

# 5G/6G testbeds contribution to the national digitization process

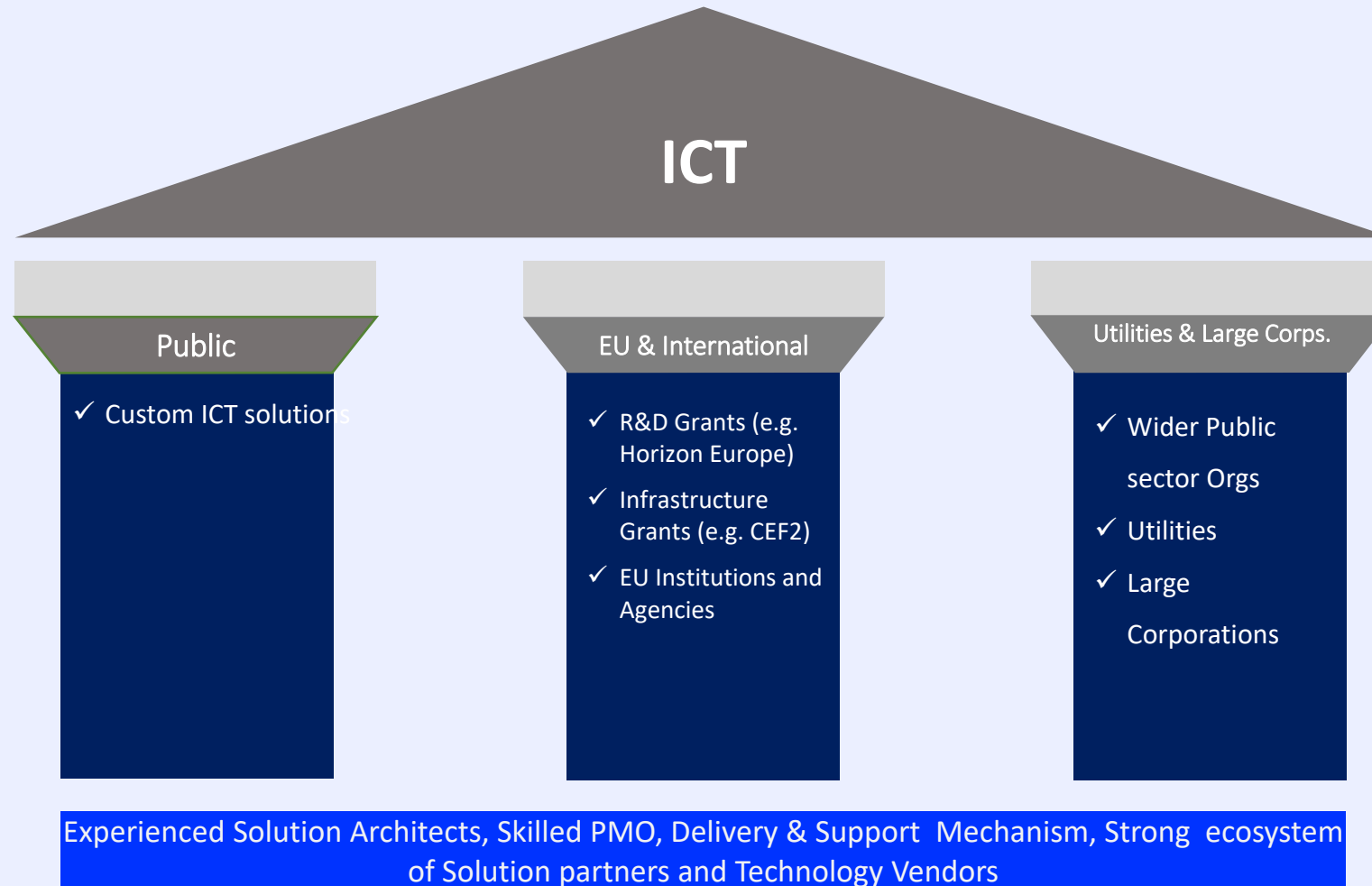
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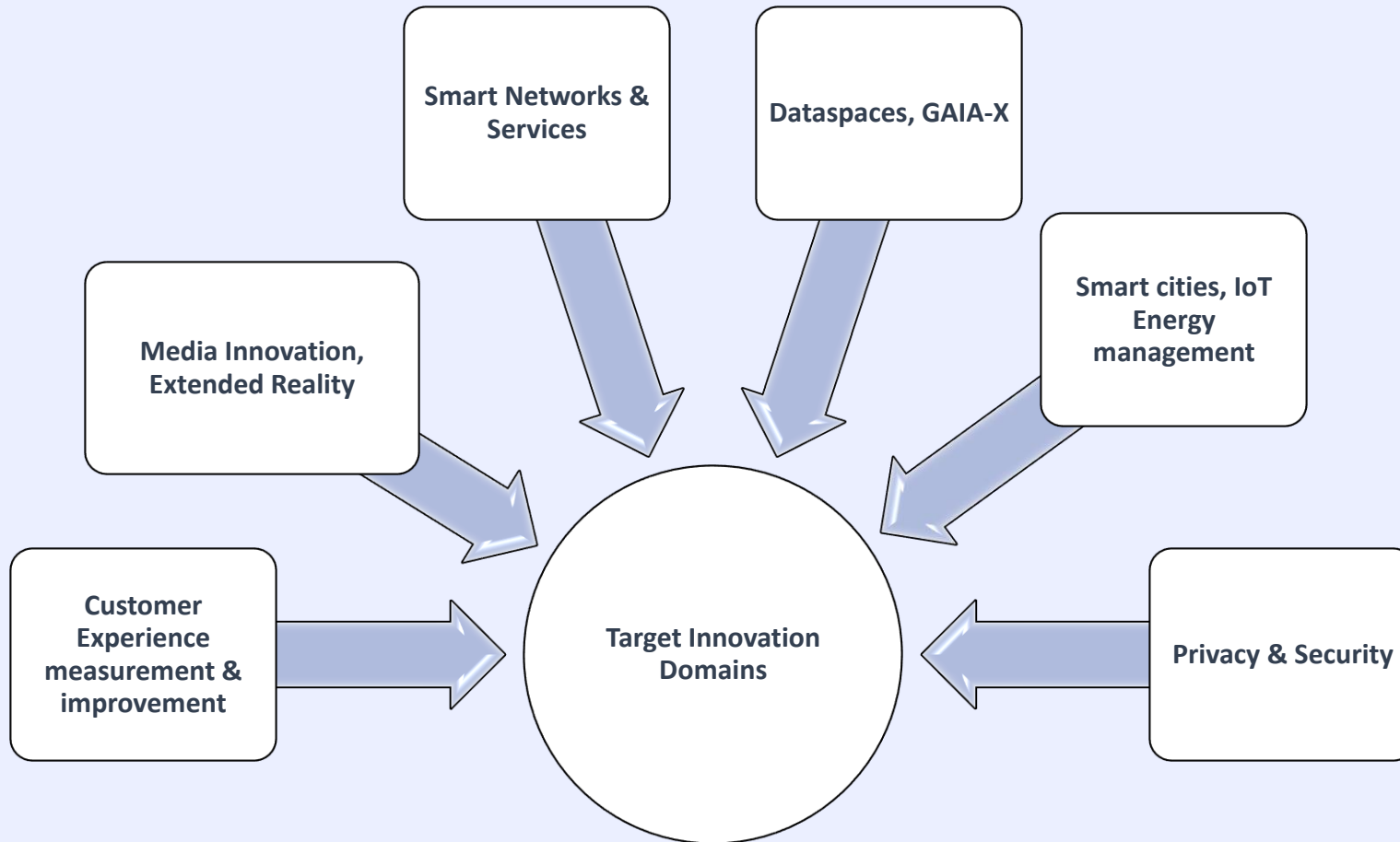
# NOVA ICT

## Technology Integrator and Solution Provider



# EU & International Business Focus areas

## Research domains



## Commercial domain

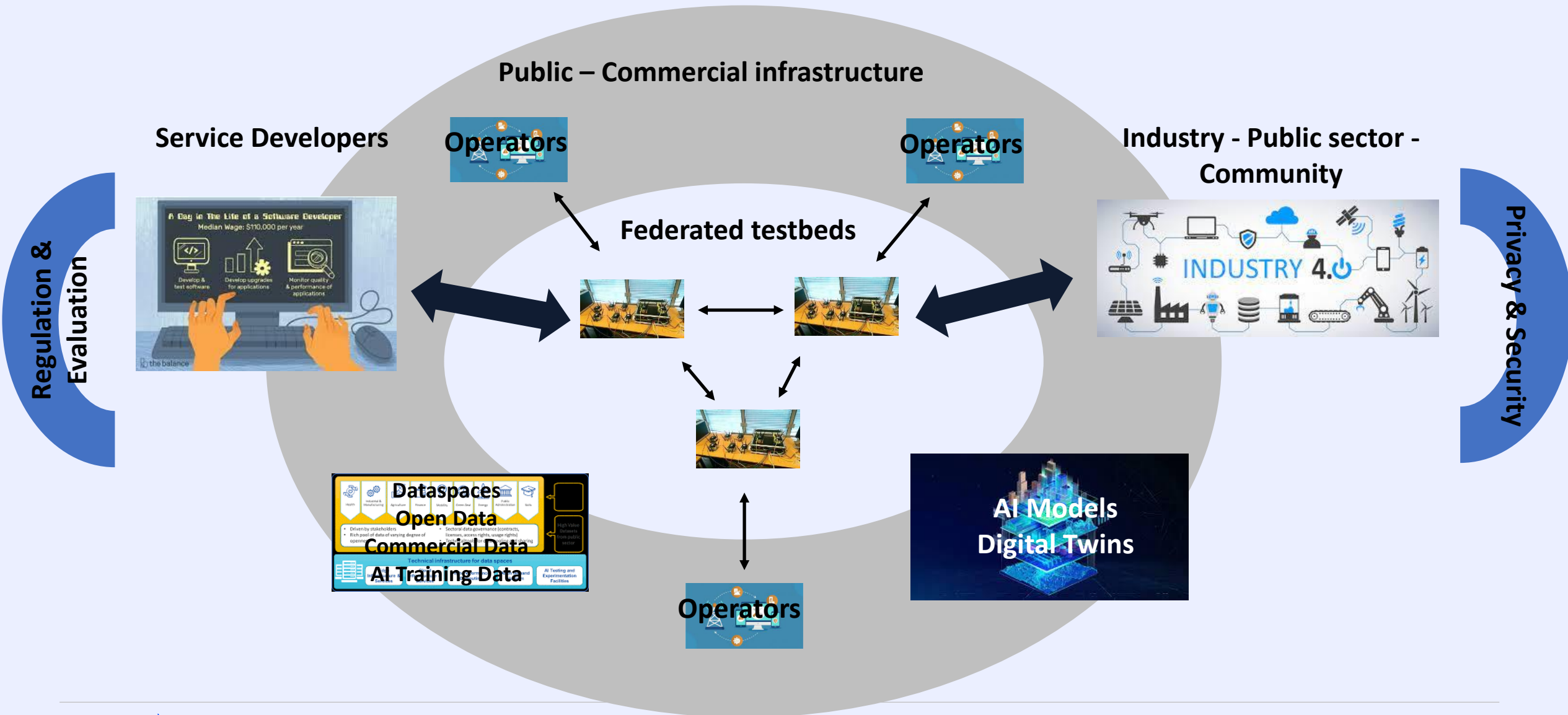
- EU Institutions around Europe (primarily EU Agencies as part of European Commission's Directorates General spread all around the EU Member States)
- **Offer all type of services** : S/W Development, Managed Services, Information Communication, Consulting and Professional Services

# Telco testbeds are catalysts to the services creation and adoption process

Testbeds play a significant role in a country's digitization process by serving as real-world environments for testing and validating emerging technologies, innovations, and digital solutions:

- **Innovation and Technology Development:** Testbeds serve as platforms for the development and experimentation of new digital technologies, such as 5G, IoT, AI, and blockchain.
- **Validation and Standardization:** Testbeds help validate the functionality and effectiveness of new digital systems and technologies.
- **Economic Growth and Job Creation:** The establishment and operation of testbeds can stimulate economic growth by attracting investments in technology research and development.
- **Education and Skill Development:** Testbeds provide a unique learning environment for students and professionals to gain hands-on experience with cutting-edge technologies.
- **Problem Solving and Optimization:** Testbeds allow for real-world testing of digital solutions, enabling the identification of potential issues and the optimization of systems before wider deployment. This can save resources and minimize disruption during the digitization process.
- **Public Sector Efficiency:** Testbeds can be used by government agencies to test and implement digital solutions that improve public services and the efficiency of the public sector.
- **Industry Collaboration:** Testbeds often involve collaboration between government, industry, academia, and research institutions.
- **Risk Mitigation:** Testbeds help identify and mitigate potential risks associated with new digital technologies.
- **International Competitiveness:** Countries with advanced testbeds can gain a competitive edge in the global digital economy. They can attract foreign investments and position themselves as leaders in emerging technologies.

# Shaping the service adoption ecosystem



**NOVA/ICT**

**Testbeds initiatives**

# OULU – 6G Flagship

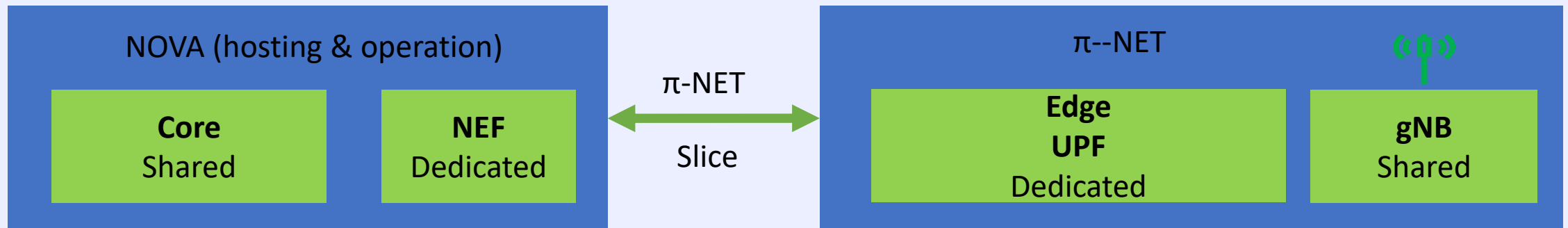
- The 6G flagship will focus on the future challenges of wireless systems, such as future radio and network technologies, artificially intelligent distributed computation methods that these technologies require as well as development of applications.
- The aim is to be an active national network among future 6G players and to influence the regulation of the telecommunications industry nationally and internationally.
- Future wireless technologies are needed to deliver production automation, decentralized power generation, digital health, and smart transport.
- The sixth generation 6G is expected to be in use by 2030.
- Oulu has been an international pioneer in developing previous network generations, and it tested the world's first intercontinental public 5G network connection in February 2018 at South Korean Winter Olympics.
- 6G flagship's operations combine high-quality scientific research with effective innovation in partnership with ICT companies.
- The existing open 5G test network is used as research environment. The test network is developed into a future 6G test network that can be utilized by the whole Finnish network of operators.

# $\pi$ -NET a precommercial initiative towards expanding 5G Private Networks

Starting with an advanced 5G and beyond infrastructure,  $\pi$ -NET aims to develop an open regional B5G near-to production network, interconnected with other public/private networks, and integrated with partners' technologies and vertical industries facilities.

Since 5G Private Networks are in their infancy, while challenges exist e.g., spectrum, security, etc., NOVA strategically partners with  $\pi$ -NET to install a testbed for precommercial industrial requirements.

$\pi$ -NET's network infrastructure will be deployed, hosted and operated by NOVA while access will be installed in all interested  $\pi$ -NET sites having the potential to implement a Greek-wide testbed.





# EU funded project for the creation of 5G PPDR & Media services testbeds

- **Project Name:** FIDAL - Field Trials beyond 5G
- **Project website:** [fidal-he.eu](https://fidal-he.eu)
- **Stream:** D-01-01
- **Members:** NOVA | EBOS | ISI | PIIU | IQU | FORTH | TNOR | EKT | ADS | PSCE | PNET | UOP | UBI | TID | UMA | APART | STWS | OWO | ORAMA | ERICSSON
- **Key objective:** FIDAL key objective is to extend and deliver advanced future proof Evolved 5G test infrastructures in Greece, Norway & Spain anticipating evolution into next SNS phase, open & accessible to support 3rd party vertical experiments, and environments for rapid prototyping and largescale validation of advanced, forward-looking applications.
- **Open Calls:** <https://fidal-he.eu/fidal-open-call-september-2023>

# Key takeout points

- ✓ There exist EU & National initiatives for the creation of testbeds
- ✓ Academia, operators and vendors harmoniously collaborate in the establishment of the testbeds
- x Nevertheless, still the reach of the testbeds to the industry is limited and vice versa.
- Testbeds should become open and sustainable organizations being able to service under SLA a wide range of industries, public sector, etc.
- Testbeds should be evaluated for their services, SLAs and market effectiveness
- National initiatives, in parallel to EU ones, for the creation, augmenting, monitoring and evaluating testbeds, both national wide and local, are considered significant towards the community and industry digitization process.
- Testbeds creation initiatives should define the framework for the quality operation but provide adequate investment flexibility to meet emerging technological and industry trends.

**Testbeds play a crucial role in advancing a country's digitization process by fostering innovation, economic growth, education, and problem-solving while also improving public sector services and contributing to international competitiveness.**

**They serve as essential tools for nations aiming to harness the benefits of the digital age.**

**NOVA/ICT**

**Thank You**