

# Cyber Security Training Program - Fundamentals

GM International in collaboration with TVC Functional Safety Services are pleased to recommend the TÜV Rheinland Cyber Security Training Program, a unique opportunity to provide evidence of competency in Cyber Security from an internationally recognized organisation. Successful delegates, on completion of the fundamentals course and exam, will receive a "Letter of Confirmation" from TÜV Rheinland, which will allow them to progress to either the Cyber Security Risk Assessment or Cyber Security Component training.



## COURSE OBJECTIVES

The objective of this course is to provide participants with a basic understanding of cyber security fundamentals so as to be equipped to better understand the principles and practices introduced in the advanced IACS Cybersecurity Risk Assessment training course according to IEC 62443 or the IEC 62443-4 Cyber Security Component course of the TÜV Rheinland Cyber Security Training Program. Successful completion of the full certificate program, completion of the fundamentals course and exam and either the Security Risk Assessment or Component course and exam will result in the award of the CySec Specialist (TÜV Rheinland) certificate. This award demonstrates competency with respect to either assessing and specifying Industrial Automation Control and Safety System (IACS) Security or product security and provides a skill set enabling staff to fulfill responsibilities and to perform activities to recognised standards of competence, in order to:

- reduce the risk of a successful cyber attack
- satisfy legal and regulatory requirements
- meet the organisation's system security and business objectives.

The Fundamentals element of the qualification covers gaining a basic knowledge of: Industrial Protocols, Networks and Networks Security types, ISO/OSI Reference Model Cryptography, IEC 62443 Framework, NIST Cyber Security Framework (CSF), Establishing an Industrial Automation and Control Systems Security Program, Risk Analysis, Addressing Risk with the CSMS and Monitoring and Improving the CSMS.

## WHO SHOULD ATTEND?

Functional, Process, Technical Safety and Product Design Engineers, Control and Instrument Engineers and Managers, Process Engineers, Operations personnel and managers, maintenance staff, consultants, advisors and persons involved in product development, management, engineering, operations and safety of process operations who require an understanding of the fundamentals of cyber security and who may wish to progress to take part in the TÜV Rheinland CySec Security Risk Assessment or Product Design and Development courses and exam.

## COURSE PROVIDER

**TVC FUNCTIONAL SAFETY SERVICES FZ-LLC ([tinovc.com](http://tinovc.com))**

Our team of industry-leading experts are providing worldwide Functional Safety and IACS Cyber Security Training and Consultancy Services for equipment manufacturers, consultancy organizations, EPC's, End Users in the Oil & Gas, Chemical, Petrochemical, Pharmaceutical, LNG, Mining, Refining and Petroleum Industries. We are delivering consultancy support to all activity phases of the safety lifecycle and have translated our over 30 years' industrial experiences in practical training courses using our hands-on examples of our expertise to bring the theoretical and practical aspects together in an understandable fashion. TVC is an accepted course provider under the TÜV Rheinland Functional Safety and Cyber Security Training Program. The brand TVC has gained recognition in the Process Industry as the most practical & simple explained training courses and seminars conducted in a professional manner.



## CYBER INSECURE?

Every 39 seconds a hacker attack occurs.  
How prepared are you?



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## TRAINING PROGRAM

### Day 1 Agenda:

- Industrial networks vs. Business networks
- Network types
- ISO/OSI Reference Model
- OSI Layer 1: Physical
- Layer 2 Switches
- IPv4 Addressing
- Network Address Translation (NAT)
- DHCP

### Day 2 Agenda:

- Routers
- Layer 3 Switches
- TCP – Connection Oriented Session
- User Datagram Protocol (UDP)
- Firewalls
- Cryptography
- Remote Access VPNs
- Intrusion Detection Systems

### Day 3 Agenda:

- Modbus
- Profibus
- IEC62443 Framework
- NIST Cyber Security Framework (CSF)
- Establishing an Industrial Automation and Control Systems
- Security Program
- Risk Analysis
- Addressing Risk with the CSMS
- Monitoring and Improving the CSMS

## COURSE INFORMATION

**Cyber Security Training Program – Fundamentals**, face-to-face or virtual classroom, is an on-demand course tailored to customer's needs. The course is of modular classroom tuition structure followed by a 90-minute exam. 'Classroom' OR 'Online' instructor-led training via ZOOM. It is held in English and duration is 3,5 days. Exam can be taken online or at one of Exam Centres on day 4.

### PREREQUISITES

In accordance with the TÜV Rheinland Functional Safety and Cyber Security Training Program:

- A minimum of 3 to 5 years' experience in a related field (e.g. Control & Instrumentation, process engineering, IT/OT, functional safety or cyber security).
- University degree or equivalent engineering experience and responsibilities as certified by employer or engineering institution.

### EXAM - RULES AND REGULATIONS

The applicant has to attend three consecutive days online or classroom instructor-led training course given by TVC Functional Safety Services FZ-LLC.

A 90-minute exam competency examination comprising 75 multiple-choice questions (1 mark each question). The pass score criterion is 75%.

## FEES AND CONTACTS

Registration is valid only upon receipt of registration form and payment. Please contact us for detailed information about fees. The price includes:

- Course material
- Registration fees and certificate of attendance
- Letter of Confirmation from TÜV Rheinland

Contact us to find out more: [training@gminternational.com](mailto:training@gminternational.com)

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