



Ένας Χρόνος EULiST
European Universities Linking Society and Technology

ΕΘΝΙΚΟ
ΜΕΤΣΟΒΙΟ
ΠΟΛΥΤΕΧΝΕΙΟ



Δράσεις του EULiST τον πρώτο χρόνο του έργου

Σωτήρης Καρέλλας

Καθηγητής

Σχολή Μηχανολόγων Μηχανικών

Επιστημονικά Υπεύθυνος

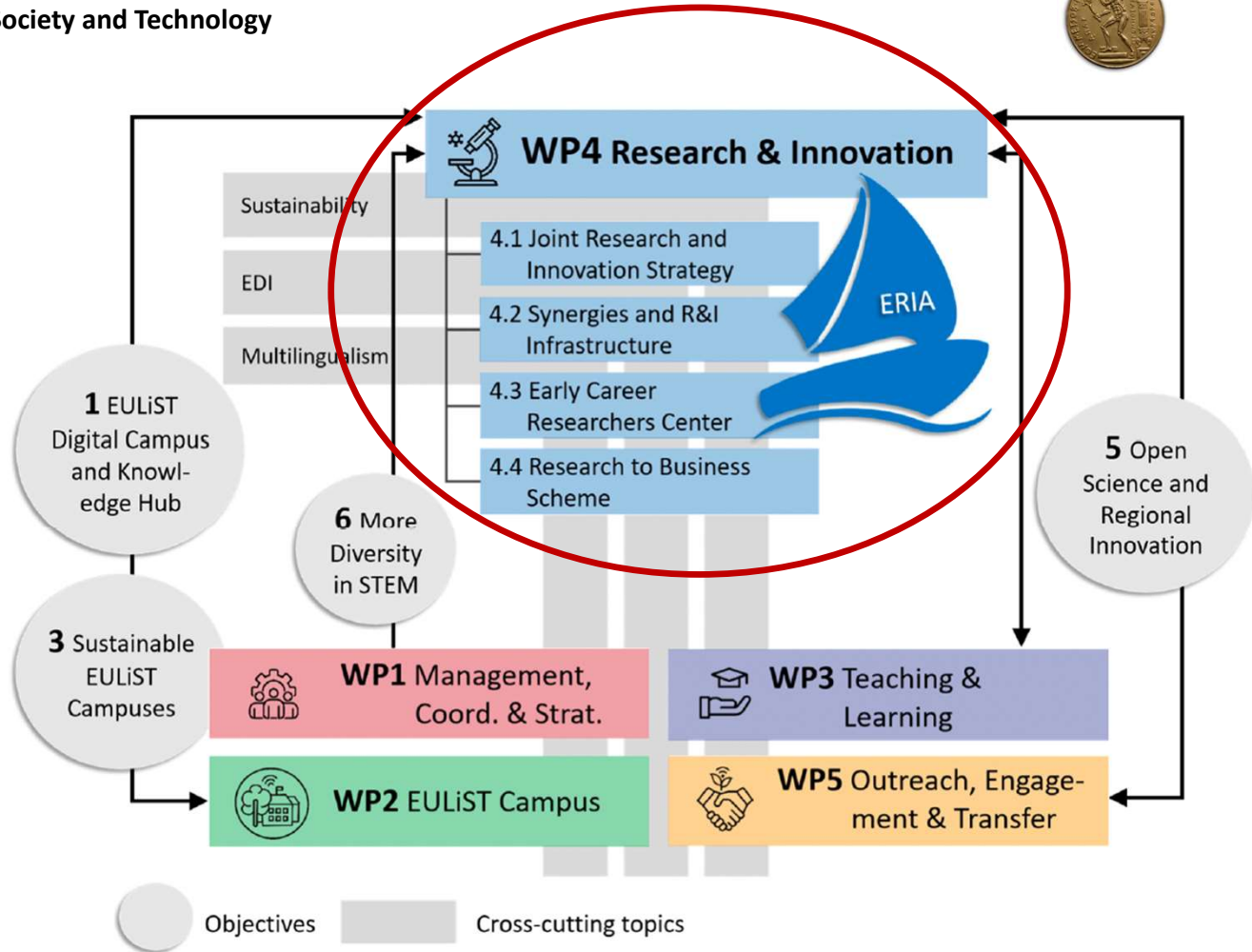
Leader WP Research and Innovation EULiST ΕΜΠ



Co-funded by
the European Union



The goal of WP4 is to 1) evaluate and 2) align the research focus areas and expertise of each EULiST Member and establish synergies for creating a solid basis for joint scientific excellence





Key Performance Indicators Reminder

WP4: Research & Innovation

Key performance indicators	Unit of measurement	Target value	Specific objectives
Number of joint research activities that link SSH and STEM undertaken by at least two Members	Number of projects initiated	2	WP4
Joint presentations / speeches / contributions at conferences outside EULIST	Number of such joint ventures over funding period	50	OB5
Joint publications involving researchers from 2 or more EULIST Members	Number of publications initiated per year	170	All WPs
Research proposals for funding involving more than two EULIST Members	Number of research proposals approved during funding period	15	OB5
Patents resulting from joint EULIST research projects	Number of patents submitted during funding period	10	OB5
Transferability: Research to Business	Number of Research to Business Scheme projects	10	OB5





EULIST European Universities Linking Society and Technology

Green Transition



“covered within student projects, joint doctoral theses and research projects”

by





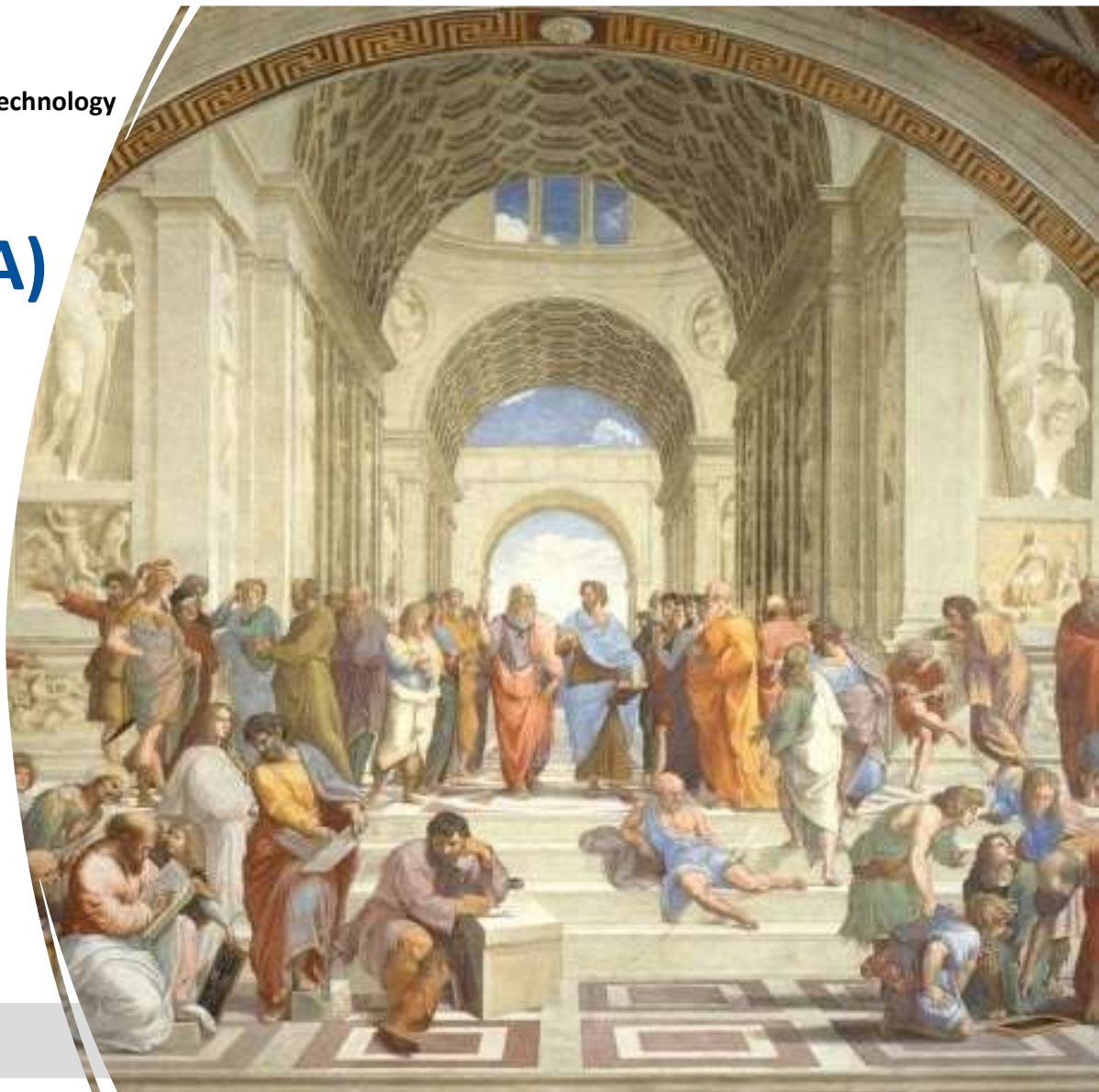
EULiST European Universities Linking Society and Technology

The EULiST Research and Innovation Academy (ERIA)

- *Joint R&I Strategy*
- *EU Proposals Roadmap*
- *facilitating the sharing of expertise among EULiST Members*
- *acting as the interface between the universities and stakeholders.*
- *Dissemination of research and innovation results (industry, national academies, research and educational institutions and organisations, municipalities and the public)*

Open Science and regional innovation

The School of Athens" – Fresco by Raphael, depicting Plato's Academy in Athens. In the center we can see Plato and Aristotle, discussing.





Friday's for Research

- Takes place every FIRST Friday of the month
- Topics set until the 10th of the previous month according to the available calls

1st Friday (1st March 2024): Energy storage and Renewables

2nd Friday (5th April 2024): Material Science (3DPrinting, Manufacturing)

3rd Friday (17th May): Bioengineering

4th Friday (4th October): Environmental research / climate change

5th Friday (8th November): Smart cities

6th Friday (13th December): Innovative Social Sciences for a Sustainable Society



The exact topic will depend on the available calls



Webex

03:12:14

Meeting Info



Viewing Nikolaos Skordoulis's applicati...

- 55% +

ΕΥΛΙΣΤ Research Fridays presentation tem... • Αποθηκεύτηκε στη θέση "αυτός ο υπολογιστής"

Αρχείο Κεντρική Εισαγωγή Σχέδιο Σχεδίαση Μεταβάσεις

Επικόλληση Νέα διαφάνεια Διάταξη Επαναφορά Ενότητα

1st Research Friday

Εύρεση Αντικατάσταση Υπαγόρευση Πρόσβατα Σχεδίαση

Επιλογή

ΕΥΛΙΣΤ Research Fridays

H2 Value Chain Overview

```

    graph LR
      A[H2 Production] --> B[H2 Storage]
      B --> C[H2 Distribution]
      C --> D[H2 End-Use Applications]
  
```

Stage	Research Focus	Participating Institutions
1. Materials Research	University of Bratislava Juan Carlos University	Juan Carlos University
1. Production Pathways	NTUA (Water Electrolysis) Juan Carlos University (Biological) UNI LAQUILA (Blue Hydrogen Production) IMT	BRNO University Leibniz UNI Hannover IMT
1. High System Level Modelling	NTUA, LUT University, ITM, Leibniz UNI	
1. Combustion Gas Turbines ICE	NTUA Leibniz UNI Hannover	
2. Fuel Cells	UNI LAQUILA, IMT	
3. Transportation (Road, Marine, Aviation)	NTUA Leibniz UNI Hannover	

Διαφάνεια 2 από 14 Ελληνικά Προσβασιμότητα: Διαρεύνηση


▼ Participants (44)

Search

- MS Masoud Moshtaghi...
- MP Matuš Pospíšil
- MP Miia Pirttilä
- OP Ondřej Pavlík
- P Patricia
- PI Pauline Rousseau I...
- PC Pavel Charvát
- P Pavol
- RW Raphael Pruckner...
- RT Reinhard Sefelin T...
- SU Santiago Gómez-R...
- SG Stefano Di Gennaro

Mute All Unmute All

Unmute Stop video Share Record



EU 2nd Research Friday chno

	NT UA	JU	LUH	IMT	UNI VA Q	RJC U	BUT	TU W	STU	L U T
AM-polymers	x	x	x	x	x		x	x		x
AM-metals and other materials	x			x		x	x	x	x	
Sustainability	x			x			x		x	x
Bio-materials	x		x	x		x	x	x	x	
Materials characterization		x			x		x		x	
Industry 4.0	x			x			x		x	
Modeling and simulation	x				x		x		x	
Surface treatment						x	x		x	x
Composite materials				x	x	x			x	

Leibniz Universität Hannover

- 3D Melt Electro Writing of Tubular Scaffolds
- Endothelial vascular engineering
- FDM with biocompatible PCL material
- Monitoring and feedback loops to control the process
- MEW dip-coating of scaffolds
- Future research in fiber fragmentation and tubular scaffolds.

National Technical University of Athens

- Material Science/ Manufacturing
- Extrusion-based AM (applications in microfluidics, smart repair...)
- Real-time human recognition in manufacturing
- Personnel and equipment recognition in manufacturing
- Intelligent process monitoring in machining processes
- Education projects

Brno University of Technology

- LPBF
- Cold Spray
- Robotic AM
- Ceramic AM-DLP
- Non-destructive analysis for AM
- Magneto-sensitive materials
- Industry 4.0 (smart manufacturing, bigdata, etc.)
- Customized 3DP energy storage devices

Jönköping University

- Sustainable Materials, Manufacturing and Cast Components
- Advanced materials, advanced manufacturing, simulation and optimization of cast components (Fe, Fe-alloys, aluminum, etc.)
- In-depth analysis of metallic materials (stresses, microstructure, recycling, etc)
- Collaboration with companies and universities
- Recognition in Web of Science

Institut Mines-Telecom

- 3D Printing and Production of Materials: research subjects & platforms
- Plastics and composites AM and advanced manufacturing
- Make-fusion materials, powders, eco-materials, biomaterials
- Support for companies transition to Industry 4.0
- Contribution in JEC World Exhibition 2023

Università Degli Studi Dell' Aquila

- Advanced processes for hybrid multi-materials joining
- Multimaterial joining (metals, thermoplastics, AM components)
- Online monitoring
- Surface functionalization-pretreatment
- Process simulations
- New process development

Technische Universität Wien

- Materials science for 3D-printable photopolymers
- Lithography-based 3DP and Hot Lithography
- Applications in biomedical engineering and aerospace.

Universidad Rey Juan Carlos

- Additive Manufacturing and Surface Treatment for Transport and Health Applications
- AM: LPBF, DED, L-WAM processes for multimaterial and complex geometries printing
- Materials: Al, Mg, Ti, Fe alloys
- Coating: thermal spraying (flame spraying, HVOF), laser cladding, Sol-gel
- Applications: bioengineering, nuclear reactors, thermal management, transportation

Slovenská Technická Univerzita v Bratislave

- Cables from high-temperature superconducting tapes
- Hard wear-resistant PVD coatings
- Testing of AM materials
- Advanced materials
- Industry 4.0
- Additive manufacturing of ceramics and biceramics
- Conventional and non-conventional processes (plasma discharge, rotary ultrasonic machinery, etc.)
- Welding and soldering
- Modeling and Simulations

LUT University

- Additive manufacturing
- AM for separation and purification
- Selective adsorbents for preconcentrating target elements
- Recovery of metals and gold ions
- 3D-MOF electrocatalysts for hydrogen production
- 3DP masks

Material Science and Manufacturing Overview

EULIST Research and Innovation



Co-funded by
the European Union



EULIST 3rd Research Friday Tel Bioengineering and Biotechnology



	NTUA	LUH	IMT	UNIVAQ	URJC	BUT	TUW	STU	LUT
Biotechnology, Biocatalysis, and Bioprocesses	X	X	X			X	X	X	
Nanotechnology and Nano Materials	X								
Biofluid Mechanics	X					X			
Applied Mathematics and Computer Science	X	X	X		X	X	X		X
Signal Processing and Artificial Intelligence			X		X		X		X
Biomedical Sensing, Diagnostics, and Therapy	X	X	X	X		X	X		
Biomechanics and Biomaterials		X	X			X	X		
Medical Imaging and Image Processing					X	X	X		X
Biomedical devices and 3D printing	X		X			X	X		





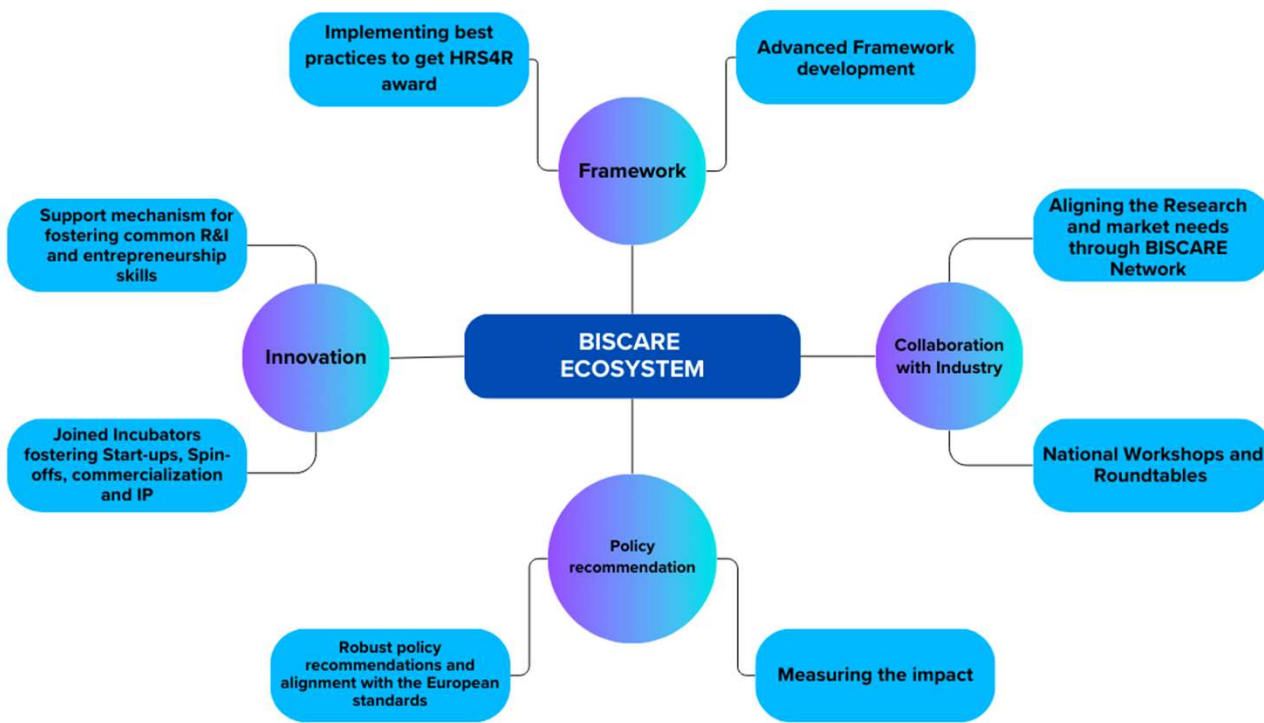
EULIST European Universities Linking Society and Technology

Research Proposals (1/3)



BUILDING INCLUSIVE AND SUSTAINABLE RESEARCH CAREERS IN EUROPE

BISCARE WIDERA Action



EULIST Research and Innovation



Co-funded by the European Union

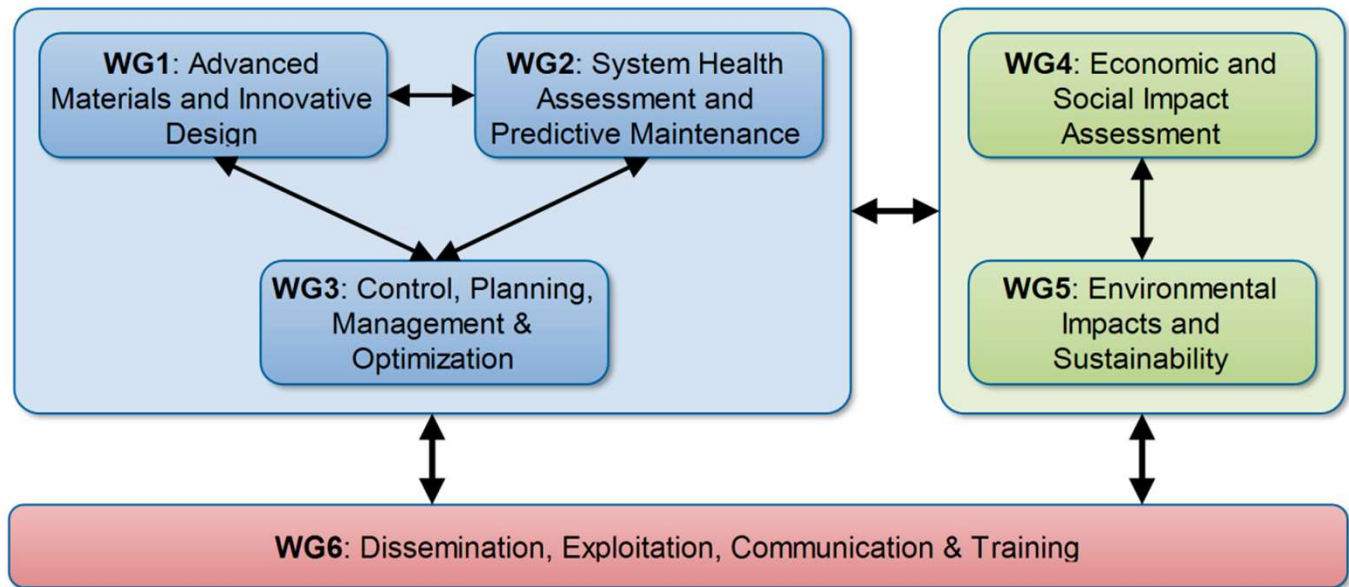


EULIST European Universities Linking Society and Technology



Research Proposals (2/3)

European Network for Sustainable Development of Renewable Energy Systems
ENSURE



EULIST Research and Innovation





Research Proposals (3/3)

InnoPath



EIT HEI Initiative



11
102
1004
Leibniz
Universität
Hannover
Hochschulbüro für International
International Office



11
102
1004
Leibniz
Universität
Hannover



SYMPOSIUM LUH-EULIST
Monday, 02.12.2024 and Tuesday, 3.12.2024

Climate-neutral and climate-resilient cities and universities in Europe: challenges and innovative solutions for a sustainable future



Εκδήλωση "Ενας χρόνος EULiST"

Co-funded by the European Union



EULIST European Universities Linking Society and Technology

Profile of the Researcher of the Future



Academic Skills

1. Interdisciplinary Knowledge:

1. Mastery in their primary field of study.
2. Competence in related disciplines to foster cross-disciplinary innovation.

2. Advanced Research Methods:

1. Proficiency in both qualitative and quantitative research methodologies.
2. Expertise in the latest technological tools and techniques for data analysis.

3. Critical Thinking and Problem-Solving:

1. Ability to critically evaluate existing literature and identify research gaps.
2. Innovative problem-solving skills to address complex scientific questions.





EULIST European Universities Linking Society and Technology

Profile of the Researcher of the Future



Scientific Skills

1. Research and Development:

1. Strong background in conducting high-quality, reproducible research.
2. Capacity to lead and manage research projects from inception to completion.

2. Technological Proficiency:

1. Familiarity with emerging technologies relevant to their field.
2. Skills in utilizing digital tools like (AI), software, and platforms for research purposes.

3. Data Management:

1. Competence in handling large datasets, ensuring data integrity, and performing advanced statistical analyses.
2. Knowledge of data privacy and ethical considerations in research.





EULIST European Universities Linking Society and Technology

Profile of the Researcher of the Future



Social Skills

1. Collaboration and Teamwork:

1. Ability to work effectively in diverse, interdisciplinary teams.
2. Strong networking skills to build and maintain professional relationships.

2. Communication:

1. Proficient in presenting research findings to both scientific and non-scientific audiences.
2. Excellent writing skills for publishing research papers, reports, and grant proposals.

3. Leadership and Mentoring:

1. Leadership skills to guide research teams and projects.
2. Mentorship abilities to support and develop junior researchers and students.





EULIST European Universities Linking Society and Technology

Profile of the Researcher of the Future



Empowered Skills through EULIST

1. Alignment with SDGs:

1. Understanding and integrating Sustainable Development Goals (SDGs) into research agendas.
2. Commitment to conducting research that contributes to sustainable and equitable global development.

2. Ethical and Responsible Research:

1. Adherence to high ethical standards and responsible research practices.
2. Engagement in societal impact assessment and public science communication.

3. Global Perspective:

1. Awareness of global challenges and the ability to contribute to international research collaborations.
2. Cultural competency and sensitivity in global research contexts.

4. Innovation and Entrepreneurship:

1. Skills in translating research findings into practical applications and innovations.
2. Entrepreneurial mindset to foster the commercialization of research and creation of start-ups.





Thank you very much for your attention

