



Ministry of Education and Science Republic of Latvia

# Space education proposals under RPA call in Latvia CfP/5-50036/23/NL/MH

Kim Johnson

Riga, 12/09/2023

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#### Rationale of space education



#### Three pillars

## Why finance space education?

- Prepare and encourage students to pursue a career in the space industry
- Provide a suitable and ready workforce for Latvian entities
- Leads to stronger European expertise
- Help initiate collaboration between ESA member states

## Development of a space degree

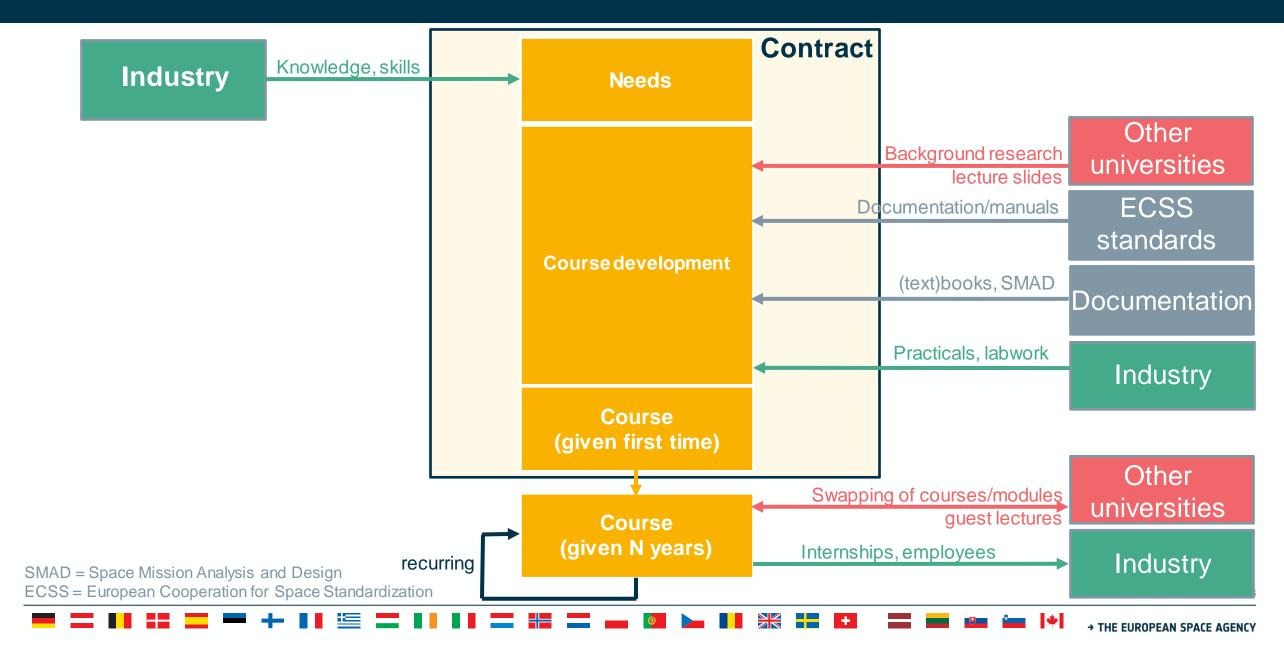
- Prerequisites
  - Needs to build on existing degrees
  - Cannot be done in one step
  - Responds to needs of local industry
  - Modules have test criteria (exam/thesis) and give credits (ECTS)
- Very strongly encouraged
  - Use of ECSS

#### International links

- Increases efficiency of the course development
- Space business is international
- Increases visibility of space education
- Improves chances for collaborations with other entities of ESA member states
- Very strongly encouraged
  - Use of English

### **Space Education Development Model**

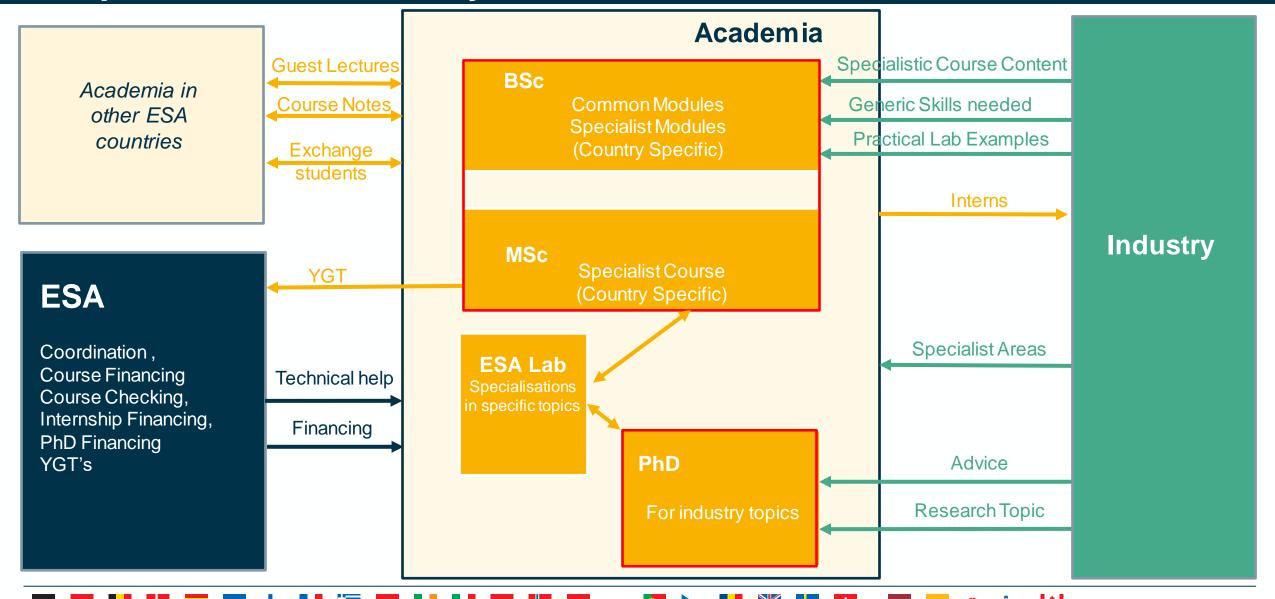




# Idealized model for long term Space Education and cooperation with industry



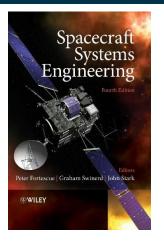
→ THE EUROPEAN SPACE AGENCY

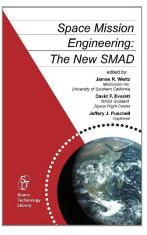


#### **Common mistakes in Education Proposals**



- Not showing outline course contents
- Not showing the input information sources (textbooks, SMAD, universities, etc.)
- Not having the course in English (at least partially)
- Not including industry
- Not taking advantage of ECSS
- Not being accredited OR discussing accreditation process
- Not including independent reviews of course material (correct and complete information)
- Not giving assurances of recurring nature of the course (i.e., it is a single shot/one off)
- Not showing how it fits into the current BSc/MSc programme OR discussing end goals







### Overview of funded space education activities



Activity	Country	Entity	
1 Space Education for Bulgaria (Space Edu 4BG)	Bulgaria	Faculty of Physics, Sofia University St. Kliment Ohridski	
2 TRACOFUNAT: Training courses "Fundamentals of aerospace technologies"	Lithuania	Vilnius University	
3 Space Image Processing	Lithuania	Vilnius Gediminas Technical University	
4 University Course and Public Lectures on Earth Observations (UniEO)	Lithuania	Faculty of Chemistry and Geosciences, Vilnius University	
5 Aquatic Remote Sensing in Higher Education (QREDO)	Lithuania	Klaipeda University	
6 VENTSPILS UNIVERSITY COLLEGE SATELLITE TECHNOLOGY EDUCATION PROGRAMME	Latvia	Ventspils University College	
Development of study course "Thermal Management and Power Electronic Packaging in Spacecraft Applications"	Latvia	Riga Technical University	
8 Introduction to Wavelets for Space Applications	Latvia	University of Latvia	
9 Development of university course – satellite communications systems	Latvia	Ventspils University College	
10 Space for Education, Education for Space (SEES)	Slovakia	Slovak University of Technology - FEI-STU	
11 TUKE Space Forum	Slovakia	Faculty of Electrical Engineering and Informatics, Technical University of Kosice	
12 University course Earth Observation with ESA missions	Slovakia	Faculty of Mining, Ecology, Process Control and Geotechnologies, Technical University of Kosice	
13 SIREN Space Ionizing Radiation Experts Nursery	Slovakia	Slovak Academy of Sciences - Institute of Experimental Physics	

### Other key universities in Member States



University	Country
1Technical University of Denmark	Denmark
2 ISAE Superaero	France
3 Technical University of Berlin	Germany
4 Technical University of Munich	Germany
5 Polytechnic University of Milan	Italy
6 Sapienza University of Rome	Italy
7 University of Pisa	Italy
8 Delft University of Technology	Netherlands
9 KTH Royal Institute of Technology	Sweden
10 Swiss Federal Institute of Technology Zurich	Switzerland
11 Cranfield University	UK
12 University of Glasgow	UK
13 University of Southampton	UK
14 University of Surrey	UK

Note: this list is far from comprehensive