

**Programme:** EU-HORIZON 2020 Industrial leadership - 2014-2020

**Call:**

NMBP-16-2020

**Topic/s:**

Complex multi-component, hybrid, functional nanomaterials and High Aspect Ratio Nanoparticles (NMs&HARNs), present both innovation potential and challenges in terms of assessing the risk in different environments. Concerns for these multi-component nanomaterials result from differing rates of degradation and toxicities of the separate and interacting components and their different interactions with biological and environmental systems. Previous projects on Safe by Design have developed risk assessment tools and strategies, however they were only implemented within the context of an example case study. The implementation of these tools and approach at scale is still remains to be achieved. The challenge is to develop and implement Safe by Design concepts for products incorporating such nanomaterials and to understand their impact on manufacturing processes, on product performance, and on the environment and on health.

Scope:

The proposals should:

Coordinate with the projects from NMBP-15-2019, and focus on filling the gaps in the current understanding of exposure and hazard characteristics of NMs&HARNs especially those arising from their unique properties, as well as assessing the extent of and rates by which variations of environment modify the nanoparticle properties and agglomeration rates;

Use multiscale modelling approaches to identify how different patterns of release may influence physiological responses and how elements of multi-component nanomaterials interact with each other, with other NMs, and other chemicals leading ultimately to mixture toxicity;

Develop knowledge and tools for Safe by Design approaches that support the development of multi-component nano-enabled products with reduced persistence, exposure and hazard. This should be coupled with developing multi-scale modelling approaches to evaluate the effectiveness of the proposed safe-by-design strategies

Relevant indicators and metrics, with baseline values, must be clearly stated in the proposal and should be in line with previous efforts on Safe by Design. For this topic a parallel call scheme is envisaged with the USA-NNI. Resulting projects should establish close cooperation mechanisms. Therefore, proposals should foresee a dedicated work package for cooperation and earmark appropriate resources.

Activities should start at TRL 4 and achieve TRL 6 at the end of the project.

**Call Budget:** 16000000,00€

Co-funding type:

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**Opening date:** 03 Jul 2019

**Deadline date:** 12 Dec 2019; 14 May 2020

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**Call presentation and documents:** <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunit...>

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