

# Joint Call 5G Communication Technologies 2023

Information Session

29.11.2023 | 11:00 – 12:00



# Agenda

- **Introduction: Joint Call 5G Communication Technologies** – 10 min  
Marc Luis (Department of Media, Connectivity and Digital Policy Service)
- **Presentation of the Joint Call 5G Communication Technologies** – 25 min  
Marc Luis (Department of Media, Connectivity and Digital Policy Service)  
Sakthivel Sundharam (FNR)  
Ernest Boever (Ministry of the Economy)
- **Luxinnovation Support** – 5 min  
Eric Lauer (Luxinnovation)
- **Q&A** – 20 min

# Joint Call 5G Communication Technologies Actors



THE GOVERNMENT  
OF THE GRAND DUCHY OF LUXEMBOURG  
Ministry of State

Department of Media, Telecommunications  
and Digital Policy

Department of **Media, Connectivity** and **Digital Policy** Service



LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG  
Ministère de l'Économie

**Granting authority for Companies** (R&D aid schemes)



**Granting authority for Research Organisations** (R&D grants)



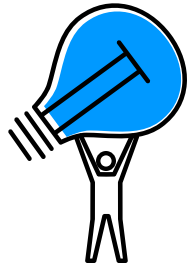
**Research Industry Collaboration Platform Manager**

# Context of the call – Teaming up !

Facilitating **collaborative projects** between public research institutions and companies that are **based on 5G communication technologies** and that are **valuable for both parties**



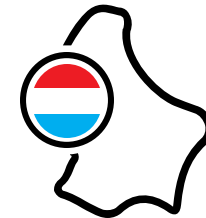
Increase the **company's expertise** in 5G communication technologies applications (e.g. production processing , monitoring...)



Support **innovation** and **sustainable value creation** through **strong partnerships**



Encourage the implementation of innovative projects that contribute to the **development of Luxembourg's industrial and economic landscape** and are in line with **national strategic priorities**



Increase the **attractiveness** of Luxembourg as an **innovation hub** based on **5G communication technologies**



# Call topics

The joint call focuses on **4 important topics**



## **Smart Cities**

Smart cities topic targets the development and implementation of 5G technology-based solutions to improve the efficiency, security, sustainability, and management of the urban environment.



## **Industry 4.0**

Industry 4.0 is among others transforming manufacturing and production processes including warehouse management and logistics through the extensive use of data, digitalization, and automation



## **Smart Environment**

Smart environment targets the development and validation of 5G technology-based applications for monitoring and reacting to the status of the environment.



## **Technologies**

The technologies topic targets the definition and development of innovative components and optimized network topologies to go beyond normalized 5G telecommunications networks.

# A non-exhaustive list of use cases



## Smart Cities

- Traffic monitoring and control
- Autonomous driving
- Shipment tracking
- Construction site management
- Facility management
- ...



## Smart Environment

- Monitoring of environmental conditions
- Resources management
- Smart farming
- Fast response to extreme meteorological weather conditions
- ....



# A non-exhaustive list of use cases



## Industry 4.0

- Mobile network-based LAN (Private mobile network or network slicing)
- Machine learning, Edge computing, Internet of Things (IoT)
- Predictive maintenance
- Warehouse logistics
- Connected production process
- ...



## Technologies

- Satellite-based mobile network communications (NTN)
- Fixed wireless
- EMF measurements and network planning improvements
- ...



# National Research Priorities

## Luxembourg's National Research & Innovation Strategy



### PERSONALISED HEALTHCARE

- Better health with personalised solutions
- Innovation in disease prevention, diagnosis, treatment and monitoring
- Collaboration and technology in biomedical research

### INDUSTRIAL AND SERVICE TRANSFORMATION

- Digital innovation for industries and services.
- AI, data, security, and smart systems.
- Value creation by collaborating with different stakeholders.

### SUSTAINABLE AND RESPONSIBLE DEVELOPMENT

- Research on sustainability and responsibility for global challenges
- Energy, environment, society and ethics
- Interdisciplinary and participatory approach

### 21ST CENTURY EDUCATION

- Innovative and inclusive learning environments.
- Teacher education and development for diversity.
- Digital technologies and data science for

# Innovation Challenges TRL 4 to TRL7

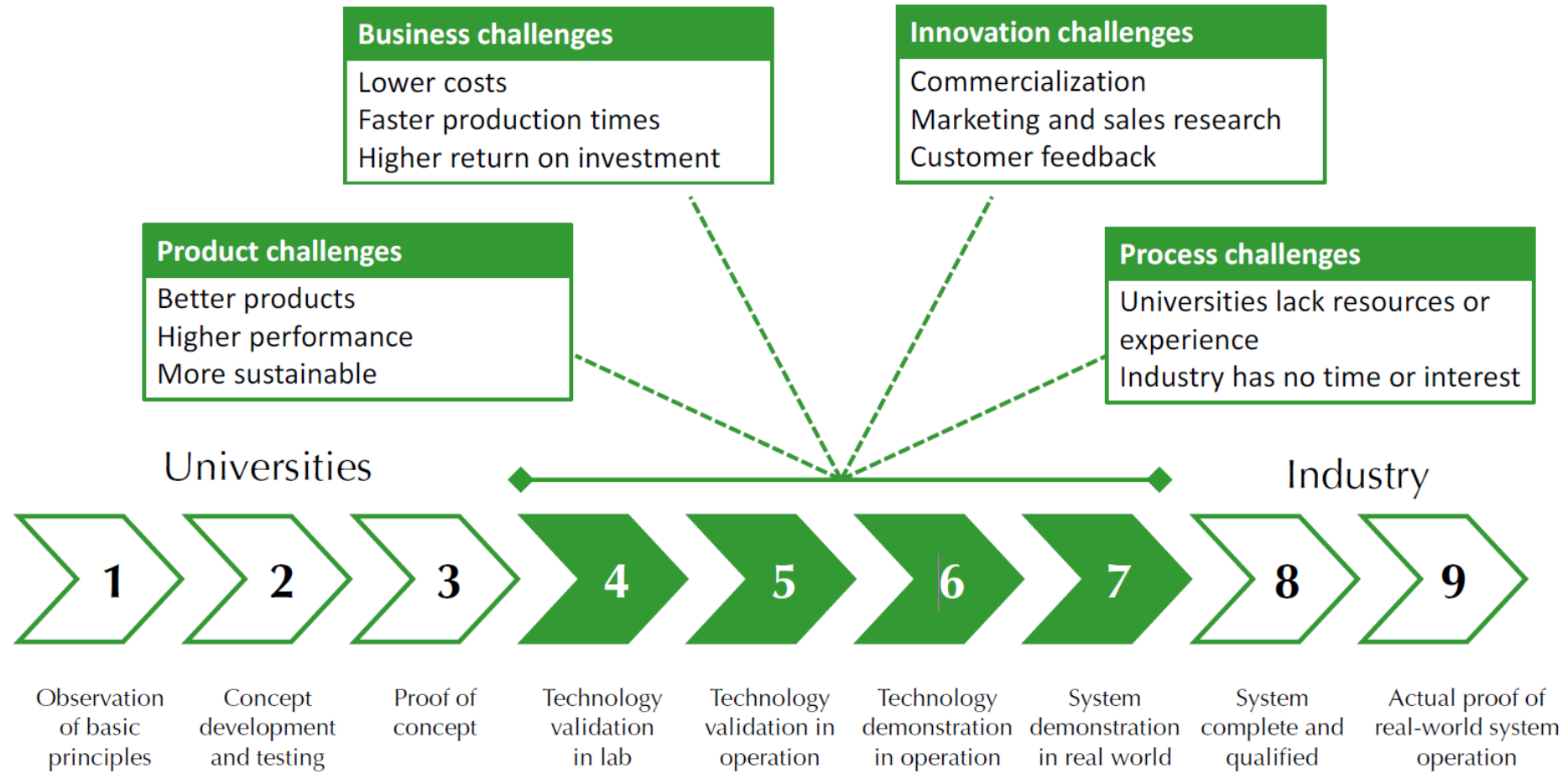
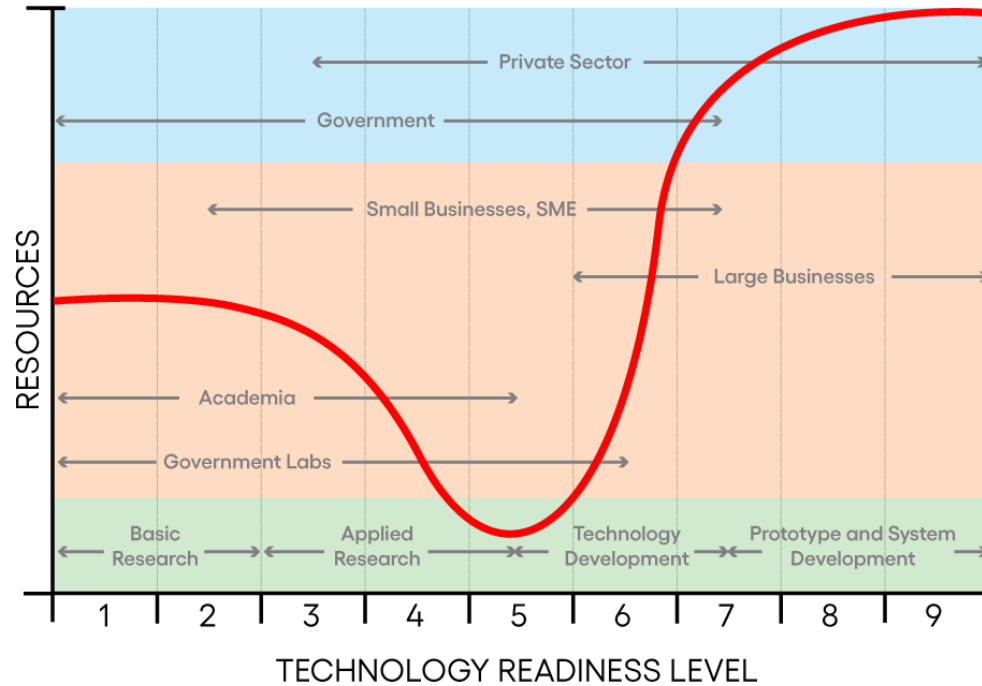


Image from : Hensen, Jan & Loonen, Roel & Archontiki, Maria & Kanellis, Michalis. (2015). Using building simulation for moving innovations across the “Valley of Death”. REHVA Journal. 52. 58-62.

# FNR Innovation Programmes



Source: Hensen, Jan & Loonen, Roel & Archontiki, Maria & Kanellis, Michalis. (2015). Using building simulation for moving innovations across the "Valley of Death." REHVA Journal. 52. 58-62.

Universities along with public funding sources focus on TRLs 1-4

Private sector focuses on TRLs 7-9

'Valley of Death' represents often neglected addressing of TRLs 4 to 7, where **neither academia nor the private sector** prioritizes investment

Consequently, many technologies, albeit promising, finish their maturity journey prior to deployment

To **bridge (jump)** the valley of death, collaborative efforts are often required



# Eligibility Criteria



## Public Research Organisations

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Research organisations must be eligible under article 3-(2) of the FNR statute (Loi modifiée du 31 mai 1999 portant création d'un fonds national de la recherche dans le secteur public) and be registered at the FNR.



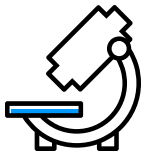
- Public institutions performing research in Luxembourg
- The PI must be employed by one of the public research institutions in Luxembourg with a work contract **covering the full duration of the project**



In general, FNR BRIDGES General guidelines to be followed – [Link](#) (section 2)



# Funding Conditions



## For Public Research Organizations (PRO)



Max 700k EUR per project  
(collaboration with  
companies)

Aid rates up to 100%

**max 36 months**



Project eligible costs –  
[FNR financial regulations](#)

FNR policy on Open access: [Link](#)

Research integrity guidelines: [Link](#)

Research data management: [Link](#) (Data Management Plan)

IP Protection and Collaborative Agreements: [Link](#)

→ “Collaboration with undertakings” section

FNR communication guidelines : [Link](#)

Conflict of Interests forms



# Eligibility Criteria for companies

## Companies

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Only **private enterprises registered in Luxembourg** are **eligible** for direct funding by the Ministry of the Economy.

The company:

- Must demonstrate its **viability and financial soundness** regarding its contribution to the project
- Shall demonstrate the **positive impact of the expected project outcome** on its growth and future assets

## Ineligible companies

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### Undertakings in difficulty

**For all companies** (excluding SME < 3 year of existence), if more than half of subscribed share capital (share premium included) has disappeared as a result of accumulated losses.

Example of an **undertaking in difficulty**:

Own funds of € 50k  
Share capital of €200k

# Funding Conditions for companies



LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG  
Ministère de l'Économie



R&D aid schemes for companies



**Max. 36 months**

## Maximum aid intensities (collaboration with public organisation)

Type of research	Company Size		
	Large	Medium	Small
Experimental development	40%	50%	60%
Industrial research	65%	75%	80%

### Experimental development

- *Development of solutions*
- *Building on existing knowledge*

### Industrial research

- *Acquisition of new knowledge*
- *No direct commercial application*



**Max. 700k EUR per project**

# Eligible costs for companies



## Eligible costs (directly related to the project)

Personnel costs (gross salaries on a 12-month basis including social contribution of the company)

General costs (overhead costs)

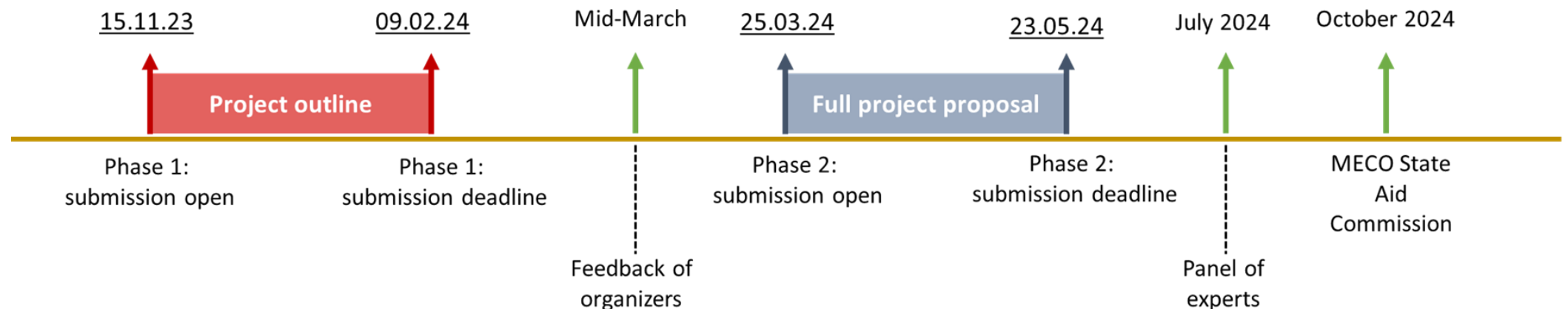
Utilisation costs of equipment (depreciation over the project's duration)

Material costs and other consumables (operating costs)

Special costs (sub-contracting, consulting-services, analysis, ...)

# Submission and Evaluation Process – Call Timeline

PHASE-1 Project Outline (PO)		PHASE-2 Full Project Proposal (FPP)	
Submission	Evaluation	Submission	Evaluation
(1) Standardised support by LXI: webinars, FAQ, IT	(1) PO review by the granting authorities	(1) Individualised coaching by LXI for companies	(1) Review by independent expert panel (IEP)
(2) PO submission on the research-industry-collaboration platform	(2) Eligibility and financial viability check by LXI	(2) FPP submission on - MyGuichet (companies) - FNR grant management system (research organisations)	(2) Recommendation on projects for award decision
	(3) GO/NO GO decision, including potential recommendations towards PHASE-2		(3) State aid commission for company projects
			(4) FNR/MECO joint funding decision



# Submission and Evaluation Process: Qualification for PHASE-1

## Pre-selection criteria

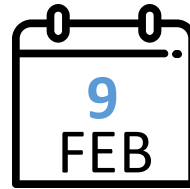
### All

- If the project is in line with the call objectives and call topic
- Completeness of compulsory information

### Companies

- State aid eligibility
- Co-funding capacity

Ensure that the **project costs** are **adapted** to your **co-funding capacity**



## Compulsory documents (annexes on platform)

### All

- Project description, 5G related information and cost estimation (on platform)
- CVs of principal investigators (ORCID ID or LinkedIn Public Profile)

### Companies

- Organigram - full visibility on the shareholder structure (up to the ultimate beneficial owner)
- 2021/2022 accounts of the applicant(s) and the linked entities
- Cash-flow forecast

(check the full list in the [call text](#))

# Evaluation & Submission process:

## IEP Evaluation

Complete list of evaluation criteria can be found in the [call text](#)

### **Relevance**

- Project idea, clarity and pertinence of the objectives
- Level of innovation and soundness of research approach
- Scientific and technical maturity / level of 5G technologies

### **Implementation: quality and efficiency of the project plan**

- Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources
- Competences, experience and complementarity (individual persons / consortium)
- Level of ambition of the collaboration and commitment of the participants
- Level of cyber security "security by design"

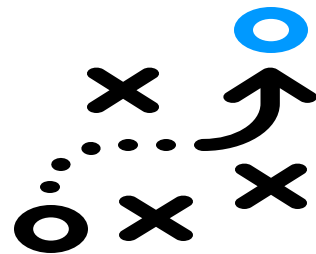
### **Impact**

- Economic and societal added value of the proposed R&D project
- Strengthening of the competitiveness and growth of the company involved / business plan
- Contribution of the project to the advancement of knowledge in the field of 5G communication technologies
- Focus on R&D projects involving new innovations and processes

# Luxinnovation support

## Phase-1

- Awareness raising on eligibility and financial viability checks
  - Q&A sessions
  - Completeness check



## Phase-2

- Stress test (company / project)
  - innovative nature
  - business model / exploitation plan
  - financial capacity of the company
  - (eligibility criteria)
- Accompanying project measures
  - intellectual property
  - project scope and structure
  - competences and relationship building
  - project financing (subsidies, loans, etc.)

# Luxinnovation support – save the dates

## List of upcoming Webinars



### Q&A session 1: Main eligibility criteria and the eligible project costs for the Joint Call 5G Communication Technologies

- Shareholder structure and accounts – what to prepare?
- Co-funding capacity – how to assess your own capacity with regards to the total project costs?
- Q&A



### Q&A session 2: Completeness check of the application before the submission for the first phase of the Joint Call 5G Communication Technologies

- Required attachments
- Q&A



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## Research Industry Collaboration

Aims at increasing collaboration among research organizations, the business sector and society as a whole with the aim of meeting Luxembourg's major societal challenges and strengthening national competitiveness.

[Discover more](#)



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Your email address

alexander.link@luxinnovation.lu

Password

\*\*\*\*\*

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## No account yet?

Create your account to benefit from all the functionalities of the platform and be able to interact with the listed organisations.

Sign up

**Step: 1**

Create your account on

<https://research-industry-collaboration.lu/>

**STEP 2**


Select: Joint call 5G Communication technologies 2023

5G

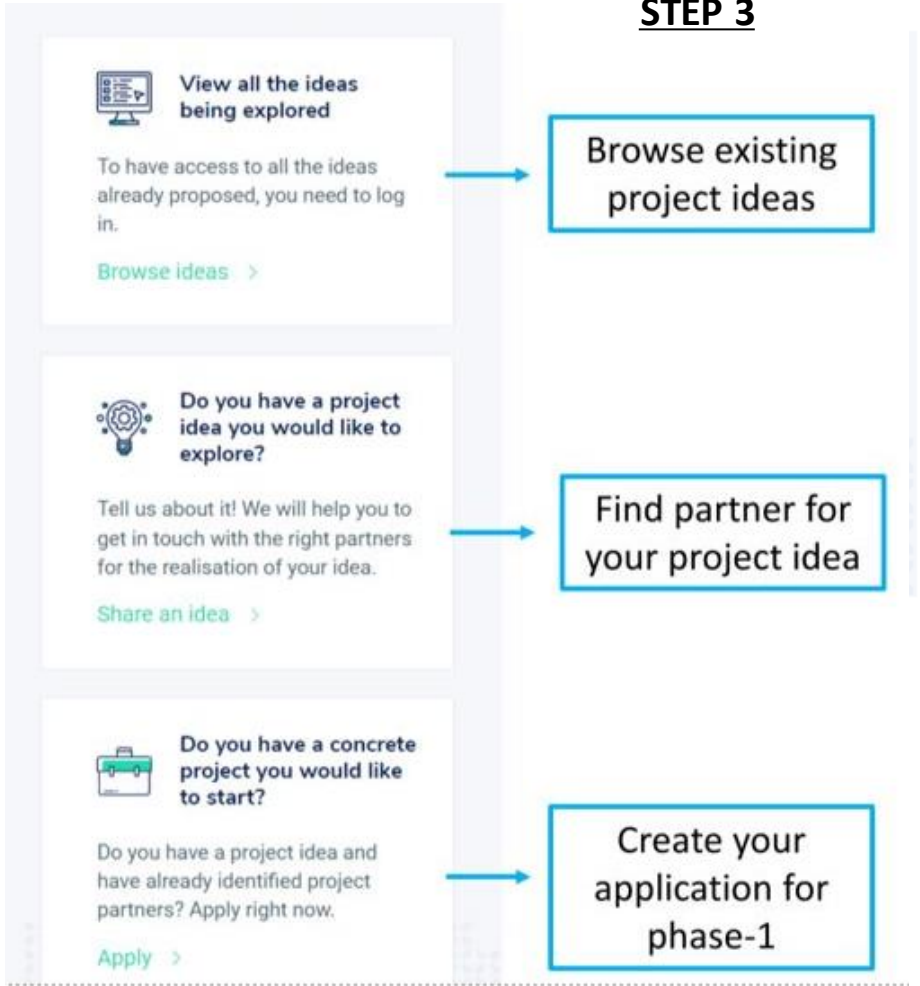
# Joint call 5G Communication Technologies 2023



The Ministry of State, the Department of Media, Connectivity and Digital Policy, the Ministry of the Economy, the Luxembourg National Research Fund (FNR) and Luxinnovation have joined forces to offer companies and research institutions a new funding opportunity that supports consortia to take advantage of 5G communication technologies.

 Starting date 15 November 2023	 Application deadline before 09 February 2024
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**STEP 3**



Q&A

# Thank you!



Create your projects on  
the [research-industry  
collaboration platform](#)

Questions on the joint call to be  
addressed at [contact@research-  
industry-collaboration.lu](mailto:contact@research-industry-collaboration.lu)

Questions related to the  
research organisations:  
[https://www.fnr.lu/funding-  
instruments/5g-bridges/](https://www.fnr.lu/funding-instruments/5g-bridges/)

 [www.luxinnovation.lu](http://www.luxinnovation.lu)

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