Schneider Electric

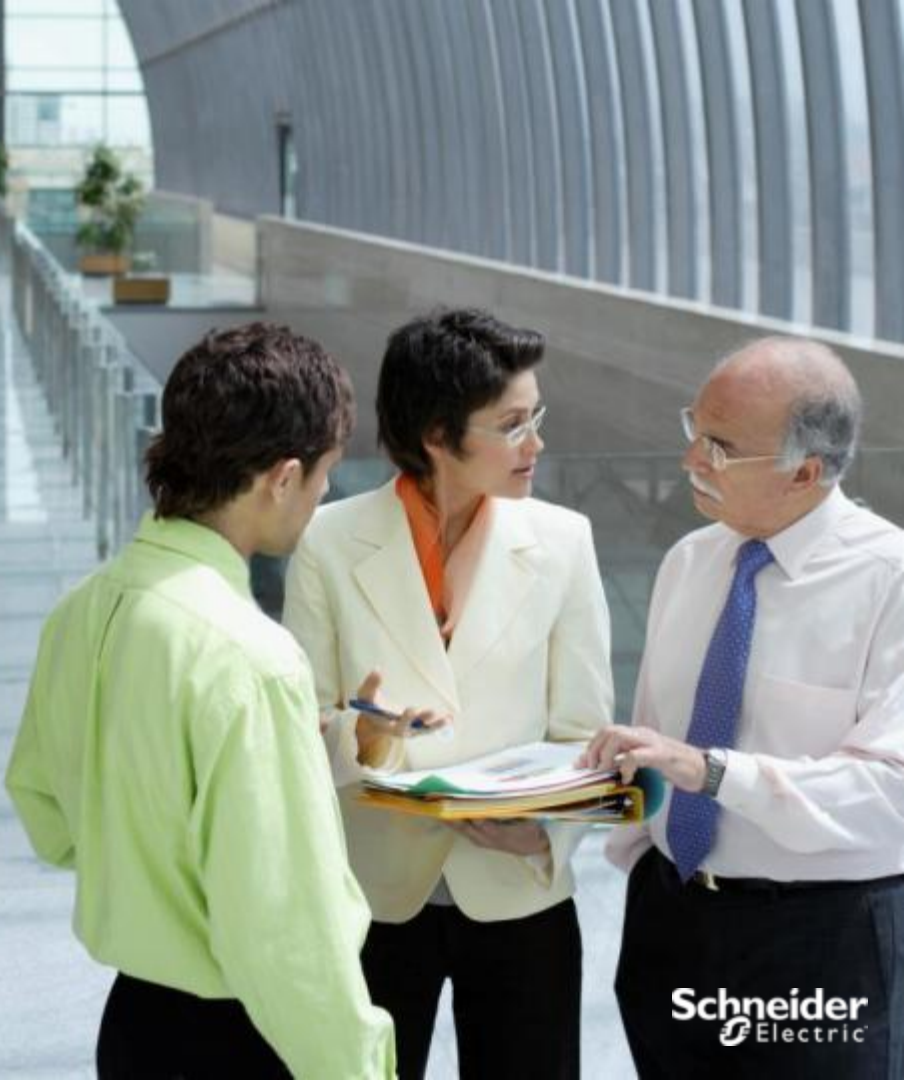
GREEN BUILDING MAKES BUSINESS SENSE



SINGAPORE GREEN BUILDING COUNCIL

Premset

The new generation of MV switchgear



Innovative architecture designed with your needs in mind

“you have to take in account the **smart grid** trend”

“expected **life duration** of switchgear is increasing”

“**maintenance-free** is far more important than SF6-free”

“maintenance and operation teams **know-how** is decreasing”

“ Cost effective and **compact Circuit Breakers** are needed for small primary substations or loop management”

“no problems with GIS switchgear, because **reliable in harsh environment** (humidity, temperature, dust, poor installation, partial discharges)”

“I’ ll never compromise about **end-users safety**”

A technological breakthrough, opening the way to unprecedented safety, efficiency, and ease of use

Like Air Insulated Switchgear

- Modular
- Versatile
- Comprehensive

Like Gas Insulated switchgear

- Compact
- Easy to install
- Severe environment robust
- Minimum maintenance





A technological breakthrough, opening the way to unprecedented safety, efficiency, and ease of use

Shielded Solid Insulation System (2SIS)

- Safe and reliable in any environment
- Flexible, simple and modular
- Smart grid-ready, distributed intelligence

Premset



Where are the innovations?

1 Shielded Solid insulation is unique: no gas inside

- Safety: fully grounded device, including bus-bar and connections
- Bring insensitivity to any harsh environment and reduced maintenance
- SIS competition is not shielded



2 Cable testing: the world safest

- Safety: innovative cable-test device, fully grounded during all the operator's handling



3 Arc limited

- Busbar is fully insulated and shielded reducing the arc possibility
- Phase to phase arc is not possible, only phase to earth by accident



4 Reliable by design

- Simple 3 in 1 switching device reducing the mechanical parts
- Fully automatic industrial process with highest level of routine tests



Where are the innovations?

5 Smart ready inside





- Embedded “Plug and Play” modbus comm. protocol and IED auto-scan
- Easy to extend with automatic configuration and device recognition
- Access your switchboard anytime at any place with any smart device

6 Architecture: flexible, compact, easy to configure



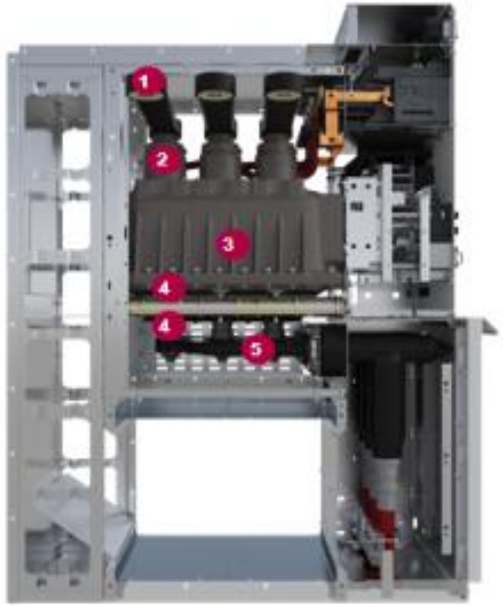
- Suitable for any civil design of substation where space is a constraint
- Flexibility: fits to any cable connection configuration : Bottom / Top, Rear / Front

7 Designed to be adaptable to every business model



- Direct Engineered to Order or Customized to Order
- Global or locally adapted
- Through channels: licensed to partners

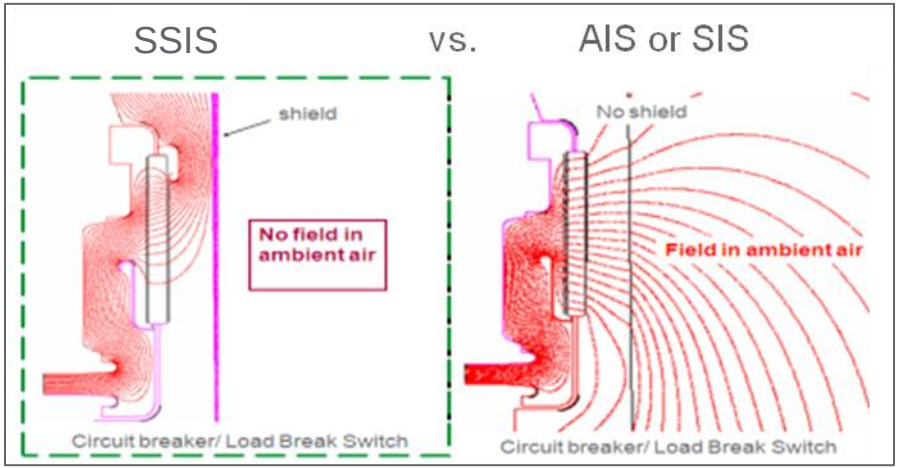
Safety
Totally Shielded Solid Insulation System (SSIS) optimized design



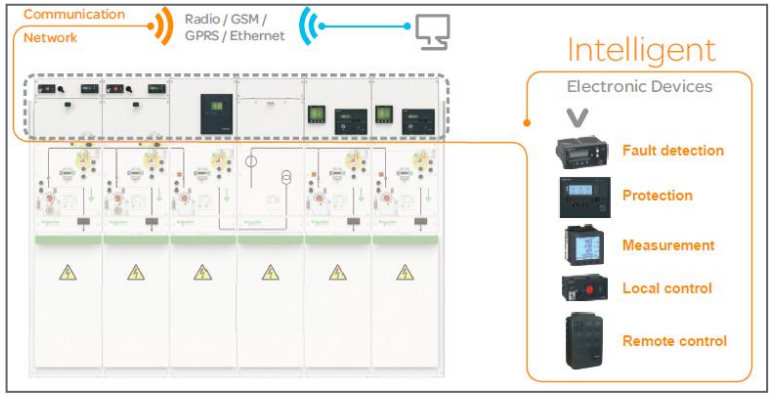
All surfaces at earth potential

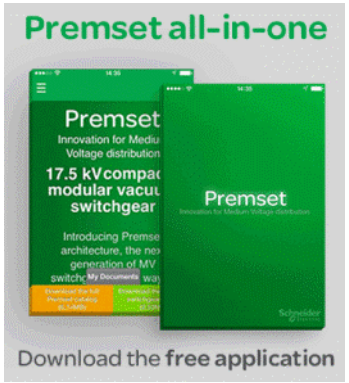
- No dielectric ageing
- Long product life expectancy
- Reduced internal arc risk
- Accidentally touchable
- Insensitive to harsh environment

Immersion Test



Smart
Always a step ahead into Digitization







Smart ready !
Born to be digital
Intelligent Electronic Devices /IED, developed for Premset : Easergy

Digital Tools
To support prescription, Promotion, Training and Services : e-learning, Spare parts, QR Code...

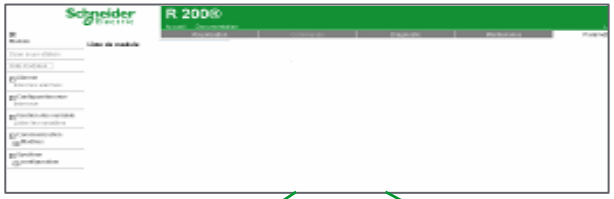
Digital Empowerment
Set the trend of Digital Customer Experience
Competitive advantage generation : customer intimacy

Smart



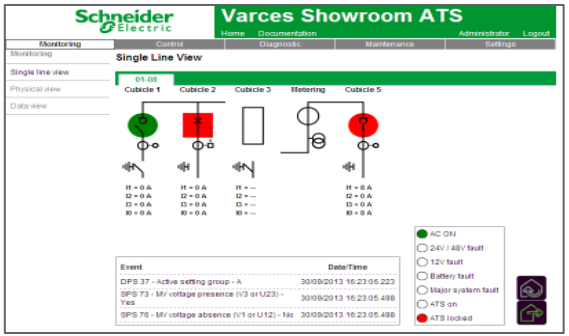
System auto-configuring according to the application

1. Scan & Modbus slaves auto-discovering

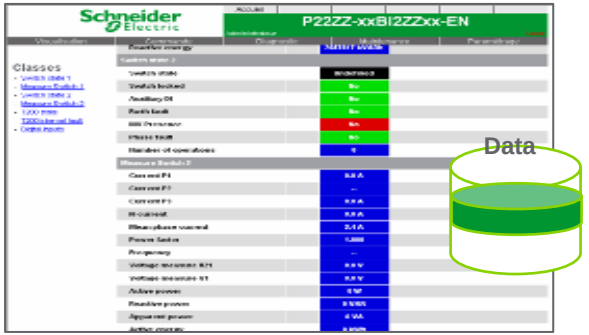




2. Display the single line diagram

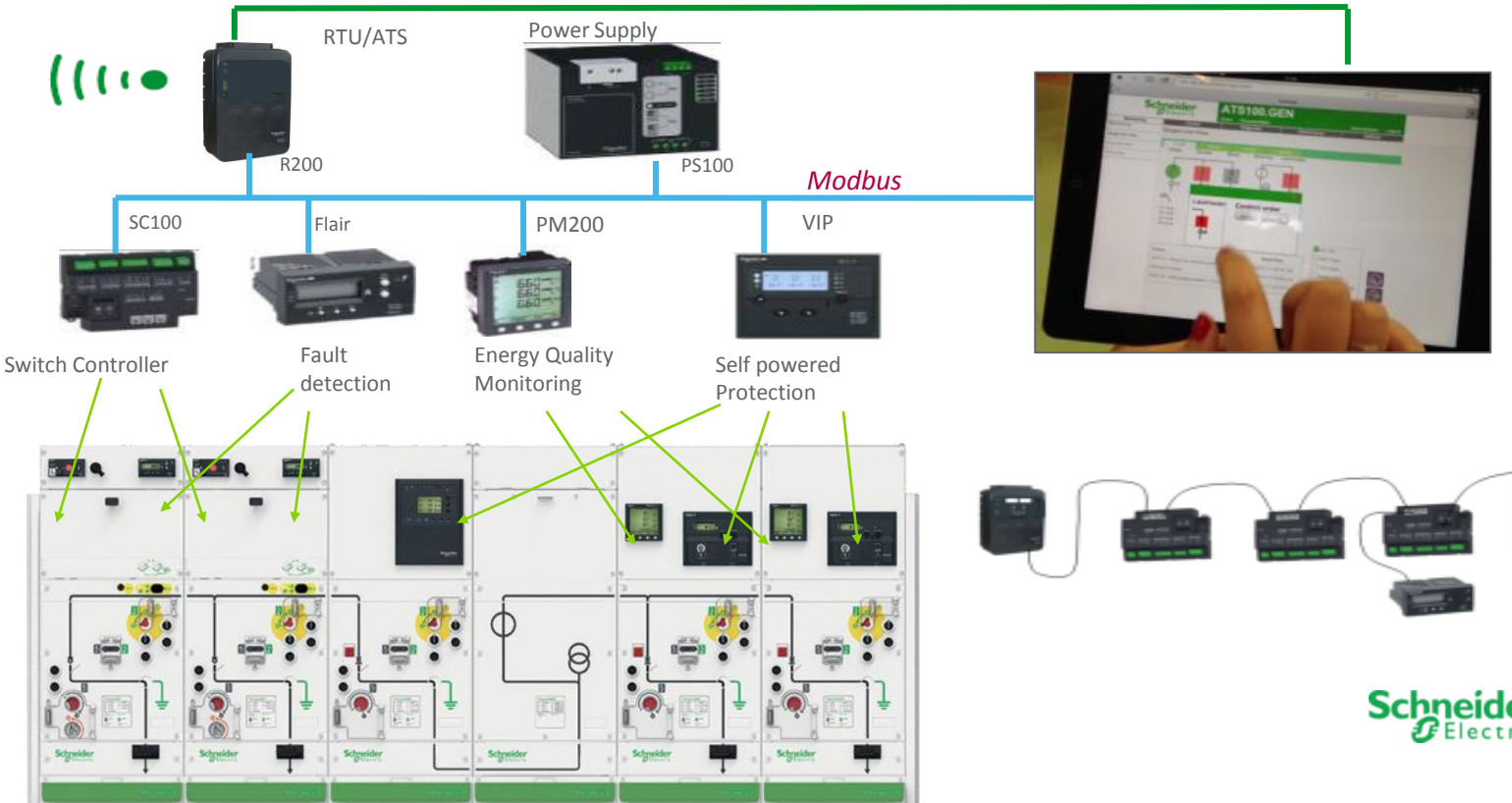


3. Display each device data



Efficiency

Integrated intelligence” in MV switchgear



Smart

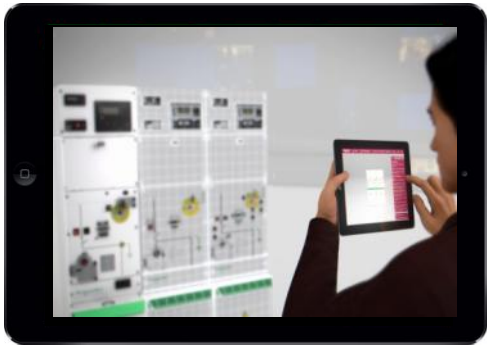
Your Schneider Electric contact transports Premset to your site, *via* its Ipad



Discover

→ 3D modelling

→ All the technical characteristics and strengths (documents, videos, etc.)

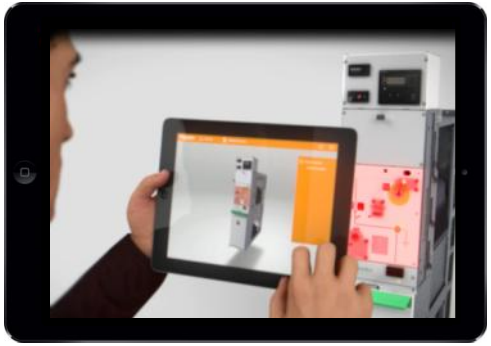


Configure

→ Virtual reality

→ On-site demonstration

→ Budget estimation



Maintain

→ Augmented reality

→ Remote mentoring

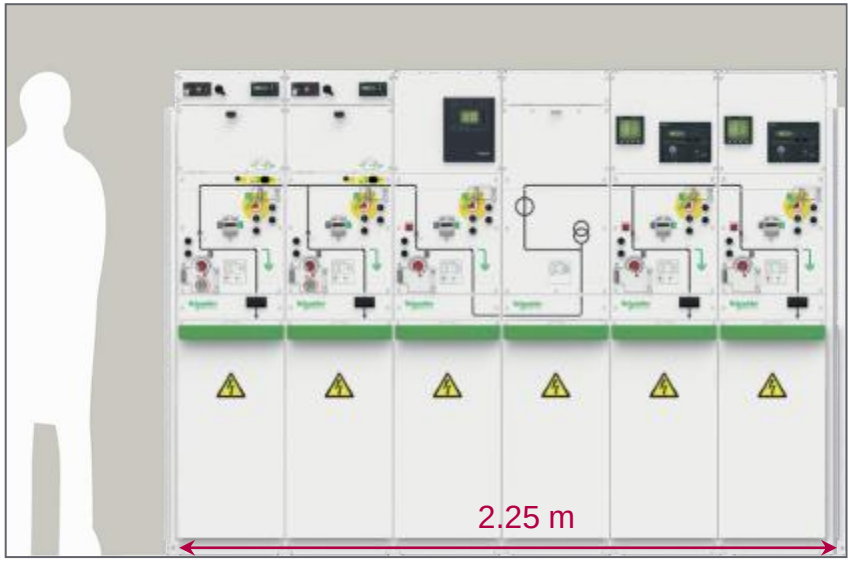
Main technical characteristics

Rated voltage	17.5 kV
Short time withstand	25 kA x 3s, 21 kA x 3s, 20 kA x4s
Rated busbar current	630 A, 1250 A
Rated BIL withstand voltage	95 / 110 kV
Rated PF withstand voltage	42 / 48 kV 1mn
Cable earthing switch	25 kA, M0, E2
Degree of protection	IP3X (indoor), IP54 (outdoor)
Dimensions W x H x D (mm)	375 x 1600 x 900 (indoor)

- Internal arc
- Standard design is virtually arc free
- Optional: Arc control design, type tested A-FLR 25KA 1s with upward or downward exhaust
- Comply with new IEC standard 62271-200

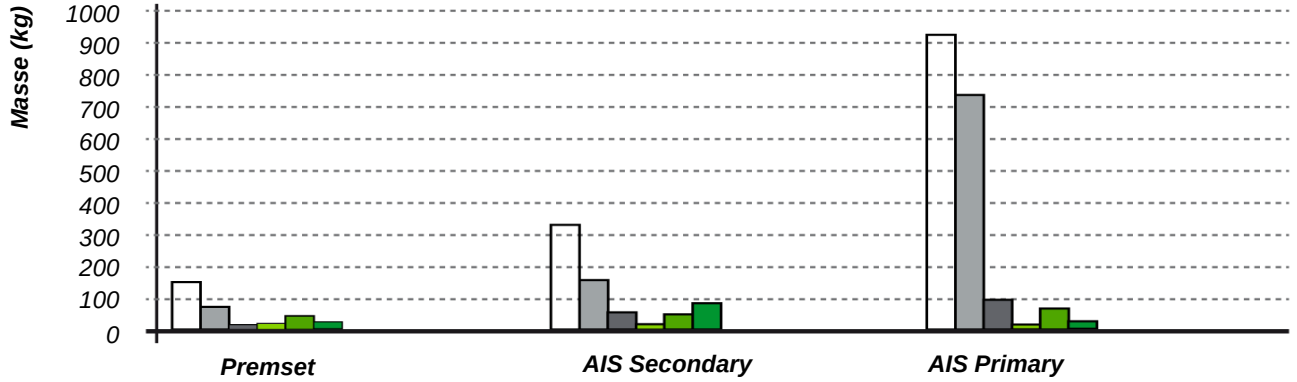
Premset typical application

Compact MV consumer substation with MV metering..



Green - Premset environment appraisal vs. existing Air Insulated and Gas Insulated typical switchgears

- ***Average weight of main materials***



Product weight	*148.3*	*326.0*	*923.0*
Steel	*73.0*	*154.0*	*732.4*
Copper	*9.0*	*45.0*	*95.2*
Aluminium	*10.0*	*10.0*	*10.6*
Epoxy Resin	*34.0*	*52.0*	*60.1*
Autres	*22.3*	*65.0*	*24.7*

Premset: feeder function with 630A fixed vacuum CB

AIS: feeder function with 630A fixed vacuum CB in typical Air Insulated switchgear

Metalclad: feeder function with 630A drawout vacuum CB in typical ‘metalclad’ switchgear

Success Stories

Launched from Sep 2012
> 4000 Cubicles Sold in 32 Countries



Webb Dock
Australia
E-House



Global Switch
Australia
Data Center



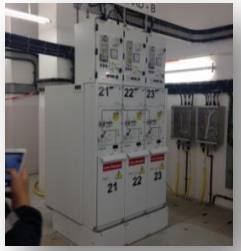
Baku Aquatics Centre
Azerbaijan
Stadium



Incahuasi Plant TOTAL
Bolivia
O&G



Schiphol Airport
Netherlands
Airport



CLP
Hongkong
Utility



Trujillo City
Peru
Mobile Substation



King Abdullha Monorail
Saudi Arabia
Transportation



Barrick Gold
South Africa
Mining



Gong Qin Cheng
China
Utility