

Overall view of the progress so far according with scheduled activities and progress indicators



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MANORISK



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Outline

1. Analysis of the progress so far: task and main results
2. Dissemination activities completed
3. General conclusions



NANO RISK



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1. Analysis of the progress so far: task and main results



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1. Analysis of the progress so far: task and main results



□ Project objectives and key messages

The LIFE NanoRISK project is focused on the evaluation of the **effectiveness of common risk management measures to prevent or minimize exposure to engineered nanomaterials (ENMs)** during the **specific workplace situations** of the polymer nanocomposite industry, including data on the efficacy of engineering controls, personal protective equipment and administrative control.

The project focuses attention on the following issues:

- The definition of the most relevant types of ENMs on the basis of market penetration and potential environmental, health and safety (EHS) risks;
- The characterization of the main activities conducted at the workplace to improve the current knowledge on the exposure and release potential;
- The development of an aerosol testing chamber;
- The evaluation of the risk management measures in controlled and reproducible conditions, ensuring the reliability of the data generated within the project.





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1. Analysis of the progress so far: task and main results



□ Project Objectives

According with the proposal, the specific objectives of the project are:

- ❗ To design and develop a library of Risk Management Measures containing reliable data on the effectiveness of personal protective equipment (PPE), engineering techniques and organizational measures.
- ❗ To develop an **aerosol testing chamber prototype** to evaluate and demonstrate the performance of the RMM at laboratory scale.
- ❗ To develop a guidance to support industry and stakeholders on the selection of proper RMMs
- ❗ To improve the **knowledge base on the parameters that determine the exposure to ENMs** at industrial scale
- ❗ To enhance the **knowledge base on the potential releases of ENMs to air, soil and water** from industrial facilities on a life cycle basis
- ❗ To analyze the **adequacy of current international standards (ISO /CEN /ASTM)** to evaluate the effectiveness of PPE and collective protection measures.
- ❗ To improve the knowledge on the likely **Exposure Scenarios** in the nanocomposite industry





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1. Analysis of the progress so far: task and main results



□ Project Objectives

- ❗ To support the **hazard and exposure characterization for ENMs** with the aim to support the industry in carrying out their Chemical Safety Assessment (CSA) as stated by REACH.
- ❗ To **disseminate the project results** for a large community of SMEs and potential stakeholders, establish cooperation activities (networking) and organize activities to support the implementation of the project
- ❗ To support the **monitoring of REACH compliment** and its impact on risk mitigation and prevention of pollution posed by NMs.

The achievement of these objectives will promote the protection of environment and health from risks posed by ENMs, providing new data on exposure patterns and the inputs for the **chemical safety assessment process in the context of REACH regulation** (Exposure estimation and risk management measures efficiency), both relevant aspects to consider evaluating the safety use of the nanomaterials in a regulatory context.





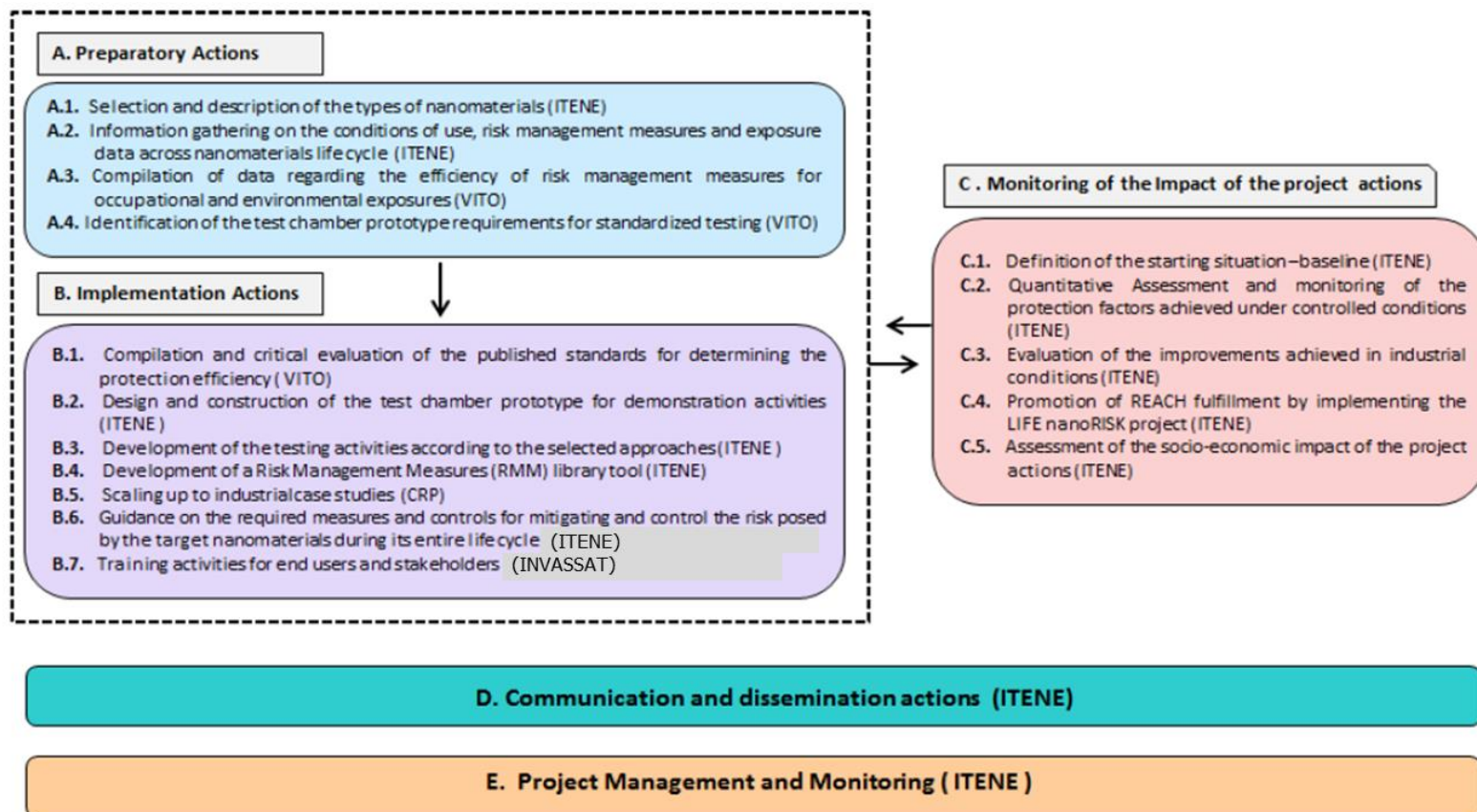
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1. Analysis of the progress so far: task and main results

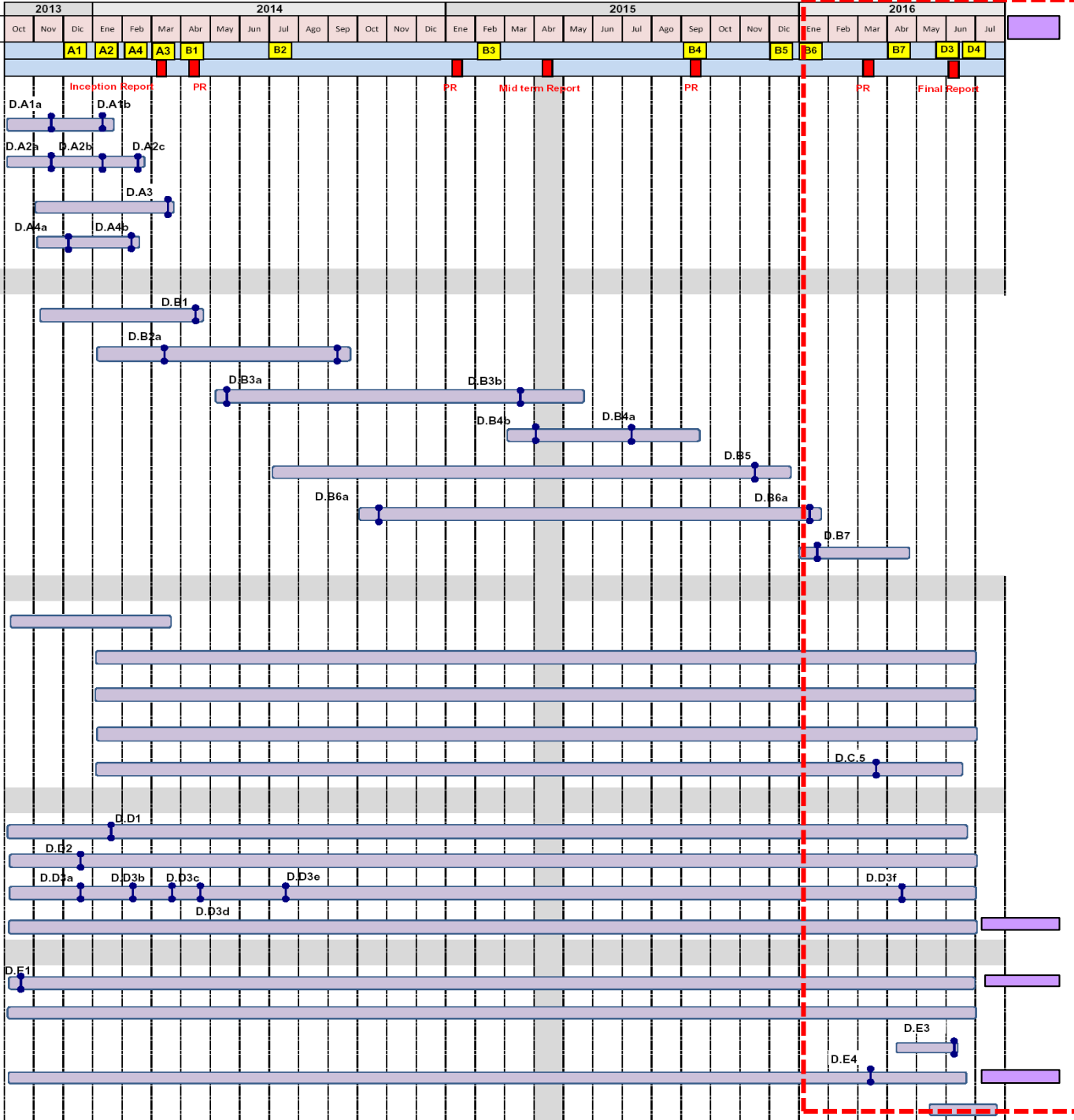


□ Main activities

The work plan was divided into 3 types of activities or actions and based on the specific eligible actions under the framework of the LIFE + call.



ACTION	
Action Number	Name of the Action
Milestone line	
Reports line	
A. Preparatory actions	
A.1	Selection of representative Nanomaterials
A.2	Information gathering on the conditions of use and risk management measures across nanomaterials life cycle
A.3	Compilation of data regarding the efficiency of risk management measures for occupational and environmental exposures
A.4	Identification of the test chamber prototype requirements for standardized testing
B. Implementation Actions	
B.1	Compilation and critical evaluation of the published standards for determining the protection efficiency
B.2	Design and construction of the test chamber prototype for demonstration activities
B.3	Development of the testing activities according to the selected approaches
B.4	Development of a Risk Management Measures (RMM) library tool
B.5	Scaling up to industrial case studies
B.6	Guidance on the required measures and controls for mitigating and control the risk posed by the target nanomaterials during its entire life cycle
B.7	Training activities for end users and stakeholders
C. Monitoring the Impact of the project actions	
C.1	Definition of the starting situation – baseline
C.2	Quantitative Assessment and monitoring of the protection factors achieved under controlled conditions
C.3	Evaluation of the improvements achieved in industrial conditions
C.4	Promotion of REACH fulfilment by implementing the LIFE nanoRISK project
C.5	Assessment of the socio-economic impact of the project actions
D. Communication and dissemination actions:	
D.1	Communication and dissemination management
D.2	Preparing and keeping the project website
D.3	Elaboration of informative material
D.4	Dissemination of results
E. Project Management and Monitoring	
E.1	Project management
E.2	Project monitoring
E.3	Financial Audit
E.4	Networking with other projects
E.5	After Life+ Communication plan





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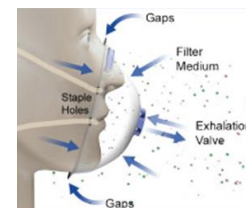
1. Analysis of the progress so far: task and main results



Expected outputs

In detail, it's expected to produce the following results:

- ❗ A library of proven, **technically feasible and economically viable** organizational measures, PPE and engineering techniques to control and reduce the risk of exposure to ENMs.
- ❗ A functional and **newly developed testing chamber prototype** for the standardized evaluation of the effectiveness of the working procedures, prevention and protection measures to control the risk
- ❗ A compendium of at least **10 well defined and standardized protocols** to evaluate the effectiveness of the work place controls against NMs.
- ❗ Data on the resistance of conventional respiratory and dermal protection equipment to penetration and permeation of ENMs in powder and colloidal forms
- ❗ A complete **assessment report of the ISO standards** for PPE testing
- ❗ A complete description of the current **ES across the nanocomposites life cycle**, including an in depth description of the existing OC, efficient RMMs and measured exposure levels.





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1. Analysis of the progress so far: task and main results



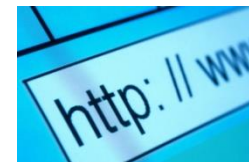
Expected results (Long term)

- ! New **information on the release rates** to air, surface fresh and marine water, waste water and soil for each relevant stage on the life cycle.
- ! New **knowledge on the airborne behaviour of the target NMs**, including new data on their aggregation/agglomeration patterns and deposition factors under the specific conditions of use presented in the nanocomposites production facilities.



Expected results (Dissemination)

- ! A structured compendium of free **webinars** and **workshops** to support the training of end users and stakeholders in the use and implementation of the RMM.
- ! A set of **informative material** to disseminate the project actions at a Regional, National and European level.
- ! A **network platform to close the knowledge gaps** about nanomaterials impact and to develop and implement, in collaboration with scientific committees





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1. Analysis of the progress so far: task and main results



❑ Achieved vs Expected

Achieved	Expected
A library of proven, technically feasible and economically viable organizational measures, PPE and engineering techniques to control and reduce the risk of exposure to ENMs.	On Going / ok
A functional and newly developed testing chamber prototype	Completed
A compendium of at least 10 well defined and standardized protocols to evaluate the effectiveness of the work place controls against NMs.	Completed
Data on the resistance of conventional respiratory and dermal protection equipment to penetration and permeation of ENMs in powder and colloidal forms	On Going / ok
A complete assessment report of the ISO standards for PPE testing	Pending
A complete description of the current ES across the nanocomposites life cycle,	Pending
New information on the release rates to air, surface fresh and marine water, waste water and soil for each relevant stage on the life cycle	Pending
New knowledge on the airborne behaviour of the target NMs, including new data on their aggregation/agglomeration patterns and deposition factors under the specific conditions of use presented in the nanocomposites production facilities.	Pending



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1. Analysis of the progress so far: task and main results

□ Work plan (Mid-Term report) and main results

► Action B3. Development of the testing activities according to the selected approaches

Action status: **pending**

Timescale: May 2014 - July 2015

Proposed timescale: - **June 2016**

Objectives: The main aim of the action is to design the experimental set up to conduct the testing activities and the execution of the experiments according to the specifications of the standardized testing approaches evaluated within action B1.

Action / Task		2016						
		Jan	Feb	Mar	Apr	May	Jun	Jul
TB3.1. Experimental set up design to evaluate the effectiveness of the RRM	Proposed							
	Actual							
Task B3.2. Testing activities under controlled conditions	Proposed							
	Actual							
Task B3.3. Evaluation of the effectiveness of the RMM under simulated conditions	Proposed							
	Actual							

Deliverables drafted



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1. Analysis of the progress so far: task and main results



❑ Work plan (Mid-Term report) and main results

▶ Results expected

- A complete report for each Risk Management Measure including the description of the effectiveness in terms of typical default value and maximum achievable value.
- Data on:
 - ✓ Barrier efficiency for skin protective equipment
 - ✓ Particle penetration potential for protective clothing and filtration
 - ✓ Assigned Protection factor (APF) and leakage efficacy for respirators
 - ✓ Percentage reduction in emissions for Ventilation, including fume hoods, cabinets and other extraction methods.
 - ✓ Leakage efficacy for protective goggles.

▶ Results achieved

- Data on the effectiveness of RPE and LEV available ;





1. Analysis of the progress so far: task and main results

□ Work plan (Mid-Term report) and main results

- Design and validation of the experimental set up
- Testing activities under controlled (static) conditions with RPE, protective clothes, and Local Exhaustive Ventilation systems
- Testing activities under simulated exposure scenarios
- First draft of deliverables available
- Scheduled test by INSHT on the permeation potential of gloves
- Scheduled simulation studies in ITENE
- Final draft to be completed by June 2016

Reporting / Indicators

DB3a. Experimental set up - SOPs (Done)

DB3b. Report on the quantitative evaluation of the effectiveness of the RMM (May 2016)

Act	Indicator	Results	Status
B3	Variability between replicas	The measured correlation was higher than 95 % for personal protective equipment. For LEV systems, correlations between 91 and 93 % are reported.	Achieved
	Comparability and correlation between the reproduced and real conditions	New field studies to support the analysis of background levels measured in terms of NPs/cm ³ , surface area and average size expected within B5.	On going (B5)



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1. Analysis of the progress so far: task and main results



► Results achieved

The experimental set up requires dedicated facilities, as well as nano-specific equipment to define and characterize the concentration of ENMs in terms of particle n° concentration, mass and particle size distribution.





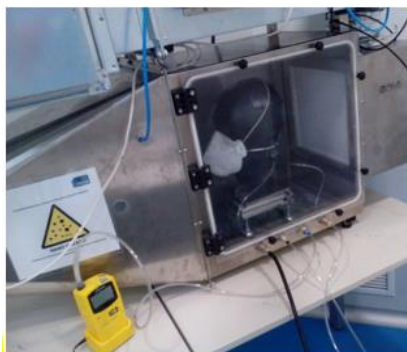
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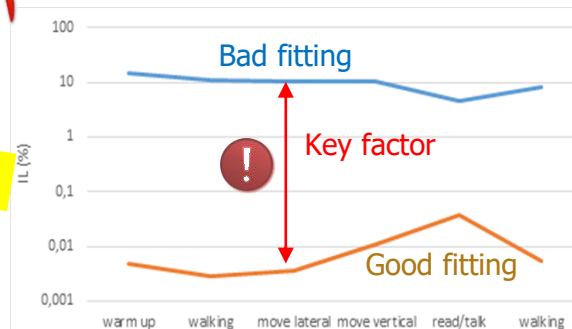
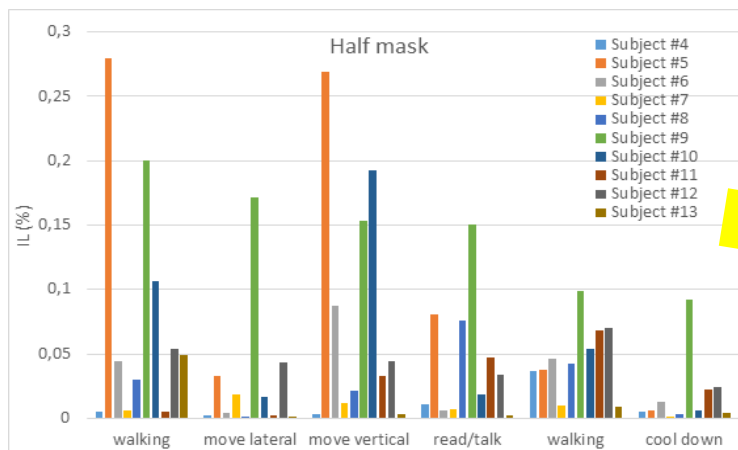
1. Analysis of the progress so far: task and main results

► Results achieved

- Inward leakage of NaCl particles (35 nm)



Mask	Filter	Concentration (% in 1000 ml H ₂ O)	T.I.L. (%)	NPF	Class
Half Mask	FFP2	0,05	96,265	26,8	2
Full Mask	FFP2	0,05	99,981	5263,2	3
Half Mask	FFP3	0,05	99,994	16666,7	3
Full Mask	FFP3	0,05	99,551	222,7	2
Half Mask	FFP2	0,1	97,673	43,0	2
Full Mask	FFP2	0,1	98,117	53,1	3
Half Mask	FFP3	0,1	99,995	20000,0	3
Full Mask	FFP3	0,1	99,478	191,6	3





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1. Analysis of the progress so far: task and main results



► Results achieved

The results of the projects up to date show that high efficiency filters FFP3 (according to EN 143 or EN 149) and certified respiratory protection equipment (Half masks / Full face masks) appear to be effective for the protection against NMs

- ❑ Most penetrating particle size ~ 30-50 nm
- ❑ Equipment performance:
 - Penetration increases with flow
 - Greater protection with better fittings
 - mask disposables -> difficult fitting
- ❑ Inward leakage
 - Highly influential factor in the final PPE protection

- ✓ • Fitting of the RPE to the shape of the user's face is the main issue to consider for reducing exposure by inhalation.
- Manufacturers have defined new innovations to improve the facial seal, including the use of adhesive material and improvements in the design of trim strips (straps).





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1. Analysis of the progress so far: task and main results

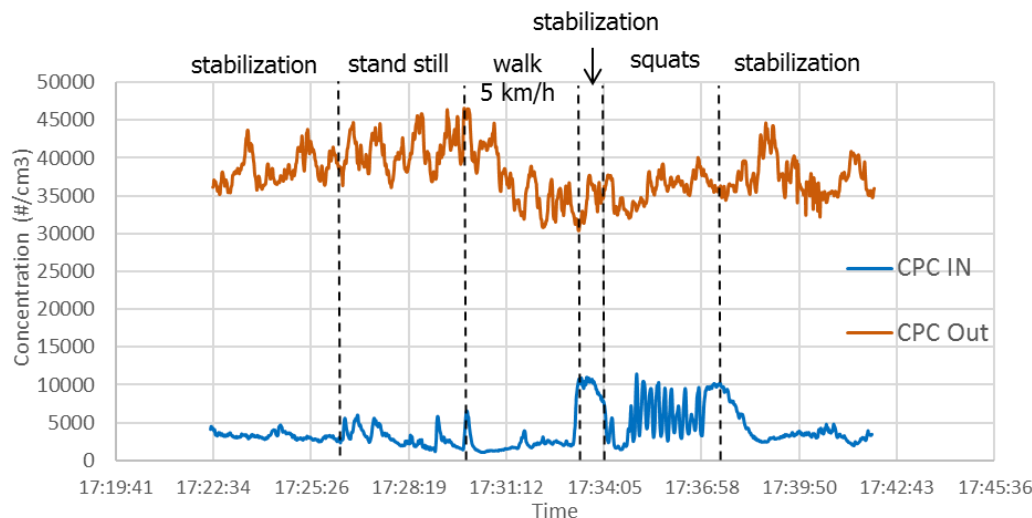
► Results achieved

Protective clothing

- Choose clothes of **nonwovens fabrics** for dry NMs (disposable hooded garment and shoe covers Type 5)
- If NM are in colloidal solution and no possibility of contact through splashing, choose clothing Type 4 with **laminated materials**, "waterproof", as High density polyethylene (Tyvek * type)

Chemical protective gloves

- Choose chemical protective gloves. If they are very thin, use **double glove**.
- Require the specific chemical protective gloves if there are solvents as dispersion media. Use of **butyl gloves** recommended.
- Change gloves regularly** to minimize imperfections of use and hand movements





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1. Analysis of the progress so far: task and main results



❑ Work plan (Mid-Term report) and main results

► To be considered in the Guide

- High: reduction in exposure to values close to the background concentration
- Medium: exposure values above 25 % of background concentration
- Moderate reduction: exposure values above 50 % of background concentration
- Low reduction: no effects on the emission reduction observed





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1. Analysis of the progress so far: task and main results

❑ Scheduled work plan (Mid-Term report)

► Action B4. Development of a Risk Management Measures (RMM) library tool

Action status: **Pending**

Timescale in Proposal: March 2015 - September 2015

Actual: March 2015 - May 2016

Objective: The objective of this action is to develop a Microsoft excel® based risk management measures library containing information of the effectiveness against target ENMs and critical operative conditions.

Action / Task		2016								
		Jan	Feb	Mar	Apr	may	Jun	Jul	Aug	Sep
Task B4.1. Identification of the RMMs library contents	Proposed									
	Actual									
Task B4.2. Design of the dataset for RMM description	Proposed									
	Actual									
Task B4.3. Nano-Specific RMMs Library development	Proposed									
	Actual									



1. Analysis of the progress so far: task and main results



□ Scheduled work plan (Mid-Term report)

The initial design and structure of the library was defined by May 2015, being generated using Microsoft Excel® and Visual Basic. The library follows the structure of the RMM library developed under the scope of the REACH implementation project 3.2, which provides insight into the efficacy of technical control measures in the workplace.

The activities currently are focused on the definition of the terminology to be used to describe common RMMs, the population of the excel spreadsheets with data on the effectiveness of the measures selected, as well as the creation of the on-line version of the library structure using Excel.

On the basis of the proposal text, the RMM library shall consider at least the following contests:

- General name (Type) of RMM according with original RMM library
- Brief description of the properties of the ENMS for which the RMM is applicable
- List of other RMM which may be needed to avoid / control risk
- Quantified data when possible, including the default efficiency values and the maximum achievable efficiency values, for each of the RMM studied
- Additional information on the use of the RMM
- Specific references for both RMM/OC and efficiency
- Occupational Exposure references
- Environmental release references



1. Analysis of the progress so far: task and main results

► Progress

ITENE is currently working on the programming of the excel files using visual basic. In this sense, the excel spreadsheets defined contains appropriate formulas programmed to support the selection of proper measures depending on the type of ENMs and identified use.

The activities currently are focused on the population of the **excel spreadsheets with data on the effectiveness of the measures selected**, as well as the creation of the on-line version of the library structure.

To be considered

The main outcomes from the task are:

- A functional RMM library developed on the basis of the contents and design defined within the task
- A **list of implementable and proven RMM measures**, including information on the effectiveness of
- prevention of release to the environmental compartments.
- A description of the **critical control points that should be followed** when applying a specific RMM
- A complete list of sources of information to support the implementation of the RMM

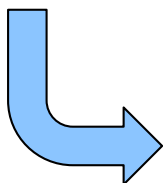
Reporting: Guidance on using the library (May 2016)

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1. Analysis of the progress so far: task and main results



► Results



INPUT VALUES

Properties of the ENM

Chemical Properties

- ☐ Metal oxides
- ☒ Nanoclays/Nanocellulose
- ☐ Carbon-based nanomaterials

Shape

- ☐ 1D: Platelet
- ☒ 2D: Nanotube, nanorods
- ☐ 3D: Spherical
- ☐ Irregular

Size Range

- ☐ < 10 nm
- ☒ 10 - 50 nm
- ☐ 50 - 150 nm
- ☐ 150 - 300 nm
- ☐ > 300 nm

State

- ☐ Liquid dispersion/suspension
- ☒ Agglomerated
- ☐ Highly dispersed (solid/powder/dust)

Density

- ☐ High
- ☒ Low

Solubility in water

- ☐ Soluble
- ☒ Insoluble

Clear All

2 2 2 3 2 2

Properties of exposure

1

82

Life Cycle Stage	Occupational Exposure Situation	Use	
Nanoparticles Production	OES 1	NP's synthesis	<input checked="" type="radio"/>
	OES 2	NP's Functionalization	<input type="radio"/>
Formulation	OES 3	Manufacture of intermediates (blending/mixing)	<input type="radio"/>
	OES 4	Formulation	<input type="radio"/>
	OES 5	Laboratory reagent	<input type="radio"/>
Industrial Use. Uses of Additives in Nanocomposite Production	OES 6	As component for production of	<input type="radio"/>
	OES 7	As component for solid blends and matrices	<input type="radio"/>
Service Life	OES 8	Industrial use of nanocomposites	<input type="radio"/>
	OES 9	Professional use of nanocomposites	<input type="radio"/>
Maintenance/Cleaning/Sampling	OES 10	Industrial or professional use of nanomaterial/nanocomposite	<input type="radio"/>

Scale of the process

- ☐ Amount used < 1g
- ☒ Amount used > 1g <= 1kg
- ☐ Amount used > 1kg <= 100kg
- ☐ Amount used > 100kg

Enclosure of the Process

- ☐ Open (No ventilation)
- ☒ Open (Ventilation)
- ☐ Closed

Time of exposure

- ☐ Punctual <= 15
- ☐ Media > 15 min < 1h
- ☒ Continued >= 1h

Energy of the process

- ☐ High energy
- ☒ Low energy (ambient)

Clear All

2 2 3 2

See Output Values

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1. Analysis of the progress so far: task and main results



► Results

OUTPUT VALUES

Recommended RMM Occupational		Efficiency (%)		Estimated Costs*** (€)
Respiratory protection	DpHM - FFP1	77	nr	
	DpHM - FFP2	91	OK	1,8
	DpHM - FFP3	97	OK	2,99
	HM - FFP2	91	OK	26,2
	HM - FFP3	97	OK	33
	FM - FFP2	99	OK	110,2
	FM - FFP3	99	OK	117
Chemical Protective Gloves	Disposables	99	OK	1
	Re-usable (mechanical risk)	95	OK	0,23
	Specific chemical resistance	89	OK	2
Chemical Protective Clothes	Woven materials	69	nr	
	Non-woven materials (disposable)	94	OK	1
Eye protection	Elastomeric material re-usable	# REF	# REF	# REF
	Universal Frame	92	OK	7
	Goggles	99	OK	12,5
Local Exhaust Ventilation *	Canopy hoods	94	OK	2000
	Movable capturing hoods	94	OK	1500
	Fume cupboard (without glove box)	94	OK	3000
	Glove box	100	na	
	Closed room ventilated or kept under negative pressure	100	na	
	Management Systems		✓	
Administrative Controls **	Operating Practice		✓	
	Competence and training		✓	
	Supervision		✓	
	Monitoring		✓	
	Health Surveillance		✓	
	Good Hygiene Practices & Housekeeping		✓	

Recommended RMM Environmental Protection		
SPILL CONTAINMENT MEASURES	Closed sinks/ basins to prevent discharge to waste- and/or surface water (E11.01)	
	Hard impervious surfaced areas (E11.02)	
	Isolated drainage to prevent discharge to soil (E11.03)	
REDUCTION AND CLEANING OF AIR EMISSIONS	Scrubber	
	Electrostatic Precipitator	✓
	Air filtration	✓
REDUCTION AND CLEANING OF WASTE WATER	Waste gas treatment	
	Biological treatment: Activated sludge	
	Electrocoagulation / electrofiltration	
REDUCTION AND DISPOSAL OF WASTE	Microfiltration and ultrafiltration	
	Waste Incineration Plant	
	Landfill	
	Phytoremediation	



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1. Analysis of the progress so far: task and main results

□ Scheduled work plan (Mid-Term report)

► Action B5. Scaling up to industrial case studies

Action status: **Pending**

Timescale in Proposal: July 2014 - December 2015

Actual: July 2014 - June 2016

Objective: The objective of this action is to implement the RMMs evaluated within B3 in a compendium of case studies representing the life cycle stages and critical exposure scenarios identified in occupational settings.

		2016										
Action / Task		J/F	Mar	Apr	may	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Task B5.1. Implementation of the RMMs in industrial cond.	Proposed											
	Actual											
Task B5.2. Quantitative measure of the effectiveness of RMMs in reducing exposure / emissions	Proposed											
	Actual											
Task B5.3. Validation of the RMMs effectiveness	Proposed											
	Actual											



1. Analysis of the progress so far: task and main results



❑ Scheduled work plan (Mid-Term report)

To be considered

This task focuses on the **quantification of the effectiveness of the measures implemented in the pilot studies**. To this end, expertise staff from ITENE and VITO have conducted several scoping visits to gather data on the levels of exposure and performance of current RMMs.

The last stage of the action will be focused on the validation of the effectiveness of the risk management measures when dealing with nanomaterials. To this end, the data obtained in the previous task will be analysed in depth, considering both, the typical values of effectiveness of each measure and the ratio of reduction achieved under the normal condition of use

Remaining activities:

Implementation study: proposal of measures to implement, including a complete report of the activities to be conducted, dedication of the company, timing and resources (April 2016)

Quantitative measure of the effectiveness of RMMs in reducing exposure or environmental emissions (May 2016)

Validation of the RMMs effectiveness (June 2016)



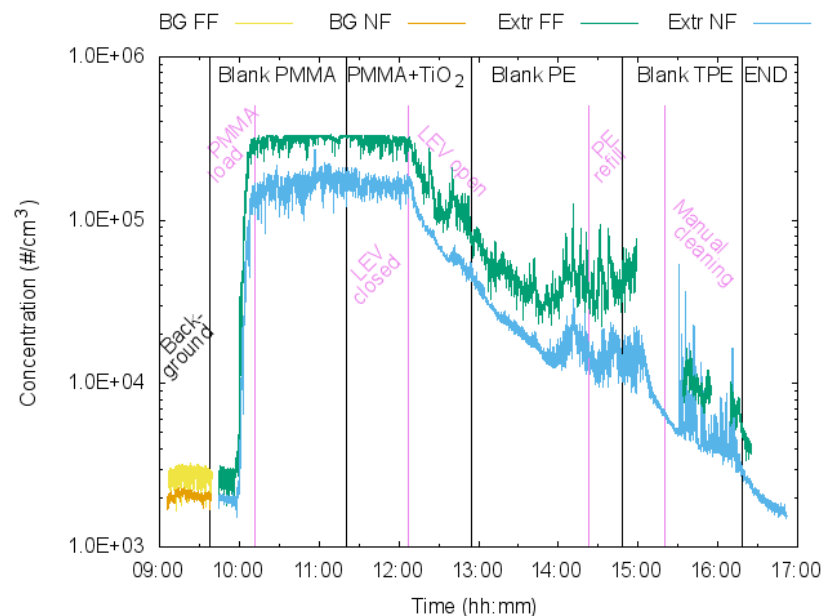
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1. Analysis of the progress so far: task and main results



Case 1. Melt Compounding (TiO₂)

- Increase up to 3 orders of magnitude respect to Background when extrusion starts.
- However, no significative difference between blank PMMA and PMMA + TiO₂ NPs → dust mainly from PMMA itself.
- LEV system reduces over **98 %** the airborne concentration.
- Manual activities such as refilling the feeder or cleaning entrance with a brush increase locally the concentration.
- Difference between NF and FF concentration very high, up to 2e6#/cm³. Higher concentration in FF, cause can be the cutter is close to the chosen FF location and there is high PMMA release.





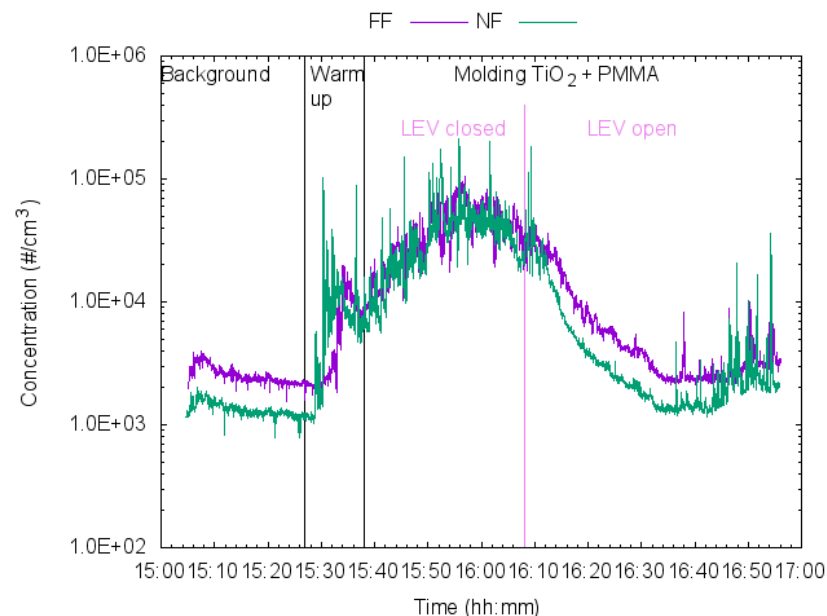
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Case 2. Injection molding

- Feeding: manual
- LEV: Ventilation Hood
- Materials: TiO₂ NPs (2%) + PMMA
T_{mold} = 245 °C
- PPEs: Masks FFP3, gloves, laboratory coats
- The levels of exposure reached values up to 10,000 pt/cm³ under normal operating conditions
- LEV system reduces over 80 % the concentration of ENMs in the surrounding area.





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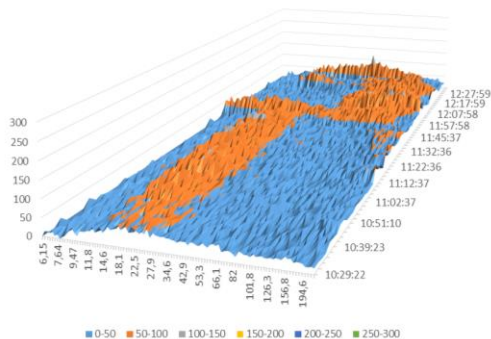
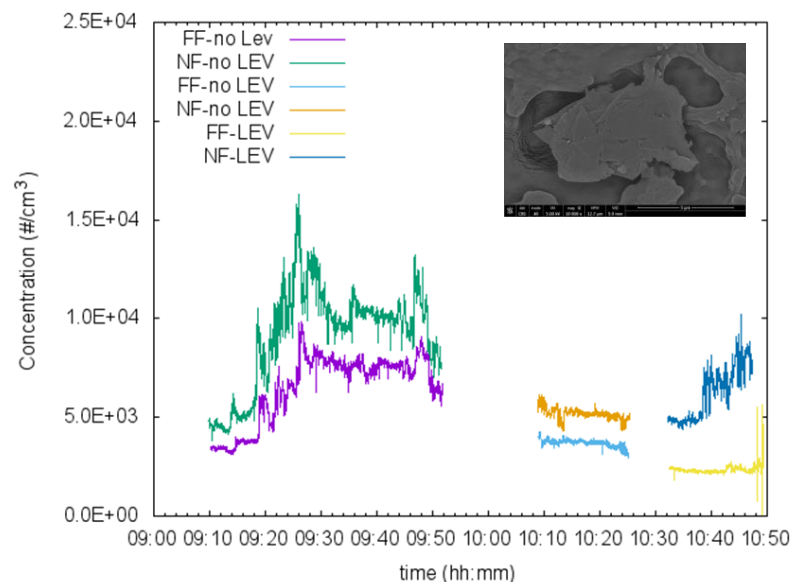
1. Analysis of the progress so far: task and main results



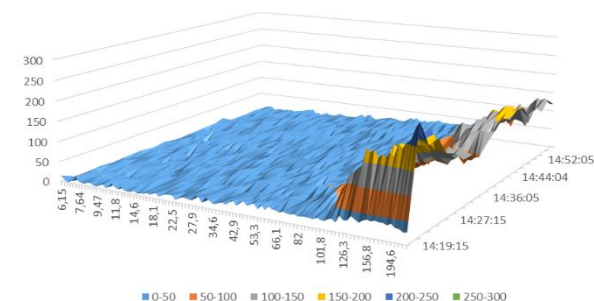
Case 3. Synthesis and Packaging of solids (Graphene, TiO_2 and SiO_2)



The high volatility of graphene, and since the device working as a capture hood has no flow control, the flow rate applied causes resuspension and dispersion of particles through the room.



Liquid synthesis has much lower release than **solid synthesis**





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1. Objectives, expected outcomes and scheduled work plan

□ Scheduled work plan (Mid-Term report)

- **Action B6. Guidance on the required measures and controls for mitigating and control the risk posed by the target ENMs during its entire life cycle**

Action status: **Pending**

October 2014 - January 2016

Actual: December 2014 - January 2016

Objective: The main goal of this task is to develop a guidance to support the implementation of effective RMMs for mitigating and control the risk posed by the target nanomaterials during its entire life cycle, considering the compendium of contributing scenarios presented at all stages of nanocomposites production, use and disposal

		2015		2016										
Action / Task		Oct	N/D	J/F	Mar	Apr	may	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Task B6.1. Design of the guidance structure and contents	Proposed													
	Actual			B6a										
Task B6.2. Cost effectiveness analysis and definition of best available RMMs	Proposed													
	Actual													
Task B6.3. Development of the Guidance on the use of RMMs in the nanocomposite industry	Proposed													
	Actual													



1. Objectives, expected outcomes and scheduled work plan

□ Scheduled work plan (Mid-Term report)

To be considered: being drafted by ITENE and responsible people from INSHT

Structure

1. Abbreviations and acronyms
2. Summary
3. Introduction: Environmental, health and safety (EH&S) issues in Nanotechnology.
4. Regulations and standards
5. Selection of Risk Management Measures
 - 5.1. Hierarchy of Safety and Health Controls
 - 5.2. Types and specifications of personal protective equipment (PPE) used in occupation settings
 - 5.3. Types and specifications of Local Exhaustive Ventilation (LEV) systems used in occupational settings
 - 5.4. Types and specifications of existing ECT used in to control release and remove pollutants
 - 5.5. Factors Influencing PPE Selection
 - 5.6. Special considerations when dealing with engineered nanomaterials
6. Effectiveness of common risk management measures against occupational exposure to ENMs
 - 6.1. Current knowledge on the effectiveness of PPE and LEVs
 - 6.2. Recommended testing approaches
 - 6.3. Protection factors and performance levels based on the studies conducted within NanoRISK
7. Recommended measures for the safe handling and control of exposure
 - 7.1. Decision criteria
 - 7.2. Recommended protection measures in occupational settings
8. Health Surveillance and environmental monitoring
9. Instruction sheets
10. Frequently asked questions
11. Annexes



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1. Objectives, expected outcomes and scheduled work plan

□ Scheduled work plan (Mid-Term report)

To be considered

The last action within the task will work on the development of a multimedia version of the guide on the basis of the structure and contents defined, and including photos, videos and periodical updates.

The guide will be edited in the language of the project partners, including versions in English and Spanish.

The Guidance must be completely developed by May 2016 (pdf) and June (multimedia vs)

Reporting: Final Version of the Guidance in pdf (May 2016)

Indicators

Act	Indicator	Results	Status
B6	Cost Effectiveness	Action currently on going.	On-going
	Publication	No expected delays. The guidance is being drafted at the time of writing.	On-going



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1. Objectives, expected outcomes and scheduled work plan

❑ Scheduled work plan (Mid-Term report)

► Action B7. Training activities for end users and stakeholders

Action status: **Pending**

October 2014 - January 2016

Actual: December 2015 - September 2016

Objective: The main goal of the action is to transfer the outcomes of the project to the end users and relevant stakeholders by mean of interactive training sessions

Task B7.1. Training materials

On an early stage within the action, the project partners involved in the dissemination activities will **design the materials for the training activities**, considering the needs of the target audience of the training sessions. The training material will include

- Principles of the safe nanotechnology
- Special considerations when working with nanomaterials
- Effectiveness of PPEs and engineering controls on the basis of the newly developed RMM Tool
- Videos of the testing activities, including explanations of the activities conducted
- Interactive presentations of the RMM library
- Visit to the facilities for testing when possible



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1. Objectives, expected outcomes and scheduled work plan

❑ Scheduled work plan (Mid-Term report)

Task B.7.2. Training activities and seminars

At least three training sessions will be carried out at 3 different Countries, including Spain, Belgium, and Italy. At regional scale, SMEs, large companies and regional stakeholders will be invited to the training sessions, using when possible the mother tongue of the attendees at regional scale.

Act	Indicator	Results	Status
B7	End users trained	A minimum of 75 attendees representing 50 companies must be trained	On going
	Number of Training sessions	At least 4 training sessions will be conducted, including half day sessions in Madrid, Sevilla and Valencia (Spain), Italy and Brussels (Belgium)	On going

❑ Scheduled work plan (Mid-Term report)

Action status: On going

Timescale in Proposal: January 2014 - July 2016

Actual: July 2014 - July 2016

Objectives: the main goal of the action is to define the improvement in the protection levels at industrial level derived from the use of proven RMMs defined during the project

		2015				2016						
Action / Task		Q1	Q2	Q3	Q4	J	F	M	A	M	J	J
T.C2.1. Establishment of the control protection factor	Proposed											
	Actual											
T.C2.2. Monitoring of further improvements in RMMs protection factors	Proposed											
	Actual											
T.C2.3. Assessment and monitoring of the release ratio	Proposed											
	Actual											



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1. Objectives, expected outcomes and scheduled work plan

❑ Scheduled work plan (Mid-Term report)

► Action C2. Quantitative Assessment and monitoring of the protection factors achieved under controlled conditions

Task C.2.1. Establishment of the control protection factor

The first stage within this action will be to define the **protection factors achieved by means of the combination of RMMs** tested in the nanoaerosols test chamber.
Definition of the starting situation

Task C.2.2. Monitoring of further improvements in RMM protection

This action will monitor the changes of the protection factor, which will be used as a measure of the success of the RMM studied in the chamber. Combination of RMMs with several specifications to monitor the variation on the protection factors

Task C.2.3. Assessment and monitoring of the release ratio

The main goal of the task is to monitor the reduction in the amount of nanomaterials released to the environment.



1. Objectives, expected outcomes and scheduled work plan

□ Scheduled work plan (Mid-Term report)

To be considered

The main expected results within this task are:

- A derived protection factor for each combination of workplace controls
- A set of data provided by the data loggers containing relevant information to evaluate variation on the levels of exposure and particle release. The series of data will contain information on the number concentration (measured in number of particles/cm³), surface area (measured in $\mu\text{m}^2/\mu\text{m}^3$) and average diameter (measured in nm) for each test conducted within the task during the entire duration of the project.
- A compendium of graphical information describing the evolution of the release ratio on the basis of the combination of different Risk Management Measures

Reporting: Interim report on the enhancement of the protection factors achieved under controlled / modelled conditions (July 2016)

Indicators

Act	Indicator	Results	Status
C2	Number of Protection factors	31 protection factors have been defined to date.	Achieved
	Time series recorded	10 months available, being expected to achieve 12 months in July 2016	On-going
	Number of entries for the graphical representations	To be estimated	On-going



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1. Objectives, expected outcomes and scheduled work plan

□ Scheduled work plan (Mid-Term report)

► Action C3. Evaluation of the improvement achieved in industrial conditions

Action status: **On going**

Timescale in Proposal: January 2014 - July 2016

Actual: October 2014 - August 2016

Objectives: This monitoring action is intended to evaluate the reduction in exposure due to the implementation of the selected risk management measures by the industrial partners, voluntary case studies and those other parties following the recommendations established in the newly developed guidance.

		2015				2016							
Action / Task		Q1	Q2	Q3	Q4	J	F	M	A	M	J	J	A
TC.3.1. Development of a monitoring plan to evaluate the reduction of emissions and Workers' exposure	Proposed												
	Actual												
TC.3.2. Monitoring and interpretation of the improvements achieved in case studies	Proposed												
	Actual												
TC.3.3. Monitoring the impact of the actions in the nanocomposite sector	Proposed												
	Actual												



1. Objectives, expected outcomes and scheduled work plan

☐ Scheduled work plan (Mid-Term report)

To be considered

Task C.3.1. Development of a monitoring plan to evaluate the reduction of emissions and Workers' exposure

This task will work on the development of a specific plan to control and monitor the reduction of emissions and exposure, which can be implemented easily by the industrial partners, as well as by any other company dealing with nanomaterials. The plan will consist on the implementation of best practices during the handling and use of nanomaterials, as well as on the implementation of a set of RMMs with proven efficiency

Task C.3.2. Monitoring and interpretation of the improvements achieved in industrial case studies

To monitor the improvements achieved in the industrial case studies, the records filled by the company will be studied to quantify the variations of the indicators defined in the monitoring plan.

Task C.3.3. Evaluation and monitoring the impact of the actions in the nanocomposite sector

The last action to evaluate and monitor the impact of the project for the industrial target audience of the project, the nanocomposite sector, will be focussed on the development of interactive web based questionnaires.



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1. Objectives, expected outcomes and scheduled work plan

□ Scheduled work plan (Mid-Term report)

To be considered

The main expected results within this task are:

- A complete plan to support the monitoring of the RMM implementation
- A compendium of recorded data containing relevant information to evaluate the situation of the company, as well as the improvements achieved.
- A set of data containing relevant information provided by the target audience regarding the use of RMM, including information related to the current knowledge regarding the effectiveness of the risk management measures, types of RMM used and adequacy of the RMM implemented at industrial sites.

Reporting: Interim report on the enhancement of the protection factors achieved in case studies and the overall nanocomposite sector (July 2016)

Indicators

Act	Indicator	Results	Status
C3	Monitoring plan	The monitoring plan was completed in January 2015 (Month 15)	To be completed
	Number of records provided	Start expected in April 2016	To be completed
	Number of questionnaires received		



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1. Objectives, expected outcomes and scheduled work plan

□ Scheduled work plan (Mid-Term report)

► Action C4. Promotion of REACH fulfilment by implementing the LIFE nanoRISK project

Action status: **On going**

Timescale in Proposal: January 2014 - July 2016

Actual: May 2014 - July 2016

Objectives: the main goal of the action is to evaluate the suitability of the actions conducted within the project to support the implementation of REACH.

		2014				2015				2016		
Action / Task		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
TC.4.1. Development of Questionnaires and performance indicators.	Proposed											
	Actual											
TC.4.2. Evaluation of the Risk Characterization Ratios (RCR)	Proposed											
	Actual											
TC.4.3. Development of an action plan to promote the REACH implementation	Proposed											
	Actual											

Reporting: Interim report on the enhancement of REACH implementation (September 2016)



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1. Objectives, expected outcomes and scheduled work plan

□ Scheduled work plan (Mid-Term report)

To be considered

The information retrieve from the trial will enable us to:

- Establish relationships between the exposure patters and release with the structures and PC properties of the materials, which will support the application of read across techniques to extrapolate the results to other ENMs with similar properties.
- The collation of information on the condition of use, quantity used, room volume, temperature, type of process and other Ocs for the 10 NMs and for 4 applications enable the generation of a library of exposure/ release and RMMs with can be used by stakeholders to extrapolate information on the potential exposure/ release of its applications, as well as to support the selection of proven RMMs that have been found to be effective under similar conditions of use.
- The main result of the action will be a set of indicators recording information on the degree of implementation of the REACH regulation, especially in terms of implementation of the RMM and knowledge on the environmental release.

Indicators

Act	Indicator	Results	Status
C4	Involvement of the project audience	The questionnaires developed include questions designed to gather information from the target audience defined	Achieved
	Number of RCR recorded	To date, 161 questionnaires have been received	On Going
	Number of indicators assessed	5 indicators evaluated so far	On Going



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1. Objectives, expected outcomes and scheduled work plan

❑ Scheduled work plan (Mid-Term report)

► Action C5. Assessment of the socio-economic impact of the project actions

Action status: **On going**

Timescale in Proposal: January 2014 - September 2017

Actual: May 2014 - September 2017

Objectives: assessment of the socio-economic impact of the project actions. In this sense, a set of socioeconomics indicators will be defined in order to measure the impact of the project to the local economy and population. The conclusion extracted from these indicators will be collected and explained in socio-economic impact report that will be delivered with the final report.

The specific indicators that have been established can be split as follow:

- Employment growth
- Cost of raw materials based on nanotechnology
- Direct cost for REACH implementation
- Increase in Business opportunities and competitiveness
- Consumer acceptance of REACH
- Mitigation of insurance cost
- Promotion of safer consumer products
- Increase of the technological development of the area



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1. Objectives, expected outcomes and scheduled work plan

□ Scheduled work plan (Mid-Term report)

To be considered

Impact Indicators	Baseline	Short term	Medium term (2 y)	Medium Term (5 y)	Long Term	Impact
Direct cost for REACH implementation	€ 7.000 per company I ₁ : 7000 x 2707= €18.949.000	15.348.690 (-€ 3.600.310)	14.590.730 (€ -4.358.270)	13.264.300 (€ -5.684.700)	12.316.850 (€ -6.632.150)	- 35 %
Increase of the business opportunities and competitiveness	I ₂ : € 190.000 millions	€ 193.800 million	€ 205.200 million	€ 209.000 million	€ 228.000 million	+ 20%
Changes in the amount of environmentally hazardous NMs releases (reduction)	I ₃ : 74.300 tons released	72.071 Tons	67.613 Tons	59.440 Tons	52.010 Tons	- 30%
Level of employment at ENMs producers / downstream users	I ₄ : 90.000 jobs in Europe	90.900	94.500	99.000	108.000	+ 20%
Enhancement of the performance of risk management measures	I ₅ : 87 %	90,5%	95 %	98 %	100 %	+ 13%
Insurance cost related with health damage of workers	I ₆ : € 180 millions	€ 171 millions	€ 162 millions	€ 148 millions	€ 135 millions	- 25%
Reduction of Occupational diseases	I ₇ : 4500 cases	4.680 cases	4.420 cases	3.640 cases	3.120 cases	- 30%
Public spending for public health damage	I ₈ : €720 millions	€ 706 millions	€ 684 millions	€ 648 millions	€ 612 millions	- 15%
Exposure reduction	I ₉ : 25 µg /m ³ (50.000 pt/cm ³)	22,75 (45.000)	21,25 (42.500)	18,75 (37.500)	16,25 (32.500)	- 35%
Consumer acceptance	I ₇ : 2100 products on market	4.738	4.968	5.520	6.210	+ 31%

Indicators

Act	Indicator	Results	Status
C5	Number of records for each indicator	A minimum of 5 references per indicator mandatory	On Going
	Number of indicators assessed	4 Indicators assessed so far	On Going



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1. Objectives, expected outcomes and scheduled work plan

❑ Scheduled work plan (Mid-Term report)

► Action D3. Elaboration of informative material

Action status: **On going**

Timescale in Proposal: October 2013 - September 2016

Actual: October 2013 - September 2016

Objectives: The goal of this task is to elaborate the materials that it will be used to disseminate the project, being related to compulsory and additional tasks to assist the project dissemination.

The results expected from this action are mainly:

- The nanoRISK **Layman's report**: 3 reports will be published by electronic means in Spanish and English (100 copies will be edited in paper for each language)
- Edition the four Notice Board "Roll Ups"
- Edition of project dissemination materials (i.e. Corporate identity; Leaflet; Roll up; Newsletter; Factsheet; videos). In detail:
 - Leaflet : 1500 copies in each of the languages of the region (Spanish / English)
 - Newsletters : 3 publications (Spanish / English)
 - Internet videos: 2 promotional videos (Spanish / English)
 - Roll up: 2 roll up in Spanish and English



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1. Objectives, expected outcomes and scheduled work plan

□ Scheduled work plan (Mid-Term report)

To be considered

	Indicator	Measure of success	Results	Status
D3	Edition of the material	<ul style="list-style-type: none"> - Leaflet : copies in each of the languages of the region (Spanish / English) - Newsletters : 3 publications in each of the languages of the region (Spanish / English) - Internet videos: 2 promotional videos in each of the languages of the region (Spanish / English) - Roll up: 2 roll up in Spanish and English 	<ul style="list-style-type: none"> - Leaflet : copies in each of the languages of the region (Spanish / English) - Newsletters : 1 publication (Spanish / English) - Internet videos: 1 promotional videos in each of the languages of the region (Spanish / English) - Roll up: 1 roll up in English 	On going
	Confirmation of the reception of the Layman´s report	At least 850 institutions must download or confirm the interest on the Layman´s report	Expected in May 2016	On going



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1. Objectives, expected outcomes and scheduled work plan

❑ Scheduled work plan (Mid-Term report)

► Action D4. Dissemination of results

Action status: **On going**

Timescale in Proposal: October 2013 - September 2016

Actual: October 2013 - September 2016

Objectives: This action is focused on the organization of the dissemination and communication activities of the NanoRISK project

The results expected from this action are mainly:

- Layman reports and leaflets will be available on the web-site in English and Spanish.
- Press Releases for all project relevant events of the project (Key events, training sessions, presentations at events organized by third parties).
- Publications in specialized journals and technical reports.
- Dissemination of the project during the interregional conferences and meetings
- Partner attendance and contribution to all key events (publication on scientific reviews and participation at scientific conventions, fairs, exhibitions, etc).
- Information on the project through each partner's communication channels
- Leaflets: printed or digital version of these documents will be send to industrial associations with a direct implication on REACH implementation.
- Webinars and workshops



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1. Objectives, expected outcomes and scheduled work plan

□ Scheduled work plan (Mid-Term report)

To be considered

	Indicator	Measure of success	Results	Status
D4	Number of scientific journals, publications, and press releases where nanoRISK is mentioned.	The project must be mentioned in more than 20 paper based or digital media over the project lifetime	To be covered in 2016. Relevant publications identified	On going
	Scientific papers	A minimum of 6 scientific papers must be published with information based on the project development.	3 papers expected in May 2016	On going
	Number of events	At least one interregional conference will be organised to disseminate the project outcomes	Expected in June 2016	On going
	Publication of dissemination material	The totality of the copies edited must be published over the project life time	Publications available: leaflets (x2), factsheets (x1), video and newsletter (x1) and roll up 8x1)	On going

2. Dissemination activities completed



NANO RISK



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2. Dissemination activities completed

! Dissemination actions

	Indicator	Measure of success	Results	Status
D1	Alignment with the dissemination plan	The dissemination manager will generate quarterly reports to ensure the compliance with the communication and dissemination strategy defined	Carlos Fito has developed quarterly reports describing the dissemination activities conducted. To this end, a specific template was prepared being completed as scheduled. The quarterly reports conducted are included under the annex section.	Achieved
	Feedback form stakeholders	A compendium of a minimum of 50 comments about the project must be recorded	The feed backs are being recorded by the dissemination manager during the events where the project is described.	Achieved
	Publishable reports	A minimum of 3 public reports will be published in the project web site including the dissemination actions carried out by the project	The first publishable report was completed last January 2015.	On going
	Web site publications and updates	A minimum of 50 publications will be uploaded in the web site during the project development. A minimum of 3 revisions will be performed every year regarding the validity of the web site contents.	To date, 12 publications are accessible via the project web site. More than 50 publications are expected	On going
	Internal periodic reports	Quarterly reports will be generated to report the results of the dissemination and communication actions. A minimum of 16 quarterly reports must be generated within the project.	The progress is being recorded by the dissemination manager by means of a short summary prepared every 3 months.	On going
D2	Delivery of the project web site	The project web site must be completely operative in month 2	The project web site was published on line last December 2013, month 2	Achieved
	Feedback form stakeholders	The contents of the project web site must be approved by the consortium members	The contents are always sent to the members of the consortium in advance	Achieved
	Web visitors	A minimum of 1500 visitors must be achieved	A system to count the number of visits have been recently implemented. The number of visitors will be reported in our next quarterly report by September 2015	On going



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2. Dissemination activities completed

! Dissemination actions

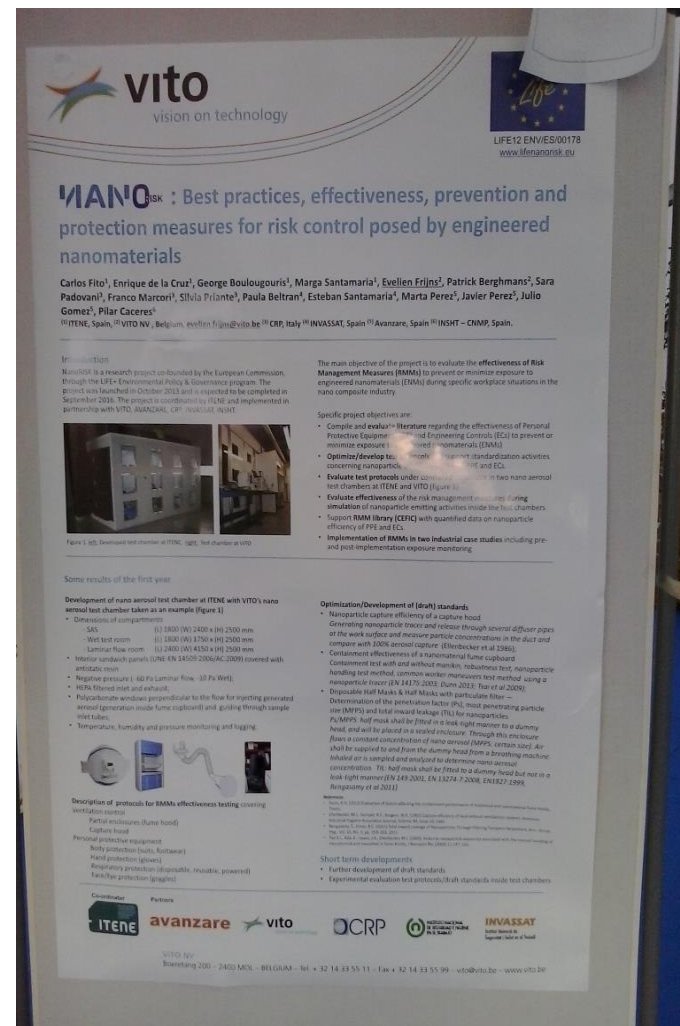
	Indicator	Measure of success	Results	Status
D3	Edition of the material	<ul style="list-style-type: none"> - Leaflet : copies in each of the languages of the region (Spanish / English) - Newsletters : 3 publications in each of the languages of the region (Spanish / English) - Internet videos: 2 promotional videos in each of the languages of the region (Spanish / English) - Roll up: 2 roll up in Spanish and English 	<ul style="list-style-type: none"> - Leaflet : copies in each of the languages of the region (Spanish / English) - Newsletters : 1 publication (Spanish / English) - Internet videos: 1 promotional videos in each of the languages of the region (Spanish / English) - Roll up: 1 roll up in English 	On going
	Confirmation of the reception of the Layman´s report	At least 850 institutions must download or confirm the interest on the Layman´s report	Expected in May 2016	On going
D4	Number of scientific journals, publications, and press releases where nanoRISK is mentioned.	The project must be mentioned in more than 20 paper based or digital media over the project lifetime	To be covered in 2016. Relevant publications identified	On going
	Scientific papers	A minimum of 6 scientific papers must be published with information based on the project development.	3 papers expected in May 2016	On going
	Number of events	At least one interregional conference will be organised to disseminate the project outcomes	Expected in June 2016	On going
	Publication of dissemination material	The totality of the copies edited must be published over the project life time	Publications available: leaflets (x2), factsheets (x1), video and newsletter (x1) and roll up 8x1)	On going



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2. Dissemination activities completed

! Dissemination





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2. Dissemination activities completed



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Welcome to the project!

The development of nanomaterials is a particularly exciting area of science and industry. However a lack of information exists about the risk posed by the nanoparticles to human health and the environment. Surveys have indicated that nanotechnology industry workers have the potential to be exposed to NMs, and several studies have determined representative values of airborne NMs in the worker environment due to the ability of the NMs to be easily dispersed as a dust or an airborne spray or droplets, resulting in greater worker exposure.

The LIFE NanoRisk project aims to minimise environmental, health and safety (EHS) risks from exposure to engineered nanomaterials (ENMs). It hopes to do this by improving understanding of the risks associated with the release of ENMs to the environment by the polymer nanocomposite industry and identifying the most appropriate prevention and protection measures.



NanoRisk is partly funded by the European Commission LIFE+ with grant agreement LIFE12 ENV/ES/000178

LATEST NEWS | [Join Workshop on risk assessment and risk management strategies applied to nanomaterials](#)

02/12/2015

This workshop is a forum for nanotechnology researchers, industry, and regulators to present and discuss research findings on the use of innovative modelling and experimental approaches to support the risk assessment of nanomaterials, enabling the safe handling of nanomaterials and minimizing potentially associated impacts throughout product life cycle. [Register here](#)



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2. Dissemination activities completed



! Dissemination

Próximos Eventos

Junio de 2015: Edición de un vídeo divulgativo del alcance del proyecto.

Noviembre - Diciembre de 2015: Jornadas nacionales de difusión del proyecto en Sevilla y Valencia.

Enero de 2016: Desarrollo y presentación de una Guía de Utilización de EPIs y sistemas de protección frente a la utilización de nanomateriales.

Febrero - Marzo de 2016: Talleres prácticos de utilización de EPIs y sistemas de protección frente a nanomateriales, a realizar en Alicante, Castellón y Valencia.

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PROYECTO
LIFE 12 ENV/ES/178

NanoRISK

NANO RISK

www.lifenanorisk.eu

GENERALITAT VALENCIANA **INVASSAT**
Institut Valencià de Seguretat i Salut en el Treball



NanoRISK is funded by DG Environment under the LIFE+ Programme Environmental Policy and Governance (LIFE12 ENV/ES/000178)

2. Dissemination activities completed



! Dissemination

NanoRISK Newsletter

Best practices effectiveness, prevention and protection measures for control of risk posed by engineered Nanomaterials

LIFE12 ENV/ES/178
www.lifenanorisk.eu

Launched on the 1st October 2013,

NanoRISK opens a new window to provide the industry with proven risk management measures (RMMs) to protect workers and the environment from potential risk of engineered nanomaterials in the EU within 3 years

The NanoRISK project deals with the characterization of highly-efficient work place controls to reduce and control the risk posed by the use of ENMs in the nanocomposite industry, as well as with the development of standardized approaches to support the testing and demonstration activities.

The overall aim of NanoRISK project is to improve the protection of environment and health from risk posed by chemicals by supporting the implementation of the REACH regulation with regard to nanomaterials, whose use raise many questions and generate concerns due to their potential health and environmental risks.

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Next Events

06/09/2015

Relevant event: European Aerosol Conference (EAC 2015)

30/09/2015

NanoSafety Cluster Meeting in the context of MARINA-NanoValid meeting) at the OECD Headquarters in Paris, France.

Relevant News

ITENE have a recently validated the nano-aerosol testing chamber prototype developed, being able to characterize the airborne behavior of a large set of engineering nanomaterials.

Inicio ITENE I+D+i Infraestructuras Proyectos Ensayos Servicios Eventos Sala de prensa Trabaja en ITENE

Proyecto para evaluar el impacto de los nanocompuestos en la salud y en el medio ambiente

NanoRISK

<http://www.lifenanorisk.eu/>

El proyecto LIFE nanoRISK tiene como objetivo minimizar los riesgos ambientales, de salud y de seguridad de la exposición a los nanomateriales artificiales (ENMs). Se espera hacer esto mediante la mejora de la comprensión de los riesgos asociados con la liberación de los nanomateriales en el medio ambiente por la industria de nanocompuestos de polímero, y la identificación de las medidas de prevención y protección más adecuadas.

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ITENE Instituto Tecnológico del Embalaje, Transporte y Logística

El programa de la Conferencia METPEX ya está disponible! Descárgalo e insíbete aquí: <http://ow.ly/QgUuU>

Conferencia METPEX -

El proyecto recopilará información nueva sobre las velocidades de liberación de nanomateriales por aire, agua, aguas residuales y en el aceite durante su producción, uso y eliminación. Esto contribuirá a una descripción completa de los escenarios de exposición a lo largo del ciclo de vida de los nanocompuestos. También estudiará el comportamiento en el aire de los nanomateriales de destino, especialmente sus patrones de agregación/aglomeración y factores de deposición.

NANO HAZARD

Para identificar las medidas de gestión de riesgos más adecuadas (RMM) para controlar la exposición a nanomateriales, el proyecto pondrá a prueba posibles RMM a escala piloto. Se desarrollará un compendio de los protocolos de pruebas -sobre la base de normas internacionales- y se desarrollará una cámara de prueba con nanocompuestos. Los RMM probados en la cámara se incluyen los equipos de protección personal (PPE), técnicas de ingeniería y medidas organizativas. Los resultados proporcionarán información valiosa para determinar si una RMM en particular es adecuada, eficaz y factible para una situación específica de exposición.

Los resultados del proyecto ayudarán a fortalecer la Biblioteca de RMM y a mejorar la calidad de las valoraciones de seguridad química de los nanomateriales. Así, LIFE nanoRISK espera permitir una mejor aplicación del Reglamento europeo REACH en relación con nanomateriales, y para reducir los riesgos humanos y ambientales de la sobreexposición a las nanopartículas.

Financiación:

Comisión Europea - LIFE



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2. Analysis of the activities completed and results



! Dissemination actions

Metric	Target Number	Status
Number of presentations given at externally-organized scientific and technological conferences	5	3
Number of dissemination events (co)organized by NanoRISK	3	2
Number of training workshops organized by NanoRISK	2	0
Number of attendees total for training workshops organized	50	>90
Number of brochures distributed	50 per partner	>100
Potential readership of project newsletter via social media	20,000 per newsletter	
Number of external nanotechnology news websites disseminating project newsletter	20	5
Total instances of lobbying at Public Authorities, International Organization and Standardization Bodies	2	2

NANOTEKNOLOGIA. REUNIÓN DE TRABAJO EN EL CENTRO TERRITORIAL DEL INVASSAT DE VALENCIA, EN RELACIÓN A LOS PROYECTOS EUROPEOS LIFE REACHNANO Y LIFE NANORISK



Tuvo lugar una reunión de trabajo en el Centro Territorial del INVASSAT de Valencia, en relación a los proyectos europeos Life REACHnano y Life nanoRISK. EL INVASSAT, como centro de investigación, forma parte de los consorcios de estos dos proyectos junto a, entre otros, ITENE. La Nanotecnología se incluye como Industrial Competitiva en el marco del horizonte 2020 de la Unión Europea, además de estar identificada como una de las seis tecnologías clave para el desarrollo (KETs). Proyectos que surgen de la necesidad de apoyar a la industria en el proceso de evaluación de la seguridad química de los Nanomateriales, especialmente en lo relativo al conocimiento de sus propiedades y riesgos. Riesgos emergentes, dado el potencial de la Nanotecnología utilizada para mejorar las propiedades de los materiales, que ha abierto el debate de los posibles riesgos para la salud y el medioambiente relacionados con su uso. En la Reunión han participado, por parte del INVASSAT, el Director General de Trabajo, Cooperativismo y Economía Social y Director del INVASSAT, D. Felipe Codina acompañado por D. Salvador Puigdemolles, D. Juan Uriol y D. Esteban Santamaría, y por parte de ITENE D. Carlos Fito, coordinador de los proyectos y Jefe del Área de Seguridad Técnica.

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Me gusta 0 8+1 0





2. Dissemination activities completed

□ Events

Finally, the activities within D4 are related with the communication of the project results. The main actions conducted were:

- Join Workshop SIRENA – NanoRISK. Madrid. May 2014
- Poster presented by ITENE during the Aerosol technology conference 2014. June 2014. Karlsruhe, Germany
- Poster presented by VITO during the International Conference Nanosafe. October 2014. Grenoble (France)
- Workshop on the Risk Assessment and Risk Management of ENMs. Seville (Spain). 02/12/2014
- Workshop on LIFE projects dealing with Nanomaterials. Valencia (Spain). 04/12/2014
- Organization of a join workshop in the European Chemicals Agency (ECHA) in October 2015.
- Organization of dedicated dissemination event to disseminate the main outcomes of the project in Seville in November 2015.

3. Conclusions



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3. Conclusions

- ❗ The main issues to be covered are the development of the RMM library and the drawing up of the Best practices guide. A scheduled calendar of activities needed to completed both actions.
- ❗ Training workshops and seminars to be conducted in July and September
- ❗ An extension of 3 months might be needed to maximize the dissemination of the activities of the project, including participation on the NanoSafe conference and relevant networking events
- ❗ Involvement of target industry needed: surveys to be completed
- ❗ Be aware of the cost justification: time sheets of prime importance



**Thank you for your
attention ;**

Carlos Fito López
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