

# Development of a Toolbox for Safe and Sustainable by Design

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# What is PARC?

- A public-public **partnership** under Horizon Europe
- An initiative where the **European Union, Member States and Associated Countries**, together with public partners (EU and National Risk Agencies, Universities, Public Research Organisations), commit to **jointly support the development and implementation of a programme** of research and innovation activities in relation with **the assessment of risk of chemicals**.

A public-public **partnership** under Horizon Europe

PARC

## Public-Public

### Co-Fund Budget

EU 50/50 MS,AC  
400 M€

Started : 01/05/2022

Duration : 7 years

~200 Partners

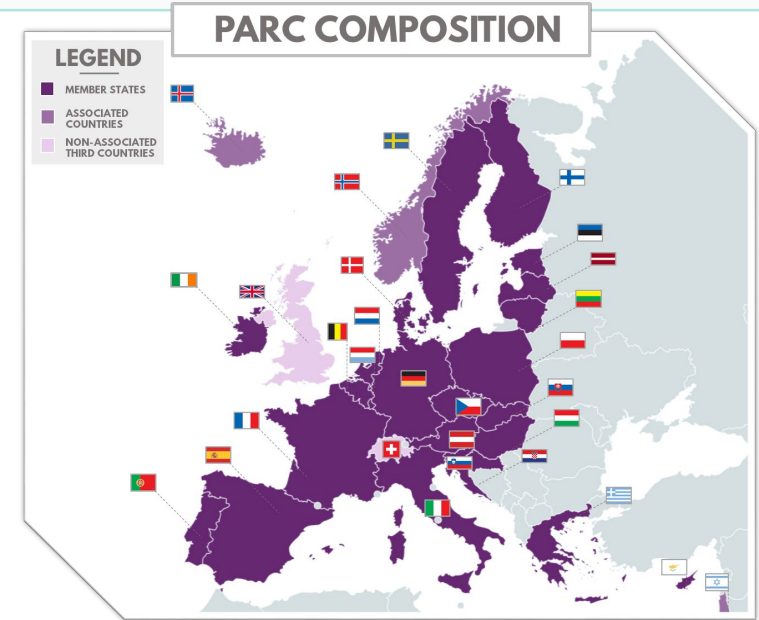
### 29 countries

24 Member States: Austria (AT), Belgium (BE), Croatia (HR), Cyprus (CY), Czech Republic (CZ), Denmark (DK), Estonia (EE), Finland (FI), France (FR), Germany (DE), Greece (EL), Hungary (HU), Ireland (IE), Italy (IT), Latvia (LV), Lithuania (LT), Luxembourg (LU), Netherlands (NL), Poland (PL), Portugal (PT), Slovakia (SK), Slovenia (SI), Spain (ES), Sweden (SE)

3 Associated countries: Iceland (IS), Israel (IL), Norway (NO)

2 Non-associated Third countries: Switzerland (CH), United Kingdom (UK)

3 European Agencies :



# Work Package 8 Concepts and Toolboxes

## Task 8.1 Safe and Sustainable by Design (SSbD)

### Objective of WP8

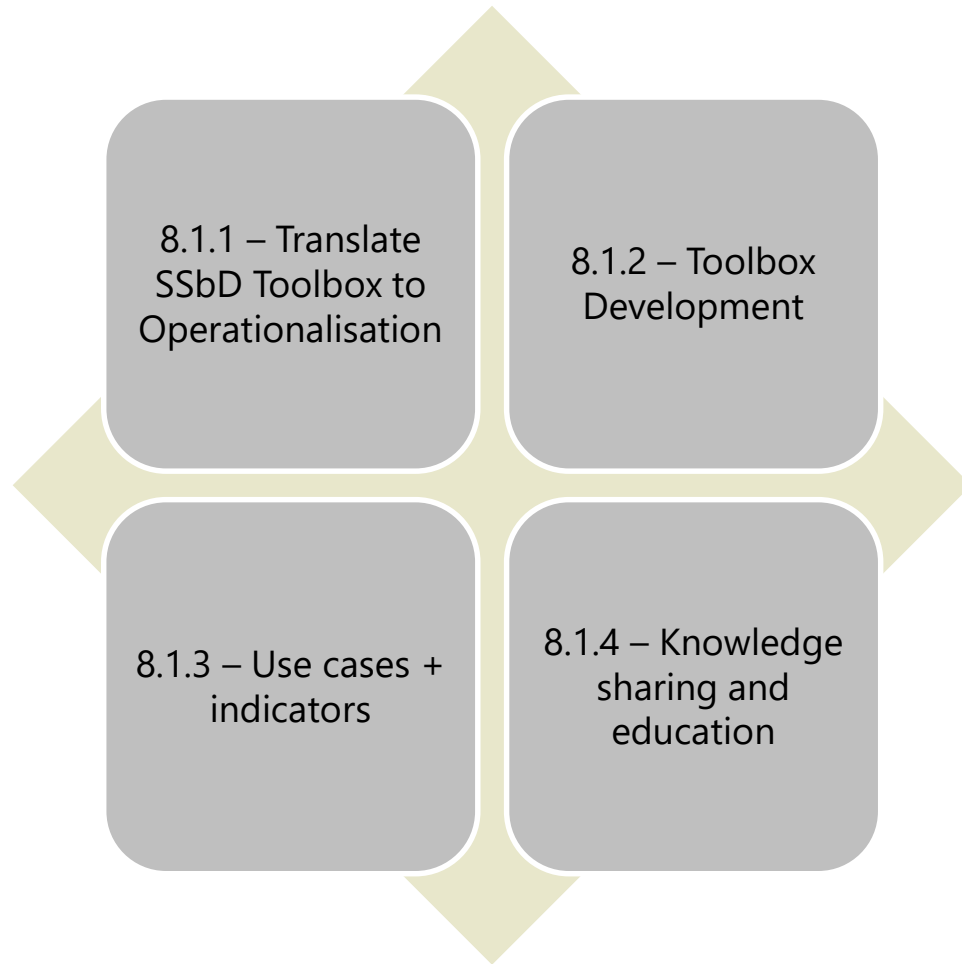
To support the development and consolidation of new concepts and approaches such as Safe and Sustainable by Design chemicals, and their applications in materials and products

### Task 8.1 «Safe and sustainable by design (SSbD)

This Task will provide support to the operationalization of the EC Chemicals Strategy for Sustainability to reach broad implementation of SSbD by 2030

# Work Package 8 Concepts and Toolboxes

## Task 8.1 Safe and Sustainable by Design (SSbD)



**8.1.1:** This activity will act as a sounding board for the EC ideas on SSbD

**8.1.2:** This activity will translate the SSbD methodology into a toolbox, integrating tools for safety and sustainability assessment

**8.1.3:** Use cases in various sectors will be selected to test the SSbD practical applicability through a learning-by-doing approach

**8.1.4:** A knowledge and information platform will be developed and established as part of PARCopedia

# Conceptual idea behind the toolbox

## Meaning of the PARC toolbox:

- Collection of tools relevant for SSbD
- It will provide functional linkages through specific automated model pipelines
- It will include a decision-support system
- It will comply with the FAIR principles and provide FAIR data

It will be an integrative and innovation tool for both innovators and regulators that encompasses different kind of policies and strategies

The toolbox will cover both the requirements for newly developed chemicals and materials and existing ones

- Current version focuses more on the SSbD assessment part
- Current version is exclusively for chemicals
- Next step is to focus on the (re)design part

# Conceptual idea behind the toolbox

It will guide the user through the whole assessment by means of the SSbD wizard

- The wizard is structured considering both the EC framework steps and the innovation stages
- Minimal user requirements for each step and stage
- Guidance on the selection of tools

It will foster chemical innovation by considering all the stages of innovation for developing a final product

- Its structure is both science- and market-based
- It covers the whole value chain

# Position of the PARC toolbox in the SSbD arena

The PARC SSbD toolbox should be an umbrella toolbox and act as integrator

- Connection with the new SSbD projects will be crucial
- Inclusion of new tools developed within and outside PARC; its open architecture will facilitate this process
- It should be a 'state-of-the-art' work and a go-to reference for addressing SSbD

It will be a guidance toolbox that will include all the relevant data, tools and methods for the operationalization of SSbD

A standardized toolbox that integrates risk and sustainability assessment

# Current state of the toolbox

The current version of the toolbox encompasses a collection of tools covering the different steps of the EC framework

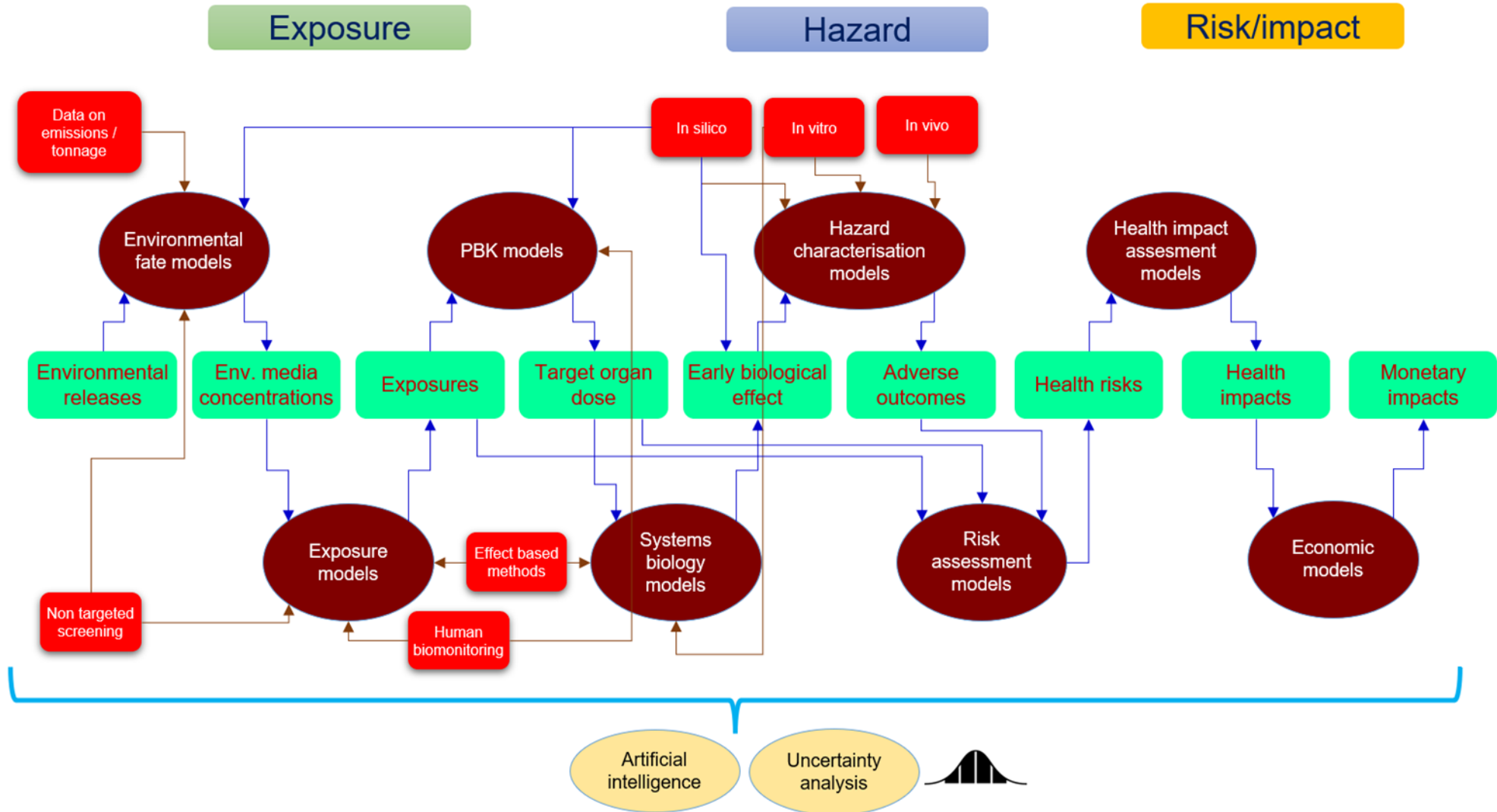
- The identified tools have been mapped through the innovation stages following the stage-gate approach
- Input-output relationships established between the models to move forward to the functional linkages

Wizard development for user guidance has started

A methodology is currently being developed to interpret and translate the tool results and generate scores for each step

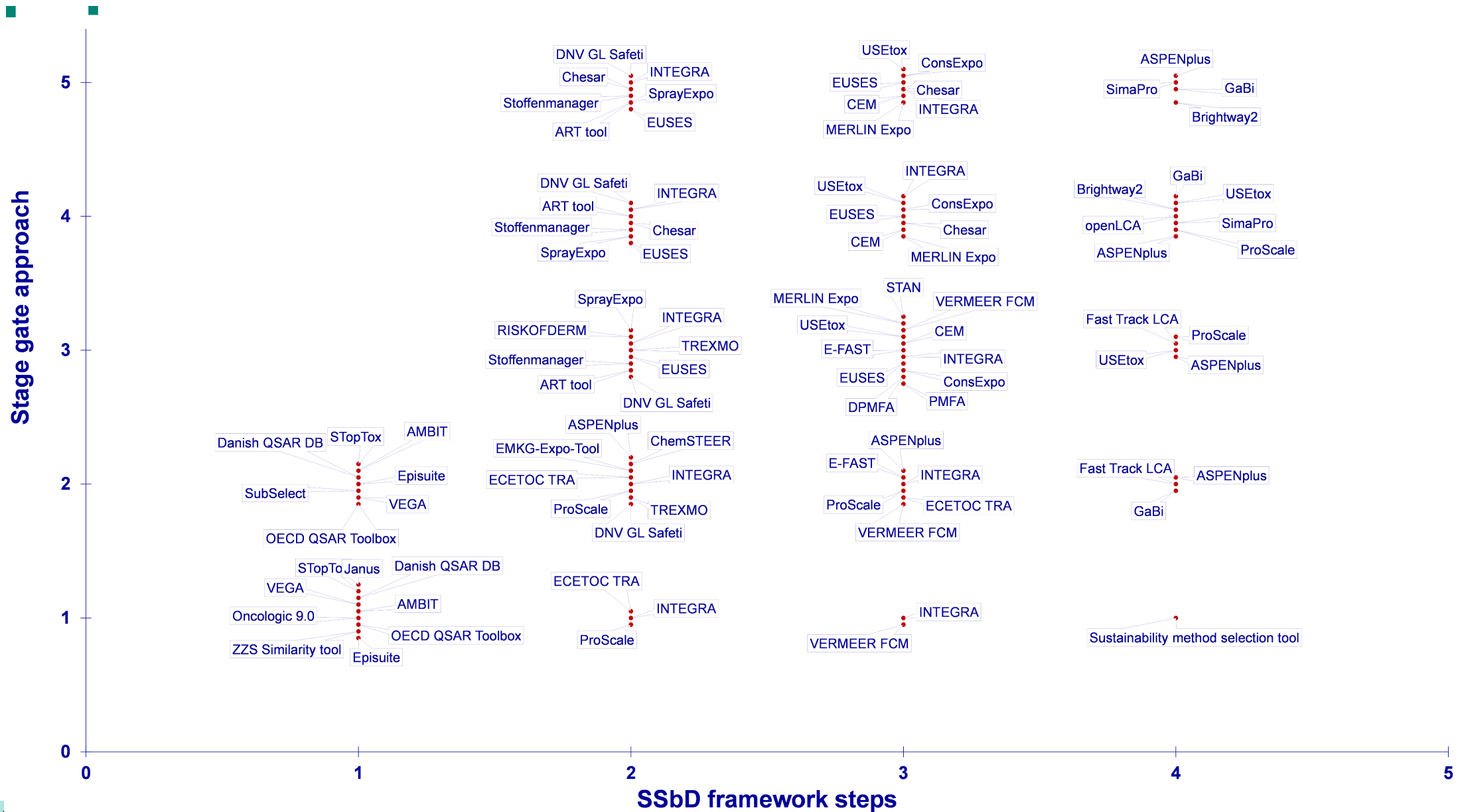


# Toolbox overview

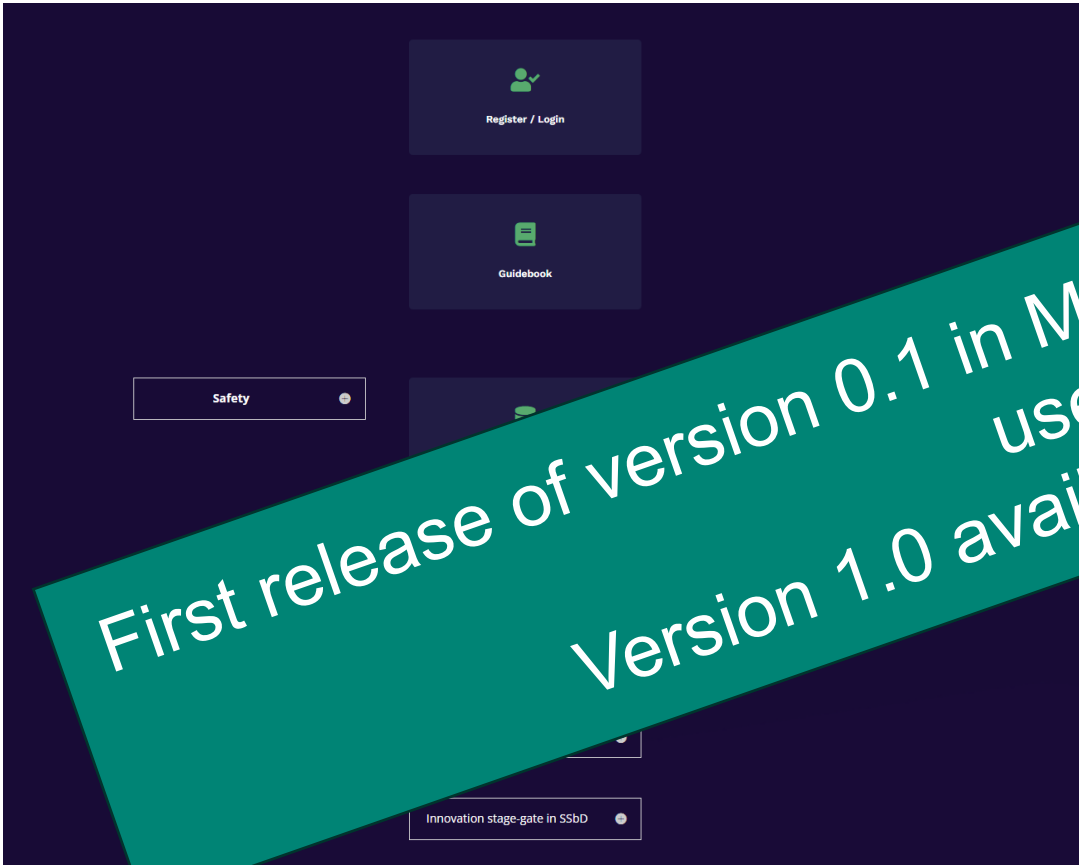


# Positioning of the tools along the innovation

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# Current state of the toolbox



First release of version 0.1 in May 2024 to a small number of users  
Version 1.0 available in April 2025

# The SSbD Wizard

The SSbD Wizard interface is a multi-step process. It features a top navigation bar with the 'Wizard' title and a search bar. A left sidebar provides navigation options: 'Dashboard', 'Tools', 'Wizard', and 'Profile'. The main content area is divided into five stages: 'Ideation', 'Scoping', 'Business Case', 'Development', and 'Production'. Each stage contains specific tasks and questions, such as 'Step 1: Hazard Assessment' and 'Step 2: Human health and safety aspects in the chemical/material production and processing phase'. The interface includes buttons for 'Databases' and 'Tools' to assist in the process.

# Conclusions

- Toolbox: Collection of available tools for exposure, hazard and risk assessment and for life cycle assessment
- Tools available for all stages of the innovation process
- A "Wizard" will guide the user
- Currently only available for chemicals
- Version 0.1 will be made available middle of May 2024
- Official release of version 1.0 in spring 2025

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