

# Safe-by-design, which opportunities in the next NFFA pilot proposal?

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Workshop, Lund (Sw), 9<sup>th</sup> and 10<sup>th</sup> January 2020

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*Nanotechnology & NFFA Industrial Liaison Engineer at the ESRF*

# Schedule

## 10th January: JA platform

8:30 AM welcome Coffee

### session 3: JA: nanosafety Plateform

9:00 AM Welcome back : **Cécile Girardot**

9:05 AM Sub-micron X-ray microspectroscopy for life and environmental nanotoxicology:  
**Hiram Castillo**

9:20 AM Nanosafety case study using large scale facilities : **Heinz Amenitsch**

9:35 AM Potential contribution of the JRC Nanobiotechnology Laboratory to NFFA project :  
**Pascal Colpo**

9:50 AM Definition of the safe-by design platform project : **Cécile Girardot**

10:05 AM Development of a Nanomaterial hazard assessment platform for low volume and low concentration samples: how much the nanosafety community need it?

10:45 AM Coffee break

### session 4: follow up of the results

11:15 AM CEA-PNS and nanosafety days : **Simon Clavaguera**

11:30 AM Nanosafety Activities at INL : **Dmitry Petrovykh**

11:45 AM Risks perceptions, and safety and health in the handling of nanomaterials in academia and industry – results of the caLIBRATE nano project : **Pete Kines**

12:05 AM Data governance, formation, how to manage the datas and inform the NFFA's users and workers ?

12:50 PM Final lunch

# Definition of the activities done within NFFA:

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# TNA

→ 9<sup>th</sup> January

Transnational Access activities

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NFFA-1 catalogue ⇒ <https://www.nffa.eu/>

Growth & Synthesis: Soft matter preparation, aerosol deposition, Flame spray pyrolysis, ...

Lithography & Morphology: SIMS, FIB, advanced lithography (UVL, EBL, NIL ...)...

Characterisation: SEM, AFM, fluorescence microscopy or spectroscopy, XPS, SAXS, ...

Theory & Simulation: modelling material under irradiation, atoms and molecules in motion, ...



# Futur additional Technics needed

## Identified Techniques available to NFFA's partners :

- ICP-MS (inductively coupled plasma mass spectroscopy);
- FFF (Field Flow Fractionation) ;
- (In-vitro) **Live imaging for intracellular localization** of fluorescent NPs (via customized multimodal non Linear Microscopy, Imaging and spectroscopy workstation);
- **ELISA plate reader** (In-vitro) Assays on cytotoxicity, immunotoxicity and genotoxicity, epifluorescence microscope and confocal microscope;
- **BET** (surface area analysis)
- **Quartz crystal microbalance**
- **Micro-contact printer**
- **Plasmon resonance Biosensor**
- **Magnetron sputtering,  $\mu$ -wave reactor**
- **circular dichroism**
- **Vortex Shaker** (dustiness analyser)

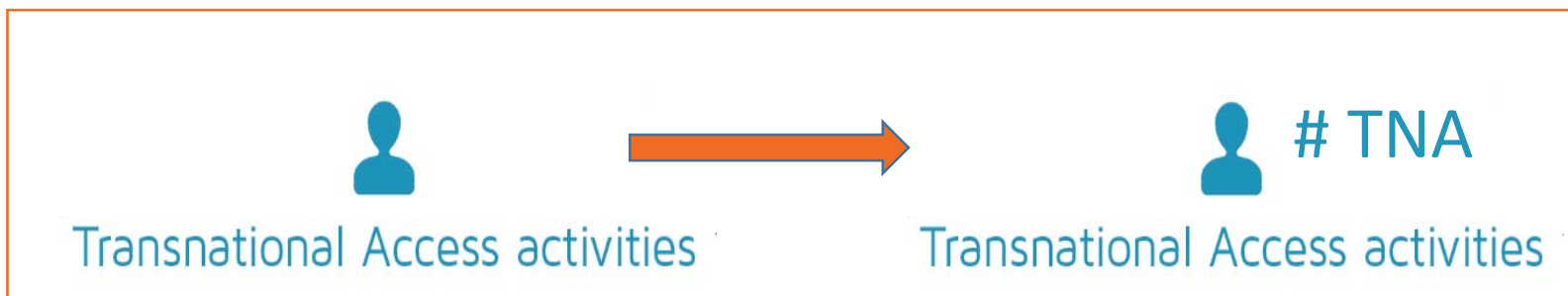
⇒ the NFFA's GA should approve their introduction into the catalogue

## Potential other techniques needed :

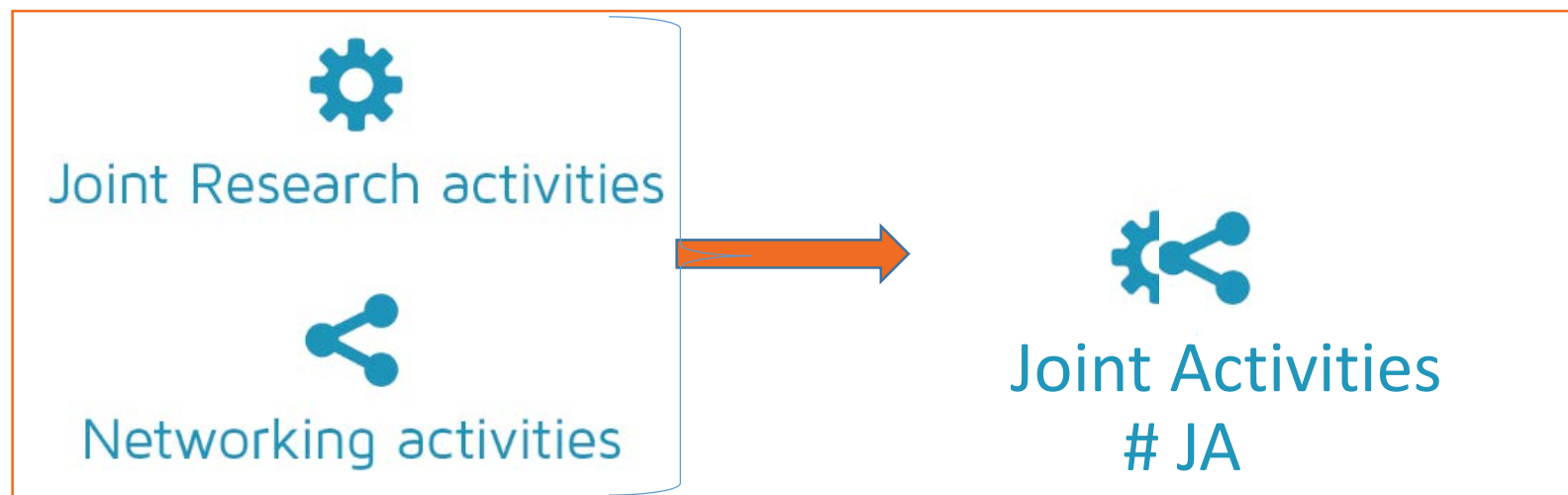
- **Ion Beam Analysis (IBA)**
- ... ?

# Definition of the activities done within NFFA:

NFFA-1:  NFFA-2:



9<sup>th</sup> January



Today

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