

Driving the cost-effective roll-out of digital substations to support smart grid functionality, flexibility and security

3-Day Conference, Exhibition & Networking Forum

Tuesday 10th to Thursday 12th April 2018
Courtyard Düsseldorf Seestern, Germany



Hear In-depth Insights on:

- ✓ **Digital Substation Investment** – establishing the drivers for investment and creating a business case that wins rapid board approval for the adoption of next generation substation technologies in TSO and DSO environments
- ✓ **System Design & Architecture** – creating a robust specification, design, and implementation plan that fully leverages next generation systems, components, functionalities and cyber-security to effectively support the evolving grid
- ✓ **Interoperability & IEC 61850** – leveraging advanced configuration and testing tools to ensure speed of implementation for multi-vendor digital substation systems utilising IEC 61850 and other interoperability protocols
- ✓ **Operation & Maintenance** – utilising the advanced data processing capability of digital substations to enhance monitoring, control, protection, predictive and condition based maintenance for next generation digital substation systems
- ✓ **Future Proofing** – creating a robust roadmap for integrating digital substations with IoT, cloud services, self-learning technologies to manage the migration towards the self-healing network
- ✓ **Cyber-Security** – utilising advanced prevention, detection, recovery and response strategies to fully protect digital substations on an integrated cyber-physical security basis, and guard against emerging threats
- ✓ **Workforce Development** – upskilling IT, OT and mobile maintenance teams to effectively manage the operational and maintenance complexities of digital substations

16+ Utility Presentations from:

- | | | |
|--|---|---|
| <p>Pablo Humeres Flores
<i>Head of the Digital Supervision and Substation Automation Sector</i>
Eletrosul Brazil</p> | <p>Ernst Wierenga
<i>Technologist Protection, Control and Telecommunication</i>
Tennet</p> | <p>Alvar Suun
<i>Chief Specialist, Network Technology Development</i>
Elektrilevi OÜ</p> |
| <p>Michael Rotzinger
<i>SAS Project Manager Substation Automation Technology</i>
Swissgrid</p> | <p>David MacDonald
<i>System Monitoring Lead Engineer</i>
Iberdrola</p> | <p>Gian Luigi Pugni
<i>Cyber-Security OT Engineer, Global ICT</i>
ENEL</p> |
| <p>Mohseen Mohammed
<i>Protection & Control Engineering Manager</i>
Scottish & Southern Electricity Networks</p> | <p>Anders Johnsson
<i>Power System Specialist</i>
Vattenfall Distribution Nordic</p> | <p>René Troost
<i>AM Grid Strategist</i>
Stedin</p> |
| <p>Ahmed Mohamed
<i>Protection and Control Engineer</i>
Scottish & Southern Electricity Networks</p> | <p>Dirk Costrop
<i>Head of Measurement and Communication Technology</i>
Eandis</p> | <p>Mika Loukkahti
<i>System Manager, Electric Power Systems</i>
Helen Electricity Networks</p> |
| <p>Nargis Shabbir Hurzuk
<i>Engineer</i>
Statnett</p> | <p>Carlos Cândido
<i>Distribution Automation Expert</i>
EDP Distribuição</p> | <p>Joost van Gemenen
<i>Head of Engineering Department</i>
Joulz</p> |
| <p>Technology Innovations from:</p> <p>Bastian Fischer, CEO - Locamation</p> <p>David Dolezilek, International Technical Director - SEL</p> <p>Andrew West, Regional Technical Director - SUBNET</p> <p>Rogério Paulo, Head of Marketing - EFACEC</p> <p>Jürgen Resch, Industry Manager Energy - COPA-DATA</p> <p>Stefan Meier, Product Manager - ABB</p> <p>Elisa Costante, Head of Research - Security Matters</p> <p>Luca Barber, Product Marketing Manager - Security Matters</p> <p>Jalal Bouhdada, Founder, Principle ICS Security Consultant - Applied Risk</p> | <p>Expert Advice from:</p> <p>Prof Antonello Monti, Director of the Institute for Automation of Complex Power Systems - E.ON Energy Research Centre, RWTH Aachen University</p> <p>Mark Ossel, Vice President, Networked Energy Services Corporation and Board Member - OSGP</p> <p>Jeroen Fidler, Smart Grid Management Consultant - Accenture</p> <p>Bas Kruimer, Senior Manager, Smart Grid Services - Accenture</p> <p>Oliver Jung, Senior Scientist - Austrian Institute of Technology</p> | <p>Guido Gluschk, Director - Institute of Security & Safety</p> <p>Rakesh Bali, IEC 61850 Advisory, Operational Excellence - DNV GL</p> <p>Beatrice Barresi, Applications Engineer, Downstream Business Applications Department European Space Agency</p> <p>Alexander Harsch, Head of Cyber Security Resilience Innogy</p> |

Cyber-Security Seminar!

Thursday 12th April 2018
Hear about the latest prevention, detection, recovery and response strategies and technologies for next generation digital substations. See inside page for more information.

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Dear Colleague,

Welcome to the **5th annual IntelliSub Europe 2018**. This 3-day conference, exhibition and networking forum draws together 120+ asset management, engineering, operations & maintenance, and cyber-security professionals for an intensive review of digital substation implementations.

The first two days focus on the investment drivers, new system architectures, operations and maintenance for new and refurbished substations in HV, MV and LV networks, whilst the third day deep-dives into the cyber-physical security considerations of next generation substations particularly in the context of IoT and cloud enabled systems, integrated with self-learning and self-healing capabilities.

Alongside the 3-day programme, we have a technology innovation panel discussion, a series of intimate end-user round table debates, a live demo lab of the latest systems and solutions, an exhibition area displaying state of the art substation solutions, and an evening networking reception open to all participants.

Event highlights include:

- ✓ **Case study programme** - in-depth insights into the digital substation implementation experiences of 14+ pioneering European utilities to understand how technology choices are being made in the context of organisational objectives and pressures
- ✓ **Technology innovation panel** - quiz the technology innovators on the strength of their current product offerings, their R&D pipelines and their vision for the future of digital substations and the smart grid
- ✓ **Roundtable discussions** - bring your specific digital substation challenges to the table and brainstorm and problem solve with the entire smart grid technical community
- ✓ **Live Demo Labs** - through a dedicated 1:1 session gain hands-on experience of the most advanced and forward-looking digital substation technologies and tools on the market
- ✓ **Solution zone** - get up to speed with the latest digital substation systems and solutions, discuss your specific grid digitisation challenges and get tailored advice to help propel your implementation plans to the next level
- ✓ **Networking reception** - relax and unwind after an intensive day of presentations and panel discussions, meet with colleagues from across the European substation community, allow new ideas to cement and new partnership opportunities to emerge

We look forward to welcoming you to the event in April 2018.

Kind Regards,

Mandana white
Director | **Phoenix Forums**

PS: Very Early Bird Discount - Save €400 on Delegate places and €1,000 on Exhibitor spaces by booking before Friday 26th January 2018!

PPS: Group Booking Discounts - Save a further 10% on 3+ delegates booked from the same organisation at the same time - Call us on +44 (0)20 8349 6360 to arrange!



"Only a few utilities have embraced a comprehensive digital architecture so far, where the substation is fully software defined, fully configurable and data-rich by design. Utilities are looking for simplification, longer life cycles, lower cost, and reliability, but also for actionable insights and continuously improving assets. We believe we have a solution that meets today's requirements and tomorrow's innovations, and we look forward to sharing our approach with them at IntelliSub Europe 2018".

Bastian Fischer
CEO



Locamation

Sponsorship & Exhibition Opportunities

Would you like the opportunity to raise your brand profile, demonstrate your products and services, and share your expertise with a highly concentrated and influential group of digital substation system implementation leaders? Our adjoining exhibition area provides the perfect platform for you to do this and more! Capped at 12 stands we ensure a focused and relevant display of the latest digital substation system and services for our audience and maximum visibility for each exhibitor.

To find out more about the various sponsorship and exhibition opportunities:

Call: +44 (0)20 8349 6360 | Email: registration@phoenix-forums.com

Gold Sponsors



Locamation is the leading solutions provider for Centralised substation Protection and Control (CPC) systems. Founded in 1983, the company is backed by leading utilities and provides grid operators, a simple, yet flexible and upgradeable solution for substation intelligence. With over 100 installations and more than 4 million hours of operation Locamation's SASensor CPC is the most widely adopted Centralised Protection and Control system in the world. With a proven track record, Locamation delivers scalable and futureproof solutions that meet today's substation automation requirements while it's SASensor CPC application and data platform provides asset insights, fault identification and location and thus shortens customer minutes lost and reduces customer interruptions. Locamation's SASensor CPC solutions comprise of an industrial computing unit, sensors providing high fidelity data and a software defined platform providing protection, control, monitoring, communication and asset management functions. For more information visit: www.locamation.com



SEL is a recognized leader in electrical protection, communications, monitoring, cybersecurity, automation, and control solutions for mission-critical utility and industrial applications. Products that support and enhance IEC 61850 and other international standards include protection class IEDs, computers, software, and services for reliable, ultra-high-speed protection, control, and automation of power system components in generation, substation, transmission, distribution, and industrial applications. Cybersecurity products and services support substation DMZ strategies, prevent intrusion, and protect the P&C devices from external attack, and internal attack when a windows device becomes corrupted. SEL also provides mission critical LAN and WAN technologies including software defined networking (SDN).

For more information visit: www.selinc.com

Silver Sponsors



SUBNET Solutions Inc. is a software products company dedicated to serving the needs of the electric utility industry. SUBNET is making substations more intelligent through their unified grid intelligence solutions. SUBNET provides innovative interoperability solutions that combine the latest substation technologies with modern day networking and computing technologies enabling electrical utilities to build a smarter, more effective electricity grid. SUBNET creates products that make your substations—and your overall power grid—more intelligent.

For more information visit: www.subnet.com



Efacec is a Portuguese company with a strong exporter profile and geographical footprint in more than 65 countries. Efacec is present in the development of infrastructures for important sectors of economic activity: Energy, Environment & Industry, Mobility & Transportation. Part of Efacec Group, Efacec Automation focuses on engineered solutions for protection, control and management of electric power networks. Through the development of its own advanced technology and the expertise gained through over 30 years of system implementation experience, Efacec Automation operates globally, focusing strongly on Europe, North and South of Africa, Middle East, India and Latin America. For more information visit: www.efacec.com



COPA-DATA is the technological leader for ergonomic and highly-dynamic process solutions. The company, founded in 1987, develops the software zenon and is headquartered in Austria. zenon is sold through its own offices in Europe, North America and Asia, as well as partners and distributors throughout the world. Customers benefit from local contact persons and local support thanks to a decentralized corporate structure. As an independent company, COPA-DATA can act quickly and flexibly, continues to set new standards in functionality and ease of use and leads the market trends. zenon Energy Edition is the industry-specific SCADA solution from COPA-DATA for power plant automation and substation automation, grid control technology and wind park management. The drivers developed by COPA-DATA guarantee adherence to international standards such as IEC 61850/IEC 61400-25, IEC 60870 and DNP3.



For more information visit: www.copadata.com/en/

Exhibitor



Advantech is the world leader in industrial computing and the leading supplier of open computing platforms for the Power & Energy market, offering comprehensive system integration, customer-centric design and global technical and logistics support. Our products provide the computing power for generator control systems and the communications infrastructure of fibre-optic or copper, Ethernet or IO. Our display products are used to monitor processes, while data acquisition is achieved by a wide range of devices and cards installed remotely and built-in to PCs. Step-up substations are supported with 61850-3 certified platforms for control, SCADA, protocol gateways and data storage and analysis. For more information visit: www.advantech.com

Conference Day One | Tuesday 10th April 2018

08:00	Registration & refreshments	12:30	Lunch, exhibition & networking
08:50	Welcome address from the Chair Mark Ossel , Vice President, Networked Energy Services Corporation & Board Member - OSGP	14:00	Configuration Tools: Leveraging vendor independent tools to speed up the engineering process and reduce implementation costs <ul style="list-style-type: none">Benchmarking configuration tools on the market and in development in terms of their accuracy, speed of engineering and cost efficiencyQuantifying the improvements realised through vendor independent configuration tools as compared with established toolsPinpointing the configuration requirements of IEC 61850Identifying the criteria that drives speed of configuration and balancing that with the need for accuracy and reliabilityDetermining how further cost savings can be realised through next generation vendor independent tools Mohseen Mohammed , Protection & Control Engineering Manager - Scottish & Southern Electricity Networks Michael Rotzinger , SAS Project Manager Substation Automation Technology - Swissgrid Jürgen Resch , Industry Manager Energy - COPADATA <i>(Each speaker will give a 25 minute presentation independently and there will be 10 minutes for Q&A)</i>
09:00	Drivers for Digitisation: Identifying how new capacity addition and renewable integration is driving the need for digital substations <ul style="list-style-type: none">Quantifying the risks introduced by new capacity addition and renewable integration in terms of grid stability, flexibility and securityIdentifying and prioritising the new substation functionalities that will fully support the demands of the evolving digital gridDetermining the volume, type and quality of data enabled through digitisation to support effective asset managementDefining the cyber-security threats introduced by a more connected grid and how further leaps in security will address thisEvaluating how reduced asset lifecycle can be offset by the cost efficiency gains in operation and maintenanceBalancing the need for future-proofing with minimising system complexity and ensuring cost efficiency Pablo Humeres Flores , Head of the Digital Supervision and Substation Automation Sector - Eletrosul Brazil	15:00	Centralised Protection & Control: advanced design concepts to support the effective future proofing of digital substation architectures <ul style="list-style-type: none">Mapping out the centralised protection and control architecture conceptEvaluating the results of compelling project experiences, hands-on examples and best practiceMigrating from historian, to analytics, to visualisation, to prediction servicesAchieving performance, reliability, availability and business case assessmentAssessing software defined protection and applying advanced automation schemesApplying embedded Artificial Intelligence to increase power quality and reduce CMI's and CML's Bastian Fischer , CEO - Locamotion
09:30	Digital Substation Investment: Creating a compelling business case for investment that balances the need for innovation with the pressure to achieve rapid ROI <ul style="list-style-type: none">Examining the macro and micro drivers for investing in digital substation technology at this timeBuilding a business case for investment that achieves rapid board approval, taking into account:<ul style="list-style-type: none">Timeframes for technology obsolescenceNew system functionalities to support renewable integrationIncreased data for better decision makingCustomer needsRegulatory pressuresSystem reliability, stability and securityIdentifying how increased volumes of data can be leveraged to support investment viabilityEvaluating the need for running pilot projects versus testing and implementing directly in terms of cost efficiency, risk management and speed of system roll outEstablishing appropriate investment timeframes to drive the rapid roll out of digital substations whilst staging expenditure to achieve a healthy ROI David MacDonald , System Monitoring Lead Engineer - Iberdrola	15:30	Afternoon refreshments, exhibition & networking
10:00	Primary Digital Substations: Driving innovation in the implementation of primary digital substations through advanced functionalities such as the Process Bus, PRP and HSR <ul style="list-style-type: none">Establishing and prioritising the smart grid functionalities that will support grid development in line with organisational and regulatory demandsOptimising the implementation of PRP & HSR to support redundancy and network reliabilityLeveraging the full potential of IEDs for primary substations to maximise the value and usage of substation dataManaging the implementation of digital substations to ensure minimal disruption to service quality and availabilityMeasuring the impact of digital substations on operation and maintenance efficiency Nargis Shabbir Hurzuk , Engineer - Statnett	16:00	Advanced Testing: Devising a robust testing procedure to ensure the reliability, security and flexibility of digital substation assets <ul style="list-style-type: none">Carrying out comprehensive testing of digital substations under various disturbance scenarios in normal and emergency modesUnderstanding testing requirements of specific parts of the substation infrastructure, such as PAC and communication systemsEffectively testing the communication infrastructure; within the substation, between substations, and from the substation to the control roomOvercoming the challenges of interoperability testing when working with a variety of protocolsEvaluating the effectiveness of testing tools on the market and in developmentExamining how testing services are being developed to better meet the needs of digital substations Ernst Wierenga , Technologist Protection, Control and Telecommunication - Tennet
10:30	Morning refreshments, exhibition & networking	16:30	Change Management: Driving IT/OT convergence to speed up the adoption of IT related skills, systems and processes, within the digital substation environment <ul style="list-style-type: none">Establishing a communication strategy and programme that clearly defines the change in systems, processes and people skills and gains immediate acceptanceDeveloping an in-house training programme to rapidly upskill engineering staff in IT enabled infrastructureMeasuring the impact of your change programme on staff competence and autonomyIdentifying mechanisms to reinforce culture change and embed new practices in the long term Jeroen Fidder , Smart Grid Management Consultant - Accenture
11:00	Secondary Digital Substations: Optimising system design and functionality to ensure the rapid and cost-effective digitisation of the end to end grid <ul style="list-style-type: none">Identifying the most critical system design and functionality requirements to create cost effective solutions that will support high volume roll out in the MV/LV environmentDetermining the suitability of IEC 61850 and Process Bus solutions for the MV/LV environment and establishing optimum timescales for their introductionPlanning for effective monitoring and control of the network edge as the number of customer connection points and charging stations increasesEstablishing new parameters for more robust monitoring and control of the end to end grid in line with network complexity:<ul style="list-style-type: none">Voltage controlCircuit breakersAutomated switching proceduresSetting up a reliable testing framework to support high volume roll out in the MV/LV networkDetermining realistic timescales for the full digitisation of the MV/LV network Alvar Suun , Chief Specialist, Network Technology Development - Elektrilevi OÜ	17:00	Skills Development: Re-organising workforce structures and fast-tracking skills development to ensure the effective operation and maintenance of digital substations <ul style="list-style-type: none">Understanding the challenges associated with up-skilling existing substation operations and maintenance staff to fully support new digital substation technologiesMapping out aspects of the wider organisation that need to be restructured to better support the digital substation environmentFacilitating the transition from hardware to software based substation operations and maintenance and targeting specific skills to support itAddressing potential skills gaps with targeted personal development and role specific training programmes Joost van Gemeren , Head of Engineering Department - Joulz
11:30	Writing Specifications: Ensuring clarity of utility requirements whilst leveraging vendor expertise in delivering high performance, low maintenance, cost effective digital substation solutions <ul style="list-style-type: none">Establishing agreed parameters for specification writing through effective collaboration between utilities and vendorsDefining a specification framework that provides clarity of utility requirements from the outsetDetermining the type of information utilities must share in order to achieve optimal system architecturesEnsuring functionality requirements are clearly captured and effectively translatedSpecifying cyber-security requirements in the absence of detailed technical knowledge of emerging threatsIdentifying how specific processes can ease engineering, operation and maintenance in the long term Rakesh Bali , Consultant, IEC 61850 Advisory, Operational Excellence - DNV GL	17:30	Roundtable discussions - during this 90-minute session the audience splits into several smaller working groups, each focused on a specific theme arising from the day's presentations. This is the ideal opportunity to bring your specific digital substation challenges to the table and brainstorm solutions with the entire substation ecosystem. At the end of the session each working group will feed back a summary of their discussions and recommendations to the wider audience 
12:00	Digital Substation Design: Developing a flexible and secure digital substation design that fully supports current and future requirements and maximises ROI <ul style="list-style-type: none">Identifying the design criteria that will lead to simplification whilst maintaining operation and maintenance reliabilityEstablishing a robust and real-time communication architecture that supports high volume data transfer as the grid evolvesIntegrating cost effective redundancy into substation design to ensure reliability, security and flexibilityDetermining design options that will extend system lifecycles whilst enabling ease of future upgradesTransforming data into intelligence and tangible outcomesStriking the balance between a future proofed design and minimising short-term costs Paulo Santos , Substation Automation Expert - EDP Distribuição	19:30	Networking Reception - take this opportunity to relax and unwind with colleagues from across the European substation community. The ideal opportunity to catch up with existing acquaintances, make important new contacts, and round off an intensive day of presentations and discussions in a relaxed and informal setting. 
		21:00	End of conference day one

Conference Day Two | Wednesday 11th April 2018

08:00 Registration & Refreshments

08:45 Welcome address from the Chair
Mark Ossel, Vice President, Networked Energy Services Corporation & Board Member - **OSGP**

09:00 **Leveraging Data: Identifying the optimal volume and type of data to generate and transfer to meet a variety of grid development objectives**

- Identifying the most valuable data to extract from the digital substation environment
- Appropriately formatting and transferring the data to meet grid development objectives
- Design guidelines and the IEC TC57 reference architecture
- Building in real time data transfer capability to enable immediate decisions and proactive actions
- Leveraging data to maximize the lifecycle and feature new use cases in digital substations

René Troost, AM Grid Strategist – **Stedin**
Mark Ossel, Vice President, Networked Energy Services Corporation and Board member OSGP Alliance - **OSGP**
(Each speaker will give a 25 minute presentation independently and there will be 10 minutes for Q&A)

10:00 **Substation Communication: Comparing the potential of IEC 61850 with other protocols and with conventional technology**

- Comparing legacy and serial communication protocols with traditional copper wired technology, advantages and disadvantages
- Comparing legacy and serial communicating protocols with IEC61850 standard communication, advantages and disadvantages
- Predicting the long-term potential of IEC 61850, achieving multivendor interoperability and the potential of IEC61850 process bus and sensor technology
- Quantifying the long-term advantages achievable through IEC 61850 compared with other protocols
- Discussing the future plans for communication development

Mika Loukkalahti, System Manager, Electric Power Systems - **Helen Electricity Networks**

10:30 Morning refreshments, exhibition & networking

11:00 **Condition Based Maintenance: Utilising substation data to drive predictive and remote maintenance of digital substation assets Identifying the most useful sources of data to extract a variety of condition based maintenance activities**

- Determining how to provide analytic applications, such as Asset Health Index, with access to up-to-date, as well as historical process information according to IEC TC57 reference architecture
- Supporting the information exchange between components at central level based on CIM, including IEC 61968 and IEC 61970, and Enterprise Service Bus
- Enabling configuration and use of IEC 61850/CIM gateway to transfer data from substation automation systems to central systems
- Utilising SCL to associate substation data with CIM asset, equipment and measurements

Anders Johnsson, Power System Specialist - **Vattenfall Distribution Nordic**

11:30 **Substation Functionalities Innovation Panel:** during this session 3-4 leading technology innovators will share their vision for the digital substation market, present their product development plans, and provide you with the opportunity to influence their plans to better meet utility needs.

Cédric Harispu, Product Manager - **Siemens**
Rogério Paulo, Head of Marketing - **EFACEC**
Andrew West, Regional Technical Director - **SUBNET**

12:30 Lunch, exhibition & networking

14:00 **Protection & Control: Maximising monitoring and control accuracy and efficiency whilst minimising operations and maintenance complexity**

- Leveraging digital substation technology to enable better remote control of automatic switching, merging units and fault isolation
- Leveraging maintenance efficiency through flexible configuration management using IEC 61850 dynamic datasets
- Determining the impact of software upgrades and configuration changes on risk management, operations and system downtime
- Utilising advances in digitisation to enable better protection and control of the growing number of renewable sources: Use case under frequency load sharing
- Lifecycle aspects of brownfield and greenfield installations: how to minimize the impact

Dirk Costrop, Head of Measurement and Communication Technology – **Eandis**
Ahmed Mohamed, Protection and Control Engineer - **Scottish & Southern Electricity Networks**
(Each speaker will give a 25 minute presentation independently and there will be 10 minutes for Q&A)

15:00 **Cloud Services: Overcoming cyber security challenges and prioritising the substation functionalities most suited to cloud services to speed up the migration toward the self-healing network**

- Examining the drivers for utility migration to cloud services
- Identifying and prioritising the digital substation functions that would most benefit from migration to the cloud
- Determining how existing functions, such as centralised control would be radically enhanced through cloud support
- Mapping out new and innovative cloud based functionalities that are being developed to further enhance digital substations
- Establishing how cyber-security challenges are being overcome to ensure the reliability and resilience of cloud services
- Developing effective back up mechanisms to eliminate downtime and protect security of supply
- Calculating the costs, benefits and return on investment for cloud based digital substation services

Prof Antonello Monti, Director of the Institute for Automation of Complex Power Systems - **E.ON Energy Research Centre, RWTH Aachen University**

15:30 Afternoon refreshments, exhibition & networking

16:00 **IoT: Implementing IoT enabled digital substations to enable advanced operation and maintenance**

- Understanding the potential of IoT to transform digital substations of the future
- Establishing the technology roadmap for the evolution of IoT within the substation environment
- Leveraging the full potential of digital substations for condition based asset management
- Working with standards in digital substations
- Understanding the cyber-security challenges and solutions for digital substations

Stefan Meier, Product Manager - **ABB**
Beatrice Barresi, Applications Engineer, Downstream Business Applications Department - **European Space Agency**
(Each speaker will give a 25 minute presentation independently and there will be 10 minutes for Q&A)

17:00 **Self-Learning Networks: Introducing AI technology into the digital substation to drive the rapid and full realisation of the self-healing network**

- Understanding the full potential of AI technology for the digital substation environment
- Applying lessons learnt from the application of AI in other industries
- Mapping out how the underlying technology needs to evolve to support the seamless introduction of AI into the digital grid of the future
- Updating on developments in quantum computing and understanding the role it will play in data processing for the self-learning, self-healing network
- Evaluating how data capture and processing practices will need to evolve so support machine learning
- Establishing realistic timescales for the introduction of AI technology into digital substation

Carlos Cândido, Distribution Automation Expert - **EDP Distribuição**

17:30 **Closing remarks from the Chair and end of main conference**

What people are saying about IntelliSub Europe 2018

"We have many automated substations but not all have been digitised with the latest generation equipment. As older equipment is reaching end of life, a lot of refurbishment is going on in our company right now. A dedicated conference on digital substations will help us fully consider the rationale for substation digitisation, allowing us to better establish the business needs and requirements before making our investment decisions but also to find ways to reduce cost and improve efficiency in projects and substation maintenance."

Anne van der Molen,
Expert, Asset Management,
Grid Strategy – **Stedin**



"We are in dire need of replacing our substations, all of which are already automated. We need to know what new technology developments and product offerings there are, so we can create a system model that can be rolled out in high volume, 15 substations at a time."

Michael Knuchel,
Project Manager, SAS
Swissgrid



Digital Substation Cyber-Security Workshop

Thursday 12th April 2018 | 09:00 to 17:00

Workshop Format

Through a series of presentations, break-out sessions and group exercises, this hands-on interactive workshop uncovers the cyber-security vulnerabilities specific to the digital substation environment, and provides practical implementable strategies to help utilities stay one step ahead of the threat landscape, particularly in the context of an increasingly pressurised commercial and regulatory environment.

Led by the team at SecurityMatters with contributions from several utilities and system integrators, this one-day programme provides a rich, varied and comprehensive cyber-security toolbox for both Substation and Cyber-Security teams engaged in the implementation of next generation digital substation systems.



Workshop Leader



Elisa Costante, Head of Research, **SecurityMatters, BV**

Elisa Costante joined SecurityMatters B.V. in 2015 and became Head of Research in 2016. She leads key internal and external research activities, including international projects. Her main research topics include ICS security, network behavioural modelling and cyber-attacks mitigation. She received her PhD in Mathematics and Computer Science in 2015 from the Eindhoven University of Technology. Her thesis entitled 'Privacy throughout the Data Cycle' focuses on data leakage protection and privacy evaluation techniques. She is co-author of several international scientific journals.

SecurityMatters empowers critical infrastructure and manufacturing organizations with the ability to identify, analyse and respond to industrial threats and flaws, minimizing troubleshooting costs and unexpected downtime. They leverage OT-specific knowledge and understanding to provide visibility into critical assets and their activity, and detect operational problems and cyber security threats as soon as they appear. They employ engaging, interactive visualizations and actionable insights to provide utilities with all the information they need to make their networks cyber resilient.

Workshop Speakers

Alexander Harsch, Head of Cyber Security Resilience - **Innogy**
Gian Luigi Pugni, Cyber-Security OT Engineer, Global ICT - **ENEL**
Oliver Jung, Senior Scientist - **Austrian Institute of Technology**
Jalal Bouhdada, Founder, Principle ICS Security Consultant - **Applied Risk**

Bas Krumer, Senior Manager, Smart Grid Services - **Accenture**
Guido Gluschk, Director - **Institute of Security & Safety**
Andrew West, Regional Technical Director - **SUBNET**
Luca Barber, Product Marketing Manager - **SecurityMatters**

Workshop Programme

- 08:00 Registration & refreshments
- 09:00 Welcome address from the workshop leader
- 09:15 **Session 1: Digital Substation Security: Implementing effective cyber security solutions into digital substation systems that are integrated into legacy infrastructures**
- Carrying out robust vulnerability analysis to pinpoint key system weaknesses across the digital substation infrastructure
 - Implementing an effective strategy for managing the performance and availability of legacy devices
 - Enabling the constant monitoring of all critical substation software, IEDs and RTUs to ensure timely updates
 - Ensuring the security of passwords and remote access procedures to prevent unauthorised entry into critical systems
 - Creating a secure communication network by implementing effective cyber-security features into communication protocols
 - Implementing an effective back up, response and recovery strategy to secure electricity supply
 - Complementing cyber-security approaches with the latest substation physical security measures
- 10:00 **Session 2: IED Security: Enabling the secure operation of digital devices such as IEDs and RTUs to ensure the uninterrupted protection and control of digital substations**
- Analysing potential security threats to digital devices and determining the best ways to combat these
 - Ensuring that IED and RTU software is kept up to date at all times
 - Enabling effective monitoring of communication with multiple devices to ensure secure information transfer
 - Putting in place effective authorisation and authentication procedures to reduce exposure of the system
 - Monitoring, storing and analysing security events to establish patterns and enable better future security event identification
- 10:45 Morning refreshments & networking
- 11:15 **Session 3: Grid Edge Security: Effectively managing the cyber security of many more grid connections to LV and MV substations; renewable energy sources, smart meters, and EV charging points**
- Evaluating the threat landscape and scale of cyber security attacks through the smart meter, renewable energy resources and EV charging stations and the implications for digital substations
 - Ensuring smart meter functionality and security through implementing secure and cost-effective design, and regular monitoring and technology updates
 - Developing an attack-resilient architecture and layered cyber-physical solutions to protect the integrated renewable energy resources
 - Implementing a secure IT infrastructure to support smart EV charging and ensure effective end to end communication
 - Evaluating the application of blockchain cyber security technology to help secure distributed energy resources at the grid edge
- 12:00 **Session 4: Mobile Workforce: Eliminating cyber-physical security incidents within digital substations by implementing an effective mobile workforce framework for security policies, procedures and awareness**
- Fostering a culture of cyber security awareness among the workforce to ensure compliance with regulatory guidelines, remote access procedures, and information sharing best practice
 - Enforcing adherence to internal rules and external regulations adopted by the organisation
 - Creating an effective structure for remote access authorisation to devices and information to fully secure the system
 - Creating a comprehensive training framework that meets the specific training and development needs of different groups within the mobile workforce
- 12:45 Lunch & networking
- 14:00 **Session 5: Digital Substation Communication: Effectively securing IP based communication networks to ensure the reliability and security of digital substations and connecting control centre**
- Examining the range of communication technologies and protocols available in private and public networks and their effectiveness in securing data transfer
 - Assessing the risks associated with IP/Ethernet based communication networks and how these can be mitigated
 - Securing the connection between digital and legacy substations to avoid disruptions to the evolving digital grid
 - Determining the most effective approach to managing SCADA system cyber-attacks to minimise their adverse effect on digital substations
 - Applying an effective wide area monitoring security strategy to protect the information flow between substations and control centres
 - Mitigating the cyber-physical security risks of a mobile maintenance workforce to enable more secure access to the system
 - Ensuring high levels of communication availability, reliability and security at minimal cost
- 14:45 **Session 6: IEC 61850 Cyber Security: Evaluating the levels of embedded cyber security within IEC 61850 and the customisation required to support the large-scale deployment of multi-vendor multi-edition systems**
- Identifying the most critical points of vulnerability in IEC 61850 systems
 - Balancing the need for more communication security with time sensitive access to information
 - Enabling better intrusion detection to provide a more holistic approach to IEC 61850 communication security
 - Managing the cyber-security complexities of multi-vendor multi-edition IEC 61850 systems
 - Devising a roadmap for the continuous and long-term security of IEC 61850 systems
- 15:30 Afternoon refreshments & networking
- 16:00 **Session 7: Intrusion Detection Demonstration: Assessing the potential of state-of-the-art intrusion detection systems to safeguard the digital substation environment**
- During this session participants will get the opportunity to view and work with a state-of-the-art intrusion detection system, SilentDefense by SecurityMatters. With installations worldwide, SilentDefense is the most advanced and mature OT network monitoring and intelligence platform. SilentDefense passively analyses industrial network communications, provides rich information about network assets and alerts in real-time for any threat to operational continuity. SilentDefense empowers industrial operators with unrivalled visibility, threat detection capability and control of their network. Featuring a user-friendly interface and out of the box detection engines, SilentDefense instantly delivers actionable results.
- 17:00 End of workshop

Speaker Biographies



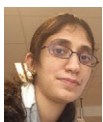
Pablo Humeres Flores
Head of the Digital Supervision and Substation Automation Sector
Eletrosul Brazil

Pablo is an Electrical Engineer graduated from the Federal University of Santa Catarina - UFSC, where he also graduated in Master of Power Systems. MBA with specialization in Electric Energy Market, at the University of Vale do Itajai - UNIVALI. Pablo has been an Engineer at Eletrobras Eletrosul since 1987, in Florianópolis, Brazil. Since 1996 acting in the areas of design, maintenance, operation and development of digital systems for supervision and control of substations and telecontrol centers. Author of several papers in the area published in national and international seminars and magazines. Active participant in CIGRE working groups, events and publications. Pablo is now head of management, maintenance and commissioning of supervision and control systems and automation infrastructure of HV transmission substations, Telecontrol Centers and Remote Access of Eletrosul.



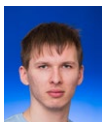
David MacDonald
System Monitoring Lead Engineer
Iberdrola

David works for Iberdrola Distribucion, a leading distribution network operator in Spain and early adopter of substation automation systems. His role is to provide technical and asset management support to the Protection team, where he specializes in disturbance analysis and is also involved in the standardization of IEC 61850 across the business. He received his MEng degree in Electrical and Mechanical Engineering, from the University of Strathclyde, before joining Scottish Power in 2009 and consequently Iberdrola Distribucion in 2012.



Nargis Shabbir Hurzuk
Engineer
Statnett

Nargis graduated in Electrical Engineering from Dr. Babasaheb Ambedkar Technological University - India in 2004. Prior to joining Statnett, she was working with Siemens AS Norway as a Protection and Control System Engineer in the Power Transmission and Distribution division. Since 2010 Nargis has been with Statnett, earlier work experiences in Statnett includes tendering to commissioning phases of the control system based on IEC 61850 design for station bus. Currently she is working as a project engineer for multivendor R&D pilot project - Digital Substation. Her main responsibility in this project is to investigate the maturity of the process bus technology and what benefits this technique offers for the future substation design in the TSO.



Alvar Suun
Chief Specialist, Network Technology Development
Elektrilevi OÜ

Alvar Suun holds a M.Sc in Electrical Drives and Power Electronics from Tallinn University of Technology. With a background of Substation system and secondary engineering, Alvar has been involved in many International projects around the world including Finland, Russia and Kenya. He Currently holds the position of Chief specialist of relay protection and automation in Estonias largest DSO, Elektrilevi. Alvar has strongly been involved in working out the technical principles for grid

automation and his main focuses include developing relay protection and automation principles, secondary equipment approval procedures and technical requirements.



Mohseen, Mohammed, *Protection & Control Engineering Manager - Scottish & Southern Electricity*

Networks. Mohseen Mohammed is a Engineering Manager working for SHE Transmission plc in Glasgow, UK. Delivering Design Authority and Technical Authority responsibilities for Protection & Control aspects for delivery and innovation projects within Transmission. He took his career in Transmission sector after graduating from Robert Gordon University, Aberdeen in 2002. He gained various experiences within the industry by working on contracts with wide range of utilities for over a decade. During this period of work with Balfour Beatty Engineering Services, he worked on all transmission voltage levels. He is involved with innovation team looking at the prospects of using emerging technologies for current and future projects of SHE Transmission plc. Contributed in the first commissioned fully interoperable IEC61850 station bus substation in SHE Transmission which is only the first of kind for UK. Now reviewing the task of simplify top-down approach for IEC61850 implementation.



Michael Rotzinger
SAS Project Manager Substation Automation Technology
Swissgrid

Michael Rotzinger graduated as an electrical engineer in Germany. He started his career at ABB Switzerland Ltd. in 1993. For 16 years, he has worked in a variety of specialized positions such as substation engineer, substation commissioning engineer worldwide and as a course manager at the local ABB University. In addition, he completed during this time his post graduate diploma in Business at the Private School of business (PHW) in Bern. Michael Rotzinger joined Swissgrid, the Swiss TSO, in 2009. In his role as service manager, he was initially responsible for the power grid applications. Today he is employed as a technical SAS-Project Manager. He is responsible for the implementation of the Swissgrid standards on substations and for their further development. Standardization and harmonization are the keywords for the future integration of SAS systems. He is also a member of the Swiss TK57.



Jürgen Resch
Industry Manager Energy
COPA-DATA

Jürgen Resch (1974) graduated from the HTBLA [Higher Technical School of Engineering] Saalfelden, Electrical Engineering Department. He started his career at the ÖBB [Austrian Federal Railways] in the Power Plants Division, where he was responsible for the execution of power plant automation projects. After this, he worked for FREQUENTIS GmbH as a Product Manager for telecommunication equipment for railroads. Since 2003, Mr. Resch has been employed by Ing. Punzenberger COPA-DATA GmbH and occupies the role of Industry Manager Energy there. He manages a team that is responsible for product expansion in the energy sector in an international context. Mr. Resch is a member of the Technical Subcommittee MR 57 of the OVE [Austrian Electrotechnical Association] and a lecturer at the

Salzburg University of Applied Sciences.



Bastian Fischer
CEO
Locamation

Bastian has held over the past 20 years a number of executive management positions in Europe, USA and Asia with leading IT-, grid and customer management vendors. He is currently CEO of Locamation, the leading provider of digital substation platform products for utilities. Prior to Locamation, Bastian was Vice President and General Manager of ORACLE Utilities responsible for establishing the Utility industry business unit in Europe, Middle East and Africa. During that time, he conducted the post-merger integration of two companies and supported the acquisition of a Utility Big-Data company. Previously Bastian was seconded to the USA and Japan to conduct the expansion and internationalization of SAP Utilities in the Americas and Asia. Bastian earned a BS degree of Applied computer science and post-graduation in Business Administration in Germany.



Paulo Santos
Substation Automation Expert
EDP Distribuição

Paulo Santos holds a MSc in Electric and Computer Science Engineering from Instituto Superior Técnico (IST, Lisbon). He joined EDP Distribuição in 2011 and has been participating and managing projects related with design, requirements specification, qualification and deployment of primary substation automation systems. Currently, he is working on innovative projects of grid digitalization at the Automation and IoT Unit.



Ernst Wierenga
Technologist Protection, Control and Telecommunication
Tennet

Ernst E.F. Wierenga received his M.Sc. degree in electrical engineering from the Eindhoven University of Technology, the Netherlands, in 1996. In 1996 he started at KEMA (DNV-GL) at the consulting department and joined two services companies using energy management systems. In 2001 he joined TenneT TSO as a specialist protection for the last ten years. In his current position within TenneT he is a specialist in the Asset Management Department Offshore. In this function he is involved in protection and control technology on platforms connecting windfarms. Next to that he started his own company KnowWatt, the main focus is teaching on the university of applied science.



Jeroen Fidder
Smart Grid Management Consultant
Accenture

Jeroen Fidder leads the Dutch Intelligent Grid Operations group within Accenture Smart Grid Services. Jeroen is a graduated Economist from the University of Groningen in The Netherlands and has 10 years of international experience in the electricity, gas, and downstream oil sector in different advisory and project delivery roles. Jeroen wants to help society gain a sustainable supply of power and heat. He has helped improve core TSO and DSO operational processes such as gas- and electricity transmission and distribution, incident management,

Speaker Biographies

(in order of appearance)

and maintenance planning and execution. In recent years his focus has been on improving operational performance at European TSOs, where he supports the identification and implementation of processes and solutions that make operations safer, more effective, and efficient. Key enablers for these improvements were ADMS, simulation, and advanced analytics solutions.



Joost van Gemeren

Head of Engineering Department
Joulz

From the technical specialization
High Voltage Electrical Engineering

I have interest developed in social factors within organizations such as attention to the workplace and production processes, the structure and management of organizations and paying attention to the institutional environment of organizations and employment. This all in combination with the main force within organizations, namely human beings.

www.linkedin.com



René Troost

AM Grid Strategist
Stedin

René Troost, graduated as an Electrical Engineer, and started his career in Telecommunications. He has an extended experience of over ten years in the modern Substation Automation business. In 2014 René joined Stedin, the DSO in the Rotterdam / The Hague / Utrecht area of The Netherlands. René oversees the Substation Automation policy at Stedin and is an active member of the Dutch mirror committee of the IEC TC57 (NEC57) and the TC57 WG10 dealing with power system IED communication and associated data models. He is an expert in the domains of Protection, Automation, Control and Telecommunication and fulfills several roles.



Mark Ossel

Vice President, Networked Energy
Services Corporation and Board
member OSGP Alliance
OSGP

Mark B.M. Ossel (1955), Vice President NES, is focussed on developing the Energy and Utility market for Networked Energy Services. He is involved in AMR since 2001, when Echelon started with Enel (It) the world largest AMR project, and has been involved in most large-scale deployments in Europe. He was selected in 2015 as one of top 40 most influential people in Europe by metering International. Mark is also member of the board of OSGP Alliance, the international industry & utility user group publishing OSGP (Open Smart Grid Protocol), and involved in international standardization efforts. Active member in ETSI, various IEC and CEN / CENELEC Technical committees (TC13,TC57), ESMIG and member European Commission Coordination Group – Smart Electricity Grid (SEG-CG) and actively involved in mandates M441 and M490. Mark has a background of more than 20 years in various management functions in the Information & Communication Technology market (Burroughs/Unisys), before he became involved in energy management, smart metering and Smart Grids in 2001. Mark has a degree in marketing and economics, and attended additional courses in The Netherlands, UK and USA; he has a special interest in applying new technology.



Mika Loukkahti

System Manager, Electric Power
Systems
Helen Electricity Networks

Mika studied Electrical Engineering at Tampere University of Technology with Electric Power Systems as a major subject. He received his Master of Science degree in 1996. He joined Helsinki Energy in 1997 as a Protection Engineer. In addition to protection systems, substation automation, power quality, network calculation and various expert tasks with network automation and R&D have been his expert and responsible areas. Since 2001 he had lead a group, which is now mainly responsible of previous mentioned tasks. In 2006 Helen Electricity Networks Ltd was founded, this subsidiary company of Helsinki Energy is responsible of electricity distribution in Helsinki City area. He has been Finnish Study Committee Member of CIGRE B5 (Protection and Automation) Committee from 2006 to 2012. He has been an active member of several CIGRE B5 working groups in Substation Automation area. He has also made several presentations in various courses and seminars on protection and automation area. He is married and has two children.



Anders Johnsson

Power System Specialist
Vattenfall Distribution Nordic

Anders Johnsson has more than 20 years of experience in substation automation, with focus on IEC 61850 communication. He is the Swedish representative in Cigré study committee B5 Protection and Automation and also active member of IEC standardisation groups in IEC TC57 and was earlier also convenor of TC88/TC57 working group 25 that develops IEC 61850-based standards for wind power. Since 2015 he has, as Power System Specialist at Vattenfall Eldistribution, a coordinating role in the roll-out of a tool based process based on IEC 61850, and he was recently appointed manager for Vattenfall R&D program on Digital Substation. Anders Johnsson has a Master of Science in Electrical Engineering from the Royal Institute of Technology in Stockholm.



Cédric Harispu

Product Manager
Siemens

Cédric Harispu graduated as an electrical engineer at Supélec (France) and TU Darmstadt (Germany). He joined Siemens AG in 2006. After experiences as substation engineer in TSO projects, as technical consultant for substation systems worldwide and then for IEC 61850 products, he is now working as Product Manager for IEC 61850. For the Digital Grid product portfolio, he is responsible for the communication functionalities as well as for the engineering of IEDs. He is member of several international standardization activities (IEC TC57 WG10 and UCA testing committee) and actively participated in interoperability testing events.



Andrew West

Regional Technical Director
Subnet

Andrew West is an electrical engineer who has worked with SCADA system software for over 35 years, primarily in electricity sector. His employers have included utilities, SCADA product

vendors and system integrators. In recent years he has provided SCADA training and consulting and has performed control system cyber security assessments. He has been actively involved in the development of SCADA and power grid automation standards since 1996, including Chairing the DNP Technical Committee. He currently holds the position of Technical Director at SUBNET Solutions, a software company dedicated to making power grids intelligent, secure and reliable.



Dirk Costrop

Head of Measurement and
Communication Technology
Eandis

Dirk Costrop graduated as Master in electromechanical engineering at the KULeuven in 1985. During his complete career, he has always been involved with new developments and engineering of high tech systems, where several technologies interacted with each other. At Agfa, Xeikon and Punch Graphix, this were mainly scanning and printing systems. He started at Eandis in 2010 as a project manager where he was responsible for the development of the Smart Meter solutions at Eandis. His experience in applying and bringing together new technologies allowed the development of new and improved Smart Metering concepts together with the standardization of communication protocols. Since he became the Manager of the MCT-team at Eandis, his responsibility is widened: it now includes the technology of Smart Grid Components with the special focus on substation automation.



Ahmed Mohamed

Protection and Control Engineer
**Scottish & Southern Electricity
Networks**

Ahmed Mohamed joined SSE in December 2013 as a Protection and Control Design Engineer for the transmission network, responsible for protection scheme design for 275 & 132 KV substations, Protection settings calculations and working in innovation projects for the new technologies towards the Digital Substations. Prior to that he was with the Egyptian Electricity Transmission Company in 2006 as a Field Unit protection and control engineer responsible for protection maintenance and commissioning for EHV and HV Substation in Cairo. In 2008, he joined Dubai Electricity and Water Authority (DEWA) as a System Protection Engineer responsible for protection setting calculations and Relay Approval Process (Evaluation, testing and documentation) for 132 KV and 11 KV Network. He has a Bachelor of Science in Electrical Power Engineering and Machine from the Faculty of Engineering, Helwan University, Cairo-EGYPT, 2005. Since 2017 he has been a member of IEC TC95/ AHG3 through BSi PEL 95 association.



Prof Antonello Monti

Director of the Institute for Automation
of Complex Power Systems
**E.ON Energy Research Centre, RWTH
Aachen University**

Antonello Monti started his career in Industry and then held academic positions in Italy and USA. Since 2008 he is the director of the Institute for Automation of Complex Power System within the E.ON Energy Research Center at RWTH Aachen University. During his tenure at RWTH, Prof. Monti has been involved in several EU Projects at the boarder between ICT

Speaker Biographies

and Energy. Currently he serves as coordinator of the H2020 FTI project ADMS and as Technical Manager of the two projects H2020 success and H2020 RE-SERVE.. Dr. Monti is author or co-author of more than 300 peer-reviewed papers published in international Journals and in the proceedings of International conferences. He is a Senior Member of IEEE, Associate Editor of the IEEE System Journal and Associate Editor of IEEE Electrification Magazine. Dr. Monti is the recipient of the 2017 IEEE Innovation in Societal Infrastructure Award.



Stefan Meier
Product Manager
ABB

Stefan is working with ABB Switzerland since more than 15 years, where he held several positions, from commissioning of substation automation systems, through technical support and project management. Today he is a global product manager for digital substation solutions at ABB's Grid Automation Systems unit. Stefan studied electrical science at the University of Applied Sciences Northwestern Switzerland, and holds a master degree in business administration from Edinburgh Business School of Heriot-Watt University, Scotland.



Beatrice Barresi
Applications Engineer, Downstream
Business Applications Department
European Space Agency

Beatrice is working at the European Space Agency (ESA) since almost 10 years. Her background is mainly in remote sensing and in the Agency she works in the downstream business applications department, aiming to build economic sustainable services which use also satellite data for the needs of European citizens and society at large. She has been involved as project manager in the development of more than 50 services dealing with precision farming, security & safety and energy. She is Italian but lived several years between the UK and the Netherlands.



Carlos Cândido
Distribution Automation Expert
EDP Distribuição

Carlos Cândido holds a MSc in Electric and Computer Science Engineering from Nova University of Lisbon. He joined EDP Distribuição in 2011 and has been participating and managing projects related with design, requirements specification, qualification and deployment of distribution automation systems. Currently, he is working on innovative projects of grid digitalization at the Automation and IoT Unit.



David Doležilek
International Technical Director
SEL

David Doležilek is the international technical director at Schweitzer Engineering Laboratories, Inc. and has three decades of experience in electric power protection, automation, communication, and control. He leads a team that develops and implements innovative solutions to intricate power system challenges and teaches numerous topics as adjunct faculty. David is a patented inventor, has authored dozens of technical papers, and continues to research first principles of mission-critical technologies. Through his work, he has created methods to specify, design, and measure service level specifications for digital communication of signals, including class, source, destination, bandwidth, speed, latency, jitter, and acceptable loss. As a result, he

helped coin the term operational technology (OT) to explain the difference in performance and security requirements of Ethernet for mission-critical applications versus IT applications. David is a founding member of the DNP3 Technical Committee (IEEE 1815), a founding member of UCA2, and a founding member of both IEC 61850 Technical Committee 57 and IEC 62351 for security. He is a member of the IEEE, the IEEE Reliability Society, and several CIGRE working groups.



Elisa Costante
Head of Research
SecurityMatters, BV

Elisa Costante joined SecurityMatters B.V. in 2015, where she became Head of Research in 2016. She leads key internal and external research activities, including international projects. Her main research topics include ICS security, network behavioural modelling and cyber-attacks mitigation. She received her PhD in Mathematics and Computer Science in 2015 from the Eindhoven University of Technology. Her thesis entitled 'Privacy throughout the Data Cycle' focuses on data leakage protection and privacy evaluation techniques. She is co-author of several international scientific journals.



Alexander Harsch
Head of Cyber Security Resilience
Innogy

Alexander Harsch is the Head of Cyber Resilience department within innogy. The Cyber Resilience department supports TSO/DSO with the implementation of an ISMS according to the requirements of the German IT Security Law, which include compliance according to the Standards DIN ISO/IEC 27001 und ISO/IEC TR 27019. Before his time with innogy, Alexander worked for more than 10 years as a business consultant for PricewaterhouseCoopers in the field of „Cyber & Forensics“ and IT-Compliance (e.g. COBIT, ITIL und ISO 27001). Alexander is a certified ISO 27001 Lead Auditor und is certified according to the German "DVGW-Zertifizierung für ISMS-Auditoren nach IT-Sicherheitskatalog". Alexander has 10+ years experience as a project manager for large projects and worked in that time in IT-organisations in several industries.



Oliver Jung
Senior Scientist Austrian Institute of
Technology

Oliver Jung is a Scientist at the AIT, Austrian Institute of Technology. His research interests are on network security mechanisms, and security and robustness for smart grids. He studied electrical engineering with a major in telecommunications at the University of Siegen, Germany, where he received his Ph.D. in 2003. Before joining AIT in 2016 he was with the Telecommunications Research Center Vienna (FTW) as a senior researcher and project leader in the field of telecommunications security. He was involved in several national and international research projects on network and smart grid security.



Bas Kruijer
Senior Manager, Smart Grid Services
Accenture

Bas Kruijer works for Accenture in the Cyber Security Team in Europe focusing on OT Operational Technology Security in Resources Industry and Utilities Process Control, Smart Grids and Grid Operations. Bas is participating in and contributing to Cyber Security and Grid Control & Operations, IT/

OT Integration, Smart Metering and related SCADA and telecoms programs for Electricity, Gas and Water/Waste Water operators and Oil & Gas Companies in Europe. Bas brings many years of international experience in energy/electrical utilities. He holds a Master of Science degree in Power Engineering from Delft University of Technology and has been working in the Electricity Transmission & Distribution market since 1990 in different roles and companies.



Guido Gluschke
Director
Institute of Security & Safety

Guido Gluschke is one of the directors of the Institute for Security and Safety (ISS) at the Brandenburg University of Applied Sciences, where he teaches in the field of cyber and nuclear security. Serving also as the university's program manager on international cyber security, he is responsible for joint projects with international organisations. Mr. Gluschke's main areas of expertise are IT and cyber security, especially in the energy context. He holds a Master of Science degree in Security Management from the Brandenburg University of Applied Sciences and a diploma in Computer Science from the Dortmund University of Applied Sciences. Mr. Gluschke is an expert in cyber security in the nuclear context and a member of the Energy Expert Cyber Security Platform - Expert Group of the European Commission Directorate Generale Energy.



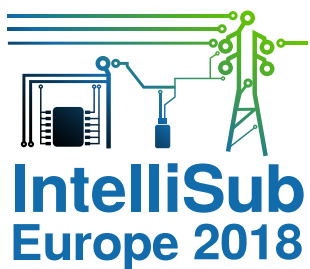
Gian Luigi Pugni
Cyber-Security OT Engineer, Global ICT
ENEL

Currently active in project within the area of IoT, Blockchain, PKI Systems, advanced DPI Probe development and deployment and IEC 62351 protocols field deployment. Active member of the following national and international bodies including IEC/TC57/WG15 - Data and communication security, IEC/TC57/WG10 - Power system IED communication and associated data models, IEC SyC/WG3 "Cyber Security Guidelines in SyC", National Observatory for Cyber Security, Resiliency and Business Continuity of Electrical Systems. Editor of the IEC 62351-7 standard (Network and system management-NSM data object), This standard has been published on July 2017.



Luca Barba
Product Marketing Manager
Security Matters

Luca Barba is the Head of Product Marketing for SecurityMatters BV, an international company that develops and brings to the market cutting-edge network monitoring, intelligence and protection technology specifically designed to protect industrial control networks and processes. He joined SecurityMatters after a long business experience in Leonardo SpA (former Finmeccanica Group) where, in particular, he was Head of Strategic Marketing for Cyber Security & Intelligence. During his career, Luca gained an extensive experience in creating business plans & strategic partnerships, capability planning, marketing & presales activities to increase the opportunities in the Cyber Security & Intelligence markets and he developed a special focus on the added value proposition from a customer perspective. On the technical side, he gained an extensive experience as Software Architect & Project Manager for military and special projects in the fields of Information Security, Network Management, Operations Planning and Aerospace. He received a MSc in Telecommunication Engineering.



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commences at 7am on the first day of the conference, and break-down takes place after 4pm on the last day of the conference. Exhibitor packages include 2 conference passes. Additional passes may be purchased at 10% discount on the published rates.

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