

# INDUSTRIAL REVOLUTION 4.0: CHALLENGES AND OPPORTUNITIES FOR GENERATION Z



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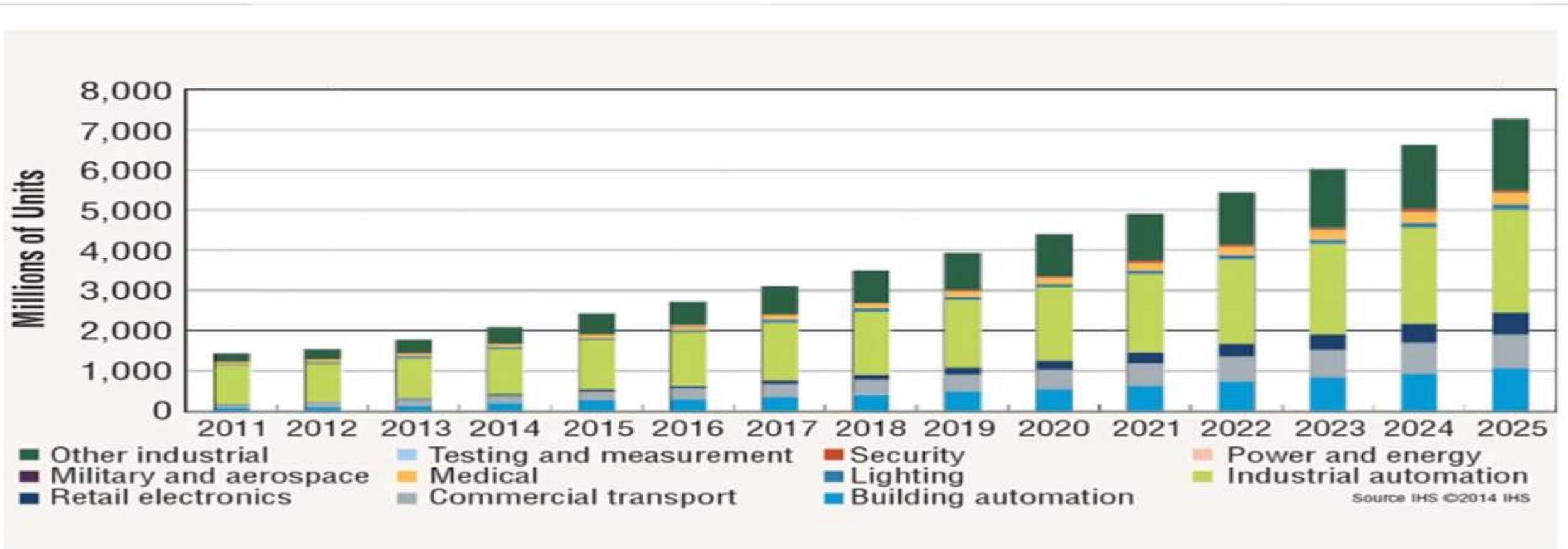
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**INTRODUCTION:** Industrial revolution 4.0 refers to the fourth industrial revolution. Which focuses heavily on interconnectivity, automation, machine learning and real time data. This revolution has created a lot of opportunities and challenges for this generation and if ones can't manage to upgrade himself with this revolution he or she might fall down from the competition and to become successful everyone must develop themselves with the challenges and opportunities of industrial revolution 4.0. This revolution is changing the style of work, infrastructure and economy. It creates a huge difference in every sector of a country compare to the old industrial revolution. People have become more advance and active. Most of the work are now technology based. For the internet and technology a lot of opportunities has come out which were not even imagine in the past.

INDUSTRY  
4.0

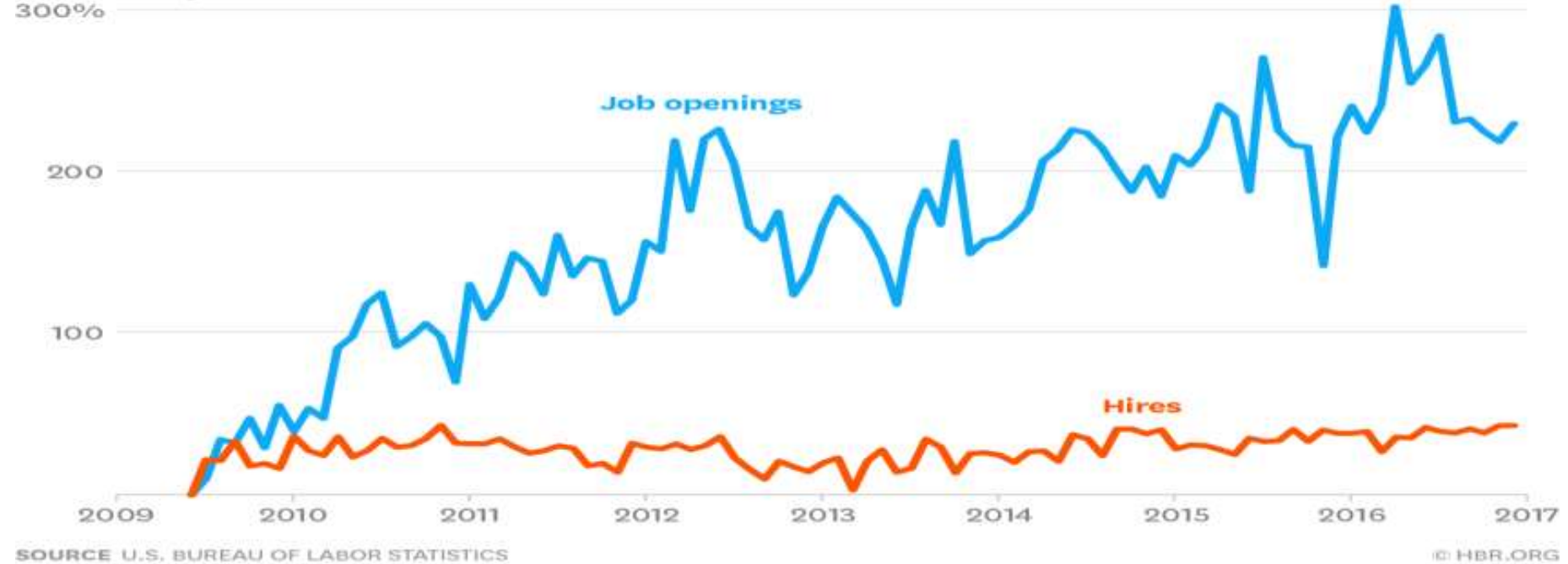
# INDUSTRIAL REVOLUTION

**4.0 CHALLENGES:** There are so many challenges has come out due to the industrial revolution 4.0. The chart below shows us how things have been developing and changing because of the revolution.



## The Growing Shortage of Skilled Manufacturing Workers

PERCENTAGE CHANGE IN U.S. MANUFACTURING JOB OPENINGS  
AND HIRES, SEASONALLY ADJUSTED



There were so many job sectors had open and it's still increasing but there were lac of skilled workers and for this most of the sectors are in a shortage of production. Many old types of job has already replaced and now these people have nothing to do and that's why the hiring rate is too low. For this new job sectors everyone needs to have technology based skill and active. This revolution has already change how we live and how we work, how the economy works and how we are governed. For example, a City and Oxford University joint report in 2016 estimated that 57% of jobs across the OECD are at risk of automation. One the other hand, Financial Times reported in 2016 that between 2000 and 2010, of all the jobs lost in the US, over 85% were lost to new technologies, and the Bank of England estimated that two thirds of all jobs are capable of being automated within 20 years.



## WHO WILL STAY AND WHO WILL FALL

- The people of this generation can easily adopt themselves with this revolution but they must be educated highly, have the knowledge require to stay stable in this revolution. Because a person with only educational qualification can not ensure a job and a better future nowadays. One's have to update one selves and technologically advanced to keep their position strong in this critical situation. Our world has also become dependent on information and technology. Without internet and technology we can't even imagine ourselves. So, it is also cleared that the people who are technologically advanced and active will have better opportunities and life. In this COVID-19 -19 situation many people has lost their jobs but the people who are dependent on technology and technologically advance are doing very good even after they lost their job. They are making money through online. They are doing jobs in online, many people are maintaining their business and so on. But if we look at the opposite people they don't have any job after loosing it in this pandemic situation but think if they have the skills they could also earn money by staying in home.



# OPPORTUNITIES FOR NEW GENERATION

- There are so many opportunities that have already been created for the new generation. Now everything is technology-based and online. We don't have to keep the whole book in our head because all the information can already be found in Google. That's why we need to be creative and smart on our task. There are some new and must-have skills needed to get a good job and life. As Stanford University academic Jerry Kaplan writes in *Humans Need Not Apply*: today, automation is "blind to the color of your collar." It doesn't matter whether you're a factory worker, a financial advisor or a professional flute-player: automation is coming for you. So it means this is for everyone and we have to be ready to develop ourselves and adapt to this situation.

## 4<sup>th</sup> Industrial Revolution Technologies

favoriot

### 12 Technologies



Space Technologies



AR & VR



Neurotechnology



New Computing Technologies



Internet of Things



Geo Engineering



3D Printing



Advanced Materials



Artificial Intelligence & Robotic




Biotechnology



Energy Capture, Storage & Transmission



Blockchain & Distributed Ledger

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- It is very clear that IR 4.0 has created a lot of sectors and opportunities which were not availed in the past. People can now do jobs even staying in home. It makes our day to day task more easy and convenient. We can see electric car which is self driven. We learned about internet of things which has a massive place in our day to day life. It is also very cleared that machines have replaced a lot of people from job sectors. So as people loose their jobs, one the other hand new scientific possibilities has come out eventually which is artificial intelligence. The word IR means a lot. So now new generation people are studying this subject and in future they will train the Robarts to do various jobs and tasks. We also heard about a word which is genetically modified. People are now studying with genetical engineering. The space x and NASA has already gone too far in the sector of space and universe. They are now making experiment outside of this world. New computing technologies has already created.



## WHAT WOULD BE THE FUTURE

- It is very clear that artificial intelligence and robotics has gone so far that now they are doing almost everything what a man can do. They have started to replace the people from their job sector and taking this sector in their control. Now in future we will need robot trainer by whom the robots will train to do task more accurately. The bio-informatics and genetical engineering was gone so far that people are now playing with modified animals and plants. Not only that this has bring the medical science in to a whole new level. The virtual reality is another wonder of industrial revolution 4.0. People can now get trained, having entertainment with this technology. We can see now people are engaging in cyber attack to do harm to others and to take revenge. The people whom are technologically advanced are not just sited alone in the home rather is they have internet connection in their home, they can bring the world into their home. People are making money through outsourcing and online jobs.



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## CONCLUSION

- The industrial revolution 4.0 has made a huge difference in the field of industry and world economy sector. This world is changing day by day. Everything has now developed and become advanced and depending on technology. In this time new challenges and opportunities have come. To deal with this kind of task we must be very intelligent and active. We have to be well educated and advanced to deal with every situation. We have to adopt the new characteristics and skills to handle the situation. We have to plan for the next 10 years and move forward. We have to learn how to get money without a job and business. We have to understand that education is the only key to become successful.

# REFERENCES:

1. [https://www.youtube.com/watch?v=v3\\_93LKiWz0](https://www.youtube.com/watch?v=v3_93LKiWz0)
2. [https://www.matec-conferences.org/articles/mateconf/abs/2018/62/mateconf\\_iccoee2018\\_02010/mateconf\\_iccoee2018\\_02010.html](https://www.matec-conferences.org/articles/mateconf/abs/2018/62/mateconf_iccoee2018_02010/mateconf_iccoee2018_02010.html)
3. <https://iiot-world.com/industrial-iiot/connected-industry/nine-challenges-of-industry-4-0/>
4. [https://www.youtube.com/watch?v=O77r\\_vJ4Tb4](https://www.youtube.com/watch?v=O77r_vJ4Tb4)
5. <https://www.infopulse.com/blog/the-main-benefits-and-challenges-of-industry-4-0-adoption-in-manufacturing/>
6. [https://discover.honeywell.com/honeywell-forge-inspection-rounds-6703\\_registrationpage.html?utm\\_source=google-adwords&utm\\_medium=paid-advertisement&utm\\_campaign=202004-hce-honeywellforgeinspectionrounds&utm\\_content=whitepaper&utm\\_term=search&s\\_kwid=AL!7892!3!430483394564!b!!g!!iot%204.0%20manufacturing&gclid=Cj0KCQiA3smABhCjARIsAKtrg6LvjdWlpxy576HmljE0lan2w0f4YJE2\\_61auCuOKvV46bmYcTlnowaAuNhEALw\\_wcB](https://discover.honeywell.com/honeywell-forge-inspection-rounds-6703_registrationpage.html?utm_source=google-adwords&utm_medium=paid-advertisement&utm_campaign=202004-hce-honeywellforgeinspectionrounds&utm_content=whitepaper&utm_term=search&s_kwid=AL!7892!3!430483394564!b!!g!!iot%204.0%20manufacturing&gclid=Cj0KCQiA3smABhCjARIsAKtrg6LvjdWlpxy576HmljE0lan2w0f4YJE2_61auCuOKvV46bmYcTlnowaAuNhEALw_wcB)

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