

Nanosafety and Innovation: towards safe innovation

BIO _____
NANONET

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Outline

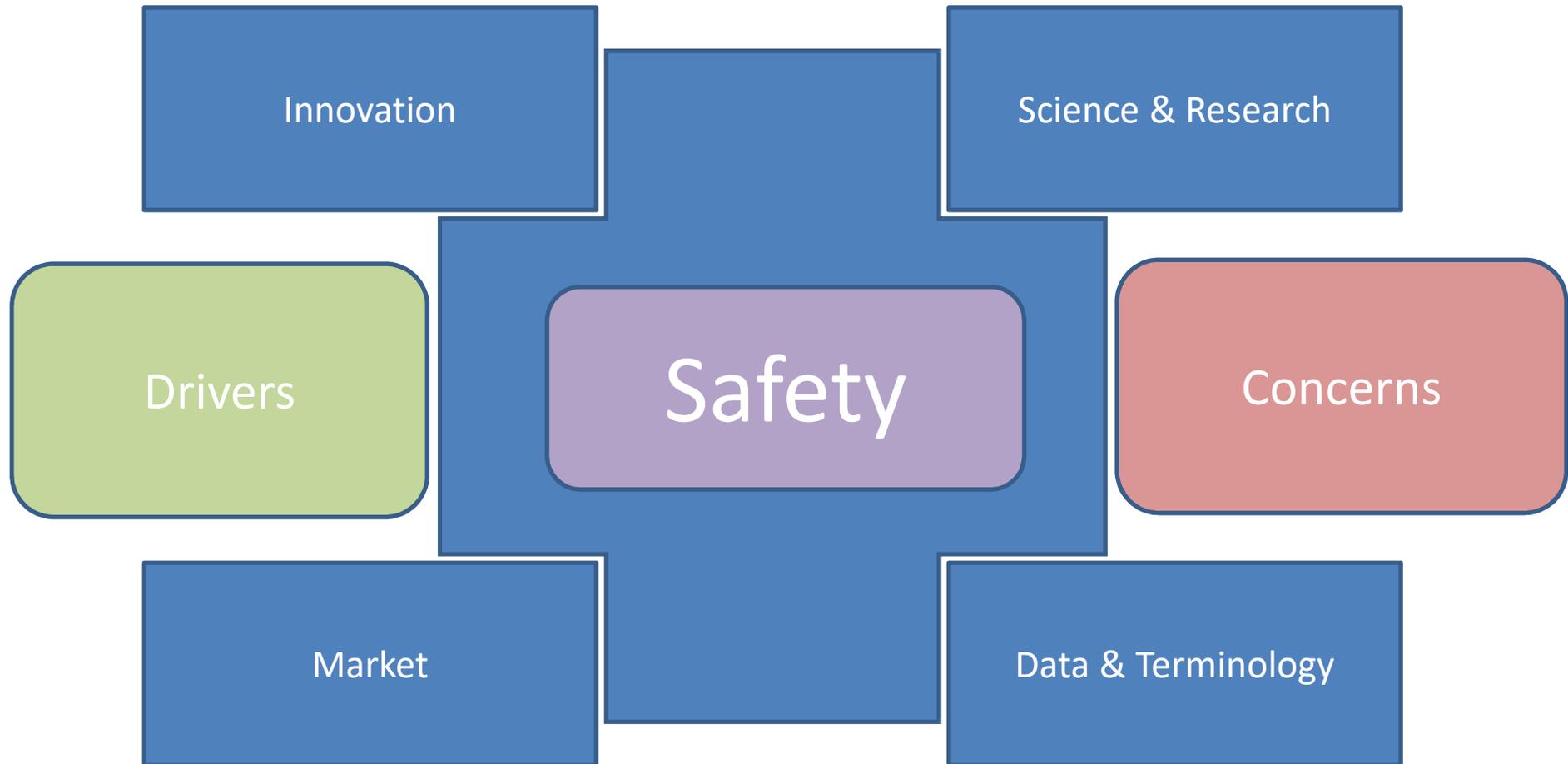
Introduction

Status

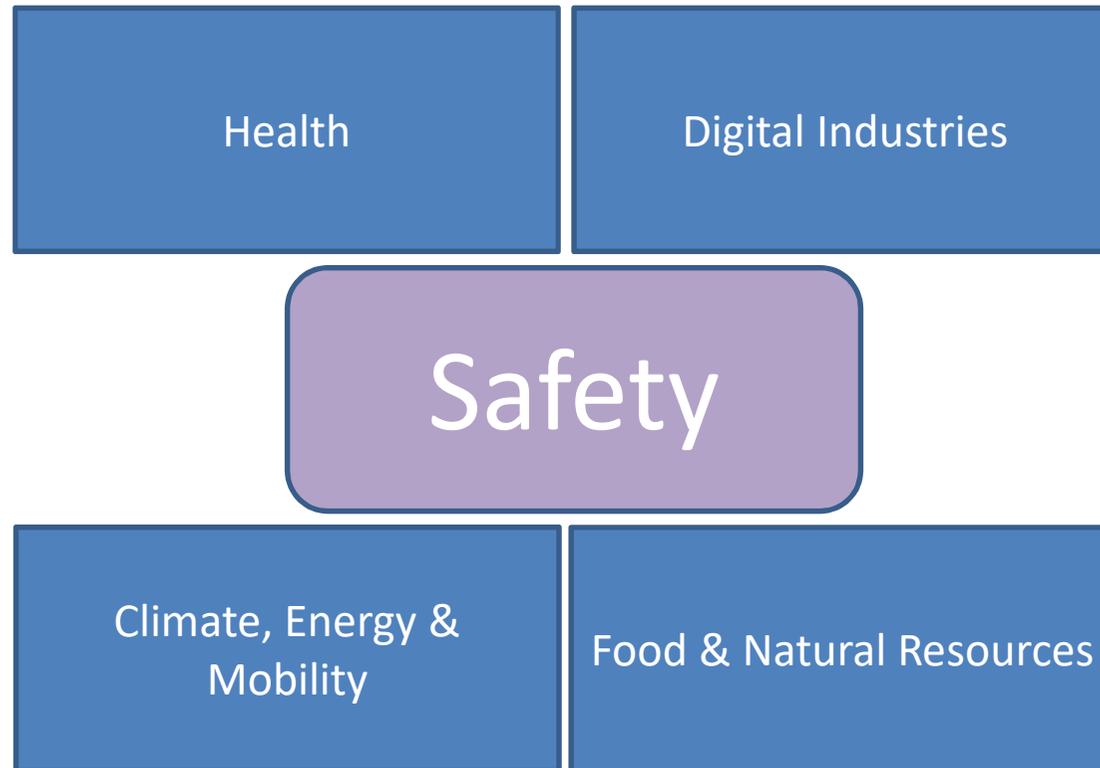
Motivation

towards safe ... innovation

Introduction



Introduction



Horizon Europe: *Pillar 2 – Global Challenges & Industrial Competitiveness*



government & policy

NANOTECHNOLOGY: THE NEXT BIG THING

feel confident
the initiative
success. Do so
proach with it
observation is
When N2E
year by NIST

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graph TD; Science([Science]) <-->|Proof of concept| Technology([Technology]); Society([Society]) <-->|Scale-up| Technology; Society <-->|Feedback| Science;
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- Nanotechnology: Enabling technology
- Ultimate precision to fabricate materials and devices
- Creation of new materials and devices
- Learning from life
- Impacts all technology sectors
- Huge societal benefit

Industrial Technologies, 2010, Brussels

Status

Excerpt from CTTM:

- Identify best practice and unfulfilled gaps in terms of where and how the scientific/research community, via H2020 and member state funding initiatives, can support the commercialization
- main directions/goals:
 - Setting minimum requirements for nanosafety-related **jobs, skills and/or tools**
- CTTM has three major uses:
 - it helps reach a consensus about a set of needs and the technologies required to satisfy those needs;
 - it provides a mechanism to help forecast technology developments; and
 - it provides a framework to help plan and coordinate technology developments

(Falk A. et al., 2016)



Status

- improvement of efficacy of toxicology studies of nanomaterials and certification of methods
- provide industrial stakeholders and the general public with appropriate knowledge on the risks of nanoparticles and NMs for human health and the environment
- overcome the existing lack of knowledge transfer in the economic and societal point of view
- earlier building of “Business Plan(s)” and integrate in the “Business Plan” the nanosafety dimension of any product supports the better and the faster movement towards the market
- permit industry to “internalise” in their plans the safety issues

(Falk A. et al., 2016)



Motivation

- Find solutions for identified needs and bottlenecks along the value chain (step forward from „only discussing“ about it)
- quality of life
- considering the UN-SDGs to provide a „healthy earth“ for next generation/s

→ **Safe innovation with broader view...**



Towards safe ... innovation

- it is „nano“ and more...(progressing with the safety-by-design approach → not limited to nano, but opening it up to different fields → a horizontal program on „safety“ across all development areas would support this)
- it is more than „chemicals“ ... materials, processes, etc. where addressing safety aspects would support innovation
- Towards safe (materials?) innovation *program* – a win-win-option for several stakeholders...

* van der Waals et al. 2019, Safe-by-design of materials and chemicals, <http://doi.org/10.5281/zenodo.3254382>



Towards safe ... innovation

- „horizontal funding“ on safety would enable cross-sectorial integration (e.g. by mentioning safety as an impact-target) → !! reviewers need to get training on this!!
- to be addressed from the beginning of the projects
- add value by strengthening collaboration (e.g. by „structural force“) and/or involvement of multistakeholder-organizations
- NSC-role to enable safe innovation → provide expertise
~~ (nano)safety testbed ~~



BioNanoNet network



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Thank you for your attention!



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