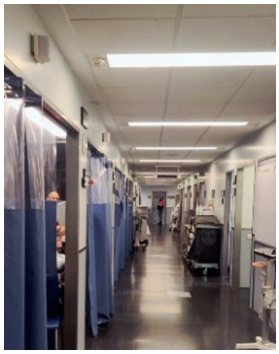
MULTIBOOST EU
MOBILE SIGNAL REPEATER

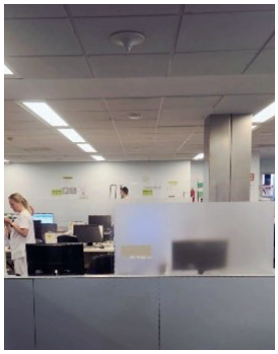
USE CASE

MULTIBOOST SAVES THE DAY IN HOSPITAL DE BLANES

LOCATION: Hospital Comarcal de la Selva (Hospital de Blanes), Blanes, Spain

CHALLENGE: Unstable indoor mobile signal across multiple network operators

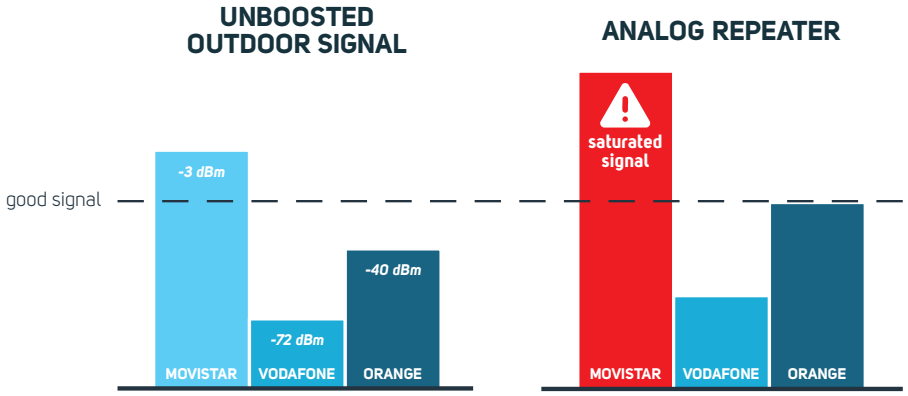




THE PROBLEM

Hospital de Blanes (Hospital Comarcal de la Selva) in Spain faced **significant indoor mobile reception issues** caused by **large input signal imbalances** between **Movistar** and other mobile network operators (**Vodafone** and **Orange**). The previous system **was unable to handle these disparities**, resulting in **saturated signal levels** and **unequal MNO signal balancing**.

As a result, both **voice and data services** were unreliable throughout the hospital. This affected critical areas including **emergency units, surgical suites, and outpatient zone**s, which collectively process over **60,000 consultations** and **50,000 emergency cases annually**.

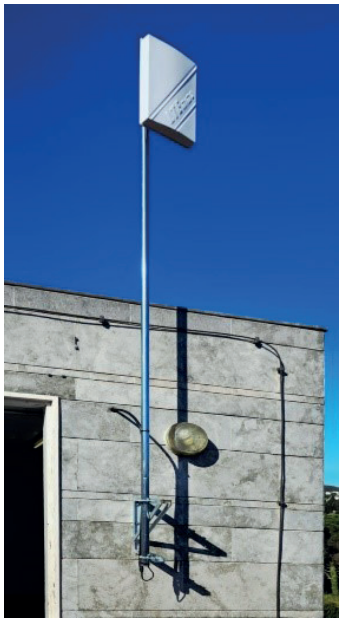


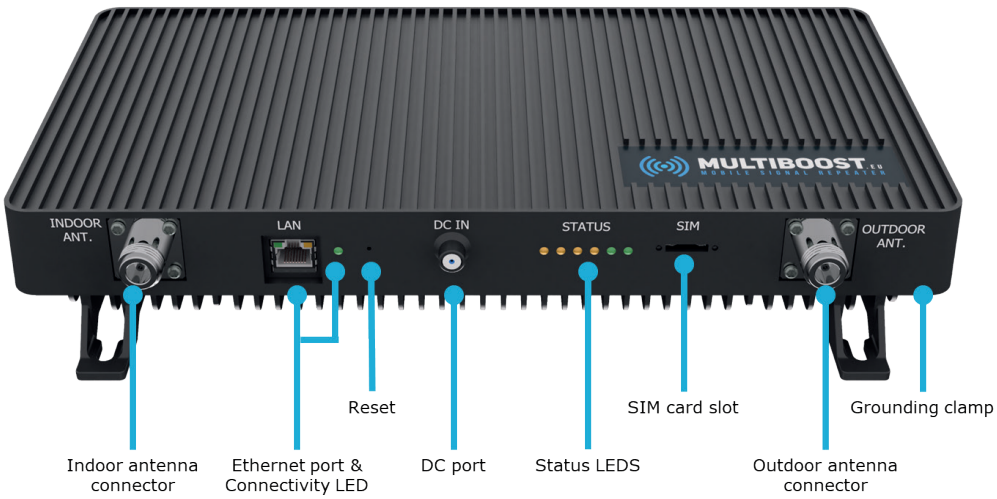
THE MULTIBOOST SOLUTION

Multiboost deployed a PRO Triple mobile repeater system. The installation was carefully tailored to ensure reliable indoor coverage for **2G, 3G, 4G, and 5G** services across all three major Spanish operators.

Installation details:

- **Repeater model**: Multiboost PRO Triple
- **Frequencies**: 800 / 900 / 1800 MHz
- **Operators supported**: Movistar, Orange, Vodafone
- **Voice and data coverage**: 2G + 3G + 4G + 5G
- **Indoor antennas**: 8 ultra-slim omnidirectional ceiling antennas
- **Outdoor antenna**: 14 dBi sectorial (700–2600 MHz, 35° H/V)
- **Line amplifiers**: 2





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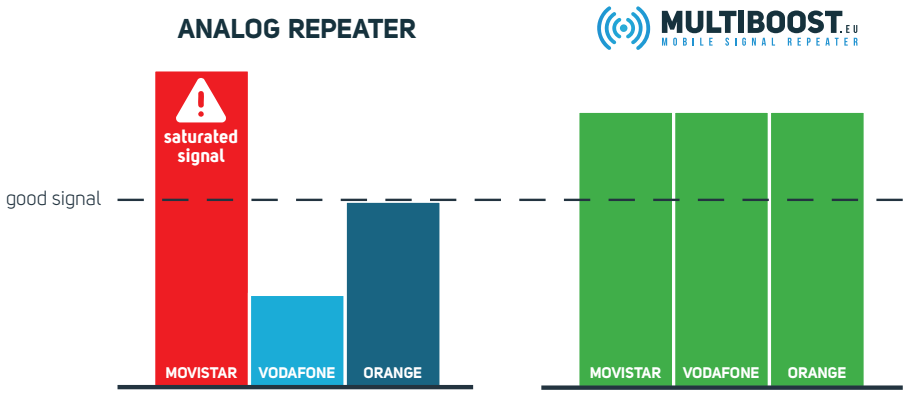
RESULTS

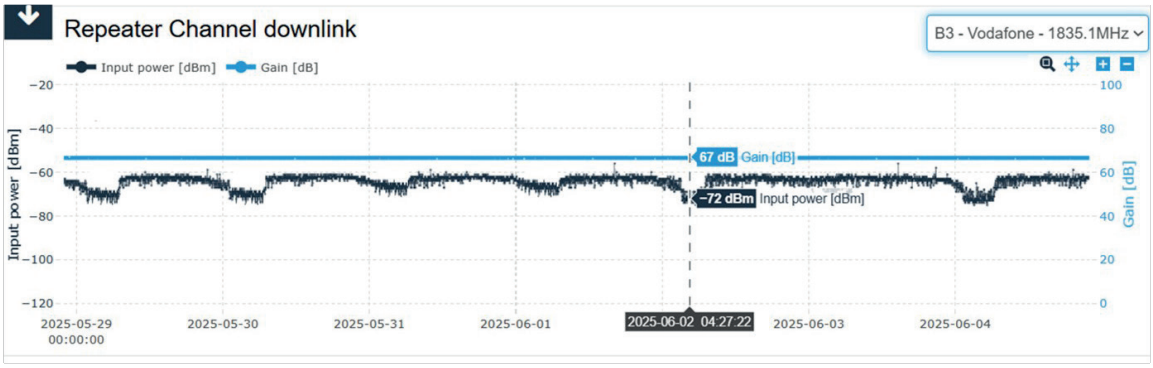
The installation **significantly improved indoor coverage for all operators** throughout critical hospital zones, enabling seamless communication for staff and patients alike.

The **Multiboost PRO Triple** demonstrated its ability to maintain stable signal performance despite extreme input power differences between operators — a challenge that analog repeaters can't handle.



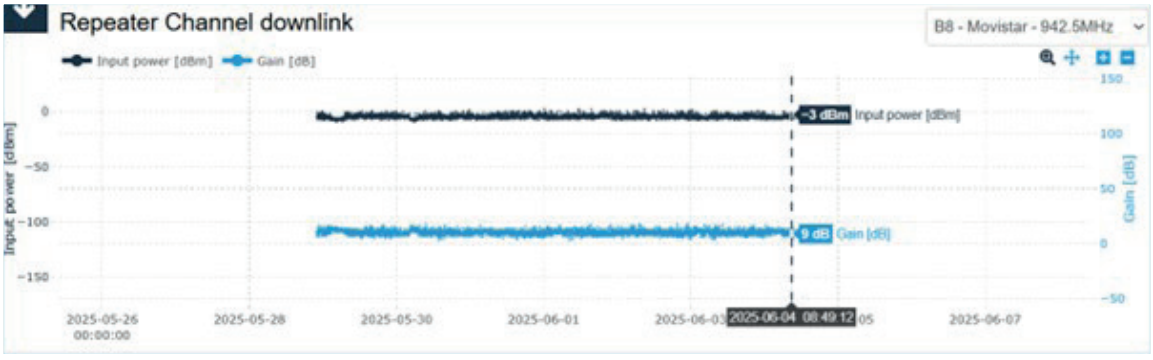
The following real-time monitoring screenshots (from Multibooost Cloud) illustrate how the Multiboost system effectively handles these variations, ensuring consistent coverage across all mobile networks.

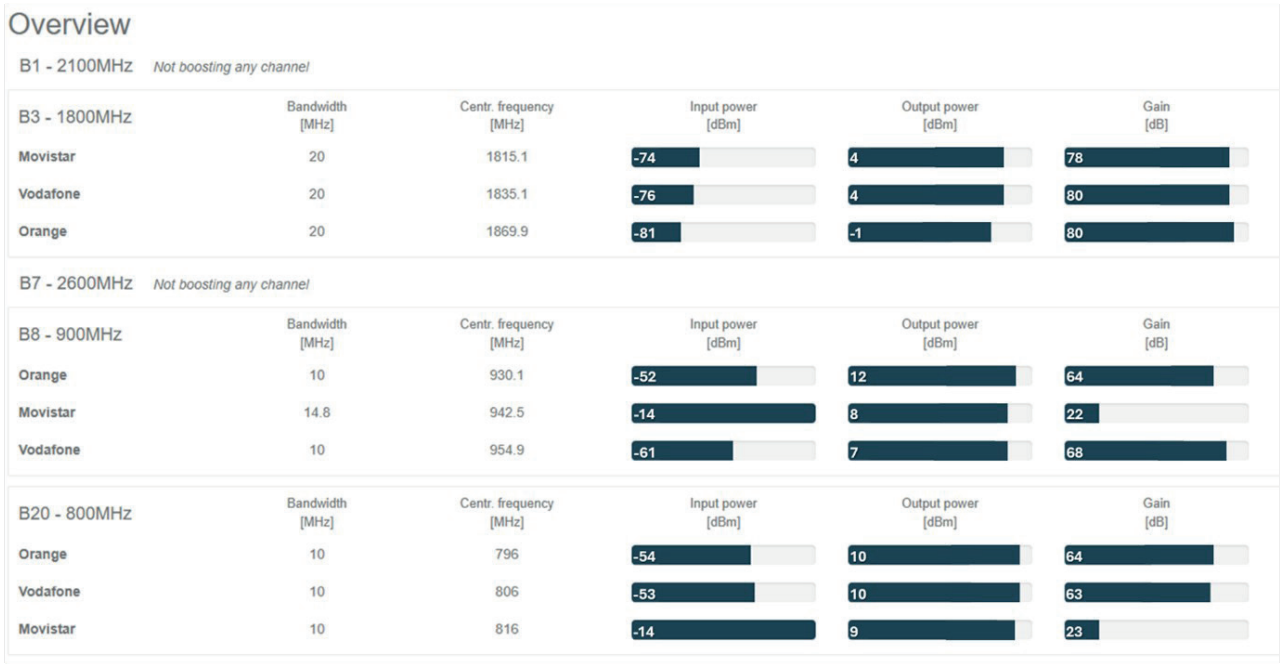
The first chart shows **Vodafone (Band 3 - 1835.1 MHz)** with an **average input power around -72 dBm** and a consistent **gain of 67 dB**.



In contrast, the second chart shows **Movistar (Band 8 - 942.5 MHz)** with an **input power of -3 dBm**, which is exceptionally high and would typically **saturate most commercial repeaters.**

The **difference of nearly 70 dB** between Vodafone and Movistar input levels would overwhelm conventional systems. However, the Multiboost repeater managed these extremes **flawlessly**, delivering stable and balanced coverage across all areas of the hospital.





This screenshot highlights how **Multiboost effectively handles large input power differences across mobile operators**, a key weakness of the previously installed system. Although our repeater was operating properly, we decided to also install **a 10 dB attenuator to improve performance**.

- On **Band 8 (900 MHz)** and **Band 20 (800 MHz), Movistar signals are extremely strong** (e.g. -14 dBm), while **Vodafone and Orange** are much weaker (ranging from -61 to -54 dBm).
- In common systems that apply **one gain setting per band**, the strongest signal limits the available gain, which means **weaker operator signals** (those whose base stations are farther from the building) don't get enough amplification.
- **Multiboost compensates for these imbalances**, maintaining sufficient gain and output power for all operators, even with input differences of over 40 dB, ensuring **reliable, balanced indoor coverage**.

CONCLUSION

This usecase proves the Multiboost system's **advanced signal handling and equalization capabilities**, even in high-demand, multi-operator environments like Hospital de Blanes.

Encouraged by the results, the hospital is planning a **project expansion** to include **additional line amplifiers and interior antennas**.

INTERESTED IN USING MULTIBOOST TO SOLVE SIGNAL ISSUES LIKE AT HOSPITAL DE BLANES?

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MOBILE SIGNAL REPEATER

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