Setting the scene

Scientific results, especially those stemming from the work of the European Commission Joint Research Centre (JRC) scientists, are often discussed in relation to orienting EU-wide and Member States’ policy-making. However, we rarely discuss how the science we produce could be used across national and EU courts such as the European Court of Justice. Is our science shaping courts’ rulings or informing arguments advanced by plaintiffs and defendants? Maybe we do not yet know. Then, how can we assess the judicial uptake of our scientific evidence? Which kind of actors are making use of JRC scientific results in courts, and with what consequences for the litigation? If this is not happening at the moment, how can we ensure that our science is used in EU courts for bringing claims to e.g. environmental, climate, social, data and tech justice? Scientists may have to embrace the dimension of ‘science in court’ to unleash the potential of their findings and their ability to respond to societal needs.

Together with other JRC colleagues, on June 14, 2022, SensJus organized a session at the European Commission JRC Science Summit on ‘Exploring Science in Courts’, within the thematic stream ‘Where does JRC go next?’. During the session, we introduced the theme in terms of state-of-the-art and recent trends. With the help of a practicing lawyer - Lawyer Saltalamacchia from the Rete Legalità per il Clima (Italian Network of Lawyers for
the Climate) - and invited experts, we discussed cases in which courts had to engage with scientific knowledge, in particular for complex appreciations. We also showcased **successful examples but also challenges of science applications in court**. Lastly, we invited JRC scientists to share their opinions on the matter and the practical feasibility of providing scientific evidence that can be useful in court.

We were accompanied by an **illustrator** who drew simultaneously our discussions, through the 'scribbling' technique.

The invited lawyer shared with us the experience of climate and environmental litigation, starting from the ground-breaking Dutch 'Urgenda' case and the Italian 'Giudizio Universale' ongoing case. These are arguably highly science-based litigation (for example, one can think to the role of the findings of the United Nations Intergovernmental Panel on Climate Change), as demonstrated by a recent review by the Environmental Law Institute, Washington DC, which examined climate science in civil, administrative, constitutional, and criminal law judicial pronouncements worldwide.

We can summarize the following takeaways from this input:
The use of science in litigation is highly country-dependent and litigation type-dependent, which adds a layer of complexity for offering scientific forensic evidence. In different jurisdictions, depending on the type of litigation, the role and the weight granted to science in litigation may vary substantially.

Science in court will be necessarily framed by rights and legal provisions. Scientists provide the ‘content’ (scientific evidence) to lawyers and other legal practitioners (such as for Giudizio Unversale the evidence provided by the IPCC and by Climate Analytics). This content has to be inserted in a ‘container’ that is the trial with its specific terminology that has to be matched, but also with procedural rules and set times. Stringent deadlines and formalities may create a disconnect between sound science and what is accepted science in court.

The role of science is higher the more generic the law is, as visible from the very broad principle of no harms, to which lawyers could reconduct actual or potential harms already demonstrated by scientific knowledge (such as for certain contaminants like asbestos and more recently for climate harms).
With our colleague from DG Competition, Francisco De Borja Casado, we entered the field of competition law and antitrust cases against big tech corporations. We also discussed what the research in economics performed by the JRC - in particular by the Digital Economy Unit working in this area - can offer in these cases. The case study discussed is the ‘Google shopping’ case, where Google was found by the European General Court of Justice to favor the display of results from its own specialized search service, abusing its dominant position.

We can summarize the following takeaways from the talk:

- There are notions such as that of 'two-sided' platforms that are being developed by scientists as useful concepts for identifying legal infringement.

- Scientists in this field have to convey clear arguments to lawyers, highlighting the intuition that stemmed from the hypothesis to become a conclusion. Basing such arguments on the scientific method is therefore paramount to achieve this.

- JRC science when provided to courts need to be even more accurate in competition cases against big tech companies, as these companies can use the same scientific evidence against the European Commission.

- In these types of cases, there is often the problem of confidentiality as several data cannot be shared, which makes cooperation among scientists more difficult. Increasingly, policy DGs such as DG COMP are developing their in-house scientific capability, hiring staff able to use STATA, R and Python.
JRC colleague from the Bio-Economy Unit, Pieter Beck, joined our discussions sharing insights on the use of geo-spatial science for enforcing forest law in order to promote compliance with EU regulations. Beck’s Unit is now providing evidence that is valuable in enforcement proceedings also within court settings. It all started from an ad-hoc request for a specific case where the JRC was asked to advise the Commission in litigation.

We can summarize the following lessons from the contribution:

- **The text of the law does not always make it easy for scientists to work with lawyers** and to use science for enforcing law.

- Future legal drafting should take into account the **possibility to enforce the law through technology** using, for example, GIS. This is visible already in more recent legal provisions, compared to more dated ones, such as the Habitats Directive ('90s).

- In order for JRC scientists to understand whether their data are fit for purpose (i.e., for law enforcement), **scientists must (learn to) understand the letter of the law**.

- Scientists at the JRC are already **closely working with legal professionals and with policy-makers with a ‘triangulation’ approach** to enhance EU law enforcement.
**Advice for future JRC actions**

Based on the discussion we had during the event at the Science Summit, we can summarize the following take-away messages for shaping the future of JRC research:

- The potential of JRC research in (EU and Member States') courts is still largely unexplored and comparative studies are needed to assess challenges and opportunities of the field at a broader level.

- An analysis should be performed of field-specific existing collaborations of the JRC with other DGs of the EC in enforcement procedures both within court settings and before/after opening a court case, taking for example case studies from the field of forest and competition law, evaluating benefits and barriers of these ongoing experiences.

- The JRC should turn to the experience of practicing lawyers and courts that have worked on heavily science-based cases, such as in the environmental and climate litigation field, to learn lessons and build on this experience for improving the potential of JRC science as forensic evidence. This could be done, for example, establishing communities of practice on this topic.