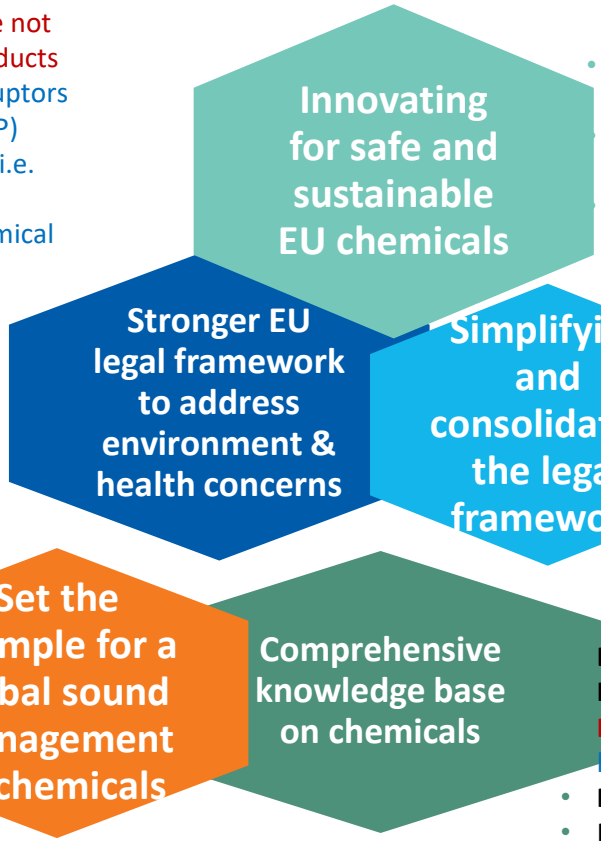
SUSCHEM
European Technology Platform
for Sustainable Chemistry

SusChem & strategic R&I plan in the Green Deal Era

November 30th , 2021

suschem.org

Overview of the main policy changes towards faster, stricter and more preventive regulatory action



- Ensure the **most harmful chemicals** are not used in consumer and professional products
- **New hazard classes:** on endocrine disruptors + persistent and mobile substances (CLP)
- **Address chemical mixtures ('cocktail')** i.e. Mixture Assessment Factor (REACH)
- **Apply concept of essential uses** in chemical legislation
- **PFAS:** phase out for non-essential uses

- **Safe and sustainable by design**: criteria and support network
- **Funding to support industrial innovation :** climate neutral and clean production
- **Identify key chemical value chains:** to strengthen EU's strategic autonomy
- **Non-toxic material cycles** in products and waste decontamination solutions

- **One substance, one assessment**: improve transparency, reallocation of scientific work, coordination between agencies, **data interoperability & re-use**
- **Reform Authorisation & Restriction processes** (REACH)
- **Strengthen compliance, enforcement, market surveillance**

- **Global targets** beyond 2020
- **Chemicals banned in the EU not produced** for export
- **Common standards** & innovative assessment tools internationally
- **Sound chemicals management** in international cooperation

EU research & innovation (R&I) agenda for chemicals
Innovative testing and risk assessment methods
Improve knowledge on chemical properties (polymers, low volume, etc)
- **R&I programmes:** (bio)monitoring
- Framework of **indicators** to assess policies

What does the CSS means in practice?

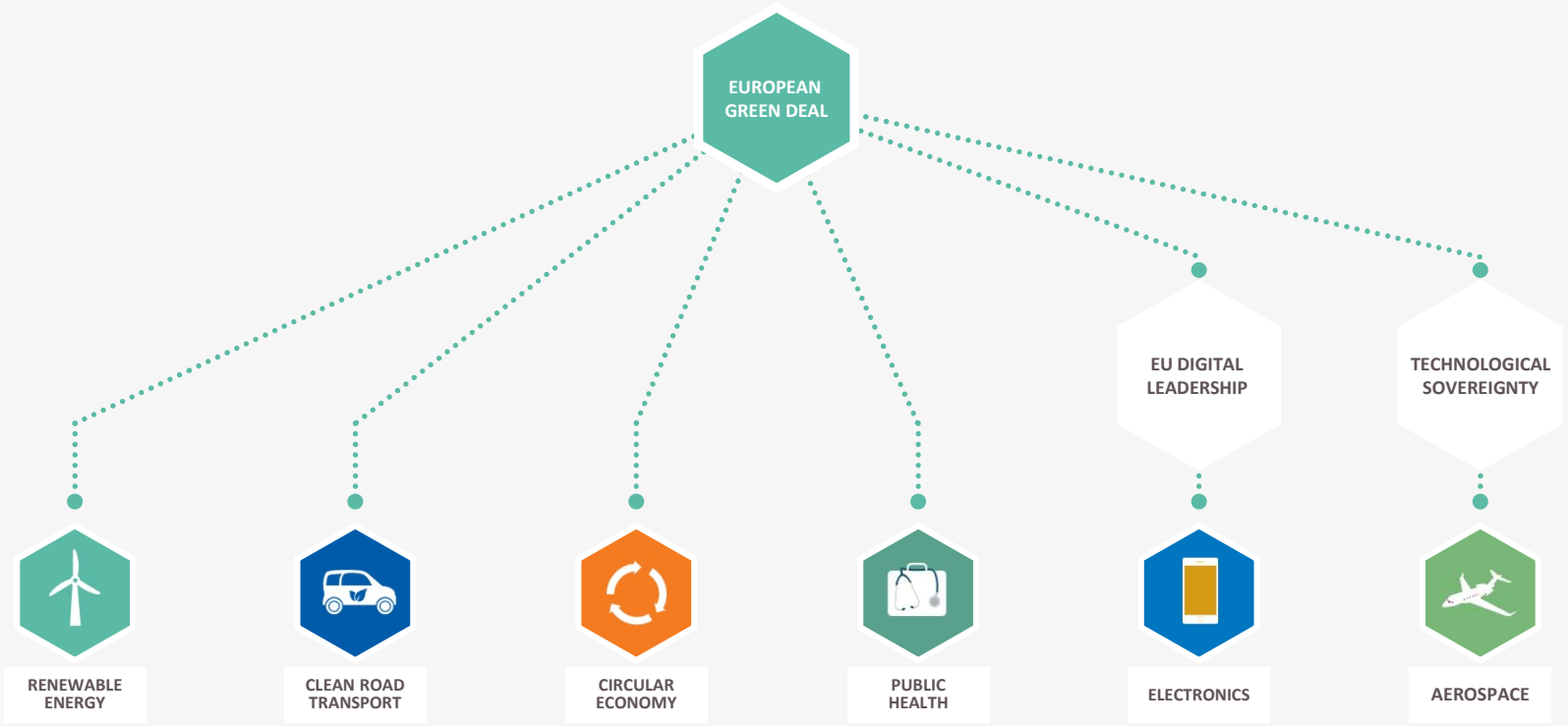
- The Chemicals Strategy is a **major, highly-ambitious initiative** which will:
  - **Prioritise prevention and substitution**
  - **Re-define EU chemicals policy**
  - Strong move towards **generic restrictions**

- Contains **around 70 actions**, most of them legislative changes, to be implemented between 2021 – 2024

- Involves ‘targeted revision’ of **REACH and CLP, the pillars of chemicals legislation**: already the leading global chemicals legislation

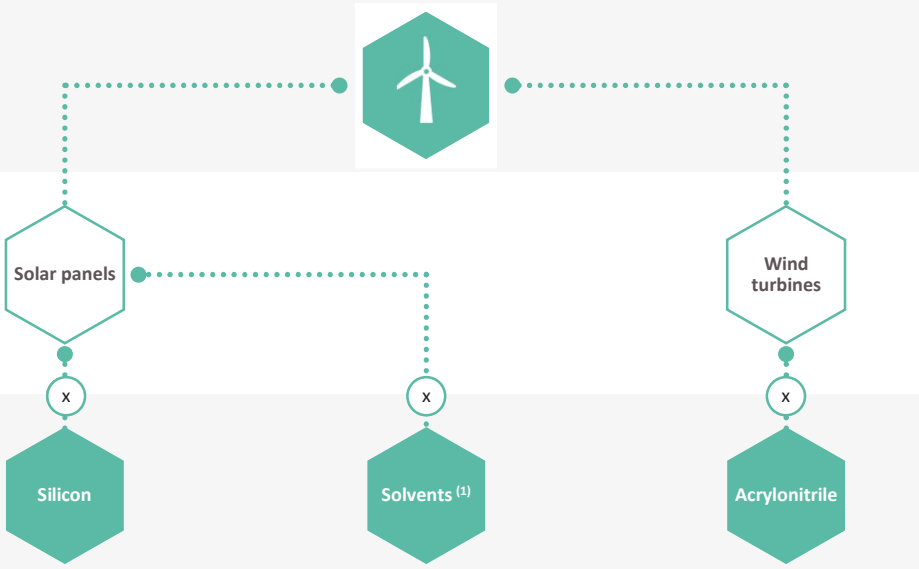
The European Commission’s Vision

• Representing the Industry of Industries



EU STRATEGIC INTEREST

RENEWABLE ENERGY



USE

CHEMICALS

A key element of solar cells and used in 90% of solar panels because of its special chemical properties.

A key component of thin film solar panel manufacturing.

Indispensable for producing carbon fibres for wind turbine blades.

(1) Acetone, Isopropyl alcohol, Methanol, ButAc, Toluene, Xylene

The Vision – Towards a toxic-free environment

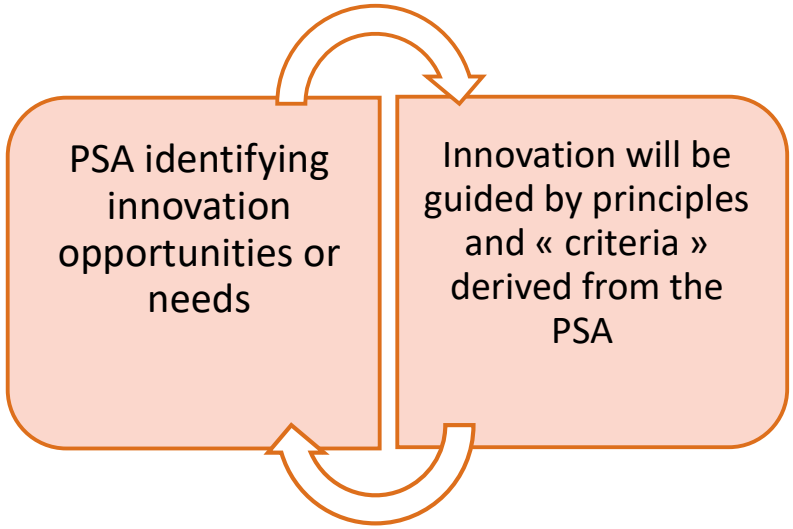
Interplay of regulatory measures and innovation support

REACH 2.0

Safe and Sustainable-by-Design

Including the SSbD approach in R&D processes

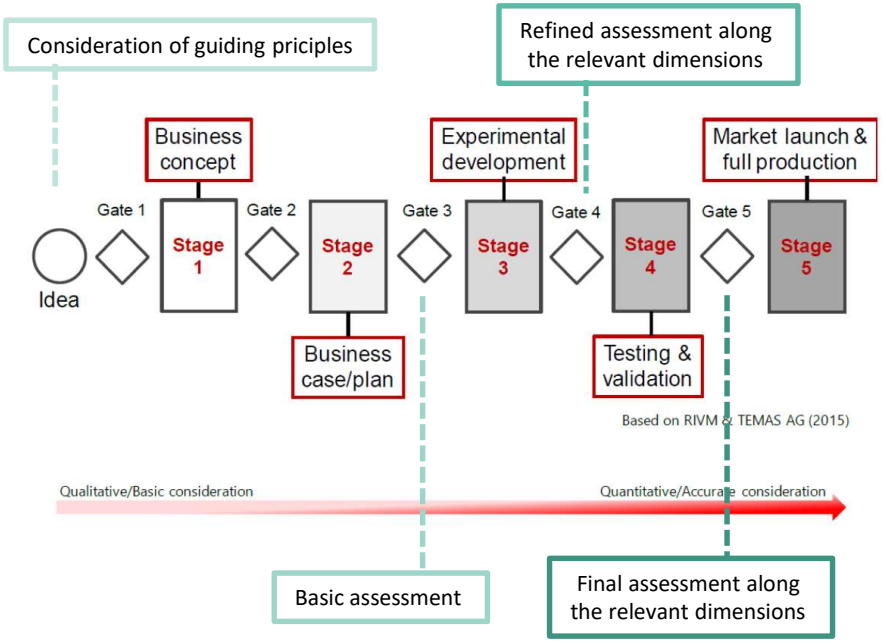
- Identification of innovation needs through Portfolio Sustainability Assessment (PSA)[1], by assessing regulatory and market signals covering chemicals safety, is an established practice already at many companies
  - An aligned extension of the assessment framework for the innovation phase allows effective steering towards improved products with regards to “safe”, “sustainable” and “performance”



1) PSA methodology by World Business Council for Sustainable Developments (WBCSD)

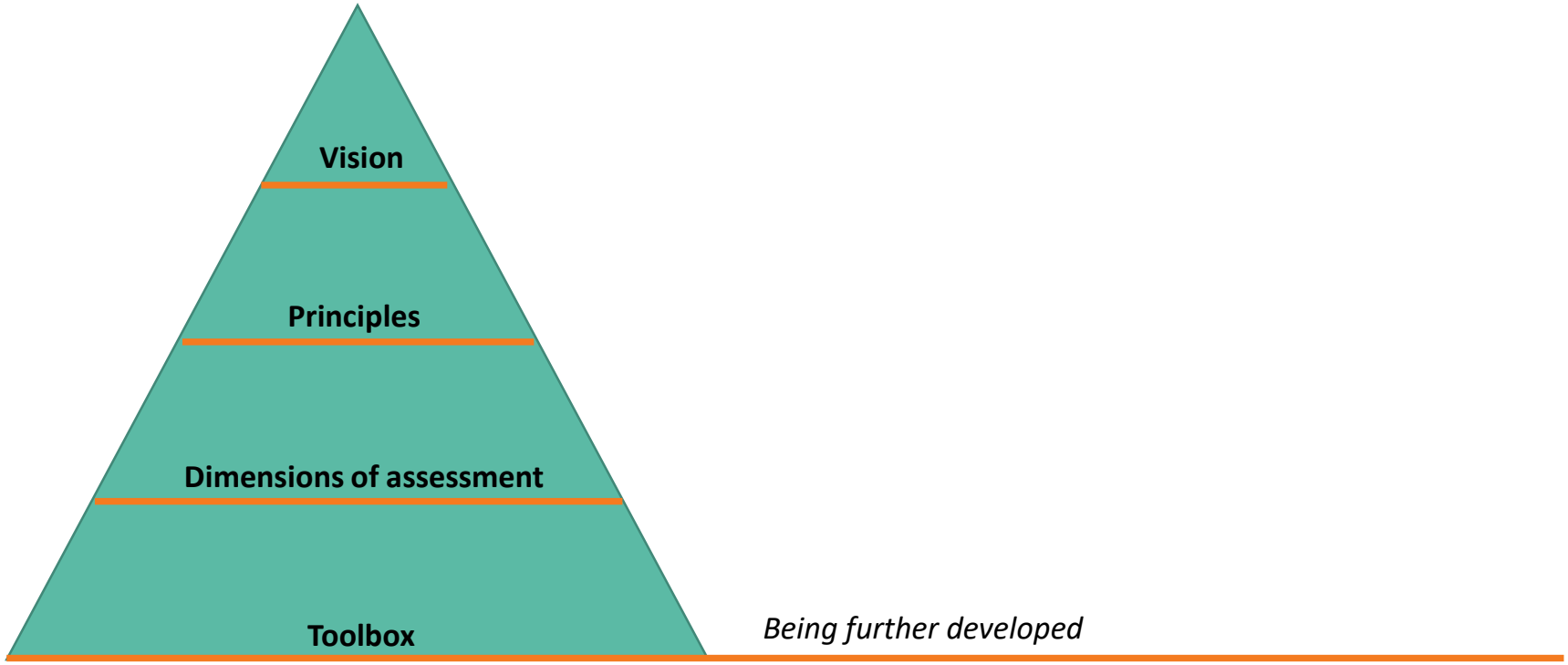
Including the SSbD approach in R&D processes

- "Safe"
  - Risk-based assessment considering the intended use in line with REACH as minimum criteria
  - Additional signals from the market aiming at substitution of certain hazardous substances
- "Sustainable"
  - Needs to consider the full life cycle of a product
  - No fixed criteria as sustainability profiles evolve over time, but clear direction towards continuous improvements
- Assessment framework to be integrated into innovation process
  - Assessment criteria to evolve through out innovation stages, as additional information gets available over time

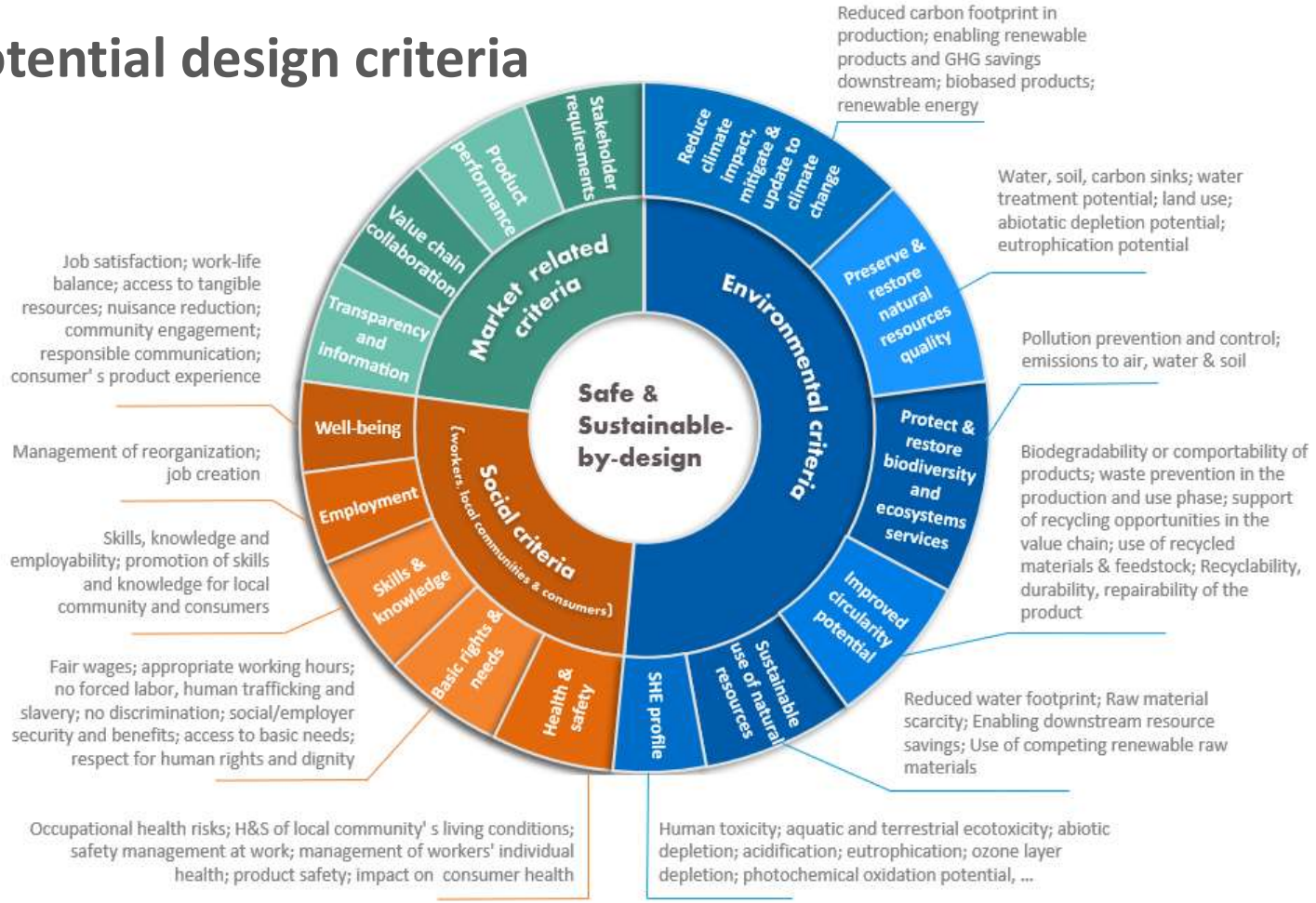


This is a schematic depiction of an innovation process (taken from Mapping Study), and is used to illustrate the increasing level of detail of assessment

Safe and Sustainable by Design in practice



Longlist of potential design criteria



What's next?

Ongoing work

- Organisation of criteria (assessment dimensions and considerations); minimum, optional, application specific, …
- Map existing assessment methodologies, tools, data & identify further needs
- Further develop and exemplify the integration with the innovation process
- Setting up value-chain roadmaps
- Pilot

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SusChem's "Safe and Sustainable-by-Design" (SSbD) R&I Roadmap

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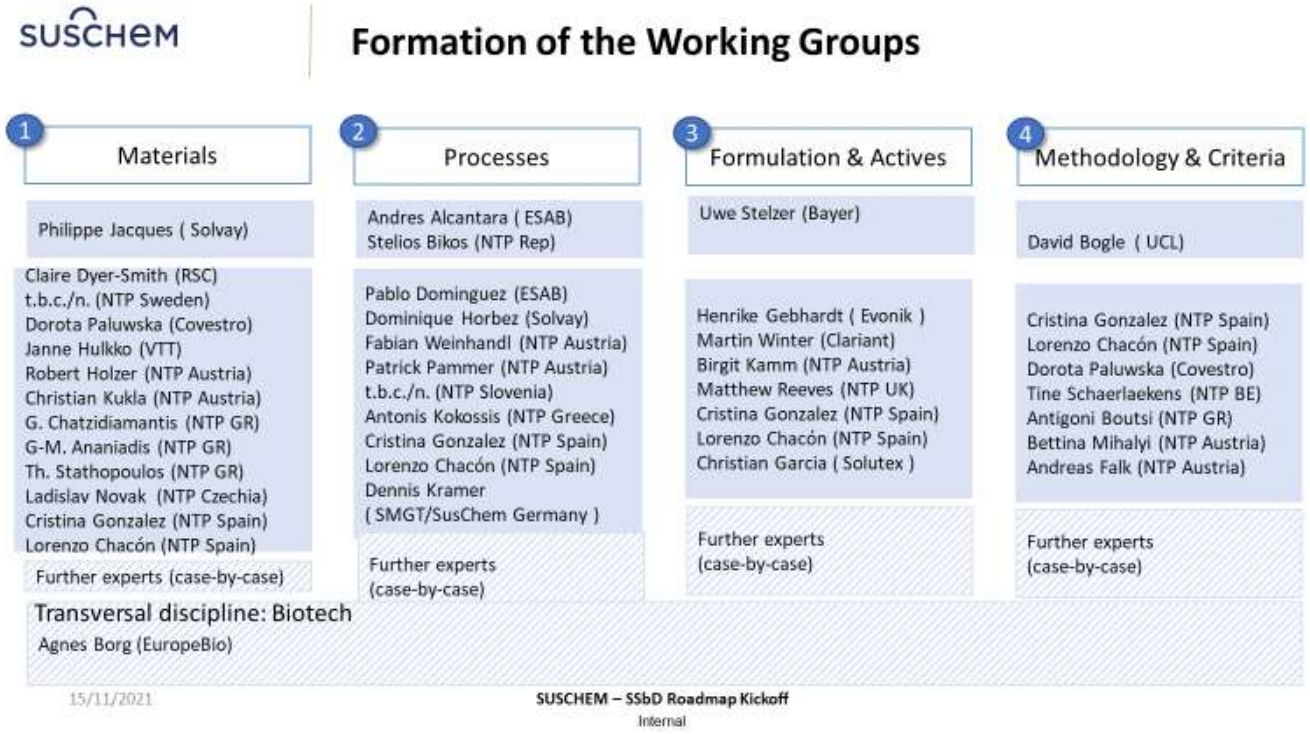
SusChem ‘safe-and-sustainable-by-design’ (SSbD) - RD& I roadmap.

Review of criteria workshop September 16th :

- Workshop on SSbD Criteria was held on the 16/09 :
  - PSA (Portfolio Sustainability Assessment) methodology from WBCSD (Marijn Vervoon)
  - Case studies from Solvay , Clariant , Evonik , BASF
  - SSbD update by DG RTD
  - Q&A

- It has been an excellent opportunity for SusChem enabling the dialogue between CSS stakeholders

SusChem ‘safe-and-sustainable-by-design’ (SSbD) - RD& I roadmap.



SusChem ‘safe-and-sustainable-by-design’ (SSbD) - RD& I roadmap.

Status of the working groups:

- Working groups are now fully filled with NTPs and SMGT members.
- First Meetings are taking place : end of november/ beginning of December.
- A sharepoint should allow an interactive process.

SusChem ‘safe-and-sustainable-by-design’ (SSbD) - RD& I roadmap.

R&I plan :

- A consultation has been launched for a SRIA announced by the CSS (Member States).
- NTPs have been asked to liaise with their local authorities.
- Meeting with DG RTD on the 17/11 , enlarging consultation.

Towards the 'main' Work Programme 2023-2024: indicative calendar of key milestones

Date	Activity/milestone
Until end Oct. 2021	Discussions with the relevant Programme Committee configurations on needs for WP 2023-2024, on the basis of the Strategic Plan 2021-2024 (KSOs, expected impacts etc.) regarding elements not already covered by WP 2021-2022 (Commission services will provide an analysis).
November 2021	… resulting in 'Draft orientations towards WP 2023-2024' for each WP part
December 2021 - June 2022	Preparation of draft WP 2023-2024, including discussions with the relevant Programme Committee configurations
July – Sept. 2022	Interservice consultation and finalisation of WP text
Oct. – Nov. 2022	Consultation of Programme Committee on final text of WP 2023-2024
December 2022	Adoption of Work Programme 2023-2024

SusChem ‘safe-and-sustainable-by-design’ (SSbD) - RD& I roadmap.

- **Policy underpinning Cluster 4 ‘Digital, Industry and Space’**

  The Digital Decade from March 2021,

  The European Industrial Strategy of March 2020, and in particular the Update of May 2021

  - The Chemicals Strategy of October 2020 calls for developing Safe- and Sustainable-by-Design (SSdB) criteria and a SRIA addressing research and innovation needs raised in the Strategy and beyond.
  - Zero Pollution Action Plan of May 2021 addresses both pollution and waste, where research needs could be tackled and is particularly relevant to advanced materials and the process industries, as well as to the manufacturing industry.
  - **Space**

SusChem ‘safe-and-sustainable-by-design’ (SSbD) - RD& I roadmap.

- **Policy underpinning Cluster 4 ‘Digital, Industry and Space’**
  - The Fit for 55 Package of July 2021, delivering the EU's 2030 Climate Target on the way to climate neutrality, is relevant given (a) the process industries’ 20% share of global greenhouse gas emissions; and (b) the essential contribution of advanced and raw materials to the decarbonisation of other industries, most notably energy, transport and construction.

- **Safe and Sustainable by Design (SSbD) chemicals and materials :**

Under Horizon 2020 a series of research projects were funded aimed to define and **implement Safe-by-Design concept for nanomaterials.** This generated a knowledge base that serves as the foundation for the Safe- and Sustainable-by-Design (SSbD) concept, which is now a key feature of the Chemical Strategy for Sustainability.

it is essential that **innovative tools to assess safety and sustainability aspects** of chemicals and materials are available for the early stages of the design phase

To support industry in the implementation of safe and sustainable by design, **dedicated case studies with industrial application are required.** They will contribute to the proof of concept for both industry and policy makers. Integrating the safe and sustainable by design concept **in modelling software** will allow industry to bring new chemicals and materials faster to the market, avoid regrettable substitutions and contribute to more circular economy.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