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# Identification of Digital Intellectual Assets and Features of their Commercialization

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**ABSTRACT**

The need to identify, define the types, specifics and features of the commercialization of digital intellectual assets is due to the prevailing realities and the opportunities for additional income associated with the digitalization of the economy and the legislative consolidation of new objects of civil turnover — digital rights. The purpose of the work is to characterize digital intellectual assets as objects of commercialization, to identify the features and conditions of its implementation, as well as factors affecting the type and amount of license fees for the transfer of rights to these assets. The methodological basis of the research was the categorical apparatus of management methods in the field of intellectual property and digital rights, methods of classification, statistical and comparative analysis, a systematic approach, scientific works of leading domestic and foreign scientists in the field of evaluation of intellectual property and digital assets. Results of the study are as follows: two interpretations of digital intellectual assets have been identified: 1) as rights to intellectual property objects that exist and have value in digital form; 2) as digital rights to intellectual property objects, the disposal of which is carried out exclusively in an information system based on blockchain technology; the typologization of digital intellectual assets with the allocation of separate types within each interpretation is carried out; the features of commercialization of digital intellectual assets, factors influencing the choice of the type and amount of license remuneration are revealed. The findings can be used in practice by the management of companies when developing strategies for managing new types of assets in order to increase the efficiency of their commercialization.

***Keywords:*** digital intellectual assets; digitalization; commercialization; cost factors; license fee

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## INTRODUCTION

In Russia, as in the rest of the world, the processes of digitalisation of all spheres of society and, first and foremost, of the economy are accelerating on the basis of the introduction of new digital technologies. According to estimates by Allied Market Research, by 2030 the amount of global investment in digital technologies may reach USD 698.48 billion.[1] In Russia, according to the results of a survey of financial market participants conducted by the FinTech Association with the support of Accenture, the introduction of digital technologies is active, but not evenly in relation to certain types of technologies themselves.[2] Mobile interfaces account for the largest share (about 75% of respondents). Also, more than 50% of financial market participants reported using corporate data warehouses, cloud technologies and software interfaces. Such technologies as Big Data, machine learning and biometrics are becoming increasingly popular, although the share of active users is still small — from 21 per cent to 46 per cent. The most promising digital technologies — blockchain, Internet of Things and augmented reality (up to 10% of active users) — are in the development stage.

The processes of digitalisation, as well as the issues of commercialisation of intellectual property in the new realities are actively discussed in the global scientific environment [1–6]; at the same time, an important role is played by active state promotion of the development and implementation of digital technologies. Thus, according to the World Bank, in 2022 Russia entered the top ten countries in the world in terms of the level of digitalisation of public administration,[3] and the total cost of the national project "Digital Economy" in 2023 will amount to 188 billion roubles[4] — in terms of funding it ranks fifth out of 14 national projects, second only to such projects as "Demography", "Health Care", "Education" and "Safe Quality Roads".

These trends encourage companies in various spheres of activity, including non-financial ones, to change their business management strategies based on the use of both digital technologies themselves and the digital assets they generate, which can provide a competitive advantage in the face of unprecedented sanctions.

At the moment, domestic and foreign researchers pay considerable attention to the economic and legal issues of digital financial assets (DFA) regulation [7–12]. In addition, the state demonstrates readiness to develop the infrastructure necessary for the functioning of digital financial assets, which will allow businesses to quickly and without significant costs to organise the issuance and placement of digital financial assets with reliable data protection through the use of blockchain technology.

As for digital intellectual assets (DIA), the interpretations of this category and related commercialisation issues, as well as the legal status of digital intellectual assets, have not been fully explored. The solution of these issues is an urgent task, which has an important scientific and practical significance for Russian companies and the country as a whole to achieve technological sovereignty.

The purpose of this study is to identify the peculiarities of digital intellectual assets as objects of commercialisation, to characterise the conditions for its implementation, as well as

[1] Allied Market Research. https://www.alliedmarketresearch.com/investment-banking-market-A06710

[2] URL: https://www.fintechru.org/analytics/rezultaty-issledovaniya-mneniya-rynka-po-voprosam-razvitiya-finansovykh-tekhnologiy-na-2021–2023-gg-/

[3] Ministry of Digitisation of Russia (official website). URL: https://digital.gov.ru/ru/events/42223/ (accessed on 14.05.2023).

[4] Ibidem.

the factors that determine the type and amount of royalties for the transfer of rights to digital intellectual assets.

The information base of the research includes normative and legal acts revealing the understanding of the essence of digital intellectual assets, works of Russian and domestic researchers on the subject of the article, thematic publications in mass media, statistical data published in open sources.

## RESEARCH METHODOLOGY

The following methods were used in the course of the work: analysis of the processes of digitalisation of the economy in Russia and in the world; typology of digital intellectual assets in different interpretations, ways of commercialisation of digital intellectual assets as intellectual property objects, justification of the type and amount of the licence fee based on the identified pricing factors.

The main types of digital intellectual assets, features and conditions of their commercialisation are defined in accordance with the following regulatory documents:

1. The Civil Code of the Russian Federation (Part IV) of 18.12.2006 No. 230-FL. Article 1225. Protected results of intellectual activity and means of individualisation[5];
2. Order of the Government of the Russian Federation No. 1632-o dated 28.07.2017 "On approval of the programme "Digital Economy of the Russian Federation"[6];
3. Federal Law No. 259-FL dated 31.07.2021 "On Digital Financial Assets, Digital Currency and Amendments to Certain Legislative Acts of the Russian Federation"[7];
4. Federal Law No. 259-FL dated 02.08.2019 "On Attracting Investments with the Use of Investment Platforms and on Amendments to Certain Legislative Acts of the Russian Federation"[8];
5. Federal Valuation Standard "Valuation of Intellectual Property and Intangible Assets (FVS XI)".[9]

Graphical and tabular presentation of information was used to visualise the scientific results.

## RESULTS

### Digital intellectual assets as objects of commercialisation

Commercialisation is understood as the extraction of benefits from the possession or use by a company of its assets. Commercialisation may be external, i.e., it may involve generating income from the sale of the company's assets, or internal, which involves the use of the created or acquired assets for its own purposes. In the following discussion we will talk about external commercialisation of digital intellectual assets.

We propose to consider digital intellectual assets in two interpretations.

**1. Digital intellectual assets as rights to intellectual property in digital form.**

In a broad sense, digital intellectual assets mean any intellectual assets that exist and have value in digital (electronic) form: domain names; 3D models that have no tangible analogue; databases, including those obtained using Big Data technology, including spatial databases; computer programs, digital art objects and virtual assets or property. Digitised data (digital electronic signatures, personal data, digitised objects of the material world), i.e., something that is not created by intellectual labour, but is obtained as a digital copy of

[5] URL: http://www.consultant.ru/document/cons_doc_LAW_64629/2a4870fda21fdffc70bade7ef80135143050f0b1/ (accessed on 25.06.2023).

[6] URL: http://static.government.ru/media/files/9gFM4FHj4PsB79I5v7yLVuPgu4bvR7M0.pdf. (accessed on 21.06.2023)

[7] URL: https://www.consultant.ru/document/cons_doc_LAW_358753/ (accessed on 15.06.2023).

[8] URL: https://www.consultant.ru/document/cons_doc_LAW_330652/ (accessed on 15.06.2023).

[9] URL: https://docs.cntd.ru/document/1300254787 (accessed on 10.06.2023).

a material object using computer processing without the possibility of subsequent creative transformation, should be excluded from consideration.

In order to commercialise various types of digital intellectual assets, it is important to establish their legal status as assets capable of civil turnover. Since digital intellectual assets are intangible in nature, it is logical to classify them as the results of intellectual activity (RIA) in digital form, which are subject to intellectual rights under Article 1225 Part IV of the Civil Code of the Russian Federation. The owner's intellectual rights are confirmed and protected traditionally — on the basis of Rospatent protection documents, agreements on the alienation of exclusive rights or trade secret regime. However, this legal status is not inherent in all of the above assets. In particular, virtual property is not recognised by the Civil Code of the Russian Federation as an object of civil turnover, therefore, it cannot be an object of contractual relations and, accordingly, commercialisation. As for the rest of the listed types of digital intellectual assets, some of them are objects of copyright or related rights, others are objects of patent law, means of individualisation or complex objects that include several results of intellectual activity (*Fig. 1*).

When assessing the value of digital intellectual assets, it is necessary to take into account not only the characteristics inherent to any intellectual property objects (scope of transferable rights, availability of legal protection, territory of validity of rights, level of novelty or originality), but also the risks associated with the digital form of existence (loss of access to the object due to technical failures, unauthorised access through hacking or illegal distribution on the Internet, etc.), as well as the specifics of each type of digital intellectual assets.

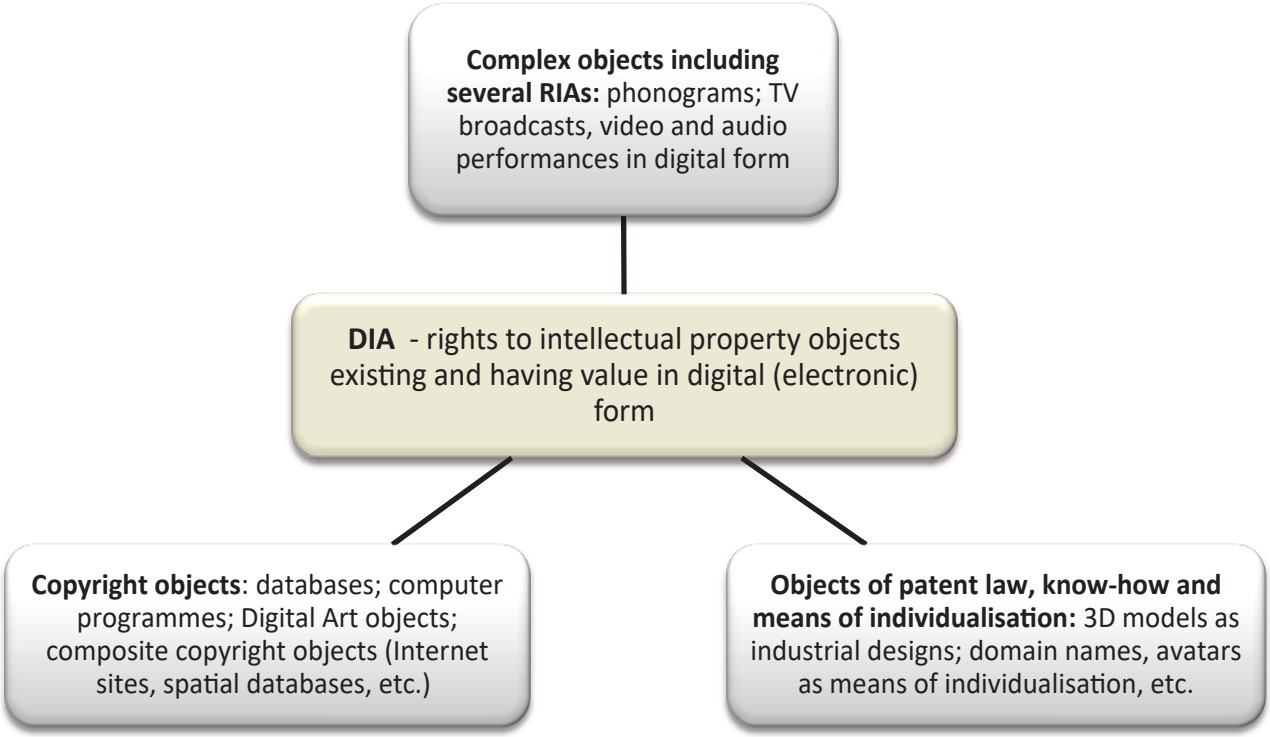


*Fig. 1.* **Digital intellectual assets as intellectual property rights in digital form**

*Source:* compiled by the authors.

**2. Digital intellectual assets as digital rights to intellectual property objects or their use.**

Due to the development of digital technologies based on distributed registers, digital rights have emerged,[10] including rights to intellectual property items (IPIs) and their use, which can be legally involved in civil turnover. In this case, digital intellectual assets are understood as digital rights to intellectual property items (results of intellectual activity specified in Article 1225 of the Civil Code of the Russian Federation) or rights to use intellectual property items, circulating and having value only in an information system that meets the requirements of the legislation (*Fig. 2*).

The figure shows that tokenisation of digital intellectual assets is essentially a form of their commercialisation and is possible under two scenarios: 1) creation of an NFT token,[11] which may contain both the intellectual property object itself (e.g., an object of digital art) and certify the rights to it by assigning a unique identifier in the blockchain system; 2) Creation of a token identifying the owner of the digital intellectual assets and the digital rights to use the intellectual rights in the digital intellectual assets (without the digital intellectual assets themselves existing separately from the specific token).

At the same time, in the context of current legislation, the owner of a token or NFT-token is not necessarily the subject of a copyright or other proprietary right to the digital intellectual asset associated with it. The purchase of an NFT-token does not automatically confer copyright to digital intellectual assets, unless they are specifically acquired under a licence agreement. In the absence of such a contract, the owner of the NFT-token is not entitled to make or sell copies of the work of art or otherwise exercise copyright in any way. It is possible to create several NFT tokens with the same digital object. However, if the participants of the regulated market of digital assets (e.g., Digital Art objects) agree that the NFT should be formed only by the author or the owner of digital intellectual assets, then further transfer of the NFT will imply the transfer of the corresponding rights to digital intellectual assets or its use, i.e., the NFT-token will become the subject of contractual relations in the commercialisation of digital intellectual assets in the information system. Undoubtedly, the creation and regulation of such markets of digital intellectual assets is a rather promising direction for the development of intellectual property commercialisation from the point of view of potential opportunities to increase the value of IPI owned by a company and to ensure the protection of owners' rights. This will determine whether Russian entrepreneurs, artists, galleries, and museums will be able to actively participate in the international market of NFT-tokens, the volume of which is growing exponentially: in 2020 — $315 million and over $40 billion in 2021 [13].

As for digital intellectual assets as utilitarian digital rights to intellectual property items, they essentially represent the right to claim the transfer of exclusive rights to the results of intellectual activity and/or rights to use intellectual property items and may be acquired, disposed of, and exercised in an information system that meets the requirements of the law.[12]

[10] Civil Code of the Russian Federation, Art. 141. Digital Rights. URL: https://base.garant.ru/10164072/85c4c3fa890eded8662d051b65e114a0/?ysclid=ll3r6oo3uc78527261

[11] NFT (non-replaceable token) or unique token is a type of cryptographic token, each instance of which is unique (specific) and cannot be replaced or substituted with another similar one. It is a cryptographic certificate of a digital object that can be transferred through the mechanism used in the blockchain.

[12] Federal Law of 02.08.2019 No. 259-FL (ed. of 14.07.2022) "On Attracting Investments with the Use of Investment Platforms and on Amendments to Certain Legislative Acts of the Russian Federation" (with amendments and additions, effective from 11.01.2023). URL: https://www.consultant.ru/document/cons_doc_LAW_330652/ (accessed on 25.06.2023).

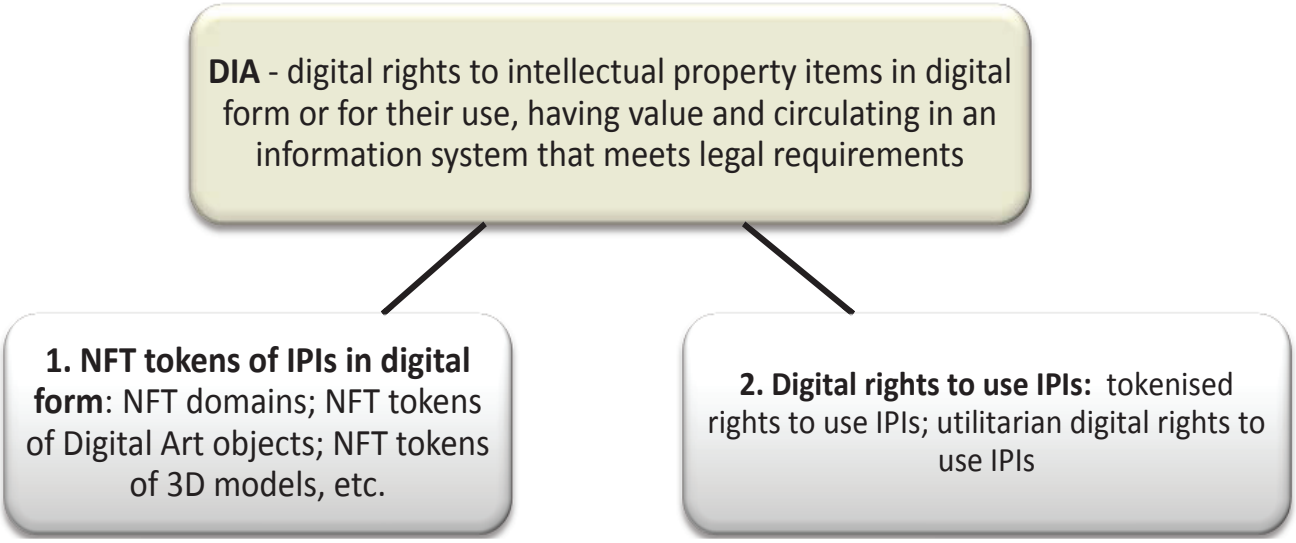


*Fig. 2.* **Digital intellectual assets as digital rights to intellectual property objects or their use**

*Source:* compiled by the authors.

The data of these digital intellectual assets can be conveniently used to attract financing on crowdfunding platforms for the purpose of commercialisation of innovative ideas that can be embodied in protected results of intellectual activity. The considered right of claim can be confirmed by a digital certificate, which in essence is identical to a non-issue book-entry security that has no par value and certifies that its owner owns a utilitarian digital right.

Thus, the digital intellectual assets discussed in clause 2 are assets that have the characteristics of both digital financial assets and intellectual property items, but are certainly objects of civil turnover and, therefore, are capable of commercialisation. When determining the value of such digital intellectual assets, it is necessary to take into account the form of commercialisation through digital, including utilitarian digital rights, and the specifics of the intellectual property items to which the digital rights are transferred.

As a result of the above two interpretations, it can be concluded that digital intellectual assets in the broad sense can be considered as any intellectual property objects existing and having value in digital (electronic form), and in the narrow sense — as digital (including utilitarian digital) rights to exclusive rights to the intellectual property items themselves or to their use.

## SPECIFICS OF COMMERCIALISATION OF DIGITAL INTELLECTUAL ASSETS

Commercialisation of digital intellectual assets is carried out by the same methods as commercialisation of results of intellectual activity, including by means of:

1) contribution of rights to digital intellectual assets to the charter capital of an organisation (for example, 3D models to the charter capital of a computer games manufacturing company);

2) assignment of ownership rights to digital intellectual assets (sale of the full scope of rights under an alienation agreement — more often used for NFT tokens);

3) transfer of the right to use the rights to digital intellectual assets under a licence agreement, commercial concession agreement or leasing agreement (for example, for software).

Licensing is the most common practice. The main terms and conditions of a licence agreement are determined by agreement of its parties, taking into account the following:

1. Type of licence: simple (non-exclusive) or exclusive, depending on the following factors:

a) the need to grant the right to use digital intellectual assets to one or several licensees: if several, a non-exclusive licence applies; for digital intellectual assets in the form of an NFT token, only an exclusive licence is possible.

b) the need for the licensor to retain the right to use the digital intellectual assets: if the licensor plans to use the digital intellectual assets to the same extent as the licensee, the licence is intended to be non-exclusive;

c) the need to grant the maximum amount of rights to use digital intellectual assets without retaining that right with the licensor: if it is planned to grant the right of use to one licensee without retaining it with the licensor to the same extent as it is granted to the licensee, the licence is presumed to be exclusive.

The licensor's retention of the right to use digital intellectual assets may be ensured by including a clause to that effect in the text of the licence agreement.

The transfer or grant of an exclusive right to digital intellectual assets in the form of an NFT token can also be provided for in the smart contract through which the NFT is disposed of on the blockchain, or can be prescribed in the metadata of a particular token.

2. The objects of the licence are digital intellectual assets listed in (*Fig. 1, 2*). For their use it is expected to receive remuneration, which depends on the type and amount of the licence fee.

Licence payments are divided into:

- periodic interest payments (royalties);
- lump sum (fixed) payments;
- combined payments (lump sum payment and royalty).

The preferred type of licence payment is determined taking into account the factors given in (*Table 1*) as follows: the presence of each factor for a particular type of digital intellectual assets adds one point, and finally the type of payment with the maximum number of points is selected. In case of equality of points the licensor stops on the most acceptable option (in practice it is most often a combined payment).

3. The amount of the *lump sum payment* should at least cover both the licensor's expenses for legal protection of digital intellectual assets and other expenses related to the ownership and commercialisation of digital intellectual assets.

When setting the amount of the lump sum payment, it is necessary to take into account the influence of the following factors (if any):

- peculiarities of the current legislation (for example, the lump sum payment for software may be reduced by VAT if the software is not included in the Unified Register of Russian Computer Software and Databases, or if the licence agreement is concluded within the framework of intra-corporate transfer;
- prevailing market conditions and market conditions of digital intellectual assets (supply and demand ratio, availability of competitors with similar offers, macroeconomic situation, etc.);
- the licensee's costs associated with the form of commercialisation (creation of an NFT token, access to an information platform, costs for a digital certificate, smart contract or electronic signature, etc.);
- specific cost factors of a particular type of digital intellectual assets that affect the final price of the licence agreement (*Table 2*).

If a *combined payment* is chosen, the licensee pays a part of the sum in the form of a lump sum payment and the rest — in the form of royalties.

It is reasonable to differentiate the size of the lump-sum payment as part of the combined payment according to the rule 10%-25%-50% of the calculated licence price tak-

*Table 1*

**Factors influencing the choice of the type of license fee**

| No items | Factors | Lump sum payment | Combined payment | Royalty |
|---|---|---|---|---|
| 1 | Composition of the object of the licence (licence agreement) | digital intellectual assets are defined in the contract as digital rights to intellectual property items (Figure 2) other than know-how. digital intellectual assets are defined as know-how but no patent rights or know-how and patent right objects are present, but the contract does not include a clause on compensation for damages for disclosure of know-how or does not contain a formula for calculating damages and sources of input data for the calculation | digital intellectual assets are defined in the contract as intellectual rights to digital intellectual property items (Fig. 1) in the form of know-how, patent, or copyright. At the same time, the contract includes a clause on compensation of losses for disclosure of know-how, and the parties to the contract have agreed on a formula for calculating losses and sources of initial data for calculation | digital intellectual assets are defined in the contract as intellectual rights to digital intellectual property items (Figure 1) in the form of patent or copyright, but there is no know-how |
| 2 | The ability of the licensee to derive income from the disposal of rights to digital intellectual assets | The Licensee does not intend to use the digital intellectual assets to derive additional income from the disposal of the rights to the digital intellectual assets, the benefit from the acquisition of the rights to the digital intellectual assets is non-recurring | The Licensee does not plan to use digital intellectual assets to generate additional income from the disposal of rights to digital intellectual assets, but receives stable income from its use of digital intellectual assets for its own needs | The Licensee plans to use digital intellectual assets as a source of income for internal purposes, as well as additional income through the disposal of rights to digital intellectual assets |
| 3 | Type of licensee | Individual entrepreneur or Sole proprietor | A legal entity that does not belong to the categories to which the use of a lump sum or royalty is available | A legal entity with state participation in the authorised capital and/ or under direct or indirect control of the state. A legal entity in whose charter capital the licensor has a share (contribution) or which is under direct or indirect control of the licensor |
| 4 | Experience of co-operation with the licensor | The licensee has no experience of cooperation with the licensor | The licensee has one-time positive experience of cooperation with the licensor on execution of contracts related to the disposal of exclusive rights to the results of intellectual activity | The licensee has repeated positive experience of cooperation with the licensor on execution of contracts related to the disposal of exclusive rights to the results of intellectual activity |
| 5 | Ability to control the volume of digital intellectual assets utilisation | No effective monitoring of the use of digital intellectual assets (the basis for royalties) through open source data, corporate procedures or licence agreement terms | There are opportunities to implement effective control over the volume of use of digital intellectual assets (the basis for royalty accrual) in accordance with the terms of the licence agreement | It is possible to effectively monitor the use of digital intellectual assets (the basis for royalties) by obtaining data from public sources or through corporate procedures |

*Source:* compiled by the authors

*Table 2*

**Specific cost factors of certain types of DIA that affect the price of the license agreement**

| Name of the type of DIA | Potential type of RIA | Specific cost factors |
|---|---|---|
| NFT- token | Works of science, literature, and art (Digital Art object), rights to use patent or copyright objects, know-how | 1. The cost of creating the underlying asset<br>2. Commercial potential of the underlying asset a<br>3. The level of novelty/originality of the underlying asset<br>4. Duration of token availability<br>5. Uniqueness (whether there are other owners of the token for this type of results of intellectual activity)<br>6. Usefulness of the token (what benefit can be derived in the physical and digital world)<br>7. Level of risks of infringement of the licensor's rights when using the token |
| Domain names b | Brand names, commercial designations | 1. Relevance of the domain name to an existing word or concept related to the domain's area of use<br>2. Method of domain name formation from the original word or concept (if the word is formed from such)<br>3. The number and income level of the population of the city specified in the domain name (if such semantic component is present in the domain name)<br>4. Technical characteristics (exposition period, number of characters, number of search queries, etc.)<br>5. Compliance of the domain name with the trademark or brand name<br>6. Cost of domain name registration |
| 3D models | Objects of patent or copyright law | 1. The cost of creating the underlying asset<br>2. Commercial potential of the underlying asset.<br>3. Quality of visualisation of the required model.<br>4. Animation of the model.<br>5. Ability to modify the model<br>6. Uniqueness of the model |

*Source:* compiled by the authors.

Note:a – *The procedure for determining the commercial potential of digital intellectual assets* is summarised in [15]; b – domain name value factors are given on the basis of the methodology for assessing the market value of second-level domain names in .RU and .RF top-level domains in the secondary domain name market. URL: https://app.cctld.ru/KC_buklet_2020.pdf (accessed on 12.05.2023).

ing into account various factors [14] — for example, for a software product they are given in (*Table 3*). According to its data, the size of the lump-sum payment should be 10% (the largest number of factors is 6), but it is preferable to use its weighted average value, taking into account the number of factors for each column:

(10% *6 + 25%*4 + 50%*0) / (6 + 4 + 0) = 16%.

Therefore, the recommended lump sum payment — is 16% of the licence price.

Determination of the *royalty rate* can be carried out by various methods, the most popular of which are [16]:

- based on the method of standard royalty rates, i.e. on the use of ranges of rate values obtained by statistical analysis of published data on industries, groups of industries and certain types of products with subsequent adjustment taking into account the specifics of digital intellectual assets and licence conditions;
- relying on the method of analogues, based on the search and analysis of licence

*Table 3*

**A set of factors used to calculate a lump sum payment**

| No. items | Factors | 10% | 25% | 50% |
|---|---|---|---|---|
| 1 | Age | Introduced to the market in the current year | On the market for up to 5 years | On the market for more than 5 years |
| 2 | Area of use | For internal use | External and internal use | For realisation |
| 3 | Market share | Small (up to 5%) | Medium (5% to 20%) | High (above 20%) |
| 4 | Awareness | Region | Country | Global |
| 5 | Expansion potential | Limited to market segment | Several markets and segments | Not limited |
| 6 | Territory | Regional | Domestic Russian | International |
| 7 | Licence | Non-exclusive | Non-exclusive/Exclusive | Exclusive |
| 8 | Market competition | High (4 or more competitors) | Medium (2-3 competitors) | Low (1 competitor) or no competitors |
| 9 | Implementation risks | Significant advertising costs and high risks of not achieving planned revenues (only potential counterparties are present) | Minor advertising costs and low risks of not achieving planned revenues (existence of preliminary agreements with real counterparties) | Little or no realisation risks (regular counterparties are available) |
| 10 | Market availability and volume | Market in development (1-2 potential customers in the market) | Market segments (established market with known customers) | Several markets with large volumes of existing and potential customers |
| | Number of factors | 6 | 4 | 0 |

*Source:* compiled by the authors.

agreements for similar types of intellectual property items, information about which is contained in public sources or is available in the licensor's organisation.

Both of these methods are suitable for calculating the royalty rate when understanding digital intellectual assets in the first interpretation, i.e., as digital intellectual property rights (*Fig. 2*), since they have been objects of civil turnover for a considerable period of time and there are already accumulated volumes of information both on similar transactions and on standard royalty rates.

As for digital intellectual assets in the second interpretation (as digital rights), in this case the choice of royalty rate, until sufficient data on similar transactions is accumulated, may be agreed upon by the parties during the licence agreement process and may take into account the above factors as well as industry ranges for

standard royalty rates.

## CONCLUSION

The conducted research allows us to draw the following conclusions:

1. Digital intellectual assets can be considered in a broad sense as intellectual property rights that exist and have value exclusively in digital (electronic) form. The most common form of commercialisation of digital intellectual assets is a non-exclusive licence. As a form of licence remuneration, royalty payments or a combined payment are most often used. When determining the type and amount of royalties to be paid to the licensor, it is necessary to take into account the specifics of a particular type of digital intellectual assets, as well as factors related to the licensee (its type, experience of cooperation with it, its ability to generate additional income from the use of digital intellectual assets, the possibility of controlling the licensee's income).

2. In a narrow sense, digital intellectual assets refer to digital rights to intellectual property items or to the use of intellectual property items. At the same time digital intellectual assets have the characteristics of both digital assets and intellectual property items; digital intellectual assets exist and circulate exclusively in a legally compliant information system, usually based on blockchain. The most common forms of commercialisation of such assets are an exclusive licence or an assignment agreement. The main type of licence fee is a lump sum payment. When determining its amount, the peculiarities of the current legislation, current market conditions, specific costs of the licensor (for creation of NFT tokens, registration on an electronic platform, etc.), as well as factors affecting the value of specific types of digital intellectual assets listed in (*Table 2*) are taken into account.

The results and conclusions of the research can be used by the management of companies when developing strategies for managing digital intellectual assets to ensure technological sovereignty in the context of digitalisation of the economy and sanctions restrictions.

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