

UnaBiz upgrades Sigfox 0G Technology, reducing device energy consumption by up to 18X



Thursday, 02 May 2024, France - UnaBiz, Massive Internet of Things (IoT) service provider and integrator, announces performance evolution on Sigfox 0G technology, reducing device energy consumption by up to 18 times. The transformative enhancement aims to deliver a significant efficiency boost for Sigfox-based solutions, empowering developers, 0G Operators and major customers alike.

Central to this advancement is the integration of a 600bps data rate across its global 0G network, coupled with the introduction of the N=1 repetition mode. Both innovations collectively enable devices to operate at unprecedented levels of efficiency, reducing energy consumption by up to 18 times compared to the previous standard of 100bps with N=3 repetition mode:

- By adopting, on top of the existing 100bps infrastructure, the higher 600 bps data rate, solution makers can achieve 6 times reduction in energy

consumption and improved transmission quality when devices are transmitting on the move.

- By opting for minimal repetition - sending only 2 frames or even 1 frame, instead of 3, solution makers can enjoy further energy savings of 33% to 66%.

These optimisations not only extend battery life for sensor solutions significantly, enhancing reliability and longevity while opening up new business opportunities, they also introduce versatility in battery management for device and solution designers. Moreover, they enhance the performance for use cases requiring radio transmission efficiency beyond current implementations.

“With this technology update, we offer enhanced flexibility for our partners to optimise their solutions. Device battery requirements can vary greatly depending on needs like Facility Management, Metering, and Asset Tracking. With our latest network and device library updates, solution designers can now easily balance device lifetime and network performance for their specific use cases. Seamless transmission option selection eliminates the need for network resync, unlocking broader possibilities with Sigfox 0G technology,” explained Nicolas Chalbos, Head of Sigfox Innovation at UnaBiz.

Designing solutions with 600bps and/or n=1 repetitions

As with most IoT technologies, improvements in power efficiency bring advantages and considerations:

- Transmitting at 600bps enhances communication speed (and reduces related power drain) and optimises even more the spectrum used by Sigfox 0G technology, but reduces the transmission budget by 8dB, impacting the range at which messages are received by Sigfox gateways.
- Reducing message repetition from the default 3 to 1 also reduces spectrum use and overall power needed to transit, but may raise the possibility of incomplete data reception in areas with weaker network coverage.

Solutions designers, particularly those implementing 600bps and/or n=1 configurations, are encouraged to verify data transmission reliability in their deployment areas. If

additional coverage is required, the global 0G network operators provide assistance and various solutions for coverage extension.

For more information regarding the benefits and considerations for your use cases, visit: <https://github.com/sigfox-tech-radio/sigfox-ep-lib/wiki/selecting-the-best-sigfox-messages-parameters>

Alexis Susset, CTO of UnaBiz said, “We are continuously evolving Sigfox 0G technology both for enterprises and the broader market in general. The new enhancements aim to improve UnaBiz’s technological ability to address IoT solution needs that rely on the key strength of our Sigfox 0G technology. Enabling 600bps data transmission and releasing our open-source device library, which includes options to control data transmission repetition, not only enhances energy management for devices but also improves reliability in use cases such as logistics, where the devices are transmitting while moving. We look forward to continuing to empower businesses and industries to address their challenges with our frugal, cost-effective, and energy-efficient technology and solutions.”

For more technical information on the availability of 600bps data rates, visit the Sigfox [Build Radio Configurations page](#). If you are also interested in benefiting from fewer transmission repetitions, visit our [Sigfox 0G technology Github page](#), where you can view and download Sigfox open-source device library.

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About UnaBiz

UnaBiz is a global Massive IoT service provider and integrator that specialises in solution design, manufacturing, connectivity, and data platform services across a hybrid of network communication technologies such as Sigfox, LoRaWAN, LTE-M, NB-IoT and Satellite, to power sustainable business growth.



Founded in 2016, the company is headquartered in Singapore, with R&D centres in Taipei and Labège (FR), and operates regional sales offices in Tokyo, Paris, Toulouse and Madrid, with virtual offices globally. UnaBiz owns the Sigfox 0G technology that connects over 12 million sensors for 1500 B2B customers on the global 0G Network, owned and commercialised by 70+ national Operators worldwide.

The company focuses on Utilities, Supply Chain & Logistics, Security and Facilities & Building Management. UnaBiz envisions a seamlessly connected world powered by simple technology because it believes in “Less is More”. By uniting people and IoT technology, it aims to create an impact on a massive scale, to help every person and every organisation on the planet live smarter, simpler, and in a more sustainable way.

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