



Energy Sustainability and the Looming Power Consumption in Communications: Key Strategies for Improving Efficiency in the ICT Industry

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Father of 5G Millimeter Wave

Current energy standards fail to capture actual network consumption, hindering 5G adoption and creating misunderstandings. Waste Factor Theory, inspired by Bell Labs' Noise Factor Theory, offers a clear framework to assess and optimize energy use in communication and computing networks. This lecture explores its real-world applications, from radio access networks to data centers, and compares it to existing energy-efficiency standards. By identifying hidden energy waste, Waste Factor Theory helps improve network provisioning, boost efficiency and develop sustainable designs—essential for the ICT industry and the planet's future.

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WEDNESDAY
APRIL 2
10 a.m.

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