

# RIT

RYMD FÖR INNOVATION OCH TILLVÄXT

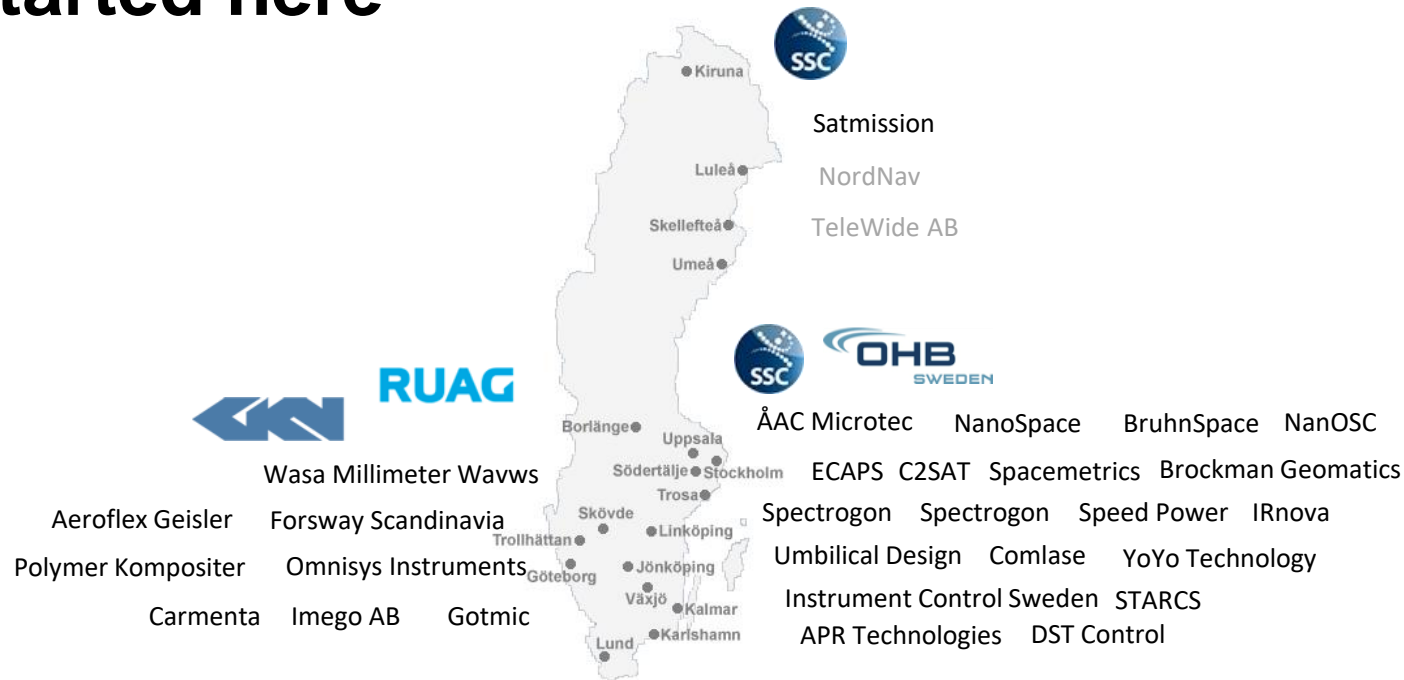
## Space Innovation Forum 7

30-31 August 2018

Johanna Bergström-Roos, Project Manager

[www.ritspace.se](http://www.ritspace.se)

# It started here



# What drives spin-offs?

- A driving force
- Skills and higher education
- Amount of R&D projects – new ideas
- Technical development
- Economic policy
- Funding
- A critical mass of minds
- Infrastructure

..... and a cohesive force!

# Purpose & Goal

## Purpose

The space sector will contribute **to increase growth in the region** on a much broader scale than it does today.

**Strong links local-regional-  
national-international**

## Project Goal

The space sector in the region has increased its capacity in **R&D collaboration** between academia, industry and stakeholders in the innovation support system.

# Strengthening R&D collaboration

Academia - Space Sector - Innovation Support System

## WP1

A Centre of Excellence for Space Technology



## WP2

R&D projects between Academia and Space Sector

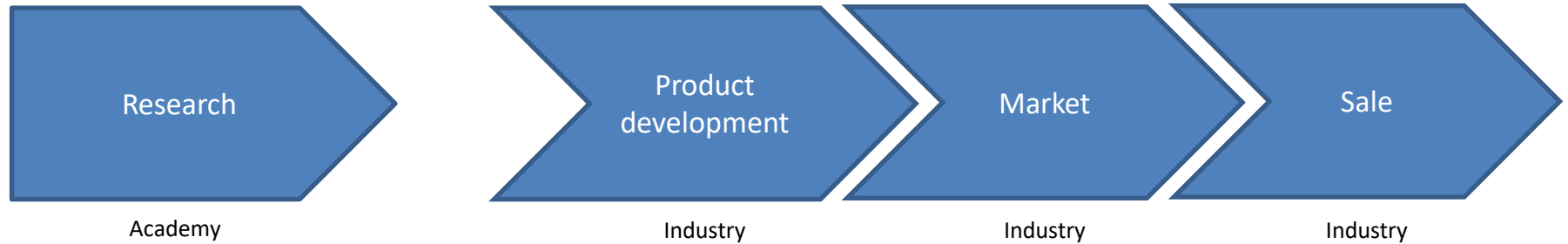
## WP3

An innovation Support System for Aerospace

# What shall we deliver?

WP 1	WP 2	WP 3
Establish a Centre of Excellence	8 PhD students will be half way through their education  We have identified 8 products or services for commercialisation	Initiate an innovation support system  Involve 15 regional SME:s in the space business

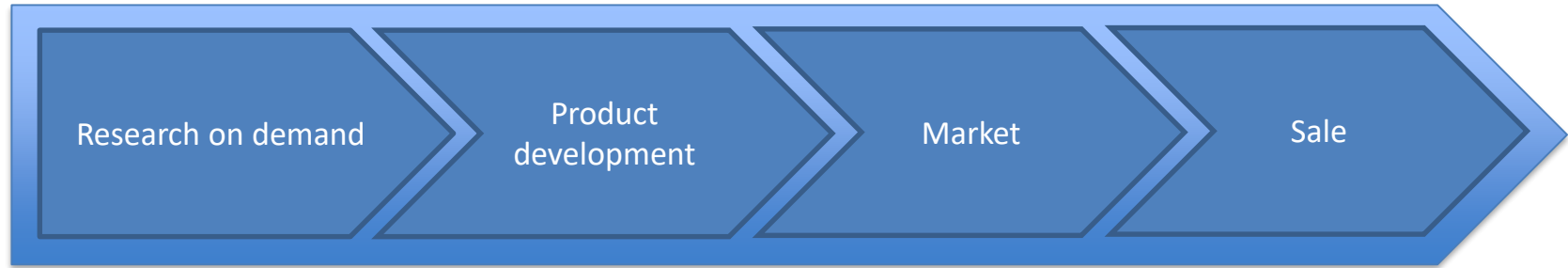
# Before th RIT project



No external innovation support system is used

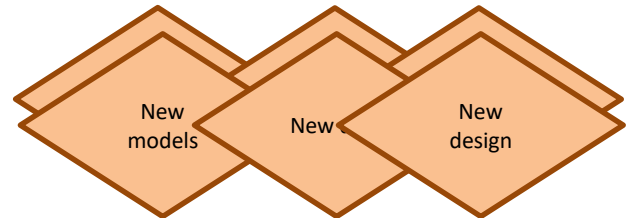
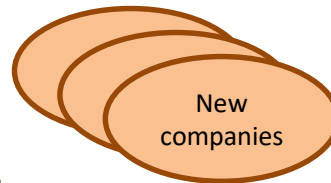
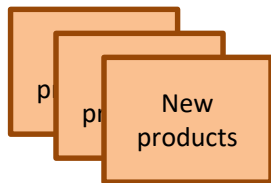


# After the RIT project



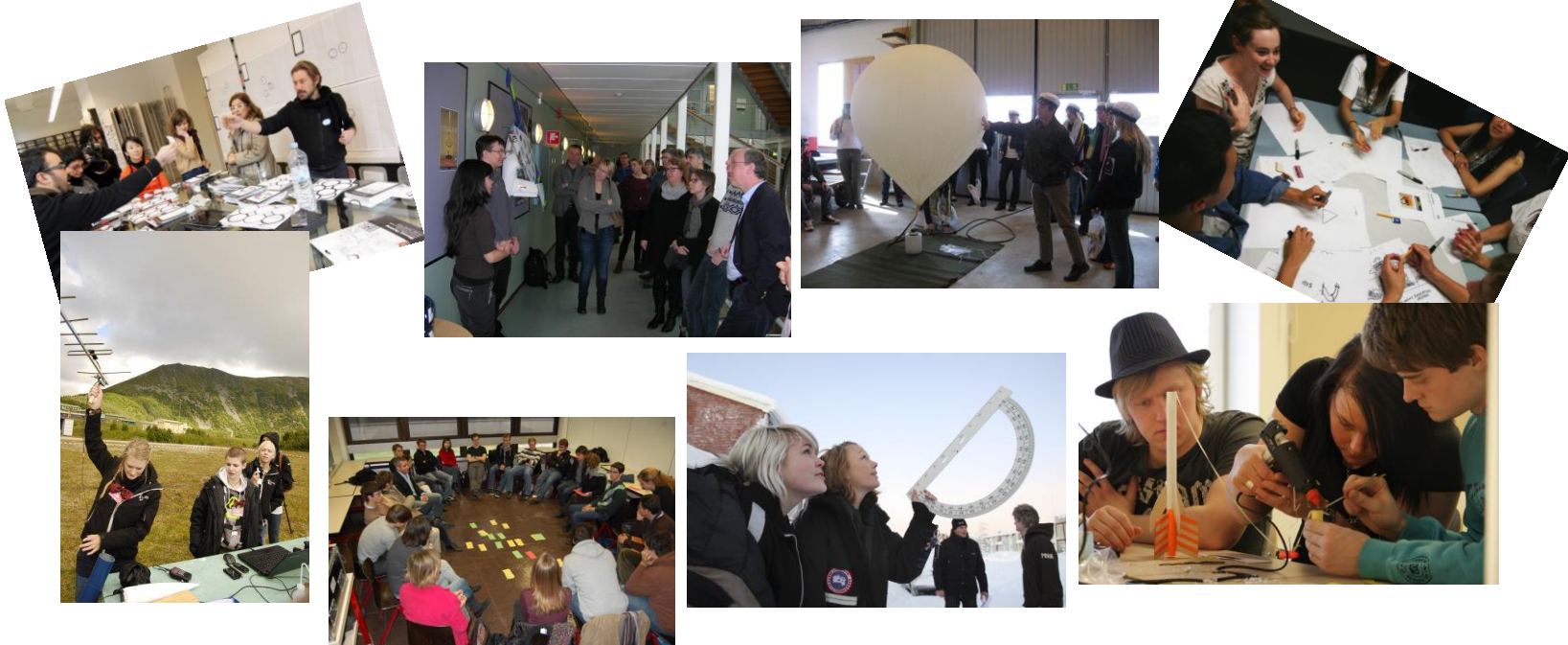
Academy – Industry – Innovation support system

Industry – Innovation support system





# When people meet things happen



# 7 Space Innovation Forums

## Topics

- SIF1 Kick-off
- SIF2 Innovation Management and Collaboration
- SIF3 The Space Innovation Ecosystem
- SIF4 Open Innovation
- SIF5 Innovation Management and Product development
- SIF6 SME:s and the Inauguration of Aerospace Cluster Sweden
- SIF7 Final presentation, Conclusion and Inauguration of the Centre of Excellence

## Inspiration

- Regional Development, Mikael Börjesson
- Open Innovation, Peter Sandberg
- WideFind – a new space start-up, Kristoffer Ödmark
- Open Cosmos and their journey from idea to a start-up, Aleix Megias
- How can the new city strengthen the space business and vice versa?, Lars Bäckström
- The ESA Ecosystem, Stefan Gustafsson
- Product Innovation for Space Applications, Anna Öhrwall Rönnbäck & Reza Emami
- Why aerospace? The big picture and future possibilities, Olle Norberg, Anders Blom & Stefan Gustafsson
- Trends in Aeronautics and Aerospace, Anders Blom & Stefan Gustafsson
- Aerospace industry from a regional perspective, David Sundström & Stefan Sydberg
- Aerospace Industry from a national perspective, Carl Rosén

# 7 Space Innovation Forums

## Presentations

- Latest news from RIT (RIT project team)
- 10 ongoing R&D space projects, 8 PhD students + HABIT and Additive manufacturing
- Needs and Challenges within the space business
- Competence within regional SMEs
- New collaborations with SME:s (Conex and N66)
- Financing and Horizon 2020 (LTU Business)
- Enterprise Europe Network (LTU Business)
- ESA BIC Sweden (ABI)
- Applications based on satellite data (Metria)
- Product Development by the Space Industry
- Additional LTU Space related Research Areas
- Innovation Management within the space business
- Product Development within the space industry
- Synergies in Aerospace (IRF)
- Big Business with Big Science Sweden
- New business opportunities with EISCAT 3D
- Aerospace Cluster Sweden
- Presentation of the National Space Strategy (Helene Hellmark Knutsson)
- Presentation of results within the PhD projects
- Reflections of the RIT project (RIT project team)
- Presentation of RIT 202 ( RIT project team)

## Workshops

- Purpose & Objectives of the project RIT, led by Reza Emami
- Expectations from partners, led by Johanna Bergström-Roos
- What "Meeting Point" shall we offer within RIT? led by Lisa Braafnäs
- Product Innovation, led by Anna Öhrwall-Rönnbäck, Reza Emami and Peter Törlind
- Idea generation - Innovation projects, led by Johan Bergström & Mattias Bergström
- Identification and Verification of Intellectual Assets, led by Emil Svanberg
- Aerospace Cluster Sweden, led by Anna Öhrwall Rönnbäck
- Topics for the next Space Innovation Forum, led by Johanna Bergström-Roos

# RIT in Photos!

# Spin-offs

Before RIT  
After RIT

5 nya företag har bildats  
under RIT-projektet

WideFind  
TLight  
SOL Ionics  
Vilda Spårning  
N66



Satmission  
NordNav  
TeleWide AB

Ett 20-tal regionala företag har  
identifierats i Övre Norrland som  
intressanta för rymdbranschen



ÅAC Microtec NanoSpace BruhnSpace NanOSC  
ECAPS C2SAT Spacemetrics Brockman Geomatics  
Spectrogon Spectrogon Speed Power IRnova  
Umbilical Design Comlase YoYo Technology  
Instrument Control Sweden STARCS  
APR Technologies DST Control

Wasa Millimeter Wavws  
Aeroflex Geisler Forsway Scandinavia  
Polymer Kompositer Omnisys Instruments  
Carmenta Imego AB Gotmic



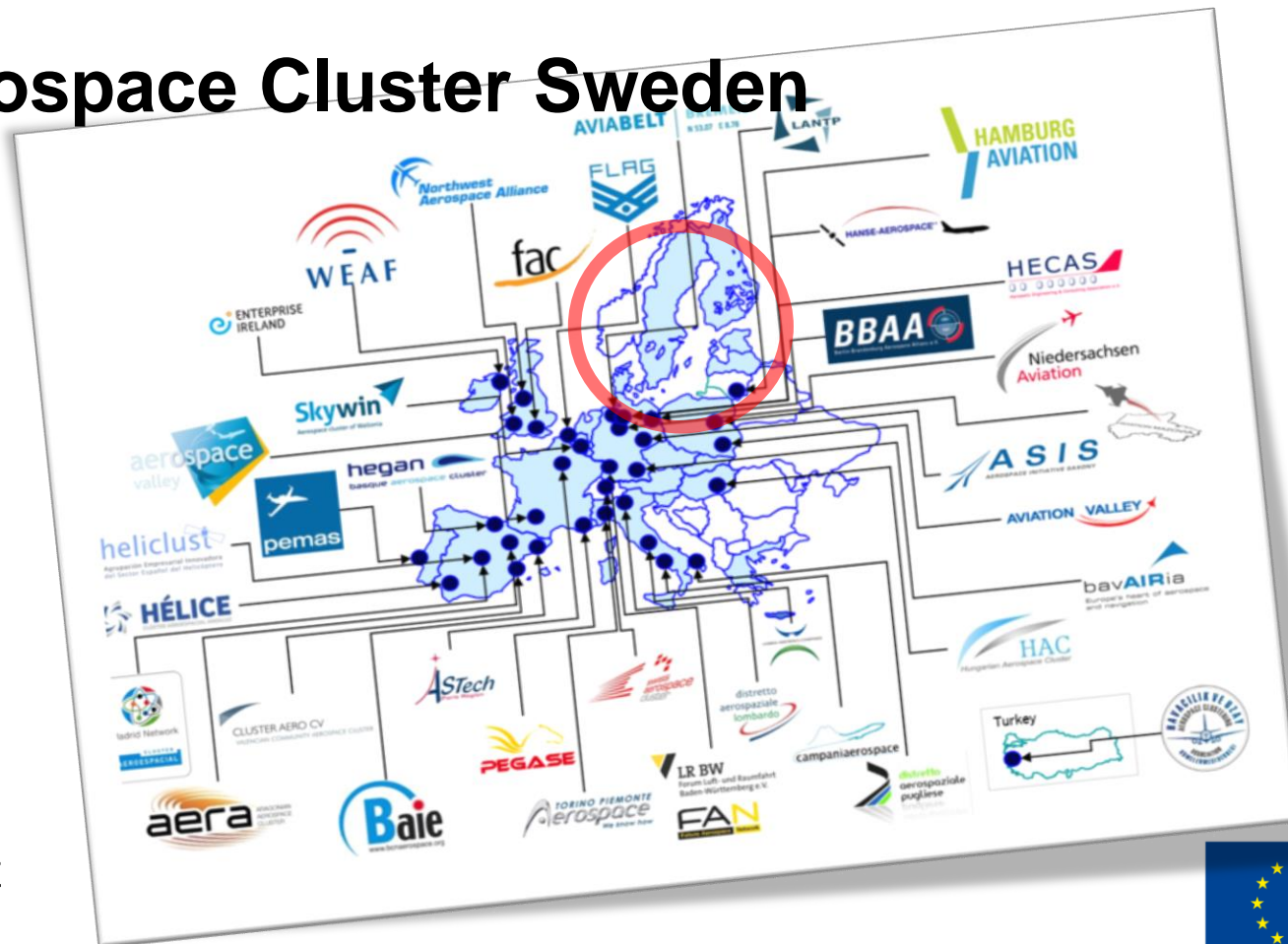
# RIT by Numbers

A project to increase innovations and to collaborate with the growing space industry

- 1 new Center of Excellence for Space Technology
- 6 + 6 research subjects at LTU that are related to the space industry
- 7+ new Master Thesis with Omnisys, N66, GKN Aerospace, SSC
- 7 PhD students (7 new products/services to be identified, verified and validated)
- 3+ new interdisciplinary constellations (Onboard space systems + Product Innovation, Materials Engineering + Product Innovation (AM) and Machine Elements + Atmospheric Sciences)
- 1 new national space conference "Space Innovation Forum"
- 1 new matchmaking event "Lift Off", where the space industry meets LTU space students
- 4 successful collaborations with innovative SMEs and subcontractors (N66, Conex, VTT, Open Cosmos)
- 4 new regional start-ups launches within the ESA Bic Sweden (Widefind, TLIGHT, SOL-Ionics, Wilda Tracking)
- 1 new regional start-up in satellite communications (N66)
- 2 national space launches conduct development work in the region (SALLY R and FlyPulse)
- 20 regional SME:s interested to collaborate with the Aerospace business have been identified
- 1 new nod for Big Science Sweden (Northern Nodes)
- 1 new node for Aerospace Cluster Sweden (Northern Nodes)
- LTU has become a major player and is invited to important space venues: Paris Airshow, ESA-PAC, open invitation to the Parliament Space Group, Space Innovation Forum, Space Forum, KTH Round Table, ESA-BIC events, Almedalen etc.



# Aerospace Cluster Sweden







Research infrastructure  
that Sweden invests in

# A rang of competences needed

AEROSPACE  
CLUSTER  
SWEDEN



- Construction and Civil Engineering
- Coating, Joining and Casting
- Electronics, RF and Microwave Technologies
- Magnets
- Materials Processing
- Mechanical Engineering
- Optics, Sensors and Diagnostics
- Power Supply
- Remote Handling
- Robotics
- Software and Control Technologies
- Support Services
- Utilities and Instrumentation
- Vacuum and Low Temperature Technologies
- Others