SHAREBOX: Secure Management Platform for Sharing Process Resources

- **SPIRE-06-2015**: Energy and resource management systems for improved efficiency in the process industries
- Sep 2015 – Aug 2019
- 16 partners
SHAREBOX Case Study

1. The EU/ SPIRE needs

“solutions for more efficient processing and energy systems for the process industry, including industrial symbiosis”

SPIRE goals: (i) 30% reduction in fossil energy intensity, (ii) 20% less non-renewable raw material usage, (iii) 40% reduction of CO2-equivalent

2. The Project Solution

A secure ICT platform that functions as byproduct inventory, supply chain management and decision support system, allowing companies to identify and manage win-win situations in trading byproducts and sharing resources.

3. Value to Customers

Cost Savings: Avoid costs related to waste handling and management
Boost Revenues: Create additional income by commercialising byproducts
Cut expenses: Benefit from the lower prices of resources considered byproducts
Lower risk: Through diversifying both supplier base and clientele

4. How will this happen?

1. Adoption by companies in existing industrial parks and clusters
2. Reaching critical mass of users for national and international symbiotic exchanges
3. Regulatory change for decharacterising outputs as “waste” once part of symbiotic exchanges
What are the **key expected sustainability impacts of SHAREBOX?**

**Baseline:** As baseline for impact estimation we consider business-as-usual whereby process inputs consist of raw material and primary products while non-marketable outputs are considered waste and treated accordingly. Below figures are a result of the establishment of 11 synergies by M18.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Impact at M18</th>
<th>Impact at M48 (worst case scenario)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Warming Potential (mainly CO2 emission reduction)*</td>
<td>374,000 tonnes of CO2 saved (74,8% reduction)</td>
<td>1,100,000 tonnes</td>
</tr>
<tr>
<td>Total material consumption*</td>
<td>174,000 tonnes of virgin resources saved (23,2% reduction)</td>
<td>540,000 tonnes</td>
</tr>
<tr>
<td>Waste avoided</td>
<td>135,000 tonnes of waste turned resources (27% reduction)</td>
<td>426,000 tonnes</td>
</tr>
<tr>
<td>Turnover from green activities (incl. savings and new sales)</td>
<td>€11,300,000 of additional revenue from cost savings and new sales</td>
<td>€30,400,000</td>
</tr>
<tr>
<td>Job creation</td>
<td>18 new Jobs (both direct and indirect)</td>
<td>48 new jobs</td>
</tr>
</tbody>
</table>

Worst case scenario: No more synergies established after M18

*Core SPIRE indicator
What **outputs or learning** from SHAREBOX could have value for other SPIRE projects here?

- Obvious lesson: Know thy waste. Less obvious: Know thy neighbors waste
- Symbiosis (byproduct trade) operates under very different economic rules: Byproduct supply is by definition NOT driven by demand (traditional economics supply-demand theories do not apply)
- Regulatory barriers are a blocker for establishing Industrial Symbiosis as a widespread practice
- A surprising amount of interest and initiatives on Industrial Symbiosis have been recently developing around Europe (often not termed as such, e.g. Community Energy initiatives)
- Industrial Symbiosis and similar initiatives survive when there is some kind of institutional relationship between involved parties (e.g. belonging to same cluster, association, regional authority, etc.). Proximity isn´t important in and of itself, it arises as a byproduct (sic) of the above
SHAREBOX

Enabling next generation Industrial Symbiosis through a smart online platform for sharing byproducts and resources

- **Secure** B2B information exchange guaranteeing anonymity and data protection
- **Intelligent** decision support tools for the flexible management of shared process resources
- **Robust** and reliable real-time information needed to optimise byproduct synergies across companies
- “Smart” identification and realisation of new cross-sectorial interactions
Contact

Project coordinator: Georgios Chalkias (gchalkias@iris.cat)
Exploitation manager: Alejandro Rosales (arosales@iris.cat)
Project website: sharebox-project.eu