

# Industrial Machine Learning

*"Intelecy is used to navigate in a jungle of data and is pointing us in the right direction. We use Intelecy to put the data in context and identify correlations. This allow us to improve production-quality."*

*-Kjetil Holstad, Production Manager  
TINE Jæren*

## Cleaner

- Reduce CO2 emissions
- Reduce resource wastage
- Reduce energy consumption
- Reduce greenhouse gas emissions by 40%**

## Safer

- Early warning detection
- Safer workplace
- Protect critical information
- Avoid breakdowns and accidents**

## More Efficient

- Reduce downtime
- Increase production efficiency
- Improve quality
- Increase production efficiency by 25%**

- Empowers the industry workers and engineers
- Provides insight into complex production processes
- Provides easy and fast access to production data
- Automates the building of machine learning algorithms
- Using SCADA data to automatically build an asset model
- Detects anomalies in near real-time
- Enables fast and efficient root-cause analysis
- Integrates easily with your existing industrial control systems and historians.

## Why Intelecy?

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You could buy a generic data science platform and hire expensive consultants to build your own custom machine learning algorithms.

Or you can get started immediately by using Intelecy to continuously improve your production and keep and strengthen the experience and production insight in your company.



**Compliance and environmental**

Many industrial companies have ambitious goals to have more sustainable production. In order to meet these goals informed decisions need to be made and changes need to be implemented.

What if you could identify, predict and prevent wastage of energy?  
 What if you could predict leakages, emissions or accidents?

An Intelec customer built an accurate forecast model to predict the temperature of the wastewater 60 minutes into the future. This model helped the customer reduce the impact on the local wastewater system and to stay within compliance with national regulations.

Cleaner



**Vibration monitoring**

A classic way of doing predictive maintenance is to use vibration monitoring on large rotating equipment. With Intelec anomaly detection you can learn the exact vibration pattern on your equipment, and it will be able to recognize different modes of operations or even different “products” going through the mill, dryer, crusher, separator or other equipment.

An Intelec customer had a large motor that was “suddenly” vibrating more even though the speed, temperature and other parameters are “normal”. The root-cause of this behavior can be mechanical issues inside the motor, mechanical issues outside or surrounding the motor or it can be the load attached to the motor to name a few. Intelec Anomaly detection identified the suspicious pattern and made it easy for the engineer to identify what was causing this and to decide if the motor needs maintenance or not.

Safer



**Not optimal or stable controller**

PID controllers are the most common method of feedback loop in automation systems. However they are often the cause of poorly optimized process as they are notorious being misconfigured or not being reconfigured as the process change over time.

An Intelec customer used Intelec to monitor a critical high-pressure pump and discovered that the pump used 30 minutes to reach the targeted setpoint. This could lead to reduced lifetime of equipment, failure to meet quality standards and wasted energy.

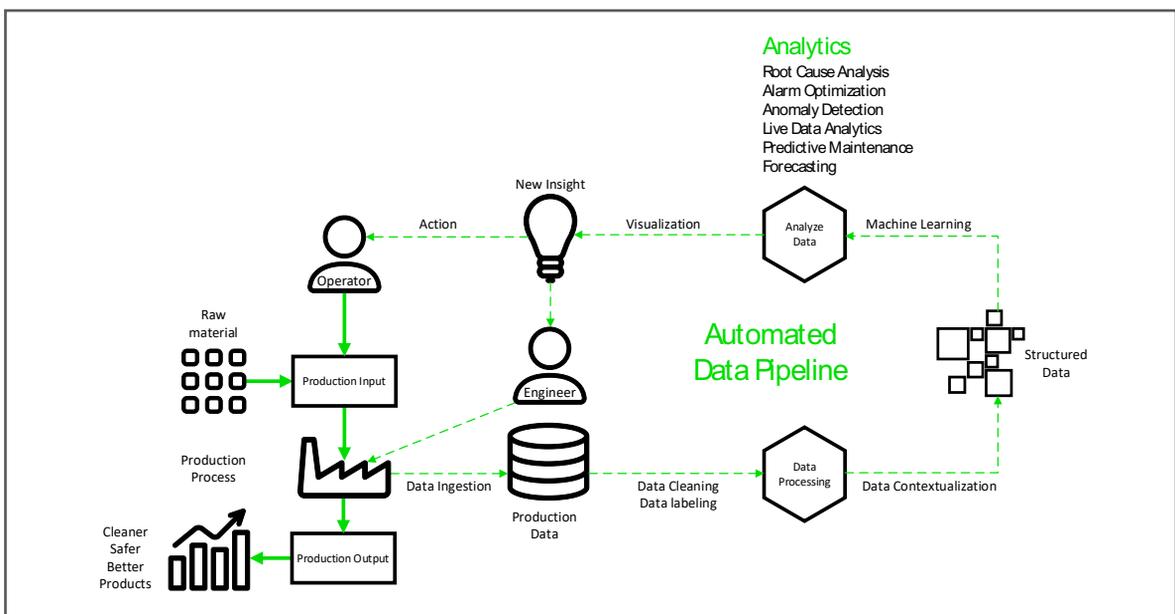
The customer found this behavior using the standard anomaly detection feature. It was previously unknown behavior to the customer, even though it had been underperforming for 3 months. The customer fixed this problem the same day by tweaking the PID-parameters.

More efficient



# Advanced manufacturing through data analytics and intelligent insights

Innovation and advances in technology can help to increase productivity at factories. The advent of Industry 4.0 is visible on the factory floor where sensors have been installed to collect production data. The question now is what to do with all this information. With Intelecy as a tool you will allow the modern factory to integrate existing data acquisition systems and identify bottlenecks in the production process.



**Everyone can use AI – no coding or prior AI knowledge is required**

Intelecy is making Artificial Intelligence (AI) easy to use and valuable for the mining, metals and minerals industry

**Fast onboarding of new Customer**

New customers onboarded in 1-2 weeks, from on-prem to cloud.

**Deep Integration with Industrial Control Systems**

- SCADA integration
- MES integration
- DCS integration
- OPC integration

