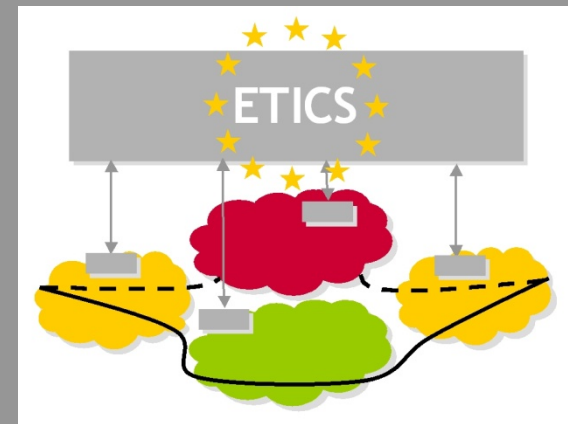


# FP7 ETICS

Economics and Technologies  
for Inter-Carrier Services



General Presentation - January 2010

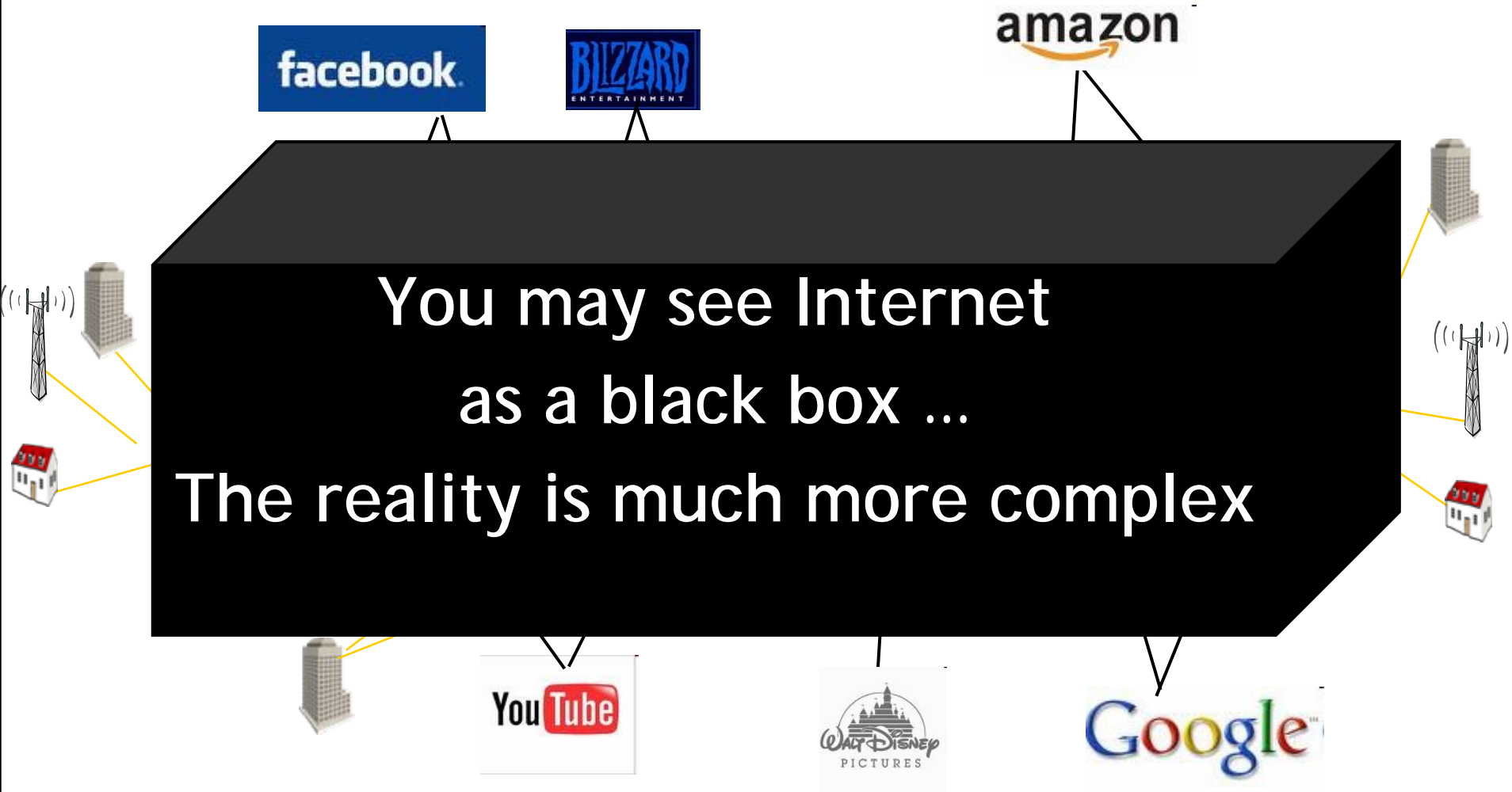
Project Coordinator: Nicolas Le Sauze, Alcatel-Lucent Bell Labs France

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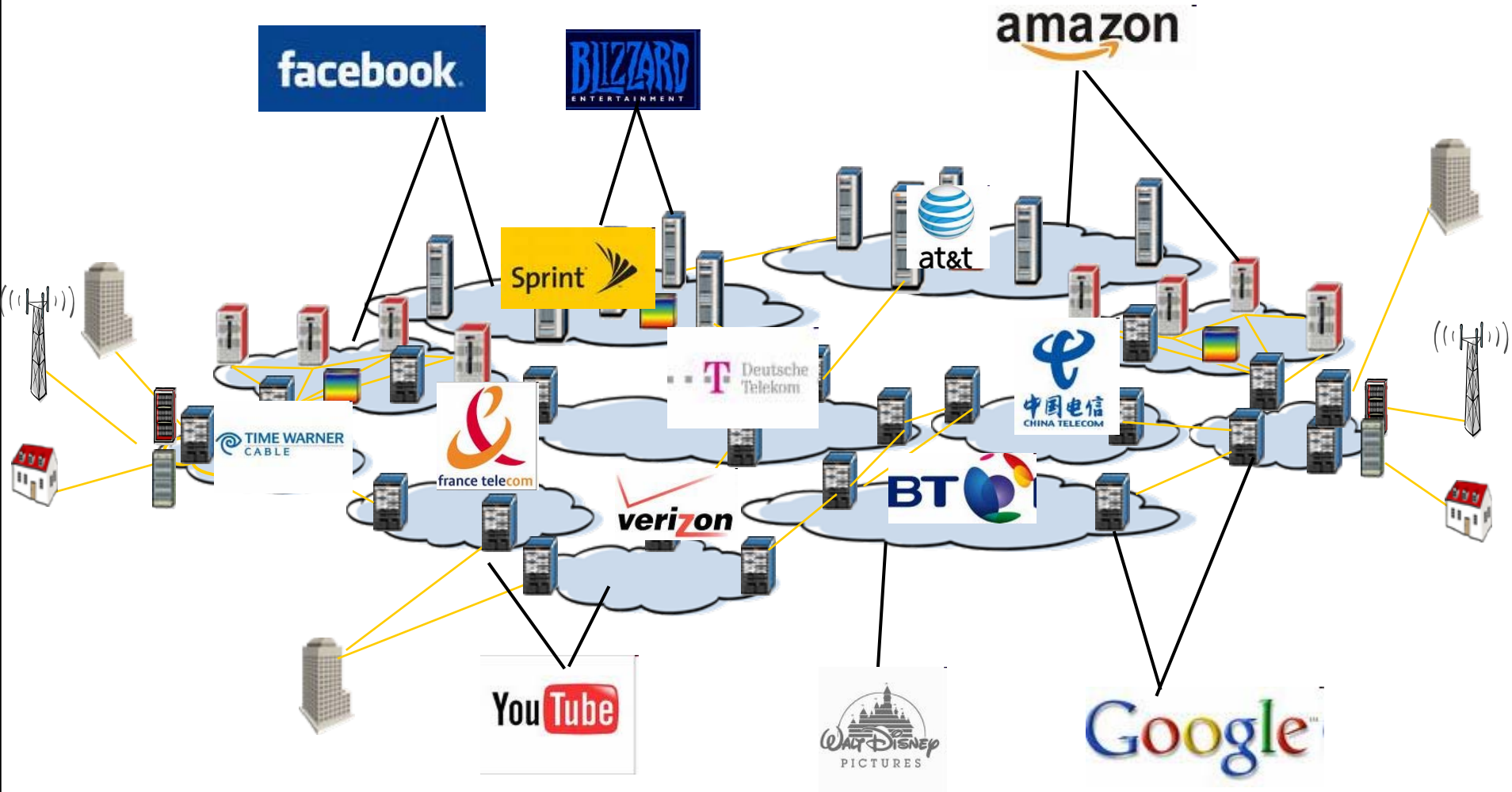
# Motivation of ETICS

## 1- Big picture of the Internet



# Motivation of ETICS

## 1- Big picture of the Internet



# Motivation of ETICS

## 2- Diagnosis



To support future high performance applications, today's Internet is facing major issues :

- Need for **End-to-end QoS guarantees** (bandwidth, latency, availability, reliability, security, etc.)
  - not possible to extend the current protocol (scalability, confidentiality concerns)
  - Risk of divergence (2 different Internet networks)
- **Reconsider economic agreements**
  - Following the historic Tiers hierarchy, **new interconnections** might be needed
  - Operators will not guarantee anything without **compensations**
  - Revenue must be shared so as all the value-chain actors perceives enough incentives to deploy value added services while ensuring end-users' rights

*Internet networks must undergo significant transformations:*

- **New business models** to provide operators incentives to upgrade their infrastructures and deploy new management architectures
- **New architectures, protocols, algorithms** that will implement these new business models and enable the on-demand/scheduled establishment of end-to-end QoS guaranteed connection



# ETICS roadmap

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## Business Axis

ETICS will consider a **large spectrum of business models** (from very cooperative to competitive ones); and, on the technical dimension, will focus on **leveraging existing approaches** to support strict service **guarantees** (GMPLS/MPLS-TE/PCE) or **soft ones** (PCN, semantic networking).

## Technical Axis

ETICS pushes for a **converged and open infrastructure** where carriers are incited to **share their infrastructure** for the different users and applications.

- Usage will not be defined solely with respect to the bandwidth but also with respect to other performance or criticality factors such as delay, jitter, availability, security, etc.
- Business customers and every user will therefore see the **benefits** of the new technologies through a greater experience, in particular using interactive applications.



## ETICS 3 main objectives

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**Objective 1 :** Propose new business, regulatory, pricing and accounting models for network interconnection services enabling the delivery of end-to-end multi-carrier network services supporting service differentiation

**Objective 2:** Define and prototype business processes interworking with control and management planes and automating end-to-end QoS-compliant network service delivery across heterogeneous carrier and access networks

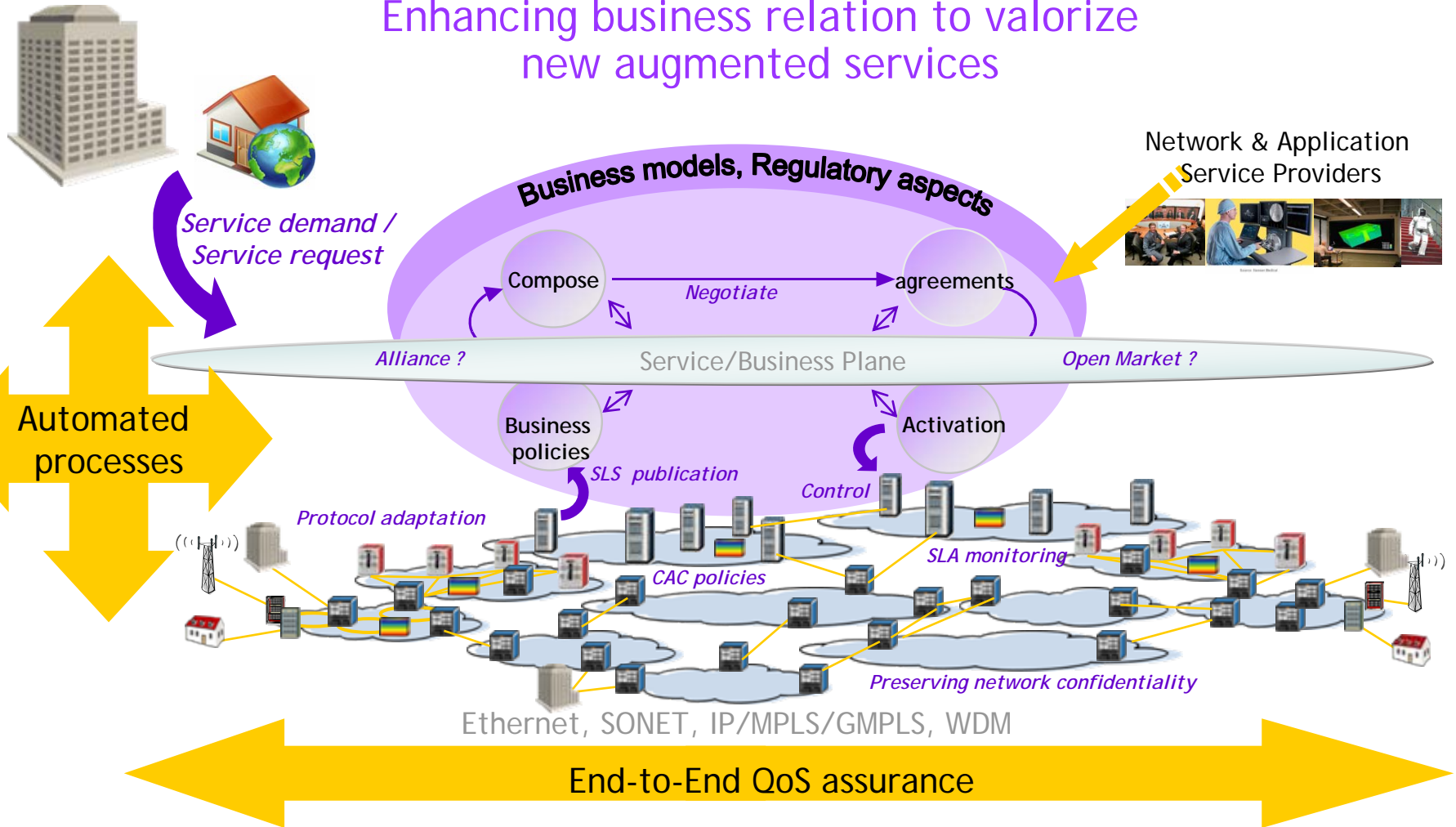
**Objective 3:** Experiment and test the feasibility of new interconnection models on lab platforms, and disseminate the new proposed architectures and protocols at standard bodies, industrial workshops and key scientific events

# ETICS ecosystem

Extend existing architectures and introduce a new Network Service plane



Enhancing business relation to valorize new augmented services



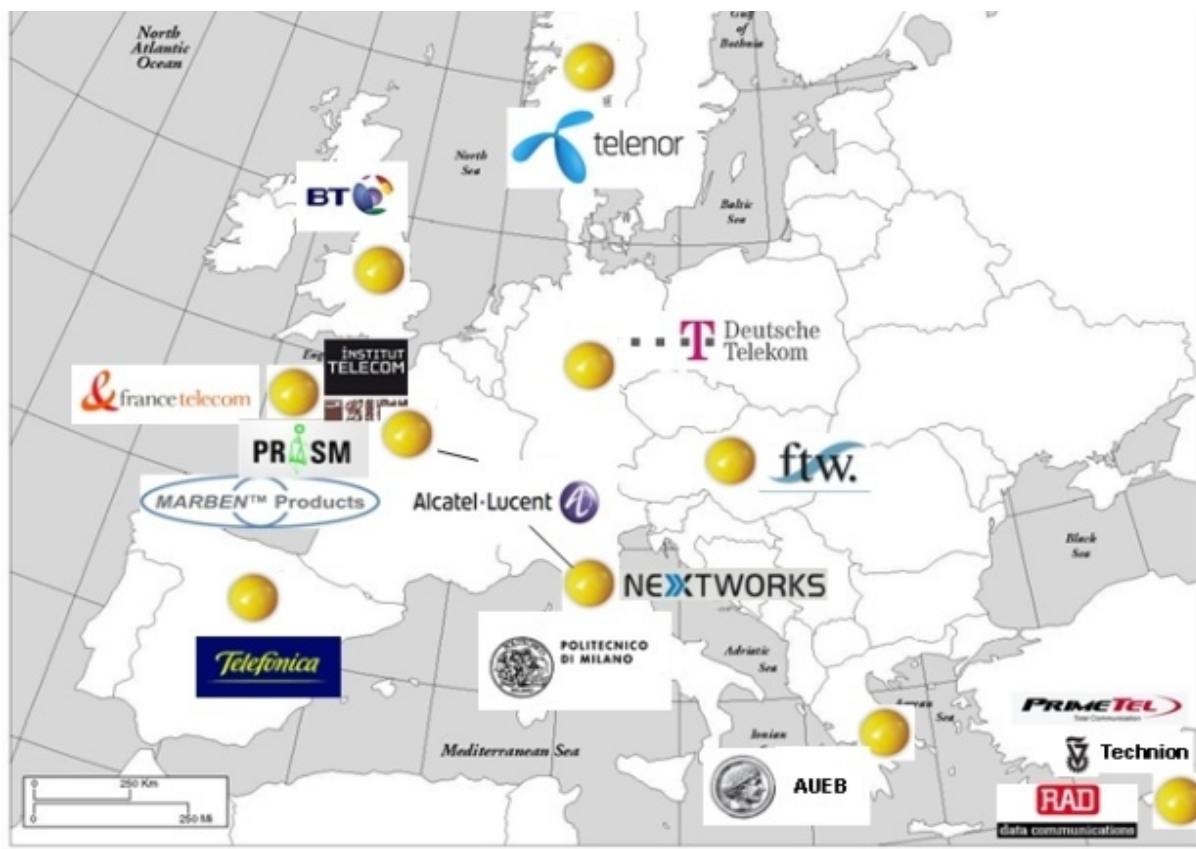


# ETICS in a nutshell

3 Years: Jan. 2010 - Dec. 2012

EC contribution: 8 M€

Total cost: 12.8 M€



## Consortium:

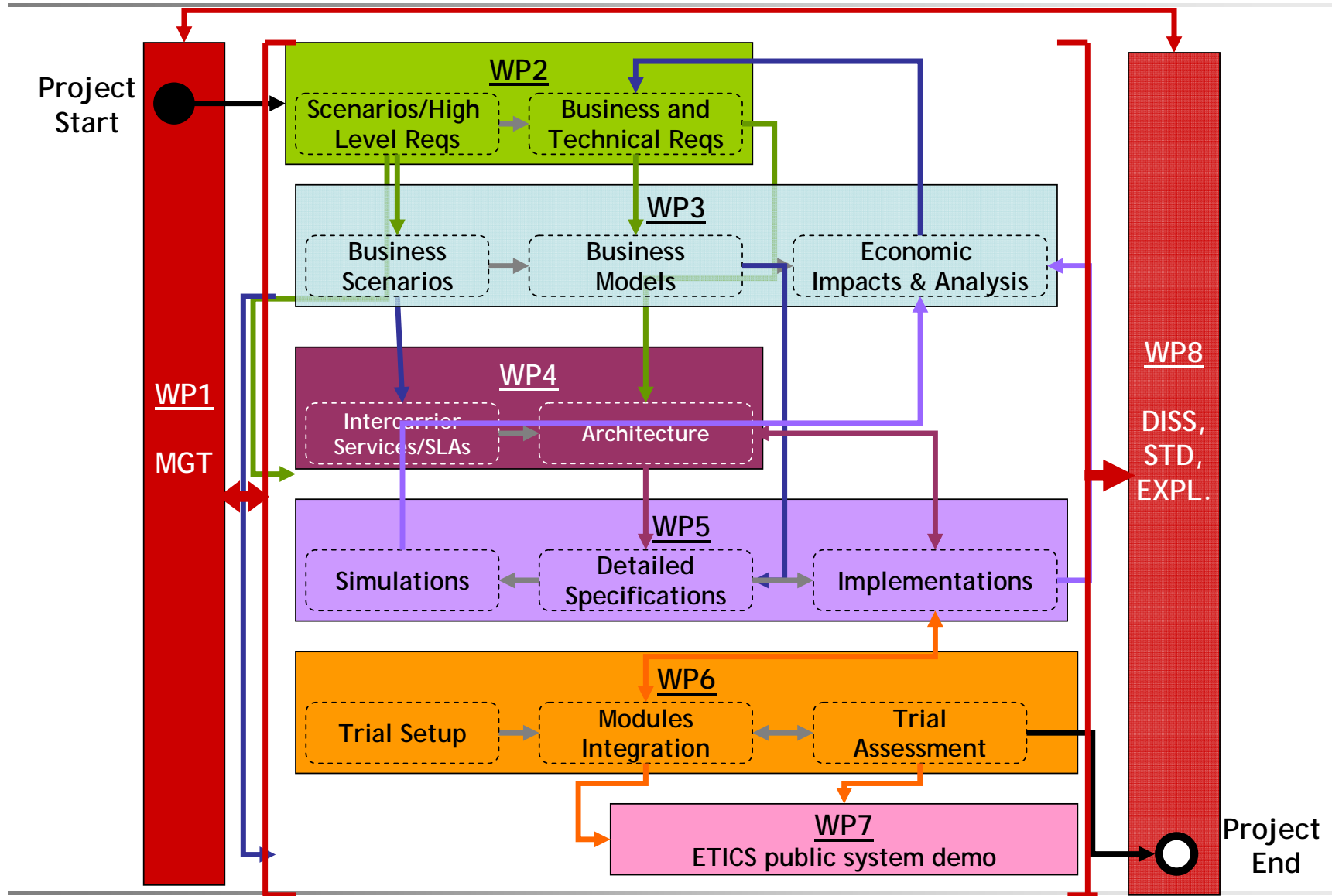
17 partners incl. technical people and economists  
6 EU Operators, 5 vendors,  
6 acad. w/ the same vision

## Advisory Panel:

- Other members of the value Chain
- Vendor (Juniper), Alternative Operator (EWETEL), IT/cloud infrastructure provider (HP, Oxalya), Application Content Provider (Akamai)



# ETICS structure





# Expected Outputs

## Design, Validate and disseminate a new IC architecture

- Demonstrate the benefits in terms of
  - network performance (QoS guarantees),
  - revenue sharing (between carriers themselves and between carriers and content providers),
  - opportunities (incentive for carriers to put more capacity and intelligence in their networks, and for content provider to have a better network to use for new stringent services)
- **Prototype(s)** demonstrating the main building blocks of the architecture

## Influence carrier interconnection models in the future Internet

- **Dissemination of Business models, regulation (or non-regulation) recommendations** in scientific and business communities
  - Means: Workshops with European, NA and APAC carrier representatives to discuss the project finding and confront them to other EU (e.g. SmoothIt, Trilogy, etc.) and non EU project recommendations
- **Influence standard orientations (e.g. IETF, TMF/IPsphere, ITU-T, etc.) to make possible the deployment of the new IC architecture**
- **Interact with application-driven FP7 projects (e.g. projects targeting the call 5 obj. 1.2) to increase the relationships and interactions between applications and the network**