COMMENTS AND PROPOSALS REGARDING THE UNCITRAL DRAFT PRINCIPLES FOR THE USE OF ARTIFICIAL INTELLIGENCE AND AUTOMATION IN CONTRACTING, FOR POSSIBLE CONSIDERATION AT THE SIXTY-FIFTH SESSION OF THE WORKING GROUP IV

March 24, 2023

Introduction

1.   According to the report on the work of its sixty-fourth session (Vienna, 31 October–4 November 2022, A/CN.9/1125, "**Report**"), the Working Group IV (Electronic Commerce, hereinafter — "**Working Group**") commenced work on the topic of the use of artificial intelligence and automation in contracting (para. 1 of the Report).

2.   To that end, the Working Group considered a set of principles, presented by the Secretariat during the session as a possible basis for future work (para. 61 and section F of the Report, hereinafter — "**Draft principles**").

3.   More recently, as a matter of intersessional work, in A/CN.9/WG.IV/WP.179 (hereinafter — "**WP.179**"), the Secretariat has additionally set forth a revised set of the above mentioned principles (hereinafter — "**Revised draft principles**").

4.   Also the Secretariat has published the Default rules for data provision contracts (A/CN.9/WG.IV/WP.180), presenting the proposals of the Secretariat toward a glossary of terms and possible default rules for data provision contracts (hereinafter — "**Default rules for data provision contracts**").

5.   Considering the above, the International and Comparative Law Research Center would like to provide the Secretariat with the following comments and proposals concerning the Draft principles, the Revised draft principles, and the Default rules for data provision contracts, for possible consideration at the sixty-fifth session of the Working Group.

Comments and proposals regarding the Draft principles and the Revised draft principles

1. Basic concepts and principles

a. *Automated systems*

6.   During the last session, some of the Working Group participants have touched upon the idea that the definition of an "automated message system" may not encompass all automated systems which could potentially be used in contracting (para. 20 of the Report).

7.   Nevertheless, Draft principles (para. 62) propose to set the definition of an automated system by reference to the definition of the "automated message system" as currently provided in article 4 (g) of the United Nations Convention on the Use of Electronic Communications in International Contracts (hereinafter — "ECC"):

> An "automated system" is an "automated message system" within the meaning of article 4(g) of the ECC.

8.   In our view, the referred ECC definition is sufficiently broad and thus future-proof to cover any automated systems which could so far be foreseeably used in contracting, including fully autonomous systems.

9.   Importantly, it provides for the possibility to account for automated actions other than those which are qualified as communication of information (data messages):

> "Automated message system" means a computer program or an electronic or other automated means used to initiate an action or respond to data messages or performances in whole or in part, without review or intervention by a natural person each time an action is initiated or a response is generated by the system.

10.   The importance of the emphasised aspects of the definition stems from the fact that already today there are cases where automated systems, especially the embodied kind — robots, take actions which may constitute contract performance but not necessarily a communication of a data message.

11.   One example of that would be so-called service robots capable of performing, by means of its sub-systems such as actuators and manipulators, actions in the real world, for example delivering goods or rendering services.[1]

12.   It is therefore most appropriate that such actions are already covered by the above ECC definition of an "automated message system". Alternatively, should the Working Group decide to adopt an amended definition of an "automated system" instead, such as the one proposed in part B.1 of the Revised draft principles, we would suggest caution at least when considering the possible removal of the "electronic or other automated means" element. While, as of today, automated systems may indeed be primarily driven by computer programs, the "electronic or other automated means" element is not necessarily consumed by the notion of a "computer program", as the latter's definition may differ across legal systems.

b. The interplay between contract performance and electronic communications

13.   On the other hand, care should be taken when addressing the interplay between contract performance and electronic communications. Draft principles (para. 62) propose to specify that:

> An automated system is used to form and perform contracts by generating, sending, receiving or storing "electronic communications" within the meaning of article 4(b) of the ECC.

14.   In our view, the above proposition is superfluous and unnecessarily narrows down the notion of automated contract performance to the extent it excludes automated actions other than those which are qualified as communication of information (data messages). The same critique applies to the wording of Principle 2(b) as per the Revised draft principles. As they currently stand, both versions of the principle disregard the practical considerations set forth in paras. 9-12 above.

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[1] "Areas of Application | PROMOBOT". URL: https://promo-bot.ai/use-case/ (accessed: March 19, 2023).

15.   Accordingly, we would advise that the Working Group adopts neither the proposition quoted in para. 13 above nor its derivative in Principle 2(b) as per the Revised draft principles.

2. Attribution

16.   In line with the view previously endorsed by the Working Group (A/CN.9/WG.IV/WP.177, para. 22), as between the parties to a commercial transaction, the general principle for attributing outputs of automated systems should be formulated as follows:

> *The party to whom the output of an automated system is attributed should ultimately bear the risk of that output.*

17.   Accordingly, the Draft principles (para. 71) include the following line:

> *An electronic communication sent by an automated system is attributed to the person on whose behalf the automated system is operated (the "operator").*

18.   In our view, a provision based on such a principle (or its version, such as Principle 4(a) in the Revised draft principles) might be appropriate for inclusion into the ECC, which deals precisely with electronic communication. At the same time, we would argue that a similar but broader provision could be also included in another UNCITRAL instrument, such as the Model Law on Electronic Commerce (hereinafter — "**MLEC**").

19.   For such an instrument, in line with our suggestions in paras. 9-15 above, we would recommend expanding the above principle to cover the attribution of not only automated communications but also automated non-communicative actions, including non-communicative contract performance. The respective provision in MLEC thus might be introduced as follows:

> *An action by an automated system is attributed to the person on whose behalf the automated system is operated (the "operator").*

20.   At the same time, for reasons stated below we would argue that it would be prudent to consider possible mitigations of the above general principle of attribution going beyond the only specific case currently covered by article 14(1) of the ECC.

3. Errors

21.   As pointed out in A/CN.9/WG.IV/WP.177 (para. 22), "In its earlier deliberations on the MLEC and ECC, the Working Group endorsed the view that, as a general principle, as between the parties, the party to whom the output of an automated system is attributed should ultimately bear the risk of that output".

22.   Already at the time when the MLEC was being prepared, some of its prescient drafters argued that there might be circumstances which might warrant mitigation of that general principle, such as in case of unforeseeable errors generated by automated systems. Yet, in the end, the consensus at a time seemed to have been that "it would not be appropriate to attempt to formulate uniform rules at the current stage and that jurisprudence should be allowed to evolve" (para. 230 of the Explanatory note by the UNCITRAL Secretariat on the United Nations Convention on the Use of Electronic Communications in International Contracts, hereinafter — "**Explanatory note to the ECC**").

23.   As a result, across the UNCITRAL instruments, such mitigation is currently only provided by article 14(1) ECC, which deals exclusively with the specific situation where (a) a natural person makes (b) an input error and (c) the automated message system does not provide that person with the opportunity to correct that error.

24.   The rationale for that provision is set forth in para. 225 of the Explanatory note to the ECC. Namely, an arguably "higher risk that an error made in transactions involving a natural person, on the one hand, and an automated computer system, on the other, might not be noticed, as compared with transactions that involve only natural persons".

25.   In this regard, we would like to note that since the time when the ECC was originally drafted, there has been considerable progress in the development and use of automated — and in particular autonomous — systems globally. An increasing portion of electronic trade transactions are being handled by automated systems, including those integrated into online platforms.

26.   Some of these automated transactions concern the formation and performance of business-to-consumer contracts, which is not the domain covered by UNCITRAL instruments.

27.   A significant part of automated transactions, however, concern business-to-business contracts, such as those between vendors which use platforms to market their products and services, on the one hand, and their suppliers and other business partners, including platform operators themselves, on the other hand.

a. Errors in communication within a single automated system

28.   In the case of automated transactions provided in para. 27 above, a complete contract lifecycle might be taking place in the context of the automated system operated by only one party to the transaction. This is particularly likely with regard to automated transactions mediated by online platforms.

29.   As per the current wording of article 14(1) ECC, it only deals with errors insofar as they occur in an electronic communication "exchanged with the automated message system of another party".

30.   In this regard, it is questionable whether the provision will necessarily be understood so as to apply to an error made in an electronic communication on an online platform, where such communication may occur solely within a single information system provided and operated by one party and may not necessarily ever leave that system (cf. article 10 (1) ECC).

31.   To accommodate for the above considerations, we would suggest that the respective wording in article 14(1) ECC:

> *makes an input error in an electronic communication exchanged with the automated message system of another party*

could be amended as emphasised to read as follows:

> *makes an input error in an electronic communication processed by the automated message system used by another party.*

b. Errors due to third-party interference

32.   During its last session, the Working Group has touched upon the matter of errors in communication occurring due to third-party interference with the functioning of an automated system (paras. 45, 47 of the Report).

33.   In this regard, we would advise to note that third-party interference may affect the integrity of the originator's data message not only (a) before, but also (b) during or (c) after the exchange with the automated system of another party, or (d) where no such exchange occurs outside a single automated system (as is the case in scenarios covered by para. 30 above).

34.   To accommodate for such incidents, the respective provision of article 14(1) ECC, subsequent to changes proposed in para. 31 above, could be further amended as emphasised to read as follows:

> *Where a natural person's input or third-party interference causes an error in an electronic communication processed by the automated message system used by another party and the automated message system does not provide the person with an opportunity to correct the error, that person, or the party on whose behalf that person was acting, has the right to withdraw the portion of the electronic communication in which the input error was made if:*

> *(a) The person, or the party on whose behalf that person was acting, notifies the other party of the error as soon as possible after having learned of the error and indicates that an error was made in the electronic communication; and ...*

c. Unforeseeable errors in the outputs of automated systems

35.   An increasing portion of automated systems used in commerce is being based on non-deterministic algorithms, that is those which may produce unforeseeably different outputs based on the same input data. This is true in particular for large language models[2] such as ChatGPT, which are currently being used by an ever-increasing number of individuals and organisations worldwide and integrated with other automated systems for diverse commercial applications.

36.   The distinction between deterministic and non-deterministic operation of automated systems has been previously touched upon by the Working Group and the Secretariat (para. 20 (c) of WP.179). However, we must note that even when automated systems operate purely deterministically, due to their ever-increasing complexity their outputs are not always sufficiently foreseeable for people and organisations which operate these systems. This may be true even when best efforts are made to address the foreseeability problem in accordance with the state of the art, such as by means of interpretability and explainability techniques.

37.   As a result, while the automated systems used in commerce may be, statistically speaking, sufficiently reliable ("trustworthy"), there will still be cases where even automated systems that operate deterministically will still produce outputs that will not reflect the intention of their operators (users). The resulting outcomes could still be regarded as unforeseeable errors. For the above reasons, contrary to the suggestions in WP.179 (para. 31), we would advise that whether an automated system operates deterministically or non-deterministically should not be a factor in establishing the liability for the outputs of the automated system. A technology-neutral approach to the envisaged legal consequences of unforeseeable errors is therefore suggested.

38.   In view of the above, we would argue that it would be prudent to provide an additional mitigation to the general principle of attributing outputs of automated systems to their operators (users), so as to account for unforeseeable errors in these outputs.

39.   Respectively, and cumulatively considering the changes proposed in paras. 31 and 34 above, it might be appropriate to amend article 14(1) of the ECC to read as follows (proposed changes emphasised):

> *1. Where a natural person's input, third-party interference or an unforeseeable output of the automated message system used by one party causes an error in an electronic communication processed by the automated message system used by another party and the automated message system does not provide for an opportunity to correct the error, that person, or the party on whose behalf that electronic communication was made, has the right to withdraw the portion of the electronic communication in which the error was made if:*

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[2]   Mark   Chen   and   others,   "Evaluating   Large   Language   Models   Trained   on   Code".   URL: https://arxiv.org/abs/2107.03374v2 (accessed: March 19, 2023).

(a) The person, or the party on whose behalf that communication was made, notifies the other party of the error as soon as possible after having learned of the error and indicates that an error was made in the electronic communication; and

(b) The person, or the party on whose behalf that communication was made, has not used or received any material benefit or value from the goods or services, if any, received from the other party; and

(c) Where such error is attributable to an unforeseeable output of the automated message system used by the first party, the withdrawal of the respective portion of the electronic communication is possible and does not involve a disproportionate effort for the other party.

40.   It is understood that the Working Group may decide instead to develop its work further on the basis of Principle 6 as per the Revised draft principles. While acknowledging that the wording of that principle is much more succinct, it arguably lacks some of probably important nuances provided by additional cumulative conditions currently envisaged by article 14(1) of the ECC, as further developed in para. 39 above. We would urge the Working Group to consider the utility of those cumulative conditions and how the nuances captured by those conditions might be preserved in any subsequent adaptation of Principle 6, should the Revised draft principles be taken as basis for future work.

4. Fundamental principles: non-discrimination

41.   The Draft principles (para. 80) currently envisage the following proposition inspired by article 8(1) ECC:

A communication or contract is not denied validity or enforceability on the sole ground that it is in the form of an electronic communication generated, sent, received or stored by an automated system.

42.   In case the proposed principle will be taken up to replace the current text in article 8(1) ECC, it is advisable to amend it as emphasised below, so as not to put into question the previously endorsed non-discrimination of electronic communication in which automated systems are not used:

A communication or contract is not denied validity or enforceability on the sole ground that it is in the form of an electronic communication, including electronic communication generated, sent, received or stored by an automated system.

Comments and proposals regarding the Default rules for data provision contracts

a. Glossary of terms

43.   We fully support the proposal of the Secretariat that the Default rules should preserve regulatory measures under existing data privacy and protection laws and should also address the impact of the lawfulness of acquisition, provision and use of data. To that end, the Working Group may decide to separately consider the role of "data subjects" mentioned in para. 21 (ii) (or, more generally, "data principals" as an umbrella term for personal data subjects, intellectual property owners and organizations to which the data is related) in the scheme of data provision and data processing relationships. Traditional approach, based on two-party or intermediary structure of contract relationships doesn't take into account the role of data principals, but when considering data more as data flow than as data sets, the role of data principals became crucial.

b. Draft default rules for data provision contracts

44.   As pointed out in A/CN.9/WG.IV/WP.180 (para. 22), the Commission heard views, but took no decision, on the form and legal nature of the output of the Working Group on data provision contracts. As a source of the inspiration for the possible options, different standard contractual terms may be used. One of the most widespread standard contractual terms system was developed in INCOTERMS by the International Chamber of Commerce. Also standard contractual terms in the sphere of data provision are widely and successfully used in the European data protections framework. Keeping in mind the freedom of contract principle, the possible output of the Working Group in the form of the standard contractual terms framework may be more efficient for the data economy than in the form of model law or international convention (though such a framework may be based on previous model laws and conventions adopted by the Commission).