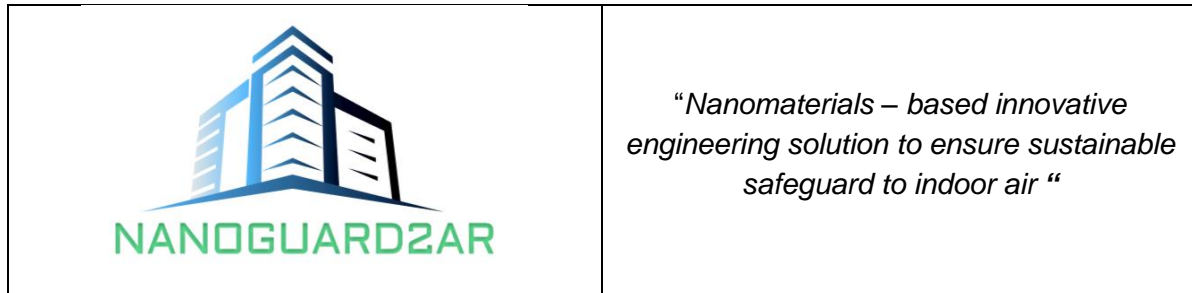


First Project Workshop



27-28 February, Lisbon, Portugal

Nanomaterials – based innovative engineering solution to ensure sustainable safeguard to indoor air is Workshop of the “NANO GUARD2AR” 696809 project H2020-MSCA-RISE-2016. The aim of the workshop NANO GUARD2AR is to present the state-of-the-art and the future perspectives for nanomaterials applied to the green building concept.

Scope:

The goal of the workshop is to attract the most recognized academic experts in the field of *Innovative Nanomaterials for Environmental Application* to share their knowledge and expertise on nanomaterials, nanoengineering and green building concepts.

This intend in merging of the research activity using knowledge offered by various research fields as physics, chemistry, materials science and engineering to deliver advanced integrated at “*Nanomaterials-Air curtain*” engineering solution to provide sustainable safeguard to indoor air. Therefore, interdisciplinary approaches integrating different technologies, sciences or disciplines will be particularly emphasized. The 1st Workshop, will be a valuable and motivating forum for the researchers in physics, materials science, chemistry, and engineering from both academy and industry to discuss the latest advances and issues in the design and application of nanomaterials-based air-curtain engineering solution to ensure sustainable green building concept and also to establish their own networks and hence creating the sense of shared European values.

Workshop Organizer:

Prof. Dr. Svitlana Lyubchik
NOVA id FCT and LAVQ, REQUIMTE, FCT/UNL
Address:
Quinta da Torre 2829 516 Caparica PORTUGAL
Phone: 351 21 294 8524
Phone: +351 96 384 1668
E-mail: s_lyubchik@yahoo.com
s.lyubchik@fct.unl.pt

There were **32 Participants**, including team leaders, team's staff and invited persons/staff from other divisions/departments (*see full List of the Participant attached*)

from **7 academic organizations from Portugal, France, Ukraine and Belarus.**

ACADEMIC



and **5 non-academic organization from Spain, Portugal, France and Ukraine**

NON-ACADEMIC



There were **5 Lectures/Key Notes**, including **4 Invited talks** of the invited Profs and Eng., **11 project Speakers**, including **2 young team's members presentation** during 2 days of Workshop meeting.

Two Invited talks were delivered on **Advance in Sustainable Development for the Green Building Concept** by invited Engineer Armando Pinto from Laboratório Nacional de Engenharia Civil, PORTUGAL; and invited Prof. Daniel Aelenei Department from Civil Engineering Dept., Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa, Portugal.

Two more Invited talks on **Applied Toxicology and Toxicity of the Nanomaterials** were delivered by invited Prof. Mikhail Eropkin and Prof. Elena Eropkina from Scientific Research Institute of Influenza, Ministry of Healthcare and Social Development, WHO National Influenza Centre of the Russian Federation; which is one of top scientific centres in area of molecular biology, epidemiology, development of highly-sensitive diagnostic reagents and effective means for public protection; and is integral part of the World Health Organization Global Influenza Surveillance and Response System.

The Key Note was delivered by project Coordinator Prof. Svitlana Lyubchik on **Advance in Nanomaterials Composites for Environmental Protection**; FCT/UNL, Portugal.



Monday, February 27	
9:00- 9:30	Opening +Tea/Coffee
9:30- 9:45	<p>Opening Address</p> <p><i>Prof. Dr. Svitlana Lyubchyk</i>, Project Coordinator, NOVA id FCT and LAQV/REQUIMTE, Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa, Portugal</p>
9:45- 10:30	<p>Keynote Speech:</p> <p style="text-align: center;">Advance in Sustainable Development for the Green Building Concept</p> <p><i>Eng. Armando Pinto</i> LNEC - Laboratório Nacional de Engenharia Civil, PORTUGAL</p> <p><i>Prof. Daniel Aelenei</i> Department of Civil Engineering, Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa, Portugal</p>
10:50- 13:00	<p>Panel 1:</p> <p>Discussion of the NANOGUARD2AR project results related to the WP1 Deliverables /Milestones/ [1-12 months] Results on Reference onset of the Nanomaterials</p> <p>General topics to be covered by the Panel 1:</p> <ul style="list-style-type: none"> • Tasks 1.1 and 1.2 implementation Report C2MA (FR) • Task 1.3 implementation Report DIPE (UA) and UPS (FR) <p>Chair – <i>Prof. Joao Viegas</i>, Núcleo de Acústica, Iluminação, Componentes e Instalações, Department of Buildings, LNEC - Laboratório Nacional de Engenharia Civil, PORTUGAL</p> <p><i>Speakers:</i></p> <p>Prof. Alexey Evstratov, C2MA- ECOLE NATIONALE SUPERIEURE DES MINES D’ALES, FRANCE</p> <p>Dr. Igor Danilenko, DIPE - Donetsk Institute of Physics & Engineering named after O.O. Galkin NAS of Ukraine, Department of the Material Science, UKRAINE</p> <p>Dr. Oxana Gorban, DIPE - Donetsk Institute of Physics & Engineering named after O.O. Galkin NAS of Ukraine, Department of the Material Science, UKRAINE</p> <p>Prof. Christophe Colbeau-Justin, UPS/CNRS - Directeur de l'ED Sciences Chimiques, Laboratoire de Chimie Physique, Université Paris-Sud, FRANCE</p> <p>Dr. Andriy Lyubchyk, CEMOP/UNINOVA and CENIMAT/I3N, Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa</p>
13:00- 14:30	Lunch



<p>14:30- 15:20</p>	<p>Introduction to the WP2 discussion:</p> <p>Advance in Nanomaterials Composites for Environmental Protection</p> <p><i>Prof. Dr. Svitlana Lyubchyk, Project Coordinator, NOVA id FCT and LAQV/REQUIMTE, Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa, Portugal)</i></p>
<p>15:40- 18:00</p>	<p>Panel 2:</p> <p>Discussion of the NANOGUARD2AR project sub-tasks related to the WP2 Ongoing work/ Critical points/ Target Results/Partners Interaction [10-30 months]</p> <p>General topics to be covered by the Panel 2:</p> <ul style="list-style-type: none"> • NM-based composites in form of Porous blocks; Fibre-net & Corrugated plates [DIPE (UA)] in collaboration with SME NANOTECH (UA) • NMs coated over fibre-type glass and light rods surfaces [Leader NOVA (PT)] in collaboration with DIPE (UA) • Lab-scale Prototype air- curtains system Unit [Leader LNEC (PT) in collaboration with SME MRC (UA)] • NM-driven macro-scale dark operating units [Leader C2MA (FR)] • Pilot Scale Production of the Designed NMs-composites [Leader DIPE (UA) with SMEs NANOTECH (UA)] <p>Chair – Prof. Dr. Svitlana Lyubchyk, LAQV/REQUIMTE, FCT/UNL, PORTUGAL</p> <p><i>Speakers:</i></p> <p>Prof. Alexey Evstratov, C2MA- ECOLE NATIONALE SUPERIEURE DES MINES D’ALES, FRANCE</p> <p>Prof. Joao Viegas, LNEC-Laboratório Nacional de Engenharia Civil, PORTUGAL</p> <p>Dr. Igor Danilenko, DIPE - Donetsk Institute of Physics & Engineering named after O.O. Galkin NAS of Ukraine, Department of the Material Science, UKRAINE</p> <p>Dr. Andriy Lyubchyk, CEMOP/UNINOVA and CENIMAT/I3N, Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa, PORTUGAL</p> <p>Dr Maxim Zagornyj, NANOTECH Center, UKRAINE</p> <p>Prof. Tatiana Konstantinova, DIPE - Donetsk Institute of Physics & Engineering named after O.O. Galkin NAS of UKRAINE</p> <p>Prof. Nikolay Poklonski, BSU- BELARUSIAN STATE UNIVERSITY, Department of Semiconductor Physics and Nanoelectronics BELARUS</p> <p>Prof. Vitalii Ksenevich Head of the Dept. of Semiconductor Physics and Nanoelectronics, BSU - BELARUSIAN STATE UNIVERSITY, BELARUS</p> <p>Dr. Oxana Gorban, DIPE - Donetsk Institute of Physics & Engineering named after O.O. Galkin NAS of Ukraine, Department of the Material Science, UKRAINE</p> <p>Dr. Oleksiy Gogotsi, MATERIALS RESEARCH CENTER (MRC), UKRAINE</p>



Tuesday, February 28

9:00- 9:30	Free morning discussion Tea/Coffee
9:30- 10:30	<p>Keynote Speech:</p> <p style="text-align: center;">Applied Toxicology. Toxicity of the Nanomaterials</p> <p style="text-align: center;"><i>Prof. Miklhail Eroptkin, Laboratory of Evolutionary Variability of Influenza Viruses. Laboratory, Institute of Influenza, RUSSIA</i></p> <p style="text-align: center;"><i>Prof. Elena Eroptkina, Institute of Influenza, RUSSIA</i></p>
10:30- 13:00	<p>Panel 3:</p> <p>Discussion of the NANOGUARD2AR project sub-tasks related to the WP3 Starting points/Baseline scenario/Risk Analysis/Task allocation [14-30 months]</p> <p>General topics to be covered by the Panel 3:</p> <ul style="list-style-type: none"> • Air Quality Control (methodology used by partners/developed approaches, partners facilities, partners interaction) [partner-moderator TERA, France in collaboration with Ambisalud, Spain] • Toxicity of the Nanomaterials (planned activities/partners facilities/partners interaction) [partner-moderator NOVA id, Portugal in collaboration with ArDiagnos, Portugal] • Environmental Impact Assessment [partner-moderator ArDiagnos, Portugal in collaboration with Ambisalud, Spain] <p>Chair - Dr. Andriy Lyubchyk, CEMOP/UNINOVA and CENIMAT/I3N, Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa</p> <p><i>Speakers:</i></p> <p>CEO Dr. Paulo Zaragoza Pedro, AR DIAGNOSTIC TECNOLOGIAS DE MONITORIZAÇÃO E CONTROLO DO AR LDA (AR DIAGNOS), PORTUGAL</p> <p>CEO Dr Pascal Kaluzny, TECHNOLOGIES EXPERTISES RECHERCHES ANALYTIQUES EN ENVIRONNEMENT (TERA), FRANCE</p> <p>CEO Eng Paulino Pastor, AMBISALUD CALIDAD AMBIENTAL SL (AMBISALUD), SPAIN</p> <p>Rrof. Dr. Svilana Lyubchyk, LAQV/REQUIMTE, Faculdade Ciência e Tecnologia, Universidade Nova de Lisboa, PORTUGAL</p>
13:00- 14:30	Lunch
14:30- 18:00	<p>Panel 4: Implementation roadmap discussion for second project year, Partners Interaction, Samples Exchange, Knowledge transfer, Training, Events, Monitoring meeting, further Secondments</p>
18:00- 18:30	Closing Remarks: Looking Ahead



Annex 1

Minutes NANOGAURD2AR meeting 27/28 February 2017

ATTENDANTS:

List of the Participant

1) BENEFICIARY

NOVA id FCT - ASSOCIACAO PARA A INOVACAO E DESENVOLVIMENTO DA FCT, PORTUGAL

Department of Chemistry, LAQV/REQUIMTE- Associated Laboratory on Green Chemistry, Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa

Prof. Dr. Svitlana Lyubchyk (Coordinator, Secondee)	Chemical Engineering)
Dr. Olena Lygina (Secondee)	Green Chemistry
Prof. Dr. Paulo Mota (Invited Prof.)	Chemical Engineering

Department of Material Science, CENIMAT/I3N- Asociated Laboratory for Nanostructures, Nanomodelling and Nanofabrication) Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa

Dr. Andriy Lyubchyk (Secondee)	Material Science
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Department of Civil Engineering, Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa

Prof. Dr. Daniel Aelenei (Secondee)	Civil Engineering, Energy
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Department of Life Science, CREM - The Centre for Microbial Resources , Faculdade de Ciência e Tecnologia, Universidade Nova de Lisboa, Portugal

Prof. Dr. Susana Gaudenco (Invited Prof.)	Microbiology, Biotechnology
ESR Olesia Shapovalova (Secondee)	Nanomaterials Toxicity

2) BENEFICIARY

LNEC - ASSOCIACAO PARA A INOVACAO E DESENVOLVIMENTO DA FCT, PORTUGAL

Building Department, Acustics, Lighting, Building Component and Facilitis UNIT

Eng. Dr. João Godinho Viegas (Team Leader)	Civil Engineering, Ventilation
Eng. Dr. Armando Pinto (Invited Speaker)	Civil Engineering, Energy
ESR João Alves Dias (Secondee)	Civil Engineering, Ventilation
Eng. Dr. António Costa Santos (Secondee)	Civil Engineering, Lighting
Eng. Dr. Luís Pimentel Real (Invited Eng)	Bulding Components, Chem Eng

3) BENEFICIARY

C2MA- ECOLE NATIONALE SUPERIEURE DES MINES D'ALES , FRANCE

ENSTIMA - Le Centre des Matériaux des Mines D'alès, IMT MINES ALES

Prof. Alexey Evstratov (Team Leader)	Chemical Engineering
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4) BENEFICIARY

CNRS- CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE FRANCE

LCP-Laboratoire de Chimie Physique

Prof. Rimita Hynd (Secondee)	Nanomaterials Photocatalysis
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5) BENEFICIARY

UPS- UNIVERSITÉ PARIS-SUD, FRANCE

LCP-Laboratoire de Chimie Physique

Prof. Christophe Colbeau-Justin (Team Leader)	Industrial Photocatalysis
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6) BENEFICIARY

AR DIAGNOS -AR DIAGNOSTIC TECNOLOGIAS DE MONITORIZACAO E CONTROLO DO AR LDA

CEO Dr. Paulo Zaragoza Pedro (Team Leader, Secondee)	Air Quality Control/Photocatalysis
Dr. António Ferreira (Secondee)	Air Qualty Control/Energy Efficiency



- 7) **BENEFICIARY**
TERA- TECHNOLOGIES EXPERTISES RECHERCHES ANALYTIQUES EN ENVIRONNEMENT
CEO Pascal Kaluzny (Team Leader, Secondee) Environmental Protection
- 8) **BENEFICIARY**
AMBISALUD- AMBISALUD CALIDAD AMBIENTAL SL
CEO Eng Paulino Pastor (Team Leader, Secondee) Air QualityControl
- 9) **BENEFICIARY**
DIPE - DONETSK INSTITUTE OF PHYSICS & ENGINEERING named after O.O. GALKIN, NAS OF UKRAINE
- DPM – Division of Physics of the Materials**
Prof. Tatiyana Konstantinova (Team Leader, Secondee) Materials Physics
Prof. Olexandr Myloslavskyy (Secondee) Applied Physics
Dr. Igor Danilenko (Secondee) Materials Physics
Dr. Oksana Gorban (Secondee) Chemical Engineering
- 10) **BENEFICIARY**
MRC- MATERIALS RESEARCH CENTER, UKRAINE
Dr. Olexiy Gogotsii (Team Leader, Secondee) Materials Design/Production
ESR Veronika Zahordna (Secondee) Nanomaterials Regulation
- 11) **BENEFICIARY**
NANOTECH- NANOTECHCENTER LLC, UKRAINE
Dr. Maxim Zagornyj (Secondee) Nanomaterials Photocatalysis
- 12) **PARTNER**
BSU - BELARUSIAN STATE UNIVERSITY
- DSPN– Department of the Semiconductor Physics and Nanoelectronics**
Prof. Nikolay Poklonski (Team leader, Secondee) Materials Physics
Prof. Vitalii Ksenevich (Secondee) Applied Physics
ESR Aliaksandr Kavaleu (Secondee) Physics/Modeling
- 13) **INVITED SPEAKERS**
SRII - SCIENTIFIC RESEARCH INSTITUTE OF INFLUENZA OF THE MINISTRY OF HEALTHCARE AND SOCIAL DEVELOPMENT OF THE RUSSIAN FEDERATION
- LEVIV– Laboratory of Evolutionary Variability of Influenza Viruses**
Prof. Mikhail Eropkin (Invited Speaker) Toxicity of the Nanomaterials
Prof. Elena Eropkina (Invited Speaker) Toxicology, Virology
- 14) **INVITED PARTICIPANTS**
IST/UTL - INSTITUTO SUPERIOR TÉCNICO UNIVERSIDADE DE LISBOA, PORTUGAL
CQE/CCC– Centro de Química Estrutural, Coordination Chemistry and Catalysis Group,
PhD Student Sergiy Lyubchyk Photocatalysis/Microbiology

SCIENTIFIC INTRODUCTION.

For the working session there were three Panels elaborated were presentations (ca. of 20 – 25 min) coming from the different Consortium members. Partners are required to upload their presentations to the extranet of the webpage upon circulation of a template format.

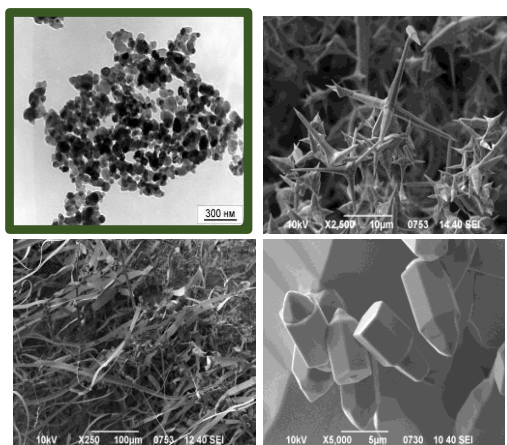
More in details,

ACCOMPLISHED ACTION

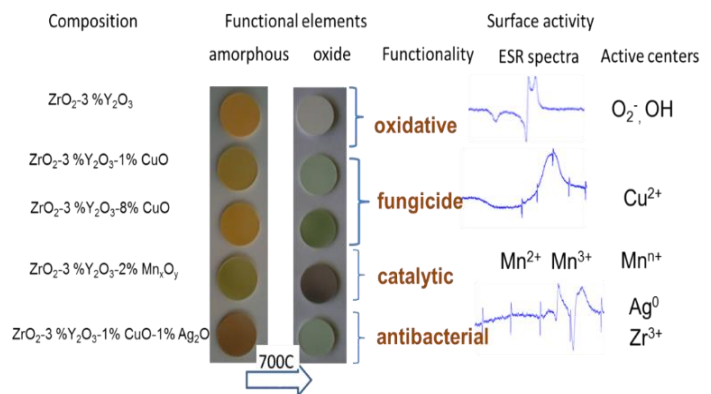
Panel 1, was dedicated for the **Discussion of the NANOGUARD2AR project results and the project progress related to the WP1 Accomplished work, Deliverables /Milestones/ [1-12 months]**

WP1 ACCOMPLISHED Leader C2MA (FR)].	Innovative NMs Composites Design [1-12 months]				
Activity Type	RESEARCH & INNOVATION [TRL 2]				
Participant Short Name	C2MA	NOVA	DIPE	NANOTECH	UPS
PMs per Participant Planned/Implemented	11/0	7/10.8	10/15	6/3.6	2/1
	TOTAL 36/30.4 PMs				
MILESTONE [TRL 2] Reference onset of the Innovative NMs [month 12]					
D1.1. Highly Innovative Dark-Operating Nanomaterials Report Leader C2MA (FR)					
D1.2 Advanced NM-based Hybrids Report Leader DIPE (UA)					
QUANTITATIVE INDICATORS 5 Conference Presentation (4 by ESRs), 9 Articles Published (1 joint); 1 more joint article is expected. 1 PhD work is ongoing (C2MA (FR))					

Results on Reference onset of the Nanomaterials



ZnO controlled morphology (work progress under WP1)

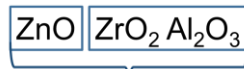


Functional amorphous/oxide composites (background for WP1)

According to the accomplished work, the complex composite nanomaterials based on zinc oxide are promise photocatalytic NMs for NMs Units elaborations for the microorganism degradation.



COMPLEX COMPOSITE MATERIAL



Basic photocatalytic core

IMPROVING OF FUNCTIONAL PROPERTIES OF ZnO FOR INTERACTION WITH FUNCTIONAL GROUPS OF BACTERIAL MEMBRANE

Introduction in basic Photocatalytic Core



STARTED and ONGOING ACTION

Panel 2, was dedicated for the **Discussion of the NANOGUARD2AR project sub-tasks related to the WP2 Started and Ongoing work/ Critical points/ Target Results/Partners Interaction [10-30 months]**

WP2 ONGOING Leader DIPE (UA)].	NMs and Air Curtain System Units Design [10-30months]									
Activity Type	INNOVATION [TRL 3]									
Planned/Implemented PMs	TOTAL 95/14.1 PMs									
PMs per Participant Planned/Implemented PMs* (secondment activity under WP2 is still ongoing, Reasons for the deviations & corresponded actions are given in detail in report section 4 & 5)										
DIPE	NOVA	C2MA	NANO TECH	MCR	UPS	LNEC	OCM	BSU	AMBIS AL	CNRS
20/4	12/6.6	8/0	10/0	9/2.5	2/0	11/1	4/0	15/0	4/0	2/0
MILESTONE 2 [TRL 3] Feasibility performance of the NMs SYSTEM UNIT [month 26]										
D2.1. NM-driven photocatalytic Units Demonstrator Leader NOVA id FCT (PT) [month 20]										
D2.2 Dark operating NM- driven UNIT Demonstrator Leader C2MA (FR) [month 24]										
D2.3 Air- curtains system units UNIT Demonstrator Leader LNEC (PT) [month 24]										

General topics covered by the Panel 2, where the partners interaction, road map for the secondments implementation and knowledge transfer / sample exchange are discussed, were the followed

- NM-based composites in form of Porous blocks; Fibre-net & Corrugated plates [DIPE (UA)] in collaboration with SME NANOTECH (UA)
- NMs coated over fibre-type glass and light rods surfaces [Leader NOVA (PT)] in collaboration with DIPE (UA)
- Lab-scale Prototype air- curtains system Unit [Leader LNEC (PT) in collaboration with SME MRC (UA)]
- NM-driven macro-scale dark operating units [Leader C2MA (FR)]
- Pilot Scale Production of the Designed NMs-composites [Leader DIPE (UA) with SMEs NANOTECH (UA)]



PREPARATORY STEPs for the FORESEEN ACTION

Panel 3 was dedicated for the **Discussion of the Preparatory steps for the NANOGUARD2AR project sub-tasks related to the WP3 implementation,**

Namely it was discussed the **Starting points/Overall Baseline scenario/Risk Analysis/Task allocations and needs for Partners interaction [14-30 months]**

General topics covered by the Panel 3:

- Air Quality Control (methodology used by partners/developed approaches, partners facilities, partners interaction) [partner-moderator TERA, France in collaboration with Ambisalud, Spain]
- Toxicity of the Nanomaterials (planned activities/partners facilities/partners interaction) [partner-moderator NOVA id, Portugal in collaboration with ArDiagnos, Portugal]
- Environmental Impact Assessment [partner-moderator ArDiagnos, Portugal in collaboration with Ambisalud, Spain]

WP3 FORESEEN Leader TERA (FR)		System's Units Testing [14-38 months]										
Activity Type		RESEARCH [TRL 3]										
Planned/Implemented PMs		TOTAL 112/0 PMs										
PMs per Participant Planned/Implemented PMs* (*secondment activity under WP3 is ongoing, also reasons for the deviations & corresponded actions are given in section 4 & 5 of the report)												
TERA	NOVA	C2MA	CNRS	LNEC	UHTL	DIPE	NANO TECH	AR DIG	BSU	UPS	AMBI SALU	MRC
12/0	17/0	4/0	6/0	17/0	6/0	18/0	0/0	6/0	10/0	2/0	4/0	4/0
<p><u>QUANTITATIVE INDICATORS</u></p> <p>Non-appreciable (N/A) yet, Foreseen for the period 2 in a full agreement with DoA</p> <p>Milestone 5 [TRL 3] Feasibility performance of the Assembled NANOGUARD2AR System is foreseen [month 38]</p> <p>D3.1 Protocol on Assembled System Testing is planned for [month 30]. [LNEC (PT) Leader]</p> <p>D3.2 Ethic Check Report is foreseen as planned in DoA [month 38] [NOVA (PT) Leader]</p> <p>D3.3 Protocol on Nanotoxicity evaluation of designed materials & system units is foreseen as planned in DoA [month 36] [NOVA (PT) Leader]</p>												



GENERAL DISCUSSION THE PROJECT IMPLEMENTATION ROAD MAP

In the end of the Workshop it was extended partner's discussion on the detailed Implementation roadmap discussion for second project year in a full agreement with DoA, Partners Interaction, Samples Exchange, Knowledge transfer, Training, Events, Monitoring meeting, further Secondments.

Workshops, project meetings

The Mid-Term meeting, with the attendance of REA Project Officer is foreseen in March, 2017. Next consortium meeting- second Workshop is scheduled for February 2018.

These events will play an important role in training of trainees, networking and publicising/ advertising the project activities.

- 1 Invited lecturers will give lectures on the current state-of-the-art in their S&T area.
- 2 Speakers from different sectors and most notably, from industry will be invited to participate in all events.
- 3 All ESRs and ERs will be encouraged to present their work in a format of oral and poster presentations.

Web Page: partners were invited to collect images and pictures in order to update banners of the page. Web Page will have an extranet where members of consortium will access using username and password in order to upload / download project documents.

Deliverables and ethics aspects:

It is expected, next set of the Deliverables 2.1-2.3 for the 20 and 24 project month. They will be sent to the coordinator in time to be uploaded according to the DoA.

As for ethical issues, it was insured that fair benefit-sharing arrangements with stakeholders from low and/or lower-middle income countries are ensured throughout the project.

Namely, during first project year, fair benefit-sharing with stakeholders from Ukraine (DIPE) was regulated according to the Access and Benefit sharing (ABS) initiatives (Nagoya Protocol) under the Convention on Biological Diversity (CBD). The egalitarian (equal rights and opportunities for all participants) benefit sharing arrangements were applied.

Also, it was confirmed that the research performed in Ukraine was compatible with the Union, National and International legislation and could have been legally conducted in one of the EU Member States according to Article 19 of the H2020 Regulation (EU) No 1291/2013.

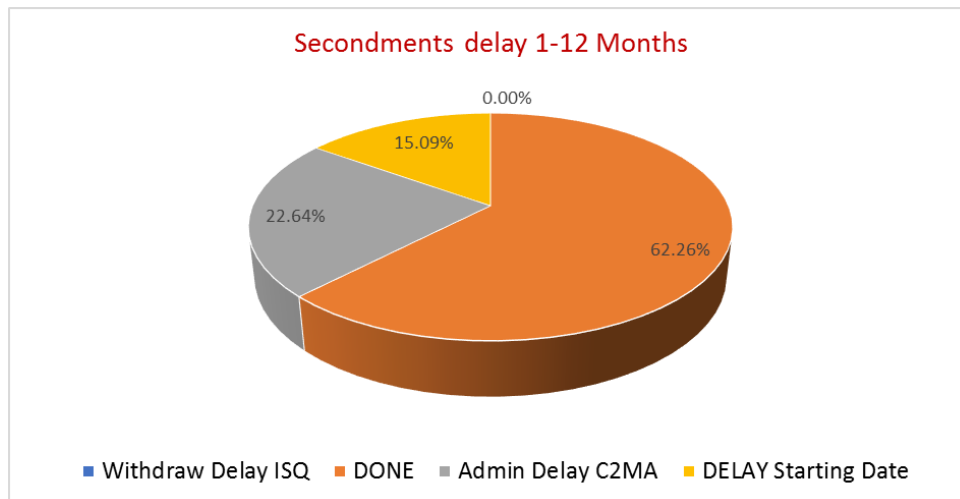
Publication

During the first project year the project Partners are taking care about peer-reviewed scientific publications resulting from NANOGUARD2AR funding to be deposited in open access repositories, i.e. free-of-charge online access for the user. Thus, all papers published within project implementation are deposited free of charge on ResearchGate Partner's webpages and, later on will be deposited to the project website.

MANAGEMENT AND FINANCIAL ASPECTS.

Secondments: duration of the secondments is counted from the day of departure to the day of return. It was discussed, that the Researcher Declaration has to be fulfilled in the Participant Portal Continuous Reporting Tool within the first 20 days after arrival and in the end of the accomplished visits should be submitted. A presentation showing how to do so, delivered by the COO.

It was also agreed, that any changes related with secondees (duration, period, role, etc.) must be notified to the coordinator to be included in the periodic reporting. It is also attached the excel table with scheduled secondments and financial data sent in advance, just in case it has been missed by any partner.



SIGNATURE OF AMENDMENT to the PARTNERSHIP AGREEMENT

Partnership Agreement is signed by all Partners in the beginning of the project, Jan 2016. It regulates the interaction between Beneficiaries and Third Country Partners, interaction between Beneficiaries in agreement with the GA, contained Financial, including coordination funds (6%) of the B1 cost category and general IPR issues. In the end of 2016 - Amendment to the Partnership Agreement is initiated by CNRS/UPS (FR) Academic teams. In April/May 2016, amendment to the PA was signed by the Parties. The main content is definition/description of the background IP of the Partners and their use/protection during the project, in a format of the tables to the PA.

REQUEST for the AMENDMENT to the GRANT AGREEMENT due to two project teams termination activities.

It is planned the project action on an amendment (to be validated by REA) due to the termination the Beneficiary OCM, ORRION CHEMICALS METALCHEM SAS from France, which was involved to the implementation of the first and second objectives on the Design and development Innovative Nanomaterials (NMs) Innovative NMs-based System Units via intensive knowledge exchange/secondments with NOVA id FCT (PT) and DIPE (UA) project team. During these secondments Industrial OCM (FR) Partner act as the host, with their knowledge on industrial scale production of the nanometals oxides. While Research partners share their knowledge on the NMs developments (nanometals oxides production with very narrow (5, 10, or 20 nms) and uniform particle size distribution- Ukrainian DIPE team) and NMs-based Units elaboration (optimization of the thin films deposition techniques – NOVA id FCT Portuguese team) with the Industrial Partner OCM. While OCM (FR) industrial Partner helps to the DIPE (UA) team to expand DIPE team knowledge and transform their technology also for the operation line to work with crystalline precursors (previously DIPE works only with amorphous precursors). There was not deviation with planned work for OCM team.

Therefore, the OCM (FR) team terminated their activities within the project acting as host only with measured indicators, which were help/knowledge exchange with Academic UA and PT teams. Team will not spend theirs 10 PMs.

Thus, it was decided to reinforce the consortium by new team with 14 PMs of secondment, thus to ask REA during amendment to the GA to consider new beneficiary University from Portugal, ULHT (PT) with strong dual type of knowledge/skills both in Industrial Management and Safety and Advanced Research in Communication.

Second project team termination is RTO ISQ (PT). Team role/work and 10 PMs secondments were planned for the WP3 only [14-38 months].

As far as ISQ team was not planned for the first year, there was not deviation with planned work for ISQ team.