



## EUROPEAN COMMISSION

Directorate-General for Communications Networks, Content and Technology

Components and Systems  
Photonics

Brussels, 10 July 2013

### **PROJECT 288869 NAVOLCHI- REVIEW NO. 2 (PERIODIC REVIEW) 10 JULY 2013 IN BRUSSELS PROVISIONAL CONCLUSIONS**

#### *Note:*

*These conclusions are provisional only. They will eventually be replaced by the reviewers' detailed report and the Commission's official letter on review results*

#### **Meeting participants:**

Reviewers: Raimondas PETRUSKEVICIUS, Andrew SHIELDS  
Commission: Michael HOHENBICHLER  
Consortium: Juerg LEUTHOLD, Manfred KOHL (KIT - Karlsruhe); Meint SMIT, Victor Manuel DOLORES CALZADILLA (TU Eindhoven); Emmanouil-Panagiotis FITRAKIS (AIT – Athens); Juan P. MARTÍNEZ PASTOR (U. Valencia); Alberto SCANDURRA (STMicroelectronics); Dries VAN THOURHOUT (IMEC)

#### **General comments**

The presentations have been well prepared and were instructive.

The recommendations from the previous review have been well addressed

#### **Project assessment**

- 1) Further good progress has been made since the previous review, notably in the following topics:
  - Plasmonic modulator: It has been characterised, showing low switching power, high modulation speed, and excellent  $V_{\pi} \times L$  product.
  - Nanolaser: Fabrication of the pillar structure on top of the waveguide (although no optical characterisation has been made yet).
  - New quantum dot material for longer wavelengths (for use in the plasmonic amplifier and receiver)
- 2) Results achieved in the photodetector are below the initial expectations. Problems are in particular the slow response time *<<Comment: I found no respective data in reports and review slides>>* and the low responsivity. While ideas exist for improving the responsivity, there are no ideas yet for improving the response time. However, an SiGe based photodetector with better performances and similar size has been developed by IMEC outside NAVOLCHI, which could be used as a back-up in the final system demonstration.

## **Assessment of spent resources described in the management report**

1. Despite the underspending in the first six months due to recruitment problems, KIT has now over the first 18 months had a significant overspending on spent person-months and costs, in line with a significantly increased level of activities.

KIT representatives in the meeting confirmed that the institute will in make sufficient resources available for completing its work on the project, should the available EC funding be consumed before.

2. Spent person-months and ‘other direct costs’ appear commensurate with the work carried out.

## **Status of deliverables**

All deliverables due for this review have been submitted in good quality.

## **Recommendations concerning the period under review (and past periods)**

<n.a.>

## **Recommendations regarding future work**

1. Before implementing the system level demonstrator(s), make an analysis of the expected interconnect parameters at system level (e.g. data rate, latency, power consumption, foot print) for different possible architectures of the system level demonstrator, based on known or expected component performances. Compare these system level values with data from other research groups and commercial data. Report these data in deliverable D1.5 or in milestone report M39, as appropriate. When this document is ready, send it also to the reviewers.
2. In deliverable D6.3, extend this comparison with the actually measured system level data.

## **Final comment**

At present there seems to be no need for another intermediate review (i.e. in the middle of period 2). However, should significant unexpected problems or delays occur, inform the project officer in time for taking appropriate action (including possibly an intermediate review to be organised on short notice, and/or preparing an amendment of the grant agreement).

Michael Hohenbichler  
(Project Officer)