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Investigative Techniques and Digital Tools in a Modern Enforcement World

Presentation

Ms. Cani Fernandez President National Commission for Markets and Competition Spain

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## INVESTIGATIVE TECHNIQUES AND DIGITAL TOOLS IN A

## MODERN ENFORCEMENT WORLD

## (10 de julio de 2025 11:00-13:00)

## Palais des Nations, E-building, Room XIX, Geneva (Switzerland)

La UNCTAD te ha invitado a una mesa redonda para discutir técnicas de investigación y herramientas digitales. Es el ítem 11 de la agenda. El objetivo último es compartir conocimiento y mejores prácticas con otras autoridades.

## Speakers

## 11:00-12:30

- Ms. Cani Fernandez, President, CNMC, Spain
- Ms. Cielo Rusinque, Superintendent, Superintendencia de Industria y Comercio, Colombia
- Ms. Andrea Marvan, Chair, COFECE (finalmente va a intervenir via video)
- M. Umberto Berkani, General Raapporteur, AdConcurrence, France
- Mr. Takujiro Kono, Director international division, JFTC, Japan
- Mr. Massimiliano Calaresu, Team Leader Investigaations, Chief Technology Officer's team, DGComp
- **Mr. Shangwen Hu**, Official, Competition Policy and Assessment Centre, State Administration for Market Regulation, China
- Mr. Michael Aguinaldo, Philippine Competition Commission Chair. Chair de la session.

#### 12:30-13:00 Interactive debate

#### **CHAIR INTERVENTION**

As digital markets evolve rapidly, our methods for detecting and addressing anti-competitive practices should also be adopted in the digital world. This roundtable will explore innovative tools and strategies that competition authorities around the world are developing and deploying, from digital forensics to algorithmic analysis. This is an opportunity to exchange concrete experiences, reflect on common challenges, and identify avenues for enhanced cooperation, particularly in support of younger or resource-constrained authorities. We have an eminent group of panelists with us today:

Each panelist will have **10 minutes** to speak. I would like to request each panelist to kindly respect the time allocated to make sure that we have some time left at the end for delegates to engage in the discussion and ask questions to panelists.

## PRIMERA PREGUNTA PARA LA PRESIDENTA DE LA CNMC

First, I would like to invite Ms. Cani Fernandez, President, National Commission for Markets and Competition, Spain, to deliver her leading presentation. Ms. Fernandez, could you share with us your view on how investigative techniques and digital tools in competition law enforcement are evolving?

(Presentation by Ms. Fernandez 10 minutes)

- Many thanks to UNCTAD and to Teresa for this invitation.
- It is an honor and an opportunity for me to share my experience as president of the CNMC on this important topic with my distinguished fellow speakers.
- I am sure that we will have an interesting debate that hopefully can be helpful to younger competition agencies.
- The digital sector is changing at a very fast pace. This poses many challenges to competition authorities as the cases they face become increasingly complex but also offer some opportunities as we are able to develop new tools to strengthen our detection and investigative capabilities.
- I will start by giving a sense of the toolkit that we are using in Spain. Then I will put the lens in the **Proactive tools and especially those incorporating AI and Machine learning**.
  - **Our leniency programme** is a key component of our fight against cartels, but it's not the only tool we rely on.
  - Dawn raids: We have continued to carry out inspections in a rigorous and consistent manner, in full compliance with the duties assigned to us under our legislation. I would like to highlight the five inspections conducted in 2024 at the premises of 14 companies, which resulted in 13 decisions issued by our Board, notably the decision concerning the Booking case.
- At the same time, we are increasingly working on developing our **ex officio** detection capabilities:
  - We have made a firm commitment to using cutting-edge technology to detect signs of collusion especially in the available public procurement data.
  - Additionally, we are encouraging contracting authorities to communicate (through different means) indications of potential anticompetitive practices to us.
  - And we have a **whistleblowe**r channel.

## LENIENCY

- The leniency programme has been highly effective over the past 15 years.
  - It has significantly improved our ability to detect and sanction cartels.
  - It remains an extremely valuable tool for detecting and subsequently sanctioning cartels.
- Since the introduction of the Competition Law in 2007, we have seen a substantial increase in the number of cartels detected. However, recent trends indicate a need to analyse and possibly enhance our existing tools.
- Roughly speaking, **12 cartels** were sanctioned in the decade before 2007. Since then, the detection figure has been multiplied almost by 8, up to 93 cartels detected.
- However, in recent years certain indicators show a decrease in the number of cartels detected via leniency applications. This is not necessarily a bad thing, as it also shows the CNMC's ability to detect and sanction cartels without a leniency programme.
  - **Since 2010, 58% of cartels** were detected ex officio (this figure goes up to around 70% if we look at the 2018-2024 period).
  - In addition, 30% of leniency applications were submitted after inspections had been conducted.

# OTHER TOOLS IN THE TOOLKIT

- We have the possibility to impose <u>fines on managers</u> up to €60.000 for their personal involvement in the anti-competitive practice in which the company was involved and the names of the wrongdoers can be published. This is of course both another deterrence and an incentive to apply for leniency.
- In addition, a <u>ban from contracting with public authorities</u> may be imposed on cartel infringing companies (but companies may avoid the debarment if they apply for leniency).

# **PROACTIVE VERSUS REACTIVE**

- We have **traditionally** fought against cartels, or any other anticompetitive behavior, **through complaints**, **whistleblowers**, **and in general**, **after the fact investigations**.
- These methods are critical to our success and in fact in Spain we are continuously striving to improve them.
- **But these tools tend to be reactive**, ex post, and by the time anti-competitive practices are uncovered, significant damage has often already been done to consumers and competitors.
- We must go beyond traditional reactive approaches and embrace cutting edge tools and technologies to allow us to **detect** and prevent anti-competitive **behavior before it harms markets** and in a **more efficient and reliable** way.

# **EX OFFICIO DETECTION**

• As I have mentioned, we are committed to developing ex-officio tools and making the most of the data and available technology to strengthen enforcement.

- This approach has been particularly effective in detecting bid rigging cases.
- The CNMC Economic Intelligence Unit (EIU) plays a vital role in this effort, using **artificial intelligence** and data screening to detect collusive practices.
- **Contracting body reports to the CNMC of suspected bid rigging** have been built into the public contracts law. This has proven to be a valuable source of competition cases, and this would be my first piece of advice to younger agencies to make it mandatory by law to report suspicious cases to the competition authority.
- Finally, we have incorporated a whistleblowing channel.

## **GUIE, ME TOOL**

- The CNMC relies on a few **databases** to apply its **analytical and technological tools**, the most important of which is the **Public Sector Public Procurement Platform**, i.e., the central database for public tenders in Spain, containing also regional and local procurement data (both structured and unstructured).
- Since 2015, we download data from this platform and perform a filtering process of the relevant information.
- **gUIE.me ("guide me") is a tool based on big data analytics**. This is an instantaneous freetext search engine which can be run on any field or document within the public procurement platform. This search engine, entirely developed in-house, works with an algorithm that recognizes losing bidders and losing bids using NLP and regular terms.
- So, it allows for instant and filtered search of both structured and unstructured public procurement data.
- There are over 4,3 million contracts in the database.
- It uses natural language processing and regular expressions to recognize losing bidders and bids.
- The tool finally returns all info as structured data and allows results to be downloaded and managed into a Business Intelligence statistical software. The second piece of advice I would give is to spend time cleaning and filtering the data.
- GUIE.Me is continuously reviewed and updated to enhance its performance.

## MACHINE LEARNING AND BRAVA TOOL

- **The BRAVA** (Bid Rigging Algorithm for Vigilance in Antitrust) tool, developed in house uses supervised machine learning to detect collusive bids with high accuracy.
  - Pioneering tool. Operational since 2023
  - It can classify the different offers submitted to a tender as most probably collusive or competitive with a high degree of accuracy, reaching 99% many times and never below 90% of success rate.
  - **BRAVA analyzes patterns** from the known past cases of collusions and learns to recognize the common features and identify them in new cases where the presence of collusion has not been uncovered yet.

- Through **Natural Language Processing** (NLP) algorithms and regular expressions, the tool process all the documents attached to tenders, transforming into structured fields, data that was not structured before. This allows instant searches for relevant information in documentation that previously could only be done manually.
- It maps relationships between firms, bids, and individuals to uncover hidden collusive networks.
- For its success it needs to work with vast amounts of data. In the Spanish case, the public procurement database is the result of the aggregation of different sources. Firstly, the Public Sector Procurement Platform<sup>1</sup> is a completely up-to-date electronic platform publishing all the calls for tenders and their outcomes. It encloses data from regional and local contracting bodies, since platforms of the different government authorities and public entities are interconnected to establish a single platform that centralizes the publication of public sector procurement.
- The CNMC downloads the data from this platform, and, in addition to it, performs a filtering process of the relevant information for the competition authority. There are over 4,3 million contracts at CNMC's public procurement database, including non-winning bids. It could be considered the most complete at national level, with structured data about tenders from all public administration levels and types, but also the related documents (non-structured data).
- This database is also completed with information about enterprises due to the agreement signed between the CNMC and the Real Estate Registers Official College of Spain. Thus, the CNMC has access to all the official economic and financial information about the companies acting as bidders in public tenders.
- Furthermore, the CNMC closely cooperates with the contracting bodies and officials. Pursuant to Article 132 and Article 150 of the Public Sector Contracts Law, the contracting bodies shall inform the CNMC of any sign they could detect of a possible collusion among tenders. Some of these have originated the initiation of infringement proceedings as in 2023 with Agencias de Viajes case<sup>2</sup>.
- These extensive and detailed datasets are essential for the model's accuracy and effectiveness, highlighting the importance of inter-institutional collaboration.
- The combination of enforcement and advocacy is very effective to fight against bid rigging cartels. While the leniency program, our ex officio tools and the dawn raids are key to cartel detection, the training of the contracting authorities in public procurement have proved to be another useful source for cartel detection.
- The number of referrals from the units that we have been training has increased substantially. In addition, we have elaborated Guidelines against bid rigging with a check

<sup>&</sup>lt;sup>1</sup> I.e., the central database for public tenders in Spain, containing also regional and local procurement data. Since 2018, an amendment in the public sector contracts law introduced the obligation to use electronic means to participate in tenders.

<sup>&</sup>lt;sup>2</sup> <u>S/0001/23</u> SERVICIOS AGENCIAS DE VIAJES

list and a list of indicative signals of fraudulent behaviors to be shared with units in charge of large procurement programs and we provide training to the public procurement authorities for the detection of collusion in public tenders.

- The success of BRAVA is promising, and it represents a significant advancement in our detection capabilities. We are continuously working on developing it.
- Also, let me emphasize once more the importance of Data. You can have the most sophisticated algorithms or AI tools but if you don't have access to a significant amount of data you cannot really be effective, so the data collection part was critical in the success of the tool.

# COOPERATION WITH PUBLIC PROCUREMENT BODIES (ART. 132, 150; RAISING AWARENESS)

- Legal obligations for contracting bodies to report indicia of anti-competitive practices have also been instrumental in our efforts.
- According to Articles 150 and 132 of the Spanish Public Procurement Act, public contracting bodies must inform the CNMC of possible anti-competitive practices in ongoing tenders.
- The public procurement law foresees:
  - Close cooperation and communication with public procurement bodies and with the **Spanish Public Procurement Advisory Board**.
  - The authorities responsible for managing public tenders should report to the CNMC (or regional competition authorities) any sign of potential anti-competitive practices.
  - An expedited process with suspensive effect for the CNMC (or regional competition authorities) to evaluate an alleged infringement of competition founded on substantial indicia reported by the contracting bodies.
- We have noticed that **the flow of information** from public procurement bodies signalling to possible anti-competitive behaviour in public tenders has increased significantly.
- There is great value in the heightened awareness and greater involvement in bid rigging detection of those who are on the frontline of public tenders. We believe that both the legal requirement and our advocacy efforts have helped sustain this trend.

# WHISTLE BLOWER CHANNELS

- In March 2021 we implemented the **Anonymous Competition Informants System (SICA**) to receive confidential information from whistleblowers.
- That special mailbox <u>SICA</u> (*Sistema de Informantes de Competencia Anónimos*) is a whistleblowing channel that allows encrypted communications between the authority and any citizen or company willing to provide information about anti-competitive behaviors in a completely anonymous manner.
- SICA guarantees the protection of identity and confidentiality of communications.
  - Any citizen can use this channel to send information on practices that may undermine competition.

- It works similarly to an encrypted chat.
- When a member of the public enters information into the system, they receive an alphanumeric code, which will be the only way to access these conversations. The informant will not have to provide any type of personal information (telephone, name, or email) to collaborate with the CNMC and a two-way, anonymous channel will be established.
- Based on the information received, the team:
  - $\circ$  corroborates (if possible) the information provided,
  - $\circ$   $\;$  assesses the possible legal qualification of the behaviours,
  - $\circ$  completes the information with other information obtained from open sources,
  - reports to the Competition Director, who will ultimately decide whether to initiate an investigation.
- **SICA has been very useful.** We have seen a sharp increase in the number of communications and complaints received from anonymous citizens.

## EXAMPLE 1: FOOD SUPPLY CARTEL (FINED) <sup>3</sup>

- In 2024 we adopted a decision fining several companies for bid rigging in tenders to supply food to public administrations such as educative institutions, prisons, hospitals, etc<sup>4</sup>.
- It's a good example of our ex officio detection capabilities, intersection between good collaboration with tendering bodies and application of advanced artificial intelligence to collusion detection.
  - We started our investigations after the tendering authorities in the regions of Madrid and Aragón alerted us under article 132 of the Spanish Public Contracts Act of some signs that could point to collusive behaviour.
  - And we then analysed the data in the Public Sector Procurement Platform using our BRAVA tool to detect further collusive patterns in other tenders.
  - All of which allowed us to detect and fine three separate infringements.
- There were three different cartels relating to different public tenders each of which constituted by object infringements of article 101 TFEU and the national equivalent.
- Both companies and individuals were fined.

## **EXAMPLE 2 TRAVEL AGENCIES (ONGOING)**<sup>5</sup>

<sup>3</sup> 

https://www.cnmc.es/sites/default/files/editor\_contenidos/Notas%20de%20prensa/2024/20240716\_NP\_Sancionador\_Suministro\_Alimentos%20DEF\_.pdf

<sup>&</sup>lt;sup>4</sup> 7 companies were fined €3.13 million for engaging in three different cartels aimed at sharing the market for supply of food to public institutions such as hospitals, retirement homes, prisons or premises of the Army in various areas within Spain, notably collaborating to bid rigs in public tenders. Additionally, the CNMC fined €176,100 to five directives of these companies for their participation in the cartels. Two out of the three cartels operated on the basis of market-sharing agreements including the submission of cover bids, whilst the third one had the support of a consulting firm for public tenders that acted as facilitator.

<sup>&</sup>lt;sup>5</sup> https://ww.cnmc.es/prensa/incoacion-agencias-viajes-20231213

- Another case currently under investigation that was initiated following a 132 report by a tendering authority is the **travel agency case**.
- We conducted dawn raids which led to formally initiating 101 TFEU proceedings and its national equivalent in December 2023.
- We are currently investigating if various travel agencies exchanged sensitive information regarding public tenders and entered into customer allocation agreements. (Expediente S/0001/23 SERVICIOS AGENCIAS DE VIAJE. No hay nada publicado aún. Actualmente se ha cerrado la instrucción y se ha mandado la propuesta de resolución a las partes; esa información no es pública)

## CONTINUACIÓN DE LA RONDA DE PREGUNTAS A LOS OTROS PONENTES

Thank you very much Madam. Now I would like to give the floor to **Ms. Cielo Rusinque, Superintendent, Superintendency of Industry and Trade, Colombia**. UNCTAD notes the increasing use of digital tools in potentially anti-competitive conduct. Could you share a recent example where your authority applied digital techniques, such as screening and electronic document review, in a competition investigation?

(Presentation by Ms. Rusinque 10 minutes)

Thank you very much Madam. Now I would like to move on to the video address of **Ms.** Andrea Marvan, Chairwoman, Federal Economic Competition Commission, Mexico. Ms. Marvan will present how COFECE is adapting its investigative methods to address challenges like digital evidence or anti-competitive practices in digital markets.

(Video by Ms. Marvan 10 minutes)

Thank you very much Madam. Now I would like to give the floor to Mr. Umberto Berkani, General Rapporteur, French Competition Authority, France. Could you explain how digital tools have changed the conduct of dawn raids and the examination of digital evidence? Have you used these tools to uncover previously undetectable competition law infringements? (Presentation by Mr. Berkani 10 minutes)

Thank you very much Sir. Next, Mr. Takujiro Kono, Director International Affairs Division, Japan Fair Trade Commission, Japan. How is the JFTC integrating new investigative techniques, such as web scraping or cloud-based monitoring, especially in cross-border or digital platform cases? How can these tools improve the efficiency or outcome of the case? (Presentation by Mr. Kono 10 minutes) Thank you very much Sir. Next, **Mr. Massimiliano Calaresu**, **Team Leader Investigations**, **Chief Technology Officer's Team, Directorate-General for Competition, European Commission.** DG COMP has a dedicated team for the Chief Technology Officer, and it hasbeen instrumental in modernizing digital investigation tools. Could you describe how you are using digital technologies? Are there any particular challenges in scaling these tools? (Presentation by Mr. Calaresu 10 minutes)

Thank you very much Sir. Next, Mr. Shangwen Hu, Official, Competition Policy and Assessment Centre, State Administration for Market Regulation, China. In China, what kinds of digital tools or systems are you using to investigate anti-competitive behaviour? Could you share some practical experiences and the main challenges your team has faced in applying these tools?

(Presentation by Mr. Hu 10 minutes)

## SEGUNDA PREGUNTA/WRAP UP PARA LA PRESIDENTA DE LA CNMC

Thank you very much Sir. Thank you to all our distinguished panellists for your insightful contributions. Before we open the floor, I would like to return to **Ms. Fernandez**, for a brief wrap-up. **Ms. Fernandez**, could you kindly share your key takeaways from today's discussion on the future of investigative techniques and digital tools in competition enforcement?

(Presentation by Ms. Fernandez 5 minutes) **NO SABEMOS LO QUE DIRAN LOS OTROS. TE PONEMOS CHALLENGES AL USO DE DIGITAL TOOLS POR SI ACASO NO DICEN NADA INTERESANTE.** 

- It has been a very rich session where all of us have shared how we're adapting to new digital tools. This gives competition authorities the opportunity to be inspired and learn from others.
- These new digital tools make our investigative techniques much more effective. Human judgement is still very much needed but what BRAVA (for instance) can do would take much more time and would be less reliable.
- This new toolkit at our disposal does not mean that we will end up with all the cartels and our problems will be solved of course. There are **challenges and limits** to what we can achieve.
- Let me mention some of these challenges:
  - **Data privacy and confidentiality**: the collection and analysis of large data sets must be balanced with privacy concerns. We need to ensure that our data-gathering efforts comply with data protection laws and respect confidentiality.
  - **False positives**: advanced analytics can sometimes flag legitimate business practices as anti-competitive making it crucial to refine our algorithms and models to minimize false positives and avoid unjustly targeting firms.

- Resource constraints: implementing and maintaining proactive detection tools requires significant resources, both in terms of technology and skilled personnel. I want to highlight that further investment in specialized personnel is required (namely, data scientists and analysts). However, such profiles are expensive and difficult to find, especially for public administrations with limited resources.
- **Legal frameworks**: many jurisdictions' competition laws were designed with traditional enforcement methods in mind. To fully leverage proactive detection tools, legal frameworks may need to be updated to accommodate the use of AI, big data, and other advanced technologies.
- The last two are in my view the main constraints so far. I believe that we are all aware of the potential uses of these tools and that this is the future, but we don't have the resources yet to fully exploit them.
- That is why I think it is important to continue sharing experiences among ourselves and continue testing what these tools can do to help us in detecting cartels.
- In terms of the challenges of building our own proactive tools:
  - **The design phase is crucial**, and it must capture various forms of collusion and bid rigging, ensuring the tool can identify subtle patterns and anomalies that may indicate anti-competitive behavior. This involves defining the specific indicators/ patterns of collusion; developing algorithms capable of recognizing these indicators, and ensuring the tool is adaptable to different market conditions and types of tenders.
  - Also, as I have mentioned earlier, data is a key asset in the use of this technology. Handling data efficiently is critical for the success of the BRAVA tool. You need to extract comprehensive and high-quality data from various sources, including full texts of technical offers and bidding documents.
  - In processing the data, you need to remove "noise" and ensure consistency, which is essential for an accurate analysis.
  - Finally, antitrust enforcement is an evolving field, and improving our tools to stay ahead of increasingly sophisticated collusion tactics is a continuous challenge.
  - We are constantly revising the success rate of our tools and making improvements to detect anticompetitive practices.
  - We are developing new and more efficient tools thanks to the feedback we get and the insights we are gaining from the application of these tools to the detection of cartels.
- In summary, **BRAVA is indeed a very powerful tool** in our antitrust enforcement arsenal, but the process of designing, implementing, and improving such an instrument is fraught with challenges.

Thank you very much Madam. Now, I would like to open the floor for comments from participants. May I suggest you limit your interventions to **3 minutes**.

(Until 13:00)

I would like to thank our distinguished speakers and all participants for their valuable contributions. Please let me remind you that the informal consultation on the resolutions will be held in Room XXVI, after this meeting, from 2 p.m. to 2:45 p.m. Otherwise, we will meet at 3 p.m. sharp in this room. The meeting is adjourned.

\* \* \* \* \*

## **CONCLUSION – PROPUESTA DE PALABRAS PARA LA PRESIDENTA**

- In conclusion, **proactive detection tools offer immense potential to revolutionize the way we enforce competition law**. By embracing AI, big data analytics, market screening, and digital platform surveillance, we can move from a reactive to a proactive approach, preventing anti-competitive practices before they take hold and harm markets.
- As competition enforcers, we stand at the forefront of a new era in competition law, one in which technology and data can be our greatest allies in the fight against anti-competitive practices.
- However, to fully realize the benefits of these tools, we must address the challenges they pose, from data privacy concerns to resource constraints and others.
- International cooperation will be key in ensuring that these tools are effective in the global marketplace. I can talk about the challenges perhaps in the Q and A sections.
- Thank you.

### **ANEXO I**

## PERFILES DE LOS PANELISTAS

## **CIELO RUSINQUE**

## Superintendente - Superintendencia de Industria y Comercio (SIC - Colombia)



Abogada de la Universidad Externado de Colombia, magíster en Derecho Constitucional y en Investigación de Estudios Políticos de la Universidad Panthéon-Assas (París II) y candidata a doctora en Derecho Constitucional de la misma universidad.

Antes de asumir como superintendente de Industria y Comercio fue directora general del Departamento Administrativo para la Prosperidad Social, catedrática de la especialización en Derecho Administrativo en el Colegio Mayor de Nuestra Señora del Rosario, docente investigadora

en la Universidad Externado de Colombia y docente en Derecho Constitucional en la Universidad de Cundinamarca. Actualmente, es catedrática de Derecho Constitucional de la Universidad Externado de Colombia.

Ha ejercido como abogada, consultora y litigante en Colombia y Francia. Trabajó como abogada en la firma Mialot Avocats, fue asesora del Agregado Militar de la Embajada de Colombia en Francia, estuvo vinculada a la Oficina Jurídica de la Alcaldía de Fusagasugá y laboró en la Fiscalía General de la Nación como asistente judicial I de la Dirección Regional de Fiscalías, Unidad de Fiscalías ante Jueces de Circuito Especializado, y como secretaria judicial I de la Dirección Nacional de Fiscalías, Unidad Nacional de Fiscalía contra el Secuestro y la Extorsión. La superintendente habla francés e inglés.

#### ANDREA MARVÁN

Comisionada presidenta – Comisión Federal de Competencia Económica (COFECE - México)



Directora General de Promoción a la Competencia Julio-Diciembre 2022. Directora Ejecutiva de Staff de la Autoridad Investigadora Julio 2016 – Junio 2022. Directora General Adjunta, DGIPMA 2014-2016 Directora de Área, DGIPMA 2012-2014. Juzgados de Distrito en Materia Administrativa 2007-2008. Firma privada enfocada al litigio fiscal, administrativo y constitucional 2009-2011. Profesora titular de la materia de competencia económica y derecho administrativo en el Tecnológico de Monterrey Campus Santa Fe Desde agosto de 2021.

#### **UMBERTO BERKANI**

#### Assistant to the Director of Legal Affairs – Autorité de la Concurrence (AdlC – Francia)



Deputy Director of Legal Affairs at the Ministry of Ecological Transition since 2021. He was a Deputy General Rapporteur at the Autorité de la Concurrence from 2013 to 2021. He also was a case handler at DG Comp. A former student of the École normale supérieure de Cachan, Umberto Berkani holds an advanced degree (agrégation) in economics and management (2003), and an advanced diploma (Diplôme d'études

approfondies) in law and economics from the University of Paris I Panthéon-Sorbonne (2004). Previously a Case Officer at the Conseil de la concurrence (which became the Autorité de la concurrence) from September 2004 to December 2010, he was, since January 2011 a national expert seconded to the European Commission's Directorate-General for Competition. He is also a member of the Cada, a commission for access to administrative documents.

#### MASSIMILIANO CALARESU

Team Leader Investigaations, Chief Technology Officer 's team - DGComp

(Perfil no encontrado)

#### TAKUJIRO KONO

#### Director international division – Japan Fair Trade Commission (JFTC – Japan)

(Perfil no encontrado)

#### SHANGWEN HU



Researcher for Competition Policy and Big Data Center of State Administration for Market Regulation (SAMR – China).