Approved
RAI Senior Vice President
_____M. Karoļs
_____, 20__

Riga Aeronautical Institute (RAI)
Scientific Research Center(SRC)

REGULATIONS

"Riga Aeronautical Institute Scientific Research Center" has been established as a structural unit of the higher education institution, observing the provisions of the Law on Scientific Activities, the Law on Higher Education Institutions and other regulatory enactments.

Definition of a research organization: A research and knowledge dissemination organization is an entity, regardless of its legal status or type of funding, whose main purpose is to carry out basic research, industrial research or experimental development independently and to disseminate the results of such activities widely through training, publication or knowledge transfer.
Title of a scientific institution: Riga Aeronautical Institute Scientific Research Center
Type of scientific institution: Private scientific institute
Legal status of the scientific institution: Structural unit of the higher education institution
Date of registration in the Register of Scientific Institutions / Date of establishment: 19.07.2010.
Registration number: 321149
Founder: Joint Stock Company "Rīgas Aeronavigācijas institūts"
Legal address of the scientific institution : MEŽKALNA IELA 9, RĪGA, LV-1058
Name, surname of the head of the institution : Mihails Karoļs

1. **Preamble.** SRC brings together RAI researchers, research assistants and members of the Student Research Groups (SRG) to develop active research and in-depth curricula.

2. **Purpose and subject of scientific research.**
   Scientific research is an integral part of the work of every higher education institution, and all the academic staff of the higher education institution participates in it. Its aim is to obtain scientific findings, scientific substantiation and further development of studies, to solve practically important tasks with research methods.

3. The main purpose of the SRC is to carry out basic research, industrial research or experimental development independently and to disseminate the results of such activities widely through training, publications or knowledge transfer. SRC plays a special role in the development, growth and future perspective of RAI students.

   a. Sub-goal of the strategy: high-quality scientific research that meets the needs of the Latvian and international economy and is widely involved in international, national and sectoral research programs, as well as is integrated into the study process.

   b. Horizontal priorities:

   - Strengthening of cooperation with foreign partners in scientific research work, strengthening of scientific research activities:
   - Participation in international competitions and research grant acquisition processes
   - Implementation of commercial business projects
   - Participation in scientific conferences and other events
   - More active involvement of students in research work.

   c. Tasks for horizontal priorities:

   - Internationalization: Internationally competitive university activities in the fields of science, innovation and the study process;

- Interdisciplinarity: Cooperation between different sectors and specializations as a basis for the creation of new and innovative products and modern study content;
- Organizational efficiency that ensures development and modern study and research processes.

4. The main objective of SRC in the development of science and research at RAI is to increase the competitiveness of the higher education institution by creating a strong science infrastructure and human resources base, strengthening cooperation between science and business, developing the transfer of research results to business, thus contributing to Latvia's strategic development goals.

5. **SRC objectives:** to increase and strengthen the quality of education in RAI. To develop and improve the scientific activity of RAI. To support the most capable and purposeful students, to involve them in SRG. To direct and promote the use of students' creative potential in personal, scientific and practical self-realization.

6. **SRC tasks:**
   a. Implementation of study and research goals at RAI, actively involving lecturers and students in creative research activities.
   b.In-depth integration of theoretical knowledge in the practical professional activity of a future RAI graduate.

7. **SRC working methodology:**

   a. In parallel with the studies, the SRC participants develop specific scientific topics and issues in detail and in depth during all study courses. The methodology has the direction of the project, i.e. a group of several people implements an ambitious scientific-practical task - a project for a long period of time. It is an independent integration of scientific, business, educational and practical work.

8. **SRC directions of activity:**
   - Research on aviation transportation and transport systems.
   - Transport management optimization.
   - Algorithms and programming of civil aviation tasks, IT technology in aviation.
   - Air traffic control technology.
   - Introduction of a global geodetic coordinate system in civil aviation and development of an aeronautical information management target program.
   - Development of aviation phraseology.
   - Airline safety level management system.
   - Aviation safety regulation calculations.
   - Non-destructive testing methods.
   - Signal transmission modeling of local transport systems.
   - Symmetry check in PLC channels.
   - VHDL description check based on channel emulator.
   - Composite materials.
   - Heat engines.
   - Aerodynamic calculations.
   - Wind generators.
   - Hydraulic calculations.
   - The human factor in aviation.
   - Aviation legislation.
   - Collaboration model.
   - Latvian National Innovation System.
   - Smarthub for marine monitoring.
   - Delivery of bioresources.
   - UAS, CALS and Blockchain technologies.
   - Unmanned aerial vehicle systems.

- 3D modeling.

9. **SRC topics for action:**
   a. Development of RAI high-speed internet based on optoelectronics. Establishment of the high-speed Internet of the Riga Aeronautical Institute to ensure the installation of an ergonomic learning environment and the introduction of ICT solutions;
   b. Development and implementation of the Scientific HUB hardware and software package to improve the quality of training for certified / licensed aviation and transport professionals;
   c. Reaping the benefits of alternative energy in education to develop the digital economy, reduce electricity costs and reduce CO2 emissions;
   d. Air traffic control system research based on the use of a simulator;
   e. Smarthub for marine monitoring and bioresource delivery using UAS, CALS and Blockchain technologies - SmartHubMarBioSup.
   f. Development of an air traffic control simulator based on virtual reality systems.
   g. Development of 3D modeling complex.
   h. Development of hardware and software complex for unmanned aircraft system design and modeling.

10. **SRC participants:**
10.1. SRC elected scientific staff (leading researchers, researchers, research assistants), who are recruited in accordance with the rules developed by RAI.
10.2. SRC service and technical staff, which is approved by order of SRC director.
10.3. SRC SRG members approved by order of the RAI Director of Engineering Programs.

11. **SRC types of activities:**
11.1. Scientific research activities of the academic staff elected by SRC and in-depth acquisition of study programs using the infrastructure of the Scientific Laboratory.
11.2 Scientific research activities required for the EU Grants competition, presentations, participation at conferences, olympiads.
11.3. Student research work groups, student project competitions.

12. **Supervisors.**
12.1. The supervisor of each specific project or activity is determined by the order of the SRC director. The appointment of SRG supervisors, the organization, planning and control of group work are the responsibility of the RAI Director of Engineering Programs.

13. **The organization, planning, methodological supervision and control of the work of SRC** is the responsibility of the RAI Director of Engineering Programs.

14. **The technical support and control** of SRC's activities is the responsibility of the RAI Technical Director

15. **Basic principles of SRC accounting policy**.

15.1. All financing, income and expenses from the activities of SRC are accounted for separately from the activities of RAI as the provision of services in the field of education. SRC's core business is non-economic in nature, but some activities may also be of an economic nature. The main activity of SRC dominates over the other activities of a scientific institution. All income from SRC's core business is reinvested in SRC's core business.
15.2. RAI shareholders do not have privileged access to the research results generated by SRC.
15.3. The benefit derived from SRC's core business is not distributed in dividends, nor is it used to finance other business activities or non-business expenses (eg gifts, entertainment, etc.).
15.4. RAI uses the accounting software Jumis. The financial accounting system ensures the separation of revenues and direct costs by types of funds, structural units, projects, separate services and activities.

15.5. The basic principles of SRC accounting policy are included in the Accounting Organizations of JSC "Riga Aeronautical Institute" in section G / 9.

APPROVED
RAI Senate meeting _____._____ 202_

Minutes Nr._____