Case Study

DRONES and their APPLICATION WITHIN ENERGY SECTOR FOR INDUSTRY 4.0

Keywords: *drones, IoT, energy sector*

Background to Case Study

Industry 4.o mainly applies to the innovative business models based on a new technologies. Drone is one of the examples. It is an Unmanned Aerial Vehicle (UAV) that doesn't require a pilot or a crew member. It is operated from the ground. Its existence comes from the idea that it can be send in the potentially dangerous spots and originally it's been used by the military and aerospace industries. They became hugely popular because of their efficiency.
Drones are basically flying robots that can be applied to manufacturing processes, repair operations and deliveries, etc. They serve as a research tool and can collect evidence in places not easily accessible to people.

Introduction to the Case Study and it's growth within Industry 4.0.

Drones are the very important part of the development of the 4.0 industry. Drones and IoT integration can have a huge commercial potential. They are equipped with elements like cameras and sensors that can measure different parameters and can be very valuable in countless applications. They are able to check temperature, humidity, atmospheric pressure, mobile phone signals, etc. The information gathered can be processed onboard or send into the cloud.
They are important for various branches of industry like delivery, emergency rescue, agriculture, space travel, wildlife conservation or healthcare.

The following study shows how an SME produces professional drones that can be used within energetics sector.

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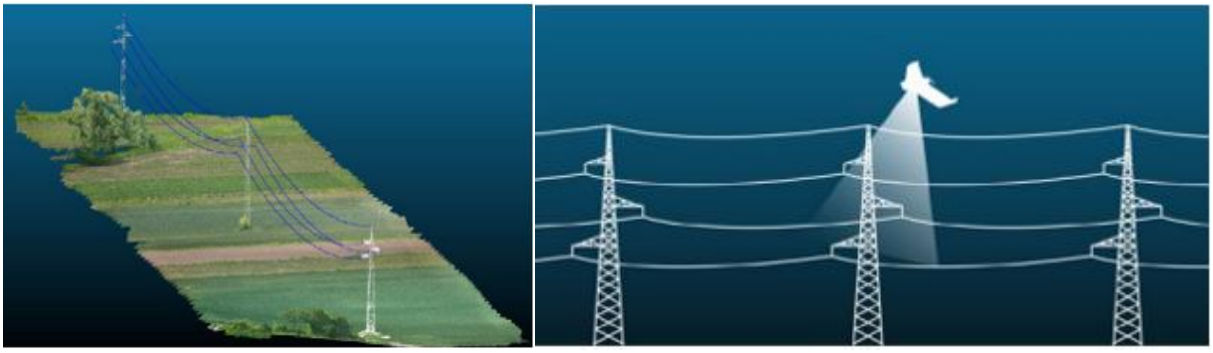
The Case Study and Industry 4.0 Elements: A Pictorial Overview



Source: https://www.flytechuav.pl/files/upload/files/Broszura_energetyka_PL_BIRDIE.pdf

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The Element Explored within Industry 4.0 Application. Source: https://www.flytechuav.pl/  Source: https://www.flytechuav.pl/energetyka.html	*FlyTech UAV is a polish company that produces professional drones for energetic sector.* *Their flag product is a UAV Birdie drone. It is a complete mapping solution and system that can achieve centimetres accuracy. It works in every territory and allows gathering data from large areas of energy lines daily. Thanks to precise optical sensors very detailed data can be recorded. Small size allows cost effective research in comparison to the traditional methods.* *Flights do not require any special skills from the operator and can be performed on its own within safe distance from the ground and wires. Birdie can perform precise and autonomous landing and it offers comfortable hand-held take-off. It is very productive as can be in air up to 60 minutes and it can cover up to 8km2 in a single flight.* *It is equipped with the ecological electric motors that are both quiet and environmentally friendly.* *"BIRDIE is the most compact, intuitive and reliable drone we have worked with so far. We particularly appreciate the ease of use and the high quality of the technology." says Ray Ozma from Terra Drone Indonesia.*
Application Target Audience	*The results of the case-study are intended for use by SMEs, Enterprises and Entrepreneurs.*
Resources Used:	*IO2_Guidelines-on-Industry-4.0-and-Drone-Entrepreneurship-for-VET-students_PL.pdf (edudrone-project.eu)* *What Is A Drone? What Are Uses For Drones? | Built In* *Power_energy_BIRDIE.pdf (flytechuav.com)* *FlyTechUAV_Birdie_ENG.pdf*
Further Reading:	*The Case for Drones in Energy (measure.com)* *How Drones Are Revolutionizing the Energy Industry (drdrone.ca)*

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