BLOCKCHAIN AND ARBITRATION:
THE "WRITTEN AGREEMENT" IN THE ERA OF SMART CONTRACTS

JANUARY 2026

Executive Summary:

- This article argues that contracts concluded through blockchain technology—including "smart contracts"—can satisfy the "agreement in writing" requirement under Article II of the New York Convention, provided that the arbitration clause can be clearly identified, the parties' consent can be attributed and traced, and the information can be preserved for subsequent verification.

Relying on a functional and evolutionary interpretation —supported by the 2006 UNCITRAL Recommendation, Article 7 of the 2006 Model Law, and the principles of functional equivalence in electronic commerce and electronic signatures—the article contends that the "written form" serves primarily an evidentiary function rather than a requirement tied to a specific physical medium. Blockchain's immutability, traceability, and verifiability reinforce that function, although they raise challenges relating to identification, consistency between on-chain and off-chain elements, and decentralized structures. These challenges can be mitigated through sound technical practices, the choice of pro-arbitration seats, and the strategic use of the "more-favourable-right" provision under Article VII.

The starting point is the traditional requirement of the 1958 New York Convention: for an arbitration agreement to be enforceable internationally, it must be "in writing."

That standard emerged to provide legal certainty in a paper-based world of correspondence and physical documents. The digitalization of international contracting, however, has prompted a less formalistic and more functional reading. Today, priority is given to the written form's role as evidence of the agreement's content and of the parties' consent, rather than to the particular medium used. Against this backdrop, the central question is whether contracts concluded wholly or partly on blockchain—including smart contracts—meet the evidentiary threshold of a "writing."

The article's core thesis is that they do, so long as the arbitration clause can be readily identified, consent can be attributed to the parties, and the relevant evidence can be preserved for later review.

This approach rests on three normative pillars: (i) the 2006 UNCITRAL Recommendation on the interpretation of Articles II(2) and VII(1) of the Convention; (ii) Article 7 of the 2006 Model Law on Arbitration, which validates agreements concluded by electronic means provided the information is accessible; and (iii) the principles of functional equivalence set out in the Model Laws on Electronic Commerce (1996) and Electronic Signatures (2001).

What does blockchain add to this evidentiary function?

It offers immutability of records, temporal traceability, and independent verifiability of both the content and the timing of the agreement, all of which strengthen proof of the arbitration agreement.

In practice, consent is typically expressed through transactions signed with private keys and through voluntary interaction with code. Attribution of such consent is more robust where those keys are linked to the contracting entity through KYC processes or electronic signature certificates, and where a verifiable technical bridge exists between the on-chain code and the off-chain text of the arbitration clause (for example, a hash of the document). With these elements in place, the combination of on-chain records and off-chain documentation fulfills the functions of "writing" and "signature" for purposes of Article II.

The arbitration clause may be coded directly into the smart contract or incorporated by reference to an external document; what is determinative is that its content be identifiable, accessible, and capable of being preserved. The most robust technique is to anchor the document containing the clause through cryptographic evidence and to implement storage and version-control policies; a mutable URL, standing alone, may be insufficient.

Moreover, it is essential that the party have a reasonable opportunity to become aware of the arbitration clause before being bound, and that the text remain available in its original form throughout the arbitral proceedings and the enforcement stage.

From a comparative-law perspective, there is an observable convergence toward a substantive standard of formal adequacy for electronic agreements—access to the text, clear consent, and the ability to archive and reproduce it—with supportive frameworks in the United States, the United Kingdom, France, Switzerland, Mexico, and other jurisdictions that have adopted, or drawn inspiration from, the 2006 Model Law. This convergence is compatible with blockchain, provided that a verifiable link between the on-chain artifact and the text of the arbitration clause is ensured.

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