



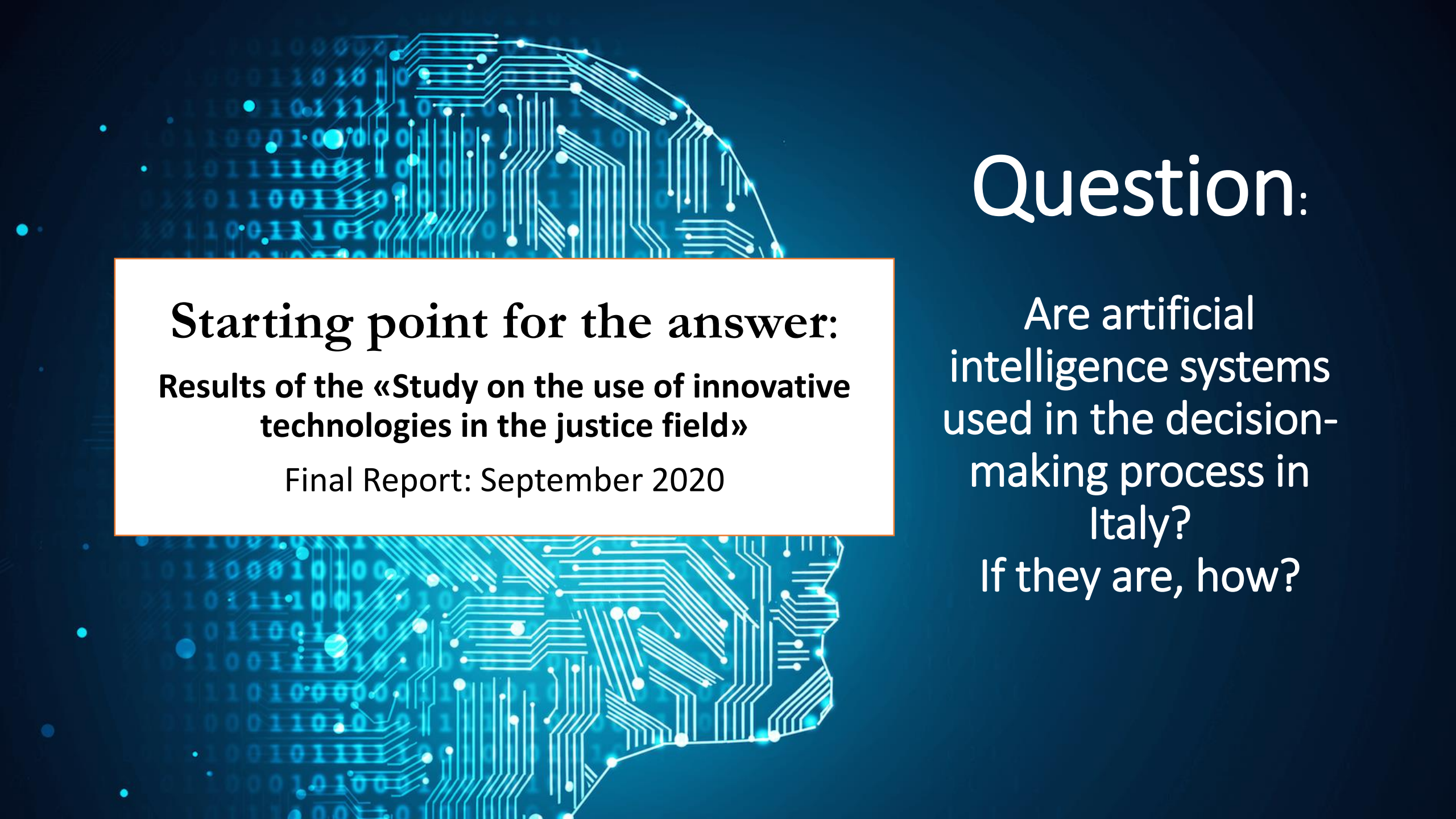
3rd webinar on the use of  
Artificial Intelligence in the  
justice field  
*Predictive Justice*  
18 November 2021

**AI in the decision-making process**

*The Italian experience*

Federica Fiorillo

*Italian Ministry of Justice*



**Starting point for the answer:  
Results of the «Study on the use of innovative  
technologies in the justice field»**

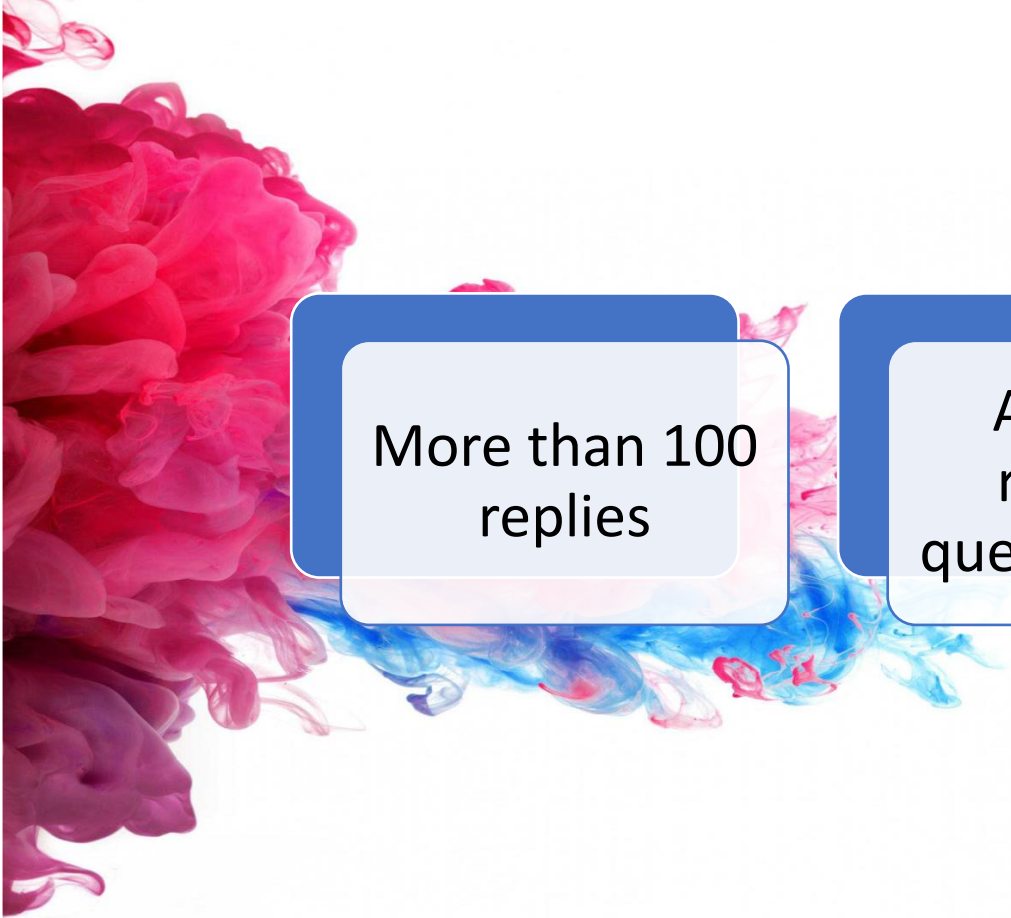
Final Report: September 2020

# Question:

Are artificial  
intelligence systems  
used in the decision-  
making process in  
Italy?  
If they are, how?

# *Study on the use of innovative technologies*

Numbers of the Italian replies to the Ministry of Justice



More than 100  
replies

About 40  
returned  
questionnaires

2 projects  
within the  
Ministry

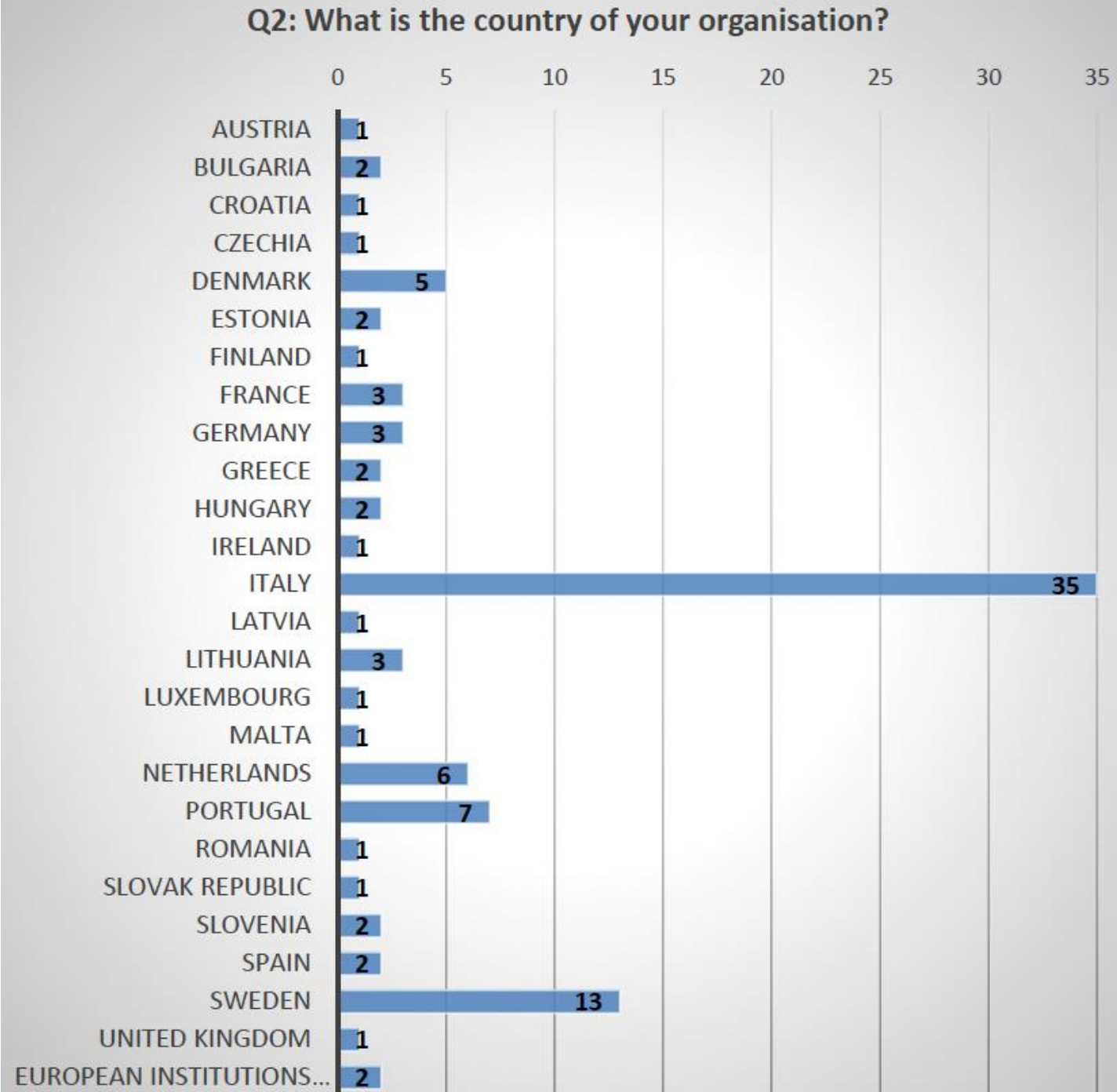
More than 10  
projects within  
judicial offices

# Replies to the EC contractor per Member State

Ref. *Study on the use of innovative technologies in the justice field -Final Report*

Par. 6.1.1.

Q.2



# Background on the Italian situation

WIDESPREAD DIGITALISATION OF JUSTICE

The Telematic civil process (PCT) is fully in force and operative in the whole Italian territory since June 2014

More than 80 million digitally native documents have been filed since 2014

The digital and telematic transition of the criminal trial has been launched.

The recent Law no. 134 of 27 September 2021 provides:

- a three-year plan for the digital transition of the administration of justice
- the possibility of setting a technical-scientific committee for the digitalization of the process

Recent judgments of the Regional Administrative Tribunal and Council of State on the use of algorithms as a decision support for public administration have been delivered.

# Ministry of Justice

- **Department of Judicial Organisation - Court of Cassation**
- SEMI-AUTOMATED ANONYMISATION OF COURT DECISIONS (described at 1<sup>st</sup> Webinar)
- **Department for Judicial Affairs - IBM Italy**
- AUT DÉDERE AUT JÚDICARE (IBM Watson Explorer)



# Department for Judicial Affairs

- Used since September 2017, it processes only numerical data.
- Learning from its errors it currently guarantees a reliability rate of over 97%.
- Outcomes can help in the decision-making process

# Judicial Offices

➤ More than 10 projects in the implementation or study phase

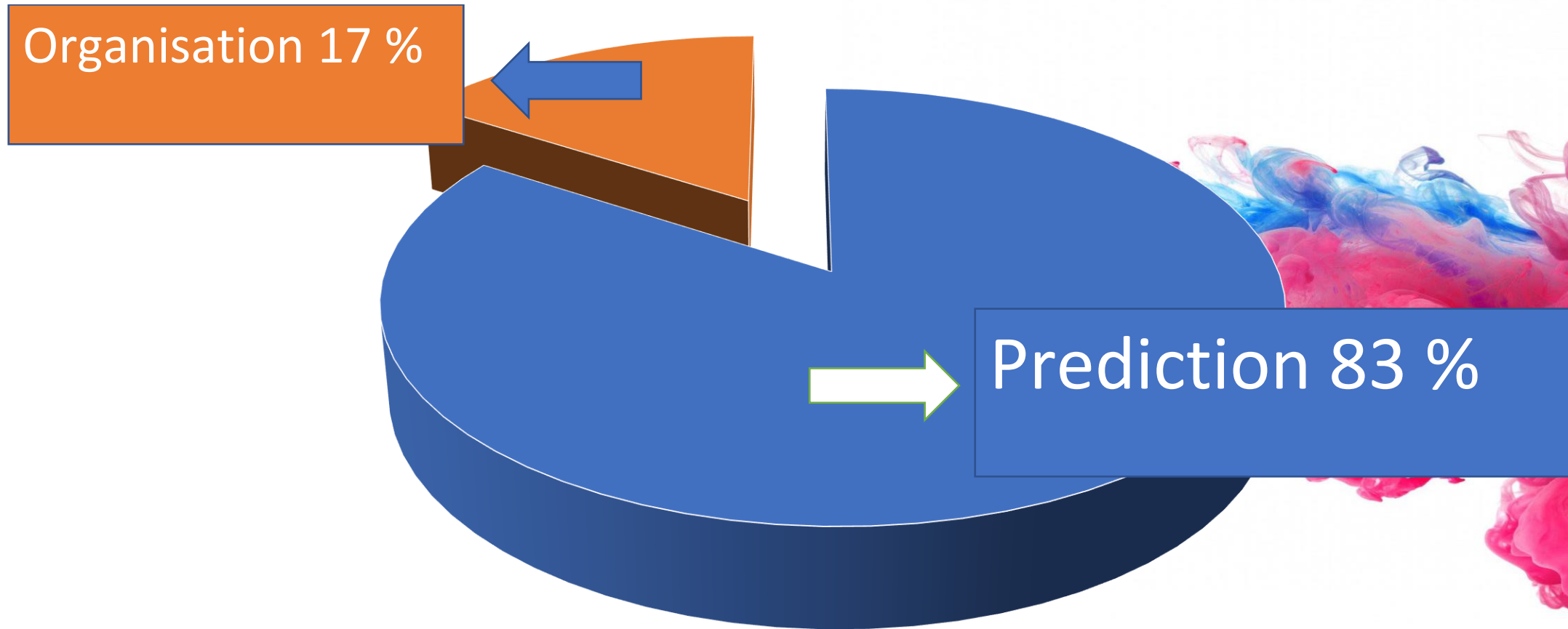
## ➤ PARTNERS

- Universities
- Legal professional organizations
- Other Bodies (i.e. Chambers of Commerce, Mediation and Conciliation bodies and entities)





# *Aim of the projects*



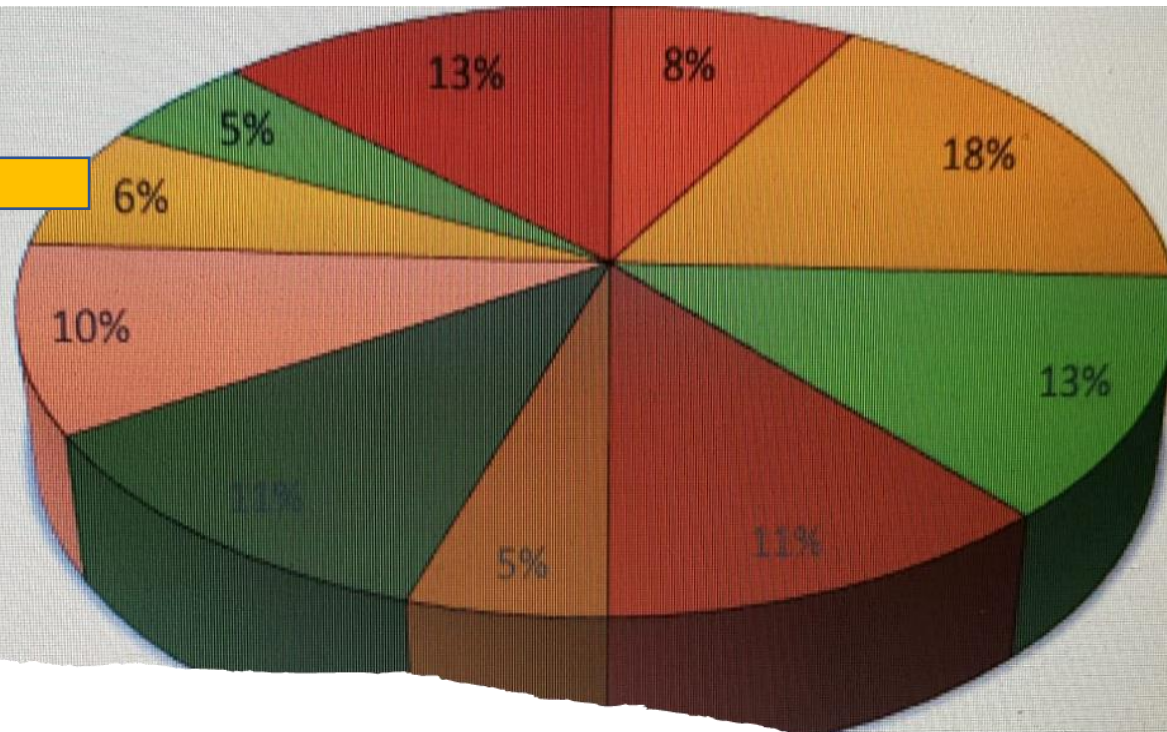
# A contradiction with the results at the European level?

Ref. WD(2020) 540 final *Figure 41*

*Mapping of digitalization of justice in the Member States*

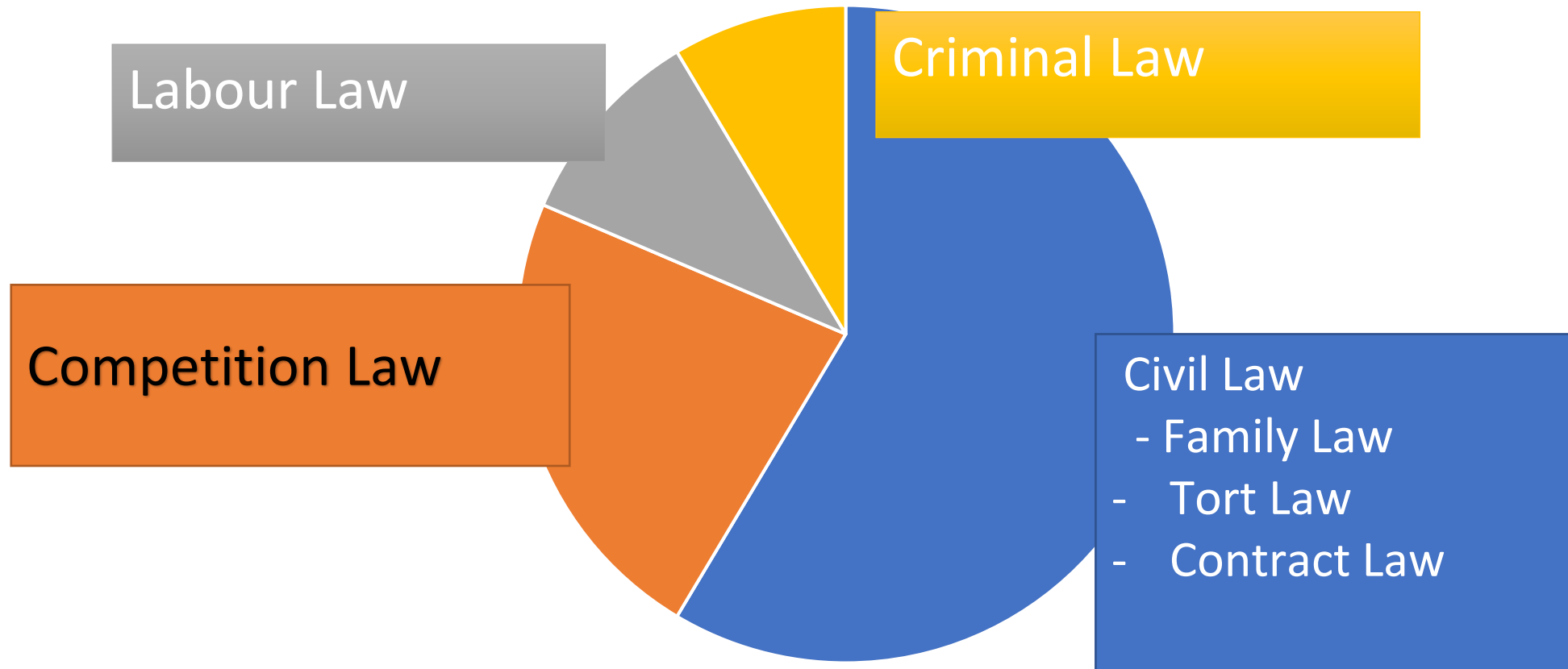
*Proportions of projects using Artificial Intelligence technologies*

Predictive Justice

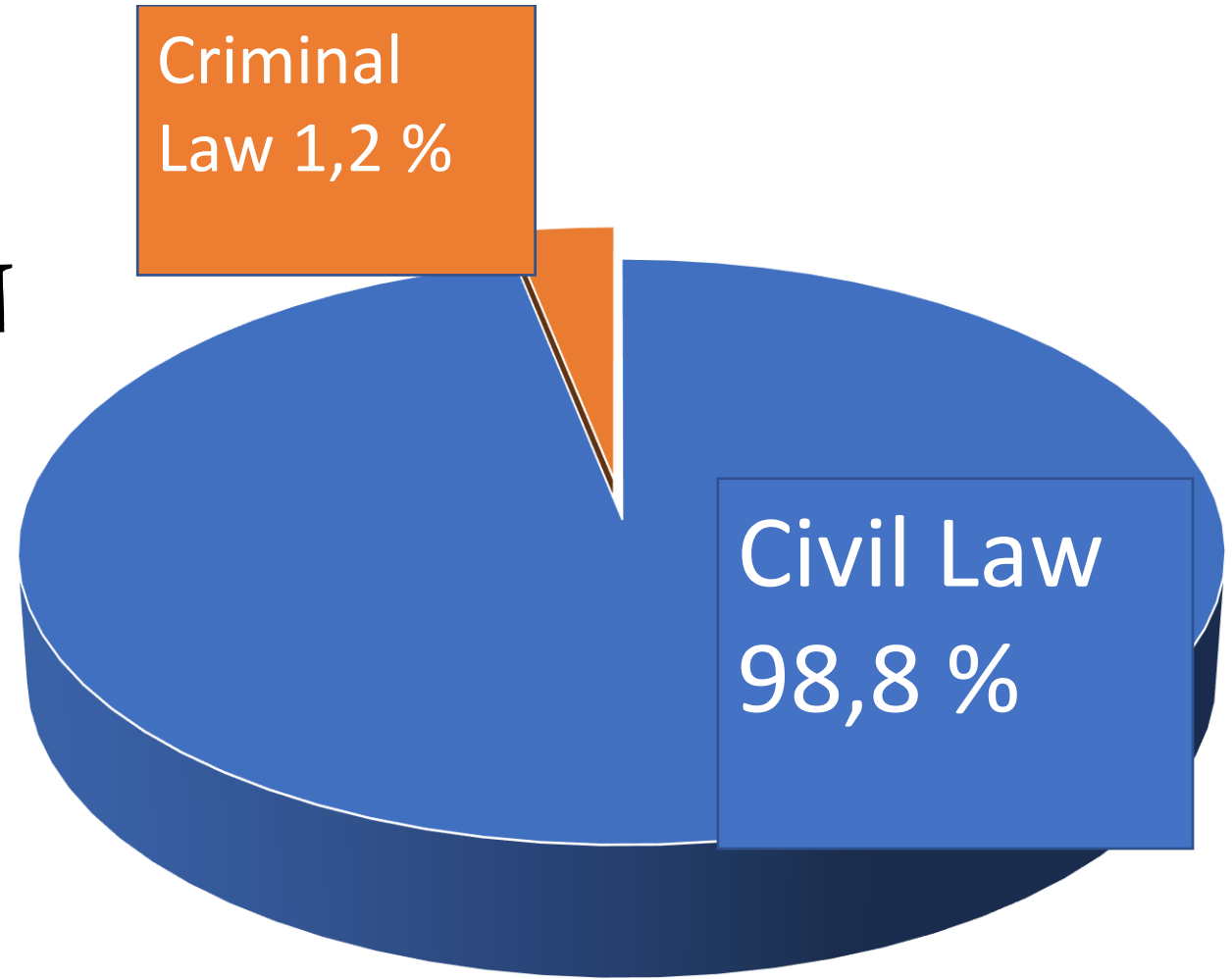


# FIELDS OF IMPLEMENTATION

Italian judicial offices projects



# FIELDS OF IMPLEMENTATION



# What do we mean by predictive justice?

1

The development of algorithms and systems for using them to make predictions in the field of justice

2

PREDICTION = Processing of future events on the basis of clues, data, models

3

**SUBJECT of prediction**  
within the different projects:

- decision-making trends
- timing of the decision
- costs
- possibility of mediation

# Purposes

To provide decision support

to increase the predictability of the decision

to guide the parties' choices

to reduce litigation.

# AI technology types

Expert systems and rule based systems

## ➤ **NATURAL LANGUAGE PROCESSING**

- name entity recognition
- information extraction
- machine translation
- sentiment analysis (1)

## ➤ **MACHINE LEARNING**

- Supervised (Classification algorithms, Regression algorithms)
- Unsupervised (Clustering, Association)

# CHALLENGES REPORTED BY JUDICIAL OFFICES

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Legal limitations

(in particular related to personal data protection)

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Administrative - bureaucratic

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Costs

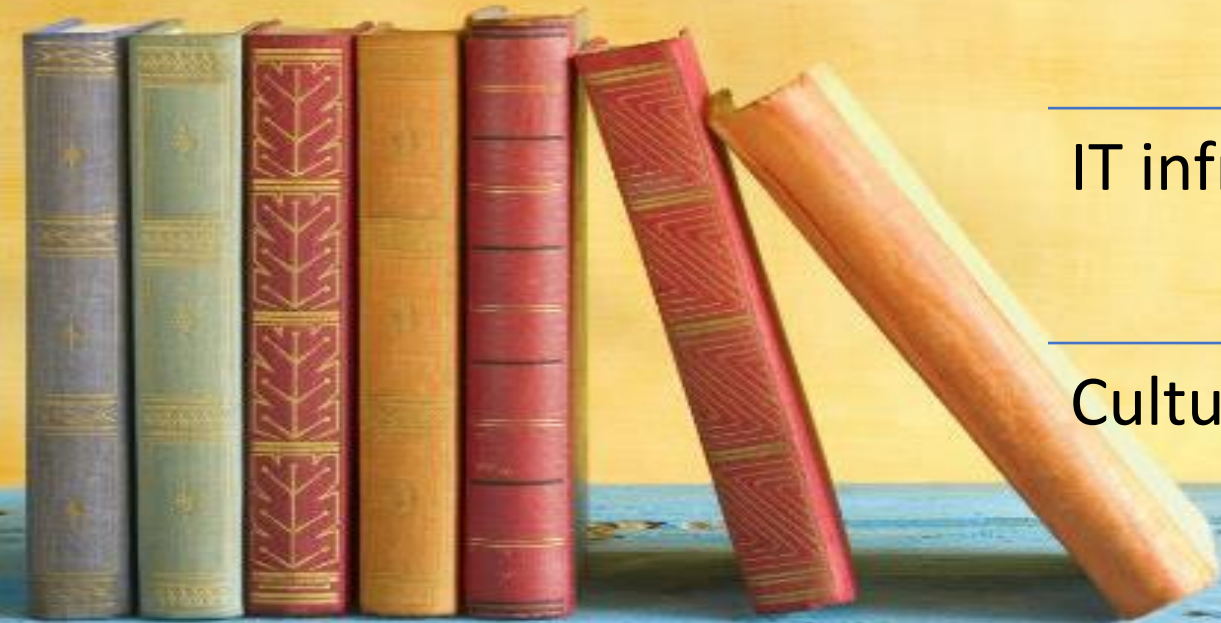
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IT infrastructures

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Cultural

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# Some examples of Predictive Justice Projects

2. Venice Project

1. Brescia project

3/4.

Genoa/Pisa  
Projects

5 • Florence Project

# Court of Appeal and Ordinary Court of Brescia + University of Brescia

No. 1

Ongoing since 2018 – in force and operative since November 2021

Project Name: Predictive justice

Aim: to set up a reasoned database to provide predictable guidelines and timing in particular areas

Area of justice: Civil Justice

AI technology type: Expert systems and rule-based systems; Natural Language Processing (NLP) (Named Entity Recognition; Information Extraction)

# No. 2

## **Court of Appeal of Venice + Center for Legal Studies of the Ca Foscari University of Venice**

Ongoing since 2017

Project Name: Predictive justice

Aim: to reduce the demand for justice by providing users and lawyers with two fundamental data for legal certainty and industrial and social relations:

- the estimated duration of the proceeding
- the decision-making trends existing in the district offices (Court of Appeal of Venice and the seven First Instance Courts of the district).

Area of justice: Labour Law, banking litigation and business matters

AI technology type: Expert systems and rule-based systems; Natural Language Processing (NLP) (Named Entity Recognition; Information Extraction)



No. 3 - 4

**Court of Genoa + Sant'Anna School of Advanced Studies in Pisa + CNR (National Research Council)**

Ongoing since 2018

Project Name: Predictive justice

Aim:

-primary objective: to build analytical and predictive algorithms for jurisprudence;

-secondary objective: to ensure users the necessary knowledge of the algorithm.

Area of justice: Civil Justice; Criminal Justice;  
Competition Law

AI technology type: Prediction; Legal Analytics (e.g. extract patterns, trends from past judgements);  
Advanced Search

The IT solution is custom developed.

**The same project has started to be developed at the Court of Pisa**

# No. 5

**Court of Florence + University of Florence + Chamber of Commerce of Florence + Florence Mediation Body ( + other private partners)**

Ongoing since 2018

Project Name: The city of simple justice

Aim: to anticipate the probability of successful mediation for the benefit of the parties and/or the judge.

Area of justice: Competition Law

AI technology type: Machine Learning/Deep Learning; Natural Language Processing (NLP) (Named Entity Recognition; Information Extraction; Sentiment Analysis); Speech Recognition; Computer Vision; Optimisation

The IT solution is being developed in-house

# Limit of these Projects

 Development on a local context

**Challenge for the future**



**Planning on a national basis**



# Basis for the development of national projects

## Supreme Court and University School of Advanced Studies IUSS Pavia

- "Framework Agreement" (September 2021)
- Strategic collaboration between the School and the Electronic Documentation Center (EDC) of the Court
- advanced research in the field of technical tools for the collection and organization of digital legal materials (corpus of Italian and European jurisprudence and legislation)
- tools of legal analytics (LA) and artificial intelligence (AI)

## Ministry of Justice

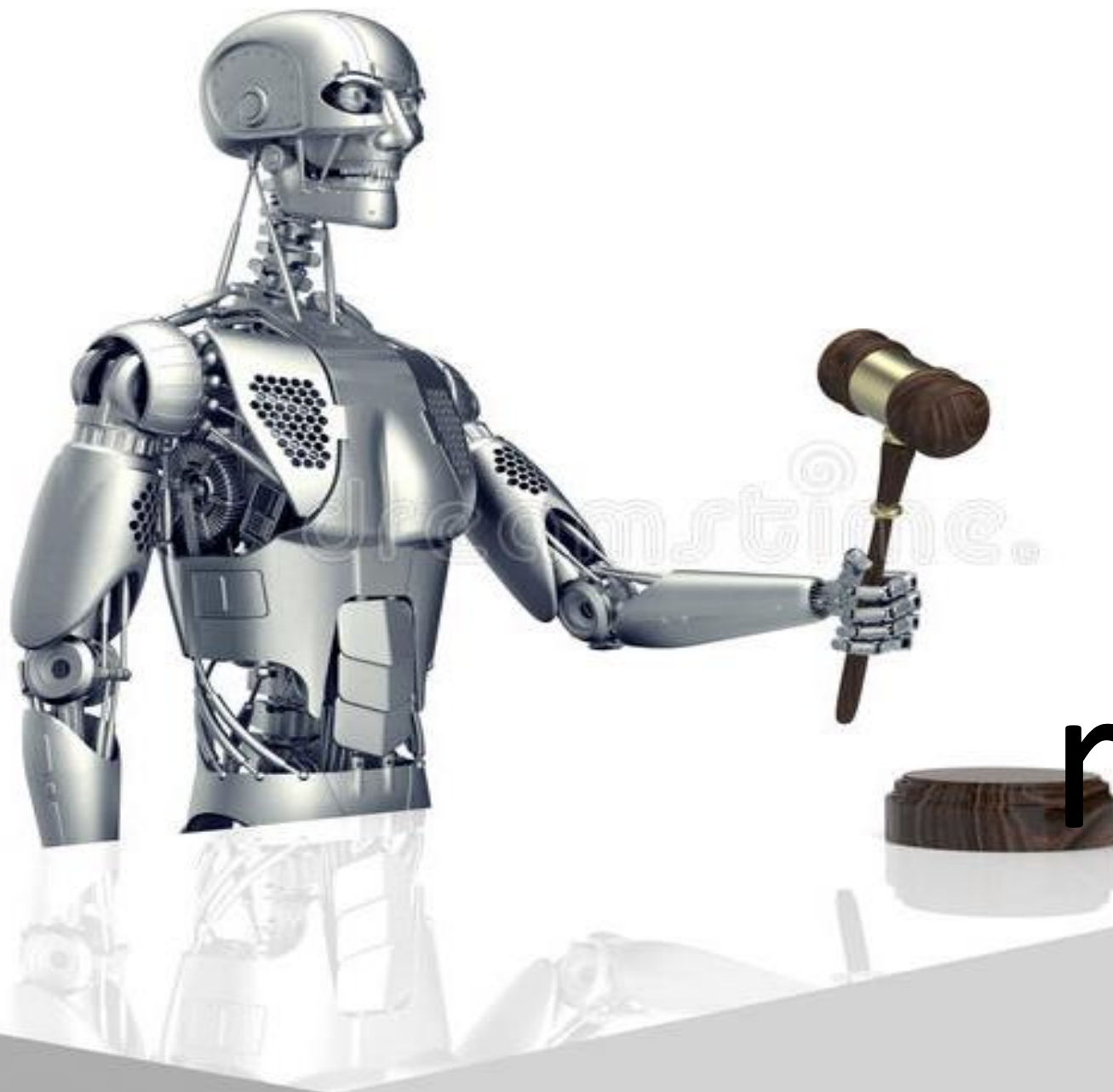
- Development, within the framework of the NPRR, of a dedicated national project allowing to combine AI techniques with a Data Lake system
- Aim: to exploit, in the formation of knowledge of the judicial proceeding and in the analysis of data and documents, an additional asset of enormous relevance for the use and processing of judicial data

## Final Questions:

*What role can predictive justice play in the future on the basis of the existing and planned projects?*

- Support for the trial players: judges, lawyers, parties
- Need to distinguish between the “*knowing the fact*” phase and the “*decision*” phase
  - Both converge in the decision-making process





Will the  
"robots"  
replace the  
judges?

## DIGITAL JUSTICE MINISTERIAL FORUM –



**“Among the new technologies, artificial intelligence is certainly one of the most important, and can also be designed for use in judicial systems; but it must be “in support of the judge” and not “in substitution of the judge”: the decision-making moment should remain “human”. Respect for fundamental rights must remain a priority”**

**12 October 2021**

Piero  
Calamandrei

«We want judges with a soul, judges who are able to carry the weight of the huge responsibility of doing justice with vigilant human commitment»



**Grazie!!**

