

Pan-European Laboratory Infrastructure Implementation

Anastasius Gavras

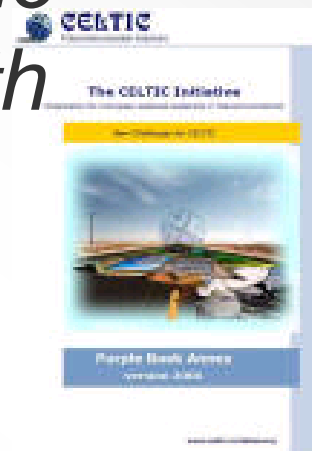
gavras@eurescom.eu

Motivation

- ▶ Increasing demand from industry and research
 - Bridge the gap between prototype development and large-scale testing and experimentation
- ▶ Fundamental need for large-scale testing and experimentation facilities
 - Beyond individual project testbeds
 - Including interoperability issues at all levels
- ▶ Need for an interdisciplinary approach
 - Large systems perspective
 - Across layers
 - Socio-economic impact

Abstract concept

- ▶ *The Pan-European Laboratory is a concept that is being introduced to enable the trial and evaluation of service concepts, technologies, system solutions and business models to the point where the risks associated with launching of these as commercial products will be minimised*



Panlab Support Action in FP6



Define vision and roadmap for the Pan-European Laboratory



Develop mechanisms to enable Pan-European Laboratory activities



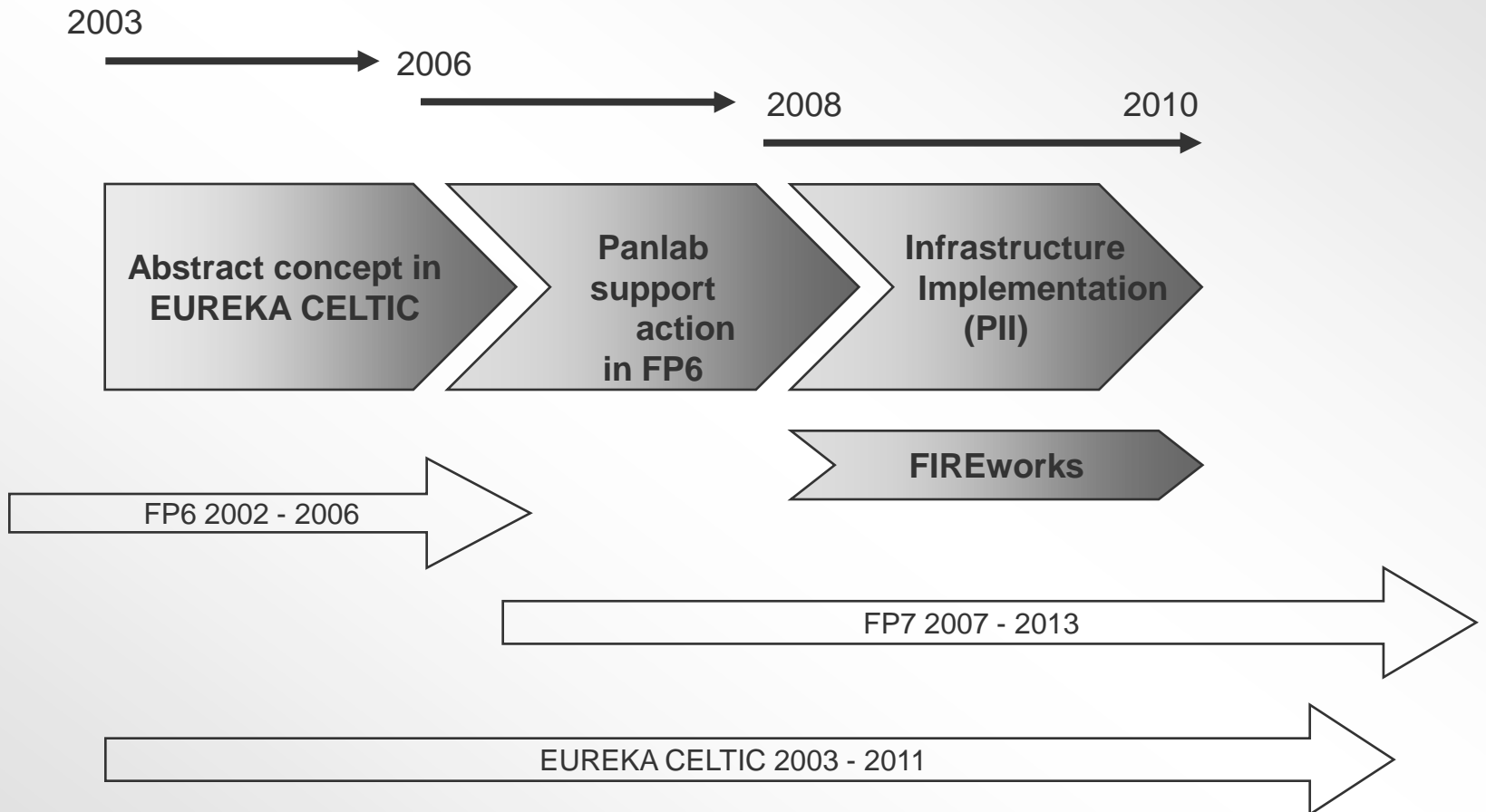
Specify major participants (partners and customers) of the Pan-European Laboratory activities



Panlab Framework

- ▶ Legal
 - Recommendation for a legal structure
- ▶ Approach to technical infrastructure
 - Describe and locate testing resources
 - Interconnect remote testing resources
 - Enable access in a uniform way
- ▶ Operations
 - Operational and administrative procedures

Panlab evolution



General characteristics

- ▶ Open federation as a design principle
- ▶ Sustainable research infrastructure
- ▶ User experience
- ▶ Societal and economic impact
- ▶ Openness and dynamicity

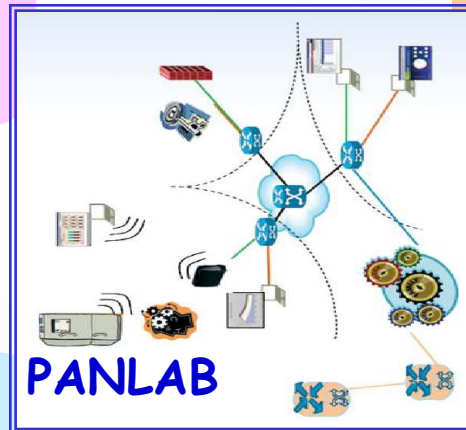
Federation requirements

Openness

for all European testbeds (and worldwide in the future)

Excellence

Technological and geographical diversity



Efficient management

Capability to control complex testing processes

Simple governance

Including clear rules for relationships between testbed providers and customers

General overview of PII

Principle: Openness

- ▶ PII addresses the need for large-scale testing facilities in the area of communications by implementing an infrastructure for federating testbeds. **The central objective of PII is to create a testbed federation among regional innovation clusters in Europe.** This will enable companies participating in these clusters to test new communication services and applications across Europe. The testbed federation is extendible, and currently includes four core innovation clusters and three satellite innovation clusters.

Principle: Dynamism

- ▶ PII will develop a web service, Teagle, that provides the means for a testing customer to express the testing needs and get feedback on where, how and when testing can take place. The web service enables finding a suitable site for one's testing needs. It does this through a database of partner test-beds. The objectives of Teagle in its fully operational form are to manage the complete set-up, necessary resource reservations and needed interconnections of any foreseen testing needs.

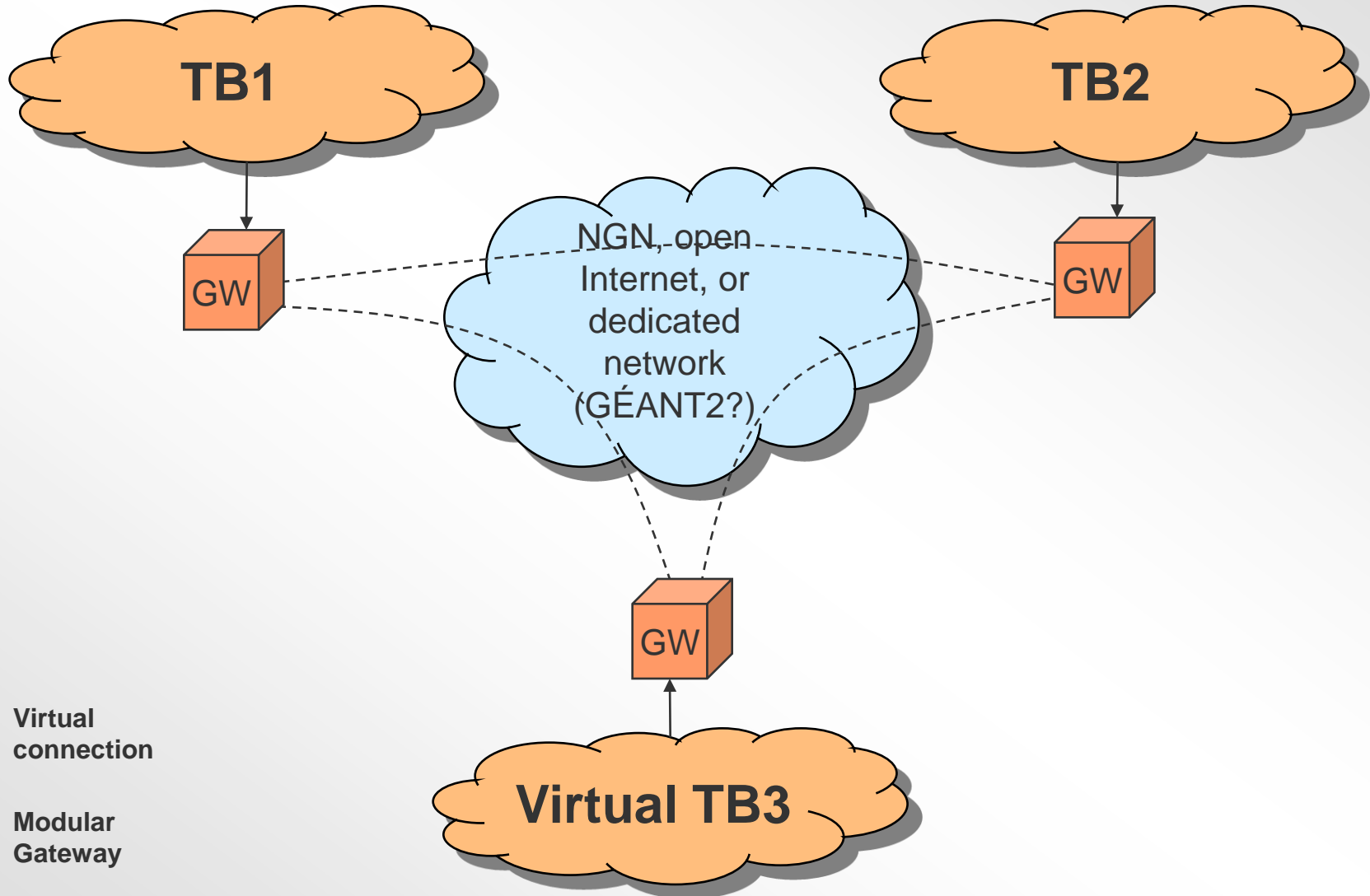


PII implements Panlab

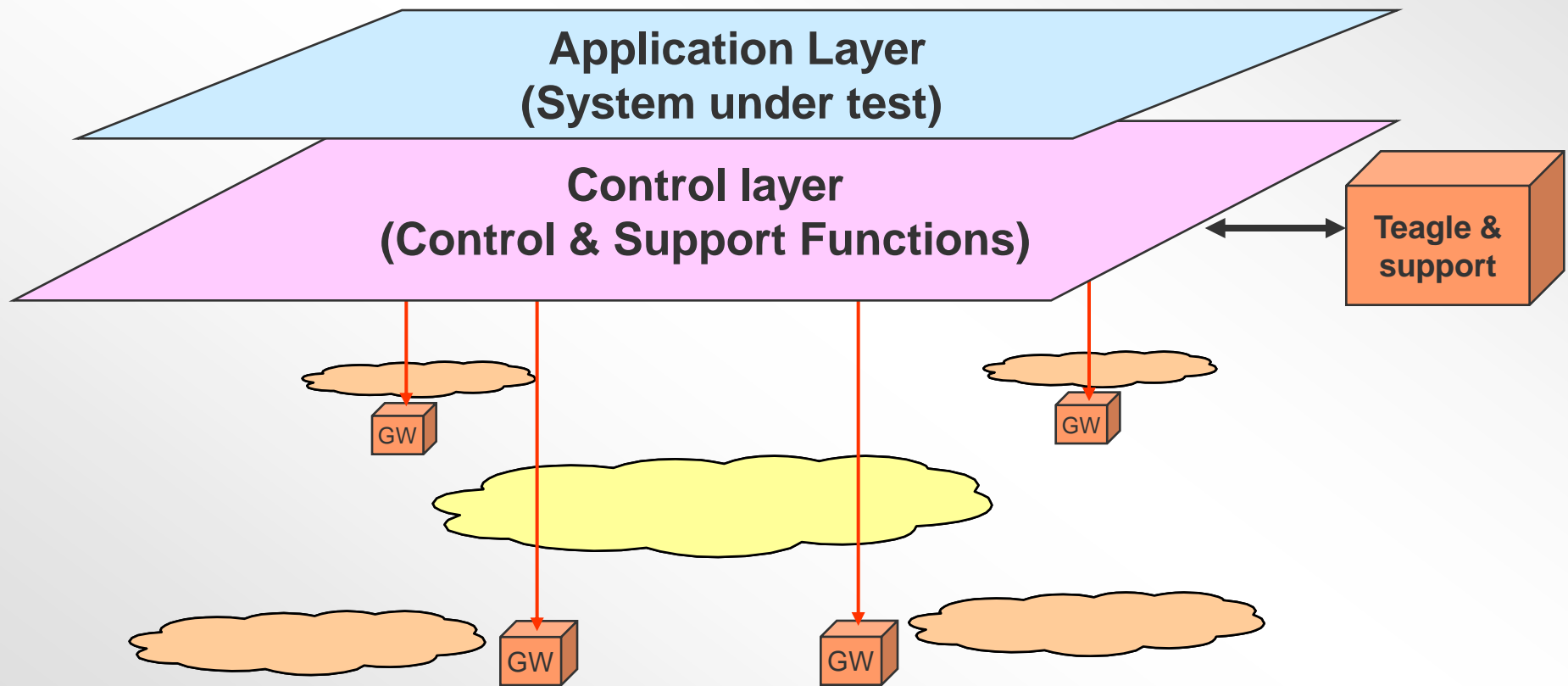
▶ PII specific objectives

- Develop mechanisms and tools to describe, store, locate and orchestrate testing services as well as means to automatically provide composite testbeds across multiple administrative domains
- Develop and elaborate mechanisms to combine and accommodate future clean-slate approaches and provide testing services in a network-agnostic manner
- Define a common abstract control framework, which enables the interconnection of diverse testbeds
- Establish trust across the federation by means of quality assurance processes and tools
- Integrate the concept of User Driven Innovation
- Execute a techno-socio-economic study to assess the long-term sustainability of the federation model

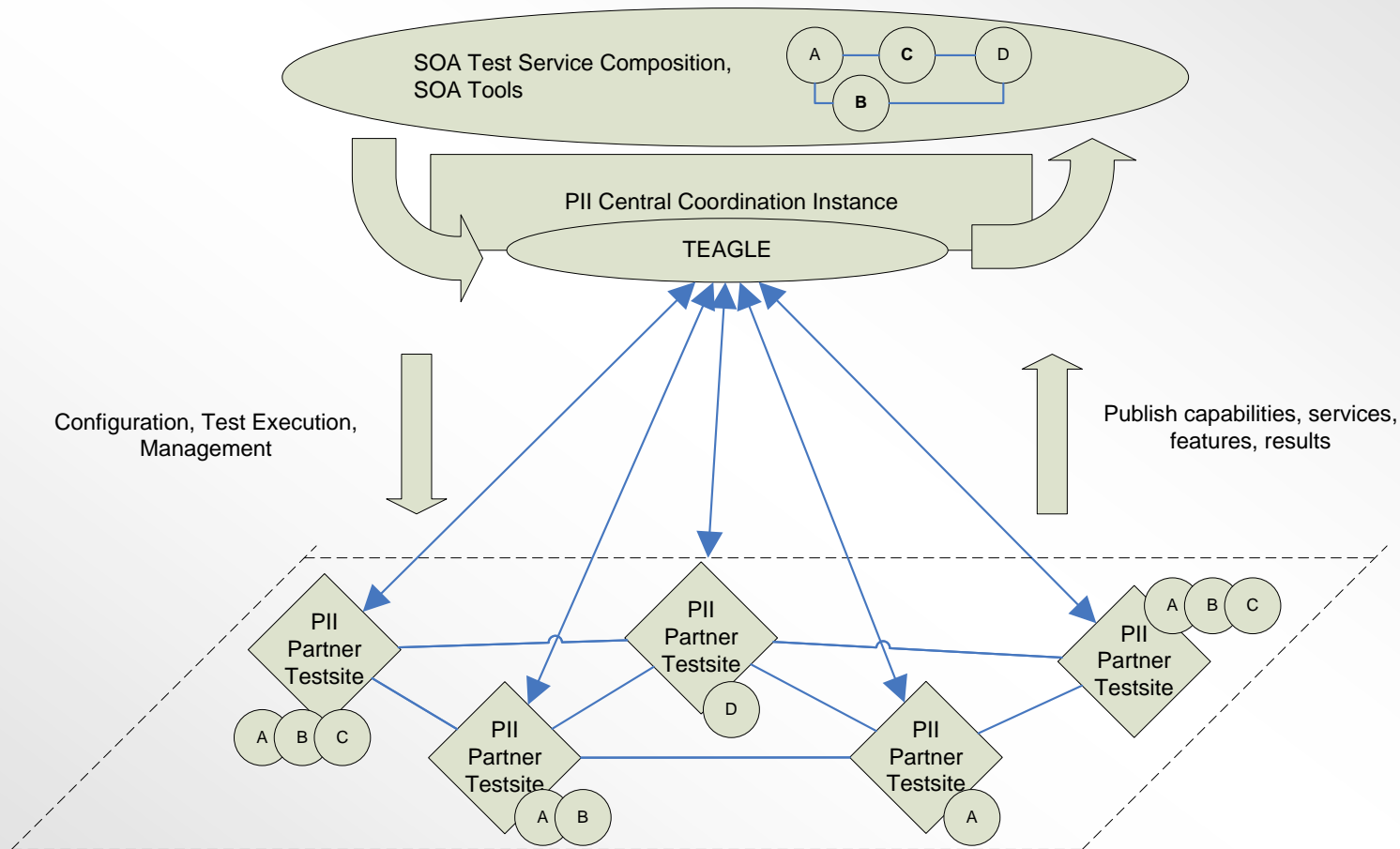
PII Connectivity on demand



Controlling connectivity



PII Discover, compose, provision testing services



Contact and further information

Anastasius Gavras
 Programme manager
 Eurescom GmbH
 Heidelberg, Germany
 Phone: +49 6221 989 232
 E-mail:
 gavras@eurescom.eu

The screenshot shows the Panlab website interface. At the top, there is a navigation menu with links for Home, Objectives, Initiatives, Publications, Contact, and Community. Below the menu, there is a search bar and a 'You are Here' breadcrumb trail. The main content area is divided into three columns. The left column contains a sidebar with a 'Home' section and a 'User login' section. The middle column features an article titled 'Panlab Seminar - Testbed Federation in Europe' with a sub-section for 'Main Conclusions'. The right column contains a 'Latest News' section with two news items, each with a date and a link to the full article.



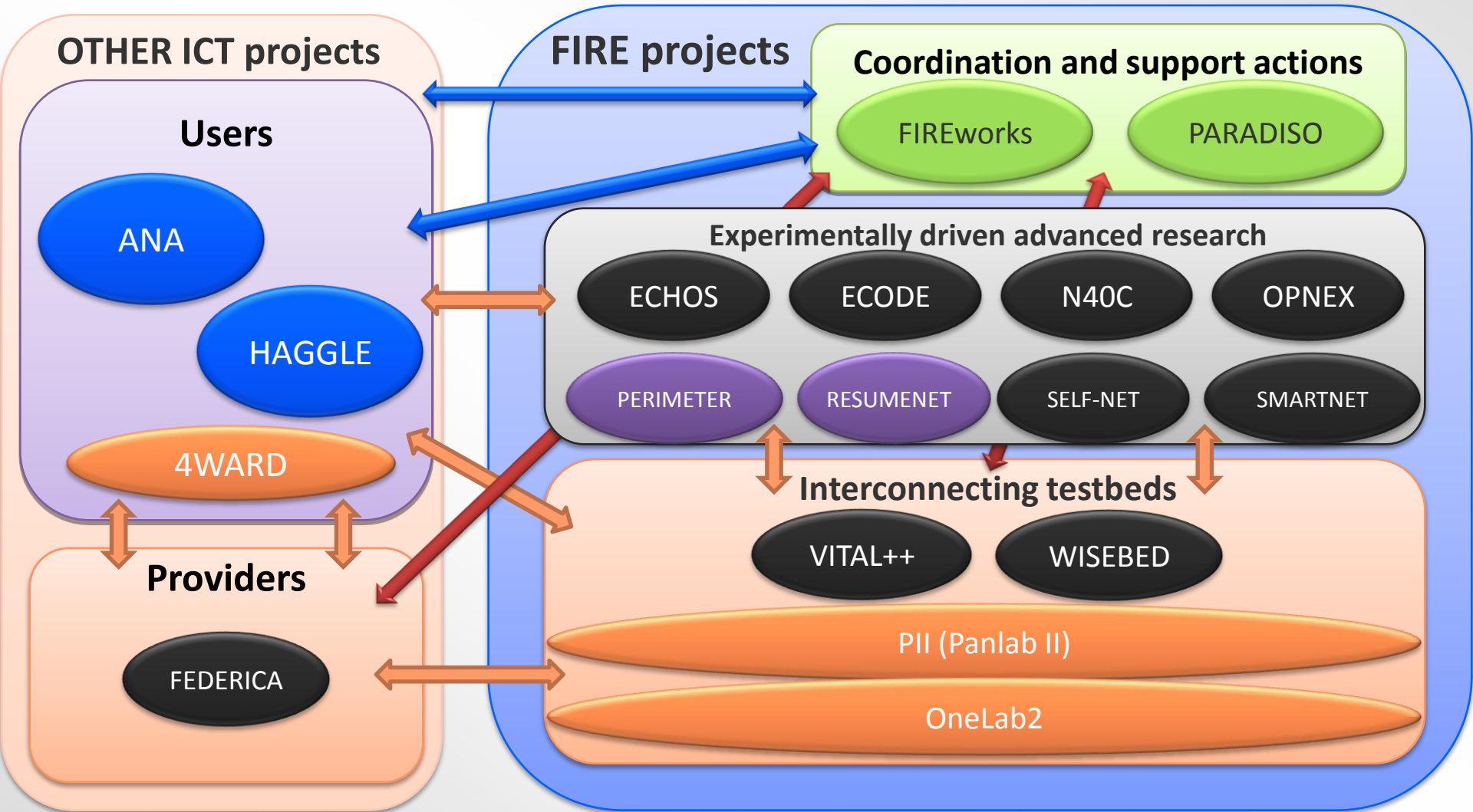
FIRE Community

- ▶ FIREworks creates a sustainable forum for testbed stakeholders in the area of the future Internet, including networks and services
- ▶ FIRE Office serves the FIRE Community members in administrative issues, such as maintaining information on testbeds, enabling exchange of information within the Community, organising events, etc.



FIRE Strategy

- ▶ Fireworks facilitates and stimulates the strategy development of two dimensions:
- ▶ What research, what type of testbeds?
 - Promoting experimentally-driven, visionary research on new paradigms and networking concepts and architectures for the future internet.
- ▶ How to federate?
 - Building a large-scale experimentation facility to support both medium and long-term research on networks and services by gradually federating existing and new testbeds for emerging or future internet technologies.





Contact and further information

- ▶ **Co-ordinator**
Susanna Avéssta
→ Dimes Association
susanna.avesta@dimes.fi
- ▶ Serge Fdida
→ UPMC, Paris VI
serge.fdida@lip6.fr
- ▶ Anastasius Gavras
→ Eurescom
gavras@eurescom.eu

About us

- Intro
- FIREworks project
- FIREworks actors

About us

FIREworks is Specific Support Action funded from FP7 Call 2, Objective 1.6 "New paradigms and experimental facilities" with EC contribution of 790.000 €.

The FIREworks Support Action coordinates and supports interworking of testbed activities in Europe and their respective connections outside of Europe, mainly to North America and Far East.

FIRE Future Internet Research and Experimentation is an initiative under the ICT theme of EU Framework Programme 7. Projects selected under Call 2 - Objective 1.6 "New Paradigms and Experimental Facilities" are the first step under FP7 towards building FIRE. The initiative has two related dimensions: Building a European Experimental Facility for Future Internet research, and supporting experimentally-driven advanced research, which defines the challenges for and takes advantage of the dynamically evolving facility.
<http://cordis.europa.eu/fp7/ict/fire/>

www.ict-fireworks.eu