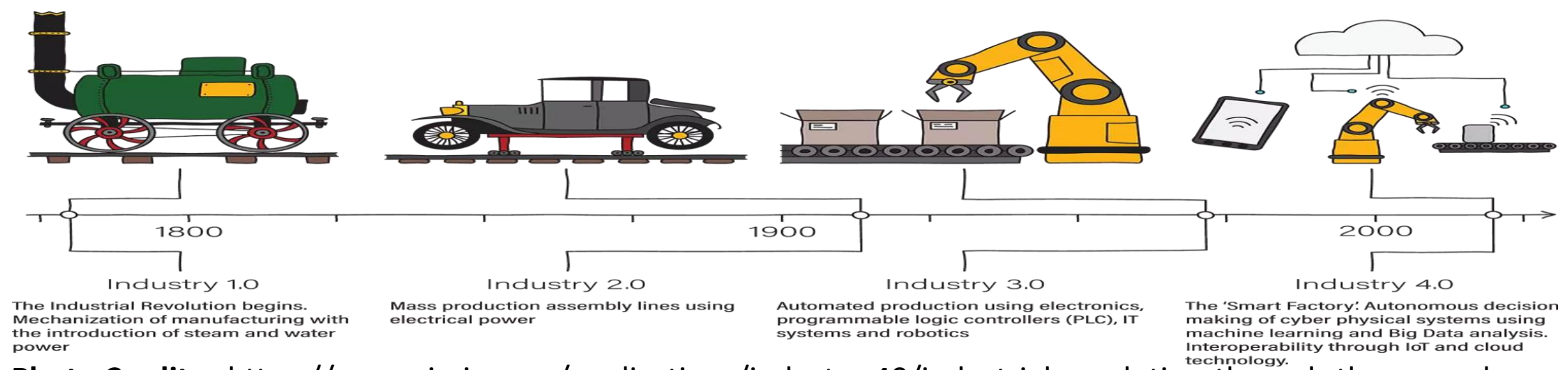# Power of CI-CD to empower Udapeople

If we take a look at the life before using machines and technology existence in general, reaching just a reasonable product requires great effort , very high cost and wasting time, resources,.......
 in additions to these points, we can also say it is so difficult to get immediate feedback from the customer/client and apply the needed modifications on our product.

Also, we are unable to cover the market demand since human effort is limited compared to the machine.
Of course, he can find the solutions for the needs [or problems] but with limited effort [or productivity].
So, the case was man effort or "manual".

But after the era of machines and technology, which provides an automated process to manufacturing anything needed at which we can get hundreds or thousands of cutting-edge technology cars – for example- in nearly few days through a fully automated process, performing many of quality control tests to reach a reliable product.
So, now it is automated work.

1800	1900		2000

Industry 1.0
The Industrial Revolution begins. Mechanization of manufacturing with the introduction of steam and water power

Industry 2.0
Mass production assembly lines using electrical power

Industry 3.0
Automated production using electronics, programmable logic controllers (PLC), IT systems and robotics

Industry 4.0
The 'Smart Factory'. Autonomous decision making of cyber physical systems using machine learning and Big Data analysis. Interoperability through IoT and cloud technology.

Photo Credits : https://www.simio.com/applications/industry-40/industrial-revolution-through-the-ages.php

- **<u>Why are we talking about this topic???</u>**

 Of course, we are not here to talk about "The Industrial Revolution".

- I used this example to get the idea quickly, when we are talking about CI/CD for Software Industry we can say it is the same situation as the example we mentioned earlier [it is not 100% the same, but we can make use of some similar points].

→So, before CI-CD [the situation now in our company] :

  - we can say to deliver software application to the end user it requires a lot of effort, time…..
  - It takes a long time to provide a product to be tested by the client then of course "as usual" he provides many modifications to be considered and here we go again….

  - Through productions or even development stage , it is so difficult to get feedback of our work or monitor the application.

  - Also, During production we are not able to take immediate actions[roll back or provision resources] for some incidences which is a fatal flaw from security and business perspective.

Benefits of CI – CD:

With this infinity process we can achieve things like :

1- Reducing the Cost:

❑   Less developer time on issues from new developer code.

❑   Less infrastructure costs from unused resources.

❑   Less costs of delivery accomplished by less human intervention across the CI-CD process.
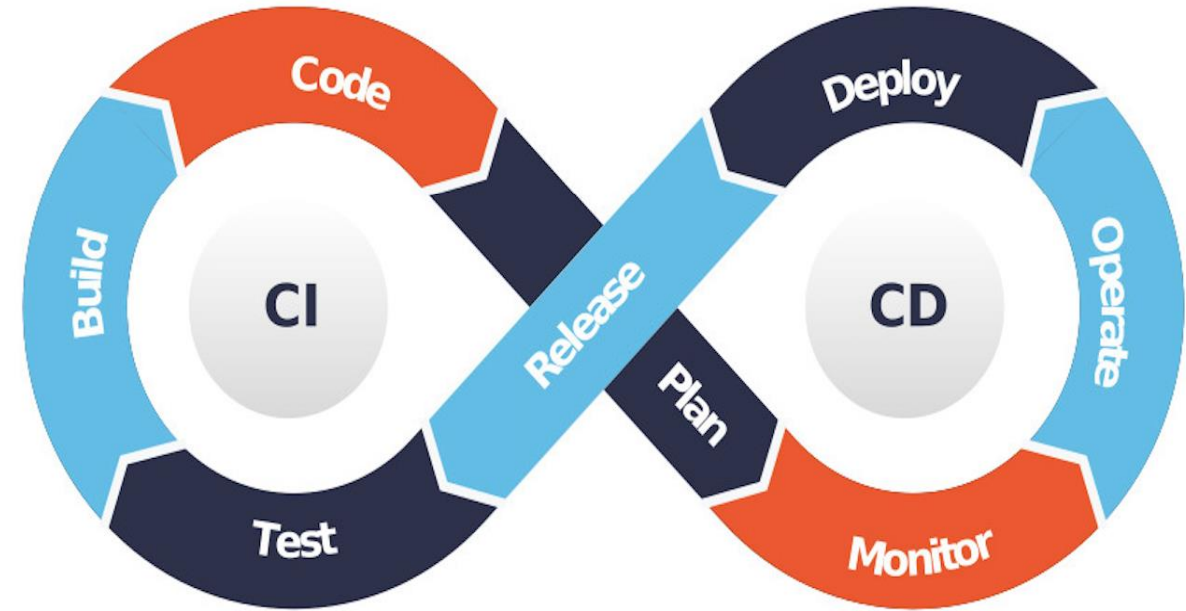
2- Increasing the Revenue:

❑   New value-generating features released more quickly

❑   Less time to market

3-Protecting the Revenue:

❑   Quick return to working state

❑   Get feedback continuously

❑   Reduced downtime

4-Avoiding Cost:

❑   Faster deployments

❑   Less bugs in production and less time in testing

❑   Less human error

❑   Prevent costly security holes

❑   Improve visibility across development

Photo Credits : https://www.weave.works/blog/gitops-fully-automated-ci-cd-pipelines