Acquiring exposure data and contextual information for demonstration of system-of-systems nano risk governance platform

Tomi Kanerva[1], Anna-Kaisa Viitanen[1], Ana Sofia Fonseca[2], Joonas Koivisto[2], Olivier Aguerre-Chariol[3], Alejandro Vilchez Villalba[4], Arto Säämänen[1]
(1) Finnish Institute of Occupational Health, FI-00032 Työterveyslaitos, Helsinki, Finland
(2) National Research Centre for the Working Environment, Lerso Parkalle 105, DK-2100 Copenhagen, Denmark
(3) INERIS, Parc Technologique Alata, 60550 Verneuil-en-Halatte, France
(4) Leitat, C/ Pallars 179-185, 08005 Barcelona, Spain

Why caLIBRAte-project?

The overall objective of the caLIBRAte project is to establish a state-of-the-art versatile Risk Governance framework (caLIBRAte HUB) for assessment and management of human and environmental risks of MN and MN-enabled products.

Industrial case studies are needed to generate new occupational exposure and environmental release data with high quality conceptual information for demonstration/verification of the modelling tools.

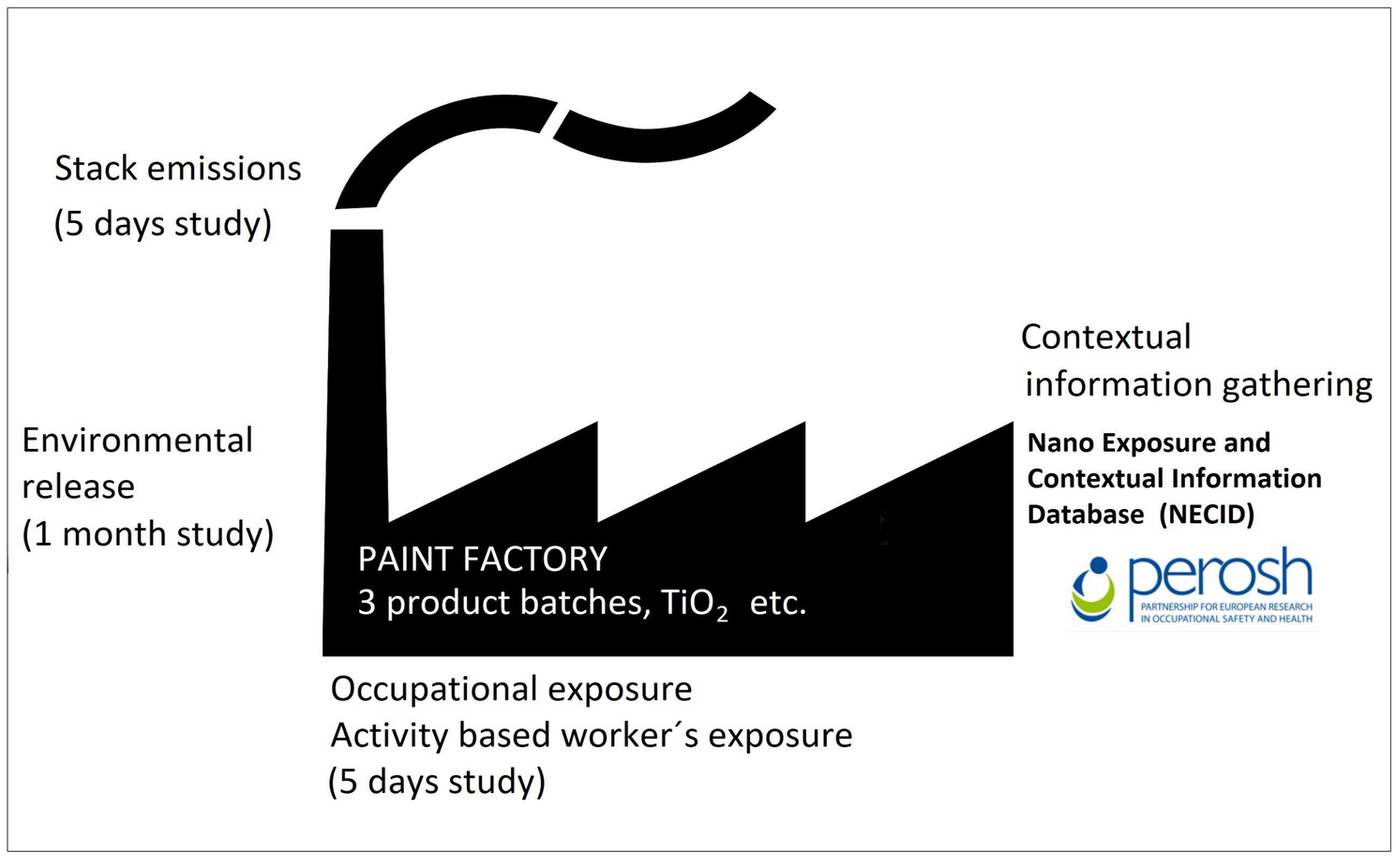
What we did

Occupational exposure assessment

- Personal and process measurements
  - Activity based analysis
  - Online monitoring, mass sampling
  - For particles from 6 nm upward
  - Materials characterization
- Stack emissions during process
- NECID data gathering
  - Harmonized and systematic

Environmental release study

- Environmental exposure
  - Airbourne emissions: 1 month study in factory surroundings
  - Solid waste, effluents



Discussion

This campaign indicated the importance of broad and detailed approach for data gathering in risk governance. The necessity for tested and calibrated ENM-specific risk priorisation and control banding tools will be highlighted in future work of caLIBRAte. The exposure data and product life-cycle information are used to demonstrate the performance of the exposure assessment models.

caLIBRAte nano risk governance

Finnish Institute of Occupational Health

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