



## 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 D7.3


#### Minutes of the T0+6 meeting

Due date : T0+6

Submission date : T0+11

Lead contractor for this deliverable : TRT

Dissemination level : PU – Public

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## WORK PACKAGE 7: Project management

### PARTNERS ORGANISATION APPROVAL

	Name	Function	Date	Signature
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### DISTRIBUTION LIST

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1 ex	Foundation for Research & Technology - Hellas	FORTH	George KONSTANDINIS
1 ex	Laboratoire d'Architecture et d'Analyse des Systèmes	CNRS-LAAS	George DELIGEORGIS
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## CHANGE RECORD SHEET

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## 1 PARTICIPANTS


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## 2 AGENDA

Thursday 31 <sup>th</sup> January		
14:00	Opening, Welcome and Agenda	
14:15 – 14:45	Introduction: general presentation and organisational aspects	TRT
14:45 – 15:15	WP1 Presentations <ul style="list-style-type: none"><li>- Objectives &amp; means</li><li>- Schedule of main milestones &amp; deliverables</li><li>- Inputs / Outputs with other WPs</li><li>- Over the project duration</li><li>- Focus on the period T<sub>0</sub> – T<sub>0</sub>+6</li></ul>	WP leaders
15:15 – 17:00	WP2 Presentation <ul style="list-style-type: none"><li>- Objectives &amp; means</li><li>- Schedule of main milestones &amp; deliverables</li><li>- Inputs / Outputs with other WPs</li><li>- Over the project duration</li></ul> Focus on the period T <sub>0</sub> – T <sub>0</sub> +6	WP leaders
17:00 – 17:30	Break	
17:30 – 18:30	Technical discussion / Working group	All
20:30	Diner	
Friday 1 <sup>st</sup> February		
09:00 – 10:30	WP3 Presentation <ul style="list-style-type: none"><li>- Objectives &amp; means</li><li>- Schedule of main milestones &amp; deliverables</li><li>- Inputs / Outputs with other WPs</li><li>- Over the project duration</li><li>- Focus on the period T<sub>0</sub> – T<sub>0</sub>+6</li></ul>	WP leaders
10:00 – 10:30	Break	
10:30 – 11:00	Dissemination tools: <ul style="list-style-type: none"><li>- Logo</li><li>- Flyer</li><li>- Website</li><li>- Financial aspects</li><li>- Publications and IPR</li></ul>	TRT
11:00 – 12:30	Detailed review of the deliverables for the period T <sub>0</sub> +6 – T <sub>0</sub> +12: <ul style="list-style-type: none"><li>- Working plan of the responsible partner</li><li>- Who is involved? How? When?</li><li>- Means &amp; Actions to achieve the deliverables on time</li></ul>	All
12:30	End of Meeting	

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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 ICN to receiving us in Barcelona

The aims of the project are the RF active and passive fabrication devices with CNTs and Graphene.

Reminder of the WP responsible:

- WP1 : TAS (Y.Mancuso)
- WP2 : IMT (M.Dragoman)
- WP3 : FORTH (G.Konstandinis)
- WP4 : CNRS-LAAS (G.Deligeorgis)
- WP5 : ICN (C.Sotomayor)
- WP6 : TRT (A.Ziaei)
- WP7 : TRT(A.Ziaei)

Work planned for T0+6 :

Deliverable	Deliverable Title	Delivvable Responsible
D1.2	Report on CNT based T/R module and graphene reception module	CNRS-LAAS
D1.3	Report on interconnect detailed specification	Chalmers
D1.4	Report on definition and test methods for two demonstrators	TAS
D7.3	Minutes of the first meeting	TRT
D7.9	Progress management report	TRT
D7.15	progress activity report	TRT

Request one page summary of your work and spending money for the last 6 month

Next meeting:

- Two meetings are expected before the review meeting in October.
- Next progress meeting will take place **in Cork (Ireland), on the 14<sup>th</sup> of May (9am-6pm)**.
- Another progress meeting is planned for September
- Meeting for WP2 (simulation & design) is also planned in **Ancona (Italy), on the 18th March**

## 4 WP PRESENTATIONS

### 4.1 WP 1 (A.ZIAEI, TRT)

### 4.2 WP 2 (M.DRAGOMAN, IMT)

All the deliverables are for T0+12 :

Deliverable	Deliverable Title	Lead Beneficiary	Partners involved
D2.1	Report on design of the distributed amplifier based on CNT FET including the PA design and graphene based LNA , mixer and detector	UNIVPM	TRT,IMT, TAS
D2.2	Report on design of the CNT based RF switch	IMT	TRT, IMT, CNRS-LAAS, ICN
D2.3	Report on design of the CNT filter/oscillator	CNRS-LAAS	TRT, IMT
D2.4	Report on design of the CNT and graphene antenna	TAS	IMT, TRT, CNRS-LAAS, UPMC
D2.5	Report on design of graphene devices	IMT	IMT, UNIVPM, CNRS-LAAS

The role of leaders is to collect the partner's contributions and send the deliverable to Afshin.

To help the deliverable writing, he must send a file with the contents and each partner should refer to this document for the drafting of the deliverable.

First Fabrication of Graphene FET (GFET) is done by FORTH.

CNTs FET fabrication:

IMT → Theoretical treatment of CNTFET and basic design parameters

FORTH→ Non aligned CNTFET

LAAS → CNT alignment development and initial CNTFET fabrication. Process flow development.

TRT → CNT based modules fabrication.

end of March: Initial alignment results

end of April: First aligned CNT FETs working, first process flow.

end of May: First RF characterization done.

### 4.3 WP 3 (G. KONSTANDINIS, FORTH)



Tasks	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10
<b>TRT</b>		X	X	X	X	X	X			X
<b>CHALMERS</b>	X						X			
<b>FORTH</b>		X	X					X	X	X
<b>LAAS</b>		X	X			X	X	X	X	X
<b>UPMC</b>		X								
<b>IMT</b>		X						X	X	
<b>GI</b>	X							X		
<b>TAS</b>										
<b>SHT</b>	X	X	X	X	X	X			X	
<b>UNIVPM</b>										
<b>LIU</b>	X							X	X	
<b>ICN</b>		X		X			X	X		
<b>TYNDALL</b>			X	X		X		X		X

Action ICN send detailed pedagogical characterisation 10 days max (11th Feb)

TRT set up the telco. (sample shape, alignment marks, substrates, min size of contact pads, what is to be measured re device-relevant properties.

Relation btw WP2 and WP3 :

In April need graphene and CNT transistor.

We need to characterize graphène on large area by Raman scattering (discussion between Mircea M and ICN).

In T3.7 ICN will help Chalmers with mechanical and thermal characterisation of um diameter CNT bundles. Also FIB-cut cross sections to see the effect of sacking upon elastic properties.

In T3.8 ICN will contribute with XPS.

#### 4.4 WP 6 (A. ZIAEI, TRT)


Stephane will send login/password for the Nano-RF website.

The address of the website is : [www.project-nanorf.com](http://www.project-nanorf.com)

Publications can be uploaded and the bibliographic details entered.

All partners need to send few lines to summarize the work for the newsletters

#### 4.5 WP 7 (A. ZIAEI, TRT)

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## 5 REVIEW OF WORK & ACTION LIST

Description	Date	Leader
Establish Consortium Agreement	January	TRT
Next WP2 meeting: UNIVPM, Ancona 18 <sup>th</sup> March 2013	March 2013	UNIVPM
Next meeting: Tyndall, Cork 14 May 2013	May 2013	TYNDALL
First result on CNT alignment	End of March	CNRS-LAAS