



Use of Drones for Postal Delivery in Switzerland

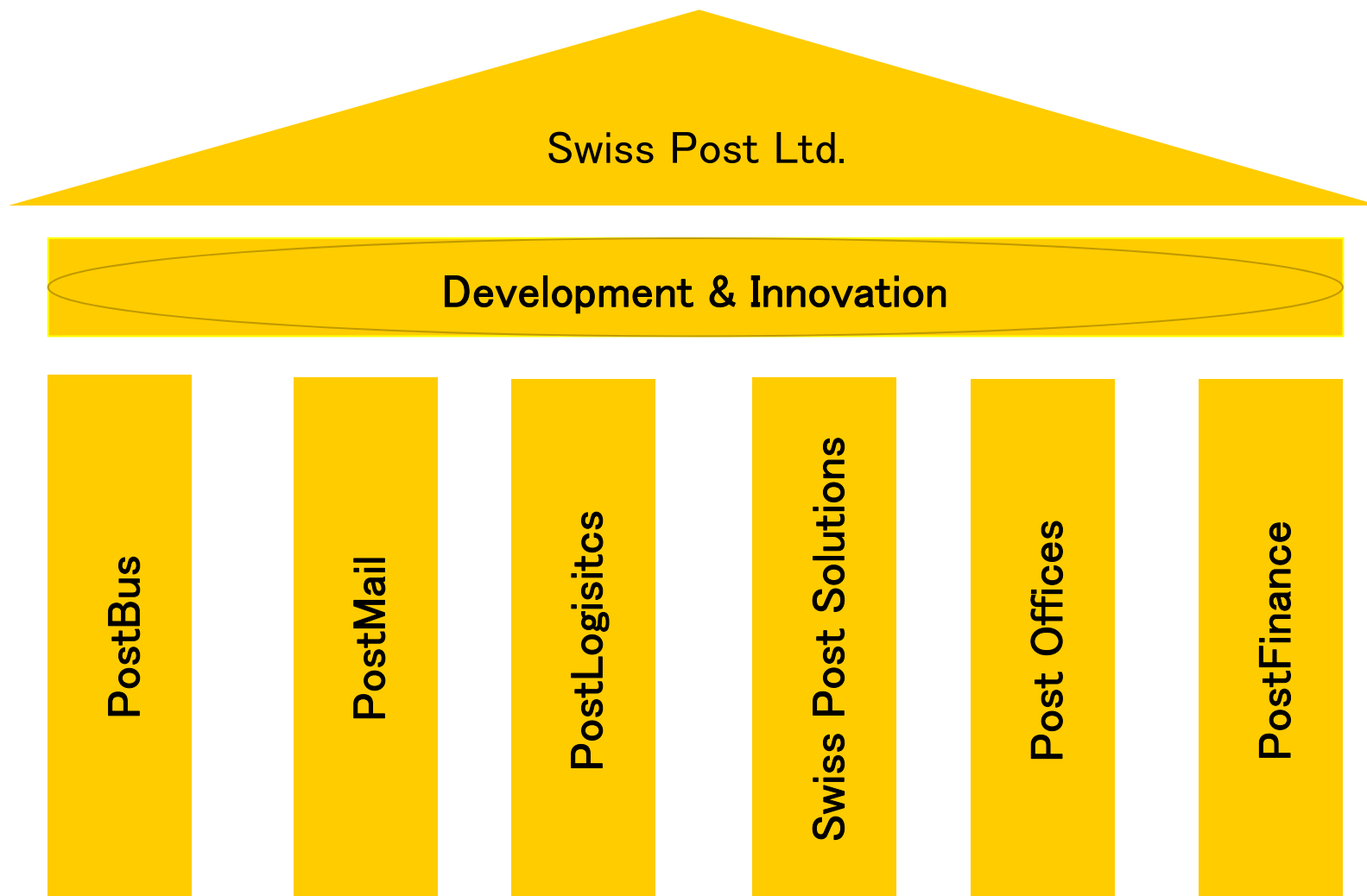
Janick Mischler
Open Innovation Swiss Post

Yellow in motion.

SWISS POST 

Who is Swiss Post?

Swiss Post



Swiss Post – Innovation for the future

Speedy Shopping



Mobile Payment



Self-Driving Public Bus



**Drone Delivery in
Switzerland – what
have we done so far?**

Technical Proof-of-Concept

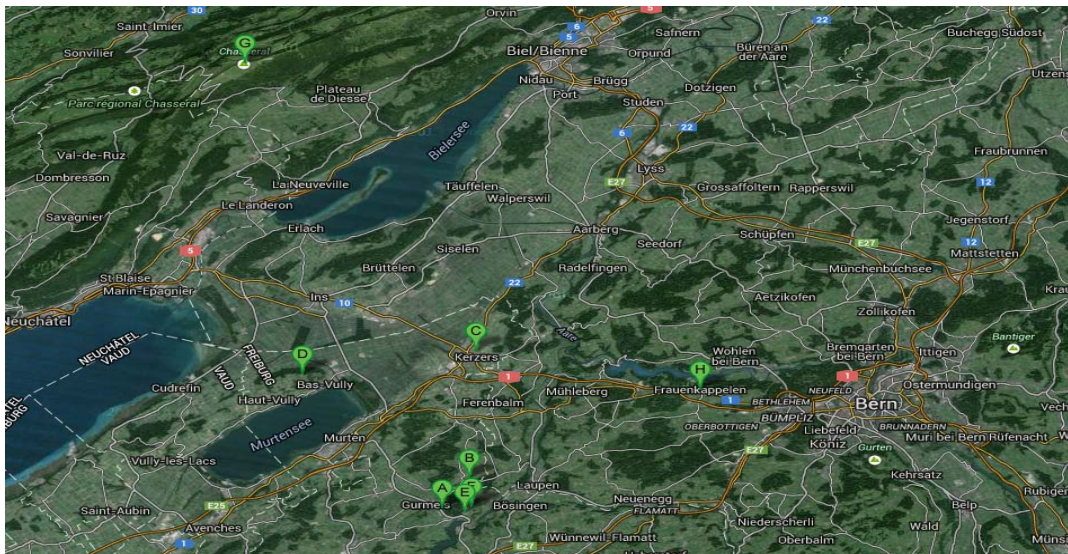
- One year ago, we met Matternet – a drone manufacturer from Silicon Valley – and discussed possible cooperations in Switzerland.
- A technical proof-of-concept should be implemented to test the capabilities of drone delivery in Switzerland.
- Could drones be a delivery method of the future?



Project setup

First test phase in July 2015 in the Seeland region has been completed

- Flights of up to 9.5 km were conducted successfully
- No incidents, no drone crashes
- Positive perception among the population and in the newspapers
- First fully autonomous drone flights in Switzerland



Project setup

The drone used for the Proof-of-Concept had the following specifications:

- Quadrocopter
- Capacity 1 kg for up to 10 km
- about 40 km/h
- Autonomous flight



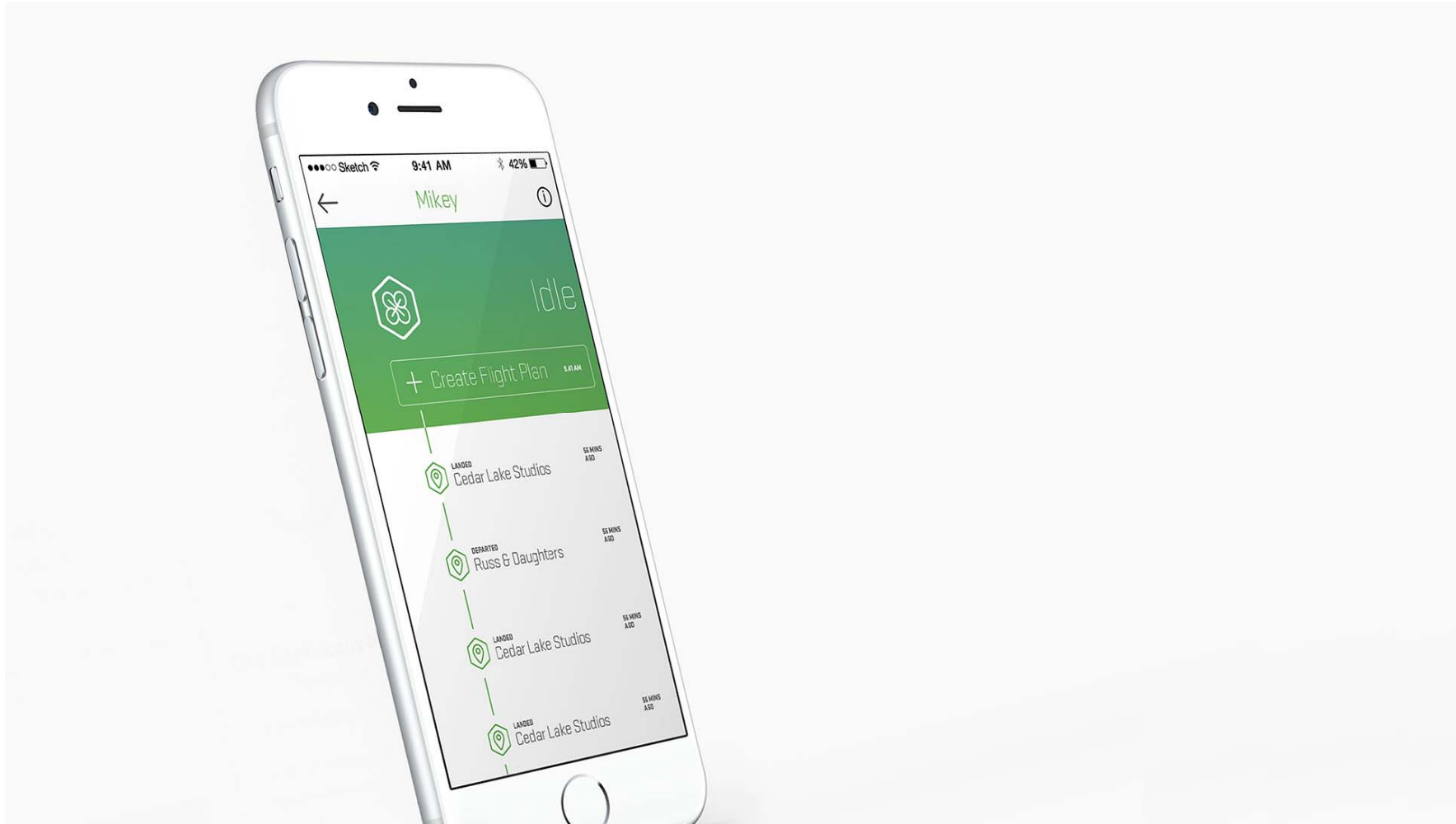
Good box



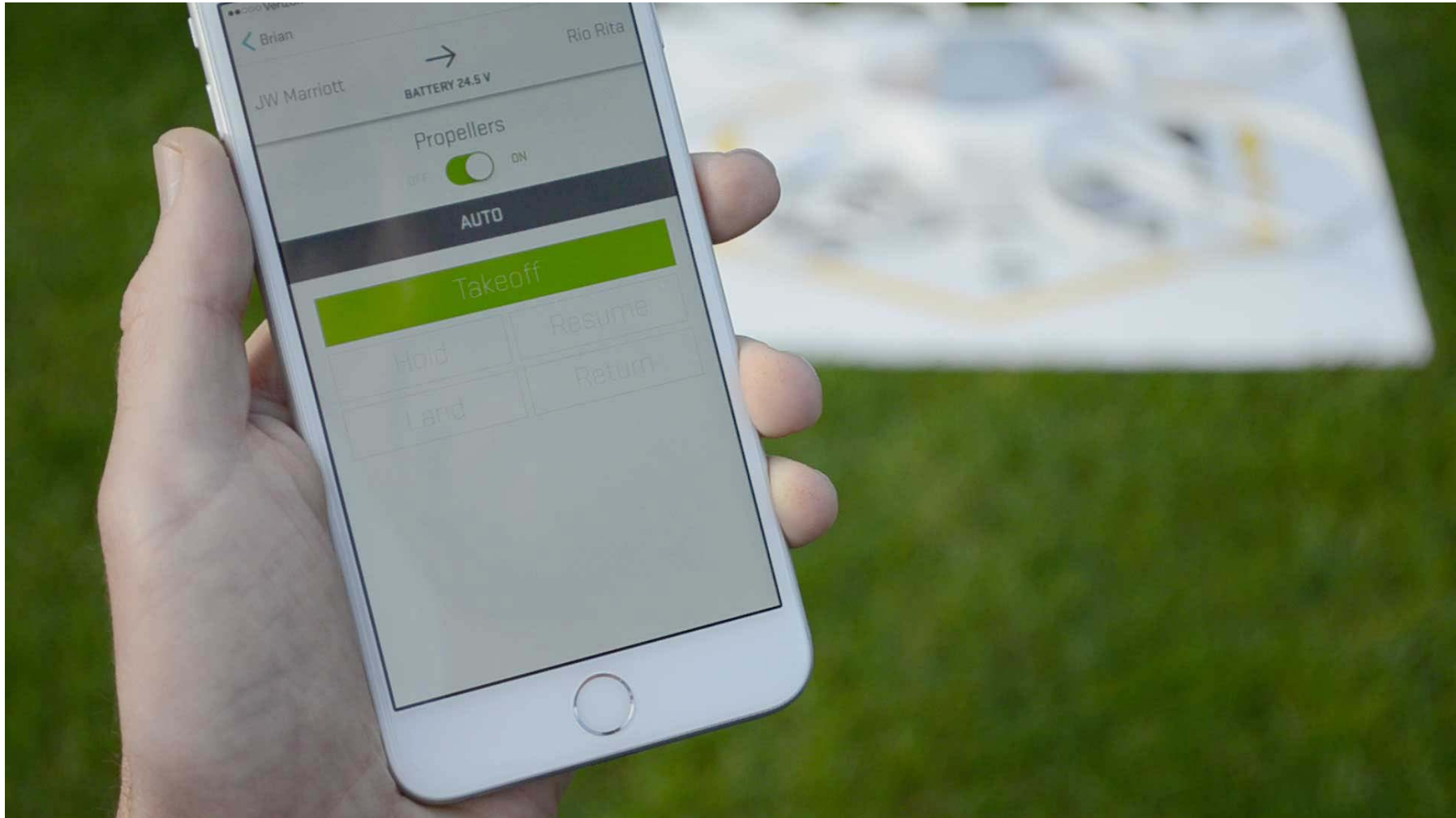
Route planning



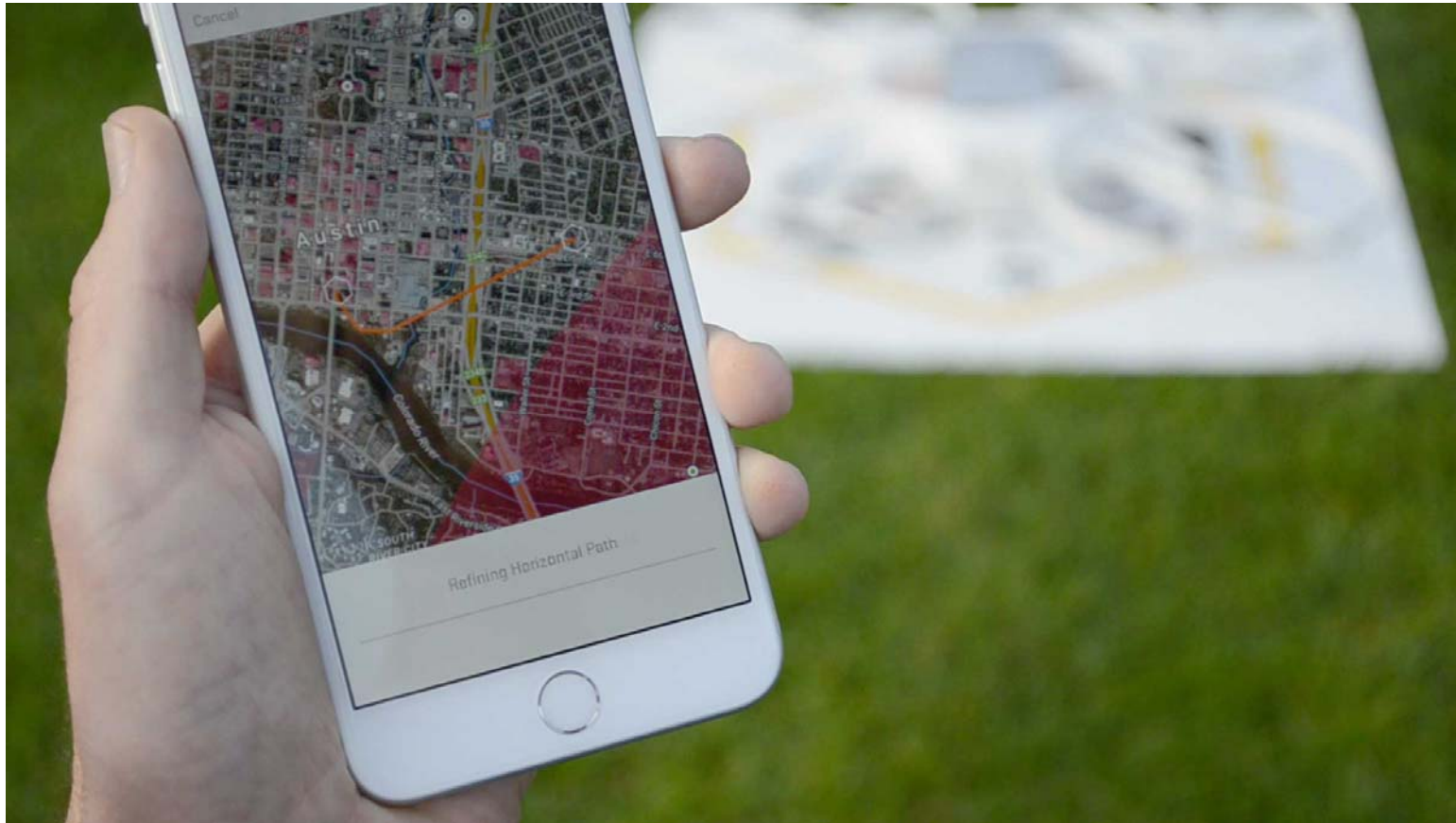
Flight operation via smartphone



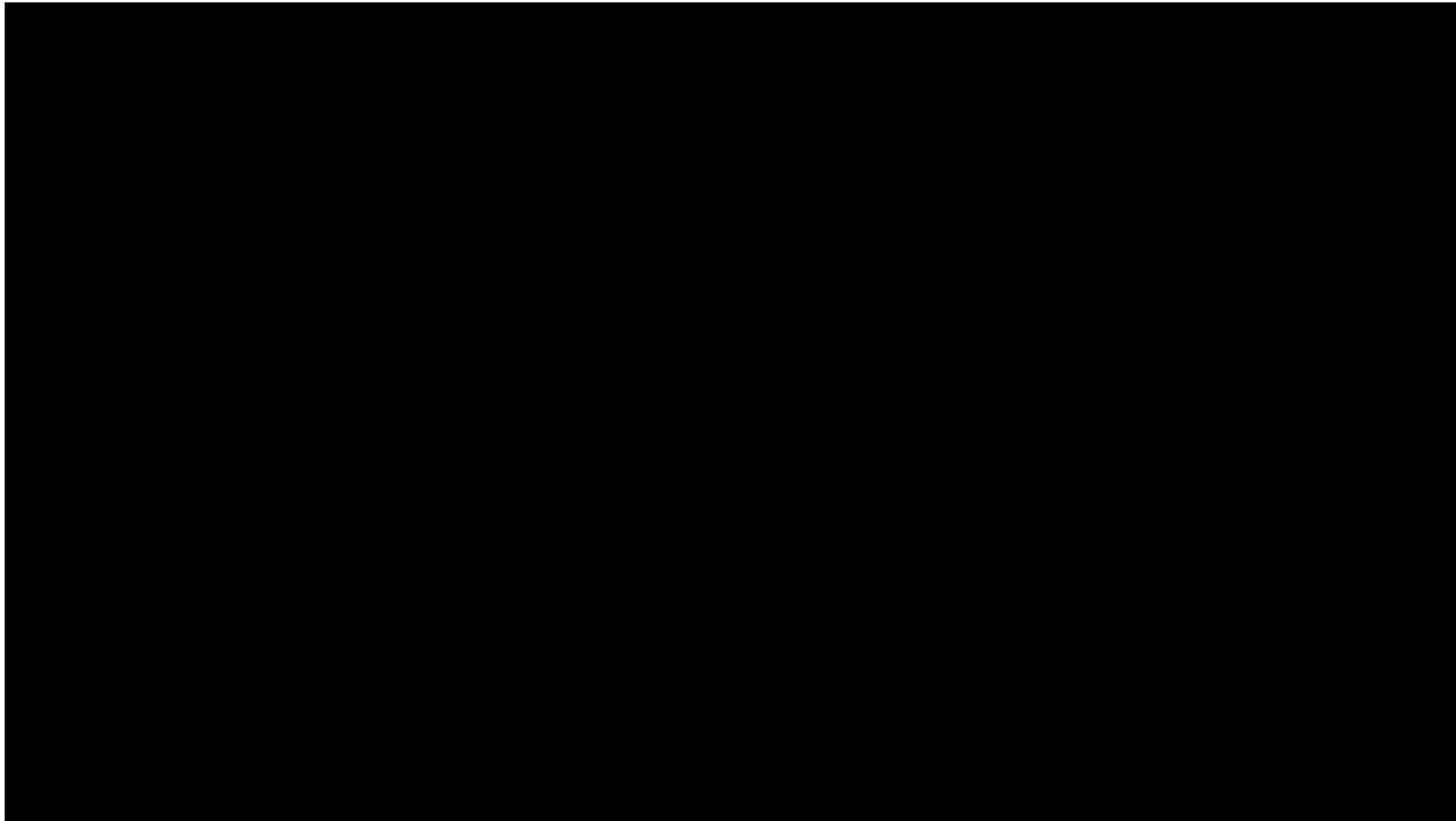
Takeoff command



Live-Tracking



Worldwide press perception



A success story

- The technical Proof-of-Concept was a success. In only a few months, we build up the know-how about drones and proved that this vehicle may be an opportunity for the future.
- The press perception was incredible.
- So, we decided to accelerate the drone project and to look for more advanced applications in business cases.

**Drone Delivery in
Switzerland – what
are we doing now?**

We are thinking about potential business cases

Industries / Markets

- Sensing
- Entertainment
- Transport & Logistics
- Surveillance
- etc.



Switzerland – special topographic situation



Internal Business Cases: Swiss Post Logistics

- We believe that drones are useful to deliver parcels handle these special topographic situations.
- By law, Swiss Post has to serve every household, even in rural, remoted or mountain areas.
- By drones, the delivery is more effective and no longer depending from road conditions.
- Especially in mountain areas, drones can make deliveries faster.



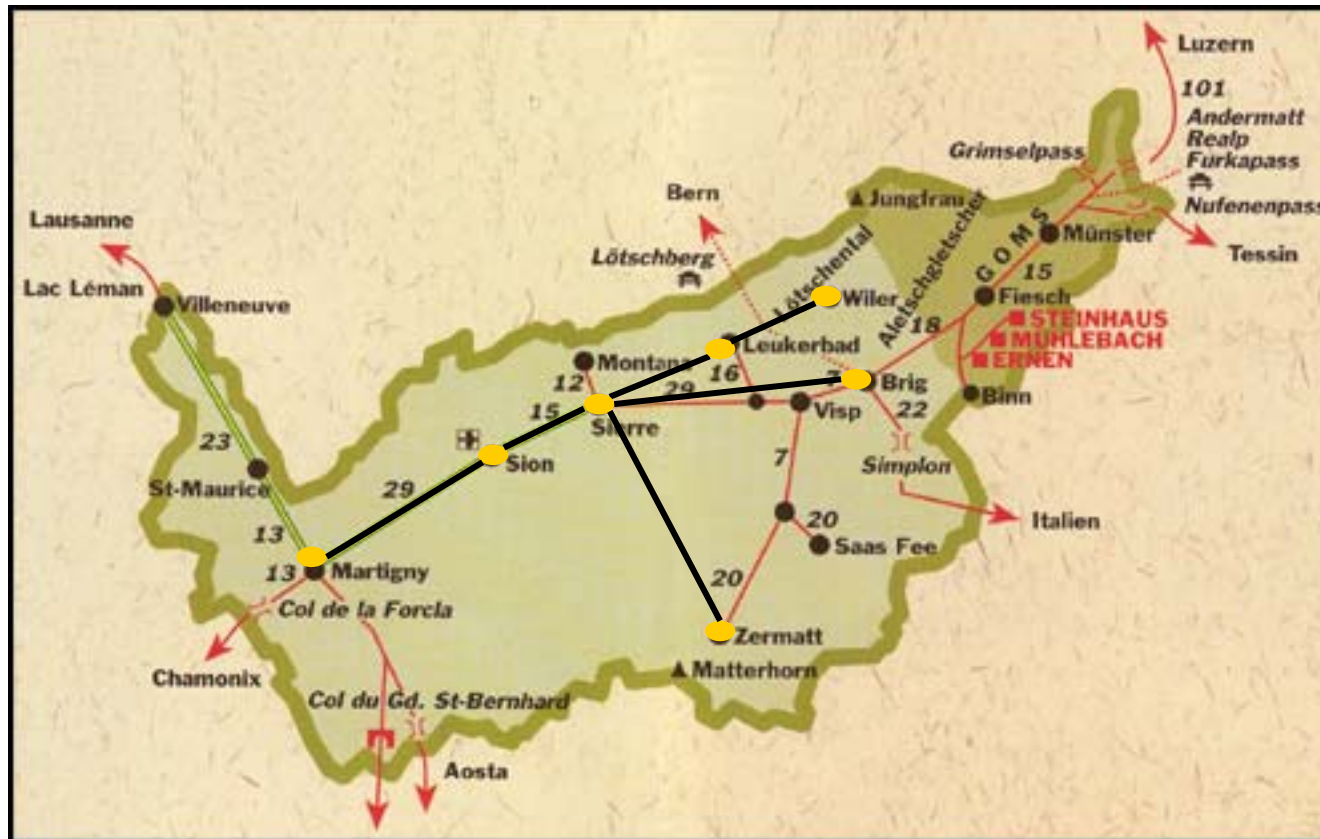
External Business Cases: Courier and express deliveries

- Today, it takes about 2 hours to pick up a parcel in a mountain area and to deliver it to the nearest town
- Employees are very expensive in Switzerland, therefore time is the cost-driver number one.
- We aim to offer drone transportation for less than 1 Swiss Franc (about 1 US-\$) per kilometer. That's much less than by classical transportation vehicles.
- Such transportation can be useful for example for medical purposes.

Possible solution: Drone network in mountain areas

- Mountain villages get connected with nearby towns by drones.
- Delivery time and cost may be reduced dramatically

⇒ We are talking to potential customers



Enabler: A new, very advanced hexacopter drone

Our upcoming drone enables many business cases in Switzerland!

- 30 km range
- 10 kg payload
- Arbitrary size of payload
- Fully autonomous flight and parcel pick up

Coming soon:

- Fully autonomous battery swap



New drone from Skycart – Prototype



Drone Delivery in Switzerland – challenges and outlook

Current regulations

Airports

- No flight zone 5 km around airports
- Special permits required

Airspace control system

- How to avoid collisions, f.e. with helicopters, aircrafts or other drones?

Flying above highly populated areas

- Getting the approval to fly over cities

In Switzerland, we are very happy about the cooperation with the regulator (FOCA) as they support us to enable the use of autonomous flying drones.

General concerns

Reliability of drones

- How reliable are drones over time and under different weather conditions?
- Gather long-term experience

Acceptance

- How will people think about a wider use of drones?
- How is the acceptance by companies and customers?

Building up the delivery chain

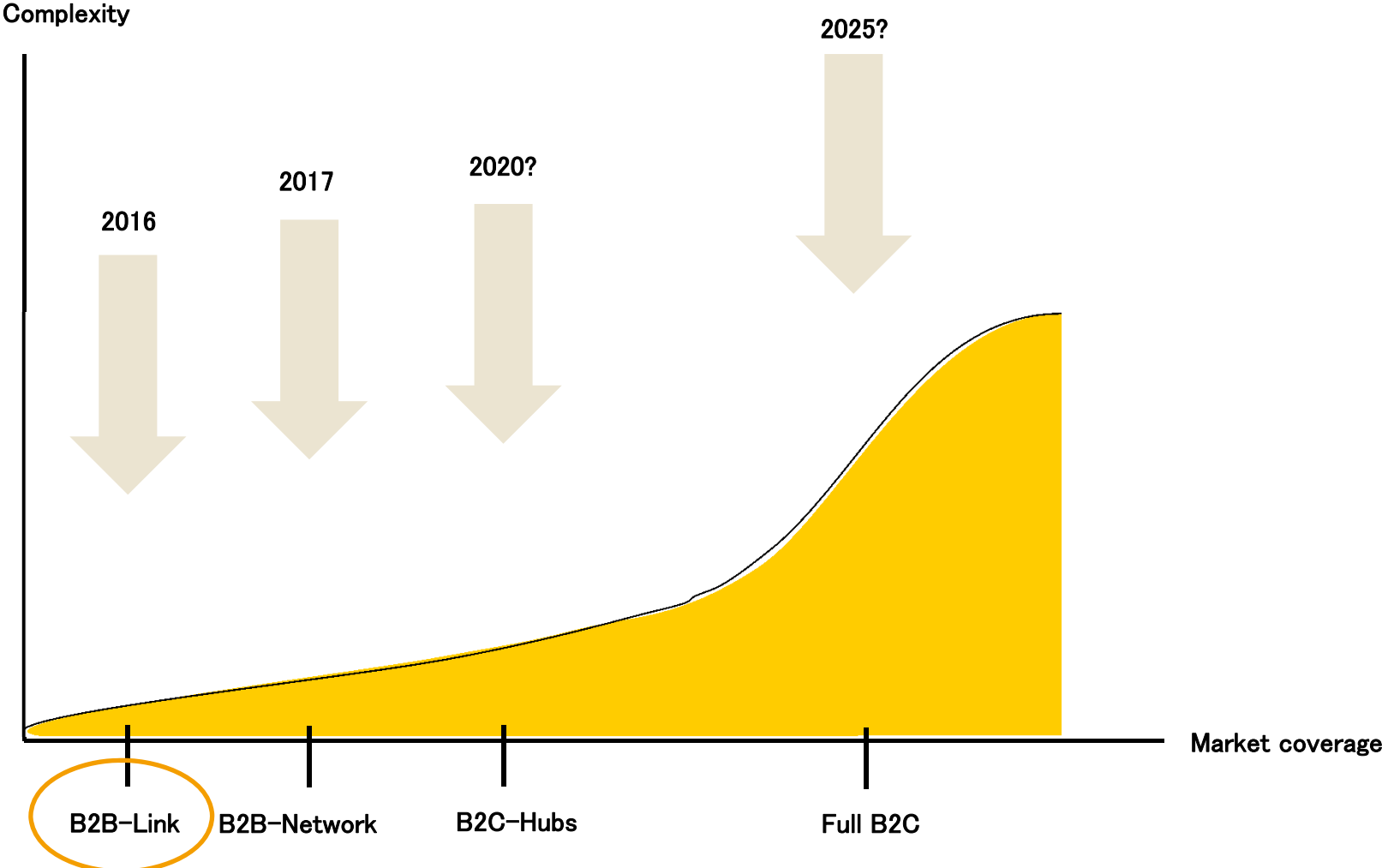
- How to deliver and pick up parcels?
- Integration in existing deliver chains
- Process concerns

What' s about the business model?

- **Drone delivery is in its infancy** and it will take some more years to get a wide acceptance. In the meanwhile, you should not talk about money, otherwise you may kill the growth of this new technology.
- However, we think that some day, **drones may be offered as a service.**
- Eventually, drones will not replace our **postmen** as they **are very efficient in highly populated areas** like towns, but drone delivery is very suitable for special deliveries.

Drone Delivery in Switzerland – what's next?

Implementation of business cases



The next big thing – presented by Swiss Post soon(?)

- We plan to implement different business cases in Switzerland.
- The first B2B solutions may be implemented in Spring 2016.
- ... and finally, we hope that these drone applications will result in similar headlines as our Proof-of-Concept did in Summer 2015:



Jared Kitcher Senior Manager - Technical Architecture at Accenture

Swiss Post beats out Amazon

Look who is first to do practical testing of using drones for live delivery.

<http://thestack.com/swiss-post-drone-post-trials-070715>

Switzerland begins postal drone trials

thestack.com • Switzerland beats Amazon and UPS to actual live postal deliveries via drone, though it anticipates five years worth of testing while a

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Thank you for your attention.

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