Supply chain communication towards chemicals traceability: Enabling REACH compliance and the Circular Economy

Martin Führ, Julian Schenten, **Rebecca Niebler**

Sonderforschungsgruppe Institutionenanalyse (sofia), University of Applied Sciences Darmstadt

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Looking at the developments on European level…

COM (2019) 640:

- Transform EU into "modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050" (p. 2).
- "clean and circular economy" (p. 7)… "zero pollution ambition for a toxic-free environment" (p. 14)

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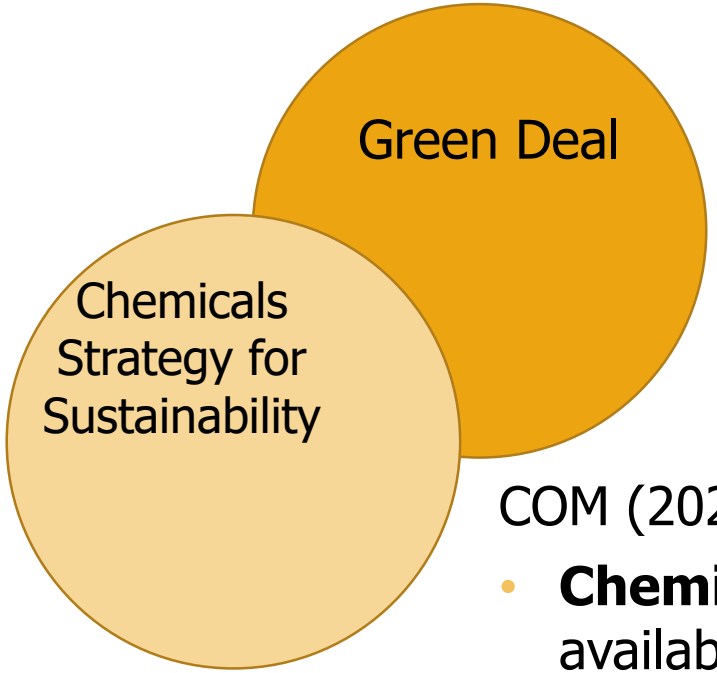
Looking at the developments on European level…



COM (2020) 667:

- **Chemicals**: "Non-toxic material cycles" … "ensure availability of information on chemical content and safe use, by introducing information requirements … and tracking the presence of [SoC] through the life cycle of materials and products" (6)

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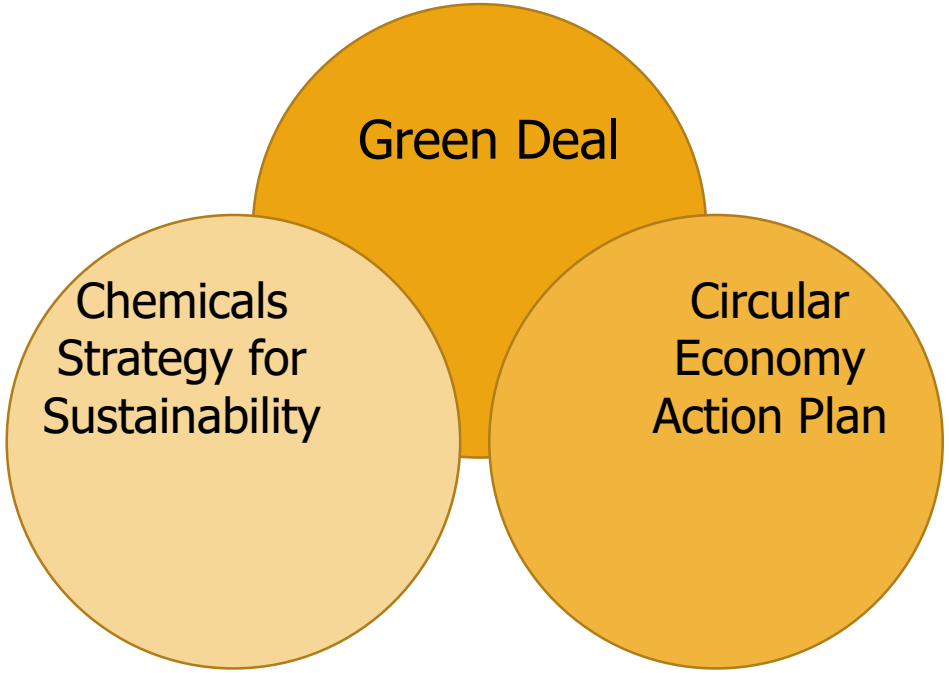
Looking at the developments on European level…



COM(2020) 98:

- **Product context:** "Enhancing circularity in a toxic-free environment, avoid toxic cycles" (p. 17)
- "harmonised systems to track and manage information on substances" (p. 17)

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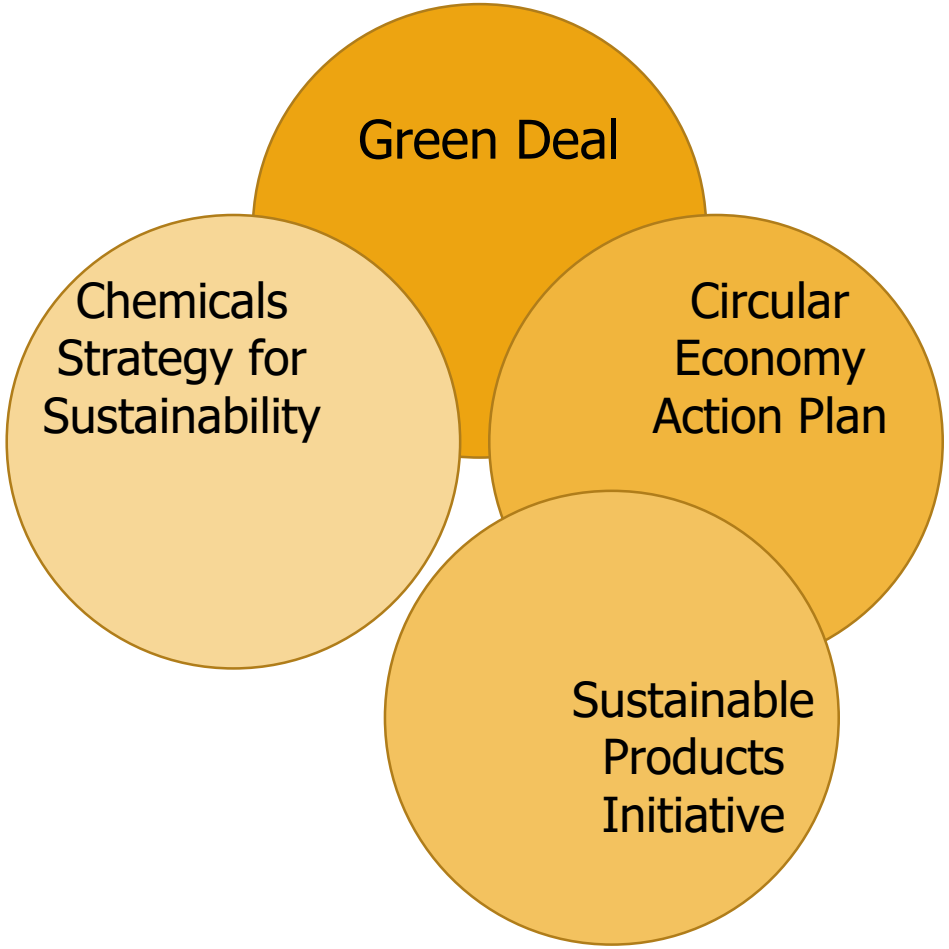

COM(2022)142:

- Proposal for **Ecodesign for Sustainable Product Regulation**
- Art. 7(2): "The information requirements … shall: (a) include, as a minimum, requirements related to the **product passport** referred to in Chapter III and requirements related to substances of concern" […]
- (5): "tracking of all [SoC] throughout the life cycle of products"; name, location, concentration…

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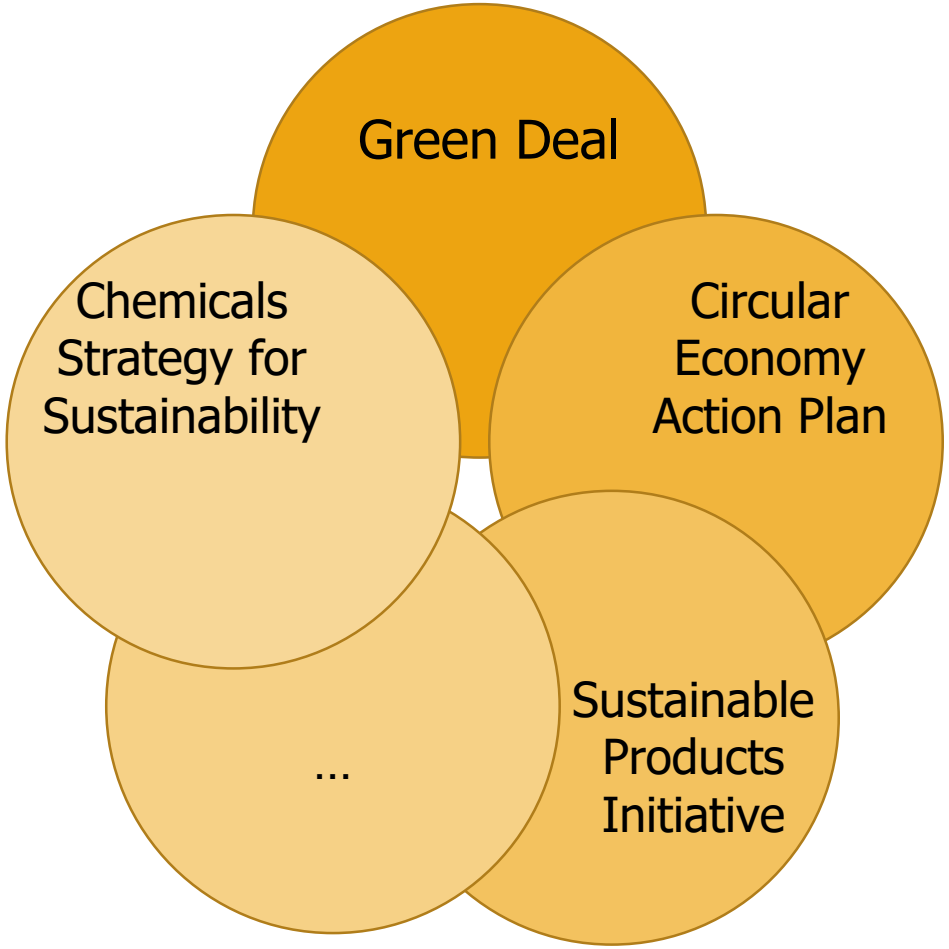

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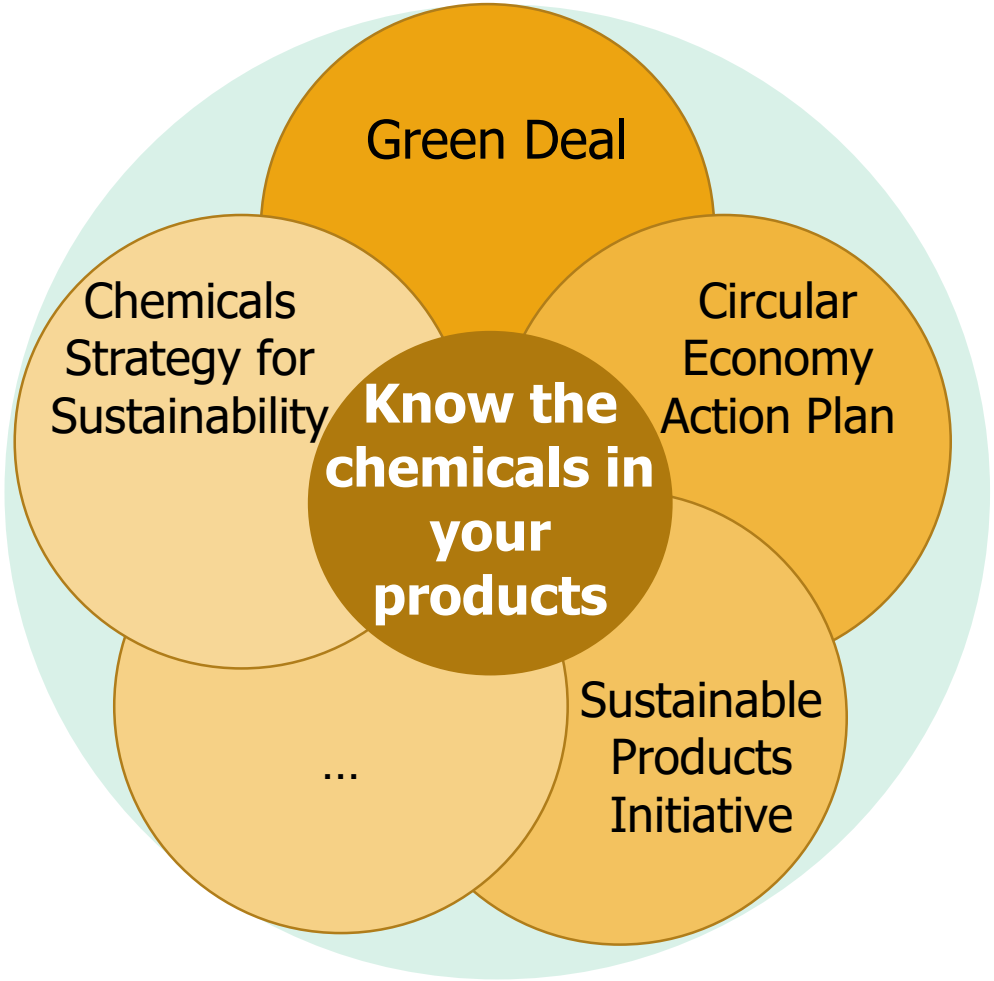

- **Traceability as a foundation for the transformation towards a non-toxic, resource-efficient and climate neutral Circular Economy**

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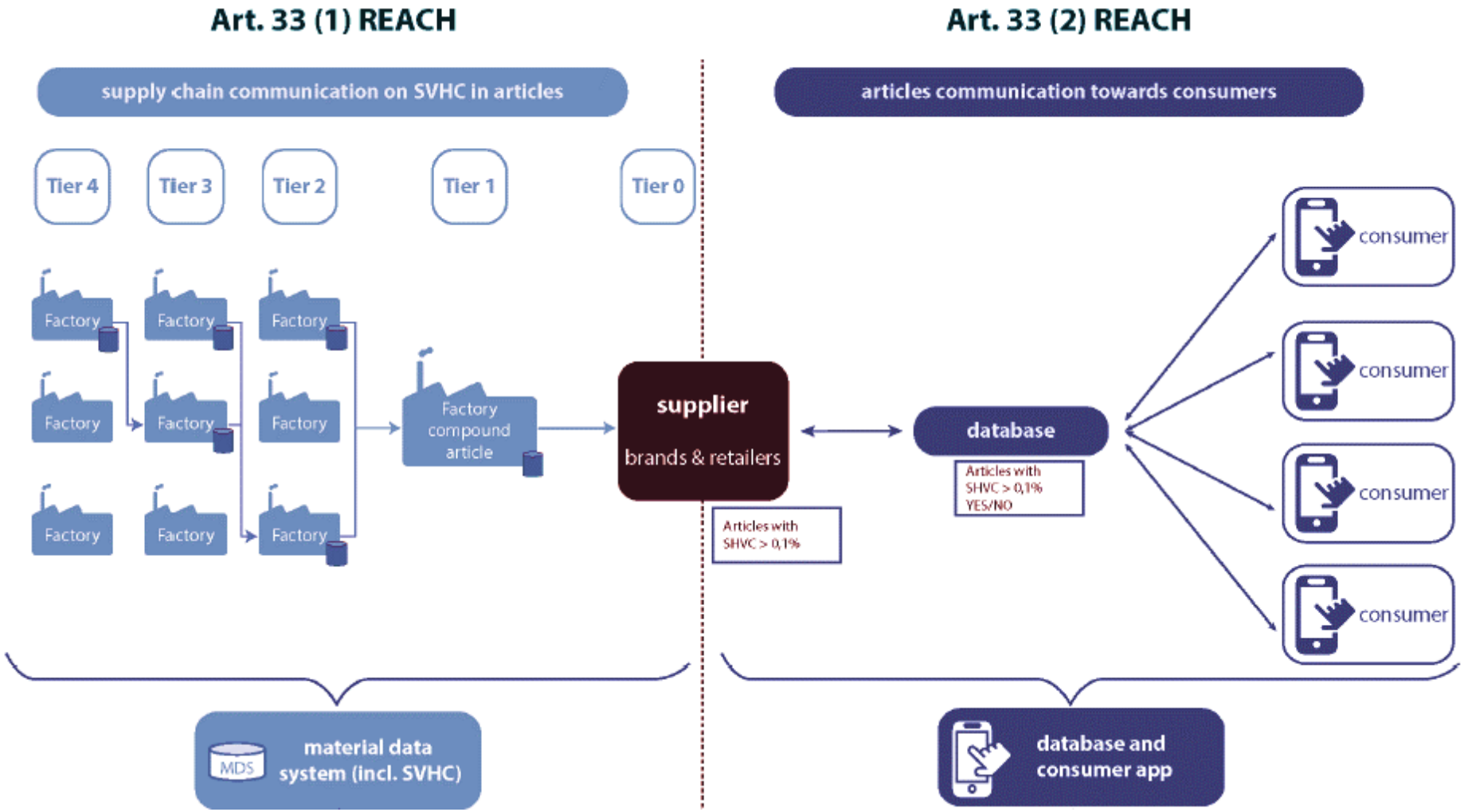
EU Policy context…REACH



Source: AskREACH Project Proposal in 2016

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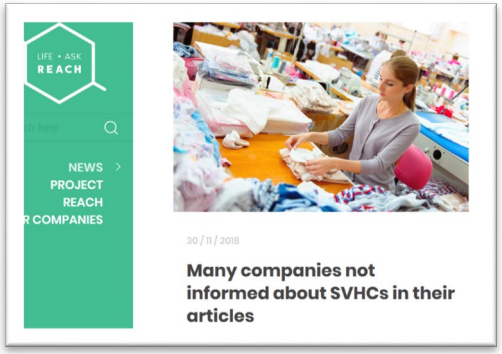
Challenge

EUROPEAN
COMMISSION

Brussels, 14.10.2020
SWD(2020) 247 final

COMMISSION STAFF WORKING DOCUMENT

Review of certain provisions of Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restrictions of Chemicals (REACH), as laid down in its Article 138



The reports and reviews summarised in the previous section can help explain why there has been little improvement in the implementation during the last decade. These include lack of awareness of duty holders, absence of adequate information management systems in certain companies, technical difficulties derived from the complexity of articles and their chemical content and scarce information on imported articles. (S. 34)

Substances in articles lack of transparency
… in a dynamic regulatory environment

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Supply Chain Communication status quo

- Restricted Substance List (RSL) and Manufacturing Restricted Substance Lists (MRSL) most common practice
- Suppliers provide general statements of conformity against the (M)RSL rather than information on actual substances

Problem:

- Data quality and reliability, information provided in compliance declarations is too scarce to check even plausibility
- Declarations report to product properties upon the date of delivery, refer to the substances listed on (M)RSL/SVHC list by this date

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Supplier impediments

- lack the data they should supply themselves
- are not aware of (all) legal obligations on Substances in Articles
- lack resources to collect data and provide it
- hesitate to provide information because they perceive it confidential

➢ Request overload: Apart from few available sector standards, companies tend to create their own (M)RSLs, thus contributing to the proliferation of SiA requests to suppliers

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Life AskREACH Supply Chain Action*

Support proactive communication on SVHCs in articles

* Ended on 31.08.2022

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Supply Chain Action Activities

Feasibility studies of the Full Material Declaration* approach

Pilots using a "state-of-the-art " IT tool

*Full declaration along the supply chains of materials present in the (part-) articles down to basic substance level (reported by weight of the material) (Schenten et al. 2019)

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Supply Chain Action Activites

Feasibility studies of the Full Material Declaration approach

Pilots using a "state-of-the-art " IT tool

→ Different supply chain contexts

*Full declaration along the supply chains of materials present in the (part-) articles down to basic substance level (reported by weight of the material) (Schenten et al. 2019)

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Benchmarking of tools and industry needs

From reporting of SVHCs to …

Traceability of substances in articles

- The capacity of companies to trace back chemicals present in products
- Know (the chemicals in) your products

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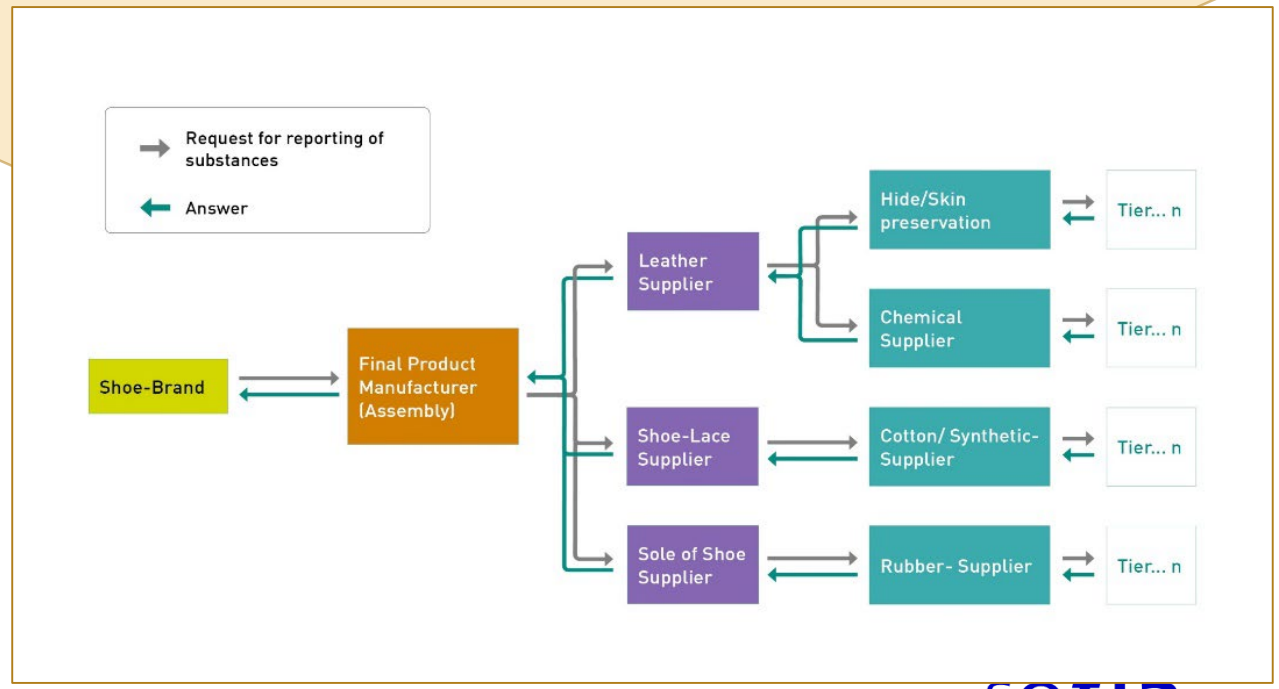
Benchmarking of tools and industry needs

From reporting of SVHCs to …
traceability of substances in articles

Material Data System (MDS)

- Database: Suppliers report (all) substances in materials and (part-) articles
- Bill of Materials (BOM) (Structure tree)



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Declared Product

NAME	INFO	WEIGHT	CONCENTRATION	CAS-NO
SURFACE MOUNT TRANSZORB TRANSIENT VOI		declared: 93mg / 93mg	declared: 100%	
Solder		declared: 3.4mg / 3.4mg	declared: 100%	
Confidential Substances		0.17mg	5%	**********
Lead chromate		3.15mg	92.647059%	7758-97-6
Silver		0.08mg	2.352941%	7440-22-4
Encapsulation		declared: 48.5mg / 48.5mg	declared: 100%	
Confidential Substances		0.12mg	0.247423%	**********
Additive 460		0.36mg	0.742268%	
Antimonytrioxide		0.49mg	1.010309%	1309-64-4
Reaction mass of Charcoal and Formaldehyc		5.82mg	12%	
Formaldehyde, polymer with (chloromethyl)o:		7.76mg	16%	29690-82-2
Quartz (SiO2)		33.95mg	70%	14808-60-7
Surface Finish		declared: 2.1mg / 2.1mg	declared: 100%	

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From reporting of SVHCs to …
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Material Data System (MDS)

- Database: Suppliers report (all) substances in materials and (part-) articles
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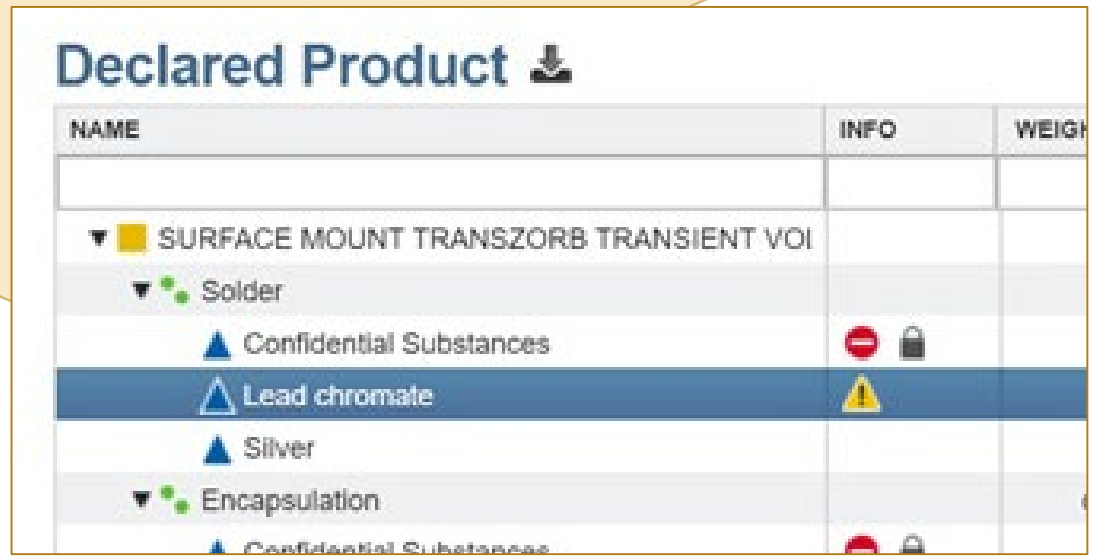
„Full" Material Declaration (FMD)

- Full declaration → „beyond compliance"
- Restricted Substance List (RSL; REACH, RoHS…)



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Benchmarking of tools and industry needs

From reporting of SVHCs to …
traceability of substances in articles

Material Data System (MDS)	„Full" Material Declaration (FMD)	Interoperability & Security	Governance
• Database: Suppliers report (all) substances in materials and (part-) articles • Bill of Materials (BOM) (Structure tree)	• Full declaration → „beyond compliance" • Restricted Substance List (RSL; REACH, RoHS…)	• FMD – 10% „Joker" • Interoperability (e.g. IPC 175x, IEC 62474) • Access control • Data protection and integrity	• „Steering Committee" • Contractual obligations • Trust

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Experiences from the pilots

- 6 pilots with different companies

→ Tool is less complex and easier to work with than expected

„The benefit of the tool lies in the full declaration. This saves time for me when reviewing new regulated substances and I do not need to request existing articles again, unless there are fundamental changes (e.g. change to other plastics)"

→ Time invest for pilot participation in Supply Chain Action is less than expected (approx. 15 hours) – simple case study

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Experiences/learnings from the pilots

- Many companies are still not aware of their obligations and the current developments or do not prioritize them enough
- Suppliers: have to be willing to do the work of collecting the data
- Sector specific forms of traceability likely (CEAP: "harmonised systems" to track and manage information on substances)
  - Consider common ground for cross-sector reporting:

proactive alliance → Link to the recommendations of the Proactive Alliance

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Learnings and Outlook

- It's a difficult process: mid/long-term (step-wise) implementation
- Formats for supply chain actors needed to allow engagement in Traceability approach
- Important that actors get on the same page and understand those leverage instruments

  → Life AskREACH Policy Workshop

- In the future learning processes with industry representatives

Momentum for Traceability of chemicals

Traceability of chemicals benefits

- Meet existing requirements, contractual obligations
- Be prepared for future requirements/obligations (e.g., CE)
- Enhanced manageability (effective and efficient)
- Reduce costs (e.g., less testing, avoid correction measures)
- Reducing the burden of supply chain actors (based on harmonization / cooperation)
- Better understand product impacts (climate, biodiversity etc.)

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Thank you!

Information, Flyer, Supply Chain Communication Tool Video-Tutorials (English): https://www.askreach.eu/supply-chain-tool/

Email: askreach@sofia-research.com