argeement) in accordance with the rules of conducting business. As these rules can be changed for each contract, committing the transaction can be simplified by eliminating intermediaries and counterparties. This means that transactions can be executed much faster, because the role of intermediaries technology is performed by.

All this interest in the financial services industry to blokchain has one condition: companies need a similar technology with the desired advantages, but not the one that is running Bitcoin. This is because some of its current functions will not work in the context of financial services.

For example, initially blokchain, used with Bitcoin, was free from restrictions accessible to everyone and publicly approved and the integrity of the system was dependent on the users moved by financial incentives.

For all its effectiveness, this approach is unlikely to be suitable for use by financial institutions, as regulators will not allow anonymous users to ensure the integrity of the system. Financial companies would be more satisfied with blokchain with restrictions where you can assign control agents, that will validate and, if necessary, cancel a transaction.

Also, it is not clear to what extent it is possible to adapt the reliability and ease of Bitcoin-blokchain, for financial institutions use how to modify mutually distributed registries and ensure they can be used to support financial services in a wider context. Thus, it is necessary to undertake a lot more research and experimentation.

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OPPORTUNITIES AND PROSPECTS OF AUTOMATION SYSTEMS

Opportunities and prospects of automation systems have realized for a long time. Their development and application received support at the highest level, and the history of their use has more than 30 years. There are software development and has accumulated considerable experience of their application. Chronologically, the first area of CAD implementation, especially in sectors such as aeronautics, where you need to spend a lot of calculations even before the first line will be drawn, were engineering calculations. In 1972, the theoretical foundations of design as a branch of the mathematical discipline called operations research have been developed. It has also developed software for diverse evaluations of the future project: its aerodynamic, aircraft performance,

weight, strength, performance, performance targets, to optimize the design parameters of the product. The next stage in development was marked by the emergence of new graphic tools developed abroad. There was BPIO – basic software and information security, which is a revised system ANVIL 4000. BPIO, along with of AutoCAD, were the products of the company, which have been used for design work to create drawings. Since the beginning of the 90s, when the market appeared commercial software: CADDS 5 from Computervision, I-deas, CATIA, Pro / ENGINEER and Unigraphics. At this stage, the preferences received Unigraphics. In addition, the choice in favor of a foreign system was due to the fact that in the world to meet the challenges of our industry are mainly used, of Unigraphics and CATIA.

Actually electronically was nothing in plants. Thus, the first stage of the application of the system was to replace the drawing board and pencil on the electronic media, in order to release the drawing. Although it could be made based on a three-dimensional model, but the product still remained drawing. The use of CAD-systems for the production of drawings periods of work has not diminished, but increased, almost doubled. Modern design tools require a precise description of the product. On the accuracy of the need to spend additional forces.

There were worked out the basic principles of the organization of work on the electronic layout. These include: maintaining the project "top-down", responsibilities and access rights, the system of signs, the standardization of user workspace IMAN, Department of drawing from the model update to the model requirements. The most important innovations have been associated with the emergence of WAVE – UGS technology, which allows to organize the managed associations between models. GOST standards relating to the use of CAD-systems in the practice of design, often use the concept of the document. That is, everything that makes a designer – an electronic document. However, there are Document Management Systems and Product Data Management. In the first case, the main control object is a document, while the second – a product that we are trying to describe. The product – is something that is produced or can be produced. This means that in our system, the object should appear in some measure in the corresponding real world product. The concept of Teamcenter product complies with an information object – item. The product may consist of other products. To describe this fact applies ratio "consists of". With the object "product" and the ratio "consists of", we can describe the structure of the product. This is the starting point in the electronic product description and standard functionality of PDM-system. The obvious (direct and indirect) benefits from the use of CAD tools, engineering data management, CAD integration with other systems – PDM and ERP. Evaluating the effectiveness of implementation. Improve quality, reduce time and cost. All this is very important, but most importantly, in my opinion, is not the point. The main thing is that the EDO, the

production plant, and all the company as a whole – are actively exploring the latest technology. This means that it is possible not only to create an electronic mock, but also make it using modern equipment capable to accept information in digital form. It creates a modern company with advanced technology, quite competitive on the world market.

Selection of CAD / CAM systems in the smallest degree of a technical solution. When selecting usually dominated by the following factors:

• the company operates and that there is a "standard" in any field of industry;

• some systems use the key partners of the enterprise;

• how the system supplier is wealthy in terms of implementation of current trends, which must adhere to the basic machine-building industry.

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IN-MEMORY DATA GRID

In-Memory Data Grid (IMDG) is a data structure which uses the entire RAM and can be distributed over multiple computers or clusters. This modern technology ensures the main capabilities of an in-memory architecture. Ability to work with domain objects directly is supposed to be one of the essential differences between In-Memory Databases (IMDB) and IMDGs.

Recent engineering achievements both in the field of computers and computer sciences and especially in building 64-bit computers allowed us to use RAM as data storage. The goal of **IMDG** is to provide extremely high availability of data by keeping it in memory and in highly distributed (i.e. parallelized) fashion. By loading Terabytes of data into memory IMDGs are able to work with most of the **Big Data** processing requirements today.

It is worth noting that at the highest level IMDG is similar to a distributed hash map when the objects are stored in a key-value approach. Unlike most traditional systems you are not limited to simple byte strings and may employ any domain object you need. In most cases it facilitates the data grid usage enabling you to interface with distributed data storage as with a simple hash map. This also gives tremendous flexibility permitting you to keep particularly the same object your business logic deals with. Some obvious advantages of this technology are the following:

– enhanced performance;

– the ability to be easily scaled and upgraded;