→ BALTIC FROM SPACE WORKSHOP

29–31 March 2017 | Helsinki, Finland

Forest management - current capabilities and future opportunities

Reach-U

- Software company established in 1990 in Estonia
- Expertise in Location-Based Services (LBS), excellent experience in Geographic Information Systems (GIS), good understanding of geospatial related content including Earth Observation (EO)
- Good cooperation with:
  - Ericsson in product development in Telecom sector for LBS
  - European Space Agency (ESA) in EO services for Forestry

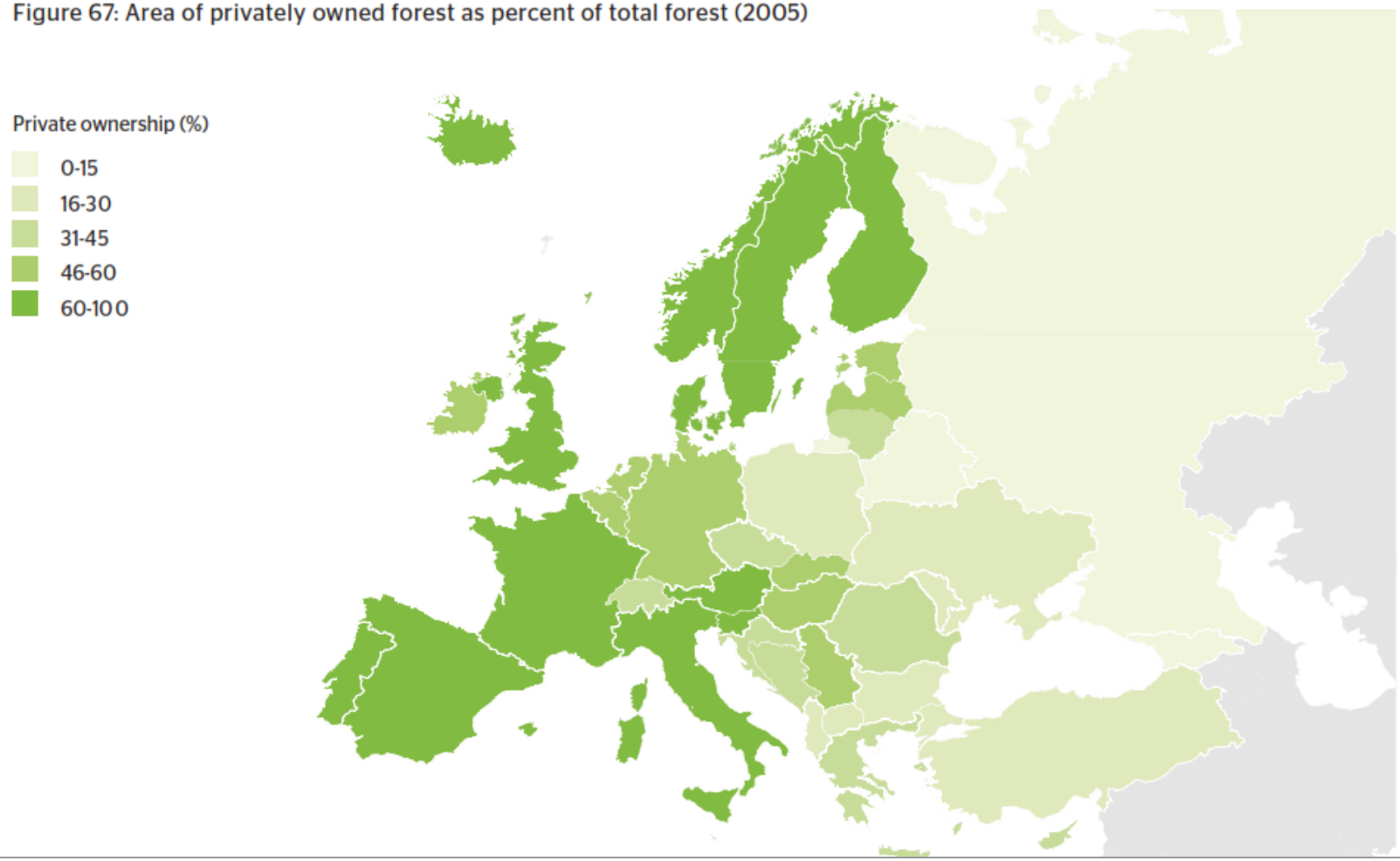
Forestry in Europe

- Depending on the definition of forest area the overall coverage of forests in Europe is 40-44%, with over 1 billion hectare.
- They are the pillar of some of the most important business activities in the continent such as woodworking, furniture, pulp and paper manufacturing and printing.
- In fact, forest-based industries represent about 7% of EU manufacturing GDP with a turnover of €485 Billion in 2015.
- Provide around 3.5 million jobs across over 400 thousand companies.

Forestry around the Baltic Sea

- Administrative and legislative differences
- Baltic states
  - More legislative restrictions
  - Less administrative structure
- Finland and Sweden
  - Less legislative restrictions
  - More administrative structure

Figure 67: Area of privately owned forest as percent of total forest (2005)

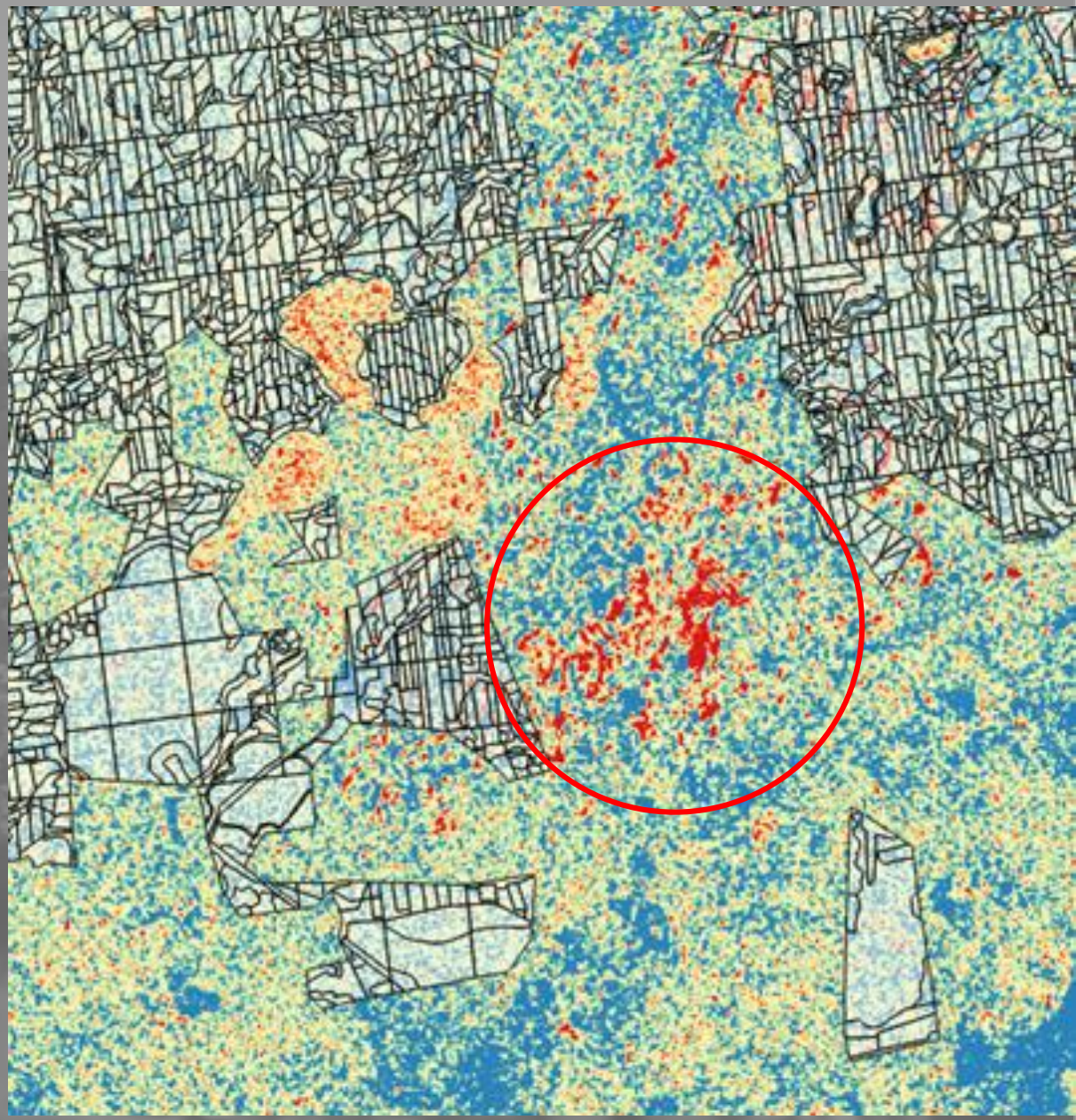


Current capabilities

- Advanced solutions have been developed by the scientific community for various applications, but...
- ... some of the most basic activities are still done the “old” way.
- Why?
  - Cost
  - Applicabaility to lare areas and frequent analysis
  - Conservative end-users

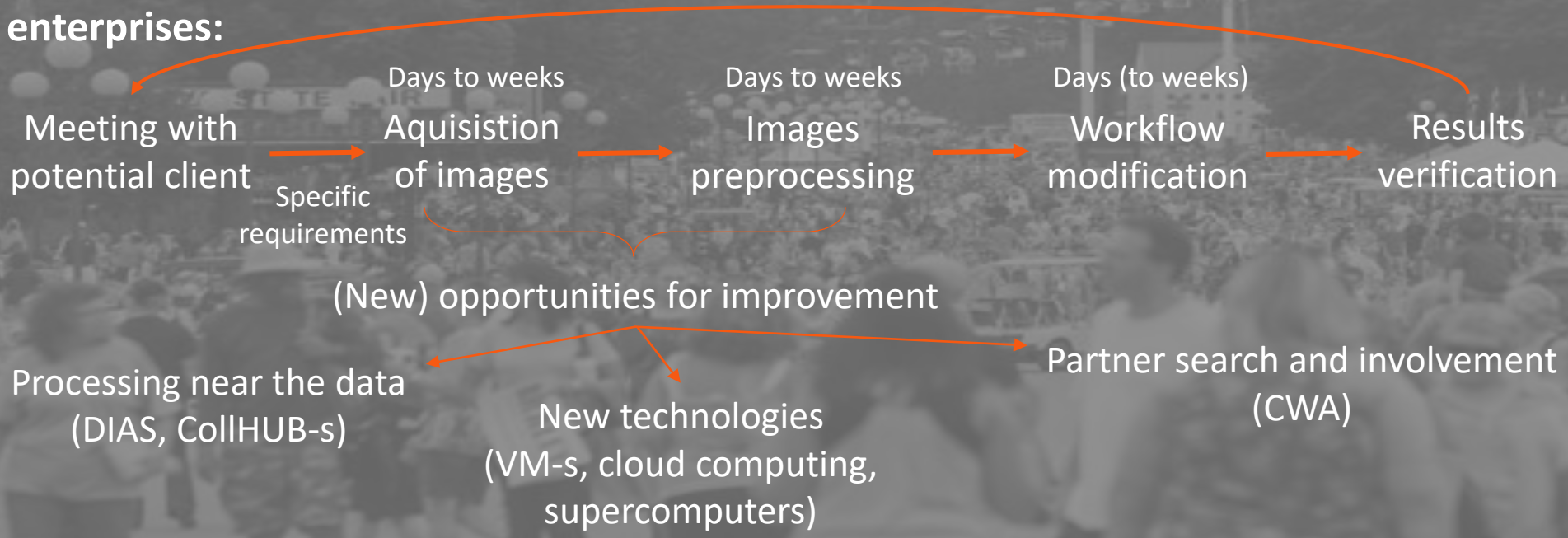
EO Activities in Reach-U

- During the last few of years we've focused on forestry...
  - Change detection
  - Aboveground biomass modelling
  - Height estimation
- ...with emphasis on change detection (e.g. clearcut and severe windfall) from Sentinel-1 SAR images...
- ...and a goal to launch an online biweekly forest change/damage detection and notification service.



Experiences and Lessons Learned

- **Transistion away from technology push towards market pull (i.e. earlier end-user involvement and use-case mapping)**
- **Testing use-cases and early service development can be quite time consuming, especially for small and nano enterprises:**

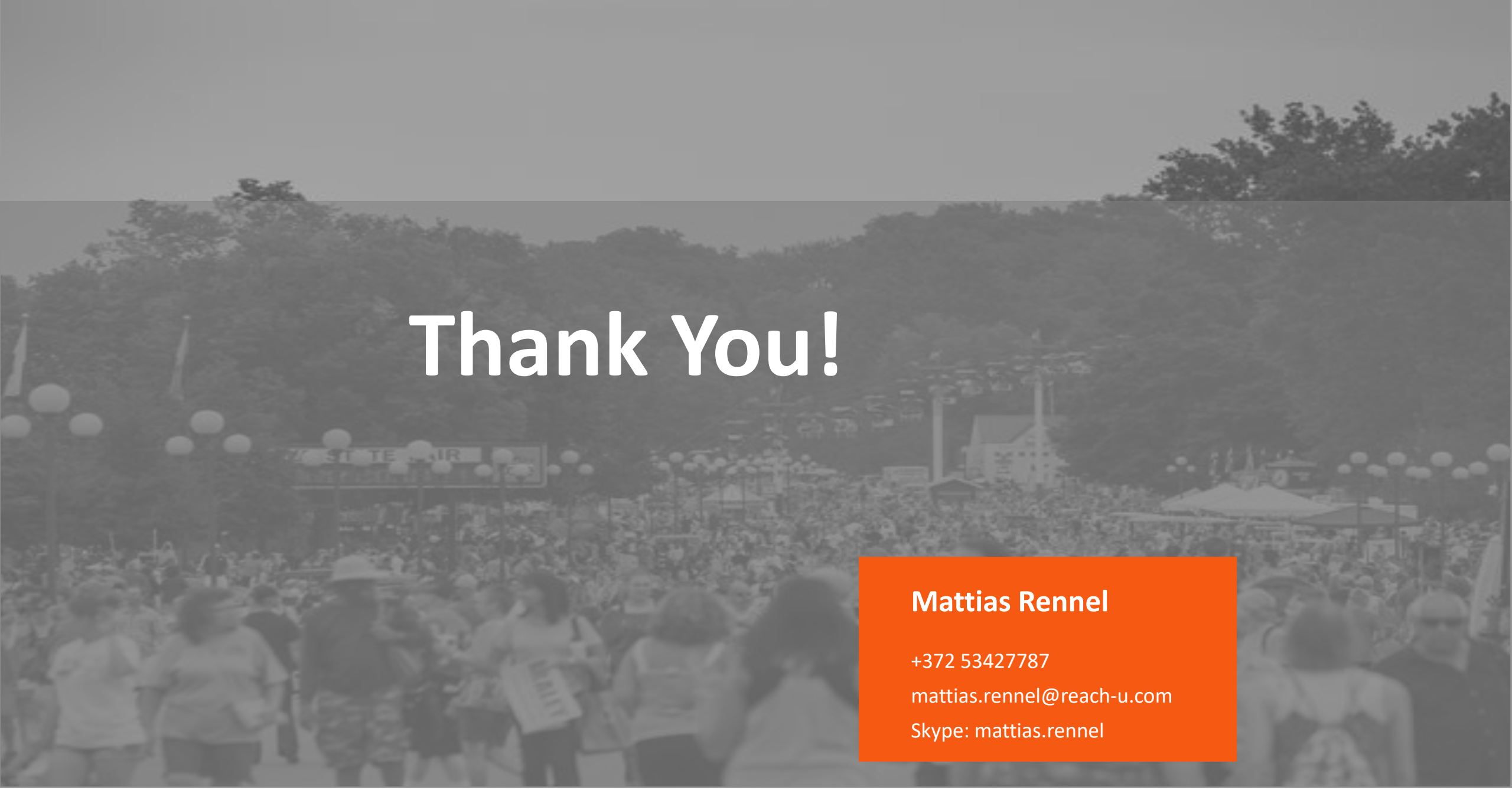


What We Are Aiming For [Future Cababilities? :)]

- Online automated geospatial web services
- A cost-effective operational forest monitoring service with no raw imagery tasking and manual processing
- Remote evaluation of forest change and damage
- End-users don’t want data, they need information

How You Can Help

- Reach-U is interested in investing time and money to meet the use-cases and requirements forest companies and forest owners provide -> DETAILED use cases.
- We’re always in need of new ground truth data
  - Of forest damages
  - Clear cut areas with information of time of logging
  - Status of forest stands after logging



Thank You!

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Reach-U