PRESENTATION OF BOLT VIRTUAL

eXtended Reality Software Development Studio

Bolt Virtual is an innovative company and the market leader in the field of emerging extended reality technologies in Greece. It is the first company to bring immersive virtual reality to the Greek market with 'The VR Project', which in August 2016 was the first VR lounge in the country.

Bolt Virtual is a XR software company creating applications in the fields of education & edutainment, cultural heritage, tourism products & destinations, gaming, and marketing of products and services. Bolt Virtual is specialized exclusively in XR services, while being the only Greek company that combines development of tailored-made VR software, organization of VR events at the chosen premises of its customers, XR experiences exploited commercially by Bolt Virtual and extensive research activities.

One of the major competitive advantages of Bolt Virtual is that the company has tested the majority of commercial applications and its own software with thousands of real customers of all ages and for many different purposes, therefore providing to its personnel an in-depth understanding of how to design & develop engaging applications that cater to the needs of specific target groups and use cases.

Products, services, experience and research interests of the company include:

A. Participation in research XR Projects

In addition to the abovementioned field, the research interests of the company also include:

Developing XR applications for tourism and culture marketing: applications & games to promote cultural heritage, to promote tourism products & destinations, applications that allow artists and artists to depict their work in virtual reality

Developing XR applications for product marketing: applications to promote products and services in a virtual reality environment for companies that want to diversify the marketing mix of their products and services and gain a comparative advantage over competing companies.

VR in education: development and design of integrated interactive educational applications in VR, with a strong edutainment and gamification component.

Participation in European and national research Projects:

1. Horizon Europe Research and Innovation Project under the topic **"Next Generation eXtended Reality" (Xtreme)**. The Project will be implemented by a consortium of 14 partners from 9 EU countries that include 4 European Universities, enterprises in the mixed reality sector and relevant public institutions. Xtreme will develop a human-centered mixed reality (MR) solution that, instead of requiring the participant to be physically present in the venue, brings concerts and art performances to a remote location via MR technology while retaining the immersive experience and giving additional dimensions to it by integrating real and virtual contents. Our solution will allow for virtually shared, realistic experience together with selected social circles of the user.

2. Horizon 2020 ICT55: The **'BRIDGES- A hyBRID (physical-diGital) multi-user Extended reality platform as a stimulus for industry uptake of interactive technologieS'** project aspires to bring a holistic solution to the market for (remote and co-located) group interaction in room-scale immersive eXtended Reality (XR) environments that blend the physical and virtual space. To meet the needs of the market, BRIDGES will follow a user-centered approach piloting in the areas of industrial training and informal learning/edutainment. XR technology will be tested in real- world conditions into three different settings: the firefighters training in the international airports of Berlin and Athens, and the experience of informal learning at the Foundation of Hellenic World. Bolt Virtual is developing the latter. The 9 Project partners include the University of Athens (NKUA), the Technical University of Vienna, Maggioli Group, the Foundation of Hellenic World, the Airports of Berlin and Athens and European SMEs https://www.bridges-horizon.eu. Ongoing Project.

3. Erasmus+ Project: **'VR in School Education'**, Project Partner http://vrinschooleducation.eu, responsible for the development of an online, multiplayer, and interactive immersive VR application simulating the work of the European Parliament for European youth council meetings.

4. Erasmus+ Project: **'Support Mobility Activities Running Through Tech -S.M.A.R.T.T. Youth Center'**, responsible for the development of an online, multiplayer, and interactive VR application allowing the Project participants to gather, interact and receive training in an immersive virtual environment. Ongoing Project.

5. Greek Research Program 'Research-Create-Innovate II': **'Living Monuments: Development of virtual reality exploration games with immersive reconstruction of important monuments of cultural heritage'**. The aim of the project is to promote Greek cultural heritage through the development of exploratory virtual reality games. The project will develop a methodology that will lead to the creation of VR applications that allow virtual immersive exploration and gaming in environments reconstructing the original form of important cultural heritage monuments of Greece, through a combination of historically accurate depiction and gamification techniques, incl. the development of virtual tour applications for 3 cultural heritage sites with great importance and historical value. The Project is implemented 100% by Bolt Virtual. Ongoing Project.

6. Greek Research Program 'Research-Create-Innovate II': **'Innovative Collaboration Cooperatives- Film Cluster".** The objective of the project is the creation of an Audiovisual Components Toolkit (Film Cluster Toolset - FCT), through which all stakeholders and businesses will be able to have access to specialized knowledge and tools related to modern forms of production of audiovisual material. Through the FCT and their contribution, the partnership operators will have the possibility to create a set of products and services that will allow the development and expansion of their business activity in the area, through the added value offered by the innovative actions of the proposed project. Ongoing Project.

7. EU Life Environment Project **"Life GRECABAT"**, responsible for the creation of an immersive experience simulating the discovery of unexplored caves by speleologists https://www.lifegrecabat.eu/el

B. Virtual reality software produced by Bolt Virtual

Bolt Virtual is a specialized virtual reality software company for most of the top-end VR systems, either tethered or standalone. Some of our products:

- **"Pirates on Deck"** a game for Oculus Rift, HTC Vive, Windows Mixed Reality and the Oculus Quest. It is sold in Steam for individual users, through Springboard VR for the arcade operators and in the Meta App Lab for Meta Quest users.
- **"Harvest Simulator VR"** is a casual farming game built exclusively for VR Headsets where you can cultivate your crops and grow your farm. The software is sold through Steam and can be played exclusively in virtual reality systems Oculus Rift, HTC Vive and Windows Mixed Reality.
- **"Archaeologist VR"** puts the user inside an excavation site of an ancient Roman city. The user has to explore and discover the ancient artefacts that are buried inside the site and by doing so get acquainted with an archaeologist's tools. The software was used as part of the educational curriculum of Bolt Virtual when schools visited 'The VR Project'. It is a software that can be played exclusively in virtual reality systems Oculus Rift, HTC Vive and Windows Mixed Reality.
- **Development of XR marketing applications:** Bolt Virtual is cooperating with private companies intending to use the emerging technologies of virtual reality in the marketing & promotion of their products & services. The company has developed at least 10 virtual reality applications for mobile VR systems and for hi-end VR systems. These include:
    - (a) VR application for **COSMOTE**, the largest telecom provider of South East Europe- owned by Deutsche Telekom, promoting their 'smart home' hardware and services
    - (b) Marketing VR game for the promotion of the new terminal of the **Athens International Airport**
    - (c) VR experience for one of the main electricity & gas providers of Greece, **Protergia**, showcased at the Thessaloniki International Fair 2019
    - (d) Sales & marketing VR app for **Kleemann Lifts**, large manufacturer of commercial lifts
    - (e) VR game for **Sarantis S.A.**, one of the largest consumer-goods companies of South East Europe, for advertising its line of consumer insecticide sprays (Teza)
    - (f) mini VR game for one of the largest industrial refrigeration companies of Greece
    - (g) Marketing VR application for **Gruppo Cucine**, kitchen design company

    All the above software (and others) was fully developed as in-house productions of Bolt.

C. The VR Project

'The VR Project', a trademark of Bolt Virtual, was an immersive entertainment centre located at the centre of Athens and operating from 2016 until the advent of COVID in 2020. The site was visited by thousands of individual customers, by over than 150 school classes in the framework of school educational visits, and many companies organising their corporate events.

D. Organization of VR events

Additionally, dozens of external events have been organized with the our portable VR equipment for corporate and retail customers, as well as for festivals, conferences, schools and tutorials, using either commercially available applications, or general-purpose applications developed by the company, or custom applications created for that particular customer.