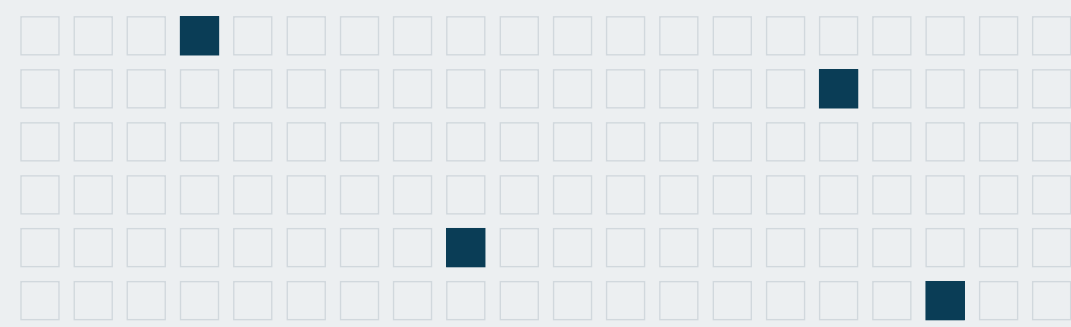


# LIGHTNING TALKS FÜR DEMO SESSION DER DRITTE ELRC WORKSHOP IN ÖSTERREICH

10. November 2021



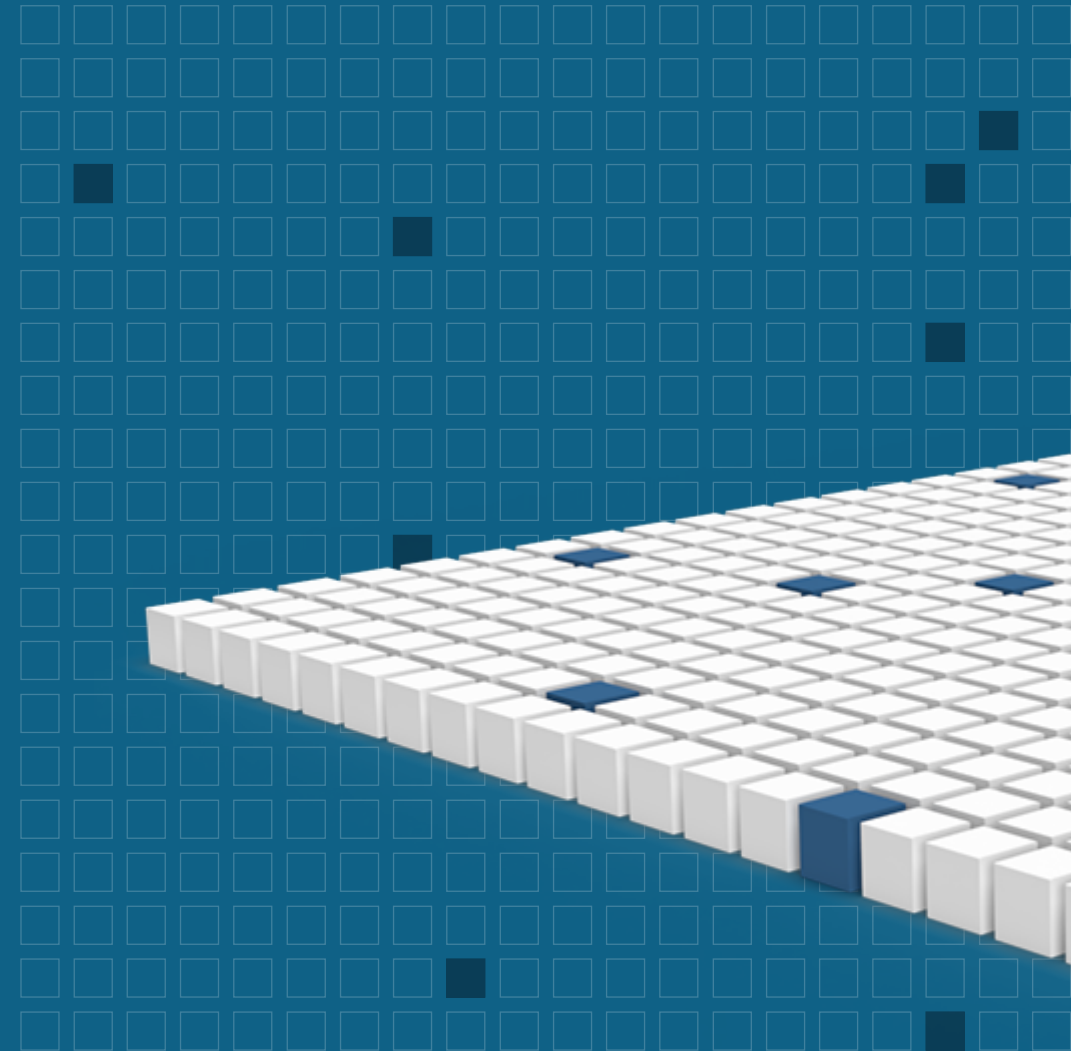


# Cortical.io NLU-based Solutions

Improving Productivity with Artificial Intelligence

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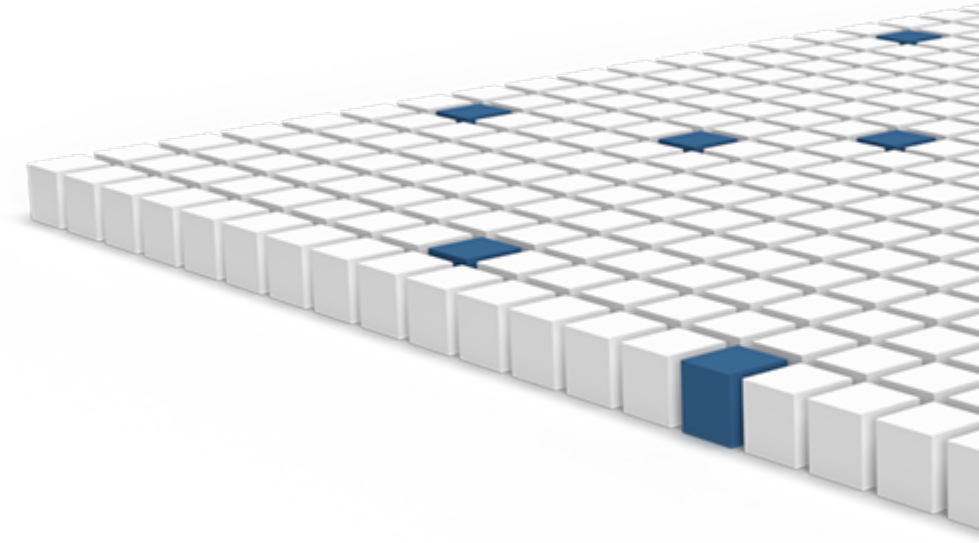
ELRC Workshop, 10th November 2021



# Cortical.io Company Overview

Cortical.io delivers AI-based natural language understanding (NLU) business solutions for the enterprise that are more efficient and more capable than current approaches

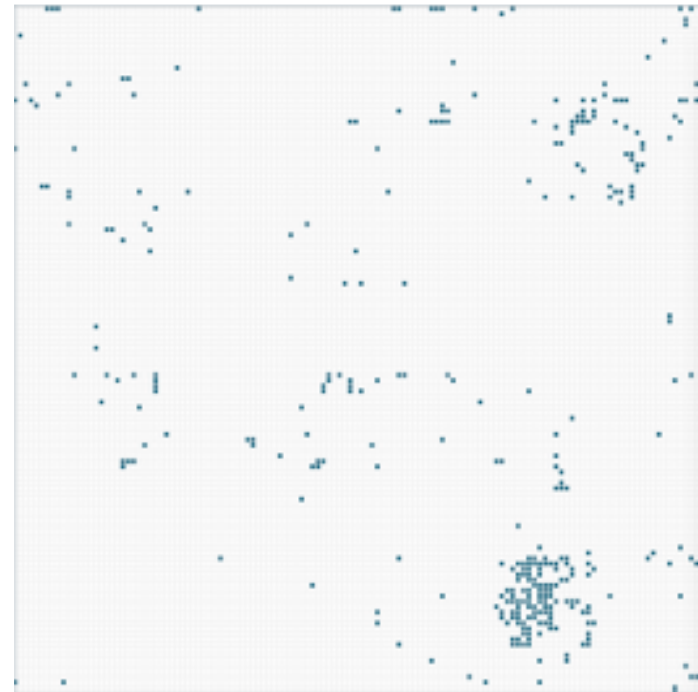
- Patented approach to NLU
- Leverages Jeff Hawkins' research on neuroscience
- First commercial customer in 2017
- Announced Semantic Supercomputing in Q4 2019
- Message Intelligence 2.1 shipped in Q2 2020
- Contract Intelligence 4.3 shipped in Q1 2021



# Cortical.io Difference: Semantic Folding

- Replaces complex statistical modeling
- Based on neuroscience
- Sparse distributed representation (semantic fingerprints)
- Hardware acceleration enables new class of applications

## Semantic Fingerprint



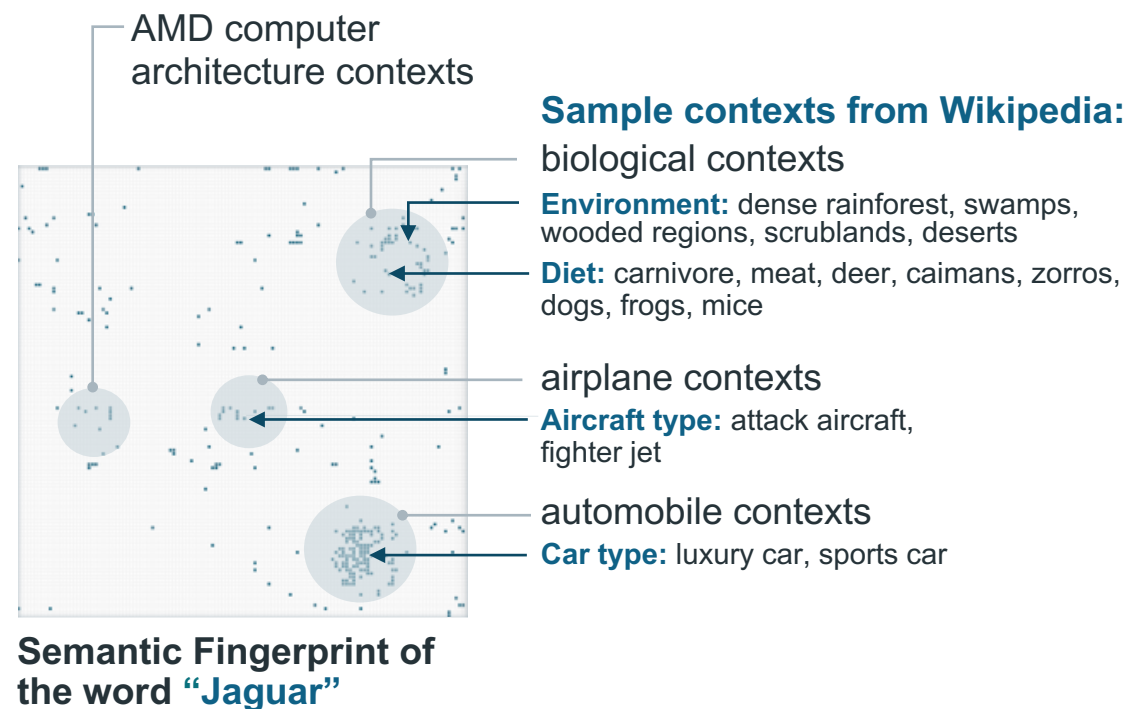
# Semantic Folding Explained

A Patented Approach to Natural Language Understanding

Words, sentences & paragraphs are represented by a semantic fingerprints

- Each word is represented by **16K binary** contexts in a 2D vector
- **Minimal** source material required: reference material, textbooks, data sheets, emails, etc.
- Creation of the semantic fingerprints is **completely unsupervised**
- **All meanings** of a word are represented

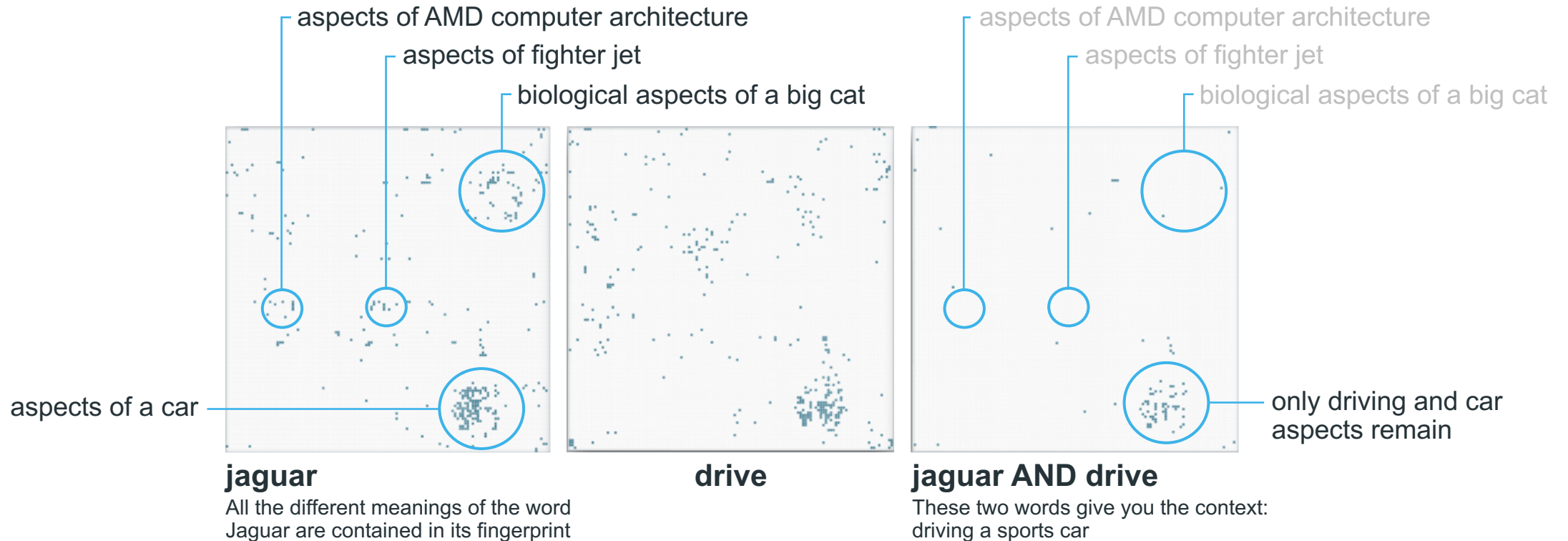
## Semantic Fingerprint



# Addressing Language Ambiguity

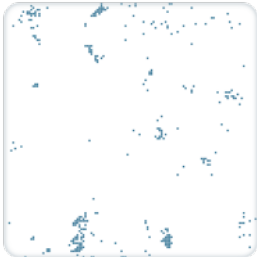

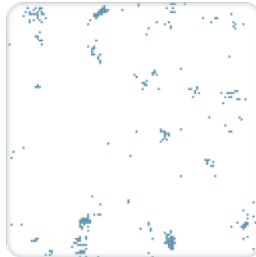
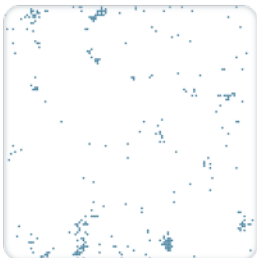
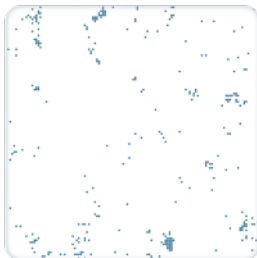
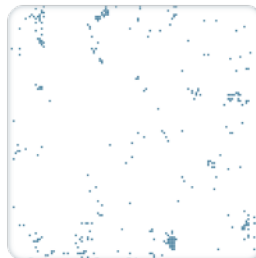
## Meaning depends on context

- Two words suffice to disambiguate context
- Not knowing context is one of the key causes of false positives



# Working Across Languages

Concepts and their representations are stable across languages

English	French	Spanish
		
philosophy	philosophie	filosofía
Russian	Arabic	Chinese
		
философия	فلسفة	哲學



# What Makes Cortical.io NLU Different?

- Our approach to natural language understanding is better than industry-standard statistical modeling
- Based on neuroscience, semantic fingerprints capture the meaning of text
- Fingerprints of words, phrases and paragraphs are compared semantically, regardless of the specific words used



# Cortical.io Contract Intelligence (COIN)

Increases the efficiency of reviewing contracts:

- **Automatically and accurately extracts** information from contracts or other documents
- Handles **complex table extractions** within documents
- **Semantically searches**, compares and redlines documents
- **Connects to BI tools** to identify risk exposure and other business insights

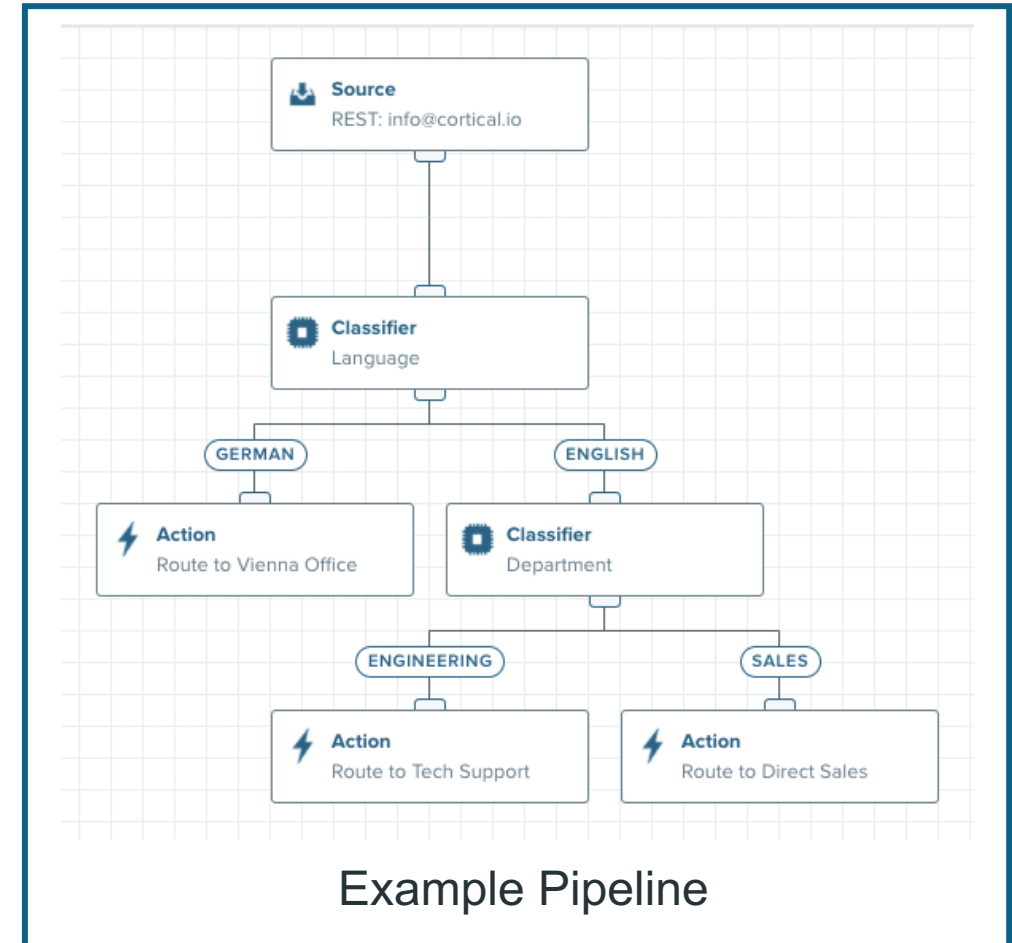
## Results

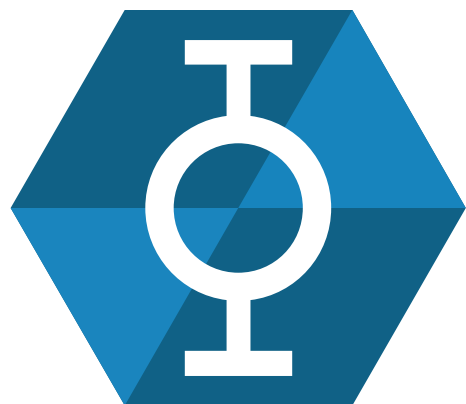
- ✓ ~80% reduction in time & effort
- ✓ Valuable insights into risk & liability

# Cortical.io Message Intelligence (MINT)

## An Intelligent Document Processing Solution

- Automatically **classifies messages, extracts information** and **takes action**
- **Highly accurate** based on the semantics / meaning of the content
- **Quickly customizable** to corporate needs
  - Custom semantic classifiers built and deployed in hours
  - Custom extraction models based on semantics built and deployed in days
- **Real-time performance** at enterprise scale





**cortical.io**

info@cortical.io

# Terminologie

Abgestimmte und strukturierte Sprachdaten

Korrekte, konsistente, mehrsprachige Inhalte

Ontologien, Taxonomien und Concept Maps

Für Wissensmanagemen, Schulung, Transfer

Für Menschen und Maschinen

Für Content Marketing, SEO, CMS, PLM, ERP

## WIE MACHE ICH ES RICHTIG?





# Information Overload



# Languages – Audio and Text processing



Albanian



Arabic



Bahasa Indonesia



Bahasa Malaysia



Dutch



Egyptian Arabic



English



Farsi



French



German



Greek



Hebrew



Italian



Levantine Arabic



Mandarin



Mexican Spanish



Norwegian



Pashto



Polish



Romanian



Russian



Spanish



Turkish



Urdu

## Text processing:



Bulgarian



Czech



Croatian



Hungarian



Portuguese

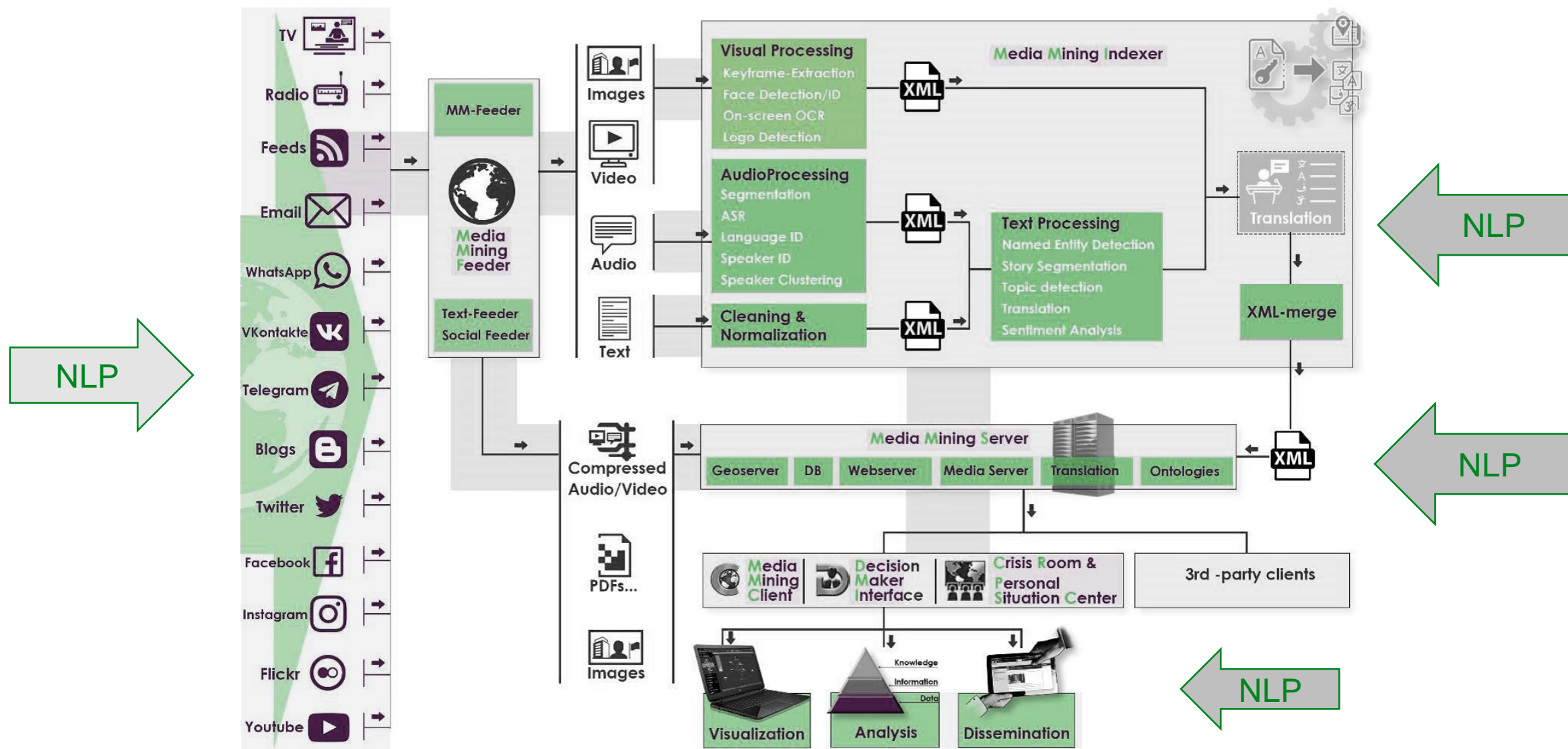


Slovak



Swedish

# Media Mining Architecture





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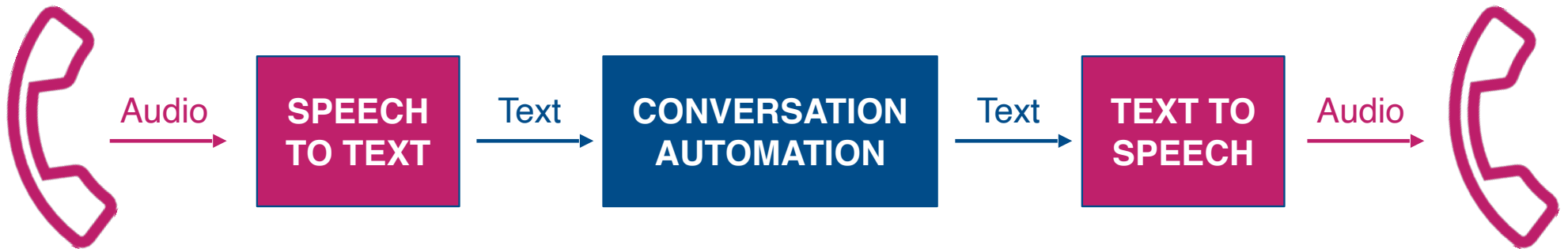
[www.hensoldt-analytics.com](http://www.hensoldt-analytics.com)



ELRC Workshop

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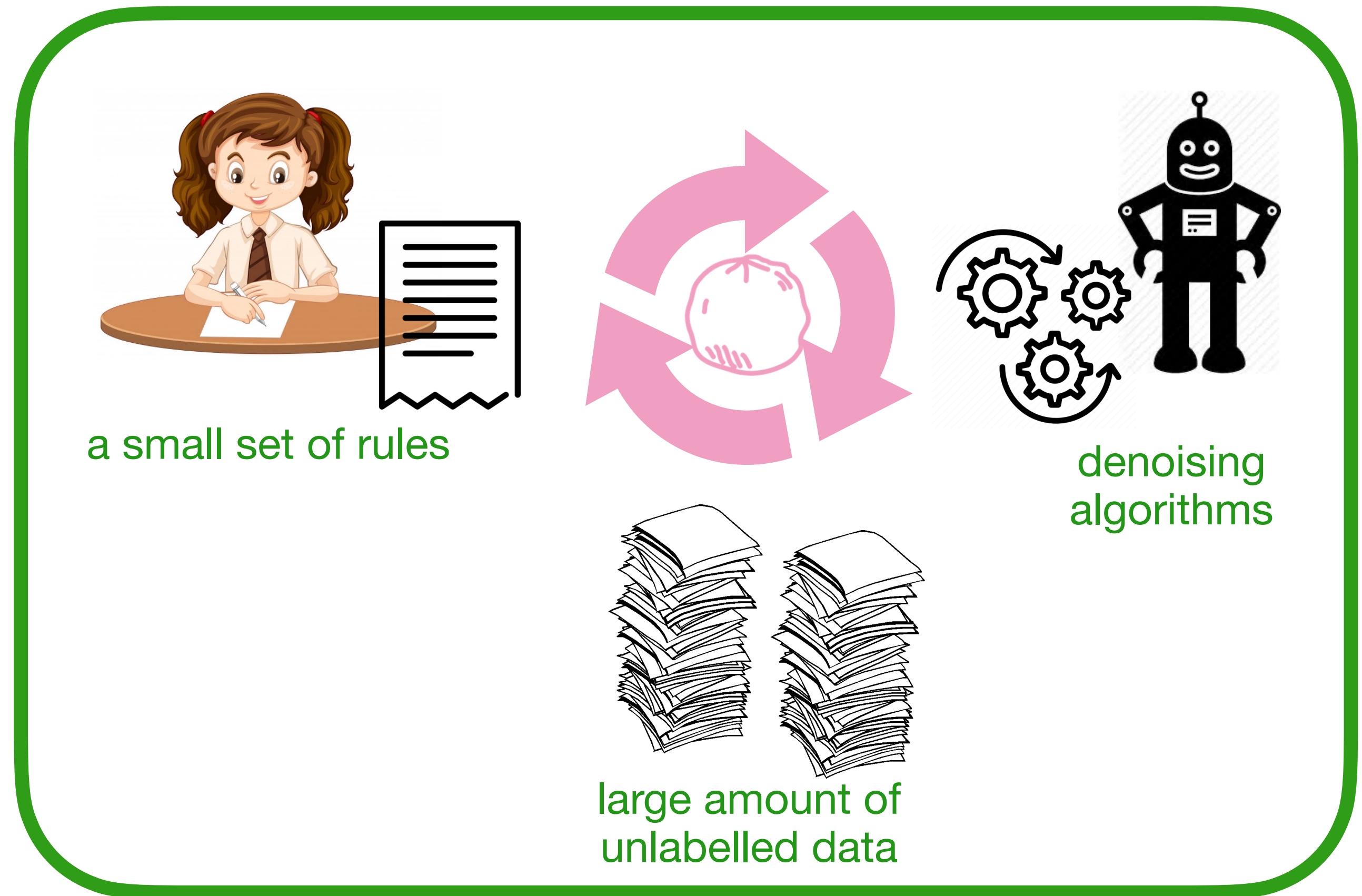
Dr. techn. Andreas S. Rath - CEO - [andreas.rath@ondewo.com](mailto:andreas.rath@ondewo.com) - <https://ondewo.com>

# knodle

Framework for weakly supervised learning



Tedious manual data annotation



# knodle

Framework for weakly supervised learning

