



DELIVERABLE 3.2

Data-driven models. Description of the data-driven models built upon the data bases of collected data

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¹ **Types. R:** Document, report (excluding the periodic and final reports); **DEM:** Demonstrator, pilot, prototype, plan designs; **DEC:** Websites, patents filing, press & media actions, videos, etc.; **OTHER:** Software, technical diagram, etc.

² **Dissemination levels. PU:** Public, fully open, e.g. web; **CO:** Confidential, restricted under conditions set out in Model Grant Agreement; **CI:** Classified, information as referred to in Commission Decision 2001/844/EC.

Executive Summary

This deliverable summarizes the outcome of STREAM-OD Task 3.6 and is related to the development of Data Driven Models (DDMs) that will allow data processing and analysis for each application. Data gathering was performed using current measurement systems installed on the production line. By analysing the relation between variables and accumulated data, useful information regarding machine behaviour and defect patterns was extracted. In this document, different data extraction methods and modelling algorithms are presented and compared based on their accuracy, speed, complexity and interpretability. Initial attempts to process the data, problems encountered, and solutions found to solve them are also presented. The outcomes of the initial Exploratory Data Analysis, the forecasting data-driven models and the additional post-modelling analysis are utilized to achieve (near) zero defect manufacturing as well as to better understand the processes and causes which conduce to defects, according to STREAM-OD mandate of zero defect products in industrial production lines.