



## **Deliverable 4. Prototype Description.**

Design and implementation of a predictive module prototype.

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## Executive Summary

This document describes the design and implementation of a prototype predictive module for Thales' railway maintenance network. This implementation relies on already existing predictive rules which have been previously obtained from data mining procedures.

The prototype provides therefore a way to apply said obtained knowledge to actual situations, evaluating the rules and determining an output for each situation. It works as a rule-engine which takes the current situation as an input and outputs a list of predicted events along with an associated confidence for each of them. The system has been implemented in the form of a Java module, and can therefore be used as a standalone system or be integrated onto larger systems at convenience. It relies on the JBoss Drools Expert library, which provides an efficient and reliable rule-engine environment.

In this document, the architecture of the implemented prototype will be explained on detail. Furthermore, performance specifications are described as a result of several testing procedures.

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# 1 Introduction