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SAP LEONARDO IOT FOR THE INTELLIGENT ENTERPRISE
OPTIONAL IDEATION CHALLENGE

OIL PRODUCTION COMPANY EXAMPLE

Idea Story

Make a case and tell your story.

A company in which I would like to introduce IoT operates in the agricultural sector. It produces vegetable oil from rapeseed intended for consumption. The company operates in several countries around the world with several dozen of plants.

The oil production process is simplified in five stages: storage, heating, crushing, extrusion and filtration. Between crushing and extrusion, rape petals are subjected to organoleptic tests by a company's employee. The production operator collects the flake and checks the percentage of oil in the expeller. On the basis of those test results, extrusion parameters such as temperature, the rate of flake feeding and the extrusion force are selected.

The place where IoT technologies are to be applied is the moment between grain crushing and extrusion. A camera/sensor would scan the flakes when they fell from the flake crushing machine onto the conveyor belt. The size of the flakes will be analyzed by the system and using Machine Learning determining the most appropriate temperature and rate of feeding based on current measurements and previous experience.

The result of the proper parameters settings will:
- allow better performance of the crushing machines,
- provide information about how fast the machine needs to be renovated or replaced,
- which temperature and speed of flake feed needs to be set in order to achieve the best crushing performance
- allow reduction of oil waste
- detect anomalies on conveyor

That solution will include Machine Learning for pattern detection, IoT for sensors and Analytics for dashboards and statistics presentation. System will be able to Sense, Store,

Analyze, Control and Share the outcomes of the insights. Thanks to WiFi connection cameras will be sending the information to the system which will be later analyzed and patters for specific size of the flake will be found and used in later parameters settings and prognosis of machinery repair plan.