

EOSC DIH Business Pilot

**BIGcoldTRUCKS: BIG data analytics for
COLD chain logistics optimisation in
refrigerated TRUCKS**

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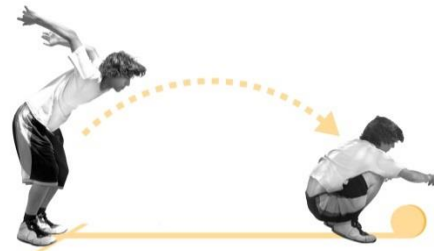
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Let us invent Smart Solutions

Odin Solutions

Spin-off of the University of Murcia (Spain) with more of 10 years of experience on the design and development of monitoring and control products and specialises R&D fields of Internet of Things, Security and Data Analytics



Odin Solutions S.L.

Spin-off leveraging on IoT technology and different enablers that connect infrastructures:

- Wireless sensors networks and IoT gateways based on network technologies
- SCADA web system for monitoring and actuation over sensors with an editor for defining interactions
- FIWARE-based platforms for smart city cases: energy efficiency, parking control, garden irrigation..



Concept

Goals

Provide descriptive tool:

1. Organise storage
2. Organise trips
3. Detect quality loss

Needs

1. Data management, storage and access
2. Access to HPC for Machine Learning

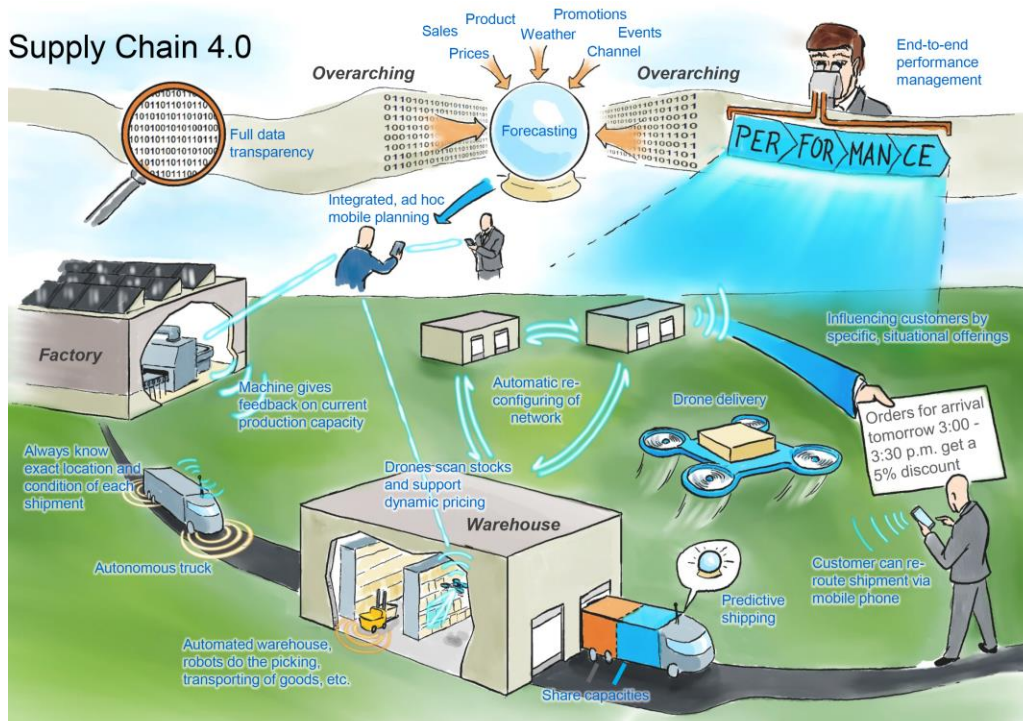
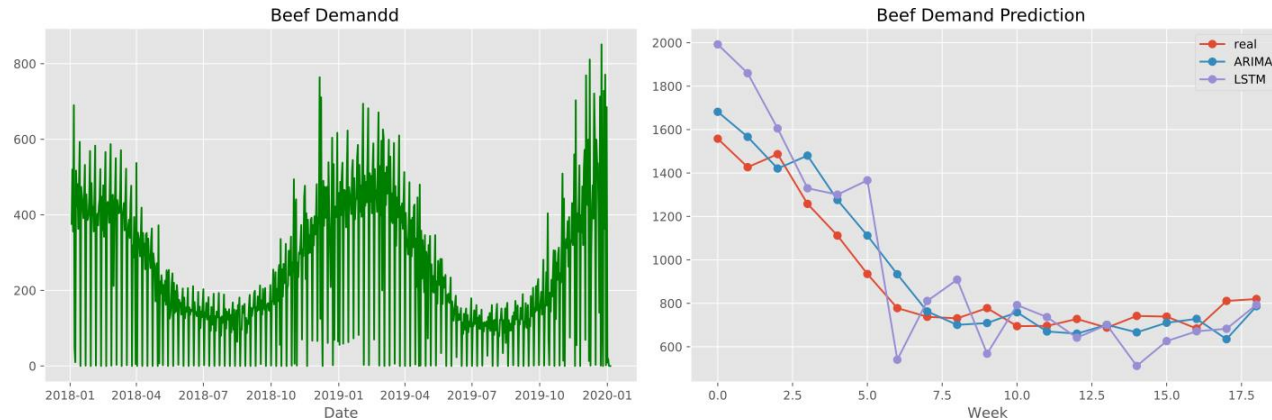


Image source: <https://www.mckinsey.com/business-functions/operations/our-insights/supply-chain-40--the-next-generation-digital-supply-chain>

Work with EOSC DIH

1. HPC Computing: Deep Hybrid Data Cloud

- ARIMA, LSTM
- Deepas API



2. ElasticSearch

- Product's rankings
- Trip durations
- Seasonality of product's demand
- Geographic representation



	NoElastic	Elastic	Improvement (%)
Product's ranking	1,107	0,022	98
Product's ranking	1,03	0,057	94
Groups of product's ranking	1,493	2,47	-65
Groups of product's ranking	1,55	4,578	-195
Trip durations	3,444	1,697	51
Seasonality of product's demand	1,163	0,051	96
Geographic representation	0,978	0,062	94

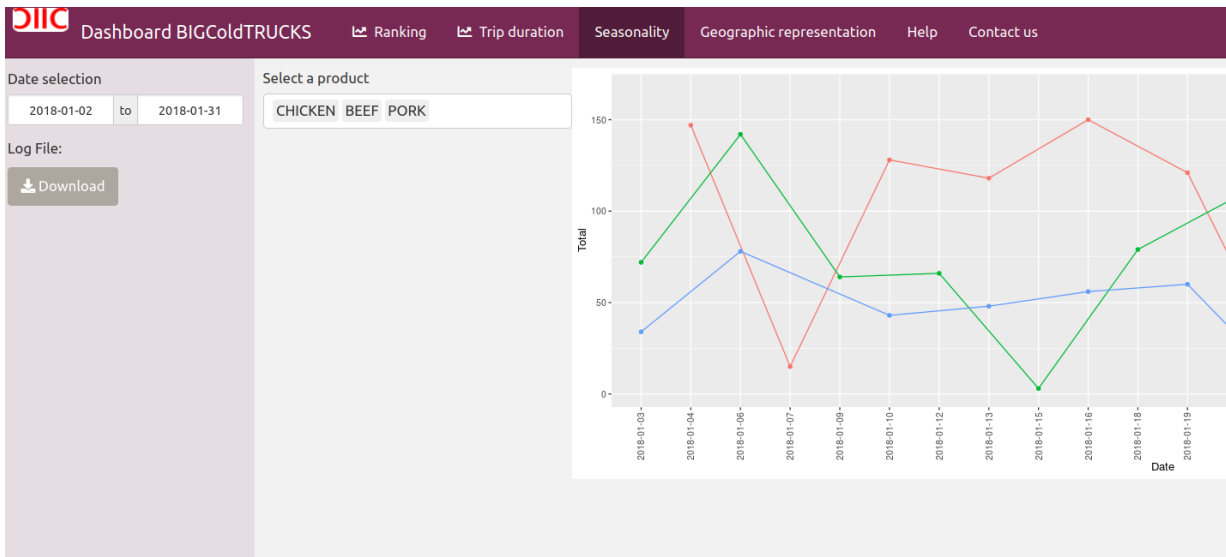
Table of retrieval time for 1 month data



Impact of the pilot

- A working prototype of a dashboard that is focused on the analysis of cold chain logistics data and that is connected to state-of-the-art technologies

<http://gauss.inf.um.es:8080/bigcoldtrucks/>



- Discovery of very useful tools that can be used in other cases that we are working on.



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Smart roads
Smart lighting
Smart buildings
Smart agriculture
Smart environment
Smart Solutions ...

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