

FISSAC December 2018 Update

Construction products

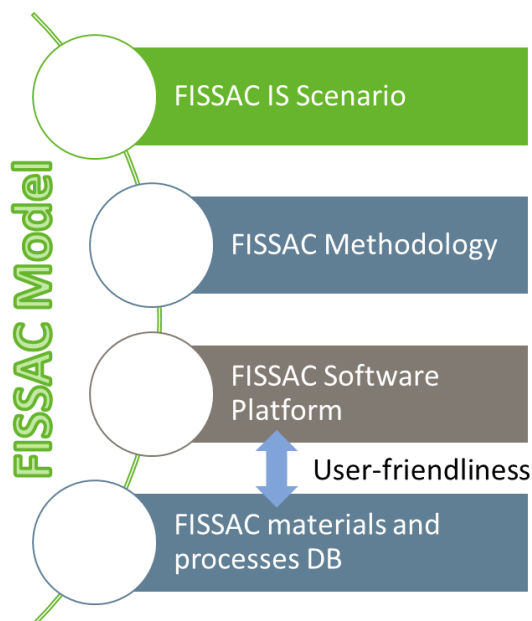
Industrial manufacturers in the FISSAC project include cement, concrete, ceramic, and wood-plastic composite producers. Supported by research and technological centres, they have spent the past 6 months working on the transition from laboratory scale to **pre-industrial scale demonstration** of the recycling processes and eco-innovative products. The obtained results are the basis to set up the next stage of the project: the validation at real scale.

Another objective is to create a data inventory for the Pre-Industrial Scale with the FISSAC Software Platform, in order to demonstrate the feasibility of the solutions (processes and products).

Partners are working on developing the following products:

- Eco-cement and concrete with secondary raw materials from the upgraded valorisation of steel, glass, aluminium and ceramic industrial waste;
- Innovative ceramic tiles manufactured with secondary raw materials from the upgraded valorisation of aluminium and natural stone industrial waste;
- Rubber Wood plastic composites manufactured with secondary raw materials from the upgraded valorisation of rubber, plastic & wood industries.

FISSAC model



An important objective of the project is the introduction of a model for Industrial Symbiosis. For this, a specific tool will be used and evaluated within the project industrial symbiosis model system concept: the FISSAC Software Platform. It will feature amongst others a Life Cycle based Multiple Factor Analysis, network indicators and GIS based capabilities.

Since August 2018, a demo version of the [FISSAC Software Platform](#) implementing the project scenarios is under test. Further developments of the platform, which seems to be very promising, were discussed by project partners during the [7th FISSAC General Assembly](#), held in Istanbul on 21 and 22 November 2018.

The Platform allows different user types, in order to maximize the accessibility maintaining different controlling levels: Platform Owner, Network Manager, Symbiosis Expert, Facility and Observer. Other functionalities worth mentioning are the possible connections to external database (including Ecoinvent) and the ability to include flows (e.g. waste streams) outside the construction value chain, in order to increase the potential use in many symbiosis schemes.

The platform will be accessible for all project stakeholders via the [dedicated page on the FISSAC website](#).

Product certification

The Environmental Technology Verification (ETV) process supports the industrial partners in the assessment of the developing technologies, listed here below:

- Green Concrete Blocks
- Wood Plastic Composites (WPC) Noise Adsorption Barrier (NAB)
- ECO-Porous Wall tile
- ECO-Porcelain tile
- Eco cement CSA (Calcium Sulfoaluminate cement)

After the positive response of the ETV first step ([Quick – Scans](#)) establishing the **Eligibility of the technologies** received in August 2018, partners have finalised the Initial Performance Claims. The technological level (ready for the market, advance or development stage), environmental aspects and existing test data of the technologies were assessed to understand whether further tests are required or not.

All of the proposed technologies present innovative aspects and environmental added value, mainly represented by the use of secondary raw materials/waste materials. However, the characteristics and performances have still to be finalised because they are at a **under development** level.

CWA on “Industrial Symbiosis”

A CEN (European Committee for Standardization) Workshop Agreement (CWA) is an agreement developed and approved in a CEN Workshop. The final text of the CWA on Industrial Symbiosis was submitted to CEN for publication on 12 December 2018. It was developed and approved by:

- INEOS Group AG
- International Synergies Limited
- Giovanni Impoco
- University of Ghent
- CEPI - Confederation of European Paper Industries



- CEMBUREAU - the European Cement association
- Motiva
- University of Sussex
- EIT RawMaterials
- University of Cantabria
- Ministry of Development, Turkey
- Industrial Symbiosis Limited
- ENEA - Italian National Agency for New Technologies, Energy and Sustainable Economic Development
- Gorenje Surovina
- BTC Company
- Evonik Industries
- DECHEMA - Expert network for chemical engineering and biotechnology
- BSI Group
- ACCIONA Construcción
- UNE
- British Sugar
- University College of London
- AIDIMME - Technological Institute

This CEN Workshop Agreement is intended to help organisations, governments and individuals to consider and implement industrial symbiosis on their territories providing:

- Common terminology;
- Consensus on the core elements of industrial symbiosis;
- Drivers for industrial symbiosis;
- Approaches for industrial symbiosis;
- Good practice for industrial symbiosis implementation.



Living Labs

The Living Labs are ongoing in different countries and each one has its own section on the [FISSAC website](#). Their main objectives are to replicate the FISSAC model by promoting stakeholder acceptance (industry, public entities, social representatives, government, etc.). Through the exchange of experiences and knowledge among the different Living Labs, the partners follow up the replication of the FISSAC model.

The [Turkey Living Lab](#) took place on two different days, with workshops on 3 September 2018 and on 2 November 2018. Quality and R&D managers of Turkish Cement and Construction Sectors met up to discuss about symbiosis challenges. In the first workshop the Eco-cement production with alternative raw materials and concrete road (Glass waste, slag, ceramic waste and serox-aluminium slags waste) was in the focus, while the second one dealt with the barriers that have to be faced and how to solve them. Attendees had to fill in a survey whose answers provided interesting and effective information regarding the criticalities



and opportunities concerning the implementation of symbiosis schemes in Turkey. The next Turkey Living Lab meeting will take place in March 2019, and the discussion will be moving on the eco-cement production at industrial scale test and the case study of concrete road made with eco-cement.

On 20 September 2018, the second meeting of the [Czech Republic Living Lab](#) took place in Circular hub in Prague. It focused on the possibility of IS Platform use in the Czech Republic. Discussions revealed that the main barriers are some specific aspects of the Czech legislation, as well as specific regulations in each country, that hinder the use of the platform at international level.



A change in the legislation could happen faster, if actors would align and together lobby for it. The lack of awareness about the benefits of using recycled materials is another barrier. Appropriate communication and promotion campaigns should be created and implemented. To read up on this event, you can find a [document](#) on our website.

