

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

## **Project Quality Assurance Manual**

Deliverable no.: D1.3

Due date: 04/30/2012 Actual Submission date: 02/28/2012

Authors: KIT Work package(s): WP1

Distribution level: RE<sup>1</sup> (NAVOLCHI Consortium)

Nature: document, available online in the restricted area

of the NAVOLCHI webpage

#### **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	IMCV	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

 $<sup>\</sup>mathbf{PU} = \mathbf{Public}$ 

**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)

#### **Project Quality Assurance Manual**

Last update 02/28/2012 Version 1

#### Deliverable Responsible

Organization: Karlsruhe Institute of Technology

Contact Person: Martin Sommer

Address: Institute of Microstructure Technology

Hermann-von-Helmholtz-Platz 1, Building 321

76344 Eggenstein-Leopoldshafen

Germany

Phone: +49 (0)721 – 608 22664 Fax: +49 (0)721 – 608 26667 E-mail: martin.sommer@kit.edu

#### **Executive Summary**

This document defines the handling of deliverables and approval procedures to assure deliveries of adequate quality at the specified due date.

Furthermore procedures for the evaluation of milestones and transfer of prototypes are established.

Should the necessity of making changes to the description of deliverables arise, a template to assure all impacts are taken into account is provided.

This document will be updated upon need. Please look at <u>www.navolchi.eu</u> regularly for the latest version.

#### Change Records

Version Date		Changes	Author
0.1 (draft)	02/28/2012	Start	Martin Sommer
1 (submission)	02/28/2012		Martin Sommer

# **Project Quality Assurance Manual**Last update 02/28/2012

Version 1

## **Contents**

CONTENTS	3
INTRODUCTION	4
QUALITY ASSURANCE	5
Scope of the Quality Management Implementation of the Quality Management Adequate records	5
DETAILED PROCEDURES	8
Procedure for Deliverables	
Procedure for Prototypes	
Procedure for Milestones  Procedure for Publications	
REFERENCES	12
DISCLAIMER	13
ANNEX 1 – MILESTONES	14
ANNEX 2 – DELIVERABLES	19
ANNEX 3 – TEMPLATE FOR DELIVERABLE CHANGE REQUESTS	23

**FP7-ICT-2011-7** Project-No. 288869 NAVOLCHI – D1.3

Project Quality Assurance Manual Last update 02/28/2012 Version 1

#### Introduction

Quality assurance and control is considered an essential ingredient for any major project. To ascertain the quality of NAVOLCHI results, this document introduces handling and approval procedures for NAVOLCHI deliverables (this includes reports), prototypes and milestones. Furthermore it is explained how the quality control of the project management is realized. Naturally, quality assurance is a dynamic process itself and this deliverable a living document, subject to adaptations during the course of the project.

The NAVOLCHI project will be evaluated by examination of its deliverables and ultimately by the usefulness and functioning of the promised devices. NAVOLCHI deliverables are for a good part interconnected and therefore a dip in performance in this chain can result in a huge drop in performance of subsequent results. This situation needs to be prevented and a number of measures described in the following have been put into place.

The underlying idea is to closely control developments of the different work packages to allow for a smooth integration of the outcomes of one task as input into a subsequent task.

The efforts needed to implement successful quality assurance are already called for quite explicitly in the CA [3], Section 4 'Responsibilities of Parties', 4.1 General Principles:

"Each Party undertakes to take part in the efficient implementation of the Project, and to cooperate, perform and fulfil, promptly and on time, all of its obligations under the EC-GA and this Consortium Agreement as may be reasonably required from it and in a manner of good faith as prescribed by Belgian law."

In Fact, quality assurance is the joint responsibility of all partners.

## **Quality Assurance**

#### Scope of the Quality Management

Quality shall not only be addressed for

- the deliverables, milestones, prototypes
- but also for the project management process.

#### Implementation of the Quality Management

The objectives above will be addressed by continuously monitoring and controlling (i.e. taking corrective actions) on:

- Expenses, resources and schedules versus plans (i.e. technical and financial annexes to the EC Grant Agreement).
- Monitor shortages or excesses in costs, resources and deviations from schedule to identify, document and react for continual improvement.
- Figure out effects and consequences of changes on the project performance and its quality.
   Evaluate the adequacy of the project management plan, with respect to dissemination and IPR management as well.
- Monitor project process synchronization.

The concrete implementation foresees

- a set of procedures described below,
- monitoring processes to ensure they are effective, i.e.
  - o monitoring is done through QMRs
  - o and periodic reviews (see Project Reference Online Manual [4]),
  - o constant updates of the work plan,
- keeping adequate records,
- Introducing a change request procedure to keep track of changes and the affected documents.

#### Adequate records

For obvious reasons, identification, storage, protection, retrieval, retention time and disposition of records has to be assured. Records should remain legible, readily identifiable, and retrievable. For these purposes the restricted area of the NAVOLCHI webpage provides almost all project documents of interest.

The NAVOLCHI website contains a public area with

- Press releases
- Publications, etc.
- Open positions

And a restricted area with access only<sup>2</sup> to NAVOLCHI partners, containing

- Contact list, who is part of which mailing list
- Overview over milestones and deliverables, marked when due, and linked to retrieve the underlying documents.
- Slides, minutes of meetings
- Next dates for meetings and publication / promotion events
- Documents (Consortium Agreement, Annex I, templates)
- ...to be extended

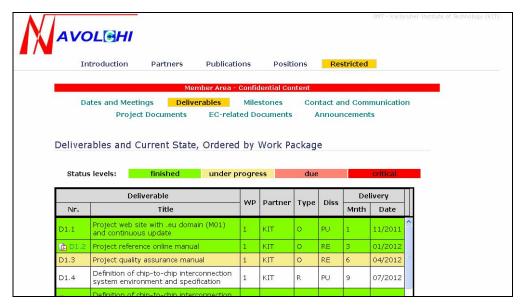


Figure 1 Screenshot of www.navolchi.eu

The following guidelines apply to all documents of the NAVOLCHI project:

- 1. Get approval for adequacy prior to issue. Ensure confidentiality according to the Project Reference Online Manual [4] and the CA [3].
- 2. Ensure reviews and updates, equally for other impacted documents (inform their authors).
- 3. When revising documents it is good practice to
  - o Add the editor's name to the file name
  - O Assure that the file which is send back has a different file name (e.g. include version number, date) than the original.
- 4. Ensure correct referencing of documents of external origin.
- 5. Prevent unintended use of obsolete documents.

#### Furthermore:

- The use of templates is recommended, whenever provided (especially for reports, deliverables), often to be found at the NAVOLCHI website.
- When mentioning dates and numbers these will be interpreted as in North American English when in doubt, e.g. 02/01/2010 means February,  $1^{st}$  2010 and 20,000 means  $2*10^4$ .

<sup>&</sup>lt;sup>2</sup> secured with https

# **FP7-ICT-2011-7** Project-No. 288869 NAVOLCHI – D1.3

### **Project Quality Assurance Manual**

Last update 02/28/2012 Version 1

• Supply original images with the document when editing of the figures might be necessary. It presents an advantage, if figures come along with caption and rights, e.g. if they are free for EC and Consortium to use.

#### **Detailed Procedures**

#### Procedure for Deliverables

Deliverables (see annex 2) consist in reports, white papers, documents, laboratory models, evaluations, field trials, etc.

Official documents and deliverables have to be reviewed and approved by the PMC. To reduce the effort the PMC decided to assign a smaller number of reviewers who have to be part of the Consortium, which in fact will be explained to be the default case below.

Deliverables are first approved by the WP leader and afterwards in a review by appointed reviewers (the Technical Project Manager must be informed). Reviewers are assigned by the Project Management Committee, and are usually internal to the project.

The reviewers submit their findings and recommendations in writing to the WP leader and the Project Management Committee. The latter has the final authority on the deliverable and responsibility for its quality.

If the document / deliverable is going to be published, all rules on publication apply.

Creation, approval (as well as subsequent validation, if apt) and submission of each deliverable shall therefore follow the procedure below:

- 1. One responsible person (called R) is assigned by the PMC.
  - a. The DoW [2] names the responsible partner.
  - b. The responsible partner recommends R to the WP leader and the PMC. It is the obligation of the responsible partner to chose R, inform the PMC and start working on the deliverable in time!
  - c. If the PMC does not object to the recommendation **within 10 days after** having been informed by the responsible partner, R is considered to be assigned.
- 2. R defines contributors (refer to the work package description in the DoW) to form a team to create the deliverable.
- 3. This group
  - a. agrees upon distribution of work (provides a table of contents to the PMC),
  - b. creates and follows a schedule,
  - c. informs the PMC.
- 4. R suggests 2 reviewers from the Consortium to the PMC.
  - a. The PMC can at any time change the reviewers.
  - b. Reviewers might be chosen in such a way as to avoid a conflict of interests, e.g. they should not be actively involved in the deliverable itself. If the deliverable is going to be used in a subsequent task, it is recommend choosing a reviewer who is part of this subsequent task.
  - c. If for any reason no reviewer has been assigned the entire PMC performs the review.

All steps from above can be taken at once by R before he informs in writing the PMC. If

## **FP7-ICT-2011-7** Project-No. 288869

NAVOLCHI – D1.3

#### **Project Quality Assurance Manual**

Last update 02/28/2012

Version 1

there are no objections from the PMC the actual work can commence, otherwise directions of the PMC have to be followed.

- 5. R and contributors work to realize the deliverable. PMC has to be updated on progress.
- 6. Combination of all contributions is to be lead by R.
- 7. After realization, R sends a draft version / report (at least 8 working days before submission deadline) to
  - a. all members of his group of contributors,
  - b. WP leader,
  - c. PMC,
  - d. Reviewers.
- 8. R organizes for the revision requests to be taken into account.
- 9. Final agreement of group and reviewers, at least 3 working days before submission deadline.
- 10. The Coordinator submits the deliverable to the EC.

#### **Procedure for Prototypes**

In the NAVOLCHI project a multitude of sample and material transfers is planned, i.e. fabrication of Si chips, which are send to be covered by an organic material just to be send somewhere else to be poled and subsequently packaged in yet another location in preparation of their final characterization.

To ensure that all involved tasks interface smoothly, sufficient documentation and verification of technical specifications is essential. The DoW [2] in fact does not refer to the objects which are transferred as a deliverable in form of a prototype, but instead declares a summarizing report to be the corresponding deliverable.

Hence there is an inherent mechanism which forces adequate documentation and allows for the procedure below.

The successful release of a prototype (sample and / or material) includes

- The prototype (sample, material, device) itself.
- Clear, written summary of the specifications as promised by the provider, a draft send long before delivery to the receiver.
- A written response from the receiver, after testing, comparing the claimed and measured specifications.
- The corresponding deliverable in form of a report as announced in the DoW [2].

Thus the procedure for prototypes is the same as for deliverables, with the additional written exchange between provider and receiver on the specifications of the prototype(s).

#### **CHANGES**

For any changes (actually or likely) affecting performance, the work of other subsequent tasks, the schedule, cost or any anything which needs interaction between more than just the provider,

#### FP7-ICT-2011-7

Project-No. 288869 NAVOLCHI – D1.3

#### **Project Quality Assurance Manual**

Last update 02/28/2012 Version 1

the PMC needs to be informed promptly and a request has to be made using the template of annex 3 according to the following procedure:

- 1. The development group demanding for a change sends the completed sheets describing the change request of annex 3 to the WP leader with all other partners involved in this WP in copy.
- 2. The WP leader considers the request and in case action is needed transfers the request to the PMC.
- 3. After having reviewed the request (or organized it) the PMC takes a decision and notifies all concerned partners of its decision, giving a justification in case of rejection of the request.
- 4. The decision is binding and the changes must be applied. For documentation purposes, all affected documents need to be updated within 14 days and send to the Coordinator, which is the responsibility of the group making the change request.

The template can be adapted to request changes of milestones, prototype specifications as well.

#### Procedure for Milestones

For the sake of simplicity: Each partner is solely responsible for the mandatory document issued when a milestone (for a list see annex 1) is reached. It has to include information which particular achievements have been made and how exactly the milestone is to be understood.

#### Procedure for Publications

The quality of publications is to be guaranteed by the partners issuing it and solely their responsibility. The obligatory review by all partners is intended to first and foremost address intellectual property concerns.

Nevertheless recommendations for quality improvements can be given.

It often is crucial for the quality of a publication that enough time and care is planned for the creation of the first submission. This includes giving reviewers enough time to find possible items for revision.

The procedure described in the Project Online Reference Manual for publication is sufficiently complete, as it explains the review process in detail. It is reproduced here [4]:

All publications resulting from the NAVOLCHI project have to contain the following line: "The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7-ICT-2011-7) under grant agreement no. 288869"

#### Standard Procedure according to [3] CA 8.3.1.1

- Prior notice of any planned publication shall be made 45 days before the publication.
- Any objection to the planned publication shall be made in accordance with the GA in writing to the Coordinator and to any Party concerned within 30 days after receipt of the notice.
- If no objection is made within the time limit stated above, the publication is permitted.

## During the Kick-Off-Meeting in Karlsruhe, Feb. $3^{\rm rd}$ 2012, the standard procedure has been changed:

J. Leuthold (KIT) proposes change of Consortium agreement with respect to paragraph 8.3.1.1:

#### FP7-ICT-2011-7

**Project Quality Assurance Manual** 

Project-No. 288869 NAVOLCHI – D1.3 Last update 02/28/2012

Version 1

"The time limit in which objections to publications have to be claimed is decreased from thirty (30) days to seven (7) days."

Five present voting members vote for proposal. Proposal accepted.

**Additionally,** the General Assembly decided to exempt the following international conferences

- ECOC,
- OFC,
- CLEO,
- OSA OPC,
- OSA IPR and
- NLO

from the rules above (standard procedure) and to apply the following rules instead:

- With respect to the submission (post-)deadline of the agreed conference called deadline hereafter, at least the title, type and a draft of the abstract of the intended publication has to be provided to all parties no later than 7 days before deadline.
- As all Parties are aware of this deadline and an intended publication, they must have taken provisions to be able to receive the complete planned publication no later than 3 working days before deadline, and be able to formulate a possible objection (according to CA 8.3.1.2, 8.3.1.3).
- This objection or consent has to be send no later than 24h before deadline to the Party wanting to publish.

Objections have to include a proposal for the resolution of the conflict!

# **FP7-ICT-2011-7** Project-No. 288869 NAVOLCHI – D1.3

**Project Quality Assurance Manual** 

Last update 02/28/2012 Version 1

## **References**

- [1] EC-Grant Agreement No288869 (principal contract with EC)
- [2] Annex I to [1], called Description of Work (work plan as proposed to the EC)
- [3] NAVOLCHI Consortium Agreement (contract among the partners)
- [4] NAVOLCHI Project Reference Online Manual (deliverable D1.2)

**FP7-ICT-2011-7** Project-No. 288869 NAVOLCHI – D1.3

Project Quality Assurance Manual Last update 02/28/2012 Version 1

### **Disclaimer**

In case some issues have not been addressed, please inform the author to ascertain that this document will be extended.

The author does not accept responsibility for the consequences of errors or omissions herein enclosed, nor does the author accept responsibility in connection with the use or re-use made of the information contained in this manual.

Last update 02/28/2012 Version 1

## **Annex 1 – Milestones**

List and schedule of milestones

Milestones on identified designs and requirements as well as progress reports will be treated as internal documents providing information only to partners (and including availability to project officers). This information will be evaluated and become public in the next deliverables relative to the responsible tasks.

Milestone number 69	Milestone name	WP number 68	Lead benefi- ciary number	Delivery date from Annex I eo	Comments
MS1	Definition of chip-to-chip interconnection system environment and specification	WP2	4	3	
MS2	Definition of plasmonic devices and material properties for chip-to-chip interconnection	WP2	4	6	
MS3	Development of a system and device simulation platform.	WP2	4	18	
MS4	Definition Derivation of the interconnection level specification employing developed plasmonic photo	WP2	6	18	
MS5	Digital domain to plasmonic domain interface specification and VHDL modelling	WP2	6	21	
MS6	Plasmonic interconnect VHDL modelling	WP2	6	24	
MS7	Investigation of the cost and power consumption efficiency of the developed plasmonic devices and in	WP2	4	28	
MS8	Decision on an optimized structure for metallic/plasmonic nano-laser and its coupling to Si waveguid	WP3	3	6	We will aim for a structure that will in theory give between 15 and 40% quantum efficiency, when measuring the amount of light coupled into the Si waveguide
MS9	Decision on a optimized structure for plasmonic modulator	WP3	1	6	Length of 20 um and with an extionction ratio of at least 1dB

**Project Quality Assurance Manual** 

Project-No. 288869 NAVOLCHI – D1.3 Last update 02/28/2012 Version 1

Milestone number 68	Milestone name	WP number 63	Lead benefi- ciary number	Delivery date from Annex I 80	Comments
MS10	Grown wafer structure for plasmonic lasers	WP3	2	12	
MS11	Fabrication of plasmonic modulator on a SOI platform	WP3	1	15	
MS12	Decision on a optimized structure for plasmonic modulator with a maximum loss of 20dB	WP3	1	18	
MS13	Initial characterization of unbonded plasmonic lasers	WP3	3	18	We will aim to have achieve lasers with thresholds below 1mA, and likely below 500 micro amps
MS14	Initial testing and characterization of plasmonic modulators	WP3	1	21	Modulators with 20 um length and 2V peak-to-peak voltage swing
MS15	Initial testing of bonded plasmonic lasers	WP3	3	24	We will aim to have achieve at least 100 □W power coupled into the Si waveguide.
MS16	Demonstration of decision on optimized structures for plasmonic amplifiers	WP4	5	12	Amplifiers with 10dB gain, 30nm bandwith
MS17	Synthesis of nanoparticles with gain at 1550nm	WP4	7	12	
MS18	Demonstration of conductive QD layers with photoconductive properties	WP4	5	15	
MS19	Demonstration of metal-(lithographic) polymer and QD metal-(lithographic) polymer nanocompo-sites	WP4	5	15	Demonstration of metal-(lithographic) polymer and QD metal-(lithographic) polymer nanocompo-sites with response to telecom photons
MS20	Demonstration and decision on photodetector operation: nano-gap	WP4	5	18	

#### **Project Quality Assurance Manual**

Project-No. 288869 NAVOLCHI – D1.3

Last update 02/28/2012 Version 1

Milestone Delivery date Lead benefi-Milestone name WP number 63 Comments number 69 from Annex I 80 ciary number (MIM) vs Schottky/ heterostructure

	heterostructure				
MS21	Electroluminscence from QD stack embedded within conductive oxides (>1uW)	WP4	2	18	
MS22	Demonstration of plasmonic amplifiers with optical pumping exhibiting 10dB gain	WP4	2	21	
MS23	Operation of QD based photodetector with responsivity > 0.1A/W	WP4	5	24	
MS24	Demonstration of SPP amplifiers with electrical injection exhibiting 10dB/cm gain	WP4	5	30	
MS25	Decision on optimized plasmonic waveguide couplers	WP5	1	6	
MS26	Fabrication of plasmonic waveguide couplers with less than 3 dB coupling loss	WP5	1	12	
MS27	Design of first generation beam shapers and compact optical filters	WP5	2	12	Design of first generation beam shapers (5dB loss, 100um distance) and compact optical filters (3nm bandwidth, 10dB suppression, 30nm free spectral range)(
MS28	DDCM with electrical PHY design and verification	WP5	6	12	
MS29	Data codecs for power consumption reduction	WP5	6	15	
MS30	Decision on plasmonic waveguide couplers with less than 3 dB coupling loss	WP5	1	15	
MS31	Fabrication of compact optical filters and first	WP5	2	18	

**Project Quality Assurance Manual**Last update 02/28/2012

Project-No. 288869 NAVOLCHI – D1.3

Version 1

Milestone number <sup>59</sup>	Milestone name	WP number 63	Lead benefi- ciary number	Delivery date from Annex I 60	Comments
	generation beam shapers				
MS32	Data codecs for error detection and correction	WP5	6	18	
MS33	Design of second generationbeam shapers	WP5	2	24	Design of second generationbeam shapers (3dB loss, 1mm distance)
MS34	Generic DDCM compatible with plasmonic-based PHY	WP5	6	24	
MS35	Fabrication of compact optical filters and first generation beam shapers	WP5	2	30	Fabrication of compact optical filters (3nm bandwidth, 10dB suppression, 30nm free spectral range) and first generation beam shapers (5dB loss, 100um distance)
MS36	DDCM evolution for NiP solutions	WP5	6	30	
MS37	Plasmonic active device characterization results	WP6	1	12	
MS38	Plasmonic passive components characterization results with a 1dB coupling loss	WP6	1	24	
MS39	Concept for system integration developed	WP6	4	27	
MS40	Individual plasmonic devices characterization, testing and evaluation	WP6	3	30	
MS41	Chip to chip interconnect characterization	WP6	6	33	
MS42	Plasmonic components integration to demonstrate chip-to-chip interconnect	WP6	4	33	

#### FP7-ICT-2011-7

Project-No. 288869 NAVOLCHI – D1.3

## **Project Quality Assurance Manual**

Last update 02/28/2012

Version 1

Milestone number 69	Milestone name	WP number 63	Lead benefi- ciary number	Delivery date from Annex I 80	Comments
MS43	Plasmonic chip to chip interconnect prototype testing and evaluation	WP6	6	36	
MS44	Dissemination of activities in the project's web site and continuous update	WP7	1	1	
MS45	Press release on start of project to the public distributed	WP7	4	2	
MS46	Identification of possible contributions to the industrial partners for commercialization	WP7	6	15	Identification of possible contributions to the industrial partners for commercialization and standardization.
MS47	Organization of workshop on silicon photonics interface for chip-to-chip communication	WP7	3	34	
MS48	Public web site for NAVOLCHI prepared to stay open for at least another year	WP7	1	36	
MS49	Press release distributed comprising key results with a public target audience	WP7	4	36	

Last update 02/28/2012 Version 1

## **Annex 2 – Deliverables**

A summary of all deliverables can be found in the following table.

Table Fehler! Unbekanntes Schalterargument. Deliverables List

Delive- rable Number	Deliverable Title	WP number	Lead benefi- ciary number	Estimated indicative person-months	Nature <sup>62</sup>	Dissemi- nation level	Delivery date
D1.1	Project web site with .eu domain (M 01) and continuous update	1	1	4.00	0	PU	1
D1.2	Project reference online manual.	1	1	2.00	О	RE	3
D1.3	Project quality online assurance manual:	1	1	2.00	0	RE	6
D1.4	Intermediate Progress Report	1	1	2.00	R	PU	9
D1.5	Intermediate Progress Report	1	1	2.00	R	RE	27
D2.1	Definition of chip-to-chip interconnection system environment and specification	2	6	7.00	R	RE	3
D2.2	Definition of plasmonic devices	2	4	7.00	R	RE	12
D2.3	Investigation of chip-to-chip interconnection- level specifications employing new plasmonic devices	2	4	6.75	R	RE	24
D2.4	Interface and plasmonic interconnect models and reports	2	6	4.00	R	RE	24
D2.5	Techno- economical evaluation with respect to the cost efficiency and green aspects	2	4	14.25	R	PU	30

Last update 02/28/2012 Version 1

Delive- rable Number	Deliverable Title	WP number	Lead benefi- ciary number	Estimated indicative person-months	Nature <sup>82</sup>	Dissemi- nation level	Delivery date
D2.6	Report on new applications and their opportunities	2	4	2.00	R	PU	36
D3.1	Report on studies of optimized structure for metallic/ plasmonic nano-laser and its coupling to Si WG	3	3	6.25	R	со	12
D3.2	Report on modelling of the modulator structure	3	1	6.25	R	со	12
D3.3	Fabrication of of plasmonic laser device	3	3	25.25	R	со	24
D3.4	Report on fabrication of modulators	3	1	21.25	R	со	24
D4.1	Designs of plasmonic amplifiers	4	4	11.20	R	со	18
D4.2	Report on optical properties of QDs layers and polymer nanocomposites	4	4	27.20	R	PU	18
D4.3	Designs of plasmonic photodetectors	4	4	8.20	R	со	24
D4.4	Report on SPP amplifiers by using QDs	4	2	14.20	R	PU	30
D4.5	Report on Plasmonic photodetectors	4	5	19.20	R	PU	33
D5.1	DDCM specification document	5	6	10.00	R	со	6
D5.2	DDCM with electrical PHY design and	5	6	10.00	R	со	12

## **Project Quality Assurance Manual**

Project-No. 288869 NAVOLCHI – D1.3 Last update 02/28/2012

Version 1

Delive- rable Number	Deliverable Title	WP number	Lead benefi- ciary number	Estimated indicative person-months	Nature <sup>62</sup>	Dissemi- nation level	Delivery date
	verification data base						
D5.3	Compact optical filters (2nm bandwidth, >30nm FSR) and first generation beam shapers	5	2	9.00	R	со	21
D5.4	Generic DDCM compatible with plasmonic-based PHY specification document	5	6	9.00	R	PU	24
D5.5	Report on plasmonic waveguide couplers	5	2	14.00	R	со	24
D5.6	Generic DDCM compatible with plasmonic-based PHY design and verification data base	5	6	3.00	R	со	30
D5.7	Second generation beam shapers (distance 1mm, with bandwidth > 10nm and efficiency > 3dB)	5	2	5.00	Р	со	33
D6.1	Report on characterization results of all plasmonic devices	6	3	10.00	R	RE	27
D6.2	Report on characterization results of all optical interface plasmonic passive components	6	1	4.00	R	RE	27
D6.3	Report on chip to chip interconnect characterization		6	20.00	R	PU	36

## **Project Quality Assurance Manual**

Project-No. 288869

NAVOLCHI – D1.3

Last update 02/28/2012 Version 1

Delive- rable Number	Deliverable Title	WP number	Lead benefi- ciary number	Estimated indicative person-months	Nature <sup>62</sup>	Dissemi- nation level	Delivery date
D6.4	Report on plasmonic chip-to-chip interconnect prototype testing and evaluation	6	4	10.00	R	PU	36
D7.1	First report on NAVOLCHI dissemination and promotion activities	7	6	2.00	R	RE	18
D7.2	First report on NAVOLCHI exploitation activities	7	4	2.00	R	RE	18
D7.3	Mirror Deliverable of D7.1, which will be available to the public on the website.	7	3	4.00	R	PU	18
D7.4	Intermediate report on recent achievements.	7	4	2.00	R	PU	18
D7.5	Reports on the impact and outcome of the organized promotion events.	7	4	4.00	R	PU	36
D7.6	Final report on NAVOLCHI dissemination and promotion activities	7	4	4.00	R	RE	36
D7.7	Dissemination kit	7	4	6.00	0	PU	36
			Total	320.00			

**Deliverable X.X**Last update 02/28/2012
Version 1

## **Annex 3 – Template for Deliverable Change Requests**

See next page.



## Nano Scale Disruptive Silicon-Plasmonic Platform for Chipto-Chip Interconnection

## **Deliverable Change Request – DX.X**

Deliverable no.: DX.X

Deliverable description version: (1.0 corresponds to DoW 1.0)

Due date:

Request date: Request made by:

Work package(s) and tasks concerned:

RE<sup>3</sup> (NAVOLCHI Consortium) Distribution level:

> Nature: document, available online in the restricted area

> > of the NAVOLCHI webpage

#### **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	IMCV	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

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)

**Change Request** 

**Deliverable X.X** Last update 02/28/2012

Version 1

Project-No. 288869 NAVOLCHI

#### Deliverable Responsible

Organization: ...
Contact Person: ...
Address: ...
Phone: ...
Fax: ...
E-mail: ...

#### **Executive Summary**

Provide an abstract on the necessity and implications of the changes requested.

#### **Detailed Problem Description**

#### **Proposed Solution**

#### *Implications*

- 1. Impact on technical performance
- 2. Consequences for used resources
  - a. Human resource allocation
  - b. Expenses
- 3. Consequences for project schedule
- 4. Impact on the work of the other partners

#### Recommendations

- 1. Work package leader of work packages, of which the request originates
- 2. Work package leader(s) of affected work packages
- 3. Designated Reviewers (if already assigned)

#### **PMC Decision**

#### List of Documents to Update

(in case the request is accepted, it is the responsibility of the requesting partner to provide updated versions of the affected documents to the Coordinator, before the PMC's decision on the request becomes effective)

#### **Document Change Records**

Version	Date	Changes	Author
---------	------	---------	--------

FP7-ICT-2011-7 Project-No. 288869 NAVOLCHI

## **Change Request**

**Deliverable X.X**Last update 02/28/2012
Version 1

0.1 (draft)	Creation	Email address
1 (release)		