

VERSATILE INFRARED LASER SOURCE FOR LOW-COST ANALYSIS OF GAS EMISSIONS



DELIVERABLE D5.4

Report on raising public participation and awareness



Project co-funded by the European Commission
within the Sixth Framework Programme (2002-2006)

Project acronym & number: VILLAGE – 034010
Project name: Versatile Infrared Laser source for Low-cost Analysis of Gas Emissions
FP6 Action Line: IST-2005-2.5.1 Photonic components
Project start date & duration: 01/07/2006 for 3 years, extended to 30/11/2009
Contract Type: Specific Targeted Research Project
Consortium members:

Participant name	Short name	Country
Thales Research & Technology (Coordinator)	TRT	France
Norsk Elektro Optikk	NEO	Norway
Heinrich-Heine Universität Düsseldorf	HHUD	Germany
University of Southampton	ORC	United Kingdom
Universidad de Valladolid	UVA	Spain

Dissemination level for present deliverable: PU
Delivery date: 15/01/2010

Project web site: <http://www.neo.no/village/>.

The main goal of VILLAGE is to develop a cost-effective tunable mid-infrared laser source which will form the basis of the next generation of multi-gas analysers. The wide availability of low-cost, portable gas analysers is indeed crucial for accurate monitoring of polluting gases generated by industrial processes and helping to identify areas where tighter control of emissions is needed.

This is an area that has already attracted much interest in the public-at-large, as well as in the scientific and industrial community, especially as some of these pollutants are believed to contribute to global warming.

For this reason, in addition to the use of standard scientific dissemination channels and to the effort dedicated to specific dissemination of the project results toward teams currently involved in research on wider applications of MIR spectroscopy (described in the Final Activity Report), the VILLAGE participants have engaged to make general details about the project.

This has been achieved more specifically by:

- Setting up a website with details about VILLAGE and with links to/from the partner institutions and other relevant web sites. Updated regularly since the first year, it will be maintained after the end of the project. This website has been hosted by Norsk Elektro Optikk (NEO), the key SME participant, at the following address.

<http://www.neo.no/village/>

- Promoting the project strategy and results at appropriate public events such as the Annual Meeting of the German Physical Society (in 2008 and 2009, thanks to the German partner of the Project, Heinrich Heine University in Düsseldorf).
- Seeking wider media coverage, as exemplified by the coordinator, Thales Research and Technology (TRT), able to make the project benefit from its contacts with a US group: when popularizing tunable sources in a recent paper published in a free magazine with wide coverage (A. Henderson et al., "Tunable Sources: High power CW OPOs Span the spectrum", Laser Focus World, October 2008), the authors quoted our pioneering work on Orientation-Patterned Gallium Arsenide, the wavelength converting material at the core of the VILLAGE project.
- Displaying posters, presentations and making demonstrations at appropriate public events such as the 2008 ICT Event, a key dissemination opportunity for the project, further described below.

The *2008 ICT Event*, that took place from 25/11 to 27/11 2008 in Lyon, France, provided the opportunity to present the VILLAGE project to an international audience. According to the event organization 4500 delegates registered for the event.

The VILLAGE project was represented by NEO with two persons in the *Small businesses (SMEs)* zone of the exhibition. It benefited from a booth that enabled both poster and slide presentations and the demonstration of a gas sensing experiment.

Since no DFG/OPO laser prototype both transportable and sufficiently safe for a public exhibition was available at the end of 2008, NEO has presented a QCL-based prototype of their commercially available LaserGas II instruments in order to demonstrate single-line and single-gas spectroscopy in the mid-infrared spectral region.

A small gas cell was filled with a usually in the trade available salmiac-based detergent. The outgasing (a small amount of ammonia) was detected with the LaserGas II instrument. The concentration was displayed on a computer monitor. The picture below shows the exhibition stand with the project coordinator A. Grisard (TRT) and two representatives from NEO (P. Geiser and A. Bohman).



A poster presented the VILLAGE project in detail. Each partner contributed with a description of their work in the project. NEO presented also two posters with more informations about their commercially available near-infrared gas detection systems.

A slide presentation running on a computer at the exhibition stand showed more details about the project technologies, project targets, and project achievements. The way from current standard near-infrared to future mid-infrared instruments was drafted. The importance of widely tunable mid-infrared laser sources (one important target of the VILLAGE project) was highlighted. For non-specialists an introduction to absorption spectroscopy and non-linear optics was prepared.

Project related publications and key persons have been listed, and pdf-files consisting of a summary of the VILLAGE project and a description of each partner and their contribution to the project were made available to the visitors.

During three exhibition days NEO had a satisfying number of visitors at their stand, approximately the same as for the other photonics related stands in this section of the exhibition. They were quite impressed by the VILLAGE project. Especially, the OP-GaAs crystal and the widely tunable single-mode mid-infrared laser source raised a lot of interest. Almost all visitors used the opportunity to copy the prepared pdf-files on their USB-stick (Each delegate received an USB-stick on registration.).

The *ICT 2008 Event* was a thus unique opportunity to present the VILLAGE project to an international audience and successfully raise awareness about its goals.