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NanoMeasureFrance: A single entry point for structuring the nanomaterials industry around reliable data

Nanomaterials are formidable sources of innovations and are used in all industrial sectors. However, their development is hampered by the fact that the reproducibility of industrial production processes is difficult to achieve [1], harmonised testing methodologies are lacking to implement their different regulatory definitions [2], regulatory requirements for which harmonised test methods are not always available and an often negative perception by society [3]. The lack of traceability [4] regarding the use of these chemical substances, the risks of which are sometimes still poorly assessed, and the fragmentation of French stakeholders do not favour the establishment of a context conducive to the marketing of products incorporating nanomaterials.

These various obstacles are partly due to the difficulties in obtaining reliable and comparable data, while the characterisation of nanomaterials is complex. In order to respond to these issues, this communication proposes to introduce the NanoMeasureFrance initiative. This innovation centre, led by LNE and supported by the French State (via BPI, the French Public Investment Bank) and the Ile-de-France region for three years, aims to create a sustainable structure aiming at strengthening confidence in nanomaterials and associated innovations through improved quality characterisation data. NanoMeasureFrance also aims to federate, within a non-profit association officially created in 2022, the French stakeholders concerned (nanomaterials producers & users, instrument manufacturers, service providers, laboratories and academic platforms) by working on the harmonisation and validation of the tools and methods needed to characterise key physico-chemical properties of nanomaterials at different stages of their life cycle. In addition to the creation of the NanoMeasureFrance association, part (€1.5M) of the €2.8M budget for this project will be used to make the necessary investments to carry out the actions required to meet the specific needs discussed. The offer proposed within NanoMeasureFrance will provide solutions adapted to the various levels of complexity and maturity of the problems expressed by its members. The latter will have access to a shared characterisation platform equipped with complementary instruments, to a range of high value-added services "around characterisation and testing" aggregating the capacities of the members, as well as to an Open Innovation programme conducive to the development, harmonisation and validation of innovative characterisation tools and methods in order to support the responsible industrialisation of nanomaterials and corresponding Safe-by-Design approaches. Beyond these actions, NanoMeasureFrance will allow a better coordination of national efforts on these subjects and will defend French positions within European/international bodies and networks (European Metrology Network, OECD, VAMAS, AFNOR/X457, CEN/TC352, ISO/TC229).

References

- [1] <https://www.nanofabnet.net/>
- [2] https://ec.europa.eu/environment/chemicals/nanotech/review_en.htm
- [3] <https://echa.europa.eu/fr/-/what-do-eu-citizens-think-about-nanomaterials->
- [4] <https://www.anses.fr/fr/content/nanomat%C3%A9riaux-evaluation-du-dispositif-national-de-d%C3%A9claration-r-na>