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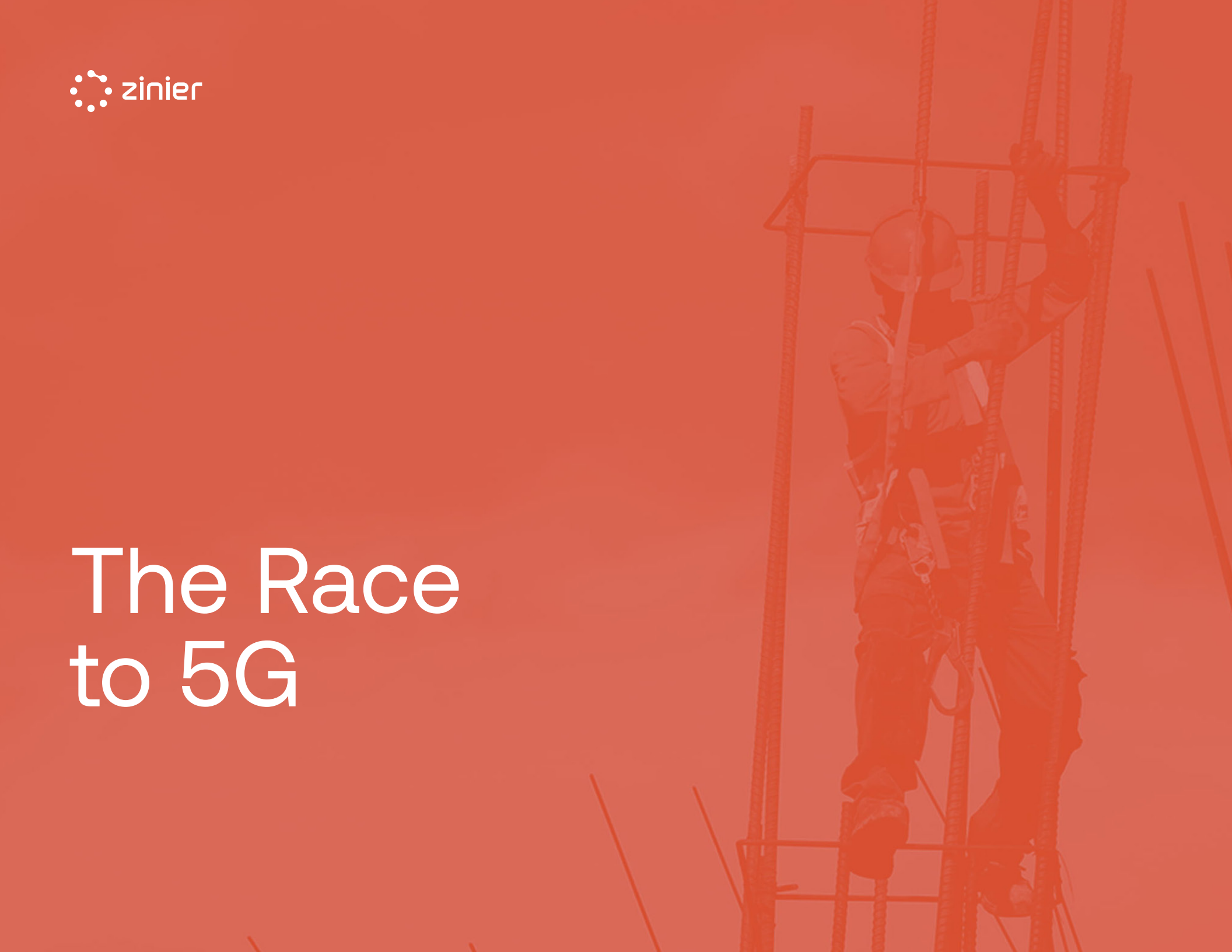
The Race to 5G



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The Race to 5G

Smart machines are everywhere – in our homes, our driveways, even our power grids and assembly lines. Over the last three years, the number of connected devices has almost doubled, from 15 billion in 2015 to more than 25 billion today. By 2025, that number is expected to eclipse 75 billion.

At the same time, wireless data traffic has seen explosive growth. In the United States, mobile data usage increased 54% over the last decade (Mobility Report. Ericsson, 2018).

The rise of IoT-connected devices and increasing customer expectations around mobile broadband performance is putting tremendous pressure on existing infrastructure. In response, telecom companies are making massive capex investments in small cell networks.

For field service leaders, this represents a tremendous opportunity. 5G networks are made up of many small antennas, or nodes. Installing these nodes and dismantling existing networks is a major logistical challenge. Companies that are able to drive operational efficiency through the use of intelligent automation will enjoy a competitive edge.

Mobile data usage in the United States has increased 54% over the last decade.

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Why 5G?

Imagine being able to download a feature film in seconds, or instantly access a mobile app from the cloud. 5G will set a new standard for connectivity, with higher capacity, lower latency, better reliability, and the ability to stream ultra-high fidelity content anywhere.

From an enterprise perspective, 5G will transform a company's ability to collect data from IoT devices and send it back to the office. As we move closer to a future of smart cities and machines, the sheer number of devices that rely on sensors to capture information will continue to increase. The efficacy of these devices will be tied to their ability to relay this information in real time.

5G networks will cover 40% of the world's population by 2024, handling 25% of all mobile traffic data.

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The Science Behind Small Cell Networks

One of the biggest challenges facing telecoms as they prepare to roll out 5G networks is the need to deploy more infrastructure compared to legacy networks.

Today, the wireless signals that connect devices to towers can only carry so much data. Small cell networks solve this problem by divvying up the work – instead of a single tower serving all devices within a geographic area, a series of small antennas (or nodes) distribute the load. Each node is capable of transmitting the same amount of data as a traditional tower, but because they cover a smaller geographic area, they are less likely to be overwhelmed.

For 5G, success is measured by network density. The denser the network, the more effective it will be. Unfortunately, small cell installation has introduced new complexities to the rollout process.

The transition to 5G will involve decommissioning legacy networks and working off of maintenance schedules determined by IoT devices. Each task may be simpler, but the volume of tasks is growing. That's why operational efficiency is more valuable than ever.

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Driving Efficiency Through AI and Automation

Field service leaders today are looking to increase productivity across their organization, from the back office to the field. Here's a look at how you can use intelligent automation to optimize every step of your service delivery chain:

01. Modernize the Back Office

At a time when project managers and field technicians are being asked to do more with less, the back office can be easily overwhelmed with job scheduling, workforce management, and other administrative tasks.

Companies that rely on siloed systems or manual methods to organize their workflows often suffer from sluggish business operations. Any inefficiency in the back office can cascade across an organization, slowing the mean time to resolution and increasing the likelihood that a mistake will be made.

Smarter scheduling and asset management

From real-time visibility into the status of a job to intelligent scheduling based on technician skills and proximity, field service organizations are looking to drive efficiency through smarter automation.

To ensure technicians are always equipped with the right assets, companies can even predict what parts will be needed for a job and track inventory in real time, reducing the number of truck rolls and ensuring work gets done faster.

Improve vendor management

Telecoms often complement their own pool of field service technicians with external vendors. In fact, Gartner predicts that contractors will be responsible for 40% of all field service work by 2020.

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Keeping track of these vendors - and ensuring they have the assets and knowledge to successfully complete a task – is top of mind for field service leaders.

Modern field service solutions offer deep insight into the real-time status of field technicians and job sites. And with best practice workflows that provide step-by-step install and fix instructions, even outsourced partners with minimal field service training can execute a task to a company's precise specifications.

On projects that involve multiple vendors, organizations can even automatically trigger the next step of an installation, eliminating operational bottlenecks and helping the project stay on schedule.

02. Transform Your Field Operations

No matter how many processes become automated, there will always be the need for a field force to handle certain installations and repairs. Supporting these technicians with knowledge management systems and intuitive mobile apps can help drive successful outcomes in the field.

Empower your field force

Technician enablement is a top priority for service leaders, who are often asked to manage a complex ecosystem of inexperienced technicians and outsourced partners. Investing in a mobile app can help your field force be more productive, whether it's providing best practice workflows, automating close-out packages, or surfacing key information about a job before the technician arrives on site.

Increase adoption rates

Most field service organizations are somewhere on the path to digitization, but getting technicians up to speed on new technologies and processes can be difficult. Without the time or budget to invest in a lengthy training program, companies need an easy-to-use mobile app that helps technicians work more effectively, without a steep learning curve.

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03. Uncover Deep Insights

For companies looking to scale their operations effectively, capturing data in real time is mission critical. Service leaders cannot afford to wait a week or more for data to come back from the field – any delay can prevent them from discovering an issue before it becomes a problem.

Verify work in real time

With thousands of moving parts and people, field service organizations are looking for ways to better monitor the overall performance of their service teams and equipment. Success is often dictated by the ability to know what's happening in the field, down to the individual site and technician level.

Modern field service solutions make it easy to surface key information about each job site, helping you know whether tasks are being completed accurately and on time – and if not, identifying the source of the problem.

Increase speed of data feedback

Service leaders often complain about the lack of insight they have into the real-time status of a project, with field data arriving late or not at all. This becomes especially problematic for small cell network deployment, which requires planning, permitting, and construction on a massive scale, with multiple process redundancies, tight deadlines, and high visibility from people watching these nodes be installed on street lights and utility poles.

By 2020, more than 75% of field service organizations will deploy mobile apps that go beyond simplified data collection and add capabilities that help technicians succeed.

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An End-to-End Solution For Field Service Automation

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