

# China

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## *1. LegalTech used in the country: courts, law firms, arbitration*

Due to the constant and inevitable increase in litigation in China, arising from the massive and generalized use of the internet, the Chinese government has decided to establish, for the first time on August 18, 2017, the world's first Court specializing in handling internet-related cases in the city of Hangzhou, Zhejiang Province, the central hub of e-commerce.

Initially this was a pilot project which, as we shall see, given its great success, has been replicated in various cities, thus becoming a true model of a court that uses new technologies.

The Hangzhou Internet Court (the "Court") trial internet related disputes on the Online Dispute Platform ([www.netcourt.gov.cn](http://www.netcourt.gov.cn)<sup>1</sup>).

The Court implements all procedures via the internet on the Platform<sup>2</sup>.

The procedures to be followed by the Court are detailed in the Trial Rules of the Hangzhou Internet Court Dispute Platform.

The main issues of the Court were:

- 1) The Court has exclusive jurisdiction for the following cases (first instance):
  1. Disputes regarding contracts of online shopping, services, microfinance loans etc.;
  2. Disputes relating to the ownership and infringement of online copyright;
  3. Disputes relating to infringing other person's personal rights via internet;
  4. Disputes relating to product liability infringement of products bought online;
  5. Disputes regarding domain names;
  6. Administrative disputes raised because of administration measures on the internet;

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1 <<https://www.netcourt.gov.cn/?lang=En>> accessed 21 August 2021.

2 <<http://english.court.gov.cn/>> accessed 21 August 2021.

7. Other internet related civil or administrative cases designated by the higher courts.
- 2) Online trial  
All trial procedures were conducted by the Platform, including filing for litigation, the trial hearing, the delivery of the sentence and also the executing judgements.
- 3) registration for the verification  
Parties involved in the dispute have to be registered with the Platform and be verified via online real name verification, face recognition or off-line verification.
- 4) Pre-mediation process  
Before the case has been taken to court, a mediation process will be undertaken. The mediation period lasts for 15 days and can be extended. During this period, a mediator will help both parties to mediate the dispute.
- 5) Judges can use artificial intelligence technology to draft judgements.  
The first case filed with the Court was an online copyright infringement case in which both parties agreed to mediate in the 20 minutes' video hearing.

From 2017, to April 15, 2018, the Hangzhou Internet Court accepted a total of 7.372 cases involving six types of network-related cases and concluded 4,532 cases. The online filing rate was as high as 96 %, and the related party cases were 100 % online. The online trial took an average of 25 minutes and the online trial averaged 46 days<sup>3</sup>.

At the end of 2018, the Hangzhou Netcourt accepted a total of 12.074 cases involving network cases and concluded 10,391 cases. All of the cases of related parties were heard online. The trials took an average of 28 minutes and the average procedure lasted 38 days.

Some authors noted that in the process of construction and development of Hangzhou NetCourt, notwithstanding the results of the practice were very fruitful, in the same time there were some weakness.<sup>4</sup>

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3 Paolo Beconcini, 'More "NetCourts" Opening in China' (Squire Patton Boggs, 14 November 2018) <<https://www.iptechblog.com/2018/11/more-netcourts-opening-in-china/>> accessed 21 August 2021

4 Hanying Zhu, "'Zhejiang Experience": Problems and Countermeasures in the Construction of Internet Courts' (Atlantis Press, September 2019) <<https://www.atlantispress.com/proceedings/jahp-19/125917489>> accessed 21 August 2021.

For example:

- a) The Innovation of the Litigation System Under the Online Trial Mode was not Compatible with the Rules of the Litigation Law. The rules for the regulation of the process and specific links of the traditional offline mode couldn't be fully applied to the online trial mode of the Internet court, and conflicts arose in the specific application process. The application of the online trial mode under these conflicts has raised the issue of the rationality of electronic delivery, the application of electronic evidence, the rationality of the proceedings in the second instance, and the negative impact on the litigants' right to appeal. Although the Hangzhou Internet Court has tentatively proposed a solution, the basic and principled standards involved in some issues, needed to be improved from the perspective of system design and legislative level. As will be seen, with the enactment of the founding legislation of the Beijing and Guangzhou NetCourts, the legislative system has managed to address the shortcomings described above.
- b) There was found to be a security risk to the data and the entire online process. The authors found that Hangzhou courts would need to improve their technical level and overall strength in order to secure the entire online process... First, it was found that it was necessary to strengthen the judges' and staff's sense of security responsibility to ensure that relevant confidential information does not leak out, and that the legitimate rights and interests of litigants are not harmed. Second, it was noted that it would be appropriate and necessary to cooperate with first-class domestic and foreign technology companies to improve litigation platforms and the technical system of online processes. The authors believe that "The security, stability and reliability of all aspects of the online litigation process should be ensured. Further improve digital encryption technology to ensure the authenticity and integrity of electronic documents and files." The third suggestion of the authors was to "keep up with the direction of big data development and ensure the stability and convenience of information interaction of storage data. With the help of the big data platform, the exchange and sharing of data information will be strengthened to ensure the authenticity of data sources." Therefore, the authors hoped that "Through the above points, it is necessary to improve the construction of technology platforms and avoid the risks brought by the application of Internet technologies."

As will be seen later, Cina Legal system was able to solve in a short time the technological imperfections of Hangzhou Internet Court, and so, given

the fast technological progress, on July 6, 2018, the Central Committee for Deepening Reform in China, reviewed and approved the “Proposal for the Establishment of the Beijing Internet Court and the Guangzhou Internet Court” (later referred to “law”), which has been the second and third internet courts<sup>5</sup>.

As indicated in the law establishing the Internet Courts of Beijing and Guangzhou, the purpose of the NetCourts is to adjudicate cases related to the Internet. NetCourts are grassroots courts, and cannot have jurisdiction over disputes of a high value, those involving foreign elements such as a foreign plaintiff or defendant, or those in the exclusive jurisdiction of other courts (e.g. trademark and patent disputes). Appeals against a NetCourts’ judgments must be filed with the territorially competent Intermediate Court or an IP court.

### *Beijing Internet Court*<sup>6</sup>

The Beijing Internet Court was specially established with 8 internal departments, including the Case-filing Division (litigation service center), the 1st Comprehensive Division, the 2nd Comprehensive Division, the 3rd Comprehensive Division, the Enforcement Department, the Political Department (Party Affairs Committee), the Trial Management Office (Research Office), and the General Office (Judicial Police Brigade).

### *The trial staff*<sup>7</sup>

The Beijing Internet Court, at the date of the information I got (end of 2019), has 35 post judges, 105 judge assistants and court clerks, 19 judicial administrators and 24 judicial police officers. The average age of the post judges is 40. 75.7% of them hold a master's degree or above. They have been engaged in the trial work for more than 10 years averagely.

**Jurisdiction:** The Beijing Internet Court has jurisdiction over eleven types of specific Internet-related first-instance cases that should be accepted by the primary-level people's courts within the jurisdiction of Beijing.

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5 Provisions of the Supreme People's Court on Several Issues Concerning the Trial of Cases by Internet Courts promulgation date 2018-09-06 effective date 2018-09-07\_ document number: Fa Shi (2018) No. 16.

6 <<https://english.bjinternetcourt.gov.cn/index.html>> accessed 21 August 2021

7 <<https://english.bjinternetcourt.gov.cn/judges.html>> accessed 21 August 2021

The NetCourts in Beijing, according to article 2 of the “law” has ruled that:

“The following types of first-instance cases should be accepted by grassroots people's courts, within the jurisdiction of the city where an internet court is located, will fall under the jurisdiction of the internet court in Beijing, Guangzhou and Hangzhou respectively:

1. Disputes arising out of signing or performing online shopping contracts on e-commerce platforms;
2. Disputes over online service contracts which were signed and performed on the internet;
3. Disputes over finance-lending contracts or small-amount lending contracts, which were signed and performed on the internet;
4. Disputes over the ownership of the copyright or neighboring rights of work initially published on the internet;
5. Disputes arising out of the online infringement of the copyright or neighboring rights of work published or disseminated online;
6. Disputes over the ownership, infringement, or contracts of internet domain names;
7. Disputes arising out of the online infringement of others' civil rights, such as personal and property rights.
8. Disputes over product liability as a result of the infringement of others' personal or property rights caused by defects of products bought on e-commerce platforms;
9. Internet-related public interest lawsuits brought by prosecutor's organs;
10. Administrative disputes arising out of administrative behaviors of administrative organs in respect of the administration of internet information services, internet commodity trading and the management of relevant services; and
11. Other internet-related civil and administrative cases that fall under the jurisdiction of internet courts, as designated by superior people's courts.”.

It should be noted that, with respect to the jurisdiction of the Hangzhou court, the "law" has expanded the areas of competence of the NetCourt.

Although trademark, design and patent disputes are not within the jurisdiction of NetCourts, other relevant IP rights can be litigated before these new judicial bodies. Most important among these are copyright and domain name disputes.

NetCourts' procedures are less formal than alternative procedures and do not require physical attendance. For example, filing, evidence submis-

sion, payment, and service of documents are all processed online. Court hearing and mediation are organized online as well, and the parties do not need to travel to the court to attend. Court hearings will be held via video conferencing technology on any available media utilized and approved by the court.

Aside from eliminating traveling and paper submissions, NetCourts are also supposed to operate efficiently. For this reason, hearings are scheduled for no longer than 20 minutes. Another important aspect is the preservation of evidence and filing authenticity. NetCourts will use and allow “blockchain” to synchronize evidence with a notary public and the other government bodies as well as commercial websites, so the parties cannot tamper with it.

The problems noted by some authors and indicated in footnote n. 4, have been solved through, for example, the harmonization of the regulation of online courts with “traditional courts” (the law), the use of a blockchain platform for the exchange and preservation of evidence, and the use of big data and artificial intelligence.

But not only.

A further interesting element that should be mentioned is the establishment of a new mediation platform with the characteristic of Beijing Internet Court.

The online “e-mediation platform” created by the Court, has realized real-time access to the “integrated dispute mediation-ruling” platform as well as the case filing and trial system of Beijing Court so that the case files and materials can be transferred online, the service of result is available online, the mediation result is confirmed online and the mediation files are generated online, just to name a few. The data concerning a case in the whole process is transferred online. With the aid of the online mediation platform, the mediator is able to conduct the mediation “screen to screen” with the litigants anytime and anywhere via mobile phone or computer throughout the entire mediation course, making it unnecessary for the litigants to communicate “face to face” with the mediators in the court.

From September 9, 2018 to August 31, 2019, a total of 29,728 mediation cases were conducted and 100% of them were handled online; 23,262 mediation cases were concluded and 5,572 of them were successfully settled, with a success rate of 23.9 %.

This new mediation system was called “*Fengqiao Experience*”.

2. *Blockchain and DLT in government systems. Whether there are judicial systems or other registers using blockchain. Legal provisions linking a blockchain entry to a legal presumption.*

Taking a brief step back, it is necessary to point out that the positive push for the use of blockchain, has also been sealed by rulings from the Hangzhou court itself<sup>8</sup>. For example on 2018 – 06 -28, the Court has established that "*we should maintain an open and neutral stance on using blockchain to analyze individual cases. We cannot exclude it just because it is a complex technology. Neither can we lower the standard just because it is tamper-proof and traceable*"<sup>9</sup>.

This particular case involved a copyright infringement claim (images and text) filed by a Chinese media company called The Claimant, known as Huatai Yimei, against a Shenzhen-based technology company Daotong.

According to the complaint, the defendant had reprinted Huatai Yimei's work on its website without permission. During the hearing, the plaintiff presented the court with screenshots of the allegedly infringing websites and source codes uploaded to a blockchain provider, called Baoquan (www.baoquan.com).

These items were used as evidence to convince the Court that the defendant was liable for copyright infringement.

Therefore, the Court argued that it was not possible to exclude the blockchain from the evidence just because it was a "complex technology," and ultimately based its decision on that element.

Specifically, the Court held that the evidence storage platform was legal, neutral, and qualified as such. The technology used to collect the evidence was said to be reliable and the electronic data complete, as the Court was satisfied that it had not been modified.<sup>10</sup>

Considering the above, now the "law" has formulated standards for electronic evidence and normalized the evidence determination process for the whole chain.

8 <<https://www.netcourt.gov.cn/?lang=En>> accessed 21 August 2021

9 Maddalena Castellani, Paola Pomi, Cesare Triberti and Alessandro Turato (eds) *Blockchain: Guida pratica tecnico giuridica all'uso* (Goware 2019)

10 <[https://go.dennemeyer.com/hubfs/blog/pdf/Blockchain%2020180726/20180726\\_BlogPost\\_Chinese%20Court%20is%20first%20to%20accept%20Blockchain\\_Judgment\\_EN\\_Translation.pdf](https://go.dennemeyer.com/hubfs/blog/pdf/Blockchain%2020180726/20180726_BlogPost_Chinese%20Court%20is%20first%20to%20accept%20Blockchain_Judgment_EN_Translation.pdf)> accessed 21 August 2021

Firstly<sup>11</sup>, the court has established a blockchain platform of credible electronic evidence to address the pain spot of preserving electronic evidence. A scientific blockchain ensure that the judicial blockchain has a high starting point. The judicial blockchain "Balance Chain" has been established under the leadership of the Beijing Internet Court in cooperation with the National Information Security Development Research Center, Baidu, Trust do Technology and other leading blockchain institutions in China. The Court keeps strict control of the blockchain and strengthens the systematic management of the blockchain. The *Detailed Regulations on Joining in Balance Chain and Related Management*, the *Testing Practices for Joining in Balance Chain* and other regulations were formulated to normalize the qualification requirements for joining in the "Balance Chain", the rules for preserving electronic data, the management mechanism of the platforms joining in, the use of electronic data, the supervision, review and exit of the institutions on the chain, and to ensure the security of the data linked to the "Balance Chain" and the effective protection of the privacy of the parties involved in various cases. The in-depth use of the blockchain helps improve the actual effectiveness of the blockchain. The application of the "Balance Chain" solved such issues as the information security of electronic data, joint verification and authentication, realized the "whole-process recording, all-chain creditability, and all-node witness" of electronic data, and enabled the "one-stop" solving of the preservation, obtainment and determination of electronic evidence. It has greatly enhanced the creditability and probative force of electronic evidence, significantly improved the efficiency of online trials, greatly reduced the parties' cost in safeguarding their rights, and boosted the development of the credit system. So far, the „Balance Chain” has completed the connection to 18 cross-chain nodes and the data joint with 25 application nodes of 9 categories, such as copyright and Internet finance; 6.96 million items of electronic data have been input into the chain; the number of cross-chain data items of preserved evidence has exceeded ten million.

**Secondly, the Court has formulated the norms for the whole-process examination of electronic evidence and eliminated the barriers hindering the verification of electronic evidence.** Regarding such issues as the generation, storage and submission of electronic evidence, our court has formulated the norms for the whole-process examination of electronic evidence. We will examine the qualifications of the third-party evidence-

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11 <<https://english.bjinternetcourt.gov.cn/onlinelawsuitguide.html>> accessed 21 August 2021;

preserving platforms to help verify the effectiveness of electronic evidence. Before the test, measures are taken to make sure the computer (server) is clean and the time is correct so as to rule out the possibilities that such factors as the operator's improper intervention and false environment may lead to false evidence and to ensure the creditability of the approaches taken for the generation and storage of electronic evidence. In the case where the adprints.cn sued the eastday.com for infringing its copyright, our court determined that the plaintiff's evidence of timestamp was not credible as the plaintiff missed the critical step of examining the authenticity of the Internet connection when preserving the evidence. The handling of this case is a vigorous exploration for the improvement of the rules for verifying the evidence of timestamp. The blockchain ecology is expanded to promote the establishment of the blockchain standards and to generalize the use of blockchain in evidence preservation. During the trials, the court verified 1,301 items of cross-chain evidence involving 303 cases. Among them, 14 cases were closed by judgment, and no party involved raised any objection to the authenticity of the evidence.

Thirdly, Court has refined the rules for evidence determination and overcome the difficulties in electronic evidence determination. In combination with the characteristics of the new types of evidence collection in the Internet era, the Court normalized the standards for determining the authenticity, relevance and validity of the evidence stored by such new technical means as electronic notarization, blockchain, credible timestamp, and cloud evidence. According to the actual characteristics of electronic evidence, some standards are formulated for the online verification of the originals of such electronic evidence as pictures, videos, and audios. In combination with the storage subject, the storage and publicity methods, the period of electronic data and other aspects of the Internet-related cases, the court formulated the guidelines and interpretation about the burden of proof for the electronic evidence of the same-type cases to help find out the facts of each case. According to the types, characteristics and distribution of the cases handled by the Internet court, assisting experts and technical investigators are brought in to provide professional opinions for judges' reference regarding specialized and technical issues<sup>12</sup>.

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12 Art. 10 of the "law" states: "Where litigants and other individuals involved in litigation adopt technical approaches to electronically process such prosecution materials as their identifications, duplicates of business licenses, the power of attorney and identifications of legal representatives, and such evidential materials as written evidence, expert opinions and written records for inspections, and then submit the electronic copies, the internet court will deem that such electronic copies meet the requirements on originals,

Art. 11 of the „law” (3rd part) states that: *„Where the truthfulness of electronic data submitted by litigants can be proved through technical approaches for collecting, securing and preventing the falsification of evidence, such as the electronic signatures, trusted time stamps, hash verification, and block chain, or be verified on the electronic evidence collection and storage platform, the internet court shall accept and confirm such electronic data”.*

It was therefore legislated that the Court, without having to carry out further tests, in the event that a party deposits documents that are digitally signed, that have time stamp or, for example, that are stored in a blockchain, will accept these documents as compliant and usable in the process.

4. *Online court proceedings. Are it acceptable, in what way, the way of communication, what information systems are used. How is the judgment issued. Is the connection from the court or can it be made using a private computer?*

All documents and evidence must be placed on the platform.

No other deposit forms are accepted.

Noting that, in most lawsuits, at least one of the parties involved is a big digital platform, the Legislator, on the subject of identifying the parties involved, has established in Article 6 that:

*“Where litigants and other individuals involved in litigation use a litigation platform to carry out litigation-related activities, their identities shall be authenticated through comparison with identifications and licenses, biometric features recognition, or the authentication on the national unified identity authentication platform, or by other online means, and they shall obtain an exclusive account to log into the litigation platform.*

*Any activities carried out by using an exclusive account to log into the litigation platform will be considered as those carried out by the authenticated individual in person, unless such activities are attributed to the system's malfunctions caused by technical problems with the litigation platform, or the authenticated individual is able to prove that his or her litigation platform account is illegally used by others”.*

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*after they have been examined and confirmed. Where the opposing litigant raises an objection regarding the truthfulness of such materials with reasonable causes, the internet court shall require the litigant to provide the originals”.*

It is evident, therefore, that all the personal and contact information that a subject enters - by authenticating himself to a portal (for example for the online purchase of products or services) - are considered as a valid starting point for the recognition of the subject involved in the litigation.

Article 8 of the "Law" provides that the Internet Court, after accepting a lawsuit, may use the contact information provided by the plaintiff, such as the mobile number, fax, e-mail, or instant message account, to notify the defendant and the third party to participate in the case and authenticate their identity on the litigation platform.

Still on the subject of service of documents and communications between the parties and the Court, Article 15 provides that with the consent of the parties, the court may communicate with the parties by the use of: the litigation platform, short messages, fax, e-mails, the instant message account, or by other electronic means<sup>13</sup>.

If a litigant has not given explicit consent to electronic service, it will be deemed as consenting to electronic service when it has been agreed that relevant documents will be served electronically in a lawsuit for any arising dispute, or electronic service is confirmed by issuing the return receipt or conducting the corresponding activities for litigation purposes, and it does not give its explicit disapproval of electronic service.

Article 16 states that: *"For electronic service purposes, the internet court shall confirm the specific means of electronic service and the address with each litigant, and inform them of the applicable scope of electronic service, effects, how to change their address for service, and other matters in respect of the service that should be notified.*

*Where the receiver fails to provide an effective address for electronic service, the internet court may prefer an electronic address frequently used by the receiver, such as mobile number, email address and instant message account, if it is confirmed that such address has been in active use by the receiver in the last three months".*

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13 WeChat and Alipay have often been described as "super apps" because everything is integrated into one service. Instead of having to have one app for banking and another to request a cab service, many of these functions are built directly into WeChat so that the app becomes a one-stop shop for users.

If the account is linked to the bank account the app allows you to pay for anything. It is the most widely used payment tool in China.

Mini-programs have become more important than the app itself, as WeChat pushes harder to become a kind of one-stop shop.

Therefore, WeChat and Alipay offer much more than just messaging, allowing its users to do almost anything from payments to the ability to book flights and hotels.

Therefore, as we understand it, if a party fails to provide a correct and effective electronic address for the purpose of receiving service, the court may use other media that the party habitually uses (including instant messaging apps).

In any case, it is foreseen (art. 17) that where an internet court serves documents to the electronic address that is voluntarily provided by the receiver or has been confirmed with the receiver, the documents will be deemed as successfully served once they reach the receiver's certain system.

The Court does not verify of its own motion that the notice was actually received if:

- 1) the receiver party has confirmed receipt of the notice;
- 2) the receiver party performs activities related and consequential to the subject matter of the notification;

Finally there is a presumption of reception for the Court (art. 17 – 2.2): Where the receiver's medium system gives feedback that the receiver has read the message, or there is other evidence proving that the documents have been well received by the receiver, it shall be presumed that the documents have been successfully served, unless the receiver is able to prove that the medium system is at fault, the service address is not owned or used by himself or herself, the message was not read by him or her in person, or there exists another circumstance in which he or she has not received the documents served<sup>14</sup>.

With regard to notifications of judgments issued by the judge, article 15 states that: „*The internet court may serve judgment documents electronically after it has informed litigants of their rights and obligations and obtained their consent to electronic service. Where a litigant raises a request that it needs the paper judgment documents, the internet court shall provide the paper judgment documents*”.

Finally, it should be noted that among the applications of NetCourt, the so-called “Mobile Micro Court”.

The “Mobile Micro Court” provides five litigation services including “intelligent litigation, filing cases at hand, online mediation, video trial and online evidence uploading.”

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14 Instant messaging technology.

This App, which is built using instant messaging technology<sup>15</sup>, enables online filing, trial, evidence presentation and verification, and service on the mobile side.

The instant messaging technology allows the parties and judges to send, in real time, location and multiple types of message to each other, including text, emojis, pictures, voice recordings, and files. Moreover, it can send SMS notifications to the parties upon completion of submission of their evidence, and also notifications when they come online.

At present, Beijing Internet Court is carrying out system upgrade and adaptation work for high-quality online video trials in a 5G network<sup>16</sup>.

So, for example, only by using the app embedded in WeChat, the parties can realize online filing, case inquiry, online service, online mediation, online trial and other more than 20 functions, so as to enjoy the indiscriminate one-stop smart litigation self-services on the electronic litigation platform anytime and anywhere. As of August 8, visits to the Mobile Micro Court have exceeded 19,000, with an average of 224 per day. Most of the users are under 40 years old and come from 20 provinces or municipalities.

5. *AI in the justice system. How is it used. Is it permissible to make automatic decisions. China's Netcourt use AI in the justice system.*

The main application in AI is the automatic generation of usable documents to aid the work of judges.

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15 Instant messaging identifies online users and allow them to communicate with each other effectively and diversely by using extensible messaging and presence protocol (XMPP), Flash SMS based on unstructured supplementary service data (USSD) and other technologies. At Beijing Internet Court, the instant messaging technology supports real-time communication across various platforms, significantly facilitates communication between judges and the parties, and accelerates the service of information by the court.

16 There is another interesting application of the Instant Messaging technology: the *Pop-up notification service platform*. This platform, built with Flash SMS software, can automatically display a notification served by the court at the top of the mobile phone screen when the screen is locked. The user must read the notification and click "Confirm" before continuing to use his/her phone. The pop-up notifications sent to the mobile phone of a party, regardless of whether the phone is being used or in standby mode, will not be blocked by common security anti-virus software or security settings on the phone. This ensures that notifications are served effectively. The receipt of a notification serves as one of the proofs of successful service of that notification.

It is necessary to underline again that all subsequent information relating to the new technologies was found from official documents present on the Netcourt's and the Supreme Court's websites<sup>17</sup>.

The typical technical application of the new tech are:

- 1) Legal knowledge Graph (AI – deep learning)
- 2) Blockchain
- 3) Instant messaging
- 4) Facial recognition
- 5) Image Recognition
- 6) Speech recognition
- 7) Cloud video

I've already talked about blockchain and Instant messaging so, now, the work will be focused in IA and in particular on the application and – said benefits – of the use of Legal knowledge Graph, Facial recognition and Image recognition.

The massive use of IA in the NetCourt's ecosystem is called Legal knowledge Graph that is described „The legal knowledge graph technology is designed for two-way deconstruction of the structure of legal provisions and documents, creating the basic logic of legal knowledge graph and document generation. The contents of electronic legal archives are processed to extract elements that are used to build the conceptual knowledge graph of semantic elements for generation of a legal document. The element information nodes are configured on a document generation template based on the case information obtained by intelligent evidence review. Then the natural language processing (NLP) technology is used to automatically synthesize the corresponding language text, from which a legal document can be generated automatically.

- 1) **The legal knowledge graph technology** supports online automatic generation of documents. This allows judges of Beijing Internet Court to write standard legal documents more efficiently and accurately”.

The principal application are:

- Automatic generation of documents for judges.
- The legal documents for judges can be generated automatically by using a combination of legal knowledge graph, NPL technology, and document assembly building technology. The generation of rules and template libraries helps standardize documents on the

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17 <<https://english.bjinternetcourt.gov.cn/>> accessed 21 August 2021.

Internet-based litigation platform, and a standard document can be more authoritative. The structured contents and provisions of legal documents are generated quickly, enabling legal documents to be prepared efficiently.

- Automatic generation of documents for the parties. The facts of a case can be organized with the help of big data and artificial intelligence analysis, legal knowledge graph and cognition engine technology. These technologies also can support automatic generation of an appeal petition, a letter of confirmation of the address of a defendant to be served, a defendant's answer, a jurisdiction objection application, and a counterclaim.

From the analysis of the official documents, it is very clear that the system believes that deep learning has enormous advantages for judges, litigants and lawyers. In fact, in the subchapter of the appendix to the White Paper on technological applications in the judicial system it is asserted that there are many benefits of the Automatic Generation of the legal documents, most of all, it is stated that system sets judges free from repetitive work and allows them to devote more energy to case research. In addition, the system helps minimize the possibility of judging identical or similar cases differently and further alleviate the shortage of court officials.

*“As of August 8, 2019, the electronic litigation platform of Beijing Internet Court's has provided a total of 117.729 legal documents by using the automatic document generation service, which considerably accelerated case handling”.*

2) Another application of the IA tech is the **facial recognition system**<sup>18</sup>.

In the Internet-based litigation platform of Beijing Internet Court, facial recognition technology enables online registration. Besides, facial recognition technology supports the digital management of personnel access control of Beijing Internet Court by intelligent access control and passive unconscious face-swiping attendance checking.

The main applications of this technology are:

- a. **Identity authentication.** “Identity authentication based on facial recognition technology is applied in many scenarios such

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18 Facial recognition technology is a kind of biometric technology which detects and tracks the face in an image or video stream and then performs identification based on the facial feature information.

as platform registration, online court hearing, online mediation and security protection, effectively reducing the time spent in identity verification. In the registration process on the PC-end electronic litigation platform, users need to authenticate their real names and pass facial recognition to avoid registration with false account information. When litigants handle related litigation through the mobile client, the Mobile Micro Court App provides convenient authentication for litigants, agents and other litigation participants. The authentication can be completed in various forms such as face matching and liveness detection. The whole process takes less than 20 seconds, providing considerable simplicity and ease for mobile phone users.

- b. **Intelligent access control for the office building of Beijing Internet Court, and passive unconscious face-swiping attendance recording.** It also real-time collects data such as face images and feature attributes and record particulars of visits. Once an illegal entry is found, an alarm will be sent promptly. With passive unconscious face-swiping attendance recording, police officers do not have to stop at the attendance machine. The system automatically captures the facial information when police officers walk into or out of a door, and quickly performs identification and matching in millisecond level to complete attendance recording, thus remarkably improving work efficiency.

In the opinion of the editors of the "White paper" there are many benefits that derive from the use of facial recognition. For example this technology can eliminate the formalities of document examination and registration, as well as repeated input of information. The facial recognition system can remotely confirm the identity information of litigants. This allows litigants to participate in the court trial without appearing before the court, making litigation procedures convenient. „ As of August 8, 2019, the facial recognition system of Beijing Internet Court had provided remote identity authentication for various platforms for more than 200.000 times”.

3) The particular applications of the **Image Recognition technology**<sup>19</sup> are:

- Image recognition, which can automatically identify litigation materials and documents, is applied to electronic case files and archives. With the help of the technology, the electronic litigation platform automatically identifies and categorizes the materials submitted by litigants and the documents prepared by judges in the process of handling a case. After the case is closed, the court clerk can archive electronic case files with one click, and replace paper files with electronic files for appeal transfer.
- It is used to help judges read files. To enable judges to quickly search for and locate files in a large volume of files, intelligent file reading supports functions of full-text search, page number locating and catalog locating. After judges enter keywords in the search box, such as litigation status, name of the litigant or name of evidence, etc., the system will perform automatic retrieval. The contents of case files are directly displayed in the area of search results on the reading interface. The page number can be input in the page number locating box, and the system automatically locates the page number in the image. The catalog of electronic case files clearly displays material names and their page numbers. By clicking on the material in the catalog tree, the system will automatically locate the material.

There is another application of the IA technologies that I did not find in the technical appendix to White paper for the new technologies in the Netcourts, but in another document called "20190820-B-0003-0904-F-trials-whitepaper<sup>20</sup>" according to which the Netcourt of Beijing would have developed the first virtual AI judge and put it in use. According to this stringent subtitle entitled: *"Digging into the depth of litigation services and constantly upgrading the smart litigation services" the Netcourt: "Based on the extraction of more than 120 common questions and the answers of more than*

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19 (n 17): "Image recognition is the technology that combines image angle recognition, text line detection, text line recognition, and detection of single-character coordinates to identify targets and objects in different modes in an image.

On the Internet-based litigation platform of Beijing Internet Court, image recognition supports online identification and extraction of the content of electronic files and assists judges in reading and writing documents daily. The technology enables judges to handling cases efficiently.

20 *ibid.*

*20,000 words, the virtual judge identifies the key words of the questions asked by the parties involved in various cases and gives the corresponding answers. It provides an engaging experience for the parties, manifests the friendliness and liveliness of online services, makes intelligent dispute guidance more humane, and allows users to feel judicial friendliness the moment they access the website. As of August 31, 2019, the AI virtual judge had given a total of 662 responses to parties”.*

Unfortunately, it is not possible to have more information about this new AI development. It would almost seem to be a public service that dispenses pro veritate opinions to individuals who would like to file a lawsuit or be sued in court.

This is one of the cases for which a greater effort of cooperation will be necessary to understand the innovative scope of the technology used by the Netcourts.