

## **Power generation in the energy transition needs smart technology solutions**

POWER-GEN Europe 2017, 27th – 29th June 2017, Cologne, Hall 7,  
Stand V45

**Some of the most important requirements for power generation in the energy transition period are increased flexibility and greater efficiency for staying competitive. These are being addressed by Mitsubishi Electric with a range of smart automation and electrical solutions. These include scalable Plant Automation solutions for the optimisation of different sized power plants; Virtual Power Plant (VPP) solutions that can support the transition from traditional energy generation sources to renewables and electrical balance of plant solutions.**

Due to the energy transition process, distributed control is currently a major theme across industrial automation and infrastructure as a whole. Moving control intelligence out from a central point and onto the plant floor or across a wider network allows for more flexible operations, lower costs and greater efficiency. All of which are desirable for both consumers and operators - in an industry where many more power generation sources are now in direct competition.

### **Powerful decentralised control for large and small power generation plants using PMSX®pro and PMSX®micro DCS solutions**

[PMSX®pro](#) is a large-scale power plant DCS system available from Mitsubishi Electric, delivering significantly increased availability, efficiency, expandability and flexibility. It provides harmonisation of control hardware with other networked resources, systems and software. This process management concept adapts to the plant's process

engineering structure: by arranging the plant horizontally into function units with specific control and automation tasks, it allows for upgrades and changes to be made seamlessly – while supporting ongoing efficient control of generation and output.

[PMSX@micro](#) is a control and visualisation system based on the larger 'pro' system, but designed specifically for use on smaller scale facilities such as renewable energy power plants. It runs on a single Automation Server yet delivers large plant levels of control with easy operating screens for set parameters and alarms. High quality process visuals are used to display a status overview for an entire installation.

### **Using a Virtual Power Plant solution to meet the new requirements of the power sector**

Due to recent ambitious European sector objectives, the industry is facing a challenge to affect a changeover to using more [renewables](#). This creates a direct need for power generators, operators and large end users to manage a combination of variable power generation sources and coordinate them so that they work as one harmonised 'virtual' power plant'.

To fulfil this requirement Mitsubishi Electric has developed a holistic [VPP](#) solution that combines a range of intelligent and reliable Mitsubishi Electric products to deliver overall efficiency, reliability and control. Each solution is designed to meet individual requirements and function independently of the specific type and number of control requirements. Every source can be included in the VPP from conventional power generation resources to renewables as diverse as geothermal, wind, photovoltaic, hydro and biomass.

### **Medium Voltage Switchgear for power applications up to 24kV**

Best practice requires all switchgear to be fully compatible with operational plant requirements and to be as interchangeable as possible.

In order to optimise spares inventory and ensure minimal downtime, the smallest number of parts possible should be kept on the shelf for fast replacements. The MS-EBG MV switchgear system powered by Mitsubishi Electric components fits this requirement perfectly. It is available in a 3.3kV to 24kV operating range at 630A to 4000A and meets all the relevant IEC standards, making it ideal for large sites and smaller power generation facilities.

All solutions are represented on the company stand V45 in hall 7 at POWER-GEN Europe 2017 exhibition in Cologne, Germany from 27th – 29th June.

**Note:**

See how Mitsubishi Electric is able to respond to today's automation demands: [eu3a.mitsubishielectric.com/fa/en/solutions](http://eu3a.mitsubishielectric.com/fa/en/solutions)

**Image captions:**



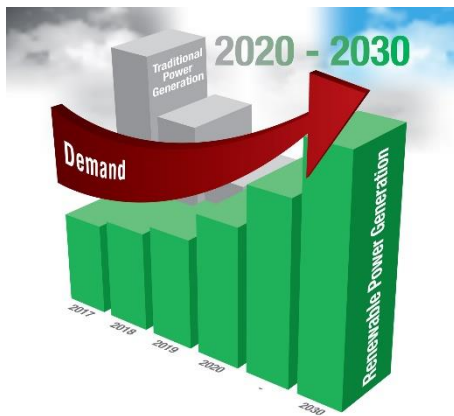
**Picture 1:** Power industry requirements in the energy transition process for increased flexibility and greater efficiency are being addressed by Mitsubishi Electric with a range of smart automation and electrical solutions.

[Source: Getty Images]



**Picture 2:** The DCS solutions PMSX®pro and PMSX®micro control systems provide powerful decentralised control for large and small power generation plants.

[Source: Mitsubishi Electric Europe B.V., Thinkstock, ME-Automation Projects GmbH]



**Picture 3:** Using a Virtual Power Plant solution to meet the new requirements of the power sector.

[Source: Mitsubishi Electric Europe B.V.]



**Picture 4:** Electrical solution, Medium Voltage Switchgear MS-EBG powered by Mitsubishi Electric components for power applications up to 24kV.

[Source: Mitsubishi Electric Europe B.V., Thinkstock]

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## **About Mitsubishi Electric**

With over 95 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation is a recognised world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, as well as in products for the energy sector, transportation and building equipment.

With around 138,700 employees the company recorded consolidated group sales of Yen 4,238.6 billion (\$ 37.8 billion\*) in the fiscal year that ended on March 31, 2017.

Our sales offices, research & development centres and manufacturing plants are located in over 30 countries.

## **Factory Automation – European Business Group**

Mitsubishi Electric Europe B.V., Factory Automation - European Business Group (FA-EBG) has its European headquarters in Ratingen near Dusseldorf, Germany. It is a part of Mitsubishi Electric Europe B.V., a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan.

The role of FA-EBG is to manage sales, service and support across its network of local branches and distributors throughout the EMEA region.

*\*Exchange rate 112 Yen = 1 US Dollars, last updated 31.03.2017 (Source: Tokyo Foreign Exchange Market)*

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