

Early Career Researchers

Early career support in SE2A provides continuous assistance for and development of talents during all career stages. Our programme attracts young international researchers starting their professional career.

- **Student level:** SE2A conducts a novel Student Science Programme and participates in Excellent.ING honours programme at the Faculty of Mechanical Engineering.
- **Doctoral Researchers level:** Within the SE2A Research Training Group, the cluster offers a scientific and social programme (e.g. workshops, summer schools or science slams) tailored to the requirements of the PhD researchers.
- **Postdoctoral level:** Junior Research Groups (JRG) led by JRG leader (equivalent to Junior Professors) and Junior Research Projects (JRP) enable young scientists to realize their own research ideas and concepts.



2nd PhD Kick-off Meeting 2023 (Foto: Marcel Malberg/SE2A)

Summer School for Advanced Sustainable Aviation Technologies

"The world is facing an enormous challenge in transferring aviation into a more sustainable and greener transport mode."

Meeting these grand challenges starts with an up to date insight in the most current state of the art in aviation and connecting with fellow students from different countries.

Watch the video of our international aviation summer school 2023:
www.youtube.com/watch?v=8DRDIRe3o_Y



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SE2A Sustainable and
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Cluster of Excellence

Sustainable and Energy-Efficient Aviation (SE2A)

SE²A – Sustainable and Energy-Efficient Aviation

The Cluster of Excellence SE²A is an interdisciplinary research centre investigating technologies for a sustainable and eco-friendly air transport system. Technische Universität Braunschweig, German Aerospace Center (DLR), Leibniz University Hannover (LUH), Braunschweig University of Art (HBK), the National Metrology Institute of Germany (PTB), together with the international partners at Delft University of Technology (TU Delft), have joined forces in this extraordinary scientific undertaking.

SE²A global objectives

- Innovations and designs for significantly reducing the carbon and climate footprint and noise
- Identification of key research and technology requirements
- Development of tools and criteria for decision-making in future scenarios
- Validation of fundamental approaches
- Recognition of prospective game-changing technologies and transfer into aviation



More information on the SE²A Website:

DFG Deutsche Forschungsgemeinschaft

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Focus of Research

Research in three Integrated Cluster Areas (ICA) lays the foundations for a sustainable and eco-friendly air transport system. Scientists from aerospace, electrical, energy and chemical engineering are working on the reduction of emissions and noise, new energy propulsion systems, as well as recycling and life-cycle concepts for airframes and improvements in air traffic management.



SE²A/ Foto: Massel



ICA A – “Assessment of the Air Transport System” focuses on system analysis and evaluation of the air transportation system in different future scenarios.



ICA B – “Flight Physics and Vehicle Systems” conducts fundamental research on enabling technologies for sustainable transport aircraft with reduced weight and drag.



ICA C – “Energy Storage and Conversion” deals with the fundamentals of providing the amount of power and energy density required for flight with the view on new energy carriers.

Our Partners:



Equal Opportunity

Establishing equal opportunities and gender equality is a top priority for TU Braunschweig and SE²A. Programmes are offered at different qualification levels:

- High school students
- University students
- Doctoral researchers
- Post-doctoral researchers

SE²A provides mentoring and group coaching in cooperation with TU Braunschweig Equal Opportunities Office.

Special Highlight: changing – a Research Club in SE²A for High School Students

High school students from 10th grade on work on their own research questions within the SE²A network.

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ChangingING Jugendforscherinnen (Foto: Kristina Rottig/TU Braunschweig)