

PREDICTIVE INTELLIGENCE solution for **Data Fitness**

Precondition for Artificial Intelligence Analytics

For many years, we have executed successful Artificial Intelligence projects. However, often, at the beginning, it can be painful because for the first time in the company's history, data has been used for this kind of analytics. Unfortunately, over and over again, data is not "fit" for those complex mass data analytics.

There are three major aspects for data fitness:

- Reliable data availability
- Good data quality
- Performance on mass data which means fun to work with.

Therefore, we have integrated algorithms in our PREDICTIVE INTELLIGENCE which solve these problems.

Data Availability

In times of "Industry 4.0", machinery is "IoT enabled", meaning that machineries are equipped by the supplier with sensors and connectivity. For sure, this is better than adding sensors to your machinery individually. However, you cannot replace all your machinery, used in your factories, by "IoT enabled" machinery. Computers have a life span from a few years – but with industrial machinery, it's different. For example in steel industry, payback period can be up to 50 years! Of course, this is an extreme example.

However, old – and still good – machinery is used in factories. Thus, no automatic data delivery is possible.

What is the consequence? Installing sensors, realizing connectivity, many data sources need to be connected.

The more data sources you have, the more complicated it can be to ensure that all relevant data is available.

On the one hand, sensors can fail. On the other hand, sensors might deliver very good data, but connectivity to the database is not stable. Or even sometimes, databases can temporarily fail to work well.

At the end, data (small or big) is missing or is delivered in a delayed way.

As long as data is missing, for sure, analytics cannot be that reliable, anymore.

This is not only true for the exact time period when data is missing, but also for neighboring periods. Often, even partial analysis is not possible, anymore.

The only thing you can do is to make sure that missing data can be synchronized afterwards. This increases server load significantly.

Solution: Fast Transparency

On the one hand, algorithms detect quickly which data is missing. Live messages are sent to the responsible people. Here, they can see exactly which data is missing.

And on the other hand, algorithms discover reasons for missing data.

This ensures fast transparency and also fast reaction time for problems solving.

The problem does not accumulate, but is nipped – almost – in the bud.

Thus, additional load on operative system is low.

Data Quality

Processes, i.e. in production, are often complex due to high variant diversity. For example, a huge number of different products is produced.

Therefore, production values change between production lines, between working stations and products. Consequently, data must be assessed for each single part, individually.

If data is available and good for component X, produced in production line 1, it does not mean that data is good for the same component X, produced in another production line.

Solution: Semantic Check

The solution is given by a so-called “Semantic Model”. It checks data quality use case specific.

There are automatic semantic checks which use live messages to inform about problems. Here, too, reasons for those problems are discovered.

Thus, you can also nip problems in the bud: Get transparency quickly and solve the problem quickly.

Conclusion: Good data is possible, using algorithms which inform us humans use case specific.

Performance

Often, Artificial Intelligence analytics uses a lot of data.

Even if AI delivers good results: Acceptance of a Data Analytics Tool depends on the time period, the user has to wait until the results are calculated.

Whether you have a data lake – or only a “data pond”: Fast access to relevant data is essential.

Solution: Targeted Data Transformation

PREDICTIVE INTELLIGENCE does not keep mass of data redundantly, but accesses it from – different – sources.

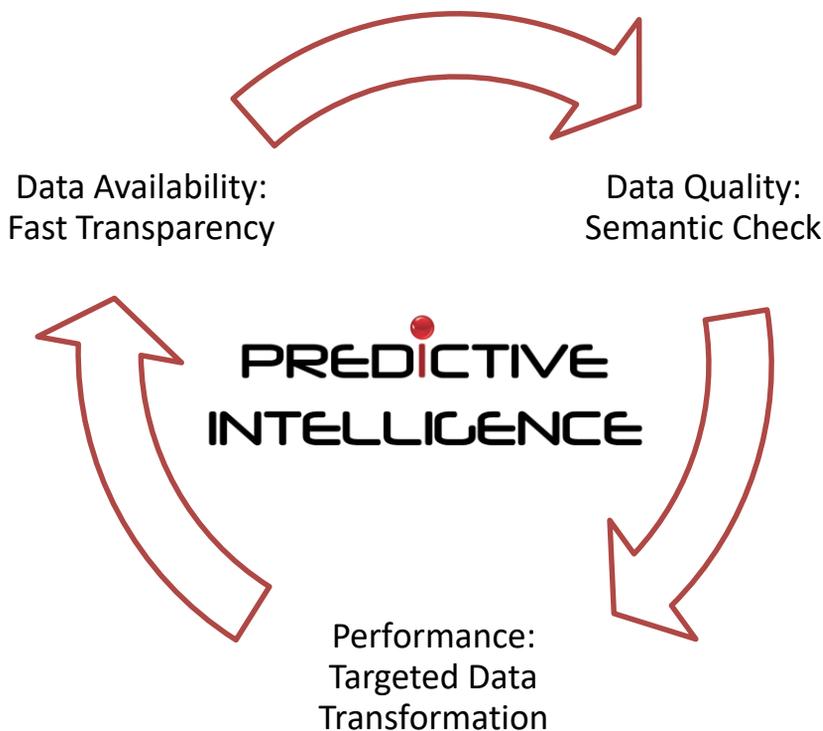
Only a small part of data is saved redundantly, if necessary; but before doing so, data is transformed.

The key word is “Targeted Data Transformation”, a target-oriented data processing which reduces query duration in user cockpits to a minimum.

In this way, you can work efficiently with your data – even if you analyze large time periods.

In addition, server load is minimized.

The biggest compliment, a client can give us in this context, is: “I really have fun working with PREDICTIVE INTELLIGENCE.”



About IS Predict GmbH

IS Predict GmbH helps organizations to get the best business value out of digitalization and data analytics. Self-learning Artificial Intelligence solution PREDICTIVE INTELLIGENCE enables customers to optimize their processes in a predictive way – avoiding inefficiencies before they occur.

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