INCREASING INTERNATIONAL **SCIENCE**, **TECHNOLOGY** AND **INNOVATION** COOPERATION BETWEEN **BRAZIL** AND **THE EUROPEAN UNION**

Factsheet #7

December, 2017

OVERVIEW

A focus on Horizon 2020 NMBP Programme, Governance, Science-based Risk Assessment and Regulatory Aspects. The 7th INCOBRA Factsheet address the open call topics "Risk Governance of Nanotechnology" and "Nanoinformatics: from materials models to predictive toxicology and ecotoxicology", both encouraging international cooperation. 1st stage deadline 23 January 2018.

HORIZON 2020 CALL TOPICS ON RISK GOVERNANCE OF NANOTECHNOLOGY & NANOINFORMATICS

The INCOBRA factsheet #7 is dedicated to the EU-BR opportunities in the nanotechnology sector, by presenting two call topics now open under the H2020 call on Foundations for Tomorrow Industry (H2020-NMBP-TO-IND-2018-2020).

INCOBRA conducted a study for the Cooperation Scenario in Advanced Manufacturing and Nanomaterials (Action Plan available soon on www.incobra.eu) and it revealed a few researches on the risks nanomaterials may pose in terms of the environment or human health and safety.

The Action Plan, with regards to the Copublication Analysis (ISI Web of Knowledge-Thomson Reuters), pointed out that less than 10 were found on Nanosafety and regulations highlighting the great need of further researches in this area. Managing the risks of every emerging technology is of key importance for its societal acceptance and consequent possible success: as stated in the following calls the overall challenge is to establish a suitable form of nanotechnology risk governance and to ensure that beyond the state of the art technologies are accepted by stakeholders (civil society, industry, regulators).

Further details of each call topic are presented below:

RISK GOVERNANCE OF NANOTECHNOLOGY

Topic Identifier: **NMBP-13-2018**
Type of action: RIA, Research and Innovation Action
Deadline model: two stage
Deadline: 23 January 2018
2nd stage Deadline: 28 June 2018
Budget: EUR 5 million
Link H2020: https://goo.gl/Md2oTn

Specific Objective

- To establish transdisciplinary risk governance based on:
  - ✓ a clear understanding of risk,
  - ✓ its management practices and
  - ✓ the societal risk perception by all stakeholders.
- It should propose and apply clear criteria for:
  - ✓ risk evaluation and acceptance and
  - ✓ transfer of acceptable risk.
- It should develop:
  - ✓ reinforced decision making tools incorporating those aspects and
  - ✓ facilitate risk communication to relevant stakeholders, including industry, regulators, insurance companies and the general public.

Scope

- Data and information management and framework tools with regard to the safety of nanomaterials for risk assessment, hazard and exposure, human health and environment, and risk mitigation including regulatory aspects of safe-by-design;
- Responsible communication with stakeholders and the civil society;
- Plans for future scientific and regulatory research paying attention to social, ethical and environmental aspects; and
- Mechanisms to monitor progress in several industrial sectors and to revise plans.

Expected Impacts

- A transparent, self-sustained and science-based risk governance council;
- Governance framework tools for managing possible nanotechnologies risks in regard to social, environmental and economic benefits;
- Availability of high quality data for industry and regulators decision making;
- Sustainable solutions demonstrated at a level that will allow both consistent integration of scientific results and regulatory application of scientifically sound concepts; and
- Consistency of science based risk management approaches in all EU Member States and synergy with similar actions internationally.

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NANOINFORMATICS: FROM MATERIALS MODELS TO PREDICTIVE TOXICOLOGY AND ECOTOXICOLOGY

Topic Identifier: **NMBP-14-2018**
Type of action: RIA, Research and Innovation Action
Deadline model: two stage
Deadline: 23 January 2018
2nd stage Deadline: 28 June 2018
Budget: EUR 6 million
Link H2020: https://goo.gl/gFy8mt

Scope

- Development of models that support the prediction of both specific functionalities and hazard and are crucial to establish **safe-by-design principles at early stages** of material development;
- Development of a **sustainable multi-scale modelling framework**, based on the integration/linking of different types of nanoinformatics models;
- Uptake and valid use of these tools and nanoinformatics models, **user-friendly interfaces** to enhance accessibility and usability of the nanoinformatics models, and clear explanations of their applicability domains, especially regulatory compliance, should be provided **for different stakeholders** (industry, regulators, and civil society).

Specific Objective

Despite the significant amounts of data on physico-chemical and toxicological and ecotoxicological properties of nanomaterials generated over the last decades, **detailed knowledge** on how these properties are linked to specific physico-chemical characteristics **is only beginning to emerge**.

Challenge

to **develop and implement modern methods**, more cost effective and less reliant on animal testing, for toxicity investigations in each stage of product innovation, through making best use of joining existing and emerging data **with the help of progress in nanoinformatics.**

Expected Impacts

- **Reliable nanomaterials safety data systems**, models and strategies to allow material characteristics to be linked to adverse outcomes;
- **A validated accessible framework**, designed to predict human and environmental toxicological hazards; and
- **Increased confidence** in nanosafety nanoinformatics predictive models through agreed standards, harmonised standard operating procedures, considering OECD validation principles.

Frequent Asked Questions—FAQs

Q.1 How can Brazilian partners be involved in H2020 consortia?

In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is particularly encouraged, and **Brazil** is one of the target countries. The Brazilian organizations interest in international cooperation with EU can apply for funds also through the State Funding Agencies (FAPs). For more details, check the Factsheet #6 here!

Q.2 What are the differences between the "two stages" of the calls? What should be provided at the first stage, and what should be provided in the second?

For two-stage submission schemes, applicants must submit a 'short outline proposal' for the first stage and a 'full proposal' for the second stage, if successful at the first-stage evaluation. The full proposal must be consistent with the short outline proposal and may not differ substantially.

For two-stage submission schemes, there is a first-stage and a second-stage evaluation (against the evaluation criteria for each stage). The EC will evaluate proposals with the help of independent external experts.

Q.3 What are the evaluation criteria followed by the European Commission?

Proposals are evaluated against the following award criteria: **excellence, impact, and quality and efficiency of implementation**; and according to the weighting and thresholds that are set out in the work programme. In order to be considered for funding, proposals must score above a certain threshold for each criterion, and above an overall threshold. For two-stage submission schemes, thresholds and the maximum overall score may vary between the

first and the second stage.

Q.4 What are the cross-cutting priorities of these calls and interested TRL (Technology Readiness Level)?

Both topics foresee as cross-cutting priorities international cooperation, gender, and open innovation/science; and the activities in both calls should start at TRL 4 and achieve TRL 6 at the end of the project.

For further information please contact the Research Enquiry System: http://ec.europa.eu/research/index.cfm?pg=enquiries

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