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A quick take on
The future of connectivity



Where we are today

Consumers and businesses are showing an insatiable demand for access to information—and it's growing as a host of new devices, new content, and new applications help fuel that demand.

Organizations and individuals want actionable information delivered anytime, anywhere, and flowing through any number of platforms or devices—from smartphones and wearables to smart cars and IoT-enabled products on warehouse shelves.

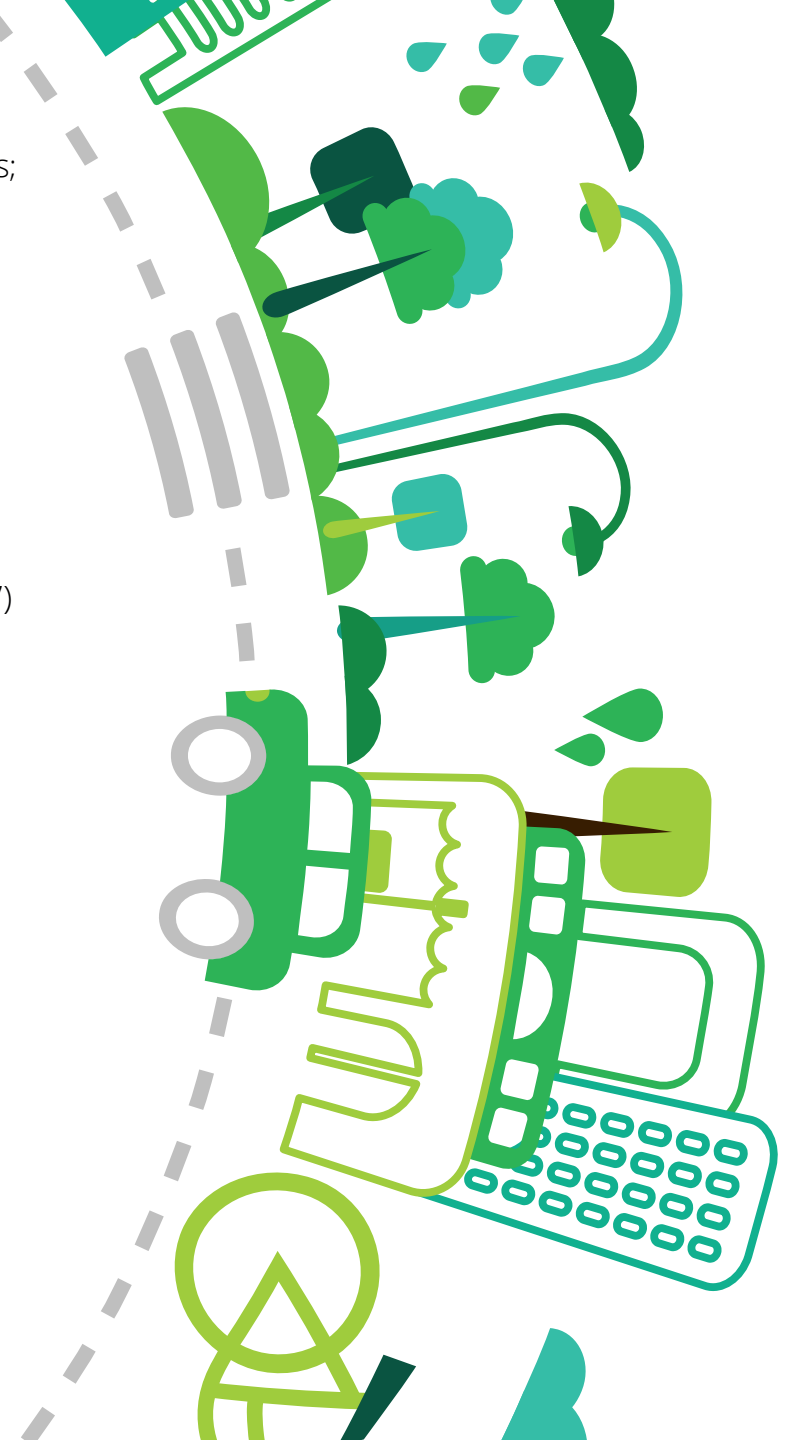
A dramatic acceleration is under way. Network-connected device types are multiplying, whether more powerful and faster, or smaller and cheaper. These shifts have important implications for the future of connectivity—for the ecosystem of wired and wireless technologies, products, and services that will provide a foundation for tomorrow's digital economy.

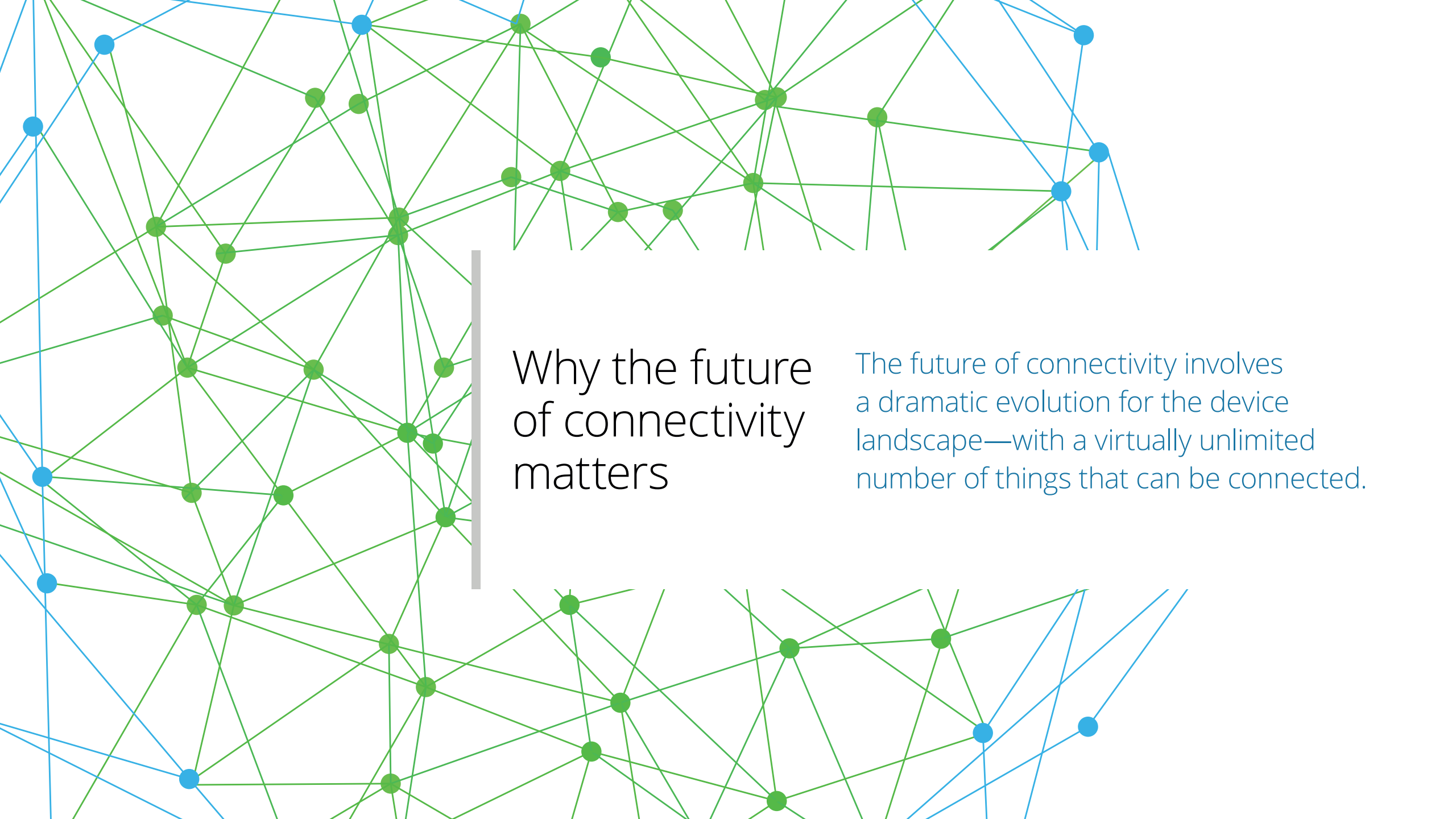
As devices proliferate, so does the amount of digital data they generate. To accommodate growth, connectivity providers are plugging coverage gaps in access on-ramps with densification strategies using both wireless and wireline technology, and they are tapping more, higher-frequency spectrum. Massive fiber backbones are being built, lacing the globe to relieve interconnection speed bottlenecks and reduce delay times. Investments in the development and deployment of these new technologies likely will not

only meet the rising data demands of consumers; they also can enable greater speeds, reduced latency, and a flexible network architecture that can more efficiently meet demand.

Despite the rapid changes in the United States since LTE launched less than 10 years ago, the market is poised for significantly more transformation. In addition to yet another generation of wireless technology (so-called “5G”) on the horizon, there is a growing pipeline of communication innovations. These innovations bring the potential for more applications in unregulated spectrum, including LTE-unlicensed, more advanced noncellular solutions with Wi-Fi, and more widespread mesh networks—all of which will usher in a growing number of players in the connectivity space.


Connectivity providers and others operating in the digital ecosystem should rethink their positions in the ecosystem to determine new build requirements, define new operating models, and innovate new services that leverage the newly available technical capabilities.





Why the future of connectivity matters

The future of connectivity involves a dramatic evolution for the device landscape—with a virtually unlimited number of things that can be connected.



Think of the Internet of Things ad infinitum, with myriad objects, sensors, and devices connected to the Internet and to one another, and may lead to more than 15 billion data connections by 2025.

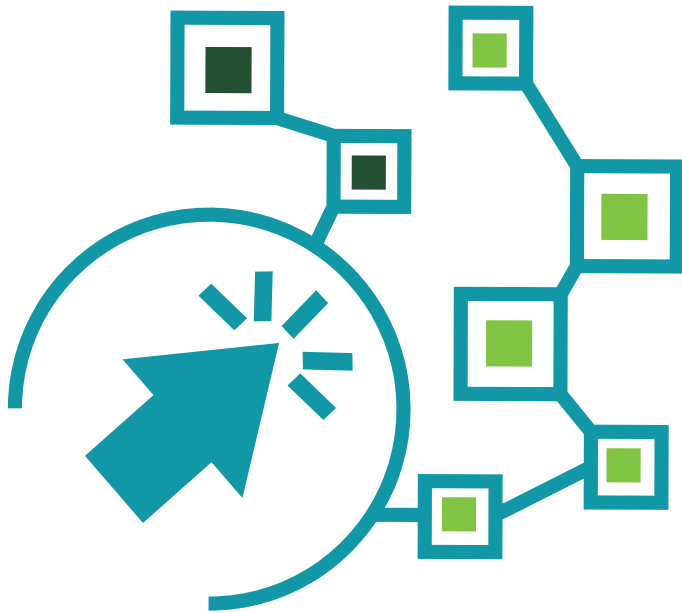
This rapid growth in the number of devices has far-reaching implications. For people and companies, provisioning, securing, managing, and deprovisioning devices may be difficult. To meet the exploding demand, communications service providers (CSPs) could spend an estimated \$2 trillion in combined operating and capital expenditures over the next five years.

What can we expect as the landscape evolves? Devices will come in all shapes and sizes, with performance capabilities that far exceed today's products. Future consumers, both individuals and businesses, will expect the functionality they get from their smartphones today—such as livestream video—from drones and an array of other devices. Connected sensors on a pipeline, for example, could share live data about a leak and initiate a service request. A technician responding to the leak could then connect on-site to schematic information delivered through virtual reality gear.

The use cases are limited only by ideas and the pace of innovation—with the market, as always, selecting the winners.

The vision of the future creates new demands on the suppliers of connectivity, the providers of related devices and services, and the ability of industries to use their innovations to gain competitive advantage. In particular, many CSPs likely will see a diminishing ability to get returns on invested capital. More available spectrum and more ubiquitous network coverage, when coupled innovative business models such as Google Project Fi, may bring about new entrants and new competition.

Amid the upheaval, traditional players face a risk that their roles might be marginalized. Existing players, therefore, should think about the world differently. And new players—even highly innovative ones—likely will have to ensure they retain agility as the market continues to evolve.



The path to value

Technological savvy may not be enough to address the challenges of the future. Organizations likely will need to ask the right questions and develop a holistic strategy based on the answers.

Familiar pressures—the pressure to improve the financial picture, to spur growth, to effectively engage today’s empowered consumers and meet to their growing demands, to respond decisively to competitive forces—likely will remain central to strategic decision-making.

Moving solidly forward likely will come down to understanding risk and the potential for new value. For established players already operating in a capital-intensive environment, key questions will center on growth and return on investment. How will you reduce operating expenses to support compressed capital investment cycles? What are the operating structures or models to consider as alternatives to higher investment? How will you balance short-term pricing and product capability with return on invested capital?

Speed matters, but it's no substitute for knowing which direction you should be running in. Even organizations flush with cash could lose precious time on expensive experimentation—moving fast but in a direction that ultimately doesn't make strategic sense. Paying attention to market signals, acting decisively, and knowing how to scale will be critical to avoiding missteps. Being first to market and defending valuable turf will be essential.

For new market entrants, understanding your role in the future landscape becomes critical. Where do you fit? How do you determine and execute a bold new move that positions your organization for success? What should your timing be? How do you experiment with new technologies and business models? How can you get noticed by consumers and potential partners right now and well into the future? In short, how do you make a profit in this world?

Guiding the way

Deloitte can help you answer important questions about your future—and act. How? By helping you determine which markets matter most and which signals or market indicators are important. We also can help you determine which partners and service providers will be part of your business model and how you can begin moving forward.

We offer comprehensive solutions for addressing your business and technology objectives across a wide range of needs—from “design to build” projects such as spectrum planning and deployment, to “build to operate” projects such as IoT network and platform enablement, to “operate to maintain” projects such as ecosystem business design and implementation. We look across your enterprise to address business strategy, your business model, your business capabilities, your operating model, and the infrastructure required to support your vision.

By leveraging our industry experience, leading practices, preconfigured solutions, and a global network of business and technology professionals, we can help you accelerate results and deliver new value—no matter the industry and no matter where you are in your journey.



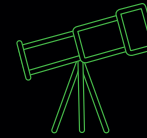
First steps

Preparing for the future of connectivity requires an ability to understand where you are and where you want to go. Here are some key first steps to help you along the way.



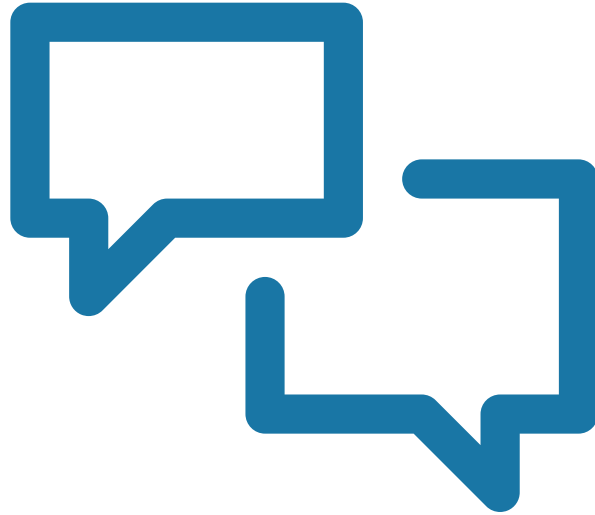
Understand the possible destinations.

Envision potential target states. Will your role be that of a CSP or a network builder? (Even banks and utilities are building their own networks.) Will you be a developer or provider of solutions that leverage the networks of the future? Will you produce the devices that leverage or enable the networks? Understand the capabilities gap between your current state and your possible future state—and what it will take to bridge it.



Understand your position relative to others.

It's not enough to know what you want to be. You have to understand where you fit—and where you can play—within tomorrow's connectivity ecosystem. Know your position relative to others, and know how you can differentiate your organization. Take a look at what your competitors, your partners, and other innovators are doing to prepare for the future of connectivity.



Let's talk

Ready to discuss what it takes to unlock new value and excel within today's rapidly evolving digital environment? We're ready to talk. Contact us to learn how we can help you address your big questions about the future of connectivity—and about the opportunities and obstacles that lie ahead.

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