CSE- 321
Software Engineering

Lecture : 02
Introduction

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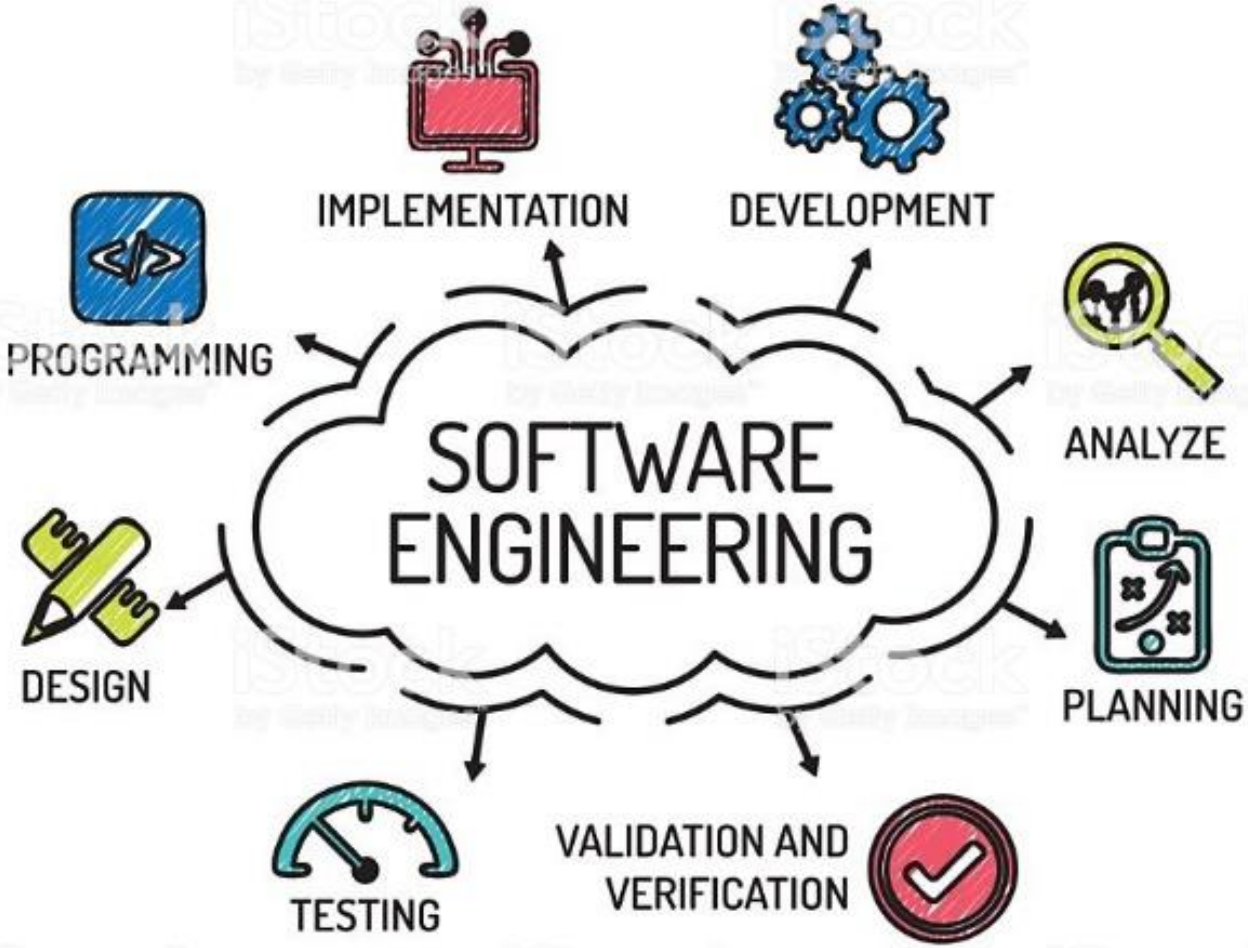
Are you a software Engineer ?

Software Engineering



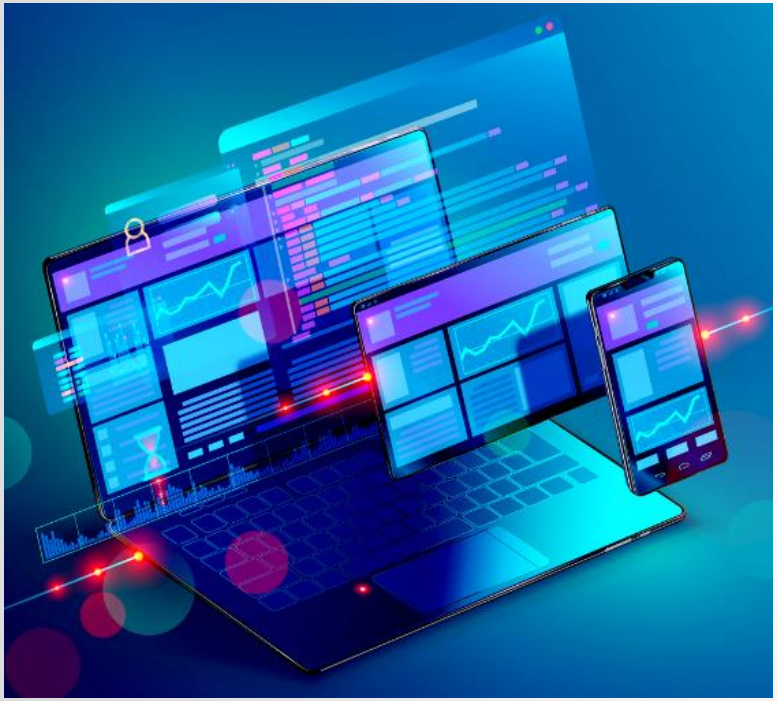
Lecture Outlines

- What is Software?
- Attributes of Good Software
- Software Market – Industry Trends and Forecast
- Classification of Software
- What is Software Engineering?
- Importance of Software Engineering
- Program vs Software Product
- Software Engineering vs System Engineering
- Software Process
- Software Process Model
- Key Challenges Facing Software Engineering
- Software Engineering Ethics

What is Software Engineering ?

Software Engineering

Software



Product

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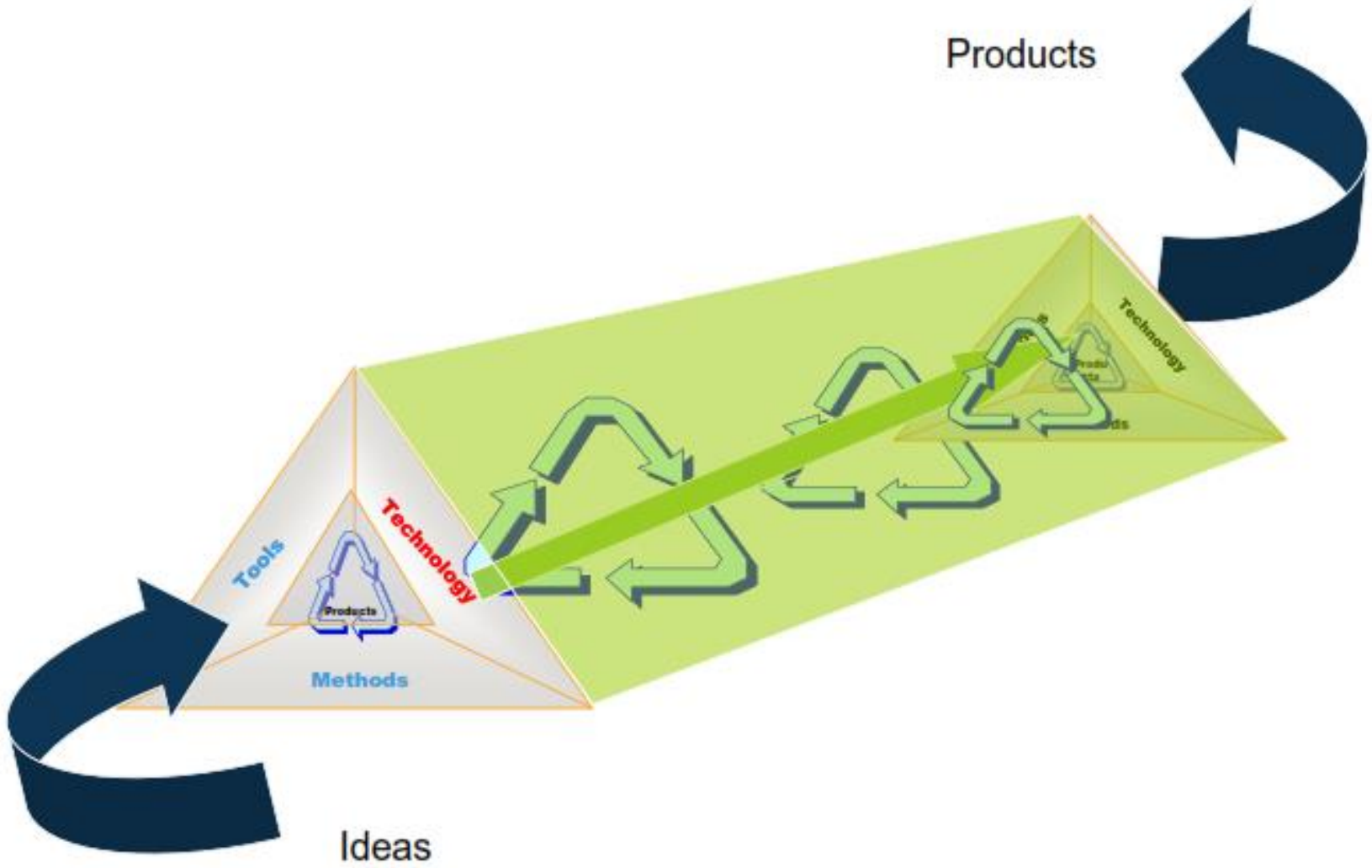
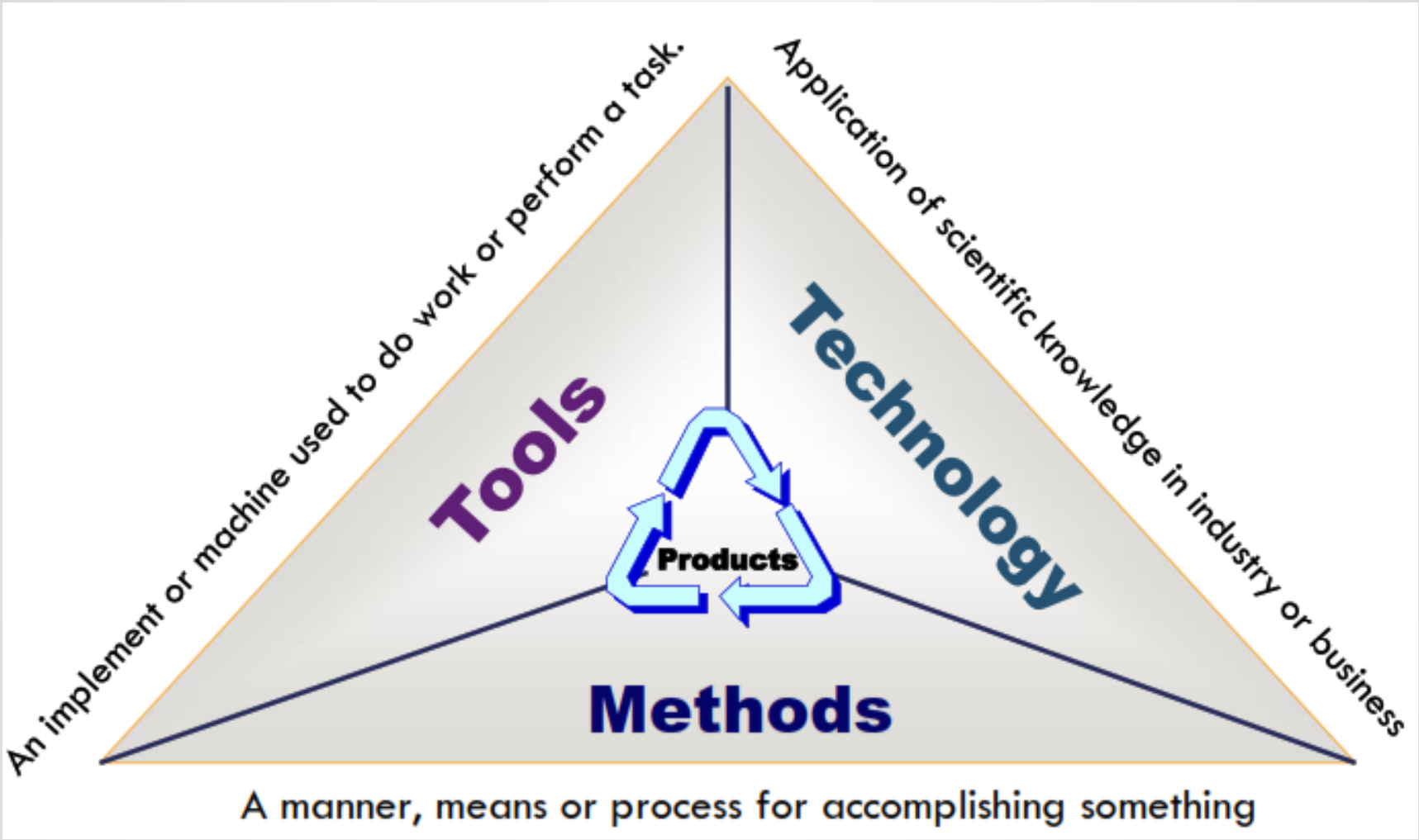
Engineering

Rules, Process, Manner

Software :: Product



Software :: Product



Software

Software

What does Software mean?

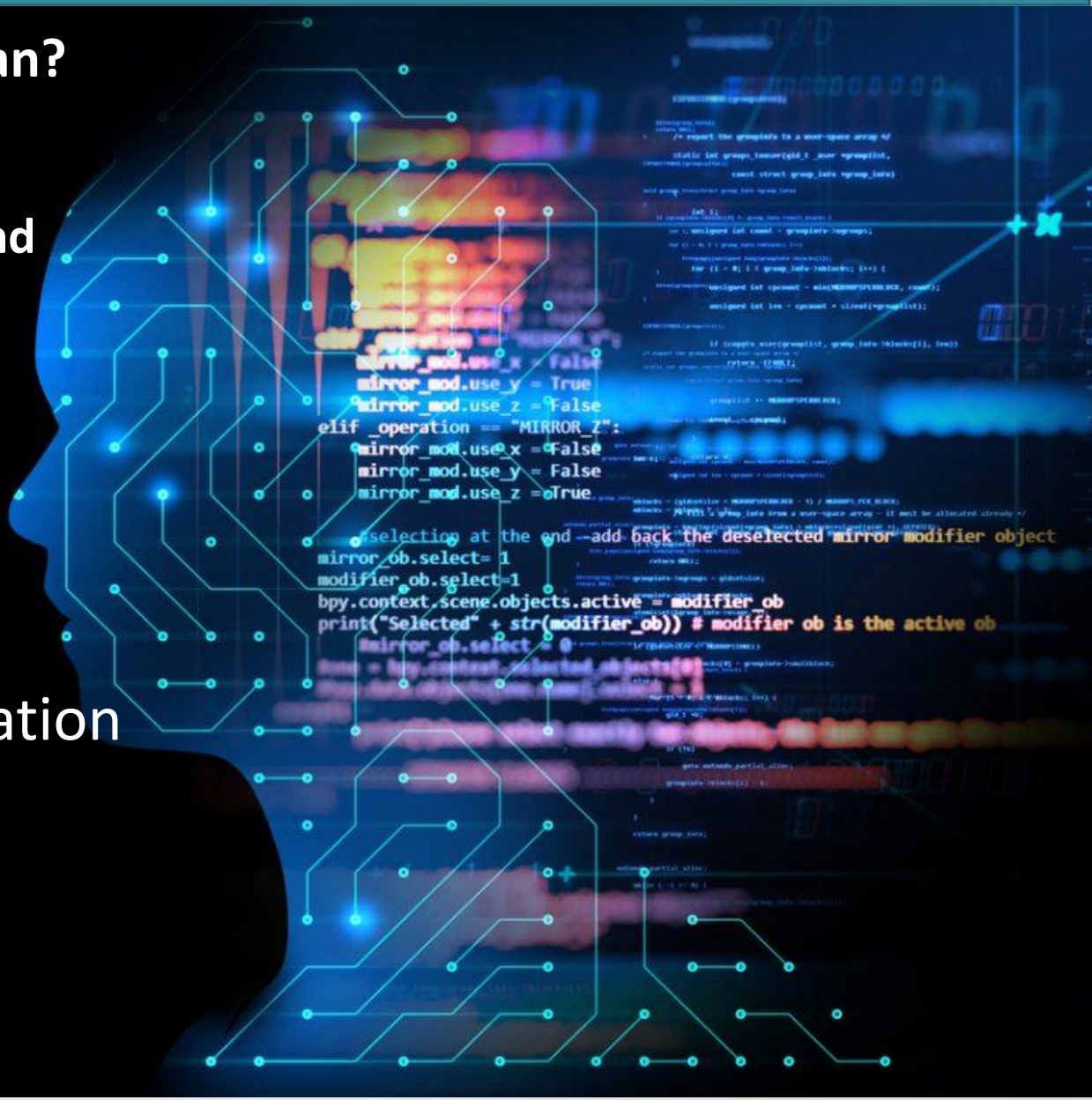
- A set of instructions
- A program is an executable code
- Executable computer programs and associated documentation
- A program or set of programs containing instructions which provide desired functionality .

Software

What does Software mean?

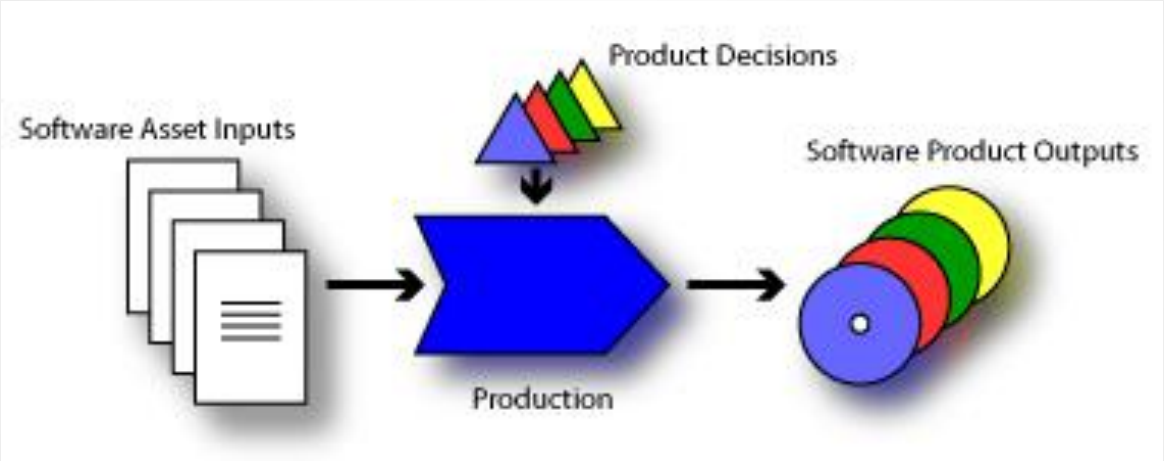
The **Institute of Electrical and Electronic Engineers (IEEE)** defines software as a

Collection of computer programs, procedures, rules and associated documentation and data.



What is software product?

Software, when made for a specific requirement is called **software product.**



Software products may be

- **Generic**- developed to be sold to a range of different customers.
- **Customised (Bespoke)** - developed for a single customer according to their specification.

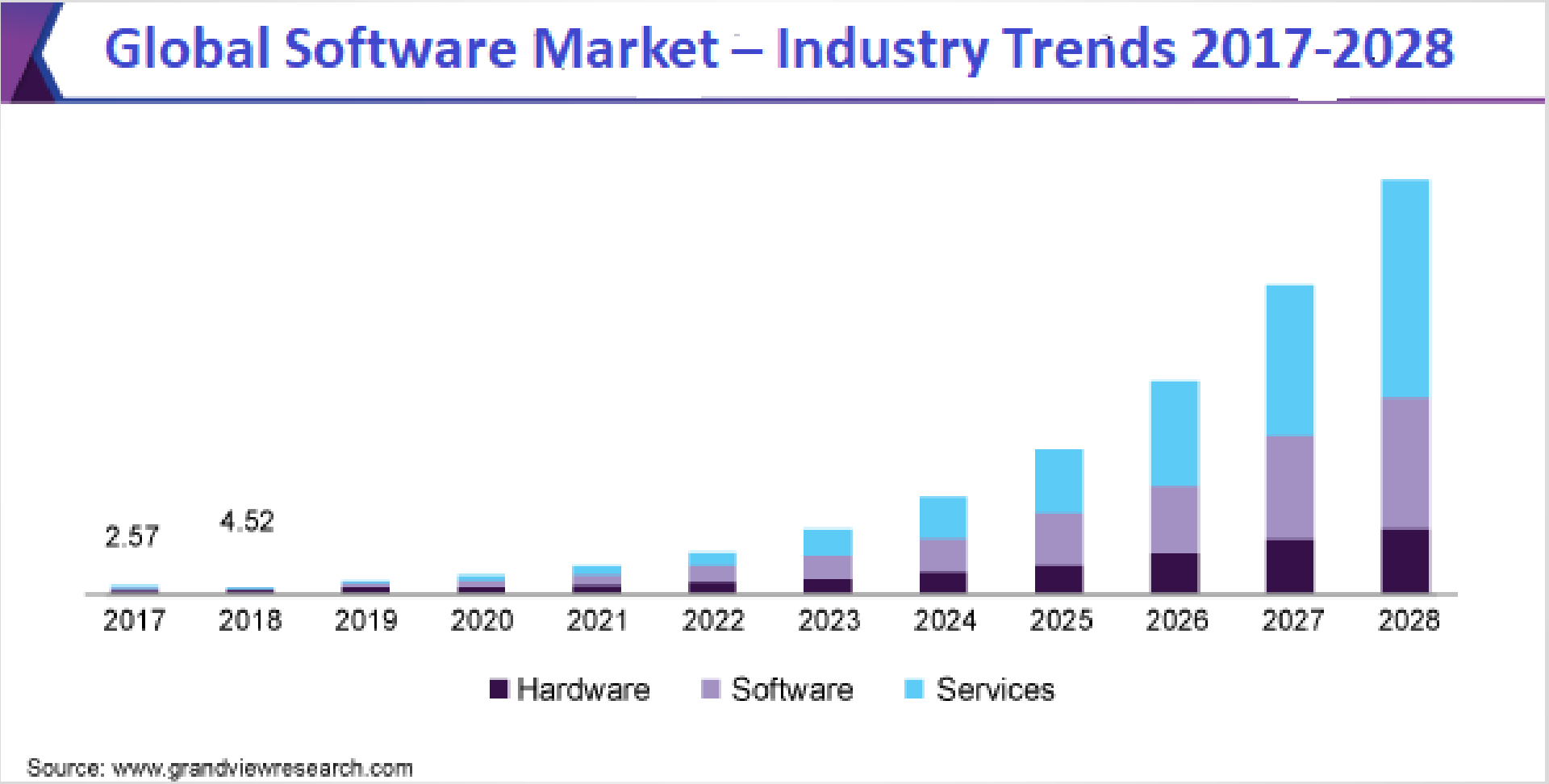
Attributes of good software

Essential attributes of good software

- Maintainability
- Dependability and security
- Efficiency
- Acceptability

In addition to the above mentioned characteristics, **robustness** and **integrity** are also important.

Global Software Market – Industry Trends and Forecast



Market Insight: IT Sector of Bangladesh

- Exports of software and information technology services in the country exceeded **1 billion US dollars in 2018**.
- The country's market stands at about **10 thousand crore**. About **50%** of this is occupied by local software developers
- Out of 60 banks in the country, only 26 banks are using local software. In the local software sector, there is a high demand for ERP software and mobile applications.
- According to the Ministry of Information and Communication Technology, the government's goal is to **export 5 billion** worth of software and services **by 2021**.

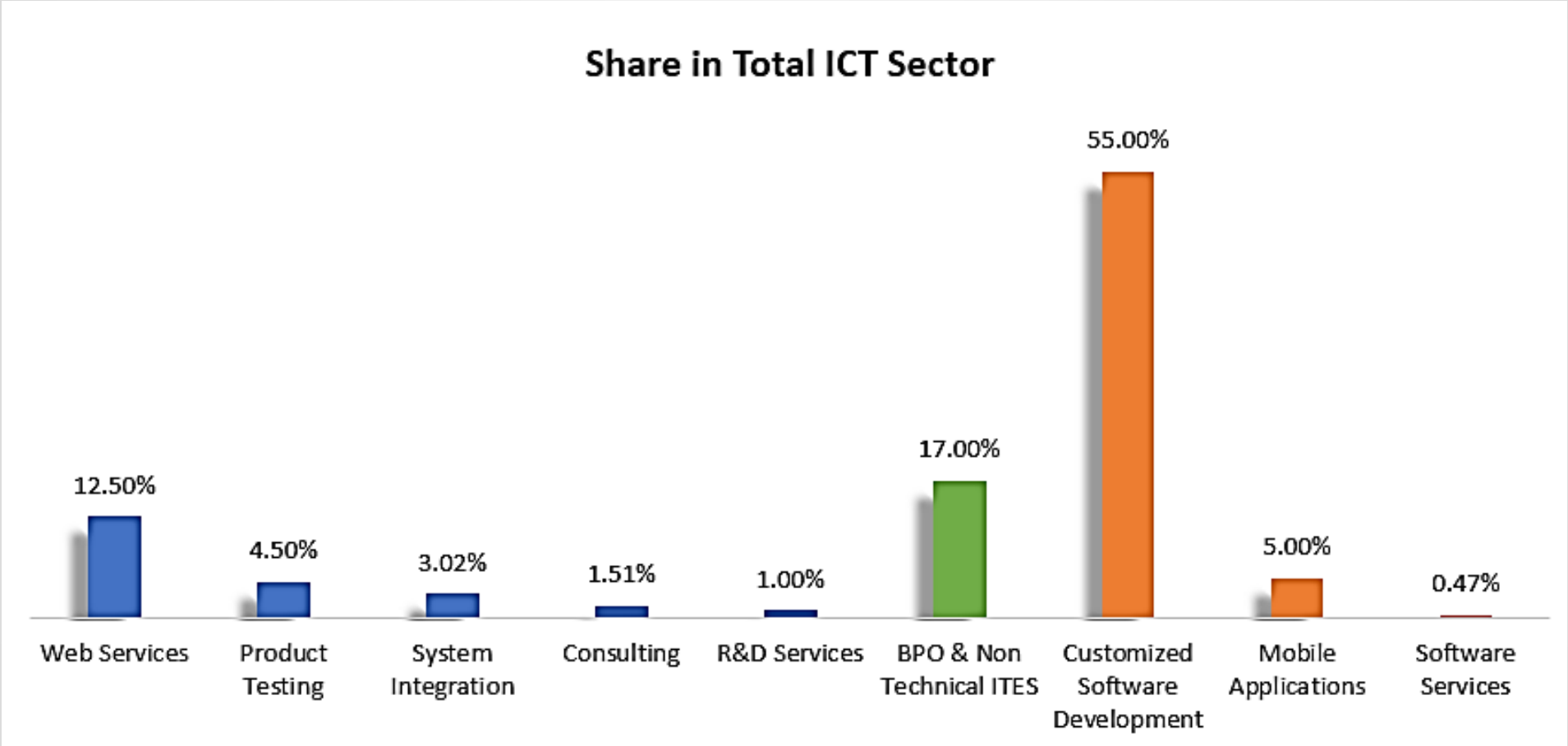
Market Insight: IT Sector of Bangladesh

Classification of Software

Software Classification

- System software
- Application software
- Engineering/scientific software
- Embedded software
- WebApps
- Mobile Apps
- AI software

Market Insight: IT Sector of Bangladesh



Source: BASIS & Light-Castle Research -2021

Thanks to All