

So far, it appears that companies and investors are underestimating the medium-term market potential for the enterprise segment of 3D virtual worlds. For this reason, we decided to present this report covering some of our research into the space, since we believe investors would be well served to focus on this area now. The following are a few reasons supporting our belief that this sector will be more investable sooner than expected:

1. **Corporate users are experiencing high ROI from the technology.** Nothing pushes enterprise technology adoption better than a positive profit impact. Corporate users are saving real dollars right now and liking it.
2. **The technology is now more engaging and scalable.** During the past year, a number of offerings have overcome the poor scalability and low visual quality that characterized earlier efforts. Now it works.
3. **Participants like it.** They are discovering that events in virtual worlds are actually enjoyable and far better than traditional web or video conferencing. The ability to interact with other attendees is more natural and fun. It's about **shared experience versus shared information.**

In short, the solutions are working much better, company decision makers are pleased with the cost savings, and users are discovering the unique benefits of these environments and enjoying their use over substitutes like conference calls and web/video conferencing. We believe these trends will intensify and accelerate growth in this area just as they have in the many technologies that have preceded it: phones, computers, the Internet, and mobile computing.

The convergence of the real world with virtual worlds is creating a multitude of new, 3D business applications. This report provides an overview of the current landscape. Activity in this space is accelerating which makes staying abreast of the new developments a serious ongoing undertaking. The market is in the early stages of a transformation led by the convergence of the real world with virtual worlds that will change the way we work. We refer to this convergence as “Real VR.” Below, we provide a list of some of the 3D virtual world’s emerging providers, as well as a summary assessment of their capabilities.

## VIRTUALLY THERE

Enterprise 3D virtual world applications have proliferated during the past several years. What began as fun and games is becoming a serious business with a lot of upside. A host of new, innovative 3D virtual world applications have been introduced to the marketplace targeting the enterprise. Some of these applications have been created by established technology companies, such as IBM (IBM), Sun Microsystems (JAVA) and Nortel (NT), while others are being developed by emerging players, such as Forterra Systems, ProtonMedia, Qwaq and Unisfair. The following is a list of selected companies that have developed, or are developing, 3D virtual world enterprise applications (Note: The companies are listed in alphabetical order, along with their core product.):

- [Active Worlds](#)
- [Altadyn 3DXplorer](#)
- [Cube3 Officepodz](#)
- [Forterra Systems OLIVE](#)
- [IBM Sametime 3D](#)
- [Linden Lab Second Life](#)
- [Multiverse](#)
- [Nortel web.alive](#)
- [OpenSimulator](#)

- [ProtonMedia ProtoSphere](#)
- [Sun Microsystems Project Wonderland](#)
- [Qwaq Forums](#)
- [Unisfair](#)
- [VastPark](#)

The enterprise 3D virtual world applications market is already competitive as vendors vie for early leadership positions. We expect many more products to be launched in the future, along with a host of supporting 3D technologies. However, 3D technology is in its infancy today, and several of the products discussed in this report are only in their beta stage of development. Before we delve deeper into the aforementioned companies and their 3D virtual world enterprise applications, we might ask the following questions: Why pay any attention at all to this space? Isn't the virtual enterprise old news? Aren't there a host of applications already in the marketplace that facilitate the functioning of virtual enterprises?

Although there are currently more than 1 billion people using what we refer to as Internet technologies, this usage almost exclusively entails exchanging messages, browsing content, and posting and reading static content. Investors are aware of excitement and valuations afforded to companies like Facebook that are simply aggregating a broad set of information types and enabling better sharing. We also see the seeds of real-time, rich Internet applications in the form of video. But these are just the proverbial tip of the iceberg. The current Internet experience is stuck in a bandwidth-constrained, 2D environment, which is far more limiting than the rich, interactive, 3D virtual experiences that we believe will emerge in coming years. These immersive 3D experiences will be vastly superior to anything in 2D.

As we noted in our April 6 Real VR report, the technologies behind the Internet and Web are growing more powerful with advances in hardware and software. This allows people and companies to utilize and employ more powerful applications in their jobs and lives. The bottom-line justification for 3D virtual enterprise applications is this: **They have the potential to boost productivity and profitability.** There have been efforts by researchers to quantify the boost to productivity and profitability associated with 3D virtual enterprise applications. This activity is noteworthy and important, but it should be noted that experience with powerful technologies shows it often takes many years for the full effects to be seen.<sup>1</sup> There is also a quantifiable “green” benefit associated with the growing use of these applications in the enterprise – a benefit that appears to be increasing in value in both financial and social terms.

We would answer the other two questions by noting that the virtual enterprise has come into prominence as the Internet has evolved over the years. It is true the virtual enterprise is not a new thing. However, **the productivity and profitability of virtual enterprises have been constrained by the relatively primitive nature of available applications and the underlying hardware, software and networking infrastructure.** Advances in technology will create powerful enterprise applications that allow people to collaborate and interact in much more productive ways than they do today, propelling the virtual enterprise to another level. That is one of the tenets of our Real VR thesis.

For example, we recently participated in a forum in Second Life that allowed us to meet and interact with business people from all over the world. All the participants in Second Life were gathered in the same room, and many were interacting with each other. The people who listened to the forum over the 2D Web were able to receive only the information being spoken, and they missed out on the rich interaction that was taking place in Second Life. The 3D Web environment fosters collaboration in ways that are far superior to 2D Web environments, and that is one of the key attributes of 3D virtual worlds. As we noted in our April 6 Real VR report, the volume of

**3D virtual world technology enables people in disparate physical locations to come together in one place for the purpose of collaboration and communication, with the goal of boosting productivity and profitability.**

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<sup>1</sup> For a good discussion of this, see: “*Technological Revolutions and Financial Capital*,” by Carlota Perez. Edward Elgar, 2002.

interactions is likely to soar in the future in parallel with the evolution of Real VR. The types of networking activity seen with Facebook, MySpace, LinkedIn and other such products are primitive to what is likely to be seen in the future. Real VR technology opens the door to new business models and new ways for organizations to network and collaborate. The key difference will be a **visceral shift that comes in the form of shared experience versus the sharing of information.**

To answer the final question above, we would point that there are a host of applications in the marketplace that facilitate virtual organizations. We use some of them in our business today, as do millions of other people. Many of these technologies have allowed people and companies to increase productivity and profitability in ways not conceived only a few decades ago. However, we believe it is fair to say that the applications in today's market are relatively crude compared to what will be unveiled in the months and years ahead. We believe they will evolve in much the same way the current Internet evolved from very basic HTML pages (Netscape) to "dynamic" websites (Yahoo!) to "e-commerce" (Amazon.com) to the "platforms" (Google) of today.

Virtual world technology enables people in disparate physical locations to come together in one place for the purpose of collaboration and communication – more effective collaboration and communication, to be precise. We believe the usage of 3D virtual environments will rise dramatically in the future, as organizations are increasingly tasked with finding ways to increase productivity and profitability. Thus, we believe there is a clear-cut case to be made for 3D virtual world applications in the enterprise space. In the remainder of this report, we will take a closer look at selected companies and their applications geared toward facilitating increased productivity and profitability in the enterprise. We will conclude the report with some big-picture thoughts about the current size and future growth of the 3D virtual world application enterprise market. Needless to say, we are bullish.

## **INTO THE ENTERPRISE**

Let's assume you are currently a member of a corporate executive team and are interested in 3D virtual world applications to boost the productivity and profitability of your business, and perhaps even your company's "green" status. Where do you begin? Well, if you are like many people, you may be inclined to venture into Linden Lab's Second Life. Linden Lab, a privately held, San Francisco, Calif.-based company founded by Philip Rosedale in 1999 and backed by several Silicon Valley luminaries, has garnered a lot of press over the past couple of years and generated a lot of buzz with Second Life. The software enables enterprises to build custom immersive spaces and applications. Hundreds of organizations around the world today, including Fortune 500 companies such as IBM and Northrop Grumman, are using Second Life.

Second Life started out as fun and games – a place where people could interact in a 3D virtual world - but Linden Lab has become much more aggressive about promoting the use of Second Life in the enterprise. In response to increasing business demand for the application, Linden Lab launched the Second Life Grid, which is a platform specifically designed for enterprise use. The Grid platform enables organizations to create a public or secure private space using 3D online virtual world technology. It can be used to hold virtual meetings or classes, construct product simulations, provide employee training, and much more. Any organization can create its own virtual world experience using the Second Life Grid development platform and toolset.

However, there has been a good deal of discontent and frustration among enterprise users of Second Life, particularly concerning security and intellectual-property issues, in addition to ease of use. In early April, Linden Lab confirmed it was in the alpha phase of a server-based application dubbed "Nebraska" that is independent of the main Second Life environment. The company says the new application will have all of the rich functionality in the box. This development has the potential to address the security and intellectual-property issues that have impeded the penetration of Second Life in the enterprise space.

**Second Life can be used to hold virtual meetings or classes, construct product simulations, provide employee training, and much more.**

There are numerous companies vying to compete with Linden Lab, and it is fair to say that no company holds a dominant market position. In the following paragraphs, we take a closer look at some of the other options in the enterprise space today.

**Active Worlds** offers enterprises a comprehensive platform for efficiently delivering real-time, interactive 3D content over the Web. The company touts its enterprise product as the platform of choice for large corporations that want full control over their virtual worlds in a secure environment. Based in Las Vegas, Nev. and privately held, the company's Universe Server (Uniserver) and Galaxy Server (Galaxerver) product offerings are designed for businesses that want to create a stand-alone world or worlds separate from the Active Worlds Universe of Worlds. Uniserver is designed for businesses that require multiple stand-alone worlds, while Galaxerver is tailored to companies that require only one stand-alone world.

Both offerings give full configuration control to an organization's administrator. Uniserver licensees include many Fortune 500 organizations, as well as more than 250 schools and universities throughout the world. All servers start with 1 million square meters of virtual land, and the price is based on the number of simultaneous users and land size. Services include VoIP, World building tools, Office document management, display tools, and a library of over 6,000 models. In addition, Active Worlds supports standard, off-the-shelf modeling program formats such as Blender, Collada, Google Sketchup, Studio Max, Truespace, and many more. This enables organizations to import custom 3D models into an Active Worlds environment without relying on proprietary formats. We believe Active Worlds' strategy of providing stand-alone 3D virtual world offerings to the enterprise makes sense. As we noted earlier, Linden Lab is moving in this direction with Second Life.

San Mateo, Calif.-based **Forterra Systems** provides virtual world software that enables enterprises to create their own secure and scalable collaborative 3D Internet solutions. The company is privately held and backed by In-Q-Tel, Chichen Itza Ventures, Jerusalem Venture Partners and Sutter Hill Ventures. Forterra's flagship product is an impressive piece of software known as the On-Line Interactive Virtual Environment (OLIVE). This product allows customers to meet, collaborate, train, communicate, experiment and socialize over any network with a better experience and lower cost than common alternatives. Forterra is focused on supplying private and secure 3D virtual world applications to the enterprise. OLIVE offers innovative collaboration features, including integration with IBM Lotus Sametime. All the key components for creating and maintaining a private virtual world are provided out-of-the-box with OLIVE, including:

**Forterra Systems has the potential to assist organizations that are keen to employ 3D virtual world technology to deliver real business results.**

- Hundreds of customizable avatars with associated animations
- Fully integrated VoIP-based spatial audio
- A wide variety of pre-developed, industry-specific content
- Collaboration features, including document sharing and white-boarding
- Full record and playback of all activities conducted in-world that enables playback of any session from any point in time or point of view

Last year, Forterra teamed up with The MASIE Center, a New York State-based think-tank that has over 250 organizations as members, including Wal-Mart, JCPenney, British Airways, Wendy's International, Ericsson and American Express. The collaboration between Forterra and The MASIE Center focused on enterprise learning and knowledge to provide a "3D Sandbox" for members of The MASIE Center's Learning Consortium. The 3D Sandbox used Forterra's OLIVE software platform and allowed participants to explore their learning use cases in a virtual world quickly and with little effort. We view Forterra as a company with strong potential in the 3D virtual world enterprise application market. We also would highlight the company's mission of delivering real business results for its customers.

Another 3D virtual world application for the enterprise is **OpenSimulator** (OpenSim for short). OpenSim is an open source 3D application server, and it has a decidedly Linux feel to it. OpenSim's main attraction is it can be used to create 3D virtual environments that can be accessed through a variety of clients on multiple protocols.

It allows companies to develop their own virtual worlds using the technologies they believe work best. The software is designed to be easily extendable through loadable modules to build custom configurations. OpenSim is released under a BSD license, making it both open source and commercially friendly to embed in products. The product can be used out-of-the-box to simulate a virtual environment similar to Second Life (including client compatibility). Other environments, protocols and features are supported via add-on modules. OpenSimulator is still considered alpha software, which means it is not quite ready for prime-time use in the enterprise today. However, there are organizations experimenting with OpenSim and doing interesting things with it.

Project Wonderland is another experimental technology sponsored by **Sun Microsystems** Laboratories. It is a 100% Java and open source toolkit for creating collaborative 3D virtual worlds. The vision behind Wonderland is to provide a 3D virtual world technology that is robust in terms of security, scalability, reliability and functionality. Organizations use Wonderland to create a virtual presence to better communicate with customers, partners and employees. Within the 3D virtual worlds created with Wonderland, users can communicate with high-fidelity, immersive audio and share live desktop applications and documents. Wonderland is fully extensible. Developers can extend the functionality of the application to create entire new worlds and new features in existing worlds. It will be interesting to see how Project Wonderland evolves after Oracle's acquisition of Sun Microsystems is completed.

Lansdale, Pa.-based **ProtonMedia** is another provider of 3D virtual world technology for the enterprise. Its flagship product is called ProtoSphere. ProtoSphere is described as a secure, private virtual world environment for collaboration and learning. The application features a suite of communications and social networking tools that are designed to create and foster networked, learning organization. ProtonMedia has been producing 3D virtual worlds, providing corporate training, and developing software for over a decade. The company touts its award-winning Fortune 100 system implementations, and its clients include some of the largest names in business and education, including Merck., BP, Chevron, Johnson & Johnson, Eli Lilly, Duke University's Fuqua School of Business, TIAA and Cisco. Like other companies, ProtonMedia is promoting its 3D virtual world software as a way for companies to “go green” using their technology.

**Qwaq** is an emerging player in the 3D virtual world application space. Based in Redwood City, Calif., the company's core product is Qwaq Forums. Qwaq Forums is a software-as-a-service (SaaS) offering. Qwaq Forums are dedicated, secure environments. Users can occupy as many different Qwaq Forums as needed, allowing them to collaborate on various subjects with different teams. The company's software leverages its proprietary vPresence technology that integrates VoIP, chat, webcam video, presence, and multi-application sharing to create a 3D virtual world environment that fosters collaboration and productivity. Qwaq touts its software as easy to use. A typical Forums user can be up and running in a very short period of time – in minutes, not hours.

Qwaq strikes us as a virtual version of Regus, the U.K.-based company that provides office rental space around the world. The company offers two options for customers: Qwaq Forums Team Edition and Qwaq Forums Enterprise Server Edition. The pricing for the Team Edition is shown in the adjacent box. The Qwaq Forums Enterprise Server gives companies a complete turn-key Qwaq Forums server that runs behind a firewall as a VMware server image. There is an optional integration of the Qwaq Forums Enterprise Server with a company's internal Active Directory or LDAP authentication service. Like the Team Edition, Qwaq Forums Enterprise Server Edition requires user licenses. The minimum license is five users for 12 months. Pricing depends on the number of user licenses.

<b># of Users</b>	<b>Monthly price/user</b>
5	\$80
6 to 10	\$60
11 to 20	\$50
21 to 50	\$45
51 to 100	\$30
101 or more	Contact company

Exhibit 1: Qwaq Pricing

Menlo Park, Calif.-based **Unisfair** appears to be gaining traction with enterprises around the world that are looking to use 3D virtual world applications to boost their marketing muscle, increase revenues, and raise profitability. The company provides all the technology necessary to power virtual events and virtual business environments. Unisfair is privately held and backed by Sequoia Capital and Norwest Venture Partners. The company has worked on over 600 virtual events for Fortune 1000 corporations, media and publishing companies, event organizers, and health care organizations. Unisfair Virtual Events are live, highly interactive conferences, trade shows, job fairs, and any other type of event a company would otherwise hold in the real world. They are conducted online using a web browser. For enterprises that desire to become more green, Unisfair notes it has saved clients over 161,833 tons of CO<sub>2</sub> emissions thus far.



Web.alive is **Nortel's** (NT) 3D virtual world application software for the enterprise. Web.alive provides an enterprise-ready, network-secure virtual world platform. The product can be integrated with a company's existing network, security and business software tools. The software delivers what Nortel calls "industry revolutionizing" 3D spatial audio. We believe Nortel's product is a solid offering in the space and that organizations looking to work with more established companies in this space should consider web.alive.

### OTHER 3D VIRTUAL ENTERPRISE APPLICATIONS

There are several other 3D virtual world applications for the enterprise in the market today. **Cube3** offers a product it calls Officepodz. This product is a Java-based system of licensable modular/customized virtual worlds that can be accessed by almost any web browser on any platform with no plug-ins required. We believe Officepodz is ideal for enterprise virtual world presentations and online meetings. Officepodz can be easily customized to be made part of any existing company website. A basic implementation, which includes a graphically customized space, corporate 3D-styled avatars, web links to support material, basic multi-user features, and 12 months of the 3DXplorer application fees, is available for under \$10,000.

France-based **Altadyn's** 3DXplorer provides an online platform for designing interactive 3D web pages and virtual worlds, including 3D spaces and 3D objects. The application, which was first released in 2005, is aimed at a wide range of users and can be used to create many different applications. 3DXplorer assists with creating 3D content that can be either a 3D window embedded inside a traditional website or a full-screen 3D immersive website. A few key characteristics of 3DXplorer are:

- Enterprise friendly – can be used inside enterprise firewalls; no open port required
- Browser based – can be embedded inside any web page
- No plug-in required
- No software to install
- Software runs on any computer
- Programmable: API supporting JavaScript, PHP, HTML

Unlike many other vendors that charge for 3D virtual world enterprise applications, Altadyn is free. Organizations pay only when they generate revenues with the application. Organizations that do not generate revenues with the application are not charged.

**IBM** was an early supporter of Linden Lab's Second Life and has recently entered the 3D virtual world application space with its own product called Sametime 3D. The product is currently in beta version, and the company is allowing selected clients to test it. Sametime 3D enables enterprises to collaborate in a variety of virtual worlds. It provides a number of reusable meeting spaces, including a theater-style amphitheater, a

boardroom, and a collaboration space, each of which can be used for impromptu or scheduled brainstorming sessions, status updates, town hall-style meetings, rehearsals, training classes, and more. IBM notes that Sametime 3D overcomes several challenges that have existed for businesses looking to integrate virtual worlds into their organizations, notably:

**IBM's Sametime 3D enables enterprises to collaborate in a variety of virtual worlds.**

- Businesses can collaborate the way in which they are accustomed, using software they may already have in-house, such as electronic presentations, enterprise security, and instant messaging tools.
- IBM has prefabricated a variety of reusable spaces specifically designed for productive meetings, making it unnecessary for adopters to spend time building meeting rooms each time they want to meet.
- The virtual spaces are secure, overcoming privacy concerns present in many public areas of popular virtual worlds.

In the future, IBM plans to make it easier for users to chat verbally and exchange information generated by and for virtual meetings with traditional computer software already installed on their computers and servers. Sametime 3D is expected to be released later this year. IBM notes that when the software is fully developed, organizations will be able to use it to connect any number of virtual worlds, such as OpenSim or Second Life.

Mountain View, Calif.-based **Multiverse** is an up-and-coming company in the 3D virtual world enterprise market. The company was founded in mid-2004 by a team of veterans from Netscape, with a mission to become the world's leading network of massively multiplayer online games (MMOGs) and 3D virtual worlds. Multiverse is privately held and backed by Sterling Stamos Capital Management and several angel investors. The company has pioneered an innovative technology platform designed to change the economics of virtual world development. Multiverse does this by providing independent game developers with the resources they need to enter and compete in the \$2 billion online game market.

During the past several years, Multiverse has expanded into the enterprise market. For enterprise applications, the company charges a per-seat annual license fee and organizations receive the right to use the latest version of its world-class virtual world technology platform for the specified number of users. Multiverse offers three different types of enterprise licenses: External, Internal and Off-Network. The External offering is targeted to organizations that need to provide external access to their virtual world environment but want complete control over the content and who can access it. The Internal license provides enhanced security, as Multiverse world servers are within an organization's firewall. The Off-Network license is similar to the Internal, but Multiverse provides a custom installation of the master server that organizations operate within their own firewall. The Off-Network solution provides maximum security because the entire process occurs within a company's firewalled network.

**Multiverse has pioneered an innovative technology platform designed to change the economics of virtual world development.**

It will be interesting to see how Multiverse's enterprise business evolves in the future. The company's business strategy to serve both the online gaming market and the 3D virtual world enterprise application market seems bold. There is much overlap in basic technology that serves the two markets, so it is a natural extension of the business model. There also is a great deal of upside for Multiverse if it can successfully cater to both markets.



The final company in our group of 3D virtual world application providers is Australia-based **VastPark**. The company is not yet a major player in the 3D enterprise applications market, but we believe it is one to watch and should be on investors' radar. VastPark provides free software tools, APIs and open source libraries to organizations. Companies can then create and deploy their own virtual world applications. The company touts its approach as simple, distributed and extensible. VastPark's platform enables organizations to build multiuser virtual worlds

online and immersive media applications that can run online, offline and behind a secure firewall. It should be noted that VastPark is not a single, closed virtual world. Rather, VastPark is more akin to an integrator of virtual worlds, which we believe is the company's major source of value-add in the 3D virtual world applications market.

As the company notes, virtual worlds and games have been more like "walled gardens," requiring users to download special software for each one. VastPark provides a browser application that connects these "gardens" and enables various communities to hurdle easily over any "hedges." The company has solved a number of the difficult issues confronting users of virtual world technology, such as enabling content to be portable across worlds and be independent of worlds and allowing seamless linking between worlds. VastPark's software is available for free, and no user registration is required. The company has stated that it may release premium versions in the future specifically targeted for enterprise and institutional use. We believe that could be a fruitful business strategy for VastPark.

## **THE RIGHT STUFF**

We have provided an overview of selected companies and their 3D virtual world enterprise applications. As we have shown, there are quite a few applications in the space today. Organizations looking to deploy 3D virtual worlds to boost collaboration, productivity and profitability are encouraged to experiment to see what best fits their needs. Some organizations will prefer to deploy open system software and applications, such as VastPark, OpenSimulator or Project Wonderland, while others will demand proprietary products that offer strong security, great functionality, and ease of use.

We have heard good feedback from users of Forterra's OLIVE and Unisfair, and we would encourage organizations to take a closer look at those products, perhaps along with Qwaq Forums, Multiverse and ProtonMedia. Linden Lab and IBM are likely to expand their offerings of 3D virtual world enterprise applications in the months ahead. We also believe companies should keep an eye on what VastPark does in the enterprise market, as we believe its offering could be quite attractive in the future.

Our list of companies and applications, of course, is not complete. New, innovative offerings are hitting the market with increasing frequency, and organizations and investors certainly can be excused for finding it difficult to stay apprised of all of them. The market is already quite diverse, and we expect the diversity to increase in the coming months as more companies enter the space.

At this juncture, it is difficult to project the winners and losers in the 3D virtual world enterprise application market. We expect a great deal of "creative destruction" in this area in the future, not unlike what was experienced with the emergence of dot.coms in the 1990s. We foresee a few gorillas emerging over time, and a few prominent niche players are likely to emerge in the space. It would not be surprising if the dominant players of the future are being dreamed up right now by some young entrepreneurs in their college dorm room. The 3D virtual world enterprise application market is an open field of opportunity today.

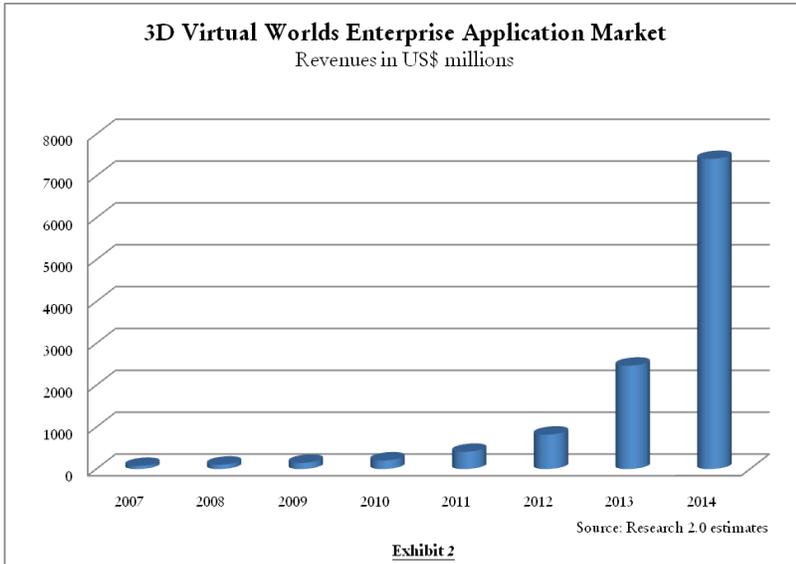
**3D virtual world technology has the ability to deliver results in the enterprise superior to competing technologies in the marketplace.**

## **THE NEXT BEST THING TO BEING THERE**

How big is the 3D virtual world enterprise application market today and what kind of future lies ahead for this market? These are good questions. Forterra Systems estimated a market size of approximately \$75 million for 2007. The market appears to be growing 25% to 50% annually right now, but it is still in the "early adopter" phase of growth. As the applications go mainstream with large-scale enterprise deployments, we anticipate growth accelerating in the years ahead. Indeed, we anticipate such deployments in the very near future.

Looking ahead, we believe the potential for such applications is quite large. We envision this market doubling annually in the next three to five years, growing to \$8 billion to \$10 billion (see Exhibit 2). Large-scale corporate deployments will occur to drive a major portion of the market over the next decade.

Although these numbers might strike some as optimistic, they are easier to accept given that the market for online enterprise training and collaboration is already measured in the billions of dollars each year, and these are often only the direct costs. We know that the associated investments and ongoing fees for client devices, networks and servers add much more to the overall market size than just the direct bill for software and implementation services. When one adds the massive consumer market size for virtual worlds, 3D technologies and virtual goods we can certainly envision a \$100B/year market within the next 10 years.



The projections we have done for this market show the familiar exponential growth path. The knee of the curve still lies ahead, which is exciting for the companies in the space. However, the timing of when this inflection point will be reached is uncertain. We would like to think it might be sooner than the projections shown in Exhibit 2, but we believe it is better to be conservative, particularly during these difficult economic times. Regardless of what the correct figures are, the bottom line is this is a market with huge potential.

The promise of 3D virtual worlds in the enterprise is not quite on par with quantum teleportation, which seems to

us to be the Holy Grail of enterprise collaboration technologies (think “Beam me up, Scotty” from *Star Trek*). However, 3D virtual world applications do have the ability to deliver results in the enterprise superior to competing technologies in the marketplace. Virtual world applications are significantly less expensive than video conferencing, telepresence and travel. Furthermore, they represent a more interactive and engaging medium than traditional 2D web applications.

Recent studies have shown that organizations using 3D virtual world technology are enjoying a positive ROI. To be sure, these are the very early days of this technology. Many companies remain in evaluation mode right now, while others have just begun to experiment with 3D virtual world technology. As we mentioned previously, there have not been any large-scale enterprise deployments to date, although a few are in the works.

In the weeks ahead, many 3D virtual world applications will move out of their beta phase and be ready for prime time in the enterprise. We expect a good deal of hiring/recruiting by the companies serving this market. Over time, as 3D virtual world applications evolve along with more powerful hardware and communications technologies, we believe their value will rise significantly.

The virtual enterprise is preparing to enter another phase of its evolution. We believe this market offers exciting opportunities for vendors and organizations alike.

## **OTHER RESEARCH 2.0 REAL VR REPORTS**

“Real VR – The Next Really Big Thing,” April 6, 2009

“Real VR – A Demographic Perspective,” May 21, 2009

## **RECENT RELATED POSTS ON CREATIVE DESTRUCTION**

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[“RealVR Going Mainstream,” June 8, 2009](#)

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Our aspiration is to reach the best conclusions about investments in the technology space looking out beyond the next few quarters. We believe that our independent, flow-based research model gives us a distinct advantage in the market because we can synthesize a great deal of information from diverse sources simultaneously. We then can take that information and instantly put it to work without being encumbered by organizational, regulatory or other obstacles.

We started this business in 2005 and already count approximately 500 senior managers, institutional investors and CEOs in our “tribe” of technology and investment lovers. The company is located at 1313 Washington St., Suite 326, Boston, Mass., 02118, U.S.A., with physical offices in New York, Connecticut and Paris, France. Please visit our website at <http://www.research2zero.com> to find out more about us and our work.