Ski resorts in 2020:
How to face the future?

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Climate change threats

- In 2050, snow cape will be at 2.000 m. (Josep Enric Llebot, PhD in Physics, UAB, expert in climate change)

- In 2030, from 20 to 70% of glaciers in the Alps and Pyrenees could disappear. (Dr. Rolf Bürki, University St. Gallen)

- From now to 2100 average temperature in the planet will raise between 1.4°C and 5.8°C. (IPCC, UN)

- Mountain tourism will be affected by extreme atmospheric events (thunderstorms, floods). (IPCC, UN)

- Depending on geographical situation, less snowfalls and/or more rainfalls will be registered. (Informe sobre el canvi climàtic a Catalunya, Consell Assessor per al Desenvolupament Sostenible, Generalitat de Catalunya)
Other changes

- Permanent demand of new products and services (innovation)
- Increase of environmental concern (landscape management, access to mountains, urbanism)
- Clients look for new singular experiences (segmentation and specialization)
- Fragmented short stays
- Seasonality reduction
- Self organized trip
- New clients
- New competitors
Changes in business model

**BEFORE**
- Ski resort
- Processes oriented
- Technical view
- Ski only model
- Tangible elements (lifts, slopes...)
- Environmentally aggressive

**NOW**
- Leisure mountain destination
- Customer oriented
- We sell experiences
- Ski is just another activity
- Intangible elements
- Sustainability
Adaptation strategies

- Snowmaking
- Infrastructures
- Offer increase
- Subsidies
- Yearly contributions
- Single contributions
- Alternatives to snow tourism
- Diversification and seasonality reduction
- Fatalism
- Continue
- Stop snow tourism

Source: adaptation from Rulf Bürki (University of Zurich)
Continue...
Stop snow tourism...
Subsidies...

"I've checked - it goes down to the basement."
Adaptation strategies

- Optimize snow tourism
  - Infrastructures
  - Offer increase
- Subsidies
  - Yearly contributions
  - Single contributions
- Alternatives to snow tourism
  - Diversification and seasonality reduction
- Fatalism
  - Continue
  - Stop snow tourism

Source: adaptation from Rulf Bürki (University of Zurich)
Optimize snow tourism: snowmaking

Ski domains with snowmaking equipment:

- Andorra: 40%
- Switzerland: less than 10%
- France: 18% and x2 is expected in next 10 years
- Scandinavia: less than 20%
- Italy (Ski Dolomiti): 80%
- Austria (Tyrol): 50%
- Spain: 45%
- Eastern Europe: projects with 100%
Optimize snow tourism: snowmaking

Resources management

- Rational use of energy (state-of-the-art snowmakers):
  - York 10 (1980)
    - Air/water ratio 140
    - Minimum temperature -4°C
  - Safir (2006)
    - Air/water ratio 6
    - Minimum temperature -2°C

- Respect ecological levels in water adduction

Efficiency x23 in 25 years
+2°C in 25 years
Optimize snow tourism: infrastructures

- Slopes:
  - Orientation and altitude
  - Preventive actions on soil (profile, intensive seeding, revegetation)

- Integration of constructions on the landscape

- Optimize lift network

- Studies of impact and corrective actions
Optimize snow tourism: offer increase

- Activities for non-skiers
  - Adventure
  - Gastronomy
  - Motor
- Corporate segment
- Kids segment
- Events
- New disciplines
- Competitions
Alternatives to snow tourism: diversification and seasonality reduction

- Spa & Wellness
- Shopping
- Culture
- Via ferrata
- Trekking
- Mountaineering
- Mountain attractions
Alternatives to snow tourism: diversification and seasonality reduction

**Mountain bike**

- Focus on free-ride/downhill/bikepark
- Potential growth in domestic and international markets

**Golf**

- Market with mid-term objectives
- Medium-high segments
- Complementary to ski in certain segments (sinergies)
All adaptation strategies should consider:
- Environmental sustainability (ISO 14001)
- Efficient and rational use of water
- Reduction of environmental impacts
- Optimization of energy use
Final thoughts

- At mid-term, climate change is the most important threat for snow tourism
- Mountain destinations should adapt to it
- Fatalism do not lead to any result
- Evolution in technology is significant and we have to benefit from it
- Diversification (summer and winter) is necessary
- Permanent innovation in both products and services
- Sustainability is a commitment that we can not avoid
- A change in business model is necessary
- Yes, there are RISKS, but also OPPORTUNITIES
Gràcies
Gracias
Thank you
Merci