NICE Webinars

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Trading Communication Surveillance in Different Languages

How to monitor trading calls in multiple languages

30 November 2017

New Stricter Rules

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INTERPRETIVE NOTICE

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II. OBLIGATIONS OF MEMBERS SUBJECT TO THE ENHANCED SUPERVISORY REQUIREMENTS

A. Recording of all conversations and maintaining electronic written communications with existing and potential customers

Those Member firms meeting the criteria requiring them to adopt the enhanced supervisory requirements will be required to make complete audio recordings of all telephone conversations that occur between their APs and both existing and potential customers, including existing and potential retail forex customers of Members subject to NFA Compliance Rule 2-36. Additionally, those Members will be required to maintain a record of all electronic written communications that occur between their APs and customers or potential customers. Electronic written communications include, but are not limited to, email, text messages, instant messages conducted via any web-based messaging system (including instant messages sent via a social media application), and any other communication that occurs in a chat room or on any social media platform. The Board believes that recording these conversations and requiring Members to maintain records of electronic written communications provides these Members with the best opportunity to monitor closely the activities of their APs and also provides these Members with complete and immediate feedback on each AP's method of soliciting customers. Members subject to the enhanced supervisory requirements ~~that are required to record their conversations~~ must retain such audio recordings and records of electronic written communications for a period of five years from the date each recording is created or written electronic communication occurs and the recordings and/or records of electronic written communications shall be readily accessible during the first two years of the five-year period. In retaining the recorded conversations or records of electronic written communications, Member firms must catalog the recordings and electronic written communications by AP and date. Additionally, any Member firm meeting the criteria must require all its APs to maintain a daily log for sales solicitations which reflects at a minimum the identity of each customer or prospective customer the AP spoke with or transmitted electronic written communications to on each day and the method of communication. A Member firm must be able to promptly produce, upon request from NFA or the CFTC, all conversations or records of electronic written communications relating to a specific AP, and only that AP, for a given date. Members that are required to record or maintain records of electronic communications under this Interpretive Notice are further required to promptly provide NFA or the CFTC with appropriate resources for listening to their recordings or viewing the records of electronic communications upon request.

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Source: https://www.nfa.futures.org/news/newsRuleSubList.asp

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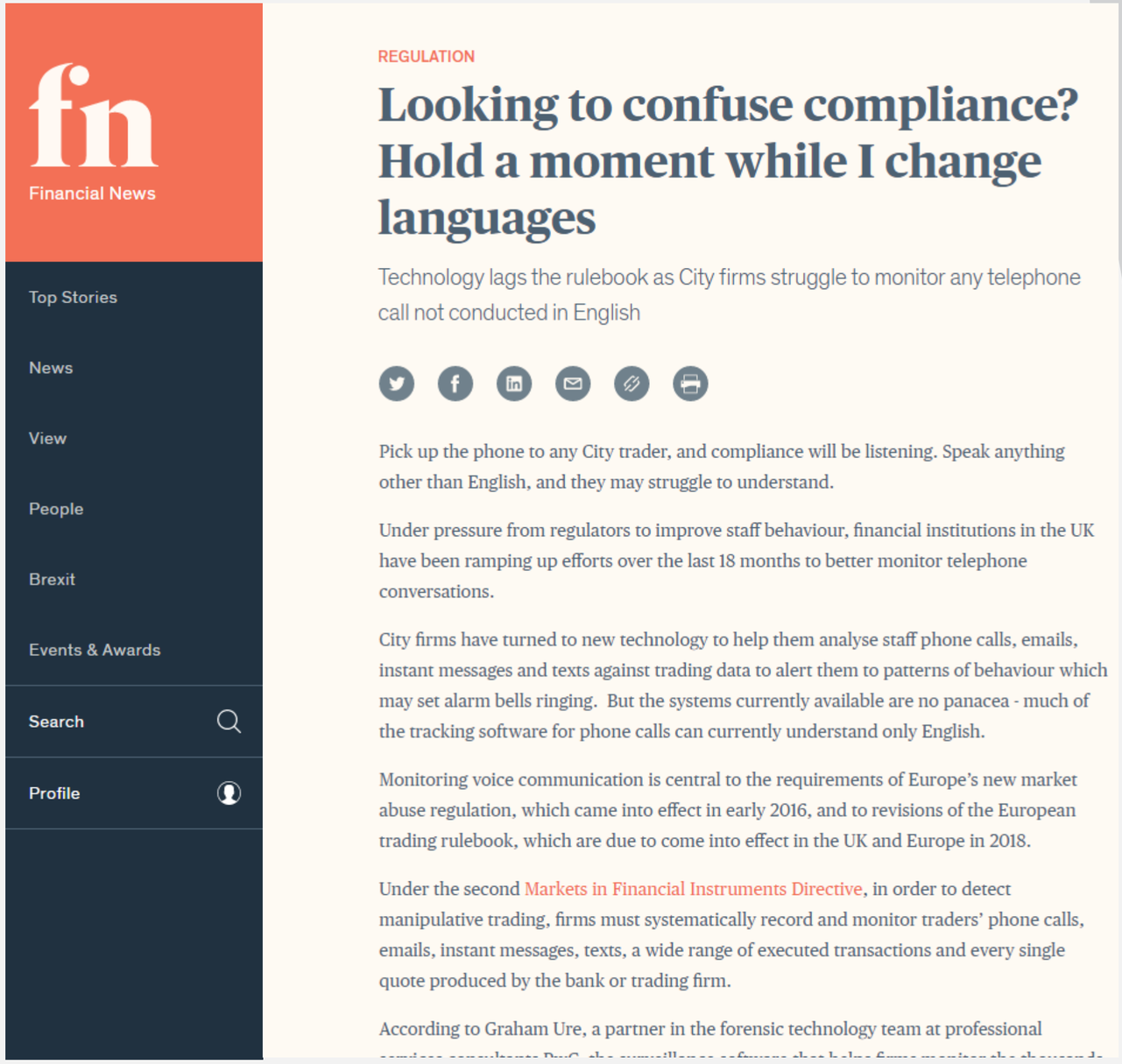

Monitoring telephone conversations not conducted in English is becoming a problem for trading compliance

https://www.fnlondon.com/articles/looking-to-confuse-compliance-hold-a-moment-while-i-change-languages-20170321

6909 World Languages

Rank	Language	First Language	2nd Language	Total
1	**Mandarin Chinese (incl. Standard Chinese)**	897 million	193 million	**1.09 billion**
2	**English**	371 million	611 million	**983 million**
3	**Hindustani (Hindi/Urdu)**	329 million	215 million	**544 million**
4	**Spanish**	436 million	91 million	**527 million**
5	**Arabic**	290 million	132 million	**422 million**
6	**Malay (incl. Indonesian and Malaysian)**	77 million	204 million	**281 million**
7	**Russian**	153 million	113 million	**267 million**
8	**Bengali**	242 million	19 million in Bangladesh	**261 million**
9	**Portuguese**	218 million	11 million	**229 million**
10	**French**	76 million	153 million	**229 million**
11	**Hausa**	85 million	65 million	**150 million**
12	**Punjabi**	148 million	-	**148 million**

Rank	Language	First Language	2nd Language	Total
13	**Japanese**	128 million	1 million	**129 million**
14	**German**	76 million	52 million	**129 million**
15	**Persian**	60 million	61 million	**121 million**
16	**Swahili**	16 million	91 million	**107 million**
17	**Telugu**	80 million	12 million in India	**92 million**
18	**Javanese**	84 million	-	**84 million**
19	**Wu Chinese (incl. Shanghainese)**	80 million	-	**80 million**
20	**Korean**	77 million	-	**77 million**
21	**Tamil**	67 million	8 million in India	**75 million**
22	**Marathi**	71 million	3 million in India	**74 million**
23	**Yue Chinese (incl. Cantonese)**	72 million	-	**72 million**
24	**Turkish**	71 million	<1 million	**71 million**

Source: Wikipedia - List of languages by total number of speakers

Top 10 Trading Languages

Rank	Language	First Language	2nd Language	Total
2.	Chinese(Mandarin)	897 million	193 million	**1.09 billion**
1.	English	371 million	611 million	**983 million**
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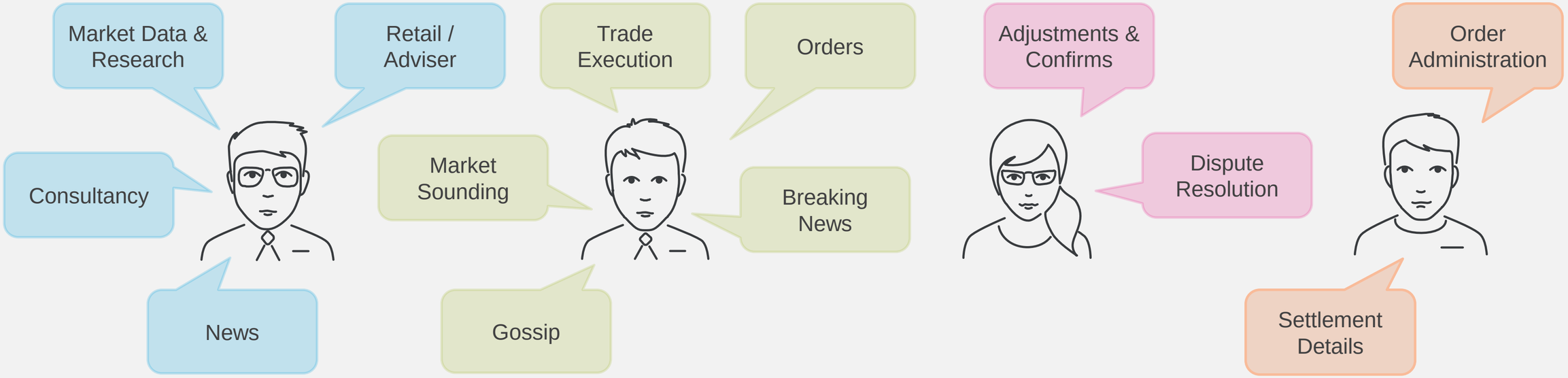
5.	Italian	61 Million	10 Million	**75 Million**

Trade Conversations Take Place Everywhere

PRE-TRADE | TRADING | TRADE OPERATIONS | CLEARING



Complicated products such as Swaps, Fixed Income and Cross Asset are traded **over the phone.**

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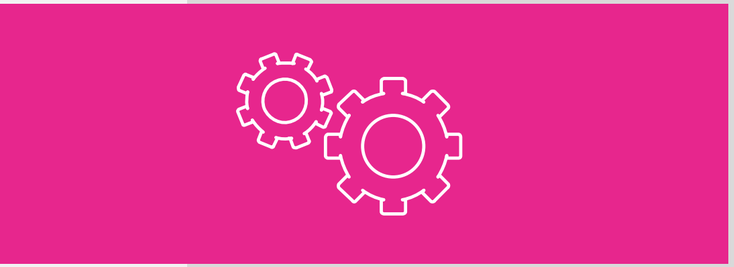
Considerations for Surveillance of Trade Conversations

- Manual vs. Automated
- Text vs. Voice
- Trading has its own unique set of ‘slang’ that is not typical in normal conversations
- Traditional speech engines do not speak ‘trading’ language
- Compliance analysts may struggle with reviewing text for languages they do not speak

The Challenges with Multiple Language Communications

Speech Recognition – How to ‘understand’ voice calls

Language Identification – How to ‘detect’ which language is spoken



Analytics – How to ‘interpret’ the conversations

Speech Recognition

Automated Speech Recognition (ASR)

What is it?

- Automated Speech Recognition (ASR) consists of linguistic models that enable converting spoken language into text

Why use ASR?

- Provides a single query interface across all communication channels
- Allows for easily using synonym dictionaries to increase recall of relevant recordings
- In combination with contextual queries improves result accuracy
- Accuracy of ASR Models has significantly improved over earlier models

Effective Voice Analytics Process

Basic Voice Transcription

- Transcription may miss specific industry or product set verbiage.

Phrase Packs

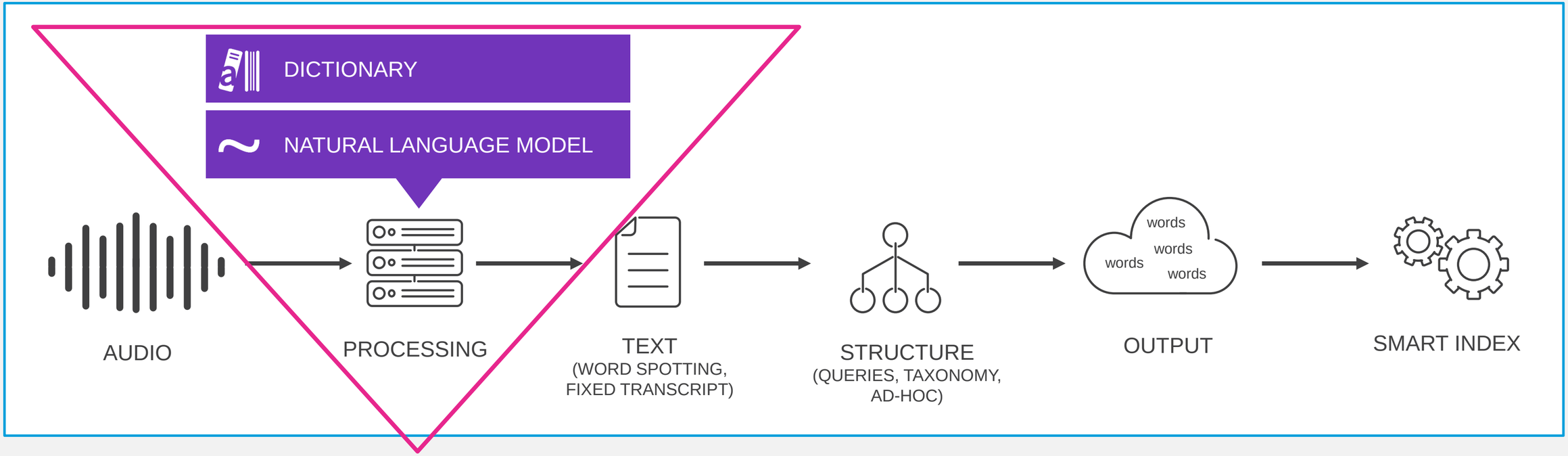
- Go beyond language transcription
- Incorporate industry terminology and product information into transcription

Ongoing Management

- Consistent updates necessary to ensure translation models continue to perform at optimum efficiency.

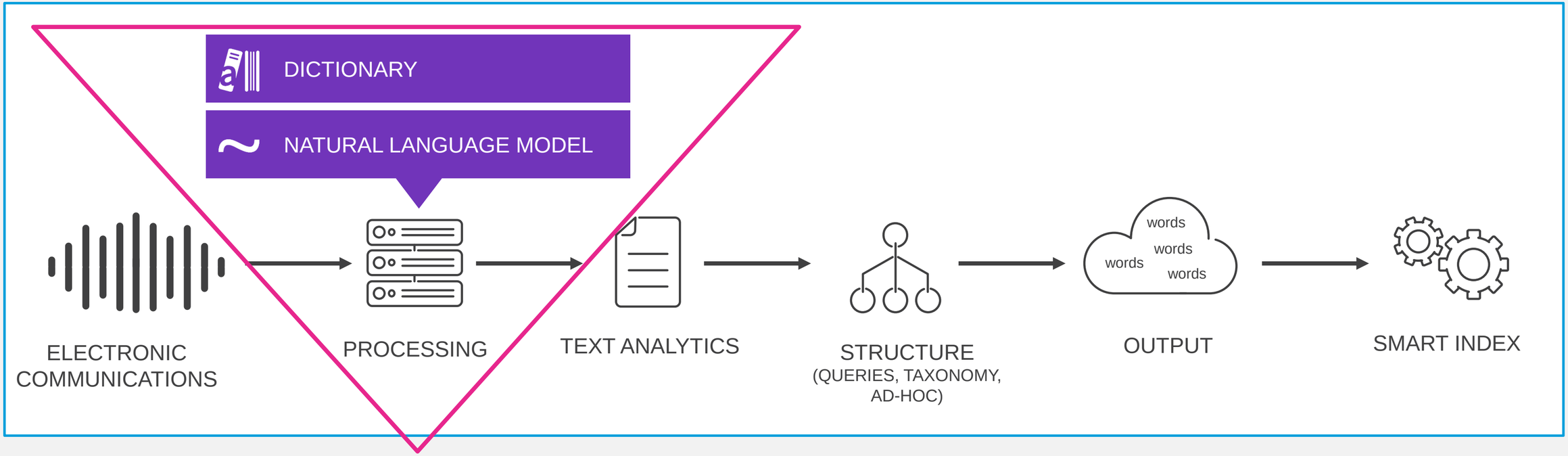
Language Identification

Language Identification – Voice



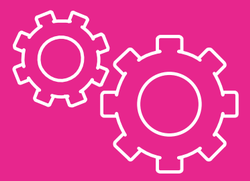
- Reduction false positives by applying analytics to relevant languages
- Language ID support for multiple languages simultaneously simplifying the configuration for Speech Conversion

Language Identification – Electronic Communications



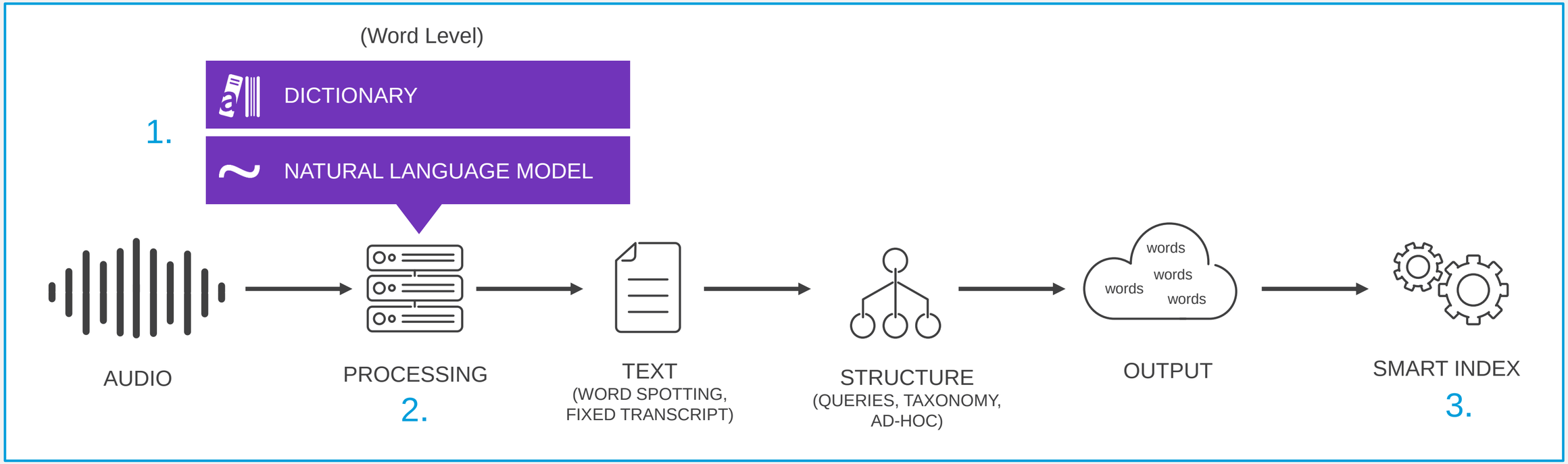
- Character set identification
- Language Composition Heuristics
- Tokenize communication content

Analytics



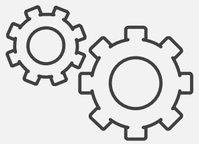
How Analyzing Speech Works

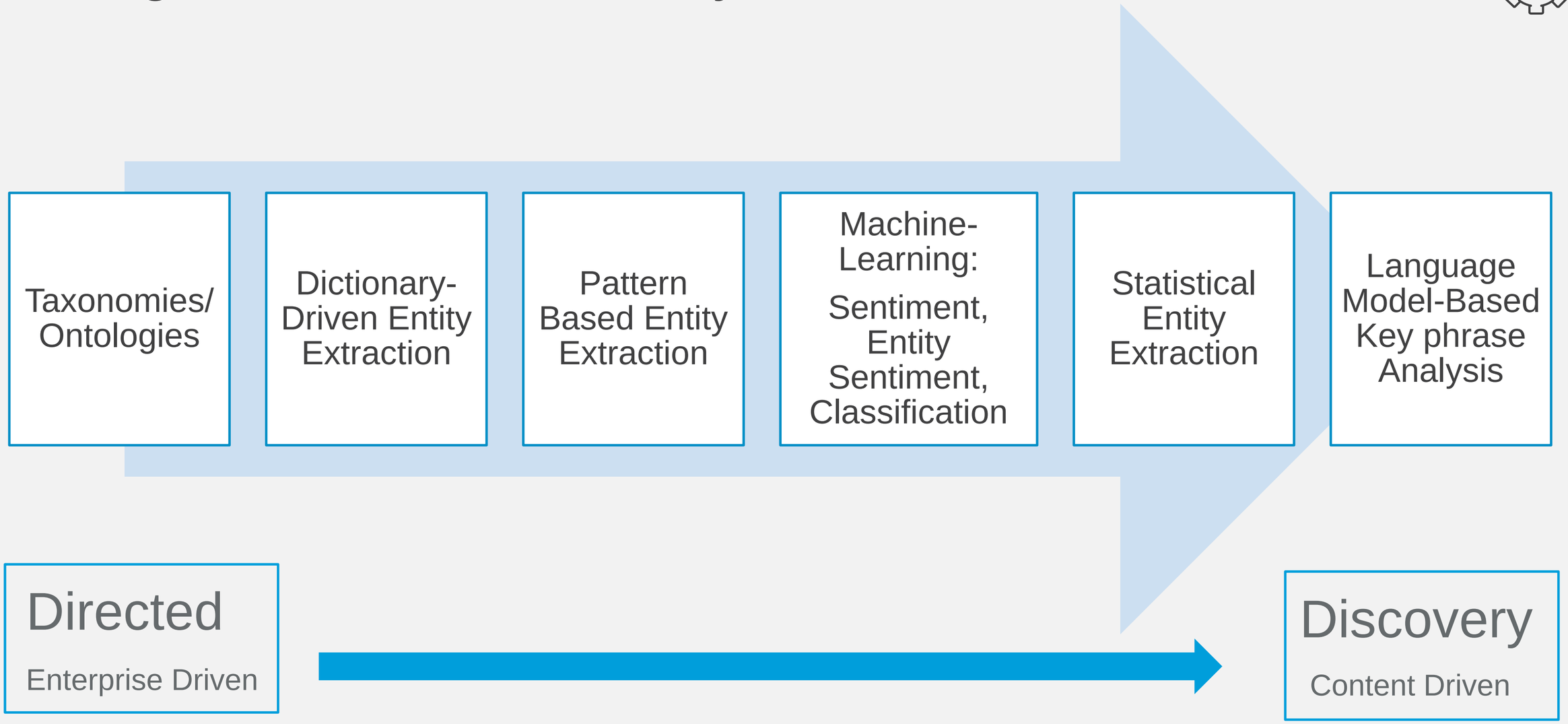
1. Dictionary and natural language models are created and tuned for each deployment
2. Audio converted into text at a rate of 5-15x real time per core



Technology well-suited for detecting patterns, aggregating data, and uncovers topics you might not know to look for

Using Advanced Text Analytics and NLP





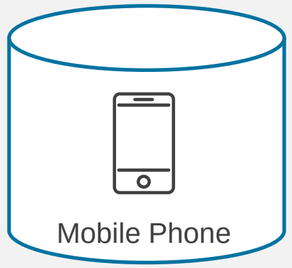
BEST PRACTICES

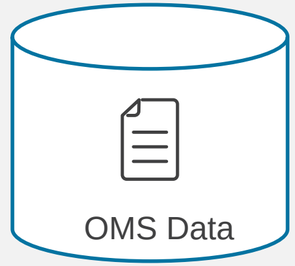
Trade Reconstruction – its complex

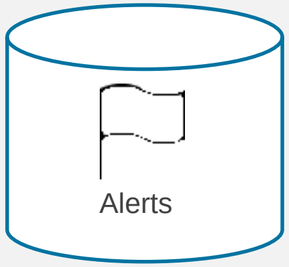
Disparate systems and multiple data types complicate the identification of relevant information

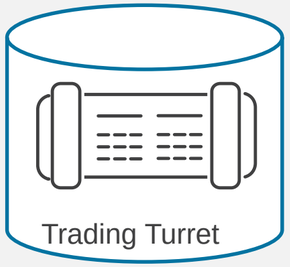
What do you have?

- Siloed data
- Excessive data
- Different meta data
- Different tools to access the data









Where do you start?

- How do you identify the first place to look?
- How do you find all the relevant data?
- How do I find and connect to all relevant data together?
- How do I understand a valid output

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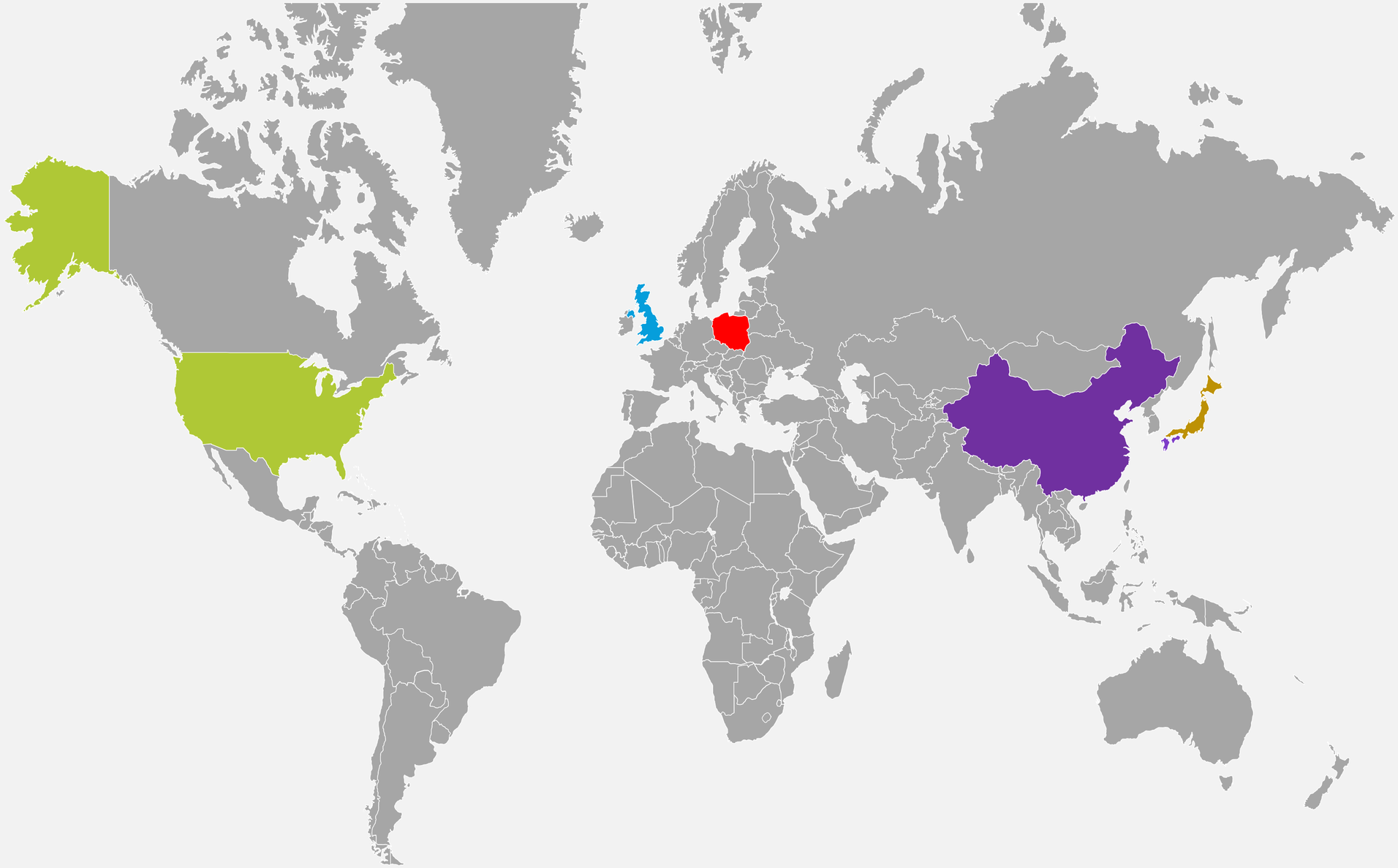
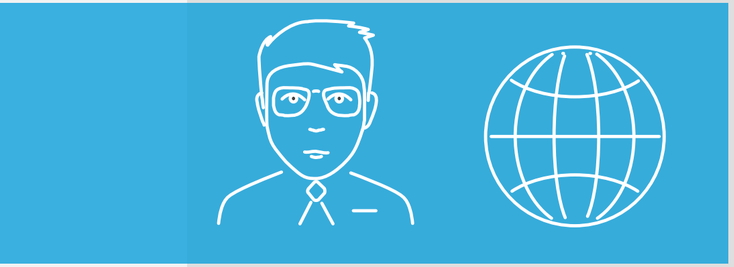
Case: Global Financial

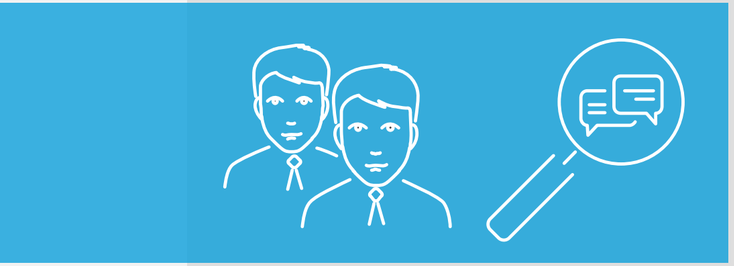


Future Developments



- Next level is transcribing all languages within a communication

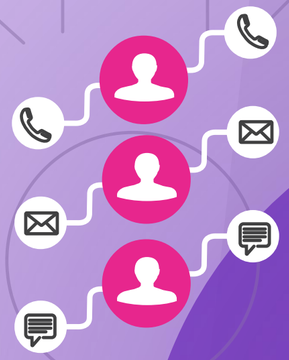
- Speaker identification



- Machine learning will correlate future communications and continue to improve language identification and transcriptions

From Reactive Compliance

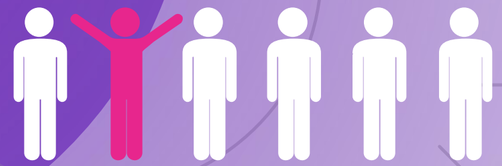
To Proactive Compliance



Siloed channels of info

Multi-channel trade reconstruction

Multiple suspicious traders



Specific trader behavior

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NICE Communication Surveillance

Supported Languages today

English
- International
- Australian
- N.A.
- UK

Spanish
- Castilian
- Latin American

French
- Canadian
- European

Chinese
- Cantonese
- Mandarin

Danish

Dutch

German

Hebrew

Hindi

Indonesian

Italian

Japanese

Korean

Brazilian Portuguese

Polish

Russian

Tagalog

Thai

Turkish

Questions?

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