

## KEY IT TECHNOLOGIES IN THE NEW DECADE

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## КЛЮЧЕВЫЕ ТЕХНОЛОГИИ ИТ СФЕРЫ В НОВОМ ДЕСЯТИЛЕТИИ

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**Abstract.** the article presents the main growth factors of technology corporations in the new decade, their analysis is carried out, as a result of which changes are fixed, which can happen both in the IT industry in particular, and in the global economy as a whole.

**Аннотация.** в статье приводятся основные факторы роста технологических корпораций в новом десятилетии, проводится их анализ, в результате которого фиксируются изменения, которые могут произойти как в IT индустрии в частности, так и в мировой экономике в целом.

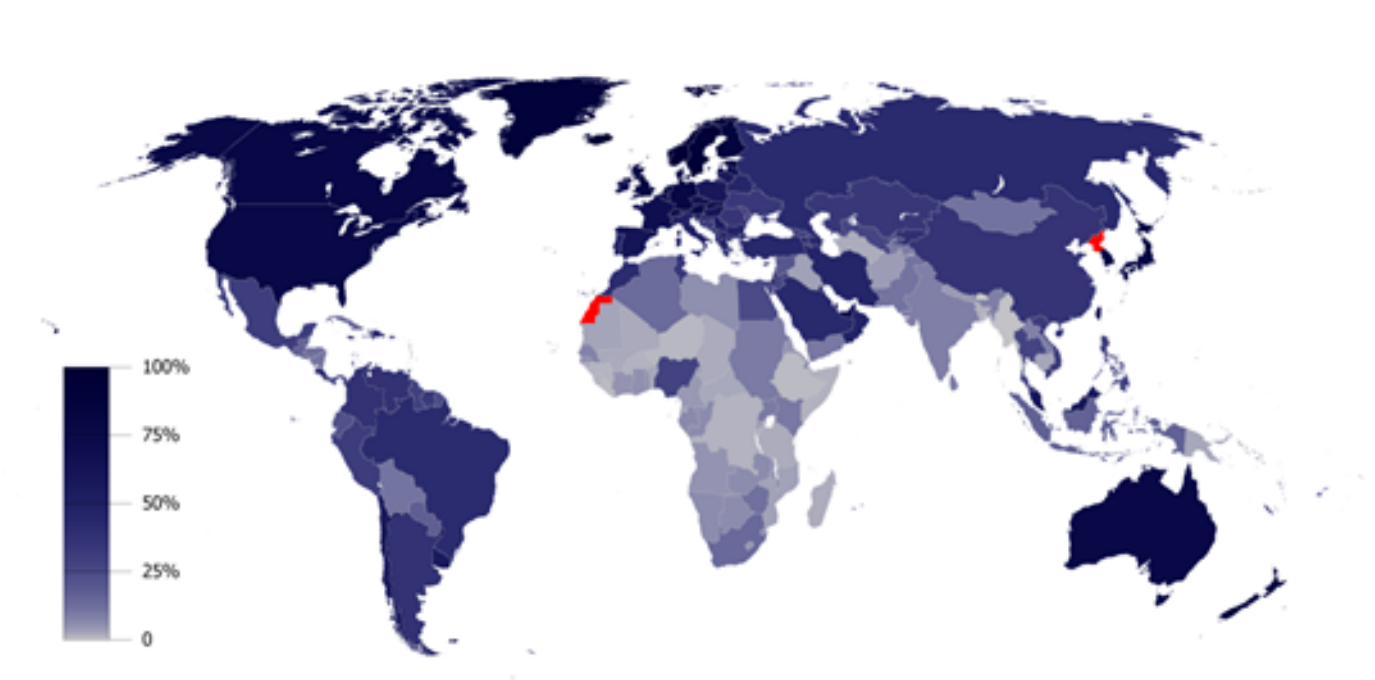
**Keywords:** world economy, IT-industry, digital economy, technology corporations, Starlink.

**Ключевые слова:** мировая экономика, IT индустрия, цифровая экономика, технологические корпорации, Starlink.

Projects like the Internet network "Starlink", which is working on, in particular, the company SpaceX, focused on comprehensive access to the Internet anywhere in the world, but a much more important aspect is to attract new users to the information space. The development and distribution of information and communication devices since the beginning of the 90 - ies of the last century and up to our time has allowed many IT corporations to become leaders of the world economy, these include such companies as Microsoft, Apple, Huawei, Samsung and a number of others. But the slowdown in sales of both smartphones and personal computers (including laptops), primarily due to the saturation of the market with electronics, is a great threat to these companies. As a result, many global corporations are changing their existing business models, switching to providing (often

through their devices) access to various services. As an example, Apple's services include: maps, streaming service, cloud storage, services for buying books, music, applications, etc. This statement is also true for companies such as Google or Microsoft and a number of others.

As for broadband Internet technologies, the introduction of such technologies will attract about 3 billion new users, which will be crucial for many global IT giants. The fact is that the spread of devices among new users will bring huge revenues, and the conquest of this part of the market will allow any company to take a leading position until the end of the new decade. In fact, for many manufacturers of information and communication devices, the main problem of increasing profits and production is to achieve a critical level of fullness of this market. Thus, attracting new customers interested in Internet access will be a key driver of growth among the above companies. A map of the worldwide distribution of Internet users (% of the population) is shown in figure 1.



**Figure 1. Map of the worldwide distribution of Internet users (% of the population)**

As can be seen from the above data, the most relevant markets for the implementation of the project of accessible world Internet will be the markets of South America, Africa, the Middle East, India and China, as well as various island States. According to the International telecommunication Union (ITU), as of June 2017, only 51,7% of the World's population were Internet users, which gives a new giant market for their products. [2]

Other important technologies and solutions in the new decade for IT corporations can be: Big Data (data analysis and processing), AI (artificial intelligence) and IoT (Internet of things).

According to analysts at International Data Corporation and Seagate Technology (one of the largest corporations specializing in the production of hard drives and storage solutions) , by 2025, the global data volume will grow 10 times and reach 163 zettabytes. One petabyte contains 10 to the 21st degree bytes, and most of this data will be generated by businesses, not consumers. [1]

Finding the most optimal solutions in this area can be key for IT companies, as it will solve many problems related to storage, processing, analysis, transmission and use of data, which, in turn, is likely to lead to high commercialization of the solutions found.

Actively developing direction of technology companies is still AI, and although many researchers tend to believe that its future will come much later (the medium-term forecast for the emergence of a full-fledged AI is estimated at 50 years), this does not mean that success in this field will not be

important in the new decade. The emergence and formation of neural networks has allowed a number of corporations (from domestic it is "Sberbank of Russia", "Mail.ru Group") to reduce a number of monotonous operations, which increased the productivity of employees. In the next decade, we expect the development of existing technologies, as a result of which the labor market may disappear such professions as accountant, logistician, estimator, sales Manager, etc., as their activities (or rather most of the actions) can be programmed.

Another important area that can change the list of leaders in the IT industry is the IoT, or Internet of things — is a network of Internet-connected objects that can collect data and exchange data coming from embedded services. Internet of things devices are any offline devices connected to the Internet that can be monitored and / or managed remotely.

Ericsson estimates that in 2018 the number of sensors and IOT devices should exceed the number of mobile phones, the combined average annual growth rate of this segment in the period from 2015 to 2021 was expected to be 23%, by 2021 it is projected that of the approximately 28 billion connected devices worldwide, about 16 billion will be connected in one way or another within the concept of the Internet of things. [4]

According to IDC, the total global investment in areas related to the Internet of things in 2016 amounted to \$737 billion, in 2017-more than \$ 800 billion; by 2021, investment is projected to be about \$ 1.4 trillion. [4]

It is also worth noting that more and more traditional companies are beginning to take advanced technological solutions. A good example of this is the concept of IKEA 2.0-the company's development direction in the development and sale of smart devices. As a result, it can be assumed that some established companies in traditional areas of the economy will try to take their place in the new "information world". As practice shows, the active sphere of development is the IoT.

Also an important development is the Blockchain technology, the use of which is now given special attention by a number of advanced corporations. Due to the fact that this technology has a clear financial bias (it is worth noting that it can be used in other areas), its implementation is usually carried out by IT departments of financial institutions.

The question of the impact of information technologies on other sectors of the economy, and in particular on labor productivity, remains open, since the large-scale introduction of information solutions in the modern way of life brings both benefits and harm. Indicative is the so-called "Google effect", according to which people have become worse to learn and remember information, note that not all researchers agree with this theory. [3]

On the other hand, the issue of the formation of a new financial bubble remains quite interesting. If we take a closer look at the dot-com crash of 2000, the main reasons for which were the revaluation of post-industrial technologies, as well as explicit and hidden financial speculation. The combination of these factors led to the fall of a number of existing services sector, the importance of which was also overestimated. Another important factor was the investment of financial resources in the development of marketing and advertising, while the development of direct products and business processes were given much less attention and money.

Most likely, the next decade will bring us a number of new ideas and concepts in the field of IT, some of which will have a serious impact on both individual industries and the economy as a whole.

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