

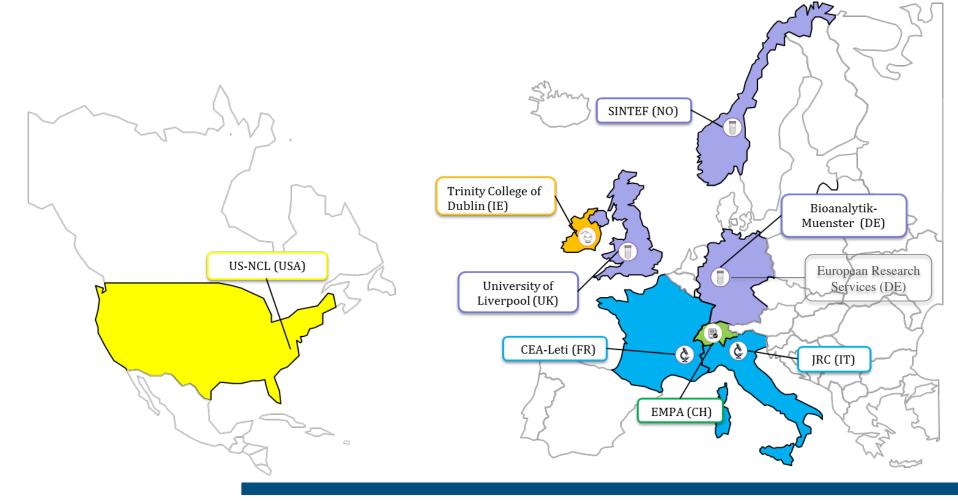
# EU Nanomedicine Characterization Laboratory

### Our Mission

- To provide a trans-disciplinary testing infrastructure covering a comprehensive set of preclinical characterisation assays (physical, chemical, in-vitro and in-vivo biological testing) facilitating understanding of biodistribution, metabolism, pharmacokinetics, safety and immunological effects of Med-NPs.
- To foster the use and deployment of standard operating procedures (SOPs), benchmark materials, and quality management for the preclinical characterisation of Med-NPs.
- To promote inter-sectorial and inter-disciplinary communication among key drivers of innovation, especially between developers and regulatory agencies



## Who we are







# Who we are (Satellite Labs)

CyberNano, Nancy, FR



FORTH Heraklion, GR



• INL, Braga, PT







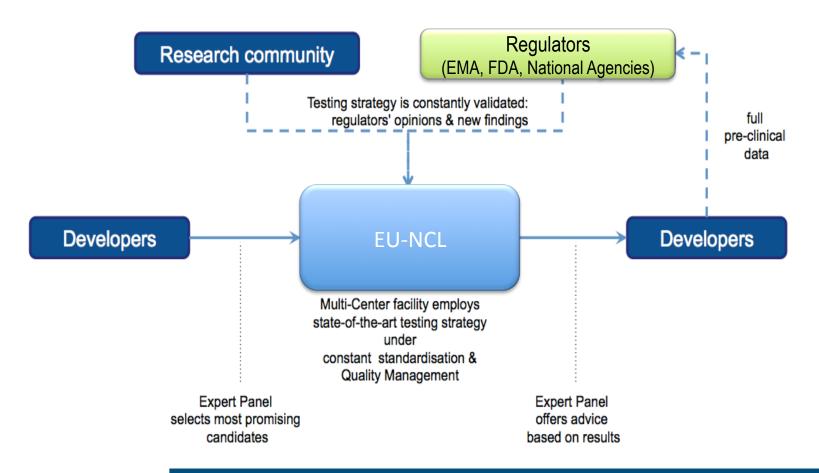
# Our Objectives

- To perform and standardize the pre-clinical characterization of nanomaterials intended for medical therapies in Europe
- To accelerate translation of engineered nanoparticles for medicine applications to medicinal products
- To improve quality of data in IMP applications by using recognised and standardised methods
- To support product developer by addressing feedback of decision makers regarding nanospecific properties
- To identify and to characterize critical parameter related to nanomaterial interaction with biological systems





# **EU-NCL Concept**







### What we offer





#### **Final report**



- Size
- Surface potential
- Purity
- Surface morphology
- Composition

#### **Prescreen**

- -Zeta potential,
- -Size distribution
- -Endotoxin
- -Stability



#### In vivo

- -PK
- **Biodistribution**
- -Immunogenicity **Toxicity**
- -Pharmakokinetic
- Oxidative stress.
- Membrane permeability
- Mitochondrial dysfunction

Haematology/

Immunology/

**Cytotoxicity** 

In vitro

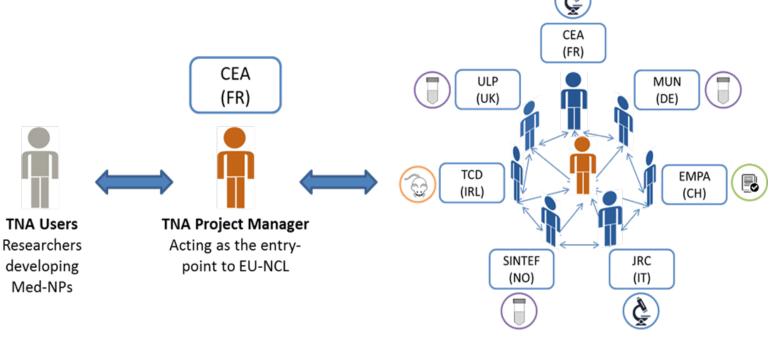
- Complement Activation
- Coagulation properties
- Hemolytic properties







### How we work



**EU-NCL core expert team** coordinated by the TNA project manager





Physico-chemistry



Biological in-vitro



Biological in-vivo



Quality



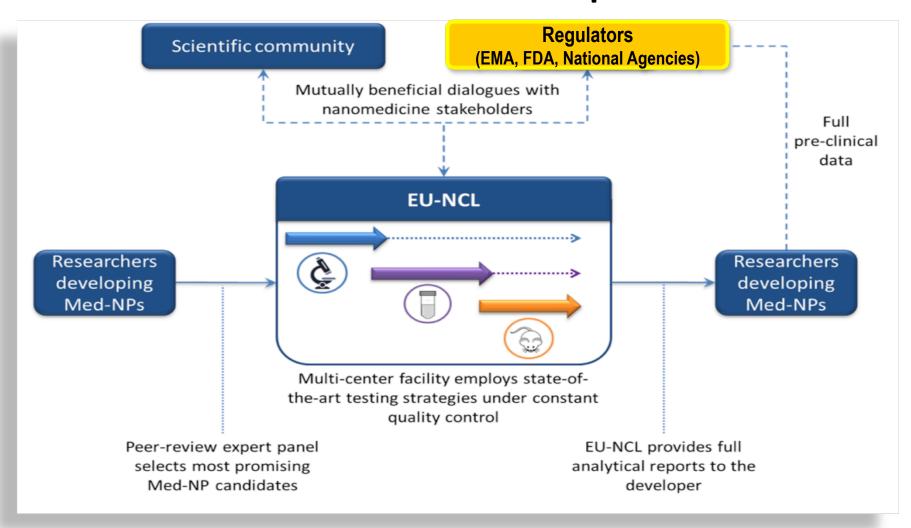


### Distributed infrastructure **SINTEF Expertise of the** consortium partners MUN **Physico-chemistry TCD ULP** Biological in-vitro Biological in-vivo Quality **CEA EMPA**

**JRC** 



# **EUNCL Concept**







**LEGEND** 





# **Activity Groups**

**Networking Activities** NA1 **Quality Management** System NA2 Qualification of analytical assays NA3 Sample and data management NA4 TNA coordination NA5 Innovation, dissemination & exploitation

Transnational Access **Activities Physico-chemistry** TA1 CEA TA2 JRC in-vitro testing TA3 MUN TA4 ULP TA5 SINTEF in-vivo testing TA6 TCD

Joint Research **Activities** JRA1 Technology upgrade JRA2 Correlation analysis of TNA results

Management and coordination of the consortium



### Contact

### **Patrick BOISSEAU**

MINATEC Campus
17 rue des martyrs
38054 Grenoble Cedex
FRANCE

Patrick.boisseau@cea.fr













