



2024 Fixed Broadband Benchmarking Framework

Abstract
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Benchmarking, our Territory. The Industry Standard.

Our top priority is to fairly and transparently assess the global development of networks, push their quality and performance with our benchmarks and ultimately achieve improvements for every customer.

Our benchmarks are positioned to be a unique measure for management and supervisory boards to compare their networks with others, and for customers to make better decisions for their subscriptions.

We can apply our unique scoring methodology to fixed broadband ISPs globally.

With crowdsourcing umlaut's unique app-based approach is used to assess network performance of both mobile and fixed broadband networks.





Preface

The umlaut Benchmarking Framework Basis.



The umlaut Benchmarking Framework is based on a unified measurement method for true international comparability combined with the umlaut-Score approach.

Key features:

- ☰ International comparability
- ☰ End customer relevance
- ☰ Drill-down capability
- ☰ Transparency

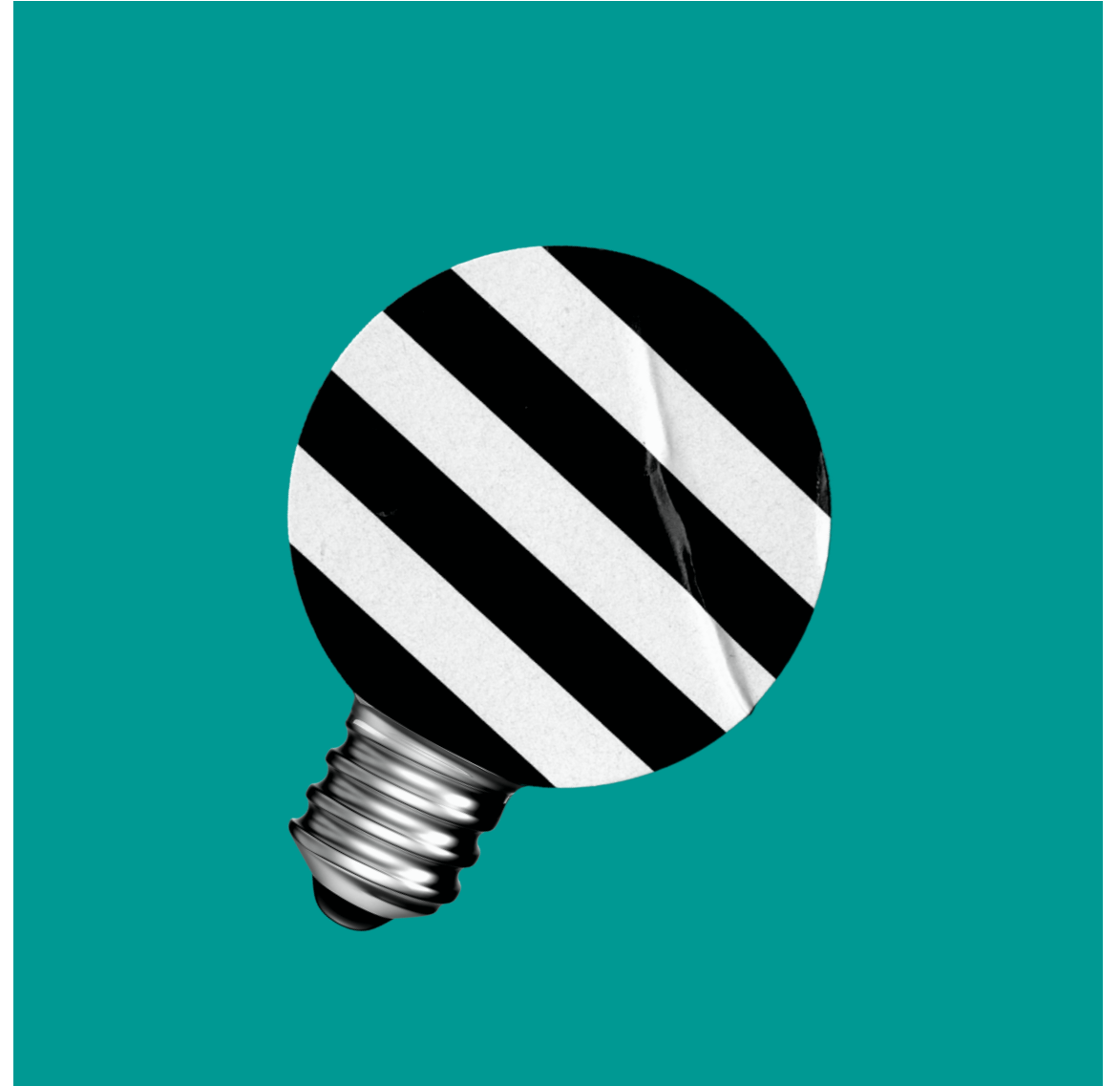
Rationāle

How to stay focused?

Measuring performance means collecting a vast multitude of different performance indicators, so the important aspects can be easily missed. The question is how to stay focused and communicate results smoothly?

The umlaut Score, as a management tool, is umlaut's solution which:

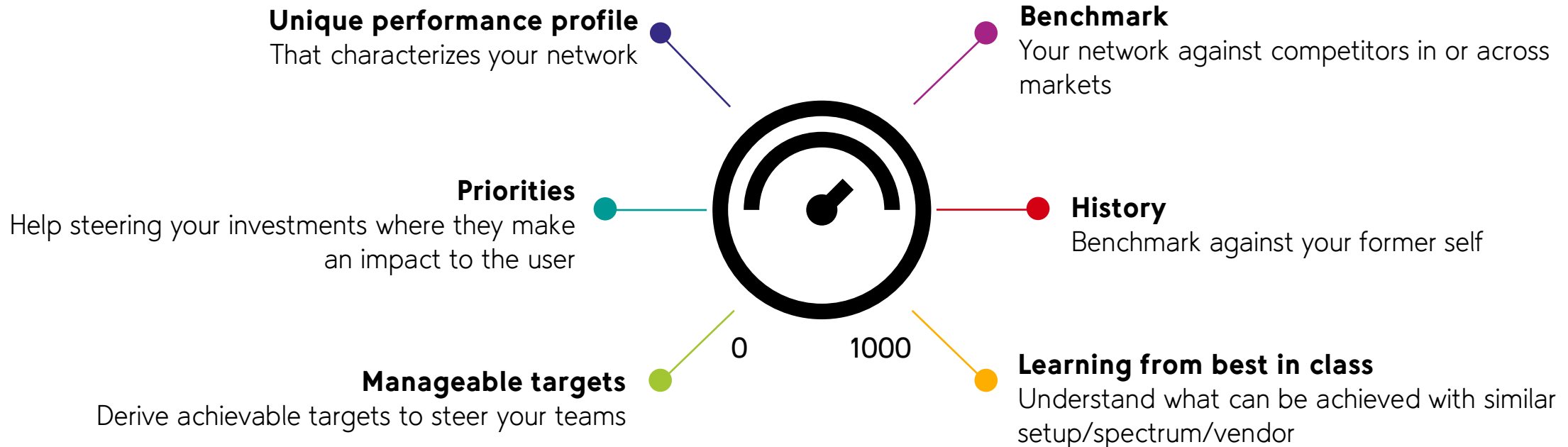
- aggregates the complete set of KPIs into a single score figure, preserving the drilldown capability
- features implicit weighting of environment, services and KPIs and comparability on national and international level ...





umlaut Score[®]

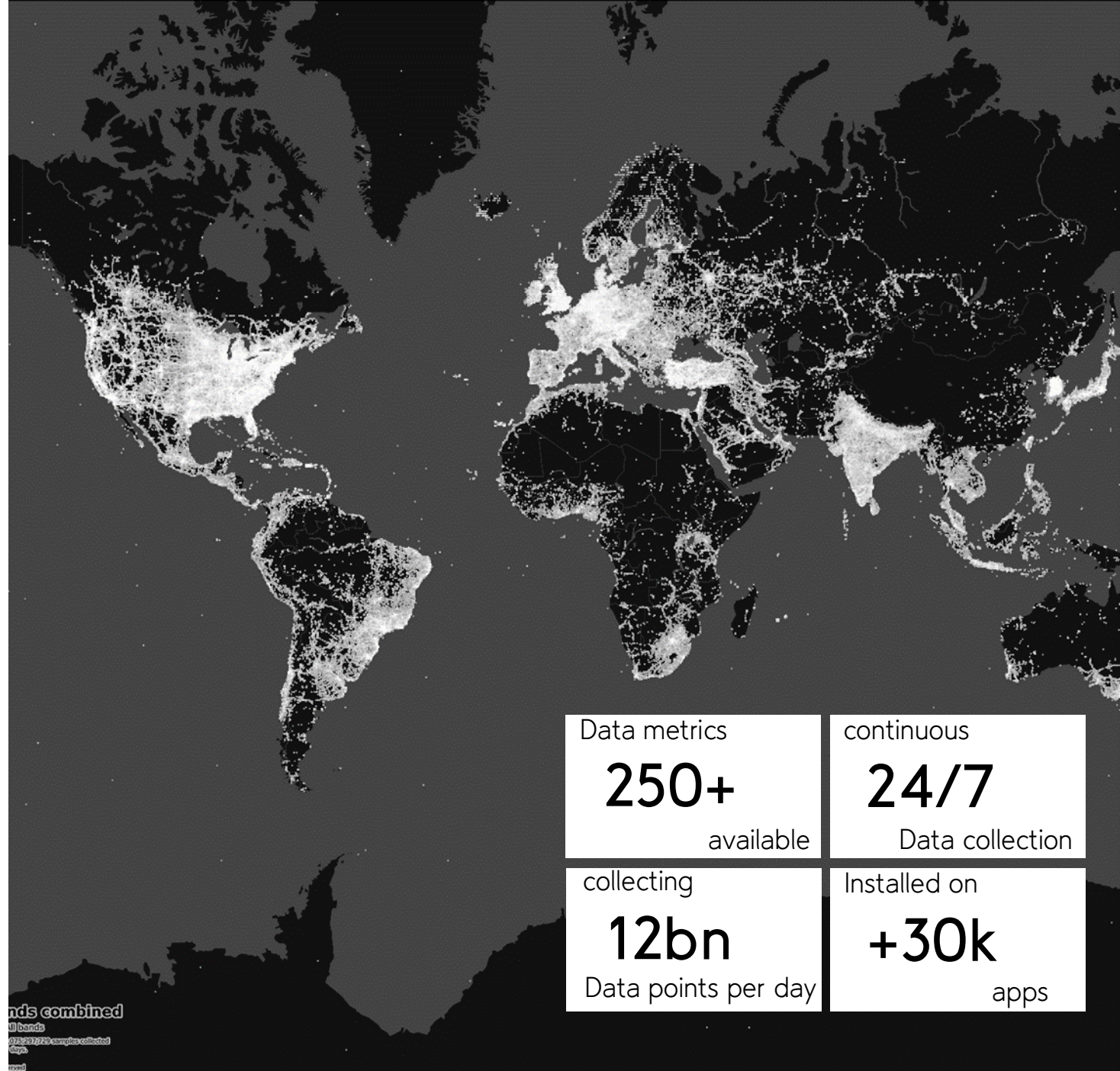
As a Management Tool.



umlaut Benchmarking

Global footprint.

- Active and Passive data collection directly on end-user smartphone devices,
- Global footprint with common big data analytics approach applied worldwide
- Observing passively activities on the smartphone, collecting 250+ KPIs
- umlaut SDK is integrated in 30000+ applications worldwide
- Footprint reached is typically around one in any 1,000 inhabitants





Benchmark Scope

Assessing ISPs based on **end-user experience** and **technical capability** to serve users connecting through Smartphone+WiFi.

The methodology and scoring are based on umlaut's recent 2023 benchmarking framework update.

The benchmark is access-technology agnostic, yet it aims at reducing the influence of legacy lines and focus the comparison on ISP's performance products, where actual choice exists for the customer caring about performance.

To do that, umlaut has implemented a country specific filtering approach, eliminating data from lines that range below a threshold derived from market average from the evaluation. The methodology foresees no further splitting of the ISP's products into different categories.



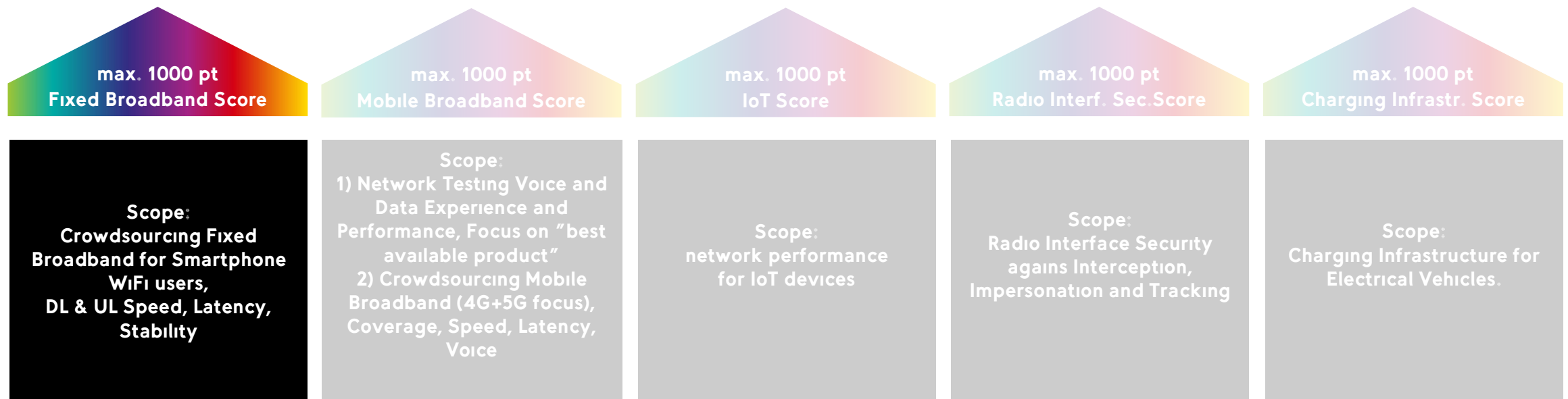


Score Family

Modularity and Hierarchy.

umlaut delivers user experience and performance ratings for the communications and other industries. Selected umlaut score products are depicted below and constantly being expanded.

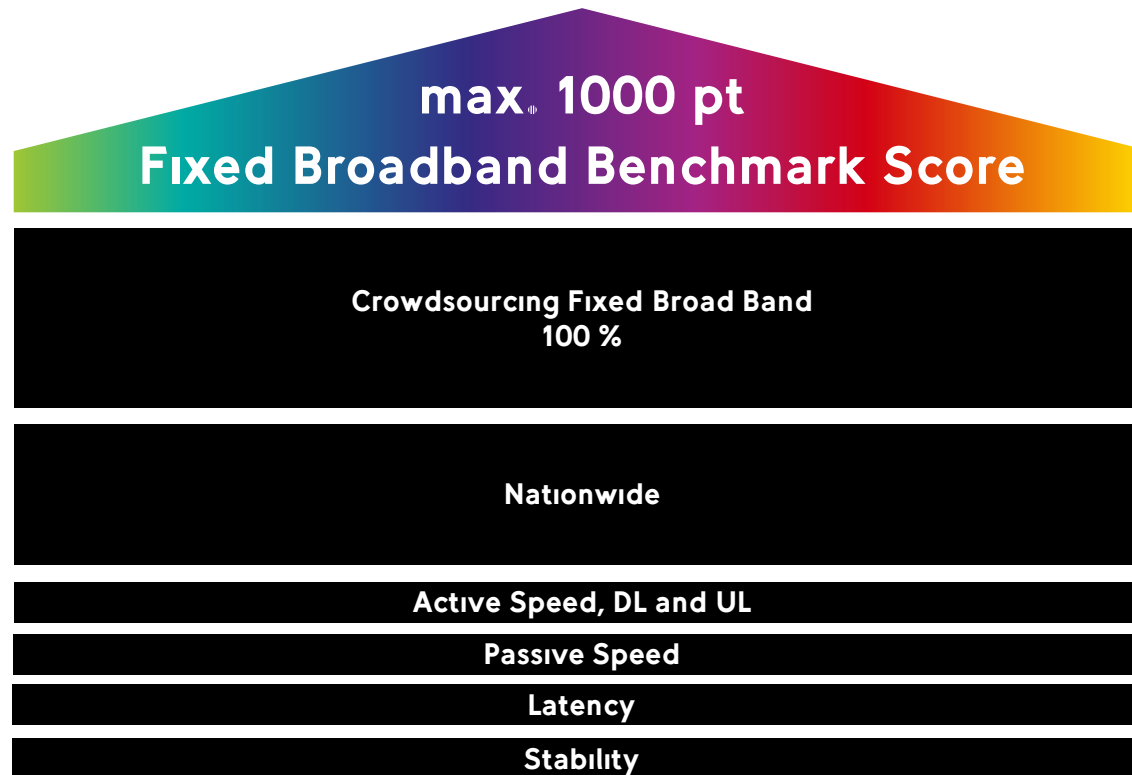
This document focuses on the Fixed Broadband Score.





Score Modules

Modularity of Fixed Broadband.





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