



# Sodalite

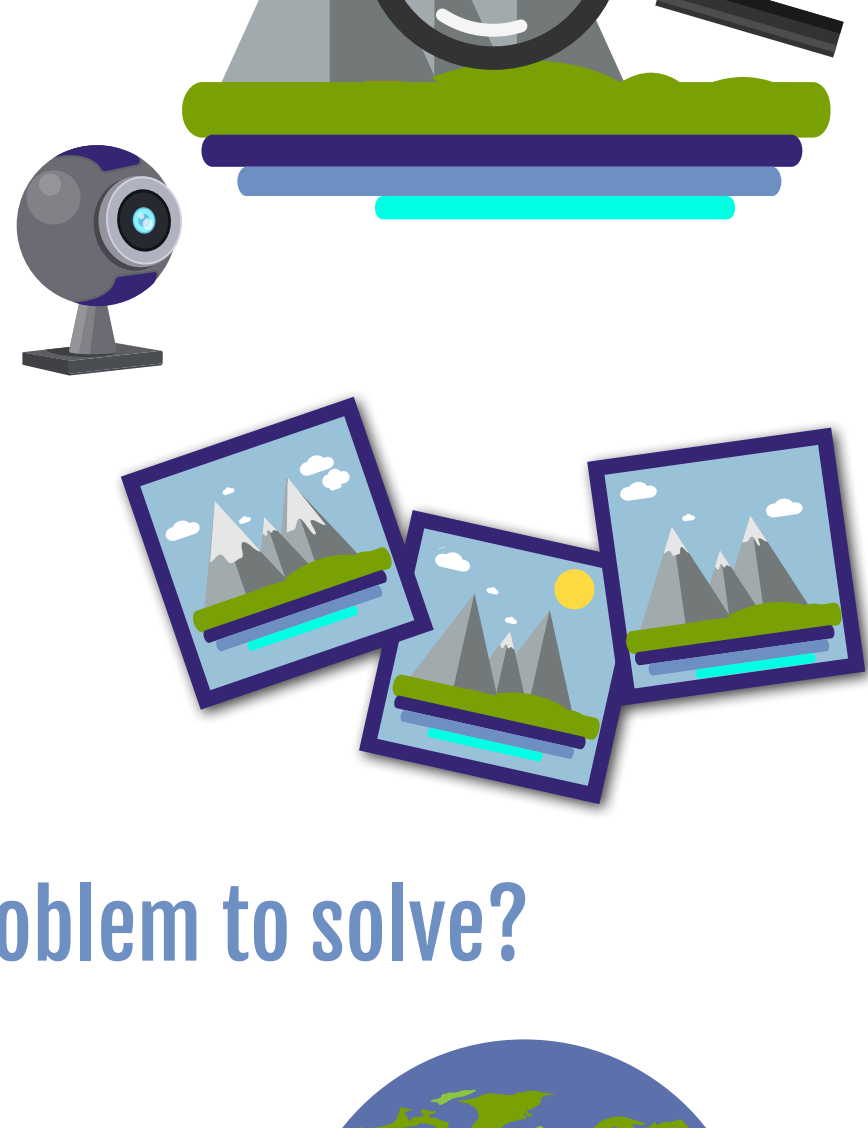
Software defined application infrastructures management and engineering

## USE CASE : Snow Water

### What is the functionality of the Snow Water ?

A pipeline of components for studying mountain snow water cover from public web content.

Input from two sources:  
User Generated Content  
Web Cam images



### What is the actual problem to solve?

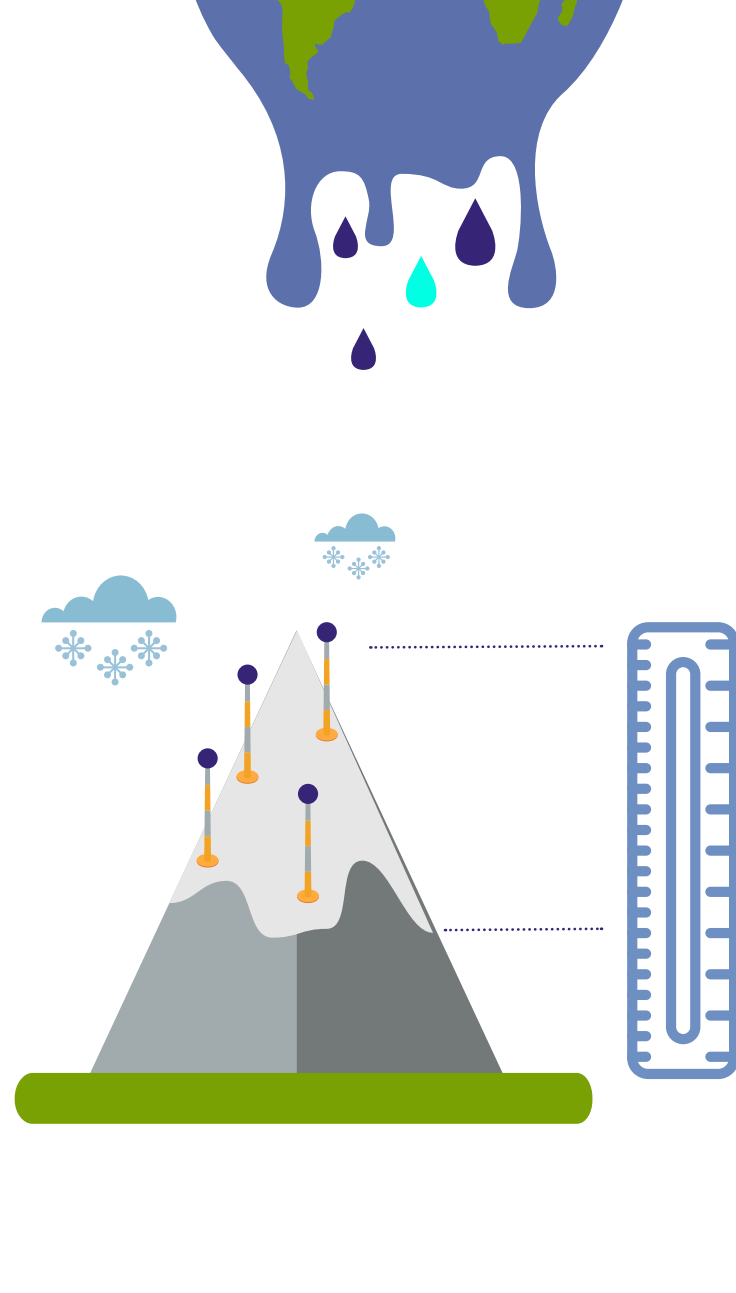
Climate change is affecting the water availability worldwide.

In mountain regions water is mostly stored in the snow pack.

Assessing and predicting water availability from snow is difficult, as few snow metering stations are available.

Lot of information is available in public web content.

Can public web content be used to obtain information about snow availability, hence water availability prediction?



### SODALITE brings a solution

SODALITE simplifies the design, deployment and maintenance of online pipelines of heterogeneous components, alleviating the complexity of manually scaling complex IT applications.



More scalability = more data processing power = more accurate and abundant snow and water availability data

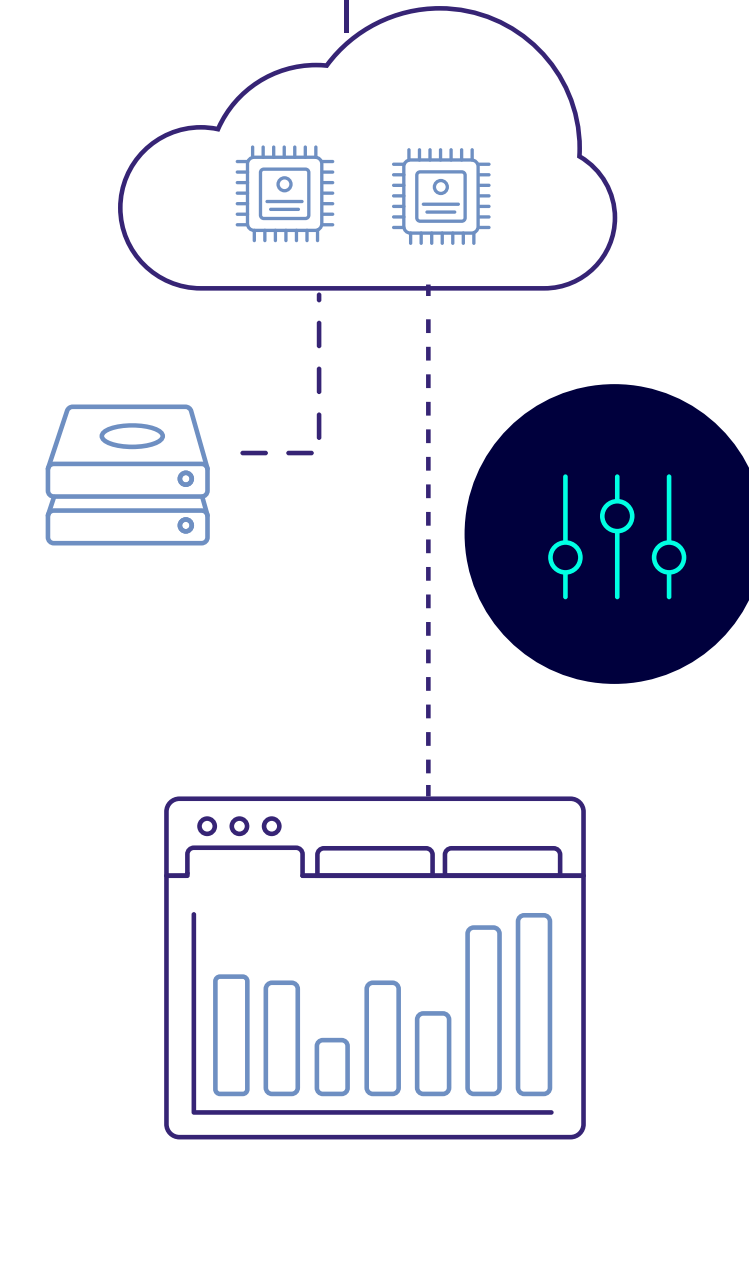
### Empowering tech innovation

Environment monitoring pipelines consist of heterogeneous components: crawlers, classifiers, computer vision algorithms, predictive models.

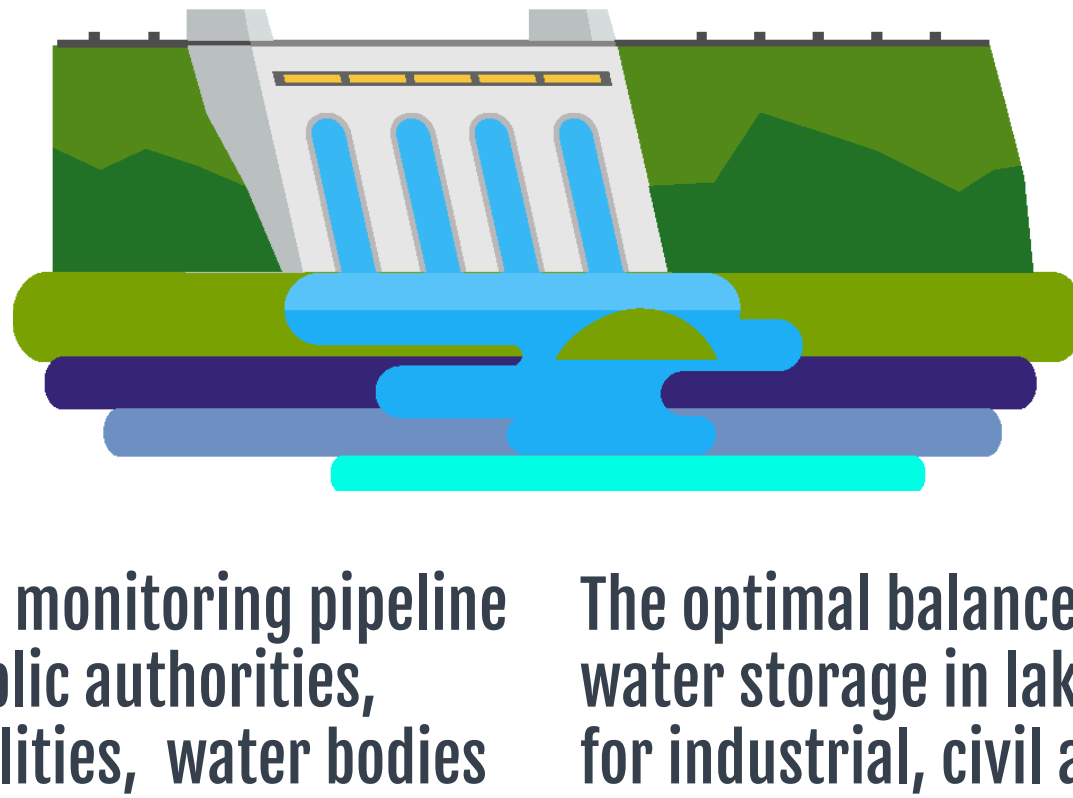
All such components have different requirements in terms of CPU, GPU, storage and bandwidth.

Finding the optimal balance of resources under budget constraints is hard SODALITE helps the pipeline operator design the deployment mode of the application and automatically deploy and run on both HPC and cloud infrastructure.

Real time performance monitoring helps detect bottlenecks and devising optimal options for reconfiguration and redeployment.



### End user benefits & Society Wellness

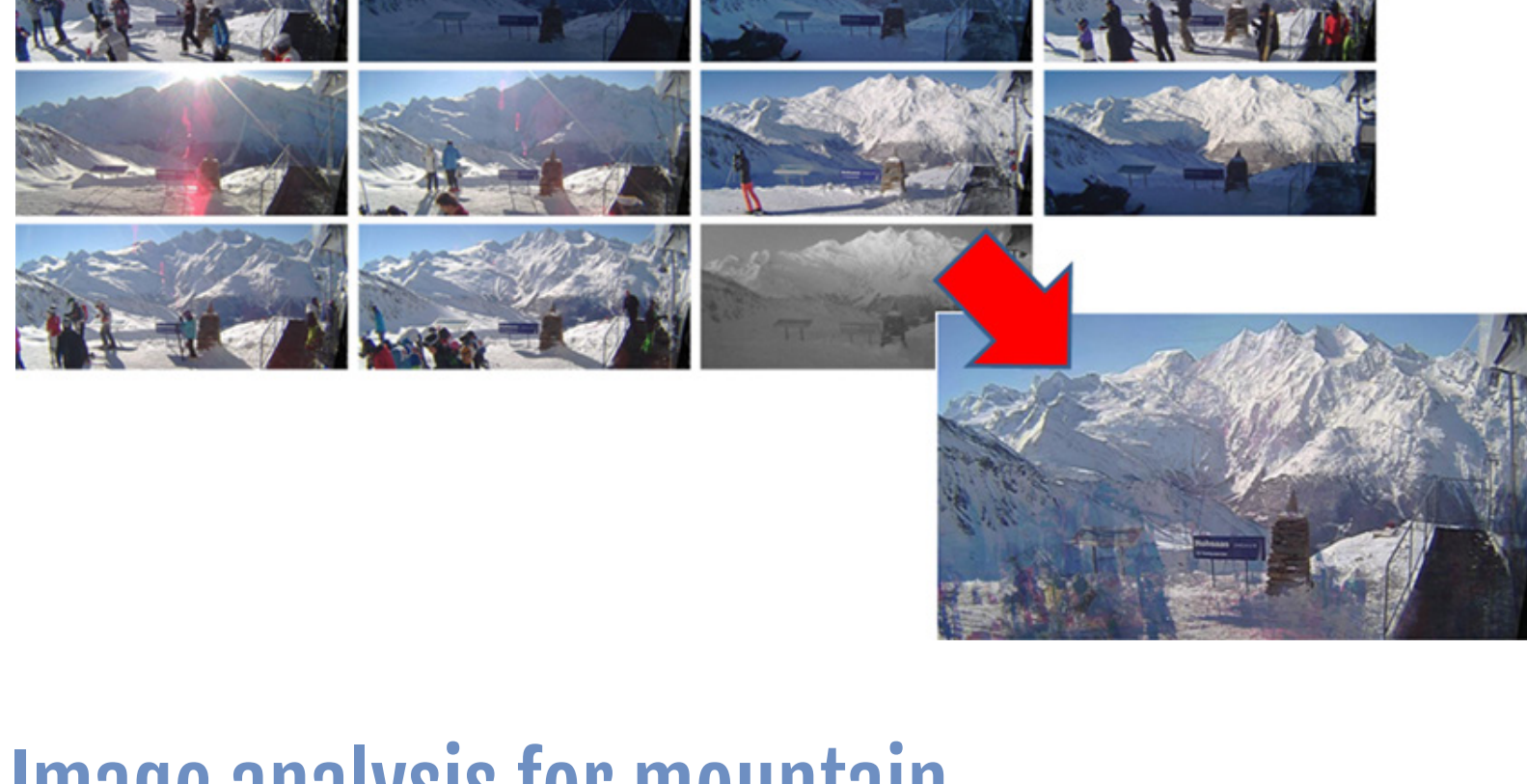


The snow monitoring pipeline helps public authorities, water utilities, water bodies regulators and farmers achieve a better prediction of water availability thanks to a broader coverage of the snow monitoring.

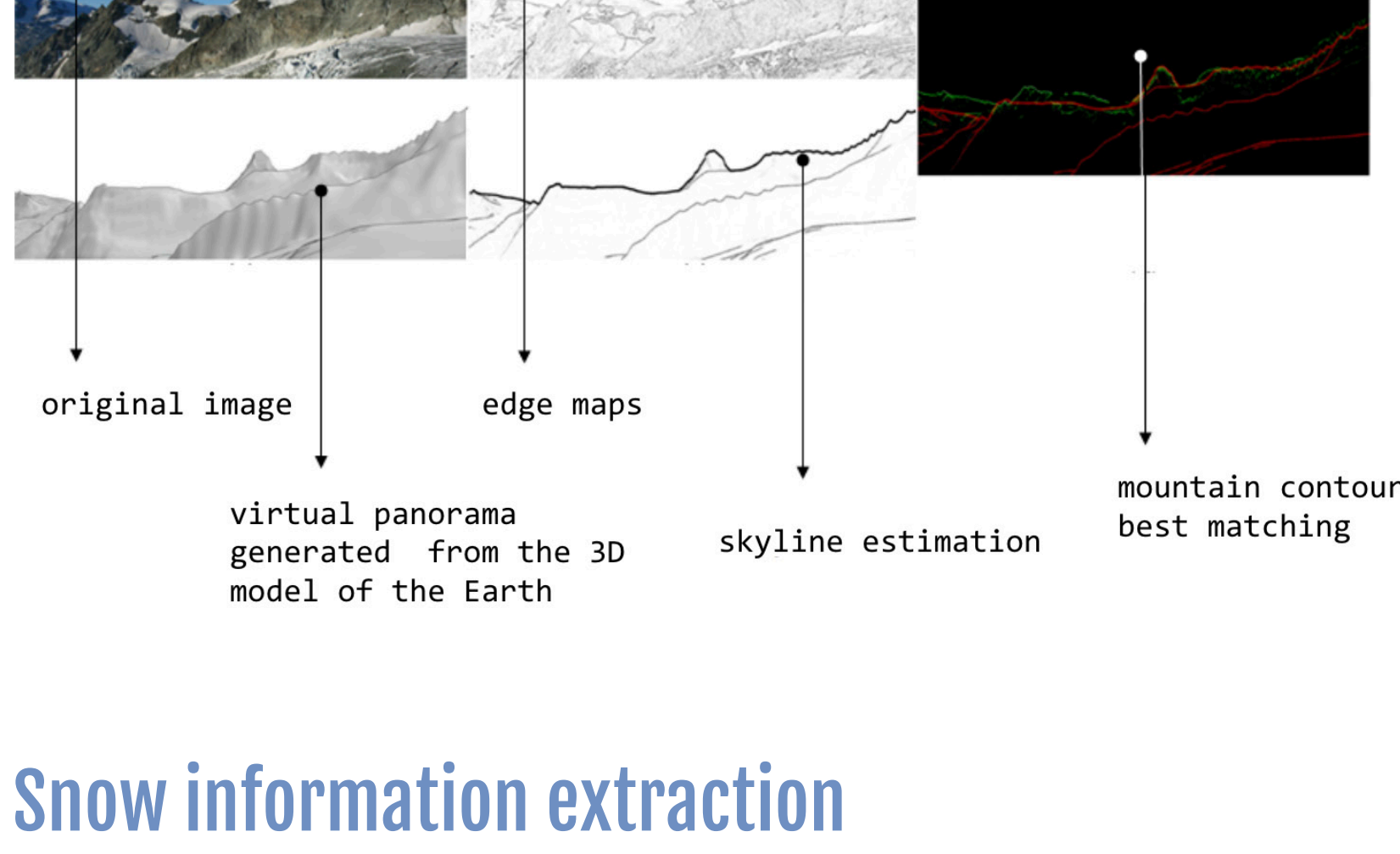
Tension between the different uses of water can be alleviated.

The optimal balance between water storage in lake bodies for industrial, civil and agricultural uses and risk of drought and flooding can be mitigated thanks to better predictions.

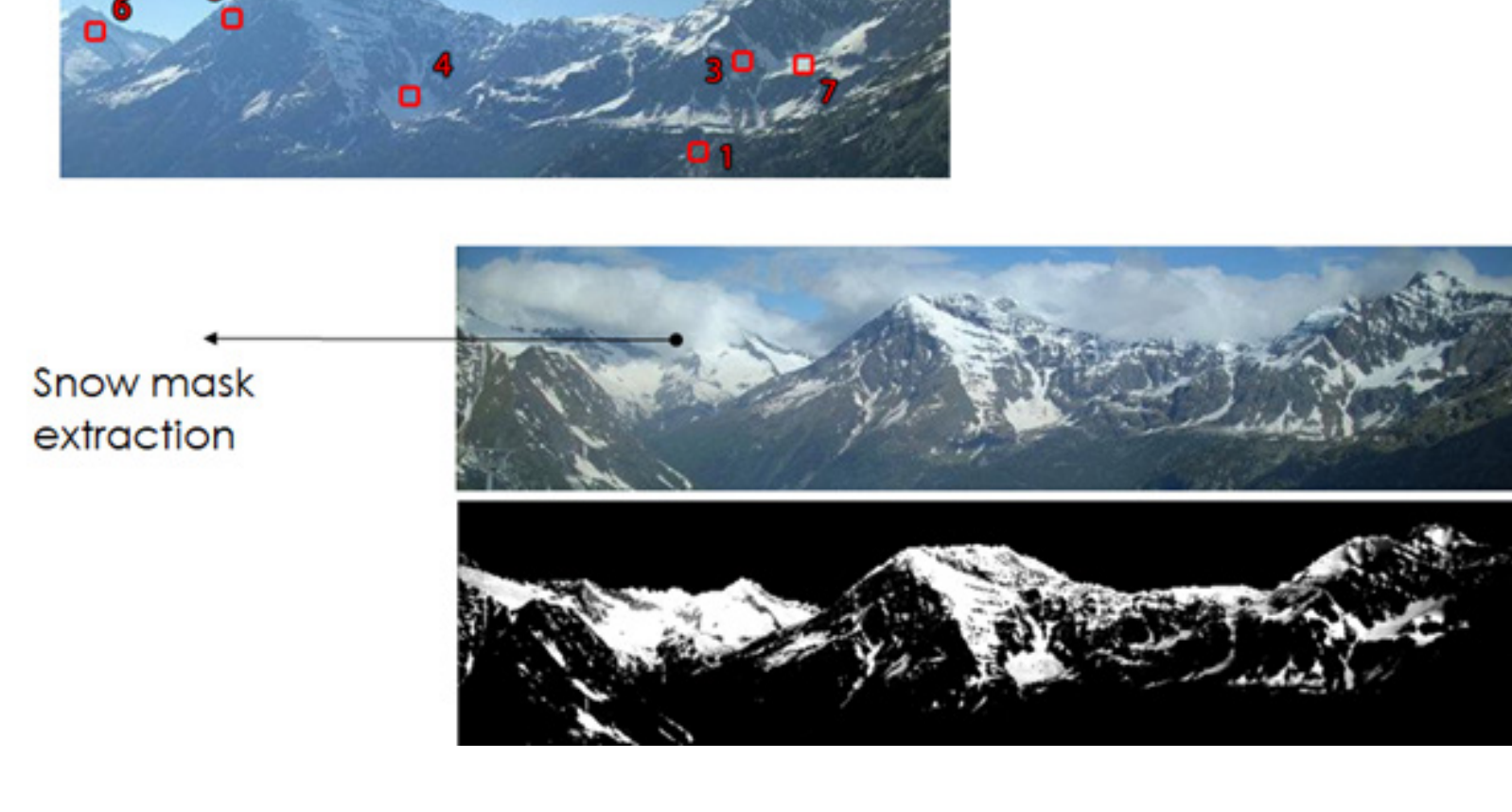
### Image analysis for photo selection and enhancement



### Image analysis for mountain geo-referentiation



### Snow information extraction



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