

TV White Spaces: Overview Presentation

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Broadband access and digital inclusion



Broadband is the oxygen of a digital economy

More connected objects than people ...



The internet
of things

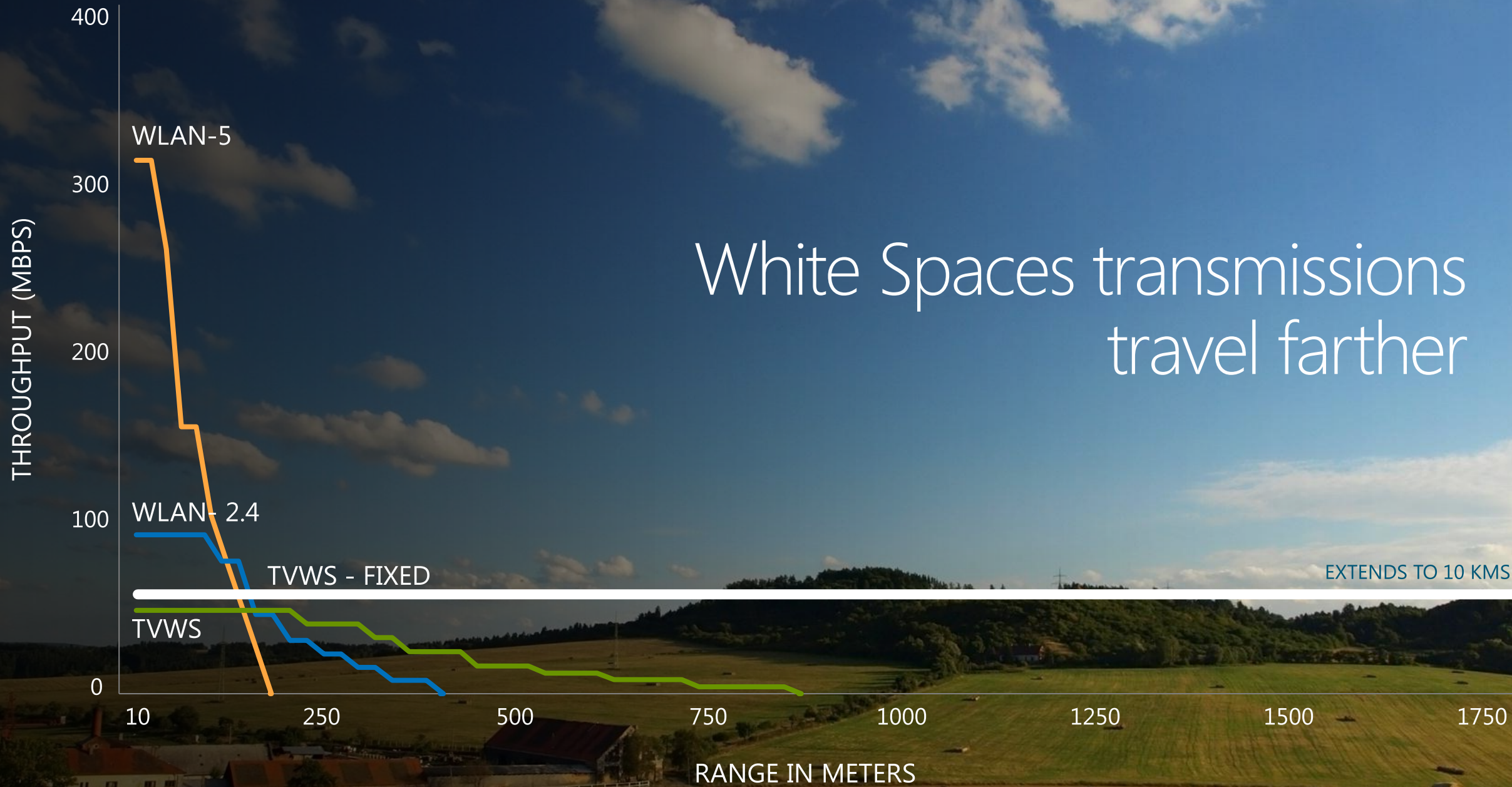


50 billion
by 2020



What are white spaces?

White Spaces transmissions travel farther



EXTENDS TO 10 KMS

Potential TV White Spaces use cases

Utilizing long range characteristics

- Cellular offloading
- Rural broadband/backhaul
- Wide-coverage hotspots
- Bridge among small networks
- Sensor network
- Wireless surveillance system



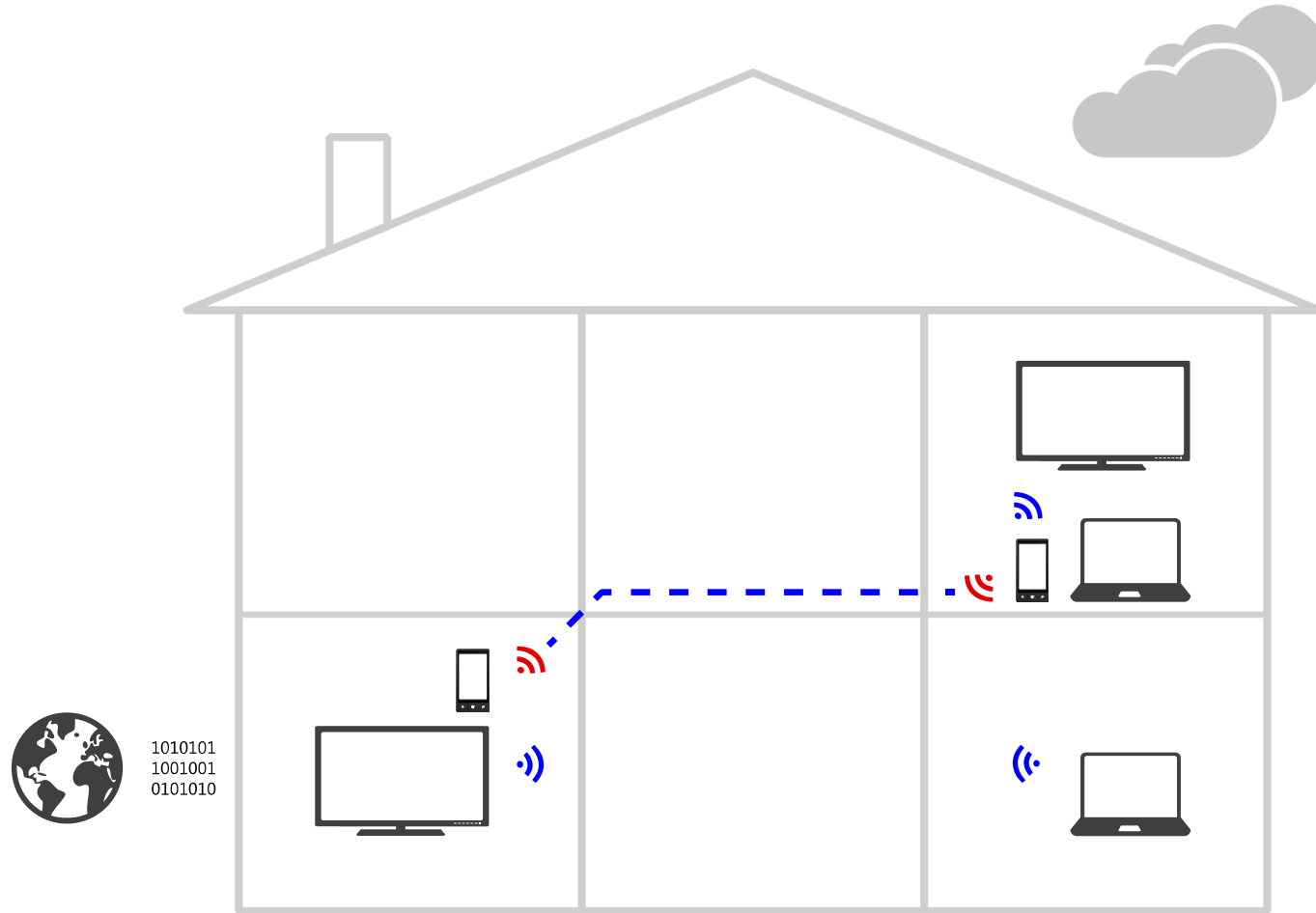
Potential TV White Spaces use cases

Utilizing obstacle penetration/avoidance characteristics

- Indoor video distribution
- M2M –factory floor automation
- Device to device network



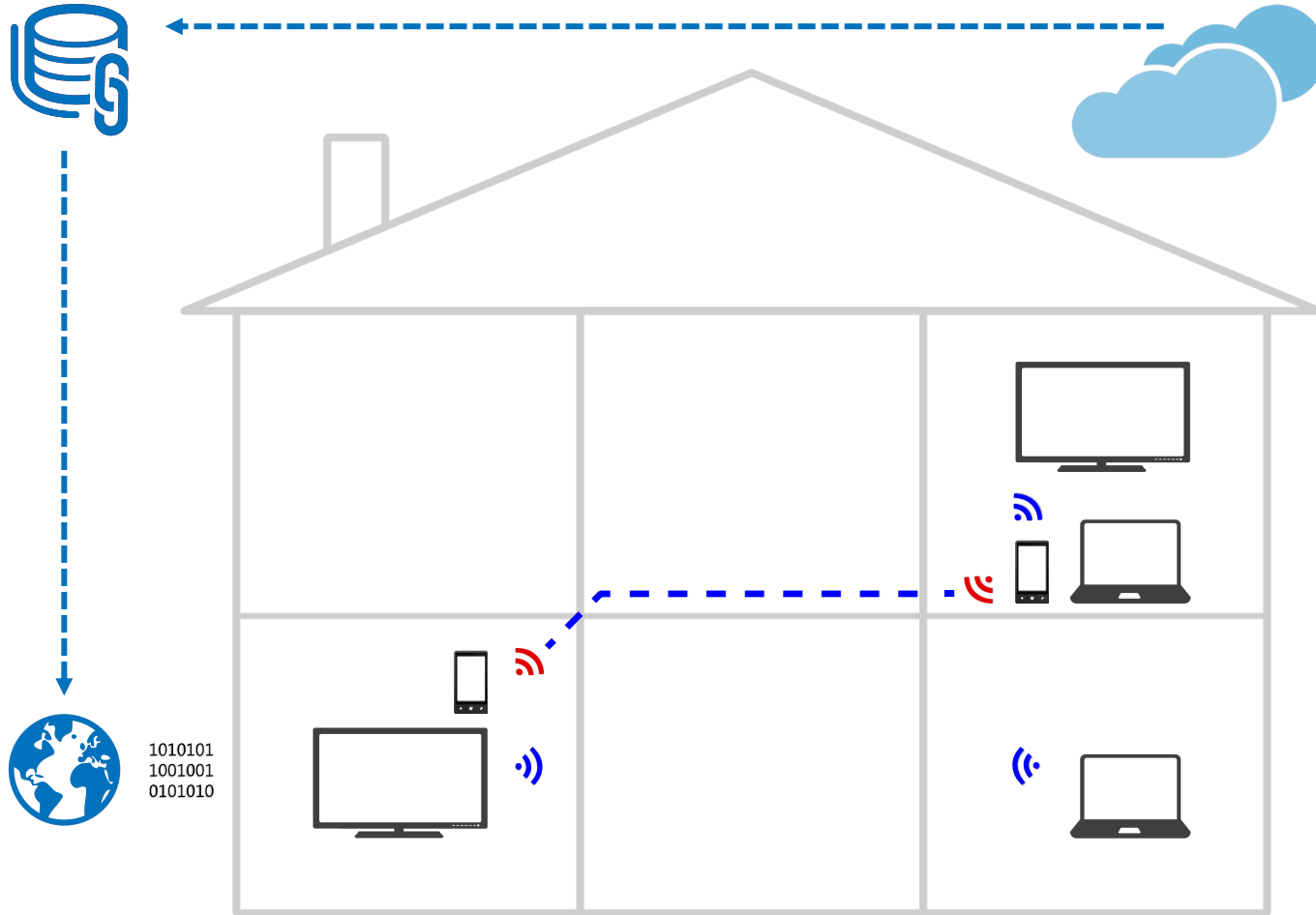
TV White Spaces signals penetrate more walls



In a typical home, a Wi-Fi signal can penetrate up to two walls. At the same power, a TV white spaces signal can penetrate more walls and obstacles, enabling whole home media distribution.

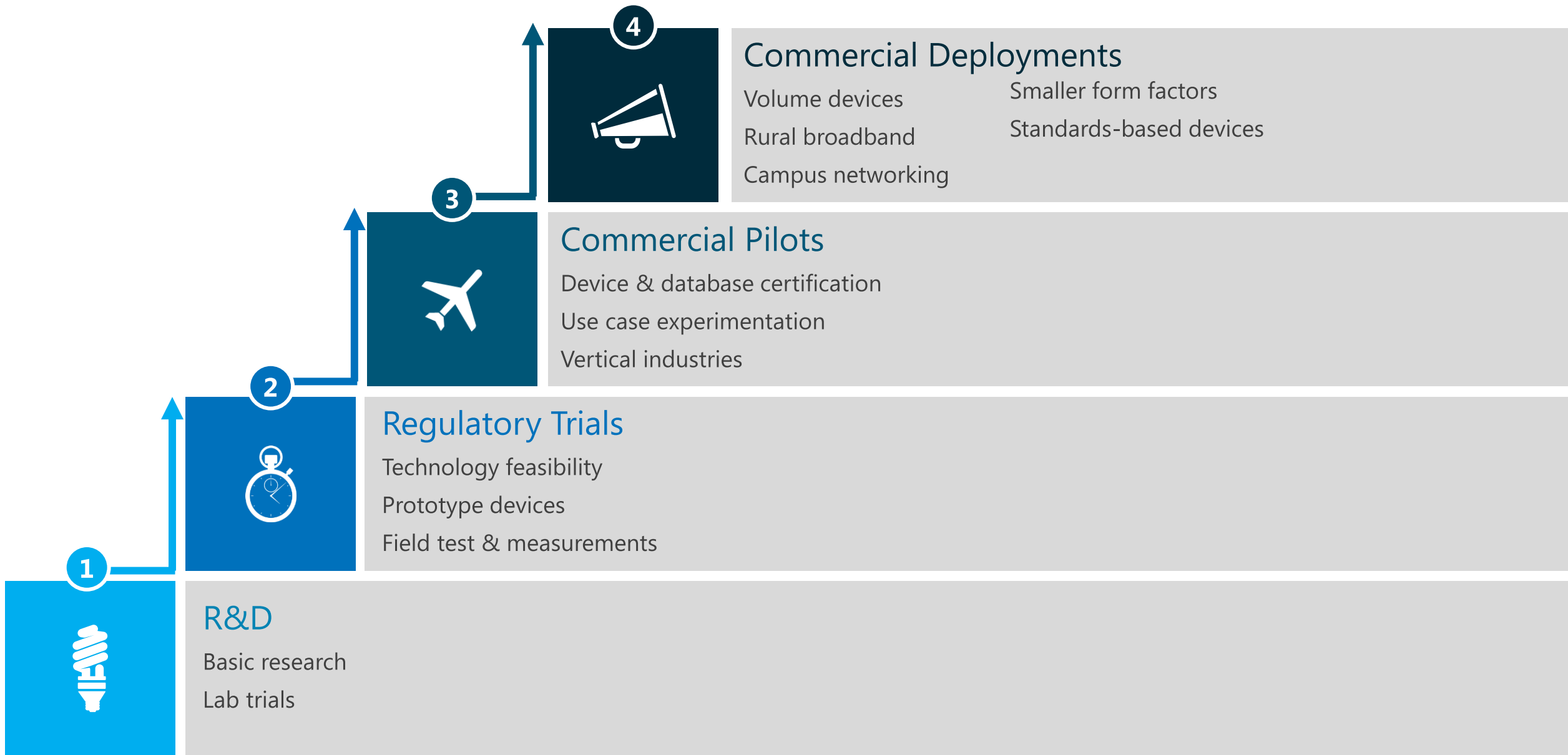
This will simplify and enrich in-home/in-building networking opportunities.

Database Access Safeguards Incumbents from Interference – This is No Free-For-All!



1. Devices only use the TV white spaces channels specified by the database.
2. Devices are required to re-check the database for the list of available channels.
3. Databases are prohibited from providing devices access to the channels occupied by incumbent operators (e.g., broadcasters).
4. Databases are required to maintain up-to-date lists of protected operators.
5. Databases can block newly occupied channels to prevent further white spaces device access.

Where we are going...



TV band white spaces trials and demonstrations



Summary

The technology is real and works

The ecosystem is ramping up quickly

Policymakers should think differently about spectrum allocation and regulation

Results are only limited by imagination



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