prometeia

1000+
PEOPLE

500+
CLIENTS

BRANCHES

- Istanbul
- Cairo
- London
- Moscow
- Zurich

OFFICES

- Bologna
- Milan
- Rome

PARTNERSHIPS

- Amman
- Athens
- Dubai
- Kuwait City
- Lagos
- Lomè

- Madrid
- Paris
- Stockholm
- Tunis
- Vienna

RiskTech 100 2022
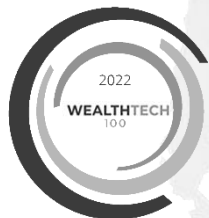Prometeia
Balance Sheet
Risk Management

2022 WEALTHTECH 100

XCELENT
Technology 2020

FOCUS ECONOMICS
ANALYST FORECAST AWARDS
2022

REFINITIV
Top 25 companies
for M&A deals in Italy

FORRESTER
WAVE LEADER 2022
Digital Wealth
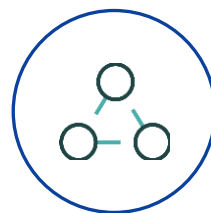Management Platforms

LEED
GOLD
2020

GRC transformation: towards a new approach

In a context of customers' rising expectations, competitive pressure, regulatory constraints, emerging risks and new business models, GRC functions need to accelerate their digitalization efforts, moving towards a new approach that should be:

PROACTIVE

Evolving from a traditional and reactive approach to one that is proactive, improving the organization's ability to avoid or manage both existing and emerging risks, aiming for an effective cost of risk reduction

DATA AND TECH-DRIVEN

Reimagining control functions with a focus on data and analytics, using large amounts of data produced by digital processes (digital traces), through high-performance and scalable machine learning solutions

INTERCONNECTED

Understanding and analysing interrelationships and dependencies among various types of risks, collaborating with every part of the organization and with a strong connection with the first line of defence and frontline employees

VALUE-ORIENTED

Supporting, according to their role, a risk-controlled and long-term growth of corporate value, providing insights to business, sustaining executives' decisions and unlocking a range of organizational benefits

What GRC needs to complete the trasformation

Despite the investments in the area of risk mitigation and control, in our vision, the transformation process is still ongoing and requires the presence of the following enablers to become effective

HARD SPECIALIZED SKILLS

The continue growth in complexity of business models and the spreading of emerging risks require a plurality of differentiated specialized skills (data science, cyber risk, environmental sciences...)
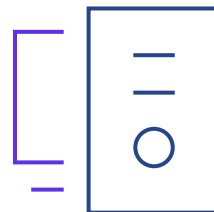
PLATFORMS AND SOLUTIONS

The development and adoption of suitable application solutions, for managing records, deadlines, workflows, documents, integrated with advanced analytics, allow the effective risk control and losses prevention
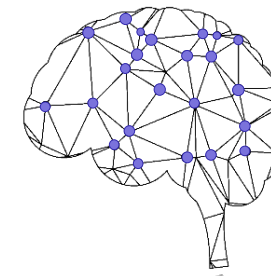
ARTIFICIAL INTELLIGENCE

The analysis of structured and unstructured data, using artificial intelligence tools (machine learning, natural language processing...), provides a reliable risks quantification supporting business decisions, according to a data-driven approach

structured **vs** *un*structured data

relational DBs

records

~**40%**

already available in a structure suitable for analysis

CVs

reports

emails

web pages

PDFs

videos

social posts

images

~**60%**

not ready to be analysed, typically stored in their original formats

the computing journey: from text to **insights**

A series of task performed to enable an efficient extraction of insights from textual data.

From a functional point of view, such activities are:

- **gathering**: it's about selecting and assembling the right textual resources;
- **structuring**: preparing heterogeneous textual sources for a more suitable machine-understandable representation;
- **indexing**: storing the representations so that such texts are easily accessible and searchable;
- **mining**: performing analytics, factual inference and/or information extraction;
- **visualisation**: once the information is structured, often insights arise by visualising data in context.

gathering

structuring

indexing

mining

visualisation
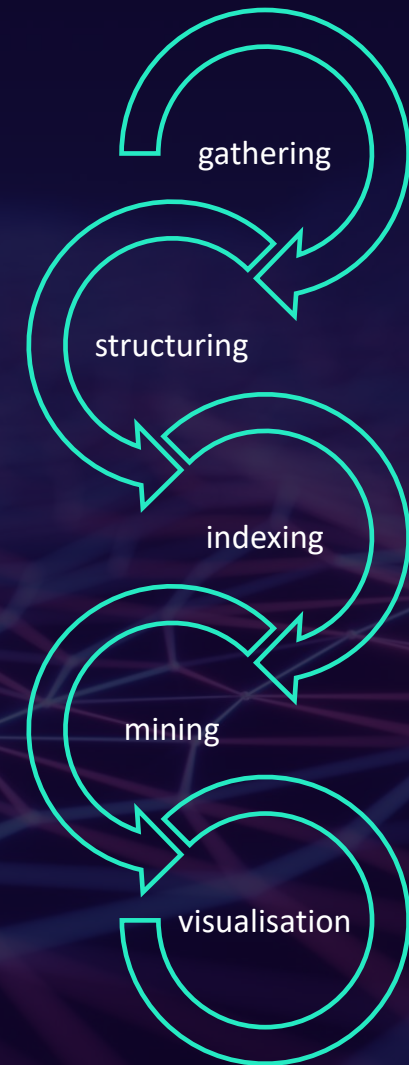
advanced layout analysis and OCR
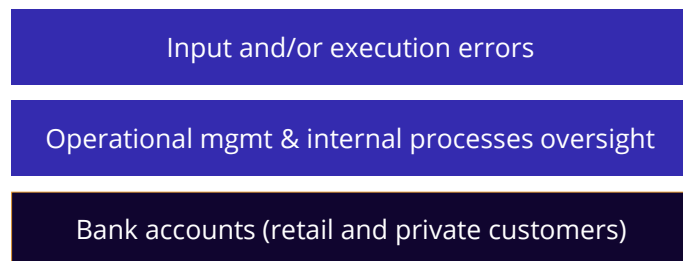
Text often needs to be extracted from documents, forms, attachments. This is the case for certain types of claims, legal documents, contracts, policies, regulations, process & control descriptions.
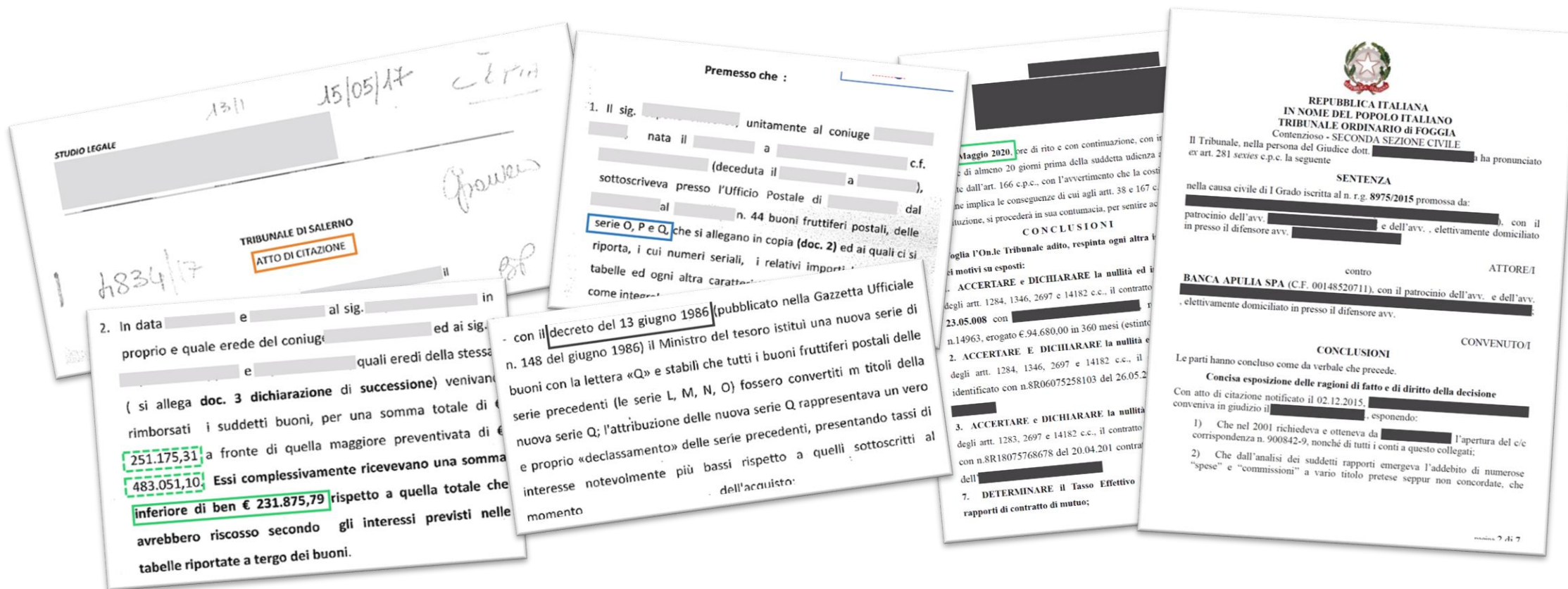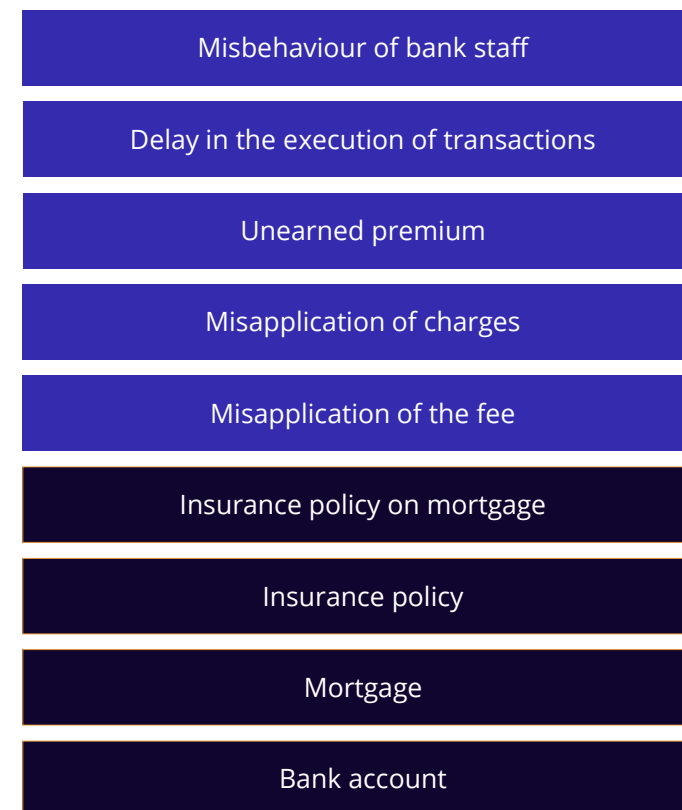
information extraction

PRE-EXISTING CLASSIFICATION

FINE-GRAINED TAGGER

Dispute over delays attributable to branch in claiming untaken premium of N4 Mortgage insurance policy and claiming refund of current account fee December 2017. Mr. Ross complains about the branch's conduct in the context of his request for repayment of the untaken premium of the N4 Mutuo policy, following the repayment of the underlying loan. The customer claims that the branch behaved unprofessionally and initiated the file late. Since the account cannot be extinguished at this time pending the crediting of the refund, the customer requests a refund of the December fee.

Misbehaviour of bank staff

Delay in the execution of transactions

Unearned premium

Misapplication of charges

Misapplication of the fee

Insurance policy on mortgage

Insurance policy

Mortgage

Bank account

Input and/or execution errors

Operational mgmt & internal processes oversight

Bank accounts (retail and private customers)

■ Root causes   ■ Products
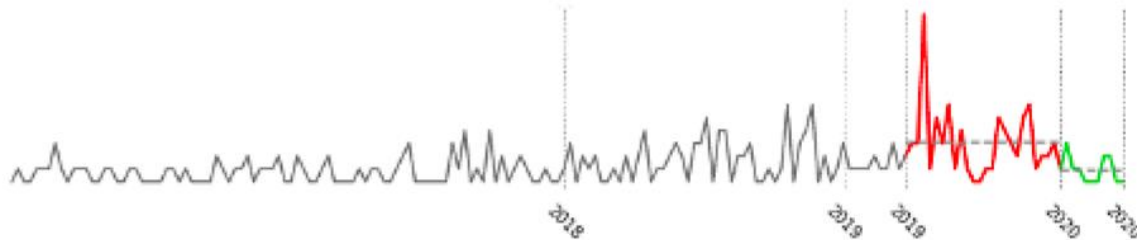
linguistic trend analysis

Root cause
DISPUTED BANK TRANSFER

The number of events from April 2020 **diminished** on average of 2.1 events per week as opposed to the previous time period (October 2019 - April 2020).
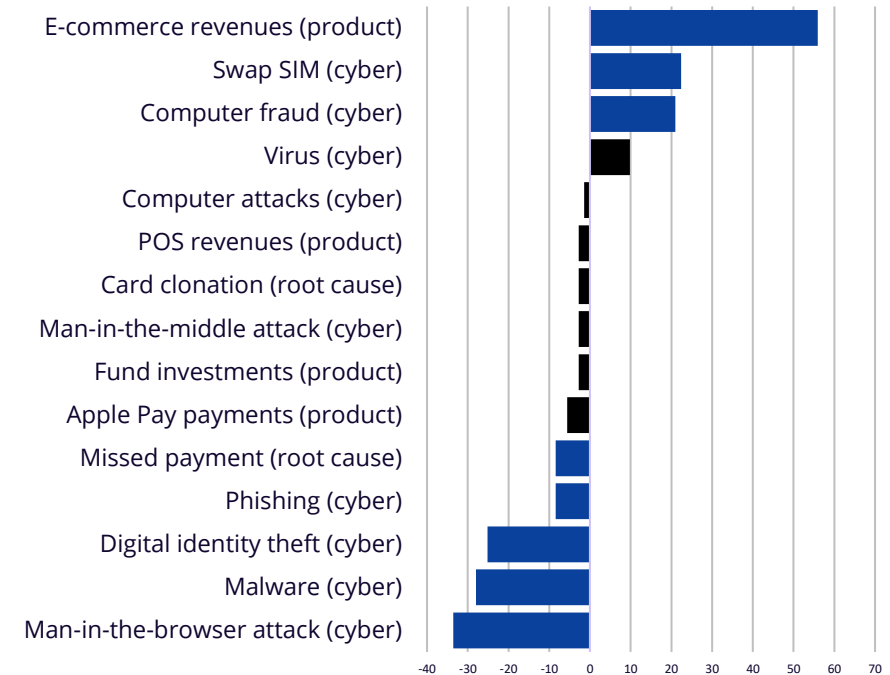
Sensibility: 1 ——————————○—————————— 10

Trend
DOWNWARD

Temporal window
Jan. 2017 – Jun. 2020

ANALYSIS
CO-TRENDS

- E-commerce revenues (product)
- Swap SIM (cyber)
- Computer fraud (cyber)
- Virus (cyber)
- Computer attacks (cyber)
- POS revenues (product)
- Card clonation (root cause)
- Man-in-the-middle attack (cyber)
- Fund investments (product)
- Apple Pay payments (product)
- Missed payment (root cause)
- Phishing (cyber)
- Digital identity theft (cyber)
- Malware (cyber)
- Man-in-the-browser attack (cyber)

-40 -30 -20 -10 0 10 20 30 40 50 60 70

operational risk map

- The tagging can be used to visualise the overall map of generated business concepts. Each node represents a business concept whereas the connection between them is as strong as the concepts tend to occur together in losses notes

- The map enables operational risk managers to get an immediate and precise characterization of the **main sources of risks**

- Exploring such map also enables them to identify unexpected losses and land on peculiar cases

data quality

TAGS

AUTOMATIC PREDICTION

SUGGESTED ACTION
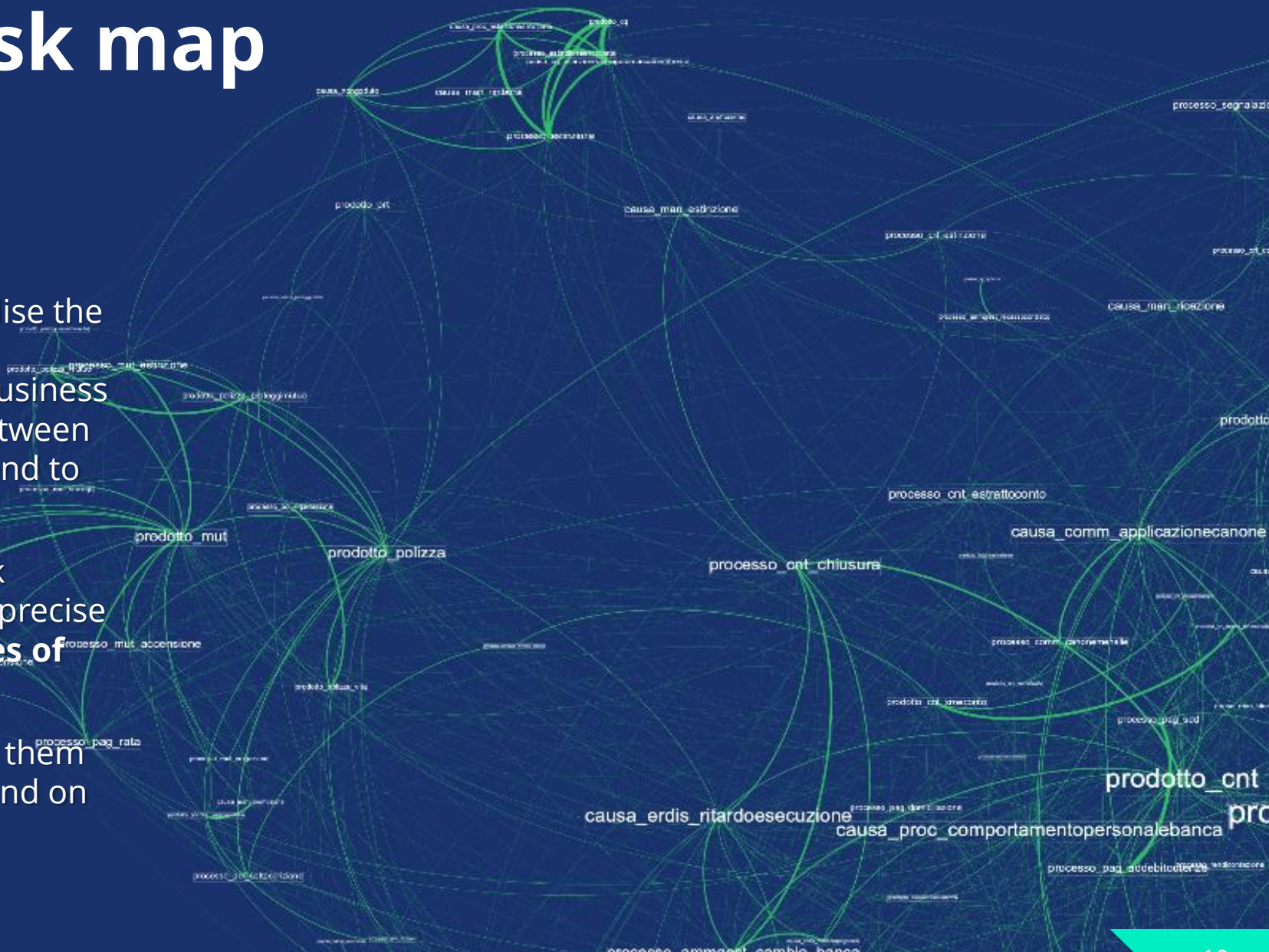
In connection with **lease agreement** No. 123 it is requested to: - to ascertain and declare the nullity of the contractual clauses relating to the interest rate, as they provide **usurious conditions** [...] This, by virtue [...] and of the **compounding interest** effect resulting from the adoption of a financial plan with so-called French amortization; [...]- in the alternative, declare the interest clause null and void because it violates Law 287/1990 and Article 117 TUB due to the adoption of Euribor (a value alleged to be the object of a cartel among banking institutions) as a variable parameter in violation of **antitrust regulations**, with application in place of BOT rates [...]

compound interest

usury

antitrust

PREDICTED EVENT TYPE
ET 04.01.02 Usury

GIVEN EVENT TYPE
ET 04.01.02 Usury

✓

The **employee**, a manager of the *** branch, received a **report contesting violations** of the combined provisions of Articles 2 , paragraph 152 of Legislative Decree No. 262/2006 and 5 of the April 28, 2016 DM of the Ministry of Economy and Finance. Specifically, this concerns the late **reporting to the MEF** of suspected **counterfeit banknotes**

MEF communication

employee's infringement

fake banknotes

PREDICTED EVENT TYPE
ET 07.02.01 Supervisory monitoring & reporting

GIVEN EVENT TYPE
ET 07.01.10 Input and/or execution errors
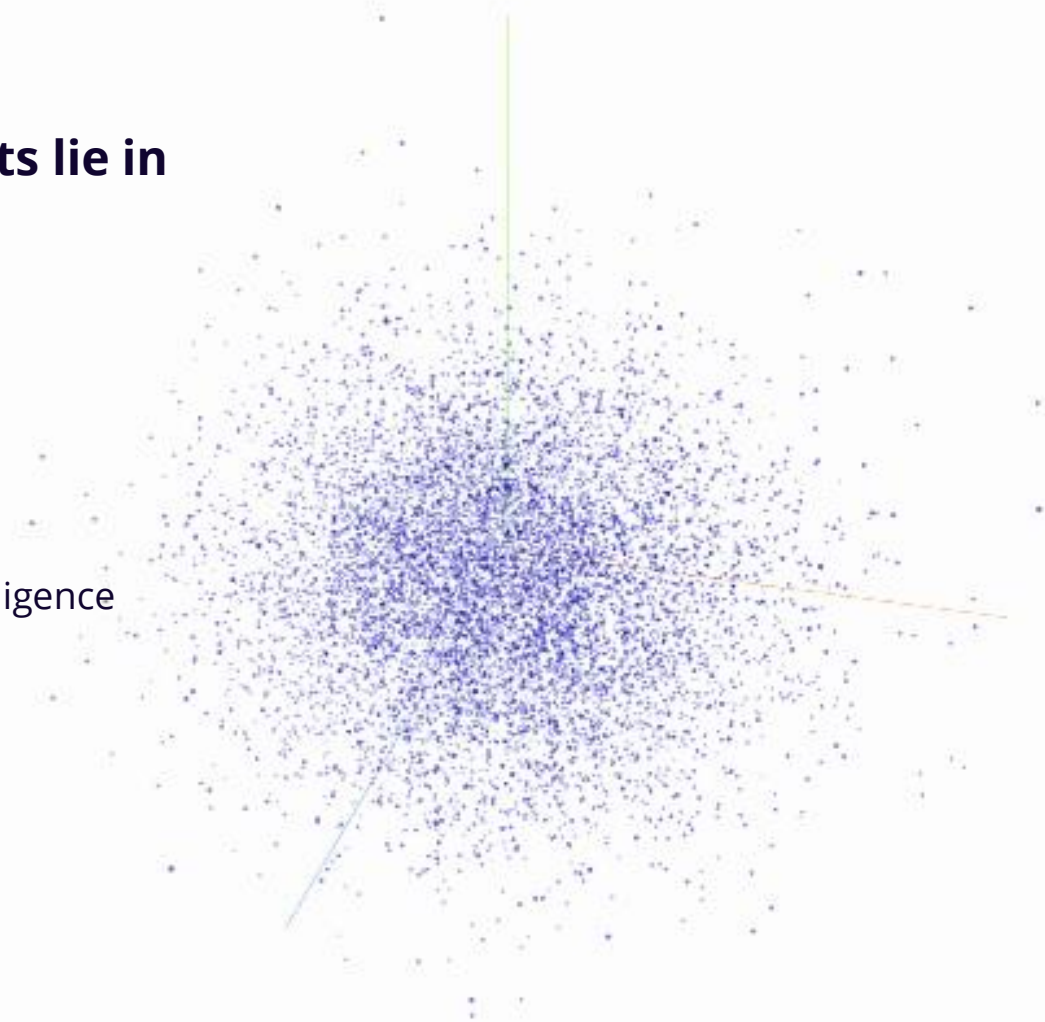
✗ CONFIDENCE **85.9%**

under the hood

large language models

complex algebric spaces where concepts lie in clusters of similar meaning

- **ad-hoc** language models
- tag-based representation
  - accelerated and improved via artificial intelligence
- tailored **information design**
- advanced statistics expertise
- expert-in-the-loop approach

text analysis applications are already mature!

TEXT CATEGORIZATION

Input: corpora, categories
Output: category per document

TOPIC MODELLING

Input: corpora
Output: topics per document

QUESTION ANSWERING

Input: corpora, questions
Output: pertinent answer

DOCUMENT SUMMARIZATION

Input: document
Output: shorter document

MACHINE TRANSLATION

Input: sentence in a language
Output: sentence in a different language

NAMED ENTITY RECOGNITION

Input: document
Output: categorized entities

CHATBOT

Input: corpora, requests
Output: satisfactory answers (per request)

SENTIMENT ANALYSIS

Input: corpora
Output: set of authors' feelings

INFORMATION RETRIEVAL

Input: corpora, query
Output: ranked list of relevant documents