FAKTION LISA

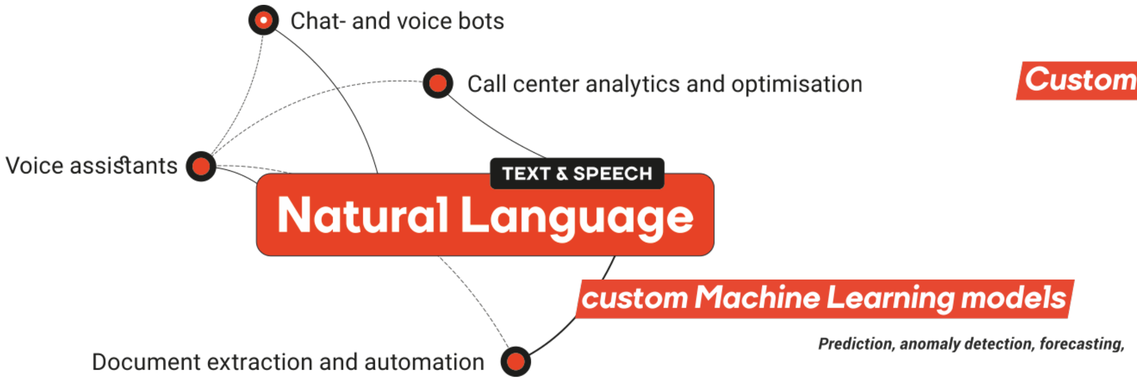
Language Intelligence Services for Automation

FAKTION
June, 2019

WE BUILD DEEP LEARNING, MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE SOLUTIONS

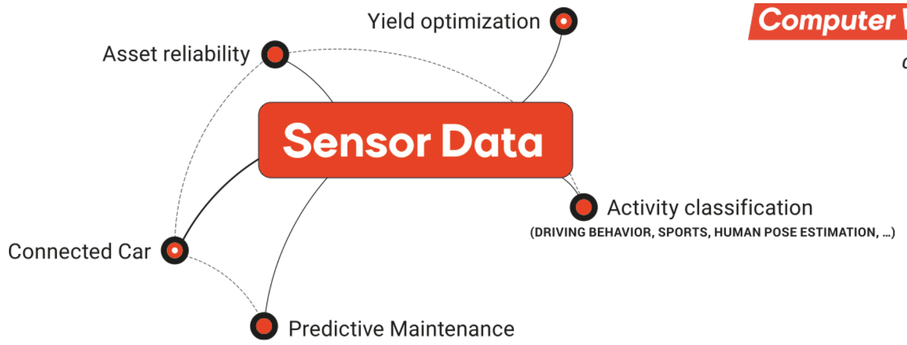
Artificial Intelligence is confusing. We know. Truth is, there is money to be made by selling hype. Contact us when you need a partner that delivers results instead.

FAKTION — “we put thought in everything”



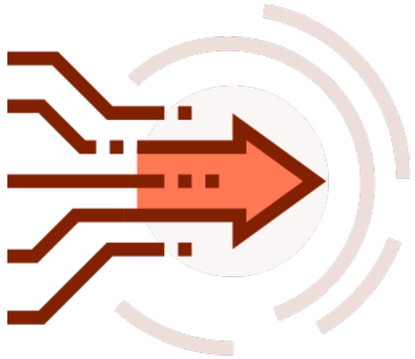
Faktion is an applied AI service provider.
We build custom software applications
with Machine and Deep Learning technology.

Due to the strong extent of our experience,
we share that by means of strategic consulting.



OUR BELIEF

At Faktion, we believe that both the content and context of spoken, handwritten and typed language can be perfectly understood by intelligent algorithms. This belief comes from years of research in the field of artificial intelligence, deep learning and computational linguistics.



OUR MISSION

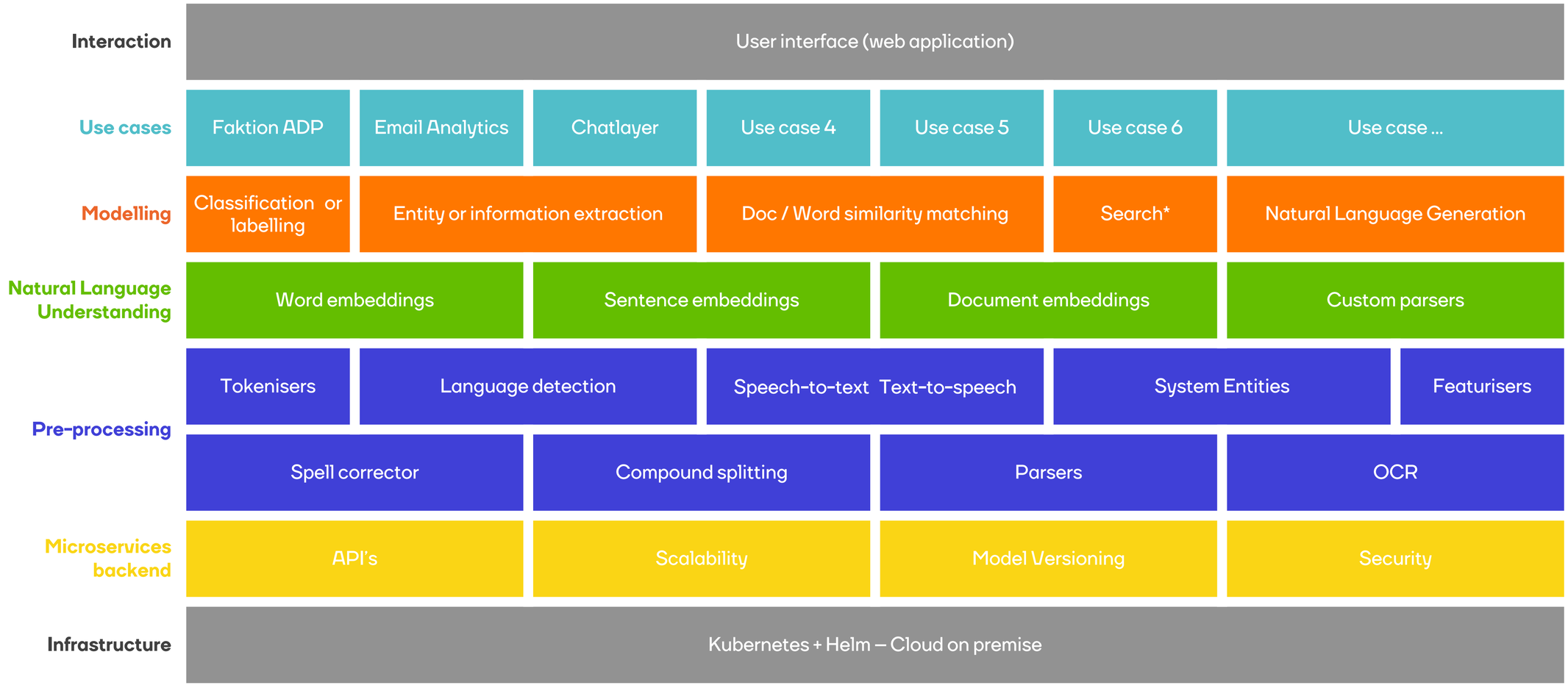
Our NLU solutions support intelligent process automation for the financial industry as we build an artificial intelligence model that is capable of interpreting, enriching, and understanding natural language.

HOW

YOU CAN GET STARTED

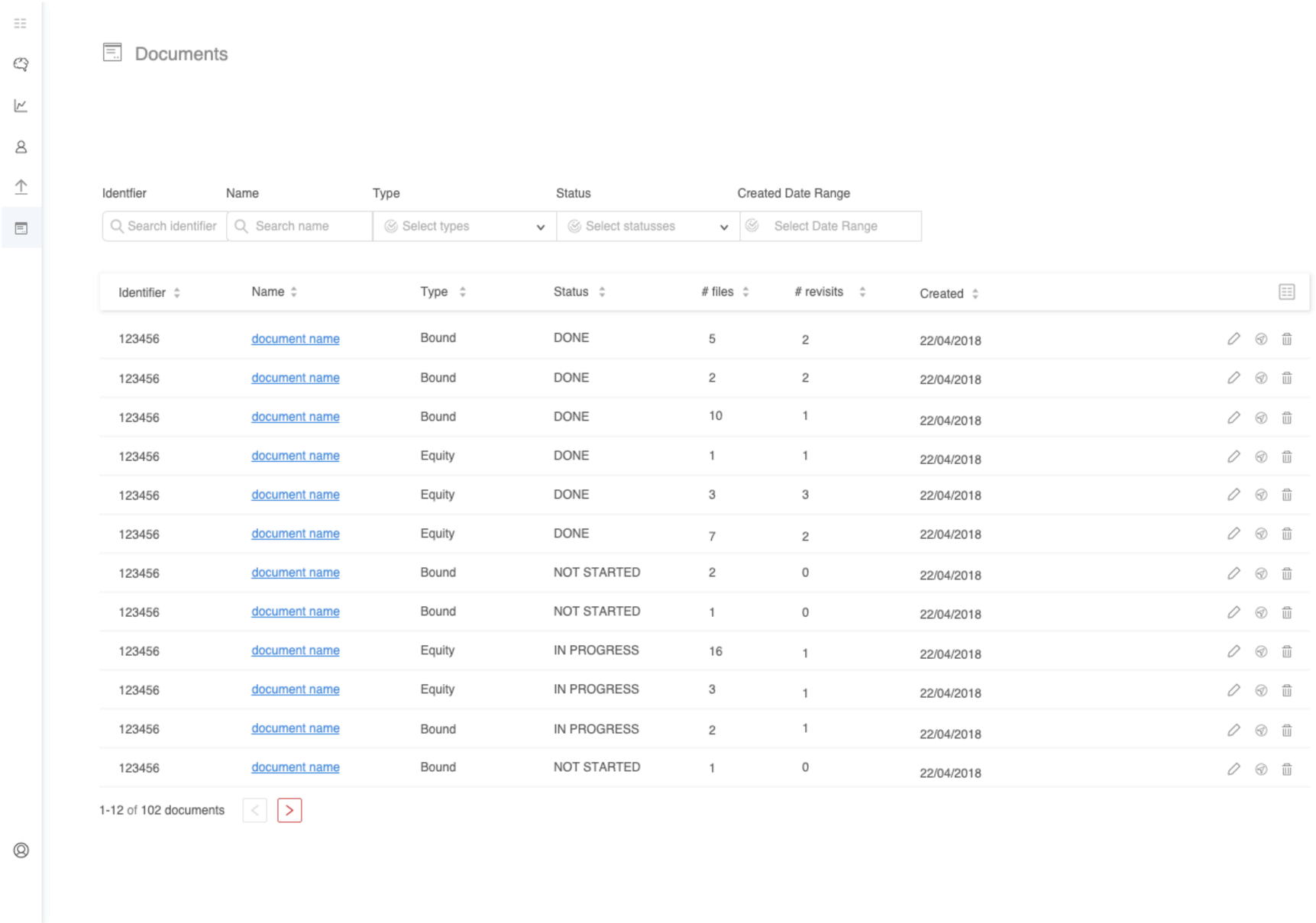
Faktion LISA framework

Flexible and reusable components for NLP in Flemish, French, German, English, Italian and Spanish

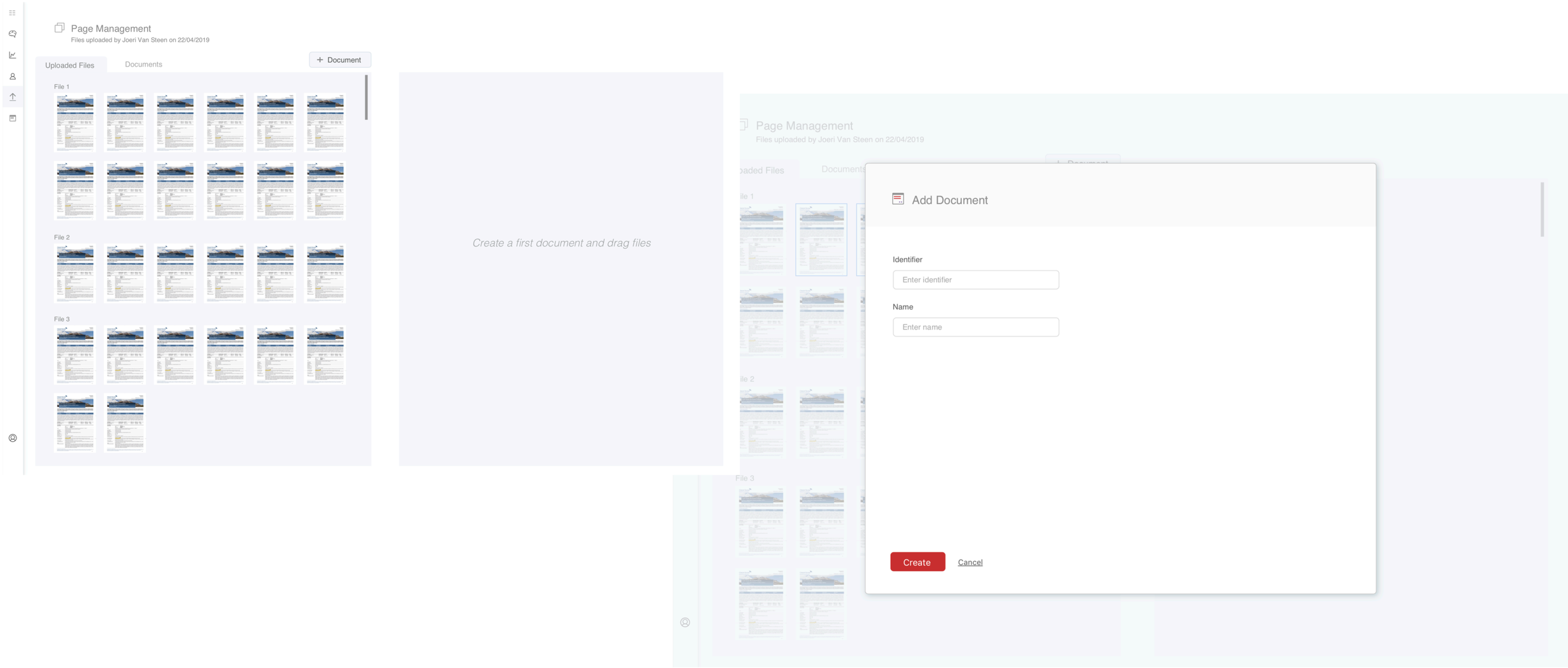


Faktion LISA Management Interface

MANAGE YOUR NLP APPLICATIONS VIA THE FAKTION NLP MANAGEMENT UI

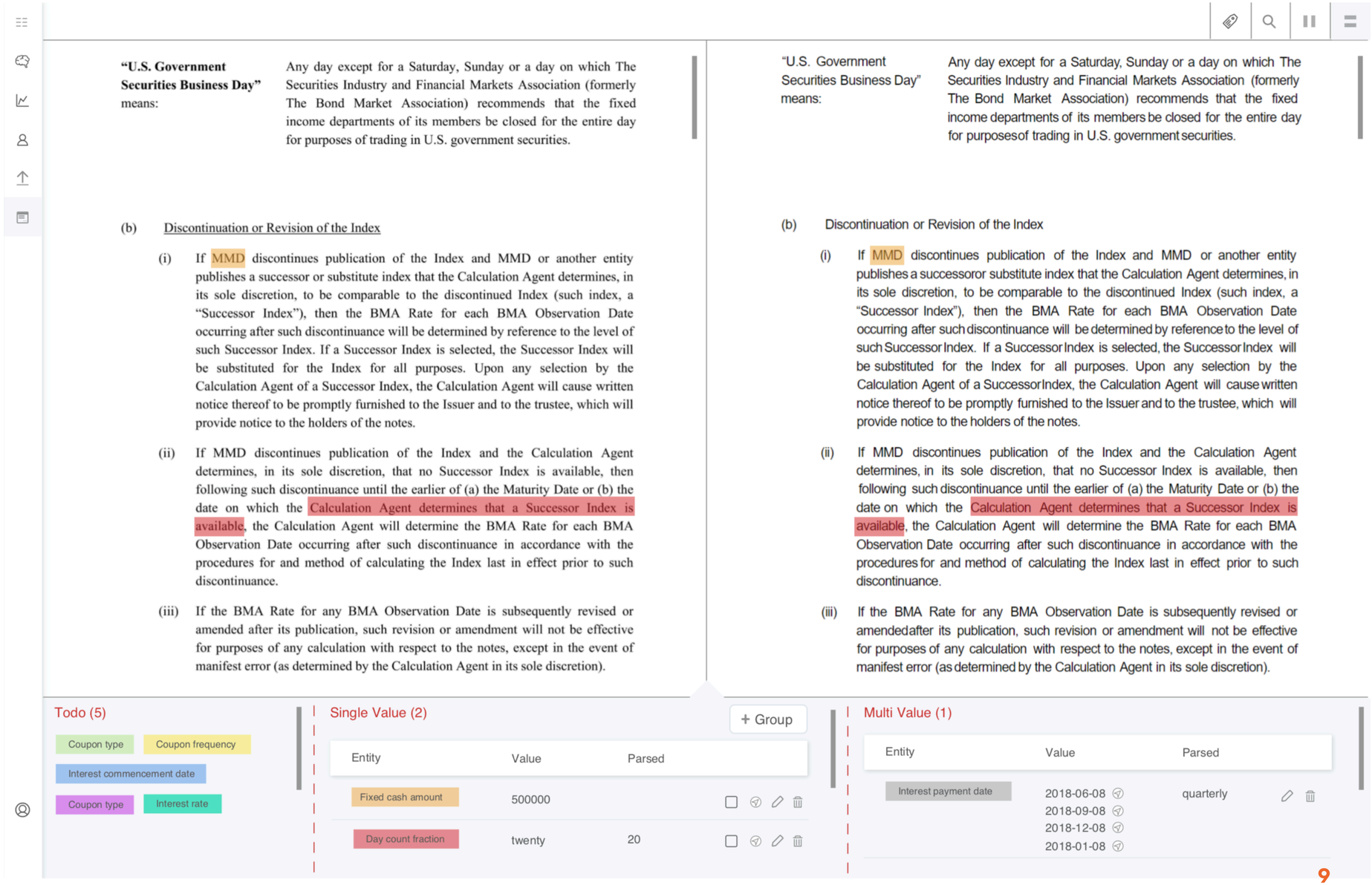


Faktion LISA Management Interface



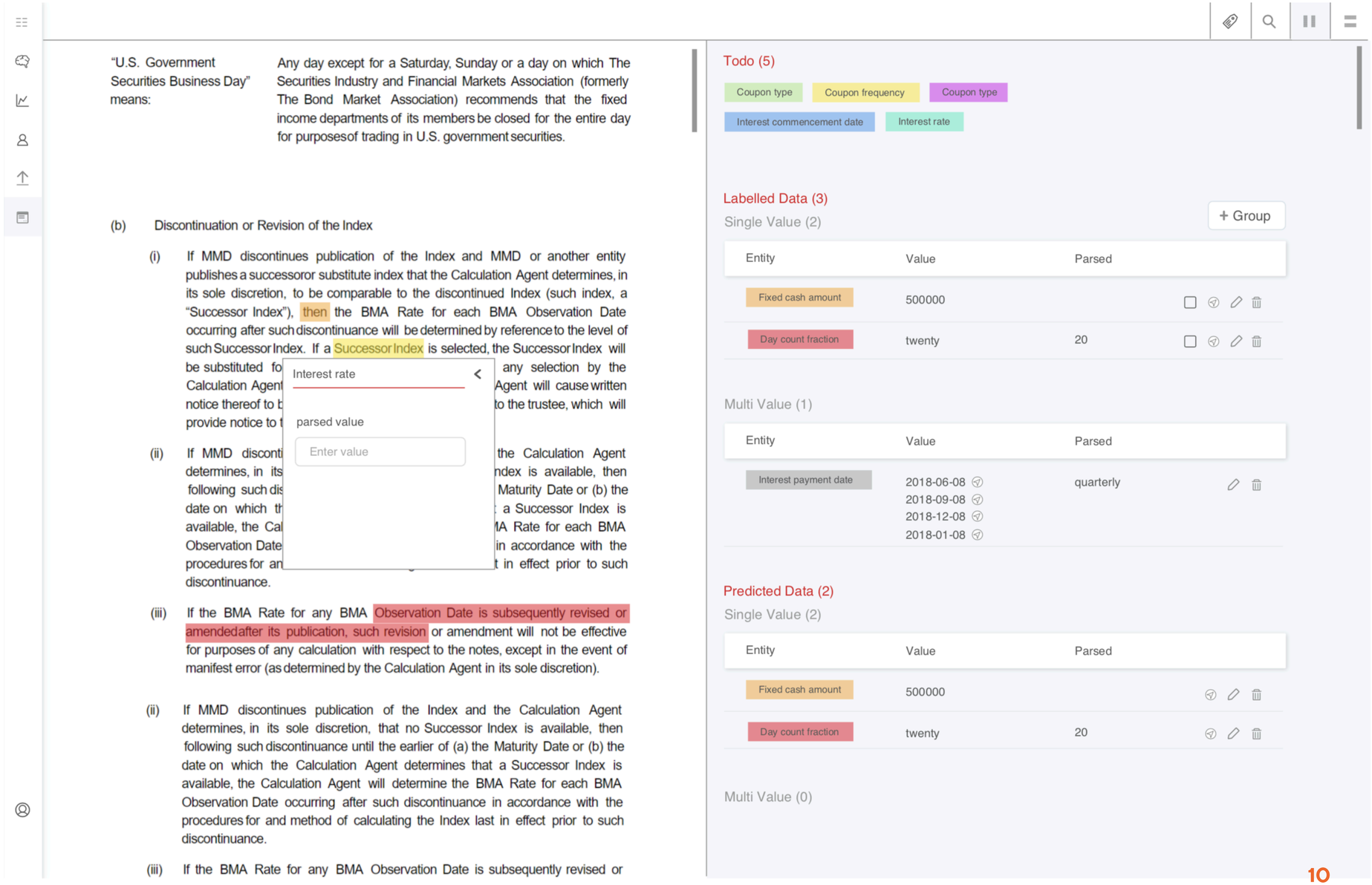
Faktion LISA Management Interface

DATA LABELLING MADE EASY.



Faktion LISA Management Interface

DATA LABELLING MADE EASY.



Faktion LISA

Setting the benchmark for Natural Language Processing

NLP models capture and classify the meaning of the transcripts. These deep learning-based AI models are used to tag, label and extract information and entities from unstructured text.

FAKTION LISA

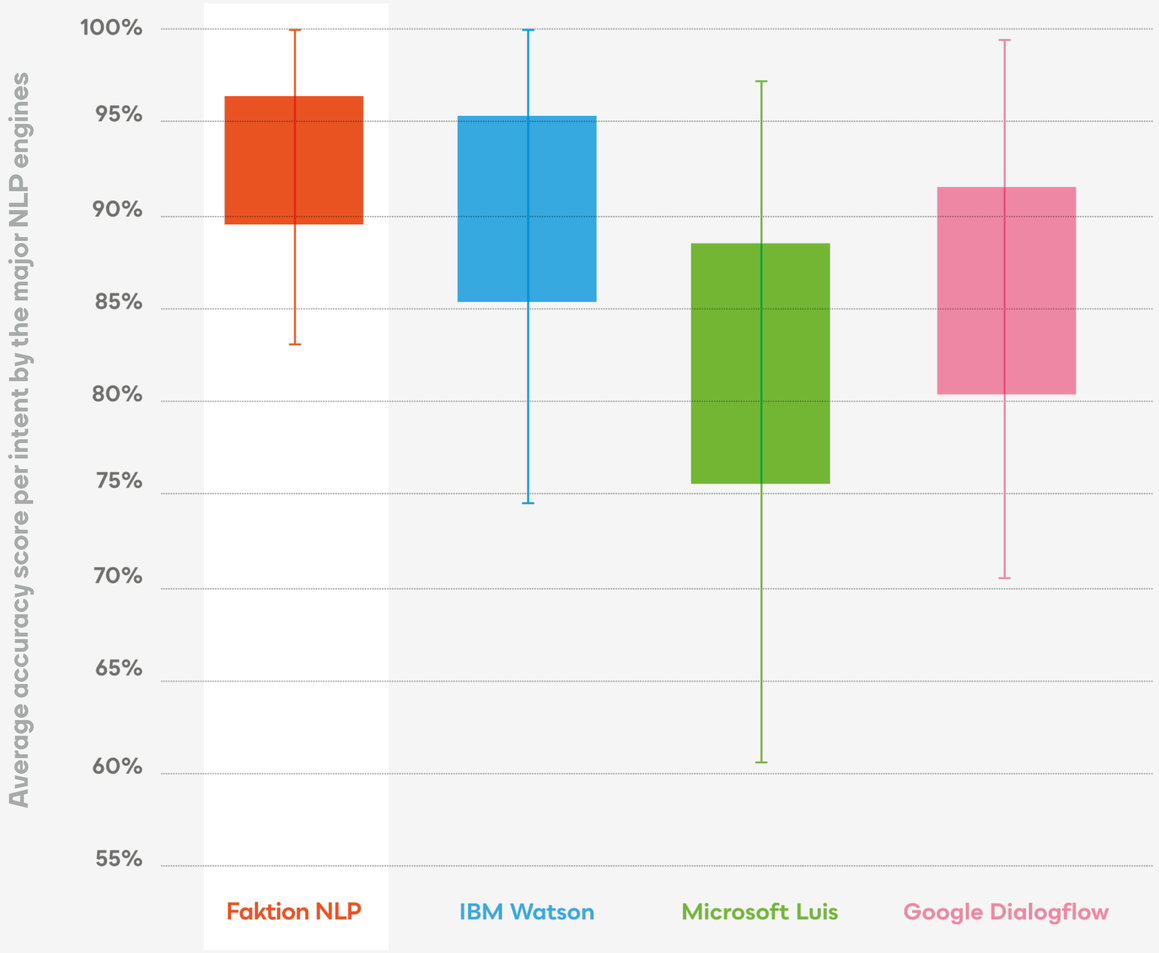
Run on premise or in a private cloud. There is no need to send your data to external parties in the US. Call center data is sensitive, so inherent GDPR compliance is necessary.

Best-in-class accuracy for Flemish, French, English and German. Other additional languages on request.

Accuracy is all that matters.

A team of 9 developers – of which 6 PhD's in a relevant field – constantly improve the NLP.

Faktion conducts continuous research into newer and better techniques in NLP and in this way implements proven innovations in the framework.



Other Notable Features

SYSTEM ENTITIES

- E-mail, Ordinal, Phone number, Date, Time, URL, Belgian style address, Numerals

INCREMENTAL RE-TRAIN

- Ensures quick training times

SELF-ADAPTING TO INPUT LENGTH

- short < 5 words
- sentences 5 - 30 words
- paragraphs 30 - 200 words
- documents > 200 words

SENTIMENT ANALYSIS

- Five class or valence based

CUSTOM VOCABULARY

- Smart and automatic treatment

ANALYTICS

- confusion matrix
- training data diversity metrics
  under development

MULTI-TENANCY ENABLED

Continuous Research and Improvement – NLU Roadmap

- Training data analytics
- Active learning interface
- PDF document labelling interface
- Model management

- Training data generation
- Python and Node.js SDK
- Self-service access
- Integration with crowd-sourcing platform
- Additional languages
- OCR for handwritten text
- Workflow management
- Hybrid rule management

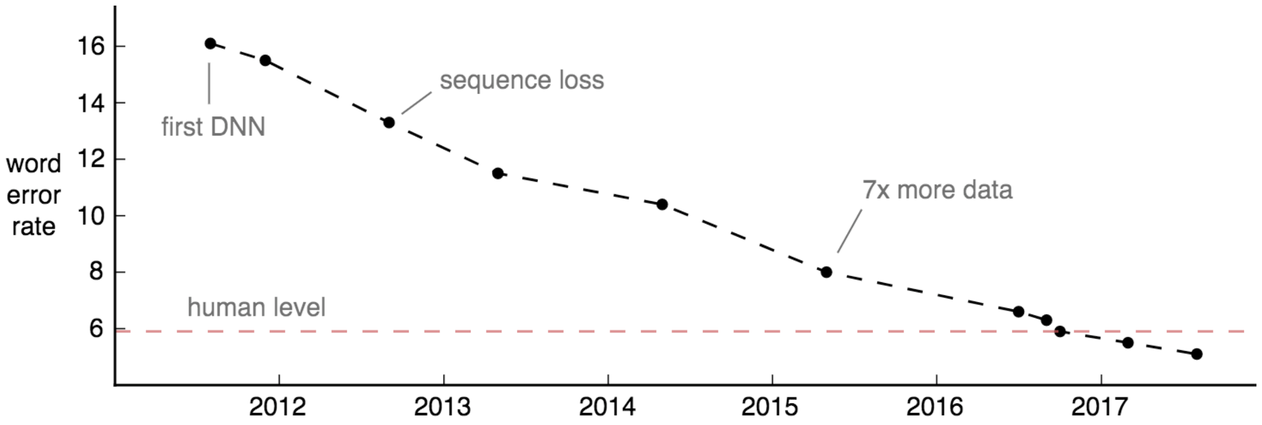
- Multi-lingual models
- Demographics and psychometrics
- Search
- Monitoring dashboard
- Handwriting support
- RPA integration

- Goal-seeking natural language generation
- Encrypted learning
- Standard plugins for e-mail, social media
- Mixed-structure extraction models

Faktion speech recogniser

Voice to text models

Speech recognition — automatic transcription — has recently surpassed human levels in terms of both accuracy and speed. This makes it possible to transcribe all your conversations.



FAKTION SPEECH RECOGNIZER

Run on premise or in a private cloud. There is no need to send your data to external parties in the US. Currently ready to use for Flemish and English.

PRIVACY BY DESIGN

Call center data is sensitive, so inherent GDPR compliance is necessary.
Data scrubbers are used to automatically delete sensitive information like names, phone numbers, account numbers, credit card numbers, ... Personal data is never stored or even transcribed unless there is a big need

Adding value, above expectations

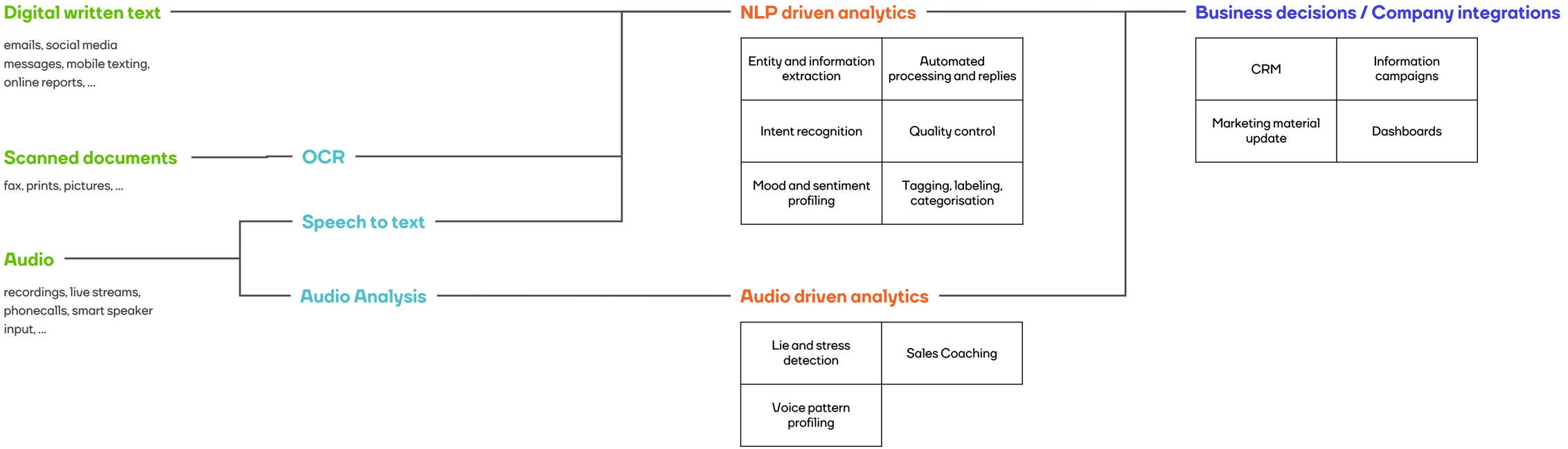
Streamlining the flow of information from scattered/unorganised to a structured model that provides crisp-clear insights

Gathering data from different types of sources

Processing data, in accordance to the sourcetype and always with a remarkable level of understanding

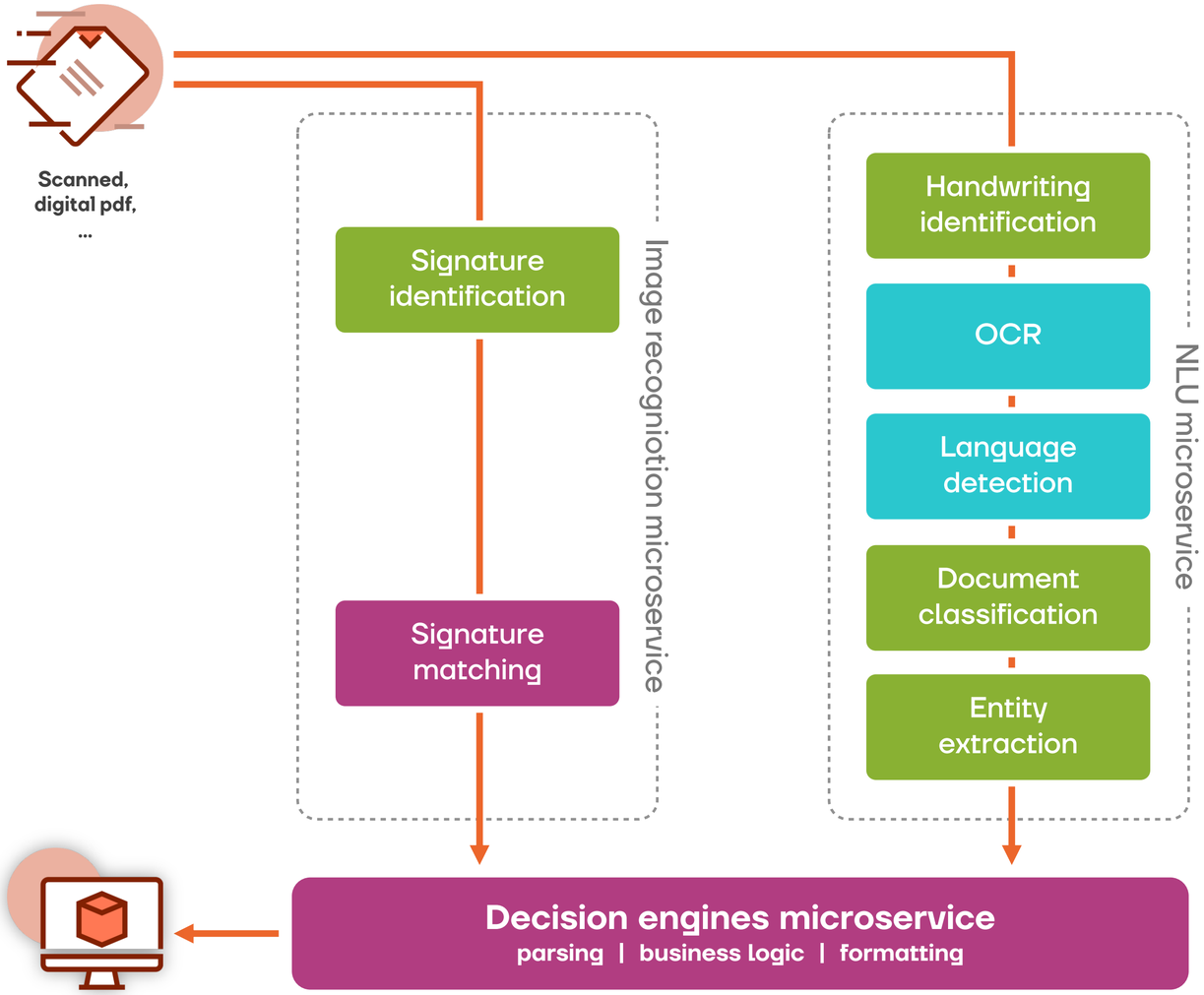
Analysing (massive amounts of) data fast and reliable; often beyond human ability.

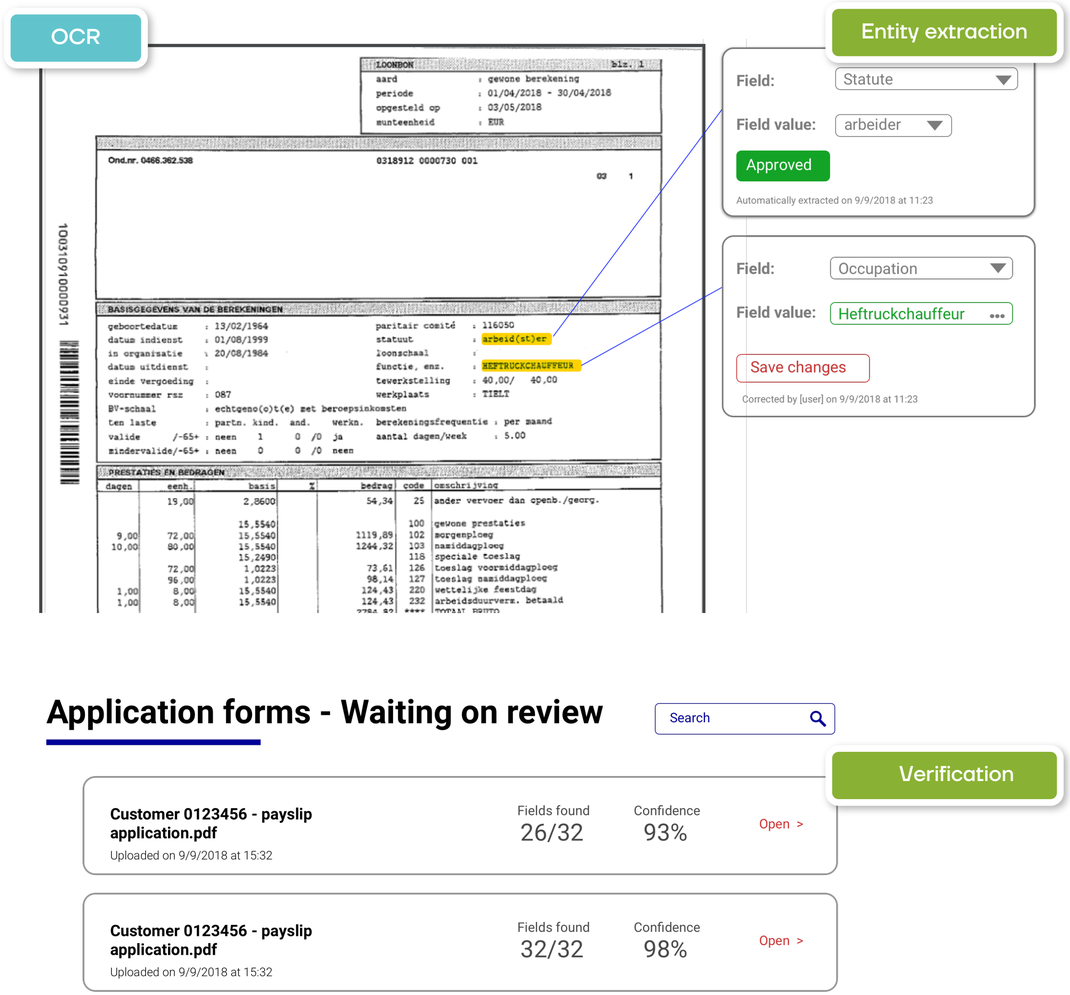
Providing big overview, deep insight and precise prediction on business (-processes, -decisions, -markets, -trends, -perceptions, ...)



Data sources | **Processing** | **Applications** | **Results**

Automated document processing & info extraction





Robotic Process Automation vs Intelligent NLP

Many software providers promise "intelligent" solutions, but deliver only a basic level of automation – which you can hardly call smart

The main differences between two types of automated document processing solutions

RPA

Requires **structured input** that is based on templates

Changes in document formats or layouts require manual input to recognize because the robot's **memorize the layout**

Static performance over time

INTELLIGENT NLP

Can handle **unstructured input** like text, e-mails, chat, documents, ...

NLP **learns from context** and is flexible to input format changes because it interprets text and layout, not just memorizes it

Self learning models **improve** over time

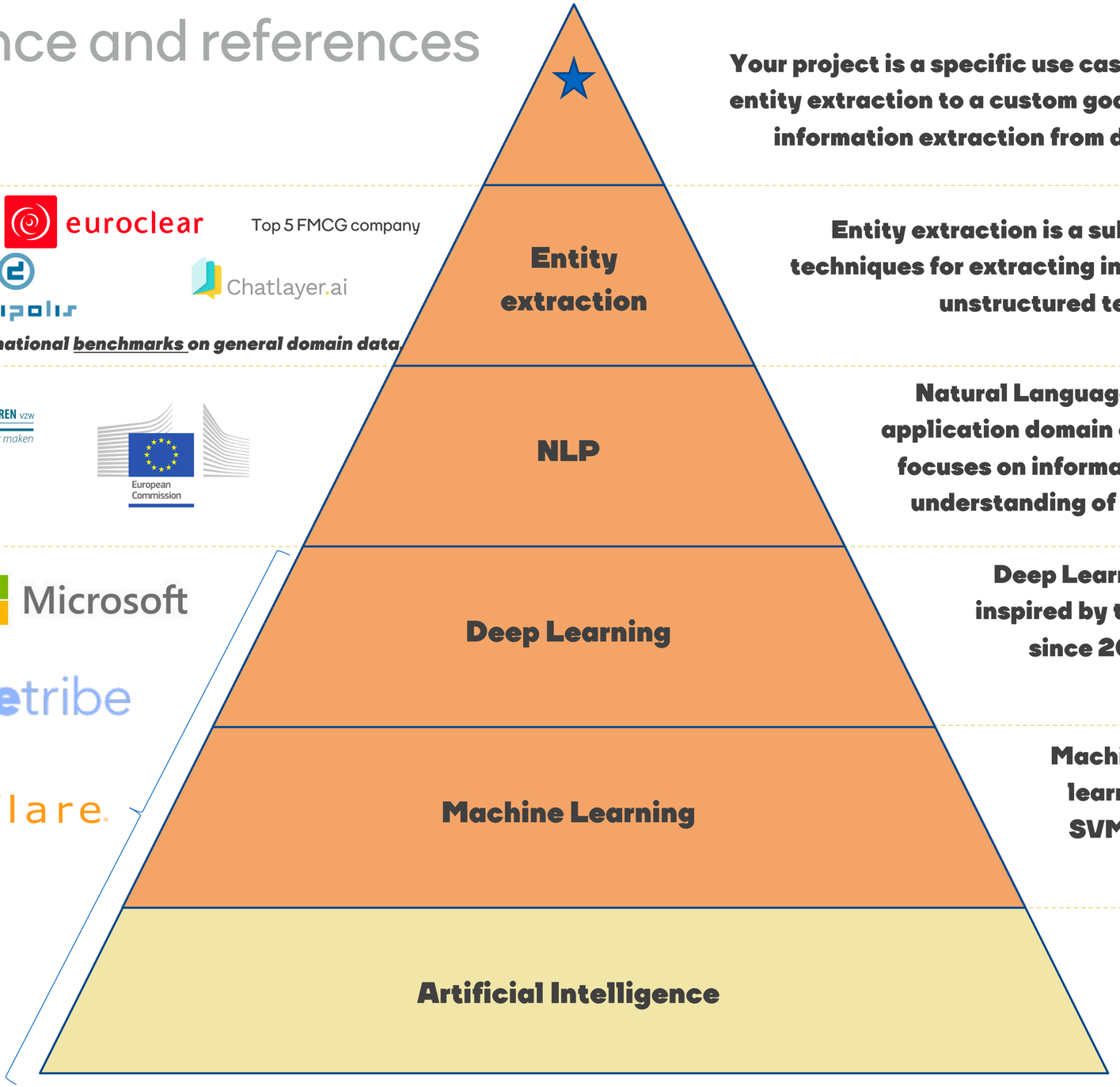
CASES

WHAT WE'VE BEEN DOING LATELY

Faktion experience and references

Top 5 FMCG company

Proven international benchmarks on general domain data.



Your project is a specific use case that applies entity extraction to a custom goal: automating information extraction from documents

Entity extraction is a subset of NLP techniques for extracting information from unstructured text

Natural Language Processing is an application domain of deep learning that focuses on information extraction and understanding of unstructured text.

Deep Learning is a class of algorithms inspired by the human brain. Popularized since 2012 for their exceptional performance.

Machine Learning is the subfield of AI that learns from data. Algorithms range from SVM, regression, discriminant analysis, artificial neural networks, ...

Artificial Intelligence is the subfield of Computer Science that studies intelligence in machines.

Use cases

» Automatic routing of e-mails, possibility to automatically answer standard questions

» Document processing and information structuring

» Digital voice assistents

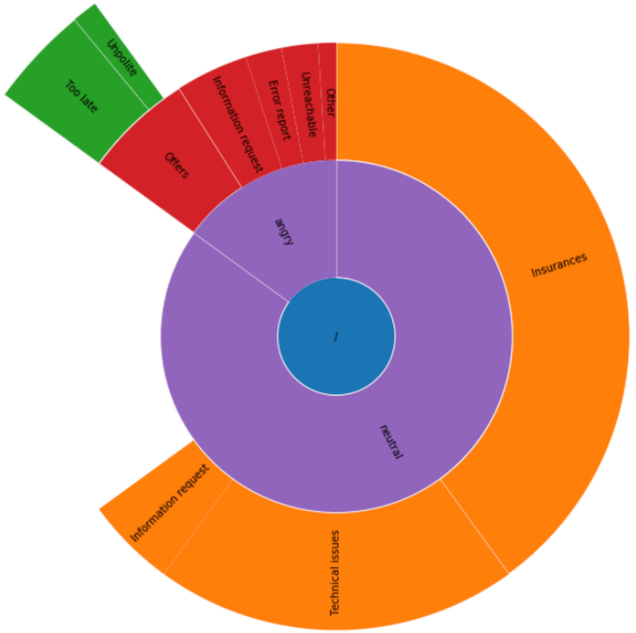
» Creating and making of searchable knowledge databases

» Smart chatbots

» Call center analytics

Email processing

Advanced analytics and automation



Prioritising / Labeling

Automatic & intelligent reply (preparation)

Routing and distribution

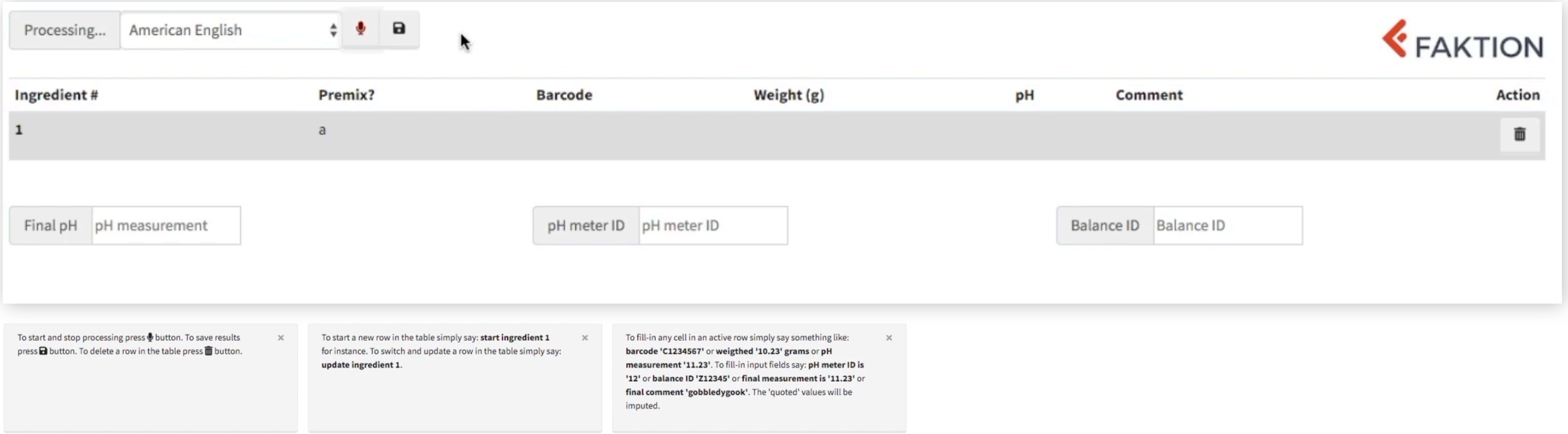
Sentiment analysis

Extracting data in the lab

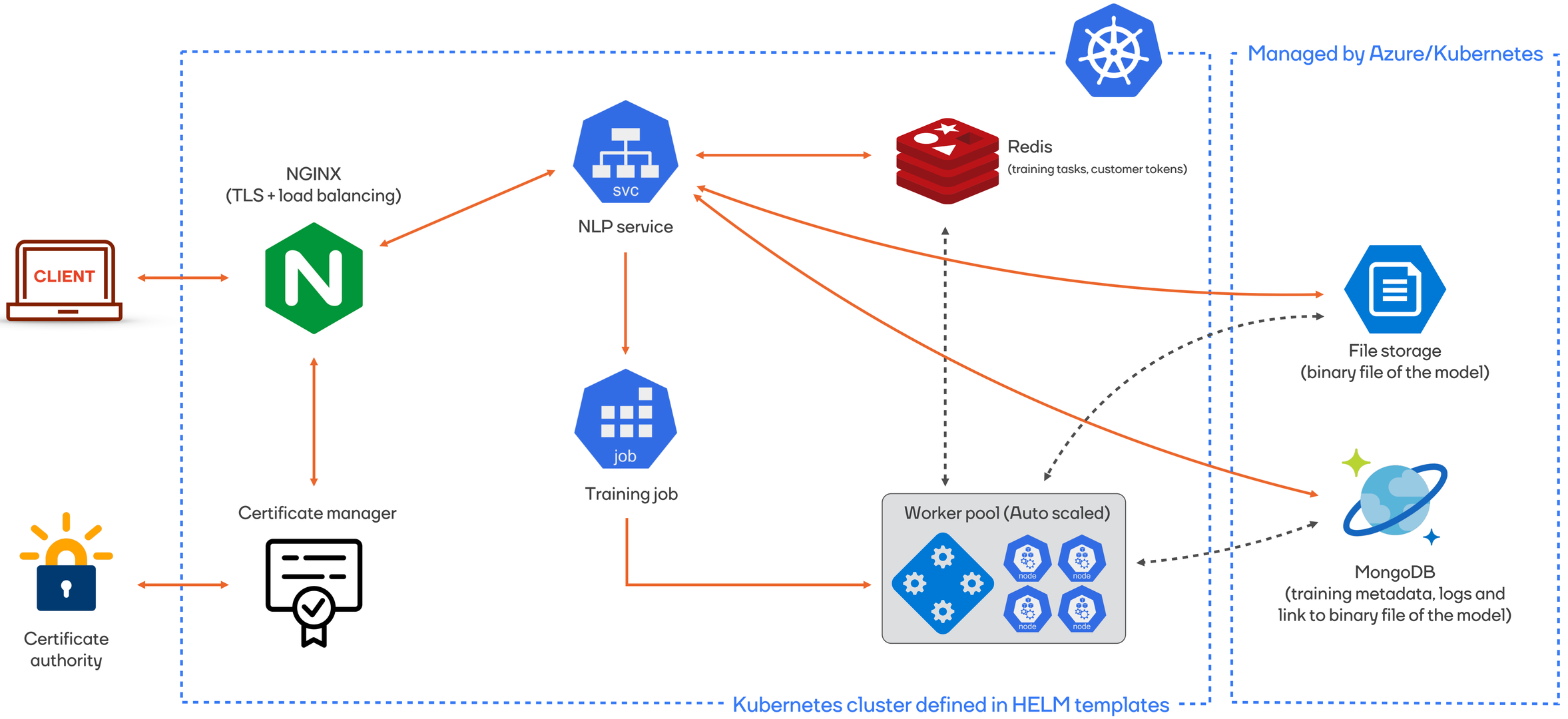
Optimizing the work of lab workers by automating the administrative processes

Our client noticed that a lot of technical data was missing. Laborants had to write the information down when they had finished the tests, which was an inconvenient procedure, prone to errors.

Thanks to Faktion's speech-to-text technology and an easy to use interface, we managed to make the process more accurate while saving time as well.



Architectural Overview – Azure



Faktion LISA

A reusable AI framework that can easily be extended to dozens of other use cases

CONTACT US

www.faktion.com

info@faktion.com

+32 3 500 87 09

No more bullsh*t !

“Faktion was a great partner for us due to their willingness to think with us and educate us in Machine Learning, which was a new topic for us.

Communication was always open and warm, and they really are a trusted and long-term partner for us.”

Johan Van Langendonck
Strategic Lead Digital Strategy team at Bridgestone