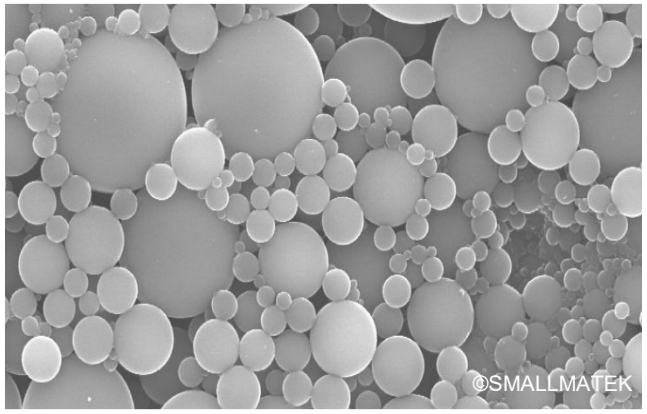
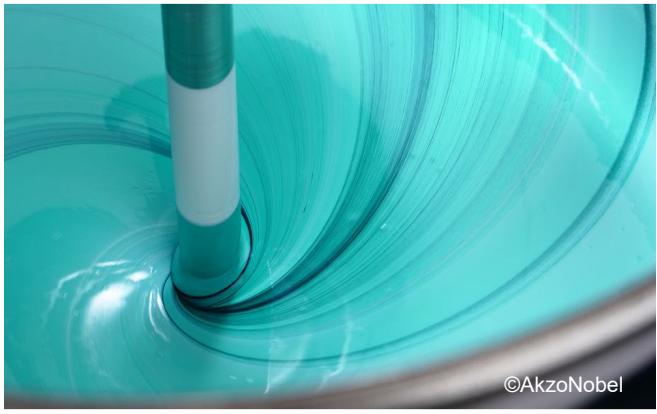
RISK ASSESSMENT IN THE CONTEXT OF THE LIFE CYCLE OF ADVANCED MATERIALS: VIEW OF RESEARCHERS

Natalia Konchakova, Helmholtz-Zentrum Hereon, Germany
Salim Belouettar, LIST, Luxembourg
Peter Klein, Fraunhofer ITWM, Germany





VIPCOAT and OntoTrans projects receive funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 952903 and No 862136 correspondently.

DigiPass CSA project has been funded by the European Commission for the programme HORIZON-CL4-2023-RESILIENCE-01, Grant Agreement No 101138510

CONTENT

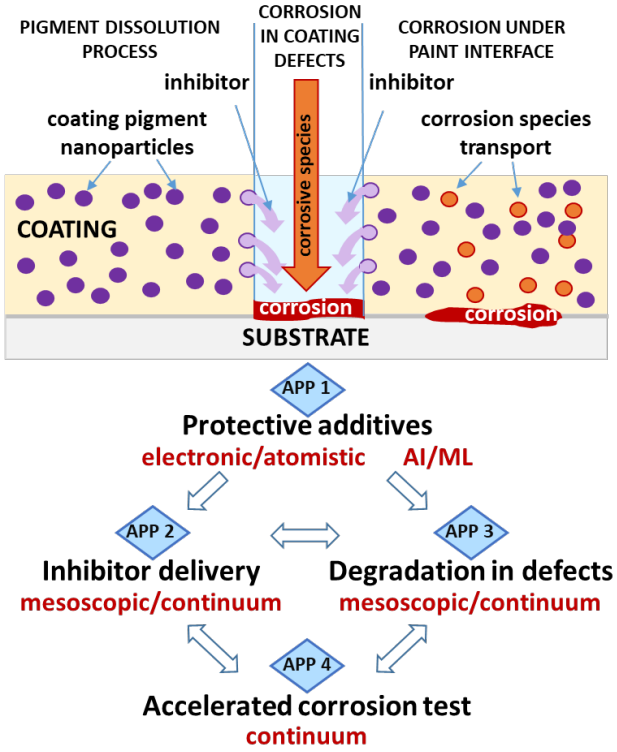
- VIPCOAT OIP → Interoperable Data Exchange
- Data Management → (Semi-)Automatization of knowledge generation and sharing
- Open Innovation Environment → Co-design and Co-development in a B2B2B relationship
- Support Decision Making → Risk Assessment: Life Cycle of Advanced Materials
- Digital Materials and Product Passport

natalia.konchakova@hereon.de, peter.klein@itwm.fraunhofer.de

VIPCOAT OIP

Active protective coatings: modelling supported design

- Effektive and efficient corrosion inhibitors
- Optimal coatings microstructure and inhibitors leaching
- Materials behaviour in static and dynamic conditions (wet and dry)
- Accelerated cyclic corrosion test



SMALLMATEK

AkzoNobel

AIRBUS

- **Collaborative** innovation process at VIPCOAT OIP

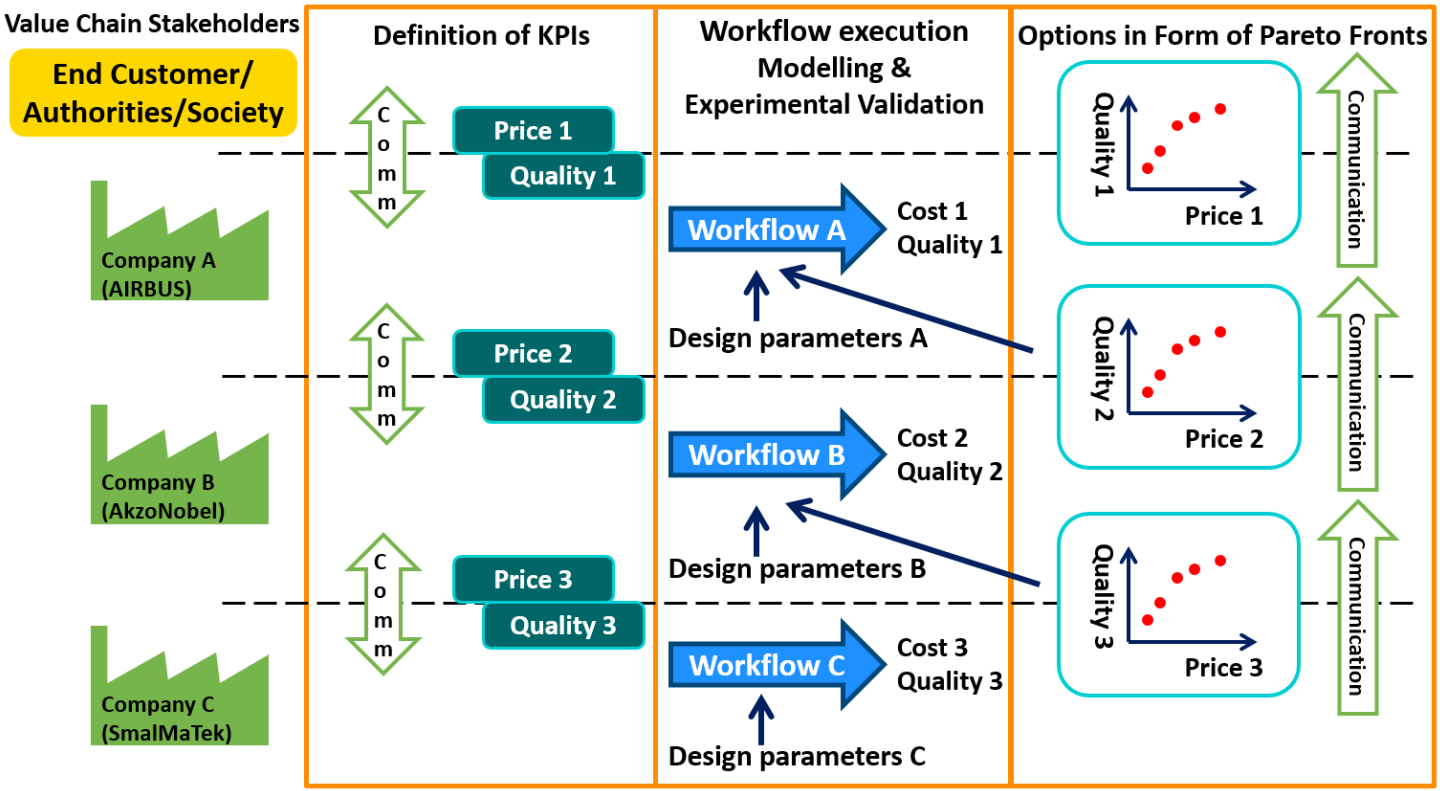
VIPCOAT

natalia.konchakova@hereon.de, peter.klein@itwm.fraunhofer.de

OPEN INNOVATION ENVIRONMENT

Co-design and Co-development at B2B2B conditions

- Interoperable Data and Information exchange along production chaine



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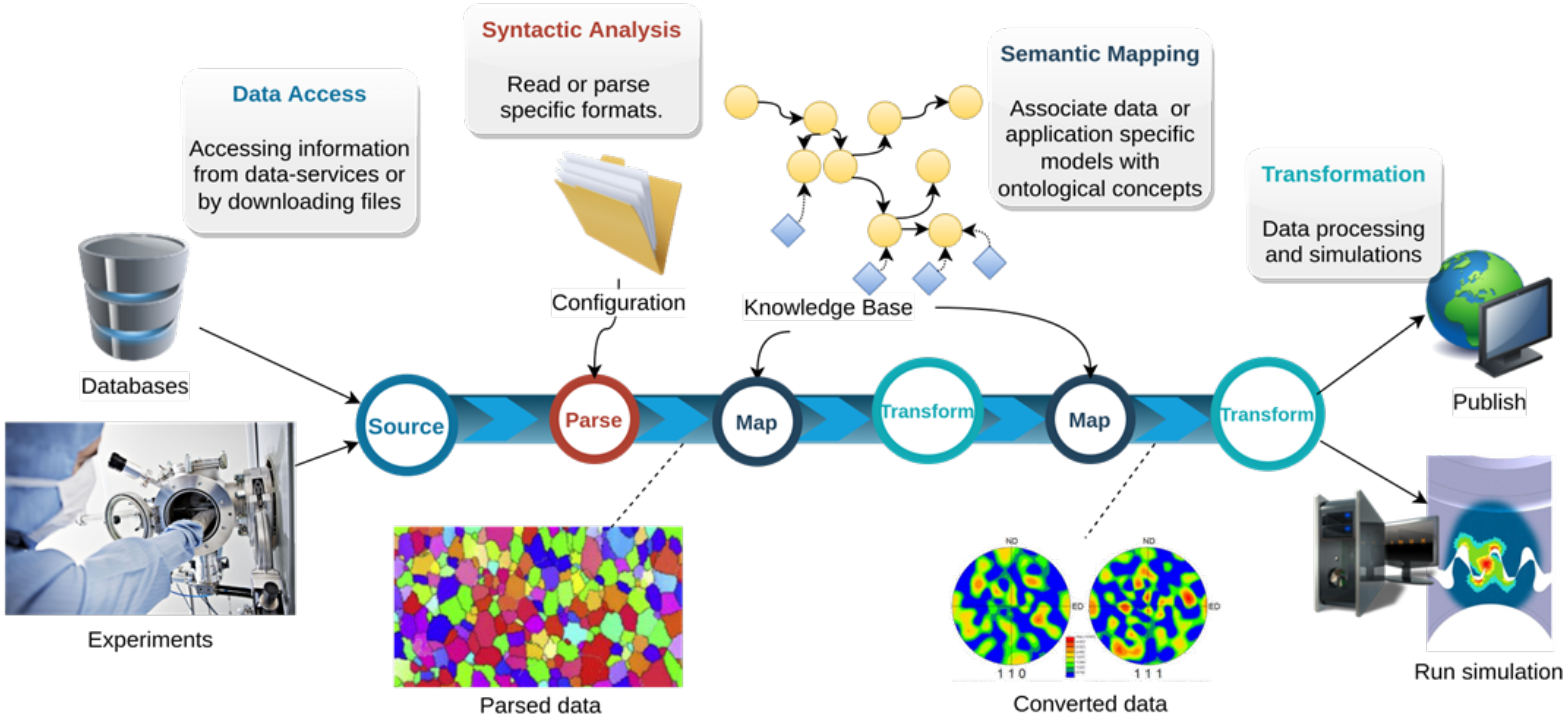
VIPCOAT OIP – OTE API

Interoperability Pipelines



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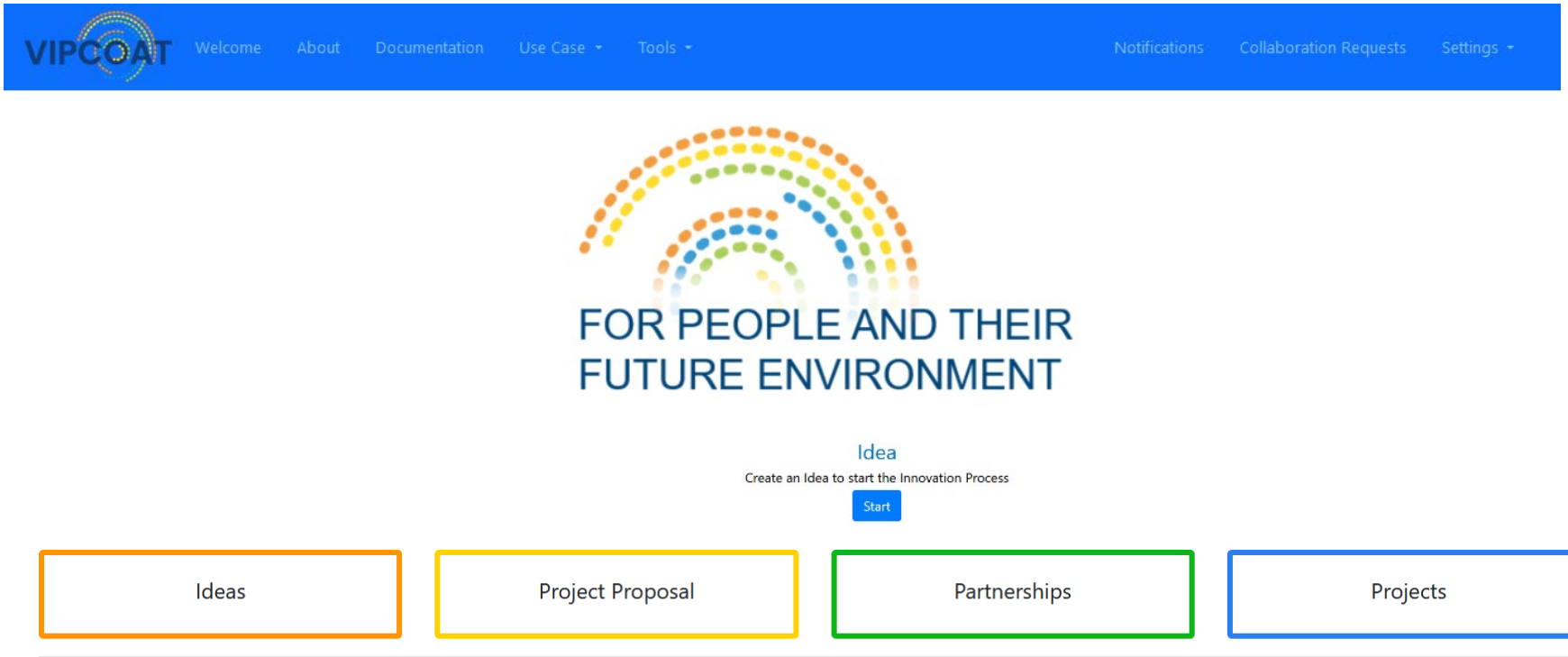
VIPCOAT OIP

Collaborative environment B2B2B



https://vipcoat-oip.com/welcome

natalia.konchakova@hereon.de, peter.klein@itwm.fraunhofer.de

SUPPORT COLLABORATIVE DECISION MAKING

Conducting environmental, health, and safety assessments

VIPCOAT Welcome About Documentation Use Case Tools Notifications Collaboration Requests Settings

- Protective additives (app1)
- Inhibitor delivery (app2)
- Degradation in defects (app3)

Enter a chemical compound

Insert a chemical*

2-Mercaptobenzothiazole

is your input SMILES? Search

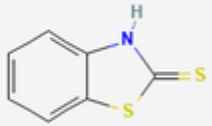
1,3-benzothiazole-2-thiol is 1,3-Benzothiazole substituted at the 2-position with a sulfanyl group. It has a role as a carcinogenic agent and a metabolite. It is a member of benzothiazoles and an aryl thiol.

CAS number(s): **149-30-4**

Check if **2-Mercaptobenzothiazole** is registred with REACH .

Source: link 1, link 2

2-mercaptobenzothiazole is potentially restricted. Check the mentioned sources before continuing!



GHS Classification Restrictions Toxic Dosages Toxicity References Chemical Vendors

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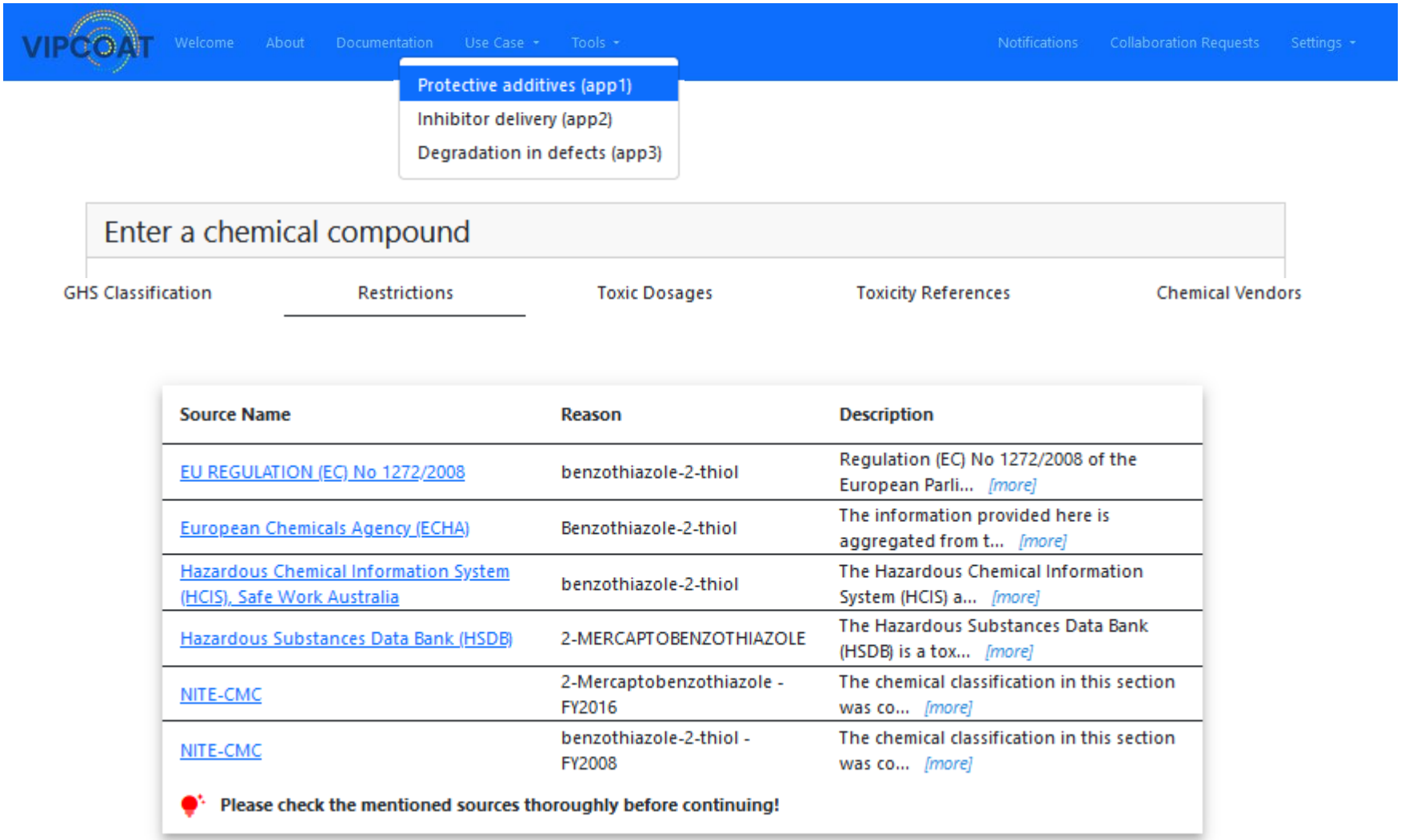
SUPPORT COLLABORATIVE DECISION MAKING

Conducting environmental, health, and safety assessments



natalia.konchakova@hereon.de, peter.klein@itwm.fraunhofer.de

SUPPORT OF DECISION MAKING

Risk Assessment: Life Cycle of Advanced Materials

- Ontologizing and mapping concepts to mix and match data and simulation tools
- Connection with external data sources any data bases → REACH, PubChem, ... to support end-users to check different important paraments and take decision on chemicals and coating components
- Support circularity and semi-automatic realization of conducting environmental, health, and safety assessments of active protective coatings components
- **Collaborative innovation** and transparency in development and production of new materials and products →
  - **Digital Materials and Product Passport**

Industry/ Academia/ Governmental/ Society

VIPCOAT

DigiPass

natalia.konchakova@hereon.de, peter.klein@itwm.fraunhofer.de

DIGIPASS CSA

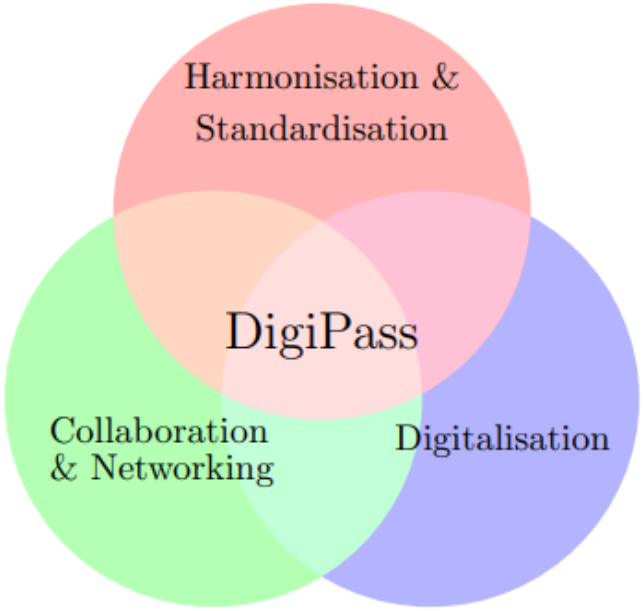
General Information

- TITLE: **Harmonization of Advanced Materials Ecosystems serving strategic Innovation Markets to pave the way to a Digital Materials & Product Passport**

- Call: HORIZON-CL4-2023-RESILIENCE-01
- Topic: HORIZON-CL4-2023-RESILIENCE-01-39

Coordination and knowledge sharing across materials development communities

HORIZON Coordination and Support Actions



- Start / duration: **1 April 2024** / 36 months
- Budget: **1 999 298.44**
- Coordinator: **Helmholtz-Zentrum Hereon**

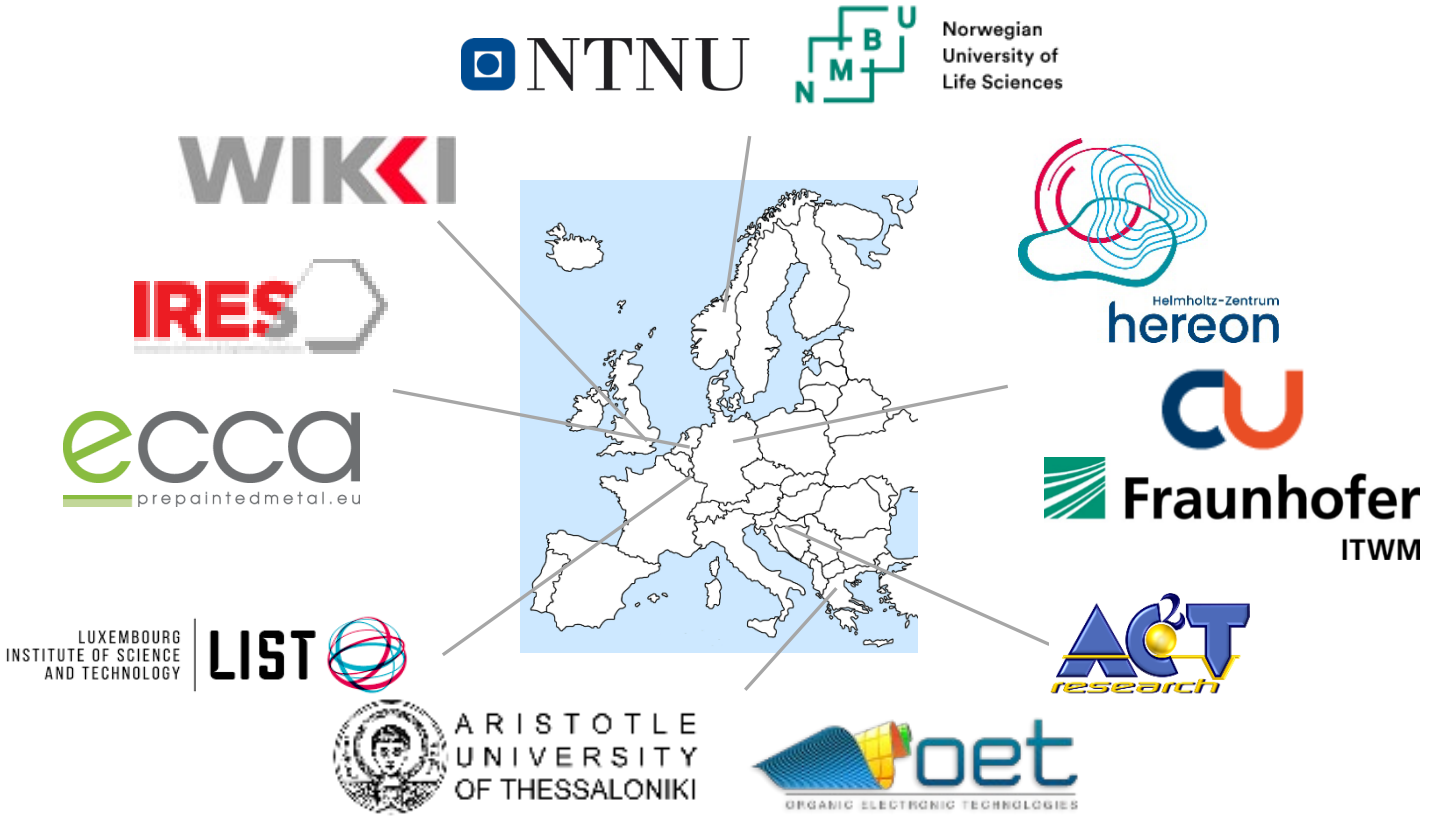
Dr. Natalia Konchakova

Contact: natalia.konchakova@hereon.de

DigiPass

DIGIPASS CSA

Consortium



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natalia.konchakova@hereon.de, peter.klein@itwm.fraunhofer.de

DIGIPASS CSA

- Bolster the **digital maturity** of European **materials development communities:** **pick them up where they are**
- **harmonization** and **synergy** of collected **materials data sources** and digital **infrastructures**, ensuring the interoperability of data exchange and standardization of advanced materials data at all digital maturity levels → **incremental transition to digitalization**
- To envision a **Digital Materials and Product Passport**
  - **Digital Product Passport:** upcoming legislation/ regulation; openly accessible
  - **Digital Material Passport:** with finetuned access rights set by the producer → used in co-innovation processes involving many stakeholders
- Support regulatory-confirmation and **sustainability** reports, and co-innovation processes in **circular ecosystems**

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natalia.konchakova@hereon.de, peter.klein@itwm.fraunhofer.de

DIGIPASS CSA

Objectives related to the twin green & digital transition

- O1: Enhance **communication** and **cooperation** among advanced materials developing communities
- O2: Establish a strong **foundation** for promoting the **exchange** of materials data and knowledge
- O3: Facilitate the **creation** and **utilization** of **DMPP** along distributed value, production, and co-innovation chains, use LCA and SSbD criteria as co-innovation process KPIs.
- O4: Demonstrate the projects coordination and support achievements on **four case studies**
- O5: Establish collaborative digital skills **training schemes** with an emphasis on reskilling and upskilling
- O6: Ensure **sustainability of DigiPass** as a digital platform connecting materials development communities, manufacturers, RTOs and digitalized administration/ legislation services

DigiPass

natalia.konchakova@hereon.de, peter.klein@itwm.fraunhofer.de

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Demonstrators

- Case 1: Advanced Composite Materials
- Case 2: Advanced Materials for Renewable Energy Sources
- Case 3: Health & Safety of Advanced Nanomaterials
- Case 4: Innovations in Pre-painted Metals Supply Chain

Industrial Association

Industrial Innovation Hub

Innovation in Research and Engineering Solutions

Industrial Association

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natalia.konchakova@hereon.de, peter.klein@itwm.fraunhofer.de

DIGIPASS CSA

Some initial steps / Training and Important Events

- Stakeholder consultations could be held to gather input and feedback on data sharing practices and policies for digital passports
- Requirements of the stakeholders on DMPP request for industrial accusations` members along the value chain
- Workshop to fix B2B2B relations and the DigiPass value chains: establish LCA system boundaries to seamless match along production chains.
- Training schema with the focus on **Digital Materials and Product Passport** concept, its benefits, and its potential applications

ONTOTRANS VIPCOAT DigiPass

natalia.konchakova@hereon.de, peter.klein@itwm.fraunhofer.de

Thank you

Acknowledgement:
this presentation is based on results achieved by the **whole VIPCOAT consortium**, special thanks to

M. Horvat, T.F. Hagelien, H.A. Preisig, S. Belouettar, C. Özkan, A. Mol, F. Maia, Z. Kefallinou, and P. Visser

FOR PEOPLE AND THEIR FUTURE ENVIRONMENT

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