

# 3D Innovators

By: Team 3383F  
Orchard Hills Middle School





Team 3383F

00

The Start of 3D  
Printing

01

3D Innovator Careers

02

# TABLE OF CONTENTS

03

A Day in the Life  
of a 3D Innovator

04

Where 3D Innovation  
is Headed

05

VEX IQ is preparing  
us to be Innovators

06

Credits



00

Team 3383F

---

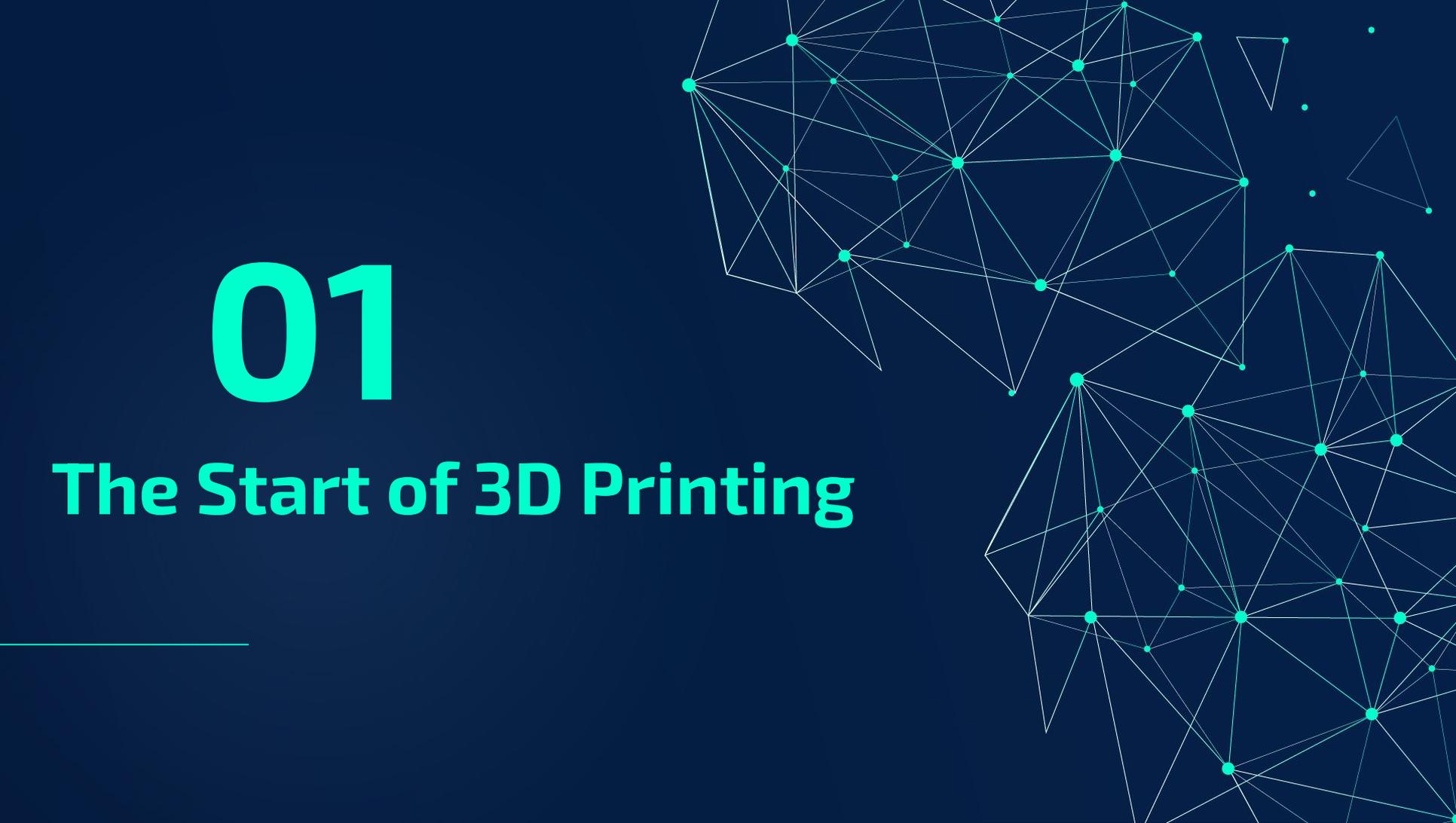




## About Us

Team 3883F hails from Orchard Hills of The TUSD district. Most of us have past experience in Robotics, and all have different origins. We're a team of 6th graders and are big on teamwork and sportsmanship.

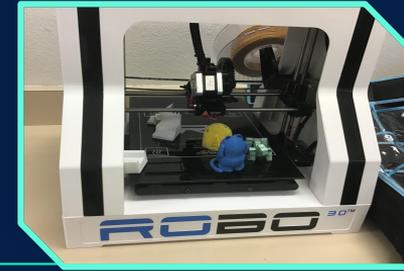




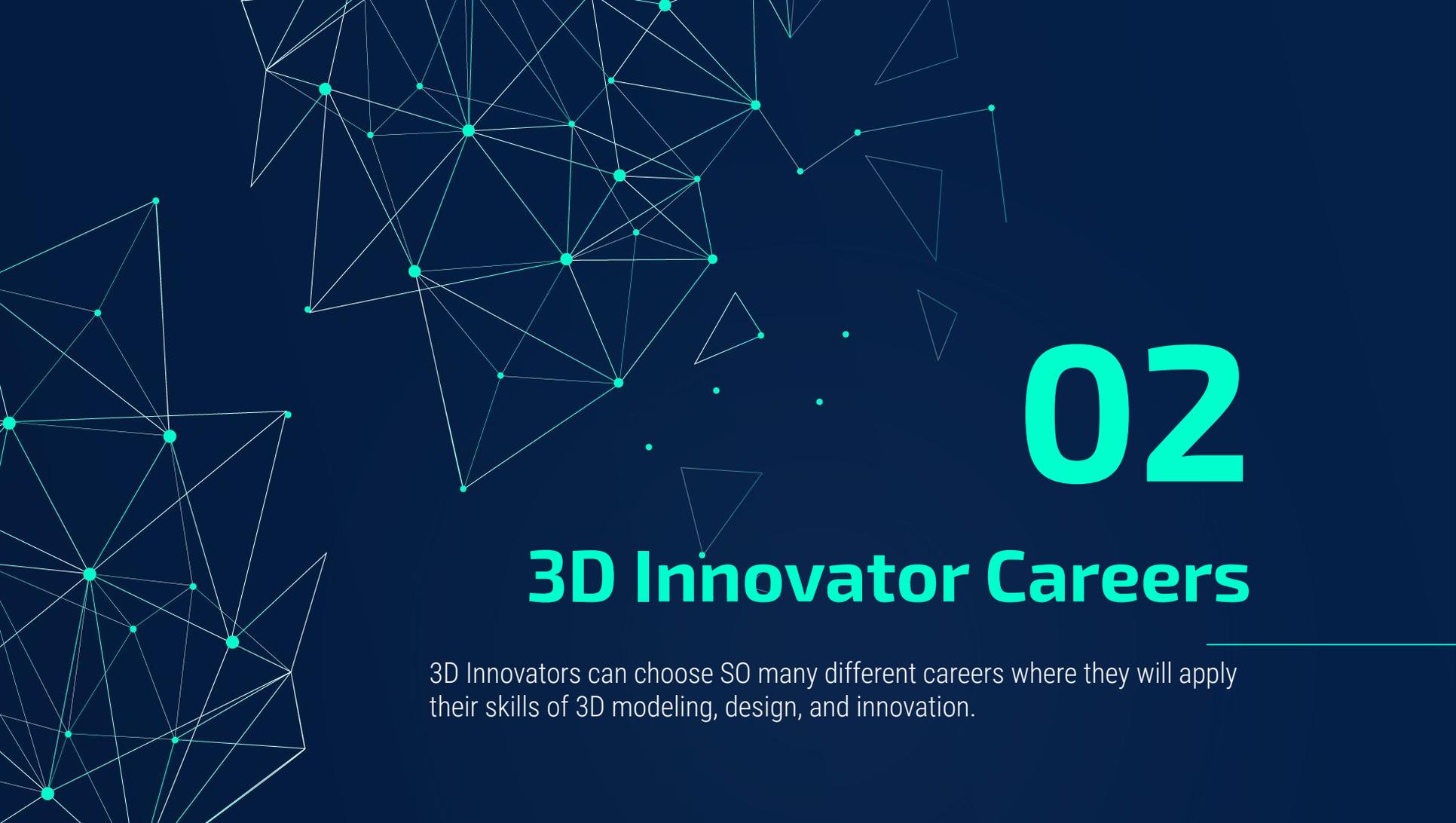
# 01

## The Start of 3D Printing

---



3D printing is on the rise. Schools have started investing in 3D printers, and students are taking interest. 3D printing machines have expanded the career options for many. According to [MatterHackers.com](https://matterhackers.com), "Teaching simple 3D modeling software like Tinkercad in schools...prepares students to broaden the scope of job opportunities they might not have considered before..." 3D printing is when a machine extrudes melted plastic (filament) and creates a 3-dimensional object after making and transferring the digital design file to the machine. That printed object can be used for many uses, like keeping wires neat, clamping objects shut, TV holders, houses, and of course parts of robots. When decent 3D printing becomes more readily available to the middle-class you will see 3D printing appear in assembly lines all across America and other countries.



# 02

## 3D Innovator Careers

3D Innovators can choose SO many different careers where they will apply their skills of 3D modeling, design, and innovation.

---



## Modern Careers

3D printing today is used for a variety of causes such as repairing damaged artifacts, faster prototyping, art, medicine and many more. Many of these contributions may make life easier for us in the future with many using 3d printing to advance in modern medicine. We can also have a better view of past as now we can repair past artifacts that shines light of how our ancestors lived. Just this year, 3D printing has been used all over the world, making hearing aids to actual, livable houses. Major companies are incorporating 3D printing into their build. 3D printers are also used for fake props in movies, allowing it to break when necessary. 3D printing is the future!





## 3D Innovator - Building Designer with 3D Printing

The world has high hopes for 3D printing. As 3D printing becomes more and more commonplace, expectations are rising. Some 3D printers are able to print whole buildings! Although, it is still being tested, places like Dubai are working towards printing 25% of their buildings by 2030 (see image to the left). 3D printing is the more economical choice for buildings because it's a cheap and readily available resource that's a lot like aluminum. It's quick, easy to use, and speeds up the process by ten-fold. It's amazing what 3D printing can do!



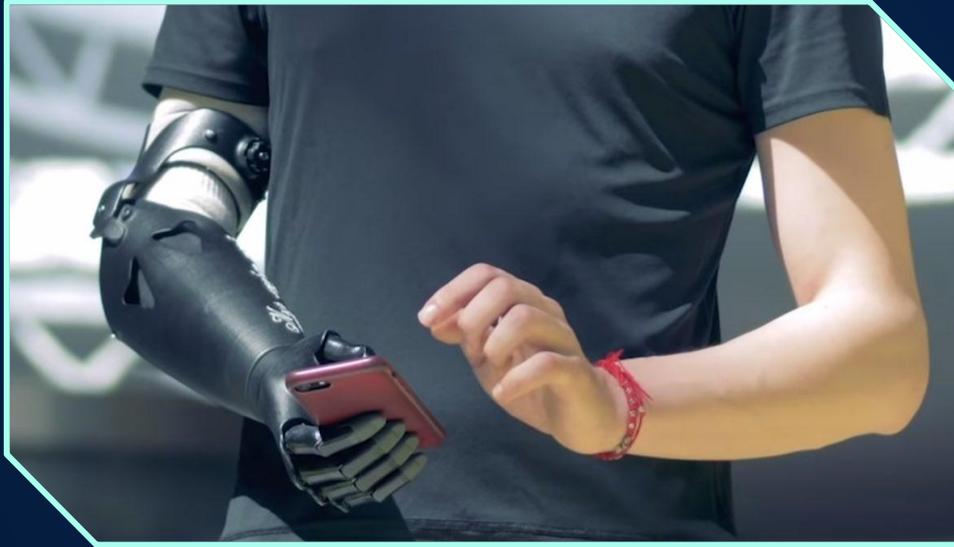
## 3D Innovator - Rocket Developer

By 2021, 3D Metal printers are aiming to print rockets! But what goes into it? This idea originally came from Relativity Space. CEO Tim Ellis says they are working on the first stage and second stage of flight. They have recently moved to a 120,000 square feet headquarters in Long Beach, California. "It's the factory of the future." Says Zack Dunn while being interviewed by CNBC. The day usually consist of going back and forth of your analysis tools and computer. "...literally like two steps away, from our engineering area." Dunn says to CNBC. Team members from around the world come and see the new headquarters, now they are planning to bring in 3rd generation printers.



## 3D Innovator - Food Printing

You read that right! In the near future, you can expect 3D printed food. Starting with the easiest, candy! Candy is already in production, just hasn't hit the market yet. In the next five years, you can expect meat be added to the list! It is already being tested, mainly by Chef-it, a company based in Israel, while NovaMeat was founded by Dr. Giuseppe Scionti. This cuts down on the gases being released into the atmosphere.



## 3D Innovator - 3D Printed Prosthetics

Across the globe, millions of people are using robotic body parts to help replace lost limbs. Not to mention, our furry friends! Limbless animals are receiving 3D printed limbs to assist them in walking, running, and playing. The first robotic arm was made in 1962 by George Devol. But marketed by Joseph Engelberger. George C. Devol was an American inventor. Fun fact! The robotic arm gave him the title of "Grandfather of Robotics". He was 50 when he made the robotic arm, and unfortunately died in his late 90s.



**03**

**A Day In The Life of a  
3D Innovator**



## Professor Shinjiro Umezu- A real 3D Innovator

One notable 3d innovator is Professor Shinjiro Umezu who is famous for experimenting numerous things using 3d printing which is making them more affordable. He inspires us because we would one day like to make common luxuries more affordable for those who can't afford them.

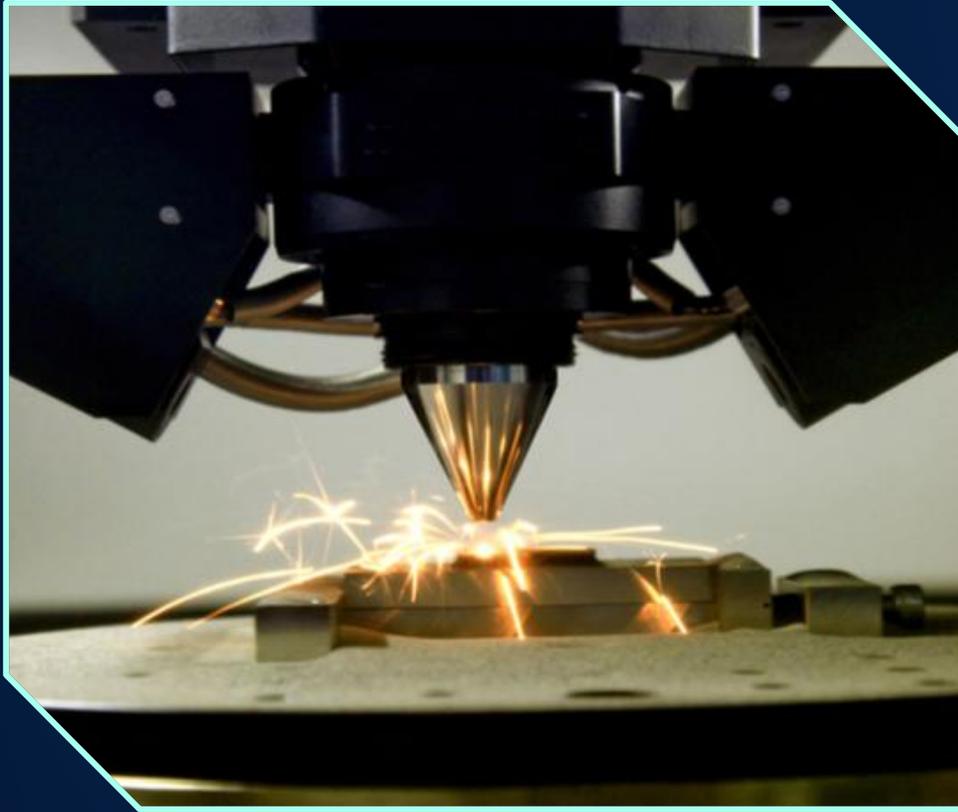


# 04

## Where 3D Innovation is Headed

---



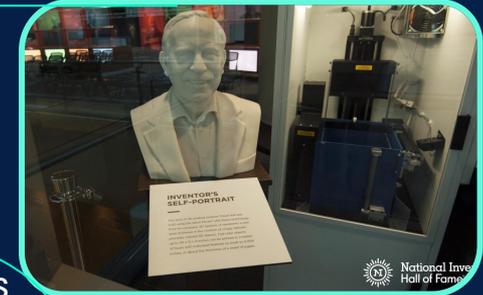


## What's happening in the next 10 years?

In the next 10 years, the 3D printing industry is hoping to take over plastic printers and begin using metal printers. You can expect 3D printed cars, jewelry, and airplane parts! In Waseda University of Japan, they have begun experimenting with hybrid models. Currently, we only have either metal printers or plastic printers. "Even though 3D printers let us create 3D structures from metal and plastic, most of the objects we see around us are a combination of both, including electronic devices," says Professor Shinjiro Umezu.



3D printing has been around longer than you may think! It was invented in 1983 by Chuck Hull (see picture to the right). It allowed designers to create a 3D model with technological data. Additive manufacturing makes it easier and more streamlined to make new products faster than ever. It inspired a new generation to work, and improve what Hull started off as another, new invention. But this invention has changed history in a way unimaginable to others. Now, 3D printing can be done another way... introducing, the 3D pen! The 3D pen allows the user to create 3D shapes by hand (see picture to the left). Artists are beginning to experiment, pushing the boundaries, making new discoveries every month. 3D printing has taken the world by storm!





05

**VEX IQ** is preparing us  
to be Innovators

## 3D Design in VEX IQ

Our team will be using Snap CAD to create 3D models of our robot ideas and innovations. The skills we learn from brainstorming, sketching, and creating a model in a 3D platform will prepare us to become 3D innovators in the future.

VEX IQ teaches us to be innovative in our designs to accomplish the different challenges each year.



# 06

## Credits

---





# THANKS

Team 3383F of Orchard Hills:  
Elizabeth C.  
Trisha M.  
Srinath K.  
Athena Y.  
David W.

CREDITS: This presentation template was created by **Slidesgo**, including icons by **Flaticon**, and infographics & images by **Freepik**.

**Please keep this slide for attribution.**

# RESOURCES

## Websites used:

- [Cesarstone.com](https://cesarstone.com)
- [ME3D.com.au](https://me3d.com.au)
- [Singularityhub.com](https://singularityhub.com)
- [Forbes.com](https://forbes.com)
- [Parentology.com](https://parentology.com)
- [Turbofuture.com](https://turbofuture.com)
- [The conversation.com](https://theconversation.com)
- [CNN.com](https://cnn.com)
- [CNBC.com](https://cnbc.com)
- [waseda.pure.elsevier.com](https://waseda.pure.elsevier.com)



\*photo of Orchard Hills' printer is  
taken by Elizabeth C.

## PHOTO RESOURCES

- [Aiorobotics.com](http://Aiorobotics.com)
- [3Dsystems.com](http://3Dsystems.com)
- [greenqueen.com.hk](http://greenqueen.com.hk)
- [www.realtivityspace.com](http://www.realtivityspace.com)
- [Gulfnews.com](http://Gulfnews.com)
- [Kisscom.co.uk](http://Kisscom.co.uk)
- [goodnews network.org](http://goodnews network.org)
- [Engineering.com](http://Engineering.com)
- [techcrunch.com](http://techcrunch.com)
- [Fabricator.com](http://Fabricator.com)
- [Imechi.org](http://Imechi.org)



# Fonts & colors used

This presentation has been made using the following fonts:

## **Exo 2**

(<https://fonts.google.com/specimen/Exo+2>)

## **Roboto Condensed**

(<https://fonts.google.com/specimen/Roboto+Condensed>)

A dark blue rounded square with a thin white border containing the hex code #092a5c.

#092a5c

A bright cyan rounded square with a thin white border containing the hex code #00ffcd.

#00ffcd

A white rounded square with a thin white border containing the hex code #ffffff.

#ffffff