To Support Digital Maturity of Advanced Materials Communities

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DigiPass EU project [1] has as one overarching objective to bolster the digital maturity of European stakeholders from different materials development communities, with a particular emphasis on small and medium enterprises (SMEs). In this talk, we will present an overview on an inventory of information sources and accreditation processes used by communities and stakeholders involved in advanced materials design and manufacturing for composites and pre-painted metals industries. We will also discuss the importance to increase the level of digital maturity of European universities and academia. In particular, the increase of the TRL level of scientific data will enable their utilization in Digital Product Passports (DPP) and thus drive innovation-by-design approaches.

Another central objective of DigiPass CSA is to couple regulatory aspects with collaborative products innovation processes on federated dataspaces, thus allowing for a seamless transition from research to production. The Ecodesign for Sustainable Products Regulation (ESPR) [2] is the central document which strives to improve for instance on products' circularity, carbon footprint, and other environmental sustainability aspects.

Effective legislation and regulation supporting the digital transformation is currently under way, enforcing Digital Product Passports (DPP) for some industrial areas and products. The DPPs need to get implemented as part of industrial production in a collaborative fashion along distributed production- and value-chains.

The integration and role of the Safe and Sustainable by Design (SSbD) principles for establishment of a DPP will be discussed. We will point the importance of the SSbD community input to collect requirements and limitations in the advanced materials data documentation and management correlated to the Digital Passport.

Moreover, an example to support a digital maturity of universities and SMEs by digitalization of materials` data and integration of AI/ML and physics-based modeling approaches to VIPCOAT Open Innovation Platform [3, 4] will be showcased.

The contributions of both DigiPass and VIPCOAT projects would support industry and academia to follow the Competitiveness Compass of the European Commission [5].

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References

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