

# OASE Optical Access Seamless Evolution

*The OASE Integrated Project will examine Fibre-to-the-Home (FTTH) within a multi-disciplinary study to provide a self-consistent and coherent set of technological solutions. The OASE project federates partners from all over Europe and is composed of major operators, industrial leaders in FTTH technologies, and European universities.*

## At A Glance: OASE

### Optical Access Seamless Evolution



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**Funding scheme:** IP

**Total Cost:** 7,664,241.00€

**EC Contribution:** 4,980,257.00€

Contract Number: INFSO-ICT-249025

## Main Objectives

The aim of the OASE project is the assessment and development of **next-generation optical access (NG-OA)** network architectures and systems concepts for the “2020” timeframe, focusing particularly on European requirements. The OASE project will examine FTTH solutions based on four multidisciplinary approaches: regulatory, technical and financial aspects, and business models. In combination with these aspects, NG-OA network architectures will be developed featuring the highest potential of enabling:

- $\geq 1$  Gbit/s per customer
- $\geq 1000$  customers per fibre feed
- $\geq 100$  km transmission distance

at economically competitive prices within a well-regulated and open market environment.

OASE will achieve the following objectives:

- Study current and future requirements for NG-OA networks from economic, business, operational and regulatory Europe-centric perspectives,
- Identify possible network architectures, and employ a set of energy-efficiency metrics and models to analyse their suitability, as well as assess the most appropriate migration strategies,
- Identify network technologies that may be employed by using relevant cost and technical factors,
- Examine the interactions between businesses in an “open network” marketplace by studying how increased convergence may offer new value chains and business opportunities,
- Validate the findings of the comparative merits for the identified network architectures and technologies in a controlled environment via experimental testing.

*“More access,  
more social  
interactions  
between people  
and enhanced  
communication-  
media diversity”*

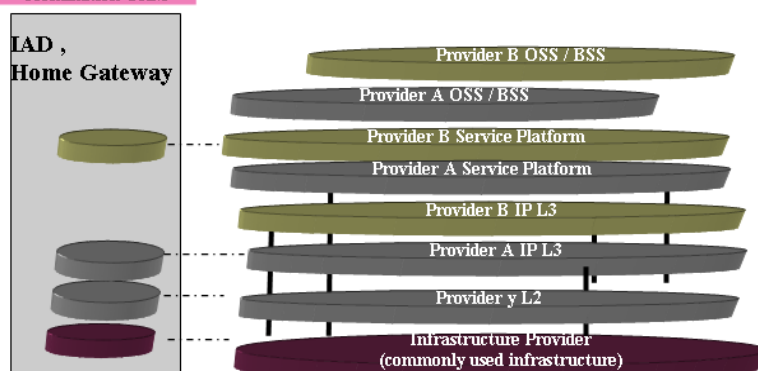
## Technical Approach

The aim of the project is to address in a coordinated way all aspects of NG-OA networks: architectures, technical aspects, feasibility, techno-economic issues, business modelling, and regulation. WP2 and WP3, which respectively examine requirements and architectures, are the core WPs around which the other WPs interact:

WP2 will identify technical, economic, operational and regulatory needs, and will also serve to establish a basis for broad acceptance in the operator and vendor communities.

WP3 will review existing optical access network architectures, propose novel solutions, and then evaluate them in terms of complexity, reliability, performance, resource allocation, and energy consumption etc.

Customer "Demarcation"  
Specific Information &  
Termination OAM



WP4 will develop new system concepts based on existing and new technical solutions defined by WP3, taking into account migration scenarios.

WP5 and WP6 will closely interact together to perform the following: WP5 will provide the techno-economic modelling of CapEx/OpEx for the identified solutions and the assessment and analysis of the scenarios; WP6 will perform business modelling, and also consider regulatory impact on the final business models.

WP7 will take inputs from all WPs and perform experimental validation via extensive laboratory testing for the identified solutions.

The impact of the project including: standardisation, dissemination of the results within the industry through the creation of an industry board, industry events and workshops, and publications, will be ensured by WP8. The project includes major vendors and operators who will also ensure relevant standardisation and exploitation of the results.

## Key Issues

The OASE project addresses 5 key issues:

- Open Access – open interfaces, enabling the simple and easy use of third party infrastructure, clear definitions of services and their quality, and operational responsibilities.

- Appropriate technologies for NG-OA, which will enable easy interconnection on the one hand, as well as reliable and fast “zero touch” re-connection between different network providers on the other hand.
- Network consolidation: reduction of locations due to the use of optical technologies has to be consistent with the open networks / open access model, and also has to provide the required high resiliency.
- Investigate optimal technical solutions that support increasing bandwidth demand ( $\geq 1$  Gb/s per customer), a high customer number, and long distance transmission.
- Develop a European solution that allows easy migration from legacy FTTH/B solutions to NG-OA networks.

## Expected Impact

The OASE project through its numerous realisations will:

- Provide a cost-effective optical fibre deployment solution, **including OpEx, to enable benefits from the ICT world to be fully exploited,**
- **Reinforce European industry capability** in next-generation NG-OA technologies,
- Increase European influence in next-generation optical access **standardisation,**
- Provide **new business case** solutions, enabling the resolution of remaining bottlenecks in access network deployment,
- **Significantly reduce OpEx and CapEx for each stakeholder** by encouraging **co-operation** amongst the different market players ,
- **Enable a faster and more flexible roll-out of optical broadband access infrastructure,**
- **Ensure substantial industrial back-up and long-term recommendations,**
- **Enable the resolution of remaining bottlenecks** to make Gb/s access bandwidths truly available and **affordable to the citizens of Europe.**