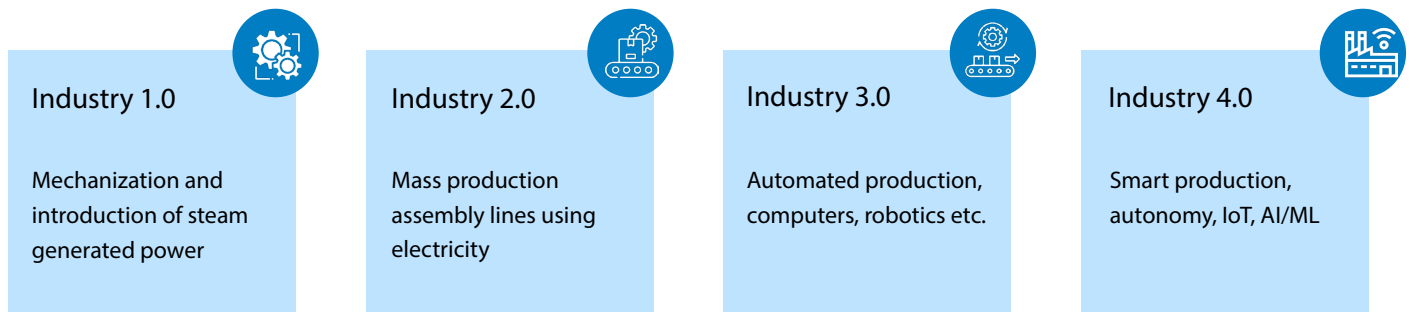




## THE EVOLUTION OF NEW-AGE TECHNOLOGY IN SILOS TO A CO-EXISTING ECOSYSTEM

We have, through many years, observed the disruptive technology grow at an exponential rate. What took years of development in the field of tech, is now achieved in a matter of months.



With the previous phase of technological advancement that is referred to as Industry 3.0, there was an existing capability of mass production and a business that was scaling significantly. But with the businesses already scaled-up, next focus was to reduce cost and effort. With the evolution of automation in production lines and computers to catalogue a range of data, it became easier to manage high scale production. Moving to Industry 4.0, we observed a shift in dependency from people towards technology to conduct various tasks.

With the emerging new age technologies or Industry 4.0, we are starting to observe another phase in the evolution of how these technologies. They were no longer operating in silos anymore and started to interact and merge with each other. For example, previous developments in robotic surgery and remote communications have now precipitated in remote doctors using automated robotics to conduct operations in obscure regions and overcoming limitations of accessibility. Another recent example is from the COVID era, where scientists across the globe were working together, running AI simulations, sharing data, collaborating in order to accelerate the process of developing a vaccine. It was a commendable spectacle of how multiple technologies were leveraged in unison to achieve a common goal.

Some of the prominent new age AI technologies are:

1. Robotics
2. Robotic process automation
3. Machine Learning
4. Natural Language processing (NLP/NER)
5. Machine vision

Here is a glimpse of the impact we have witnessed of these technologies from across industries:

1. **Autonomous vehicles:** With craft engineering of automotive and Object recognizing Ai, we were able to develop self-driven cars
2. **Online shopping:** With easy access to the internet, targeted marketing and automated Supply chain systems, online shopping has proliferated significantly.



3. **Healthcare:** With intricate surgeries conducted by robots and use of heavy AI algorithms to run simulations in medicine development, we see a major transformation in the field of healthcare.

These few use-cases demonstrate how multiple technologies come together to create a self-sustained ecosystem with a constant feedback loop built in, that supports its further evolution with minimal human intervention. The interconnectivity of these technologies helps maintain them as well, where machine learning algorithms utilize data collected by IoT devices and analyze them for more calculated insights and multiple simulations -- leading to betterment of the overall practice.

For example, In the retail sector, we have already observed the digitization of the process, in online shopping, but detailed below is a model where multiple technologies co-exists to make it a seamless experience for the retail user. Here we can see few of many technologies that exist in the space and how they have interlinked data transfer and decision making to support each other. Multiple tasks are being initiated and completed based on outputs from other technologies in the ecosystem.

## Self sustaining ecosystem of new age tech (ex:retail)



If we were to create a mind map of technologies and processes for a specific node of any industry, we can easily observe how the ecosystem of new age technology facilitates a variety of modern use cases.

In my opinion, the creation of such ecosystems furthers the development of each standalone technology as well. For instance, betterment of autonomous vehicles will also improve the GPS interpretations and road mapping in smaller packets of data,

extending an improved access of the internet and other IoT devices.

There are also a few of these technologies, which, though part of this ecosystem, still act as independently growing solutions, for example, cyber security. With the rise in digital transformation in all fields and all industries, the need for data security and system safety has grown drastically and is furthered by analyzing multiple points of attack using machine learning algorithms.

## Conclusion

We have entered an age of digital transformation where categorization of technologies is getting difficult, and the previously observed line is getting blurred. Soon, all of these new technologies will have evolved to form a digital organism that feeds data and processes insights amongst itself to perform as a well-oiled machine with each technology acting as a small cog in the larger function.

## Author



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