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The Quays, Salford, Greater Manchester M50 3TW, United Kingdom



#### EDUCATION

- Electronics Engineering, BSc / Industrial Automation
   Mapua Institute of Technology, Philippines
  - The Manchester Leadership Development Programme / Alliance Manchester Business School, United Kingdom
- Siemens Professional Education / People, Engineering and Business Management, Germany

#### ORGANISATION

- International Society of Automation, ISA
- Project Management Institute,
  PMI
  - International Information System Security Certification Consortium, ISC2

#### INDUSTRY KNOWLEDGE

Manufacturing Processes



Heavy and Highly Regulated

#### MANAGEMENT SKILLS

Project Execution and Delivery



Cybersecurity Management System



Team, Project, and Stakeholder Management



Leadership and Coaching



Business and Growth Strategy



Organization and Prioritization



Entrepreneurship and Ownership



**Business Process and Tools** 



# KERTVIN TUGADO



PMI-ACP, CISSP, TÜV CySec Specialist, TÜV FSEng-SFSP, Siemens TÜV Certified Functional Safety Professional, Siemens Certified Professional for Industrial Networks - Security

#### ENGINEERING LEAD AND GLOBAL LINE MANAGER

A seasoned professional with over 15 years of experience in project management, delivery and execution in the power generation, energy, and chemicals industries. Known for strong engineering and business skills, stakeholder management, and business ethics.

Expertise includes electrical, integrated control and safety, instrumentation (EC&I), OT security, IT/OT integration, functional safety, data analytics, project management, and digitalization. Successfully manages multi-million-pound projects and programs, and leading diverse teams across Europe and Asia Pacific for Siemens Digital Industries.

Certified by TÜV and Siemens in Functional Safety and Industrial OT Security, demonstrating a high level of competency, extensive experience, and long-standing expertise.

#### PROFESSIONAL EXPERIENCE

## PRODUCT & SOLUTION INDUSTRIAL SECURITY (OT) OFFICER FUNCTIONAL SAFETY MANAGER in PROJECTS

Siemens AG, 2020 - Present

#### ENGINEERING LEAD AND GLOBAL LINE MANAGER

Siemens AG, 2019 – Present

- Global technical leader in EC&I engineering, digitalization, and OT security projects and programs across Europe, overseeing multi-million-pound energy and chemicals projects and managing a global team.
- Manage the EC&I engineering team, providing technical guidance and support.
- Prepare and review project proposals and ensure technical compliance.
- Manage resources, schedules, workloads, and performance indicators.
- Oversee the design, execution, and delivery of integrated control and safety systems, OT security, power automation and control management systems.
- Ensure compliance with industry standards and project requirements.
- Lead and managed functional safety and industrial OT security risk assessment, workshop and technical activities.
- Managed project and program developments using established project and engineering management methodologies such as Agile, DevOps or Waterfall.
- Collaborate with stakeholders to define project scopes, deliverables, and timelines.
- Review and evaluate engineering designs and documentation.
- Develop and perform analysis of the architecture and infrastructure of an industrial Control and Safety Systems in context of cybersecurity.
- Provide technical leadership, expertise and problem-solving support.
- Ensure timely and budget-compliant completion of engineering tasks.
- Supervise subcontractors and suppliers to ensure they meet project specifications and requirements.
- Prepare and present technical reports and documentation to stakeholders.
- Participate in project planning, risk management, and change control processes.
- Lead effective communication and collaboration within the team.
- Manage functional safety engineering, OT security, and project execution in critical infrastructure.
- Develop advanced measures and sophisticated protection concepts of OT security (e.g., IEC 62443, IEC61508, IEC 61511, IEC6160870, IEC61850 and IEC62351) and assess cyber risks for power and energy industry
- Ensure continuous knowledge transfer and stay updated with new technologies.

#### TECHNICAL SKILLS

PM @ Siemens Project Management Siemens Process Control System PCS7 and Process Modelling using SIMIT Platform Siemens Opcenter Execution Pharma MES Siemens Plant Engineering **Software COMOS** Siemens PLM and Manufacturing **Operations Software** Mendix Low Code Application **Development Platform** Cyber Security and Industrial Security Functional and Process Safety Python, VB6, C++ and Visual Studio SQL and Oracle Database Cloud and Edge Computing Software Development Life Cycle Agile, DevOps and Scrum Framework 

#### CERTIFICATIONS

Siemens People and Business Management / Siemens AG

Functional Safety Engineer and Professional / TÜV SÜD

Cybersecurity Specialist on Security Risk Assessment / TÜV Rheinland

International Information System Security Certification Consortium, ISC2 / CISSP (WiP)

Siemens Process Control System PCS7 / Siemens AG

Siemens Opcenter Execution Pharma / Siemens AG

PMI-ACP / Project Management Institute

#### **BUSINESS AND TECHNICAL MANAGER**

Plant.IT Process Automation Solutions, Philippines 2017 - 2019

- Review budget allocations, financial statements, project expenses, and manage costs.
- Analyze, approve, and recommend approval for change requests, orders, invoices, and payment applications.
- Perform administrative tasks such as reviewing and writing reports, approving expenditures, enforcing rules, and making purchasing decisions.
- Prepare and present technical reports and documentation to stakeholders.
- Participate in project planning, risk management, and change control processes.
- Manage the EC&I and OT security engineering team, providing technical guidance and support
- Manage the delivery of integrated control and safety system, substation automation and power control and management systems.
- Ensure all engineering activities comply with industry standards, regulations.
- Ensure engineering tasks are completed on time, within budget, and to the required quality standards.
- Ensure all engineering activities comply with industry standards, regulations, and project requirements.
- Collaborate with project managers, clients, and stakeholders to define project scopes, deliverables, and timelines.
- Promote effective communication and collaboration within the engineering team and with other project teams.

#### **ENGINEERING MANAGER**

CMR Group, Singapore 2012 - 2017

- Manage EC&I engineering team, granting technical management and support.
- Manage the design and implementation of integrated control and safety system, substation automation and power control and management systems.
- Ensure all engineering activities comply with industry standards, regulations, and project requirements.
- Manage and develop OT security and functional safety concepts and strategies
- Work with project managers, clients, and stakeholders to define project scopes, deliverables, and timelines.
- Review and assess engineering designs and documentation.
- Offer technical expertise and problem-solving support throughout project lifecycles.
- Ensure engineering tasks are completed on time, within budget, and to the required quality standards.
- Oversee subcontractors and suppliers to ensure they meet project specifications and requirements.
- Develop and maintain engineering standards, procedures, and best practices.
- Prepare and present technical reports and documentation to stakeholders.
- Participate in project planning, risk management, and change control processes.
- Promote effective communication and collaboration within the engineering team and with other project teams.

#### TECHNOLOGY LEAD AND LEAD TECHNICAL SUPPORT ENGINEER

Emerson, Philippines 2010 - 2012

- Enhance the technical support team's capabilities for Emerson's product applications.
- Provide technical support, consultation, and diagnostics for Emerson Automation Solutions products globally, including DeltaV DCS, DeltaV SIS, AMS Device Manager, Wireless Solution, and PlantWeb installations. This includes troubleshooting and resolving hardware, software, installation, configuration, integration, and application issues.
- Identify workarounds, reduce resolution times, and support training and resource development.
- Collaborate with global partners and organizations to resolve product issues and guide product design.

### INDUSTRIES **Electric Power Generation** Petrochemicals and Chemicals Cement & Mining Energy (Others) Oil and Gas Automotive and Machinery **Electronics and Semiconductor** Aerospace Pharmaceuticals and Life Sciences **ENGINEERING SKILLS** Good Automated Manufacturing Practice Validation and Qualification System Design and Development ••••• Industrial Communication and **Protocols** ••••• 3<sup>rd</sup> Party Distributed Control System International Framework and Regulatory Standard System Integration **Blueprints and Architecture Design and Concepts** Digitalization Solutions and Software Development •••••

Lean Start-up and Six Sigma

Discrete, Process, Continuous and

Batch

#### RECOGNITION AND ACHIEVEMENTS

- Successfully manage and deliver complex projects totaling approximately £35M in revenue.
- Author and co-author several documents, guidelines, blueprints and architecture for OT security focus on Energy, Chemicals and Power Generation Industry
- Lead project delivery, execution, and controls, improving business targets and margins.
- Champion people leadership, global collaboration, engineering, technology, and stakeholder management.
- Received numerous STAR awards for project leadership, technical and engineering management excellence
- Managed and lead project and engineering teams are nominees for Werner Von Siemens Awards
- Functional safety manager and cybersecurity specialist for critical infrastructure projects in energy, chemicals, and power generation for UK and Ireland
- Enhance project execution and delivery, increasing profit margins.
- Promote digitalization and innovation in engineering and business.

#### SELECTED BUSINESS PROJECTS

- Contribute regionally and globally to developing and improving engineering processes, best practices, and methods, while executing local business strategies and building strong customer relationships.
- Author, adapt, manage, and maintain functional safety management and OT security blueprints, guidelines, architecture and documents for Siemens UK, in line with IEC6150, IEC61511 and IEC62443 standards.
- Managed and improved the full functional safety lifecycle from proposal to advisory, engineering management, and delivery.
- Oversee project and solutions audits, advisory, and engineering management for critical infrastructure projects, ensuring compliance with standards like IEC 62443, IEC61508, IEC 61511, IEC6160870, IEC61850 and IEC62351
- Innovate in engineering delivery and share subject matter expertise on a regional and global scale.
- Advocate for the use of emerging technologies such as AI, Blockchain, Machine Learning, Edge, Cloud, Digital Twin, Industrial IoT, and Modular Engineering.

#### SELECTED TECHNICAL PROJECTS

- GlaxoSmithKline: Cell and Gene Therapy Catapult, Siemens SIMATIC Process Control System PCS7 Batch Control, Process Historian, Industrial Cybersecurity, Opcenter Execution Pharma Manufacturing Execution System MES, Siemens OTS, and SIMIT Digital Twin
- McDermott- Stegra: H2GS Sweden, Hydrogen Integrated Control and Safety System SIMATIC PCS7 and Safety SIS, Siemens Desigo BMS, COMOS Unified Engineering, gPROMS Digital Twin and Industrial Cybersecurity
- Energos: Renewable Energy Centre, SIMATIC Process Control System PCS7,
  CEMS, Safety SIS Control, Industrial Cybersecurity, SIMIT Digital Twin, Process
  Simulation and APID Prediktor Historian
- Siemens Energy: TAP Greece and BP West Nile, SIMATIC Turbine Control System PCS7 and Safety SIS Control, SIMIT Digital Twin and Industrial Cybersecurity
- Vital Energie: Energy Conversion Integrated Control System, SIMATIC Process Control System PCS7, Safety SIS Control, Industrial Cybersecurity, SIMIT Digital Twin and Process Simulation, Industrial Edge Computing and Process Historian
- Wood plc: National Grid, Siemens SIMATIC Process Control System PCS7, Safety SIS Control, Siemens SIPROTEC Smart Grid Control, Industrial Security and SIMIT Process Simulation and Digital Twin
- Shell & Chevron: Terminal Plant Distributed Control System, Siemens SIMATIC Process Control System PCS7 and Emerson DeltaV, Safety SIS Control, Process Historian, and Industrial Cybersecurity