STUDY CASES ON IT APPLICATIONS IN LOGISTICS

INTENT 4.0

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1. How to use the case studies?

In this document you will find 4 case studies to present to your students.

Each of the case studies come with a link to a video where the experience is described. You will ONLY share this information with your students. The table summing up each of the case studies is for your information only, but the idea is that the students, working in groups, will be able to complete the table of one of the case studies using a blank template, provided at the end of the document.

This way, they will be encouraged to discuss and to analyse the information provided in more detail, identifying the technologies used, explaining the situation in each case and the results of the solution implemented.

Study case 1.

Video: https://www.youtube.com/watch?v=I8vYrAUb0BQ

NAME OF THE COMPANY	DHL (Germany)
SECTOR OF APPLICATION OF THE SOLUTION	Transport and logistics
THE SITUATION	The company wanted to improve its picking system, increasing the productivity of workers and reducing the errors rate. The solution was the use of Smart glasses with augmented reality for visión picking. The order picker logs in by reading a QR code with the glasses and starts picking by scanning the next available trolley. Task information is displayed in front of the eyes (progress, aisle number, location, quantity…). The picker sees instantly what needs to go where.
KEY ENABLING TECHNOLOGY	Augmented reality for vision picking
IMPACT OF THE SOLUTION	Faster, more accurate and more user friendly approach to picking, compared to the use of paper and hand-scans.

Study case 2.

Video: https://www.youtube.com/watch?v=B23dFYFSv8o&list=PLUrpa5uYBwJDrSk4fZWJ1AaTt6-Z_mP3G&index=29
http://ahrmagroup.com/downloads/ahrma_infographic.pdf

NAME OF THE COMPANY	Ahrma (Netherlands)
SECTOR OF APPLICATION OF THE SOLUTION	Food industry
THE SITUATION	Traditional Wood pallets are low quality, they break down quite easily, are non hygienic, produce damages in the transported goods due to lose nails/splinters, it´s not safe and have a short lifetime. The Smart pallet developed by Ahrma offers safety through its design and the materials used for its manufacture (no nails, not slippery…). It includes a transponder which collects lots of data related location, temperature, shocks received by the goods. It connects with a the company´s gateways, collecting data from the pallets and sending them to the company´s cloud. It also enables the connection to the product, completing chain blocks with information over client, payments, orders or location tracking.
KEY ENABLING TECHNOLOGY	Cloud computing though blockchain, big data, IoT.
IMPACT OF THE SOLUTION	Increased safety through location track and opening sensors. Reduced food waste due to temperature sensors to track temperatures of perishable goods to know when they might be most vulnerable to spoilage. Knowing the weight of a shipment could reveal a loss of moisture in produce, another sign of freshness. Higher and more transparent traceability.

Study case 3.

Video: https://www.youtube.com/watch?v=X7vziDnNXEY&list=PLUrpa5uYBwJDrSk4fZWJ1AaTt6-Z_mP3G

NAME OF THE COMPANY	Scania Nederland (Netherlands)
SECTOR OF APPLICATION OF THE SOLUTION	Road transport
THE SITUATION	Road transport is one of the main carbon emitters, creating a great impact in environment but also in traffic. The company has developed a system where deliveries are optimised by grouping tracks according to their routes and, equipped with Wi-Fi, GPS and radar systems, trucks communicate with each other to travel at the optimum distance. The lead truck determines the position, route and speed. The data is transmited to an interface, having real time information about the trucks status.
KEY ENABLING TECHNOLOGY	IOT, cloud computing,
IMPACT OF THE SOLUTION	Better utilization of the road, reduced fuel consumption and emissions (up to 20% reduction)

Study case 4.

Video: https://www.youtube.com/watch?v=5N87L_nO2ms

NAME OF THE COMPANY	DSV Global Transport and Logistics (Denmark)
SECTOR OF APPLICATION OF THE SOLUTION	Automotive, health care, retail…
THE SITUATION	In order to improve the productivity and the optimization of warehouse management, the company developed a solution to reduce time and errors by using drones. The drones operate at night, with no staff present, to reduce labor risks. They scan barcodes and detect if pallet positions are empty or not, giving real time inventory data and avoiding manual counting. The drone gathers information and dumps it to the company system, which collects visual or in depth information about
KEY ENABLING TECHNOLOGY	Robotics, IoT,
IMPACT OF THE SOLUTION	Quicker counting of stock, reduce stock, minimise disruption,

ANNEX: blank template for the description of the case study to be filled by students

NAME OF THE COMPANY	
SECTOR OF APPLICATION OF THE SOLUTION	
THE SITUATION	
KEY ENABLING TECHNOLOGY	
IMPACT OF THE SOLUTION	