



# Belgian electricity industry targets 5g base stations





## Overview

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Can a 5G ran be deployed in Belgium?

In this work, the whole method is applied to broadband RANs in Belgium for six scenarios of 5G deployment from 2020 to 2025. This paper is organized in four sections.

Where is the 5G network in Belgium?

Network Research Belgium (in the 3600 MHz band) (NRB's 5G user rights were transferred to Proximus in 2024). The 5G network coverage can be viewed [here](#). Overall, the 5G network appears to be better developed in the northern area of Belgium, in particular in Antwerp, Ghent and coastal cities, as well as in the periphery of Brussels.

What is the bottom-up model of 4G rans in Belgium?

The bottom-up model of 4G RANs in Belgium is built by analyzing the RAN deployment of one Belgian operator. Empirical power models of 4G BSs are then established using on-site measurements. Next, a prospective power model of 5G BSs is proposed based on technical and practical assumptions.

What is the European 5G Observatory?

The European 5G Observatory tracks progress in 5G infrastructure deployment across the EU and other regions worldwide according to base stations deployment, edge nodes and infrastructure sharing agreements. Source: IDATE estimates and regulators' data. Reporting period: at December 2024. Source: IDATE estimates and regulators' data.



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### Mobile Connectivity Initiatives

You'll find here information regarding the actions of the BCO towards more mobile connectivity, notably 5G.

### [Comprehensive Overview of 5G Regulation and Law in Belgium](#)

Explore the comprehensive overview of 5G regulation and law in Belgium, detailing deployment, spectrum licenses, and future plans. Discover insights now!



### [How Belgian telcos can navigate the Digital Single Market](#)

Belgian telcos have to navigate complex challenges within the EU's Digital Single Market. With high investment demands, limited 5G uptake, and ongoing regulatory debates, ...

### Evaluation and projection of 4G and 5G RAN energy footprints

We then build a prospective power model of 5G BSs by scaling 4G models with respect to bandwidth, number of data streams, and expected technological improvements. We ...



### 5G roll-out in Belgium: network mapping and quality

BIPT has published 5G coverage maps showing the progress made by operators and highlighting the role of 5G in offsetting the saturation of 4G networks. Operators are ...

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### **Evaluation and projection of 4G and 5G RAN energy footprints**

Structure of 4G Rans  
Empirical Power Model of 4G BSS  
Structure of 5G Rans  
Prospective Power Model of 5G BS  
Traffic Profile  
Since 5G is not widely deployed in Belgium at the time of this study, it is not possible to model the power consumption of 5G BSs using on-site measurements. Instead, prospective 5G power models are proposed using a flexible modeling approach for cellular BSs . This method allows estimating the actual power consumption of a BS Pact by scaling a ref See more on link.springer uclouvain



## Power consumption evaluation of mobile radio access networks

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This work aims to estimate the absolute total energy consumption of mobile broadband RANs in Belgium for 2020 and to forecast it for 2025 using different 5G deployment scenarios.

### [Comprehensive Overview of 5G Regulation and ...](#)

Explore the comprehensive overview of 5G regulation and law in Belgium, detailing deployment, spectrum licenses, and future plans.

...



### [Power consumption evaluation of mobile radio](#)

Full 5G deployment (5G population coverage = 100%): The entire population is covered by 5G, even isolated homes in the wilderness. 5G coverage is identical to 4G coverage.

### [How Belgian telcos can navigate the Digital Single](#)

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Belgian telcos have to navigate complex challenges within the EU's Digital Single Market. With high investment demands, limited 5G ...



**5G indicators: infrastructure deployment , Shaping Europe's ...**



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