

COPYRIGHT COMMERCIALIZATION IN THE DIGITAL ECONOMY: FROM TRADITIONAL LICENSING TO AUTOMATED RIGHTS MANAGEMENT

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Abstract

Digital technologies are changing the economics of copyright commercialization. The traditional licensing model, built around individually negotiated permissions, territorial markets and periodic reporting, is increasingly difficult to operate where works can be distributed, transformed and consumed across multiple digital services in real time. This article examines the transition from conventional copyright licensing to automated rights management and considers the legal conditions required for that transition in Uzbekistan. The study analyses the relationship between copyright law, digital identifiers, rights-management information, smart contractual mechanisms, collective management, usage data and automated remuneration. It argues that automation should not be understood as the replacement of legal licensing by technology. Rather, automation should be understood as the technical execution of legally defined rights, permissions, obligations and payment rules. Particular attention is paid to the WIPO Copyright Treaty, Uzbekistan's Law "On Copyright and Related Rights", collective management, digital rights-management information and emerging licensing practices. The article proposes a model in which a national digital rights infrastructure—provisionally referred to as "E-Muallif"—connects authoritative rights information with licensing, usage reporting and remuneration. The proposed model is designed to reduce transaction costs, improve transparency and facilitate lawful commercialisation while preserving authors' control and effective remedies against infringement.

Keywords: Copyright commercialization; digital economy; licensing; automated rights management; digital rights management; collective management; smart contracts; rights management information; remuneration; Uzbekistan.

Introduction

Copyright has always had an economic dimension. The exclusive rights granted to an author or other right holder have practical value only when the work can be lawfully brought to the market, licensed to users and converted into revenue. In the analogue economy, this process was comparatively manageable. A publisher negotiated with an author, a broadcaster obtained permissions for a defined repertoire, and a record company could account for physical sales through established distribution channels. The scale of use was limited by geography, physical copies and identifiable commercial intermediaries.

The digital economy has changed this structure. A single work may be uploaded once and accessed by users in many jurisdictions; a musical composition may be embodied in a sound recording and then used in a video, streamed, remixed or incorporated into user-generated content; and a digital platform may process millions of uses without a practical possibility of negotiating an individual licence for every transaction. WIPO observes that digital technologies can facilitate the rapid identification of licensors and licensees and can support automated contracts, payments and delivery, while also changing the territorial and temporal dimensions of licensing.[1]

This transformation raises a question that is more specific than the familiar debate about online infringement: can the legal architecture of copyright support the automation of lawful commercialisation? The answer matters because automated rights management requires more than software. It requires reliable information about who owns which right, what use is authorised, for how long, in which territory, at what price and under what conditions. If any of these elements is legally uncertain, automation can reproduce uncertainty at a much larger scale.

For Uzbekistan, this issue is particularly relevant as the country develops digital public infrastructure and modernises intellectual-property administration. The Law “On Copyright and Related Rights” contains provisions on property rights, licensing and collective management, while Uzbekistan is a party to the WIPO Copyright Treaty. Yet the existing framework was largely designed before platform-based distribution, machine-readable licences and large-scale automated reporting became ordinary features of the creative economy.[2; 3]

The purpose of this article is to develop a legal model for the gradual transition from traditional licensing to automated rights management. The research focuses

on five questions: (1) what economic and legal limitations of traditional licensing become visible in the digital economy; (2) what information infrastructure is necessary for automated licensing; (3) how collective management can be integrated into digital systems; (4) what legal safeguards are necessary for automated decisions and payments; and (5) how these elements could be implemented in Uzbekistan.

The study uses formal-legal, comparative and systemic approaches. International materials of the World Intellectual Property Organization and selected EU and US instruments are used as comparative sources. The objective is not to import a foreign model unchanged, but to identify principles that can be adapted to Uzbekistan's institutional and legal environment.

A licence is fundamentally a legal permission. It determines whether a particular act of exploitation is authorised and, where relevant, establishes the remuneration and other conditions of use. Commercialisation, however, is broader. It includes the identification of a marketable right, finding a user, negotiating or applying licensing terms, recording the use, collecting payment, distributing revenue and dealing with disputes. Traditional copyright administration often treats these functions as separate transactions. Digital markets increasingly require them to operate as a continuous process.

The transaction-cost problem is at the centre of this change. Individual licensing becomes inefficient when the number of works, right holders and users increases faster than the capacity of parties to negotiate. This is precisely why collective management exists. WIPO explains that collective management allows right holders to authorise specialised organisations to monitor uses, negotiate tariffs, license works, collect fees and distribute remuneration.[4] In a digital market, however, collective management itself must become data-driven if it is to account accurately for high-volume uses.

Digital licensing therefore requires a shift from document-centred administration to data-centred administration. A conventional contract may identify the work by title and describe the permitted use in narrative language. An automated system requires structured information: a persistent identifier for the work, an identifier for the right holder, the specific right being licensed, territory, duration, permitted channels, remuneration formula, reporting obligations and conditions for

termination. The contract remains a legal instrument, but its operative terms can be expressed in a machine-readable form.

This does not mean that every copyright transaction should become fully automated. High-value transactions involving film, publishing or complex derivative rights may continue to require human negotiation. The more realistic approach is a mixed model: human negotiation where discretion is important, combined with automated execution for standardised and high-volume transactions. The objective is not to eliminate lawyers or licensing departments; it is to eliminate repetitive administrative work that adds cost without adding legal value.

Automated rights management rests on three layers. The first is the legal layer: rules defining rights, licences, exceptions, enforcement and responsibility. The second is the information layer: reliable data identifying works, right holders, licences and uses. The third is the technical layer: systems that apply the agreed rules to transactions, access and payments. Weakness at any one layer undermines the others.

The WIPO Copyright Treaty is important because it expressly recognises the role of technological measures and rights-management information in the digital environment. Article 12 requires legal remedies against unauthorised removal or alteration of electronic rights-management information, including information identifying the work, author, right holder and conditions of use.[5] This demonstrates an important principle: information accompanying a work can have legal significance because it supports licensing, collection and enforcement.

For automated licensing, rights-management information should therefore be treated as a structured legal asset rather than merely metadata. A reliable rights record should answer at least five questions: what is the protected work; who owns or controls the relevant right; what type of use is permitted; what conditions apply; and where should remuneration be paid. Where ownership is disputed, the system should preserve competing claims rather than present uncertain data as authoritative.

The information layer also requires interoperability. A national platform that cannot exchange data with publishers, collecting societies, broadcasters, streaming services and international repertoires will remain a closed administrative database. WIPO's WIPO Connect initiative illustrates the broader

direction of travel: collective management increasingly depends on systems capable of managing rights information and connecting it across networks.[4] Uzbekistan should therefore design its digital rights infrastructure around internationally recognised identifiers and data-exchange standards rather than around a proprietary national format alone.

The expression “smart contract” is often used to describe code that automatically performs a transaction when predefined conditions are met. In copyright, this may mean that access to a work is enabled after payment, that a royalty is calculated automatically from usage data, or that a payment is distributed among several right holders according to predefined shares. Such applications can be useful, but they should not be confused with the legal concept of a copyright licence.

A software routine cannot determine whether a person is the author merely because a database says so. Nor can code resolve an ownership dispute, interpret an ambiguous contractual clause or decide whether a particular use falls within a statutory exception. These are legal questions. The appropriate approach is therefore to treat smart-contract functionality as an execution mechanism operating within a legally valid contractual and statutory framework.

Three safeguards are particularly important. First, automated licensing terms must be traceable to a legally enforceable agreement. Second, the system must provide a mechanism for correction when source data are wrong. Third, parties must have access to human review where an automated decision materially affects their rights. This is especially important where an automated system blocks access, suspends an account, rejects a licence or withholds remuneration. The same principle applies to automated remuneration. If a streaming service reports one million uses, the system may calculate the amount due according to a tariff and distribute it among right holders. But the validity of the calculation depends on the legal status of the tariff, the reliability of the usage data and the contractual or statutory basis for distribution. Automation improves execution; it does not cure an invalid legal basis.

Collective management is likely to remain essential even in a highly automated market. The number of works and right holders in music, audiovisual content, text and visual works makes individual licensing impractical in many situations. WIPO identifies monitoring, licensing, collection and distribution as core

functions of collective management.[4] Digitalisation should therefore strengthen these functions rather than attempt to bypass them.

Uzbekistan's Copyright Law already contains a dedicated chapter on collective management. It allows right holders to entrust economic rights to collective management organisations, provides for agreements with users and recognises the organisations' role in collecting, distributing and paying remuneration.[3] The next stage of development should be to make these functions more transparent and technologically interoperable.

A digital collective-management system should enable a right holder to see which works are represented, which licences have been issued, what uses have been reported and what remuneration has been collected and distributed. Users, in turn, should be able to obtain standardised licences and submit usage reports electronically. This would reduce the administrative distance between licensing and accounting.

There is also a strong case for integrating collective management with a national rights-information platform. Instead of creating separate databases for each organisation, the state could establish common technical standards while allowing accredited organisations to retain operational autonomy. Such a model would avoid both extremes: a fragmented system in which data cannot be exchanged and an over-centralised system in which one institution controls all commercial licensing.

Transparency is particularly important because automated distribution can create an appearance of objectivity even when the underlying data are incomplete. A formula is not fair merely because it is automated. The legal and institutional rules governing tariffs, repertoire, sampling, reporting and distribution must remain open to audit and challenge.

For Uzbekistan, the transition to automated rights management could be organised around a national digital infrastructure provisionally designated "E-Muallif". The proposed system should not be understood as a single government marketplace for all copyrighted content. Its more realistic role would be to provide a trusted rights-information and transaction layer connecting authors, right holders, collective management organisations and users.

The platform could contain four interconnected modules. The first would be a rights registry containing structured information on works, authors, right holders

and relevant rights. The second would be a licensing module providing standard licences for recurring uses while allowing customised contracts where necessary. The third would be a usage-reporting and monitoring module capable of receiving machine-readable data from participating users. The fourth would be a remuneration module calculating and distributing payments according to applicable contracts, tariffs and statutory rules.

A critical design choice is the legal status of registry information. If an entry has no evidentiary value, users will continue to rely on separate documents and the platform will not reduce transaction costs sufficiently. Uzbek law could therefore establish a rebuttable presumption regarding authorship or priority for verified entries, without converting registration into a condition for copyright protection. This would remain consistent with the international principle that copyright protection should not depend on formalities.[5]

The platform should also distinguish between public and restricted information. Basic information identifying a work and its right holder could be searchable, while contractual prices, personal data and commercially sensitive terms should be accessible only to authorised parties. The objective should be transparency of rights, not unrestricted disclosure of private commercial information.

Finally, the platform should be designed for interoperability. International exploitation of Uzbek works requires exchange with foreign collecting societies, publishers, platforms and licensing systems. A national system that cannot communicate with external repertoires would undermine the very cross-border commercialisation that digital technology makes possible.

Automation creates new risks alongside its efficiency gains. The first is erroneous rights information. A mistaken ownership record can redirect royalties or prevent lawful use. The second is excessive automation: a system may treat every data match as conclusive and block legitimate uses that depend on an exception or limitation. The third is concentration. If one platform becomes the only gateway to licensing, it could create dependency and reduce competition in licensing services.

These risks justify several safeguards. Rights records should have provenance and an audit trail. Material corrections should be logged rather than silently overwritten. Automated decisions should be explainable in terms that a user can understand. A procedure should exist for challenging a rights record or payment

calculation. Finally, the national infrastructure should be based on open technical standards so that accredited private and collective-management services can interoperate with it.

The balance between automation and user freedom is also important. Copyright law contains exceptions and limitations that support education, research, criticism and other public interests. WIPO notes that the WCT permits national limitations and exceptions provided that the applicable three-step test is respected.[6] An automated system should therefore be capable of recognising legally permitted uses; otherwise, technological enforcement could become stricter than the law itself.

The transition from traditional licensing to automated rights management should not be measured simply by the number of digital services introduced. Its success should be assessed by whether transaction costs decrease, licensing becomes more accessible, usage data become more reliable, remuneration reaches the correct right holders more quickly, and disputes can be resolved with better evidence.

The main advantage of automation is not that it makes copyright “automatic”. Copyright already arises independently of technology. The advantage is that repetitive administrative operations can be executed consistently once the legal rules and data are reliable. This distinction is important for policy design. A government that invests in software without reforming rights information, collective management and evidentiary rules risks building an expensive interface around the same old problems.

For Uzbekistan, a gradual approach is preferable. The first phase should establish common data standards and improve the legal status of rights information. The second should digitise licensing and reporting processes used by collective management organisations and major commercial users. The third could introduce automated royalty calculation and cross-border interoperability. More advanced smart-contract applications should follow only after the underlying legal and data infrastructure has proved reliable.

This model also leaves room for private innovation. The state does not need to operate every licensing service. Its essential role is to establish authoritative legal rules, standards, verification mechanisms and interoperable infrastructure. Private platforms, collecting societies and rights-management service providers

can then compete on licensing products and technological solutions within that framework.

Copyright commercialization in the digital economy is moving from a document-centred model toward an information-centred model. Traditional licensing remains legally indispensable, but the economic environment increasingly requires licences to be discoverable, machine-readable, trackable and capable of supporting automated payment. The transition is therefore not from law to technology; it is from manually administered legal relationships to legally governed digital execution.

For Uzbekistan, the most important step is to create the legal and institutional conditions for this transition. The existing framework provides a starting point through the recognition of economic rights, collective management and digital copyright administration, but further development is needed in relation to rights-management information, interoperability, automated licensing, usage reporting, remuneration and procedural safeguards.

The proposed E-Muallif model offers one possible institutional architecture. Its value would lie not in replacing existing right holders, collective management organisations or private licensing services, but in connecting them through reliable rights information and standardised digital processes. If implemented with appropriate safeguards, such a system could reduce transaction costs, improve transparency and make the commercial exploitation of Uzbek creative works more accessible in both domestic and international markets.

The decisive principle is therefore simple: automation should execute rights, not redefine them. The legal system must first determine who has the right, what use is permitted and what remuneration is due. Technology can then make the resulting system faster, more transparent and more scalable.

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