



## Development of one of the biggest educational project between Germany and Russia –

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GRIAT – changing the spin

# 1. Administration and Teaching Staff



❑ Institute within Kazan National Research Technical University n.a. A.N.Tupolev– KAI (TU Kazan)

❑ **President:** Prof. Dr. Albert Gilmutdinov (Rector TU Kazan)



❑ **Vice-Presidents:**

➤ Prof. Dr. Peter Scharff (Rector TU Ilmenau)



➤ Prof. Dr. Jens Strackeljan (Rector OvGU Magdeburg)



❑ **Directors:**

➤ Dr. Sven Rost (German Director)



➤ Dr. Ekaterina Egoshina (Russian Director)



❑ **Teaching staff:** 12 German Professors, 30 Russian Professors /// 70 GRIAT coworkers

❑ **Students:** 137 Students in 8 MSc programs



## 2. Education and Key Features

### 2.1 Implemented MSc Programs

#### □ **Education Basis:** MSc Programs from German partner universities



- Communications and Signal Processing
- Research in Computer and Systems Engineering
- Automotive Engineering



- Electrical Engineering and Information Technology
- Chemical and Energy Engineering
- Systems Engineering and Engineering Cybernetics



- Embedded Computing Systems
- Quantum Technologies (09/18)
- Software Engineering in Embedded Systems (09/18)



- Aerospace Engineering (09/17)
- Aircrafts (09/18)



TECHNISCHE  
UNIVERSITÄT  
DARMSTADT



- Microelectronics (09/18)
- Computer Vision Systems (09/18)

- Modern Photonics (09/18)

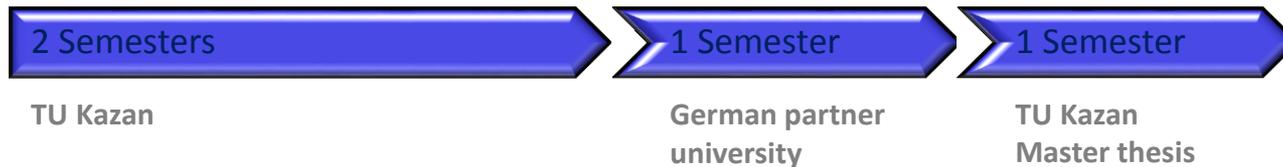
## 2. Education and Key Features

### 2.2 Key Features



#### □ **Engineering education according to the German standards:**

- German curriculum as the basis for MSc programs
- Educational cycle of all MSc Programs:

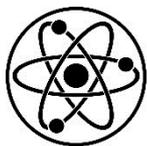


German MSc  
+  
Russian MSc

#### □ **Medium of Instruction:** English + basics of German

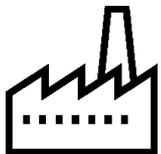
#### □ **Flying Faculty:** Two German professors per MSc program hold lectures at GRIAT 10-14 days per year

#### □ **Double Degree:** From TU Kazan and from the German partner university



#### □ **Research with German universities**

- Double degree PhD programs
- Academic and research mobility, Ru > < GE (Algarysh, Erasmus+ grants)



#### □ **Collaboration with German and Russian Industry**

- Engineering Centers (SIEMENS, Thuringia, KUKA, Fanuc)
- Financial support with scholarships for MSc students (SIEMENS: 6 full scholarships)
- Laboratory support (e.g. SIEMENS: Big Data, Automatization and Electrical Engineering Lab)

# 3. Future Steps and Goal



- Communications and Signal Processing
- Research in Computer and Systems Engineering
- Electrical Engineering and Information Technology
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## Infrastructure & Documentation



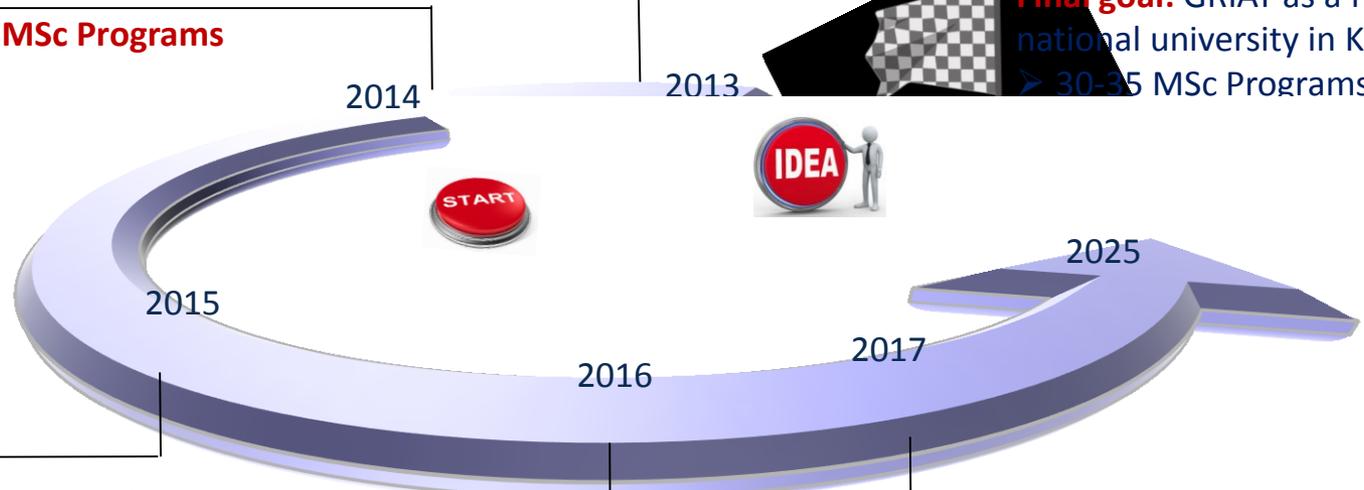
### First 4 double degree MSc Programs

2014

2013



**Final goal:** GRIAT as a full bi-national university in Kazan  
➤ 30-35 MSc Programs



### +2 MSc Programs



- Chemical and Energy Engineering
- Automotive Engineering

### +1 MSc Program



- Embedded Systems

### 1<sup>th</sup> Graduation Ceremony

- 37 Graduates

### +1 MSc Program



- Aerospace Engineering

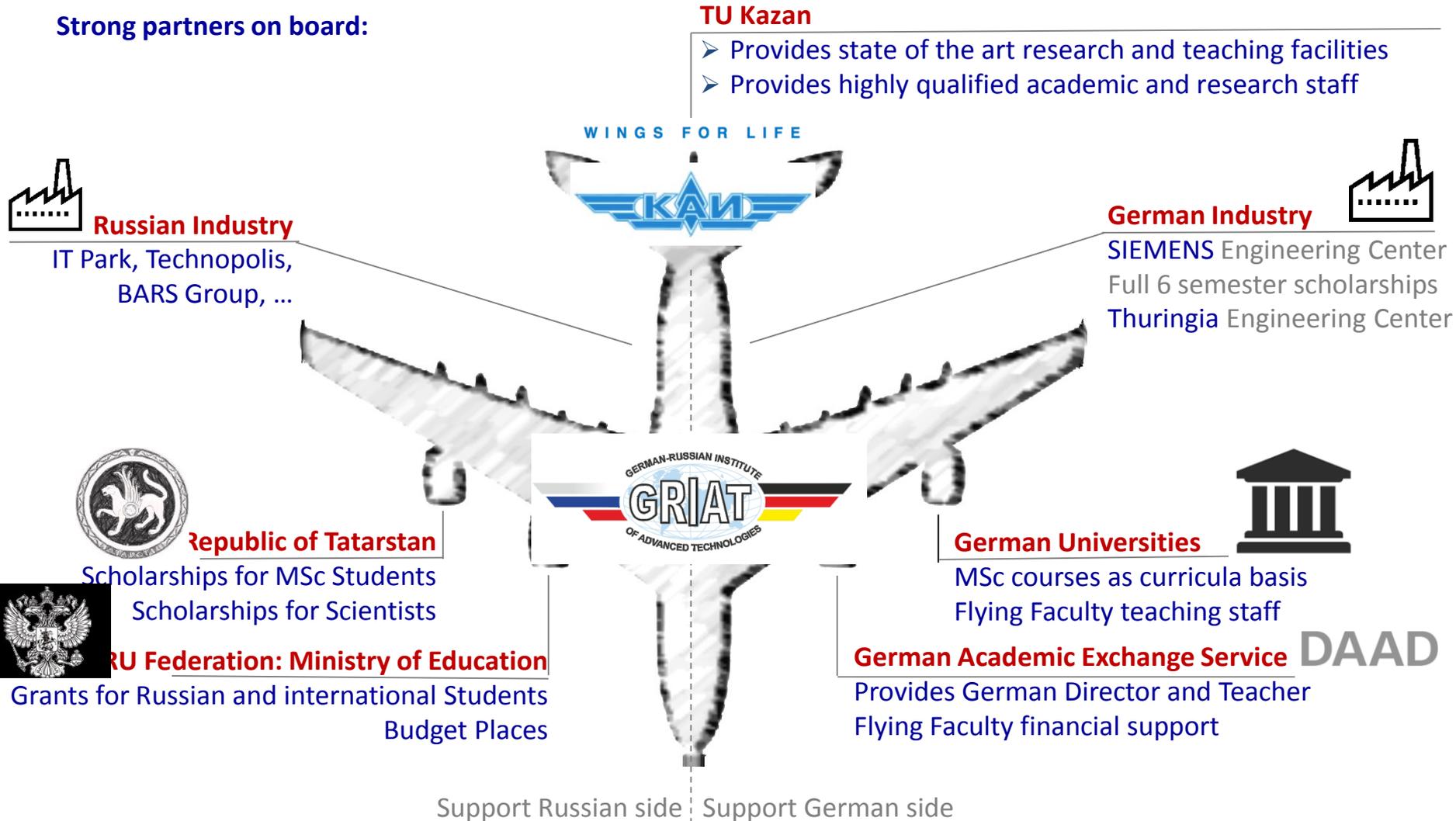
### +2 R&D Centers

- SIEMENS Engineering Center
- Thuringia Engineering Center

## 4. Partners and their Contribution



### Strong partners on board:



### □ **External factors:**

- Tatarstan – 1<sup>st</sup> place in the amount of attracted investments
- A lot of foreign companies, that currently employ expatriots
- A lot of local companies starting to work with foreign markets
- Huge outflow of youth to Moscow and Saint-Petersburg
- No HR for managing high-tech companies (Economical Zone Corporate University)
- > No engineers speaking English

### □ **Internal factors**

- Several Engineering centers: Siemens, Industry 4.0, KAI-Laser
- Techtransfer Engineering Center “Tatarstan – Thuringia”: list of needs of Tatarstan companies – sent to LEG Thuringia – looking for partners

- ❑ Need for imprinting new graduates and changing the culture of local companies together with Universities

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  - > *Setevaja Company – shifting to project management*

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- ❑ New challenges in the industry
  - > *GRIAT PhDs - potential for commercialization of scientific projects*

- ❑ Management and Economics in high-tech companies master programs
- ❑ Common core for all engineering courses. Courses for PhDs about commercialization
- ❑ Multidisciplinary teams with management/economics students for working on the projects of the companies -> training project management work
- ❑ Pre-accelerator
- ❑ Management program aimed at high-tech entrepreneurship. Business plan as a master thesis
- ❑ Internships for the students at the techtransfer center

### □ Expected results:

- Projects teams for employment by the companies
- GRIAT – intermediary between Thuringia and Tatarstan companies
- Projects for commercialization and spinoffs, international student acceleration program

**GRIAT – a competence and knowledge center for modern industries**

## German-Russian Institute of Advanced Technologies

*– We would be glad to collaborate with your university! –*

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