United Nations A/CN.9/1132

General Assembly

Distr.: General
25 April 2023

Original: English

United Nations Commission on International Trade Law
Fifty-sixth session
Vienna, 3–21 July 2023

Report of Working Group IV (Electronic Commerce) on the work of its sixty-fifth session (New York, 10–14 April 2023)

Contents

V.23-07728 (E) 050523 080523

I. Introduction

1. At its sixty-fifth session, the Working Group commenced work on the topic of data contracts and took stock of intersessional work on the topic of the use of artificial intelligence (AI) and automation in contracting. The two topics were referred to the Working Group by the Commission at its fifty-fifth session (New York, 27 June–15 July 2022) (A/77/17, paras. 159 and 163).

II. Organization of the session

2. The Working Group, composed of all States members of the Commission, held its sixty-fifth session in New York from 10 to 14 April 2023. The session was attended by representatives of the following States members of the Working Group: Argentina, Australia, Austria, Belarus, Belgium, Brazil, Canada, Chile, Côte d'Ivoire, Czechia, Democratic Republic of the Congo, Dominican Republic, Ecuador, Finland, France, Germany, Ghana, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Kuwait, Mauritius, Mexico, Morocco, Peru, Republic of Korea, Russian Federation, Saudi Arabia, Singapore, Spain, Switzerland, Thailand, Türkiye, Ukraine, United States of America, Viet Nam and Zimbabwe.

3. The session was attended by observers from the following States: Azerbaijan, Bahrain, Bolivia (Plurinational State of), El Salvador, Equatorial Guinea, Myanmar, Nepal, Pakistan, Paraguay, Philippines, Republic of Moldova, Sierra Leone, Sri Lanka, Sweden, Uganda and Uruguay.

4. The session was attended by observers from the Holy See and from the European Union.

5. The session was attended by observers from the following international organizations:

(a) *United Nations system*: International Monetary Fund, Universal Postal Union, World Bank Group;

(b) *Intergovernmental organizations*: Andean Community (CAN), Hague Conference on Private International Law (HCCH), Inter-Parliamentary Assembly of Member Nations of the Commonwealth of Independent States (IPA CIS);

(c) *International non-governmental organizations*: Advisory Council of the United Nations Convention on Contracts for the International Sale of Goods (CISG-AC), American Law Institute (ALI), All India Bar Association (AIBA), Centre for International Legal Education (CILE), Centro de Estudios de Derecho, Economía y Política (CEDEP), China Council for the Promotion of International Trade (CCPIT), China International Economic and Trade Arbitration Commission (CIETAC), Council of the Notariats of the European Union (CNUE), European Law Institute (ELI), European Law Students' Association (ELSA), Grupo Latinoamericano de Abogados para el Derecho del Comercio Internacional (GRULACI), Institute of Law and Technology – Masaryk University (ILT), International Association of Young Lawyers (AIJA), International Bar Association (IBA), International and Comparative Law Research Center (ICLRC), International Chamber of Commerce (ICC), International Law Institute (ILI), International Union of Notaries (UINL), Law Association for Asia and the Pacific (LAWASIA) and New York State Bar Association (NYSBA).

6. The Working Group elected the following officers:

Chairperson: Mr. Alex IVANČO (Czechia)

Rapporteur: Ms. Ligia GONZÁLEZ LOZANO (Mexico)

7. The Working Group had before it the following documents:

(a) An annotated provisional agenda (A/CN.9/WG.IV/WP.178);

(b) A note by the secretariat reporting on intersessional work carried out on the topic of the use of AI and automation in contracting (A/CN.9/WG.IV/WP.179); and

(c) A note by the secretariat on default rules for data provision contracts (A/CN.9/WG.IV/WP.180).

8. The Working Group adopted the following agenda:

1. Opening of the session and scheduling of meetings.

2. Election of officers.

3. Adoption of the agenda.

4. Data contracts.

5. The use of artificial intelligence and automation in contracting.

6. Other business.

III. Data contracts

A. Preliminary observations

9. It was recalled that, although the sixty-fifth session was the first occasion for the Working Group to consider the topic of data contracts under the mandate given by the Commission at its fifty-fifth session (see para. 1 above), the Working Group had considered the topic in preliminary discussions during its sixty-third session (A/CN.9/1093, paras. 77–95). It was also recalled that the mandate referred to data provision contracts based on a distinction, drawn by the secretariat in its earlier preparatory work, between "data provision" and "data processing" contracts (A/77/17, paras. 161 and 163).

10. The Working Group proceeded with its deliberations on data provision contracts on the basis of A/CN.9/WG.IV/WP.180 ("WP.180"). It was explained that the draft default rules set out in WP.180 represented a starting point for consideration of the legal issues related to data provision contracts. It was noted that such rules did not presuppose a particular final form of instrument, and broad support was expressed for the view that it was premature for the Working Group to take a decision on that issue, consistent with the past practice of UNCITRAL. It was also suggested that default rules could be complemented by guidance to contracting parties (e.g. in the form of a checklist).

11. Nevertheless, the question was asked whether it was feasible and desirable for the Working Group to hold a preliminary discussion on the form of an eventual instrument, which might have a significant impact on drafting.

12. It was indicated that both a legislative text and a legal guide could be useful to promote legal certainty and harmonization in data transactions, and that a legal guide could compile standard model clauses for data provision contracts. However, it was added, such an exercise required significant resources given the variety of possible clauses. The general desirability of preparing legislative texts in furtherance of the mandate of UNCITRAL was also noted.

13. It was said that the rules set out in WP.180 were formulated as legislative provisions. However, the opposite view was also heard that the rules had a contractual nature. It was suggested that, without prejudice to the final form of the work of the Working Group, which in any case was to be determined by the Commission, it was preferable to proceed with preparing legislative provisions whose content could be easily transposed into a legal guide if need be, while the transposition of a legal guide into a legislative text would require significant additional work.

14. It was indicated that it was desirable to reach a joint understanding of how the default rules operated. It was noted that default rules could have a specific legal operation in certain jurisdictions. In response, it was noted that the reference to default rules indicated that the parties were able to vary the provisions of the legislative text based on the principle of party autonomy. It was recalled that UNCITRAL texts aimed primarily at creating an enabling legal environment for business and were underpinned by party autonomy and the related principle of freedom of contract. It was suggested that a general rule on party autonomy could be inserted.

15. It was explained that the draft rules were inspired in part by the provisions of the United Nations Convention on Contracts for the International Sale of Goods (CISG). It was clarified that, rather than adapt specific provisions of the CISG to data provision contracts, the default rules used the CISG as a "placeholder" for identifying the legal issues that could be addressed by the Working Group. It was added that the draft rules were also informed by national and transnational initiatives, notably the Principles for a Data Economy jointly developed by the American Law Institute and European Law Institute (hereafter the "ALI/ELI Principles"), and the contract guidelines on the utilization of data published by the Ministry of Economy, Trade and Industry of Japan (hereafter the "METI Data Guidelines"), which had been presented to the Working Group at its sixty-third session (A/CN.9/1093, paras. 80–84). Other regional initiatives were put forward as an additional source of inspiration.

16. Broad support was expressed for the methodology reflected in WP.180. However, it was cautioned that future work needed to be sensitive to the differences between the sale of goods and transactions in data, including the peculiar qualities of data as intangible and non-rivalrous, and the different commercial practices and relationships involved. It was indicated that those differences could impact the scope of legal issues to be addressed in comparison with the CISG, as well as the content of the rules. The view was also expressed that there was limited utility in referring to "sale" and "licence" in the context of data transactions and that the Working Group should instead focus on the various rights involved (see also para. 39 below).

17. It was observed that the Working Group did not need to deliberate on whether a data provision contract was a "contract for sale" or whether data was "goods" for the purposes of the CISG. Nevertheless, it was noted that the Working Group would eventually need to discuss how the default rules interacted with the CISG among other UNCITRAL texts.

B. Key concepts

18. It was acknowledged that the concepts of "data" and "data provision contract" were key to the scope of work to be undertaken by the Working Group. It was observed that the working definitions of both concepts presented in WP.180 were broad and that, as a result, the types of contracts covered by the default rules would be vast, potentially encompassing contracts for the supply of digital content and digital services, contracts for the transfer of digital assets, and contracts involving some information sharing.

19. The Working Group exchanged preliminary views on how the concepts of "data" and "data provision contract" could be defined. Support was expressed for the view that, rather than finetune the definitions in abstract, the Working Group should proceed by reference to the types of transactions taking place in practice, as well as the types of obligations to which those transactions gave rise. In that regard, it was observed that the parties were interested in data for the information that it represented, which was typified by transactions in "big data". Broad support was expressed for excluding from scope "functional data" such as software, "representative data" such as digital assets, and other types of data such as the result of trust services. It was suggested that the Working Group should pay close attention to the eventual formulation of such an exclusion. It was also observed that data was transacted in

ways other than the simple transfer of data between two parties. In that regard, it was pointed out that the ALI/ELI Principles distinguished several different types of data provision contracts, for which different obligations were identified, and addressed the involvement of third-party intermediaries. Some support was expressed for including data pooling contracts and contracts with data intermediaries within the scope of work.

20. Diverging views were expressed on whether to define data as a representation of information in "electronic" form. On one view, it was suggested that the definition should include a qualifier that information in "digital" form be included in the definition on the basis that current practice was concerned with transactions in digital data. It was also noted that reference to "digital" data harked back to the origins of the project in exploratory work on legal issues related to the digital economy and reflected the terminology of international and regional legislative instruments on the digital economy. It was added that "electronic" might be seen as an outdated term.

21. On another view, it was cautioned that the Working Group should not depart from the terminology of existing UNCITRAL texts without good reason. It was added that similar terminology was used in domestic legislation and that a change in terminology could cause confusion. It was explained that the term "electronic" was an umbrella term that encompassed not only data in digital form, but data used in high-speed analogue computing and quantum computing, which might not be "digital" (i.e. information represented by a string of "zeros" and "ones"). It was therefore suggested that, in keeping with the principle of technology neutrality, and to ensure that the eventual instrument was future-proof, the term "electronic" should be retained. It was added that notes accompanying the default rules could state that, at the time of drafting, data transactions were concerned in practice with digital data.

22. Alternatively, it was suggested that the instrument could avoid the issue altogether by referring to information in a machine-readable format. Broad support was expressed for incorporating the concept of machine-readability into the definition of data, although it was observed that the definition should still retain the term "electronic". It was also observed that the term "electronic" already implied machine-readability. Broad support emerged for retaining the term "electronic".

23. A suggestion was made to define what was meant by "information". Another suggestion was made to replace the term with "facts", although it was queried whether all data, particularly data that was not interpretable by humans, could be characterized as "facts".

24. It was suggested that future work should focus on business-to-business transactions, and therefore exclude from scope contracts with consumers. Broad support was expressed for the view that, while work should avoid intellectual property issues, it was neither desirable nor feasible to exclude from scope data that was subject to intellectual property rights. Rather, intersections with intellectual property law could be addressed by expressly preserving and prioritizing the application of that law. Similar observations were made with respect to data privacy and protection laws.

25. Noting that it was more common to refer to data being "used" by the data recipient (as opposed to "processed"), a question was raised as to whether the term "processing" covered "use". In response, it was noted that "use" was commonly listed in data privacy and protection laws as an operation performed on data, and therefore fell within the definition of "processing" in WP.180. Support was expressed for retaining the definition, which reflected that used by technical bodies such as the International Organization for Standardization. However, it was noted that concepts developed in the specific context of personal data should be transposed with caution. It was also suggested that, even if "processing" covered "use", it might still be preferable for the rules to refer both to the "processing" and "use" of data.

C. Rules on mode of provision

26. The Working Group moved to discuss rules on the mode of providing the data. Broad support was expressed for addressing the issue.

27. Regarding the rule in paragraph 28 of WP.180, it was noted that the data provider might make the data available in a system under its control or in a system operated by a third-party intermediary. To cover both cases, it was suggested that the rule should refer to facilitating the data provision instead of giving access to the data. It was added that reference to a broad range of modes of provision would make the rule future-proof, and that the parties should be able to agree on other modes without prioritizing any particular mode. Similarly, it was suggested that the rule should foresee instances in which a third party would access the data on behalf of the data recipient.

28. It was further explained that, in practice, data was provided either by transmitting it or by giving access to it, and that, in both cases, the parties needed to agree on technical, organizational and security measures for data provision. It was noted that security requirements applied to systems and not to data. Support was expressed for revising rule 2(b) in paragraph 28 accordingly.

29. As for the rule in paragraph 30 on the timing of providing data, it was explained that the contract could specify the time for performance (i.e. in a single occurrence, at regular intervals or continuously) and that the rule provided a default time in the absence of agreement. It was also explained that, in some cases, timeliness could be an essential attribute of the data, so that the data had to be provided within a certain timeframe, which depended on the intended use and could vary over time. It was added that service level agreements would often specify the timeframe for data provision.

30. It was suggested that reference to provision of the data "within a reasonable time" should be replaced with reference to provision "without undue delay" to accommodate issues with interruption of data supply. It was also suggested that a reasonable time for performance should allow for the provision of data in a suitable form.

31. With regard to the risk of data loss or alteration during transmission (WP.180, para. 32), it was explained that different contractual solutions were available, and that a common solution foresaw the data recipient being liable from the moment that the data entered a system under its control (in case of data transmission) or from the moment that it accessed the system in which the data was made available (in case of access to data). It was noted that this mechanism allocated risk in line with the ability of the party to control the relevant system. It was recalled that such rationale underpinned existing UNCITRAL provisions such as article 10(1) of the United Nations Convention on the Use of Electronic Communications in International Contracts (ECC).[1]

32. A question was raised as to whether the provisions on the passing of risk in the CISG were relevant to data. It was indicated that such provisions might not be directly applicable in the context of data transactions given the peculiar qualities of data and mode of transmission. It was also noted that the data often remained available to the data provider, which could therefore provide it again in case of data loss or alteration during transmission.

---

[1] See explanatory note on the ECC, *United Nations Convention on the Use of Electronic Communications in International Contracts* (United Nations publication, Sales No. E.07.V.2), para. 177.

D. Rules on the conformity of data

33. It was stressed that the Working Group should focus on defining the concept of data "quality". It was explained that, while it was not possible to provide an exhaustive list of attributes relevant for all data transactions, it might be possible to identify core attributes relevant in most transactions. It was indicated that core attributes included origin (authenticity), completeness, accuracy and reference to a given point in time (timeliness). Other attributes identified were traceability and lawfulness (i.e. compliance with laws and regulations).

34. It was clarified that lawfulness as an attribute of data quality was a matter of contract conformity, while compliance with laws and regulations stemmed from their mandatory application (e.g. data privacy and protection laws). It was therefore observed that conformity with agreed data quality could not be relied on as the sole channel for ensuring compliance with those laws and regulations, and that a separate rule could be envisaged to ensure compliance, regardless of the provisions of the contract. In that regard, it was suggested that the Working Group should consider a rule modelled on article 2(4) of the UNCITRAL Model Law on the Use and Cross-border Recognition of Identity Management and Trust Services (MLIT) which would expressly preserve the application of laws and regulations.

35. Yet other attributes of data quality were identified, such as fitness for purpose, including by reference to data previews and public statements by the data provider, data format and structure, and the availability of updates.

36. It was indicated that the provisions on the conformity of goods in the CISG were not easily applicable to data. It was suggested that the reference to fitness for purpose in the rule in paragraph 36 of WP.180 was excessively prescriptive and that it was preferable to refer to a more flexible notion covering a broad range of data uses. It was added that, in practice, determining the purpose of the use of data could pose challenges. For those reasons, it was suggested that rule 2(a) in paragraph 36 of WP.180 should not be retained.

37. Noting that data was usually not inspected but verified according to procedures agreed by the parties, a question was raised as to the applicability of articles 38 and 39 of the CISG to data transactions. It was also indicated that, in some industries and for some types of contracts, the modalities for assessing data conformity were agreed by the parties in the performance of the contract. It was therefore suggested that the Working Group should consider whether to incorporate an obligation on both parties to cooperate in good faith in determining the applicable level of quality and detail, particularly in the absence of an industry standard and where data was provided over time. It was added that data could often only be fully evaluated upon actual use, which was the moment when it acquired value.

E. Rules on the use (or processing) of data

38. The Working Group moved to discuss the rules on the use of data in paragraph 44 of WP.180. It was explained that the rules were inspired by articles 42 and 43 of the CISG. As a general remark, it was reiterated that the CISG provided a useful starting point for the Working Group to address the rights of the parties on the use of data, however the applicability of its provisions in that context required careful scrutiny.

39. It was recalled that the rights of the parties under data provision contracts were sometimes characterized as reflecting a "sales" approach or a "licence" approach (see para. 43 of WP.180). It was observed that a data provision contract could exhibit characteristics of different types of contracts, and that the effects on the rights of the parties to a data provision contract under a "sales" approach and an "exclusive licence" approach could be similar. Broad support was expressed for avoiding those characterizations, and instead to focus on the content of the rights of the parties. In

that regard, it was indicated that issues to be addressed included (i) limitations on the purpose for which the data recipient used the data, (ii) the "residual" rights retained by the data provider to use the data, (iii) the timing for the provision of data, and (iv) the duration of the data provision contract.

40. The point was made that the default rules in paragraph 44 of WP.180 addressed not only the rights of the parties (rules 1 and 2), but also the rights of third parties (rule 3, together with rules 4 and 5). The Working Group heard a range of suggestions to amend the rules on the rights of the parties:

(a) It was suggested that the rules should refer to "purpose" but not to "means", which did not carry a clear meaning. It was explained that the reference to the purpose and means of processing was designed to translate the concept of "control" of data, which was a concept used in data privacy and protection laws, as well as in some national and regional initiatives. However, it was added, it was a concept which might cause confusion, particularly in view of the specific meaning that it carried in the UNCITRAL Model Law on Electronic Transferable Records (MLETR). Broad support was expressed for avoiding the term "control";

(b) It was observed that the word "means" could be understood as referring to technical aspects of data processing, and it was suggested that the word should be replaced with "methods", which covered additional aspects. Another option was to refer to "manners", noting that data transfer and data access would usually be subject to agreed terms and procedures;

(c) Recalling the importance of party autonomy, it was suggested that the chapeau of rule 1 was redundant and should not be retained, and that rules 1(a) and 1(b) should be retained as stand-alone rules. Broad support was expressed for that suggestion;

(d) It was suggested that the words "unless the parties have agreed on a specific purpose" should be added at the end of rule 1(a). It was explained that it was not uncommon for contracts for the provision of industrial data not to specify a purpose, in which case the general rule in rule 1(a) would apply. Support was expressed for that suggestion;

(e) It was suggested that the words "unless otherwise agreed by the parties" should be added at the end of rule 1(b). It was explained that the residual right of the data provider to process the data and to provide it to third parties was usually not limited to a specific use or purpose. Support was expressed for that suggestion;

(f) It was indicated that the redraft of rule 1 rendered rule 2 superfluous. Accordingly, support was expressed for its deletion.

41. It was noted that rule 3 in paragraph 44 of WP.180 imposed an obligation only on the data provider, and that it was desirable to maintain a balance in the rules considering mutuality of obligations. For that reason, it was suggested that the rules should provide for obligations of the data recipient, which, among others, could include verification of the reliability of the data provider and prevention of downstream abuse of data.

42. The question was raised as to whether rule 3 should also apply to cases where rights or claims of the data provider would impede processing, as well as to cases where rights and claims imposed obligations but did not impede data processing, e.g., by requiring payment of a licence fee. Support was expressed for applying the rule to both cases by (i) deleting the words "of a third party" or replacing them with "other than that of the data recipient", (ii) removing the reference to data processing, and (iii) inserting a reference to the duty of the data provider to specify rights and claims that imposed obligations on the data recipient but did not impede data processing. Support was also expressed for inserting a rule on the obligation of the data recipient to comply with those rights and claims.

43. Broad support was expressed for replacing the second sentence in rule 3 with a stand-alone rule on the duty of the parties to cooperate in performing the data

provision contract. It was queried whether, if the reference to data processing was removed from rule 3, the data provider would no longer be under an obligation to ensure that the data recipient was in a position lawfully to process the data under the contract. It was noted that the ALI/ELI principles might provide guidance on the issue.

44. It was indicated that the reference to the "time of conclusion of the contract" in rules 4(a) and 5 was not appropriate in case of long-term contracts as the data provider could become aware of a right or claim during the performance of the contract. Different drafting suggestions were made. Support was expressed for referring instead to the "time of the provision of the data".

45. It was suggested that a rule should be inserted on the obligation of the data recipient to inform the data provider of rights or claims affecting the data provision as soon as possible. It was suggested that a rule should be inserted on the obligation of the data provider to inform the data recipient of rights or claims affecting the data by the time of the provision of the data or as soon as the data provider becomes aware of them. In that respect, it was indicated that the rule should apply to both parties in application of the duty to cooperate (see para. 43 above). It was also suggested that rule 4(a) might be too broad and could potentially be limited to data providers who were not in the business of supplying data of the sort that is the subject of the contract.

46. Questions were raised on the desirability and feasibility of referring to the place where the data was processed and to the place of business of the data recipient as connecting factors in rule 4(b), for instance when data was processed by using distributed ledger technology (DLT) or other decentralized technology. Reference was made to several possible connecting factors, as well as to article 4 of the Hague Convention on the Law Applicable to Certain Rights in Respect of Securities held with an Intermediary. Noting that several relevant laws of mandatory application had extraterritorial effect, and that it would be particularly challenging to provide connecting factors for all the relevant laws, broad support was expressed for deleting rule 4(b) to keep the rules future-proof and technology neutral.

47. The Working Group was invited to consider whether to include default rules on the rights of the parties in derived data (i.e. data generated by either party by processing the data provided under the contract). Some support was expressed for doing so, noting the economic importance of derived data, as well as the legal uncertainty regarding the rights of the parties in derived data when the issue was not addressed in the contract.

48. The Working Group heard a proposal to consider the issue further on the basis of the following draft:

(1) Except where the parties have agreed otherwise, the data recipient has the right to control the derived data generated through processing of data provided by the data provider according to the data provision contract.

(2) Subject to paragraph 1, the data recipient may process the derived data or provide it to a third party.

(3) The data provider is entitled to process the derived data according to the data provision contract or other contract with the data recipient.

49. Recalling earlier discussions regarding the use of the term "control", it was suggested that the words "has the right to control" in paragraph 1 of the draft rule might be replaced with the words "is entitled to process".

50. It was suggested that the Working Group should consider addressing liability for the non-conformity of derived data provided to a downstream third party. It was noted that derived data raised the issue of data rights generally, as addressed in A/CN.9/1117, and it was suggested that the Working Group should address data rights outside the contractual setting. In response, it was observed that a preference had been expressed in the Commission to focus on data rights in the context of data contracts and not more generally, and that the mandate of the Working Group was focussed on data provision contracts.

F. Rules on remedies for breach

51. The Working Group was invited to consider whether to include default rules on remedies for breach of data provision contracts. It was observed, on the one hand, that existing laws on remedies for breach of contract applied to data provision contracts. It was added that remedies in the form of monetary damages could be applied without difficulty in the context of data transactions. On the other hand, it was observed that the peculiar qualities of data might require some other remedies to be adapted. Restitution and specific performance were given as examples of remedies that might need to be adapted on account of the availability of copied data. Some support was expressed to consider developing default rules on those other remedies.

IV. The use of artificial intelligence and automation in contracting

A. Preliminary observations

52. The Working Group took note of the report by the UNCITRAL secretariat on the intersessional event held on 17 January 2023, as set out in section II of A/CN.9/WG.IV/WP.179 ("WP.179"). The Working Group expressed its appreciation to the European Law Institute for its support in hosting the event. It was observed that the presentations and discussions at the event allowed the Working Group to move beyond theoretical issues and focus on technical issues. It was suggested that the secretariat should continue compiling information on use cases and consulting with experts in developing the principles, as set out in section III of WP.179. It was stressed that the outcome should reflect the variety of practices of States.

53. The view was expressed that the Working Group should take into account the different levels of development and technological capacity between States. It was also suggested that dedicated technical assistance activities should be offered to help developing States in addressing gaps in their legislation regarding electronic commerce.

B. Definition of "automated system"

54. It was noted that the definition of "automated system" in principle 1 was very broad. It was indicated that, on its face, it was not clear that the definition applied to AI systems, or to systems used in a contractual setting.

55. It was suggested that, to clarify that the term encompassed AI systems, the definition should make express reference to AI systems. It was suggested that this could be done by making explicit reference to "rule-based systems" and "machine learning systems" (or "weak" AI), which represented the types of AI systems that were recognized in theory and deployed in practice. It was explained that the first type of system operated in a deterministic manner, while the second type operated in a stochastic i.e. non-deterministic manner.

56. It was recalled that the Working Group held extensive discussions at its sixty-fourth session on drawing a distinction between automated and AI systems, where the view had emerged that the term "automated system" accommodated deterministic systems (however unsophisticated) and non-deterministic systems.

57. It was suggested that the principles should focus solely on AI systems. In response, it was noted that the view had also emerged at the sixty-fourth session that future work should focus on all automated systems regardless of whether they employed AI techniques or whether they operated in a deterministic manner or not. Such a focus, it was added, was consistent with the principle of technology neutrality. It was also observed that a focus on all automated systems was in keeping with the incremental approach reflected in the mandate of the Working Group, and maintained

a link between the principles and provisions of existing UNCITRAL texts on the use of automated systems. It was recalled that the distinguishing features of AI systems could be addressed in the principles themselves.

58. The Working Group heard several proposals to amend the definition:

(a) It was suggested that the term "computer program" should be replaced with "computer system" to acknowledge that automated systems comprised hardware and software components. Broad support was expressed for that view. An alternative suggestion was to refer to "electronic system", although it was observed that the term was too broad;

(b) The point was made that humans were involved in the design of automated systems. It was therefore suggested that the definition should refer to automated systems operating without "further" human intervention. It was also recalled that human oversight was an important principle in AI governance, and that the Working Group should be careful to ensure that the reference to systems "without review or intervention" by a human did not foreclose the possibility of legal requirements to provide human oversight of AI systems. In response, it was explained that those words expressed the concept of automation and were drawn from article 4(g) of the ECC. It was added that the focus of the mandate of the Working Group was on automation in contracts, which were necessarily in electronic form, and not on AI governance;

(c) It was suggested that the term "action" should be replaced with a term that reflected the use of automated systems in decision-making processes that might not involve any physical act.

C. Use of automated systems in contracts

59. Broad support was expressed for deleting principle 1 and incorporating the definition of "automated system" into paragraph (a) of principle 2 by inserting the following sentence:

> Automated systems used in contracting are deterministic or non-deterministic systems capable of carrying out actions without review or intervention of natural person for the purpose of forming or performing contracts.

60. It was noted that the sentence usefully limited the scope as to the function of the principles while preserving technology neutrality. It was also noted that it did not exclude human intervention entirely, and it was suggested to add the word "necessary" before "review". It was indicated that the principle should also provide for systems with deterministic and non-deterministic operations.

61. It was suggested to clarify the stages of the contract life cycle to which principle 2 applied. It was queried whether the principle covered breach of contract. In response, it was explained that "performance" included non-performance and remedies, just as "formation" included pre-contractual negotiations. It was noted that remedies for breach agreed by the parties in the contract could operate automatically, and that such cases of performance of agreed consequences in case of default should be distinguished from those where one party exercised, by automated means, remedies for breach of the other party as provided for by the law and not agreed by the parties (i.e. "self-enforcement", see A/CN.9/1125, para. 35).

62. It was also queried whether "performance" included dispute resolution. It was explained that automated systems could initiate dispute resolution and that some dispute resolution procedures were already fully automated. It was therefore suggested to add the following in paragraph (b): "Automated systems can be used to initiate dispute resolution by processing data messages".

63. It was noted that the distinction between contract performance and dispute resolution might be blurred in legal theory, and that the work of the Working Group should focus on practical cases. It was recalled that Working Group II was considering dispute resolution in the digital economy, and that addressing the issue might create

overlap. It was said that the work of the two working groups should be closely coordinated.

64. Another suggestion was to include a reference to contract termination and modification. In response, reference was made to the explanatory note on the ECC,[2] which illustrated the broad meaning of the words "in connection with the formation or performance of a contract" in the ECC. It was suggested that a similar explanation should be provided in notes accompanying principle 2.

D. Legal recognition

65. The Working Group heard several suggestions to amend principle 3:

(a) It was suggested to add "or performance" at the end of paragraph (a). On the one hand, it was indicated that matters affecting validity or enforceability only arose during contract formation, and that therefore reference to performance was unnecessary. On the other hand, it was said that, while that might be the case in the electronic communications context, the distinctive features of automated contracting required paragraph (a) to be applied to contract performance. As a compromise, it was suggested that, to reflect the order of the contract life cycle, a new first paragraph should be inserted based on paragraph (b) but applied only to contract formation, while paragraph (b) would apply only to contract performance;

(b) It was suggested that paragraph (b) should refer to "decisions" made, in addition to "actions" carried out, by an automated system. It was added that reference should be made to the "legal effect" of the decision or action, rather than to the decision or action itself;

(c) The question was asked whether the principle interfered with the application of mandatory laws restricting party autonomy. In response, it was indicated that the application of the principle of non-discrimination in UNCITRAL texts was traditionally restricted to discrimination based on form requirements, as evidenced by the words "on the sole ground", while any other ground relating to invalidity or lack of legal effect would continue to apply;

(d) It was clarified that paragraph (c) was a rule on technology neutrality, not legal recognition, and it was widely felt that the paragraph should be presented in a separate principle. It was suggested that it could be redrafted based on article 9(1) of the ECC, along the following lines: "Nothing in these principles requires the use of a particular method in automated systems". Support was expressed for the proposal. It was added that the possibility of excluding certain methods could be foreseen, e.g. methods based on bias.

E. Attribution

66. The Working Group heard that the formulation of principle 4 raised some doubts as to how it operated.

67. It was observed that paragraph (b) could be read as suggesting that a third-party system operator could be considered a party to a contract formed using the system, which would raise fundamental legal questions. It was explained that the paragraph was designed to recognize that the same system could be used by different parties to a contract, which was a technical issue, and that attribution was addressed in paragraphs (a) and (c). It was observed that the principle could be adjusted to attribute the capabilities of the system to the operator, which would ensure that the operator remained responsible for the system.

68. A question was raised as to the relationship between the principle and substantive law, including the law of agency. It was explained that the principle was

[2] See footnote 1 above, para. 55.

drafted according to the approach taken by UNCITRAL not to affect substantive law.[3] The Working Group heard that the ECC did not contain a rule on attribution, despite addressing automated systems, because it was felt during the preparatory work that attribution was ultimately a matter of application of substantive law.

69. However, the Working Group also heard that the principle was concerned with attributing the output of an automated system to a person, and not with whether the person was acting on behalf of another. It was explained that it was important for the Working Group to reaffirm the position that the output of an automated system was always to be attributed to a person, and not to the system itself. It was also important to clarify that the principle on attribution was not concerned with substantive law.

70. Several proposals were made to amend the principle, including to clarify its operation:

(a) It was suggested that the first sentence of paragraph (a) should be deleted. It was observed that the sentence was a policy statement, which was neither necessary nor desirable to include. It was noted that developments in the law might eventually lead to some form of legal personality being conferred on an AI system;

(b) It was recalled that the second sentence of paragraph (a) provided for the output of an automated system to be attributed to the person on whose behalf the system was operated, while paragraph (c) provided for that output, as between the parties, to be attributed in accordance with any agreed procedure. On one view, it was said that the provision in paragraph (c) should be placed before the second sentence of paragraph (a) to indicate that the latter applied only where no procedure had been agreed. On another view, the second sentence of paragraph (a) was a more general provision dealing with attribution, regardless of whether a contract existed. On that view, it was said that the provision was particularly useful in attributing the output of systems used in the pre-contractual stage;

(c) It was suggested that, in order to accommodate the use of third-party systems, paragraph (b) could be reformulated to state that several parties could use the same system with outputs being attributed to each party.

F. State of mind

71. It was explained that principle 5 was a new principle. It was added that the principle complemented the principle on attribution; if, with respect to the output of an automated system, principle 4 was concerned with identifying the person whose act it was, principle 5 was concerned with ascertaining what that person had in mind.

72. It was noted that “state of mind” was an unusual term for a legislative text. While it might be known in a criminal context, it was unknown to some legal systems, particularly in a contractual context. It was noted that the most relevant state of mind in a contractual context was intention, and it was suggested that the term “state of mind” be replaced with “intention” or “will”. Support was expressed for that suggestion, although support was also expressed for retaining a broad focus encompassing the law of mistake and other vitiating factors.

73. The view was expressed that, even if limited to determining intention, it was not necessary to include such a principle. Conversely, the view was expressed that the principle could provide guidance on relevant factors for determining intention. It was added that it might not be necessary to have regard to the design and operation of the automated system in all cases. It was suggested, therefore, to amend the principle to specify that regard could be had “where appropriate”.

74. It was suggested that the “commissioning” of the system could be a relevant factor, and that this should be reflected in the principle. It was also observed that, in

[3] See explanatory note on the ECC (footnote 1 above), para. 213.

practice, the enquiry into state of mind shifted so as to focus not on the operation of the system, but on its programming.

75. It was suggested that the principle should be focused on the output of the system. It was also suggested that it should specify whether it was concerned with the state of mind of a party or the person to whom the output of an automated system had been attributed.

76. It was observed that the principle did not specify the person to whom it was addressed (i.e. the person who might have regard to the design and operation of the system). A concern was expressed that, as drafted, the principle could be interpreted as sanctioning an enquiry into the design and operation of a system each time the output of the system was called into question.

77. A concern was also expressed that the principle could imply that existing law requiring the determination of a person’s state of mind, such as consent, applied differently when automated systems were used. It was added that this would not be desirable and was not consistent with the fundamental principles underlying UNCITRAL texts.

G. Legal consequences

78. It was explained that principle 6 was a new principle. Some support was expressed for including a principle dealing with the legal consequences flowing from situations in which things went wrong with the operation of an automated system. It was suggested that, instead of “data messages” that were “generated or sent”, which might imply exchange of electronic communications, the principle should focus on decisions that were adopted or actions that were taken using the system.

79. It was observed that, as drafted, the principle applied not only to situations brought about by an error in programming, but also situations where a non-deterministic system generated an output that was not intended. It was observed that the principle could also apply to situations brought about by external interference. It was suggested that, if the principle were limited to situations of error, it should refer to data messages generated “by an error”. It was added that, even if it were so limited, the principle might need to be further refined to ensure that it accommodated situations in which system rules provided for transactions affected by error, such as in high-frequency trading.

80. A concern was expressed that the principle affected substantive law. It was observed, however, that the ECC contained provisions dealing with substantive law issues (e.g. article 14 on input error), albeit with limited scope.

81. A question was asked on the desirability and feasibility of drafting a dedicated principle for situations where a non-deterministic system generated an unintended output.

H. Legal compliance

82. Support was expressed for retaining a principle on legal compliance. It was suggested that the first sentence of principle 7 should require compliance with “all applicable laws” so as to include laws applying in a cross-border context. It was added that the inclusion clarified that the principle had two levels of application: (a) laws applicable to automated systems, and (b) laws applicable to commercial activities regardless of whether automated systems were used.

83. It was suggested that the second sentence was descriptive and thus better placed in notes accompanying the principles.

84. Questions were raised about the appropriateness of imposing a duty of compliance on the person on whose behalf the automated system was operated. It was observed that that person might not have control over the design or operation of the

system, especially for non-deterministic systems. It was added that complications could arise in applying the principle where the design and operation of the system was subject to trade secrets.

85. A suggestion was made to impose a duty on the system operator to inform the user of any limitation to the usage of the automated system.

V. Other business

A. UNIDROIT digital assets and private law project

86. The UNCITRAL secretariat informed the Working Group that it had been closely observing the digital assets and private law project at the International Institute for the Unification of Private Law (UNIDROIT), which was preparing substantive law principles on digital assets. It was noted that, under the current draft of the principles, the definition of digital assets was broad and could encompass electronic transferable records (ETRs) within the meaning of the MLETR. It was added that, as such, the draft principles, including provisions establishing duties on custodians of digital assets, would apply to those ETRs.

87. However, it was explained that, under the MLETR, the functional equivalence principle allowed for existing substantive law regimes, which were complete and well-established, to apply to transferable documents and instruments regardless of medium. The Working Group heard that, if the principles applied to ETRs, it could create a dual substantive law regime for transferable documents and instruments depending on the medium used, which was not consistent with the principle of functional equivalence and could create significant barriers for commercial parties.

88. Various delegations shared these concerns. Several examples were provided of the domestic enactment of the MLETR, which excluded digital assets from scope, as well as domestic legislation on digital assets, which excluded ETRs from scope.

89. Members of the Working Group generally emphasized the need for close consistency of digital trade texts through institutional coordination, and commended the secretariat for its participation in the UNIDROIT project.

90. It was recalled that the draft principles were defined to address gaps in the application of existing laws to digital assets, which was not the case for ETRs. Several solutions were put forward to mitigate legal tension between the MLETR and the principles. First, it was suggested that ETRs could be excluded from the definition of "digital asset" in the principles. Second, it was suggested that, as a matter of interpretation, the principles should not affect the special substantive law regime applicable to ETRs, which would prevail in the event of inconsistency.

91. Concerns were expressed that members of the Working Group were not in a position to offer views on this matter because they had not had time to study the substantive concerns presented by the secretariat regarding the draft principles. It was also stressed that, absent a specific request from the Commission, the Working Group had no mandate to make any comments or recommendations to another organization. However, it was added, the issue pertained directly to the interpretation and application of a text prepared by the Working Group, and it was therefore appropriate to share with UNIDROIT the observation that including ETRs within the scope of the draft principles would defeat the approach taken by UNCITRAL with regard to the substantive law applicable to ETRs under the MLETR. It was further suggested that relevant explanatory and preparatory materials for the MLETR should be shared.

B. Future work

92. The Working Group agreed that, in view of the progress made during the session on both topics and prior intersessional work, the secretariat should prepare a revised

set of default rules on data provision contracts and a revised set of principles on automated contracting for consideration at its sixty-sixth session. It was observed that future work should take into account the new technologies and advances related to augmented realities, immersive realities, and metaverses. The Working Group agreed that it was appropriate to continue working on both topics in parallel.