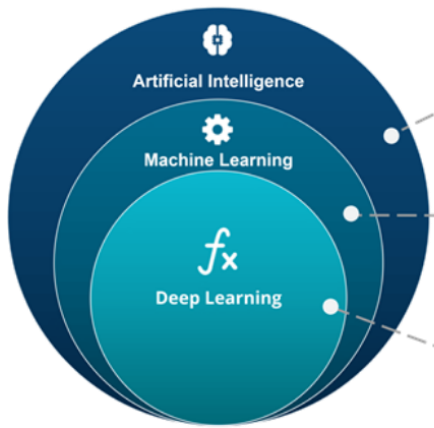




# ARTIFICIAL INTELLIGENCE (AI)

**Advanced analytics with help of AI enables us to thrive towards business automation, especially decision-making process. With help of AI we can make fast decisions and future predictions base on comprehensive analysis of complex data.**



**ARTIFICIAL INTELLIGENCE**  
A technique that enables machines to mimic human behavior.

**MACHINE LEARNING**  
Subset of AI technique which use statistical methods to enable machines to improve with experience.

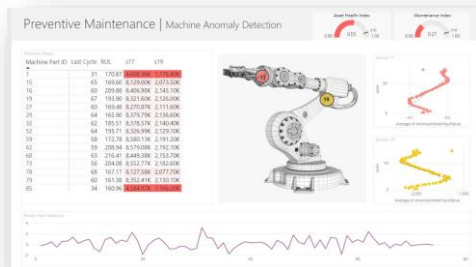
**DEEP LEARNING**  
Subset of ML which make the computation of multi-layer neural network feasible.

## Why customers use AI?

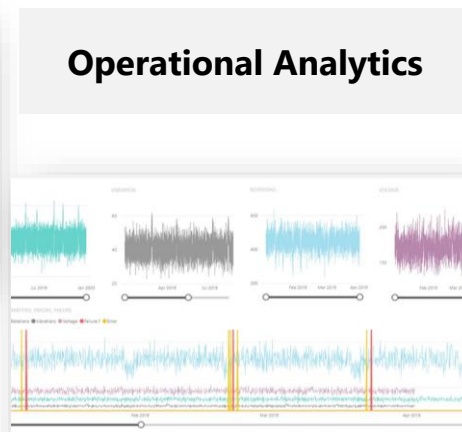
- To analyze big amount of complex data
- Better understand costumers & internal processes
- Thrive towards business automation
- Can make future predictions with different scenarios

**AI powered by ML and DL techniques teaches computers to do what comes naturally to humans – LEARN BY EXAMPLE and PREDICTS FUTURE EVENTS based on past experiences and influential factors.**

We at ADD are developing our AI expertise throughout Advanced cloud analytics projects since 2016. Our data science team focuses on developing advanced solutions to properly analyse Big data that customers receive from increasing number of data sources (sensors, devices, video/audio, networks, log files, transactional applications, web and social media, etc...). Some examples below:



**Digital Twin**



**Assets Health**

## Industry best cases

### Cross-Industry

*Creating machine learning models relevant for each industry.*

**Extract knowledge from texts – NLP** - correlations, opportunities...

**Time series analysis** - predict different short/long term series...

**Churn Analysis** - evaluation of a company's customer loss rate

**Engagement Analysis** - asses different type of usage of your product, web site, web store...

**Media, Social Analytics** - sentiment analysis (neutral, positive, negative)



### Manufacturing

*With more and more digitalized production companies the need to properly address all data they own is growing.*

**Predictive maintenance** – when maintenance activities should be executed to prevent machine failures

**Predictive scrap** – how to prevent or minimize the scrap

**Digital twin** – make analysis & what-if scenarios base on real-time digital counterpart of real production

**Quality Control** - Computer Vision, Sensorics, Automatic tests

### Retail/ Wholesale/ Omni channel

*Understanding customer behavior is the outmost important for Omni channel to be able to anticipate demand, plan logistic & stock levels.*

**Basket and POS analytics** – what sells together

**Customer / Supplier Analytics** - 360° view on customer / supplier

**User segmentation clustering** – Dynamic clustering and personalized offering

**Price elasticity** – Price forward curve

**Demand elasticity** – Demand forward curve

### Power & Utilities

*We help power generators, distributors, traders, and suppliers to learn from the past to predict the future.*

#### Load & Price Forecast

##### Load Analysis

- ✓ Bad Data Detection
- ✓ Non-technical Loss Detection
- ✓ Load Profiling

##### Load Forecasting

- ✓ General Forecasting
- ✓ Probabilistic Forecasting
- ✓ Forecasting with Individual Meters

##### Load Management

- ✓ Customer Segmentation
- ✓ Customer Characterization
- ✓ Demand Response Implementation

#### Smart Grid Optimization (BD & AI scenario)

##### Control Voltage and Power Quality (Preventive Action)

- ✓ Voltage Measurements
- ✓ Quality Calculation (SIST EN 50160)
- ✓ Detect Problematic Grid Areas
- ✓ Correlate Errors & Events
- ✓ Relate to Workers Activity
- ✓ Workers Efficiency
- ✓ Predict Event
- ✓ Prescribe Actions

##### Control Consumption Readings (Revenue Assurance)

##### Technical & Non-technical Losses (Losses Prevention)

- ✓ Detect Fraud (Front opened)