

EXTERNAL

Digital Systems Centers

Overview and contacts

Distribution solutions



Digital Systems Centers

- Overview and contacts
- Projects

Digital Systems CentersOverview and contacts

Australia

Brazil

China

Czech Republic

Germany

Finland

India

<u>Italy</u>

Singapore

Turkey

Taiwan

United Arab Emirates

United States

South Africa

Digital Systems Center Australia

Digital Systems Center Australia



ANISUR RAHMAN

Digital Systems Center Manager, Australia

ABB's digital systems integrate innovative sensing devices, IEDs, centralized protection, process visualization & control where data are reliably transferred.

DSC Australia offers complete reliable solutions for substation digitalization, electrical network management, wireless solutions for smarter grid, intelligent process visualization and control.



Digital Systems Center Australia





Country allocation

AU

AU, NZ



Contacts

Anisur Rahman

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Digital Systems Center Brazil

Digital Systems Center Brazil



ROGERIO SILVA

Digital Systems Center Manager, Brazil

We provide reliable protection and control solutions to our customers in LATAM and we support all local ABBs in the development of the business.

LATAM is a developing market, with many opportunities for DSC, especially due to the growing awareness of customers for the benefits of communication technology, both in greenfields and retrofits.



Digital Systems Center Brazil





Country allocation

BR

AR, BR,

CL, CO

PΕ



Contacts

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Digital Systems Center China



ELLA-YING JIANG

Digital Systems Center Manager, China

The digital demand is growing rapidly together with the Chinese government's "carbon neutral strategy" promoting the combination of digital solutions and traditional power distribution.

Our DSC aims to answer to these needs and these new opportunities, to win new customers and new market segments.



Digital Systems Center China





Country allocation

CN

CN



Contacts

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Digital Systems Center Czech Republic

Digital Systems Center Czech Republic



OLEKSIY MELNYK

Digital Systems Center Manager, Czech Republic

For us digitalization means to offer customer an added value in data acquisition, data management, data storage and their analysis.

We cooperate with customers not just in CZ, but also in other countries, where we supply switchgear or e-houses. Our unit focus mainly on control systems, monitoring of switchgear and relay engineering.



Digital Systems Center Czech Republic





Country allocation

CZ

CZ



Contacts

Oleksiy Melnyk

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Digital Systems Center Germany

Digital Systems Center Germany



BJOERN GOTTSCHLICH

Digital Systems Center Manager, Germany

We engineer systems according to customers needs while being focused on sustainability and quality. At the same time, we also face the challenges of a fast-changing digital world. That's why we constantly pay attention in developing the competence and expertise of our team.



Digital Systems Center Germany





Country allocation

DE

AT, CH, DE, GB, IE, RU, BE, NL, PL, UA, BY, MD, SL, SK



Contacts

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Digital Systems Center Finland



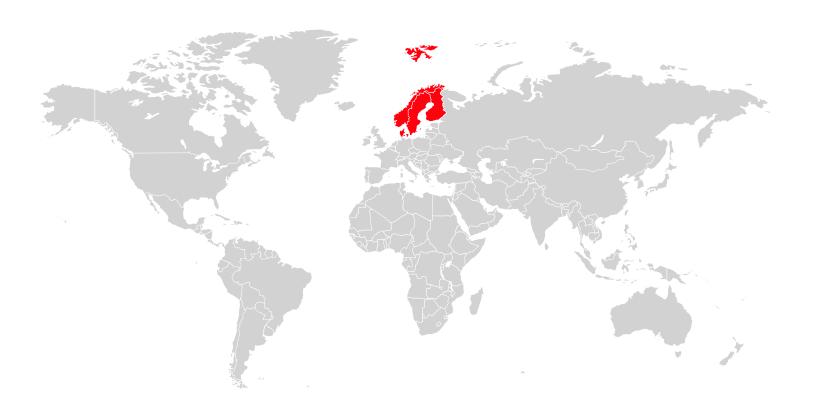
ALLAN ORN

Digital Systems Center Manager, Finland

We are determined to deliver the best value to our customers through innovative solutions for Data Centers, SCADA systems and grid automation applications.



Digital Systems Center Finland





Country allocation

Solutions: FI, DK, NO, SE

Grid Automation: FI, WW



Contacts

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Digital Systems Center India



RITESH JHA

Digital Systems Center Manager, India

As a Digital Systems Manager, for India, I aim to adapt and implement business development and sales support strategy for the market as well as to provide technical and commercial support for internal and external customers. Proactively lead, develop and coach the ELDS business development team.



Digital Systems Center India





Country allocation

IN

IN



Contacts

Ritesh Jha

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Digital Systems Center Italy

Digital Systems Center Italy



IGNAZIO MILESI

Digital Systems Center Manager, Italy

The team has a long experience in systems, our main markets are industries, infrastructures and utilities. Our strengths are customer support and the professionalism of the team. We are also focused to new technological trends and related applications.



Digital Systems Center Italy





Country allocation

IT

BA, BG, DZ, EG, ES, FR, GR, HR, IT, HR, IL, MA, MT, PT, RO, RS, TN



Contacts

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Digital Systems Center Singapore

Digital Systems Center Singapore



ONG EDDIE

Digital Systems Center Manager, Singapore

The strength of the team is each individual member. This is a talented team with a real desire to succeed. We have a great sense of togetherness. It is our team spirit that has taken us!



Digital Systems Center Singapore





Country allocation

SG

MY, ID,

JP, KR,

SG, TH

PH, MN,

BD



Contacts

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Digital Systems Center Turkey

Digital Systems Center Turkey



IBRAHİM KAĞAN TOPAN

Digital Systems Center Manager, Turkey

I'm responsible Digital System offerings for Engineering & Manufacturing belonging to ELDS LBL organization in Turkey. We are offering turnkey digital systems & tailored made solutions for utilities, renewables, industries & infrastructure market segments.



Digital Systems Center Turkey





Country allocation

TR

TR, AF, AM, AZ, GE, KG, KZ, TJ, TM, UZ, LB, PK, QA



Contacts

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Digital Systems Center Taiwan

Digital Systems Center Taiwan



GARY CHEN

Digital Systems Center Manager, Taiwan

ABB is the biggest market share for Digital Substation Products business in Taiwan. In order to maintain this good result, I and the team members, we are doing our best to catch each opportunity. The key customers are utilities, high-tech industries and industries.



Digital Systems Center Taiwan





Country allocation

TW

TW, VN



Contacts

Gary Chen

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Digital Systems CenterUnited Arab Emirates

Digital Systems Center United Arab Emirates



AHMED ANWAR

Digital Systems Center Manager, United Arab Emirates

We are a passionate team who believes in ensuring that our customers get the best solution.

We provide complete digital solutions with special focus on station automation and protection systems, also in retrofit projects, to introduce digitalization in already existing facilities as well.



Digital Systems Center United Arab Emirates





Country allocation

ΑE

AE, SA OM, BH, KW, JO, IQ



Contacts

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Digital Systems CenterUnited States

Digital Systems Center United States



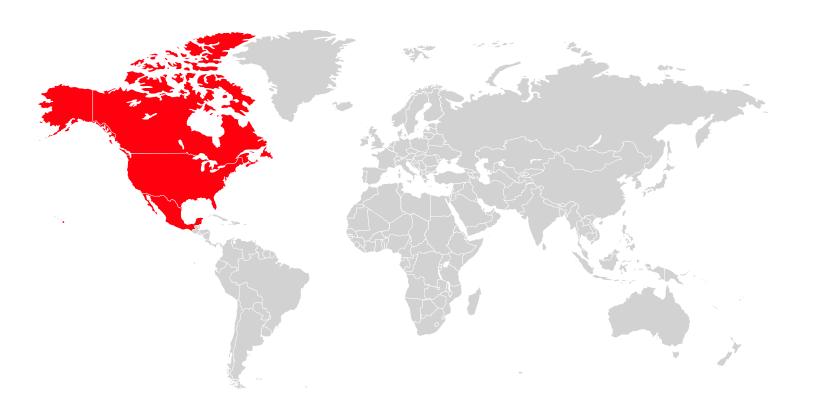
RICHARD LINDO

Digital Systems Center Manager, United States

The US DSC addresses both LV and MV solutions. We have developed the skill sets within the team to be successful across many market segments, datacenters, oil & gas, food & beverage, transportation and infrastructure, industrial, and commercial. The focus is on the customer's needs and we work to successfully satisfy those.



Digital Systems Center United States





Country allocation

US

US, CA, MX



Contacts

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Vincent Duong

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Digital Systems CenterSouth Africa

Digital Systems Center South Africa



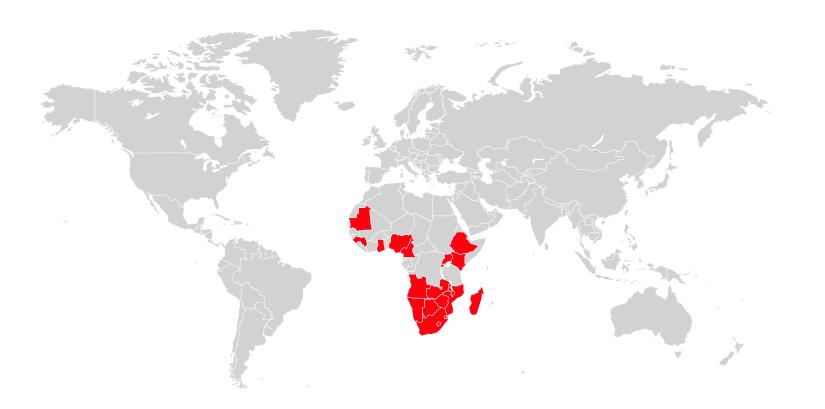
AVI RAMDHIN

Digital System Center Manager, South Africa

From the DSC in South Africa, we provide expertise and the platform to transform and modernize systems with cutting edge technologies based on global market practices in the digital technology field and we bring new technology to rapidly enhance digital transformation to all our customers in Africa.



Digital Systems Center South Africa





Country allocation

ZA, AO, MZ,
BW, CM, ET, GH,
GM, GN, KE, LS, MG,
MR, MU, MV, MW, NA,
NG, RE, RW, SC, SZ, UG, ZM,ZW



Contacts

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Digital Systems Centers Projects

Supervision Protection and Control System (SPCS)

Case: ENEL E-houses

CUSTOMER CHALLENGE

- Limited space to build a substation

- Protection and control for HV system 138 kV

- Provides a unified solution for MV, HV and SCADA system

ABB SOLUTION

Relion IEDs (REX640) for line 138 kV and transformer 138/13,8 KV protections

 Hot-stand-by SCADA System with SAGE (Local SCADA developed by a Brazilian agency CEPEL)

- IEC 61850 HSR topology

- Telecom and CFTV system

- Measuring and billing system

SNTP synchronized network

CUSTOMER BENEFITS

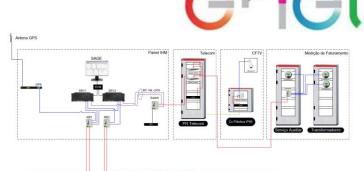
- IEC 61850 HSR topology with 0 ms recovery time

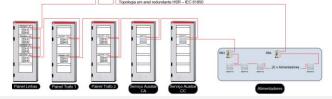
- Reliable and standardized solution

- Less maintenance and operation activity

- Better integration between IEDs and SCADA system

- Zero loss of data packets increasing system reliability





Contractor/End user: ENEL - GOIAS

Year of delivery: 2021

Country: Brazil **Segment:** Utility

Products delivered: 3x E-Houses including, 12x P&C Panels, 3x SCADA System, 3xTelecom Panel and 6x Measurement and billing

Panels)

Key success factors: Customer Relationship and Bundling with

NSPP



Supervision Protection and Control System (SPCS)



Case: PFV Andes Solar IIB

CUSTOMER CHALLENGE

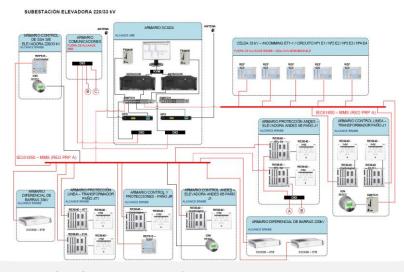
- Limited space to build a substation
- Protection and control for HV system 138 kV
- Provides a unified solution for MV, HV and SCADA system

ABB SOLUTION

- Relion IEDs (REX640 and SSC600) for feeder, busbar, line and transformer applications
- Hot-stand-by SCADA System with ABB ZEE600
- IEC 61850 PRP topology
- Measuring and billing system
- SNTP synchronized network, with transparent clock

CUSTOMER BENEFITS

- IEC 61850 PRP topology with 0 ms recovery time
- Reliable and standardized solution
- Less maintenance and operation activity
- Better integration between IEDs and SCADA system
- Zero loss of data packets increasing system reliability



Contractor/End user: CLABB / AES Gener

Year of delivery: 2021

Country: Chile

Segment: Utility

Products delivered: Complete SCADA System with ZEE600 for a Hot-Stand application, 8x P&C Panels (Bus bar, Line, Feeder and

Transformer application)

Key success factors: Start of work on the technical specification, customized logic implementation, cutting-edge technologies,

bundling with NSPP



Hamburger Hochbahn feeds busses with Relion and RTU

Hamburger Hochbahn

CUSTOMER CHALLENGE

- Provide data for optimization of bus charging station
- Connection with IEC60870-5-104 to 2 separate Control Centers
- High availability of data for planning of electro-bus logistics
- Full local control needed

ABB SOLUTION

- Protection and Control units REF615 with IEC61850 HSR communication
- LV Switchgear with Modbus communication
- RTU520 and AFS 660 Switches for connections
- IEC61850 network with GOOSE messages and Modbus overlay
- Connection of external metering devices
- Zenon for protocol conversion and local control plus metering archive and trend pictures of LV harmonics

CUSTOMER BENEFITS

- High performance and level of continuity of service
- Flexible digitalized solution with communication-based logics
- Cost-effective, high-performance protection system
- Best support based on ABB knowledge about charging stations
- Future-proof technologies and architecture



Contractor/End user: Hamburger Hochbahn

Year of delivery: Q3 2020

Country: Germany **Segment:** Transport

Products delivered: REF615 (programming, protection

design), zenon and RTU560 including switches. Supported products: ZS8, LV, Charging stations

Key success factors: High technical competencies in network technology, protocol conversion, protection

design



SÜC Coburg goes digital with REX640

SÜC Coburg

CUSTOMER CHALLENGE

- High availability of metering signals for distance protection
- Maximum flexibility of protection system
- Ease of use very important

ABB SOLUTION

- Protection and Control units REX640 with IEC61850 communication and GOOSE
- Primary GIS switchgear ZX2 with sensors
- Secondary GIS switchgear Safeplus with sensors
- Linear MV voltage regulator
- RTU560 for protocol conversion and gateway function, RTU540 for regulator control

CUSTOMER BENEFITS

- High performance and level of continuity of service
- Flexible digitalized solution with communication-based logics
- Cost-effective, high-performance protection system
- Future-proof technologies and architecture
- Full ABB support for interlink of Switchgear and regulator



Contractor/End user: SÜC Coburg

Year of delivery: Q3 2019

Country: Germany **Segment:** UTILITY

Products delivered: REX640 (partial delivery, programming, protection design) and RTU560

including switches. Supported products: ZX2, Safeplus,

linear MV regulator

Key success factors: High technical competencies in network technology, protocol conversion, protection

design



SUE3000 substation safety and power maintenance

Refinery PCK Schwedt, Germany

CUSTOMER CHALLENGE

- Environmental protection and safety
- regularly investing in the latest environmental and safety technologies to protect its staff and production facilities for many years.
- Function reliably twenty-four hours a day,
- protected from voltage dips or the worst case of a complete interruption to electrical power supply.

ABB SOLUTION

- High Speed Transfer Devices of type SUE 3000.
- In case of fault, the SUE system can, depending on the network configuration and the defined preselection, automatically switch over to back-up feeder or couple busbars of two units.
- Apart from automatic transferring in fault conditions, each SUE can also be activated manually for planned switching operations.

CUSTOMER BENEFITS

- Protect its staff and production facilities for many years
- On power failure, SUE ensures continuing supply to the PCK machinery, providing for optimum plant availability
- Function reliably twenty-four hours a day
- Be protected from voltage dips or the worst case of a complete interruption to electrical power supply



Contractor/End user: PCK Schwedt

Year of delivery: 2005, 2008, 2012, 2014, 2015

Country: Germany

Segment: Oil & Gas industry

Products delivered: SUE3000 High Speed Transfer

Device including Control cabinet

Key success factors: Continued power supply for

critical application processes



CABB

SSC600 Smart Substation Control and Protection

Parikkalan valo substation protection and control

CUSTOMER CHALLENGE

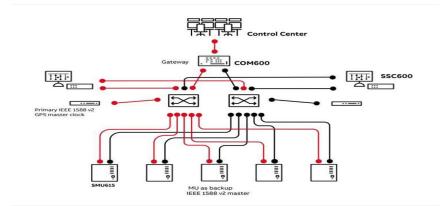
- Project for centralized protection
- Retrofit for swg breakers and relays
- Totally centralized system with SMU615's and 2xSSC600 with PRP

ABB SOLUTION

- Two SSC600 units and SMU615 merging units
- COM600 for SCADA connection point
- REX640 relays for transformers' protection + HV back-up protection and for alarm-signals collection

CUSTOMER BENEFITS

- High performance
- Reduced downtime, maintenance and repair cost
- Future-proof technologies and architecture
- Available later on for flexible digitalized solution with communication
- First touch for IEC61850.



Contractor/End user: Parikkalan Valo

Year of delivery: 2019

Country: Finland **Segment:** Utility

Products delivered: SSC600, SMU615, COM600,

REX640 (55kUSD).

Key success factors: High technical competencies, internal cooperation in ABB, cutting-edge technologies



ABB Digital Technologies for the future distribution grid

Case: Mazzano & Brescia Nord Primary Substation

CUSTOMER CHALLENGE

- Common platform to fully digitalize the new and the existing substation
- Full IEC61850 Ed2 solution to be interoperable with the new DMS system providing data from the network
- Flexible software-defined logics
- Advanced monitoring for condition-based maintenance

ABB SOLUTION

- Relion relays with IEC61850 Ed2 support and Energy Monitoring System ABB ZEE600
- Full-redundant communication infrastructure based on HSR and PRP using ABB AFS family switches
- IEC61850-9-2 support ready to use
- Synchronization with IEEE1588 protocol and GALILEO GNSS
- Retrofit solution based on RIO600+Relion to easy upgrade existing switchgear

CUSTOMER BENEFITS

- Flexible system
- Common platform for the new and the retrofit solutions
- Future-proof technologies and architecture
- Flexible full digitalized solution with communication-based logics
- Lots of data to feed the DMS

From old technology



to new one



Contractor/End user: UNARETI SpA

Year of delivery: 2019-2020

Country: ITALY

Segment: UTILITY

Products delivered: Control Relay Panel with Relion 615/620 series

and ABB ZEE600

Key success factors: Customer consultancy, cooperation, cutting-

edge technologies



ABB Digital Technologies for the future distribution grid

Case: Areti Rome Recloser for Secondary Substation

CUSTOMER CHALLENGE

- Common platform to fully digitalize the new and the existing substation
- Full IEC61850 Ed2 solution to be interoperable with the new DMS system providing a wide amount of data from the network
- Flexible software-defined logics
- Advanced monitoring for condition-based maintenance

ABB SOLUTION

- Relion relays with IEC61850 Ed2 and IEC60870-104 in the same relay
- Palindrome Logic Selectivity algorithm is distributed along the REC615 protections, no central CPU is required. Retrofit solution based on RIO600+Relion to easy upgrade existing switchgears
- IEC61850 (MMS & G.O.O.S.E.), IEC6080-5-101, IEC6080-5-104
 Communication

CUSTOMER BENEFITS

- Flexible system
- Common platform for the new and the retrofit solutions
- Future-proof technologies and architecture
- Flexible full digitalized solution with communication-based logics
- Lots of data to feed the DMS



Contractor/End user: Areti SpA

Year of delivery: from 2013 up to now (1.150 pcs delivered)

Country: ITALY

Segment: UTILITY

Products delivered: Recloser for Secondary Substation with Relion

REC615

Key success factors: Customer consultancy, cooperation, cutting-

edge technologies



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