



AI for Justice

Towards augmented justice for the benefit of all



Perform AI

Towards augmented justice for the benefit of all

Judiciary and Judicial institutions often had great inertia in adopting new technologies, and AI is one of them. Not only is AI able to improve access to justice, it also contributes to the base of peaceful and inclusive societies by making institutions more accountable and effective.

It does so through different applications that help courts and police as well as citizens on all levels to make processes less complex, more transparent and more reliable. Examples include visual and audio processing, abuse and fraud detection, intelligent case management, and communication with citizens.

#AI4JUSTICE

16 PEACE, JUSTICE AND STRONG INSTITUTIONS



#AI4TRANSPARENCY

About SDGs

The Sustainable Development Goals (SDGs) are at the heart of the 2030 Agenda for Sustainable Development adopted by all United Nations Member States in 2015. They consist of 17 interlinked global goals that must go hand in hand with strategies in order to create a better and more sustainable future. SDG 16 addresses the main objectives that are linked to AI and justice.

[You can learn more about the SDGs here.](#)

58%

of the targets in SDG 16 could be positively impacted by AI.¹



National strategic approaches in AI for Justice

The growing interest in AI applications for justice can be seen in an increasing number of national AI strategies addressing law enforcement and crime prevention:

Germany² - Increasing Efficiency through AI-based analysis

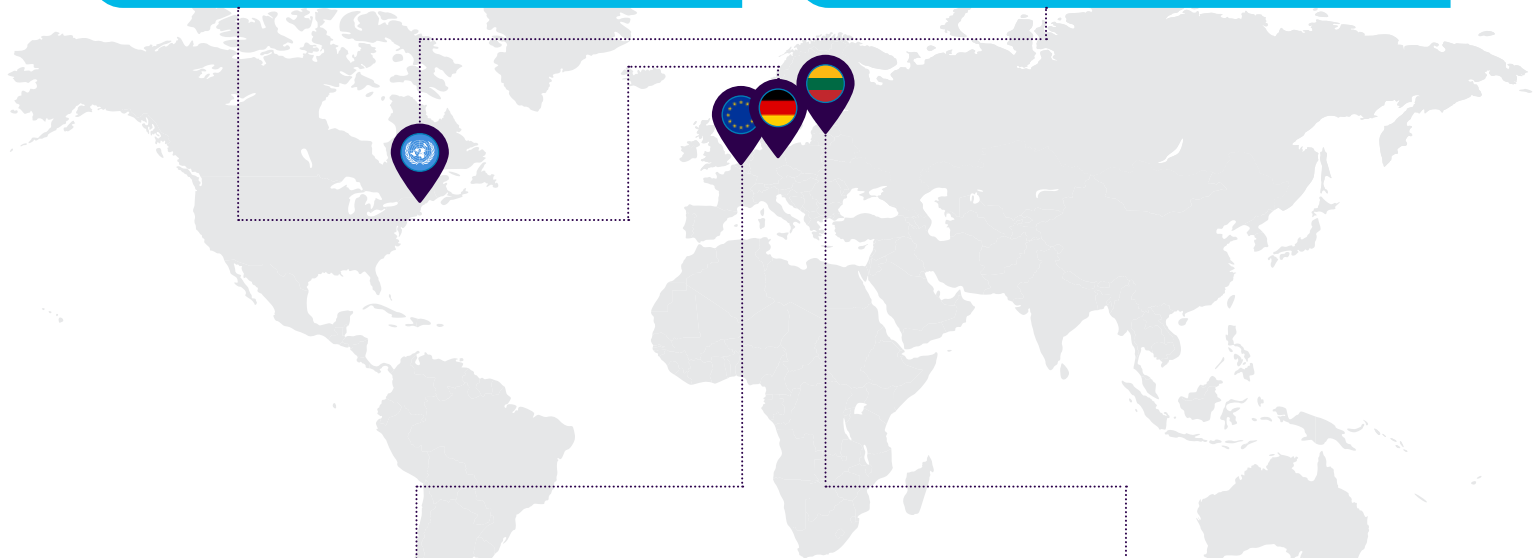
In its AI strategy, Germany considers AI-based analysis methods for law enforcement more efficient than conventional analysis methods. However, the appraisal of this information and decisions taken will continue to be conducted by the staff of the authorities.

The strategy addresses a few applications like predictive policing, protection of children against sexual violence on the internet, the combat against the dissemination of footage depicting abuse and social media forensics for profiling.

The United Nations – Promoting responsible AI (United States on the World Map)

While AI can enhance ethical purposes such as the SDGs, there are also risks that need to be considered in its application.

The UNICRI-INTERPOL report on AI in Law Enforcement³ promotes principles and addresses requirements for a responsible use of AI. It also includes a toolkit with general explanations and best practices for law enforcement institutions.



The EU – Developing a legal framework

The Ad hoc Committee on AI (CAHA)⁴ established in 2019 by the Council of Europe, recently published their progress report⁵ and a feasibility study⁶ tackling a legal framework for the development, design and application of AI.

The report sets out a clear roadmap based on human rights, the rule of law and democracy.

Lithuania⁷ - Using AI creatively

Lithuania considers using AI creatively for citizen services. In its strategy, crime prediction and better services for citizens, such as virtual assistants are addressed.

92%

of the civil legal problems reported by low-income Americans received inadequate or no legal help.⁹



“While we should strive for increased efficiency, we should also keep in mind the essential aspect of justice in the eyes of the citizens. They rely on trust and confidence in the functioning of the system.”

- Gregor Strojín

*Chair of the Ad hoc Committee on AI,
Council of Europe*

Our Approach

Given its potential and growing relevance, AI in law enforcement is a key augmentation to promote justice. Capgemini’s expertise would prove essential in improving juridical systems that seek to adopt AI applications. In precedent use cases, we created a significant impact for citizens, courts, police and ministries by developing and deploying AI applications in four main fields⁸ :



Intelligent automation of juridical processes

Standard processes like managing cases and validating documents take time in law enforcement authorities, given the vast amount and complexity of information. AI applications such as Natural Language Processing (NLP), automated decision-making or visual processing can support authorities through intelligent case management or cognitive document processing and enable authorities to enhance their efficiency and transparency.



Interaction with citizens

When confronted with juridical processes, citizens often have difficulties navigating the legal system and may have inquiries that take time to be answered. Through citizen guiding chatbots and FAQ assistants, AI can provide information, answer questions and even help with requests to make law enforcement as transparent and explainable as possible, thus revolutionizing the way that citizens interact with police, courts and other authorities.



Detection of anomalies

AI can constantly monitor streams of transactions and check the accuracy of information. Anomalies can be identified through various types of data and even indicate patterns through NLP and computer vision. AI can alert law enforcement to potential fraud and other anomalies on different stages.



Data-supported help for judges in decision-making processes

Judges need to take sensible decisions based on insights they analyse themselves. This makes decision-making processes lack in-depth context and more vulnerable to biases. Through advanced and predictive analytics, decision-making in courts can be supported by AI as a source of information analysis, as an instrument for the performance review of measures and as means of optimizing administrative processes.

In the quest for AI4Good, it is crucial to position AI as an enabler of the human, rather than an agent taking over the decision-making process. This is especially important in the jurisdictional field, where critical decision with life-impacting consequences are taken. This particular sensibility involves creating operational tools guaranteeing the Explainability and fairness of AI-driven outputs.

Solutions delivered include:

Knowledge Graphs - Courts, authorities, and organizations are trying to analyze and find relations within vast amounts of data, but struggle to get systems to dynamically visualize situations they are interested in. This takes time and impedes juridical processes, which can be a burden to citizens, administrative staff, and investigators. Organizations often do not know how much value their own data holds or how to unleash it. This keeps relations and redundancies in data undiscovered and fosters ambiguity.

In this context, Capgemini is asked to contribute to systems that allow public servants to find, relate and discover knowledge throughout all available information systems in an organization. These systems can be described as knowledge graphs creating a structured layer of data and providing accurate consistent and optimized information. Knowledge graphs allow to identify logical relations between objects stored in different datasets or even documents. They are already

constructed to semantically to allow both people and computers to process them in an efficient and unambiguous manner. Knowledge graphs can be solutions for:

- Automating interpretations of regulations and law for regulatory compliance or prosecution analysis
- Delivering relational insights for fraud management, anomaly propagation or blame assignment
- Reasoning and problem solving thanks to graph-based algorithms

75%

accuracy in predicting future juridical decisions can be attained through NLP (Natural Language Processing) based AI tools, after being trained by data obtained from the European Court of Human Rights.¹⁰

Since working with an AI-driven analytics software, Manhattan's District Attorney has been able to increase the number of human trafficking investigations they carry out yearly from¹¹

30-300



Haystack -
Investigation
Tool



Support for
jurisdictional
decisions



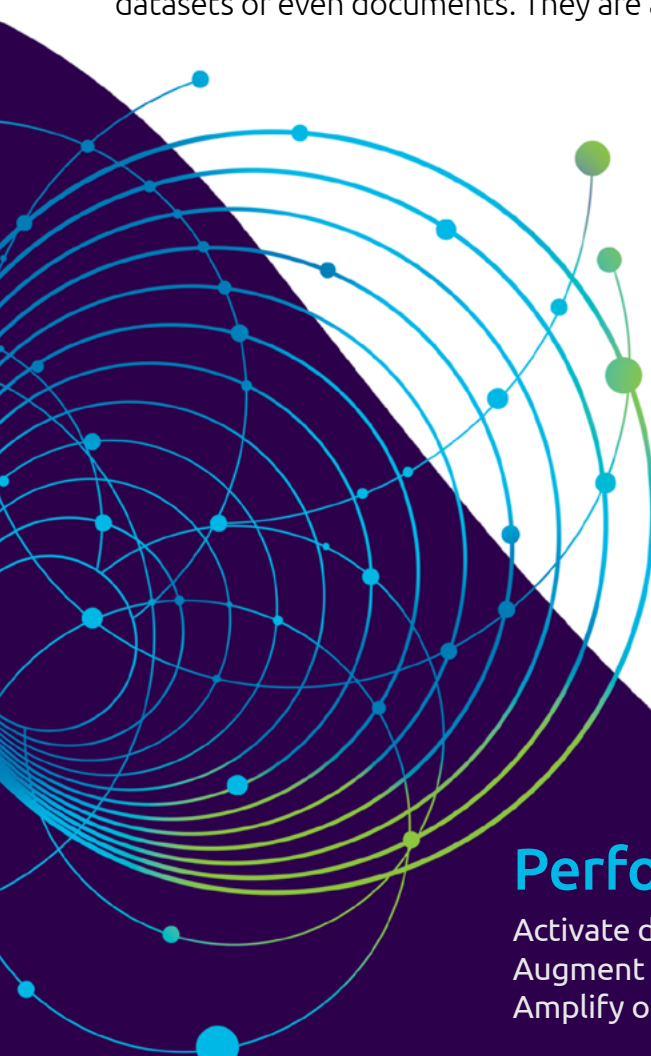
Maritime
operations



Use
Cases

Perform AI

Activate data.
Augment intelligence.
Amplify outcomes.



Use Case – HAYSTACK: AN INVESTIGATIVE TOOL TO DETECT CRIMINAL BEHAVIOUR



INVESTIGATIVE TOOL TO DETECT CRIMINAL BEHAVIOUR

United Kingdom

Challenges

- Juridical institutions dispose of a wide range of data from different domains and points in time.
- The data is often not integrated into a common analytical environment which makes it difficult to investigate historic trends and emergent activity in real-time.
- Technology that is used to visualise data and detect activities often involves multiple interfaces and non-customisable solutions, which makes it tend to be a one-size-fits-all solution.

Solutions

- The analysis tool Haystack provides seamless analysis of local, remote and federated database by assembling different sources of data.
- It is a customisable solution enabling law enforcement authorities to enhance the transparency and efficiency of their investigation processes.
- By applying AI to Haystack, trends could be monitored and identified to highlight suspicious activity and allow predictive analysis.
- This could be supported by Natural Language Processing that extracts relevant information from unstructured data, such as documents.



Use Case - ANALYSIS TOOL FOR JURISDICTIONAL DECISIONS



ANALYSIS TOOL FOR JURISDICTIONAL DECISIONS

Western European Ministry of Justice

Challenges

- People take biased decisions.
- In jurisdictional processes, this can lead to unfair verdicts, e.g. different amounts of compensation depending on the victim's ethnicity, gender or popularity.
- Vast amounts of historical data from past jurisdictional processes are available in courts but often not fully leveraged

Solutions

- An Analysis Tool for Jurisdictional Decisions: A Western European department of justice was able to analyse biases in jurisprudence through predictive and advanced analytics.
- The tool fully uses available data from 5 years of law cases, i.e. around 12.000 decisions.
- Given the historical data, the tool supports judges in decision making processes.
- They are provided with a direct estimation of the amount of compensation for citizens.



Use Case - KNOWLEDGE ANALYTICS TO UNDERSTAND LEGAL REQUIREMENTS IN MARITIME OPERATIONS



KNOWLEDGE GRAPHS FOR LEGAL REQUIREMENTS IN MARITIME OPERATIONS

Maritime Authority, Norway

Challenges

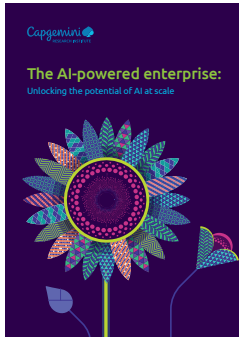
- A Norwegian Maritime Authority regularly needs to check requirements across regulations for maritime traffic
- The information on these requirements was spread across several files in various formats, mostly in plain text.
- Legal scopes of the information needed to be combined with their position in regulation in order to ensure that operators in maritime traffic fulfil all requirements

Solutions

- Capgemini modelled requirements across regulations using AI to create a system for extracting, consolidating, and identifying relevant sources of information
- These systems are called knowledge graphs and use different models to connect information and make it easily accessible, as well as to identify missing data
- While augmenting data integrity within the maritima authority, knowledge graphs saved 10.000 working hours with the introduction of Natural Language Processing



Thought Leadership Positions



Unlocking the potential of
AI at scale
2020



Championing Data
Protection and Privacy
2019



Ethical questions
in AI
2019

Contact our Experts!

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More Information

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individual session
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Additional links
[Our Perform AI Offer](#)
[AI in the Public Sector](#)
[Capgemini @ AI for Good Summit](#)

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More information





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