

NEC launches modular “green base station” solution

Modular renewable energy storage solution can be scaled in line with network traffic growth to future-proof investments by operators and towercos

Barcelona & Westborough, MA, USA, February 19, 2015 - [NEC Energy Solutions](#) today launched a [highly scalable storage solution](#) that enables base stations and small cells to be reliably powered by solar or wind energy or by hybrid renewable and diesel generators. It features the NEC Energy Solutions [ALM™ 12V35 product line](#) of 12-Volt, 35 Amp-hour lithium-ion batteries that can be combined in 12V, 24V, 36V, or 48V arrays to power systems up to 350Ah and 18kWh. The lithium-ion batteries deliver up to twice the usable energy, 50 times the cycle life and charge as much as 100 times faster than typical lead-acid batteries according to NEC’s analysis.

In emerging countries mobile base stations are often deployed in areas without an electricity grid or with frequently scheduled or unscheduled power outages. Mobile operators and tower companies have to rely on diesel generators that are not only costly to run but also increase carbon emissions. Energy can make up as much as 60% of the total network operating costs in these areas according to the [GSMA](#).

NEC’s energy storage solutions enable operators to make better use of renewable energy. They capture energy produced when the solar panels or turbines are generating more power than can be consumed, for use at night or when weather conditions limit solar or wind power generation. The solution is also ideally suited for use in mature mobile markets where operators want to reduce their environmental footprint and operating costs.

The intelligent ALM 12V35i records the state of the battery capacity, charging rate and operating temperatures without the need for external battery monitoring sensors, management software or manual maintenance. Operators can set performance thresholds and receive alerts for when batteries need replacing or if there is a fault. All ALM 12V35 products feature NEC Energy’s EverSafe™ battery protection technology, providing redundant, auto-recovering short circuit, over-voltage and over-discharge protection.

NEC’s batteries can be connected in series or parallel with no additional control circuitry. This is a significant benefit as site loads, which affect the dimensioning of power systems, are likely to increase with the relentless growth in mobile network traffic. In addition, mobile operators are increasingly outsourcing their network to tower companies who manage multi-tenanted sites, creating the need for a flexible and scalable solution.

The extended operating temperature range of the NEC solution minimizes the need for costly air conditioning units currently required to keep other batteries within a narrow temperature operating range. The ALM batteries can be ground-mounted in environmentally controlled secure enclosures, with intruder alarms and CCTV monitoring if required, or on the mast itself.

The off-grid and unreliable-grid network globally is estimated to reach a total of approximately 1.2 million tower sites by 2020 from the current size of 1 million in 2014 according to the GSMA.* The energy storage solution can also be used for wireline infrastructure or to provide an Uninterruptible Power Supply in data warehouses.

NEC’s energy storage solutions will be showcased at Mobile World Congress 2015 in hall 3 on stand #3N10.

About NEC Energy Solutions

NEC Energy Solutions is a leader in advanced energy storage, developing and manufacturing smart energy storage solutions for electric grid, backup power and lead-acid replacement applications. With system integration expertise focusing on high performance, efficiency, safety and reliability, NEC Energy Solution's products range from compact advanced industrial batteries to massive grid-scale energy storage systems. Its turnkey GSS™ (Grid Storage Solution) products have successfully operated in commercial revenue service since 2009 and have reached over 110MW deployed on the grid worldwide, while its commercial and specialty batteries provide solutions to fit the needs of telecom, IT backup, datacenter, medical, lead-acid replacement and other industrial applications. For more information, please visit www.neces.com.

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*GSMA GPM-Dalberg Research and Analysis, June 2014