Renewable Energy Action:

A sustainable water-energy nexus partnership

for higher education in Central Asia

DAAD KIWi-Connect Zentralasien

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Technische Hochschule Ingolstadt

150 PhD students

8 Research institutes

6 Faculties

of which 25 M-€ p.a. third-party funding

85 M-€ p.a. Total budget

300 Scientific employees

44 Research professors

210 Professors

880 Employees

330 Industry- and research partner

60 Technical Laboratories

39 Bachelor's degree programmes

37 Master‘s degree programmes

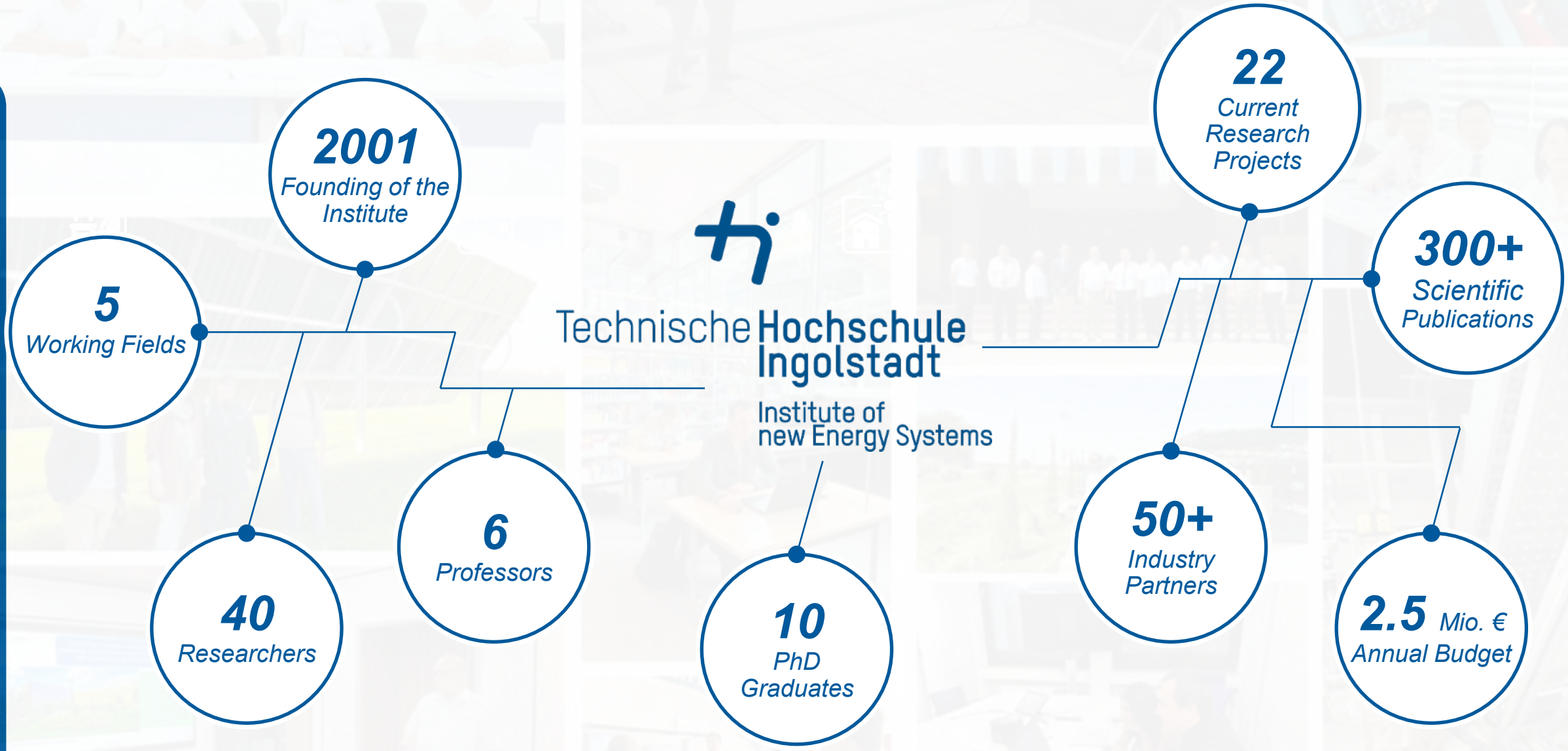
32 M-€. p.a. Research volume

8000 Students

Milestones

- **CARISSMA** (2016)
- **Almotion Bavaria** (2019)
- **AININ** (2019)
- **Fraunhofer** (2019)
- **Bavarian Foresight-Institut** (2022)
- **ForTraNN** (2022)
- **TTZ Manching** (2023)

Institute of new Energy Systems



Institute of new Energy Systems

Industrial Energy Systems

Demand-oriented power supply

Intersectoral bioenergy use

Energetic process optimisation

Green hydrogen system

Energy System Technology

Flexibilisation of the energy system

Smart market

Energy and system efficiency

Domestic Energy Systems

Sector coupling in the buildings and quarters

Solar-based energy systems

Heating network systems

International Energy Research

Rural Electrification Solutions, Smart grid

Sustainable mobility, e-mobility

Agri-Photovoltaics and W-E-F nexus

Decentralised energy solutions

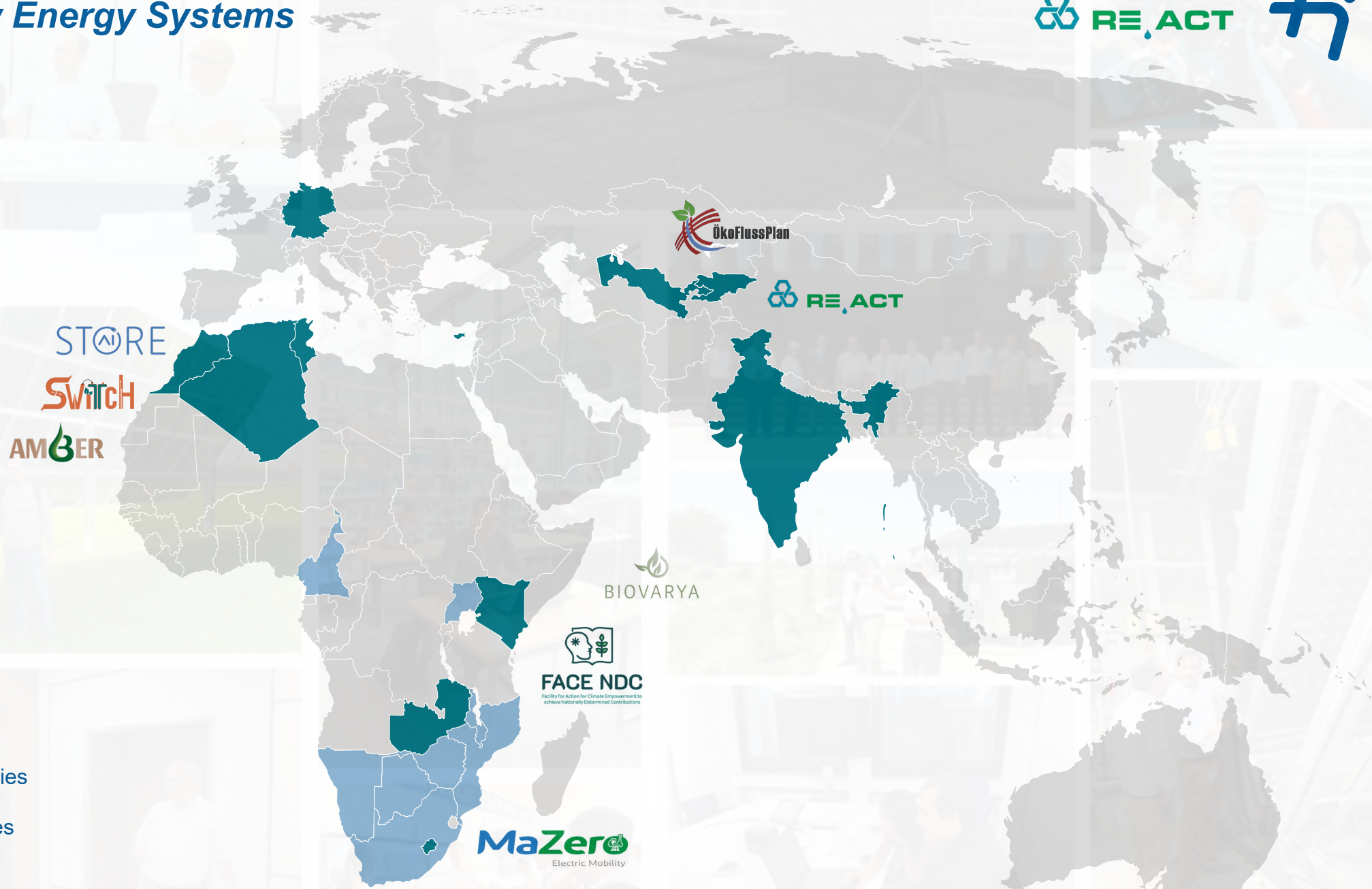
Technology Transfer & International Projects

Regional technology networks

International research cooperation

Technology transfer

Institute of new Energy Systems



Ongoing project activities

Closed project activities

RE.Act Project Brief

Project: Renewable Energy Action: A sustainable water-energy nexus partnership for higher education in Central Asia

Countries: Uzbekistan & Kyrgyzstan

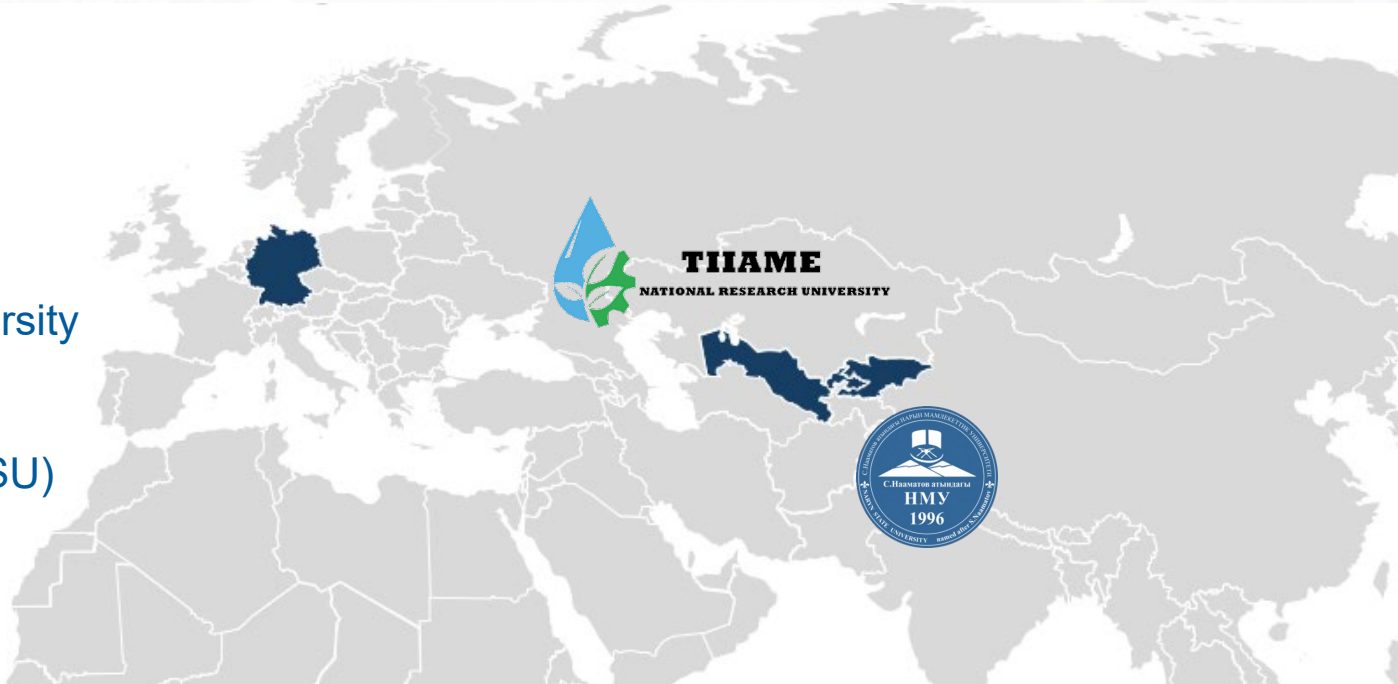
Period: 2024 – 2027

Funding: SDG-Partnerships

in collaboration with…

Tashkent Institute of Irrigation and Agricultural Mechanization Engineers – National Research University (TIIAME-NRU)

Naryn State University named after S. Naamatov (NSU)



RE.Act Project Objectives

The Water-Energy Nexus…

….emphasizes the interdependence and interconnectedness of water and energy systems.

Support academic strengthening in terms of renewable energy teaching.

Enhance research capacities with regards to the water-energy nexus.

Create methods for the **distribution of knowledge and research findings.**

RE.Act Project Activities

- Establishment of **exchange formats** for students, PhD and lecturers.
- **Revision of Bachelor and Master curricula** with a focus on renewable energies and especially the water-energy-nexus.
- Implementation of **Summer Schools** and **Meet-the-Expert Events.**
- Organisation of the bi-annual **RE.Act Forum in Uzbekistan and Kyrgyzstan.**

RE.Act Project Achievements

6 Lecturer Exchanges

1 PhD Exchange

1 Study Programme Development Workshop

1 PhD Publication

1 Industry Training

4 Bachelor Theses

1 Meet-the-Expert Event

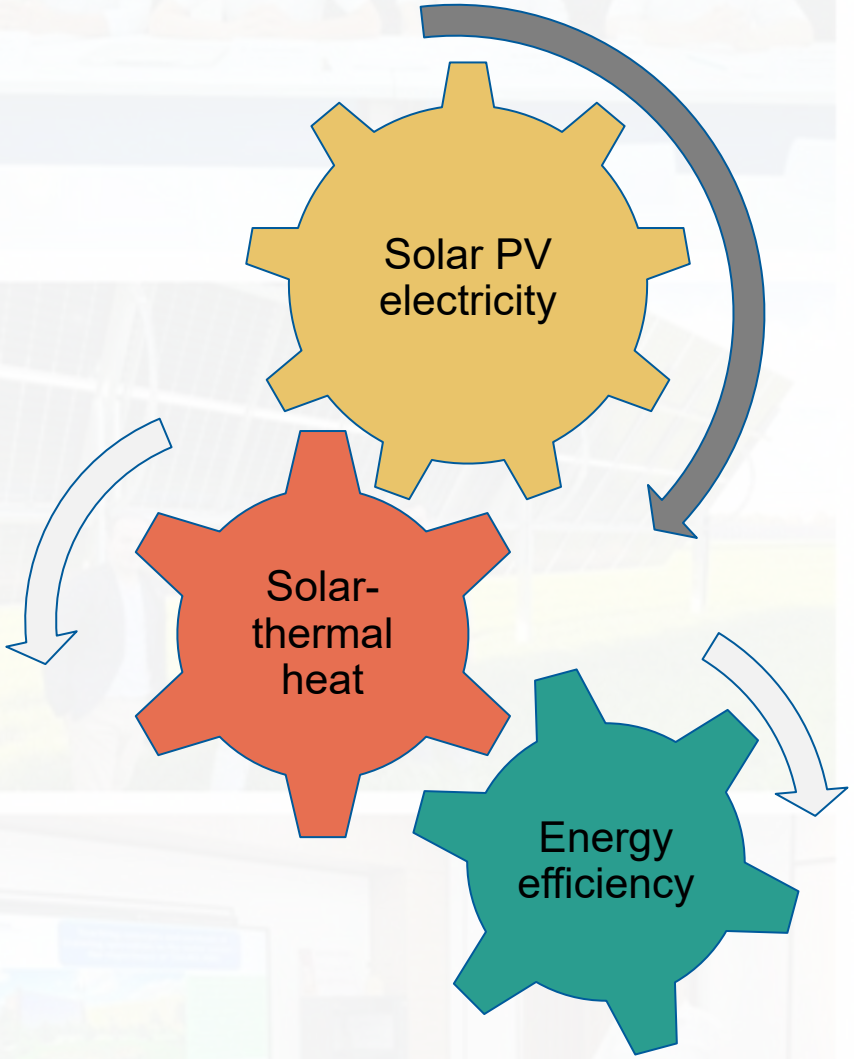
90 students

RE.Act Project Development

InES strategy to diversify its portfolio in Central Asia

2019 – 2022:
ÖkoFlussPlan
(CLIENT II)

ÖkoFlussPlan



RE.Act Project Development

RE.Act Project Idea

InES strategy to diversify its portfolio in Central Asia

2022:
Client II Regional Conference in Tashkent

2019 – 2022:
ÖkoFlussPlan (CLIENT II)

2023:
RE.Act Proposal Development

Internal knowledge through ÖkoFlussPlan
Input by Central Asian partners
Publicly accessible sources
BayFOR

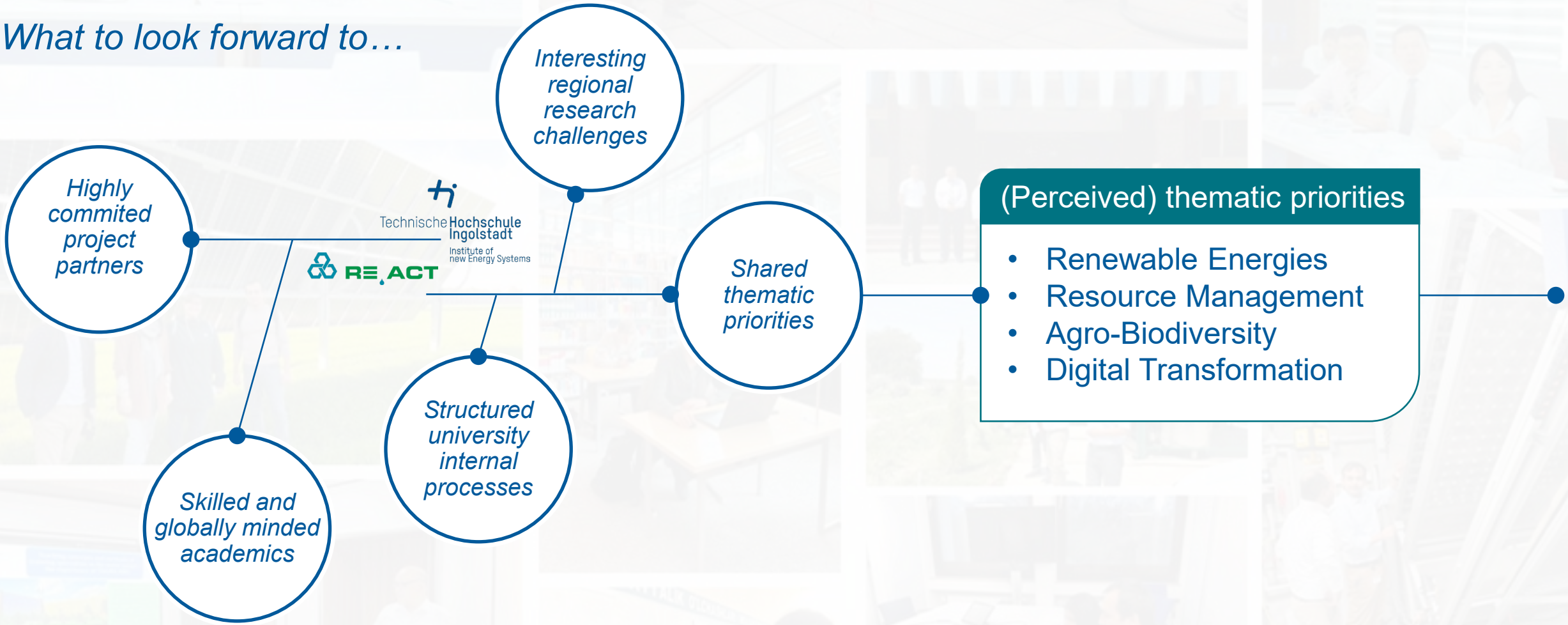
2024:
Submission of two proposals with Central Asian partners

2024:
DAAD-Conference in Indonesia

2025:
Submission of InES profile to DFG poster book for Central Asia

Collaboration with Uzbek and Kyrgyz Partners

What to look forward to…



Collaboration with Uzbek and Kyrgyz Partners

What do keep in mind…

(Perceived) strategic priorities

- International research exchange
- Joint publications
- Curricula according to international standards

Intercultural understanding

Flexibility and openness to different scheduling structures

Time investment to reach common ground

Russia-dependent context!

Acceptance of strong hierarchies

(Basic) Russian Language Skills

Technische Hochschule Ingolstadt
Institute of new Energy Systems

Discussion

Thank you very much for your kind attention

www.water-energy-nexus.org

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