

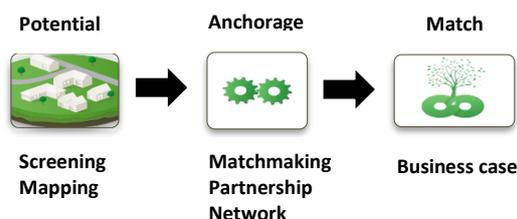
SCREENING TOOL FOR INDUSTRIAL SYMBIOSIS FACILITATORS

Dialog-based approach

This short article introduces an approach to and the logic behind acquiring information on consumption, under-utilized and lost resources in the production within individual enterprises. This specific approach has been developed to facilitate the further scale-up of urban and industrial symbiosis, where lost resources of one company can be used as a second resource by another. With this we aim at a new "normal", where sustainability is a natural way of running, developing and growing your business. Industrial Symbiosis is about realizing the additional value through established partnerships – new green business models to benefit from and support co-location of industrial partners.

Symbiosis Center Denmark, March 2021

It takes time to create a symbiotic partnership; it requires a lot of data, new knowledge, a network, mutual trust between partners, and ongoing facilitation and support. The process can be divided into three main steps: identification of symbiosis potentials, matchmaking between potential symbiotic partners, and creating new business cases.



In order to identify symbiotic potentials, a mapping of resource streams should be undertaken. The mapping identifies opportunities for adding value to underutilized resources and provides a starting point for exploiting these resources through an Industrial Symbiosis.

How to map resource streams?

According to Per Møller, Senior Symbiosis Developer in Kalundborg Symbiosis, there are various ways of mapping or screening resource streams, because businesses are different, and there is no such thing as a "one size fits all".

Together with the Technical University of Denmark, Symbiosis Center Denmark has developed a

screening tool, a checklist or questionnaire, that can guide industrial symbiosis facilitators through the screening process. The screenings play an important role in terms of setting the scene for business matchmaking, because potential symbiotic partners are provided with an overview of their internal resource flows and the awareness of ways to optimize these flows and their value in future production.

This dialog-based screening tool was adapted and actively used by BIS project partners from Denmark, Norway, Sweden, Finland, Poland and Russia in order to identify local and regional symbiotic opportunities within individual companies in the Baltic Sea Region.

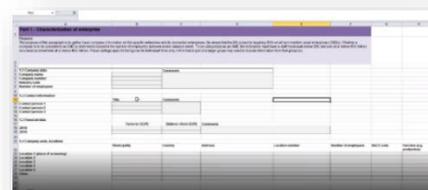
How to use the screening tool?

The screening process starts with gathering basic information to gain a complete understanding of a company's nearby conditions such as sewage system, water supply, gas/district heating pipes, local plans and neighboring enterprises as well as industry-specific conditions, for example, specific types of materials and flows, consumption patterns etc.

It is very important for a facilitator or interviewer to communicate with the company during the whole screening process in order to make its staff motivated and prepared for this activity.

The screening tool consists of **five modules**, Microsoft Excel sheets, that should be filled out by an interviewer or facilitator:

Module 1 includes basic company information such as company name, contact information, financial data, locations etc.



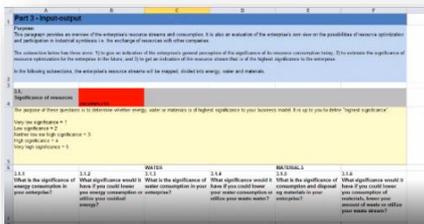
Module 1

Module 2 gives an overview of the company's business model as well as finds out the company's view on its opportunities and preconditions for green transition and sustainability, which provide the basis for developing a green business model/case.



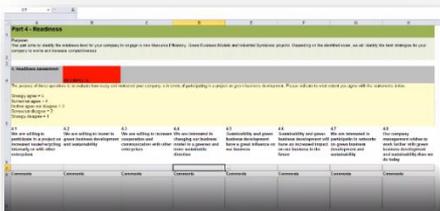
Module 2

Module 3 gives an overview of the company's resource streams and consumption as well as evaluates the company's own view on the possibilities of resource optimization and participation in an industrial symbiosis. Each resource stream, energy, water and materials, has its own sheet.



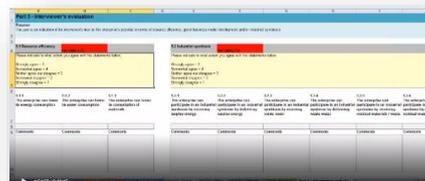
Module 3

Module 4 aims to identify the readiness level for the screened company to engage in a symbiotic partnership as well as evaluate how ready and motivated the company is in terms of participating in a project on green business development.



Module 4

Module 5 is an indication of the interviewer's view on the company's potential in terms of resource efficiency, green business model development and industrial symbiosis.



Module 5

Based on the information and data entered into the screening tool, a summary report template is generated. And when the additional notes from the dialog and preferably a guided tour through the production facilities are added, the company receives the final version of the report with a review of its specific resource streams, and conclusions on what resources the company should focus on in relation to resource optimization.

Moreover, the report provides evaluation of the company's potential, readiness and motivation regarding green business development and industrial symbiosis. At this point the company is ready for business matchmaking with its potential symbiotic partners.

The dialog approach to the screening process has already proven valid as a tool in assisting businesses alone or in existing company networks to realize their business potentials within the green transition towards a smart circular way to develop or advance production. This effort has been facilitated by a number of different stakeholders in various regions and countries in the Nordic and Baltic region. However, there are still a need to optimize this approach even further in order to make it more applicable to a broader range of stakeholders, e.g. making it web based, availability in your local language, adding more intuitive graphics and functionalities etc.

But for those of you who are already to try out this screening tool, please contact us for more details – we would be happy to facilitate you in your endeavors.