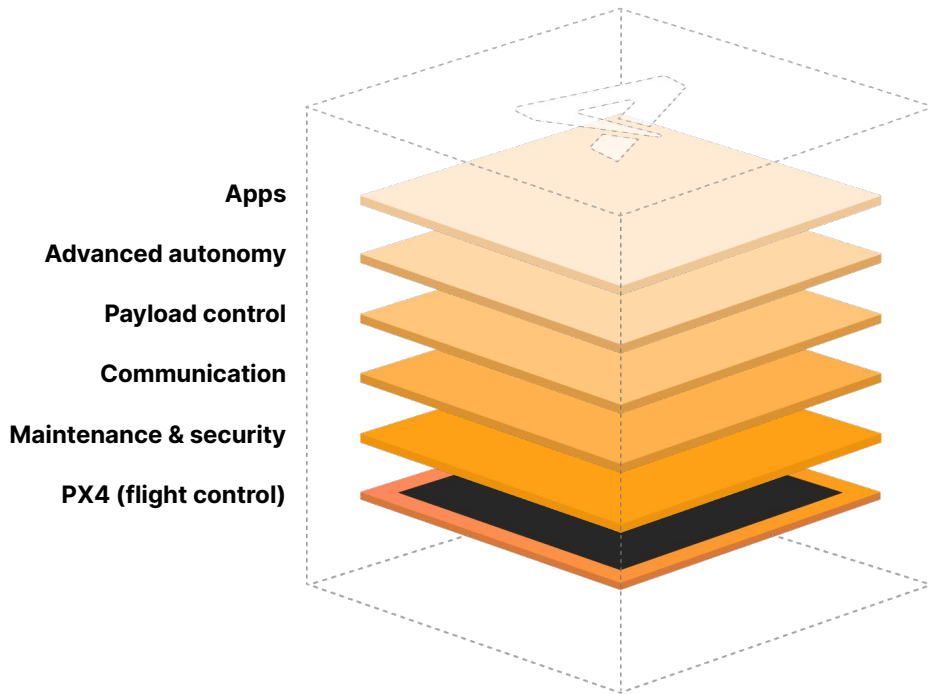
Drones using PX4,
the kernel of
Auterion OS



Every open source ecosystem needs a catalyst for commercial adoption

Auterion platform

- Enterprise distribution of PX4
- Tested, managed, updated, and certified
- Additional features that an enterprise user cares about
- 51% of contributions to PX4 are from Auterion



The Auterion software platform

On the ground
Mission Control



In the air
Enterprise PX4



In the cloud
Auterion Suite



Auterion, the largest Ecosystem of Vehicles & Payloads.



Freefly
[Alta X](#)



Freefly
[Astro](#)



Quantum Systems
[Vector / Scorpion](#)



Vantage Robotics
[Vesper](#)



AVY
[Aera](#)



**Add a
vehicle**



Sony R10c
20.1mp



Sony QX30U
30x Zoom



Sony A7R IV
61 MP Full frame



Wiris Security
30x Optical



Colibri 2
20x Zoom



Trillium HD40
10x Zoom

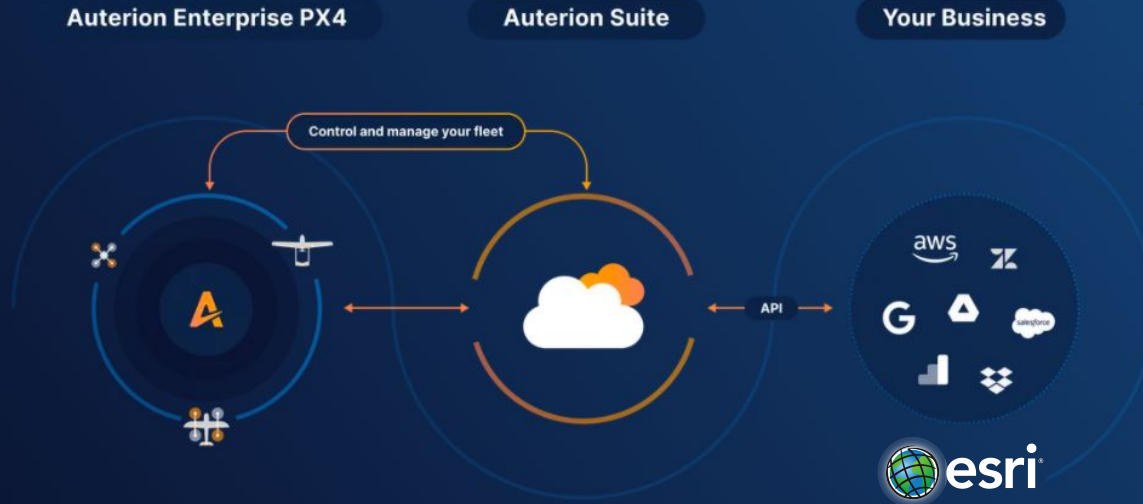


Lidar



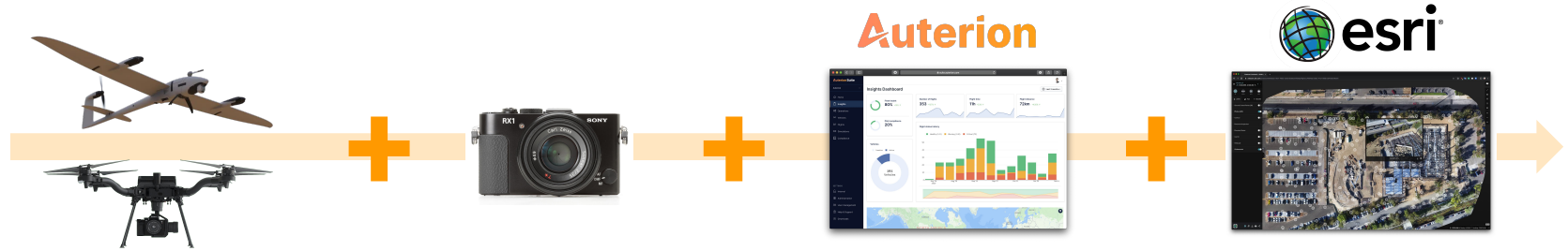
**Add a
payload**

The Auterion platform connects sensors to the cloud so that services to be **automated**



Auterion integrates existing software and systems, so enterprises can use real-time drone data within their existing workflows

Example workflow: mapping




android



Auterion




The company that could change the U.S. drone industry!

**Forbes**

EDITORS' PICK | 2,523 views | Sep 10, 2020, 04:41am EDT

One Company Could Transform U.S. Drone Industry

**David Hambling** Contributor 
Aerospace & Defense
I'm a South London-based technology journalist, consultant and author

 A Pentagon initiative for [open-source drones](#) is sending ripples beyond the military market. Small military drones will now conform to the new [Blue sUAS](#) standard, encouraging suppliers to use software supplied by [open-source leader Auterion](#). Last week [five new drones](#) were cleared for purchase by U.S. military customers under the new standard. The move to open source could revitalize the American drone industry and create new opportunities for small and medium companies.





"This is not just a disruptor for the industry, it is a move of geostrategic importance," [Auterion CEO Lorenz Meier](#) said in an interview.

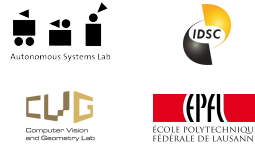
and the story of PX4

Why Switzerland?

1 World class education



2 Internal competition



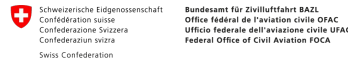
3 Talent pool



4 Support for founders



5 Progressive regulations



6 Home of PX4



Auterion



Contact

kevin@auterion.com

Q&A



Virtual Tour Future Dates

Innovate and Collaborate

Wednesday, December 2, 2020 (11am EST / 8am PST / 5pm CET)

Learn how companies collaborate with the world's leading drone labs and how they can apply for federal funding to support their advancements.

Testing and Refinement

Monday, December 7, 2020 (11am EST / 8am PST / 5pm CET)

Discover how companies are testing and refining their technologies in real-world conditions and find the ideal testing ground.

Partner and Deploy

Monday, December 14, 2020 (11am EST / 8am PST / 5pm CET)

Partner with Swiss companies and regulators and become one of the pioneers in deploying new drone technology.

Have we left one of your questions unanswered?
Contact us and we'll be in touch shortly.

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