Future communications no longer rely on base stations

What is the future of Communications?
The communications space is filled with wonderful stories of future capacity gains, efficiencies, lower costs and far-reaching new applications, all fueled by underlying technologies being researched, developed and standardized by a hugely diverse academic and industrial community.

Is 2025 a good year for the communications industry?
As 2025 unfolds, the communications industry finds itself at an inflection point, where yesterday's emerging technologies become today's critical enablers. AI-driven networks are no longer just a vision but a necessity, satellite connectivity is reshaping global access, and sustainability is no longer optional but imperative.

Why is a small cell better than a large base station?
Also, when operating at higher frequencies, the antennas can be much smaller and the entire base station can be less expensive (and more easily replaced) as compared to larger base stations. 8 Furthermore, when the cells are smaller, spectrum comprises a less significant share of the total cost of deploying and operating the small cell.

How will telecommunications providers adapt to the future?
Telecommunications providers are likely to develop new business modelsthat integrate advanced sensing mechanisms with network capabilities to address the evolving needs of smart grids,intelligent transportation systems,and next-generation smart factories.

How will technology change the world of communication?
This rapid revolution will transform the world of communication with more intelligent and sophisticated services and devicesleading to new technologies operating over very high frequencies and broader bands.

Could space-based broadband rival terrestrial broadband?
Moreover,it is also conceivablethat new global low-earth orbit (LEO) providers like Space-X or Amazon's planned Kuiper network could offer space-based broadband services that could rival terrestrial alternatives by being able to offer comparable speeds and potentially better latency (see Oughton et al.,2020).

Through such a relay, IoT devices are no longer required to send data to the distant base station directly. In this way, short-range D2D communication can improve energy efficiency, which is ...

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