



# Ca' Foscari University of Venice

**PROJECT ACRONYM AND TITLE:** CaLIBRAte - Performance testing, calibration and implementation of a next generation system-of-systems Risk Governance Framework for nanomaterials

**FUNDING PROGRAMME:** Horizon 2020 – Industrial Leadership – Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing and Biotechnology

**CALL:** H2020-NMP-2015

**SCIENTIFIC FIELD:** Nanomaterials, Nanotechnologies, Risk Assessment

**HOST DEPARTMENT/CENTRE:** Department of Environmental Sciences, Informatics and Statistics

**SCIENTIFIC RESPONSIBLE:** Antonio Marcomini

## FINANCIAL DATA:

| Project total costs | Overall funding assigned to UNIVE |
|---------------------|-----------------------------------|
| € 9.828.106,25      | € 158.525,00                      |

## ABSTRACT:

The objective of the caLIBRAte project is to establish a state-of-the-art versatile Risk Governance Framework for the assessment and management of human and environmental risks of MN and MN-enabled products. The framework will be a web-based “system-of-systems” linking different models and methods for:

- 1) screening of apparent and perceived risks and trends in nanotechnology;
- 2) control banding, qualitative and fully integrated predictive quantitative risk assessment operational at different information levels;
- 3) safety-by-design and multi-criteria decision support methods;
- 4) risk surveillance, - management and -guidance documents.

The risk management framework will support assessments of emerging and existing MN and MN-enabled products following the recent ISO31000 risk governance framework, as well as safety in innovation by matching models to the principle innovation steps in the “Cooper Stage-Gate®” product innovation model. Control banding tools and quantitative models will be subject to sensitivity analysis and performance testing followed by a revision as needed. After revision the models will again be analyzed by sensitivity testing, calibration, performance tested to establish the uncertainties. After calibration, the models will be part of the framework, which will be demonstrated by case studies. Stakeholders will be involved for defining the user requirements of the framework and will receive training in the framework at the end. The caLIBRAte project proposal answers to the call of NMP30-2015: Next generation tools for risk governance of MNs. The project is specifically designed to address the key challenges defined in the scope of the call text.

There is particular focus on model revision, calibration and demonstration of existing models and methods that support the risk governance framework in regards to safe innovation and already implemented nanomaterials. Next generation computational exposure assessment and -toxicology is anticipated in the framework.

**Planned Start date****May 1<sup>st</sup>, 2016****Planned End date****October 31<sup>st</sup>, 2019****PARTNERSHIP:**

|           |  |              |                                 |
|-----------|--|--------------|---------------------------------|
| <b>1</b>  | DET NATIONALE FORSKNINGSCENTER<br>FORARBEJDSMILJO  | Denmark      | <b>Lead Partner/Coordinator</b> |
| <b>2</b>  | UNIVERSITA' CA' FOSCARI VENEZIA  | Italy        | <b>Partner</b>                  |
| <b>3</b>  | EIDGENOESSISCHE ANSTALT FUER<br>WASSERVERSORGUNG ABWASSERREINIGUNG UND<br>GEWAESSERSCHUTZ                    | Switzerland  | <b>Partner</b>                  |
| <b>4</b>  | EIDGENOSSISCHE MATERIALPRUFUNGS<br>UNDFORSCHUNGSANSTALT  | Switzerland  | <b>Partner</b>                  |
| <b>5</b>  | TYOETERVEYSLAITOS  | Finland      | <b>Partner</b>                  |
| <b>6</b>  | FUNDACION GAIKER   | Spain        | <b>Partner</b>                  |
| <b>7</b>  | KAROLINSKA INSTITUTET  | Sweden       | <b>Partner</b>                  |
| <b>8</b>  | ACONDICIONAMIENTO TARRASENSE ASSOCIACION   | Spain        | <b>Partner</b>                  |
| <b>9</b>  | MISVIK BIOLOGY OY  | Finland      | <b>Partner</b>                  |
| <b>10</b> | ASSOCIAZIONE ITALIANA PER LA RICERCA<br>INDUSTRIALE - AIRI   | Italy        | <b>Partner</b>                  |
| <b>11</b> | NATURAL ENVIRONMENT RESEARCH COUNCIL   | UK           | <b>Partner</b>                  |
| <b>12</b> | NANOTECHNOLOGY INDUSTRIES ASSOCIATION<br>AISBL   | Belgium      | <b>Partner</b>                  |
| <b>13</b> | DIALOGIK GEMEINNUETZIGE GESELLSCHAFT FUER<br>KOMMUNIKATIONS- UND<br>KOOPERATIONSFORSCHUNG mbH                | Germany      | <b>Partner</b>                  |
| <b>14</b> | RIJKSINSTITUUT VOOR VOLKSGEZONDHEIDEN<br>MILIEU*NATIONAL INSTITUTEFOR PUBLIC HEALTH<br>AND THE ENVIRONMENTEN | Netherlands  | <b>Partner</b>                  |
| <b>15</b> | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST<br>NATUURWETENSCHAPPELIJK ONDERZOEK TNO                               | Netherlands  | <b>Partner</b>                  |
| <b>16</b> | TTY-SAATIO   | Finland      | <b>Partner</b>                  |
| <b>17</b> | DANMARKS TEKNISKE UNIVERSITET  | Denmark      | <b>Partner</b>                  |
| <b>18</b> | Steinbeis Advanced Risk Technologies GmbH  | Germany      | <b>Partner</b>                  |
| <b>19</b> | HEALTH CANADA  | Canada       | <b>Partner</b>                  |
| <b>20</b> | RESEARCH TRIANGLE INSTITUTE  | USA          | <b>Partner</b>                  |
| <b>21</b> | DUKE UNIVERSITY  | USA          | <b>Partner</b>                  |
| <b>22</b> | GreenDecision s.r.l.   | Italy        | <b>Partner</b>                  |
| <b>23</b> | INSTITUT NATIONAL DE L ENVIRONNEMENT ET DES<br>RISQUES INERIS  | France       | <b>Partner</b>                  |
| <b>24</b> | NATIONAL HEALTH LABORATORY SERVICES  | South Africa | <b>Partner</b>                  |