

# RESEM project - REmote SEnsing supporting surveillance and operation of Mines

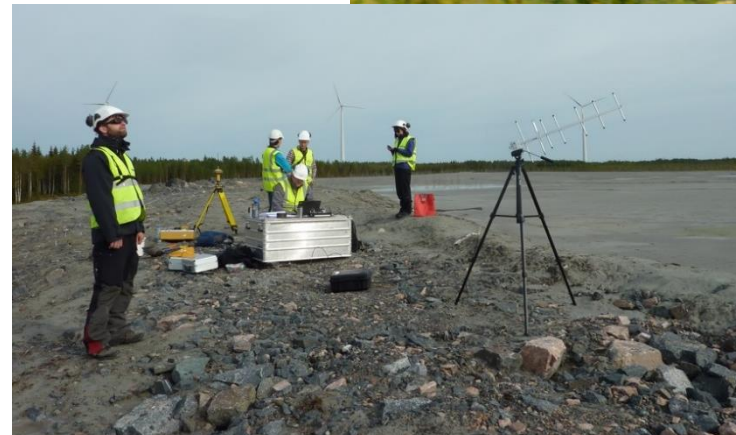


**norut**  
NORTHERN RESEARCH INSTITUTE

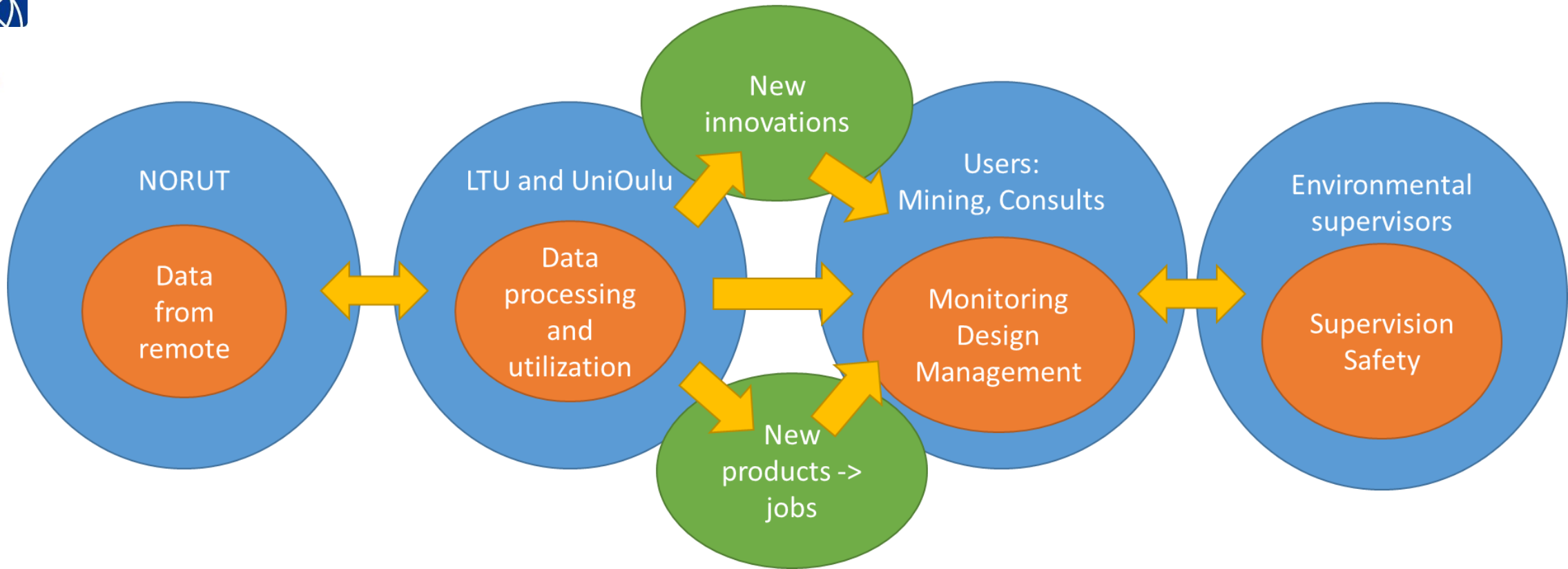
**L**  
LULEÅ  
TEKNISKA  
UNIVERSITET

# What is RESEM?

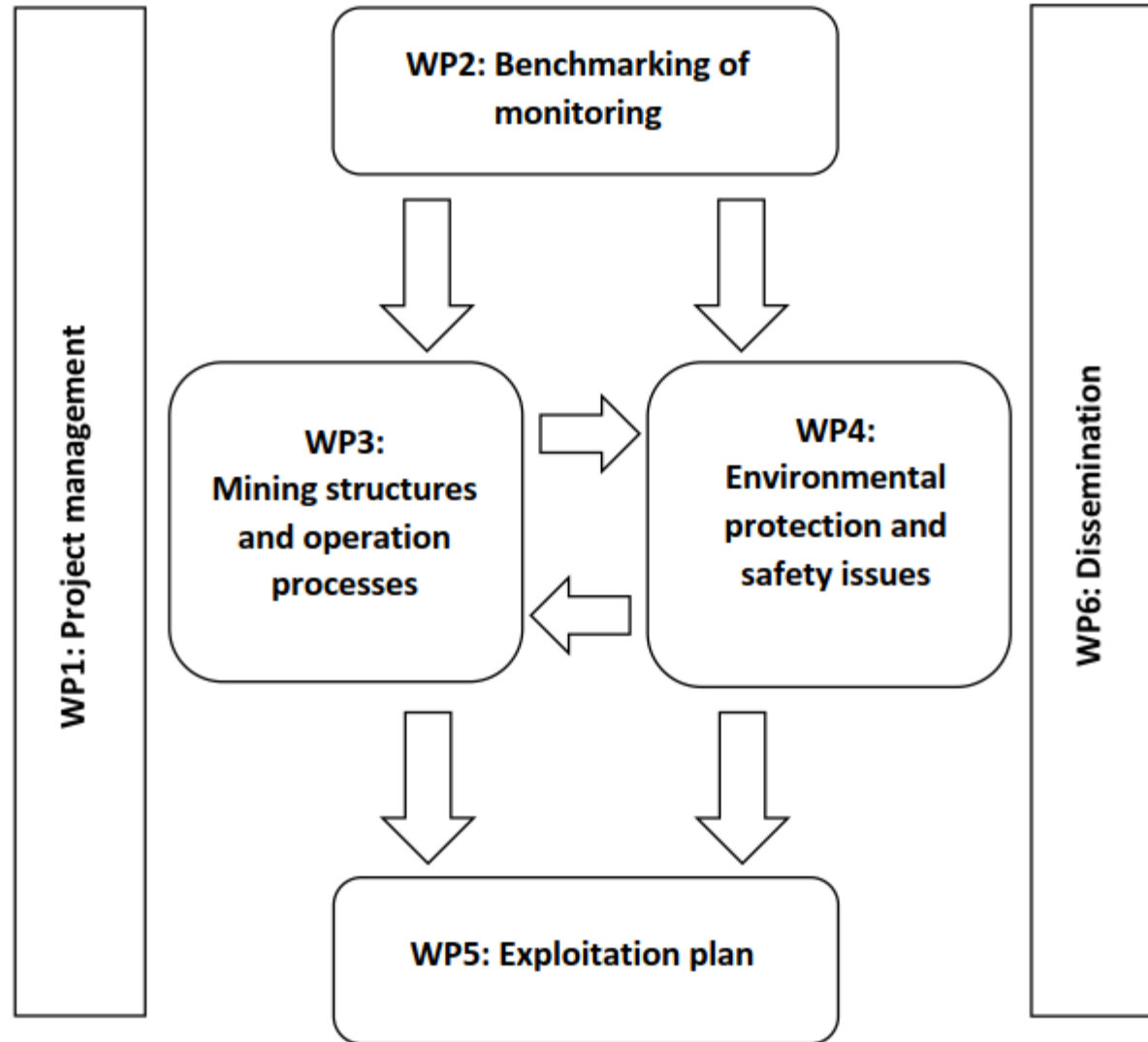
- Goal to form a consortium with expertise on remote sensing in mining areas
- Bring information of remote sensing to mining sector
- University of Oulu – Geotechnics and hydrology
- Norut Tromsø – Remote sensing
- Technical university of Luleå – Geotechnics



# RESEM



# RESEM





**norut**  
NORTHERN RESEARCH INSTITUTE



# Case studies presented today

- Combining UAV to management of paste tailings: Anssi Rauhala (UOulu)
- Satellite imagery in paste tailings dam monitoring: Sven Knutsson (LTU) and Line Rouyet (Norut)
- Thermal imagery of groundwater seepages: Pekka Rossi (UOulu)
- All have the challenges of northern conditions: long winter and snow cover

