PhoeniX Software in new Research Project APACHE to develop next generation modules for optical networks

**European Research Project APACHE** (Agile Photonic Integrated Systems-on-Chip Enabling WDM Terabit Networks) will develop novel compact and scalable photonic integrated components capable of generating, regenerating and receiving amplitude (OOK) and phase (DPSK, QPSK) encoded optical signals for high capacity (>100Gbit/s) WDM networks. The project is partly funded by the European Union, who are contributing 3 million Euros to the consortium, comprising the National Technical University of Athens (Greece), the Centre for Integrated Photonics (United Kingdom), the Heinrich Hertz Institute (Germany), the Athens Information Technology Centre - AIT (Greece), the Ericsson units in Sweden and United Kingdom and PhoeniX Software (The Netherlands). The project will run for three years.

APACHE aims to build on the advances in hybrid photonic integration techniques by assembling arrays of high-performance monolithic InP devices onto a common planar silica hybrid integration platform using passive alignment. The optical sub-systems that are being developed under APACHE will take state-of-the-art hybrid integrated photonic technology and extend it to meet the emerging performance requirements of next generation optical networks. In addition, different optical network topologies such as point to point, ring and mesh with ROADM functionality, different traffic load and growth predictions will be considered. This analysis will be used to identify possible schemes for incorporation of the developed APACHE modules into new DWDM system architectures.

PhoeniX Software will contribute to the project with its state-of-the-art software tools to enable the project partners to develop and manufacture the required devices in an efficient and cost effective manner. Furthermore, PhoeniX Software will develop new software tools to overcome the existing situation in the micro and nano technology industry in general and the photonics industry in particular, in which there is a lack of available coherent and complete lay-out and simulation tools for the various stages of the product creation process. PhoeniX Software will create an integrated design and manufacturing flow incorporating product design, process development, fabrication and measurements.

**About PhoeniX Software**

**CREATE YOUR DESIGN | MANAGE YOUR CLEANROOM**

PhoeniX is a supplier of professional software solutions for the micro and nanotechnology industry. As the market has matured rapidly, there is an increased demand for professional working methods and tools. PhoeniX, with a highly skilled and experienced team in the various fields of micro and nanotechnology, supports customers worldwide with its professional software. Typical products include software for mask lay-out and process flow visualisation (MaskEngineer, CleWin and FlowDesigner), software for integrated optics simulations (OptoDesigner, FieldDesigner, Aspic and Aurora) and the leading manufacturing execution system dedicated to the industry: the Living Database.

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