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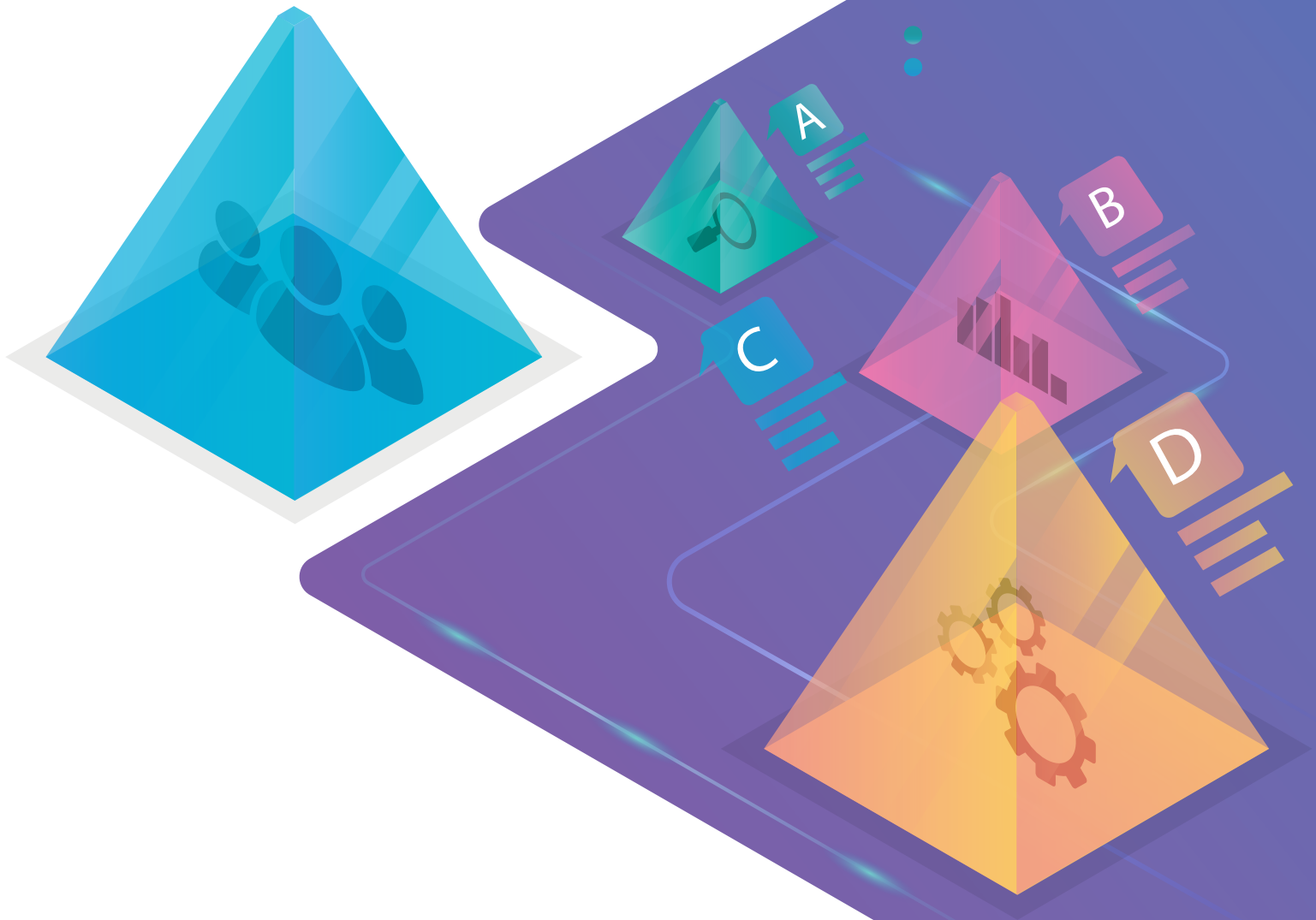
AUGMENT YOUR BUSINESS
with AR/VR

Augmented reality and virtual reality are bringing a promising future for every business. Let's see how worlds are appreciating these technologies and how you could upgrade your business.

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PREFACE

This eBook is about Augmented Reality/Virtual Reality. By Augmented Reality, we mean a technology that helps people to see more in the real world. This is in contrast to Virtual reality that lets people experience a new world that is virtually placed around them. We will talk about these technologies in a wide sense to cover their usage to enhance business operations and profitability.

This book provides a highly accessible introduction into the field of AR and VR in industry. It can be used to understand the scope of AR/VR in your business and how any business can take advantage. The book contains examples of involvement of AR in various fields.

This book is intended to assist everyone who wants to understand the scope of augmented reality/virtual reality in business and to serve consumers. Many entrepreneurs may also find the information contained in the book helpful for the practical implementation of the different aspects that are needed to ensure a successful business. These are not directly concerned with profitability but include methods of business planning, market research, enticing customers, and monitoring other players in the industry to ensure a profitable operation.

Much of the information has come from research and our blog (www.queppelin.com/blog). I would welcome all comments on the text, particularly if you feel that this could be better achieved.

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INTRODUCTION

The launch of Pokémon Go, in July of 2016, was the first mass contact of society with the use of Augmented Reality. In just a few weeks more than 40 million people downloaded the game and the average time of daily use of this application already doubled when compared to Twitter or Instagram, two of the most widely used social networks.

As per, Statista, Pokémon Go will have almost 63 million active Android and iOS users in Western Europe by 2020.
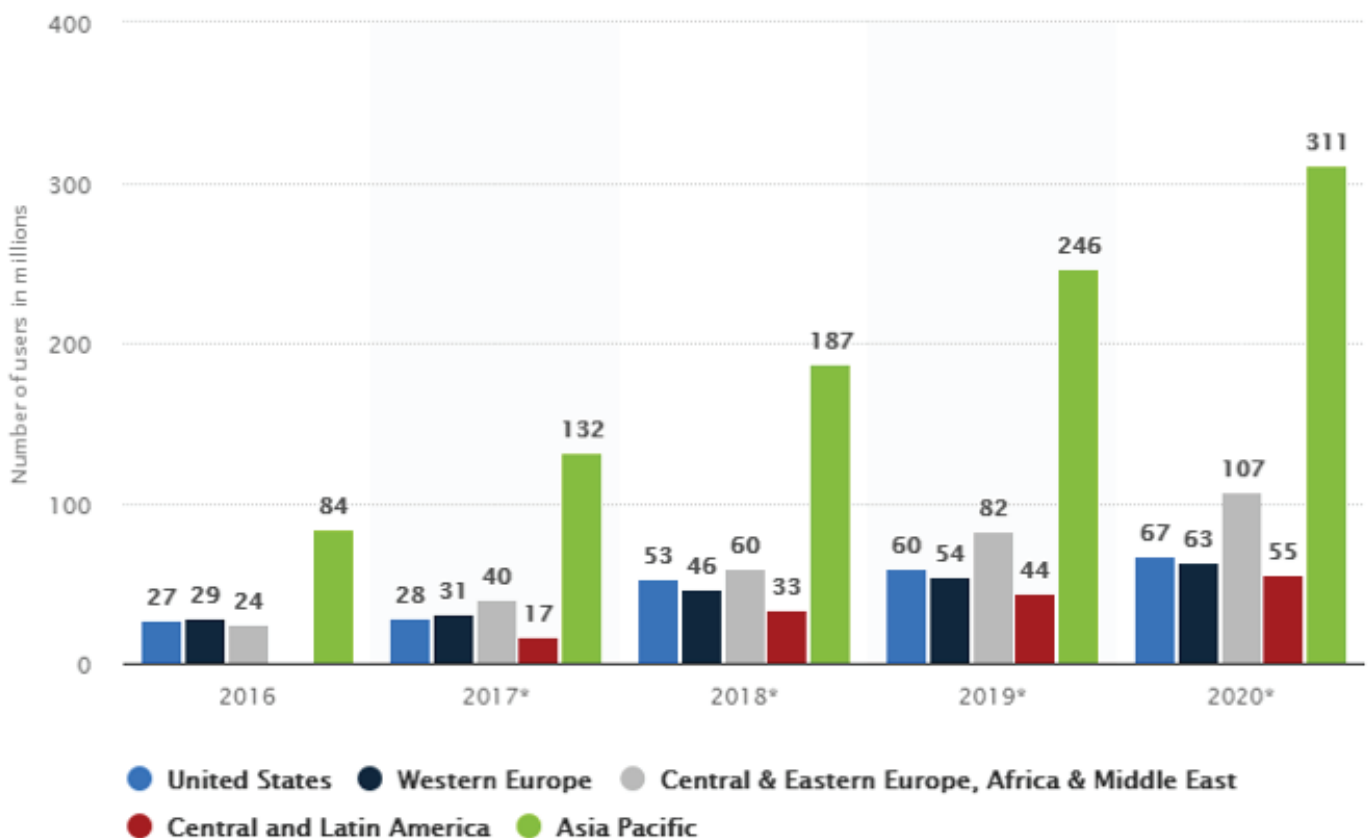
Number of active users of Pokémon Go worldwide from 2016 to 2020, by region (in millions)

Every business wishes to make a loud noise across the entire globe. This eBook is all about those tact and latest technologies that you can use in your business to enhance the value of your offerings, services, or products.

Coming back to Pokémon Go Game, what is so special about this game that made it so popular and everyone went crazy for it? The answer lies within the technologies and the concept it used that engaged people the most. People have to catch a Pokémon which can be viewed anywhere. You may find it on your books, desktop, table, in air, etc. I myself found my first Pokémon on my computer's screen.
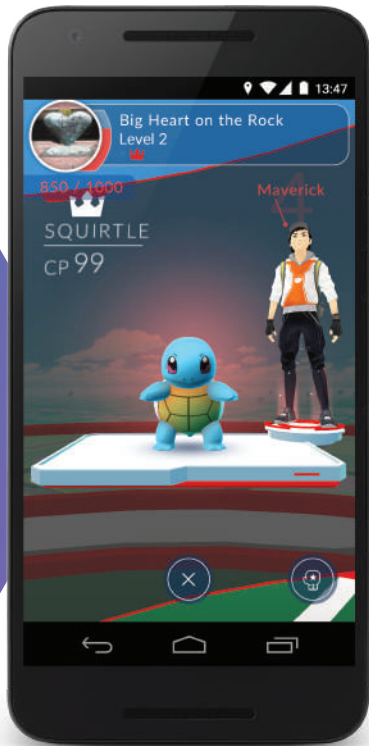
Now, the matter is, what do you need to add value to your business? Whether it's a big firm or a newbie, everyone needs to be updated with the latest technologies. If you fail to cope up with the technology evolution, you might lose a big part of your business. Along with technology, you need a concept that can amaze everybody.

In the case of Pokémon Go, not only was the concept very new but the technology used in this game was also new to the people. It was Augmented Reality. Let's learn more about Augmented Reality.

AUGMENTED REALITY, VIRTUAL REALITY, & MIXED REALITY

Augmented Reality (AR), superimposes in the real world elements that distort or complement it. Along with Augmented Reality, Virtual reality and mixed reality also emerged. An extension of the AR is the mixed reality – Mixed Reality (MR) -, the new phenomenon consisting of placing virtual objects in the real world capable of interacting with reality.

Augmented Reality superimposes virtual information on physical environments and can be viewed through viewers designed for viewing or through mobile devices, laptops or personal computers that contain cameras to read QR code markers and allow the AR applications to be downloaded.

The contents that you can incorporate with this technology are videos, graphics, animation, and 3D graphics as well as audios.
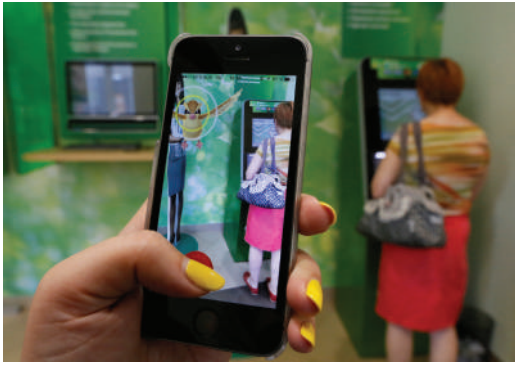
So the Pokémon you are allowed to capture in Pokémon Go Game through your smartphone was nothing but superimposed virtuality in the physical world that can be viewed through your smartphones.

According to the Overlap 2016-2021 Trends Report, the VR application will continue its growth focused on the entertainment and leisure sector while AR will be the predominant technology and the Mixed Reality will occupy an intermediate place between both applications.
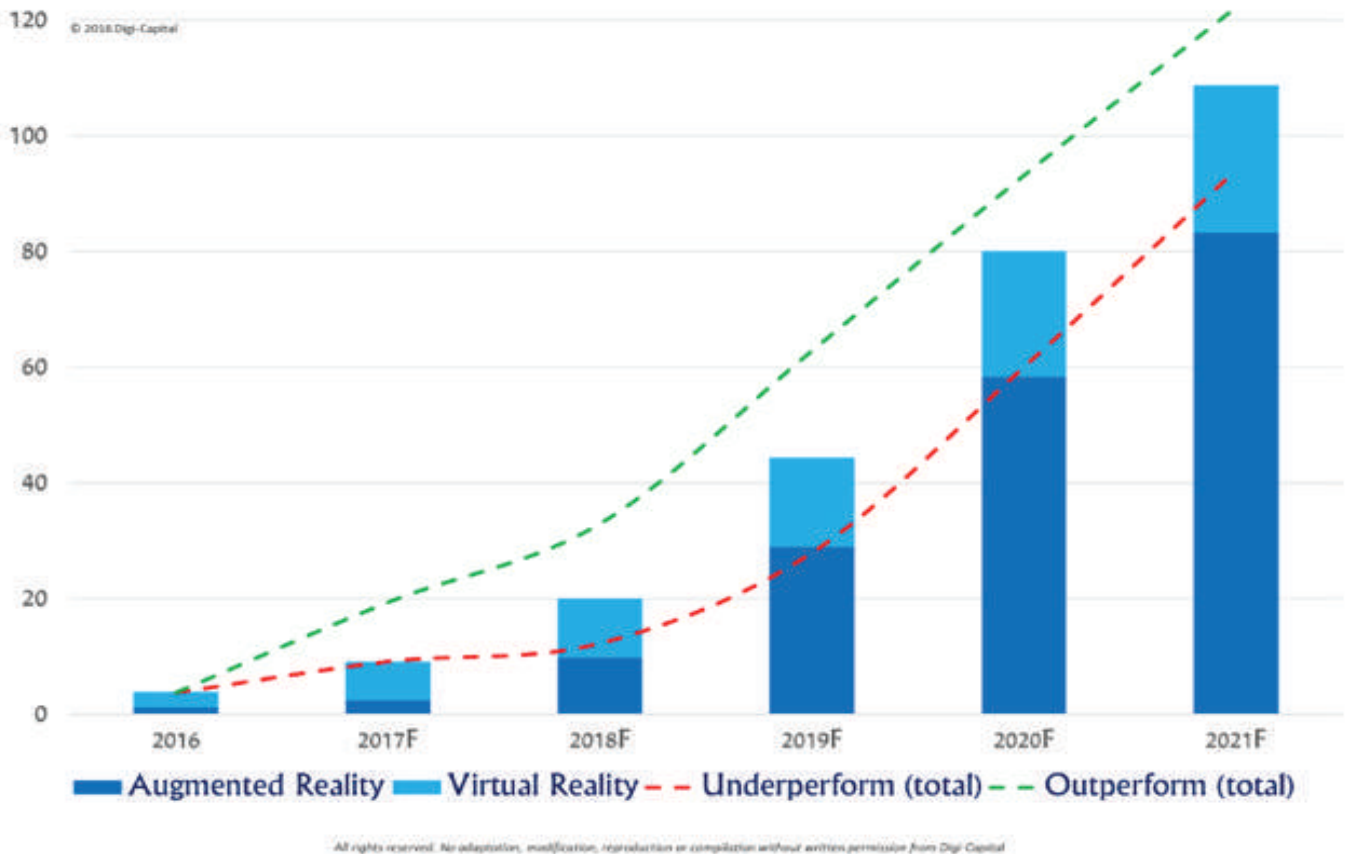
*To know about Augmented Reality in detail, download our next eBook "ABCD of Augmented Reality".

AUGMENTED REALITY IS MORE THAN POKÉMON GO AND GAMES

Pokémon Go is just an example to describe the fascination of Augmented Reality. There are lots of other usage and implementation in various fields such as business, education, entertainment, healthcare industry, daily lives, and many more.

Virtual Try-ons	AR Helmet	Virtual Try-ons	Virtual Try-ons	AR for FUN

Consumer Product Display	**7 Great Applications of Augmented Reality that are available in real world today**	Experimental Marketing

Today many of us are using Augmented Reality, Virtual Reality, and Mixed Reality. In fact, some of them are using it without realizing what it is. But if you really want to give a thrust to your business, you must know what these technologies are, and how it will be beneficial to you.

You will be amazed how Augmented Reality is revamping the face of Airport. Use of Augmented reality at Airports is reinforcing the overall operations and security measures as well. You will be amazed by how it is revamping the customer experience during shopping and how it will transform the entire logistics process, from warehousing to transportation.

AUGMENTED REALITY AND YOUR BUSINESS

Now, let's see what you can do with augmented reality. And, the major question is how you can involve AR in your business and how you can procure profits from it.

To initiate any project you make a strategy and plan from the start to end based on your goal. So this is exactly what you have to do here. First, make a roadmap of your journey. Here are a few things that you need to follow:

- Execution
- Analyze
- Planning
- Research

Apply the changes

Find out your requirement

Make a proper plan

See what others are doing
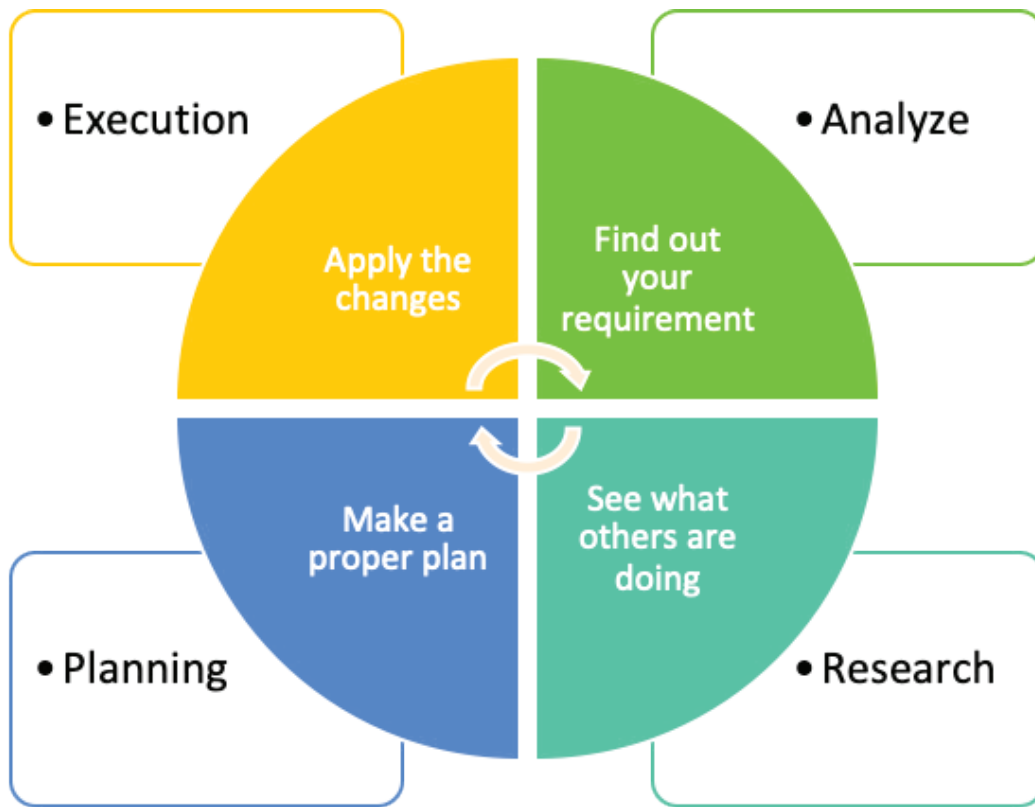
1	2	3	4	5
Make a plan. It will involve the understanding of the area where you can enroll it.	Analyze others who are already using it to get an idea of how you could use it	Make a plan to apply the changes.	Execute your plan accordingly.	Analyze how effective these changes are. Learn from the results and continue

So the very first step you have to see is how you can implement augmented reality in your business. Identify which area/field/process can be transformed into a better face with this technology.

It is better if you know what others are doing with this technology, people who are using it, how they are using it, what is the effect/result they are getting, and so on.

WHO ARE USING AUGMENTED REALITY?

From manufacturing to real estate, from e-commerce to retail shop; almost everyone is using it. Let's check one by one:

INDUSTRY, MANUFACTURING AND ARCHITECTURE

Companies will use AR to visualize what they are building and manufacturing. This allows prototyping with a high degree of knowledge of the product from the beginning of the process hence facilitating decision making and correcting errors in the initial stages of the process.

PUBLIC SERVICES

From simulations for the cure of diseases to the simulation of virtual worlds with millions of people creating services, the use of AR will focus on the creation of environments for the simulation of complex situations.

THE IMPACT OF AUGMENTED REALITY ON RETAIL

PUBLIC SERVICES

It will have a high impact on the future of retail by allowing companies to understand the behavior of consumers and the acquisition and consumption of products in their different variants.

40%
would be willing to pay more for a product if they could experience it through augmented reality

61%
of shoppers prefer to shop at stores that offer augmented reality, over ones that don't

71%
of shoppers would shop at a retailer more often if they offered augmented reality

TALENT MANAGEMENT

It will allow the candidates to live virtually for a time in the company so that both parties can analyze if the fit would be effective. It will also allow companies to carry out selection tests for professionals from a new perspective by enabling selection through telepresence and posing tests of knowledge and skills with a completely different perspective.

E-COMMERCE AND EXPERIENTIAL MARKETING

A segment of consumers will prefer the immersive experience of buying in person, which is why it will encourage large online retailers to try to fill this gap.


BUSINESS MANAGEMENT

The use of this technology will reduce the need for physical presence in an organization to improve interaction and communication between the members of a team, customers, and suppliers

LEARNING AND TRAINING

The use of this technology will reduce the need for physical presence in an organization to improve interaction and communication between the members of a team, customers, and suppliers
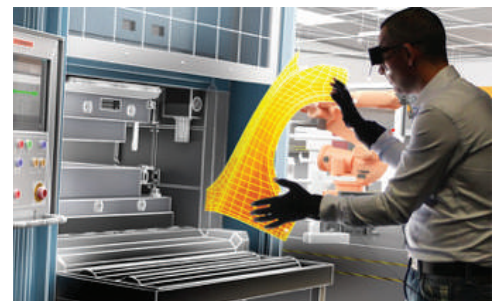
INDUSTRIAL MAINTENANCE THROUGH REMOTE ACTION

The 3-Dimensional capacity offered by AR technology will increase the capabilities and opportunities of management by manipulation and remote action in the area through drone control in high-risk environments. It will also help in the execution of actions in locations with limited access for the maintenance of machinery and equipment.

You have seen that Augmented Reality has started showing its significance in almost every field. Now, you have to analyze how people from these fields are getting benefits or how they are utilizing their goodness in their business.

HOW AUGMENTED REALITY IS BEING USED IN LOGISTICS

Logistics is a customer-centric business that wants to allure customers with fast, reliable, secure, and accurate services. Faster and accurate access to information becomes crucial for precise planning and overall operation is very critical for enhanced customer experience. **Augmented Reality** in Logistics is about to revamp the infrastructure via easing the overall process. From highly innovative warehousing management system to safe transporting to effective supply chain management, everything becomes easy to optimize. Now, Logistics has ditched the age-old manual operations and is stepping into augmented reality-based operations. Logistics is a complex industry which mainly includes four key steps in the operation model: Warehouse operations, Transportation, delivery and after-sales service. Augmented Reality in logistics is bringing a revolution in these four ways:


AUGMENTED REALITY IN LOGISTICS RECREATES WAREHOUSING

Warehouse operations include mainly sorting of products and retrieving the right product. This can be a very tricky job. A huge warehouse can be a tricky place to locate a particular item. Given that most of the workers in a warehouse are temporary, the traditional use of paper and pen is slow and prone to errors.

Augmented Reality comes handy by providing a 3D image of the warehouse and can show the product that the person has been looking for. Eventually, it can reduce time consumption and takes away the possibility of error.
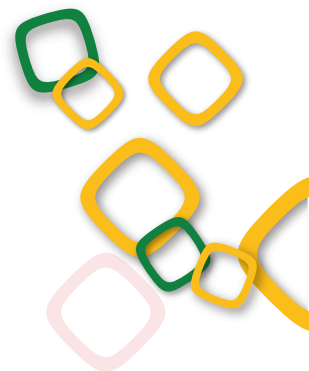
TRANSPORTATION IS BECOMING MORE ACCURATE AND SAFER

Transportation improvements have played a crucial role in the development of the Logistics Industry. Items from the warehouse are shipped to various hubs for the final delivery of the product. The delivery of the products to the various hubs is done and verified using paper and pen. This can be a tedious job. Moreover, it can lead to confusion and is vulnerable to mishaps.

Augmented Reality in Logistics can come in handy by having a 3D illustration of the way to pack items in the truck from the warehouse. Additionally, it can help in delivering the right products using 3D imaging. This saves time and makes the process efficient. Also, Augmented Reality can replace the current navigation system by showing a 3D view of the routes ahead thus helping the driver to choose the right path to avoid traffic and make the travel a smooth experience. This saves cost to a great extent.

AR MAKES BOTH CUSTOMERS AND DELIVERY PERSON STRESS-FREE

Surveys suggest that delivery men spend 60% of their time not driving as they are busy checking which product to deliver next. Augmented reality can help in making this efficient. With the help of AR, delivery personnel can choose the next product to deliver using 3D imaging. Additionally, this can replace the tedious process of using a paper and the time-consuming work of scanning the bar codes on the product to identify the right product.

Augmented Reality can be useful in intelligent loading of products according to the route of delivery personnel, consequently making work done by the personnel stress-free and efficient. Another benefit of Augmented Reality is the security it provides. It can scan the person who accepts the delivery to make sure that the right person is receiving the product.

HOW AUGMENTED REALITY IS REVAMPING MANUFACTURING INDUSTRY

The era of Augmented Reality is here. From entertainment to business, almost every walk of life has been greatly affected by Augmented Reality and there is a lot of scope for AR in the future. Moreover, there is a bouquet of benefits for Augmented Reality in Manufacturing and Production Manufacturing Industry as well. As the manufacturing industry increases its adoption of AR, it will get many benefits such as:

Enhanced Productivity

AR has become an innovative way to explain anything and makes every-one understand the process, scenario, etc. Additionally, the pace of work has increased to upwards of 30% as compared to when AR is not involved, and thus enhances productivity. An example could be training people through AR which reduces the learning curve of new employees. Both AR and VR could be used for this purpose depending upon the spe-cific use case

Save money

AR is affecting the speed of work and production figure and is eventually bringing more money in less time. For instance, At Ford, designers were using multiple clay models in designing process which are now being replaced with mixed reality, HoloLens, and one physical model only. The clay models were expensive and time-consuming to develop. Moreover, earlier designers needed to work for several days with those models. Now they are taking only a few hours with these technologies

Here are some of the use cases of augmented reality applications in design and manufacturing:
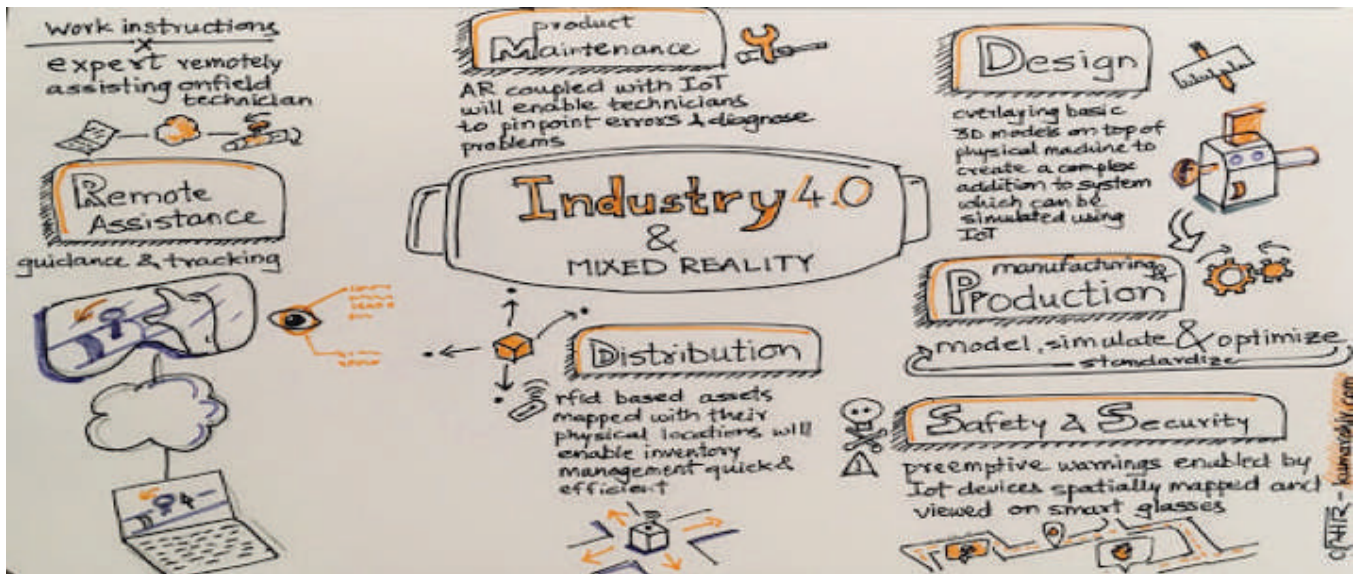
1 AR IMPROVES THE PRODUCT DESIGN AND DEVELOPMENT PROCESS

Augmented Reality plays an important role in product designing and development. The dynamic nature of AR assists in creating digital designs without having to create them physically. Thus it makes the overall process simple, easy to access, less time consuming and comfortable as the product does not have to be physically created unless it is finalized.

2 ACKNOWLEDGMENT AND TRAINING BECOMES SIMPLER

One of the biggest issues is to put the newcomers in manufacturing units directly. They are beginners and are unaware of the procedures, protocols, and equipment that may lead to safety hindrance. To maintain the safety protocols and to avoid any treacherous activity, AR describes everything to the novice and enables them to understand the overall process. They will get information about the important terminologies of their job including how, what, when, and why.

3D models of equipment and machines play a crucial role in training. Its applications become broader and enable the remote trainee to get training anywhere across the world. The training approach saves time, space, cost, manpower and many more while providing detailed practical training to the layman

3 EASY TO ELIMINATE DEFECTS IN PRODUCT MANUFACTURING

In a product manufacturing process, you can find any error or defect with AR powered devices. With such equipment, you can save a lot of time, effort, and money during the manufacturing process and even get products with minimum errors.

4 AUGMENTED REALITY IN MANUFACTURING INDUSTRY MAKES MAINTENANCE EASIER

The management crew can now know which equipment requires servicing or warn you about any potential issues. Moreover, to keep a record of last service date and recall it at the exact time is not easy. Augmented Reality in manufacturing enlightens you not only with the operation time and potential failure but also with the requirement of service

5 ASSEMBLY TASK BECOMES EASIER

- With Augmented Reality application at the manufacturing unit, you will be able to visualize the parts of the equipment and their details to assemble with 3D hologram instructions. It also provides all the information about the steps required for the manufacturing and designing process.

- Augmented reality in the manufacturing industry has a broad capability. AR powered tools and equipment used during the entire product life cycle will be very beneficial. Along with the process enhancement benefits, its use includes cost-effectiveness, time-saving, scalability, and is completely worthy to give a try in the production line.

HOW IT IS HELPING IN ATTRACTING CUSTOMERS IN VARIOUS FIELDS

Augmented reality is changing the way people do business. 3D objects virtually placed via user's mobile devices can add layers of experiences and makes them engage more with your product or service. This enhances the process at every stage from pre-sales to sales to post-sales. technology helps to strengthen the brand and consumer relationship. Here are 15 key ways, augmented reality is transforming the customer experience as well as marketing experience:

1 **HELPS IN PRESENTATION OF IN-DEPTH DETAILS OF THE PRODUCT**
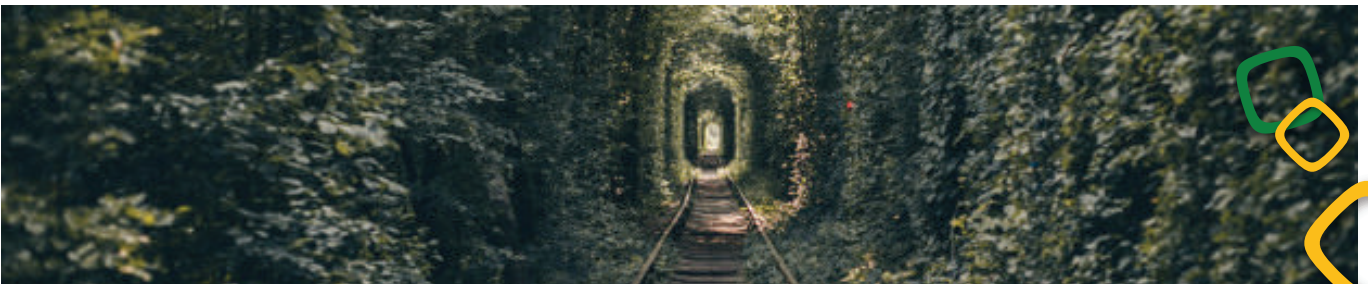
Augmented Reality helps you to showcase every minute detail about a particular product. It can also show fun visuals about the product, the manufacturing details, and other relevant information. For instance, purchasing a smartphone will be easy as it gives a larger window to compare it with other similar products in real time. This gives an immersive shopping experience.

**2** **LET CUSTOMERS FIND PRODUCTS MATCHING CURRENT TRENDS**

Augmented Reality shopping can help customers interact with current trends. Now, customers can view which of their friends have liked the particular product they are about to buy. This allows customers to buy with confidence and be socially acceptable among friends.

3 ASSURES CUSTOMERS ABOUT THEIR SHOPPING

Augmented reality will be very helpful in retail shopping. Customers can check out the positioning of appliances and furniture in their house before purchasing them. This way the furniture can be viewed in real life as to how much space it occupies and whether it matches the interiors or not. It helps in easy decision making.

4 REVAMP TRIAL METHOD WHILE PURCHASING PRODUCTS
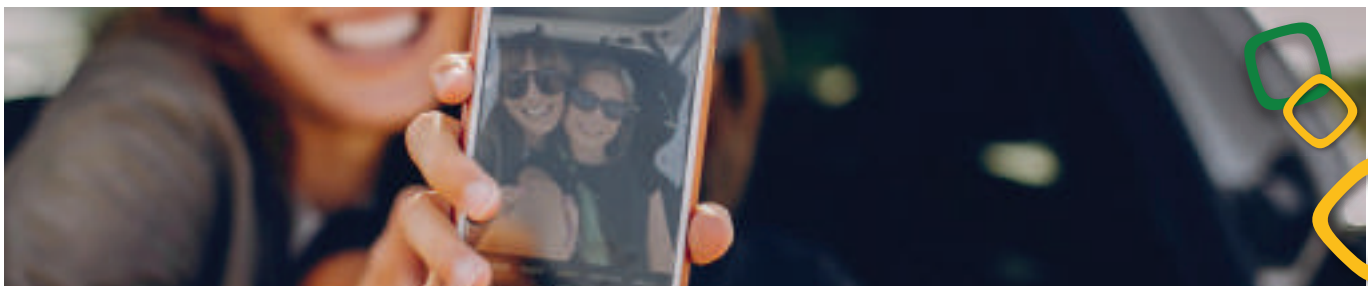
Trying before purchase helps in making the right decision. A haircut can be tried beforehand to make sure that it looks good on you. Clothes can be tried before purchasing. Trying clothes physically usually takes a lot of time and can be unsanitary. Augmented Reality aids in getting a 360-degree view of the dress the customer is trying. They can also try thousands of lipsticks by just swiping through the menu using their smartphone's camera. This makes shopping a lot easier and saves lots of time as well.

5   AUGMENTED REALITY REDEFINES THE USER MANUALS

Augmented Reality user manuals can be very useful when compared to the textual manuals. This can help in the effective and successful installation of the device or appliance. It also explains about the working of the product in a far better way. Simultaneously, it supports the environment by saving paper.

6   MAKES POST SALES HASSEL FREE

Post-sale support is the most important aspect of the shopping experience and has evolved a lot. Servicing of products after sales will become hassle-free. Now a person can do it himself through AR manuals or a professional can assist him remotely. This makes the process easy and time efficient.
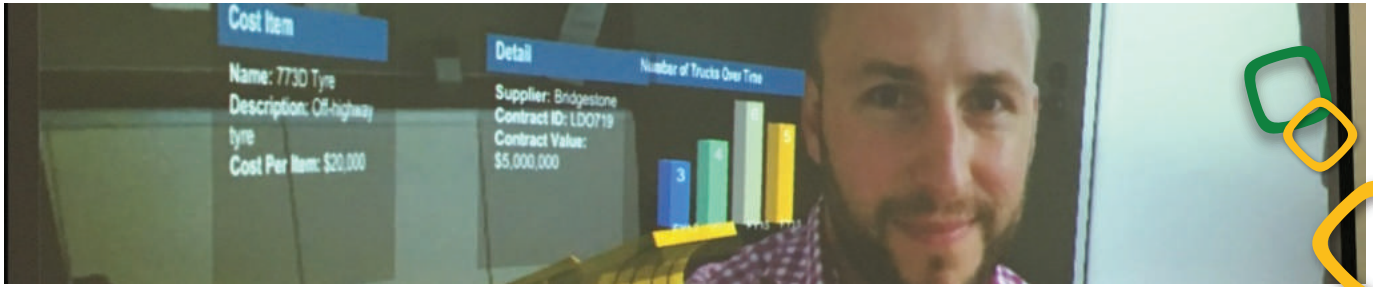
7   INCRESES BRAND AWARENESS

Companies (especially tech companies) can get more out of new technology. They can demonstrate effectively to their customers as to how their products will meet their end goal. AR will be responsible for saving time, optimizing brand awareness, and improving sales.

8   IMPROVES KPI's DEMONSTRATION

The technology will be very helpful in service or product demonstration to the client. Business can explain to their clients more clearly about their approach and process. Prior to this, even after the best explanation, there used to be some ambiguity in thoughts. But AR removes the barrier with 3D demonstration and can clear the misunderstanding precisely.
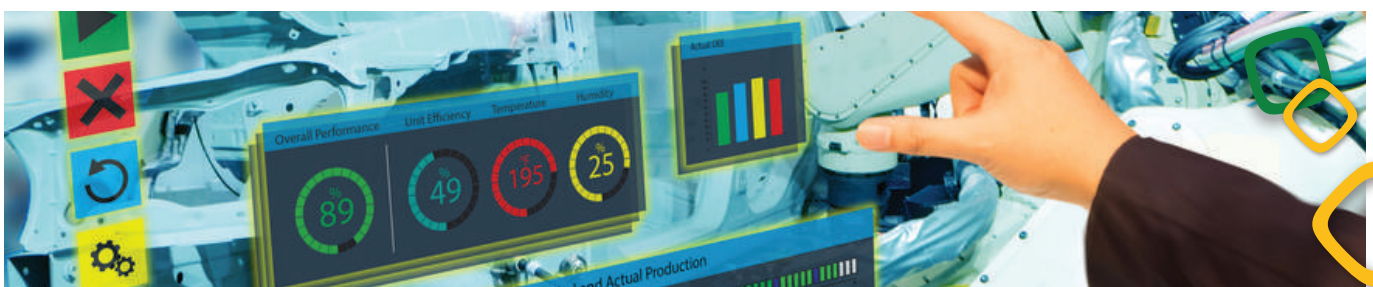
9   LET BUSINESSES KNOW WHAT THEIR COMPETITORS ARE DOING

Business can get to know what others (rivals) are doing in the industry. They will also get the complete acknowledgment of how their consumers are using and accepting the AR experience. This would be valuable in the testing process for any business.

10   IMPROVES DATA CENTRE OPERATIONS

AR has the potential to boost operational efficiency and thus customer service. It can better consolidate data, even from multiple sources, project server monitoring metrics and analytics along with data navigation into the data center environment. It would drive efficiency for server administrators working on the data center.

11 HELPS YOU IMPRESS CLIENTS /INVESTORS WITH IMPRESSIVE PRESENTATION
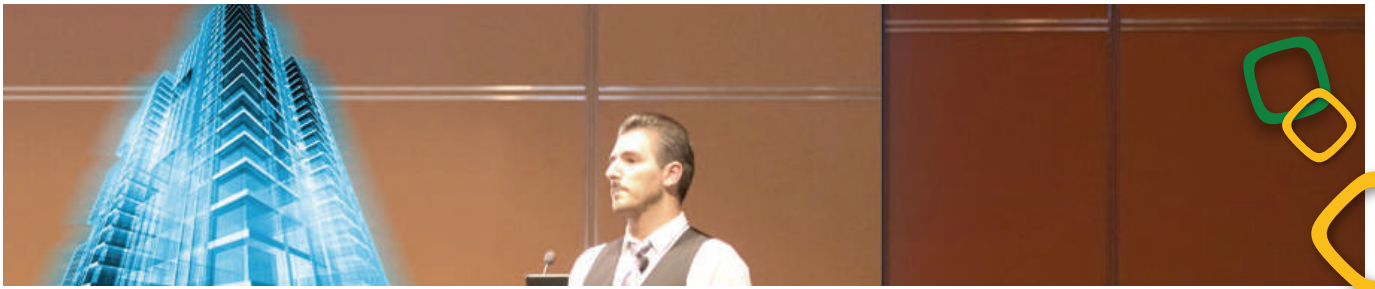
Whether you have a meeting with the potential investors or potential customers, you have to show your capabilities to convince them with your best. You can uproar in their minds with the best presentation style. Making an image or graph come alive from your screen can make a huge difference.

12 AMAZE YOUR CUSTOMERS WITH VIRTUAL TOURS
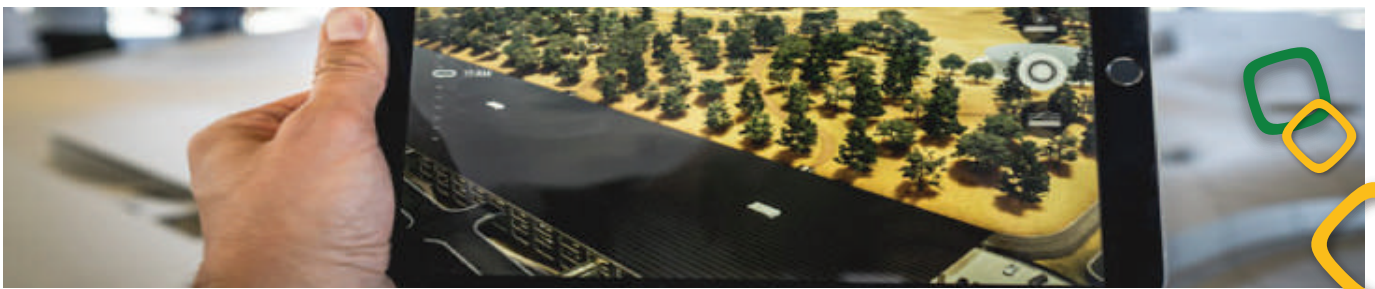
If your business belongs to the architecture industry, augmented reality will make in-progress tours super easy. Customers can get to see what you are planning with every detail such as precise color and materials.

11 COMPELS AUDIENCE WITH 3D REPLICA

Augmented reality provides an efficient and inexpensive way to create a 3D replica of any product. It will drive more engagement with your products. For instance, with AR goggles, a person can see the technology, upgrades, and interior finishing of a car. AR makes him feel as if he is really sitting inside the car.

12   PROVIDES NEW OPTIONS FOR STRATEGY

Augmented reality helps businesses to define a tactful and compelling strategy. Right now retailers and few others are taking advantage of AR. But it is open to all. By adding creativity and ideas, anyone can reach new heights in business.

11   PROVIDES BUSINESS A ROOM FOR MANOEUVRE

Augmented Reality is gaining prominence in the consumer market. Shopping experiences are about to change forever. It improves the relationship between brands and consumers during and post-sale of a product. The mentioned utilities are just the beginning of the benefits of Augmented Reality. The future of Augmented Reality holds a lot of promise.

BRAINSTORMING

Now that you have gone through what others are doing and how, it's time for self-analysis. Find out the areas where you could use this technology in your business. Two other important things that you must do:

SET A BUDGET FOR THIS CAMPAIGN

CONDUCT A SURVEY TO FIND OUT WHAT YOUR CUSTOMERS ACTUALLY WANT.

Besides proper planning, you need to consult a top AR application development service provider. So you must to find out the best one because their capability will define the quality of your apps. That will decide how much that AR App will be liked or disliked by the world.

Now you are ready with a concept, technology required, and a service provider. You have employed the concept but that would definitely not be the final step.

THE FINAL STEP IS:

Analyze how the campaign is going on. What are the reactions of your customers and employees as well? See if they are facing any issues? If yes then eliminate those issues and keep on continuing the entire loop.

THANK YOU

AUGMENT YOUR BUSINESS WITH AR/VR

Written by **Sweta Anand**
Published by Queppelin Technology

www.Queppelin.com

In case you want to connect with our AR specialists, contact us at

enquiry@queppelintech.com

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