

Re-Scanning the Electronic Certificate Infrastructure (Sertipikat-el)

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Policy Forum

Re-Scanning the Electronic Certificate Infrastructure (*Sertipikat-el*)

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EXECUTIVE SUMMARY

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An electronic certificate (*Sertipikat-el*) results from a series of electronic land registration activities in electronic documents that should be digital evidence. This paper describes the infrastructure of *Sertipikat-el* and offers steps that can be taken so that *Sertipikat-el* does not lose its essence as evidence of ownership of strong land rights so that it is not ruled out in evidence at trial. *Sertipikat-el* in electronic documents does not violate the laws and regulations. Unfortunately, the electronic system used to create and manage *Sertipikat-el* does not meet all requirements so that it can guarantee that each component and the integration of all electronic systems continue to operate properly by minimizing the failure of electronic systems. Although *Sertipikat-el* has been determined in electronic documents, it has not been further regulated regarding data input and information. For this reason, there is a need for a complete revision of ministerial regulations and implementation related to electronic land registration at the technical level in the field. To ensure the used electronic system's essential function to create and manage the *Sertipikat-el* continues to run even in the event of a disaster or disruption, the electronics system needs to be registered. A reliability test and an audit from the competent agency are carried out. In addition, the system must also have archival functionality and be defined from the beginning whether the creation and management of *Sertipikat-el* are carried out in an electronic system or not because it will affect the method of presenting *Sertipikat-el* data as digital evidence at the trial.

A. Introduction

The characteristics of a society that lives effectively and efficiently require the government to be more adaptive and responsive in keeping with the dynamics of technological development through transparent and accountable services. The government then utilizes electronic systems based on information and communication technology (Kurnia et al., 2018) to make bureaucratic changes in public services (Dorania Lumbanraja, 2032). These changes are realized by making a digital transformation through e-government (Lindgren et al., 2021; Van Veldhoven & Vanthienen, 2021), where the task is to use a database so that it is paperless, simple, effective, flexible, transparent, and accessible at all times (Hadi et al., 2020; Malodia et al., 2021; Pérez-Morote et al., 2020).

The interaction of society is increasingly intense with (Hakim, 2016) electronic-based information technology products because it is practical without space and time limits (Danuri, 2019) that influence

the way people view the public service system (Hadi et al., 2020; Twizeyimana & Andersson, 2019). These conditions need to be balanced with ease of access to information transactions through e-government. It indicates that the ease of access to electronic-based information is one of the indicators of the success of public services organized by the government ("E-Government Indicators–Getting to the Next Level," 2009; Stanimirovic & Vintar, 2013).

The massive use of technology, the rapid flow of information, and the challenges of land services currently require the Ministry of Agrarian and Spatial Planning/National Land Agency (Ministry of ATR/BPN) to adapt immediately. Experience in the implementation of electronic-based land services previously required the Ministry of ATR/BPN to continue to update so that services were easier and more efficient. The Ministry of ATR/BPN then strategy by improving service performance, improving service standards, and creating service innovations (Munawaruzaman, 2021) by carrying out digital transformation, one of which is the plan to launch an electronic certificate (*Sertipikat-el*)¹ through Regulation of the Minister of ATR/KBPN No. 1 the Year 2021 (Mujiburohman, 2021; Suhattanto et al., 2021). In 2023-2024, it is planned to be tested in several land offices that are considered ready to run, including the city of Madiun, Bontang, Metro, Kediri, Yogyakarta, and Tegal Regency, Probolinggo, Gresik, Karangasem, and several other regencies/cities.

Sertipikat-el is the result of a series of electronic registration activities in the form of electronic documents. The *Sertipikat-el* is a proof of rights so that whatever form it takes (both in the form of electronic documents and certificate blanks), it must still be used as evidence of ownership of strong land rights and have evidentiary value in court. The existence of electronic documents has been recognized as valid evidence at a civil trial under UU No. 11 of 2008 concerning Information and Electronic Transactions (ITE), which has been amended into UU No. 19 of 2016 and UU No. 11 of 2020 (Job Creation Law). However, it is important to note that there are prerequisites that must be met for *Sertipikat-el* in the form of electronic documents to be used as electronic evidence (digital evidence).²

Sertipikat-el is created through an electronic system where all data, information, or documents are stored in an electronic system database. It must also be understood that the higher the level of understanding of science related to information technology, the easier it will be for perpetrators of crime (electronic crime) to find the weaknesses of an electronic system (Abdullah et al., 2017; Malik, 2018). Therefore, the electronic system must be resilient, minimal damage, and under the laws and regulations so that the data, information, or electronic documents contained in it are long-term preservation (can be stored for a long time).

According to the United Nations Department of Economic and Social Affairs (DESA), e-Government Development Index (EGDI) survey published on July 10, 2020, shows that Indonesia is ranked 88th out of 193 countries (Ladychenko et al., 2020; United Nations, 2020), up 19 places from 2018, namely 107th (Chung, 2019; Lola, 2020; United Nations, 2018) and 116th in 2016 (Ladychenko et al., 2020; United Nations, 2016). Indonesia is included in the High e-Government Development Index

¹ Electronic Certificate Writing is then abbreviated to Electronic Certificate contained in Regulation of the Minister of ATR/KBPN No. 1/2021 Article 1 Paragraph 8. It is unclear why the argument of the word Electronic is the absorption of foreign language (electronic), then the abbreviation in the Regulation of the Minister of is written *el* (italic). The author tried to write the Regulation of the Minister of according to the above but turned it into an electronic certificate (*Sertipikat-el*). The same is true of certificate (*sertipikat*) writing, even though the default language in *mus Besar Bahasa Indonesia* (KBBI) is known as a certificate.

² Digital evidence or electronic evidence, is data stored in electronic devices or systems that can be recovered by forensic experts and used as evidence that can be accepted in court.

group with a score of 0.6612 (United Nations, 2020). However, for the aspect of telecommunications infrastructure, it only obtained a score of 0.5669 and is still below the average of Asian regional groups and sub-regional Southeast Asia, while the aspects of governance, services, and human resources are only slightly above average so that the implementation of Perpres No. 95 of 2018 on Electronic-Based Government Systems is still far from expected (Muttaqin & Susanto, 2019). It indicates that the technical characteristics of electronic system components used to create and manage *Sertipikat-el* must receive more attention to meet the aspects of good telecommunications infrastructure so that, in the end, *Sertipikat-el* becomes digital evidence that has a strong proof value (Agustina, 2021; Horsman, 2020).

Hence, departing from the above ¹ argument, this study looks further and describes what infrastructure has been owned or prepared by the Ministry of ATR/BPN for *Sertipikat-el*. The ⁵ author tries to pair it with the description of the requirements that must be met for the *Sertipikat-el* in the form of electronic documents held through the electronic system to be used as digital evidence. Furthermore, this paper attempts to recommend steps that can be taken so that *Sertipikat-el* does not lose its essence as strong evidence of ² ownership of land rights so that it is not ruled out in the trial.

B. Terms of *Sertipikat-el* as Digital Evidence ¹¹

The electronic certificate to be issued based on Regulation of the Minister of ATR/KBPN No. 1 of 2021 is the final product of land registration activities and is issued through an electronic system in the form of electronic documents. So *Sertipikat-el*, in the form of an electronic document, is an electronic archive that records the data or information of rights holders, physical and juridical, of a parcel of land both created electronically (born digitally) and the result of a digital reborn as explained in Regulation of the Minister of ATR/KBPN No. 1 of 2021 Article 4 paragraph (3) and Regulation of the Head of ANRI No. 6 of 2021 Article 1 Point 3. *Sertipikat-el* is born digitally from the beginning (the stage of applying) to the end (the stage of issuing a certificate), purely created through an electronic system that is paperless and no longer paper-based (Nusantara, 2019; Sari, 2022; Tjiptasari, 2018). While *Sertipikat-el* is born digitally reborn if it is created with half electronic (hybrid), it means that the creation of *Sertipikat-el* still uses a mixed method, namely several stages still using paper which is then diverted and several other stages using electronic systems (Nusantara, 2019). *Sertipikat-el*, both digitally created and digitally reborn, results in the form of electronic documents. If all the processes and infrastructure meet the legal requirements (formal and material), it is valid as digital evidence (electronic evidence).

⁴⁰ *Sertipikat-el* in the form of electronic documents or printed products is included in the expansion of legal evidence under the Criminal Procedure Law (Article 15 of UU No. 8 of 1997, Article 5 of the UU ITE, Article 147 of the Job Creation Law, Article 175 Point 3 of the Job Creation Law, Article 49 of PP No. 28 of 2012, Article 5 paragraph (1) of Regulation of the Minister of ATR/KBPN No. 1 the Year 2021. Thus, the *Sertipikat-el*, both from digital-born and digital reborn, can be used as evidence. What distinguishes is the presentation of information, especially during the trial. *Sertipikat-el* is derived from digital-born when presenting information is done by accessing it through an electronic system used to create or manage it because from the beginning to the end, it is created through an electronic system (paperless). Meanwhile, *Sertipikat-el* derived from digital reborn when presenting information is likely to be followed by presenting paper archives that have previously been diverted because the diverted

paper archives are still stored and not destroyed (Article 12 of UU No. 8 of 1997, Article 49 of PP No. 28 of 2012, and Article 26 of Regulation of the Head of ANRI No. 9 of 2018).

An important note of *Sertipikat-el* derived from digital reborn is the process of switching media that is done not just by scanning paper and making a soft file format. However, it must pass the authentication process to show the authenticity of documents (Moussa, 2021) and signing the minutes of the archive media switch (Article 49 of P No. 28 of 2012, and Article 26 of Regulation of the Head of ANRI No. 9 of 2018, and Article 23 of Regulation of the Head of ANRI No. 6 of 2021). *Sertipikat-el*, in the form of electronic documents as evidence, is classified as digital evidence, which, when used in the trial, will be a forensic examination related to procedures, methods, and infrastructure used based on the data or information contained in *Sertipikat-el* (Horsman, 2020; Marshall, 2010). Thus become digital evidence, *Sertipikat-el* must maintain its essence as a strong proof of land rights (Article 19 paragraph (2) letter c of the UUPA) by fulfilling formal and material requirements.

The certificate as an electronic document is a formal requirement if the information or electronic document is obtained lawfully and according to the legislation. The proof of land ownership must not be written (Article 5 of the UU ITE). Whereas to meet material requirements, information and electronic documents in the *Sertipikat-el* must be guaranteed their authenticity (Moussa, 2021), integrity, and availability under the laws and regulations (Article 5 paragraph (3), Article 6, Article 15, and Article 16 of the UU ITE). If the formal and material requirements are not met, then *Sertipikat-el* as digital evidence can be ruled out by the judge or considered to have no evidentiary value by the court.

C. *Sertipikat-el* Formal Requirements

Formal requirements must be met so that *Sertipikat-el* can be used as digital evidence without compromising the legal certainty of land rights. The formal requirements are contained in Article 5 paragraph (4) of the UU ITE. According to Article 5 paragraph (4) of the UU ITE, *Sertipikat-el*, in the form of electronic documents, can be used as digital evidence if:

1. Legally, evidence of land ownership does not have to be made in written form; and
2. Legally, the supporting documents do not have to be in the form of a notarial deed or a deed made by the official.

Table. 1 shows how the formal requirements that *Sertipikat-el* must meet as digital evidence:

Table 1. *Sertipikat-el* Formal Requirements as Digital Evidence

Formal Requirements	Previous Provisions	Formal Fulfillment Requirements
Legally, evidence of land ownership does not have to be made in written form (Article 5 paragraph (4) of UU ITE)	Printed in the form of a hard file blank (Chapter V PMNA No. 3 of 1997)	<ol style="list-style-type: none"> 1. Land Books can be stored electronically in the form of a database in an electronic system and can be printed using a fill list under the rights booked (Article 163a of Regulation of the Minister of ATR/KBPN No. 7 of 2019). 2. The certificate form can be in the form of an electronic document made from the extraction of the Land Book database through an electronic system and be printed using the fill list (Article 178a of Regulation of the Minister of ATR/KBPN No. 7 of 2019). 3. Proof of land rights (Ownership Rights, Ownership Rights to Unit of Floating House,

<p>Legally, the supporting documents do not have to be in the form of a notarial deed or a deed made by the official doing the deed (Article 5 paragraph (4) of UU ITE)</p>	<p>²³ Chapter IV PMNA No. 3 of 1997 is made in the form of a hard file</p>	<p>⁷ Management Rights, and Mortgage Rights) including deed of transfer of land rights and other documents related to land can be in the form of electronic/electronic documents (Article 147 of the Job Creation Law).</p> <p>4. Land registration can be implemented ¹³ electronically by generating data, electronic information, and-or electronic documents (Article 84 of PP No. 18 of 2021).</p> <p>5. Sertipikat-el format and supporting documents in electronic documents (Regulation of the ² Minister of ATR/KBPN No. 1 Year 2021).</p> <p>6. Land registration can be done electronically, and the results ⁴ can be in the form of an electronic document (Regulation of the Minister of ATR/KBPN No. 16 of ⁹ 2021).</p> <p>The PPAT Deed can be in the form of an electronic document and submitted to the head of the land ⁴ office through an electronic system (Article 102 of Regulation of the Minister of ATR/KBPN No. 7 of 2019).</p>
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Source: Processed by authors from various sources, 2022

Table 1 above shows that Article 163a, Article 178a, and Article 102 of ²⁷ Regulation of the Minister of ATR/KBPN No. 7 of 2019 ²⁹ began to meet the demands of Article 5 paragraph (4) of UU ITE by shifting the hard file to a soft file in the form of an electronic document. However, the arrangements are still in the ministerial regulations, so higher regulations are needed. So, the presence of Article 147 of the Job Creation Law further strengthens the existence of *Sertipikat-el* by asserting that proof of land rights and supporting documents can be in the form of electronic documents. ² Article 84 PP No. 18 of 2021 ¹³ affirms that the implementation of land registration can be done electronically by generating data, electronic information, or electronic documents. In line with that, the Ministry of ATR/BPN issued Regulation of the Minister of ⁴ ATR/KBPN No. 1 of 2021 and Regulation of the Minister of ATR/KBPN No. 16 of 2021 to initiate electronic land registration with the results in electronic documents. ²¹

Based on the description above, it can be concluded that *Sertipikat-el* in the form of electronic documents does not violate the provisions of the legislation and has met the formal requirements as digital evidence. The *Sertipikat-el* format shown in Regulation of the Minister of ATR/KBPN No. 1 of 2021 is an institute of the former Land Rights Certificate (*Sertipikat Hak Atas Tanah*) printed using the certificate blank. *Sertipikat-El* is recognized by issuing regulations related to recognizing electronic documents and electronic and incremental land registration. To keep up with technological developments, the Ministry of ATR/BPN continues to improve by electronically switching its land registration system. The current system, the computerization of the Land Office (KKP-Web), has accommodated the demands of the modernization of land services for the community to be faster, more transparent, and efficient (Mustofa et al., 2014). However, if the entire KKP-Web system already meets the statutory requirements, it must be "re-scanned" how the electronic system is implemented.

D. *Sertipikat-el* System Material Requirements

The following provision so that *Sertipikat-el* can be used as digital evidence meets the material requirements in Article 5 paragraph (3), Article 6, Article 15, and Article 16 of UU ITE. These articles explain that *Sertipikat-el* can be used as digital evidence if:

1. It can be guaranteed authentication, integrity, availability; and
2. It is valid if it is made using an electronic system (UU ITE).

Table 2 below shows the material requirements that *Sertipikat-el* must meet as digital evidence.

Table 2. *Sertipikat-el* Material Requirements as Digital Evidence

Material Requirements	Elaboration of Material Terms	Fulfillment of Material Conditions
Authentication	Worth accepting or stating based on facts and identical (Regulation of the Head of ANRI No. 20 of 2011, Article 39 of PP No. 71 of 2019, and Explanation of Article 39 of PP No. 71 of 2019).	<i>Sertipikat-el</i> is made using an electronic system that operates by multiplexing so that content of information contained in the original or a copy is identical to the original data.
The wholeness (integrity)	Must be maintained the consistency, accuracy, and trustworthiness of the data. In this case, the contents of the <i>Sertipikat-El</i> must be complete and changed in each important component (Regulation of the Head of ANRI No. 20 of 2011).	Electronic Signatures (TTE) and barcodes in <i>Sertipikat-el</i> serve as a means of authentication and verification of the signer's identity or its integrity and authenticity (Article 60 of PP No. 71 of 2019 and Article 3 of Regulation of the Minister of ATR/KBPN No. 3 of 2019).
Availability	Electronic information in it is always available when needed by people who have access or authority	It is related to the technical characteristics of the electronic system components used to create and manage <i>Sertipikat-el</i> . However, it is not yet certain whether the electronic system is following the UU ITE
It is valid if it is made using an electronic system (UU ITE).	<ol style="list-style-type: none"> 1. Electronic systems that are certified and follow the laws and regulations (Article 6 of PP No. 71 of 2019 and Article 5 paragraph (3) of the UU ITE) 2. Established TTE using a certified electronic system (Article 4 of Regulation of the Minister of ATR/KBPN No.1 of 2021 and Article 60 paragraph (3) letter c of PP No. 71 of 2019) 	The electronic system used to issue <i>Sertipikat-el</i> has not fulfilled all the mandates of Articles 15 and 16 of the UU ITE and Chapter II of PP No. 71 of 2019 as the elaboration of technical components of electronic systems used to create and manage <i>Sertipikat-el</i> .

Source: Processed by authors from various sources, 2022

Table 2 above shows that *Sertipikat-el* is considered "authentic (original)" if it deserves to be accepted or trusted based on facts and is identical (not the slightest difference between the original and the copy) (ANRI Principal Regulation No. 20 of 2011, Article 39 of PP No. 71 of 2019, and Explanation of Article 39 of PP No. 71 of 2019). *Sertipikat-el* is made using an electronic system that operates by multiplexing so that the content of information contained in the original or a copy is identical to the original data. Thus, *Sertipikat-el* has fulfilled the material verification requirements by maintaining the principle of originality and bona fide (can be trusted well) because its structure, content, and context are under the conditions at the time it was first created and created by the Ministry of ATR/BPN as an institution that has authority or authority over the content of the information.

The material requirement of integrity is that when the *Sertipikat-el* has been issued, consistency, accuracy, and trust in the data must be maintained. In this sense, the electronic information displayed can no longer be changed by additions, subtractions, or data deletions, especially by non-interested parties. The issued certificate will be affixed with a safety mark in the form of TTE and barcode as an authentication and verification instrument of the signatory's identity or its integrity and authenticity so that it will be detected in the event of unauthorized modifications. Changes to *Sertipikat-el* information (e.g., maintenance of land registration data) can only be made through specific procedures under the legislation. Thus, the material condition of integrity in *Sertipikat-el* has been achieved.

Material availability requirements are met if the information contained in the certificate can be accessed at any time by people with access or authority. For this reason, *Sertipikat-el* must be created and managed using an electronic system with component characteristics under the UU ITE and PP No. 71 of 2019 to fulfill further material requirements. However, whether the electronic system used to create and manage the *Sertipikat-el* is not following the UU ITE is not certain.

UU ITE and PP No. 71 of 2019 have provided signs related to electronic systems that can be used so that *Sertipikat-el* as its output can be considered valid. Article 6 PP No. 71 of 2019 mandates that the Ministry of ATR/BPN as an electronic system operator, must register its electronic system with the Ministry of Communication and Information Technology before it begins to be used. In more detail, the technical characteristics of electronic system components used to create and manage *Sertipikat-el* must meet the provision of Articles 15 and 16 of the UU ITE and Chapter II of PP No. 71 of 2019. In summary, the electronic system used to create and manage the *Sertipikat-el* must still be able to access it even when it is experiencing disasters or disturbances (destructive actions that cause it not to function properly and impact the damage of the electronic system). Therefore, to ensure the fulfillment of the technical characteristics of electronic system components used in creating and managing *Sertipikat-el*, an assessment from various parties is needed, such as the reliability test from the Electronic Certification Office (BSrE) at the State Cyber and Password Agency (BSSN), and has been audited by the Technology Assessment and Implementation Agency (BPPT) which has joined the National Research and Innovation Agency (BRIN).

Based on the description above, it can be concluded that the material requirements of *Sertipikat-el* as digital evidence have not all been met. It is because the technical components of the electronic system used to create and manage the *Sertipikat-el* do not meet the provisions in the UU ITE and PP No. 71 of 2019. As digital evidence, *Sertipikat-el* must maintain authentication, integrity, and availability and rely on the legal umbrella to strengthen and maintain its sustainability. The Ministry of ATR/BPN should be more open about whether the current system (KKP-Web) has carried out all these processes because if the material requirements have not been met, the results of the certificates that will be issued cannot be accepted as digital evidence in court. Registering with the Ministry of Communication and Information Technology, testing the reliability of electronic systems, and auditing their systems by third parties are prerequisites that must be carried out by the Ministry of ATR/BPN so that the *Sertipikat-el* infrastructure meets the service standards required by regulations. Of course, as explained above, there are still some technical components of the electronic system used to create and manage the *Sertipikat-el*.

Hence, departing from the above arguments (formal and material terms), the following diagram will illustrate the flow or infrastructure needed to issue *Sertipikat-el*. The following flow is to make it easier for readers to understand the parts of formal and material requirements that have been fulfilled by the Ministry of ATR/BPN and that have not been fulfilled.

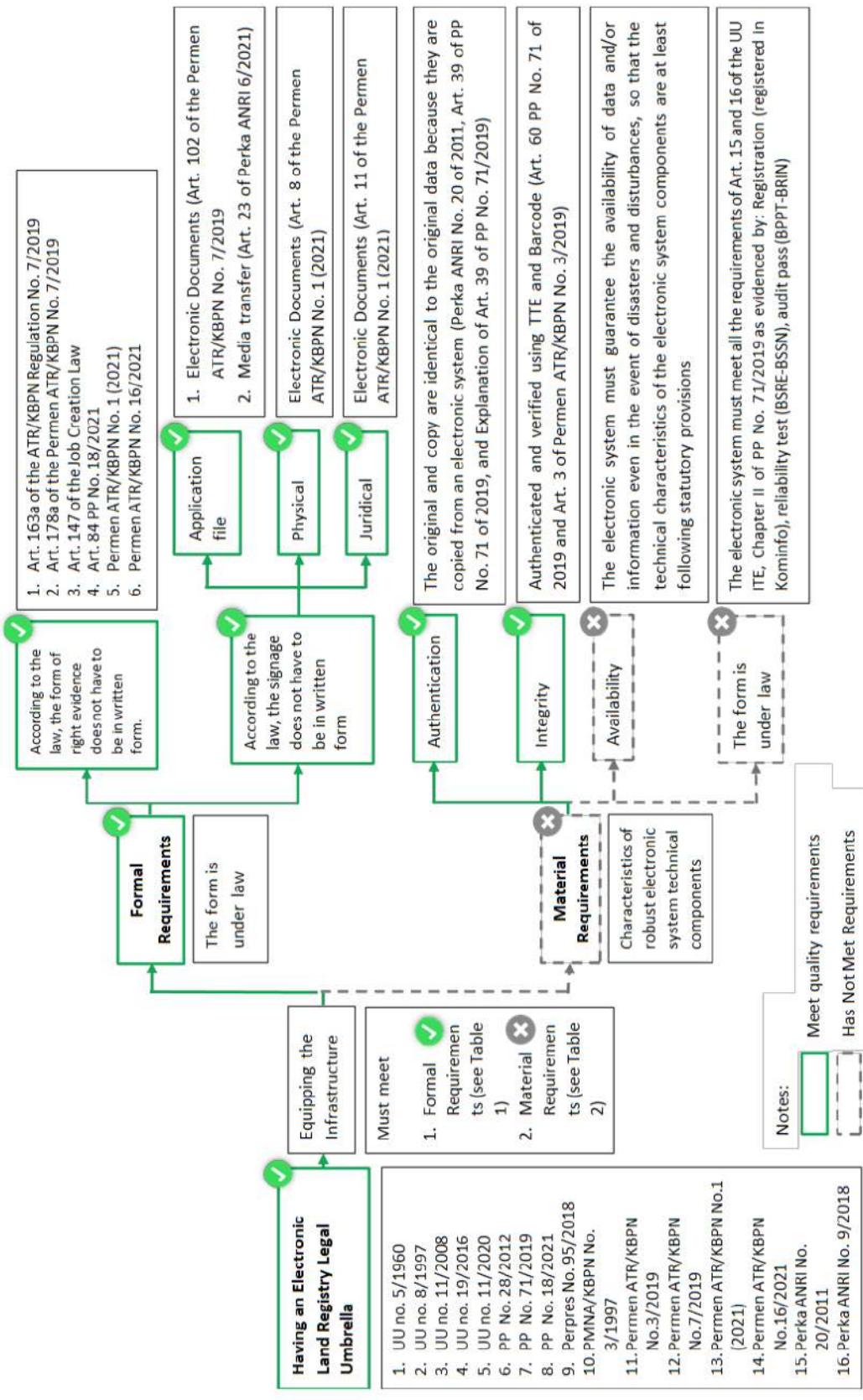


Diagram 1. Electronic Certificate Infrastructure: Formal and Material Requirements (Source: Processed by authors from various sources, 2022)

E. Conclusion

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Sertipikat-el is the final product of land registration activities in the form of digital documents as evidence of strong land rights and included in digital evidence. *Sertipikat-el* in electronic documents does not violate statutory provisions and has met the formal requirements as digital evidence. However, Regulation of the Minister of ATR/KBPN No. 1 of 2021, as an implementing regulation for the issuance of *Sertipikat-el*, has not been equipped with detailed provisions related to the implementation of electronic land registration through an electronic system.

As for the material requirements, the focus is on the electronic system used to create and manage the *Sertipikat-el*. The heavy task is to guarantee the integrity of each component and the integration of all electronic systems so that they operate properly by minimizing electronic system failures (the cessation of some or all essential functions). Unfortunately, to go in this direction, not all material requirements can be met. As a prerequisite, the *Sertipikat-el* issuance plan has indeed carried out authentication and verification by affixing TTEs and barcodes as a form of responsibility and approval of the loaded content. However, the electronic system must pass a series of requirements subsequently. For this reason, the electronic system used in creating and managing the *Sertipikat-el* must begin with the registration process, conduct reliability tests, and pass audits from the authorized agencies.

F. Recommendation

The infrastructure or tools for issuing electronic certificates formally (statutory regulations) have met the requirements. However, there is still less detail on implementing electronic land registration. However, the technological infrastructure for issuing electronic certificates (technical characteristics of electronic components used to create and manage *Sertipikat-el*) has not met the availability requirements (under the order of Articles 15 and 16 of the UU ITE and chapter II of PP No. 71 of 2019).

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Based on the description above, this paper recommends specifically to the Ministry of ATR/BPN, which plans to run *Sertipikat-el* in 2023. Several steps can be taken so that *Sertipikat-el* has evidentiary value and is not ruled out by the court as digital evidence, so these six recommendations are important to note:

1. Regulation of the Minister of ATR/KBPN No. 1 of 2021 as the implementing regulation for the issuance of *Sertipikat-el*, most describe the form of output in the form of digital documents but do not clearly describe how to obtain and enter input data and information such as application files (including rights), biological data and juridical data into electronic systems. It is worth pointing out that the form and procedure of managing data input (for example, the PPAT Act) use standard methods where the mechanism is arranged in a guideline, considering that the procedure was carried out manually and then switched to the electrolytic system. For this reason, there is a need for a complete revision of ministerial regulations and implementation related to the implementation of electronic land registration at the technical level in the field because an electronic document, including *Sertipikat-el*, has evidentiary value if the authorized agency creates it in the correct format and the process is conducted following the procedures contained in the legislation;
2. It is necessary to provide provisions related to *Sertipikat-el* issued purely electronically (born digital) through an electronic system where all supporting files are without the use of paper from the beginning of the creation until the publication. As well as provisions related to *Sertipikat-el* issued semi-electronically or hybrid (reborn digital), several supporting files in paper form are provided

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and entered into an electronic system. It needs to be defined from the beginning because it will affect the method of presenting data or information *Sertipikat-el* as digital evidence at the trial;

3. The process of media switching is not just scanning (scan) or converting paper into soft files, but certain procedures are needed (such as authentication and authentication of the Archive Media Switching Reports) so that the archive media switching results can be used as evidence. For this reason, a ministerial regulation regulating the procedure for transferring archival media supports Article 4 of Regulation of the Minister of ATR/KBPN No. 1 of 2021;
4. The essential function of the electronic system used to create and manage the *Sertipikat-el* must continue to run as it should even in the event of a disaster or disruption, for which the characteristics of its technical components must guarantee authentication, integrity, and availability and refer to the UU ITE. For this reason, the electronic system needs to be registered, a reliability test, and the competent agency passes an audit. This step needs to be taken so that *Sertipikat-el* becomes digital evidence as evidence of strong land rights;
5. Regulation of the Minister of ATR/KBPN No. 1 of 2021 does not yet explain whether *Sertipikat-el* was created and managed using the same electronic system. Suppose *Sertipikat-el* is created and managed in the same electronic system. In that case, the electronic system must have archival functionality because *Sertipikat-el* is created and needs to be managed through storage, maintenance, use, depreciation, and preservation. However, if *Sertipikat-el* is created and managed using a different electronicsystem, then the electronic system used to create *Sertipikat-el* must be connected to a system that has archival functionality as an electronic system used to manage *Sertipikat-el* so that when a conversion occurs, format change or migration will be documented in the electronic system; and
6. The Ministry of ATR/BPN must complete its infrastructure to create and manage *Sertipikat-el* before *Sertipikat-el* is issued so that it is not ruled out as digital evidence.

References

- Abdullah, N. C., Ramly, R., & Ikhsan, M. I. (2017). Land Registration of Titles at Stake: West and East Malaysia Compared. *Environment-Behaviour Proceedings Journal*, 2(6). <https://doi.org/10.21834/e-bpj.v2i6.988>
- Agustina, E. (2021). The Used of Certificate of Land Rights on Proving in Land Disputes. *Administrative and Environmental Law Review*, 2(2). <https://doi.org/10.25041/aelr.v2i2.2356>
- Chung, C. S. (2019). Analysis on the 2018 UN E-government survey. *Journal of Advanced Research in Dynamical and Control Systems*, 11(7 Special Issue).
- Danuri, M. (2019). Perkembangan dan Transformasi Teknologi Digital. *Infokam*, XV(II).
- Doramia Lumbanraja, A. (2020). Urgensi Transformasi Pelayanan Publik melalui E-Government Pada New Normal dan Reformasi Regulasi Birokrasi. *Administrative Law and Governance Journal*, 3(2). <https://doi.org/10.14710/alj.v3i2.220-231>
- E-Government Indicators – Getting to the Next Level. (2009). *I-WAYS, Digest of Electronic Commerce Policy and Regulation*, 32(2). <https://doi.org/10.3233/iwa-2009-0171>
- Hadi, K., Asworo, L., & Taqwa, I. (2020). Inovasi Dialogis: Menuju Transformasi Pelayanan Publik Yang Partisipatif (Kajian Sistem Pelayanan Malang Online). *Journal of Government and Civil Society*, 4(1). <https://doi.org/10.31000/jgcs.v4i1.2438>
- Hakim, H. A. B. (2016). OMEKA: Aplikasi Pengelola Arsip Digital dalam Berbagai Format. *Khazanah: Jurnal Pengembangan Kearsipan*, 9(1). <https://doi.org/10.22146/khazanah.22945>

- Horsman, G. (2020). Digital Evidence Certainty Descriptors (DECDS). *Forensic Science International: Digital Investigation*, 32. <https://doi.org/10.1016/j.fsidi.2019.200896>
- Kurnia, T. S., Rauta, U., & Siswanto, A. (2018). E-Government dalam Penyelenggaraan Pemerintahan Daerah di Indonesia. *Masalah-Masalah Hukum*, 46(2). <https://doi.org/10.14710/mmh.46.2.2017.170-181>
- Ladychenko, V., Chomakhashvili, O., Uliutina, O., & Kanaryk, J. (2020). Dissemination of environmental information in the E-governance system: World trends and experience for Ukraine. *European Journal of Sustainable Development*, 9(4). <https://doi.org/10.14207/ejsd.2020.v9n4p51>
- Lindgren, I., Melin, U., & Sæbø, Ø. (2021). What is e-government? Introducing a work system framework for understanding e-government. *Communications of the Association for Information Systems*, 48. <https://doi.org/10.17705/1CAIS.04842>
- Lola, O. (2020). Penilaian Penerimaan E-Government Di Indonesia. *Jurnal CoreIT*, 6(1).
- Malik, A. A. M. A. A. (2018). Electronic Crime Investigation. *IJEI*, 2(2).
- Malodia, S., Dhir, A., Mishra, M., & Bhatti, Z. A. (2021). Future of e-Government: An integrated conceptual framework. *Technological Forecasting and Social Change*, 173. <https://doi.org/10.1016/j.techfore.2021.121102>
- Marshall, A. M. (2010). Quality Standards and Regulation: Challenges for Digital Forensics. *Measurement and Control*, 43(8), 243–247. <https://doi.org/10.1177/002029401004300804>
- Moussa, A. F. (2021). Electronic evidence and its authenticity in forensic evidence. *Egyptian Journal of Forensic Sciences*, 11(1). <https://doi.org/10.1186/s41935-021-00234-6>
- Mujiburohman, D. A. (2021). Transformasi Dari Kertas Ke Elektronik: Telaah Yuridis Dan Teknis Sertipikat Tanah Elektronik. *BHUMI: Jurnal Agraria Dan Pertanahan*, 7(1), 57–67. <https://doi.org/10.31292/bhumi.v7i1.472>
- Munawaruzaman, A. (2021). Implementasi Transformasi Digital Kementerian Agraria untuk Peningkatan Pelayanan Publik. *PROSIDING SENANTIAS: Seminar Nasional Hasil Penelitian Dan Pengabdian Kepada Masyarakat*, 1(1).
- Mustofa, F. C., Aditya, T., & Sutanta, H. (2014). Sistem Informasi Geografis Partisipatif (SIG-P) untuk menuntaskan pemetaan bidang tanah: peluang dan tantangan. In *Menuju Pengelolaan Informasi Secara Spasial: Fondasi, Evaluasi dan Implementasi* (Issue September). <https://doi.org/10.5281/zenodo.1323188>
- Muttaqin, M. H., & Susanto, T. D. (2019). The Effect of Website Components on User Trust in Increasing the Interest to Use Public Administration Service on E-Government Website. *Proceedings - 2019 International Conference on Computer Science, Information Technology, and Electrical Engineering, ICOMITEE 2019*. <https://doi.org/10.1109/ICOMITEE.2019.8921171>
- Nusantara, P. (2019). Model Manajemen Data Pada Pengelolaan Arsip Elektronik: Penerapan Data Manajemen Body Of Knowledge. *Jurnal Kearsipan*, 13 No 1, 55–76.
- Pérez-Morote, R., Pontones-Rosa, C., & Núñez-Chicharro, M. (2020). The effects of e-government evaluation, trust and the digital divide in the levels of e-government use in European countries. *Technological Forecasting and Social Change*, 154. <https://doi.org/10.1016/j.techfore.2020.119973>
- Sari, I. N. (2022). Arsip Personal dan Teknologi Informasi. *Khazanah: Jurnal Pengembangan Kearsipan*, 15(1), 42. <https://doi.org/10.22146/khazanah.71169>
- Stanimirovic, D., & Vintar, M. (2013). Conceptualization of an Integrated Indicator Model for the Evaluation of e-Government Policies. *The Electronic Electronic*, 11(2).
- Suhattanto, M. A., Sarjita, S., Sukayadi, S., & Mujiburohman, D. A. (2021). Kualitas Data Pertanahan Menuju Pelayanan Sertifikat Tanah Elektronik. *Widya Bhumi*, 1(2), 100–114. <https://doi.org/10.31292/wb.v1i2.11>
- Tjiptasari, F. (2018). Persepsi kegunaan pengelolaan arsip digital menggunakan SIKD (sistem informasi kearsipan dinamis). *Jurnal Kajian Informasi Dan Perpustakaan*, 5(2), 111. <https://doi.org/10.24198/jkip.v5i2.12645>

- Twizeyimana, J. D., & Andersson, A. (2019). The public value of E-Government—A literature review. In *Government Information Quarterly* (Vol. 36, Issue 2). <https://doi.org/10.1016/j.giq.2019.01.001>
- United Nations. (2016). E-Government Survey: E-Government in Support of Sustainable Development. In *New York*.
- United Nations. (2018). E-Government Survey 2018: Gearing E-Government to support transformation towards sustainable and resilient societies. *New York*.
- United Nations. (2020). E-Government Survey 2020. Digital Government in the Decade of action for sustainable development. In *UN E-Government Knowledgebase*.
- Van Veldhoven, Z., & Vanthienen, J. (2021). Digital transformation as an interaction-driven perspective between business, society, and technology. *Electronic Markets*. <https://doi.org/10.1007/s12525-021-00464-5>

Significant Legislation Relating to Sertipikat-el:

- Law Number 5 of 1960 on the Basic Regulation of Agrarian Principles.
- Law Number 8 of 1997 on Corporate Documents.
- Law Number 11 of 2008 on Information and Electronic Transactions
- Law Number 19 of 2016 on Amendments to the Law Number 11 of 2008 on Electronic Information and Transactions.
- Law Number 11 of 2020 on Job Creation.
- Government Regulation Number 28 of 2012 on the Implementation of Law Number 43 of 2009 on Archives.
- Government Regulation Number 71 of 2019 on the Implementation of Electronic Systems and Transactions.
- Government Regulation of the Republic of Indonesia No. 18 of 2021 on Management Rights, Land Rights, Housing Unit, and Land Registration.
- Presidential Regulation Number 95 of 2018 on Electronic-Based Government Systems.
- Regulation of the Minister of State for Agrarian Affairs/Head of the National Land Agency Number 3 of 1997 on Provisions for the Implementation of Government Regulation Number 24 of 1997 on Land Registration.
- Regulation of the Minister of Agrarian Affairs and Spatial Planning/ Head of the National Land Agency of the Republic of Indonesia Number 3 of 2019 on the Implementation of Electronic Signatures.
- Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency Number 7 of 2019 on the Second Amendment to the Regulation of the Minister of Agrarian Affairs/ Head of the National Land Agency Number 3 of 1997 on the Implementation Provisions of Government Regulation Number 24 of 1997 on Land Registration.
- Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency Number 1 of 2021 on Electronic Certificates.
- Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency Number 16 of 2021 on the Third Amendment to the Regulation of the Minister of Agrarian Affairs/Head of the National Land Agency Number 3 of 1997 on Provisions for the Implementation of Government Regulation Number 24 of 1997 on Land Registration. Regulation of the Head of the National Archives of the Republic of Indonesia Number 20 of 2011 on Guidelines for Authenticating Electronic Archives.
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