



# High altitude tests at Jungfrauoch

Dr. Martin Fengler, CEO  
[mfengler@meteomatics.com](mailto:mfengler@meteomatics.com)

# High altitude tests

## Desired outcome:

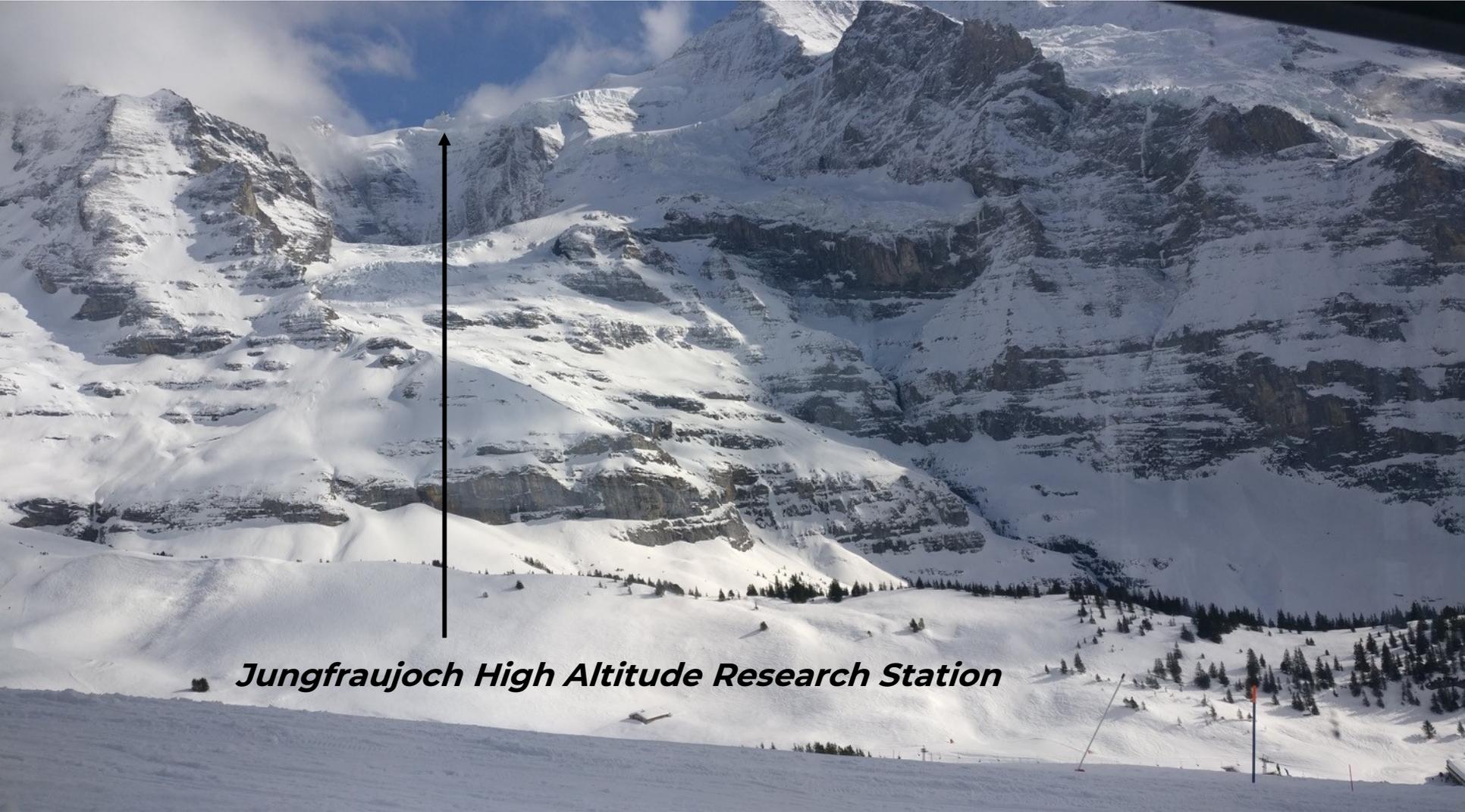
Our goal with these experiments is to specify the requirements for the propulsion system for high altitude flying. This includes the whole powertrain: battery, motors, propellers. And, this will also determine the system size and weight needed to reach the required altitude.

## High altitude tests:

- Propeller tests in a low air density environment
- Estimating thrust coefficients
- Test flights with our already existing Meteodrones



Some impressions: Only 1'500m left to climb...



***Jungfrauoch High Altitude Research Station***

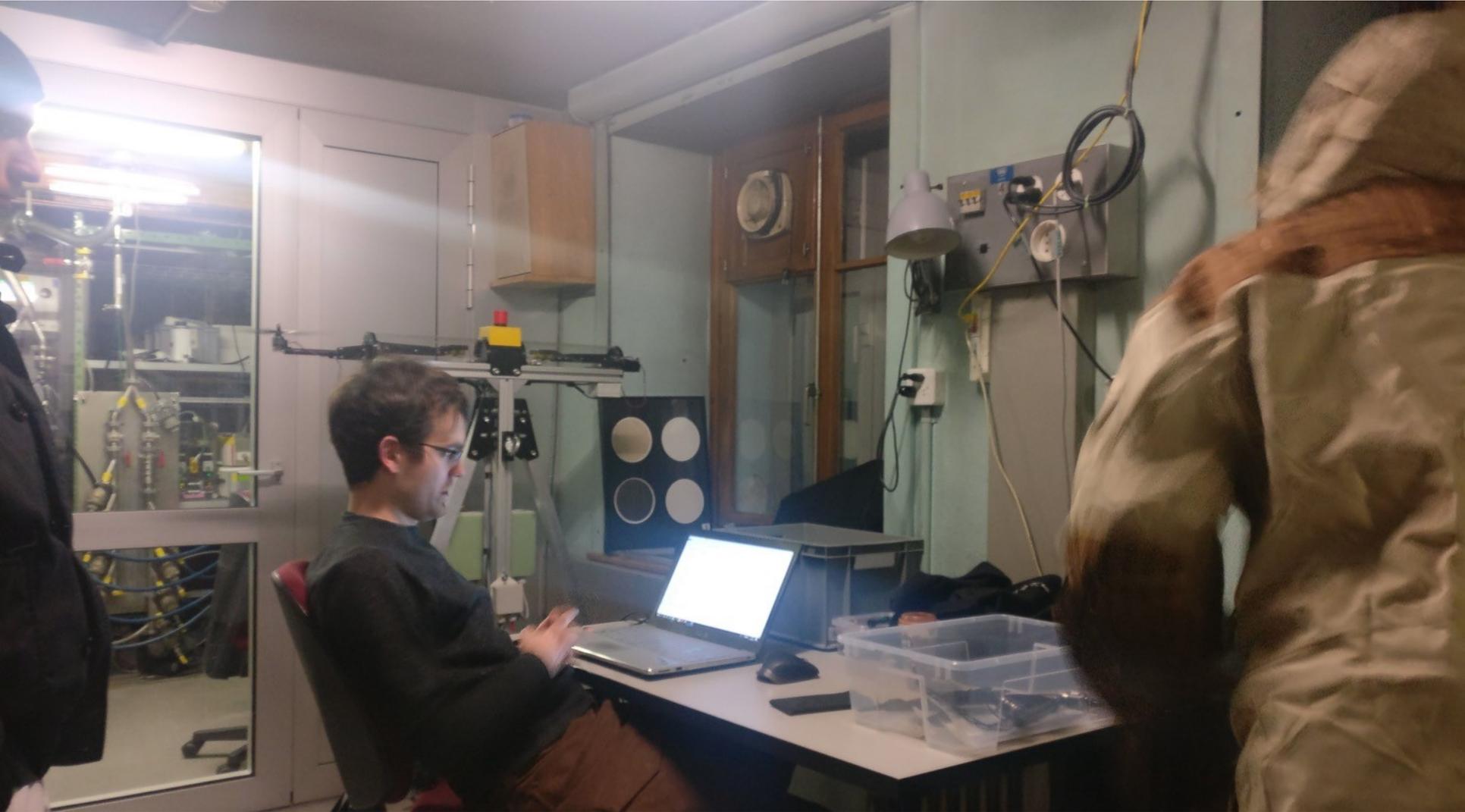
# Team arrived at Jungfrauoch (ca. 3'600m AMSL)



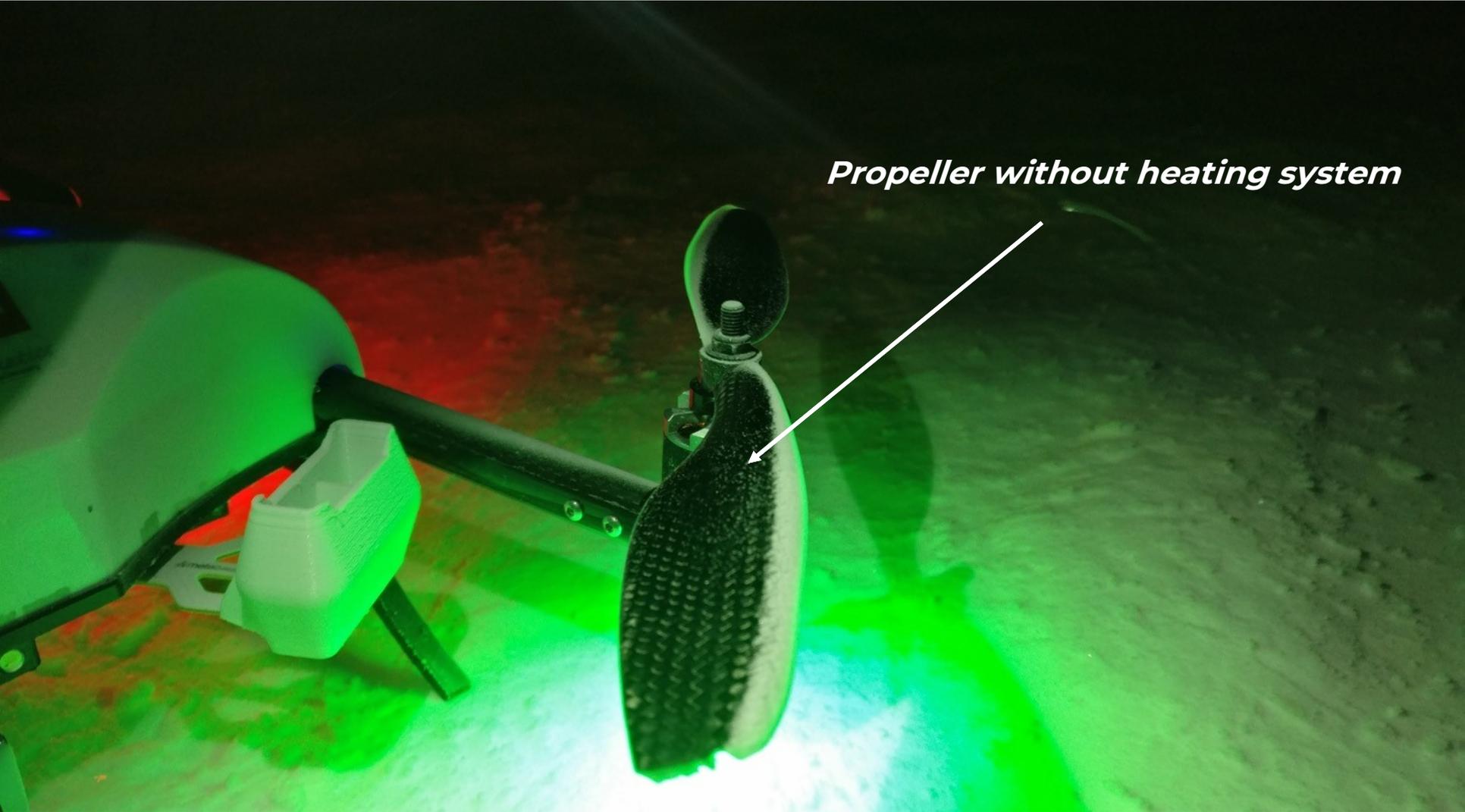
Enjoying the scenery before going to work...



# Propeller test stand from our offices...



# Icing at temperatures of $-14^{\circ}$ (hard rime)



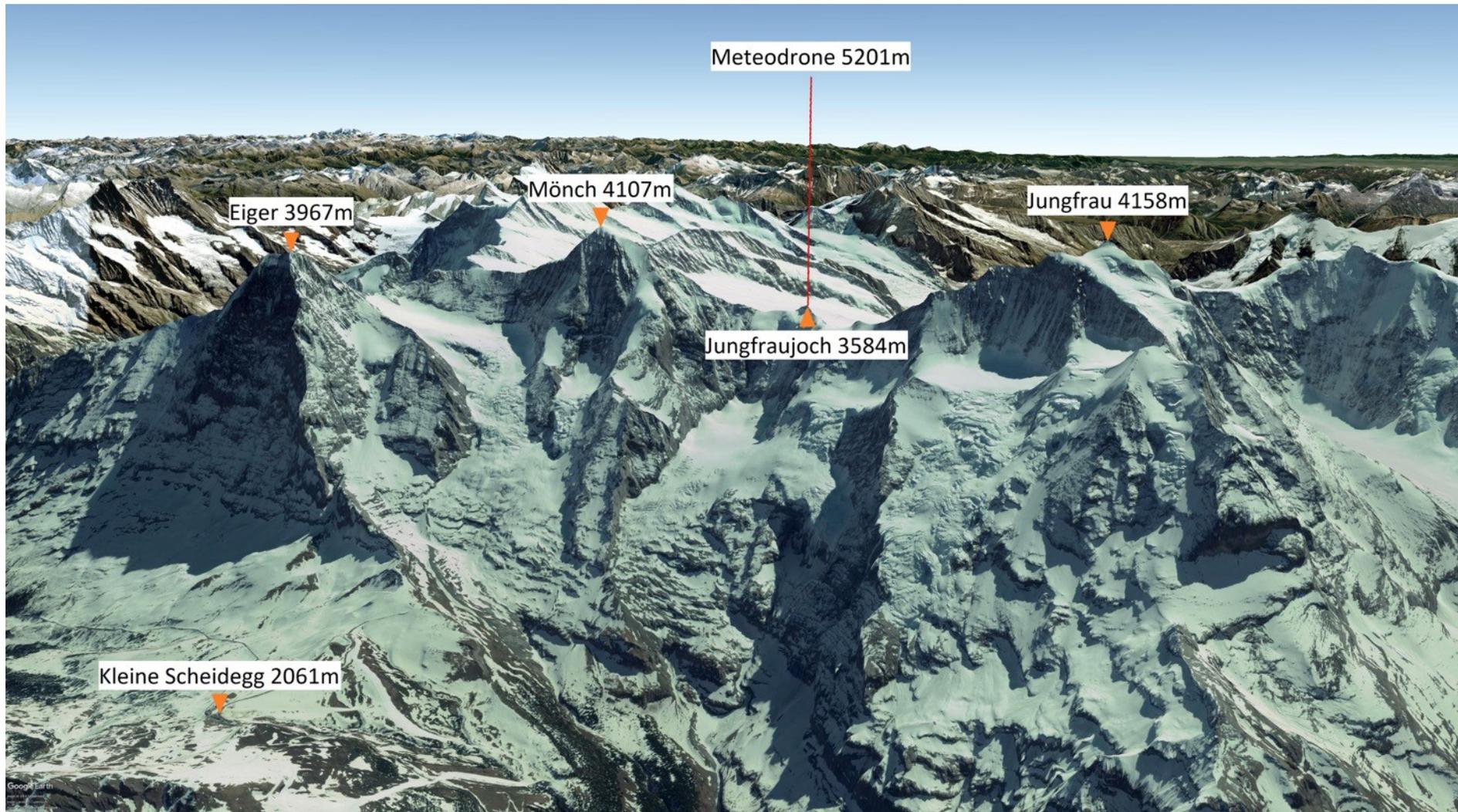
*Propeller without heating system*

# Harsh outside conditions



*Temperature:  $-14^{\circ}\text{C}$  (ca.  $7^{\circ}\text{F}$ )  
Wind:  $50\text{ km/h}$  (ca.  $27\text{kts}$ )*

# Flight profile in Google Earth





**Dr. Martin Fengler**

CEO, Founder

[mfengler@meteomatics.com](mailto:mfengler@meteomatics.com)

**Meteomatics AG**

Lerchenfeldstr. 3

9014 St. Gallen

Switzerland

+41 71 272 66 50

[www.meteomatics.com](http://www.meteomatics.com)