

NanoSafety  
Cluster



Research Infrastructure  
QualityNano

NanoValid

nanoSTAIR

Scaffold

iNTeg-Risk



NanoFASE

A STEP-BY-STEP GUIDANCE FOR AN  
EFFECTIVE INTEGRATION OF  
STANDARDIZATION IN NANOSAFETY R&D  
PROJECTS – FROM THE PROPOSAL TO THE  
DELIVERABLES AND BEYOND

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NanoSafe, Grenoble, 08.11.2016



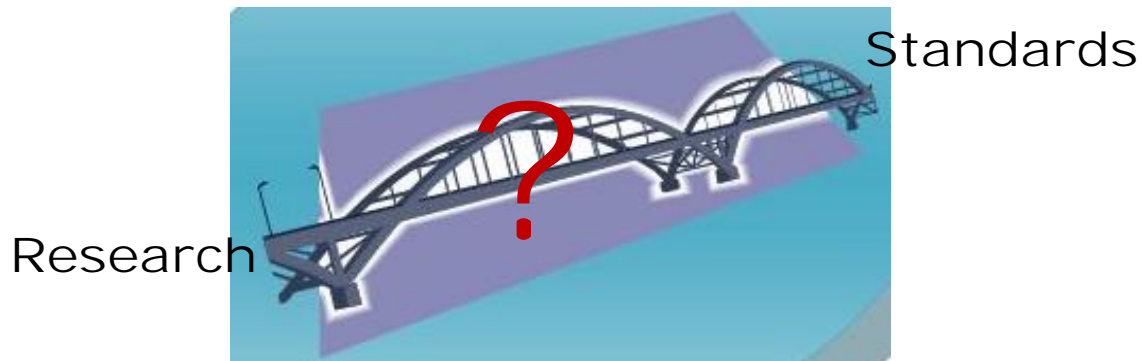
# Introduction

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Transfer from research  
Commitment of researchers

} Remain difficult  
Are possible  
Can be impulsed



- A) Motivation
- B) Barriers
- C) Embedding standardization in the R&D project:  
**Step by step guidance**

# A) Motivations for researchers

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## Share your knowledge / research

- Improve the system: consistent research worldwide
- Make your work useful
- Moral / contractual obligation (public funding!)
- Get your work recognized

## Have a say in coming standards

- Adequate in your view
- Compatible with your protocols
  - ➔ Continuity in your practices and data

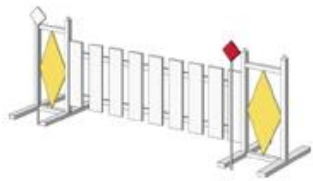
## Improve your work

- Gain full discussion on your protocol(s)
- Networking effect



## B) Barriers to researchers

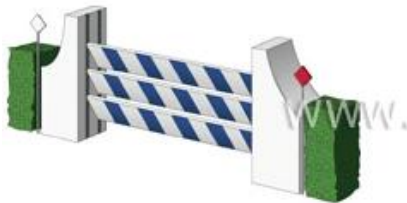
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Lack of awareness  
Ignorance of each other's activities



Process : - complicated  
- not flexible and fast enough  
- low own impact on standard



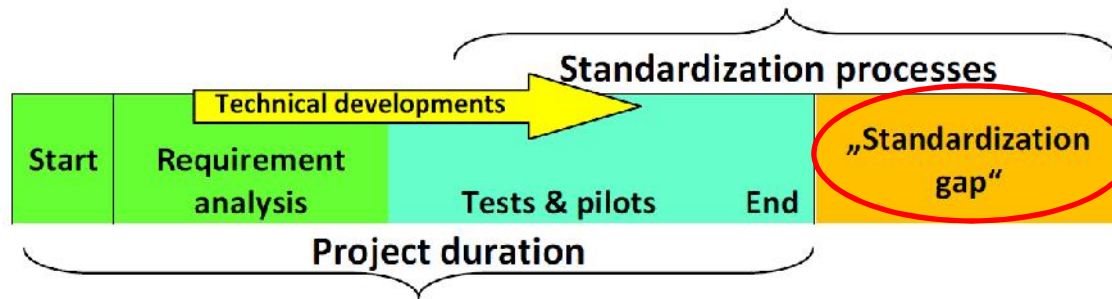
No resources (MM) in project / organisation  
No funding after project!  
No funding out of project!



Low recognition (no author list) # ISI

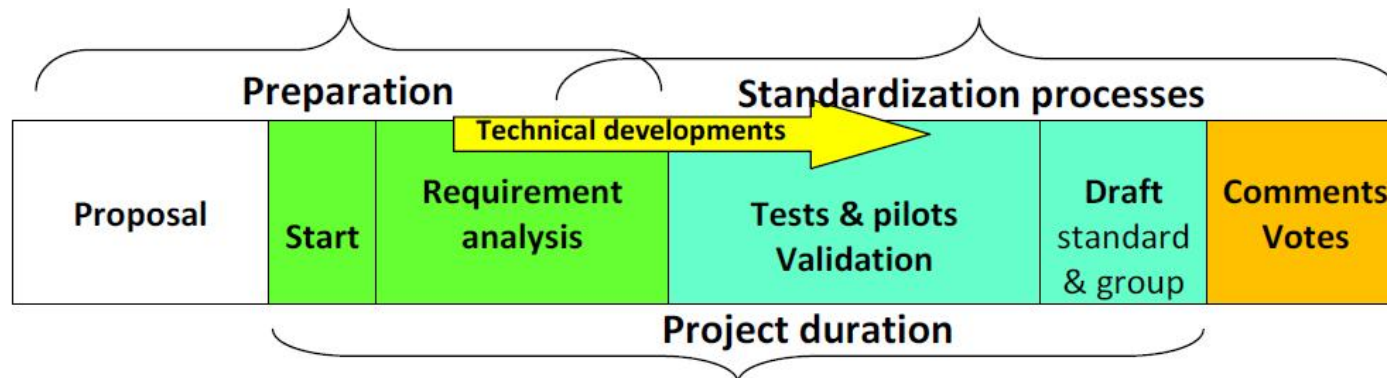
# C) Embedding standardization in the R&D project

Now



Adapted from  
Jean-Marc  
Aublant , LNE,  
chairman TC352

After



Ex: CWA  
Integ-Risk:  
At end + 1 year

# Proposal

## Step 1: Evaluate your potential

f(Interest x Technical readiness x Organizational readiness)

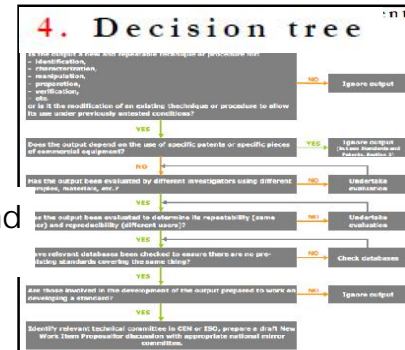
SOP directly <b>related to a standard</b> already existing or under preparation? <i>(Yes/No, name of the standard, type of relation***)</i>	Most relevant Committee / WG	Lead?	Interest for ... <i>(0 to 10, 10 = highest)</i>		Approx. date (actual or planned) of		Participation after project?  <i>(yes/No)</i>
			research	industry	submission of proposal	start of drafting group	

Technical readiness, harmonization/validation work done					
Protocol shared with other labs? <i>(how many?)</i>	Interlab- training done? <i>(how many labs?)</i>	Round-Robin done? ** <i>(how many?)</i>	Interlaboratory comparison study** done?	Degree of validation/ harmonization done (%)	Degree of drafting already done (%)

Organizational readiness <i>(for launching a drafting group)</i>		
Number of experts ready to participate	From how many EU countries?*	How many from industry?*



Hatto, 2010. Standards and Standardization handbook



# Proposal

## Step 2: Set your objectives

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f(Interest x Technical readiness x Organizational readiness)

→ 3 categories of methods, goals, works (here for CEN, ISO)

Methods	Pre-normative Work	Normative Work	Outcome
New	(Development) (Pre-validation) Evaluation for NWIP		<ul style="list-style-type: none"><li>• Clear SOP for vote of pre-work item</li><li>• Post-project standardization plan</li></ul>
Pre-existing	Harmonization Validation (ILC, RR...) Clustering initiatives		<ul style="list-style-type: none"><li>• NWIP "Working draft" submitted</li><li>• Support ensured for positive vote</li><li>• Drafting group ready</li></ul>
Mature	(Use & fine-tune)	Drafting and amending	<ul style="list-style-type: none"><li>• Standard (almost) finished</li></ul>

NWIP: New Work Item Proposal = candidate for standardization

ILC: InterLaboratory Comparison

RR: Round Robin

## Proposal

### Step 3: Plan pre-standardization as full R&D activity

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1. Clear, controllable deliverables (see objectives)

2. Technical experts/scientists responsible

3. Budgets

- Man months
- Sub-contracting

# voluntary basis (see  QualityNano)

4. Scientific Publications

5. In the technical WPs

# WP dissemination: organizational support: strategy, workshops, secretary, logistics, contacts to standardization bodies ... → Standardization experts in the field:

- Expert of ILC and RRs
- National Standardization Body, e.g. DIN's Support to researchers\*
- Dedicated structure, e.g. nanoSTAIR [www.nanostair.eu-vri.eu](http://www.nanostair.eu-vri.eu)

\*Support from a national standardization body (DIN). Christine Fuß, DIN. Workshop "Standardization in a Research Cluster". Brussels, 27.03.2017. [www.nanostair.eu-vri.eu](http://www.nanostair.eu-vri.eu)



## Step 4: Consolidate the action plan

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### Standardization Strategy Seminar (SSS)

- What is standardization, how it works?
- Standardization in the field of nanotechnologies
- **Check: Project's SOPs vs. Standards** (existing or under work)
- **Selection** and **orientation** of NWIPs
- **Action plan**: what is missing, what to do, who, when!  
→ SSS at the beginning of the project

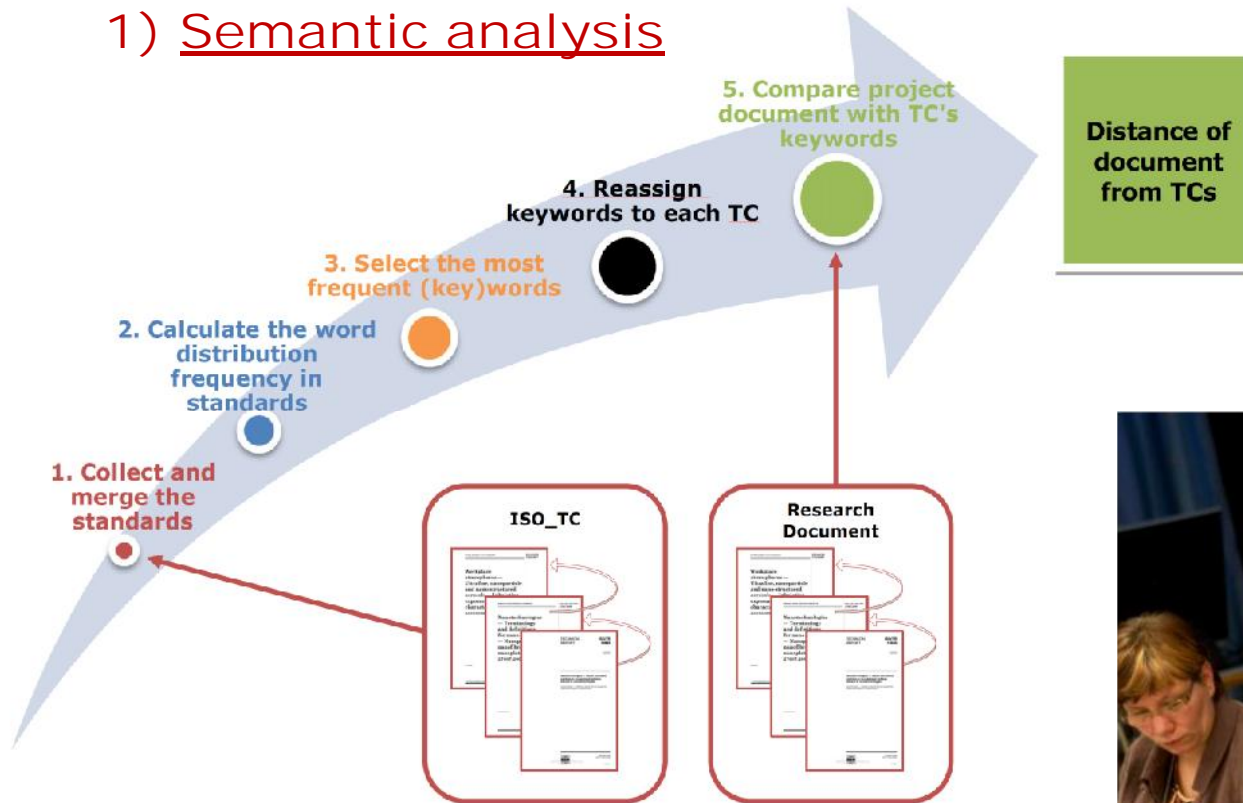
SOP = Standard Operation Procedure

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# Step 4 c<sup>ed</sup>: Consolidate ...: the **nanoSTAIR** check

## 1) Semantic analysis



## 2) Expert review



## 3) Gathering experts

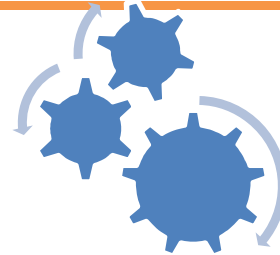


Project

## Step 5a: **Technical Pre-normative Work**

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- Harmonization of protocols
- Inter-Lab training
- Inter Laboratory Comparison (ILC) or Round Robin (RR)  
Also with [external labs](#) → [subcontracting](#)



➔ Working draft - also with [external experts](#)

+ Publish : scientific publication, white paper



## Step 6: Conclude & Organize the follow up

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Update **Standardization Strategy Seminar (SSS)**

➔ Strategy and action plan for after the project

Incl.:

- **Commitment** of persons /institutes:
  - As participants
  - As leaders
- **Funding** if still necessary:
  - COST action? (travel & logistics)
  - CEN Mandate?
  - Empire? (metrology)
  - Pre-standardization in EU calls !
  - EU calls on pre-standardization ?

# PS: Support documents

**cen CENELEC**

**LINKING RESEARCH AND STANDARDIZATION**

*Integrating standards in your research project:  
a pocket guide for project proposers*

EUROPEAN COMMISSION / Directorate General Research and Innovation

**Standards and Standardization Handbook**

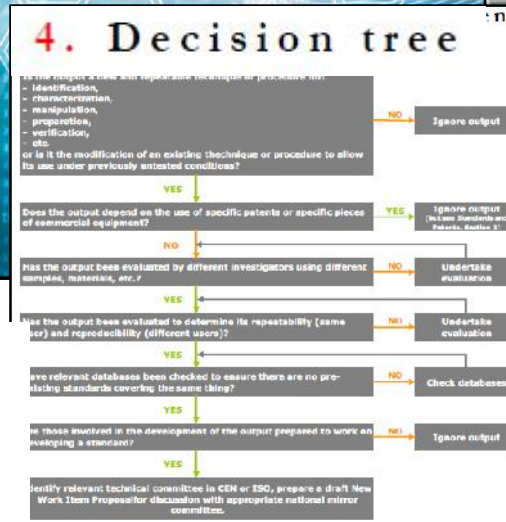
European Commission

*Standards and Standardisation*

*Standards and Standardisation*

A practical **guide** for researchers

Research and Innovation



**What is standardization?**  
**The way towards standardization**  
 Luc van den Berghe, CEN. Workshop  
 "Standardization in a Research Cluster".  
 Brussels, 27.03.2017. [www.nanostair.eu-vri.eu](http://www.nanostair.eu-vri.eu)

# Acknowledgement

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