

FUDIPO

- Reference of the call: H2020-IND-CE-2016-17
- Start/end date: 1st Oct 2017/30th Sept 2020
- Partners:

**RI
SE**

ABB


MälarEnergi

 **Fraunhofer**


MTT
micro turbine technology bv


BILLERUDKORSNÄS


**MÄLARDALENS HÖGSKOLA
ESKILSTUNA VÄSTERÅS**

tieto

 **Tüpraş**

BESTWOOD

 **idener**

FUDIP 

**SPRE
PROJECT**

Project Case Study

1. The EU/ SPIRE needs

Energy and resource efficiency in industries leading to low the CO2 emissions and EU competitiveness

2. The Project Solution

Toolbox with methods for enhancing energy efficiency for processes industries

4. How will this happen?

A model-based control platform for optimization and analysis for the production parameters

3. Value to Customers

Solutions for processes optimization leading to energy and resource savings



What are the key expected sustainability impacts of *FUDIPO*?



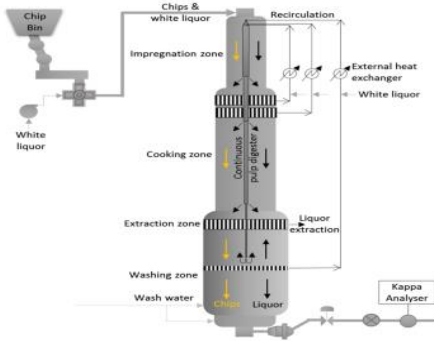
Indicator	Baseline	Expected Impact
Savings in electricity in waste water treatment plants	Aeration demand in WWTP is about 50% of electric energy demand, which corresponds to about 2% of the total electric energy demand in developed countries. Electricity consumption in EU is around 3400 TWh/year	Savings potential in the range of 60-80 TWh(el)/year. Electricity savings in the range of 3-4 B€/year. Biogas production can be increased by some 25% in those plants using sludge for biogas production.
Energy consumption in the pulp and paper industry	14GJ/ton of virgin pulp, 5-8 GJ/ton of paper	Reduction of 10% in the energy required for paper production, energy saving of 14-24 TWh/year for Europe.
Production improvement in pulp and paper industry	In EU, pulp and paper industry produces 100.4 Mtons of paper and board products.	2-4% production improvement, with a revenue increase of 400€/tons of increased fiber production.
Decrease in electricity consumption in power plants	Electric power from organic fuels is about 58% out of 3400 TWh/year	Potential to save up to 30-150 TWh/year
Energy and resources savings in refineries	EU consumption of oil is around 8900 TWh/year.	Energy and resource savings in refineries around 10 %.



What outputs or learning from FUDIPO could have value for other SPIRE projects here?

FUDIPO SHOW CASES

Pulp and paper industry processes



- Predict the Kappa number from the Wood properties of Wood coming into the fiber-line by measuring NIR spectra of the incoming chops.

Oil refining plant



- Economic optimization of the DHP unit by optimizing the feed blenc procedure with the help of current MPC. Produce the máximum amount of diesel at given specifications. New sensors to know T95 of the feed to opératé the unit more efficiently.

Heat and power plants



- Reduce pollutant emissions (e.g. dioxins).
- Enable the possibility of using cheap fuels with reduced environmental impact.
- Reduce down-time and improve system efficiency.

Waste water treatment plants



Methods with control, based on quality measurements of incoming waste to:

- Increase of biogas production
- Low the aeration demand





“A holistic approach to optimization and control can achieve a much better economic and environmental performance compared to individual actions that lack integrated planning”

A project is an idea, but even more the people who follow it!



Contact

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