



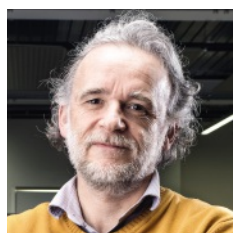
SusChem Switzerland

News, announcements, project updates

www.suschem.ch

SusChem Switzerland invigorates the objective to inspire European and Swiss industrial research and innovation in a sustainable way, in all stages of the value chain. Carbon, energy and resource efficient manufacturing are addressed as specific challenges, with industrial symbiosis as leading motive: shaping solutions together. Supported by INEOS and Lonza, hosted by the Swiss Chemical Society and operated by CimArk, SusChem Switzerland aims at bringing synergies to industry, academia, government and the wider society.

We would like to introduce you to two founding members of SusChem: EPFL and INEOS.



François Maréchal, Professor at EPFL in Sion

Prof. Dr. Maréchal, what are your main activities at EPFL's campus in Sion (VS)?

Our Industrial Process and Energy Systems Engineering (IPESE) Group was established at Sion in 2015. Its main objective is to develop tools for engineers, so that they can design industrial systems that use energy and natural resources efficiently. The idea is to be able to apply this to industrial processes and energy systems. All new technologies are examined at this stage, for example the integration of fuel cells, the production of biofuels, biorefining or the integration of carbon capture, sequestration or reuse. The laboratory is also working on large-scale integration, analysing the industrial symbioses and synergies that are possible on an urban scale. Our objective is to present all the options and model their interactions in order to achieve a technical and financial optimum while minimising its environmental impact.

What are you working on in the field of sustainable chemistry?

We're working to develop the concept of biorefining. Here again, we're trying to achieve the best balances to optimise the use of natural resources. We're also incorporating biomass as a resource, using it to replace fossil energy sources in industrial processes.

From the green chemistry standpoint, our vision is not only to create industrial products that are as green as possible, but also to optimise the use of resources throughout the production chain. We therefore make regular use of lifecycle analysis techniques, but instead of taking them into consideration after optimising the processes, we incorporate them into our thinking from the beginning as a decision support tool.

What developments do you envisage in sustainable chemistry?

The future of sustainable chemistry lies in systems that are more integrated, with the cascading use of resources becoming more frequent, and proper control of the carbon and water cycles. To take a practical example: wood can be turned into furniture

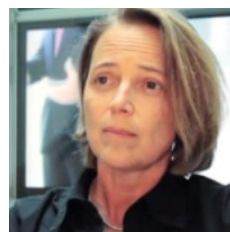
and then into polymer and fuel, before finally being transformed into electricity and then heat. The intensification of processes also presents a challenge. The units involved in these processes will be smaller and less dependent on scale, providing materials and resources on a local scale, thereby shortening the supply chains.

What is the added-value factor of SusChem Switzerland?

SusChem Switzerland creates the necessary bridges between the academic world and industry. This platform enables researchers to check the relevance of their work and provide industry with answers, but it can also be used to stimulate and support innovation by opening up new ways forward. SusChem Switzerland is also open to researchers' creativity and encourages that creativity. It therefore helps us to look at our work from a different angle.

Building on the vision and mission of SusChem Europe, the European Technology Platform for Sustainable Chemistry initiated in 2004 and enveloped by Cefic, SusChem Switzerland embodies the 12th National Technology Platform (NTP), driving a sustainable and sharing Swiss economy.

Shaping solutions together.
Join us on www.suschem.ch



Greet Van Eetvelde, Head of Energy & Innovation Policy

Prof. Dr. Van Eetvelde, what are the main activities of INEOS?

INEOS is a global manufacturer of petrochemicals, speciality chemicals and oil products. It comprises 18 businesses each with a major chemical company heritage. Its production network spans 65 manufacturing facilities in 16 countries throughout the world (www.ineos.com).

What are you doing already now in the domain of sustainable chemistry?

At INEOS, sustainability is fundamental to how we do business. It is a key driver of innovation. At the heart of the INEOS approach is our commitment to the principles of responsible care. These are central to the INEOS way of working and are put into practice every day across our business.

Our work towards improving our sustainability can be considered across five key areas: excellence in safety, health and environment, products that make a difference, building the best workforce, working with our communities, innovative solutions. Energy and resource efficiency is a key driver.

At INEOS we have a clear focus on reducing energy and material inputs and a strong priority to minimise waste, with the aim of cutting costs and reducing our environmental impact.

What are the next steps for INEOS to be even more sustainable?

Our INEOS R&D projects focus on process efficiency, circular and bio-based economy values and developing more sustainable products for our customers.

In our effort to do sustainable business, INEOS also joins forces with neighbouring companies and local stakeholders to form industrial clusters that create benefit across all three sustainability pillars. A next step is forming cross-sectorial clusters, not only to create economies of scale but also as a driver for efficient use of resources. By collaborating, resources and materials, infrastructure and services, even utility supplies can be shared. That way we aim to optimise the use of resources, minimise chemical flows and reduce energy use.

To your opinion, what is the added value of the platform SusChem Switzerland, for you and for the Swiss economy in general?

The actions proposed by SusChem Switzerland address important issues for INEOS and especially for the competitiveness of the Swiss industry as a whole. They aim at supporting Switzerland to maintain its status as a competitive place for process industries on an international level.

For INEOS, staying competitive is a major challenge. Energy and resource efficient manufacturing contributes to the present and future environmental and societal challenges. Together we aim at evolving into a smarter process industry, in line with SPIRE at a European level. A holistic and systemic view that creates added value through innovation in industrial processes is one key element of the equation.

INEOS is convinced of the leverage role that SusChem Switzerland can play in this area and is willing to maintain its driving role in the platform.



SHAPING SUSTAINABLE SOLUTIONS TOGETHER



The challenges for Swiss industry, and the chemical industry in particular, are manifold. Within the context of the Swiss Withdrawal from nuclear power, a national strategy is being mapped out, focusing on carbon and greenhouse gas reduction. Resource efficiency and clean technologies are considered key themes for all stakeholders, thus aligning the priorities of SusChem Switzerland with today's global challenges, carbon, energy and resource efficient manufacturing are addressed as specific challenges, with industrial synergies as the main driving force: shaping solutions together.

What is SusChem Switzerland?

- A platform for sustainable chemistry, launched in autumn 2013;
- The Swiss element in the European platform, SusChem Europe, which coordinates initiatives at European level.

The aim of SusChem Switzerland is to:

- Provide a portal for Swiss projects in sustainable chemistry, supporting SMEs and large companies;
- Merge expertise from academia, industry and government;
- Facilitate the debate on the chemistry of the future;
- Support proposals for innovative projects;
- Promote energy innovation in industrial processes;
- Provide thought leadership in sustainable chemistry, as a network of competence for sustainable industrial processes and new methods for recycling processes and emission reduction;
- Facilitate collaboration between all stakeholders in this field in Switzerland and the rest of Europe.

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Swiss Technology Platform For
SUSTAINABLE CHEMISTRY

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