Moscow Aviation Institute (National Research University)

Innovative and educational cluster of aerospace technologies on the MAI basis

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MAI – leading aerospace university

- MAI was founded in 1930.
- 12 faculties, 2 institutes (as faculties) and 4 branches.
- Over 160 000 alumni.
- Over 20 000 students.
- Over 2000 faculty staff including 18 full members and corresponding members of the RAS, over 450 D.Sc., professors and over 1100 Ph.D., associate professors.
- MAI is the only Russian university, which trains specialists for the Russian space centers: Baikonur (Baikonur), Plesetsk (Mirny), Vostochnyi (Uglegorsk)
- **The industrial park: unique complex of lecture halls, 5 resource centers, 12 research and education centers, multiple access centre, over 20 students' design bureaus, experimental pilot plant, spacecraft control centre, own aerodrome and other organization units of the university innovative and social infrastructure.**

Innovative and educational cluster of aerospace technologies

- MAI is the initiator and coordinator of the aerospace technology innovative and educational cluster.

- The cluster is a communication platform, which is formed with consideration of the cluster policy world experience implementing and MAI unique competences, which includes besides engineering, expert-analytical competence on the issues of innovative development of hi-tech economy sectors.

- **Over 260 cooperation agreements with:**
  - leading companies of aerospace industry;
  - higher educational institutes;
  - secondary schools in Russia;
  - foreign educational and scientific organizations.

Career-oriented programs for pupils

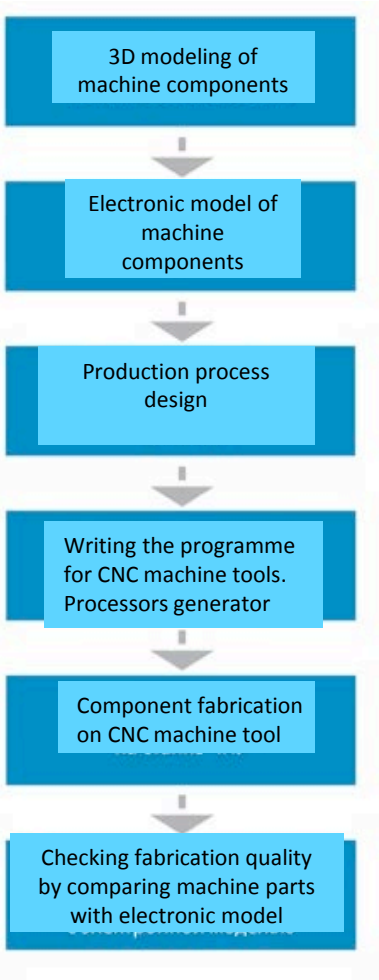
Active career-guidance work is underway in more than 100 schools and colleges.

This work includes:

- students distance teaching of mathematics, physics, computer science and other subjects with the use of videoconferencing system;
- career-guidance interaction “MAI professor–MAI student – pupil of the basic school”;
- aviation contests for students in jointly with employers;
- holding of Open Days and the Day of Science in Moscow Aviation Institute with visiting of university laboratories;
- organization of pupils visits to enterprises of aerospace industry;
- holding of youth festival “MAIsky vzlet”;
- classes at the preparatory courses;
- training in MAI Physical and Mathematical School;
- lessons in MAI air- and rocketmodel circles.

Training of students

The principle of end-to-end design of all aviation, rocket and space technology systems



Up-to-date software is used during the training:
SolidWorks, AutoCAD, CATIA, Unigraphics,
MSC Patran/Nastran, Teamcenter and others

More than 100 agreements with enterprises of the aerospace industry that get students and graduates for practice

- Professional and practical training at the enterprises.
- Assignment practice for students (base departments, branch departments, centers at the industry enterprises).
- Writing course and diploma projects at the enterprises.
- Contractual group of targeted training students, and training contracts of individual training.
- Holding of study and work at industrial enterprise by students.

International Activities

1265 foreign students

60 foreign universities-partners

Cooperation with leading European and world space agencies and relevant enterprises

Interaction with European Commission for research, innovation and science

MAI – member of international associations:

• International Astronautical Federation.
• Global initiative for engineering education (CDIO).
• The association of Russian and Chinese technical universities.
• European association of aerospace universities PEGASUS and others.

Main international projects:

• in the field of education and research of progressive technologies and development of rocket and space technique (India);
• in the field of research and development of space high frequency plasmodynamics rocket engines (EU);
• in the field of space research (USA and EU).

Thank you for attention!

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