

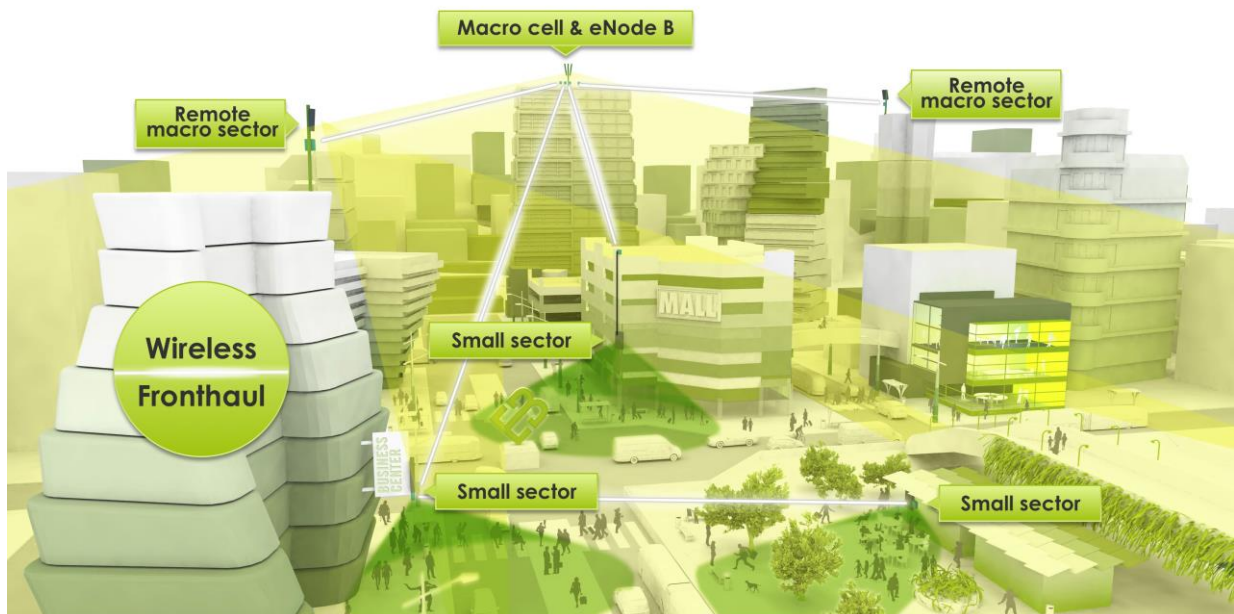
Leading Wireless Fronthaul

Eblink – the leader in Wireless Fronthaul technology

Eblink is revolutionizing the mobile network market with a new standard for the mobile industry: Wireless Fronthaul. This innovative technology provides operators with an immediate solution to the demands of mobile multimedia applications, and the increasingly high-speed service they require. Thanks to its spectral efficiency, Eblink's patented Wireless Fronthaul solution represents a major technological advance. It can be interfaced with fiber, while guaranteeing the same performance levels. Eblink's system reflects the evolution

toward increasingly centralized telecom architectures, and enables faster and easier deployment of 3G, 4G and future 5G networks. Wireless Fronthaul technology is recognized as a cost-effective and flexible solution for macro and small cell sites, to ensure needed coverage and high-speed service. Industry analysts and major international operators now view Wireless Fronthaul as a technology that has become essential.

Eblink was created in 2005 to advance its founder's driving vision for the evolution of mobile networks. The company is headquartered just outside of Paris, France, with a subsidiary in California's Silicon Valley.



Data demand stresses network capacity

The data demand generated by smart phones and tablets puts a huge strain on networks, forcing operators to expand their current macro networks to cope with the growing traffic. New data-hungry applications and the upcoming internet of things mean that network capacity will remain strained for the foreseeable future.

The densification of networks using remote antennas and small cells enables operators to address the issues of capacity and quality of service.



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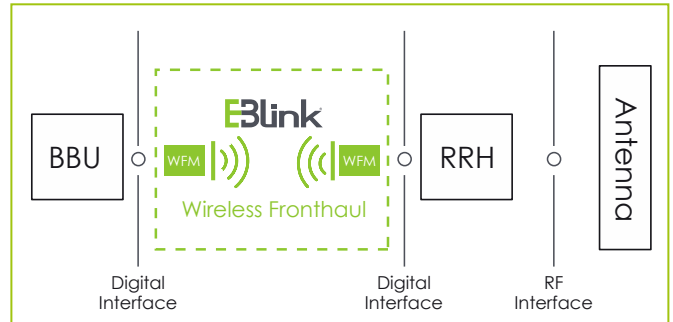
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What is Wireless Fronthaul?

The term 'fronthaul' is gaining industry recognition as the interface between the cellular base station's processing elements (namely the baseband unit - BBU) and the attached radio units (RRU). Historically, coaxial cables (also referred to as feeders) were used to connect the base station to the radio antennas located at the top of the tower or building. The advent of digital and fiber technology now allows for new architectures that centralize the base stations' processing, and distribute the radio elements close to the location with ideal propagation and coverage.

Eblink takes fronthaul to the next level by allowing radio units (RRUs) to be located practically anywhere, and linking them to the baseband processing via a wireless link.

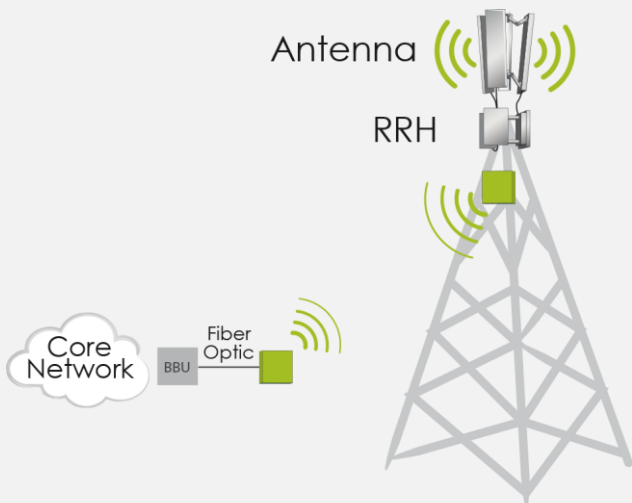


Operators are no longer forced to lay costly fiber runs or to limit their new sites to places served by fiber. Importantly, Eblink's patented technology ensures that radio access performance remains intact when using a Wireless Fronthaul link.

Applications for macro sites

Eblink's Wireless Fronthaul technology not only facilitates network deployment and macro site construction, it also extends coverage and capacity of existing sites by allowing the deployment of remote sectors on adjacent rooftops and other smaller sites (utility poles, light poles, etc.).

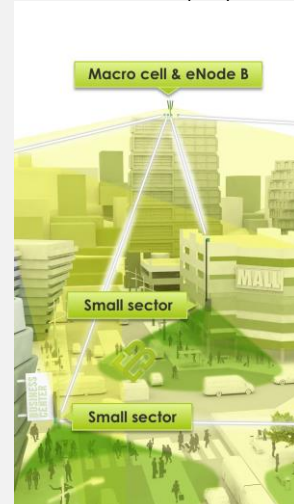
Eblink's solution leverages operators' existing macro networks by allowing new types of sites to expand capacity: every macro site can now become a mini cloud RAN, with high-capacity centralized processing and distributed radios interfaced with Eblink's Wireless Fronthaul solution.



Applications for micro sectors and small cells

Eblink's Wireless Fronthaul technology is also well-suited for micro sectors and small cells deployment. Mobile operators can easily and cost-effectively install mini-RRH in urban areas that are hooked to baseband and backhaul resources (for instance at surrounding macro sites), avoiding the burden of getting authorization to deploy fibre connection across streets and inside buildings.

Eblink's Wireless Fronthaul solution is suitable for non-distributed and distributed architecture, in particular for cloud RAN deployments.



Eblink's state-of-the-art Wireless Fronthaul solution

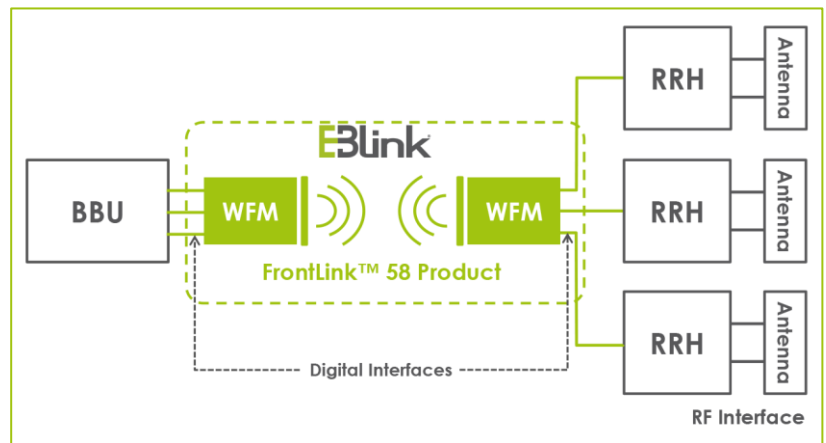
Eblink's Wireless Fronthaul solution allows for faster deployment. It provides easy and cost-effective ways to expand network capacity and coverage in urban / suburban areas. Adding remote sectors (macro or small cells) represents a fraction of the cost of building brand new cell sites or deploying a dedicated small cell underlay network. For micro sectors / small cells applications, Eblink's Wireless Fronthaul technology provides the same benefits as wireless backhaul, without the disadvantages linked to backhaul integration and heterogeneous networks.



Thanks to this breakthrough technology, Eblink is the leading Wireless Fronthaul vendor, with deployments in several tier 1 operator networks. Eblink's second generation design is compact, lightweight and supports multi-sector and 3G/4G multi-mode applications in a single link.

Eblink's Wireless Fronthaul technology interfaces digitally to base station vendors' baseband (BBU) and remote radio head (RRH) equipment.

The Wireless Fronthaul link preserves the performance of the downlink and uplink radio signals, and meets the KPIs required by mobile operators on their networks.



Eblink's Wireless Fronthaul drives benefits and savings

Eblink's Wireless Fronthaul allows for coverage of wide, dense areas without disrupting operators' existing processes: design, implementation, optimization, procurement and vendor management, network operations, management and maintenance are all carried out in the same way as with fiber connections.

Eblink's Wireless Fronthaul makes it easier for mobile operators to meet network capacity and coverage needs, while providing a risk-free evolution toward denser cellular networks and Cloud RAN architecture.

Benefits and Savings

- Reduces network infrastructure CAPEX/OPEX.
- Provides future-proof solution, suitable to architecture evolution such as C-RAN.
- Allows for the use of interference cancellation and mitigation (eICIC, CoMP, Massive MIMO).
- Turns any location into a potential deployment site.

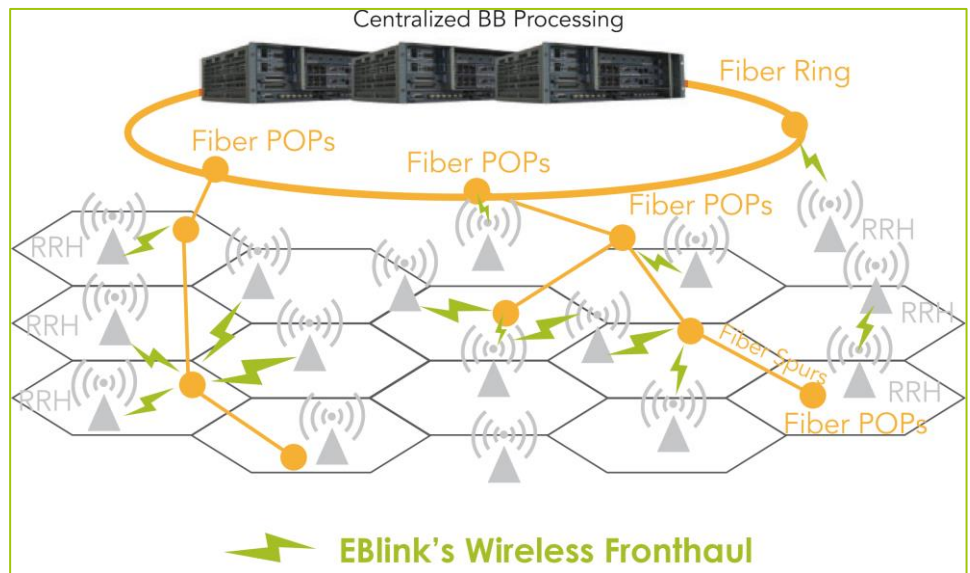
Wireless Fronthaul Cloud RAN enabler

The potential offered by C-RAN architecture is huge.

These network architectures not only deliver better radio efficiency, but also generate substantial CAPEX and OPEX savings for mobile operators. Leading mobile operators have been using distributed network architectures for several years already, installing remote radio heads connected by fiber to centralized data centers hosting baseband pooling.

Unfortunately, fiber rarely reaches every potential cellular site, preventing cost-effective implementation of C-RAN architecture.

Eblink's Wireless Fronthaul technology addresses the last few hundred meters where fiber is not available, removing one of the key obstacles to C-RAN adoption in many markets.



One of the key benefits of Eblink's Wireless Fronthaul solution is its suitability for both traditional macro network architecture (remote macro sector extension, small cells hooked to existing macro sites that act as mini-Cloud RAN) and full scale C-RAN architecture. This technology offers mobile operators a risk-free migration from today's network topology to architectures of the future.

Wireless Fronthaul maximizes TCO reduction

Mobile operators wrestle with many unknowns as they develop new strategies to modernize their networks.

Eblink's Wireless Fronthaul systems address these challenges head-on; its state-of-the-art products provide the ideal solution for the deployment of both macro

sites and small cells, with outstanding performance and rapid, flexible, reliable installations at low cost.

Market analysts and other industry groups (IWPC, Small Cells Forum, etc.) now recognize Wireless Fronthaul as an important market segment.

The most recent reports published are available for download from Eblink's web site www.e-blink.com.

