Possibilities for the development of professional aviation education

Juris Kanels
Vice - Rector,
Director Academic and Professional Aviation Center (TSI/APAC)
Transport and Telecommunication Institute,
Riga, Latvia
Transport and Telecommunication Institute (TSI)
Brief history of TSI

1919
Aircraft Technicians’ School (Kiev)

1946
Higher Military School for Aviation Engineers (Riga)

1960
Riga Institute for Civil Aviation Engineers (Riga)

1992
Riga Aviation University

Since 1999
Transport and Telecommunication Institute
Transport and Telecommunication Institute at present

• Private technical university
• 2300 students, > 200 international students
• Two campuses: Riga and Daugavpils
• Teaching languages: Latvian, Russian, English
• 3 study departments:
  ➢ Faculty of Computer Science and Telecommunication
  ➢ Faculty of Transport and Logistics
  ➢ Faculty of Management and Economics
• Academic and Professional Aviation Center (TSI/APAC)
• Research center, 18 labs
• Microsoft IT Academy
• Cisco Academy
Laboratory equipment
Academic and Professional Aviation Center (TSI/APAC)

- TSI/APAC was created in 2008 as a structural unit of Transport and Telecommunication Institute to implement aviation education and training.
- In 2009 it was awarded EASA Part-147 Certificate (for organizations that train specialists for technical operations of aircraft) and on October 15, 2014 Center has got an EASA Part-147 Certificate allowing it to provide type training.
- TSI/APAC conducts several professional and academic educational programs and training courses.
- Possible training languages: English, Russian, Latvian.
- Apart of local inhabitants also students from such countries as Russia, Belarus, Kazakhstan and India have chosen TSI for their aviation studies.
Training simulators and classrooms of TSI/APAC
Legal framework for aviation education

- TSI is included into the Training Directory of International Civil Aviation Organization (ICAO) and TSI/APAC has an EASA certificate of training organization

- As a University TSI has Permanent accreditation for unlimited period from Ministry of Education of Latvia (MoE) since 2002 what gives the rights to issue state approved diplomas

- Also each Study program is accredited by Ministry of Education, including academic Aviation Transport program

- Apart of that its Maintenance Training Organization Exposition, basic knowledge training and type training courses are approved by Civil Aviation Agency of Latvia
Basic training programs

• First level academic professional educational program "Technical Maintenance of Aviation Transport“:
  - full-time program
  - accredited by Ministry of Education
  - qualification obtained – Technician for Maintenance of Aviation Transport

• Academic educational program "Aviation Transport“:
  - full-time B.Sc. Program
  - accredited by Ministry of Education
  - qualification obtained - Bachelor of Engineering Science in Aviation Transport

• Basic knowledge training in Part-147 organization:
  - training and examination according EASA approved Part-66 modules
  - training based on Part-147 Certificate; syllabus approved by CAA of Latvia
  - qualification obtained (after fulfillment also of the other requirements): category B1 – Technician Mechanics and category B2 – Technician Avionics
Type training programs and specialized courses

• **Type training on the following aircraft types:**
  - A318/A319/A320/A321 (CFM56) B1.1 Theoretical and practical element
  - A319/A320/A321 (V2500) B1.1 Theoretical and practical element
  - A318/A319/A320/A321 (CFM56) B2 Theoretical and practical element
  - A319/A320/A321 (V2500) B2 Theoretical and practical element
  - A318/A319/A320/A321 (CFM56) to A319/A320/A321 (V2500) difference course B1.1 and B2,

  - training based on EASA Part-147 Certificate; syllabus approved by CAA of Latvia

• **Significant number of various professional aviation courses:**
  - Aviation English
  - Human Factors
  - Aviation Legislation
  - Regulation Part-66/147
  - Regulation Part-145/ Part M
  - Many other technical type courses

  - training courses are registered on Training Directory of International Civil Aviation Organization (ICAO)
New program - Bachelor of Engineering Science in Aviation Transport (pilot)

- Specialization within an accredited academic program “Aviation Transport“
- Theoretical part accredited by Ministry of Education
- Practical training should be certified according EASA requirements
- Possible forms of education:
  - Full-time - 4 years (8 semesters)
- Training language: English
- Graduates will obtain academic education receiving a Bachelor’s Diploma in Aviation Transport as well as a commercial pilot license (FROZEN ATPL (a))
Impediments in the way of development of professional aviation education
Main dilemma

• Aviation industry sustainably grows in Europe and in the whole world, but a comprehensive policy for staff education and training in general terms is still non-existing

• Modern world requires that pilots, maintenance engineers, air traffic controllers have to have both – professional competence and adequate education, but…

• … in none of these categories in the EU applicants for professional qualification training and further practical job should have an academic education and at least bachelor’s degree
Problems of the industry

• Aviation industry enterprises very often do not define their future needs for respective specialists and do not participate in the process of preparation of such specialists – in formulation of demand and future long-term employment policy, in signing of frame agreements with universities and training organizations, in establishment of requirements for training programs and in providing practice opportunities for students.

• In stead (particularly airlines) prefer to attract already ready-made specialists (pilots) and do not care how do these people found the significant money and other resources to obtain the necessary qualification and experience.

• Existing forms of relationship in aviation industry does not strengthen the trust between the future employers and their employees and the loyalty of latest to their masters.
Problems in organization of aviation education

• Problem No 1 which I already mentioned – very often there are weak contacts and cooperation between industry and educational and training organizations

• One of main obstacles in organization of aviation education process is a necessity to combine in legally correct way the requirements of academia (Ministry of Education) and professional training (EU and EASA regulations)

• Problems which occur executing professional aviation training in combination with academic education:
  - Requirements for certification of training organization (issued by EASA) and educational institution (issued by MoE) are different
  - Requirements for certification of training programs (issued by EASA) and educational programs (issued by MoE) are different. Also different is a level of minuteness of syllabus
  - It is not easy to compare academic credit points system to the professional training programs
Problems in organization of aviation education (2)

➢ The amount of time determined for professional aviation training and academic education is different:

✓ training and examination of Technicians for Maintenance of Aviation Transport according EASA approved Part-66 modules should have the lengths of 2400 astronomic hours (or 3200 academic hours) and about half of this should consist of practical exercises

✓ academic educational program "Aviation Transport“ has a lengths of 2272 academic hours and does not include practical exercises

➢ Specialists who graduate academic technical educational programs need a lot of time to obtain practical qualification and the rights for self-sufficient job. For example Technicians for Maintenance of Aviation Transport can start to work independently after 2 years practical work if they have received basic knowledge training in Part-147 organization or after 3 years practical work if they have certificates for passing the examinations according EASA approved Part-66 modules and a diploma of higher or secondary special education
What do we want to propose for aviation education?

• Synergy:

Professional training

Academic education

Professional training + Academic education
Fruits of the synergy

- Implementing the combination of professional training and academic education in aviation to our mind has several positive effects:
  - Broadening of knowledge and intellectual horizon of specialists
  - Widening the opportunities for the people on labor market
  - Increasing the stability during the working age of specialists and adding them extra social guaranties after the professional retirement because the diplomas of academic education could allow to obtain new jobs after retirement, for example in aviation management
What can we do?

- Problem (an elephant) is quite big and complex. So, what can we do to get on his back?
  Only by gradual and sustainable climbing:
  - First of all - uniting forces of aviation industry and educational/training organizations for the comprehension of situation and elaboration of common attitude and proposals.
  
  We in Latvia are working on creation of Aviation cluster, which could be the first step in this direction

- Then joint ideas of combination of academic education and professional training of aviation specialists should be proposed to the decision – makers
- And final - aviation industry enterprises could pay more attention to their future needs for respective specialists and participate more actively in the process of preparation of such specialists
Thank you very much for your attention!

QUESTIONS?

For future contacts:
Juris Kanels
Transport and Telecommunication Institute
1, Lomonosova street, Riga, LV-1019, Latvia
Phone: +371 67109380
Mob.: +371 29287162
Fax: +371 67100619
E-mail: Kanels.J.@tsi.lv
www.tsi.lv
http://www.tsi.lv/en/content/academic-and-professional-
aviation-center-apac