

Needs and Gaps on Nanosafety Standardization

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Speaker



Expert duties

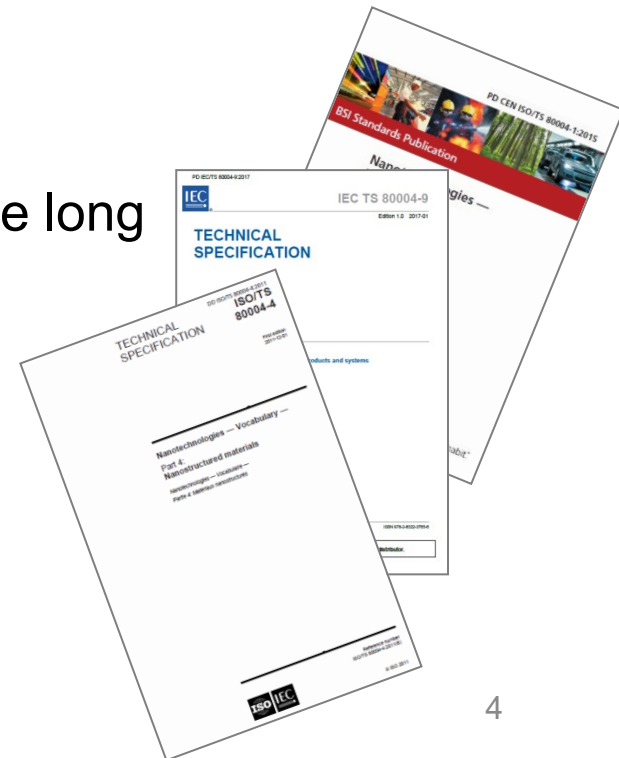
- Chair of ISO TC229 (Nanotechnologies)
- Expert on ISO TC24/SC4 (Particle Characterisation)
- Expert on ISO TC281 (Fine Bubble Technology)
- Expert on CEN TC352 (Nanotechnologies)

Disclaimer

Some of the information in this presentation is reported in private capacity and does not represent ISO position.

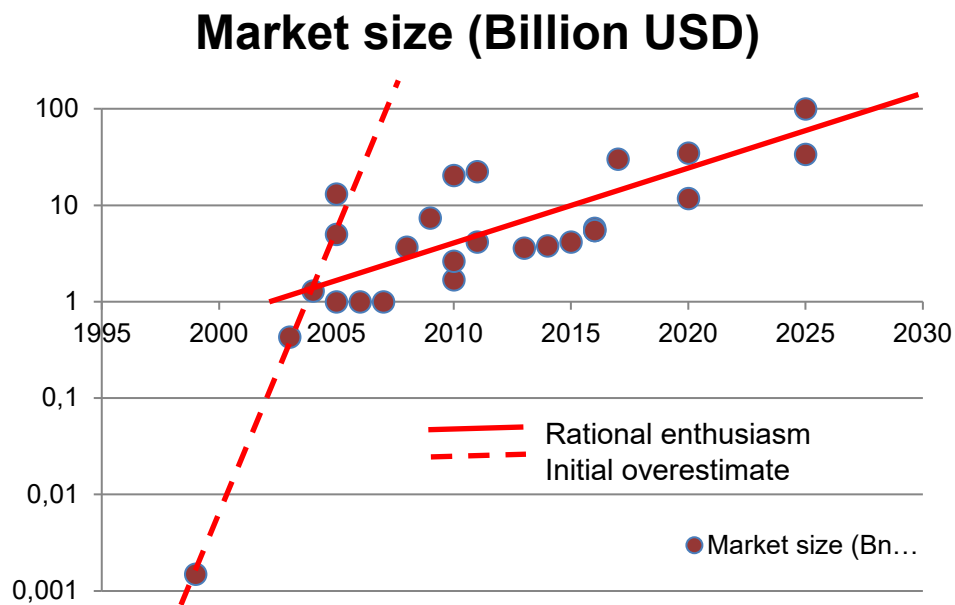
The use of standards

- Standards represent the best practice
- Standards are made by consensus of all stakeholders
- Standards allow compatibility and intercomparison of products
- Safety standards for products are critical
- While it may seem costly to comply at first, businesses save a lot of time and money in the long run
- What is a standard?







Nanomaterials (Manufactured)

- Since 2000s, the development of nanotechnology has led to an enormous investment in nanomaterials production.
- Academic and Industrial players enjoyed large scale investment.



Global Standardization Trends

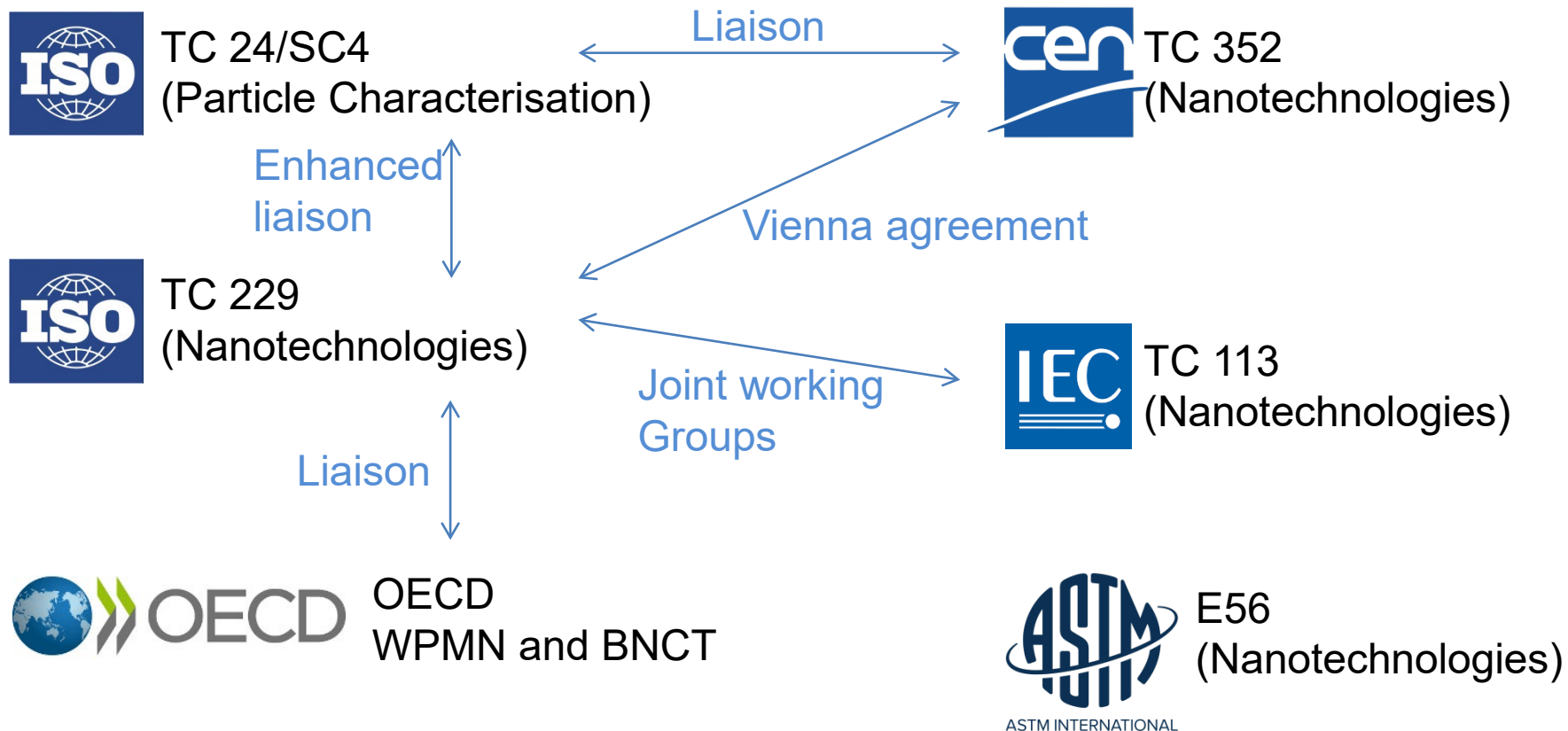
International Standardization Committees

	Committee	When Founded	Membership	Developed Standards	Standards ² under development
	ISO/TC 229 Nanotechnologies	2005	39 Participating countries 18 Observing countries	101	32
	CEN/TC 352 Nanotechnologies	2005	34 Countries	26	5
	IEC TC 113 Nanotechnology for electrotechnical products and systems	2006	15 Participating countries 6 Observer countries	53	73
	ASTM International TC E56 Nanotechnology	2005	Over 320 members Approx 25 members attending meetings	10	?

^[1] ISO - International Organization for Standardization, CEN - The European Committee for Standardization, IEC - International Electrotechnical Commission

^[2] Term “standard” used here includes technical reports, technical specifications and standard test methods.

Relationship Between Organisations and committees



ISO TC229 SDGs

1 NO POVERTY



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



14 LIFE BELOW WATER



15 LIFE ON LAND



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS



SUSTAINABLE DEVELOPMENT GOALS

This committee contributes with 136 standards to the following Sustainable Development Goals:

2 3 8 9 12 13 14

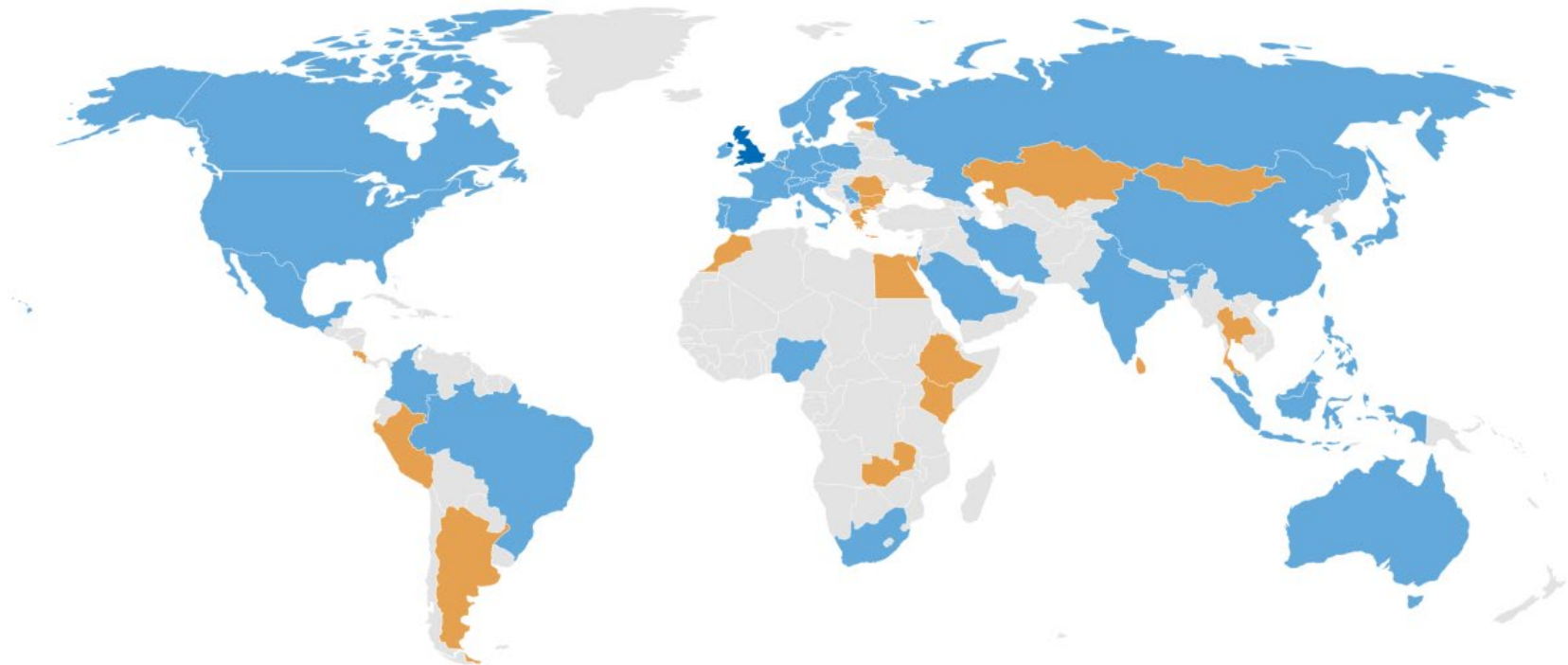
ISO TC229



ISO TC229

ISO/TC 229

Participation



TC229 Scope

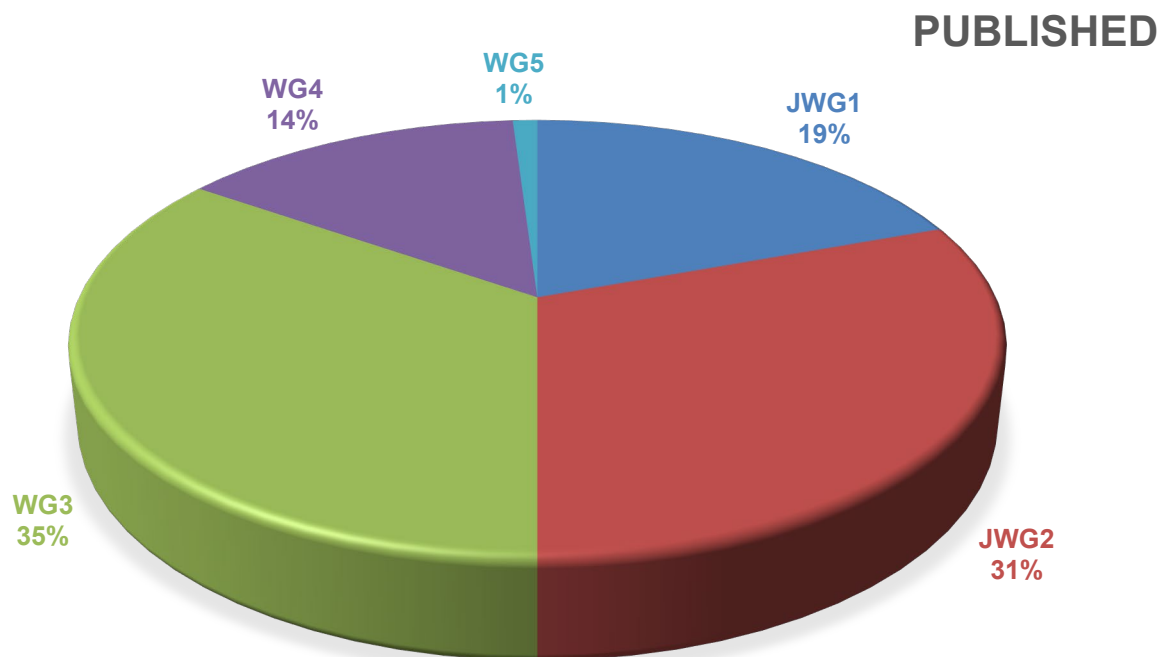
Standardization in the field of nanotechnologies that includes either or both of the following:

1. Understanding and control of matter and processes at the nanoscale, typically, but not exclusively, below 100 nanometres in one or more dimensions where the onset of size-dependent phenomena usually enables novel applications,
2. Utilizing the properties of nanoscale materials that differ from the properties of individual atoms, molecules, and bulk matter, to create improved materials, devices, and systems that exploit these new properties.

Specific tasks include developing standards for: terminology and nomenclature; metrology and instrumentation, including specifications for reference materials; test methodologies; modelling and simulation; and science-based health, safety, and environmental practices.

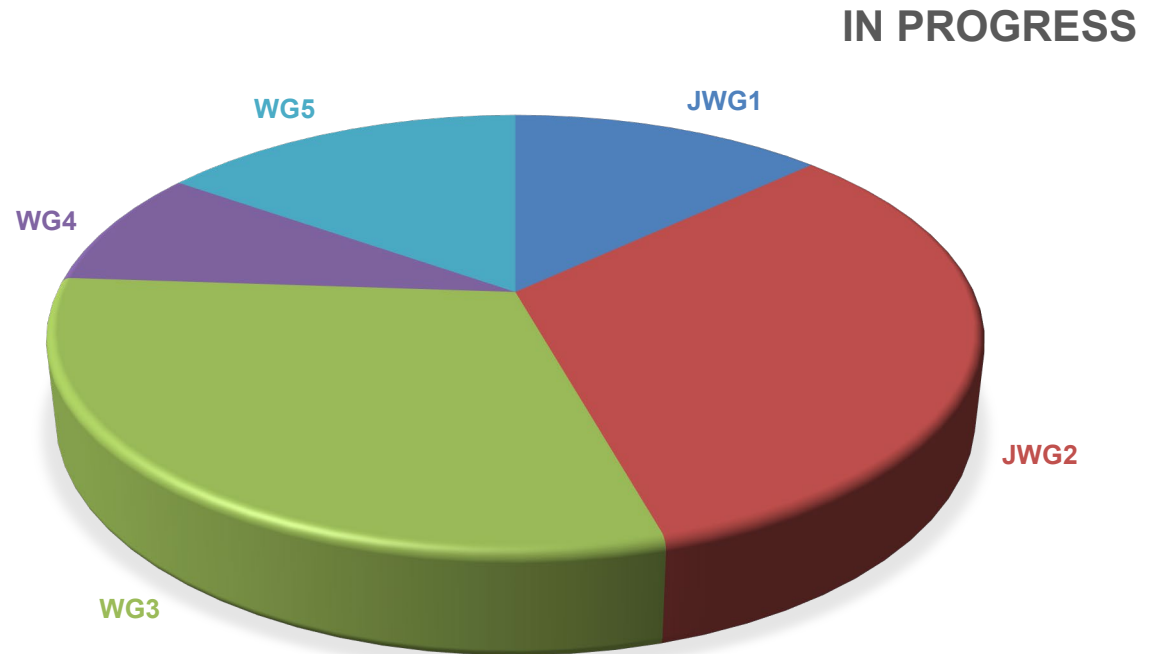
Published Standards (up to Oct 2022)

	Published
JWG1	19
JWG2	30
WG3	34
WG4	14
WG5	1



Standards Currently under development (Oct 2022)

	in Progress	
JWG1	6	
JWG2	15	
WG3	14	
WG4	4	
WG5	7	



Some relevant gaps

There are a number of areas that still need to be covered by WG3 of the ISO TC229 and related working groups in other committees.

1. Terminology (eg. Manufactured Nanomaterials, AdMa, Impact of EU definition on health and safety approach to nanomaterials)
2. Global impact of some of the industry sectors (eg. batteries or renewables).
3. Cover materials of interest (eg. microplastics, liposomes)
4. Interaction of nanomaterials and how they properties in living organisms change upon application of external stimuli (eg. EM, RF, etc)

Potential Points of contact with ISO TC229

1. Collaborate on joint terminology (Mechanism: through a Liaison B/C)
 1. Participate in meetings
 2. Propose new items or revisions of old.
2. Harmonise the HnS/Risk approaches and work with WG3 as country members as well as liaison organisation.
3. Contribute to ISO global strategy for standard development
4. Invite us to inform your members

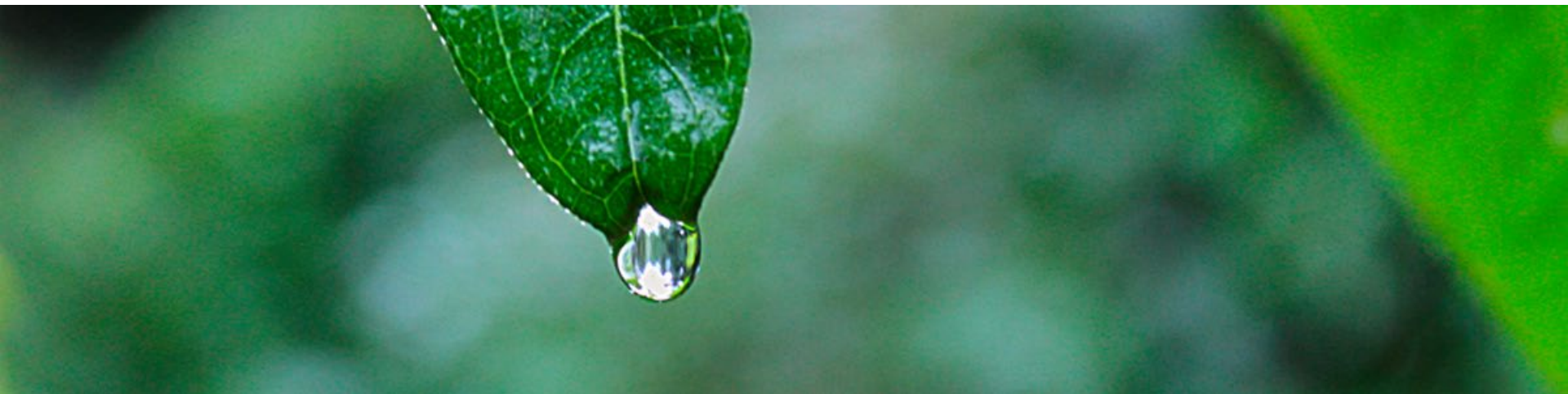


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