



**UNIDROIT Foundation**

**Foundation 2025**

**BPER Project Ninth Workshop**

**BPER Report**

**Project Group Meeting**

**July 2025**

**18-19 June 2025**

### **Summary Report for the Ninth Meeting of the Best Practices in the Field of Electronic Registry Design and Operation Project**

1. The ninth meeting of the Project on Best Practices in the Field of Electronic Registry Design and Operation (BPER) was held on 18-19 June 2025 at UNIDROIT and via Zoom. The BPER Project is run under the auspices of the Cape Town Convention Academic Project (CTCAP), a partnership between UNIDROIT and the University of Cambridge, with the Aviation Working Group as its founding sponsor. The BPER Project is supported by the UNIDROIT Foundation and Aviareto.

2. The meeting was chaired by the Directors of the CTCAP, Mr Ignacio Tirado (UNIDROIT Secretary-General), Ms Louise Gullifer (University of Cambridge) and Mr Jeffrey Wool (President of the UNIDROIT Foundation and Secretary-General of the Aviation Working Group). The meeting was opened with a welcome address by Mr Wool. The agenda for the meeting is provided under Annexe 1 of this Report.

3. The ninth workshop focused on refining the 24 Critical Performance Factors (CPFs) in the Guide on Best Practices for Electronic Business Registries (BPEBR Guide). Participants also discussed a separate CPF for Transparency, revisions made to the document's structure, and the distinction between best practices and reference materials with technical standards.

#### Purpose of the workshop, scope, and background of the Project

4. Upon the welcome remarks, *Mr Wool* noted that the ninth workshop was intended to be the final meeting dedicated to the BPEBR Guide. After the workshop, the Secretariat would finalise and publish the Guide. He presented the draft agenda and thanked the team.

5. *Mr Wool* explained that the BPEBR Guide formed part of the BPER Project. He reminded the participants that the first Guide on Best Practices for Electronic Collateral Registries (BPECR) had been developed to clarify 'best practices' in Article 28 "Liability and financial assurances" of the Cape Town Convention. The BPEBR Guide was intended to test the CPFs identified in the BPECR Guide on Electronic Business Registries (EBRs). The BPEBR Guide was a standalone document which also provided a general conclusion about electronic registries.

6. *Mr Tirado* thanked Ms Kateryna Bovsunovska for her work on the BPER Project. *Ms Gullifer* expressed her content with the BPER Project progress and mentioned that the BPEBR Guide launch was to be organised on 1 September 2025.

7. Moving on to the content of the Draft BPEBR Guide, *Mr Wool* highlighted its focus on Transparency, Accuracy and Continual Improvement in connection with technological developments. While CPFs had been a vehicle adopted from the BRECR Guide, the questions related to Transparency and technology were essential for the finalisation of the present Guide.

8. *Ms Bovsunovska* provided an overview of the intersessional work on the BPER Project. The BPER Project had benefited from the input of Ms Ieva Tarailiene, an expert consultant engaged from November 2023 to December 2024. In February 2025, an online meeting was held on publicly available information in business registries, informed by a dedicated survey circulated in December 2024 – January 2025. The Draft BPEBR Guide was the result of expert contributions over the past three years and the review undertaken by the UNIDROIT Secretariat. The major changes to the draft Guide included sub-chapters on the evolving role of business registrars, automation and emerging technologies, CPFs on Confidentiality and Privacy, Transparency, updates to Chapters III and IV on technical standards and risk evaluation, and a new Annexe on publicly available information. Finally, she invited participants to share their feedback on the Draft Guide during the workshop and in writing by the end of June 2025.

#### Discussion on the Introduction

9. *Ms Bovsunovska* explained the structure of the Introduction and clarified that the scope of the draft Guide had not been changed. The overview of business registries now provided more examples, the section on the evolving role of business registrars underlined the importance of registrar's leadership, and a new section on automation and emerging technologies had been added. The Guide emphasised automation as beneficial for EBRs and mentioned cloud-based storage as part of good practices for EBRs. Without delving into specific technical details, the Guide adopted a technologically neutral approach, and the CPFs remained relevant for EBRs regardless of their use of Artificial Intelligence (AI) or Machine Learning (ML) technologies.

10. *Mr Wool* asked the participants to reconfirm the previously adopted approach to explicitly exclude paper-based and hybrid business registries from the scope of the Guide. *Participants* agreed that paper-based registries should be excluded, but best practices should still be applicable to hybrid registries, as they would also benefit from the Guide. This should cover both registries in transition from paper-based to fully electronic ones, and those electronic registries that retained paper-based elements as a deliberate policy choice.

11. The ensuing discussion aimed to identify whether modifications of the CPFs for hybrid systems needed to be clarified. The Guide could be applied to the electronic aspects of hybrid registries and simultaneously help design fully electronic systems for business registries. *One of the participants* noted that the Guide not only set out the principles but also outlined technical controls. It could be clarified that the principles in CPFs applied to paper-based functions, but not the technical controls. An alternative view was expressed that all CPFs applied to electronic elements of any business registry but did not cover the design of paper-based documents, which were subject to separate guidelines, not included in the BPEBR Guide. *Participants* agreed that the Guide should include a narrow general statement on the equal applicability of the CPFs to electronic components of hybrid business registry systems.

12. *The participants* also agreed with the categorisation of the registry functions from the UNCITRAL Legislative Guide on Key Functions of a Business Registry ("UNCITRAL Legislative Guide") into data collection, data storage, and data provision.

### Discussion on Automation and Emerging Technologies

13. *Mr Wool* asked whether the sub-chapter on automation and emerging technologies in EBRs sufficiently reflected current developments. It was suggested that automation in decision-making processes in EBRs could be considered by the Guide and that it should be clarified that these decisions were valid and enforceable, referencing international and regional instruments, such as the UNCITRAL Model Rules on Automated Contracting and the ELI Rules on Digital Assistants. Furthermore, an issue of liability in case of mistaken decisions by automated systems could also be raised in the Guide.

14. *Mr Wool* offered the view that the legal validity of automated decision-making was a complex question principally addressed by national law, therefore, the Guide could include one paragraph introducing the issue and citing some of the international norms, without statements about legal consequences under national or international law, since a thorough investigation of the matter would go beyond the scope of the Guide. *Ms Bovsunovska* agreed that the approach taken in the subsection was cautious. She pointed out that the issue of legal liability was touched upon in the sub-chapter on the legal relevance of best practices, where it was stated that liability was a matter of national law.

15. *A participant* explained how registries already used AI for triage, fraud detection, etc. He shared that the use of AI would increasingly become a best practice and thus, international guidance on the validity of automated decision-making should be included in the Guide.

16. *Another participant* proposed including “unexpected outcomes of automated systems” into the list of possible failures in the subsection on the legal relevance of best practices. A difference between a purely automated system and a machine learning AI system was also highlighted. The former consistently generated the same output for a given input following the provided rules, while the latter adapted over time and could generate a different decision based on the same facts. It was proposed to take this aspect into account when editing the draft Guide.

17. It was agreed to acknowledge the mentioned developments in the Guide by first stating that automation was a best practice, followed by examples on how it was already being used as well as recommendations of caution and risk consideration, and to include unexpected outcomes to the list of possible failures.

18. Given that automation was a broad term, *participants* discussed the terminology which could be used in the Guide, including “unexpected outcome of an automated system”, “AI agent” used in international discussions, and “inaccuracies produced by automated decision making”.

19. *Ms Gullifer* agreed with the proposal of including a paragraph on AI and ML in EBRs. She observed that the section on the legal relevance of best practices focused on the relevance of best practices to the legal liability of EBRs, as following them was a way of mitigating liability. *Ms Gullifer* further elaborated that the list of possible failures being discussed referenced Recommendation 47 of the UNCITRAL Legislative Guide, which urged national law to clarify the liability of a State. Given this, she cautioned adding an additional bullet point on unexpected outcomes since it would require providing the “avoidable” case of an unexpected outcome. Instead, she suggested including a footnote, which would state that new aspects of liability would depend on the use of AI and ML, and various international bodies were working on the issue.

20. *Mr Wool* supported including a footnote, since the Guide did not set out best practices related to automation, AI or ML. *Ms Gullifer* concurred that liability for AI was not addressed within the best

practices because it was largely a legal issue. Making statements about the use of AI would be outside the scope of the Guide.

21. *Participants* agreed that some mechanism should be chosen to ensure the Guide's relevance for the future, including addressing the issue of AI and automated decision-making.

22. *Mr Tirado* shared that UNIDROIT would be undertaking a project on Digital Risk and Liability, which should be mentioned in the discussed footnote. He further noted that the Guide should not only address state liability, which is referenced in the UNCITRAL Legislative Guide, but also any liability that might arise from the management of the registry.

23. *Mr Wool* agreed that the subsection should not be limited to state liability. He concluded that a reference to AI and ML should be included at the beginning of the Guide, and the footnote should be added to the subsection on the legal relevance of best practices, mentioning the developments in the area of automated decision-making validity and liability. He encouraged a further discussion by the participants on whether unexpected outcomes should be included as a bullet point in the list of failures, potentially giving rise to liability.

24. *Ms Gullifer* suggested adding an annexe or supplement on AI to the Guide in the future, as this was a fast-evolving area. Furthermore, she queried whether an unexpected outcome could be considered a failure, as it might not fit as a fourth bullet point otherwise. *Mr Wool* supported the proposal of developing an annexe to the Guide in the future.

25. A pragmatic view was expressed, suggesting that if the registrar did not understand how an AI system reached its decision, it should not use such a system for decisions that may give rise to liability. *Another participant* proposed that the footnote could (i) clarify that software (both deterministic and non-deterministic systems) was embracing AI, (ii) explain that the 'failure' was not limited to mistakes but also included unexpected outcomes.

26. *A participant* explained that AI systems could be described as software learning from data, so the produced decisions were influenced by both the software (of deterministic nature) and the findings from the data used to train the AI system (of non-deterministic nature). Furthermore, it would need to be clarified whether adding unexpected outcomes to the list of failures, which could potentially give rise to liability, implied the state's liability for such unexpected outcomes.

27. *Ms Rodríguez de Las Heras Ballell* and *Ms Gullifer* agreed to submit their written input on the content of the footnote.

28. *The participants* agreed on revising an introductory paragraph on the emerging technologies and automation, adding a footnote on unexpected outcomes of AI systems, and clarifying the delineation between the registrar's and the state's liability. In future, a more detailed annexe on the topic could be considered for development. It was also agreed to adjust the wording regarding the level of centralisation or decentralisation of registries to avoid misinterpretation.

#### Discussion on the Transparency CPF

29. *Ms Bovsunovska* introduced the new CPF on Transparency. She clarified that, with no established standard for transparency in EBRs, some standards for AI systems had been identified and adapted to the EBR context. Additionally, academic literature on digital transparency had been translated into

practical measures in the CPF. *The participants* agreed that Transparency should be a separate CPF in the Guide.

30. *Mr Wool* indicated that transparency had two purposes: to provide information to people who needed it and to enhance the registrar's compliance. *Ms Bovsunovska* provided an overview of two proposed definitions of transparency, where definition A was broader, and definition B was more specific to electronic systems. She noted that the advantage of definition A was additional flexibility, while definition B referred to systems and processes and qualified Transparency through sharing "appropriate information" in an "appropriate way".

31. *Mr Wool* noted that definition A did not imply that the same information had to be provided to all stakeholders. He highlighted the use of "comprehensive" in definition A as a key difference between the two proposals, as it would suggest a greater amount of information to be provided as compared to the words "appropriate" and "relevant" used in definition B. He asked whether Transparency was wider than a system or a process and pointed out that openness, clarity and comprehensiveness were the key ideas of Transparency.

32. *Several participants* shared similar views that definition A addressed *how* information should be provided, while definition B specified *what* information should be provided to ensure Transparency. It was suggested that the "open, comprehensive, accessible, clear and understandable" way of providing information from definition A be incorporated in definition B.

33. The following definition of Transparency was proposed: "The property of ensuring information about the system or processes is made available in an open, comprehensive, accessible, clear and understandable manner".

34. *Ms Gullifer* highlighted that the Transparency CPF focused on the openness of the registry's process and functions, not just the information it provided, and supported the proposed definition. She added that the text on the registry data should be moved to another CPF.

35. *A participant* indicated that the International Registry explained the algorithm used for its search function, since failing to explain to users the search function had given rise to the registrar liability issues in the past. He noted that Transparency was not about the actual data returned to the user, but about the methodology according to which the data was provided, enabling the user to assess its accuracy and reliability. In the long term, Transparency could be helpful in AI to let users understand how an answer was arrived at.

36. *Another participant* agreed that Transparency concerned the system, explaining how data was provided, searched, found, ordered and structured, for instance, why the registry had provided a certain result to a search. She further noted that in other regulatory instruments, the terms "search system," "recommender system," and "ranking system" were used.

37. *A participant* remarked that the cybersecurity risks were included because the more functions a system performs, the more it was exposed to such risks.

38. *Several participants* noted that the CPF contained both best practices and legal obligations of the registries and emphasised differentiating between legally compulsory disclosure and extra disclosure suggested by the Guide as best practices.

39. *Participants* further supported rephrasing the proposed definition to “the process of disclosing, in an open and understandable manner, how a system or process operates, including how it produces and presents data”.

40. *A participant* suggested that the purpose of such information should be included in the CPF. This could enhance the system's trustworthiness and enable users to evaluate its accuracy. This proposal was agreed upon.

41. *Mr Wool* suggested testing the definition against the 16 principles set out in Table 3. *Ms Bovsunovska* explained that the table had been adapted from academic articles and was included as a checklist. Alternatively, Transparency could be examined in the context of each CPF.

42. *Ms Gullifer* observed that some of the content from Table 3 seemed to be about how the actual registered data was presented, which was outside the scope of the CPF. *Most participants* agreed to include some of the content from Table 3 in the text of Transparency and other CPFs, and to remove the table. Transparency would also be considered in relation to other CPFs in the Guide.

43. An alternative view was offered that the content of Table 3 represented the core of Transparency. It offered valuable insights to practitioners and was easy to follow. If not kept in the CPF text, it could be moved to the annexe. *Mr Wool* noted that while this could be seen as an advantage, a conceptual, legal approach to best practices had been chosen for the Guide rather than an operational one. He proposed discussing the creation of a separate user manual in the future.

44. *Ms Gullifer* observed that the legal section of the CPF addressed Transparency according to the UNCITRAL Legislative Guide, which was different from the content of the Transparency CPF in the Guide. *The participants* agreed that some of the references aligned with the discussed definition of the CPF, while others should be categorised under other CPFs.

#### Discussion on the Access Control and Authentication CPFs

45. *Ms Bovsunovska* introduced the CPFs Access Control and Authentication. Main changes included the incorporation of the Authorisation CPF into Access Control CPF, an update on insider threat information, and the specification of different levels and methods of authentication. Participants were invited to share their views on whether the two CPFs should be merged into one CPF called “Identity and Access Management”.

46. *Mr Wool* remarked that the BPEBR Guide tried to minimise changes from the BPECR Guide and that within the latter, the two CPFs were separate.

47. *A participant* supported the merging of Authorisation into Access Control and suggested broadening the text of the CPF to mention key principles of the authentication element.

48. *Another participant* explained the reasons behind not merging two factors in the previous BPECR Guide. Access Control was concerned with the creation of an account, while Authentication was a continuous process spanning the various stages of interaction between the user and the system. He added that Access Control in that context also related to access to buildings and hardware, while Authentication was user-focused.

49. *The participants* agreed on keeping the CPFs separate with appropriate cross-references.

### Discussion on the Interoperability CPF

50. *Ms Bovsunovska* noted that the Interoperability CPF incorporated the previously separate Standardisation CPF and included updates related to the European Interoperability Framework and the “once-only” principle. Experts were invited to discuss whether: (i) the technical section was sufficiently developed; (ii) additional examples of interoperability could be provided.

51. *A participant* observed the technical section needed to define ‘REST’ and clarified that ‘REST’ was only a few examples among many. SOAP was no longer widely used and should be removed. Citing specific technologies, such as API keys and VPN connections, sounded prescriptive; instead, the focus should be on broader themes, such as secure connectivity. It was also remarked that the technical section was very detailed and could become rapidly outdated. Some schemes, like ‘SOAP’, could be replaced with bullet points. The API section could be broadened, as alternative methods were available that achieved the same outcomes.

52. Regarding the technical section, *Ms Bovsunovska* elaborated that reference to ISO 2382 was a general standard for IT terminology; ISO standards for data transfer between non-cloud and cloud services and between cloud services could be relevant for business registries using cloud services; ISO 8000-115 and ISO 20275, regarding the unique identifiers and the EIF code list, aligned with the section on unique identifiers in the CPF. It was agreed that ISO 39794-1, concerning biometric data interchange, would be removed.

53. *Several participants* supported referencing ISO standards as examples of standards that may enhance interoperability, rather than indicating them as best practices.

54. It was concluded that the technical section should be more general and avoid excessive technical detail. References to ISO standards in the technical section should be presented as examples, and not best practices.

### Discussion on the Accuracy, Correctability, Data Input Validation, and Error Detection CPFs

55. *Ms Bovsunovska* noted that the Accuracy CPF reflected that Accuracy was not a binary concept but a spectrum. She invited perspectives on the adequate level of accuracy in EBRs, given the difficulty of measuring it. No comments were provided on this.

56. *Participants* discussed the placement of the “once-only” principle in the Interoperability CPF. This principle implied that information should be submitted to the registry only once, and then the registry should make the information available to all relevant entities. This principle was explicitly included in the Interoperability CPF, as it referred to the interaction and sharing of data between institutions, an essential condition for implementing the “once-only” principle. At the same time, it could also enhance the Accuracy CPF by reducing the existence of multiple versions of the same data. It was agreed to keep the “once-only” principle in the Interoperability CPF.

57. *Ms Bovsunovska* explained that Figure 7 was added to the Correctability CPF to illustrate how entities could ratify detected data inaccuracies. The Data Input Validation CPF received minor updates to distinguish between validation and verification concepts. Error Detection CPF was developed in response to discussions about the Correctability CPF at the eighth BPER workshop. She suggested that the Error Detection CPF could be incorporated back into the Correctability CPF if deemed appropriate.

58. *Ms Bovsunovska* also indicated that, alternatively, all three CPFs could be merged into a single CPF, where Data Input Validation could be viewed as a form of protective control, while Error Detection functioned as a detective control, both serving to support the Correctability CPF. It was clarified that the BPECR Guide did not include CPFs on these topics.

59. *A participant* suggested keeping the three CPFs separate, as they addressed distinct concerns. He also made two suggestions regarding the Correctability CPF: emphasizing that error correction functions should be built into the EBR system to ensure an audit trail as a best practice; and rephrasing the reference to Recommendation 27 of the UNCITRAL Legislative Guide to avoid providing legislative drafting guidance.

60. *Mr Wool* supported the first proposal and clarified that the reference to the UNCITRAL Legislative Guide was unlikely to mislead readers as recommending legislative language.

61. *A participant* raised two points regarding the Data Input Invalidation CPF: distinguishing between front-end validation and service-side validation, and underscoring the importance of regularly updating validation rules, especially as automation increased in EBRs. He noted that automation was reducing human oversight, making robust validation essential for ensuring data accuracy and security, as a critical control, no longer a support function. It was also noted that examples would be helpful. For instance, the need for consistent validation between browser interfaces and APIs was crucial to prevent users from bypassing rules via different access points.

62. *Another participant* added that validation also included having analytical tools that could identify when validation mechanisms were failing.

#### Discussion on the Integrity, Trustworthiness, and the Use of Technical Standards in the Guide

63. *Ms Bovsunovska* introduced the Integrity CPF, where the example of a ransomware attack had been updated, and the technical section of the CPF had been expanded. She then presented the Trustworthiness CPF, highlighting its close relationship with the earlier discussion on Transparency. The Trustworthiness CPF had been revised to be more comprehensive and to reflect its interconnection with other CPFs, as Trustworthiness was essentially an outcome of the overall performance of other CPFs.

64. *Mr Wool* remarked that Trustworthiness was an application of Transparency, suggesting that increased transparency enhances trust, so cross-references in the Guide could reflect this.

65. *Several participants* raised a question regarding the approach to referencing standards in the technical section of the CPFs. They clarified that it would be more appropriate to treat the technical standards as reference materials rather than best practices.

66. *Mr Wool* pointed out that the aim of the BPER Project was to provide best practices, particularly in the context of the registries created under the Cape Town Convention. He acknowledged that the current Guide had become more complex, and it should be explained that it contained both best practices and reference materials. *Ms Bovsunovska* elaborated that Chapter III of the Guide stated that it was neither practical nor necessary for EBRs to adopt every standard listed. Instead, the registries should assess each CPF against their own design and operational goals, identifying supporting standards accordingly. They should explain the rationale for adopting or omitting standards and regularly review them. ISO standards were presented as references, contextualising the best practices described in the CPFs. She noted that, due to the regular updates, the standards could continue to serve as guidance for

future implementation. *Mr Wool* supported this view and proposed moving the relevant explanatory paragraph from Chapter III to an earlier section in the Guide to ensure greater clarity.

67. In view of the project's time constraints, examples of registries that followed or were certified under these standards could not be included. It was proposed that the Guide indicate a plan to release an updated version with an annexe containing feedback from various bodies on the standards adoption.

68. *Several participants* recommended reviewing the list of standards to remove non-essential standards and clearly define what constitutes a best practice. *Mr Wool* suggested creating an annexe that would distinguish reference materials from best practices for each CPF. *Mr William Brydie-Watson* noted that, due to the volume of ISO standards in the Guide, it was difficult to assess which ones qualify as best practices and which were merely reference material.

69. *A participant* added that referencing ISO standards could enhance the authority of the Guide and assist those unfamiliar with the field. He highlighted that there were no universally accepted best practice standards in the business registry domain.

70. *Mr Wool* agreed to clarify that best practices were contained within the CPF descriptions and the technical standards were supportive references. The paragraph on page 105 about the treatment of technical standards should be moved to the Introduction Chapter. The revised Chapter III would explain that applying the CPF framework constituted a best practice, and that the annexe could list specific best practices (where applicable) along with relevant reference materials for each CPF. It was recommended to solicit external feedback before publishing the revised annexe.

71. *A participant* agreed with others that the Guide should avoid suggesting that all listed standards were mandatory for EBRs. She reminded that this Guide followed the original BPECR Guide and that the distinction should be well understood.

72. *Mr Tirado* agreed with *Mr Wool* but noted that the paragraph on page 105 specifically addressed technical standards. He cautioned against introducing it too early in the Guide. *Mr Wool* stressed the importance of providing a clear introductory explanation of the Guide's overall structure and intent.

#### Discussion on the Availability, Continuity, and Timeliness CPFs

73. *Ms Bovsunovska* noted that while no substantive changes had been made to the Availability CPF, the Continuity CPF had been updated regarding server-based and cloud-based registries, and the Reliability CPF had been revised to better distinguish it from the Availability CPF. She invited further discussion on the Timeliness CPF to clarify the difference between absolute and relative time.

74. *Participants* agreed to delete AI chatbots from the text of the Availability CPF.

75. *A participant* suggested revising the definition of Continuity CPF by adding "during" to better align it with the actions during incident management. She also recommended including the concept of business impact analysis, addressing on-premise backups, and the need for testing and testing plans to ensure rapid recovery. She concluded by stressing that maintaining information security during an incident was crucial and that the CPF should highlight this.

76. *Mr Wool* agreed and asked how these points related to the Risk Management CPF in the document. It was clarified that Risk Management and Continuity were interconnected: business impact

analysis helped identify vulnerabilities, and Risk Management addressed them through controls. However, the two areas should still be treated as distinct.

77. *The participants* discussed whether registries procuring software from third parties should acquire intellectual property (IP) rights or perpetual licenses. *A participant* agreed in principle but pointed out that in SaaS models, the acquisition of IP rights or permanent licenses might not be the best practice; instead, various models were available to registries, such as subscription services or transitional licensing, as long as appropriate transition mechanisms were in place to ensure service continuity. *Another participant* shared an example from a US jurisdiction registry using Salesforce, which did not acquire IP rights but instead used software escrow. Legal mechanisms existed to maintain service continuity, using software during disputes or vendor collapse, but permanent IP ownership was not necessary in such scenarios.

78. *Several participants* noted that most registry systems were bespoke, and transitioning between suppliers could be lengthy and costly. Without a strong commercial agreement, a registrar might face reduced support or rising costs, so a best practice was to negotiate legal protections and contingency measures in advance to ensure continuity without exposing registrars to unexpected expenses or a loss of negotiating power.

79. *The participants* agreed that a best practice was for registries to have legal rights to use or transition away from the software provider, preserving access to registered data and services. General support was expressed for using “should” instead of “must” and adopting a functional approach to ensuring that registries had sufficient legal rights to maintain operational continuity.

80. Moving on to Timeliness CPF, *a participant* stressed that the priority order in which registrations took effect was critical for EBRs, and the first paragraph of the CPF could be rephrased for this purpose.

81. It was clarified that relative time was relevant for EBRs, for instance, when registering company names, since it was determined by the order of registrations. In contrast, absolute time was important for filings such as accounts, which had to be submitted by specific deadlines.

82. *Participants* discussed the relevance of Timeliness for jurisdictional compliance with FATF standards, which required certain actions to be completed within set timeframes. The Guide touched upon the user side of Timeliness, referencing FATF Recommendation 35 and Directive 2015/849/EU, which support imposing sanctions for late submissions. It was suggested that the Guide should include two aspects of penalties for non-compliance: when a user missed a deadline to update the information on the business, and when a registry failed to submit relevant documents on time.

83. *A participant* added that in cases like corporate amalgamations or cross-border continuations, timing was critical, especially in relation to restructuring or financing. Effective dates often lagged behind the actual registration, so it was important to clearly define when registration would become effective and how time-sensitive registry actions were handled.

84. *Ms Gullifer* noted that the term “corresponding” in the CPF definition was unclear and suggested revising its structure. *Ms Bovsunovska* provided the definition of Timeliness from the BPECR Guide: “the property of making registration publicly searchable and therefore effective almost instantly after submission.” *Mr Wool* proposed using the previous definition with necessary additions. This perspective was supported by the participants.

#### Discussion on the Confidentiality and Privacy CPF

85. *Ms Bovsunovska* introduced the revised CPF on Confidentiality and Privacy and the new Annexe on the scope of publicly available information within business registries. She elaborated that the CPF now included more technical controls, emphasised the need for a legal analysis of the jurisdiction in which registries operated, and considered ancillary data.

86. *Several participants* observed that the Guide's references to the EU could present a limitation and suggested clarifying that those were only examples, while including more from other jurisdictions, such as those collected through the survey in December 2024.

87. *Participants* questioned the provided examples for confidential data, such as internal company records, and it was agreed that they needed to be changed.

88. *A participant* noted that in common law jurisdictions, the information required to be on the registry was generally publicly available, with exceptions only when a court order existed. It was important to distinguish between information provided to the registry to have a business relationship with the registry and registered information.

89. It was agreed to rephrase the paragraph on a search by a shareholder's name since this type of search was a common feature of registries, enabling a legitimate use of the registry.

90. Alternative views were expressed regarding the harvesting of the registry data. *One participant* shared that while certain information might be publicly available, it was undesirable that people could easily collect vast amounts of information through the system. *Another participant* replied that in some jurisdictions, users were free to harvest as much information as they wish.

#### Discussion on the Accessibility and User-Centred Design CPFs

91. *Ms Bovsunovska* indicated that only editorial revisions had been made to the CPFs on Accessibility and User-Centred Design and invited general comments from the group.

92. *Mr Tirado* asked about the meaning of "ergonomics" used in the User-Centred Design CPF. *Ms Bovsunovska* referred to the definition outlined in the first paragraph of the CPF. *The participants* then discussed the meaning of the term, but ultimately decided not to change it.

93. *Participants* were in favour of acknowledging in the CPF that some jurisdictions recommended or required specific user designs. The technical aspect of the CPF could also be expanded by including additional technical standards as a reference.

#### Discussion on the Retention and Disposition, and the Evidentiary Value CPFs

94. *Ms Bovsunovska* gave an overview of the changes undertaken to the CPF on Evidentiary Value following the last workshop.

95. *A participant* suggested including a recommendation that logs should be tamper-resistant. This proposal was supported by the project group.

96. *Participants* discussed whether a legal section could be added, beyond the reference to the UNCITRAL Legislative Guide related to the retention of records and whether there were any legal principles that could guide registrars on how to prepare evidence from a technical point of view. *Ms*

*Gullifer* highlighted that Evidentiary Value requirements were a matter of national law, and apart from what was currently included in the CPF regarding the preservation of records for use as evidence, the Guide could provide no further useful guidance; therefore, a separate legal section did not seem necessary. *Mr Tirado* agreed that the Evidentiary Value depended on the nature of the registry, for instance, on whether it performed a gatekeeping function and contained controls of validity and authenticity. He concluded that this showed that the issue was country, and case specific.

97. *A participant* mentioned the importance of Transparency regarding the retention of information contained in the registry for the purposes of Evidentiary Value.

98. No views were expressed on the definitions of the Retention and Detention CPF.

#### Discussion on the Legal Authority and Compliance, and the Legal Authority of the Registrar CPFs

99. *Ms Bovsunovska* introduced the CPFs on Legal Authority and Compliance and on Legal Authority of the Registrar. *Ms Gullifer* remarked that the CPF on Legal Authority and Compliance provided a comprehensive overview of the legal framework, but did not mention case law, and suggested including it in the text of the CPF. This proposal was supported by the group.

100. *A participant* queried whether “private” registries mentioned in the Guide referred to the situations where a private sector company operated on behalf of the government institution. *Ms Bovsunovska* confirmed this understanding and supported clarifying this in the text of the CPF.

101. *Mr Tirado* proposed to amend the text, indicating that secondary and tertiary sources had to be in full compliance with primary legislation, clarifying that the parts of the legal framework listed in the CPF, such as data protection laws and labour laws, were merely examples.

102. *Several participants* discussed the placement of the paragraph on effective cross-border coordination and whether it should be moved to the Interoperability CPF. It was proposed to soften the wording in the paragraph since it should not be considered inadequate if the registry did not implement the suggestions on cross-border coordination and collaboration. *Mr Tirado* agreed and proposed that the paragraph should clarify in a cautious manner that the legal framework enabling cross-border coordination and collaboration should be in place.

103. *A participant* expressed the need to minimise the sections in the Guide addressing what the law should be. He suggested reducing the Legal Authority and Compliance CPF, saying that registrars had to identify applicable law and ensure that the design of the systems complied with it. Such an approach should be applied to many other CPFs to reduce the volume of the Guide.

104. *Mr Tirado* agreed to reduce the volume of the Guide during the next revision process. *Ms Gullifer* explained that the legislative element in the Guide was present due to the references to the UNCITRAL *Legislative Guide*.

105. *Participants* discussed that the administration and operation of the registry were much more complex than those of an individual registrar. When referring to the registrar, the Guide meant the entity running the registry, which would be held liable in the sense of civil liability, and this should be mentioned at the beginning of the Guide. It was pointed out that, generally, the registrar was an entity; however, in some jurisdictions, the registrar was an individual. Since the function of the registrar was enshrined in legislation, the differences between jurisdictions would make it hard to establish a general definition.

Participants agreed to clarify the term using the definition of a registrar in the UNCITRAL Legislative Guide.

106. *A participant* highlighted that the registrar was expected to have certain powers and authorities and that the registry's design would be expected to accommodate those. The actions undertaken by the registrar should be auditable, traceable, and transparent. *Ms Gullifer* agreed that it was important to indicate that the registry system should be designed in a way that would enable the registrar to fulfil their legal mandate in the technical section.

#### Discussion on the Continual Improvement and Risk Management CPFs

107. *Ms Bovsunovska* explained that the name of CPF "Continuous Improvement" had been changed to "Continual Improvement" to reflect the idea of regular, iterative improvement rather than a nonstop process. The CPF also noted the importance of avoiding technological obsolescence by updating the underlying technology and ensuring its ongoing support.

108. *A participant* emphasised that root cause analysis (RCA) should be included in the text, as it helped identify areas for improvement when issues arose. She also suggested including language from ISO 9001 regarding understanding the needs and expectations of stakeholders.

109. *Participants* discussed the use of the term "hardware" in the Guide and agreed that it should be changed to "infrastructure" to prevent the Guide from quickly becoming outdated.

110. *Ms Gullifer* observed difficulty in maintaining an up-to-date registry in the outdated legal framework. *Participants* agreed that the most practical barrier to implementing the Guide was ensuring that the legal framework was apt for Continual Improvement. They recommended that legislation be technology-neutral, allowing technological improvements in delivering registry services without regulatory changes.

111. Moving on to Risk Management, *Ms Bovsunovska* noted that revisions had been made to the text of the CPF to reflect the broad range of risks faced in their registry operations and the need for a risk management framework, which was elaborated in Chapter IV.

112. *A participant* recommended that the CPF should include 'risk appetite' as the starting point of risk management, provide the definition of 'vulnerability', as internal weaknesses that can be exploited by risks, and clarify that vulnerabilities did not realise risks but allowed risks to be exploited. Finally, change control procedures should be included as a risk mitigation measure.

113. *Several participants* shared that most registrars were also managing entities and incorporated risk management as part of their responsibilities. Given most registries' involvement in anti-money laundering (AML) and counter-financing of terrorism (CFT) initiatives, registrars also contributed to national risk assessments and defined the registry's risk appetite.

114. *Mr Tirado* suggested that public registries should generally adopt a conservative risk appetite. *A participant* clarified that many registries enforced zero-tolerance policies in specific risk categories, for example, refusing to cooperate with entities from high-risk jurisdictions, based on jurisdiction-level risk statements enforced by the registries.

115. *A participant* observed that, as public officials, registrars typically reviewed their risk profiles regularly and conducted weighted assessments of the likelihood of risks and the effectiveness of mitigation measures.

116. *Another participant* explained that risk appetite, similar but not identical to risk tolerance, was typically set at the board level and defined for each risk category. For instance, a low appetite might be set for sanctions compliance risks, but a moderate one for financial risks. *Participants* agreed to add 'risk appetite' to the CPF as it was widely used in standards such as ISO 31000, and that best practice involved having a strong framework and management structure to allocate resources and prioritise actions according to the specific risk circumstances of the registry.

117. *Several participants* highlighted the distinction between risks faced by EBRs and those faced by the broader entity or ministry operating the registry. For EBRs, the focus should be on managing system-related risks and the integrity of the information they contained. Depending on the severity, registries might employ either prevention or mitigation strategies. The group agreed to focus the CPF on Risk Management on risks specific to the EBR itself.

#### Discussion on the Evaluation of Risks to Electronic Business Registries CPFs

118. *Ms Bovsunovska* invited views on the approach to risk evaluation, classification, and identification in Chapter IV. She noted that the Guide retained the CIA (Confidentiality, Integrity, Availability) triad from the BPECR Guide and introduced further guidance on this framework. Chapter IV also outlined the risks associated with non-performance of CPFs in EBRs and positioned risk management as a central consideration in registry operations.

119. *A participant* observed that Chapter IV clearly and comprehensively explained risk management practices and standards. She proposed adding that business registries played a key role in the broader risk ecosystem within a jurisdiction. She added that the risk mapping of CPF non-performance required further refinement, noting that any CPF failure, whether alone or in combination with others, could lead to a range of impacts, broader than moderate or high.

120. *Several participants* agreed, noting the difficulty in identifying CPF non-performance risks that would not be rated high, reflecting the nature of registry operations. It was clarified that the Guide was not intended to provide a scoring tool, as each registry faced unique risks depending on its specific context, but rather served as an example for users new to risk management.

121. *Ms Bovsunovska* confirmed that the central column "Result of non-performance" provided examples of high-impact scenarios, as non-performance of a CPF could be complete or partial, which would affect the degree of impact. *Mr Tirado* questioned whether only including extreme consequences was appropriate.

122. *A participant* clarified that the Table presented inherent risks associated with each CPF. She suggested modifying the Table to include best practices and risk management practices that could help reduce risk. The central column "Result of non-performance" offered a succinct rationale for the existence of CPFs and could serve as a quasi-executive summary of the Guide. *Another participant* proposed that the Table could form the foundation of the future user guide. *Mr Tirado* highlighted the importance of making the Guide enduring and recommended incorporating additional literature alongside the ISO standards.

123. *Ms Gullifer* noted that the Table illustrated the potential impacts of failure to meet CPF standards, which could range from moderate to high depending on the situation. She believed the Table to be useful for readers unfamiliar with these concepts and recommended making it clear that it served as an illustrative example.

124. The group also agreed to retain the three-line model as the established approach in this Guide in line with the BPECR Guide and not expand it to four or five lines of defence.

#### Discussion on the Identification of Relevant Technical Standards

125. *Ms Bovsunovska* introduced Chapter III, outlining three main subsections: (i) limitations of technical standards and selective adoption, clarifying that with 40+ standards referenced, there was no expectation that all would be adopted by EBRs; (ii) industry and community-led best practices, where expert input would be particularly helpful; and (iii) information security monitoring and cybersecurity frameworks. Considering the earlier discussion on the annexe with technical standards, she proposed that Chapter III could serve as the basis for that annexe.

126. *A participant* noted that most business registries did not independently select which ISO standards to follow. She recommended reflecting in the Guide that those decisions were typically made by governmental authorities or driven by national security requirements, while registry-level adoption was rarely discretionary. While the ISO standards could help elevate registry performance, local requirements would serve as the baseline. *Another participant* observed an overlap between the NIST 800-100 and ISO 27001, noting that although jurisdictions differed in their preferences, many standards shared substantial commonality.

127. *Participants* supported relocating Chapter III to the annexe and updating the ISO standards in the Guide following expert consultation. *Mr Brydie-Watson* raised the question of whether some standards should remain in the main body of the Guide as best practices, asking whether the group considered any technical standards essential for implementation of the Guide. *A participant* highlighted the importance of cybersecurity for the EBRs and suggested that information security, quality management, and business continuity as core areas where applying a standard such as ISO 27001 or its equivalents was considered best practice. *Another participant* underlined that prescriptive standards could become outdated more quickly, while principle-based standards offered longer-term relevance.

128. *Mr Brydie-Watson* recalled that the BPECR Guide listed only 17 international standards, while the BPEBR Guide contained 47, which made it challenging to distinguish between best practices and references.

129. *A participant* emphasised the need to differentiate between being informed by a standard and actively pursuing certification. The Guide should not imply mandatory certification, as many EBRs operated within a broader governmental context and could not independently pursue certification. *Mr Tirado* noted that certification was a separate matter and the Guide already included nuanced language clarifying that not all standards needed to be applied.

130. *Participants* agreed that registries could instead use the ISO standards as guidance without formal certification. It was also noted that ISO standards included statements of applicability, and registries could define the scope of their implementation in their specific context and apply the standards accordingly.

131. *Ms Bovsunovska* added that identifying best practices required a broad survey of registry operations, which had not been conducted by the Project. In the absence of survey data, the Guide referenced ISO standards and other literature to substantiate its best practice recommendations in CPFs, rather than to impose certification.

132. *Mr Brydie-Watson* concluded that Chapter III would be incorporated into the annexe. While certification would not be required, the 47 technical standards would remain as reference materials. He encouraged the experts to consider whether any standards warranted further exploration, noting that this topic would be addressed again during the consultation phase.

#### Summary and Next Steps

133. *The Directors* requested that experts submit their written comments to UNIDROIT by the end of June 2025. Based on those contributions, the Guide would be updated, and a revised version would be circulated for further review. A consultation launch workshop was proposed to be held in Cambridge on 1 September to present the updated Guide and seek feedback on the differentiation between the reference materials and best practices, as well as charts and annexes.

134. *Participants* agreed that a targeted consultation would be more appropriate to avoid reopening previously resolved issues and to make the draft available to users in developing countries, allowing them to assess whether it met their needs. *Mr Brydie-Watson* also expressed support for targeted consultation. He noted that involving stakeholders in the review process would increase the likelihood of adoption while ensuring the Guide's core content remained intact.

135. *Mr Tirado* agreed and acknowledged the value of sending the Guide to relevant stakeholders. He proposed holding a follow-up remote meeting to review consultation feedback and explain the reasoning behind any decisions. He reaffirmed that final decisions would remain with the project participants.

136. *Participants* proposed selecting one registry organisation from each of several global regions, including Europe, French-speaking countries, the Caribbean, and South America. *Mr Tirado* asked the participants to provide a list of institutions and experts to be invited to the consultation workshop.

137. *The CTCAP Directors* thanked all the participants for their valuable input and closed the meeting.

## ANNEXE 1



**9<sup>th</sup> Workshop on  
Best Practices in the Field of Electronic Registry Design and Operation  
Draft Agenda  
18-19 June 2025**

*UNIDROIT, Via Panisperna 28, 00184, Rome,  
and online via Zoom*

**\*\* all times are in Central European Summer Time (CEST), UTC +2 \*\***

Chairs: Professor Louise Gullifer, Professor Jeffrey Wool, Professor Ignacio Tirado (CTCAP Directors)

**Day 1, 18 June (9.30 – 17.00)**

09:30 – 09:40	Opening of the Session <i>CTCAP Directors</i>
09:40 – 10:15	Project background, summary of intersessional work and presentation of the revised draft Guide on Best Practices for Electronic Business Registries <i>UNIDROIT Secretariat</i>
10:15 – 11:00	<i>Agenda item No. 1: Discussion on Chapter I: Introduction to the Guide</i>
11:00 – 11:15	<i>Coffee break</i>
11:15 – 12:15	<i>Agenda item No. 2: Discussion on Chapter II: CPFs on Access Control, Authentication, Interoperability, Transparency (new)</i>
12:15 – 13:15	<i>Agenda item No. 3: Discussion on Chapter II: CPFs on Accuracy, Correctability, Data Input Validation, Error Detection</i>
13:15 – 14:15	<i>Lunch break</i>
14:15 – 14:45	<i>Agenda item No. 4: Discussion on Chapter II: CPFs on Availability, Continuity, Reliability, Timeliness</i>
14:45 – 15:30	<i>Agenda item No. 5: Discussion on Chapter II: CPFs on Integrity, Trustworthiness</i>
15:30 – 15:45	<i>Coffee break</i>
15:45 – 16:30	<i>Agenda item No. 6: Discussion on Chapter II: CPFs on Confidentiality and Privacy, and the Annex on the Scope of Publicly Available Information (new)</i>
16.30 – 17.00	Concluding remarks on 1 <sup>st</sup> day <i>CTCAP Directors</i>





**Day 2, 19 June (9.00 – 13.30)**

9:00 – 9:45	<i>Agenda item No. 7:</i> Discussion on Chapter II: CPFs on Accessibility and User-Centred Design
9:45 – 10:30	<i>Agenda item No. 8:</i> Discussion on Chapter II: CPFs on Retention and Disposition, Evidentiary Value, Legal Authority and Compliance, Legal Authority of the Registrar
10.30 – 10.50	<i>Coffee break</i>
10:50 – 11:30	<i>Agenda item No. 9:</i> Discussion on Chapter II: CPFs on Continual Improvement, Risk Management
11:30 – 12:15	<i>Agenda item No. 10:</i> Discussion on Chapter III: Identification of Relevant Technical Standards
12:15 – 13:00	<i>Agenda item No. 11:</i> Discussion on Chapter IV: Evaluation of Risks to Electronic Business Registries
13:00 – 13:20	Summary and Next Steps
13:20 – 13:30	Closing Remarks <i>CTCAP Directors</i>

