Medium Voltage Products
Medium Voltage Products
At a glance

Global leader in medium voltage business

~ 12,500 employees

Coverage of
+ 100 countries
through focused sales forces

Applications:
- Utility substations
- Distribution lines
- Industrial plants
- Ships

Sales through direct sales people, system integrators (including ABB), and channel partners, such as OEMs and distributors
Medium Voltage Products
Full range of offering to make a better electric world
Medium Voltage Products
Full range of offering to make a better electric world

Medium voltage product portfolio

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<th>Distribution automation</th>
<th>Apparatus</th>
<th>Primary switchgear</th>
<th>Secondary switchgear</th>
<th>Modular systems</th>
<th>Service</th>
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<td>Relion® relay family</td>
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<td>Air insulated PSWG</td>
<td>Air insulated SSWG</td>
<td>Metal housing</td>
<td>Product life cycle serv.</td>
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<td>Outdoor portfolio</td>
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Enabling a stronger, smarter, greener power network
Medium Voltage Products
Focused feeder factories & customization units

42 factories in 30 countries

- Distribution Automation
- Apparatus
- Switchgear
- Modular Systems
Services for medium-voltage equipment
Extending the product life cycle
## Services for medium-voltage equipment
### Offering overview

<table>
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<th>Start-up &amp; product services</th>
<th>Extension, upgrades, retrofit &amp; replacement</th>
<th>Smart Asset Management</th>
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| Parts, site- and workshop services to support customers keeping their assets available and reliable:  
- Spare parts  
- Installation and commissioning, training, repair, maintenance | Extending the life cycle of ABB and non-ABB switchgear by retrofitting the active parts (mainly circuit breakers and relays):  
- Roll-in-retrofits & OneFit solutions for non-ABB installed base  
- Relay retrofits & replacements  
- Switchgear arc flash safety upgrades and replacement projects | Site or online (cloud based) condition monitoring of assets to increase predictability of costs and services, availability and reliability of assets:  
- MySiteCare/MyRemoteCare remote condition monitoring solution  
- Expert services to optimize maintenance strategies  
- PowerCare support agreement |
Distribution Automation Solutions
Solution portfolio
Distribution automation solutions
Kind of solutions

- General DA portfolio
- Packages
- Retrofit solutions
- Pre-designed or high level solutions
- Very High level solutions (Customized solutions)
Distribution automation solutions
General DA portfolio - Products

- Relion family
- RE_500 family
- Electro mechanical & Solid state relays
- Arc fault protection systems
- Communication devices
- Software
- Test switch
Distribution automation solutions
One level more - Packages

- Change supply only boxes (products alone)
- Package product for focus the solution
- High competiveness by group components
- Base for higher level solutions
- Package product(s) and services
- Some case package expands and/or deep the functionality.
Distribution automation solutions
Packages – IED + Services

- IED’s today is a commodity
  - Delivery time
  - Price
  - Must cover a technical specification
- Service is a perfect added value
- High quality solution by ABB expertise
- Product & Service aftersales
Distribution Automation Solutions
Retrofits
Distribution automation solutions
Retrofits solution – PCMU & REF615R

- Pre-Configured Matching Unit (PCMU) is a direct replacement for obsolete ABB DPU 245/445/2000
- REF615R is a direct replacement for DPU2000R
- PCMU and REF615R are Form/Fit/Function and Wire Like to fit into the already existing panel cut-out.
- Allows you to get latest relay protection technology and features without the panel or wiring modification expenses.
Distribution Automation Solutions
Pre-designed / High level solutions
Distribution automation solutions
High level solutions – GA Indoor

• Accurate situational awareness of the status of the distribution network
• Fast remote controllability in order to effectively manage operation and fault situations
• Reduction of the outage time in affected parts of the distribution network
• Active monitoring of motor control and battery circuits
• Life-cycle extension of investments
• Effective fault management of the distribution network
• More efficient utilization of the distribution network by minimizing network losses
• Minimization of the amount of energy not supplied
• Improved operational efficiency through better tools for operators and field crew
• Improved quality of power supply through less and shorter outages limited to a restricted part of the distribution network
• Improved safety for the utility personnel through more exact fault location
Distribution automation solutions
High level solutions – GA Outdoor

For Outdoor Apparatus

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- Same features as for GA03 solution plus:
  - Current and Voltage protections
  - Provides information for scheduling CB maintenance
  - Monitors the wear and tear of the circuit-breaker
  - Circuit-breaker gas pressure
  - Circuit-breaker spring charging
  - Circuit-breaker travel time
  - Circuit-breaker operation counter
  - Scheduled maintenance
Distribution Automation Solutions
High level solutions
Distribution automation solutions
Power outages - HST

- Lost productivity
- Damaged production equipment
- Damaged products
- Delays in delivery
- Lost confidence of clients
- Injury to people
- Pollution of environment
Distribution automation solutions
Concept - High Speed Transfer – SUE3000

- For sensible plants with **highest** demands like
  - Semiconductor industry
  - Plants with high degree of automation, etc.
- Unique performance
  - VM 1-T Circuit breaker
    - 16 ms Making-time
    - 9 ms Breaking time
- Five variants
- References
  - Philips Semiconductors
  - Wiegand Glas factory
  - A lot in SAM
Distribution Automation Solutions
Customized Solutions
Distribution automation solutions
Very High level solutions (Customized solutions)

- Customized communication systems
- Customized C&P systems
- MV Distribution lines (FA w/wo communications)
  - Distribution SCADA systems
  - GA
  - Smartgrid
- Other (still not defined)
Energy Storage Modules
ABB PPMV, Modular Systems
Power and productivity for a better world™