The unsung heroes of 5G
Introduction

The introduction of 5G networks (not to mention the inherent criticality associated with it) has presented the ICT industry with a significant challenge: specific stringent requirements in terms of cell site infrastructure now have to be met. In the deployment of 5G hardware to existing sites, additional obstacles need to be overcome with regard to space, utility uptime and mechanical complexity.

Ericsson has come up with a series of top-quality, high-performance site solutions that will serve behind the scenes to make the next generation of mobile technology happen in the most sustainable way. Introducing the unsung heroes of 5G...
The Solution

Ericsson has adapted its Ericsson Radio System (ERS) portfolio to address the challenges of a state-of-the-art 5G deployment and meet the needs of the market. The latest enterprise-grade mounting, power, enclosure and interconnect systems on offer make installation and commissioning of any 5G solution as straightforward as possible.

ERS Enclosure gen 2

Ericsson’s enclosure solutions are designed to ensure optimal RAN performance. As part of the ERS Site portfolio, all enclosure and power products are developed, tested and integrated with active ERS RAN equipment. The ERS Enclosure gen 2 – the next generation of the successful ERS Enclosure product line – facilitates the introduction of 5G to the network. Given that 5G will challenge existing infrastructure – on account of its increased energy consumption and reliability, higher heat loads, and the additional rack space associated with it – the need for this new enclosure could not be more pressing. The ERS Enclosure gen 2 has much to offer: a 75 percent increase in available power; 10 percent more cooling capacity; and an extra 2U of rack space.

Smart DC power distribution cabinets have also been introduced, with a range of DC voltage boosters. These reduce the current level in the cables, helping to reduce their size. This also enables the reuse of existing cables in swap scenarios, and as a result, hardware and installation costs can be minimized.

The ERS Enclosure gen 2 includes a highly reliable, climate-smart integrated power system which ensures energy-efficient AC/DC rectification and smart distribution to the radios. Ericsson’s latest enclosure also enables the implementation of the Smart Connected Site solution, where the combined concept of overall visibility, security and intelligence using AI and ML can be applied for dramatic network optimization. This system is unified with the Ericsson Network Manager (ENM) connectivity and support solution.
Lithium Ion Battery

Ericsson’s ERS Site portfolio has been enhanced with Lithium Ion Battery support, enabling higher reliability and easy integration than with conventional lead-acid batteries. Lithium Ion Battery modules can be used for all ERS outdoor enclosures, indoor rack installations and full outdoor hardened units for ERS rail installations. These battery units are fully integrated with Ericsson’s Enclosures portfolio and OSS/ENM systems. The modules are fully integrated with ERS, and complete visibility and high reliability is offered, complete with end-to-end system delivery.

Lithium ion batteries are classified as dangerous goods, so the highest level of quality control is ensured. Since the modules have to be used, handled, transported, and stored correctly, Ericsson has developed packaging and documentation to support the supply chain in the best possible way. Along with the enclosure-integration systems, all modules are granted safety certification. Designed to limit fire propagation and ensure safe field operations, Lithium Ion Battery modules shut down automatically if the Battery Management System becomes damaged.

Key features
- The rack-mounted Lithium Ion Battery modules come in two sizes:
  - 23-inch – ideal for a high-capacity installation where all the space in a legacy battery enclosure can be used
  - 19-inch – for use alongside active ICT equipment, allowing for flexible use of space

Zero-footprint solutions can be provided for short-term battery backup (down to just 10 minutes) with rail units. Several rail battery units can be connected for extra backup time.

Remote Site Access
ENM, O&M

Smart Connect

Smart DC power distribution
75% increased power density
+2U of rack space
Support for Li-Ion

10% more cooling capacity
Rail 2.0

The successor to the ERS Rail Mounting System, RAIL 2.0 is designed for use with ERS radios, basebands and power products. Available in several different lengths, RAIL 2.0 is the preferred mounting solution for larger radio configurations. Added functionality enabling vertical clustering of units makes it even more flexible. It can also be installed more quickly since it weighs 30 percent less, and comprises just half the number of components.

The environmental impact of RAIL 2.0 has been reduced significantly, with manufacturing CO2 emissions down by 90 percent.
Composite Brackets

Serving as a simple radio and outdoor baseband snap-fit mounting system, ERS Composite Brackets have fewer individual components than their predecessors. They are made of a carefully selected alternative range of industry-standard composites, which generate less waste during the manufacturing process than materials used previously. They are ideal for use with Ericsson Street Macro, Classic Macro and GPS mounts.

The benefits
- rust-free
- long lifespan
- no painting or galvanization requirements
- lightweight – limiting logistics costs

UV and heat tested — for optimum performance in any climate
Aluminum DC Power Cables

Ericsson offers Aluminum DC Power Cables as an option. These lead to direct capex savings in site implementation since they tend to be lighter than copper, making carrying and work on towers that much easier.

Conclusion

Ericsson is now able to offer a comprehensive range of on-site products and solutions that meet the stringent requirements of today. By helping to put the right infrastructure in place, we facilitate the service provider’s journey toward 5G network evolution, making it as smooth as possible. And that’s largely thanks to the unsung heroes of 5G.
Ericsson enables communications service providers to capture the full value of connectivity. The company’s portfolio spans Networks, Digital Services, Managed Services, and Emerging Business and is designed to help our customers go digital, increase efficiency and find new revenue streams. Ericsson’s investments in innovation have delivered the benefits of telephony and mobile broadband to billions of people around the world. The Ericsson stock is listed on Nasdaq Stockholm and on Nasdaq New York.

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