

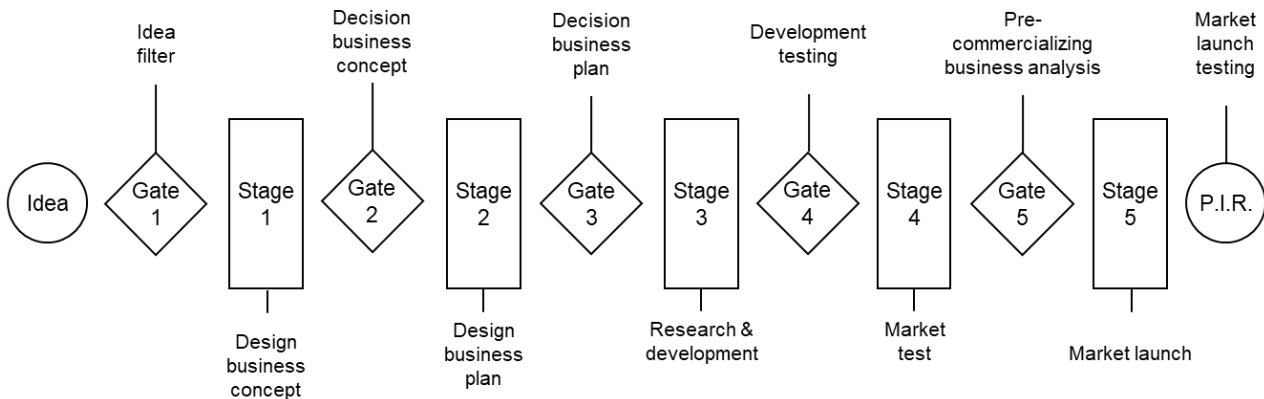
**Expertise: Safe-by-Design**

**I work with nanomaterials, what do I have to keep in mind?**

TEMAS supports its customers with the testing, planning and carrying out of projects with technological background and high innovation structure. That particularly includes the support along the entire innovation process, from the right idea to the innovative product.

The TEMAS Safe-by-Design concept for reliable innovation processes

The Safe-by-Design (SbD) concept was largely developed by TEMAS within the framework of the European research project NANOREG. It enjoys high acceptance among the wide base of stakeholders. The SbD concept serves to improve existing innovation processes dealing with uncertainties and risks.



Industrial innovation management processes
Industrial risk management processes
<b>Safe-by-Design process: from uncertainties and risks to security and managed risks</b>
Work, environment, consumer and product safety
Regulations (Material, product, application etc.: medication, food, work etc.: REACH)

In order to ensure a simple industrial SbD concept implementation, it was designed as an expansion of the structured innovation processes used in today's industry such as state – gate.

Therefore the SbD concept application depends on the sufficient structured innovation process including an integrated risk analysis of the business.

First, the existing innovation and risk analysis processes will be analyzed such as courses of actions. Optionally, then the required processes for the SbD concept can be installed as well as the SbD concept can be customized to local conditions.

For the concrete carrying out of innovation projects with the usage of the SbD concept, TEMAS can provide step by step support.

The SbD concept is especially suited for the nanotechnological products with their unique characteristics. It can also be implemented into other technological fields of process industries.

What added value does the TEMAS Safe-by-Design concept bring?

- Recognizing and reducing of uncertainties and risk (product launch period, EHS, acceptance, regulatory requirements, disposal, recycling etc.)
- Estimating of remaining residual risks and uncertainties and with that clarity about the handling in the shortest and most reasonable time.
- Products that comply with regulatory requirements
- Developing external knowledge to close knowledge gaps.
- Employees who are patient with handling innovation processes
- Efficient supplementation of existing innovation processes

To achieve added value, the following methods will be used and applied, amongst other things:

Categorizing, grouping, decision trees, data mining, horizon scanning, morphologic boxes, quantitative structure–activity relationship (QSAR), “read across”, simulations, scenarios, precautionary matrix for synthetic nanomaterials (“control banding”), life cycle analysis (LCA), standard operating procedures (SOP) for the characterization of synthetic nanomaterials and for the determination of the toxicological and ecotoxicological characteristics, multi-criteria decision analysis, etc.

Thus far, the SbD concept allows our customer develop safe products from the start. This applies especially to the nanotechnological products.

We would like to give you more information. [Can we reach out to you?](#)

Or do you want to contact us? Then Dr. Blanca Suarez-Merino is available to you:



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