IOT: Advancing Healthcare Sector like never before

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The exploration of device connectivity and systemization has led technologists to the construction of the Internet of Things (IOT). It has granted us a system that interconnects literally anything and everything around us. IOT in simple words extends the power of the internet beyond our desktops and smartphones. Bringing this superpower into our labs and research rooms synchronizes our work. This leads us to better results with lesser resource consumption.

Introduction:

Human body and brain are prone to mistakes. With time we develop our skills yet only a few can master them. With computers, AI and ML this problem has been solved. A major part of this is the internet which connects various things around us. Since machines have a rare chance of making mistakes, it is very helpful in the health and pharmaceutical industry. When our devices and machines are interconnected, then using various cyber tools we can have a meaning to our raw data.

Biotechnology and pharmaceutics concerns with very delicate experiments; in the sense that exact quantity measures are crucial for obtaining correct results. Maintaining correct ratios, labeling samples, analyzing results etc. repeatedly can have a high risk of mistakes. Doing all these things with the help of machines is a lot more accurate and easier. Deducing results, gaining statistics and analyzing them can be done within seconds using machines.

Adoption of IOT in the pharmaceutical industry can maintain industrial mechanics, managing pharma supply chain and controlling drug manufacturing environment, sales and marketing, and patient access.

Now, in healthcare institutes, for example, a patient is admitted in ICU due to certain disease. He is bound to have a full body checkup, for analyzing regulations of every system of the body. For this, doctors of various specializations are required. Each one has to go through the reports again and again to deduce the problem. Using cloud computing, data visualization, data acquisition sensing and transmission (through Bluetooth,
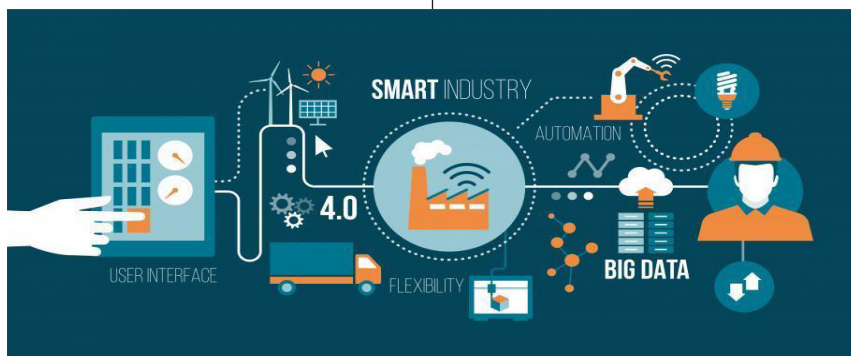
internet, etc.) data for a patient can be generalized and stored for every doctor to see. This saves time; every doctor can easily go through analysis and main points of the case to prescribe the effective medications. Time is crucial in a hospital and IOT helps in saving it with accurate and early results.

preventions, fitness level of people etc. can be connected through IOT. Professionals can take appropriate measures by looking at computer data, and the inter-relation of this data gives beneficial results and elevates the functioning of the medical sector around the globe.

of an experiment and it even keeps tabs on inventory to place automated orders for diminishing resources. Simply Genius!

Other upcoming IOT in biotech projects are:-

- Novartis and J&J have teamed up with Google to develop in the areas of sensor technologies and robotic surgeries respectively.

- Philips is also collaborating on wearable devices to monitor blood pressure etc.

- Glaxo is investing in Electroceuticals: These are bioelectric drugs that work by microstimulation of nerves.

With IOT in biotechnology, this is just a beginning. We have a far way to go. This combination will yield great results.

References

- https://prezi.com/-7vm3jxjrb62/iot-in-biotechnology/
- https://www.iotforall.com/what-is-iot-simple-explanation/

IOT not only eases on-site work, but also provides a vision for data scientists, analysts, medical app-developers using big-data, machine learning and data visualization. For instance, data of how many patients suffer from which disease in an area, their reasons, prevention, medications,

Ginkgo bioworks is one of the biggest examples of IOT in biotechnology. This organism company launched Bioworks1- it conducts research with 20 robots, in nearly 18000 sq. ft. Everything in this facility is bar-coded and logged into a virtual database. Bar codes facilitate easy conduction

Arushi Verma is a student, currently pursuing B.tech in Biotechnology (Amity University, Noida). She believes that cybernetics and the internet is like a ball of strings which acts like a mediator, and connects several disciplines of our society. As a result, we can all relate to each other better and help different people through our own knowledge.
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Annexure I

Submission Date	Submission Id	Word Count	Character Count
05-Aug-2020	1378910592	663	3763

Reviewers Comment

Reviewer Comment 1: The content drafted by the author provided short input over how the Internet of Things (IOT) has collaborated with the pharmaceutical and health Industry. The author pointed on how convenient IOT in the medical field made doctors work easy but there was much that could be presented in detail.

Reviewer Comment 2: The author has justified the title of the article.The short glimpse of Internet of Things in the healthcare sector is presented.The views of the author on the same could be explained further with intensive research by conducting a small sample survey.

Reviewer Comment 3: The topic selected for the article is of extreme importance as health is wealth.The use of technology to enhance the health sector is the future vision and rightly selected.However stronger views could have been added to improve the research quality.

Editorial Excerpt

The article has 1% plagiarism which is an acceptable percentage for publication. The comments related to this manuscript are noticeable related to "IOT: Advancing healthcare sector like never before" both subject-wise and research-wise.The paper is about the importance of the Internet of things and its valuable effects on healthcare and the pharmaceutical industry. Detection, diagnosis and treatment of medical cases can be well coordinated through IOT and its implementations. Many giants have launched these smart- bio appliances for the industry as well.After comprehensive review and suggestions by the editorial board the paper has been categorized under the category "**Scrutiny Tip**"

Acknowledgement

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