

## Shop-floor DATA ANALYSIS for the INDUSTRY 4.0

### MODULES



### PROJECT

**OEDIPUS project** (Operate European Digital Industry with Products and Services) belongs to the Digital Industry Action Line of EIT Digital (<https://www.eitdigital.eu/>) and is aimed to create innovative solutions and business opportunities for European players in the **manufacturing industry**. OEDIPUS needed Knowage to provide appropriate **business intelligence and analytics capabilities** to extract value from data and improve business processes, supporting the Data Driven Industry transformation. OEDIPUS web page (<https://www.eitdigital.eu/innovation-entrepreneurship/digital-industry/oedipus/>)

### CUSTOMER



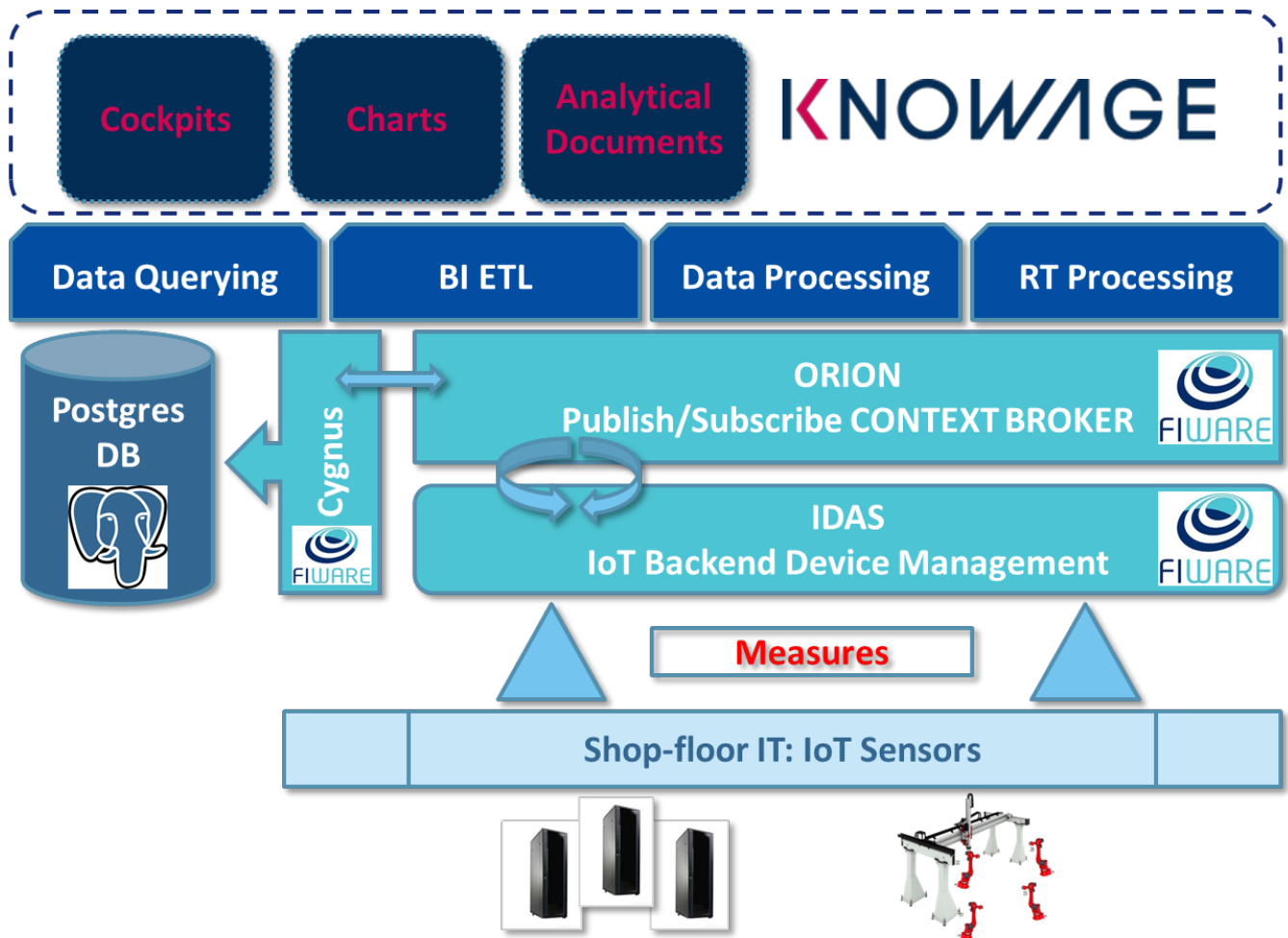
The mission of CRF lies in three main goals:

- to develop innovative power units, vehicle systems, materials, methods and processes to improve the competitiveness of FCA products;
- to represent FCA as part of European and national collaborative research;
- to support FCA in enhancing the value of its intangible capital.

[www.crf.it](http://www.crf.it) (<https://www.crf.it/EN/corporate>)

**Industry 4.0 implementations** are generating a huge amount of data and events that need to be collected, filtered, managed, persisted as well as combined and analysed in a simple and affordable way. Therefore, having data available from the shop floor and being able to analyze them in order to create value is a top prerequisite of every system that aims to ride the wave of Industry 4.0 revolution. In this scenario, OEDIPUS project allowed ENGINEERING R&D department and CRF (FIAT Research Center) (<https://www.crf.it/EN>) to jointly work towards the development of the **DIDA** (Digital Industry Data Analytics) Platform. This Platform helps users to monitor and identify shop-floor incoming events (i.e. machine breakdowns or quality issues), while visualizing and supporting decision making (i.e. update maintenance plan).

The Platform offers capabilities to manage data from different sources by aggregating them and providing analytics and visualization services targeted to different purposes. Several applications can be developed on top of the Platform, such as production system monitoring, as well as product quality assessment, control and management.



The Platform follows the approaches defined in the platform paradigm Industry 4.0 (Platform I4.0) and in the reference architectural model RAMI 4.0. Furthermore, it exploits existing **Open Source** software components such as those available in the [FIWARE](http://www.fi-ware.org/) (<http://www.fi-ware.org/>) ecosystem as well as those designed and managed directly by ENGINEERING, that is the Knowage Suite, able to provide Business Intelligence, Big Data analytics and visualization features.

In the OEDIPUS DIDA Platform, Knowage is responsible for processing data in a [FCA](https://www.fcagroup.com/) (<https://www.fcagroup.com/>) plant. The experimentation is based on **data coming from various sensors** from the shopfloor (e.g. from sensorized welding cells) that are stored and elaborated. Thanks to Knowage intuitive and dynamic interface, DIDA allows non-IT users such as analysts and managers to easily create analytics dashboards starting from these data, enabling and improving the decision-making process for the **prevention of faults generation** and propagation.



**Julien Mascolo - CRF**

*"We already had a monitoring system in place enabling us to quickly spot obvious issues, but we wanted to go one step further into data analysis through advanced visualisation techniques and identify incoming events. The next step will be to integrate other predictive analytics strategies, and that is what we are working on right now."*

