



PROGRAM

*Understand how the **Brazilian justice system** is using digital transformation to promote **innovation**, become more **efficient** and increase access to **justice for all***

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JUSTIÇA FEDERAL
Conselho da Justiça Federal

CNJ
CONSELHO NACIONAL DE JUSTIÇA

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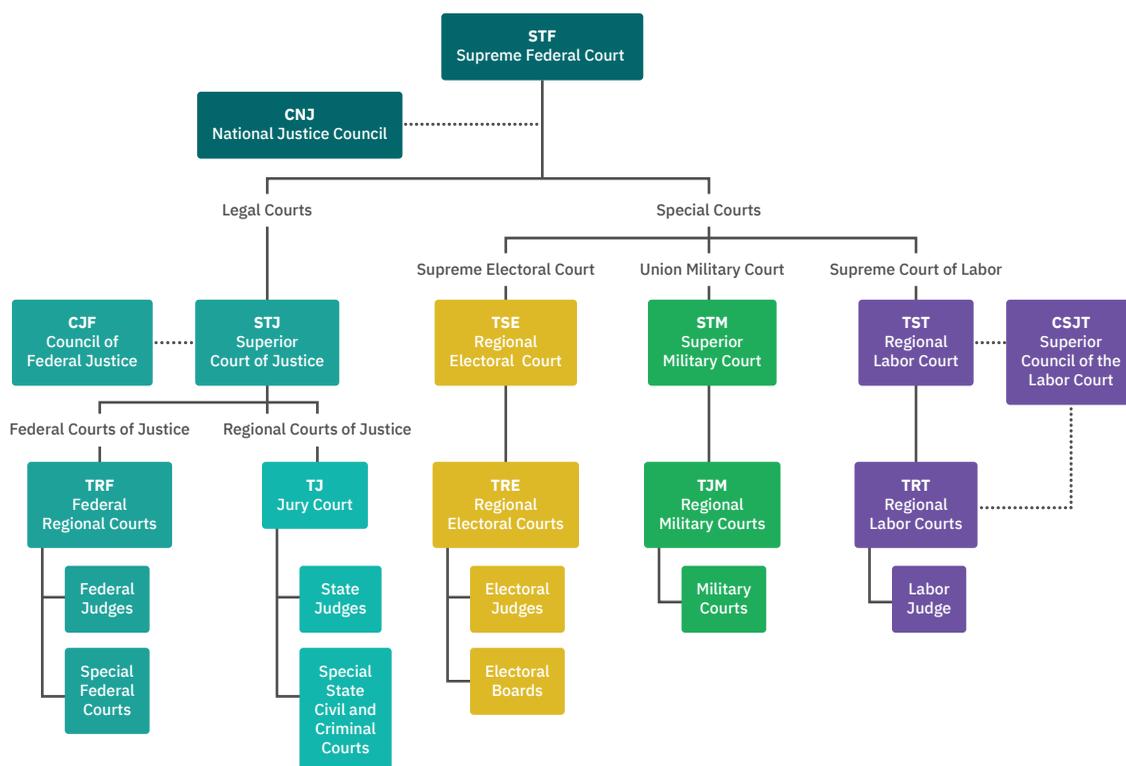
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The Brazilian Justice system

This is how the Justice system is organized in Brazil. Courts¹ are split into the Legal Justice System, comprising Federal and State Courts, and the Special Justice System, consisting of the Labor Justice System, the Electoral Justice System, and the Union Military Justice System. There are 4 Superior Courts, 27 TJs², 27 TREs, 24 TRTs, 5 TRFs and 3 TJMs, which makes a combined total of 90 courts, besides Councils and the Supreme Federal Court.



1 Translator's note: "In Brazil, the word 'tribunal' is used in lieu of 'court' (e.g., Federal Supreme Court is Supremo Tribunal Federal) (...)". Quote from https://www.wilsoncenter.org/sites/default/files/media/documents/article/brazilian_judicial_system_1_with_wc_logo_final.pdf, as seen on April 7, 2022.

2 Translator's note – All acronyms were kept in Portuguese.

THE BRAZILIAN SYSTEM OF JUSTICE IN NUMBERS

- **18,000** judges
- **267,600** civil servants
- **148,000** ancillary staff

Data: CNJ, *Justiça em Números* report (2021)

General Overview of the Brazilian Justice System

Visit the *Justiça em Números* report (the Justice system in numbers)



CHALLENGES

Brazil is one of the global leaders in the ‘lawsuits filed per year’ ranking.

- **75 million** Pending lawsuits
- **25.8 million** New lawsuits filed in 2020
- **27.9 million** Cases dismissed in 2020
- Brazilian courts hold one of the world’s **heaviest workloads**
6,321 cases per judge

So how can we make the Brazilian justice system more efficient? How can we improve the delivery of jurisdictional and legal services and step-up access to justice?

Evolution of e-Justice in Brazil

From hardcopy to digital (2004 to 2013)

■ Going digital

Electronic processes in Brazil began in 2004, when courts introduced the first case tracking systems and morphed physical lawsuits into digital processes. This trend towards digitizing was given a boost in 2006, when the **law on digitizing judicial proceedings was enacted**.

■ The PJe becomes the official system

In the ensuing years, electronic processes gathered momentum in Brazil. In 2013, the **Electronic Judicial Proceedings (PJe)** became the Brazilian Judicial System's official procedural tool, and in 2015 the PJe Governance Network was created. Despite this progress, there were still challenges due to multiple systems that did not communicate with one another **i**.

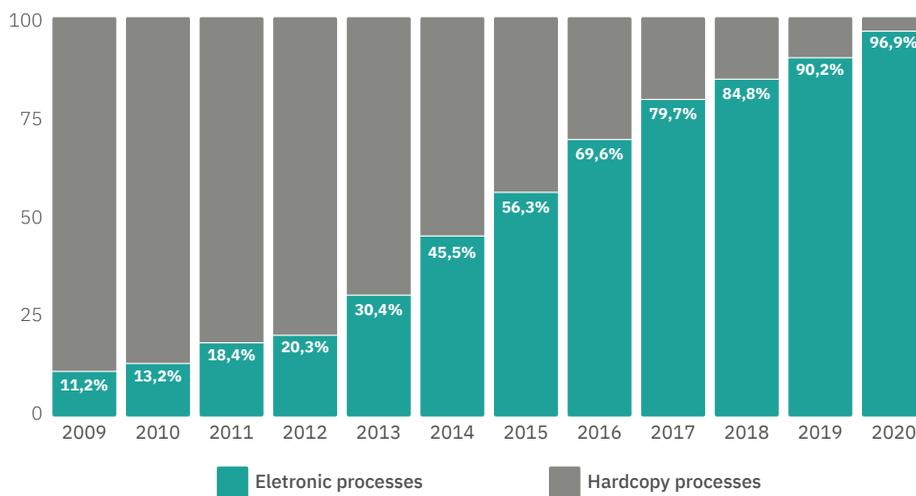
i GET THE IDEA

The project of a unified proceeding system ended up producing secondary systems with local modifications. As a result, the PJe practiced in courts began to differ from the federal version, leading to systems that did not communicate with one another. Also, courts had been developing their own procedural systems before the PJe was officially established. Currently, there are over 50 systems (both public and private) in use by courts.

■ E-Processes gain traction

In just over a decade, **non-electronic processes have become the exception**. The percentage of electronic processes rose significantly between 2009 and 2020, and now they constitute the bulk of all processes. Concurrently, the Judicial System stepped up efforts to digitize its physical assets. By the year 2020, virtually all cases were filed electronically (96.9%).

Figure: Evolution of electronic processes in Brazil (2009 to 2020)



Source: CNJ, *Justiça em Números* report (2021)

- ! **In tandem with electronic process growth, the Brazilian Judicial System has also determined the end of hardcopy files.** As of March 2022, Brazilian courts
- shall admit only electronic processes. December 2025 is the deadline for all courts to have digitized their files.

From electronic to automation (2013 to 2020)

■ Automation moves forward in courts

The implementation of electronic processes has led to substantial changes in the routine work at courts. Automation has enabled a review of routines, workflows and work practices and the elimination of repetitive tasks, which improved the management of case processing time.

■ The use of software gains ground

Software for automating process workflows has replaced human labor in bureaucratic tasks with technological resources. This resulted in improved management of time and human resources, and in training employees for activities that require higher cognitive performance.

The pandemic spurred digital transformation

The Brazilian Judicial Power was able to respond very quickly to social distancing induced by the Covid-19 pandemic. Legal policies, technology, and innovation in the courts have enabled the provision of digital services to citizens (*Balcão Digital* – Digital Desk), the holding of hearings and trial sessions by electronic means (*Juízo 100% Digital* – 100% Digital Judgement), and the creation of specialized cores that extend the magistrates' jurisdiction beyond their municipalities (*Núcleos de Justiça 4.0* – Justice 4.0 Cores).

The Judiciary system as a platform and artificial intelligence as an ally (2021–onwards)

Being digital means more than just carrying over the rationale of hardcopy processes to electronic media. With this assumption, the Justice 4.0 Program launch, in January 2021, set the main lines of action and outlined the next steps for digital justice in Brazil: 

- Provide people with a wider range of service channels.
- Enable the connectivity of court systems under a unified platform.
- Share innovations and design solutions that ensure automation in courts and allow the use of artificial intelligence, including machine learning.
- Manage data and information more strategically.

Justice 4.0: a new paradigm

Innovation and technology are transforming the Brazilian Judiciary. The **Justice 4.0 Program** fosters the development and the use of **new technologies, including artificial intelligence**, to make the Brazilian justice system more efficient and effective.

It builds upon previously existing efforts to promote **court automation** (for instance, electronic processes) and to use technologies such as **machine learning** to reduce manual efforts and to promote the better use of human and material resources.

Also, the program improves strategies currently used by the Brazilian justice system to **manage data and information**, which increases transparency and provides significant progress in judicial policies.

The Justice 4.0 Program – Innovation and Effectiveness in Achieving Justice for All is managed in partnership by the United Nations Development Programme (UNDP), the National Justice Council (CNJ) and the Federal Council of Justice (CJF) with the support from the Superior Electoral Court (TSE), the Superior Court of Justice (STJ) and the Superior Council of Labor Justice (CSJT). The development of tools, methodologies and studies throughout the project is accompanied by teams from the UNDP in full coordination with the CNJ staff. **All knowledge and solutions are being appropriated by the CNJ through a project sustainability strategy.**

Judiciary's Digital Platform (PDPJ): the justice marketplace

The first large-scale initiative of the Justice 4.0 Program was to create and implement the Judiciary's Digital Platform (PDPJ)—the first marketplace for services of justice in Brazil, launched in August 2021. The PDPJ is based on a central cloud infrastructure and fosters communication between the judicial services systems that are already in use within a unified and integrated platform, which includes other CNJ databases, such as the arrest warrant database, penal execution database (SEEU) and asset tracking database (Sisbajud).

The PDPJ modules, services and applications are the technological solution foundation of the Brazilian Judiciary. PDPJ provides structure-based solutions such as unified and integrated access to *gov.br* (the platform for citizen's relationship with the federal government), notification services, and intelligent searches for information on cases.

- **The modules are available as APIs (Application Programming Interfaces), and they are built through collaboration.** Every new functionality that a court develops can be used by the developer and by all other courts. This will lead to cost savings and rationality, pooling both human and material resources for the benefit of the entire justice system .
- **All services available in one place.** A one-stop environment, focused on providing swifter and more efficient services to society, unites solutions for a wide range of users in the justice system: from magistrates, civil servants working for the Judiciary, members of Public Attorney's Offices and Public Prosecutor's Offices, to police officers, lawyers, and citizens.

GET THE IDEA

The public and private judicial systems will be connected to the PDPJ and may use its modules until PJe replaces them. PJe will still be the platform's principal solution. The courts have until June 2022 to integrate with PDPJ.

After all, why should we invest in a platform model?

Find out why in this **video**



■ Synapses: an Artificial Intelligence (AI) platform

The adoption of an electronic process model that eliminates the use of hardcopy is still not enough to cope with the huge demand presented by new cases and the current backlog in Brazilian courts. In this context, AI stands forth as an important **ally of the Judiciary** .

BOX | GET THE IDEA

An AI solution involves a set of technologies—artificial neural networks, algorithms, learning systems, large data volumes (Big Data), and so forth—which provides inputs and techniques that can emulate human cognitive abilities, such as reasoning, awareness of environment, and decision-making.

AI for targeting what matters: decision-making. Machine learning solutions help uncover patterns and improve decision-making. By automating work routines and embedding intelligent functionalities into judicial proceedings, they allow the court clerks and magistrates to save time and devote their efforts to complex activities that require more in-depth analysis.

How AI can be applied within the justice system

- Automating the accomplishment of bureaucratic tasks, thereby cutting down on time spent on such tasks
- Online petitioning
- Delivering accurate information, narrowing down the information asymmetry gap between parties and enlarging the settlement window
- Organizing the proceedings by restructuring and streamlining its steps
- Freeing up the Justice System’s valuable staff for activities in which human action is indispensable

Source: CNJ, *Inteligência artificial no Poder Judiciário brasileiro* (2019)

Find out more about AI projects in the justice system

The Justice Power’s AI models are available on the **Sinapses platform**, which congregates Brazilian courts’ initiatives to share and leverage solutions.

According to the AI Projects Dashboard, launched by CNJ in December 2021, there are **41 artificial intelligence projects** spread across 32 courts in Brazil. They range from

tools that provide information and assist jurisdictions, such as chatbots and virtual assistants, to solutions that help lawyers and improve management and in-house administration, with dedicated tools for magistrates and court operators.

Artificial Intelligence in the justice system

Get to know the Sinapses platform and the AI Projects Dashboard



■ Codex: data management that supports the use of AI and Justice policies

The Codex platform is also part of the AI ecosystem. It was created in 2022 to be the official framework for collecting and storing all data from electronic lawsuits in Brazil. Not only does Codex contribute to the input and provisioning of the National Database of the Judiciary (DataJud), but it also fosters the creation and development of AI models.

Having more effective and efficient data and information management is essential to sustain evidence-based legal policymaking, drafting, and implementation.

- **Data extraction.** Codex's extractor and converter modules and character recognition tools ensure that the data held within a lawsuit—encompassing metadata, court proceedings, and documents converted into plain text format—are ready to be used by data science tools and AI models.
- **Synapses and Codex Integration.** Developing AI models involves creating a dataset of examples, and often tagging and classifying that dataset to refine its accuracy. Through the usual channels, this requires a great deal of effort from the development team to compile, select, process, purge, and standardize data, besides recognizing characters from text-based data in images and PDFs. The integration between Synapses and Codex will optimize these procedures. **Three AI models with an accuracy above 85% have already been developed through this integration, as part of the Justice 4.0 Program.**

Understanding Justice 4.0 activities and reach

The Justice 4.0 Program's initiatives cover all courts in Brazil, along with the councils of justice and the higher courts*.

1. Innovation and technology

Disruptive solutions to reform the Brazilian Justice System. The purpose of this transformation is to deliver progressively more efficient and agile legal services to society while improving and simplifying access to citizen justice. Benefits such as economy, promptness and higher outputs, and of governance and transparency for magistrates, civil servants and other people involved in the justice system will stem from this digital transformation.

2. Data and information management

Improvement of databases such as DataJud and the design, implementation, and monitoring of evidence-based justice policies to strengthen the advancement of human rights.

3. Preventing and fighting corruption and money laundering, including asset recovery

Strengthening the operation of the Judicial system through better data and information management and optimized research for assets in databases.

4. Strengthening institutional competencies

Knowledge and solution transfers centered on legal security, project sustainability, and efficient jurisdictional performance. Comprehensive training of civil servants working in the Judiciary, with special emphasis on information technology and knowledge alignment.

*Does not include the Federal Supreme Court since it lies beyond the CNJ jurisdiction.

Partnerships and contracts

Partnerships with federal institutes, universities, and foundations to support research as well as outsourcing services, solutions and technology with companies and institutions.

Comprehensive training

Developing competencies and digital skills on topics such as data science, tools, integrity, and compliance for civil servants employed by the Judiciary (mainly in information technology) and magistrates. The CNJ will deliver 30 courses between 2021 and 2022, with an estimated 2,300 students, along with training webinars that are already available for all civil servants on the CNJ YouTube channel. Furthermore, 82 courts have already set goals for training their teams to implement the Justice 4.0 Program.

Justice 4.0: a new paradigm

Learn more about the Program



Advances in Justice 4.0

HOW THINGS STOOD	WHAT WILL CHANGE
<p>>Over 50 systems (with no actual integration)</p> <p>Numerous electronic judicial processing systems (55 are still active), with limited interoperability, communication, and integration.</p> <p>> Multiple logins and restricted integration between databases and processing.</p>	<p>>A decrease to 13 systems connected to the PDPJ</p> <p>Access to a unified platform, which will connect and enable communication between systems. The number of active systems will also be cut down.</p> <p>> 88 courts are implementing work plans to join the PDPJ by June 2022.</p>
<p>Individual Innovation</p> <p>The use of different case processing systems or different versions (customizations) of the same system restricted the ability of one court to benefit from technological innovations developed by another court.</p> <p>> Lack of knowledge and technology sharing, which was often outsourced from private vendors.</p>	<p>Group innovation: one for all, all for one</p> <p>All innovation will take place in the PDPJ cloud environment, using open source engineered systems. This will enable solution sharing (including with other countries) and a collaborative relationship between courts.</p> <p>> Collaborative solution making and innovation sharing.</p>
<p>National needs, local solutions</p> <p>Any new solution devised by a court had limited application in its jurisdiction.</p>	<p>National needs and solutions</p> <p>The platform generates national-level solutions, featuring evolving functionalities and usability for all courts.</p>

<p>Manual input and output</p> <p>DataJud provides centralized storage for data and metadata (case quantities and follow-up, times, status, case classification, etc.) for all physical or electronic, and public or secret files. All the data is sent by the courts on a monthly basis using the XML format, in compliance with the Data Transmission Model (MTD).</p>	<p>Automated Processing</p> <p>Codex will automatically receive and process information provided by the courts, and DataJud is set to be automatically updated via API. In the future, this data will become part of the Judiciary’s Data Lake.</p> <p>> Extension of Codex to all courts: by June 2022</p>
<p>Inconsistencies in data processing</p> <p>This includes inter-court data storage and processing.</p>	<p>Database Sanitization</p> <p>Standardizes how courts receive and process information and how they treat structured and unstructured data. The first stage of DataJud data sanitization, undertaken in 2021, laid the groundwork for developing PDPJ functionalities.</p>

Discover the progress achieved during the first year of the Justice 4.0 Program

Read the special report



Business solutions for an improved justice system

The PDPJ envisages the creation of services, applications, and technological solutions, and the nationwide use of local or regional systems. These solutions will optimize case flows, time, and the courts' human and financial resources, thereby improving the courts' management and boosting the Justice system's effectiveness.

These solutions are **tailored to the real needs of courts** and include the development of a platform offering automated communication between public and private databases, such as the INSS, the Federal Revenue Service, and the Central Bank.

Information governance and security is another critical aspect. To this end, the Information Security Steering Committee will allow the Brazilian courts to network, with the active engagement of agencies, improving the Judicial System's information security standards, pursuant to the legislation in force.

Learn about some of the business solutions with high potential for positive impact on improving judicial management.



Service Portal

An environment that provides access to systems, legal services, and information through single sign-on.



Benefits

- **In just one place.** Petitioning and consulting happen in the same environment, eliminating the need to access different systems. Improved transparency when searching and viewing information and following up on cases from an easy-to-access platform.
- **Centralized communication.** The electronic domicile creates a virtual judicial address, which is used to receive communications, subpoenas, and citations electronically by legal entities and individuals. Corporate counsel can now receive notifications regarding their clients' lawsuits from a centralized point of contact.



Sniper

This tool cross-references information from open and closed databases, such as the Internal Revenue Service and information on the assets of candidates, revealing corporate, asset and financial linkages between individuals and legal entities.



Benefits

- **A powerful tool to strengthen the fight against corruption as well as money laundering and asset recovery.** The easy and simple to operate visual graphics help civil servants and magistrates to detect links that would otherwise be imperceptible in mere document analysis.

National Asset Management System (SNGB)



This is a tool intended for civil servants and magistrates, allowing them to register and manage seized goods and assets easily, flexibly, and reliably, thus affording judicial bodies improved control over their lawsuits and assets.

Benefits

- **Enhanced management integration**, tracking assets involved in judicial proceedings from seizure to their final destination, and preventing misappropriation, depreciation, or asset deterioration.
- **Capacity building** for the Judicial System to take action in preventing and fighting corruption.

National Adoption and Fostering System (SNA)



The PDPJ will harbor the new system release, which is now modern and responsive and provides a better user experience. The SNA compiles data provided by courts of justice, building a single database with information on fostered children and adolescents, children in the process of adoption and adoptees, and people who wish to adopt.

Benefits

- **Increased expeditiousness in all adoption and foster care procedures and improved visibility for children who are frequently overlooked** (for reasons such as age, sibling groups, people with special needs, disorders, or chronic illnesses).
- **Potential for integration with judicial systems, via a platform**, to eliminate redundancy in registrations and speed up the child and youth protection procedures.



Magistrates and civil servants from the justice system



Lawyers and other members of the justice system, such as Public Prosecutors, Public Defenders, and Police, among others.



Public and private institutions that appeal to the justice system



Citizens



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