

A circular topographic map with contour lines, serving as a background for the central text.

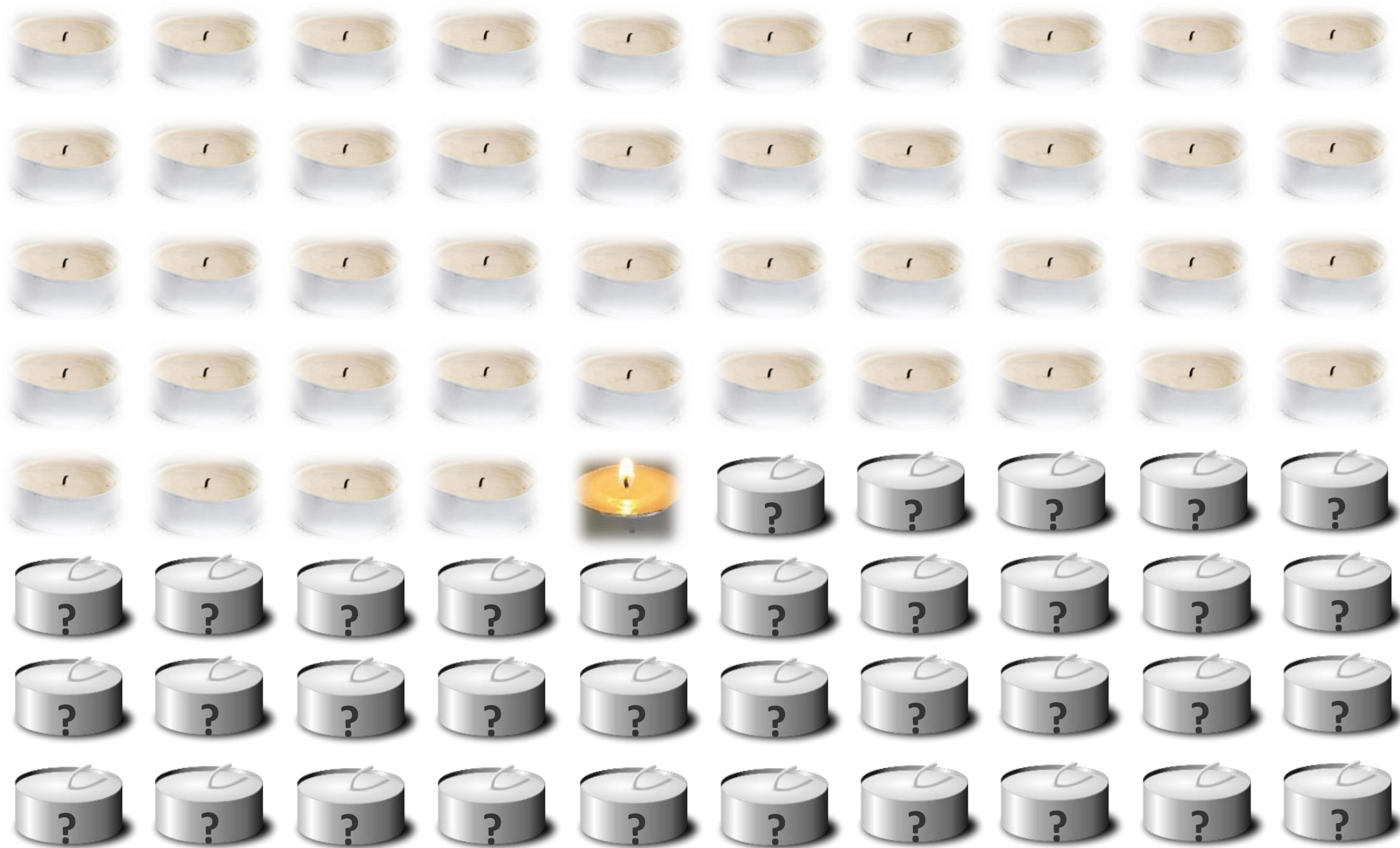
# MiLoW-RRS


**Planning recreational activities and experiencing nature**

**How space data increase safety and quality of  
experience for outdoor activities**

Martin Soutschek (Director Research), Outdooractive AG, 26.06.2023

# The most valuable thing in life – Your next 15 minutes





# Outdooractive is pioneering a new era of outdoor tourism that is safe and sustainable.

## We are driven by values

### Trust

Waist deep  
mountain  
expertise

### Pioneering spirit

We break  
trail

### Reliability

There for you  
when you  
need it

### Celebrate local

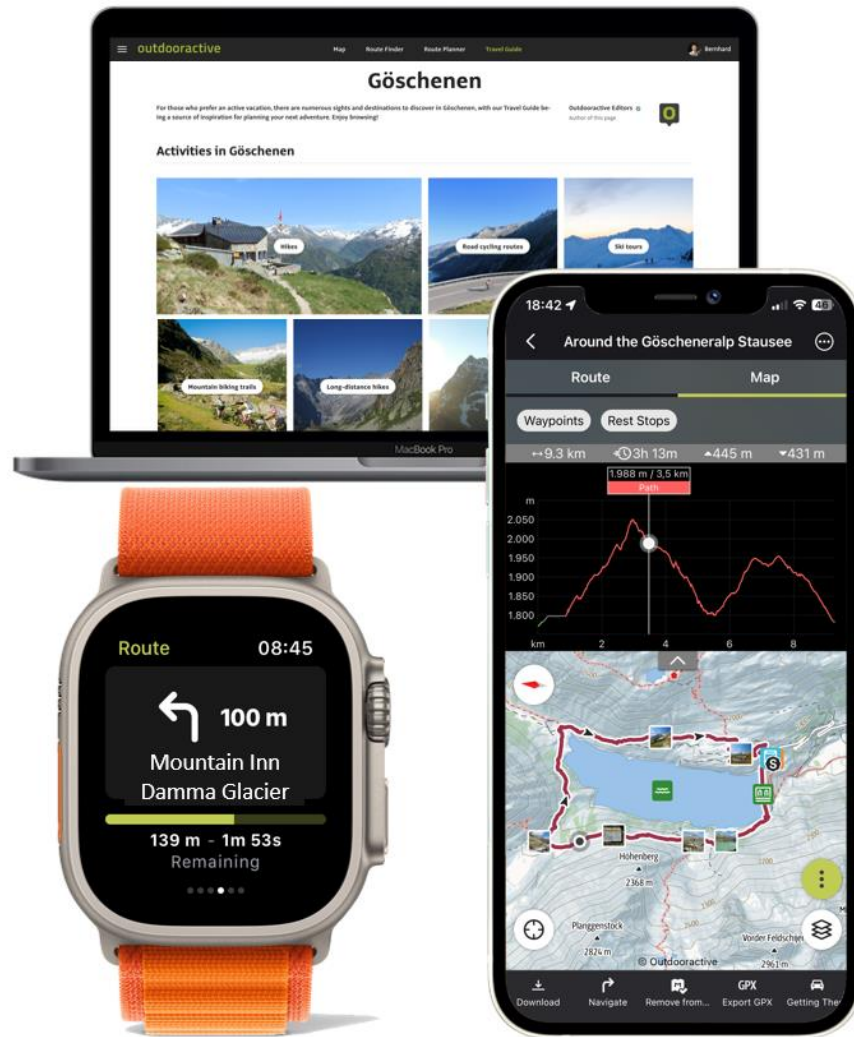
Maintain the  
local way

### Positive impact

Outdoor  
impact



# On a mission to unlock the joy of movement



# User Needs Feedback

**Benjamin H. 19.10.2020**

*"...Very beautiful round tour. As already noted in the reviews, there are no shelters. In my case, the **rain radar was unreliable** and the reception modest..."*

**Martin M. 09.11.2014**

*"...Snow fell 10 days before the tour started. **The snow depth at the Hochrieshaus was 80cm** and the Tourist Info recommended not to do the tour..."*

**Krista S., 12.06.2017**

*"...Hello, can you recommend a **reliable weather forecast service** for this tour?"*

**Ulrike R., 30.08.2015**

*"...**Providing the weather will be suitable**, I am planning to undertake this tour at the beginning of **October**. Unfortunately, the Memmiger hut is closed then. Does anyone know an alternative?"*

**Bernhard W., 08.12.2021**

*"...**Snow depth**: at the start approx. 40 cm, 50 cm at 1200m and 3/4m at the timberline. Mostly powdery. From 1800m clearly bound and somewhat more compact. From 1900m **less snow due to wind influence** and from 1970m **blown off** (the rest therefore no longer worthwhile)..."*

# Safety first – Personal responsibility and residual risk



Mo., 26.06.2023 29°C Wien

## Schneefelder: Ein Fehltritt kann tödlich sein!



Tiroler Tageszeitung

Von Polizei-Hubschrauber geborgen

## Unfall in Loferer Steinbergen: Bergsteiger rutschte 200 Meter über Schneefeld ab

Berchtesgadener Anzeiger

## Bergsteigerin rutscht auf Schneefeld am Watzmann ab – Absturz in letzter Sekunde verhindert

RAMSAU | Datum: 06.07.2020 13:41 Uhr CEST | Aktualisiert vor: 2 Jahre

## Junge Frau rutscht am Brecherspitz über Schneefeld

23. April 2022 9:02 Kommentar verfassen

TS von Redaktion

SALZBURG 24

AUF SCHNEEFELD AUSGERUTSCHT

## Tourist stürzt am "Grandlspitz" 30 Meter weit ab

33-Jähriger bei Wanderunfall in Dienten verletzt

## **Key areas to address**

- 1. Increase Safety for planning winter activities and B2B operations**
- 2. Improve safety for short term planning**
- 3. Support long term holiday and trip planning**

# Proposed value-added service offerings

1. Increase Safety for planning winter activities and B2B operations  
→ **Snow Depth**
2. Improve safety for short term planning  
→ **Short term radar and weather warnings**
3. Support long term holiday and trip planning  
→ **Climatologies**



# MiLoW-RRS – DP - ESA IAP / BASS Programme

## Micro Local Weather Route Recommendation Service

**B2B2C Digital Platform Ecosystem**  
One-Stop-Shop Integration Platform

outdooractive


**Research-backed 24/7 Service Provider**  
Weather, Snow Cover & Climatologies Data

**MetGIS®**  
ProfessionalWeatherService

**Earth Observation Service Provider**  
Snow Cover, Snow Depth & Climatologies Data

 ExoLabs

**Research Support**  
Snow Processor

 Deutsches Zentrum  
DLR für Luft- und Raumfahrt

**Technical & Business Expertise**  
Financial Support, Business Advice, GeoData, Marketing

 **esa**  
SPACE SOLUTIONS

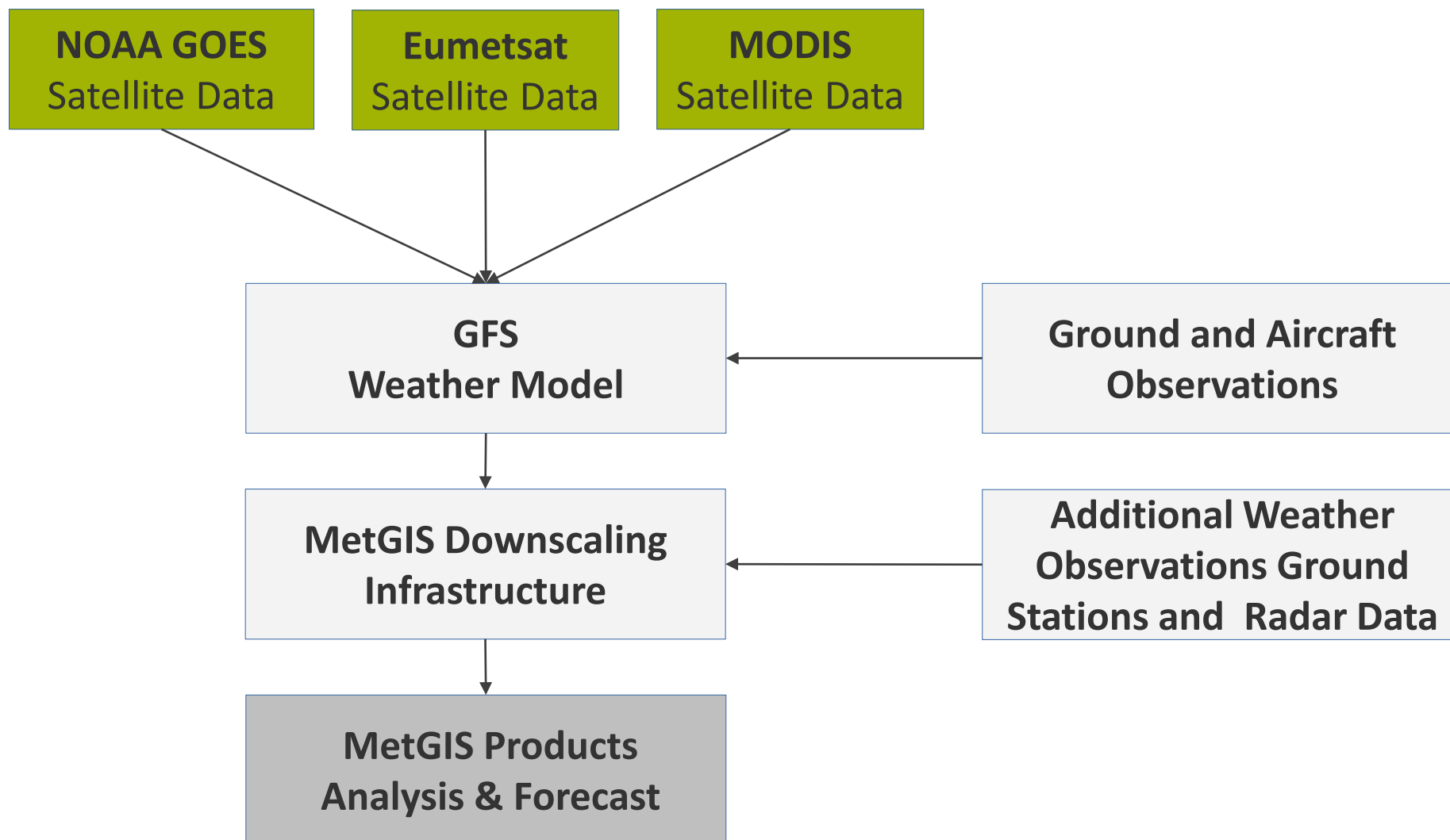
# App-solutely too time-consuming and difficult



# The One-Stop-Shop Approach

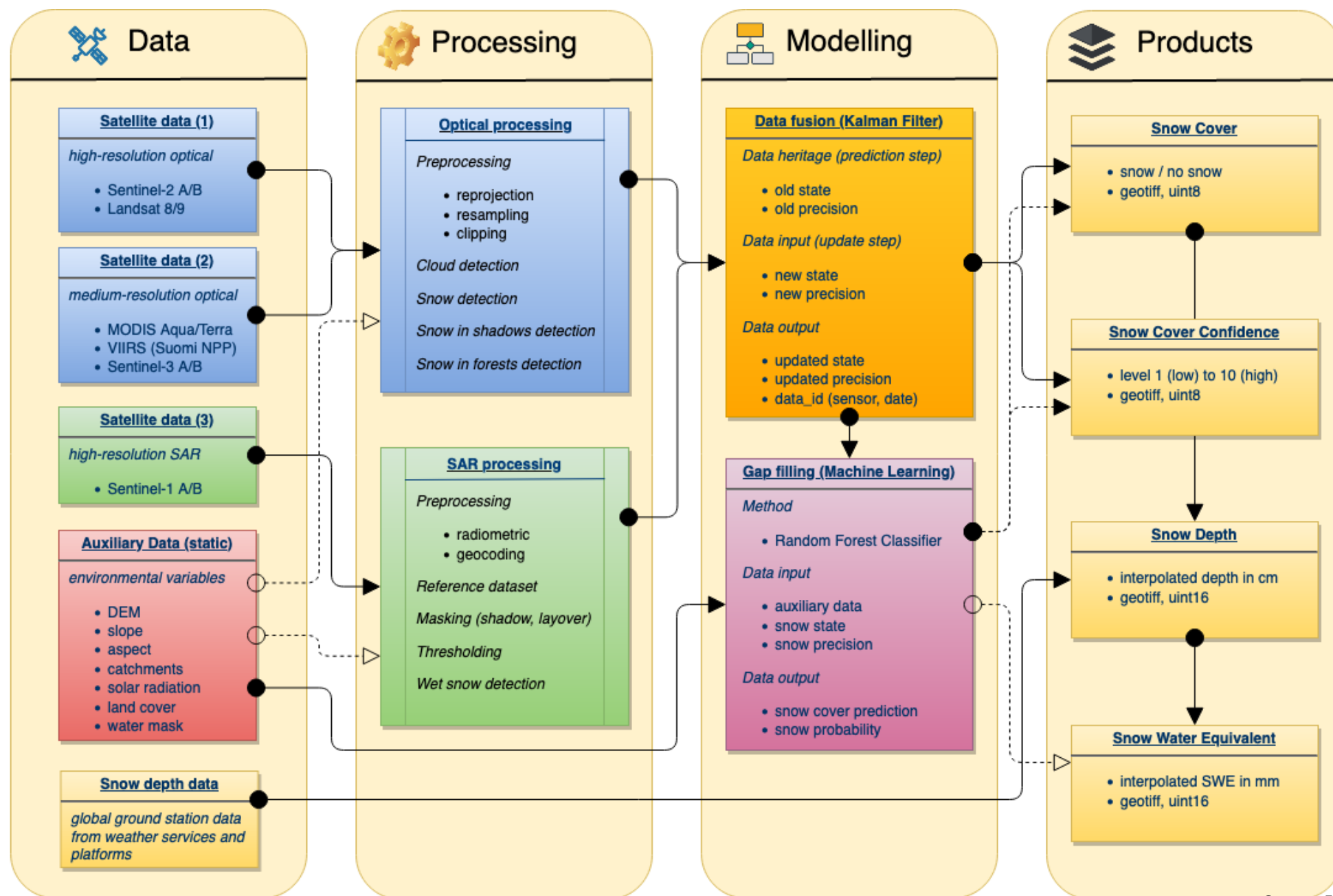


# MetGIS Snow Cover and Weather Service Provider



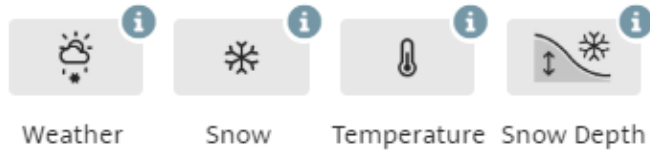


# ExoLabs Snow Depth Data Processing Pipeline

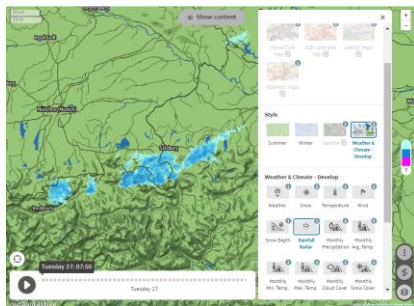
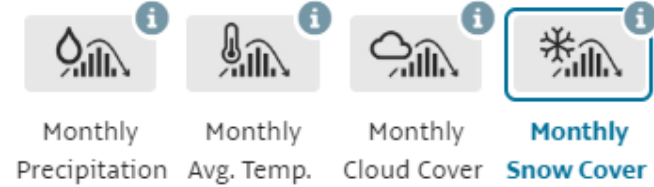


# What we built

## Weather & Climate



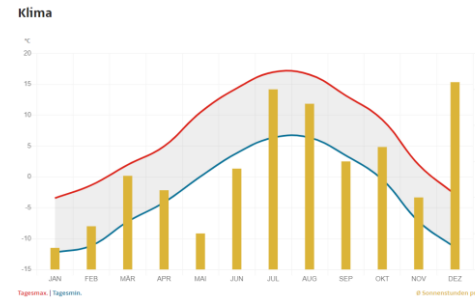
## Weather & Climate



**10-day forecast**  
The forecast refers to the rider's trailhead. (68 m)

**Current**  
 ☀️ → 19 km/h  
 18 °C  
 ☁️ 0.0 mm  
 ☁️ 50%

Today June 27, 2023	☀️	21   13 °C	☁️ 7.6h	☁️ 0.0 mm	→ 27 km/h
Tomorrow June 28, 2023	☁️	18   12 °C	☁️ 3h	☁️ 30%   2.4 mm	< 25 km/h
Thursday June 29, 2023	☁️	24   14 °C	☁️ 9.5h	☁️ 100%   2.7 mm	1-17 km/h
Friday June 30, 2023	☁️	21   13 °C	☁️ 5.7h	☁️ 100%   5.6 mm	→ 24 km/h
Saturday July 01, 2023	☁️	17   13 °C	☁️ 1.2h	☁️ 100%   5.9 mm	1-31 km/h
Sunday July 02, 2023	☁️	21   13 °C	☁️ 10.2h	☁️ 90%   0.7 mm	→ 38 km/h



**Short-term  
(Radar)**

**Mid-term  
(Weather Forecast)**

**Long-term  
(Climate Conditions)**



**Today**  
(next few hours)

**Weekend**  
(1-5 days)

**Summer Holidays**  
(a few weeks / months away)

# Snow depth information for route planning

**Micro Local Weather**  
Route Recommendation Service

ESA MiLoW-RRS-DP-CCN2 Karte Touren **Tourenplaner** Community mehr

Aktivität: Wanderung Ändern

Route:

- A Oberstdorf ✕
- B Nebelhorn ✕
- C Parkplatz Reichenbach ✕
- D 47.406904,10.289232 ✕
- E Wo soll es hingehen? ✕

[GPX importieren](#) | [Umkehren](#) | [Zurücksetzen](#)  
[Gleichen Weg zurück](#) | [Zurück zum Start](#)

Weiter

Do., 30.3.2023 | Fr., 31.3.2023 | Sa., 1.4.2023

↔ 20,6 km | ⌀ 8 h 0 min | ▲ 1558 m | ▼ 1539 m | ⚡ 2212 m | ⚡ 782 m

Schneetiefe ▾

23 cm  
1539 m / 5,8 km

Wegearten bearbeiten



# Snow depth validation by ground truthing

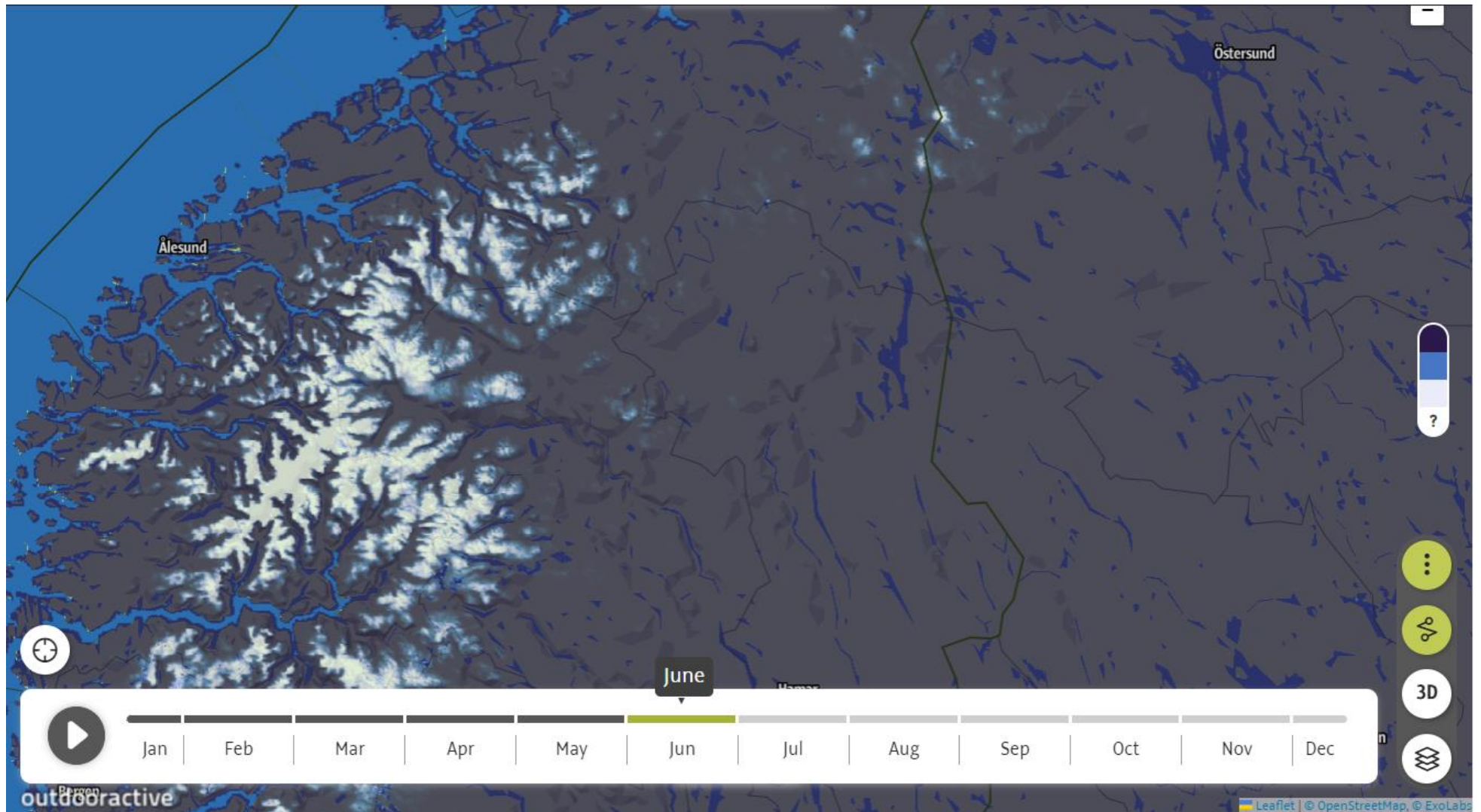




# Pilot testing in the field

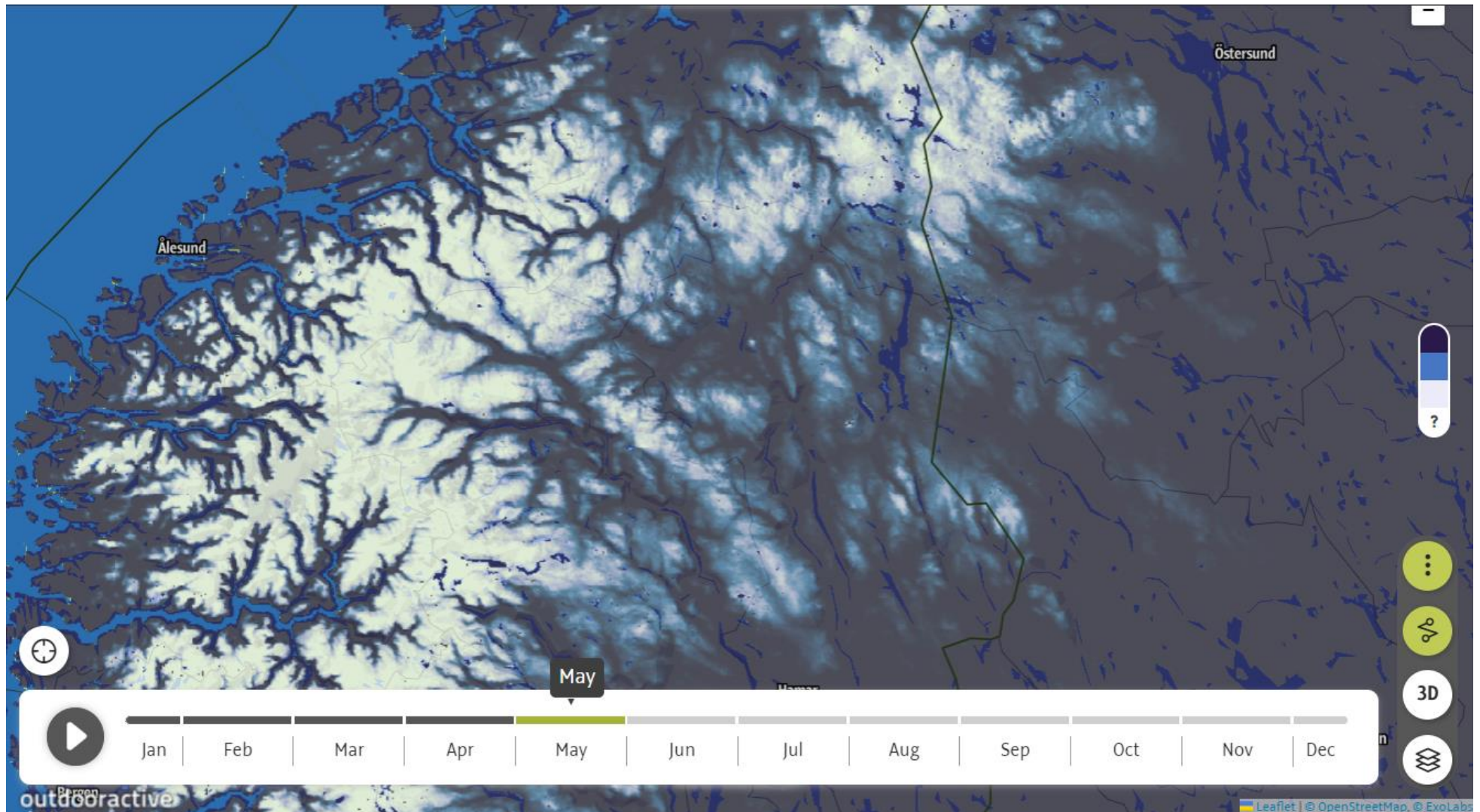


# Example: Holiday planning Norway (Snow Cover June)

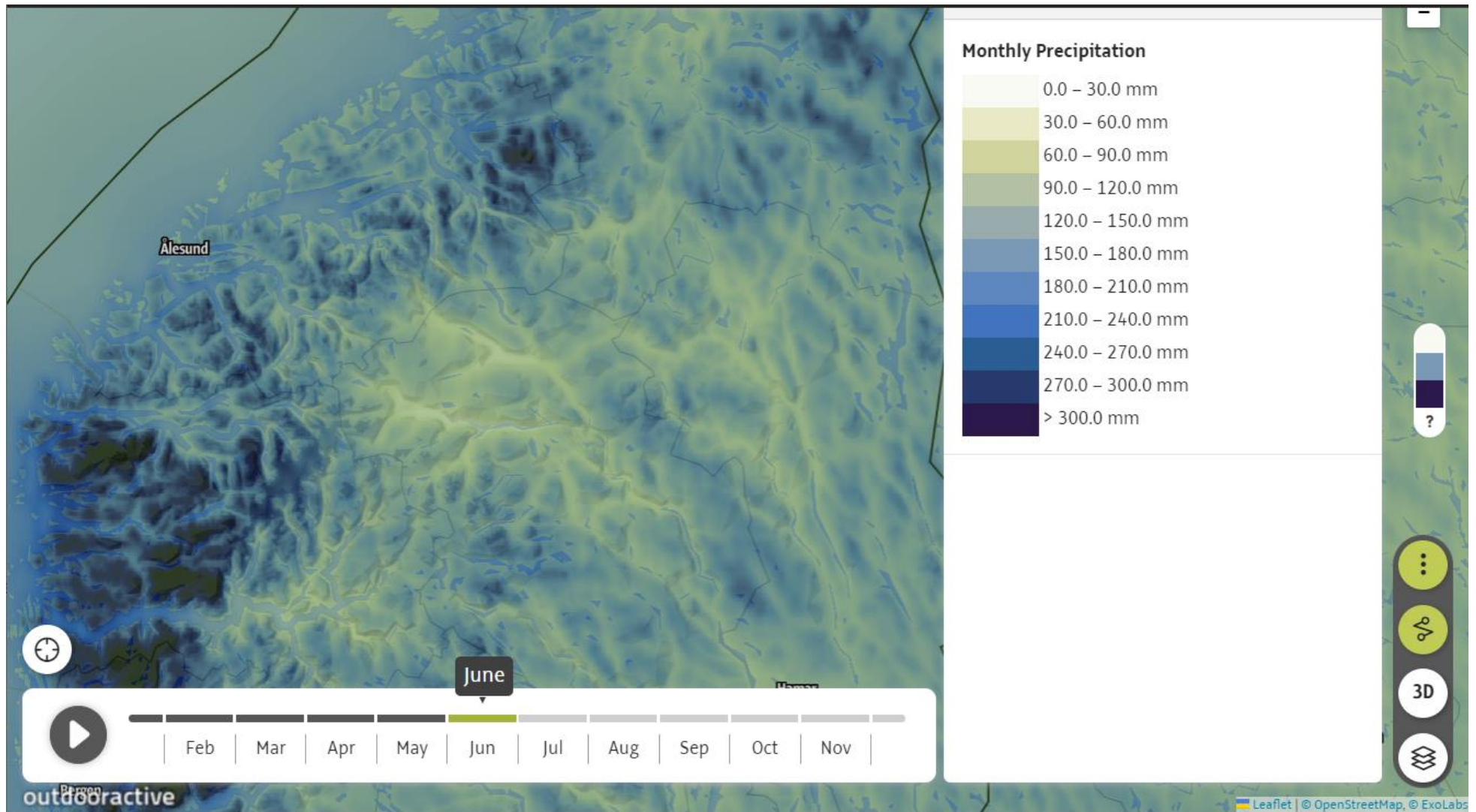




# Example: Holiday planning Norway (Snow Cover May)



# Example: Holiday planning Norway (Precipitation June)





# Up-to-date information for decision-making

The screenshot shows the outdooractive web application interface. At the top, there is a navigation bar with the logo and menu items: Karte, Tourensuche, Tourenplaner, Reiseführer, and Community. A search bar is located below the navigation bar. The main content area is divided into a left sidebar and a central map. The sidebar contains a list of alerts, including 'Felssturz am Südlichen Fluchthorn' and 'Wegsperre im Bereich Breites Wasser'. The central map displays a topographic map with a color-coded overlay representing current snow depth. A legend titled 'Legende' is open, showing a color scale for 'Aktuelle Schneetiefe' (Current Snow Depth) in centimeters, ranging from 1.0-20.0 cm (light blue) to > 500.0 cm (black). The map also shows various peaks and trails, with some trails marked with red 'X' symbols indicating closures.

The screenshot shows a mobile application interface displaying a map of Europe. The map is color-coded to show snow depth data, with a legend on the left side. The legend is titled 'Legende' and shows a color scale for 'Aktuelle Schneetiefe' (Current Snow Depth) in centimeters, ranging from 1.0-20.0 cm (light blue) to > 500.0 cm (black). The map shows snow depth data across Europe, with a significant snow cover in the northern and mountainous regions. The interface includes a search bar at the top, a 'Show content' button, and a bottom navigation bar with icons for Map, Plan, Track, Discover, and My Page.

# Topic of the day: Commercialisation

## Passion?

Inspiring safe &  
sustainable outdoor  
experiences in nature

# Topic of the day: Commercialisation



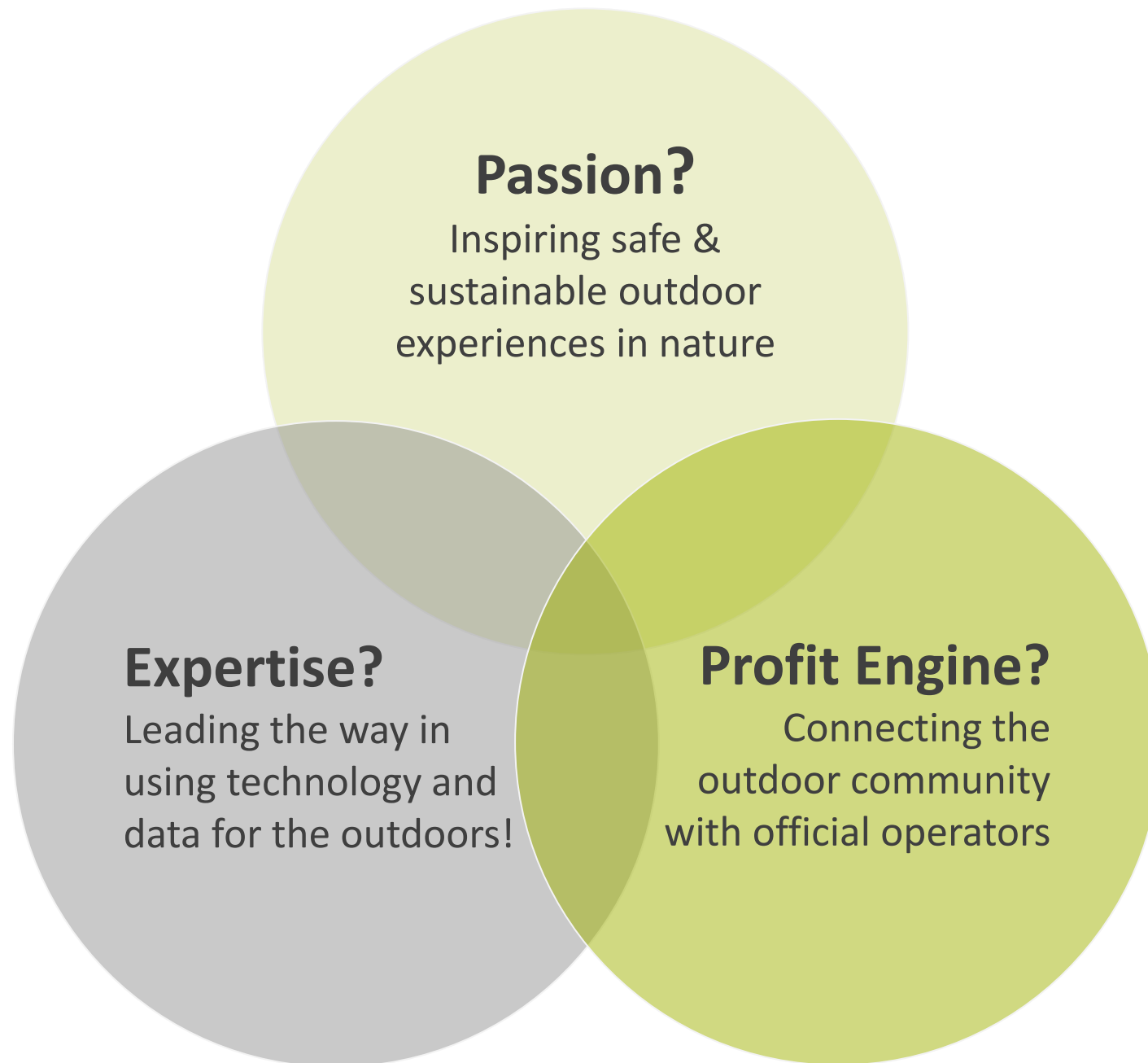
## Passion?

Inspiring safe &  
sustainable outdoor  
experiences in nature

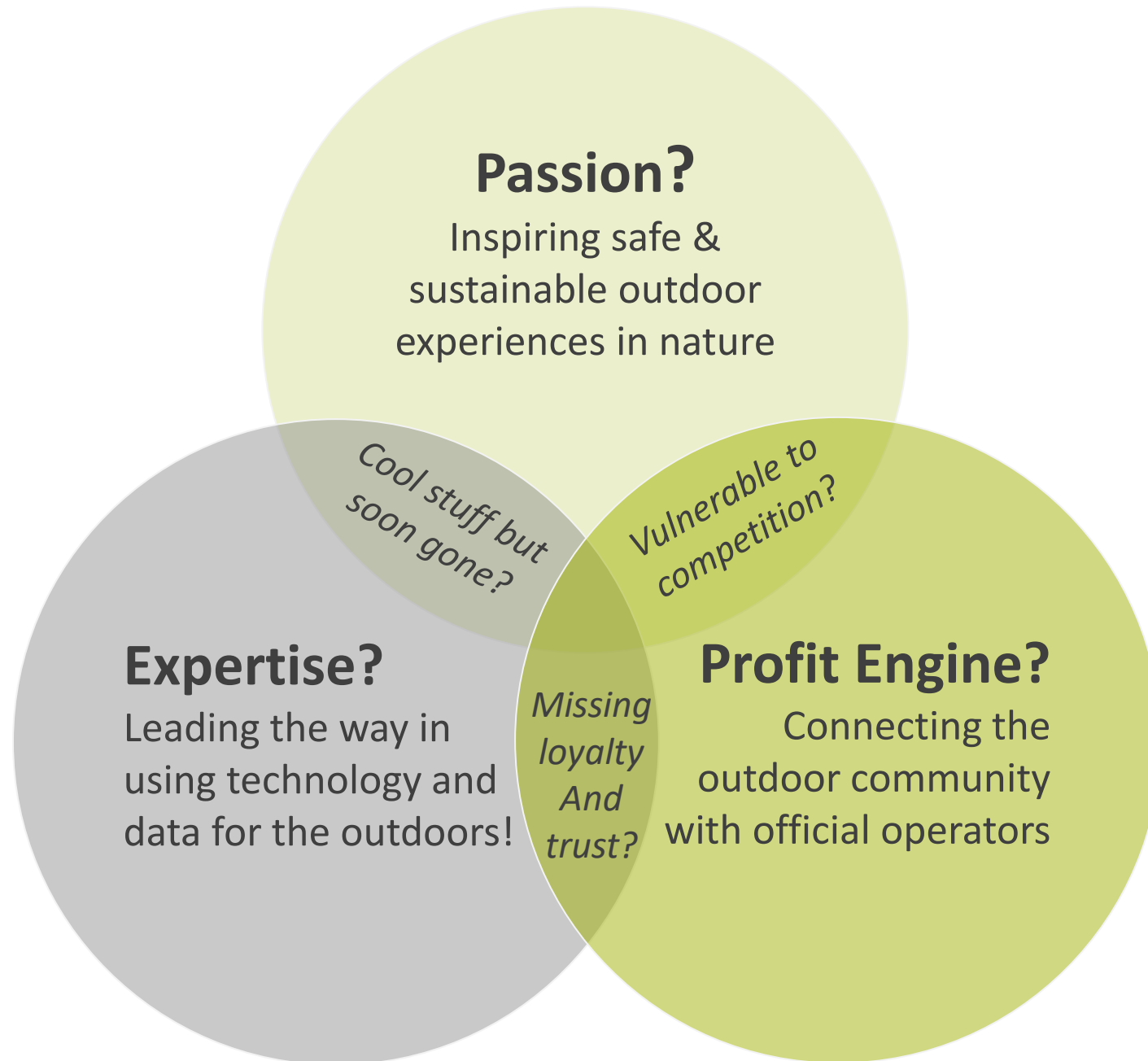
## Expertise?

Leading the way in  
using technology and  
data for the outdoors!

# Topic of the day: Commercialisation

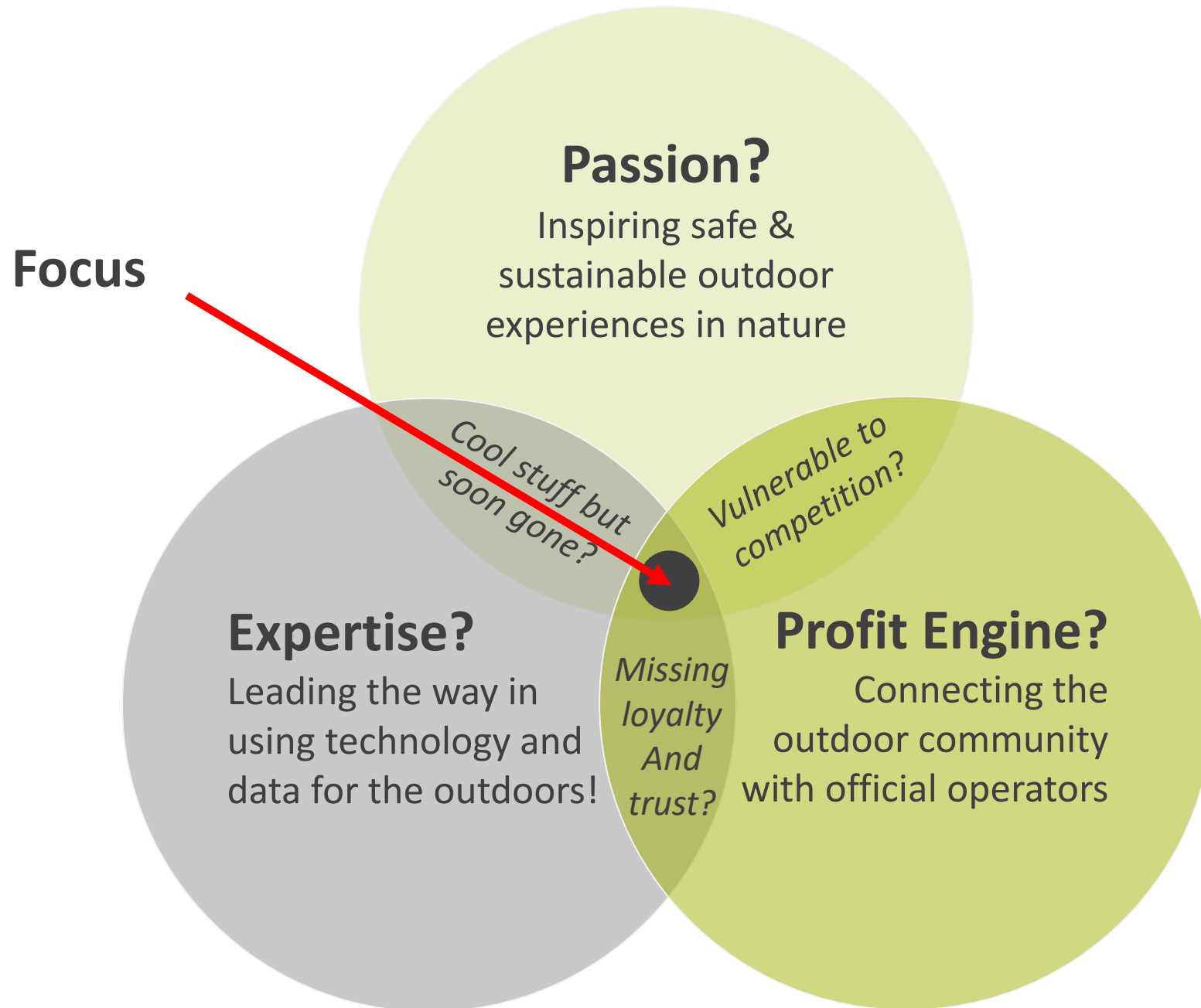


# The art of bringing all ingredients together

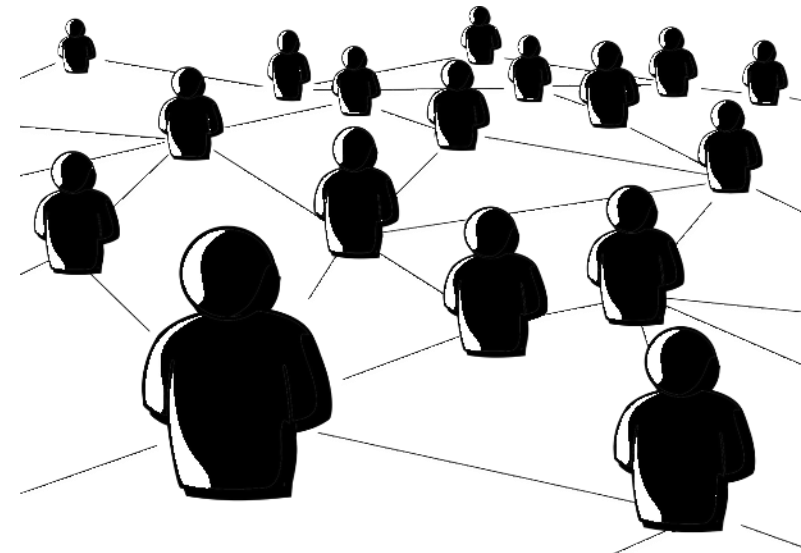




# Our sweet spot for sustainable business development



# B2B2C Digital Platform Ecosystem



# B2B2C Freemium Business Model Strategy

outdooractive Business Choose your Business Service Contact Martin Soutchik

### Choose the plan that fits your needs

**Destination Basic**

The ideal start to digital destination marketing. Get access and gain a branded presence on the Europe's largest outdoor platform.

[Sign up for free](#)

**Destination Pro**

Combine destination management and marketing in one system. Destination Pro gives you full control of your image on Outdooractive and your own website.

[Get your offer](#)

**Destination Pro+**

Completely manage your destination digitally. Your website, trail management, partner and guest management, and much more is fully covered by Destination Pro+.

[Get your offer](#)

### Feature comparison

	Destination Basic	Destination PRO	Destination PRO+
<b>Digitization</b>			
Business Account	Yes	Yes	Yes
Business app Offline		Yes	Yes
User Management		Yes	Yes
Pro+ User Accounts	0	1	5
Partner Identification		Yes	Yes
Connectors and interfaces		Yes	Yes
Booking System Integration			Yes
Regional Management			Yes
<b>Marketing</b>			
Tourism Content Basic	Yes	Yes	Yes
Tourism Content Advanced		Yes	Yes
Offers and Events Advanced		Yes	Yes
Content Based on Outdooractive	Yes	Yes	Yes
Content in Partner Network		Yes	Yes
Outdooractive Travel Guide		Yes	Yes
Web Widgets		Yes	Yes
API			Yes
White-Label Website			Yes
Print Map Platform			Yes
Railshop Store			Yes
<b>Visitor Management</b>			
Community Engagement	Yes	Yes	Yes
Flag Pro+ Community Accounts for guests		Yes	Yes
Lead Generation			Yes
Community Management			Yes
Content Analytics		Yes	Yes
Community Insights			Yes

outdooractive Martin

## Einfach MEHR erleben. Mit Outdooractive PRO und PRO+.

Die besten Outdoor-Karten, 3D Videos und exklusive Rabatte. 14 Tage kostenlos testen.

**BASIC**

0,00 € / Monat

- Orientieren:** Touren für über 30 Aktivitäten planen, speichern, drucken & navigieren
- Mitmachen:** Bewerten & Kommentieren von Touren, Hütten & Unterküften
- GPX:** Speichern: GPX-Tourdaten fürs Outdoor-Navit heruntergeladen

[Alle Features vergleichen](#)

**PRO**

2,50 € / Monat

- Alle Basic-Features
- Topo-Karten und Wegenetze:** IGN, swisstopo, Ordnance Survey sowie weitere Länder plus Wegenetze für Wandern & Bergsteigen, Radfahren, Mountainbiken, Wintersport & Reiten
- Fokussieren:** Keine Werbeanzeigen in Web & App
- Offline speichern:** Zugriff auf Touren und Karten auch ohne Internet

[Alle Features vergleichen](#)

In Pro+ enthalten

Rabatte und Vorteile bei Partnern

**PRO+**

5,00 € / Monat

- Alle Basic-Features
- Alle Pro-Features
- Experten-Karten mit Prof-Details:** Alpenvereine (GAV, DAV), KOMPASS, ADFC, HARVEY
- Premium Inhalte:** Zertifizierte Premium-Touren von KOMPASS, vom Schall Verlag und aus ADAC Wanderführern
- 3D-Planung:** Nutze 3D-Karten, um 3D Touren und Regionen aus der Vogelperspektive anzusehen.

[Alle Features vergleichen](#)

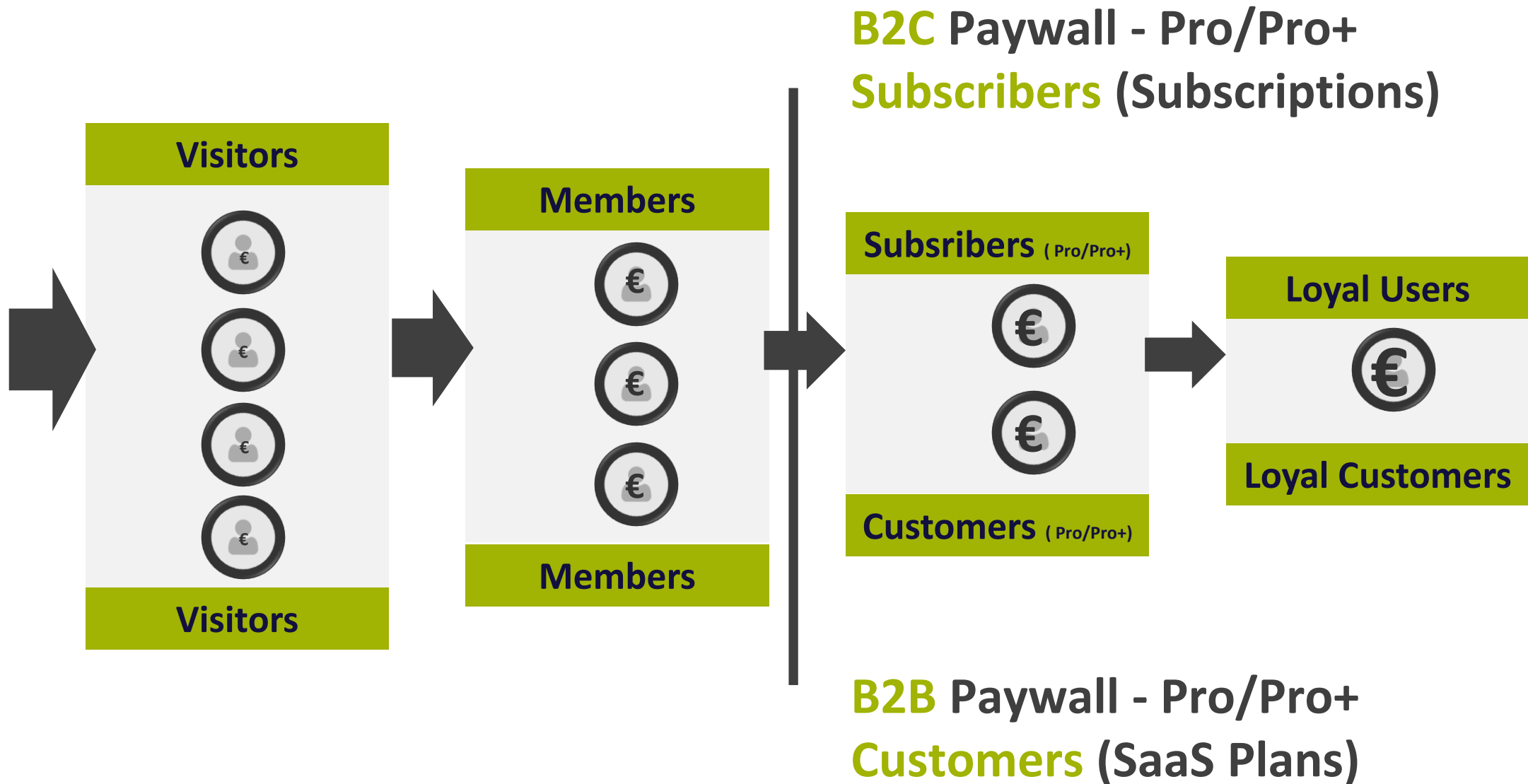
[Dein Abo](#)

Rabatte und Vorteile bei Partnern

[Jetzt alle Features vergleichen](#)

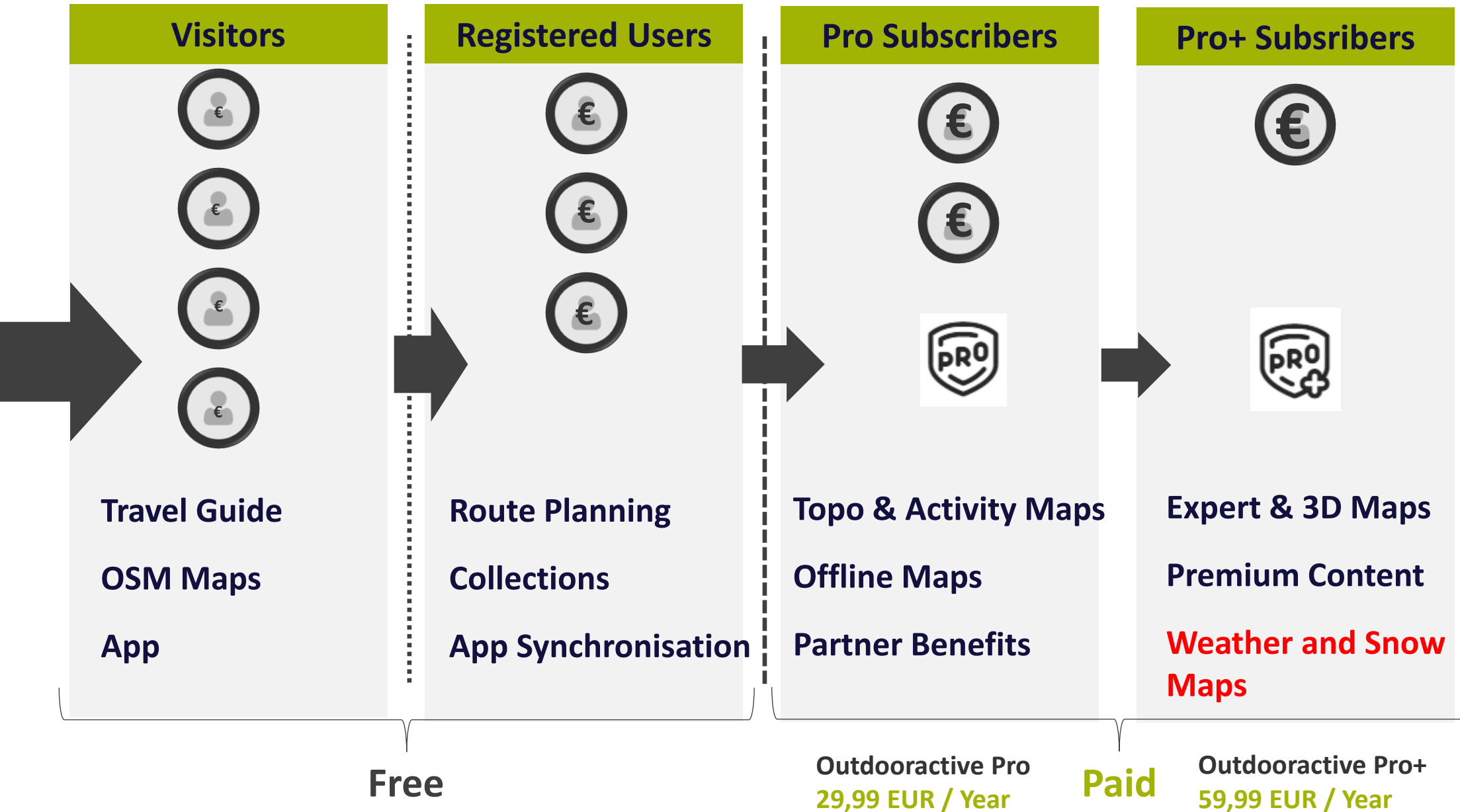
\*Die Vertragslaufzeit für Pro und Pro+ beträgt jeweils 12 Monate und ist jährlich kündbar. Die Kosten belaufen sich auf einmalig 29,99 € (Pro) und 39,99 € (Pro+) im Jahr.

# B2B2C Conversion and retention strategy

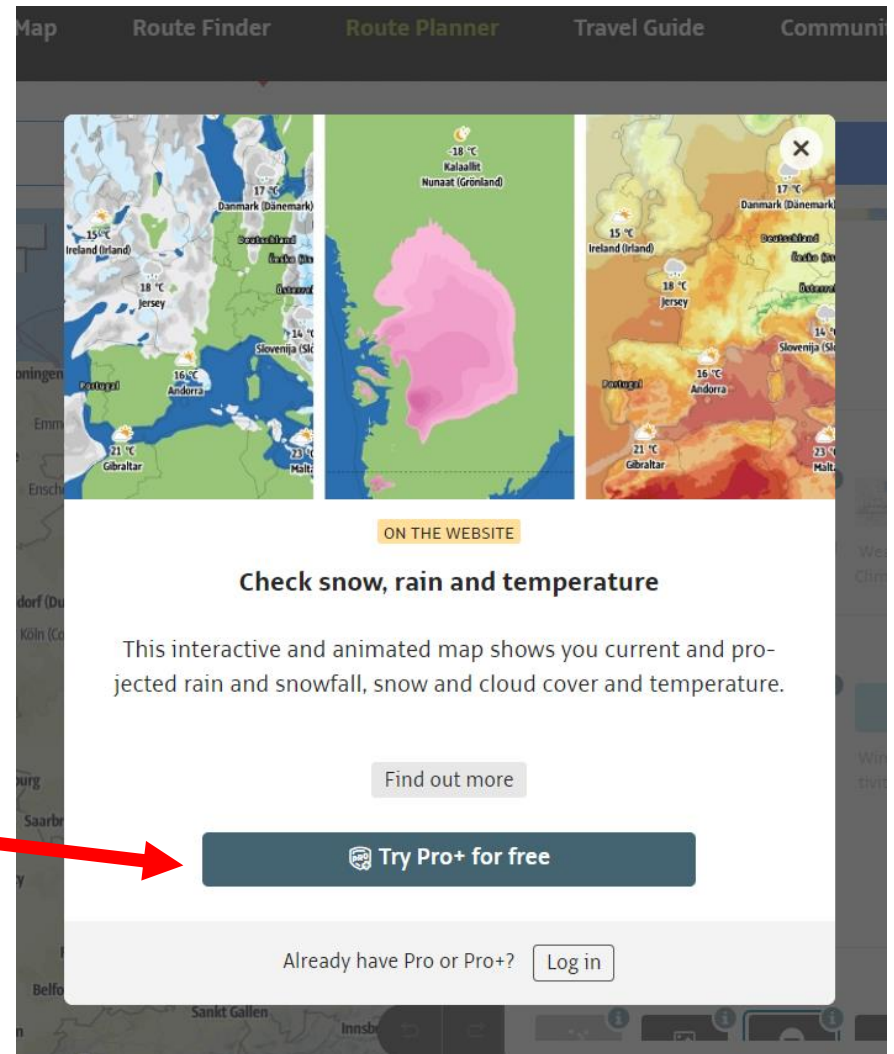
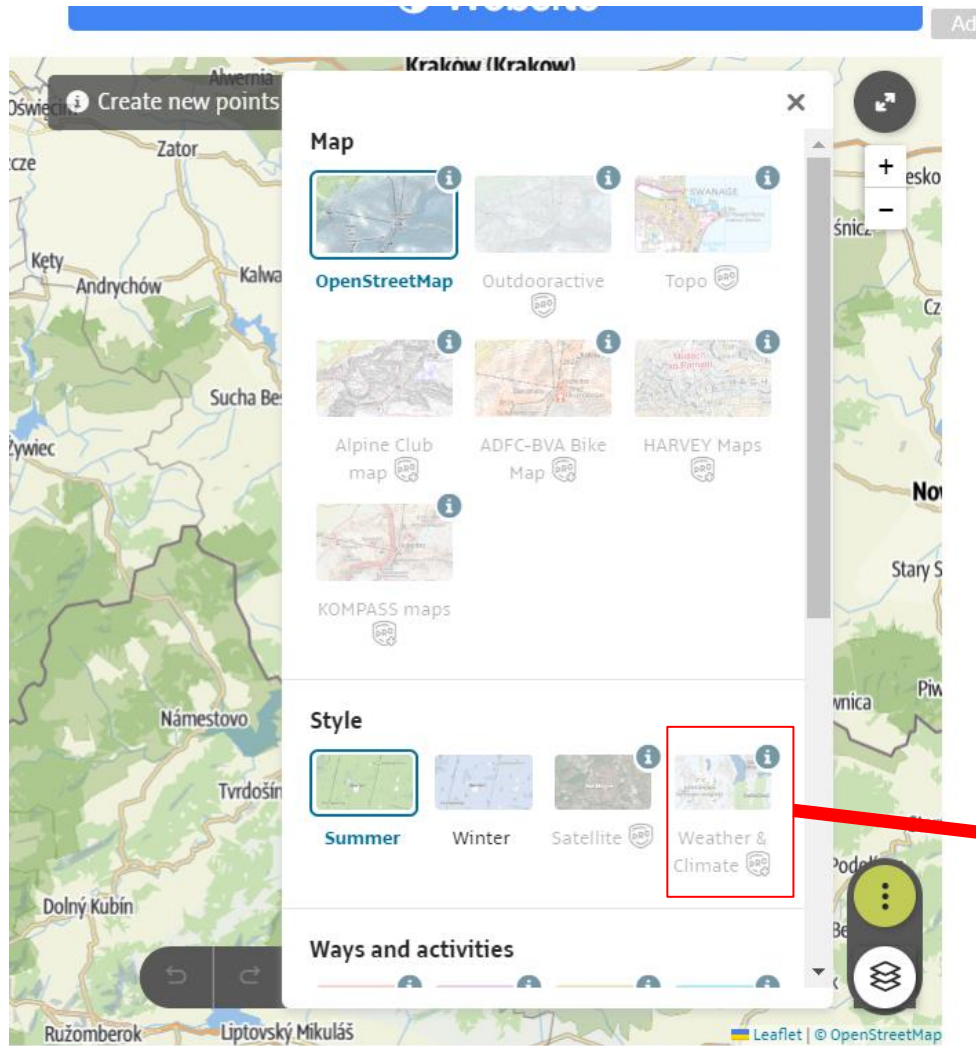




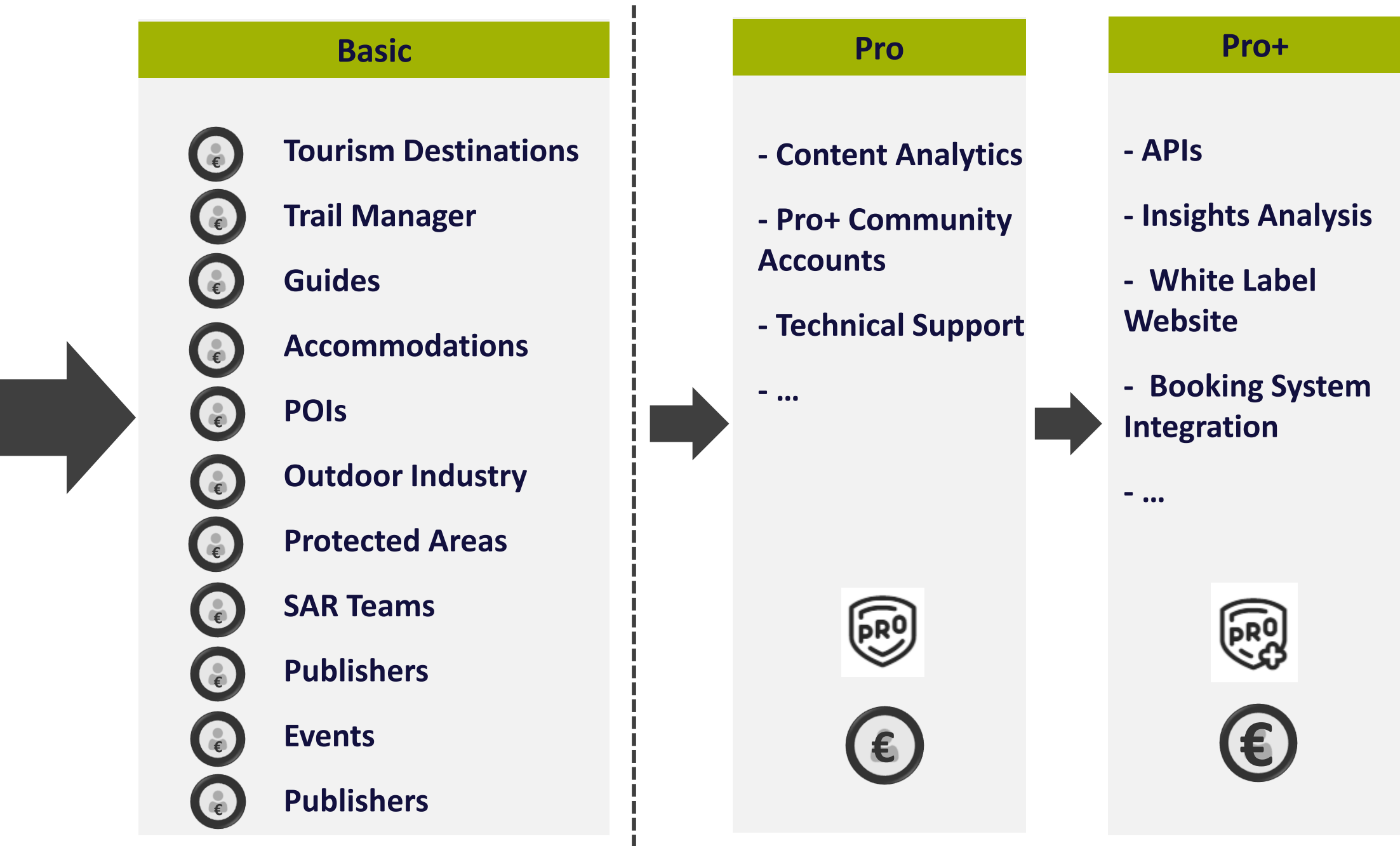
# B2C freemium business model



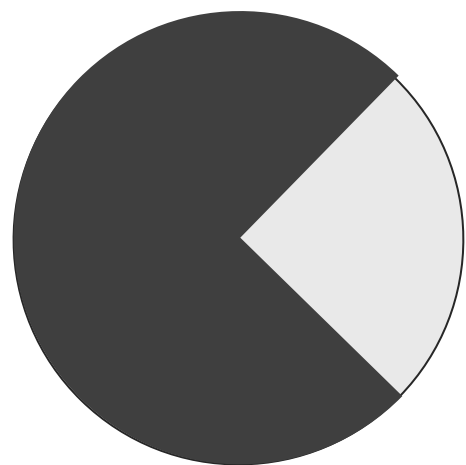
# User conversion example



# Outdooractive B2B Software as a Service (SaaS) Model



# Pro Alliance and Revenue Sharing Model



## Revenue Sharing Pod

- **50%** for the Content or Service **Provider**
- **25%** for the **Platform**
- **25%** for Sales **Channel**

## Consideration:

- **Number of Providers**  
(Growth vs. Profit Dilution)
- **Price for Content / Service**  
(Market price?)
- **Usage of the Service**  
(Relative usage?)



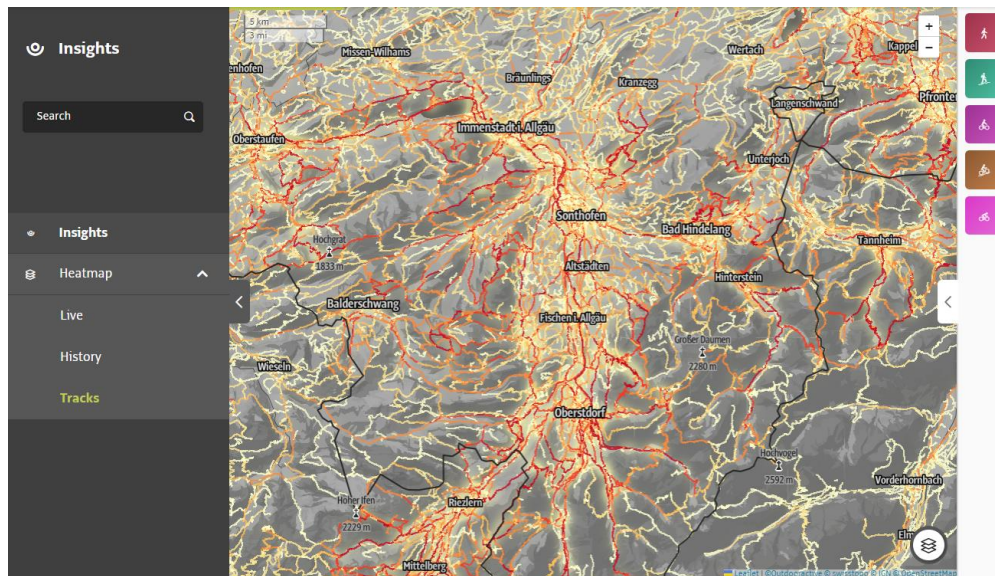
# Pilot Customer Feedback – MiLoW-RRS



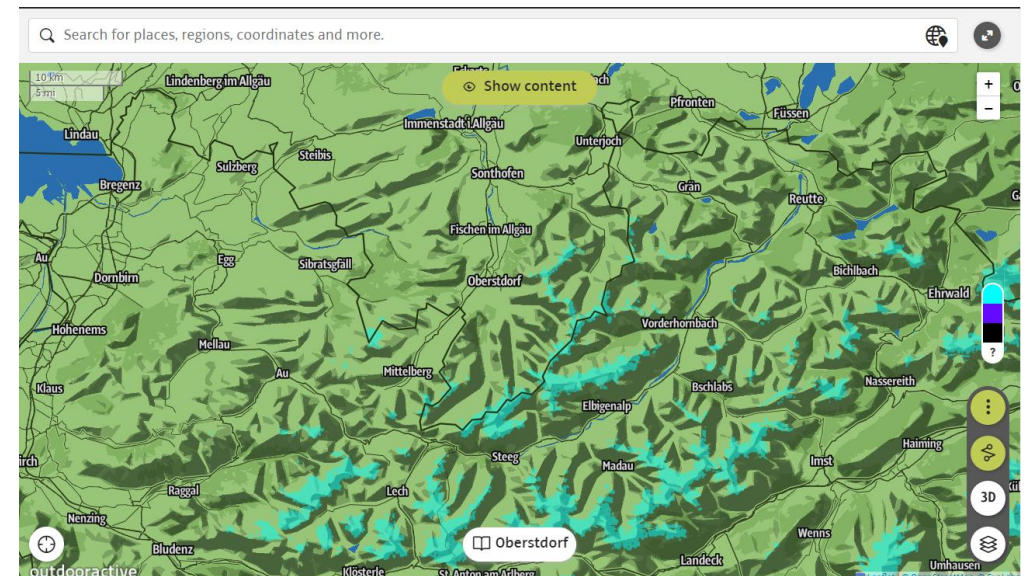
*“... for the mountaineering community, snow depth information, precipitation radar and accurate and reliable weather forecasts are key factors that influence decisions for Pro+ subscriptions...”*

Georg Rothwangl, Austrian Alpine Club  
Team Lead [alpenvereinaktiv.com](http://alpenvereinaktiv.com)

# What's next? Data Analysis to address safety aspects



**Track Heatmap**  
(next few hours)



**Snow Depth Map**  
(next few hours)

# Whats important? Data Spaces for sparking innovation

## European Tourism Data Space

(everything relevant in tourism)



## European Space Data Space?

(everything available from space)



# Enjoy your next outdoor experiences – and stay safe

