N2C

IoT for a change of Business Model

N2C, a company specialising in machine retrofitting, uses the technologies of the Internet of Things to improve the performance and reduce the consumption of machines and, thus, paves the way for usage-based billing.

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OUR CUSTOMER

Corporate name
N2C

Turnover
2.5 million euros

Workforce
14 people

Business activity
N2C specialises in the purchasing, repair, safety and sale of machine tools used for metal working. The company, based in Sens-de-Bretagne (Ille-et-Vilaine, France) operates on both the French and international markets.

Since its creation in 2004, N2C has been giving laser cutting machines, press brakes, machining centres and other former-generation numerically-controlled lathes a new lease of life. In 2006, N2C embarked on a new challenge with a project, named Défi, supported by Ademe (and funded *via* the Investment of the Future programme). The objective of this project was to revamp a hydraulic press brake and adapt it to the "functional economy" model. To take up this challenge, N2C asked Cetim to provide assistance with the design of the business model, the determination of the suitable technical options and the choice of some systems. The machine was completely modernised, although most of its structure was retained. Some of the electric and hydraulic control and driving systems were replaced to improve the machine's performance and reduce its energy consumption while, at the same time, the programs were modified to reduce the consumption and optimise the operation of the bending machine.

Implemented monitoring

Further to this revamp process, the machine's energy consumption was reduced by at least 60%, while the oil consumption was reduced by half and the time between oil changes was multiplied by two. In order to adapt the press to usage-based billing and to the implementation of associated services, N2C also implemented the permanent monitoring of the machine's main parameters *via* the numerical control system and additional sensors.

The objective was to provide users with the necessary information to identify any failures, detect drifts and anticipate breakdowns in order to guarantee the highest availability rate for the machine. At the same time, N2C improved its responsiveness and efficiency and allowed its teams to intervene quickly when necessary and to plan maintenance operations. Further to this first experience, N2C now intends to transpose this methodology to another type of machine tool.

Cetim's asset

Cetim's IoT, mechatronics and energy efficiency experts can support industrial companies with their equipment digitisation process and help them to design their new Business Models.

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