

Swedish Aeronautical Research Center (SARC)

Ingo Staack (LiU)

Dan Henningson (KTH), Petter Krus (LiU), Tomas
Grönstedt (Chalmers)



SARC is a national aeronautical research center hosted by LiU and funded by INNOVAIR, one of the first VINNOVA strategic innovation programs

VINNOVA Decision of 12 milj SEK

| | | | |
|---|--------------|--------------|-------|
|  | Beslutsdatum | Diarienummer | 1 (5) |
| | 2018-01-24 | 2018-00063 | |

BESLUT OM BIDRAG

Diarienummer: 2018-00063

Projekttitel: Flygtekniskt Forskningscentra

Koordinator: Linköpings universitet
Institutionen för ekonomisk och industriell utveckling
Hus A, Campus Valla
58183 LINKÖPING

Organisationsnummer: 202100-3096

Firmatecknare/prefekt: Per-Olof Brehmer

Projektledare: Petter Krus
Linköpings universitet
Institutionen för ekonomisk och industriell utveckling

Vinnovas handläggare: Ebba Lindegren

Vinnovas administratör: Lena Dalsmyr

Startdatum-Slutdatum: 2018-02-01 - 2021-12-31

Er ansökan om bidrag har beviljats

Tack för er ansökan om bidrag inom utlysningen "Enskilda projekt - SIP Innovair 2018". Vi har beslutat att bevilja er ansökan.

SARC Center Structure

Center Management

Chair: Anders Blom (FOI)

Members:

- Peter Värbrand (LiU, Vice principal)
- Angela Hillemyr (Chalmers, Head of department)
- Tomas Ireman (Saab)
- Henrik Runnemalm (GKN)
- Mats-Olof Olsson (FMV)

Working group members:

- Ingo Staack (LiU)
- Hanifi Ardeshir (KTH)
- Olivier Petit (Chalmers)

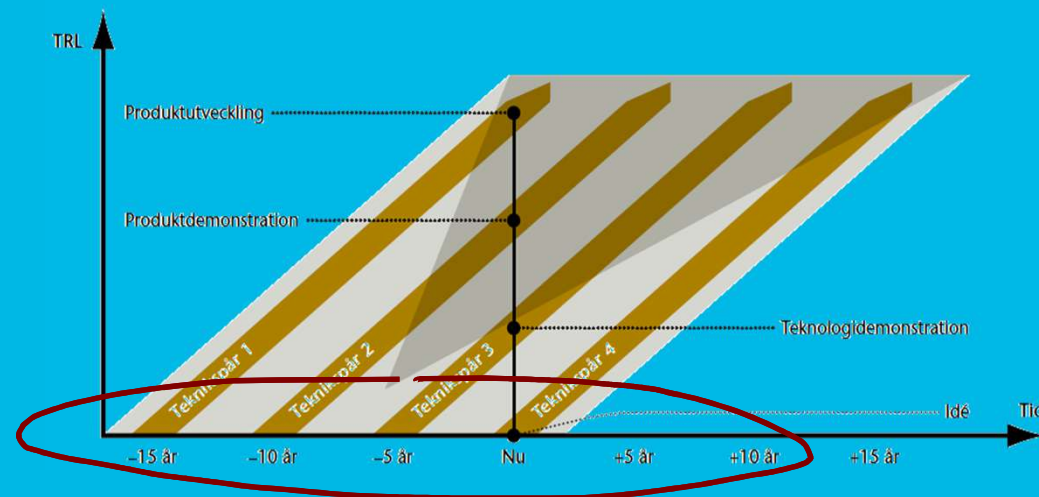
Center Directors

- Dan Henningson (KTH, year 1)
- Tomas Grönstedt (Chalmers, year 2)
- Petter Krus (LiU, year 3)



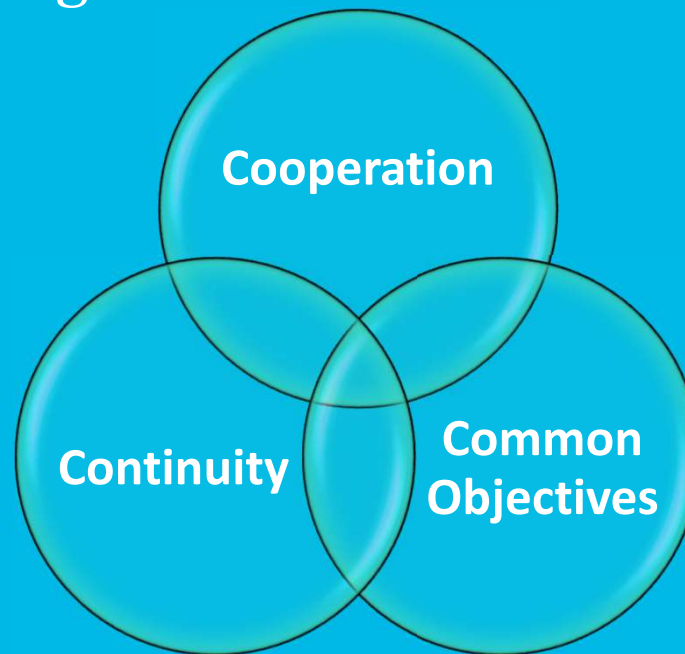
Background

- Ensure Sweden's future **competitiveness**.
- Provide **complete** innovation system
- Strengthen **collaboration** between basic research and research on higher TRL levels
- Increased need for **research at low TRL levels** at universities



Globalization: Efficient Innovation

- Competitiveness via technology
- Shortened time from idea → product on market
- The 3C challenge:



VINNOVAs SARC Vision

INNOVAIR:s SARC vision

Swedish Aeronautics Research Centre **SARC** will:

- organize competitive **education programmes** at all levels
- **establish contacts** between all relevant actors (students, researchers, professors) such that they may cooperate nationally and jointly form strong teams for international research proposals
- **work with** the appointed **cluster leaders** from Saab and GKN to organize meetings between actors in each technical cluster
- **contribute to state of the art** technical summaries and proposed priorities for next and future **NRIA**
- be involved in Innovairs **internationalization** activities

Challenges

((Smart specialiseringsstrategi för Region Östergötland)) **utmaningar**

- **Gapet** mellan forskning och industriell användning
- **Lågt deltagande** från företagen i EU's forskningsprogram
- **Avsaknad** av strukturer och plattformar för utbyte mellan små företag, stora företag och akademien
- **Finansiering av innovationer** för små företag, speciellt att överbrygga "valley of death"
- **Kännedom** om regionens intressenter inom avancerade material
- Regionens **attraktivitet** för start av nya företag inom styrkeområdet
- Kännedomen om styrkeområdet i **andra regioner** i Sverige och EU
- **Samverkan** med andra regioner i Sverige och EU
- **IP** strategi för små företag

Four SARC Fields of Operation

- I. SARC.RESEARCH
- II. SARC.ACADEMY
- III. SARC.INTERNATIONAL
- IV. SARC.EDUCATION

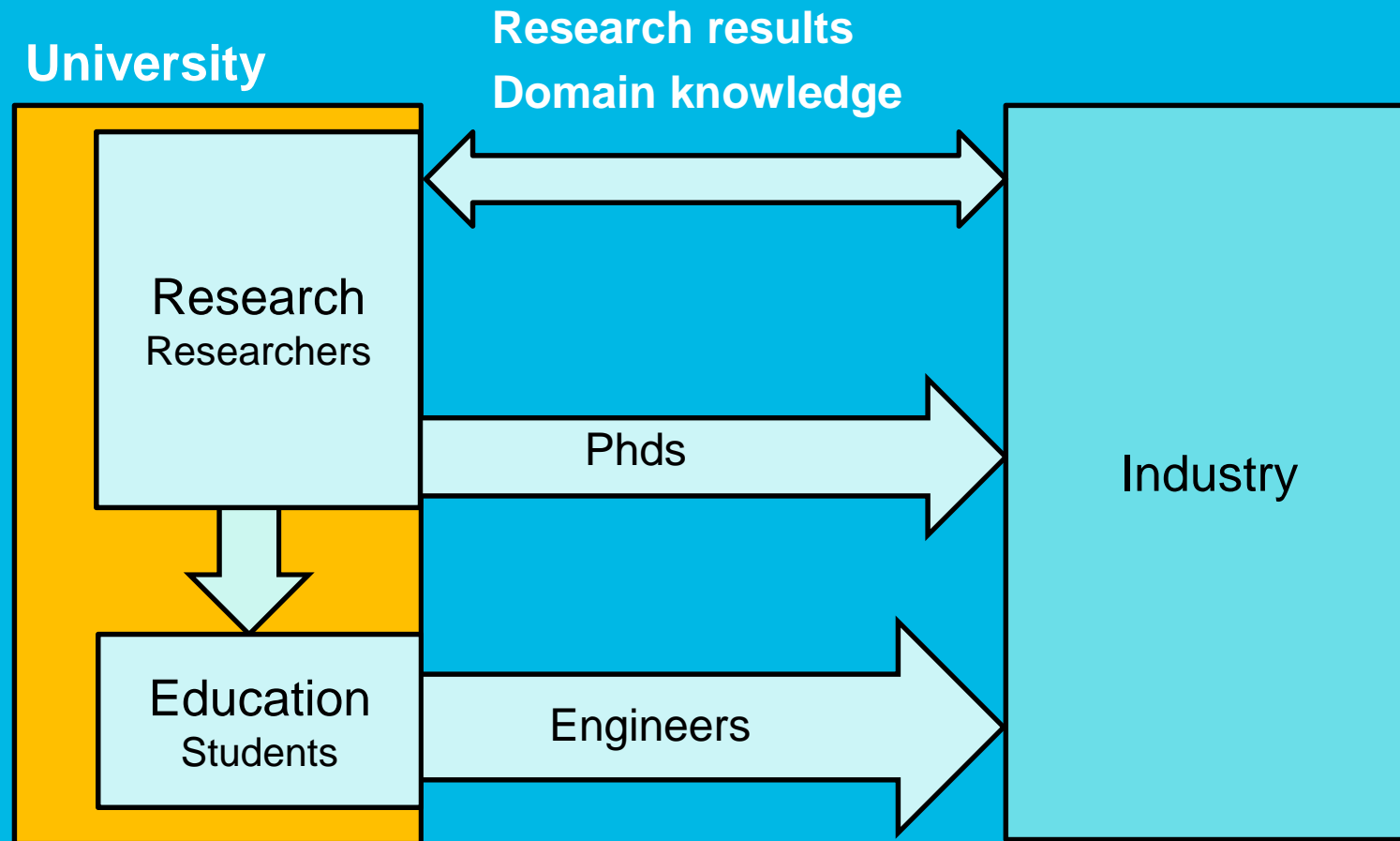


How can an aeronautical center at universities address this?



- A center can **act collectively** towards **funding agencies** and ministries to increase funding for basic aeronautical research and coordinate such funding
- A center of universities can **bring together researchers** focusing on different TRL levels
- (Inter-)national focus point where the main Swedish Aeronautics Universities can identify **common issues**

The Role of Academy/Industry Research Programmes



What activities should such a center have?

- Activities fostering synergies
 - Annual conferences and workshops
 - Graduate school in basic aeronautics
 - Fostering international collaboration
 - Funding of research cooperation measures
 - Funding of basic research

SARC creates new collaborative arenas

- Centre gives Swedish universities an arena to strengthen internationalization
 - Initial focus on Brazil & UK
 - Both countries have strong academic focus on aeronautics
- The national Graduate school will prioritize activities that make international collaboration possible
 - International competitions (e.g. SAE BRASIL AeroDesign project)
 - Double degree programs
- Investigate possibilities for collaboration between master programs by e.g. course sharing:
 - Continued education & elective courses & 60 credit masters
 - Industry collaborative programmes

SARC.RESEARCH



SARC creates new collaboration areas

- SARC as a platform for utilization
 - Dialogue with NFFP clusters on technology
 - Creates a wider industry reach
- Spread technical perspectives on aeronautics

SARC.RESEARCH Initial Activities

- Kick-off meeting 18-19/6 at LiU with >100 participants



Ongoing work:

- Establishment of dialog arenas with the 15 industrial cluster leads



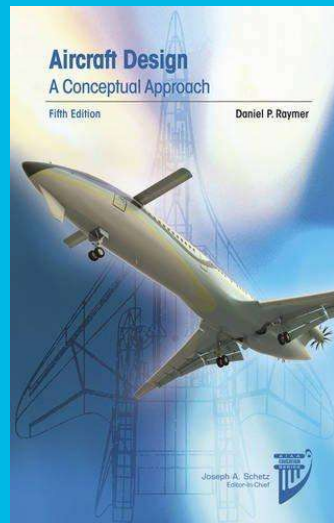
SARC.ACADEMY

- Expertise from earlier graduated schools
- National high-quality course program
- Creates a network among PhD students, both nationally and also internationally
- Fundamental courses in Aeronautics for all NFFP PhD students:
 - *Create understanding for relations at system level. This is important in order to understand how individual projects relate to top level requirements.*

SARC.ACADEMY Kick-off: *S4: "SARC Short Summer School"*



- Daniel P. Raymer:
Aircraft Design: A Conceptual Approach
- Preliminary date: Mar 18-22, 2019



- Location: Florianopolis, Brazil
- Participants:
20 Swedish + 20 Brazilian
PhD students



SARC.INTERNATIONAL



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SARC.EDUCATION



- Exchange of experiences
- Sharing of know-how and infrastructure
- Wider international reach of Sweden's aeronautical education competence / attractiveness
- Investigate possibilities for collaboration between master programs by e.g. course sharing



Next Steps

We **ALL** are SARC!

- respect each actors' interest
- form a strong entity
- goal: foster Sweden's aeronautical sector

Suggestions? Information needed? Collaboration?

info@sarc.center



<http://www.sarc.center>



The image is a screenshot of the SARC (Swedish Aeronautics Research Center) website. The header features the SARG logo on the left and a navigation menu with 'Welcome', 'Sections', 'Kick-Off Workshop', and 'About' on the right. The main banner has a background image of an airplane flying over a sunset sky. The text 'SARC' is prominently displayed in large white letters, followed by 'Swedish Aeronautics Research Center' and 'The National Network of Aeronautical Scientists'. Below the banner, there are three circular icons representing different aspects of the center: research, academia, and international relations. Each icon is accompanied by a title and a brief description.

SARG

Welcome Sections ▾ Kick-Off Workshop ▾ About

SARC

Swedish Aeronautics Research Center

The National Network of Aeronautical Scientists

SARC.RESEARCH
Foster your research cooperations

SARC.ACADEMY
The Swedish aeronautic Ph.D. academy (forsarskolan).

SARC.INTERNATIONAL
Intensify your international research relations



Thanks!