

Module-01

Exploring Technology and the Capabilities of Technology

What is Technology?

- The word Technology comes from a latin word **Tekne** means art or craft and **Logia** means knowledge.
- Technology is the application of **scientific knowledge** (i.e. *a collection of reliable new information about the physical world*) for practical purposes. It is the use of tools, machines, systems, and processes to solve problems and improve efficiency.
- Technology can be used to create, store, communicate, and manipulate information. It can be used to create new products and services, improve existing products and services, and automate processes.
- Not necessarily technology involves hardware or tools its the idea or concepts behind these tools.



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Technology
(System of Practical Knowledge and
Solving Problems)

Applied Technology

Tools that are created to solve a problem
E.g. Telescope

It is Idea upto product

What is Science? → (Curiosity in Action)

- ▶ Science comes from a latin word “Scientia” which meaning “knowledge” or “to know”.
- ▶ Science is a systematic and logical approach to discovering how things in the universe work, and using that knowledge to create new things or improve existing ones.
- ▶ It is the application of knowledge acquired through observation, experimentation, and reasoning to create solutions to problems and innovations in technology.



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- ▶ Science aim to get new knowledge through a disciplined set of steps called **Scientific Methods** consist of:
 - ▶ Asking question.
 - ▶ Proposing possible solution called **hypothesis** (i.e. educated guess / how something works).
 - ▶ Testing the hypothesis through a series of experiments.
 - ▶ Examine the results of the experiments to see if the hypothesis has bee supported or repudiated.
- ▶ Many of Sciences branches ends with “ology” means “study of”. hence **Technology**.

Science Follows 5 Main Steps

Observation

Identification

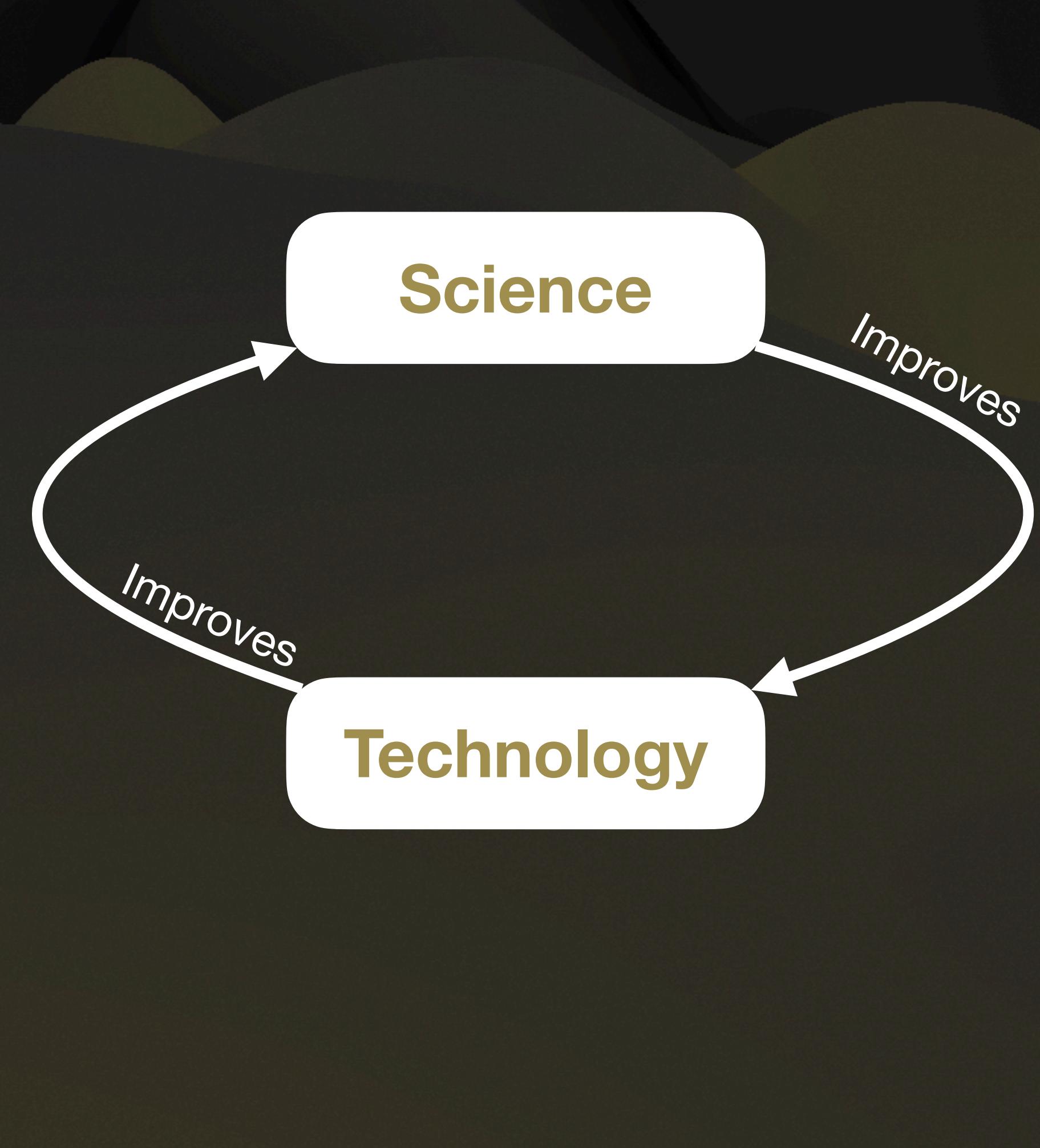
Hypothesis

Experiments

Theory

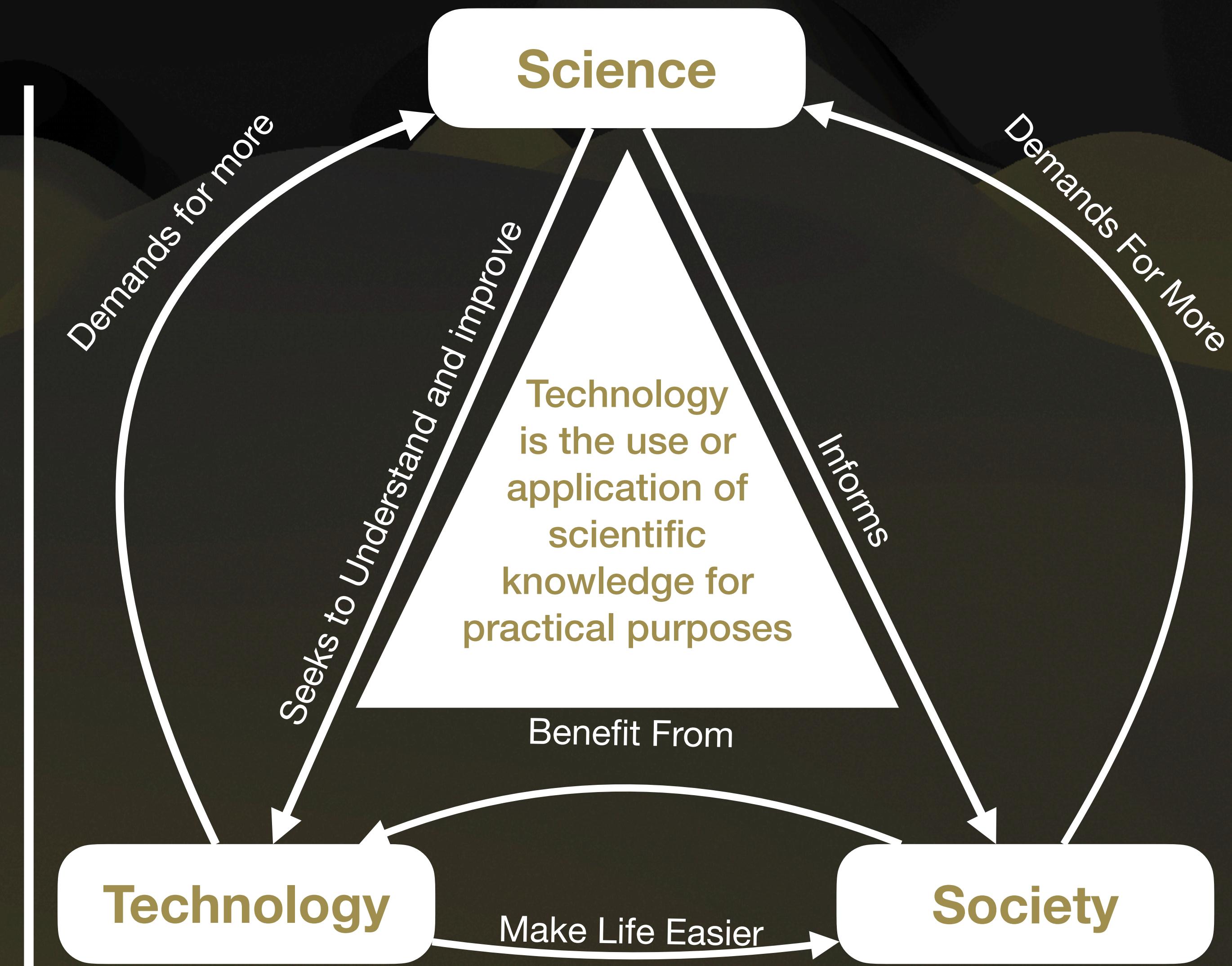
Relation between Technology and Science

- ▶ Science opens up paths that improves the understanding of technology it makes it possible why certain technology creation were successful.
- ▶ Technology uses science to solve problems and science uses technology to make new discoveries.
- ▶ However, technology and science have different goals. The goal of science is to answer questions and increase knowledge. The goal of technology is to find solutions to practical problems.
- ▶ Although they have different goals, science and technology work hand in hand, and each helps the other advance. Scientific knowledge is used to create new technologies such as the space telescope. New technologies often allow scientists to explore nature in new ways.
- ▶ Technology is the result of technology.



Relation between Technology, Science and Society

- ▶ A society is a group of people that lives together in a community that includes some form of government, along with some rules and economy.
- ▶ Both technology and society are co-related, co-dependent, co-influence with each other. Technology lays on top of society.





Positive Changes in Global by Technology

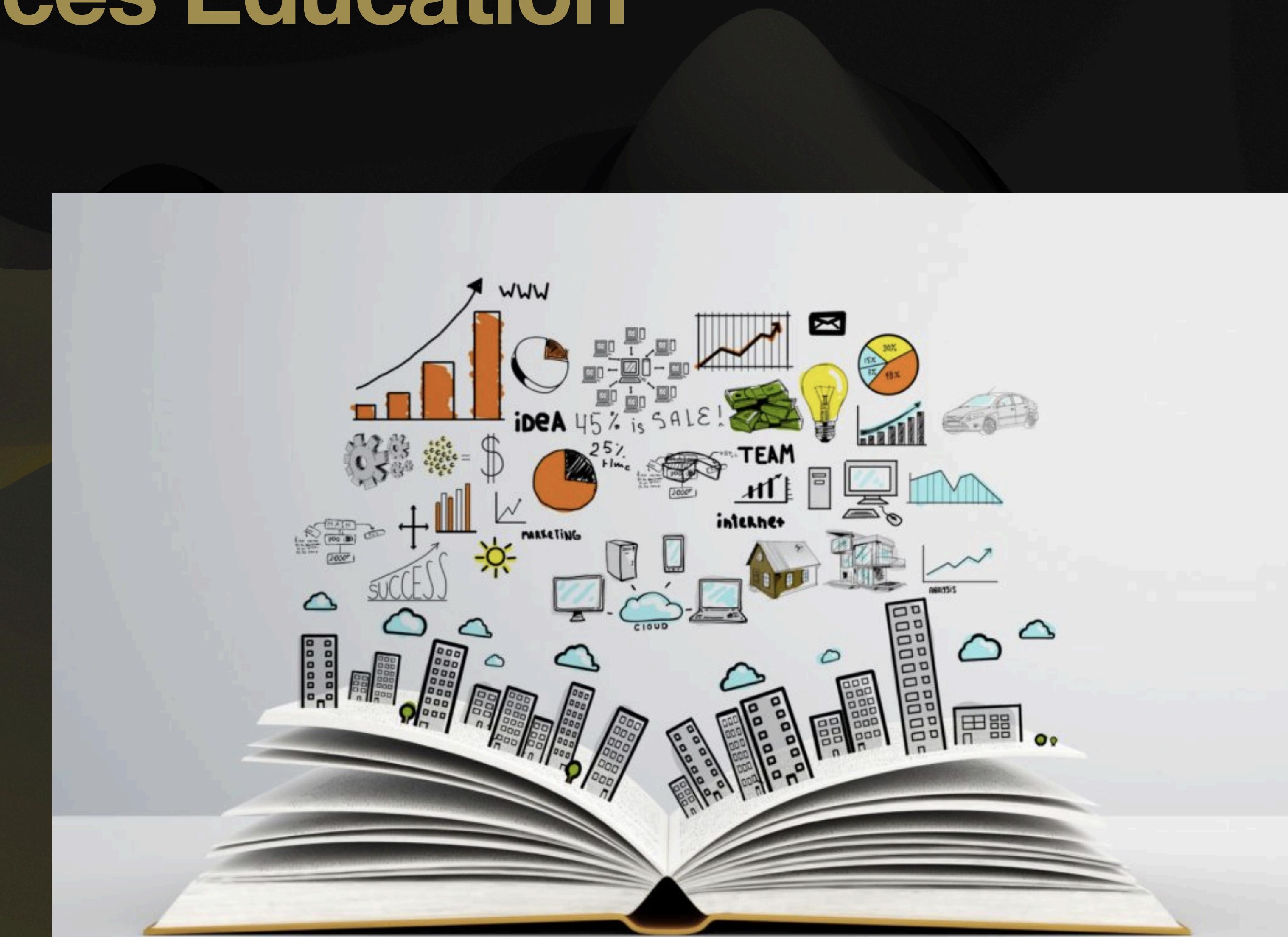
Technology Boosts Business

- ▶ Improving Strategies.
- ▶ Accurate Statistics.
- ▶ Easier Communication.
- ▶ Smoother Trade.
- ▶ New Techniques Of Promoting Business.
- ▶ Increase In Income Generation
- ▶ Impact on Advertising.



Technology Advances Education

- ▶ The availability of online courses.
- ▶ The access to web seminars.
- ▶ The ability to research any topic



Technology Smoothens Communication

- ▶ Data Retrieval And Information Sharing.
- ▶ Assisting People With Disabilities.



Technology Makes Everyday Life Better

- ▶ Transportation and Household.
- ▶ Advanced Technology For Human Life.
- ▶ Medical Research .
- ▶ Robotics.





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Computer Science

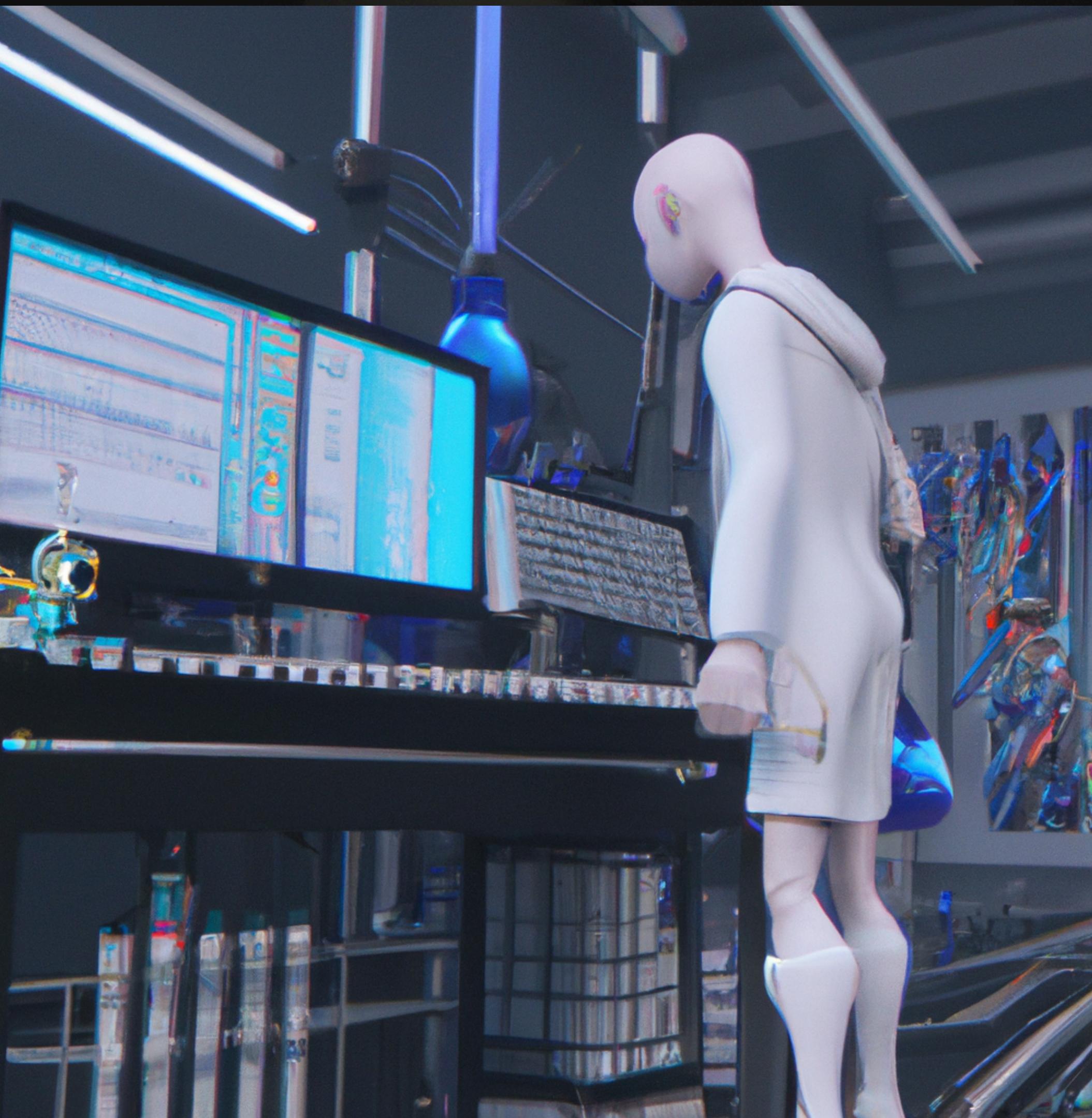
How Does Computer Science Relates to Technology

- ▶ Computer Science is a field of study that is closely related to *technology* but it is not a branch of technology.
- ▶ Computer science plays a crucial role in the development and advancement of technology.
- ▶ Computer science provides the theoretical and practical knowledge needed to design, develop, and implement computer software, hardware, and systems.
- ▶ Without computer science, it would be impossible to create and innovate many of the technologies we use every day, such as smartphones, laptops, social media platforms, search engines, and many more.



What is Computer Science?

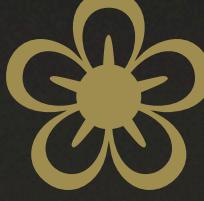
- ▶ Computer science is not just programming.
- ▶ Computer science is the study of computers and computational systems. It involves the theory, design, development, and application of software and hardware components of computing systems.
- ▶ In other words, computer science is the study of how computers and software work, how to design and develop computer programs and applications, and how to use computer systems to solve problems in various fields such as science, engineering, business, and entertainment.



Benefits Of Computer Science

- Computer science is a broad field, encompassing areas such as artificial intelligence, computer graphics, database systems, networking, programming languages, software engineering, and web development.
- Computer science has many benefits, including increased productivity, improved communication, and enhanced efficiency. It can also reduce costs, increase access to information, and create new opportunities.



Thank You 

Keep Smiling 