



CYBER SECURITY FUNDAMENTALS

Session : Orientation

Date : 31.01.2025 & 01.02.2025



REGENESYS GROUP:

- Regenesys Business School was founded in 1998 by Dr. Marko Saravanja, Dr Penny Law, and Mr William Vivian.
- The purpose of Regenesys is to make our world a better place by developing conscious leaders and managers.
- Regenesys approaches human development holistically, intellectually, emotionally, spiritually, financially and physically.
- In order to provide a comprehensive suite of services to students, staff, and alumni, additional institutions were formed, as presented in the diagram.



For

V Wealth

Fin Tech



C StudyAll

Heol@i



Digital courses focused on upskilling individuals on the technology topics relevant to 4IR and 5IR.

Introductory courses are for individuals who need to deepen their understanding of technology.

Advanced courses prepare individuals who wish to pursue a professional career in the relevant technology.



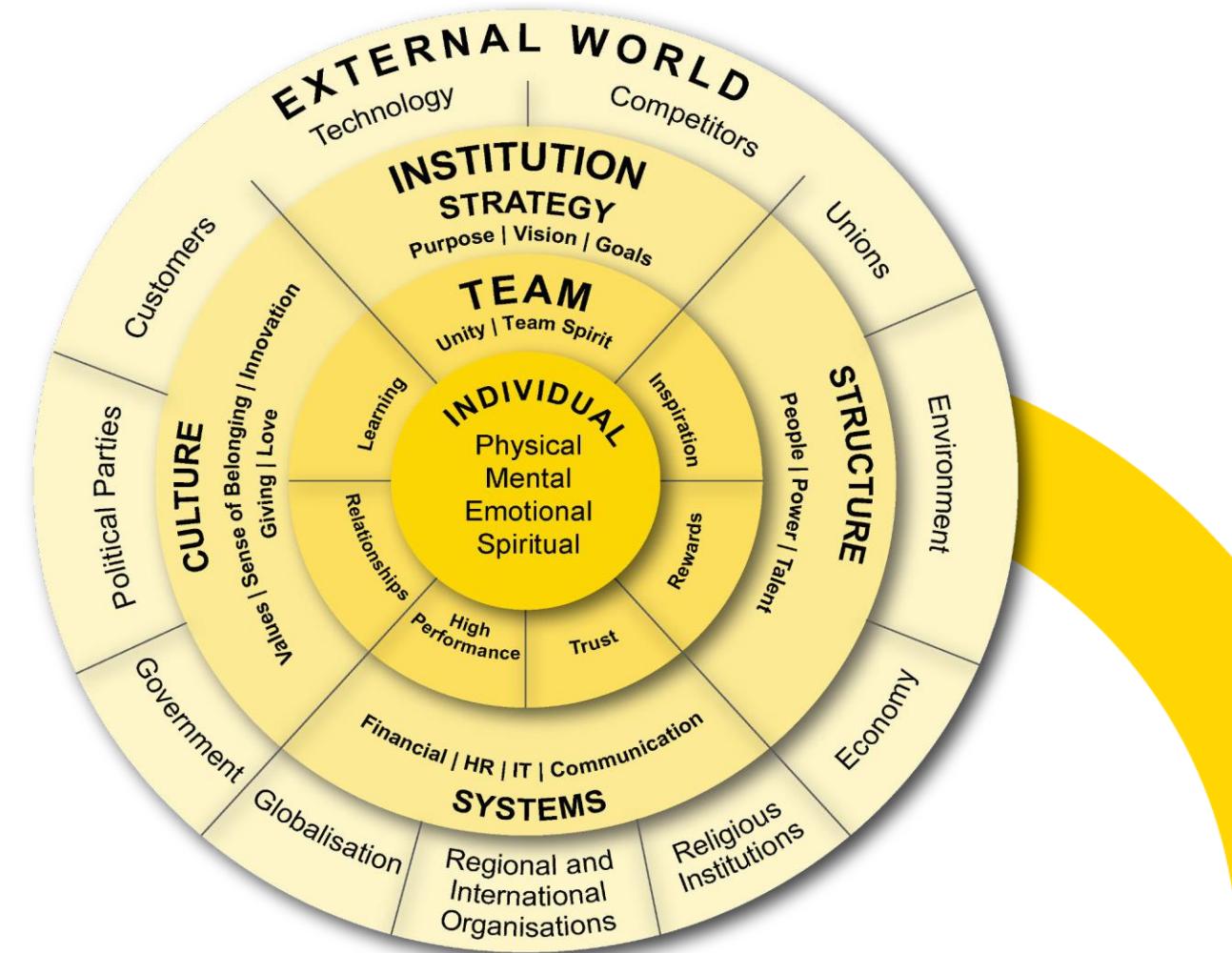
DIGITAL REGENESYS PROGRAMMES

- DATA SCIENCE
- ARTIFICIAL INTELLIGENCE
- PROJECT MANAGEMENT
- CYBERSECURITY
- DIGITAL MARKETING
- FULL-STACK DEVELOPMENT
- DATA AND BUSINESS ANALYTICS
- DESIGN THINKING
- PRODUCT MANAGEMENT
- MANAGEMENT ADVANCEMENT PROGRAMME

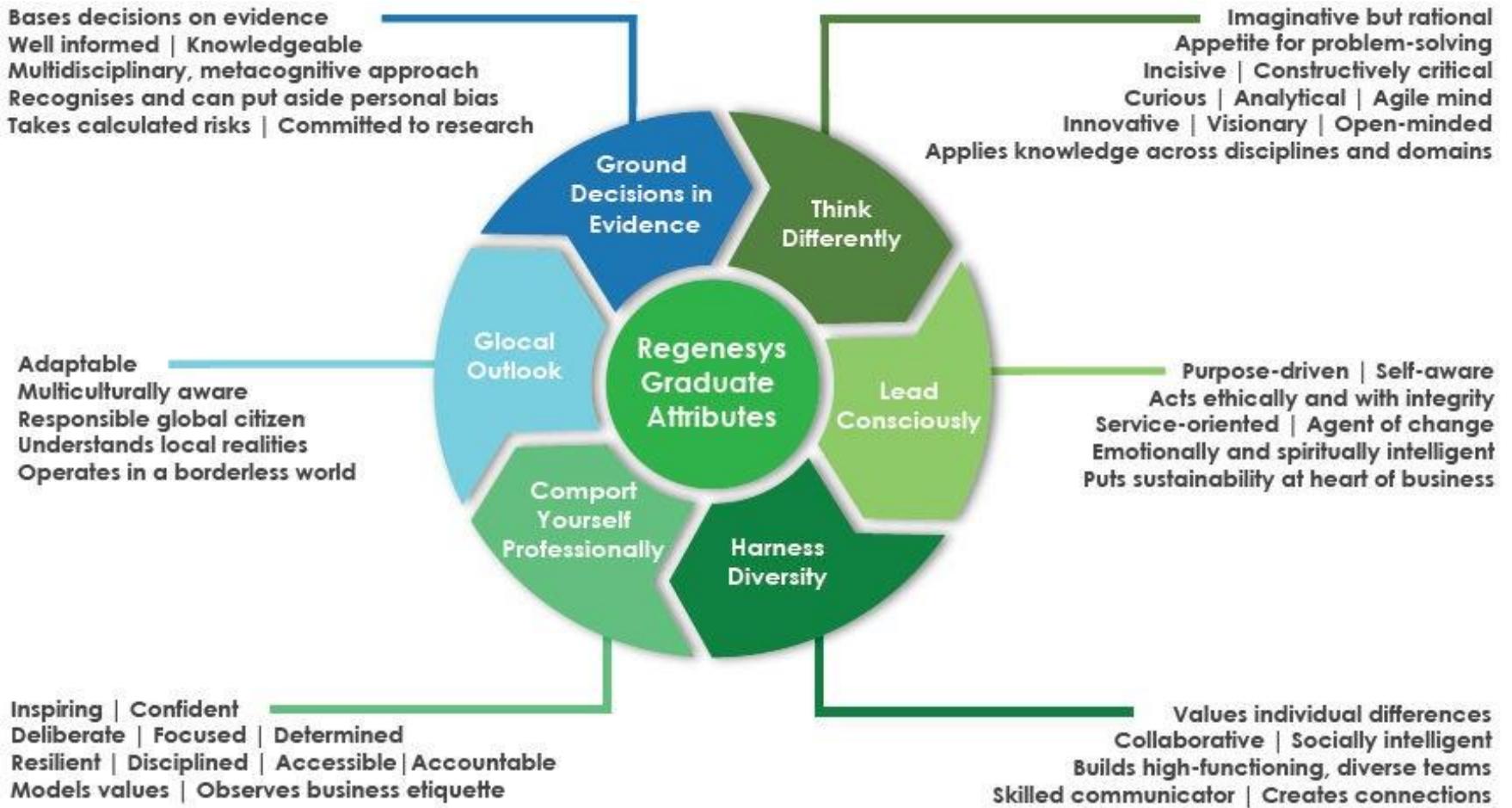


REGENESYS' INTEGRATED LEADERSHIP AND MANAGEMENT MODEL:

- **Holistic** focus on the individual (SQ, EQ, IQ, and PQ)
- **Interrelationships** are dynamic between individual, team, institution and the external environment (systemic)
- **Strategy** affects individual, team, organisational, and environmental performance
- **Delivery** requires alignment of strategy, structure, systems and culture



REGENESYS GRADUATE ATTRIBUTES:



KNOW YOUR FACILITATOR:



Dr. Saquib Ahmad Khan

- Dr. Saquib Ahmad Khan is a highly respected professional in the cybersecurity field.
- He holds a Ph.D. in Computer Science and possesses multiple cybersecurity certifications, establishing him as an esteemed expert in cybersecurity.
- Dr. Khan is a prolific author, with numerous research papers and articles to his credit, focused on advancing the field of cybersecurity.
- He is a frequent speaker at prominent industry conferences and events, where he imparts his knowledge and insights to fellow professionals.
- Dr. Khan also possesses a strong foundation in marketing, management, information technology, and various applications, bolstered by multiple degrees.

KNOW YOUR FACILITATORS:



Dr. Rakesh Rajendran

- Dr. Rakesh is a Ph.D holder in Information & Communication Engineering & a senior facilitator at Digital Regenesys with 10 years of experience.
- He is a doctorate from College of Engineering Guindy, Chennai, India which ranks in the top 200 universities in the world consistently.
- He has publications in reputed International journals and conferences such as Springer and IEEE indexed by SCI and Scopus.
- He comes with tremendous knowledge of Cyber Security, Web Security and Machine Learning.
- His skillset include: Programming - C, C++, Python, Core CSE subjects (Problem-Solving and Algorithmic Thinking, Computer Networks, Computer Programming, Data Science/ Machine Learning and Artificial Intelligence), Security Tools.



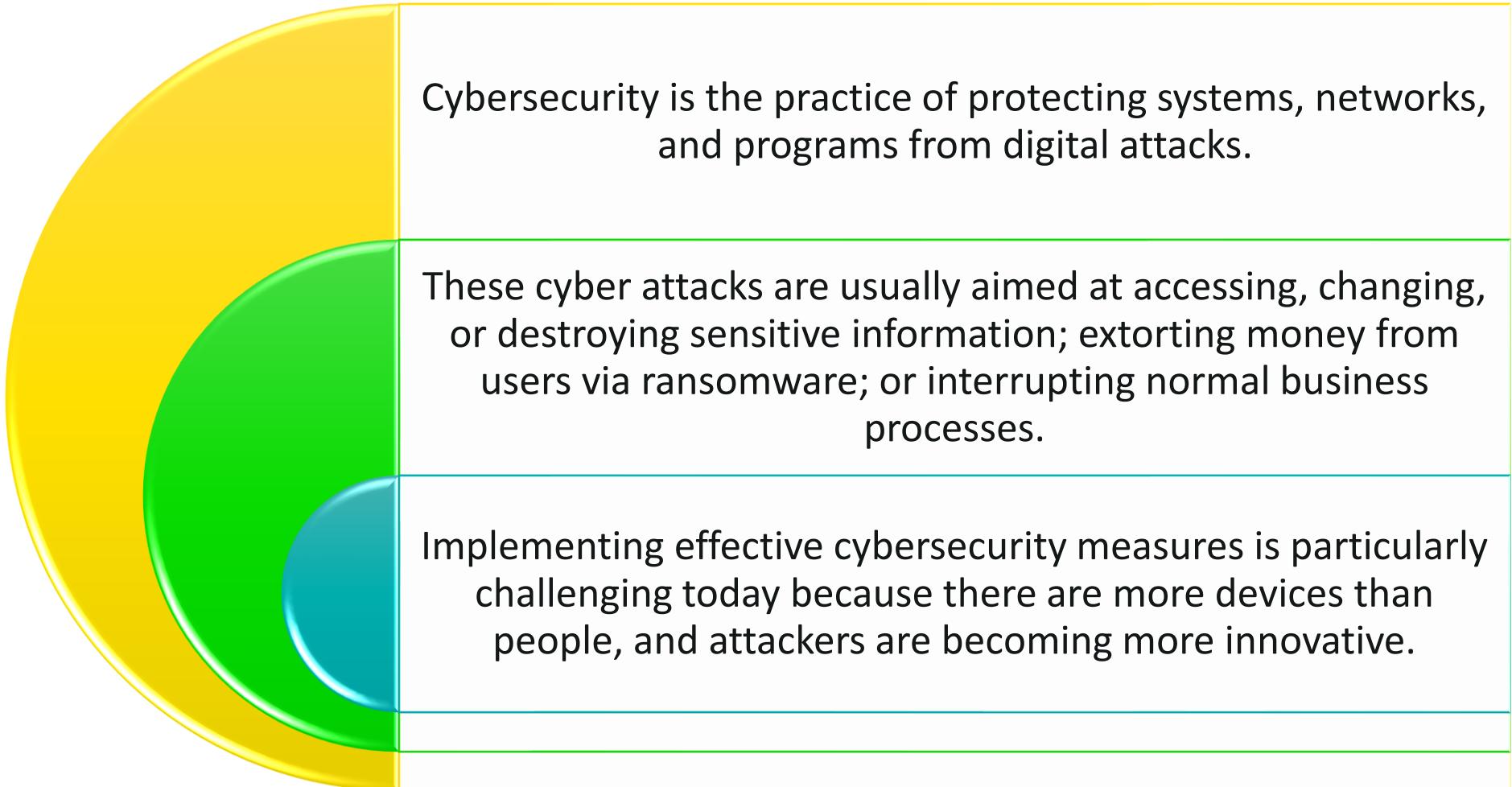
GROUND RULES:



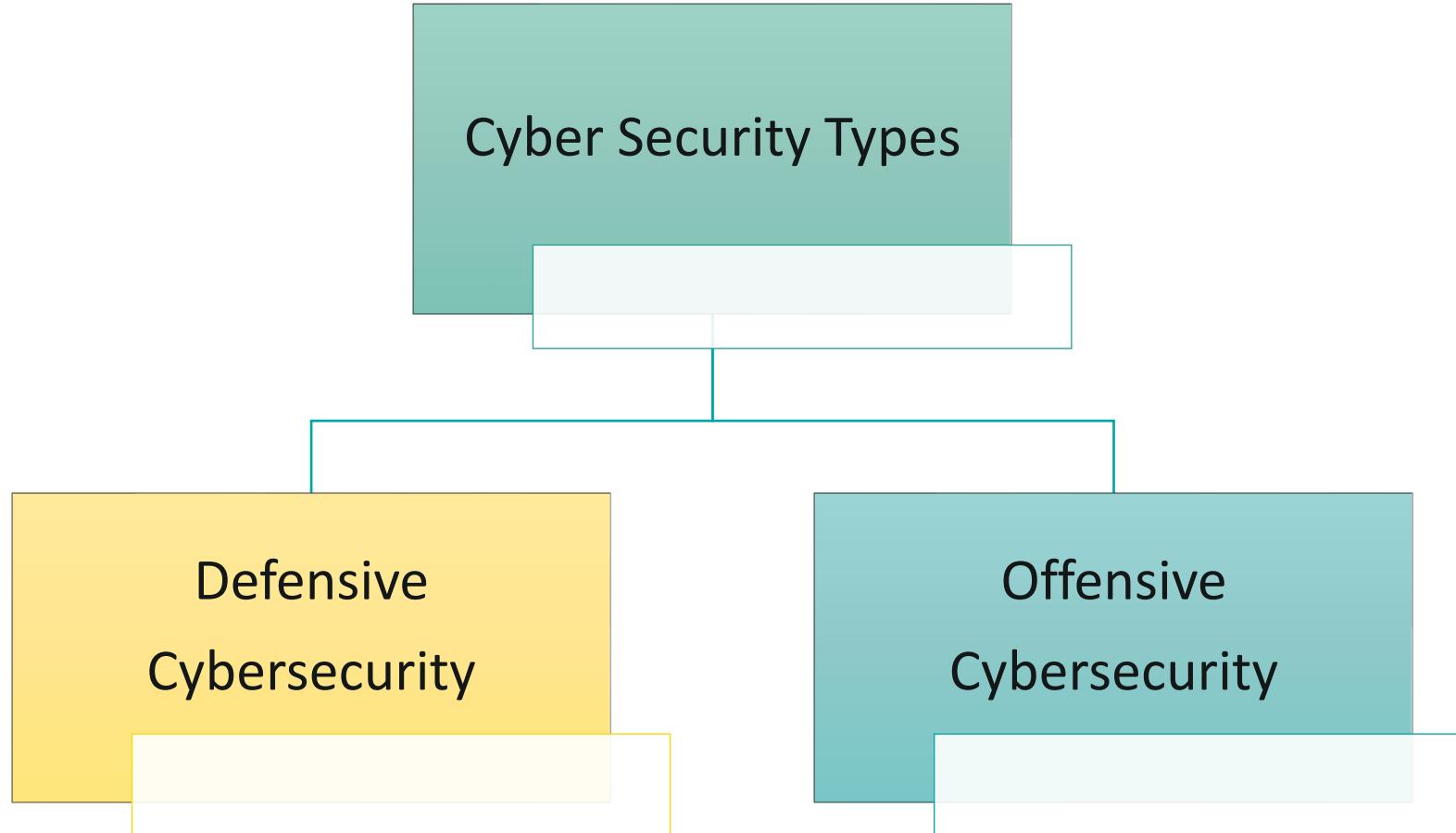
- Participate actively
- Be open-minded
- Listen carefully
- One conversation at a time
- ❖ Keep Cameras off for better bandwidth
- ❖ Mute yourself when you're not talking
- Respect the opinions of others
 - ✓ Give constructive feedback
 - ✓ Build on the ideas of others rather than destroying them
- Take some risks and share new ideas
- When speaking, use “I think”, “I feel”, etc.
(you are a very important aspect of this learning)

**HAVE FUN AND ENJOY THE
EXPERIENCE !**

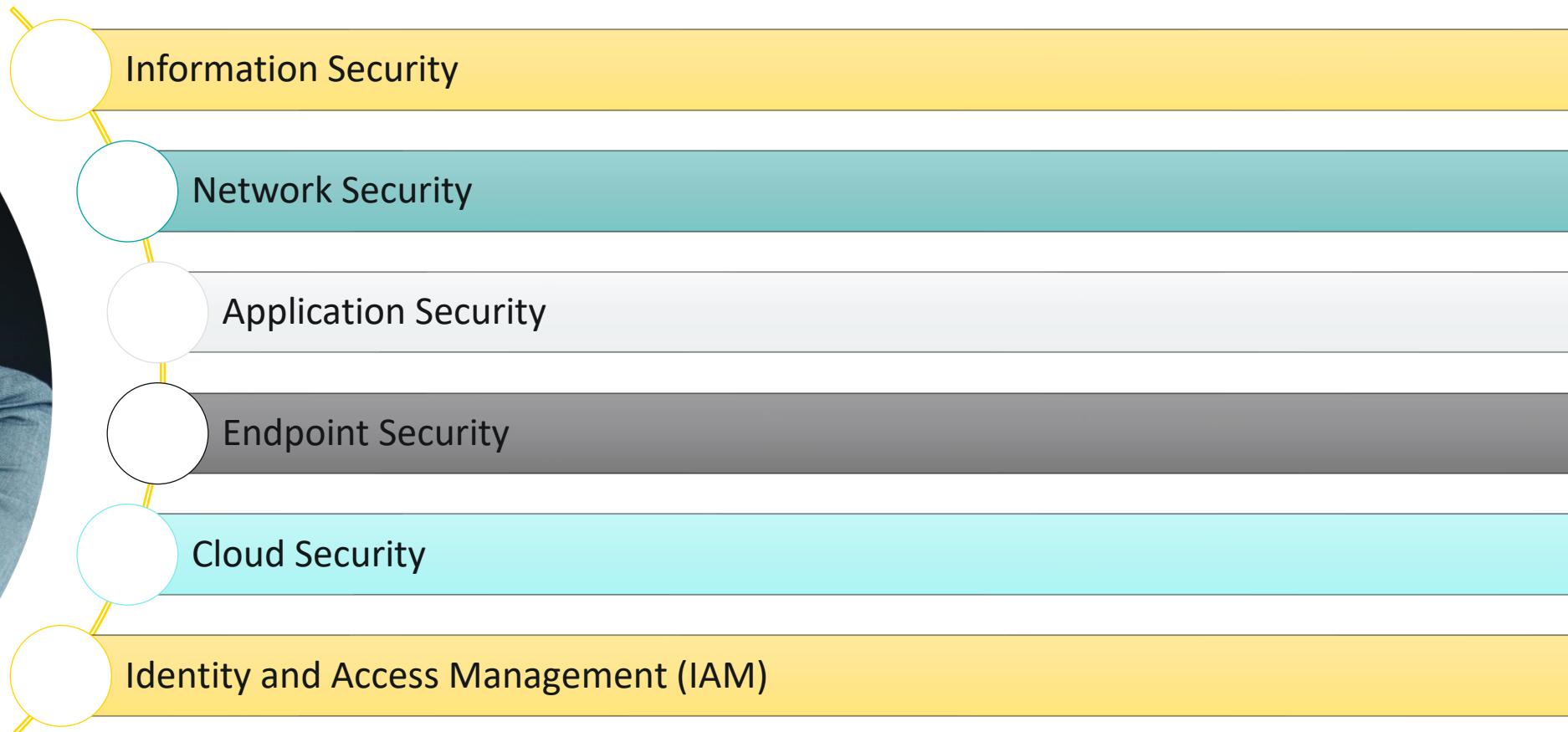
WHAT IS CYBER SECURITY?



CYBER SECURITY TYPES:



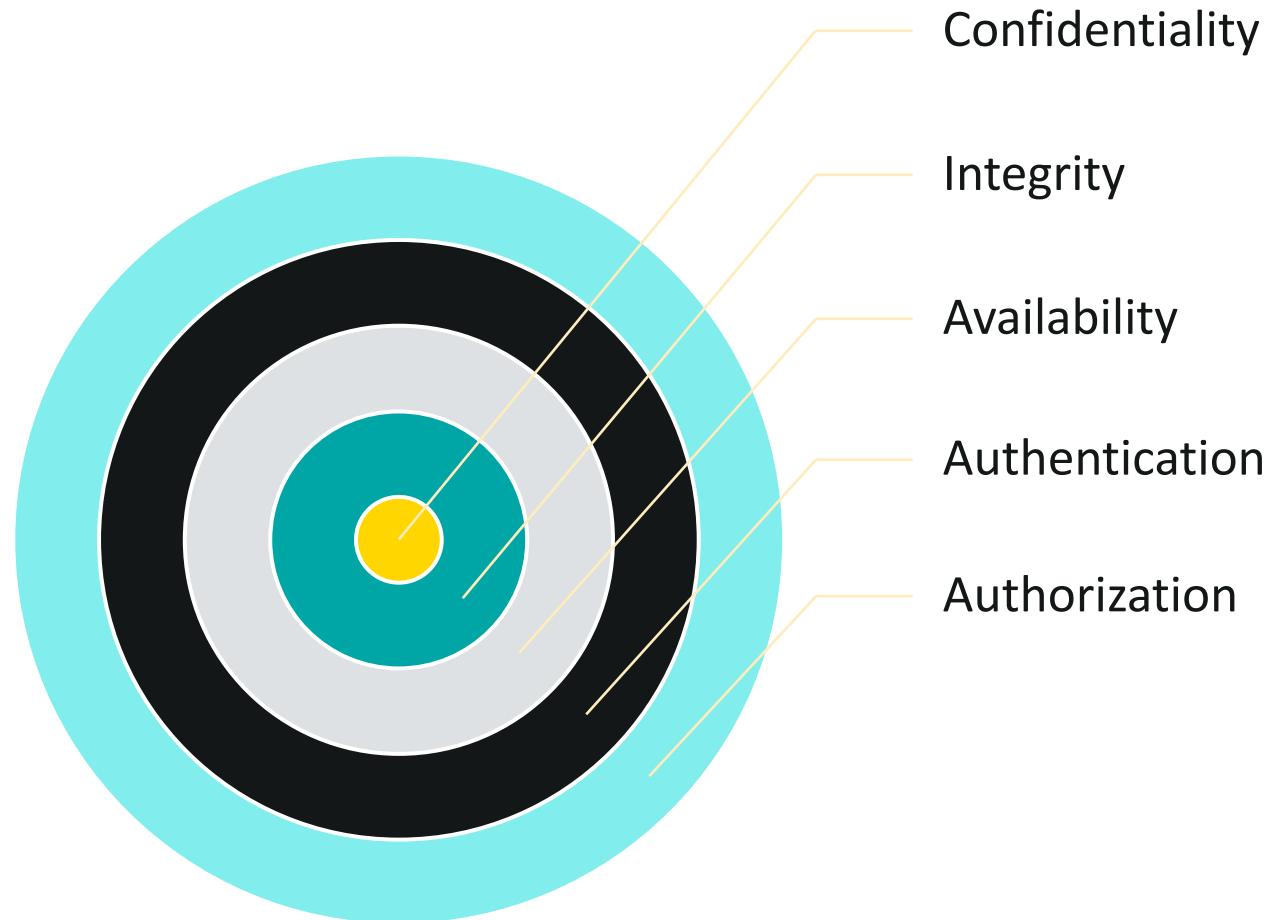
KEY COMPONENTS OF CYBER SECURITY:



KEY COMPONENTS OF CYBER SECURITY:



KEY PRINCIPLES OF CYBERSECURITY:



Confidentiality

Integrity

Availability

Authentication

Authorization

THE QUESTION IS....



Why is
Cyber Security
important?

WHY IS CYBERSECURITY IMPORTANT?



Protection of Sensitive Information

Prevention of Data Breaches

Maintaining Business Continuity

Protection of Financial Assets

National Security

Preventing Identity Theft

Preserving Privacy

Guarding Against Cybercrime

Mitigating Reputation Damage

Global Interconnectedness

THE QUESTION IS....



What's
happening in
Cyber World?

RECENT CYBER ATTACKS:



Attack on Trello

- In January 2024, 15 million users of project management software platform Trello had their data leaked on the dark web.

Attack on Ukraine

- On December 2023, Ukraine's largest mobile operator, Kyivstar, was hit by a cyberattack that left its system infrastructure extensively damaged and knocked it out of operation for days.

Source – Verizon Data Breach Investigation Report

RECENT CYBER ATTACKS:



Zero Day Vulnerabilities

- On November 2023, Microsoft addressed 77 patches, among them, Microsoft-released patches for three new zero-day vulnerabilities. Chrome browser and multiple Apple products patched zero-day vulnerabilities.

Attack on Discord

- In March 2023, the Discord data breach happened due to a vulnerability in the website code, allowing an attacker to access its database. As a result of the Discord data breach, around 760,000 users had their sensitive information exposed.

Source – Verizon Data Breach Investigation Report

Threat actors don't sleep... Neither should your security.

600% increase in cybercrime since the beginning of the pandemic.

60% of Server Message Blocks (SMBs) go under 6 months following a cyber-attack.

350% increase in the rate of ransomware attacks since 2018.

QUICK POLL



- 1) **Which OS are you using?**

- 2) **How much RAM do you have?**

SOFTWARE REQUIRED:



Microsoft Excel

Microsoft PowerPoint

Microsoft Word

Windows - <https://officecdn.microsoft.com/db/492350F6-3A01-4F97-B9C0-C7C6DDF67D60/media/en-US/Professional2019Retail.img> (7 days trial)

MAC - <https://go.microsoft.com/fwlink/?linkid=525133>

*Do not install office till the first session. Install office only after first session



PYTHON

Windows - <https://www.python.org/ftp/python/3.12.2/python-3.12.2-amd64.exe>

MAC - <https://www.python.org/ftp/python/3.12.2/python-3.12.2-macos11.pkg>

- 1) Install the exe/pkg file
- 2) Enable the add python.exe to path option during installation options
- 3) Restart your computer once installed



VIRTUAL MACHINE and KALI LINUX OS

Copy and paste the following link,

https://regenesysnow-my.sharepoint.com/:f/g/personal/rakesh_r_regenesys_net/Er8KivFFqQ1BrJnGyvthovEBU_WTGah2jzZrTdkoykWnNw

Windows users – Click on Windows folder, download softwares named Session 03A till Session 03D. Follow the “Session 01 Installation” video to know how to install the softwares.

-  Session 01 Installation Video.mp4
-  Session 03A VC_redist.x64.exe
-  Session 03B 7z2407-x64.exe
-  Session 03C VMware-player-full-17.5.0-22583795.exe
-  Session 03D & 04 kali-linux-2024.2-vmware-amd64.7z



VIRTUAL MACHINE and KALI LINUX OS

Copy and paste the following link,

https://regenesysnow-my.sharepoint.com/:f/g/personal/rakesh_r_regenesys.net/Er8KivFFqQ1BrJnGyvthovEBU_WTGah2jzZrTdkoykWnNw

MAC users -

Go to MAC folder, open the “Software links for MAC systems” text file and follow till Session 03D to install the softwares.

Software links for MAC systems.txt

```
1 Copy paste the link in your browser. It will automatically start downloading the files
2
3 -----
4 Session 03 A
5 -----
6 | VC redistributable - Not required
7
8 Session 03 B
9 -----
10 | 7zip -
11 | https://www.7-zip.org/a/7z2407-mac.tar.xz
12
13 Session 03 C
14 -----
15 | No VMWare for MAC instead download the below software (UTM.dmg) and also follow the youtube tutorial
16 | https://github.com/utmapp/UTM/releases/latest/download/UTM.dmg
17 | https://www.youtube.com/watch?v=9zdjQ9w\_v\_4
18
19 Session 03 D and 04
20 -----
21 | Kali Linux -
22 | https://cdimage.kali.org/kali-2024.2/kali-linux-2024.2-installer-arm64.iso
23
24 | If you have VMWare fusion then follow this youtube tutorial with vmware fusion
25 | https://www.youtube.com/watch?v=LJo9EUwXiHo
26
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Module 01- Week 01

- Introductory fundamentals of cyber security threat actors, attacks, and mitigation
- Cyber Security Fundamentals
- Security Policies and Procedures
- Cyber Security mitigation methods
- CIA Triad

Module 02- Week 02

- Enterprise Architecture
- Organizational Security Policy and Components
- Internet & Networking Basics
- Introduction to Secured Architecture
- Wireless Networks
- Network Security Controls
- Cloud Virtualization
- BYOD and IOT Security Testing

Module 03- Week 03

- Information system governance and risk assessment
- Introduction to information security
- Governance risk
- Management information security programs
- Network security and spoofing

Module 04- Week 04

- Developing an Incident Management and Response System
- Digital Forensics Business
- Continuity and Disaster Recovery
- Wi-fi Network Security
- Web Security

Module 05- Week 05

- Cryptography and Encryption
- Cryptanalysis
- Malware Analysis, Memory Forensics
- Cyber Forensic
- Application Security
- Hands-On Security

Module 06- Week 06

- Introduction to Application Security
- Web-Based Applications and Associated Vulnerabilities
- Cookies and Tracking
- Data and Database Security
- Phishing and Other Attacks on Identity
- Regulation, Compliance, and Risk Management

Module 07- Week 07

- Introduction to Ethical Hacking
- Overview of Information Security, Threats, Attack Vectors, Ethical Hacking Concepts.
- Information Security Controls
- Penetration Testing Concepts, and Information Security Laws and Standards
- Footprinting and Reconnaissance

THE QUESTION IS....



Why should one
seek to gain
expertise in
Cyber Security?



THANK YOU