

HOW TO CHOOSE YOUR IoT CONNECTIVITY TECHNOLOGY

IoT is Data

Fundamentally, IoT is a simple idea: you gather data from a remote device of some sort, bring it back, analyze it, and pass on that information to your business application to take action on the insights.

The key, of course, is getting that data. And that requires a connection.

There are many technologies available that enable data collection. Whether you are deploying your next generation IoT solution, or entering the world of IoT for the first time, this guide clarifies the high-level differences between protocols.

THERE ARE THREE MAJOR CONNECTIVITY TECHNOLOGY FACTORS TO CONSIDER:

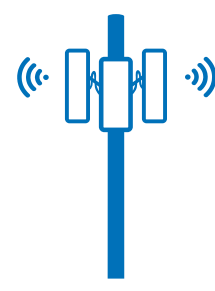
1



Distance



Do you need a long-range wireless data transport capability that provides extensive coverage, is easy to configure/install, and is cost efficient?



YES: Cellular might be the answer for you!

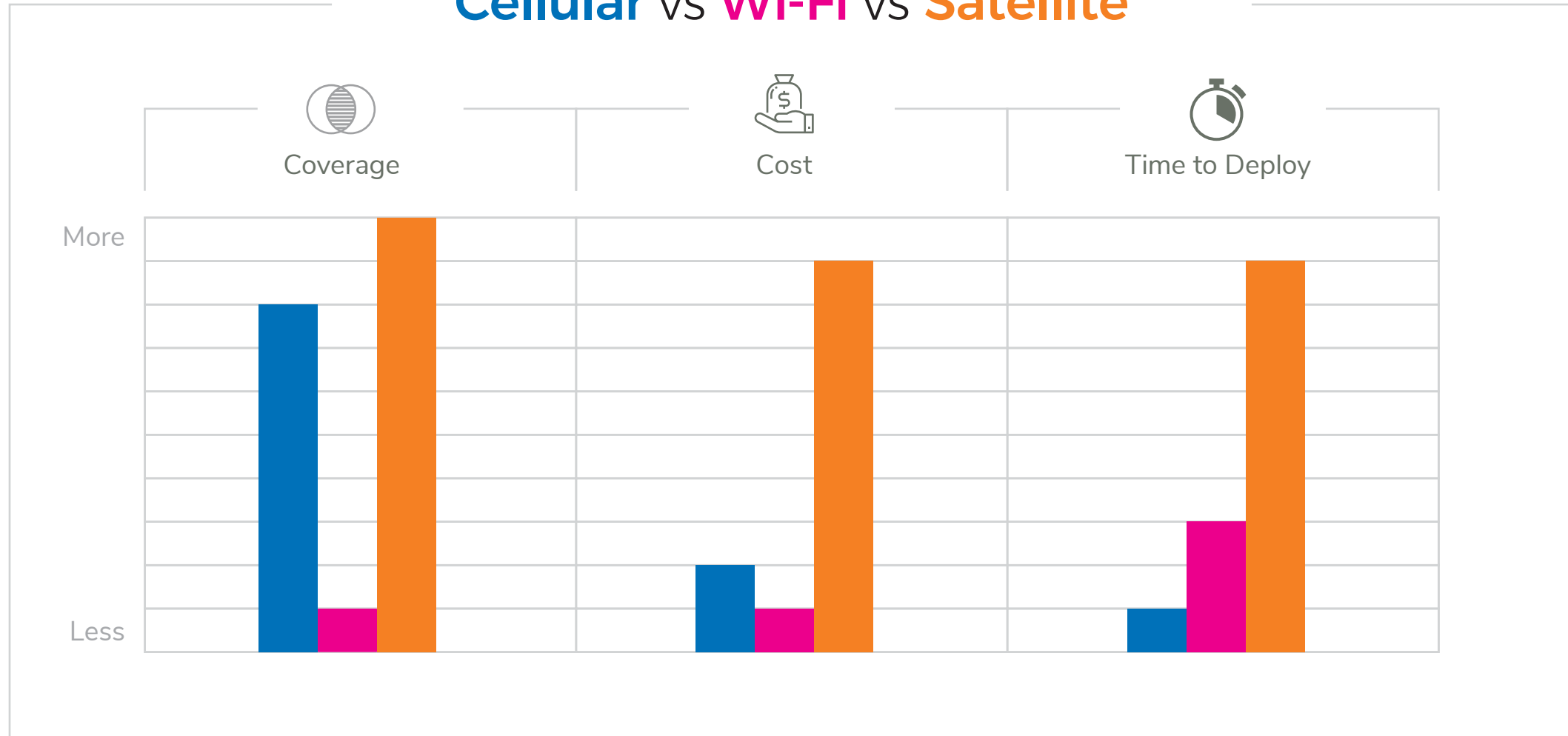
NO: Look into Wi-Fi, Bluetooth, or other short-range technologies.



Why Cellular?

Three reasons: It provides extensive coverage, has a relatively low cost structure, and is quick/easy to deploy without worrying about configuring either a local ISP or a Wi-Fi system or a firewall.

Cellular vs Wi-Fi vs Satellite



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Application Requirements



Which is the best technology for you based on the criteria of your application requirements?

	2G/3G GSM/UMTS/CDMA*	4G LTE (Cat 1+)	LTE-M (Cat M1 and Cat M2)	NB-IoT	SigFox/Ingenu	LoRa	Satellite** GEO	LEO
Data Throughput (MB/per second)	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■
Extra-Long Battery Life	🔋	🔋	🔋	🔋	🔋	🔋	🔋	🔋
Mobility Management	✓	✓	✓	✗	✗	✗	N/A	N/A
Remote Update Capabilities	✓	✓	✓	~***	~***	~***	✓	~***
Voice	✓	✓	✓	✗	✗	✗	✓	✗
Extended Coverage	✓	✓	✓	✓	✗	✗	✓	✓
Latency	LOW	LOW	LOW-MEDIUM	MEDIUM	MEDIUM	MEDIUM	HIGHEST	HIGH
Radio Cost	\$	\$\$\$	\$	\$	\$\$	\$\$	\$\$\$\$\$	\$\$\$
Time to Deploy	🕒	🕒	🕒	🕒	🕒🕒	🕒	🕒🕒🕒🕒	🕒-?-🕒

* Although 2G is being shut down soon in some countries, it still will be used widely in Europe and other regions in the coming decade.

** GEO = Geostationary Orbit. LEO = Low Earth Orbit.

*** Limited Capabilities.

Will Be Part of Future 5G

Operates in Unlicensed Spectrum

3



Coverage



Whether you pick a particular technology that is going to be used here in the United States or North America or perhaps over in Europe or in the Far East or Africa, you have some different choices to make because of availability of technology.

Check out this coverage comparison chart to get an idea of the relative availability of connectivity technologies around the world.



*LPWA (Low Power Wide Area) is a category of technologies that includes LTE-M, NB-IoT, SigFox, Ingenu, and LoRa.

Our Mission is to Help Customers on Their Journey from Unconnected Product to Connected Service.

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