



WWW.ICAREUM.IO

- ICAR -

“Interactive Constructions and Architecture”

First decentralized online real-time
visualization service

Token pre-sale

Start: 4 May 2018

Оглавление

1.	About ICAR project.....	3
1.1.	Project essence.	3
1.2.	Prehistory.....	3
2.	Problems of the industry.....	4
2.1.	What problems does our service solve?	4
2.2.	Why does the industry need it?	4
3.	Product.....	5
3.1.	Today.....	5
3.2.	After completion of development.	6
4.	Competition. Analysis of the advantages and disadvantages of the ICAR service.	7
4.1.	Direct.....	7
4.2.	Indirect.	7
4.3.	Comparative case.....	8
4.3.1	Process.	8
4.3.2	Result.	9
5.	Analysis of advantages and disadvantages.....	10
5.1.	Advantages.....	10
5.2.	Disadvantages.	11
6.	The market.....	12
6.1.	Global market of architectural services.	13
6.2.	BIM in the global construction market.	13
6.3.	Forecast of the market share of the ICAR service.....	13
7.	Crowd-sale ICAR. Tokens ICAREUM.	14
7.1.	The purpose of selling tokens.	14
7.2.	Basic provisions for the ICAREUM token.	14
7.3.	Structure and distribution of tokens.....	15
7.4.	ICO Timeline.	16
7.5.	Justification of investment.....	17
7.5.1.	Hard Cap.....	17
7.5.2.	Soft Cap.....	17
7.6.	Tokenization and economy of using the ICAR service.	18
8.	Referral and bonus program.....	18
8.1.	During the ICO, a one-level referral program will operate.....	18
8.2.	In addition, for large investors, the following bonus system is provided.....	18
9.	Roadmap.....	19

1. About ICAR project.

1.1. Project essence.

ICAR – Interactive Constructions and Architecture.

It is the first decentralized online service for creating of interactive architectural visualization. ICAR is the service based on modern computer game technologies, allowing to develop interactive visualization of architectural concepts or interior design projects of any scales. It is, in own way, unique online architectural - IT service allowing to convert architectural 3d drawings into a mini-computer game with high specification and realness of materials, textures, environment and natural phenomena with a possibility of manipulations with objects and interactions with them in real time. Our software product allows to visualize not only architectural forms, but also a landscape of the represented land plot – precisely by a topographical survey.

For today, our team faces the challenge of bringing to market the first and so far the only online service that users from all over the world can use to create interactive real-time visualizations themselves. At the same time, it will be quick, easy, without special training in using software and without having at its disposal powerful working computers that are usually needed to render graphics of this level on such a scale

1.2. Prehistory.

Our team comes from the field of design, architecture and engineering. And understanding of all aspects and problems of this industry, based on our own many years of experience - was decisive in our vision of how this industry will develop in the near future. At the end of 2016, our team implemented several architectural concepts, a visual and comprehensive presentation of which was extremely important. In addition, the task was to present these architectural solutions not to an individual customer and a narrow circle of its representatives, but to a wide range of persons interested in the project. At the same time, all people had different specializations and considered the project in terms of their experience and their field of activity. It should be noted that the deadline for this task was more than just short. It was at that moment that it became obvious to us that the usual tools for creating architectural visualizations do not meet the set goals and requirements. Simply few beautiful, sent out by mail and transferred to the customer in the printed form - definitely will not solve the problem to the full. And we made our first attempt to link the architectural project with the computer gaming engine. So that representatives of the general audience could independently use the simplest manipulators such as a keyboard and mouse or a joystick" to "walk" and "fly" through project, to look inside buildings and to have the possibility to look at the concept from their own angle - in a literal and figurative sense. And we did it. And got the expected effect and result. Today, looking back a year ago, we understand how crude, unfinished and non-functional that first project was and how far we have progressed to this point. But even so, a year ago such a presentation of visualization was something new for everyone, previously unseen and making an indelible impression. Due to the hard work of our team throughout the year, our product has so stepped forward and the prospects for its development have gone so far beyond the horizon. And speeding up the approaching of this future and offering the world its advantages and benefits in the very near future - has become our main task.

2. Problems of the industry.

2.1. What problems does our service solve?

- Creation of a comprehensive and maximally informative visualization of the architectural design. Usual video and photo-renderings, that were shot from angles, limited by the choice of designer, do not solve this problem;
- When all the project solutions and 3d models are ready, creating visualization in our service takes much less time. It's about 1-2 days instead of 1 week. By the way, usually, when all drawings are ready and architectural and design solutions are approved - there is very little time left before the deadline of the project. This fact does not allow creating high-quality visualizations in the usual way. ICAR service removes this issue;
- In fact, our product is a natural extension and addition of BIM - design, which is becoming more popular and demanded in recent years. We can even say that if there is BIM - architecture and BIM-engineering, then our product is BIM - visualization;
- Service solves the problem of availability for any user. In order to create visualizations based on our service - it is not necessary to buy a very expensive professional program, to undergo complex training, and to acquire a computer capable to perform all the possibilities of the program.
- The service helps to start the sales of real estate under construction as efficiently as possible and serves as an excellent marketing tool used for remote real estate demonstration, as well as for remote coordination of design solutions for interiors, facades, and landscape.
- Existing supply of real-time visualizations is very few and do not cover even a small share of markets demand, and our service makes it possible to create interactive visualizations by any private architects or staff architects of design companies and architectural bureaus.
- Existing projects are mostly limited to the interiors of some individual apartments or facade solutions of a separate building on a small area, while our service offers the possibility of visualizing huge territories and large-scale construction projects.

2.2. Why does the industry need it?

- The ICAR service is a natural and inevitable step in the development of the visualization industry of design solutions. A few decades ago the need for visualization was realized by manual graphics, which basis was the descriptive geometry. With the development of information technologies, the first programs for creating 3d models and the first software tools for creating visualizations appeared. In these programs, the approach of visualization to the real picture was gradually traced. With each turn of software and hardware development - architectural visualizations also received a new stage of their development, new facets of "photorealism" were opened. When the picture itself did not bring anything new except for improved resolution and texture quality - the post-production stage was popularized in the visualization industry. Here comes Photoshop, After Effect and other software tools for processing and editing photos and videos. The main goal of all these tools and technologies is to create more colorful, realistic and visual presentations. But post-production can take even more time than creating a visualization and follows it the next step. Thus, the improvement of the attractiveness and realism of architectural presentations for today is associated with even longer terms of their production, than earlier and even higher cost, consequently. Another stage in the development of visualization were 3d-tours. This is the ability to navigate through the visualization by fixed

points with the ability to "turn your head" and look around. At the same time, neither colorful processed pictures, nor realistic artistic videos, nor virtual, 3d-tours do not perform the main tasks - to view the project under all possible angles, and if necessary, to make instant changes. Any changes of the general layout of the project or of individual architectural elements leads inevitably to the creation of new visualizations, new computer clips - and this again will take not a day. And our service, created on the basis of the game computer engine, allows you to drag objects directly in the "walk-through" mode inside visualization, swap places, remove what you do not like, add the necessary ones and immediately view the changes you made. And such options as making photo-render or shooting a video-render can be realized as one of plurality of built-in functions.

- When BIM technology came, it became clear that design of all engineering sections would develop in this direction. For today, there are countries where law fixes the design in BIM technologies. In case of our service for creating interactive visualizations, an ideally prepared source documentation is the drawings designed by BIM-technology in specialized programs. And it is quite possible that one of the steps in the development of our service will be the implementation of the connection of changes made in interactive visualization with project drawings. Imagine that you move the house from one place to another, save this change and watch it displayed in the draft master plan! Perhaps it is difficult to imagine now, but after all, what we are doing and proposing today - it was difficult to imagine a year or two ago;
- Another important indicator that such a service is demanded by the industry is the fact that developers of computer game engines develop their products in this direction. New functions and opportunities for creating better and advanced visualizations begin to appear in latest versions and updates of computer game engines. In different countries of the world some companies try to pick up these new trends and start using game technologies to create architectural visualizations. But at the moment, most of them use these technologies for creating beautiful presentation videos. And most of such projects are limited to the interiors of one house or apartment and the visualization of the facades of the building on a very small plot of land. In fact, such an approach does not give any advantages of using gaming technologies over the usual video clips, pictures and 3d tours.

3. Product.

3.1. Today.

To date, ICAR is an offline service of creating an interactive real-time visualization of any architectural projects. Our team has partly reworked one of the most powerful computer gaming engines and started creation of our own interface focused on the architectural engineering direction. That is our tool, which we use to create interactive architectural visualizations. How does this work and interaction with the client look like today?

- The customer sends us the technical task, the original documentation and the description of the nuances of the task;
- We estimate the complexity of tasks and send a proposal for price and timing;
- The customer transfers the prepayment, and we proceed to execute;

- At the end of the work, we record a small screen video with a demonstration of visualization and send it to the customer;
- The customer makes sure that the work is completed, then pays the balance and receives a file with visualization from us.

What is our visualization today and what features and capabilities does it have:

- This is a file with *.exe extension ready to run on any PC that meets the minimum system requirements (as in the case of any computer game);
- Inside the file there is a program menu with its own interface developed by us;
- The selection and launching the project, as well as the simplest settings (as volume, brightness, graphics) runs from program menu;
- The user gets inside the visual environment of the project and sees it from the first-person view, just like in a computer game. But the environment - is everything that was incorporated in his project - the landscape, vegetation, buildings and structures;
- Switching between "Walk" and "Fly" modes is programmed;
- User can, literally, enter buildings from the street;
- There is a possibility to contact technical support by a message or a call through popular instant messengers directly from the menu of the program;
- The camera function is programmed, allowing you to make unlimited amount of hi-res images from any angles.

3.2. After completion of development.

The goal of our project is to release to the world market a decentralized cloud-based online service for creating architectural visualizations. The service will be created on the basis of our development, which exists already today and is described in the previous paragraph. ICAR service will become autonomous and publicly available. Users (engineers, architects, constructors, designers) working on computers with absolutely any performance will just have to register on the service site, open the ICAR working environment through the browser window and use our interface, functionality and directories to create interactive real-time visualizations of any of their projects . We will constantly update and supplement libraries of materials, textures, interactive functions, editing tools. The interaction between the user and the service will look like this:

- The user registers in the personal account on the site, replenishes the balance of his account with the ICAREUM tokens;
- Enters the service and starts a new project, where he independently creates an interactive visualization of the project from the beginning to the end with the help of simple and understandable tools;
- While working in the service, rendering proceeds entirely on the servers of the service, and the user's computer will be used only as an output device. In the course of project development there will be an intermediate cloud version of the service, when all processes will run on ICAR's own servers. After completion of development, these processes will proceed on powerful computers of miners and gamers.
- User will pay ICAREUM tokens for time-packs he chose;
- The user will decide when and how much time he needs to work in the service and at any time can return to work on the project. All data will be saved and backed up.

What will our cloud interface be like and what features and opportunities will it own? First of all, we note that at this stage of the project development the user of the service will turn from the customer of visualization to its developer. And this means that, from the point of using the service, the developer tools will be available in user mode. We will describe here some of the tools that are being developed or planned. Depending on the success of the ICO, the set of these tools and capabilities can grow substantially, and their implementation can approach much closer.

- Loading your own 3d projects into the visualization (any designs, interior, architectural forms, furniture) through the download window;
- Loading the topographical survey of the land plot into the visualization;
- Manipulation with objects filling visualization - both with own loaded 3d models, and objects from ICAR catalogs;
- Creation of summer and winter scenes of visualization;
- Turn on/off real precipitation (snow, rain)
- Change the time of day with the corresponding change in the position of the sun, taking into account the latitude of the location of the project being visualized;
- Local landscape changes;
- Selection of clouds, night starry sky;
- Built-in compass for precise orientation of the general layout and structures;
- Switching on / off sources of artificial light;
- Connect multiple users to the visualization in multiplayer mode and collaborate remotely on the project.
- Function of arranging cameras and recording video from the project.

Next, we'll look at how existing programm solutions and the ICAR service will compete.

4. Competition. Analysis of the advantages and disadvantages of the ICAR service.

4.1. Direct

Under the term "direct competitors», it is customary to understand companies or projects offering to date the same or the most similar services in our own market.

From this point of view, there is no direct competitive service for today. Perhaps, there are a number of similar projects under development in this field. But its too early to say that after the completion of development these services will also become our direct competitors.

Such a conclusion may seem too bold and presumptuous, but, really we very sensibly assess the market situation in this area and take into account that our service in its final online version does not exist yet and is under development.

4.2. Indirect.

Nevertheless, the market is full of offers to create conventional architectural visualizations, 3d tours, VR and AR projects, which are being developed with the help of popular and proven programs in this field. And, despite the lack of even the potential development of these products in something similar to the ICAR service - they are the means by which the industry solves the problem of visualizing

architectural solutions today. Thus, being indirect competitors, these software products create the main competition for ICAR service to date. Here are some examples of programs that occupy the main share of the visualization market today:

Autodesk 3ds Max, Blender, SketchUp, Lumion, Rhino, V-Ray, Maya.

These are only the most important "players" of the market, occupying a share of about 75%, while the remaining 25% are divided among several dozen less-known software products, each of which found its demand and its user.

Important! In general, the following tendencies and specificities should be noted about competition in this sphere. The various software tools used in the visualization market do not simply compete with one another in the struggle for interest and the wallet of the end user, as in the case of other goods and services in everyday life and even in the case of products such as computer games. It's not enough here - just to satisfy the need to visualize somehow the design solutions and to meet the price expectations. Consumers in this market (users of services and various software) compete with each other! And, making a choice in favor of one or another software solution for creating architectural visualization, the engineer or architect chooses the competitive advantages that his presentation will have and that will influence the further success of his design developments. Too abstract? Let's give an example:

4.3. Comparative case.

Two experienced talented architects (or architectural bureaus) are invited to participate in a prospective project to create an architectural concept for a new residential area with its infrastructure, comfortable residential areas, parks, canals and ponds, entertainment and recreation areas, schools and kindergartens, a heliport, medical center, business area, amusement park, stadium and sports grounds. The work is divided equally among architects. Firstly, in order to master the task in term of the investment project, and secondly, in order to determine the way of the further development of the concept.

Each of the architects has his own experience, as well as own architectural ideas that are going to be embodied in this project.

Time allotted for creation an architectural concept is limited. The only way for both architects to present their architectural ideas is to prepare the most detailed visualization of the developed architectural solutions.

At the same time, both use different software to create visualization:

The first one uses Lumion 8 to create the visualization.

The second one creates visualizations using the ICAR service.

4.3.1 Process.

Both architects will pass approximately the same path in this project before the visualization starts. They will both prepare all the necessary drawings, create 3d models of all the objects included in project. Nevertheless, at the stage of creating visualizations, their work will begin to differ significantly.

Architect with Lumion 8.

Day 1-3. Preparation of the scene (formation of the terrain topography, close to the real one, arrangement of 3d models of buildings and other structures and objects envisaged by the project, arrangement of trees and other green spaces according to the general plan)

Day 4-7. Imposition of textures of various materials on all surfaces of models in the project (facades, pavement, floors and terraces, decoration of interiors, etc.), installation of weather conditions, illumination, time of day.

Day 8-15. The rendering process. Highly depends on the power of the computer. With a powerful computer (costing from \$ 3000), rendering of such a large project can take 7 days. On average power machine - about 10 days. And on a weak computer (costing within \$ 1000), at all you can not cope for 2 weeks. By the way, creating a single high-quality photo-rendering on a weak computer - takes about 24 hours.

Day 16-18. Installation of a full presentation video (trimming and gluing video renders, creating a single video stream for final video presentation)

Architect with ICAR service.

Day 1-2. Loading a topographic survey of a land-plot into the software environment of the service. The landscape relief will change automatically. Preparation of the scene (arrangement of 3d models of buildings and other structures and objects envisaged by the project, arrangement of trees and other green spaces according to the general plan)

Day 3-4. Imposition of textures of various materials on all surfaces of models in the project (facades, pavement, floors and terraces, decoration of interiors, etc.), installation of weather conditions, illumination, time of day.

Day 5-6. Adding interactive features and capabilities (opening doors, turning on lights, pop-up comments, etc.). The visualization is ready for demonstration. The used game technologies allow creating real-time visualization excluding overextended rendering process.

4.3.2 Result.

What will the presentation of architectural concepts look like in both cases?

The first architect will be able to:

- Share his video on the website or YouTube channel, and also upload to the file sharing service and give access to interested persons.
- For a live public presentation - he will be able to bring the video to the big screen and accompany it with his author's comments. Such software tools as Lumion, 3ds Max and other similar software allows you to create quite beautiful impressive animated video renders with high detail and image quality. But what you will see in the final video - is exactly what the architect chose and from angles, which are important from his point of view. This is the video with limitations in its length and informativity.
- In case when viewers are not satisfied with the information they see, or there will be a proposal to cover in more detail certain sections of the project, or to make changes jointly developed at the presentation, - this will mean a few more days of work for the architect. First, he will have to make changes to the project, and then restart the rendering, which again will take as many days as when creating the initial visualization.

- If necessary, to make separate renderings (photographs) of some sections of the project, the architect will take at least one day (on a powerful computer)

The second architect will be able to:

- Conduct a remote presentation: give the access keys to this project on the ICAR cloud service and to literally "walk" the tour around the project in the multi-user mode, giving in the video-conference mode his comments on the developed design solutions.
- Conduct a live presentation on the big screen for the general public. The essence will not change. The author of the project, with the help of the simplest manipulator such as a game joystick or keyboard and mouse, can bypass or fly around the whole project.
- In the course of this "excursion" pay attention to everything that causes interest in the audience. Go back to what has already been shown and look from a different angle and approach.
- Walk inside those buildings whose interior design is provided for in the project.
- Right in the walk mode change the time of day, spend the sunset and meet the dawn from the project's specific locations.
- In case there are suggestions to bring any changes to the concept (to move, remove or change any objects) during presentation- the architect will do it immediately, without departing for revision. It will not even take a need to close the interactive visualization - just few clicks and moves of a mouse. In this case, the quality and realism of the image will not be inferior to the high-quality video render of the first architect.
- If you want to make single renderings (still pictures), the architect will do it using the built-in camera function. High-resolution images are instantly captured and immediately saved on a computer. At the same time, architects and spectators computers may be of any productivity.

5. Analysis of advantages and disadvantages.

Let's sum up the case described in the previous paragraph. We will not focus on analyzing the disadvantages of existing software for architectural visualizations. Since, there is no serious alternatives, existing services perfectly cope with the tasks of visualizing architectural projects and compete only among themselves. Let's describe the advantages and disadvantages of the online ICAR service, which it will possess in comparison with existing solutions.

5.1. Advantages.

- 3 times faster. Technologies of the game engine Unreal Engine 4, used in the development of the ICAR service, are based on completely different principles and algorithms of operation than all currently used modeling and rendering software. Thus, a multi-day rendering stage is excluded from the process of visualization development . And, as we have seen, this can save 1-2 weeks depending on the scale of the project. And that is pretty much for the terms that are set for the design.

- Remote presentation. Online service ICAR will allow architects to connect other users to their interactive visualization. Users will be able to view the project in an arbitrary mode directly each from his own working place.
- Depth of viewer's immersion. Due to the visualization pass from the first person and the possibility of free movement through the project, the target audience of the project receives the fullest and most comprehensive information about the project and gets deeply immersed into the presentation.
- Interactivity. The functionality of the service, allowing to make certain changes to the visualization in real time, greatly simplifies the process of approvals and finalizations of the project and does not require additional time for adjustments.
- You do not need a powerful computer. Since all graphic processes when creating visualization via the ICAR service will occur first on a cloud server, and then generally decentralized - there is no need to purchase a powerful computer equipped with a processor, video cards, RAM and hard disks of the latest generation.
- Does not require the purchase of software. The use of architectural visualization service ICAR does not require the purchase of expensive software. Only payment for the time of using the online service.
- Does not require training. Service ICAR, created on the basis of gaming technology, will have an intuitive and understandable interface, accessible to any user. This is similar to learning how to play a new computer game: a couple of hours and you figured it out.
- Cooperation with BIM. Engineers who use BIM technology to develop their projects (such software as Autodesk Revit and Autodesk AutoCAD Civil 3D) will have a tremendous advantage in cooperating with the ICAR service. They will get the opportunity to reduce their labor costs to create visualization in dozens of times! Named above software automatically generates the 3d model of the design when developing the drawings. And it can be not only models of buildings, but also a 3d model of topographic survey. These models are great for converting to the ICAR service. Thus, engineers who work with BIM projects and use the ICAR service, in fact, avoid two very time-consuming and very long steps: modeling and rendering. Thus, having much more time for deeper elaboration of the project itself. Consequently, they gain an undisputable advantage over competitors.

5.2. Disadvantages.

At the moment, ICAR service, in its present form (visualization is created by our team in offline order mode), has the only drawback - this is the requirement of the performance of computers on which the visualization will later be launched. But we can still make video and photo renderers from visualization and send them to customers with absolutely any computers.

ICAR's cloud-based service, when it is released, will mostly have not disadvantages, but nuances. More about them:

- Fee for use. ICAR service will be implemented on a fee basis. After the release of the cloud server version of the service, users will pay for the time of using the server service. An online useful time will be paid. So if you simultaneously use one project by several remote users, payment will be charged for the presence of each user in the online service, since the server load will increase multiply depending on the number of online users.

But! Nevertheless, the estimated hourly cost of using the service, and as a result, the total cost of the ICAR service for the entire project - will not be large. Especially against the backdrop of the fact that the service will save architects from forced spending for expensive upgrades of hardware. And for a year of work it will save time, sufficient for performance of several additional projects, which he simply did not have time to physically execute, using the usual tools.

- Specific requirements for source documentation. In order to work with ICAR service really simple and fast, and make results accurate and qualitative - it is necessary to comply with the same requirements for the 3d models loaded into the service. If you haven't paid proper attention for preparation of 3d models, then working with such models in the architectural service ICAR can be seriously complicated. At the same time, the software tools used today by architects and designers to create visualizations are not so critical to the quality of the source documentation. Therefore, there is no strict discipline in the issue of the quality and accuracy of the drawings and models among a sufficient large number of users of such services at the moment.

But! 1. The website of the service will contain simple and understandable text and video instructions on the basic requirements for the source documentation. Their implementation is not difficult, you just need to pay attention to these requirements from the very beginning, so that later you do not have to correct anything.

2. As already mentioned, the ideal initial documentation for working with the ICAR service is BIM drawings and BIM models. The previously described programs for creating BIM projects themselves report errors in the drawings and, simply, do not allow to generate a 3d model in the presence of inaccuracies and errors. And, as the world market for design and construction moves precisely along the way of popularization and more profound implementation of BIM technologies, we believe that this feature of our service supports the fundamental principles of BIM-design: maximum accuracy and informative.

Thus, the shortcomings of the future service described above are just nuances, the casual relationships of which are clear and explainable.

6. The market.

In this section, we will look at some analytical and statistical data that individually and collectively are indicative of the very great potential and capacity of the architectural visualization market.

As an introduction to the topic, we note the following. As already mentioned in paragraph 1 of this document, our team began this project after years of experience in architectural and construction industry. Personally, we do not have any doubts that such an online service for the creation of interactive architectural visualizations is needed by the global architectural industry and will be demanded extremely. After all, we began our first development precisely because of the need to implement a multitasking presentation of one architectural project. The idea of such a project came to us, first of all, not as a business idea, but as an understanding of the need and prospects of such a service for the presentation of our own architectural designs.

But let us turn to other data that support our theory. Further in this section we rely on the data of analytical reports and forecasts prepared by the world's largest market research company "Research and Markets", (Dublin, Ireland) <https://www.researchandmarkets.com/>

6.1. Global market of architectural services.

Our online service for interactive architectural visualizations ICAR is aimed at the audience of experts in architecture from around the world. Therefore, we will consider global indicators.

- So, according to the analytical agency, the global demand for architectural services in construction and project management for 2016 amounted to \$ 107.61 billion.
- And, taking into account the compound annual growth rate (CAGR) of 15.45% by 2025, will amount to 391.97 billion dollars. According to our own, as well as world experience, the share of the cost of architectural visualizations in the price of design services is about 5%.
- Thus, we have every reason to assume that the market of architectural visualizations amounted to \$ 5.38 billion in 2016, and by 2025 will grow to \$ 19.6 billion.

To determine the possible market share that the ICAR service will be able to take, we suggest considering a pessimistic scenario where only companies and architects using BIM technologies in the design can become potential users of the service in the near future.

6.2. BIM in the global construction market.

According to analytical research and surveys:

- 41% of companies in the market do not use BIM technology in their work,
- 29% do,
- 20% gradually move to BIM
- 10% are going to start using in the next 12 months.

Since we set ourselves the task of investigating the pessimistic forecast of the market share of the ICAR service, we assume that:

- the last 10% will go to BIM longer than planned, and after going through, they will not be able to start using all the advantages of this technology quickly and in the observed period they will not become users of our service;
- 20% of companies that are in the BIM launch stage, for the same reasons, will not become our customers in the foreseeable future.
- There remain 29% who use BIM in their work today, which means they have enough experience to take advantage of all the benefits that this technology gives and, therefore, will become our most real audience.
- Also, let's assume that the share of BIM companies in the market of architectural services will not change during the period under study. (although, it is quite obvious that it will increase and at some point almost completely displace simple 2D drawings)

6.3. Forecast of the market share of the ICAR service

Let's compare the analytical data and forecasts from the two previous paragraphs and get:

- The share of the market of architectural visualizations, created by companies that develop BIM-projects in 2016 was \$ 1.56 billion.

- Taking into account the growth of the architectural market in the aggregate CAGR indicator of 15.45%, the market share of such visualizations by 2025 will be \$ 5.68 billion.
- As previously described, about 75% of the software market for visualization development is divided between 7-8 major software vendors. Proceeding from this, we will make the assumption that ICAR service for the period under study will be able to occupy 10% of this market.
- We get a pessimistic forecasted annual demand for the use of ICAR service by 2025 in the amount of \$ 568 million.

7. Crowd-sale ICAR. Tokens ICAREUM.

7.1. The purpose of selling tokens.

To finance the implementation of the ICAR multi-user cloud service launched by our team, it was decided to conduct a crowdscape campaign in the second quarter of 2018 by token crowd sale.

The main directions of spending the funds raised at the ICO:

- Acquisition of server hardware and data warehouse equipment;
- Lease of cells in the data center to accommodate server and storage equipment;
- Development and support of a cloud-based service platform;
- Marketing activities to attract the attention of the global architectural and construction industry to the new ICAR service and its popularization in professional circles;
- Development of a full-fledged mobile application service;
- Development, implementation and scaling of a decentralized ICAR service platform.
- Maintenance of the service infrastructure prior to reaching self-sufficiency.

7.2. Basic provisions for the ICAREUM token.

- Token ICAREUM (ICRM) is a digital utility smart contract on the Ethereum platform;
- The main purpose of the token is a means of payment for the time of using the cloud-based ICAR service;
- Emission of tokens will be made at a time and amount to 100,000,000 ICRM;
- All unsupplied tokens will be burned after the completion of ICO, counting and charging bonuses.
- The first version of the ICAREUM token will be replaced (or updated) with a new one in the process of developing the service and clarifying all the ways to use it on the ICAR service platform. The replacement (update) will occur after the completion of the ICO and before the start of token payments for using the service.
- The exchange of primary tokens for new ones will be made one to one without any losses from the token holders. The structure of the token will be changed (updated) only in terms of the development of the service and how the token works on the service. The fundamental principles of the existence and development of the token, laid down in this document, will not be affected significantly and fundamentally.

7.3. Structure and distribution of tokens.

The issued 100,000,000 (one hundred million) ICAREUM tokens will be distributed as follows:

1. Token pre-sale 3% (3 million ICRM)

- 3% (3 million ICRM) are sold on closed pre-sale at a price of \$ 0.2 per ICRM;

2. ICAR platform reserve 7% (7 million ICRM)

- Frozen and distributed among the founders and staff of the project.
- Will be unfrozen only after the service is started and used only as a minimum stock of tokens for sale to users of the service who do not have experience in operations with crypto-currencies.
- Some of these tokens may arrive at the exchange, but not earlier than 6 months after the launch of the paid ICAR service.

3. The main token-sale is 80% (80 million ICRM)

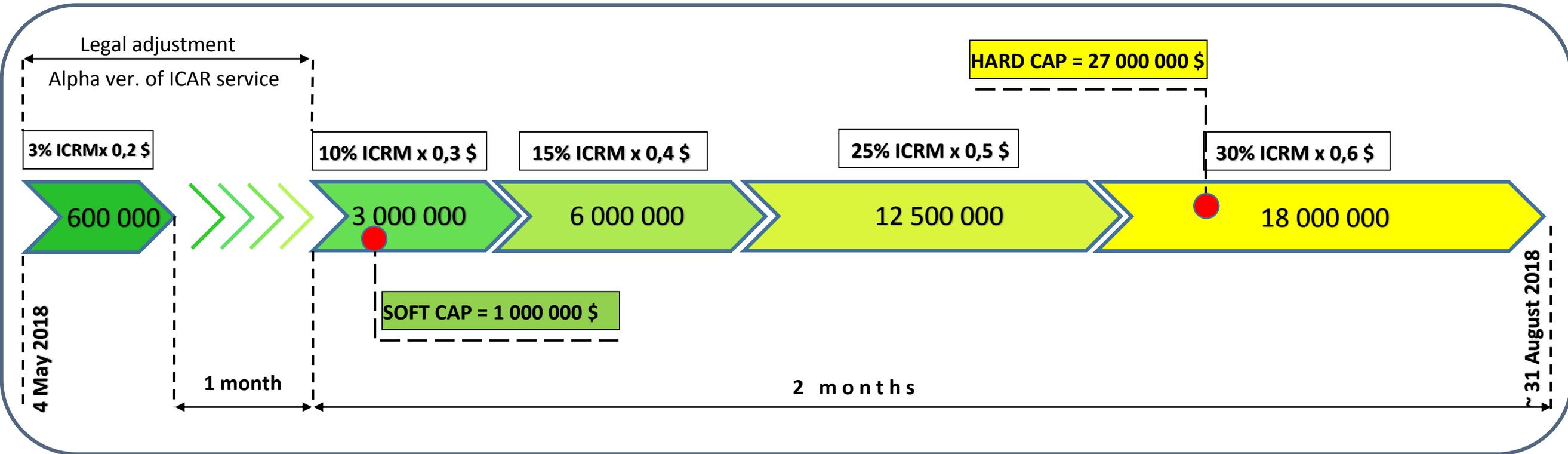
- 10% (10mln ICRM) are sold at a price of \$ 0.3 per ICRM
- 15% (15mln ICRM) are sold at a price of \$ 0.4 per ICRM
- 25% (25mln ICRM) are sold at a price of \$ 0.5 per ICRM
- 30% (30mln ICRM) are sold at a price of \$ 0.6 per ICRM

4. Bonus 10% (10 million ICRM)

- 2% (2mln ICRM) bounty campaign
- 3% (3M ICRM) marketing
- 5% (5 million ICRM) team partners

7.4. ICO Timeline.

- The volume of the token-sale is 83% of the emission of ICAREUM (ICRM) tokens.
- 1% = 1 million ICRM
- 83% of emission = 83 million ICRM
- The main time count will begin after the completion of the pre-sale of 3% of the tokens, which is not limited in time.
- The remaining stages inside the token are also limited only by reaching the limit of ICRM tokens sold at this stage and are not limited in time.



7.5. Justification of investment.

There are always many varieties of how the development of a new IT product will progress, depending on the various nuances and obstacles that can not be fully envisaged. All developers of software and computer games know this.

As for the online ICAR service aimed at users from all over the world - depending on the size of the collected investments - we will be able to scale our presence in specific regions and increase our presence in others. Therefore, it makes sense to describe what we can implement in the case of collecting soft cap and hard cap.

7.5.1. Hard Cap.

When collecting a maximum amount of \$ 27 million, the project cost allocation will be as follows:

- \$ 14 million - the cost of GPU servers with SSD data storage, designed for 50,000 users in different regions of the world, with 10,000 simultaneous online sessions, with the ability to scale;
- 100 thousand \$ - legal adaptation of the work of the investment fund and the service itself;
- \$ 1 million - marketing during the ICO;
- \$ 2.5 million - marketing of the ICAR service;
- \$ 2 million - development of a server version of the service;
- \$ 2 million - development and debugging of a decentralized service platform;
- \$ 1.35 million - license fee Epic Games 5% of the amount of collected funds;
- \$ 1 million - service and maintenance of servers (per year);
- \$ 1.8 million - staff and top management salaries (per year);
- \$ 1.25 million - reserve funds of the platform.

7.5.2. Soft Cap.

If collected funds are only \$ 1-2 million, then the launch and geographical coverage of the service audience will be limited to one region from which the main investment was directed. And their distribution will look like this:

- 50 000 \$ - legal adaptation of the work of the investment fund and the service itself;
- 700 000 \$ - the cost of GPU servers with SSD data storage, designed for 5000 users with 1000 simultaneous online sessions, with the ability to scale;
- 100 000 \$ - marketing ICO
- 100 000 \$ - marketing of ICAR service
- 50 000 \$ - license fee Epic Games
- 130 000 \$ - development of the server version of the service
- 70 000 \$ - service and maintenance of servers (per year)
- 450 000 \$ - staff and top management salaries (per year)
- 100 000 \$ - reserve funds of the service platform.

All other variations in fees will only affect our presence or absence in new regions and the maximum number of users in certain regions.

7.6. Tokenization and economy of using the ICAR service.

- After the release of the cloud service ICAR, the only internal currency for payment for the use of the service will be the ICAREUM token.
- The pricing of the cost of using the ICAR cloud-based architectural service will be fixed in USD per unit of time. Approximately it will be \$ 6 for 1 hour of using the ICAR service. The exact cost will be determined after passing the alpha and beta testing
- Service users who did not participate in the ICO and do not hold ICAREUM tokens will be able to purchase a token on the ICAR service platform or on Internet exchanges from other token holders.
- Regardless of the exchange rate, we accept the ICAREUM token for payment at a rate no lower than \$ 1 per ICRM. If the average exchange rate of ICRM exceeds \$ 1, then our exchange rate will correspond to the exchange rate.
- Tokens of the team will be sold exclusively to users of the service on the service platform. The selling price will start from 1 \$ for 1 ICRM and further will be calculated as: the exchange rate + 10%
- Purchased tokens will be able to pay service time packets at a rate of at least 1 ICRM = 1 USD. Or at the exchange rate in case it is above \$ 1 for 1 ICRM.
- All unsold tokens will be burned.
- Investors of our ICO who are not users of the service will be able to contact us for the purpose of selling their tokens on our platform at a rate of at least \$ 1. Tokens will be sold in the order in which requests for accommodation have been received.
- Monthly, we will allocate part of the profit for the redemption of tokens from the exchange and their subsequent burning. The burning of the tokens will continue until the total number of tokens reaches 20 million.
- As the number of users of the service and the project's profit increases, the number of free ICRM tokens will constantly decrease, while demand for them will grow continuously. That will inevitably lead to an increase in the cost of the token.
- At the same time, taking into account that the cost of using the service will be fixed in USD, the market value of the token will not affect the price of the service itself. Simply 1 ICRM will pay for more packets of time with the growth of its rate.

8. Referral and bonus program.

8.1. During the ICO, a one-level referral program will operate.

- For recommending a new investor to take part in our ICO - the recommended one will receive a bonus of 5% of the amount of tokens purchased by the new investor. The corresponding amount of ICAREUM tokens will be credited to the agent in his personal account and transferred to his wallet immediately after the completion of the ICO.

8.2. In addition, for large investors, the following bonus system is provided.

When purchasing ICAREUM tokens for the amount of:

- from \$ 50,000 – token bonus in the amount of 10% of the purchased amount of ICRM;
- from 100.000 \$ - bonus of 15%;
- from 200.000 \$ - bonus of 20%;
- over 1.000.000 \$ - individual bonus conditions are possible.

ICAR ROADMAP

