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Better partnerships for better skills and employability in air transport



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CONTENT OF PRESENTATION

1. CONTEXT

2. OBJECTIVES AND METHODOLOGY

3. RESULTS

4. CONCLUSIONS

1. CONTEXT



- ▶ *Understanding future skill needs is essential for shaping education and training policies in air transport, particularly as labour markets in this sector undergo dynamic transformation driven by economic and demographic changes, digitalisation and increased complexity.*





Air transport industry - 2015 -

- ▶ 3.3 billion passengers arrived and departed
- ▶ 3883 airports
- ▶ 50.4 million tons of cargo
- ▶ 38 million commercial flights
- ▶ 26,065 commercial aircraft in service .
- ▶ 9.9 million direct jobs
- ▶ 11.2 million indirect jobs

International qualifications and occupations in aviation

- ▶ Regulated
- ▶ Non-regulated



▶ **FORECAST** for maintenance personnel/aircraft (ICAO)

- 20% – ¼ licensed
 - Increase by a factor of 3.9 between 2010 – 2030
 - Annual training shortage: - 8352
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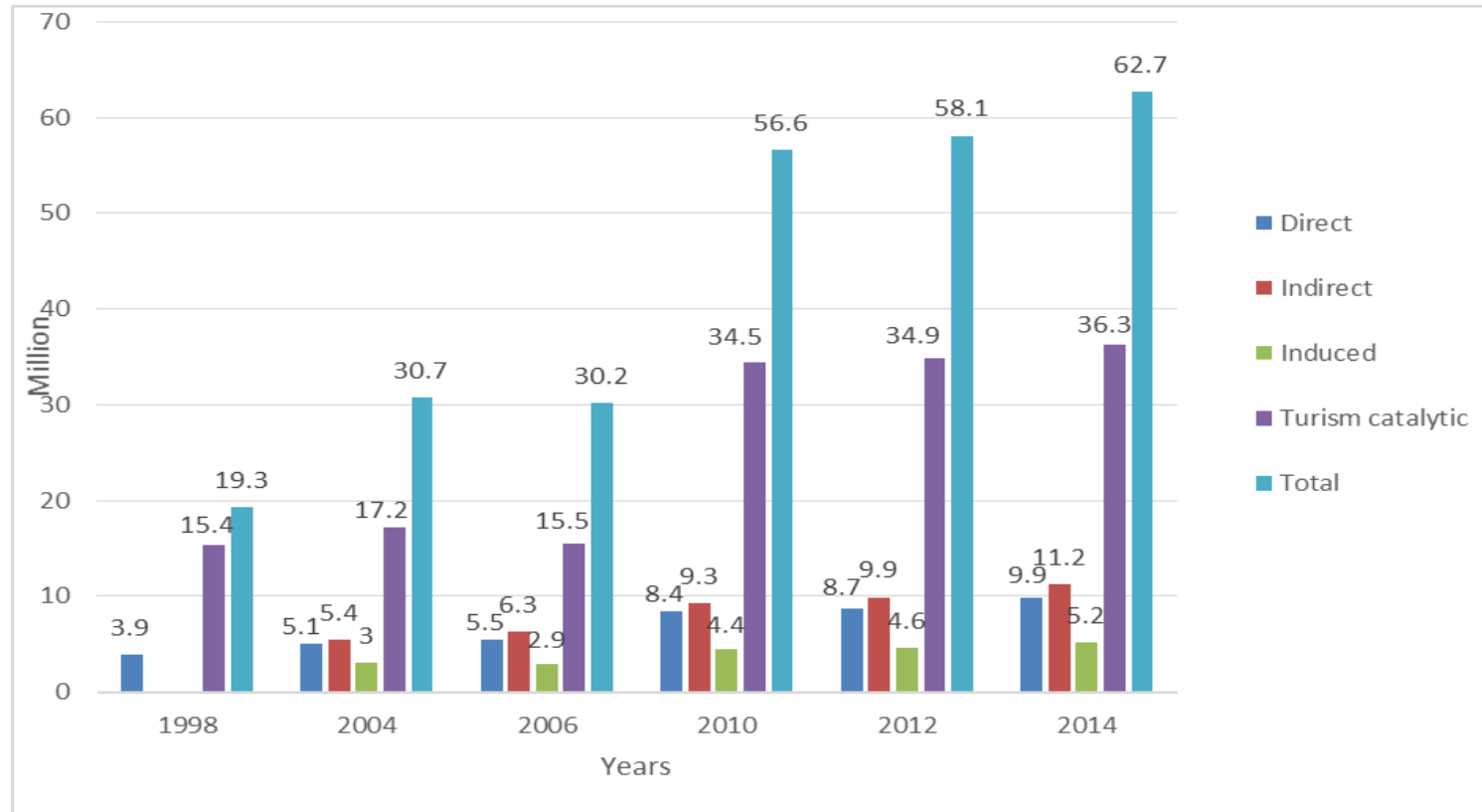
High-calibrate graduates

Long-term traffic forecasts

By 2034:

- ❑ **Air passenger traffic and freight traffic – more than double**
- ❑ **Passenger traffic – 14 trillion PRKS**
- ❑ **99 million jobs in aviation: 14.9 mil direct jobs, 39.6 mil indirect jobs and 44.6 mil tourism-catalytic jobs**

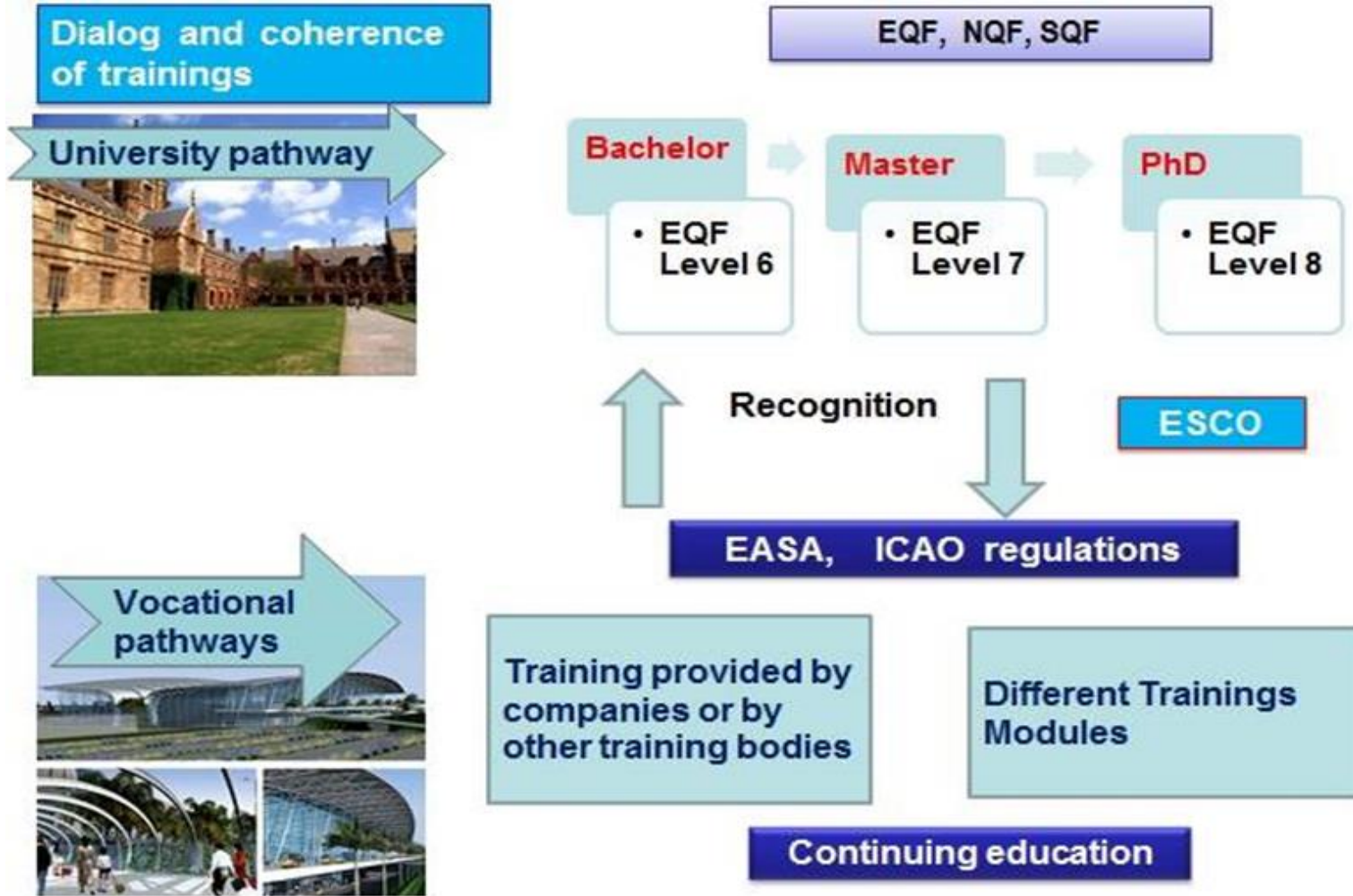
AVIATION'S GLOBAL EMPLOYMENT IMPACT EVOLUTION



EVOLUTION OF DIRECT JOBS BY SECTORS



Pathways for training in air transport





2. OBJECTIVES AND METHEDODOLOGY

OBJECTIVES

- ▶ To identify **new occupations** in air transport and **new qualifications** and **learning outcomes** to be provided by study programmes for these occupations.
- ▶ To propose **better university-industry cooperation** to ensure the match between occupations and qualifications, and coherent career and educational pathways for providing efficient and high-quality workforce in the air transport industry.
- ▶ To establish the main axes for a **Sectorial Qualification Framework (SQF)** Methodology in order to ensure a better match between occupations and qualifications and recognition of prior learning and work experience in aviation in line with the ESCO initiative.

METHODOLOGY

- ▶ The research was conducted under the Erasmus+ project “**Knowledge Alliance in Air Transport**” (KAAT) with 28 partners from 11 countries under the coordination of **University POLITEHNICA of Bucharest**.





RESEARCH METHOD:

- ▶ an analysis of EC and EASA regulations, EUA, CEDEFOP and ICAO reports on QFs and occupations in air transport;
- ▶ the development of two reports on occupations and on qualifications in air transport;
- ▶ in situ analysis based on interviews with stakeholders and a survey on airports needs in terms of occupations, employee qualifications and skills for the future airport for the next 10 years.

European regulations in terms of Qualifications Framework

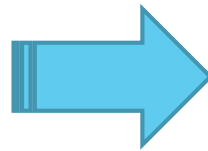
- ▶ EC tools - **EQF, ECVET, ECTS, ESCO, ENIC- NARIC** → for improving the match of the employer demand with educational and training offers within the recognition and validations of qualifications, and learning outcomes.
- ▶ ICAO, EASA and EC deliver for the air transport sector, international or European regulations concerning the competence based training and the skills demanded by regulated occupations

→ In aviation, we deal on one hand with **international qualifications regulated or no regulated** and on the other hand with **both regulated and no regulated occupations** which must be very well correlated.

- ▶ **Aeronautical higher education institutions curriculum** - does not always overlap with the European Commission or EASA requirements stipulated in the regulations on maintenance, airworthiness of aircraft and of aeronautical products, and in the regulations on the approval of organizations and staff involved in these tasks.



It is crucial **to implement recognition tools for building bridges between the higher education and VET** and furthermore to harmonise the international qualifications regulations elaborated by EASA and ICAO with the EQF and ESCO tools.



better employability and a better insertion of graduates on the aviation labour market

facilitate the mobility for occupational purposes in Europe.



“Knowledge Alliance in Air Transport” project - Expected results

Occupational analysis in air transport

Qualification analysis in air transport

New innovative study program “IT applied in aviation”

Improvement of university study programmes and of adult trainings

Methodology for Sectorial Qualification Framework (SQF) and recognition of prior learning and work experience in aviation

European Network for Aviation Training and Education (ENATE)

3. RESULTS



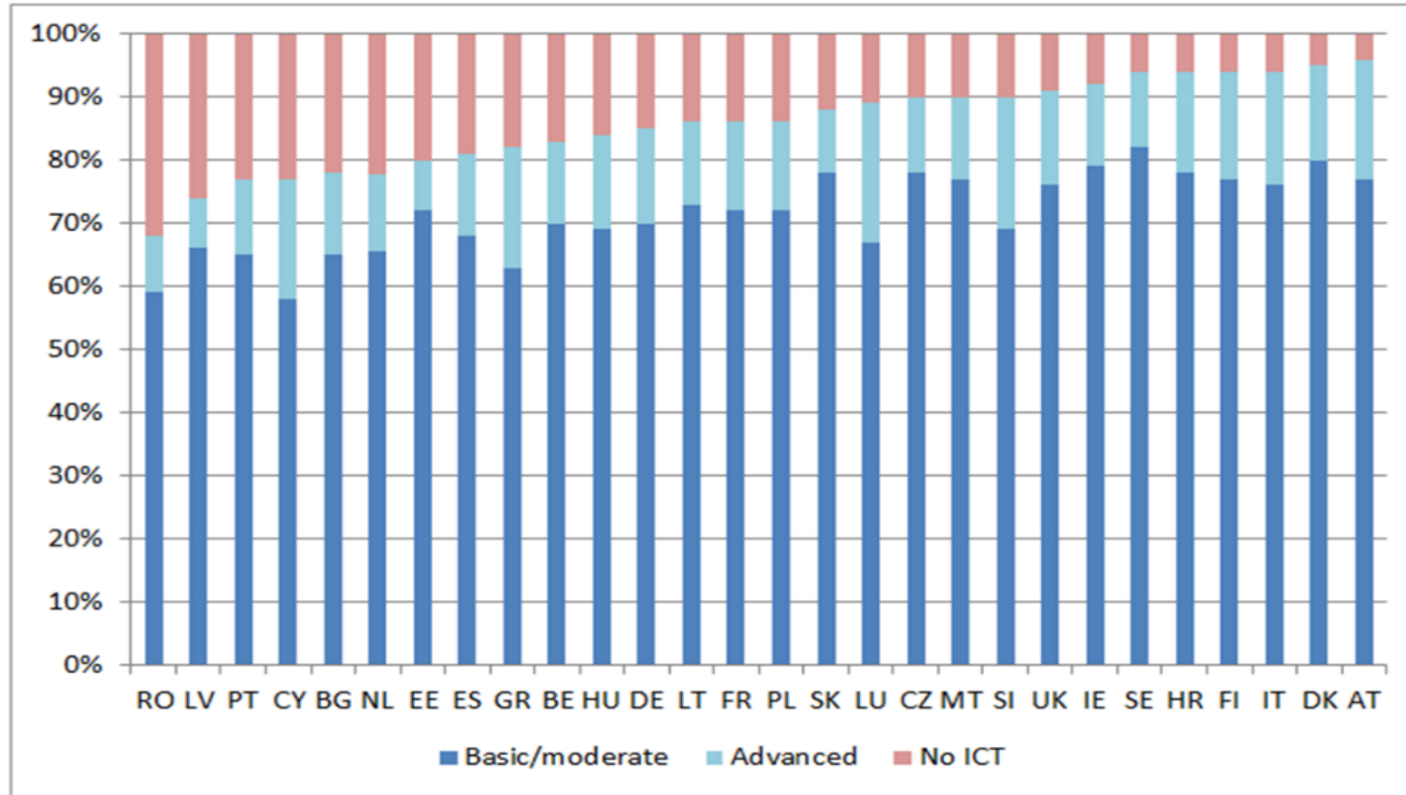
3.1. The general context of employment: a strong growth in recruitment needs and a lack of competent profiles

- ▶ The confirmation of increasing recruitment needs, and this on all the functions
- ▶ Deficits in skills and qualified profiles



- ▶ Recruitment levels on most occupations tend to change
- ▶ An age pyramid that could in future greatly increase recruitment tensions

2. New skills for new occupations



Level of ICT skills needed to do the job, adult employees, 2014, EU-28

Improvement of aviation sectors where the high and interdisciplinary qualifications of employers are essential

- ▶ Economic Development Planning
- ▶ Air Transport Regulatory Framework
- ▶ Aviation Infrastructure
- ▶ Resource Mobilization
- ▶ Safety and Security
- ▶ Environmental Protection

The **digitalisation** is a cross sectorial action which supposes advanced skills and competences in ICT and in aviation simultaneously.



3.3. Interdisciplinary master “ICT applied in aviation”

- ▶ profound aviation worldwide experience in international projects + the up-to-date ITC technologies
- ▶ will be organized by **modules**
- ▶ will use **new modes of delivery**: distance, modular learning with an attune curricula, through new forms of personalized learning, strategic use of open educational resources, virtual mobility, European internships in the main air transport employers, blended mobility and virtual learning platforms.

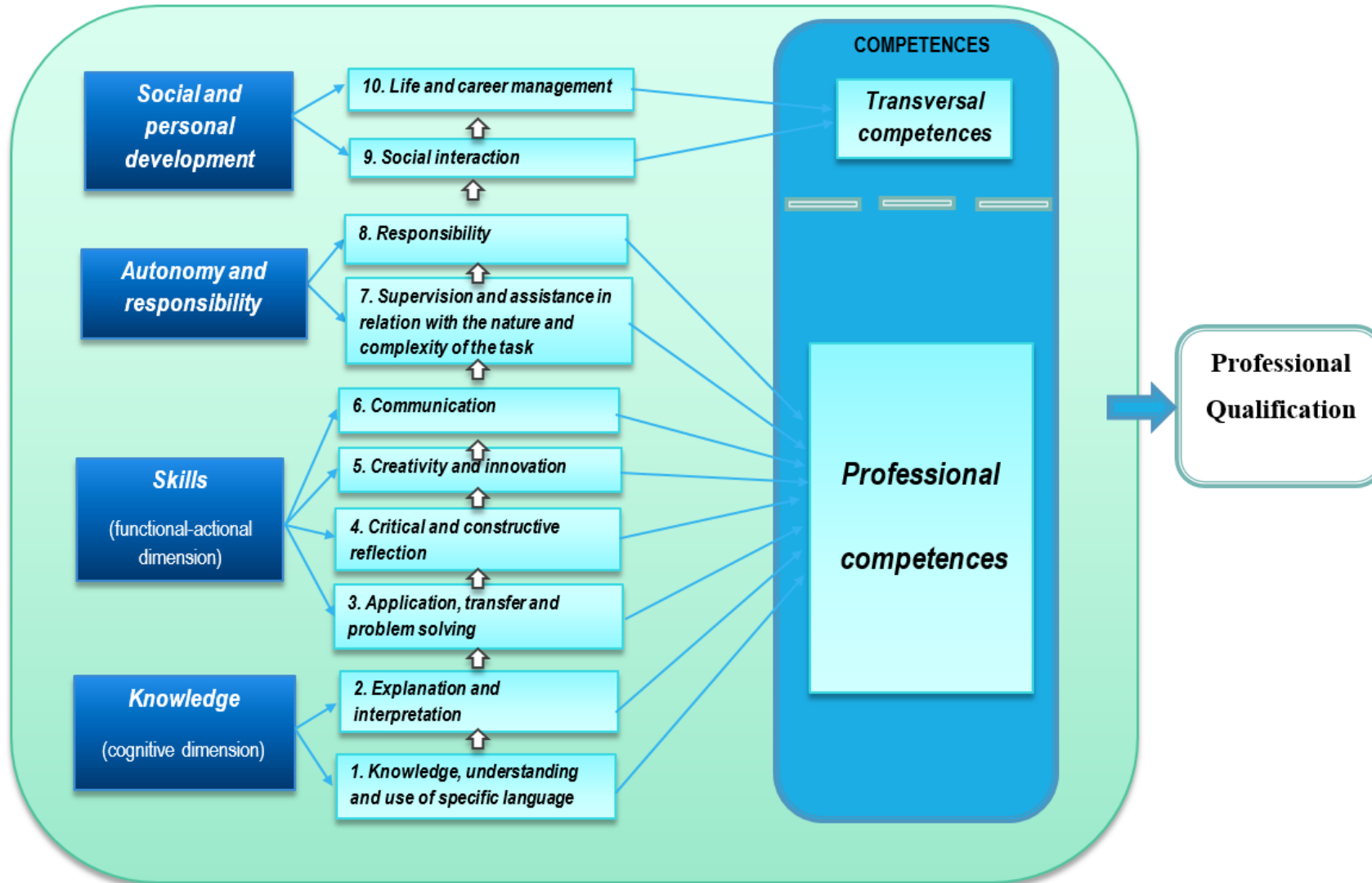
3.4. Sectorial Qualification Framework Methodology

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graph TD; A[3.4. Sectorial Qualification Framework Methodology] --> B[The first part - dedicated to the conception of a SQF for aviation considering the EC recommendations, competence based learning practices used in aviation and the aviation regulations;]; A --> C[The second part - dedicated to the recognition of prior learning and work experience for a better coherence of professional and training pathways; it will be precise the conditions and procedures for passing from a non-regulated to a regulated qualification.];
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The second part - dedicated to the **recognition of prior learning and work experience** for a better coherence of professional and training pathways; it will be precise the conditions and procedures for passing from a non-regulated to a regulated qualification.

Sectorial Qualification Framework Methodology



4. CONCLUSIONS



Our paper contributes to:

The right matching of learning outcomes with skills and competences, as required by EC, EASA and ICAO regulations;

Define clear progression routes and recognition of prior learning and work experience in aviation;

Promote knowledge-transfer programmes and develop new study programmes;

Strengthen exchange channels between education and labour market through the European Network for Aviation Training and Education which will be created by KAAT project.



Thank you for you attention!

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