

# SINTESIO

**NGN interoperability  
test site endorsed  
by ETSI**

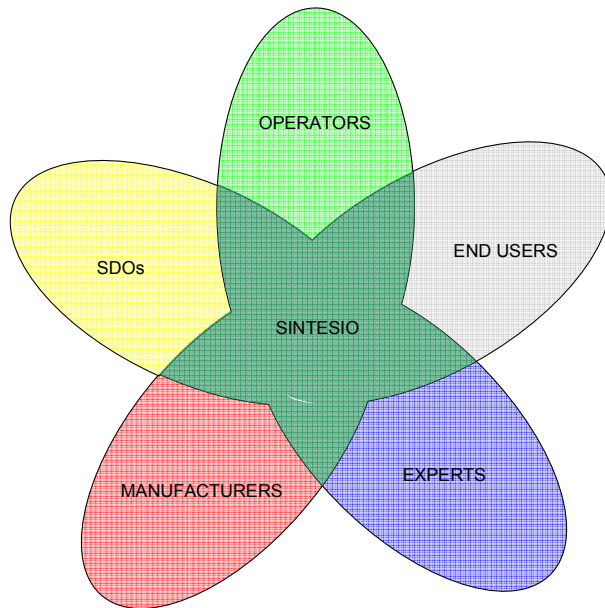


SINTESIO

*Supporting development of open standards  
Promoting multi-vendor interoperability  
Facilitating vendor collaboration*

[www.sintesio.org](http://www.sintesio.org)


# SINTESIO® = BRINGING TOGETHER



*An open, vendor-neutral, permanent testing environment, where multiple vendors, operators can validate the interoperability of NGN solutions*

NGN interoperability test site – 1<sup>st</sup> of that kind endorsed by ETSI 

## Rationale:

- Strategic importance of multi-vendor interoperability 
  - ETSI awareness of interoperability “nightmare” defined as ETSI’s one of the top strategic priorities for next 3 years,
  - EU ICT top priority elaborated in EU agenda *i2010*;

# Where we are located?



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# Founders & supporting organizations

- **Founders:**

- ETSI
- SIST (Slovenian Institute for Standardization)
- Iskratel, telecommunication vendor

- **Strategic partner:**

- University of Ljubljana, Lab. for Telecommunications

- **Supporting organizations:**

- Telekom Slovenia Group (Telekom, Mobitel, Siol)
- APEK (Slovenian Agency for post and electronic com.)
- CISCO
- (IBM)
- Energoinvest, d.d. (System integrator from BiH)

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## Interoperability – ETSI's strategic priority

*What can ETSI do as a standardization body within the next 3 years to contribute to the solution of an emerging interoperability "nightmare"??\**

- Number of ETSI (GA, Board) references on interoperability &

Sintesio test site:

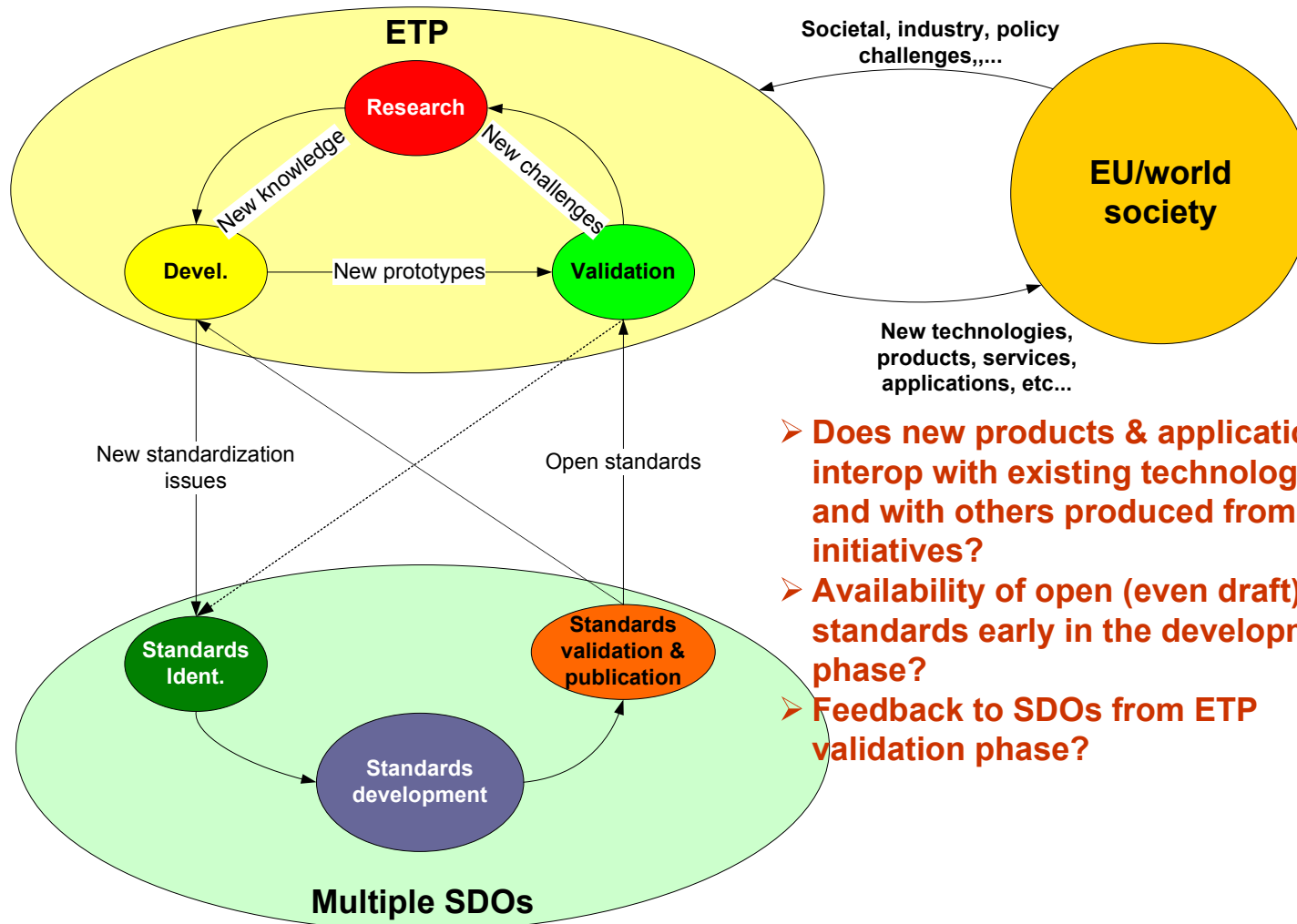
B50(04)31, B51(05)16, B51(05)14, B52(05) 27, GA44(04)11, GA45(05)17, GA45(05)21r1, GA45(05)28

- GA#46 defined Interoperability as a Strategic topic:  
“Board#54 noted the creation of a new OCG ahg IOP (Interoperability Process) to co-ordinate the generic aspects of interoperability in particular: STF PQA on the “Review of the ETSI Standards Engineering Process”. STF PQB on the “Implementation of a trial Standards Validation Service”.
- The Board endorsed the basis for building a relationship with SINTESIO

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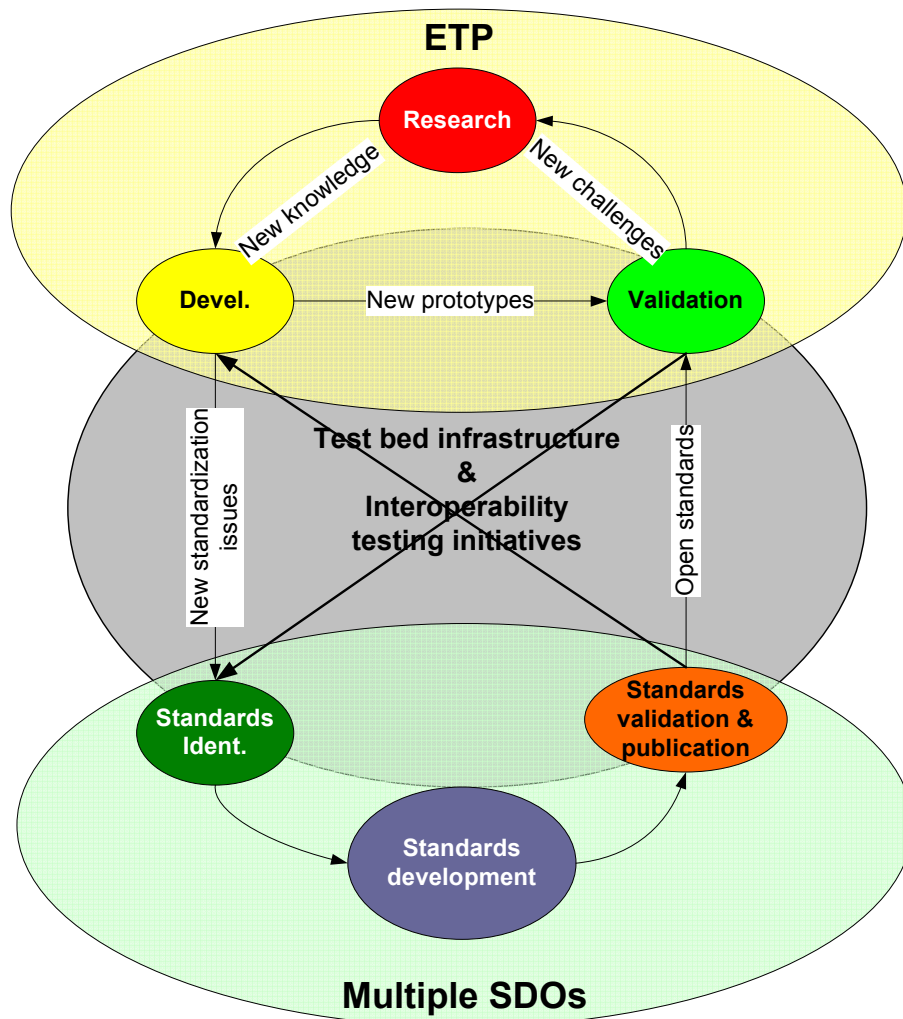
*\*Source: Interoperability, SWOT analysis and proposed actions — Hans van der Veer, ETSI Board champion on Interoperability;*

# SINTESIO Positioning



- Does new products & applications interop with existing technologies and with others produced from other initiatives?
- Availability of open (even draft) standards early in the development phase?
- Feedback to SDOs from ETP validation phase?

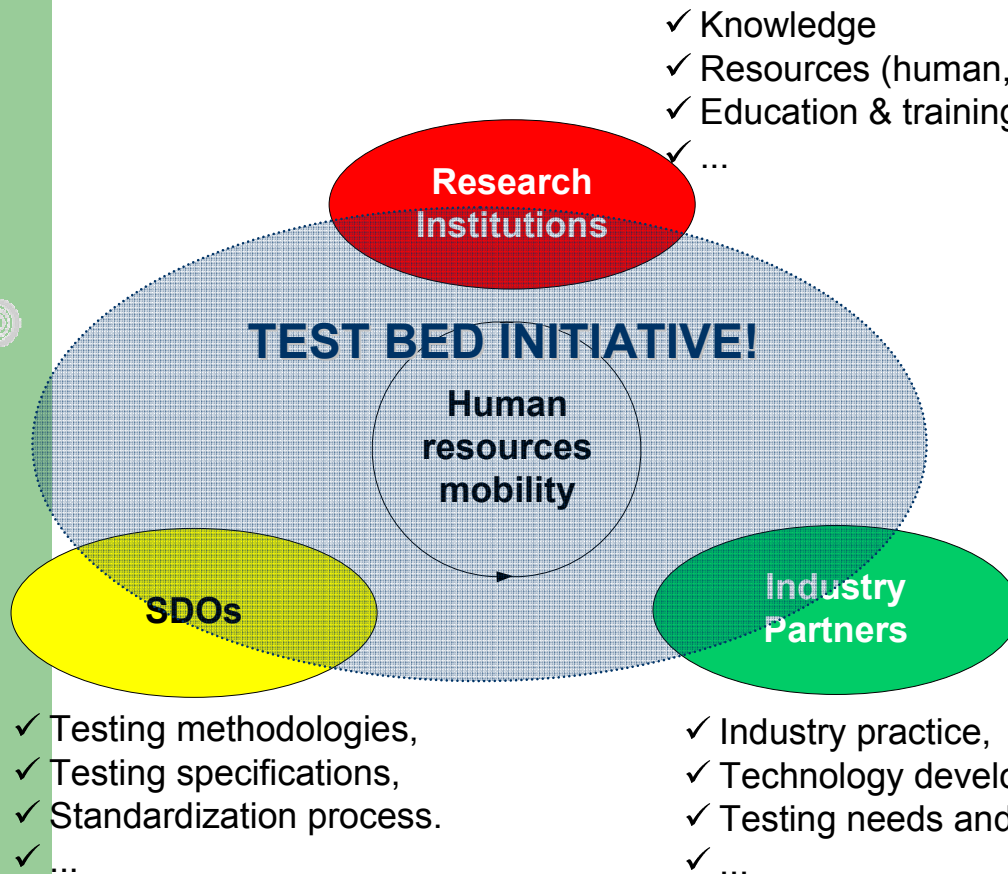
# SINTESIO Positioning



Open for use (under well defined engagement rules), vendor-neutral, flexible (in terms of capabilities) networked test bed infrastructure, which will enable:

- Experimentation & Prototyping (under as much as possible »real-world« conditions);
- Early standard validation & field test;
- Use of standardized test methodologies well accepted by the industry;
- Facilitate the cooperation and interoperability testing in multi-vendor, multi-SDO environment;
- Speed-up the production of testing standards;
- Facilitate the exchange of the knowledge & expertise between ETPs and SDOs.

## Facilitating exchange of knowledge & expertise bw. ETPs and SDOs

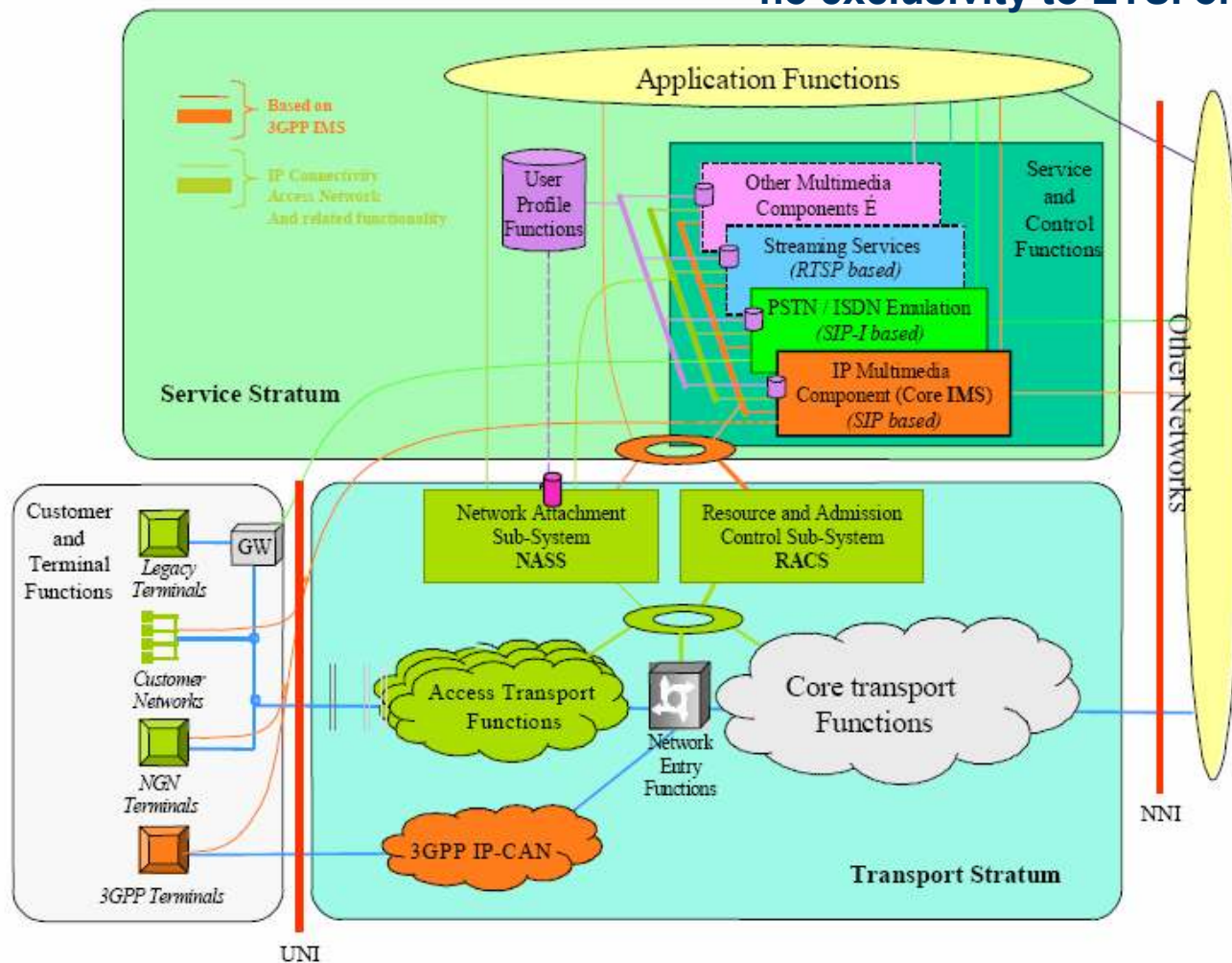


**“Marie-Curie R&D mobility program” that will:**

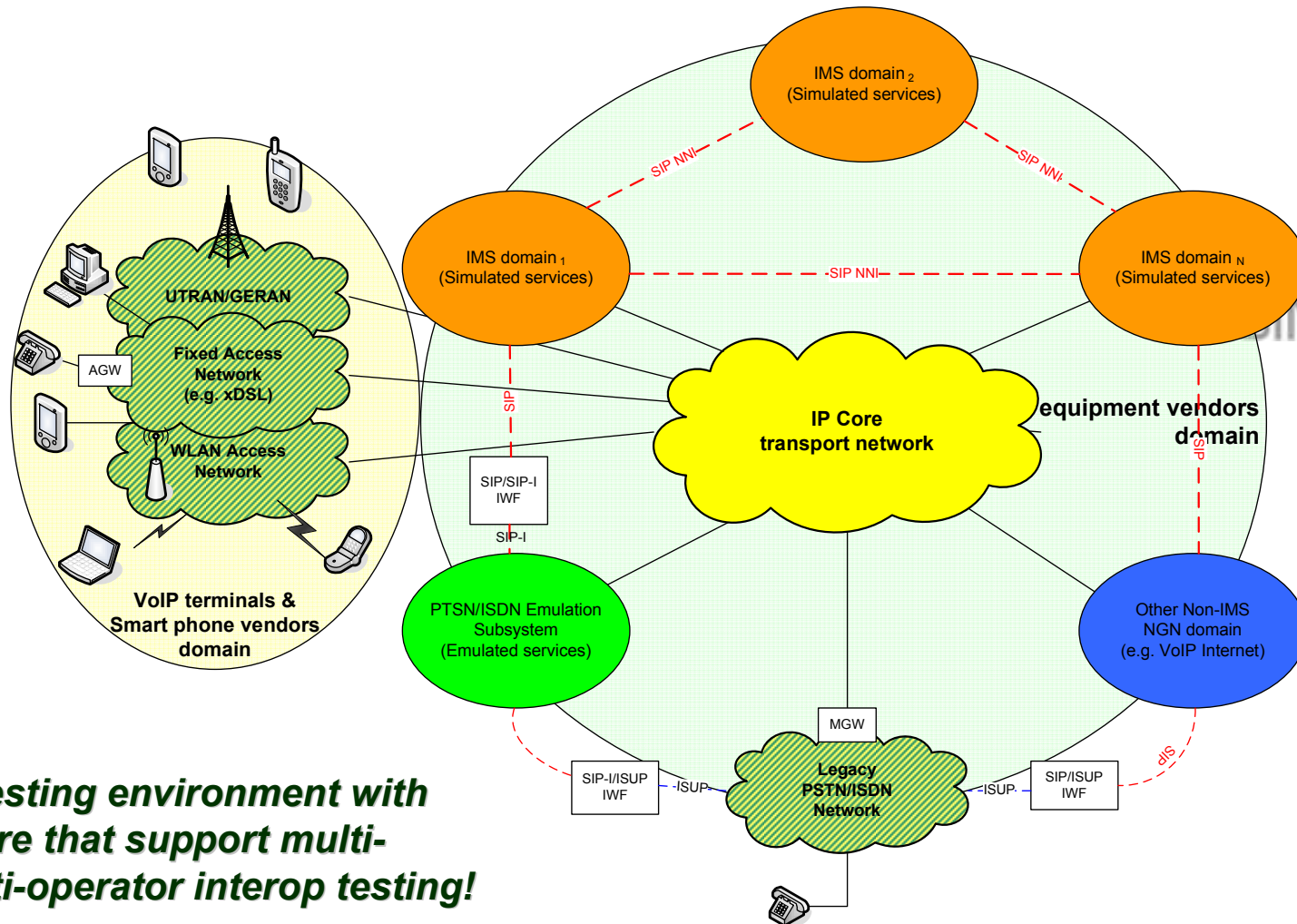
- facilitate the exchange of knowledge and experiences bw. Research Inst., SDOs and Industry partners
- enable more efficient use of resources (e.g. standardization experts, ...)
- facilitate the use of standardized test methods. & industry practice at research inst. providing quality feedback to SDOs.

# Main Focus: Interop testing in NGN/IMS networks (ETSI TISPAN NGN/IMS, 3GPP IMS, ITU-T);

no exclusivity to ETSI or others...

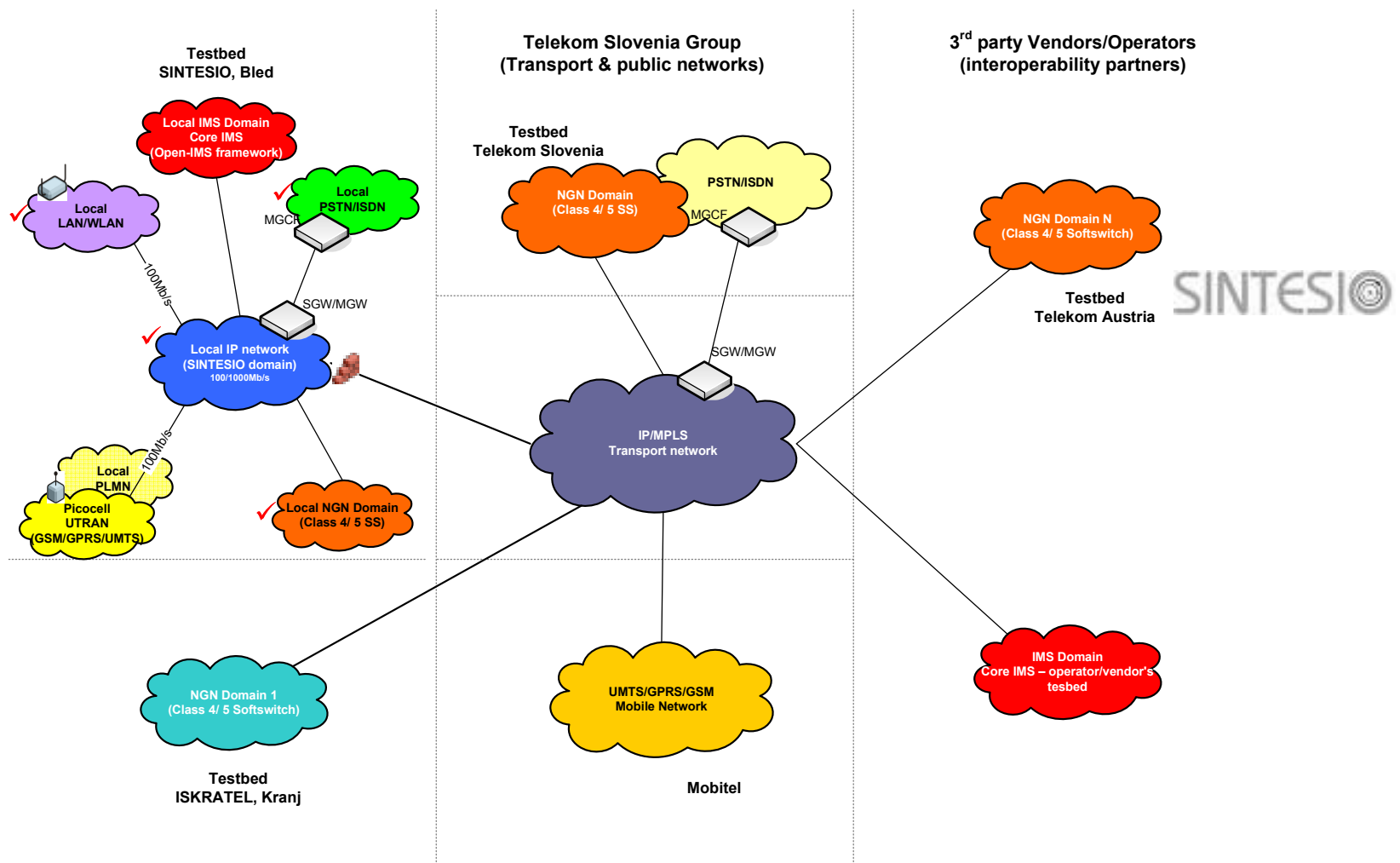


# Sintesio as IMS multi-vendor/multi-operator testing, demonstration and pilot poligon



**Providing testing environment with infrastructure that support multi-vendor/multi-operator interop testing!**

# SINTESIO as a “Living Lab” environment



# SINTESIO Facts & Figures

## IDENTITY CARD

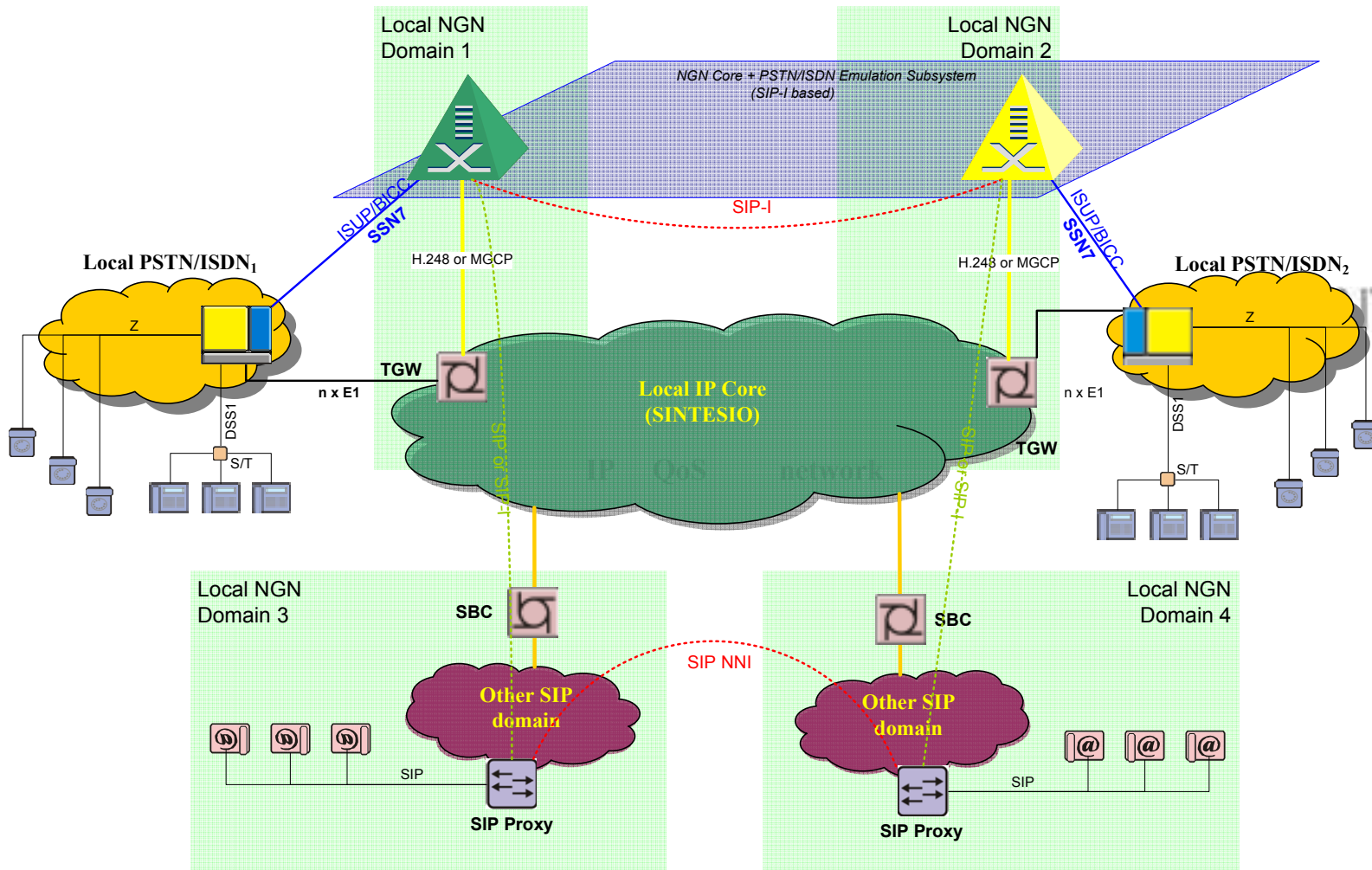
- What:** Open, vendors-neutral, industry-grade permanent testlab focusing on Interoperability testing in NGN networks
- Location:** Bled, Slovenia
- Area:** 250m<sup>2</sup> test eq. room and working room
- Capacity:** Hosting up to 15 vendors simultaneously;  
per vendor: 1 work table (3 sites); 19" rack, 220V/48V power supply, ethernet slots, POTS/PSTN slots, etc..
- Equipment:** UPS/power supply, structured wiring, air-conditioned rooms, SS7 connections to public ntw., fast Internet, Internal PSTN/ISDN network, Internal IP network, test & measurement equipment, permanent NGN network elements (softswitches, gateways, ...).
- Expertise:** Networking (IP & TDM) + Testing (Comformance, interoperability, NIT)
- Opening:** December 9<sup>th</sup>, 2005

## NGN interop. testing initiatives

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- 2006:
  - 1<sup>st</sup> NGN event organized by SINTESIO: NGN migration scenarios (TDM Class 4 replacements with softswitches, ISUP/SIP-I interworking)
- 2007:
  - Co-hosting Global IMS Event organized by ETSI in collaboration with OMA, IMS Forum and MSF Forum (Autumn 2007)
  - Hosting the OMA testfest event in November 2007 (around 150 participants)
  - One plugtest event co-organized with ETSI Plugtest
  - Commercial IMS pilot running jointly with Telekom Slovenia Group, University of Ljubljana and Iskratel.

# SINTESIO 1<sup>st</sup> NGN Interop. testing focus: PSTN/ISDN Class 4 exchange replacement



# Sintesio activities & alliances

## ● Target activities

- organizing Interop test events (in collaboration with SDO TB, ETSI Plugtest, industry forums);
- standards validation engineering (collaboration in ETSI STFs in developing testing specifications, and executable test suites);
- hosting multi-vendor interoperability test projects (IMS Pilot for Telekom Slovenia, NGN Interop. pilot bw. Telekom SLO in Telekom Austria);
- organizing seminars/workshops:
  - Series of NGN workshops organized periodically every 6 months, hosting ITU-T FG IPTV meeting, etc...
- R&D projects (STF, FP7) & software development (executable test scripts)

## ● Alliances

- with SDOs (ETSI, ITU-T) and industry forums (MSF, ...) → link to real interop. problems identifications and needs;
- with network operators & NGN vendors → daily interop. testing needs;
- with world leading test equipment vendors → provision of testing tools;
- With research institutions (ULJ, IJS, Create-net, ...) → human resources & expertise, target R&D projects

## We strive to build the link between Research (e.g. ETP) and Standardization

- Interoperability testing between new emerging network technologies and Legacy/state-of-the art networks;
- Adoption of standardized testing methodologies and approaches in testbed initiatives;
- Links between testbed testing initiatives and standards work bodies and work groups (e.g. TISPAN WG6);
- Identifying needs for, development and verification of new testing standards;
- Collaboration with leading industry forums (OMA, IMS forum, MSF forum).

## Our goal in PANLAB initiative

- *To support end-to-end network interoperability testing for emerging network technologies, architectures and services under real network conditions, by*
  - Setting up flexible, reconfigurable and manageable testbed infrastructure consisting of distributed networked testbeds;
  - Identifying key interoperability issues and standardization challenges faces by the development of new network solutions;
  - Supporting the development of industry accepted (e.g. standardized) test specs for such interop. testing;
- Facilitating the exchange of ideas, knowledge and people!

## Final remarks

- SINTESIO offers vendor-neutral test environment for NGN multi-vendor interoperability testing (non-exclusive agreement with ETSI).
- Experts (from University and the Industry) may work together with vendors/operators on developing interop. test specs and/or performing interoperability tests
- part of the ETSI initiative to set up distributed IMS testing poligon by interconnecting several testbed with the aim to promote and test TISPAN NGN/3GPP IMS solutions.