Nationellt Rymddatalabb

Background and purpose

The need for a common resource for development and analysis focusing on innovation based on data from space infrastructures is identified. The development of services is expensive and time consuming, and a common platform for development of services and functions based on open code will enable innovation and services based on space data. FN, ESA and EU have concluded that space-based sensors and communication solutions is a prerequisite to fulfill the goal of Agenda 2030.

Nationellt Rymddatalabb will be a national knowledge and data hub for Swedish authorities' work on earth observation data and for the development of AI-based analysis of data, generated in space systems. The purpose of the project is to increase the use of data from space for the development of society and industry and for the benefit of the globe. The project starts up a **data lab for space data** that will become a tool for different users after the end of the project. The goal is to get **data, technology and methodology** in place to systematically develop services and applications that use space data in the data lab.





AI INNOVATION of Sweden

27/08/201

Project partners





Rymdstyrelsen Swedish National Space Agency



AI INNOVATION of Sweden

27/08/2019

Al Innovation of Sweden Public funding VINNOVA REGION **Founding partners** VÄSTRA GÖTALAND Medium sized companies & Consulting Corporate CGI Capgemini ACVUDO **essity** VOLVIA AstraZeneca FUITSU EVRY KPMG VOLVO qamcom sweco 古 VOLVO VOLVO GROUP Semcon ERICSSON Z **SMEs & Startups** CEVT ZENUITY veoneer Make it rea • Recorded Seal UNIVRSES Academia & Research Institutes Lifelong Learning **I** PELTARION RI SE annotell TENFIFTY CHALMERS UNIVERSITY OF TECHNOLOGY Talkamatic Wiking Analytics AB COHEREUM universeum he Swedish Law and **J**ascenda Humanitas 🏷 Machine Intelligence formatics Research Institute UNIVERSITY OF GOTHENBURG **Public organizations Sveriges** Rymdstyrelsen Swedish National Space Agency REGION Kommuner Skatteverket VÄSTRA GÖTALAND och Landsting



SICS ICE. A full-scale research datacenter and test environment with the purpose to increase knowledge, strengthen the AI & DC ecosystems, and attract researchers.



LTU – AI and Space Technology www.ltu.ai

- Top university for space engineering (+master program)
 - On the list of Forbes top 30 under 30
 - Campus in Luleå and Kiruna
- Top university in Applied AI
 - Hundreds of highly cited AI-related journal publications
 - 3 LTU AI-researchers in IVA's 100 list of innovators
 - Leaders in various machine learning competitions
 - Sweden's only NVIDIA DLI Ambassador
- Synergies with the newly established AI innovation hub



Swedish National Space Agency

- Support the development of the Swedish space sector
- Promote the development of space related technology and knowledge with special focus on transportation, communication, environment and climate
- Work together with other actors to increase the interest in natural sciences and technology, especially among young people



Rymdstyrelsen Swedish National Space Agency



Project plan



Rymdstyrelsen Swedish National Space Agency



Data driven innovation

We will perform

- Pilot projects, including end user involvement, to develop data driven innovation based on EO, GNSS and onboard operational data
- Collaboration with Swedish Governmental bodies to develop services that they need for decision making and environmental monitoring.
- Cooperation with Tillväxtverket and publication of challenges on their platform for open and data driven innovation

Nationellt Rymddatalabb Impacts

- Common arena for end users and developers
- Increased competitiveness for Swedish actors
- Focus on Space data and the opportunities arising
- Resource for development of Space data algorithms





Organization of Activities for fostering data-driven innovation

We will perform

- 4 hackathons/workshops with researchers, data scientists, and developers with the aim to develop data driven innovation
 - Example: Kartdagarna
- 2 open developer events for data driven innovation together with other data labs, researchers, clusters (i.e. Skogstyrelsen)
- 2 seminars with new actors (the use of space data)
- 2 workshops with partners to develop services
- 2 developer events for education on tools and data monitoring

Nationellt Rymddatalabb Impacts

- become a knowledge hub
- create methodology for the use of space data that leads to digital development and innovation
- gain Swedish industrial competence and ability
- gender equality
- increase attractiveness in collaboration with global partners





Common tools and models, enabling open access to data

We will perform		Nationellt Rymddatalabb Impacts	
•	make space data easy accessible and contribute to innovations and applications based on space data	 enable collaboration for research and education global development, industrial development ar economy of natural resources 	on on Id
•	make data, processing capacity, software platforms & tools and methodology available to lower the threshold	 create new possibilities – based on a real time situational awareness 	, true

 enable systematic development of services and applications based on space data increase the pre-requisites for developing countries as well as technically advanced countries

AI INNOVATION of Sweden

27/08/201



Rymdstyrelsen Swedish National Space Agency



Road map

	Public Sector & Society
	Industrial partners
Researchers	
End-users	
Vinnova funding	Nationellt Rymddatalabb
	Ocean Data Factory
	Skogsstyrelsen Datalab
	Other labs and clusters



Rymdstyrelsen Swedish National Space Agency



AI INNOVATION of Sweden

27/08/2019