# OPENIoT

# SMARTER INDUSTRIES

## Material Flow Traceability System

OpenIoT will integrate a **Material Flow Traceability System** in the packaging industry, focusing on processes for printing, die-cutting, folding and gluing of medicine boxes. In this environment, several sensors are used to facilitate production line automation and quality control, such as laser sensors, high-speed 1D/2D barcode verification cameras, weight, contrast/colour and ultrasonic sensors. These sensors are combined into virtual sensors and used to identify events.

The OpenIoT cloud based middleware will enable the dynamic on-demand formulation, calculation and visualisation of Key Performance Indicators (KPI), based on the intelligent selection of virtual sensors and filtering of their information. Instead of pre-programming manufacturing performance reports, OpenIoT will enable dynamic performance monitoring.

KPIs are to be calculated across multiple production lines, and include: consumption rates and amount of scrap produced, machine speeds, product container production rate, efficiency of machines, setup times and machine speed in their various modes (setup/repair/idle/operation).
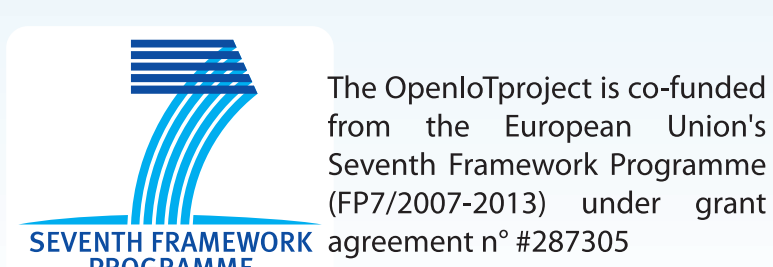
## Phenonet

Every year, Australian grain breeders plant up to 1 million 10 $m^2$ plots across the country to find the best high yielding varieties of wheat and barley. The challenge is to monitor these crops, often located in disparate and remote places, throughout the growing season, and deliver crop performance results over the internet, and at a level of detail, that meets the needs of both scientist and farmer.

The **Phenonet** application uses state-of-the-art sensor network technology to gather environmental data for crop variety trials at a far higher resolution than conventional methods and provides a high performance real-time online data analysis platform that allows scientists and farmers to visualise, process and extract, both real time, and long-term crop performance information, from the acquired sensor measurements.

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