CARBON BASED SMART SYSTEM FOR WIRELESS APPLICATION

Start Date : 01/09/12
Project n°318352 **Duration : 36 months**

Topic addressed : Very advanced nanoelectronic components: design, engineering, technology and manufacturability

WORK PACKAGE 7 : Project management

DELIVERABLE D7.7

Minutes of the T0+30 meeting

Due date : T0+30 **Submission date : T0+37**

Lead contractor for this deliverable : TRT

Dissemination level : PU – Public

WORK PACKAGE 7: Project management

PARTNERS ORGANISATION APPROVAL

	Name	Function	Date	Signature
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CHANGE RECORD SHEET

REVISION LETTER	DATE	PAGE NUMBER	DESCRIPTION
Template	07/2013	8	
V1	26/10/2015	11	Final version

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Date: May 07, 2015
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2 AGENDA

Thursday 07th of May		
9:00	**Opening, Welcome, Agenda**	
9:15 – 9:30	**Project Overwiew** - Report of second year of the project - Deliverables, schedule, next progress meeting	Project Coordinator
9:30 – 9:45	**WP2 Presentations** - Objectives & means - Main results obtained on the period January-May 2015	WP leader
9:45 – 10:30	**WP3 Presentations Part-I** - Objectives & means - Schedule of main milestones & deliverables - Main results obtained on the period January -May 2015	WP leader
10:30 – 10:45	**Coffe Break**	
10:45 – 12:30	**WP3 Presentations Part-II** - Objectives & means - Schedule of main milestones & deliverables - Main results obtained on the period January -May 2015 - Work plan/ Schedule for next 3 months	WP leader
12:30 – 13:30	**Lunch**	
13:30 – 15:30	**WP4 Presentations** - Objectives & means - Schedule of main milestones & deliverables Main results obtained on the period January -May 2015	WP leader
15:30 – 15:45	**Coffe Break**	
15:45 – 16:30	**WP5 Presentations** - Objectives & means - Schedule of main milestones & deliverables - Main results obtained on the period May-Sept. 2015 - Work plan/ Schedule for next 3 months	WP leader
16:30 – 17:30	- Final discussion / Working groups/Conclusions	All

All the presentations made during the Progrees Meeting will be available as soon as possible on the website. We report here only the contents of the discussions that occurred during the presentations.

3 INTRODUCTION AND PROJECT OVERVIEW (A. ZIAEI, TRT)

Thanks to LAAS to receiving us in Toulouse

Good Feedback from the EC reviewers after the 2nd review meeting.
9 month extension accepted by the project officer

Next meeting:

- Next progress meeting (T0+36) will take place **in Linkoping (LiU), on the 15/09/15 (9am-6pm)**.

LiU will send an email containing all details for the meeting.

DOW extension (9 months) :
End of project : T0+45
For the new DOW :

- Modify PM & cost for FORTH/LAAS
- Liu and Tyndall
- Delivery date for deliverable

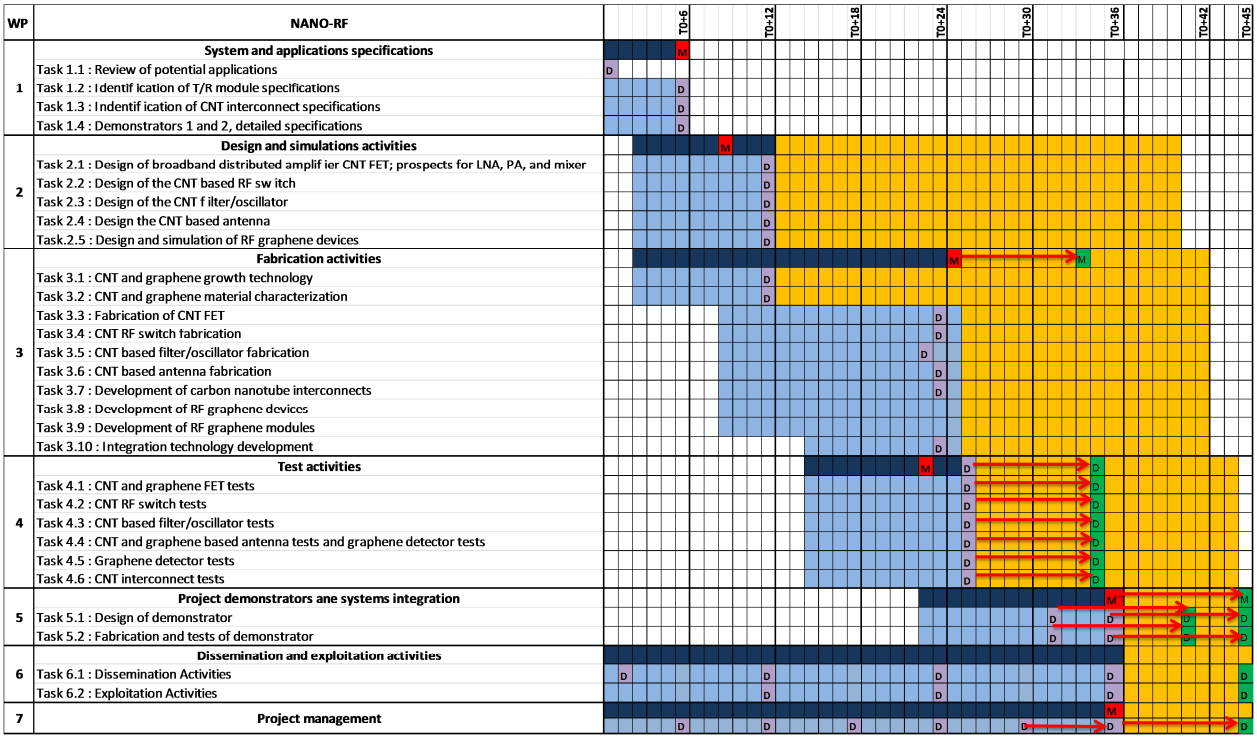
WP	NANO-RF	WP Leader	Start		End (old)		End (new)
1	System and applications specifications	TAS	T0		T0+6		T0+6
2	Design and simulations activities	IMT	T0+3		T0+13		T0+40
3	Fabrication activities	FORTH	T0+3		T0+25		T0+42
4	Test activities	CNRS-LAAS	T0+15		T0+26		T0+44
5	Project demonstrators ane systems integration	ICN	T0+23		T0+36		T0+45
6	Dissemination and exploitation activities	TRT	T0		T0+36		T0+45
7	Project management	TRT	T0		T0+36		T0+45

We will add the new result of WP3 on the periodic report.

TRT will send a table with cost & PM at all the partners for modification and validation.

It was decided to organize of monthly teleconference with all partners to discuss the progress of the project. The first teleconference will be organized by FORTH

New Gantt Chart :



4 WP PRESENTATIONS

4.1 WP 3 (G.DELIGEORGIS, FORTH)

CNT and Graphene FET :

Planning:

Time frame	Action
March 2015	Fabrication complete
May 2015	Measurements (DC+RF)
May 2015	Noise figure
June 2015	2nd iteration, exfoliated reference

CNT :
Growth of horizontaly CNTs (SHT) :
CNT density : 7 CNT/µm ==> SHT have to improve the CNT density (using new growth conditions)

Action :
SHT : delivery sample (horizontally CNTs) to FORTH (second fabrication run)
Sample size : 10x10mm.
Mark on the sample for the CNT orientation

Graphene :
We have decided to work with the SiC graphene (better quality in term of mobility).

Action :

SHT : improve the quality of CVD graphene (new recipies for the growth)
FORTH/Liu : discussion to plan the number of graphene sample needed for the fabrication: as soon as possible

Dielectric layer :
This is a critical part of the project. For the FET device, we have to use a good quality of dielectric.
It is urgent to have materials that can be used for components (the priority is the electrical behavior)

Sample	Substrate material	Delivered to
G 480	4H- SiC	TYNDALL - FORTH
G 481	4H- SiC	TYNDALL - FORTH
G 517	4H- SiC	TYNDALL → unused, raman shows 60%SLG
G 518	4H- SiC	TYNDALL → similar to G517
G 519	4H- SiC	TYNDALL → similar to G517
G 520	4H- SiC	TYNDALL → similar to G517
G 609	4H- SiC 7x7	TYNDALL → unused
G 610	4H- SiC 7x7	TYNDALL → unused
G 611	4H- SiC	TYNDALL → FG annealing
G 612	4H- SiC	TYNDALL → processed annealing
G 491	4H- SiC	FORTH
G 492	4H-SiC	FORTH

From now, it is decided that the decision to send a sample to another partner must be validated by Afshin (by email).

Action :

Tyndall : send sample to FORTH (G517,G518,G519,G609 and G610) as soon as possible
FORTH : electrode deposition
Tyndall : dielectric deposition **(first week of march)**
IMT : electrical DC characterization

⇨ **Result excepted : end of June**

Graphene antenna :

Time frame	Action
February 2015	Redesign of Antennae
March 2015	Fabrications
May 2015	Measurements

Action
UNIVPM : Antenna re-design
FORTH : Fabrication (improve the yield)
IMT : measurement

CNT antenna

Action :
UPMC, TRT and SHT : discussion for planning determination concerning the next fabrication.
UPMC : redesign the structure to take account the last result and the issues with the aspect ratio.
TRT/SHT : fabrication and growth

⇨ **New result for the next progress meeting**

Graphene detector :

Time frame	Action
March 2015	Measurements
May 2015	Action is complete

Planning : Measurement for May 2015

CNT interconnects :

Time frame	Action
February	RF design put for fabrication
May - June	RF measurements

Planning : RF Measurement (FORTH/CHALMERS)

CNT filter :

Planning

Time frame	Action
February	All characterization complete
March	Redesign to achieve specs

Action :
IMT : send new design compatible for RF measurement
TRT/SHT : fabrication/growth
IMT : RF measurement

⇨ **New result for the next progress meeting**

CNT swticth :

Action
TRT : fabrication of sample test with different space between electrode.

⇨ **New design and new fabrication for the next progress meeting**

5 REVIEW OF WORK & ACTION LIST

Description	Date	Leader
Sample from SHT to FORTH for horizontally CNT (CNT FET)	End of May	SHT
CVD graphene quality improvement	End of may	SHT
Discussion between FORTH/LiU concerning the	ASAP	FORTH/LiU

sample needs		
Sample after dielectric deposition from Tyndall to FORTH	ASAP	Tyndall
Electrode deposition on sample received from Tyndall	End of May	FORTH
Graphene Antenna redesign	End of May	UNIVPM
CNT antenna redesign	End of May	UPMC
Design for RF measurement for CNT interconnects	May	FORTH
Redesign CNT filter	May	IMT
CNT filter fabrication	June	TRT
Sample test for CNT switch	June	TRT
Monthly teleconference (work progress) organized by FORTH	June	FORTH
Next meeting: LiU, Linkoping 15 September 2015	September 2015	ALL