CONVERGENCE OF SATELLITE AND 5G PRIVATE SERVICES:

SMART MOUTAIN5G

A 5G Private Network dedicated to mountain services !

Funded by the European Union

Didier Flaender
President Numerisat

5G Smart Mountain

SMARTMOUNTAIN5G

Connecting Europe Facilities (CEF)

Smart Communities and Edge computing

An European Project to deploy 5G Private bubbles connected via Satellite links in an Alpin Valley to deploy and test uses cases dedicated to mountain economy.

Presented by:

Numerisat: Telecom operator. Coordinator of the project

Firecell: 5G private network specialist

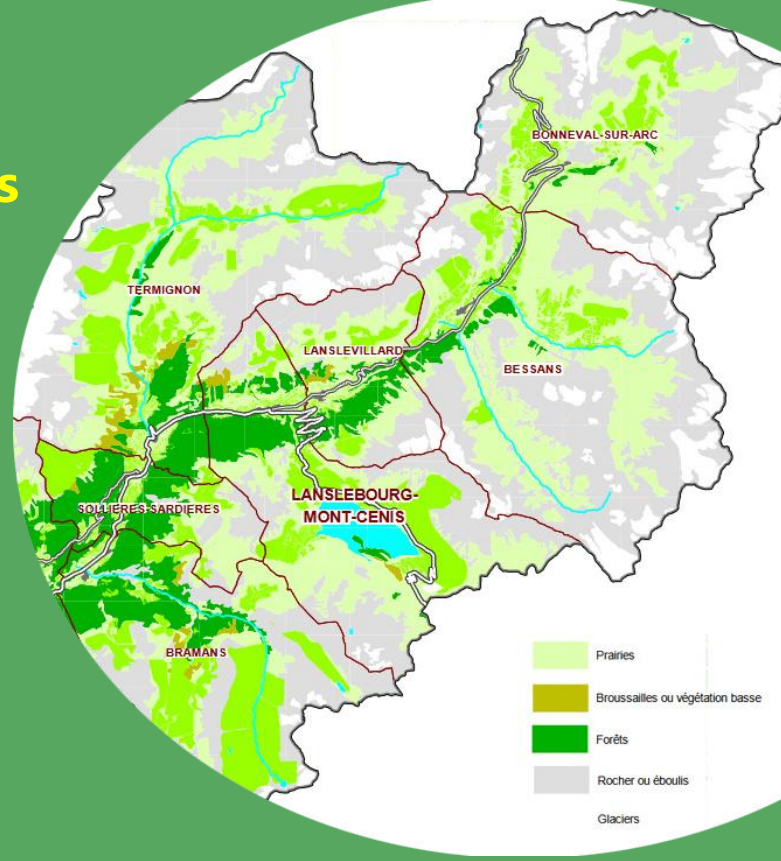
Clevervalues: Value creation Enginneering

Hydrostadium (EDF): Hydraulic power plants specialist

Savoie MontBlanc University

A 5G private network in An Alpin Valley For 4 uses cases thematics:

Isolated Territories
Energy producer
Agriculture
Impact of Global Warning



SmartMountain5G Agri

SmartMountain5G Tourism

SmartMountain5G Safety

SmartMountain5G Energy

DIGITAL AND SOVEREIGN INFRASTRUCTURE
(5G - Satellite - IoT - Cloud - Edge)

2 694 Inhabitants
619 km2
Altitude: 1040 – 3855 m
Seasonal activities:
Winter: x20
Summer: > 300 000 Visitors

5G Smart Mountain

SMARTMOUNTAIN 5G

An Evolutive Set of Use Cases defined using Clevervalue methodology and AI tools involving the different economical actors of the valley

Smartmountain Energy

- Monitoring of Microhydraulic Centrals
- Safety of installations and Alerts
- Sustainability of renewable energy production

SmartMountain Tourism

- Monitoring of public and ski resort infrastructures
- Water consumptions
- Tourism flow Management
- Workers security
- Events management

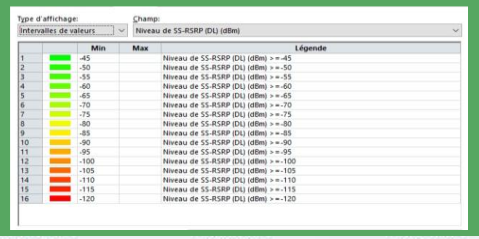
SmartMountain Agri

- Water resources monitoring
- Field monitoring
- Automatic machines for milking
- Herds monitoring and animals health
- Agricultural infrastructure optimization
- Farmers live conditions

SmartMountain Safety

- Environment monitoring
- Avalanche corridors monitoring
- Communication
- Crisis management
- Rescue Teams

A SECURED CONNECTIVITY EASY TO DEPLOY WITH 100% COVERAGE FOR BROADBAND and IOT SERVICES



Private 5G bubbles with

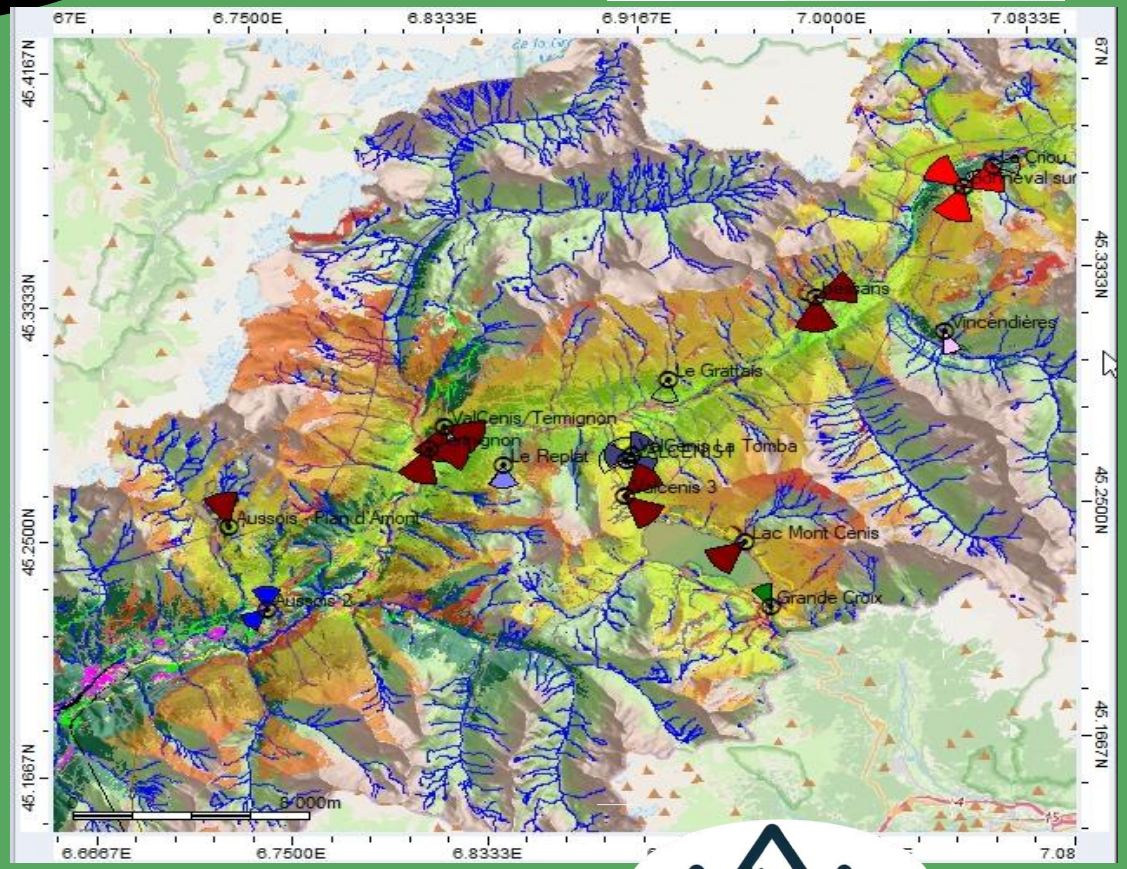
- RAN from 250 mw to 5 W
- Core located in a cloud

LEO and GEO Backhaul

NTN IOT Services

12 N77 transmitters to cover the area located at altitude from 1200 m to 2300 m

Complementary coverage with 5G NTN



A connectivity model available everywhere and easy to deploy

Secured connectivity

The largest 5G Private network in Europe

5G Smart Mountain

Drône services interest in Smartmountain 5G

- WP4 – Smart Mountain 5G Energy Use cases 3: Infrastructure resilience

- WP5: Smart Mountain 5G Tourism – Use Cases 2 – Tourism flow management

Val Cenis – Aussois – Mountain Refuges

- WP7: Smart Mountain 5G Safety – use case 1 – avalanche corridor monitoring - Rescue teams

Bonneval sur Arc - MND

AN INNOVATIVE, POWERFUL AND SECURED
5G PRIVATE INFRASTRUCTURE EASY TO DEPLOY PROVIDING
A MIX OF BB AND NBIOT SERVICES

EDGE COMPUTING AND AI

START OF DEPLOYMENT: 06/2025

PROGRESSIVE IMPLEMENTATION OF THE USE CASES

ENVIRONMENTAL IMPACT ANALYSIS

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