

# ProSEco- Collaborative Environment for Eco-Design of Product-Services and Production Processes Integrating Highly Personalised Innovative Functions



## Data Mining Tool and Service contact person

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## Data Mining Solution

- Data Mining engineering tool
- Data Mining core Service



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This solution is developed in the scope of ProSEco project, and is one of the key solutions to support the design and development of new Product Extension Services (PES).

### What's the Data Mining solution?

*This solution is composed of an engineering tool to be used in the PES design phase for designing and developing algorithms capable of analysing and predicting data related to user or equipment behaviour, respectively from a core service capable of running such a process on a data set.*

### Engineering tool

The engineering tool supports the design of a machine learning algorithm, respectively a whole data mining process. The tool provides several already existing algorithms (the most used ones), which only need to be configured according to the specific needs of the user.

### Core service

These core services are used for running the data mining processes designed with the engineering tool. The main purposes of these processes is to analyse the behaviour of the providers and customers or to predict future events, such as the proper times for predictive maintenance.

### Applications

The data mining solutions has several applications, such as:

- Provider/customer behaviour analysis;
- Predictive maintenance;
- Intelligent devices in Industry 4.0.

### New concepts

Along with the engineering tool and the core service, which are technical aspects, new scientific concepts have arisen, such as:

- **Collaborative data mining:** which is the usage of two or more data sources for predicting the behaviour of one of them, with increased accuracy;
- **Context aware data mining:** meaning the analysis of a data sources taking into account also its context.

### CHARACTERISTICS OF THE SOLUTION

#### Engineering Tool:

- Design of any machine learning algorithm
- Design of any data mining process
- Predefined algorithms available

#### Data mining Service:

- Execution of any data mining process already stored

*This solution supports the user in mining business intelligence data, such as provider and customer behaviour and predictive maintenance.*

