JAGGAER
Procurement Simplified

Artificial Intelligence in Procurement

How will AI influence your future procurement processes?

Diya Nasereddin – Account Director

© Copyright 2019 Jaggaer – All Rights Reserved

Agenda

1. Facts & Figures about JAGGAER
2. What AI is and what it isn‘t
3. Deployment areas for AI in procurement
4. How JAGGAER uses AI
5. Developments resulting from the use of AI

2,000+ Customers

185 New Customers
in 2018

$ 250 Million
Revenue globally

4 Million Suppliers
on the Platform

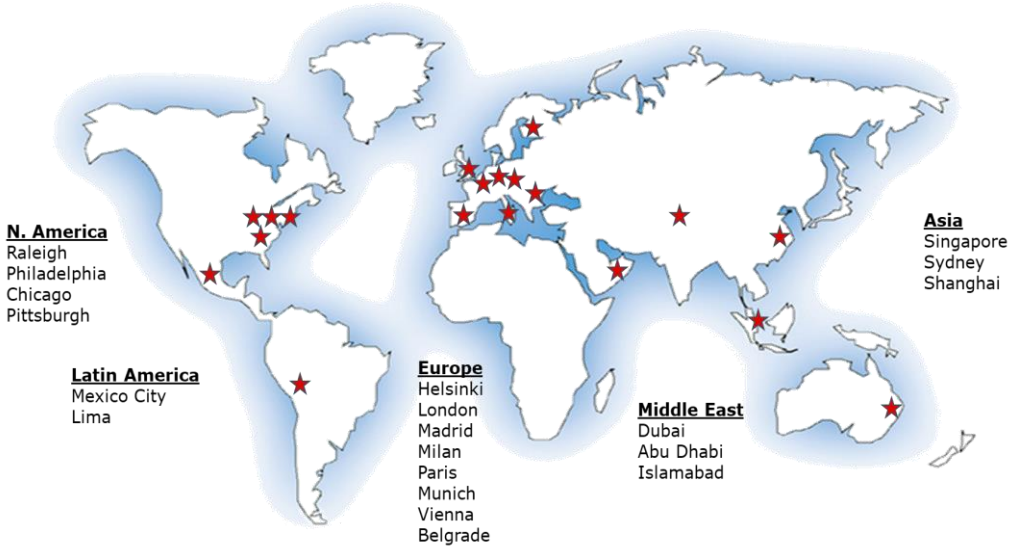
3 Million Users
Across Industries, Manufacturing, Financial Services, CPG, Retail & Life Sciences

20+ Years
Dedicated to Spend Management

1,200+ Employees globally
Offices in North America, Europe, Middle East, Australia and Asia

38 Patents
Dedicated to Spend

Global Leader in End to End Spend Management Solutions



A Recognized Leader

Leader in Magic Quadrants for Strategic Sourcing and P2P

Gartner

IDC Marketscape Leader in 4 reports

IDC Analyze the Future

Spend Matters' "50 Providers to Know"

5th Year in a Row

50 TO KNOW 2018 Spend Matters ALMANAC

JAGGAER has been positioned as a leader in Gartner's Strategic Sourcing Suite Magic Quadrant for four consecutive reports.

Gartner peerinsights customers' choice 2018

Gartner Peer Insights Customers' Choice Strategic Sourcing Application Suites 2018

Wave for eProcurement, SRPM, CLM

FORRESTER®

JAGGAER's Vertical/Industry Strategy:

"Vendors that understand the buy-side processes, challenges, and requirements of your industry can bring more value than a generic vendor." – Forrester

The JAGGAER ONE Spend Management Platform

Trusted Worldwide

JAGGAER

Manufacturing	Distribution	Life Sciences	Education	Public Sector	Healthcare	CPG	Retail
Rolls-Royce	UPS	ThermoFisher Scientific	Oregon	Office of Rail and Road	Express Scripts	P&G	Staples
Bosch	Transplace	Ecolab	University of Miami	highways england	Dignity Health	Kraft Heinz	Save a lot food stores
Honeywell	Grainger	Bristol-Myers Squibb	University of Dayton	Government of Dubai	St. Jude Children's Research Hospital	Unilever	Wendy's Quality Supply Chain Co-op, Inc. QSCC
Siemens Ingenuity for life	DHL	AstraZeneca	Rutgers	NSW Government Department of Industry	Premier	pepsi	Lowe's
amcor	Con-way	Allscripts	University of California	Department for Work & Pensions	HCA	Nestle	Michaels

© Copyright 2018 Jaggaer – All Right Reserved

Agenda

1. Facts & Figures about JAGGAER
2. What AI is and what it isn’t
3. Deployment areas for AI in procurement
4. How JAGGAER uses AI
5. Developments resulting from the use of AI

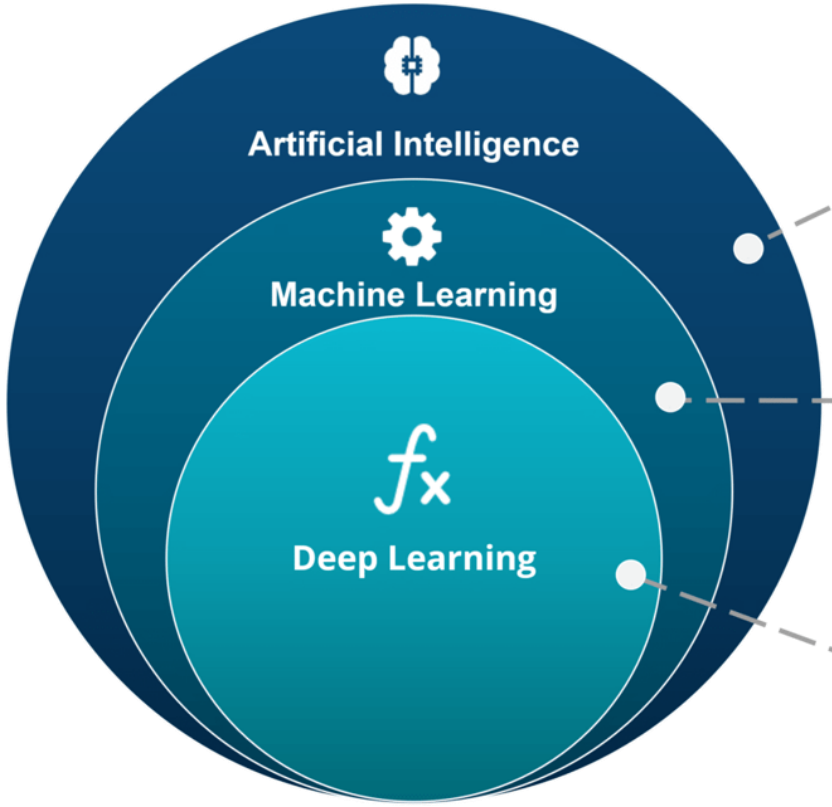
What AI is

- **Artificial intelligence (AI)**, sometimes called machine intelligence, is **intelligence demonstrated by machines**, in contrast to the natural intelligence displayed by humans.

- Colloquially, the term “artificial intelligence” is often used to describe **machines that mimic cognitive functions** that we associate with the human mind, such as learning and problem solving.

(Source: Wikipedia)

AI / Machine Learning / Deep Learning



ARTIFICIAL INTELLIGENCE
A technique which enables machines to mimic human behaviour

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

Strong / Weak AI

Strong AI:

- The aim of strong AI (also **super intelligence** or general AI) is to acquire or surpass **the same intellectual skills** as human beings.
- Strong AI does not just behave reactively, but also on its own initiative, intelligently and flexibly.
- As of today, it has not yet been possible to develop strong AI.

Weak AI:

- Weak (or narrow) AI refers to systems that focus on **solving specific application problems**, based on the methods of mathematics and computer science, which are specially optimized for the relevant requirement.
- **All currently existing systems fall within the category of weak AI.**

Data in AI

There is no DATA
like **more** DATA

Examples of AI

Recommendation systems

e.g.: Amazon, Spotify, Netfix

Natural language processing (NLP)

e.g.: Alexa, Siri, Cortana

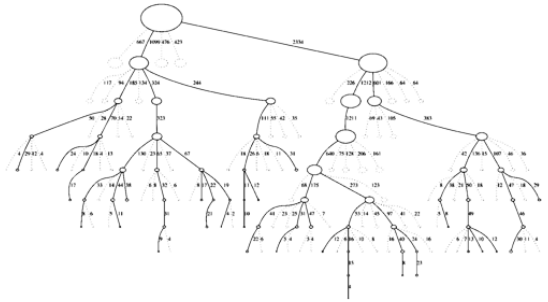
Computer vision and pattern recognition

e.g.: OCR, error recognition

4 Waves of AI

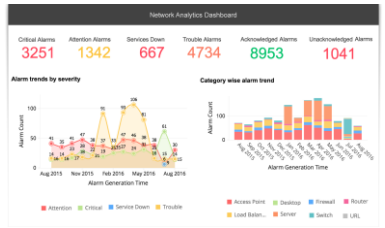
2015
2015 Fourth wave: applications for automation
TESLA
UBER
WAYMO
MOMENTA
UISEE
2011
2011 Third wave: applications for the physical world
amazon echo
Face++
旷视
小鱼在家
amazon go
2004
2004 Second wave: applications for businesses
Palantir
IBM Watson
ELEMENT AI
4Paradigm
LAYER 6 AI
Yi
1998
1998 First wave: applications for Internet companies
amazon
網易 NETEASE
du
淘
JD.COM
秀
美团 meituan.com
头条

Examples of what **is not AI**



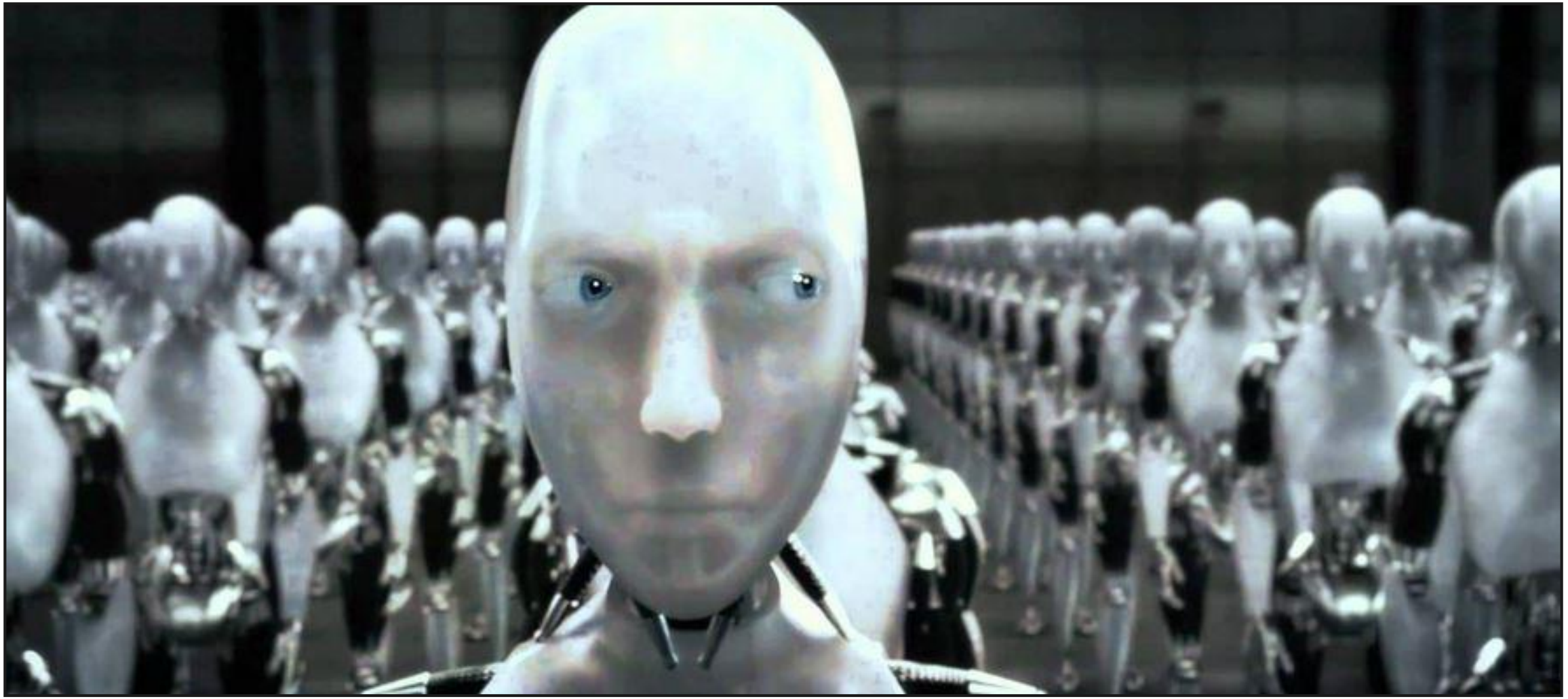
Decision trees

Statistics



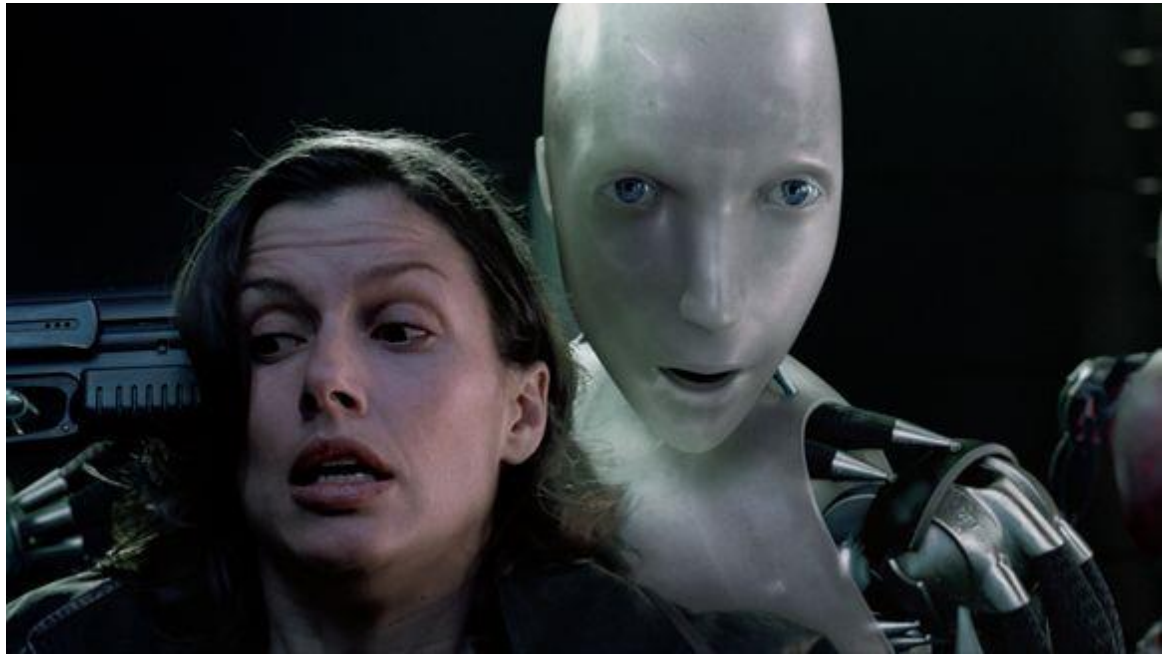
Data analytics

Common (mis)conceptions when AI is spoken about



Fears related to AI

- The movie industry presents AI in a negative way in blockbuster films
- Fear that jobs will be lost
- Fear of the unknown: technology is not understood
- Ethical questions, to which there are no simple answers, often provoke rejection
- Fear that human errors could turn machines against us, using AI - *Value Alignment Problem*
- … and many other objections



Agenda

1. Facts & Figures about JAGGAER
2. What AI is, and what it isn‘t
3. Deployment areas for AI in procurement
4. How JAGGAER uses AI
5. Developments resulting from the use of AI

Areas where AI can be deployed in procurement

Process automation:

- Spend management
- Contract management
- Invoice checking
- Negotiation management

Recommendations:

- Supplier management
- Award decisions
- Category strategy
- Actions (supplier development)

User guidance:

- Smart assistants
  - Customers
  - Suppliers

Predictions:

- Spend
- Risk management
- Supplier reliability (OTD)

Agenda

1. Facts & Figures JAGGAER
2. What AI is, and what it isn‘t
3. Deployment areas for AI in procurement
4. How JAGGAER uses AI
5. Developments resulting from the use of AI

JAGGAER & AI

Process automation:

- Spend management
- Contract management
- Invoice checking
- Negotiation management

Recommendations:

- Supplier management
- Award decisions
- Category strategy
- Actions (supplier development)

User guidance:

- Smart assistants
  - Customers
  - Suppliers

Predictions:

- Spend
- Risk management
- Supplier reliability (OTD)

JAGGAER & AI

Process automation:

- Spend management
- Contract management
- Invoice checking
- Negotiation management

Recommendations:

- Supplier management
- Award decisions
- Category strategy
- Actions (supplier development)

User guidance:

- Smart Assistant
  - Customers
  - Suppliers

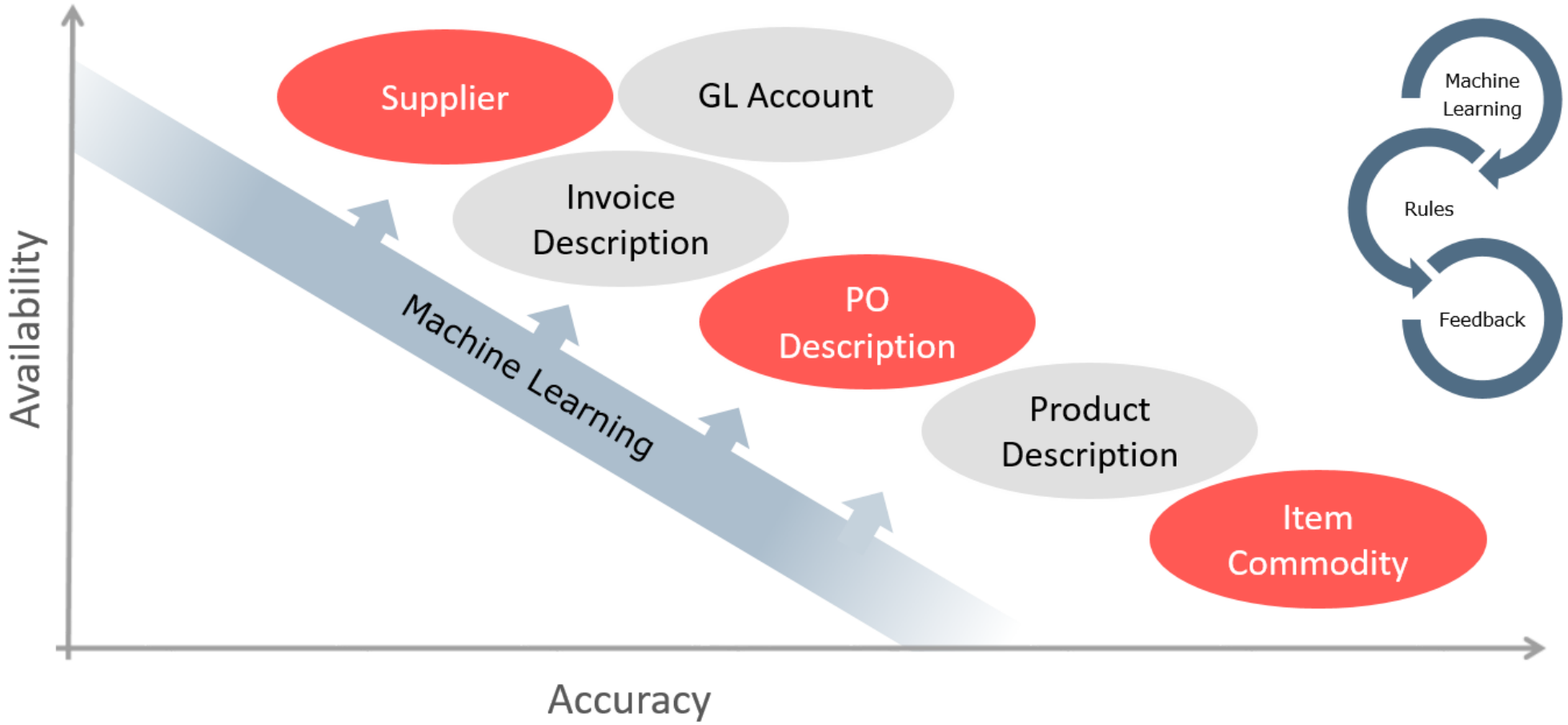
Predictions:

- Spend
- Risk management
- Supplier reliability (OTD)

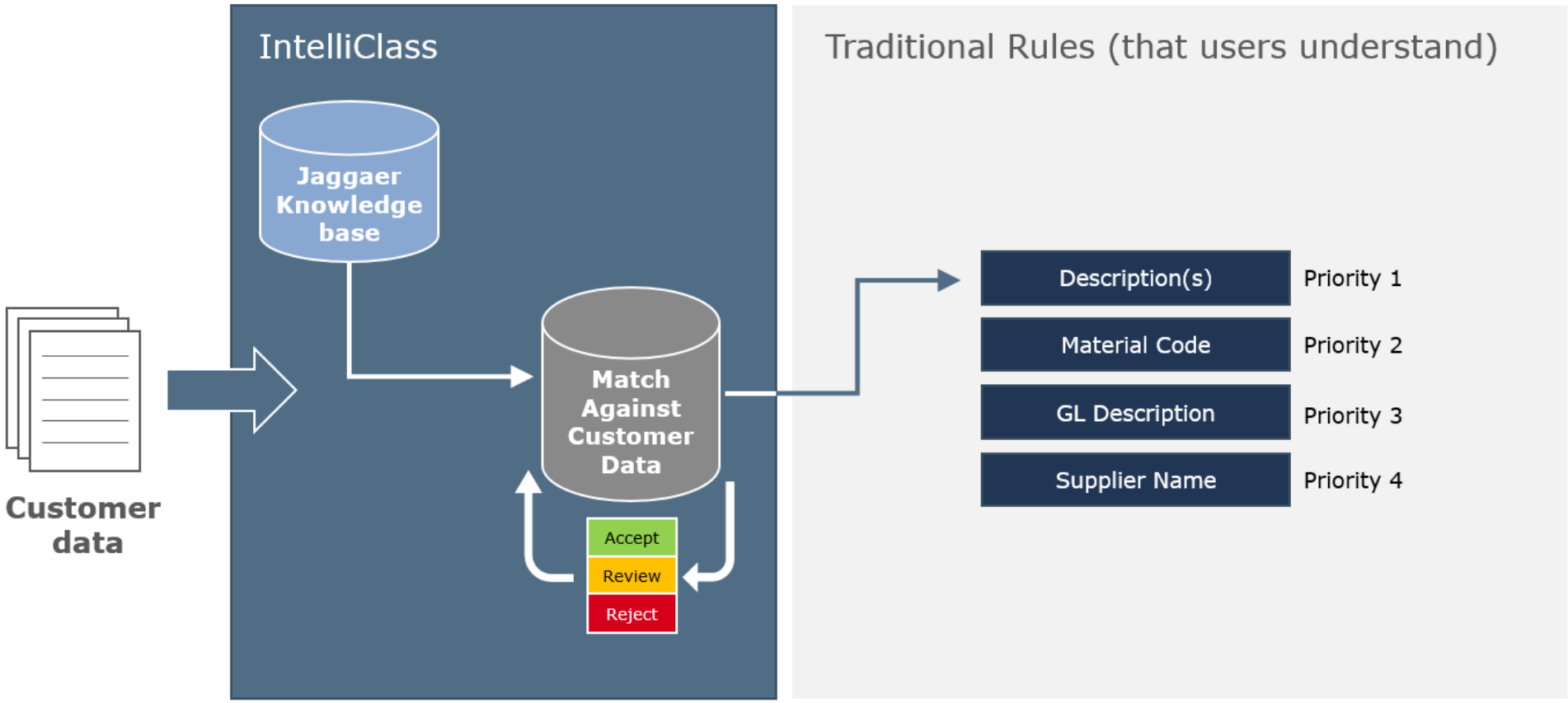
Spend Management

JAGGAER

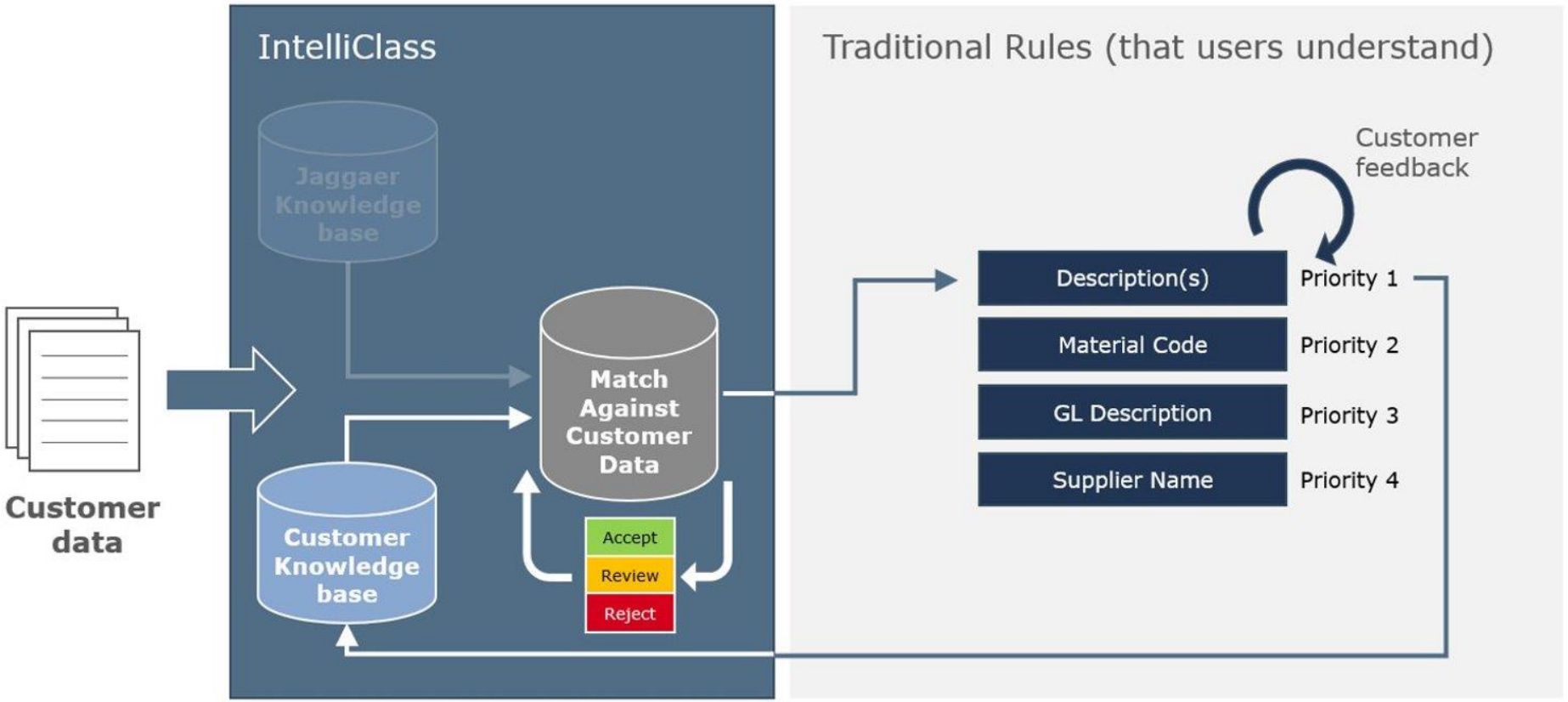
Spend management



Spend management



Spend management



SMART Assistant

SMART Assistant

Help

Answers the most asked questions in a predefined FAQ

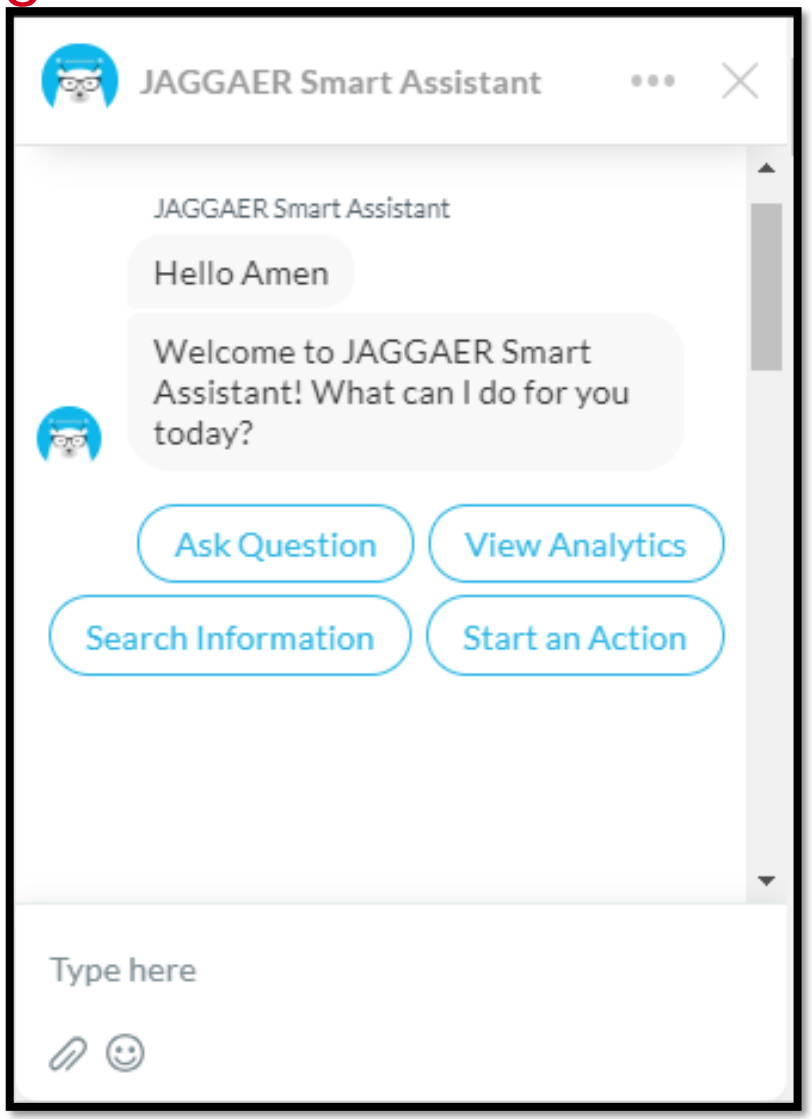
Assist

Assists the users in searching and taking actions via contextual conversations

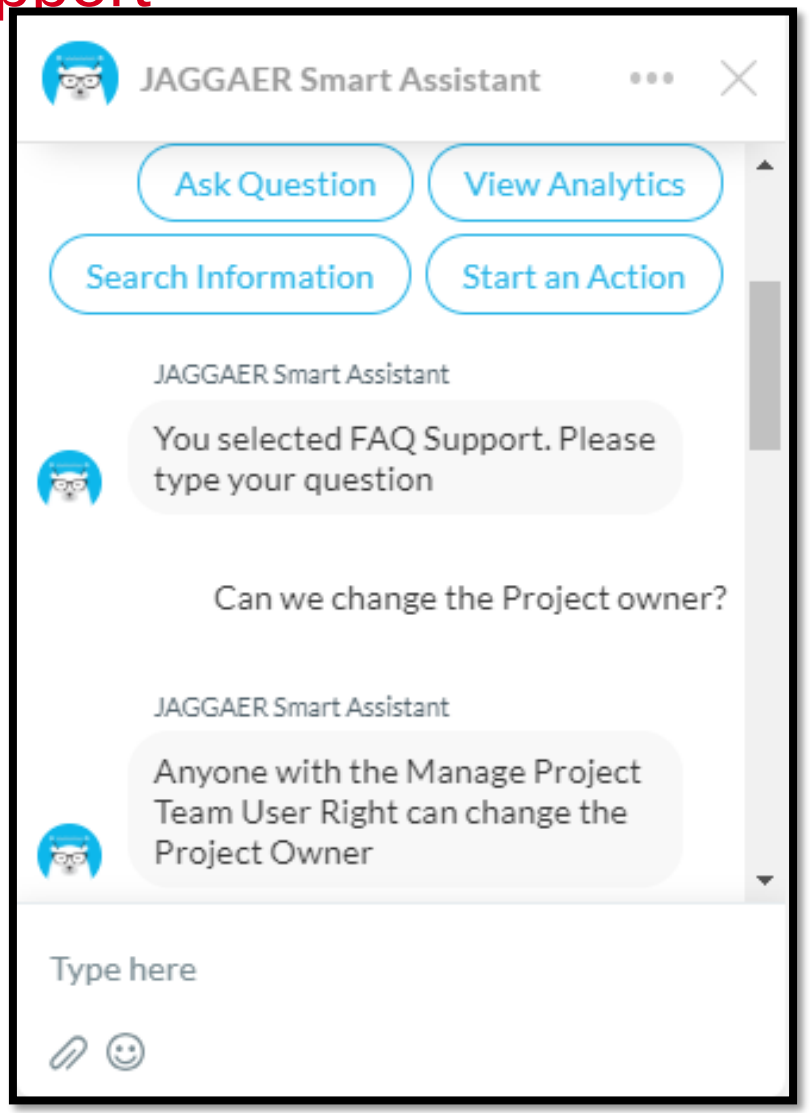
Act

Anticipates and acts in advance of phase

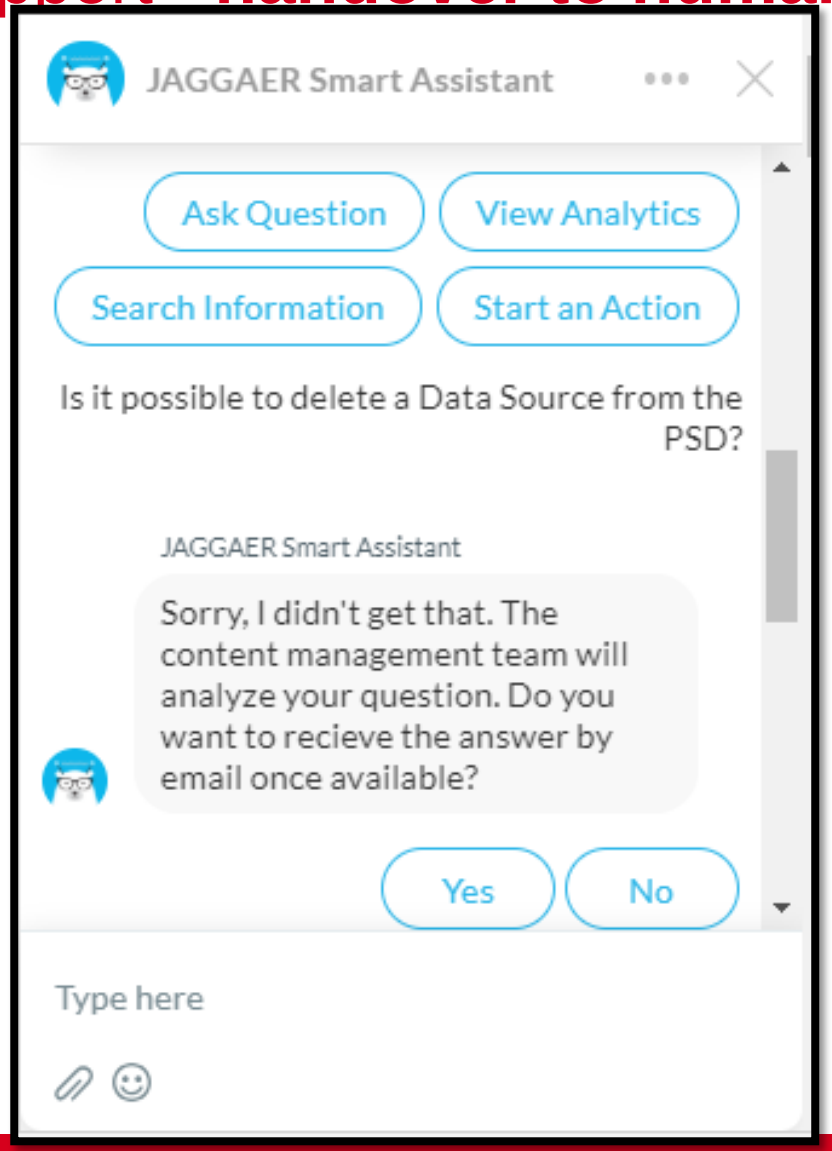
Example flow - Welcome



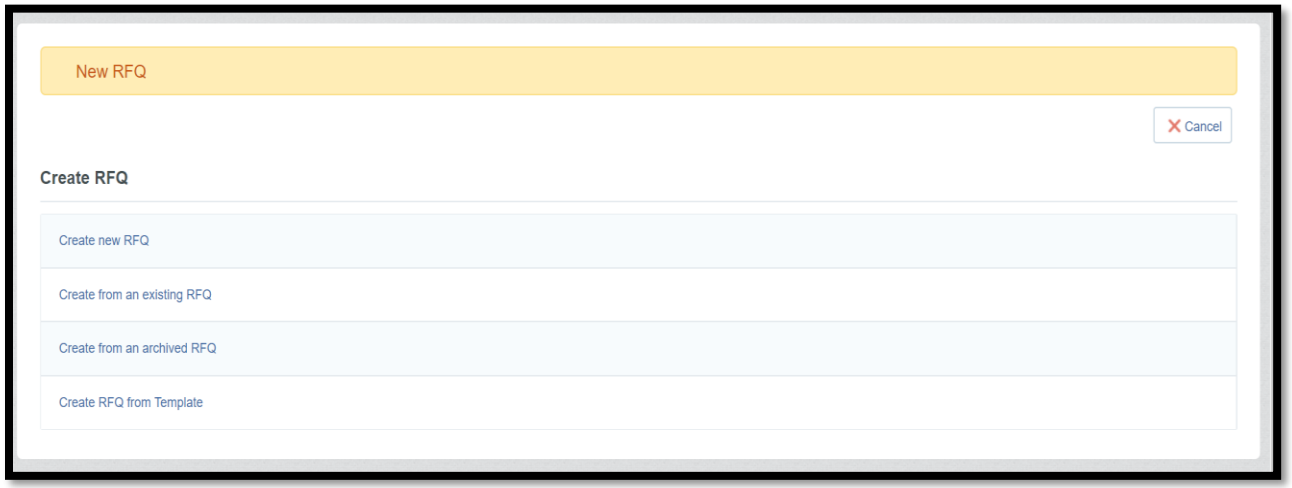
Example flow– FAQ Support

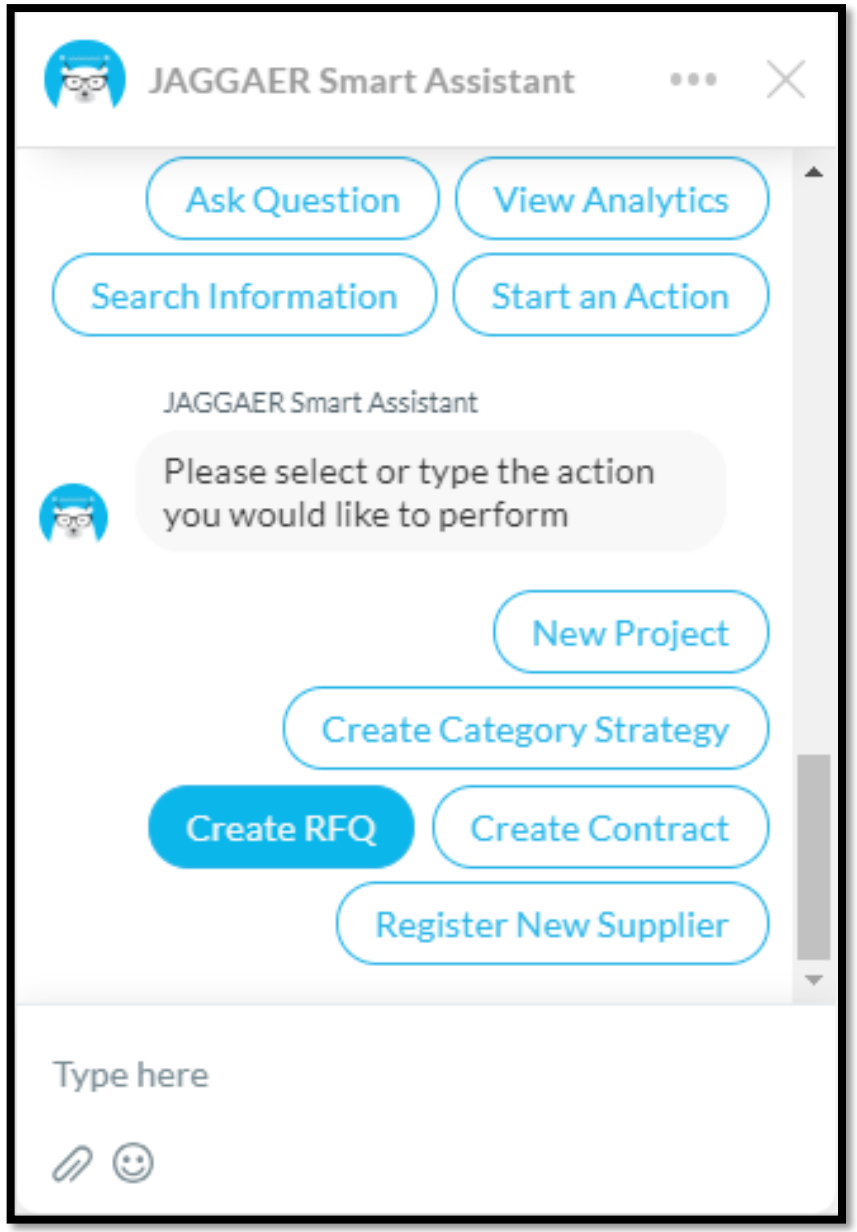


Example flow– FAQ Support - **handover to human**

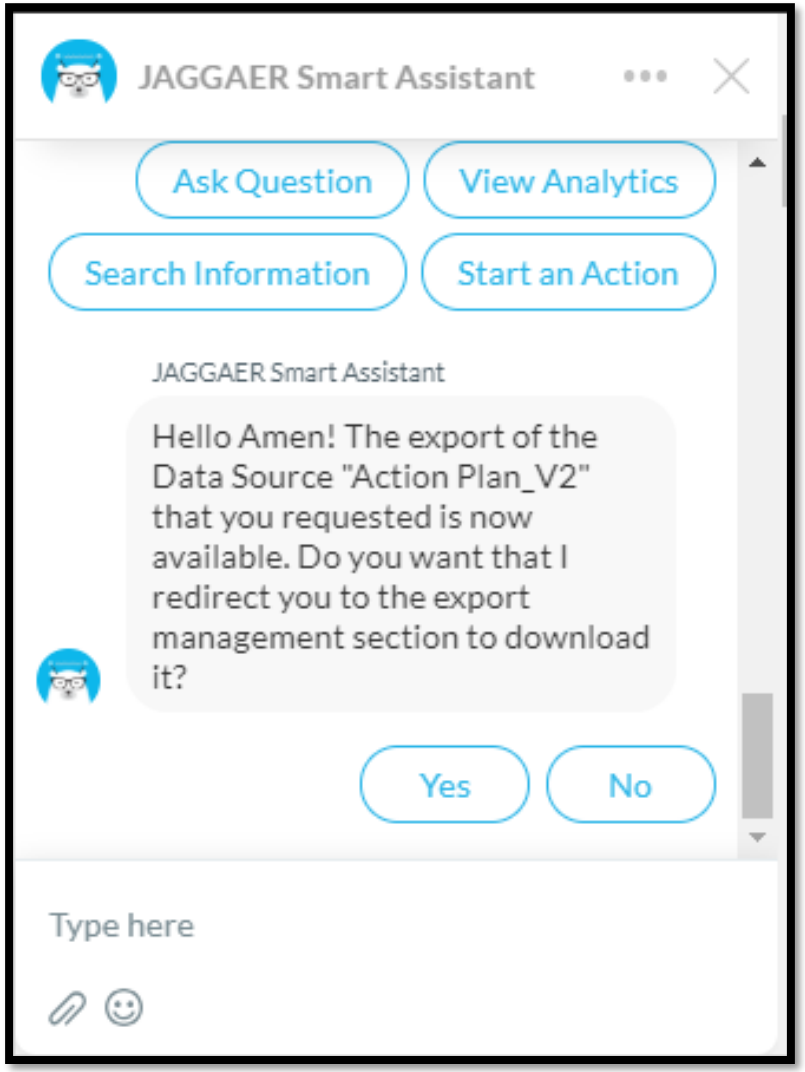


Example flow – Take an action



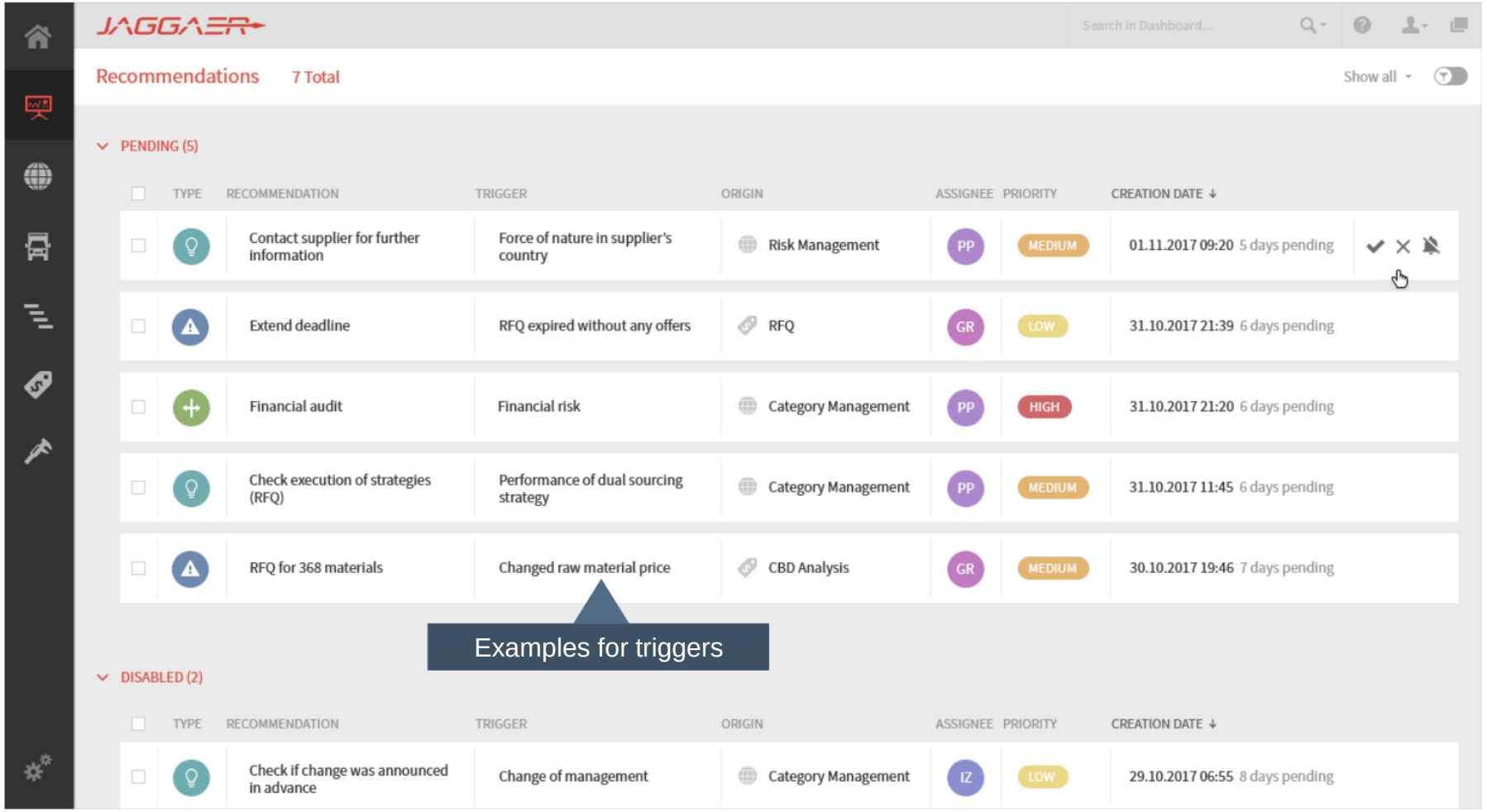


Example flow – Export notification



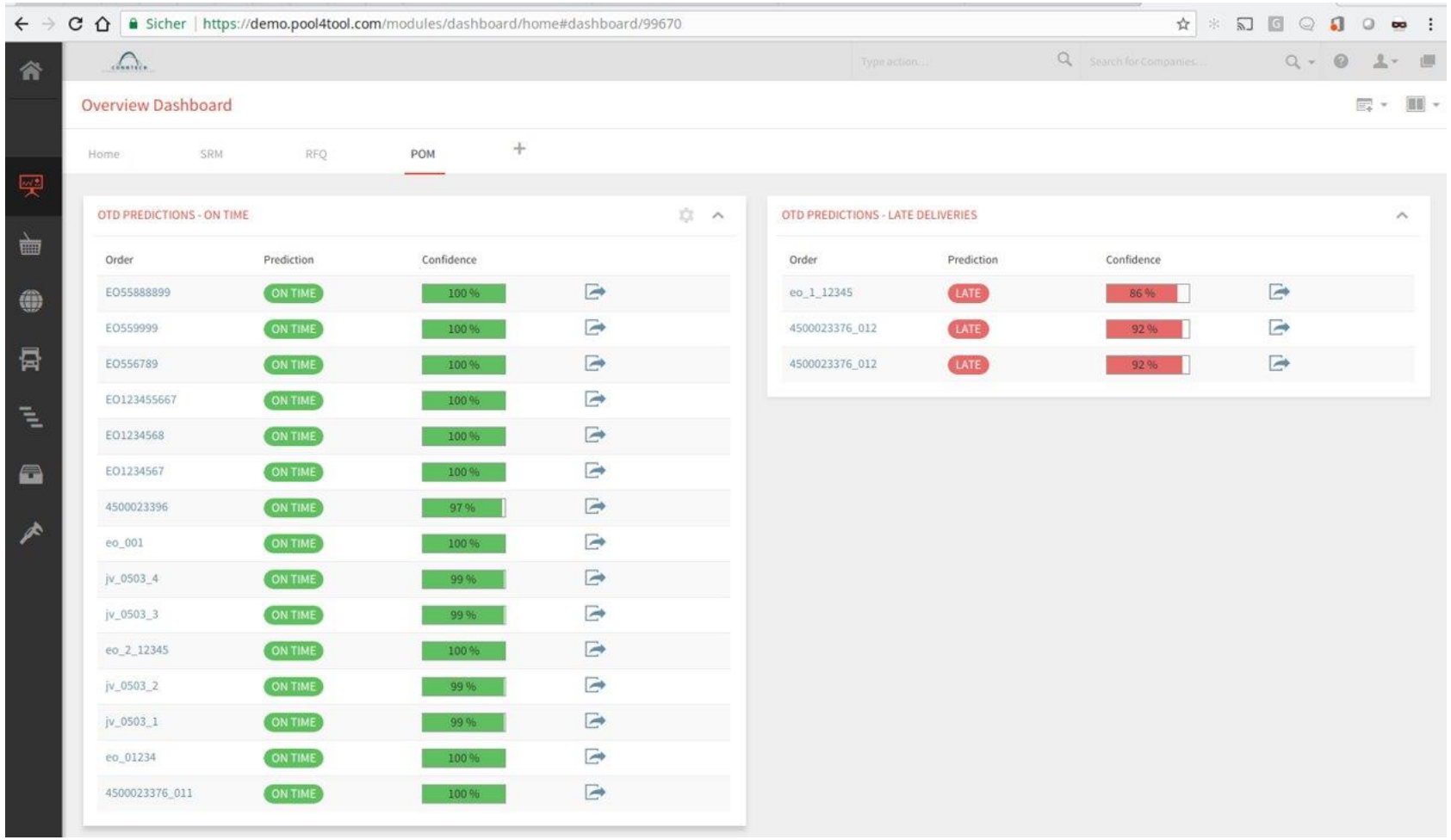
Recommendations

Recommendations

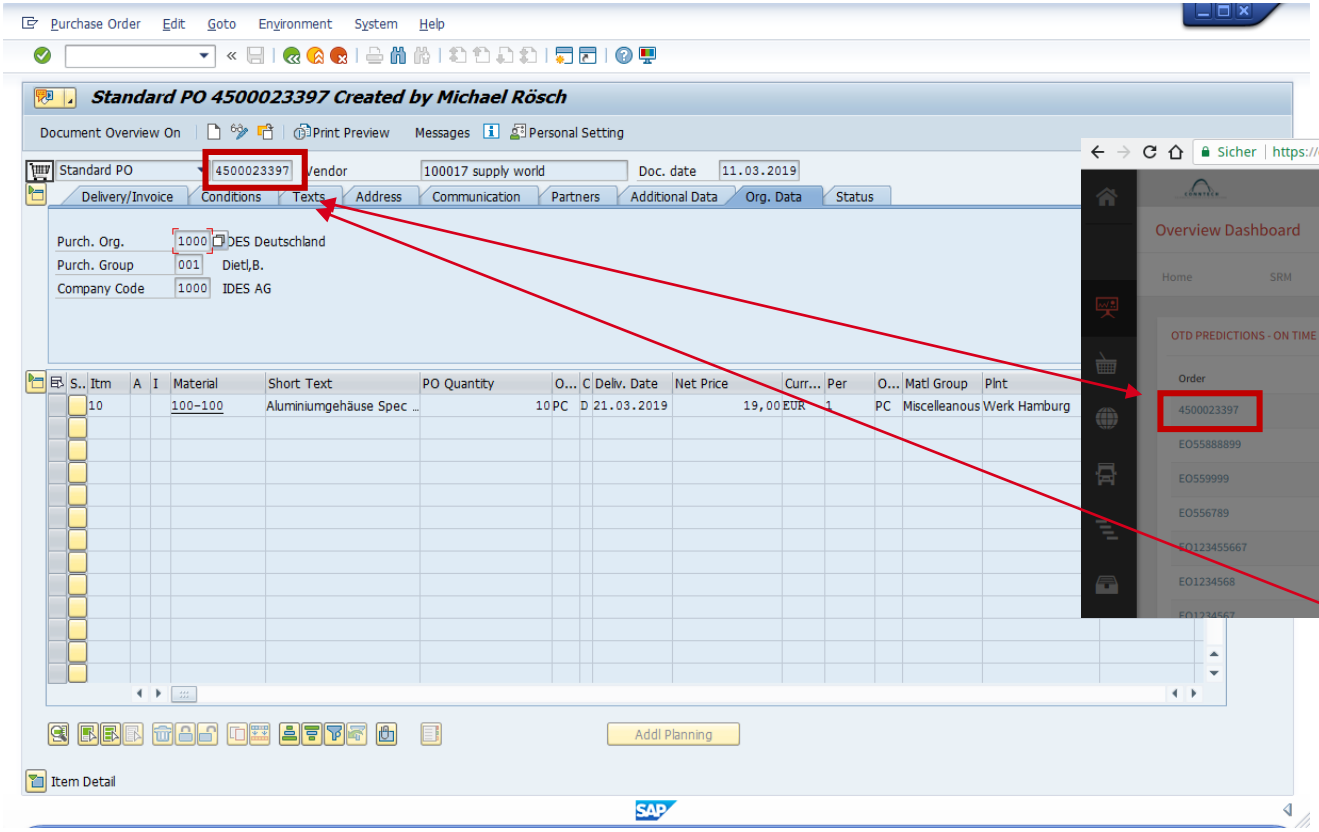


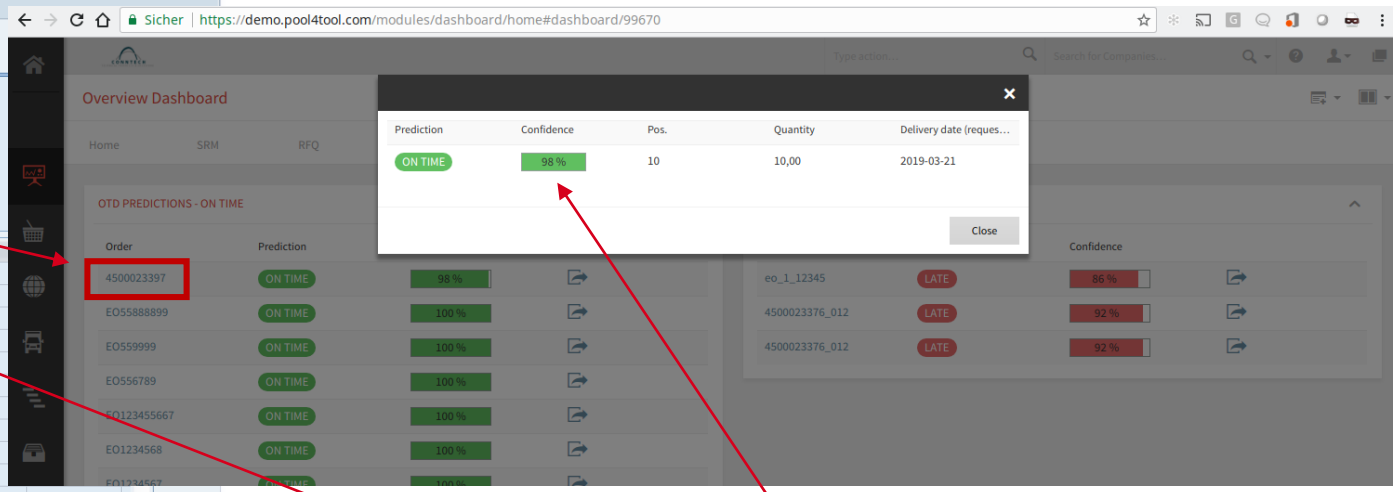
Predictions

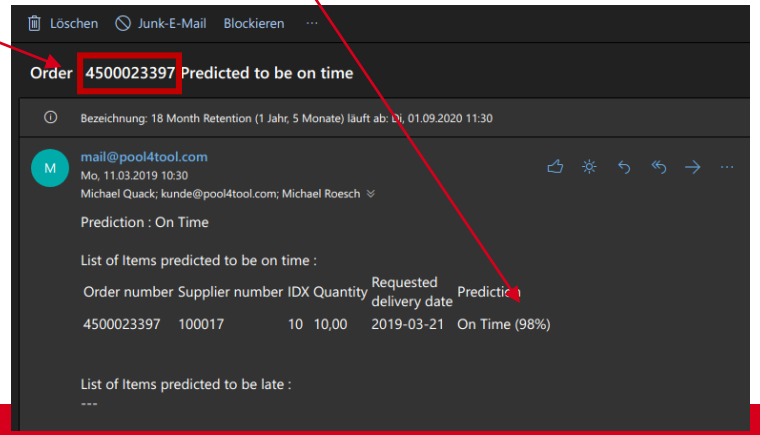
Forecasting: OTD predictions



Forecasting: OTD predictions

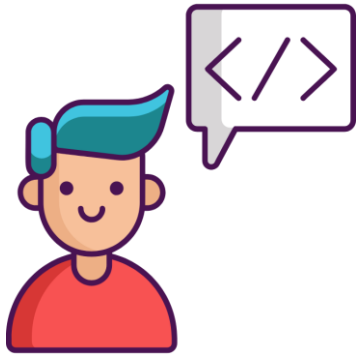






Forecasting: OTD predictions

Forecasting: OTD predictions



Increase productivity

Should rely on existing data

Ideally bring in value

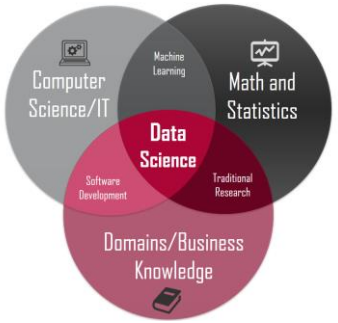
Forecasting: OTD predictions

Data mining

Data Science

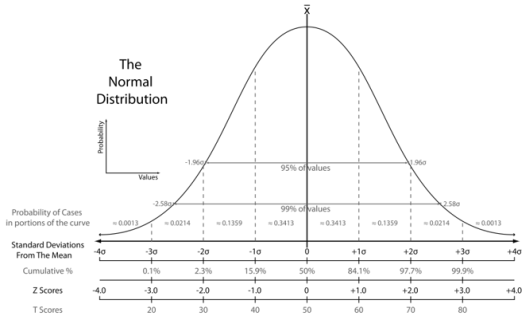
Extracting data from internal database / external sources

Joint operation of a person with knowledge of business and IT



Normalizing data

Bringing features to the same scale



Finding relevant features

We should not be concerned with the concrete instance but the pattern

Forecasting: OTD predictions

Training

Evaluation

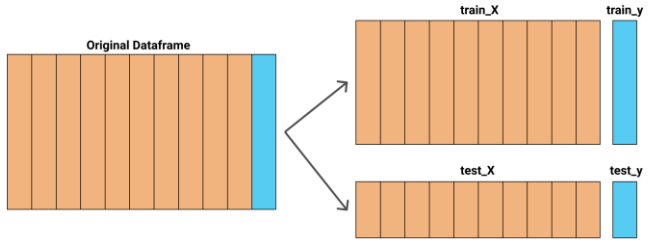
Supervised

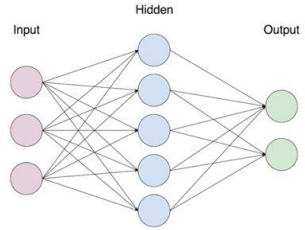
Training

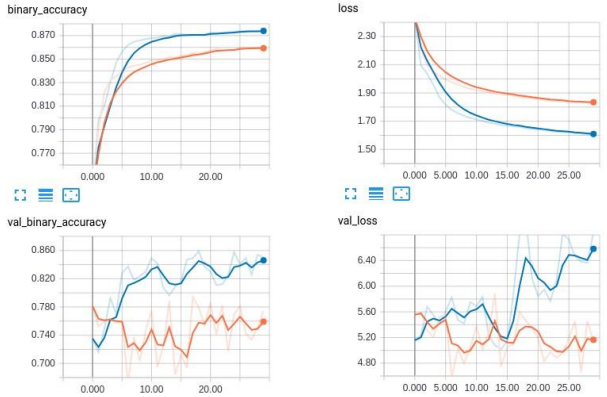
Train – Test Split

Evaluation

We have to be able to measure the quality of predictions

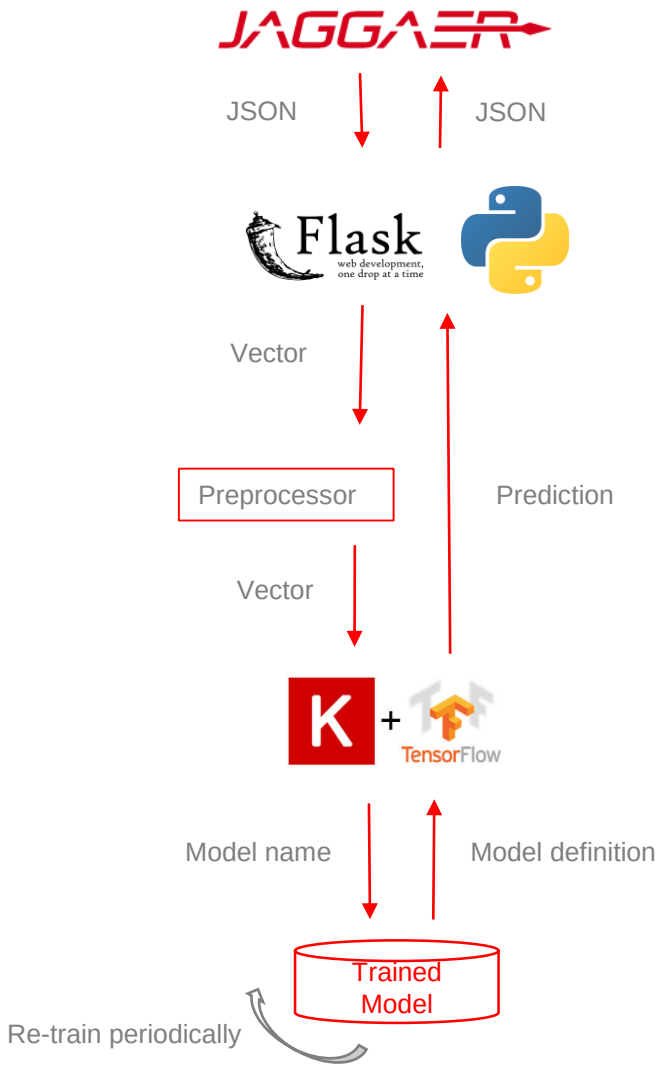


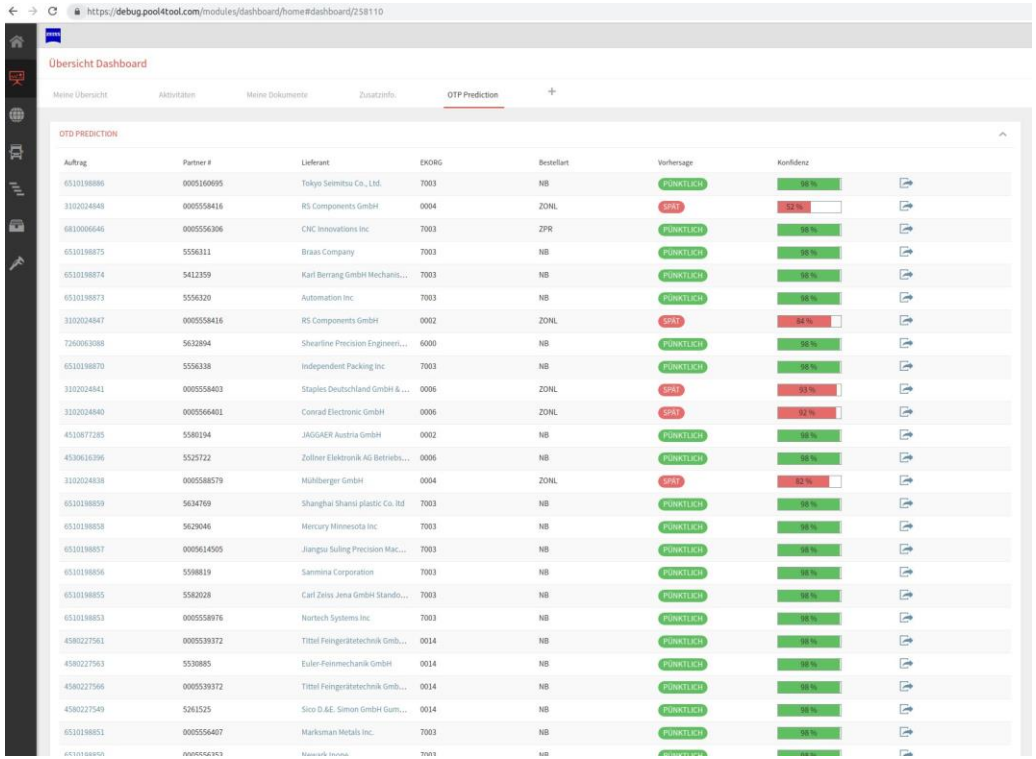




Forecasting: OTD predictions

Production





Agenda

1. Facts & Figures about JAGGAER
2. What AI is, and what it isn‘t
3. Deployment areas for AI in procurement
4. How JAGGAER uses AI
5. Developments resulting from the use of AI

How will things develop further?

- Data will become even more decisive
- Tasks and roles will change
- The level of automation will increase continuously – autonomous systems will emerge
- People and machines will be most successful working together
- Communication: AI – people; AI - AI
- Industry 4.0: optimized with AI
- Two classes of company will emerge (with/without AI)

Questions?

JAGGAER

Procurement Simplified

© Copyright 2019 Jaggaer – All Rights Reserved