



Nano Scale Disruptive Silicon-Plasmonic Platform for Chip-to-Chip Interconnection

First Report on NAVOLCHI Dissemination and Promotion Activities

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List of Partners concerned

Partner number	Partner name	Partner short name	Country	Date enter project	Date exit project
1	Karlsruher Institut für Technologie	KIT	Germany	M1	M36
2	INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM VZW	IMEC	Belgium	M1	M36
3	TECHNISCHE UNIVERSITEIT EINDHOVEN	TU/e	Netherlands	M1	M36
4	RESEARCH AND EDUCATION LABORATORY IN INFORMATION TECHNOLOGIES	AIT	Greece	M1	M36
5	UNIVERSITAT DE VALENCIA	UVEG	Spain	M1	M36
6	STMICROELECTRONICS SRL	ST	Italy	M1	M36
7	UNIVERSITEIT GENT	UGent	Belgium	M1	M36

¹
PU = Public
PP = Restricted to other programme participants (including the Commission Services)
RE = Restricted to a group specified by the consortium (including the Commission Services)
CO = Confidential, only for members of the consortium (including the Commission Services)

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Executive Summary

This document presents the dissemination and promotion activities that NAVOLCHI partners have carried out during the period M01 – M18. Papers, workshops, conferences, and other activities are listed. Future dissemination plans until the end of the project are also included.

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1. Introduction

This document is the first report on dissemination and promotion activities for project NAVOLCHI. The report starts with the presentation of the dissemination strategy. The dissemination activities carried out by NAVOLCHI partners in the period M01-M18 (November 1 2011 – April 30 2013) of the project follows and constitutes the centerpiece of the report. The document concludes with the dissemination and promotion plans of the partners for the remainder of the project, i.e. until the end of the 3rd year of NAVOLCHI.

Dissemination and promotion activities constitute Task 7.1 of NAVOLCHI, spanning the whole duration of the project (M01 – M36).

2. Dissemination and Promotion Strategy

Dissemination of ideas and results is of high importance in the NAVOLCHI project. The partners of NAVOLCHI are top research organizations with proven track records in their field and are very active in disseminating research results in a worldwide range to scientists, industry, and the public.

Dissemination and promotion activities in NAVOLCHI concern informing professionals, students, and the public of NAVOLCHI activities, results, and the potential of the technology.

The above objective is going to be met through:

- Scientific journal, magazine and conference publications.
- White papers on NAVOLCHI technology, posted online.
- The NAVOLCHI website, operating since the start of the project.
- Organization of NAVOLCHI workshops.
- Issuing press releases and brochures.
- Organization of seminars.

In NAVOLCHI, exploitation activities are reported separate from dissemination activities. Please, see D7.2 for the first report on exploitation activities.

3. Summary: Dissemination and Promotion Activities until M18.

NAVOLCHI partners have been very active disseminating and promoting the activities and results of the project. The following list summarizes the related activities up to month 18 of the project.

- 14 journal and 37 conference publications disseminating the project have been published by NAVOLCHI partners,
- in addition, a cover article on plasmonic communications has been published in the May 2013 issue of Optics & Photonics News.
- a white paper on the innovation potential of plasmonic interconnects has been published online,
- a NAVOLCHI workshop on plasmonics-based components has been organized at the ICTON 2012 conference at Warwick (UK), attracting more than 50 attendees. Another NAVOLCHI workshop has been scheduled for ICTON 2013 (June 2013, Cartagena, Spain).
- communication has been established with plasmonics-related EU-funded project PLATON (<http://www.ict-platon.eu>),
- the project website is up and running with useful information on the project,
- a brochure on NAVOLCHI activities and goals has been issued.

4. Dissemination activities per partner until M18.

A breakdown of the dissemination and promotion activities per partner follows.

4.1 KIT

KIT implemented the project website on which the ideas of the project are published and established a common platform for the partners where useful information is gathered. Therefore the WEB-site is separated into a public part containing:

- basic project information,
- an introduction into the project partners,

- the list of publications, and
- offers of employment within the project,

as well as a part with limited access for project partners only. The latter covers the following subtopics:

- a collection of presentations given from the partners in meetings and phone conferences. Beneath archiving purposes, this collection is helpful during the phone conferences for distributing the presentations to all partners.
- Two lists containing deliverables and milestones including their actual state. Both lists can be ordered by deliverable/milestone respectively or by date.
- A page with a full contact list, e-mail lists and useful information how to join phone conferences.
- A page with documents important for internal use, mainly the 'Project Reference Manual and the 'Quality Assurance Manual'. Templates for internal documents are also available on this site.
- A further site holds the documents for the Grant Agreement and the Consortium Agreement. Additionally, templates for progress reports can be found here.
- Finally, a page announces next meetings or other important target dates.

The website can be found on <http://www.navolchi.eu>. It was started immediately at the beginning of the project and is updated continuously.

KIT participated in two international conferences, disseminating NAVOLCHI information and results. In particular, this happened at OFC and ICTON with the following works:

- A. Melikyan, C. Gaertner, K. Köhnle, A. Muslija, M. Sommer, M. Kohl, C. Koos, W. Freude, and J. Leuthold, "Integrated Wire Grid Polarizer and Plasmonic Polarization Beam Splitter", in Optical Fiber Communication Conference, OSA Technical Digest (Optical Society of America, 2012), paper OW1E.3
- Melikyan A, Sommer M, Muslija A, et al., "Chip-to-Chip Plasmonic Interconnects and the Activities of EU Project NAVOLCHI", ICTON 2012, Warwick (GB); 2012:14-16.

In the OFC talk, an ultra-compact, low loss, high extinction ratio polarization beam splitter integrated on SOI platform was proposed. The device is 3.5 μm in length and provides more than 11dB extinction ratio with less than 1dB plasmonic losses.

At ICTON, the concept and goals of the NAVOLCHI project were presented.

KIT also co-chaired (with AIT) the NAVOLCHI workshop at ICTON 2012 and is co-chairing the NAVOLCHI workshop at ICTON 2013.

KIT, and Prof. Leuthold in particular, also led a review work on plasmonic communications featured as the cover article in the May 2013 issue of the scientific magazine Optics & Photonics News:

- J. Leuthold, C. Hoessbacher, S. Muehlbrandt, A. Melikyan, M. Kohl, C. Koos, W. Freude, V. Dolores-Calzadilla, M. Smit, I. Suarez, J. Martínez-Pastor, E.P. Fitrakis, and I. Tomkos, “Plasmonic Communications: Light on a Wire”, Optics & Photonics News 24, 24-35 (2013). Cover article.

Finally, there was a paper published from Prof. Leuthold:

- J. Leuthold, "Ultracompact CMOS-compatible Modulators," in *Frontiers in Optics 2012/Laser Science XXVIII*, OSA Technical Digest (online) (Optical Society of America, 2012), paper FTu4A.1.

4.2 AIT

AIT is the leader of WP7. As such, AIT has already performed several activities related to the dissemination and promotion of the project results and technology. In the context of Milestone 45, AIT issued an official press release announcing the start of the project to the public. AIT designed and issued a brochure advertising NAVOLCHI. A white paper led by AIT and ST (where all partners contributed) on the innovation potential of plasmonic interconnects was prepared and posted online in the 1st year of the project. AIT organized and chaired (along with KIT) the NAVOLCHI workshop at the ICTON 2012 conference (Warwick, UK) which was a major dissemination activity in this period. The workshop featured 4 presentations from consortium partners as well as presentations from research groups outside the consortium. Specifically, there was a presentation from a group representing EU-funded project PLATON (a project that also involves plasmonic technology) and communication ties were established. There is also a NAVOLCHI workshop organized for June at ICTON 2013 by AIT and KIT.

AIT actively contributed to disseminating and promoting NAVOLCHI in the following conference works:

- “*Surface plasmon-polariton amplifiers*”, I. Suarez et al., ICTON 2012 (UK). Led by UVEG.
- “*Chip-to-chip plasmonic interconnects and the activities of EU project NAVOLCHI*”, A. Melikyan et al, ICTON 2012 (UK). Led by KIT.

- “*Colloidal QDs/PMMA nanocomposites as material to provide gain in surface plasmon polaritons*”, I. Suarez et al., CEN 2012 (Spain). Led by UVEG.
- “*Geometries for surface plasmon-polariton amplification in the context of the EU project NAVOLCHI*”, E. P. Fittrakis et al, Micro&Nano 2012 (Greece). Invited, led by AIT
- “*Light coupling from active polymer layers to hybrid dielectric-plasmonic waveguides*”, I. Suarez et al, ICTON 2013 (Spain). Led by UVEG.
- “*Optimization of colloidal quantum dots-PMMA nanocomposites to provide gain to surface plasmon-polaritons in the visible and the infrared*”, I. Suarez et al, SPP6 Conference (Canada). Led by UVEG.

In early 2013, AIT organized an Open Seminar on plasmonic technology in Peania, Attiki (Greece), titled “Plasmonic communications and innovation”. The seminar was a success, attracting around 40 attendees, mainly professionals and students.

Finally, AIT contributed to the Optics & Photonics News cover article of May 2013 that was led by KIT.

4.3 TU/e

TU/e contributed to the plasmonic communication Optics & Photonics News cover article and the interconnect ICTON paper that were led by KIT (see section on KIT) and also participated in the following conferences, from which the last two in the list were by invitation:

- V. Dolores-Calzadilla, A. Fiore, M. K. Smit, “*Towards plasmonic lasers for optical interconnects*”, IEEE Proceedings of the 14th International Conference on Optical Transparent Networks, 2012.
- V. Dolores-Calzadilla, D. Heiss, A. Fiore, M. K. Smit, “*Metallo-dielectric nanolaser coupled to an InP-membrane waveguide*”, Proceeding of the Proceedings of the 17th Annual Symposium of the IEEE Photonics Society Benelux Chapter, 2012.
- D. Heiss, V. Dolores-Calzadilla, A. Fiore, M. Smit, “*Design of a waveguide-coupled nanolaser for photonic integration*”, Integrated Photonics Research, Silicon and Nano-Photonics, 2013. Submitted.
- V. Dolores-Calzadilla, D. Heiss, A. Fiore, M. K. Smit, “*Waveguide-coupled nanolasers in III-V membranes on silicon*”, IEEE Proceedings of the 15th International Conference on Optical Transparent Networks, 2013. Accepted to be presented.

- V. Dolores-Calzadilla, D. Heiss, A. Fiore, M. K. Smit, “*Nanometallic lasers for optical interconnects*”, The 18th OptoElectronics and Communications Conference/Photonics in Switching, 2013. Accepted to be presented.

4.4 UVEG

UVEG has been very active disseminating the activities related to plasmonic amplifiers in 8 journal publications and 9 conference participations through conference papers, talks and poster. UVEG also contributed to the Optics & Photonics News cover article that was led by KIT, and to the white paper that was led by AIT.

In particular, UVEG’s dissemination activities in this period were:

Conferences:

- Poster contribution at the ITC (Lisboa, Portugal) 01/2012.
P. Rodríguez-Cantó, Rafael Abargues, Raúl García-Calzada, and Juan P. Martínez-Pastor, “*In-situ synthesis of conducting polymers into patternable polymer matrices*”.
- Poster contribution at the European Conference of Integrated Optics ECIO (Barcelona, Spain) 04/2012.
I. Suárez, H. Gordillo, P. Rodríguez-Cantó, R. Abargues, S. Albert and J. Martínez-Pastor, “*Multicolor wave-guiding in polymer/quantum dot nanocomposite waveguides*”.
- Poster contribution at Conference on Laser Ablation and Nanoparticle Generation in Liquids Taormina ANGEL2012 (Sicilia, Italy) 05/2012.
R. García-Calzada, P. Rodríguez-Cantó, V. Chirvony, R. Abargues, J. Martínez-Pastor, “*Gold nanoparticles obtained by pulsed laser ablation in liquids: formation of monolayers on chemically functionalized patterns/substrates*”.
- Talk at the International Conference of Transparent Optical Networks ICTON (Warwick, England) 06/2012.
I. Suárez, E. P. Fittrakis, P. Rodriguez-Cantó, R. Abargues, I. Tomkos and J. Martinez-Pastor, “*Surface plasmon-polariton amplifiers*”.
- Poster contribution at the Spanish Conference of Nanophotonics CEN2012 (Carmona, Spain) 09/2012.
H. Gordillo, I. Suárez, P. Rodríguez-Cantó, R. Abargues, S. Albert and J. Martínez-Pastor, “*Waveguides based on Colloidal QDs embedded in PMMA and SU8*”.

- Talk contribution at the Spanish Conference on Nanophotonics CEN2012 (Carmona, Spain) 09/2012.
I. Suárez, E. P. Fitrakis, P. Rodríguez-Cantó, R. Abargues, H. Gordillo, I. Tomkos and J. Martínez-Pastor, “*Colloidal QDs/PMMA nanocomposites as a material to provide gain in surface plasmon polaritons*”.
- Poster contribution at the Spanish Conference on Nanophotonics CEN2012 (Carmona, Spain) 09/2012.
M. L. Martínez-Marco, P. J. Rodríguez-Canto, R. Abargues, V. Latorre-Garrido and J. P. Martínez-Pastor, “*In - situ synthesis of conducting polymers and gold nanoparticles into PMMA*”.
- Talk at the SPIE advanced lithography (California, EEUU) 02/2013.
R. Abargues, M. Martínez-Marco, P. J. Rodríguez-Cantó, J. Marqués-Hueso, J. Martínez-Pastor, “*Metal-polymer nanocomposite resists: a step toward in situ nanopatterns metallization*”.
- Talk at the SPIE advanced lithography (California, EEUU) 02/2013.
J. Rodríguez-Cantó, M. Martínez-Marco, R. Abargues, V. Latorre-Garrido, J. P. Martínez-Pastor, “*Novel patternable and conducting metal-polymer nanocomposite: a step toward advanced multifunctional materials*”.

Papers:

- Henry Gordillo, Isaac Suarez, Rafael Abargues, Pedro Rodriguez-Cantó, Sandra Albert y Juan Martinez-Pastor, “*Polymer/QDs nanocomposites for wave-guiding applications*”, Journal of nanomaterials, 2012, 960201 (2012).
- A. Bueno, I. Suárez, R. Abargues, S. Sales and J. Martínez-Pastor, “*Temperature sensor based on colloidal Quantum Dots-PMMA nanocomposite waveguides*”, IEEE sensors, 12, 3069-3074 (2012).
- R. Abargues, P. J. Rodríguez-Cantó, R. García-Calzada and J. Martínez-Pastor, “*Patterning of conducting polymers using UV lithography: the in-situ polymerization approach*,” Journal of Physical Chemistry C, 116 17547-17553 (2012).
- I. Suárez, H. Gordillo, R. Abargues, P. Rodríguez-Cantó and J.P. Martínez-Pastor, “*Color tuning and white light by dispersing CdSe, CdTe and CdS in PMMA nanocomposite waveguides*”, IEEE Photon. J. 5, 2201412 (12 pgs) (2013).

- H. Gordillo, I. Suárez, R. Abargues, P.J. Rodríguez-Cantó, and J.P. Martínez-Pastor, “*Color tuning and white light by dispersing CdSe, CdTe and CdS in PMMA nanocomposite waveguides*”, submitted (under revision) to IEEE Photonics J.
- P.J. Rodríguez-Cantó, R. Abargues, R. García-Calzada, and J. Martínez-Pastor, “*UV-Patterning of In-Situ Synthesized Conducting Polymers for Polymeric Display Devices*”, submitted to the Synthetic Metals J.
- P. J. Rodriguez-Canto, M. L. Martinez-Marco, R. Abargues, V. Latorre-Garrido, J. P. Martinez-Pastor, “*Novel patternable and conducting metal-polymer nanocomposite: a step toward advanced multifunctional materials*”, submitted to the SPIE Journal.
- R. Abargues, M. L. Martinez-Marco, P. J. Rodriguez-Canto, J. Marques-Hueso, J. P. Martinez-Pastor, “*Metal-polymer nanocomposite resists: a step toward in situ nanopatterns metallization*”, submitted to the SPIE Journal.

4.5 IMEC & UGent

IMEC and UGent have produced jointly several journal and conference publications. They are listed below (works where IMEC and UGent have acted independently follow later in the report).

Journal:

- Pieter Geiregat, Yolanda Justo, Sofie Abe, Stijn Flamee, Zeger Hens, “*Giant and Broadband absorption enhancement in colloidal quantum dot monolayers through dipolar coupling*”, ACS Nano, 7(2),987-993.
- Yolanda Justo, Bart Goris, John Sundar Kamal, Pieter Geiregat, Sara Bals, and Zeger Hens, “[*Multiple Dot-in-Rod PbS/CdS Heterostructures with High Photoluminescence Quantum Yield in the Near-Infrared*](#)”, Journal of the American Chemical Society 2012, 134, 5484–5487.
- B. De Geyter, Houtepen, Arjan J., Carrillo, Sergio, P. Geiregat, Gao, Yunan, Ten Cate, Sybren, Schins, Juleon M., D. Van Thourhout, Delerue, Cristophe, Siebbeles, Laurens D.A., Hens, Zeger, “*Broadband and Picosecond Intraband Relaxation in Lead-Based Colloidal Quantum Dots*”, accepted for ACS Nano 2012 July, 24;6(7):6067-74, DOI: 10.1021/nn301149x (2012).
- B. De Geyter, K. Komorowska, E. Brainis, P. Emplit, P. Geiregat, A. Hassinen, Z. Hens, D. Van Thourhout, “*From fabrication to mode mapping in silicon nitride microdisk with*

embedded colloidal quantum dots”, Applied Physics Letters, 101(16), p.161101~4 (2012).

- Abdoulghafar Omari, Pieter Geiregat, Dries Van Thourhout and Zeger Hens, “*Light Absorption in Hybrid Silicon-On-Insulator/Quantum Dot Waveguides*”, submitted to Phys Rev.

Conference:

- P. Geiregat, B. De Geyter, S. Carillo, A. Houtepen, Y. Gao, S. Ten Cate, J. Schins, D. Van Thourhout, C. Delerue, L. Siebbeles, Z. Hens, “*Broadband and Picosecond Intraband Relaxation in Lead Chalcogenide Nanocrystals*”, International Quantum Dot Conference 2012, (2012).
- B. De Geyter, P. Geiregat, A. J. Houtepen, D. Van Thourhout, L. Siebbeles, Z. Hens, “*Ultrafast Photoinduced Intraband Absorption in PbS, PbSe and PbSe/CdSe Core/Shell Nanocrystals for near-Infrared to Mid-Infrared All-Optical Signal Processing*”, MRS Fall Meeting 2011, United States, (2011).
- Pieter Geiregat, Yolanda Justo and Zeger Hens; “*Giant Absorption Enhancement in Close Packed Monolayers of Colloidal Quantum Dots through Dipolar Coupling Effects*”, MRS Fall Meeting, Boston (US), 2011.
- Q. Lu, P. Geiregat, D. Van Thourhout, Zeger Hens, “*Design of Nanocrystal Light Source for Silicon Photonics*”, IEEE Photonics Annual Meeting 2011, WP4, United States, p.527-528 (2011).
- P. Geiregat, Y. Justo, Z. Hens, “*Giant Absorption Enhancement in Colloidal Quantum Dot Supercrystals*”, International Quantum Dot Conference 2012, United States, (2012).
- Pieter Geiregat, Floris Tallieu, Philippe Smet, Kilian Devloo – Casier, Sreeparvathi Warriar, Dries Van Thourhout and Zeger Hens, “*Integrated light source for silicon photonics using colloidal nanocrystal light emitters under AC field excitation*”, submitted for ELOPTO 2012.
- Bram De Geyter, Pieter Geiregat Yunan Gao, Sybren ten Cate, Arjan J. Houtepen, Juleon M. Schins, Dries Van Thourhout³ Laurens D.A. Siebbele , Zeger Hens: “*Broadband and Ultrafast Intraband Absorption in Lead based Colloidal Quantum Dots*”, NaNaX 5, Fuengirola (Spain), 2012.
- Bram De Geyter, Pieter Geiregat, Arjan Houtepen, Dries Van Thourhout and Zeger Hens, “*Ultrafast Photoinduced Intraband Absorption in PbS, PbSe and PbSe/CdSe Core/shell*

Nanocrystals for Near-infrared to Mid-infrared All-optical Signal Processing”, ICTON, Warwick (UK), 2012.

- Dries Van Thourhout, “*Silicon Photonics: short course (3 hours)*”, CLEO Europe 2013, May 2013, Munich.
- B. De Geyter, P. Geiregat, K. Komorowska, A. Hassinen, E. Brainis, D. Van Thourhout, Z. Hens, “[*Embedding Colloidal Nanocrystals in Silicon Nitride Micro-Disk Resonators: From mode-mapping to single dot spectroscopy*](#)”, E-MRS Spring Meeting (2013).
- P. Geiregat, Y. Justo, A. Omari, S. Abe, S. Flamee, Z. Hens, D. Van Thourhout, “*Giant And Broadband Absorption Enhancement in colloidal nanocrystal monolayers through dipolar coupling*”, E-MRS Spring Meeting (2013).
- P. Geiregat, Y. Justo, A. Omari, S. Abe, S. Flamee, Z. Hens, D. Van Thourhout, “[*Absorption Enhancement in 2D Nanocrystal Superlattices through Near-Field Dipolar Coupling: A Novel Optical Phenomenon at the Nanoscale*](#)”, CLEO (USA), (2013)
- Contribution to KIT’s ICTON conference paper (see KIT’s section).

4.5.1 IMEC

IMEC contributed to the following conference:

- Dries Van Thourhout, “*Colloidal quantum dots for silicon photonics*”, invited presentation at NANAX 5, 7-11 May 2012, Fuengirola (Spain).

4.5.2 UGent

UGent has contributed the following journal and conference publications:

Journal:

- Yolanda Justo, Bart Goris, John Sundar Kamal, Pieter Geiregat, Sara Bals, and Zeger Hens, “*Multiple Dot-in-Rod PbS/CdS Heterostructures with High Photoluminescence Quantum Yield in the Near-Infrared*”, Journal of the American Chemical Society 2012, 134, 5484–5487.

Conference:

- P. Geiregat, Y. Justo, Z. Hens, “*Giant Absorption Enhancement in Colloidal Quantum Dot Supercrystals*”, International Quantum Dot Conference 2012, United States, (2012).
- Pieter Geiregat, Yolanda Justo and Zeger Hens; “*Giant Absorption Enhancement in Close Packed Monolayers of Colloidal Quantum Dots through Dipolar Coupling Effects*”, ICTON 2012 (UK).
- Yolanda Justo, Bart Goris, John Sundar Kamal, Pieter Geiregat, Sara Bals and Zeger Hens, “*PbS/CdS core/shell nanorods, highly luminescent anisotropic near infrared nanomaterials by cationic exchange*”, NaNaX 5, Fuengirola (Spain), 2012.
- Pieter Geiregat, Yolanda Justo, Zeger Hens, “*Absorption enhancement in colloidal quantum dot monolayers through coherent dipolar coupling*”, NaNaX 5, Fuengirola (Spain), 2012.

4.6 ST

ST collaborated closely with AIT on the white paper concerning the innovation potential of plasmonic interconnects. In addition, ST contributed to a conference paper at ICTON 2012 led by KIT. Lastly, a section on NAVOLCHI appeared in the ST internal magazine.

In 2011, in the Catania site of STMicroelectronics, Alberto Scandurra did a seminar dealing with Systems on Chip and Systems in Package, highlighting the need for novel communication solutions exploiting advanced physical links in order to get the required performance and integration level. In this context, the solutions based on plasmonics so as targeted by NAVOLCHI project have been described.

5. Dissemination plans

5.1 KIT

KIT expects to have 4-5 journal publications and 4-5 conference abstracts until the end of the project. One of the publications of the near future will be on the coupling between horizontal metal slot and silicon nanowire waveguides. KIT will continue to disseminate project activities through the NAVOLCHI website, as was described in the previous section.

5.2 AIT

AIT plans to contribute at least another 2 publications in scientific journals and magazines as well as at least another 2 conference papers and presentations. A NAVOLCHI workshop organized and chaired by AIT is taking place at Cartagena, Spain, in June 2013, in the context of ICTON 2013. A newsletter contribution is planned in the 3rd year concerning NAVOLCHI achievements, as well as at least one more press release (month 36). AIT leads the dissemination workpackage, and therefore will interact with all partners on their dissemination activities and plans.

5.3 TU/e

Once the fabrication of the first nanolaser is achieved, we will publish a journal paper on the first waveguide-coupled nanolaser operating at room temperature. It might happen at the end of the second year or early during the third year of the project. After this first demonstration, the fabrication of further nanolasers with novel designs and new features will be done, such as designs with improved coupling efficiency or coupled to a silicon waveguide, from which additional journal papers are expected. Additionally, we will participate in at least two international conferences during the third year of the project.

5.4 UVEG

UVEG will pursue plentiful journal and conference-related dissemination activities on the NAVOLCHI results in the next 18 months. In particular, UVEG estimates to contribute to plenty conferences as usual and also have journal publications on high-impact factor scientific journals on the following:

- A paper about plasmonic coupling is expected to be submitted within this year.
- A paper about gain in colloidal QDs-PMMA dielectric and plasmonic waveguides is the goal of the project.
- A paper explaining the dispersion of QDs in SU-8 and its application in waveguiding will be submitted this year.
- A paper about QD-Photodetectors will be prepared for consideration of publication.
- Several manuscripts about different patternable conducting polymers containing Au nanoparticles are being prepared for journal submission.

In addition, UVEG plans to issue press releases through their university service in the 3rd year of the project, when the amplifier and receiver platforms will be (or will be close to be) a reality.

5.5 IMEC

The primary focus of imec with regard to disseminating NAVOLCHI results is on international journals and conferences. Next to the general activities in this sense, members of the imec team

are (co)chairing several workshops at international conferences focusing on the topic of “hybrid silicon photonics”, whereby the silicon PIC’s are “enhanced” through the addition of extra materials (III-V’s, polymers, or in this case plasmonics and quantumdots).

Besides the standard scientific dissemination, the photonics group of imec is also strongly involved in student education through the organization of an international Erasmus mundus master program in Photonics. Integrated photonics devices are an important part of the regular course program of that master and every year several master students are carrying out a master thesis related to the topics covered in this project.

5.6 UGent

The primary focus of UGent with regard to disseminating NAVOLCHI results is on international journals and conferences.

Besides the standard scientific dissemination, the Physics and Chemistry of Nanostructures group of UGent is also strongly involved in student education in Chemistry, Physics and Applied Physics. Master thesis projects on colloidal nanomaterials for optical applications – topics in close connection with the Navolchi project – are yearly proposed to students in their 1st master year, and typically attract 1-2 students.

5.7 ST

Being the industrial partner in the project, ST plans to perform much of the dissemination to other industrial entities, and will play a key role in advertising the NAVOLCHI technology platform towards the end of the project. However, due to recent reorganization at ST, not many specific plans are currently available.

In May the managers of the new organization where the Interconnect Systems Group has been moved will be in Catania, and NAVOLCHI project activities and current results will be presented to them.

6. References

- NAVOLCHI publications:
<http://www.imt.kit.edu/projects/navolchi/publications/index-publications.html>
- NAVOLCHI website: www.navolchi.eu
- NAVOLCHI workshop at ICTON 2012: <http://www.nit.eu/icton2012-navolchi>
- NAVOLCHI workshop at ICTON 2013: <http://www.itl.waw.pl/icton-2013-sofinavolchi>

- Optics & Photonics News cover article:
http://www.osa-opn.org/home/articles/volume_24/may_2013/features/plasmonic_communications_light_on_a_wire/#.UZeLR8rmuhk
- White paper:
http://www.imt.kit.edu/projects/navolchi/publications/NAVOLCHI_plasmonic_interconnect_innovation_v99.pdf