

The digital product passport and the consequences for the tape industry

Afera in conversation with BASF's Dr Martin Klatt on the future of digital product data

The European Union's Ecodesign for Sustainable Products Regulation (ESPR) is ushering in a new era of transparency and accountability through the **Digital Product Passport (DPP)**. With the launch of the DPP Registry in July 2026, which provides the secure infrastructure for registering product identifiers and metadata, this shift carries significant implications for the adhesive and tape industry, as upstream chemical data becomes central to compliance and customer communication.

At the previous edition of the Afera Annual Conference, **Dr Martin Klatt, Executive Scientist Regulatory Affairs at BASF SE**, emphasised that adhesive and tape manufacturers play a crucial role in the emerging DPP system. While they may not produce final products requiring their own passports, they must provide verified information to feed the passports of their customers in the automotive, construction and packaging sectors. Ultimately, a finished product's DPP is considered the *sum of its Digital Material Passports (DMPs)*.



To explore how the **Chem-X project** is shaping this transformation, **Sreeparna Das, Sustainability Communications Consultant at Afera**, spoke with Dr Klatt about the origins of Chem-X, the development of DMP guidelines, and the tools and priorities that will prepare the industry for the regulatory and market demands ahead.

What problem was Chem-X originally created to solve?

MK: There has been a growing demand for product information to be delivered in a digital, standardised, and transparent format. The legal demand comes from the ESPR, which mandates digital disclosure of product attributes, a DPP, to ensure compliance, traceability, and accountability. Such digital twins also provide clear information on recyclability, repairability, and environmental

impact. In addition to regulatory requirements, there is also a business need for reliable upstream data flows to support sustainability reporting, supply chain transparency, and customer communication.



Chem-X was established to focus specifically on the **digitalisation of the upstream chemicals sector**, ensuring that precise, accurate B2B information can be exchanged seamlessly across the value chain. By doing so, it bridges the gap between regulatory compliance and business efficiency, enabling stakeholders to meet legal obligations while also responding to consumer expectations for transparency.

Can you share more about your participation in the project?

MK: At BASF, **digitalisation** is a core principle, and my involvement in Chem-X reflects that commitment. The initiative was originally driven by our raw material sourcing department, where we faced a major challenge: large volumes of non-digital information had to be added manually, consuming significant time and resources.

My participation builds on BASF's earlier experience with the **Catena-X project for batteries**, which was supported by Germany's Federal Ministry for Economic Affairs and Energy and the European Union. **Chem-X** extends that approach to the upstream chemicals sector, creating a standardised, digitalised foundation for product information exchange. While it began as a publicly funded project, it transitioned into a co-sponsored, industry-driven consortium with chemical companies, IT providers, and associations including BASF, Henkel, SAP, and the **Together for Sustainability (TfS) initiative**.

On a personal level, I am deeply interested in this subject. Contributing to Chem-X allows me to combine my professional expertise with **my passion for advancing digital solutions** that improve efficiency, compliance, and transparency across the value chain.



The DMP guidelines (V1.0 and V2.0) were published earlier this year. Can you tell us more about them?

MK: These guidelines summarise our common understanding of methodological frameworks, metrics, terminology, and review existing implementations. Developed collaboratively by consortium members representing the full value chain, **V1.0** addressed six core topics: **business identity, material identity, verification, sustainability and circularity, and material declaration**. Feedback from associated partners and industry stakeholders during public consultation ensured the guidelines were practical and broadly applicable.

Building on this foundation, **V2.0** significantly expands the scope. It introduces additional environmental impact categories such as eutrophication (terrestrial, freshwater, marine), particulate matter and ionising radiation. On the circularity side, new metrics include **CO₂-based content (CCU) and waste disposal indicators**. These additions complement the existing framework of PCF, resource use, water, acidification, ozone impacts, circular content metrics and chain of custody.



The guidelines are not static and [will evolve through consultation](#) and pilot studies, ensuring they remain aligned with regulatory developments and the needs of a diverse, interconnected industry.

What specific data elements within the Chem-X DMP are considered mandatory vs. optional for adhesive and tape manufacturers?

MK: The mandatory data elements will ultimately be defined by the **corresponding legal requirements** for each end product or market application. For instance, in food-contact packaging, disclosure of substances of concern is a key requirement. In other applications, different parameters may become essential depending on regulatory scope and customer expectations.

It is also important to note that while the ESPR legally mandates DPPs, DMPs remain **voluntary**. However, we see DMPs as a bridge between the upstream chemicals sector and downstream product applications, enabling smoother data exchange and regulatory alignment.

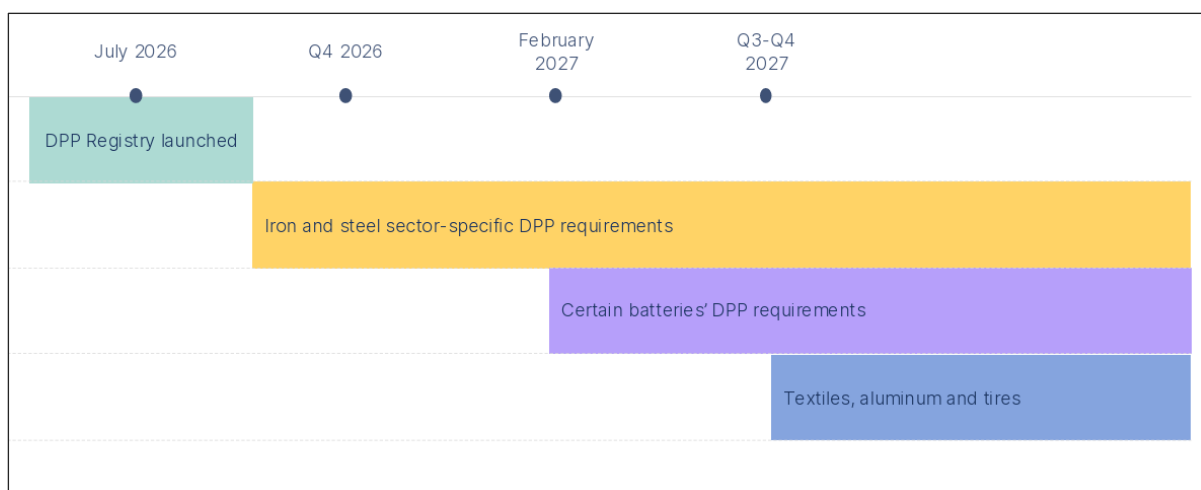
Chem-X acts as **the enabler** in this process. It provides access to the necessary information in a market-agnostic way.

How should companies manage confidential formulation data while still meeting DPP transparency requirements?

MK: To manage confidential formulation data while meeting DPP transparency mandates, companies can utilise the tiered framework in the **Chem-X Material Declaration guideline**. Rather than disclosing the proprietary master formulation or full chemical composition, businesses can

structure substance information at varying levels of granularity. This could range from high-level product specifications for the public to highly secure, batch-specific data for regulators.

This data layering is securely controlled through decentralised data space architectures that prioritise data sovereignty, keeping proprietary information strictly at the source. Using **credential-based verification and unique Material IDs**, companies electronically gate access, pushing only legally required regulatory or circularity metrics to specific supply chain partners. This effectively decouples a physical product's identity from its trade-secret formulation, ensuring compliance without sacrificing competitive advantage.



Digital Product Passport's timeline (Image credit: [Enhesa](#))

From your perspective, how well does TACK prepare the adhesive and tape industry for the data expectations of Digital Material Passports?

MK: Tools such as **TACK** (developed by Afera and IVK), **SCOTT** (developed by BASF), and similar initiatives are an important first step in aligning the industry with the minimum requirements of Digital Material Passports. By enabling credible, standardised Product Carbon Footprint (PCF) calculations, they help companies meet the immediate expectation that carbon data will be a baseline entry in every passport.



However, PCF is only the beginning. As regulatory frameworks evolve, additional sustainability parameters including **Product Environmental Footprint (PEF)**, **Environmental Product Declarations (EPD)**, and other indicators will become mandatory. The industry must therefore view TACK and comparable tools as foundational enablers that prepare the value chain for a broader, more complex data ecosystem.

TACK prepares the adhesive and tape industry well for the first wave of DMP expectations, but long-term readiness will depend on how quickly companies expand their data capabilities to cover the full spectrum of sustainability parameters.

What are the biggest priorities for Chem-X as it evolves further?

MK: As Chem-X evolves, the biggest priorities lie in strengthening its role as a system that describes products and maps the chain of data flow. Extending this framework to **additional endpoints** will be essential to ensure full coverage across the value chain.

Equally important will be pilot studies on real products, which can demonstrate the **efficiency, accuracy and credibility of the system in practice**. These pilots will provide the evidence base needed to build trust and adoption across industry stakeholders.

By the end of the year, Chem-X aims to deliver a comprehensive summary of progress, highlighting lessons learned and setting the stage for wider implementation.

Ultimately, the **overarching goal of the Chem-X DMP is making upstream digital**, so that product and process information can be exchanged seamlessly, supporting transparency, compliance and sustainability across the entire chemical value chain.



Dr. Klatt explained how Digital Material Passports support the End-use DPP at Afera Annual Conference 2025

Conclusion

The Digital Product Passport is set to become a cornerstone of the EU's sustainability framework, requiring product information to be disclosed in a transparent, standardised and digital format. Within this system, **Digital Material Passports (DMPs)** provide the upstream chemical data that enables downstream sectors to meet compliance and customer expectations. **Chem-X** plays an important role in shaping these guidelines and piloting approaches that demonstrate how upstream digitalisation can support transparency and regulatory alignment. For the tape industry, tools such

as the **TACK PCF calculation tool** already provide a strong foundation by enabling credible, standardised carbon footprint data that can be integrated into passports. Building on this, **Afera's Flagship Sustainability Project (AFSP)** is now exploring the **TACK EPD calculator module**, helping members prepare for the broader set of sustainability parameters required in future passports and position the industry to lead on innovation and compliance.

References:

- [The Chem-X Project](#)
- [Simplifying PCF Calculations with TACK](#)

About Dr. Martin Klatt



Dr. Martin Klatt is Executive Scientist for Regulatory Affairs at BASF SE, where he has worked since 1995 across polymer research, product safety and stewardship. He began his career as a Senior Scientist at the University of Göttingen after completing his PhD in 1992. At BASF, he has led major regulatory and product stewardship functions, particularly in food-contact and polymer safety, and now represents the company in numerous European industry associations and working groups. Dr. Klatt is an active contributor to regulatory harmonisation initiatives, including Digital Product Passport task forces, and is recognised for his leadership in advancing digitalised product data across the chemical value chain.

About Sreeparna Das



Sreeparna Das is the Founder of SDS Consulting and a distinguished communications and editorial specialist with 17 years of experience spanning the specialty chemicals industry and digital media. Holding a Master's degree in Chemistry, she specialises in articulating sustainability topics within the specialty chemicals industry. Sreeparna advises global brands, start-ups and industry associations across Europe and North America, supporting their transition toward a circular economy and de-fossilisation. An expert in science journalism, editorial strategy, and market research, she has published over 45 authoritative articles on plastics recycling, circularity, and renewable carbon solutions, driving impactful industry change.