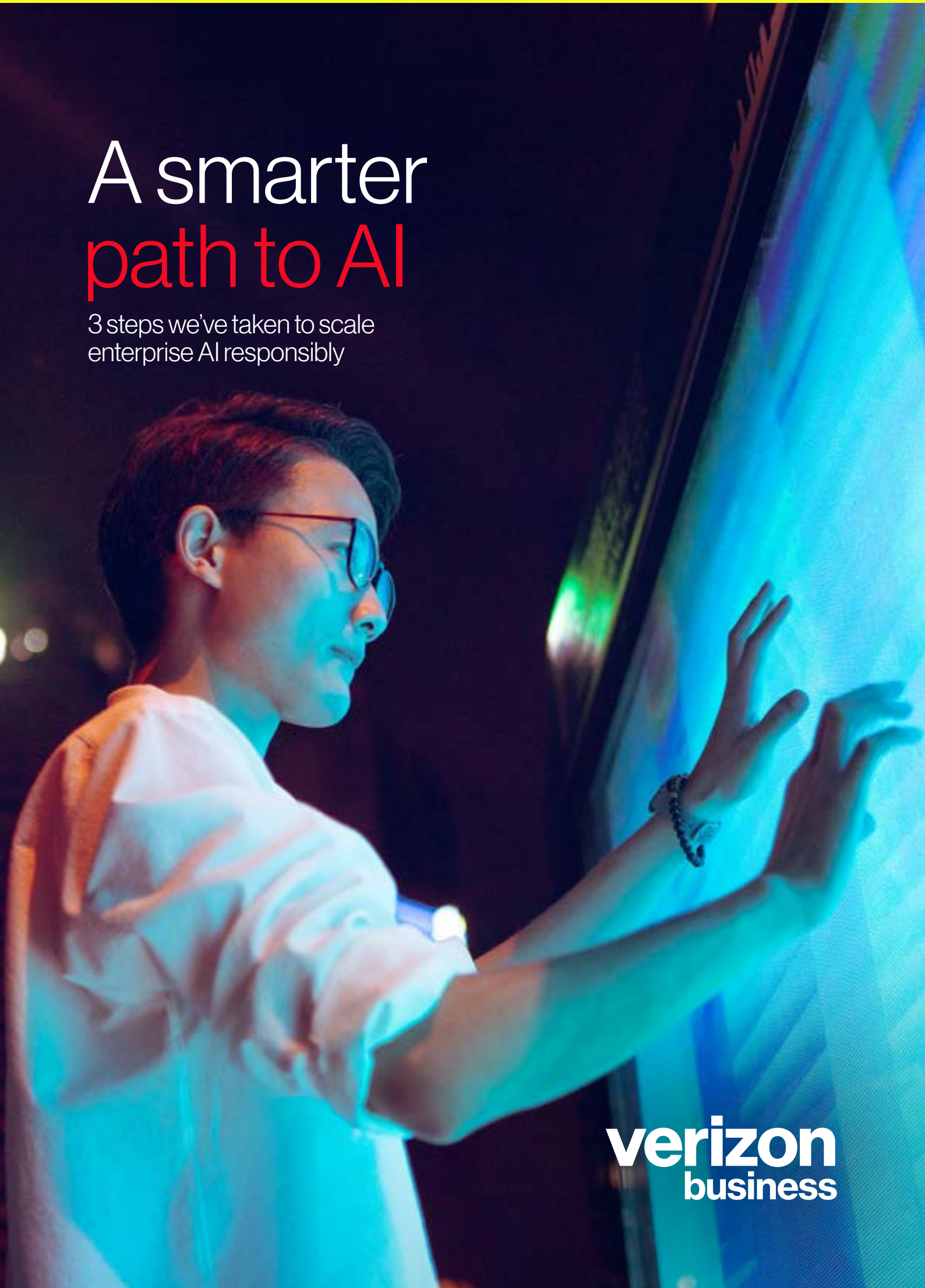


A smarter path to AI

3 steps we've taken to scale enterprise AI responsibly

verizon business

A smarter path to AI

Verizon's artificial intelligence (AI) journey to date has included predictive network optimization, customer experience and supply chain management. Our approach to exploring AI matches our approach to working with our customers, and each application has been guided by core values that we believe are vital to sustainable business success.

AI is transforming the business landscape. Its advantages are myriad and, in many cases, remarkable, with widely varied applications that support business efficiency, productivity, growth and innovation.

Like other enterprises worldwide, Verizon has been using and exploring AI for some time now. But as AI continues to develop, and its capabilities evolve, our use of it is also changing. Nevertheless, we've already established some key learnings, realizing that thoughtful implementation—rather than aggressive experimentation—is the way forward.

We prioritize responsible AI practices that build trust and promote fairness. Our aim is to use AI in ways that improve our business, benefit our employees and also positively impact our customers and the wider community. Indeed, we believe these values and a commitment to responsible innovation should guide AI deployment. AI should serve humanity, augmenting and evolving its capabilities, and we've embedded that belief into our strategy for scaling.

But before sharing our use cases, let's examine the three steps we've taken to ensure their application is both responsible and successful.

> 2023 was all about aggressive experimentation with AI. From 2024, we've been focused on thoughtful implementation: how do we really do this at scale?"
>
> **Shankar Arumugavelu**
> Executive VP and President of Verizon Global Services

Step 1: Set high strategic standards

AI has become essential in maintaining enterprise competitiveness and achieving goals across Verizon's business. That's why, from network optimization and predictive maintenance, to customer service and supply chain management, we've taken a wholesale approach to integrating and leveraging AI.

Verizon is scaling AI by developing base models that work for a use case, then designing them with flexibility and interchangeable components to be expanded across multiple use cases or reused with minor modifications. As business teams adopt reusable solutions, they measure not only the model accuracy but also user adoption and business outcomes. The emphasis is on holistic and iterative feedback mechanisms and safeguards.

This underlines our belief that AI must be scaled strategically and responsibly to gain a long-term sustainable advantage. Implementation should not be at the expense of people or standards.

> The emphasis on data governance and responsible AI continues to increase... We have a dedicated AI team who are focused on driving the right standards."
>
> **Michael Raj**
> Verizon VP AI & Data

The principles of AI success

Taking an ethical, inclusive, quality-controlled approach to implementing and scaling AI is vital. It helps to create sustainable business value, build customer trust, and mitigate potential risks while fostering a positive impact on society. With that in mind, here are the standards we apply in our own application of AI:

- **Implement a framework that prioritizes ethics**
  Ethical development and deployment of AI requires the implementation of a responsible AI framework. This framework helps to inspire confidence, reduce potential risks and promote the beneficial use of AI for individuals and society.

  At Verizon, Responsible AI is based on the key principles of governance, respect for privacy, respect for human rights and responsibility to society, technical robustness and transparency. These enable AI systems to be built on reliable data, protect sensitive information, operate transparently, provide intelligible explanations for decisions, and avoid bias—all while maintaining human accountability.

- **Appropriate use of the human-in-the-loop approach**
  The 'human-in-the-loop' (HITL) approach integrates human intelligence and oversight into AI systems. Rather than fully automating processes, HITL keeps humans involved in crucial stages like training AI models, validating outputs, handling exceptions and mitigating bias.

  Collaboration between humans and AI leverages the strengths of both: AI's ability to process vast amounts of data and humans' nuanced judgment and critical thinking. HITL improves accuracy, fairness and transparency, ultimately building trust and helping to establish responsible AI deployment

- **See data governance as your foundation**
  Robust data governance forms the bedrock of effective and responsible AI initiatives, reducing the risk of inaccurate, biased or even harmful outcomes. It plays a crucial role in monitoring and evaluating the performance of AI systems, enabling them to remain effective and aligned with ethical principles.

  By collecting, cleaning and analyzing large datasets, data analytics is designed to provide the quality, representative data needed to train accurate and unbiased AI models. It also reveals valuable insights into patterns, trends and anomalies that inform the development of targeted AI solutions.

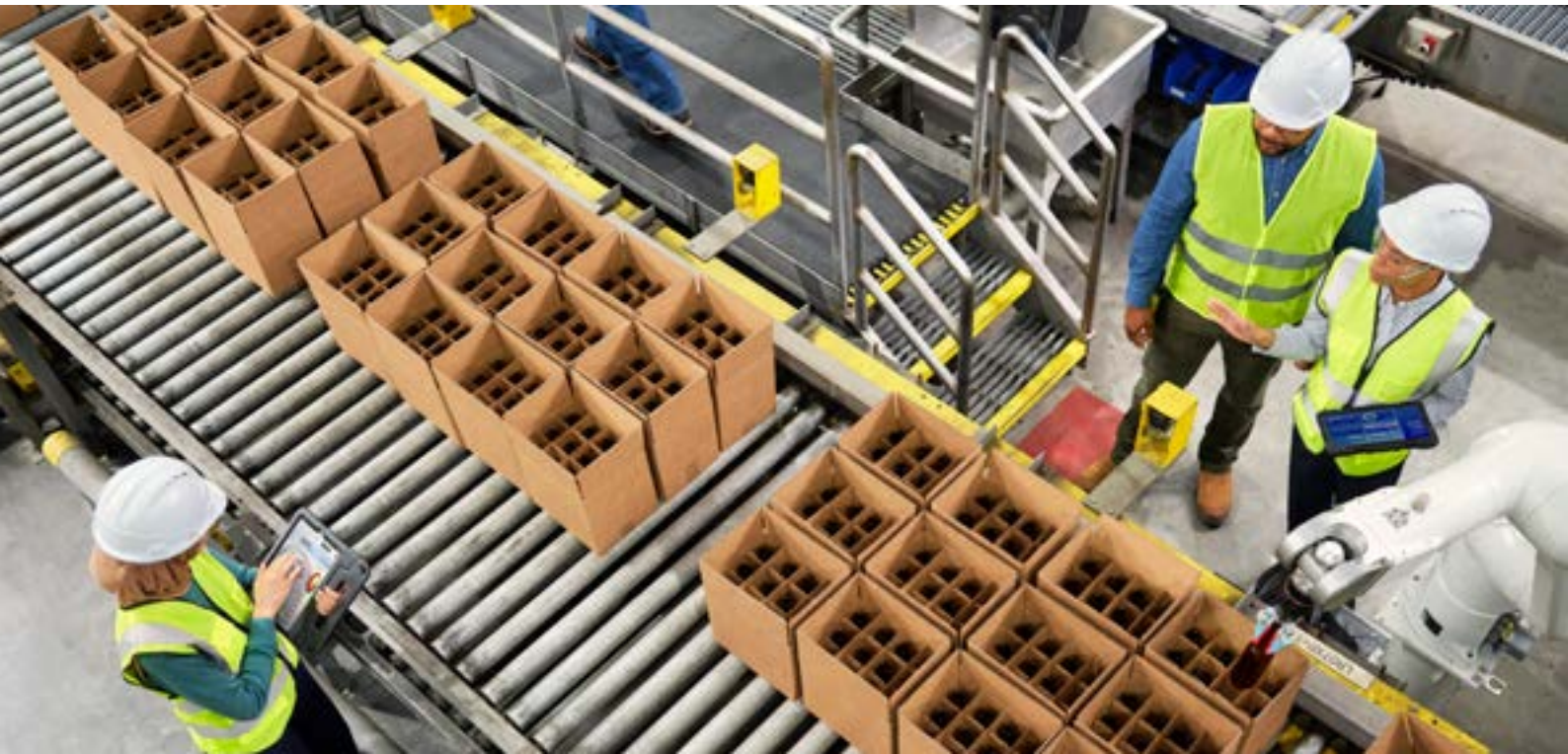
- **Invest in change management and talent development**
  Introducing AI transforms workflows and roles, necessitating clear communication, training and support to help employees adapt. By addressing the human element of AI implementation, organizations can help foster a smooth transition, enhance the benefits of AI and empower their workforce to thrive in an AI-driven future.

  Change management initiatives need to address potential anxieties, highlight the benefits of AI and provide opportunities for skills development. In addition, investing in talent development programs equips employees with the necessary skills to work effectively alongside AI systems. This includes training on AI fundamentals, data analysis and human-AI collaboration.

- **Commit to continuous improvement**
  AI systems require ongoing monitoring, evaluation and refinement to ensure they remain effective, accurate and aligned with evolving business needs and ethical considerations. This involves regularly assessing AI models' performance, gathering feedback from users and stakeholders, and implementing necessary adjustments to algorithms, data pipelines and AI-impacted processes.

  This iterative approach allows organizations to adapt to changing circumstances, address emerging challenges, and increase the value of their AI investments over time. It also fosters a culture of learning and innovation, helping AI initiatives to remain dynamic and relevant in a rapidly evolving technological landscape.

> Our approach is business leader first, technology leader second: it's always purposeful innovation we're after."
>
> **Shankar Arumugavelu**
> Executive VP and President of Verizon Global Services



Step 2: Proactively embrace change

How have we put those principles into practice?

Predictive network maintenance and optimization

Any break in service is a dent in our brand promise. That's why we've applied AI to address potential issues before they impact customers. We're not alone. Just look at how Rolls-Royce has harnessed AI to deliver more intelligent engine inspections. By analyzing vast amounts of data from network equipment, environmental sensors and even social media, AI algorithms identify patterns and anomalies that indicate potential problems. This allows for proactive maintenance, such as replacing aging equipment or dispatching technicians to tackle emerging issues before they escalate into outages. AI optimizes our network performance by dynamically adjusting resource allocation based on real-time demand, enabling efficient bandwidth utilization and reducing latency.

> "There are four benchmarks by which we prioritize use cases: strategic importance, value at stake, technological feasibility and risk."
>
> **Shankar Arumugavelu**
> Executive VP and President of Verizon Global Services

Prevention versus cure

Verizon is using AI and machine learning (ML) to proactively prevent fibre cuts—a major cause of network outages. By analyzing various data points like location, construction permits and even weather, our predictive model identifies high-risk areas. This means we can reinforce infrastructure or reroute cables before a cut occurs—improving network reliability, while reducing repair costs and customer service disruptions. The system also alerts construction crews to the presence of underground cables, helping to prevent accidental damage. All of these are crucial as we expand our fibre footprint.

Creating special agents

Our AI-powered agent-assist tool transcribes and analyzes customer conversations in real time. So, if a customer calls about a slow internet connection, the tool quickly accesses the customer's account details and suggests next steps or potential solutions to the agent.

Enhancing the customer experience
Knowledge is power. And, like many other businesses that have realized the value of creating more connected customer experiences, we use AI to empower call center staff, enhancing efficiency and personalizing the customer experience. AI tools assist our employees by providing real-time information and suggesting next best actions during calls, leading to faster resolution and improved accuracy. AI powers chatbots and virtual assistants, offering 24/7 support for common inquiries and troubleshooting simple issues. We're also utilizing generative AI to create more natural and helpful conversational experiences.

Optimizing the supply chain
AI seems made for supply chains. A marriage that delivers everything an enterprise desires: higher efficiency, lower costs and happier customers. Our AI systems analyze historical data, current inventory levels and predicted demand. This means we can improve stock levels, reduce excess inventory and storage, and help to ensure that resources are available when and where required.

Forecasting fibre demand

By accurately forecasting quantities of fibre optic cable, routers and other components, we can both help to ensure timely procurement and avoid deployment delays. This will ultimately accelerate the rollout of new services and reduce disruption to existing customers. AI also helps streamline logistics, predicting potential hold-ups and improving delivery routes.

Step 3: Continuous improvement

There are undoubtedly many more steps to take on the AI road. This is true for enterprises worldwide: we are all "AI works in progress."

However, the route we've travelled thus far has taught us the business value of taking a comprehensive approach that encompasses a robust ethical framework, a data-driven foundation, a commitment to human-AI collaboration, and – crucially – a focus on continuous improvement. As Professor Stephen Hawking said: "Intelligence is the ability to adapt to change." We must use our own human intelligence to best scale and adapt to the advantages of AI as they emerge.

By prioritizing transparency, explainability and human oversight, we've learnt how to build trust in AI systems and empower employees to thrive in an AI-driven future. Our experience underscores the importance of a holistic strategy that not only considers the technological aspects of AI but also the human and ethical dimensions, paving the way for a more responsible and beneficial integration of AI.

> We didn't get it right first time. You have to test and learn before you can operate at scale...But now we have a blueprint that is serving us for multiple use cases."
>
> **Shankar Arumugavelu**
> Executive VP and President of Verizon Global Services

Partners in success

When working with colleagues or clients, we believe co-creation and collaboration is key to success. So, whether you, like us, are looking for end-to-end AI adoption or deploying pilots for specific use cases, we're here to help achieve your goals.

As you invest in more AI technology and solutions, we can assess your current network infrastructure and security capabilities, then design a network and security architecture that aligns to your strategic business goals and meets agreed KPIs. And, of course, you can rely on us to support all the subsequent set-up and roll-out. In short, whatever your network needs, we'll be there.

Your AI scaling checklist

- **Work** with data science and ML experts to develop algorithms that meet your business objectives.
- **Enable** accurate AI model performance by locating and using quality/relevant data sets.
- **Align** your AI model with business needs by involving stakeholders from all departments and forming a multidisciplinary AI team.
- **Manage** the data lifecycle by developing secure, standardized structures that integrate and update data sources.
- **Enhance** AI deployment and maintenance via a streamlined machine learning operations (MLOps) platform that aligns with the skillsets of your data science and IT teams.
- **Maintain** ethical standards by incorporating governance/compliance into all your data management, data science and operational tools.
- **Identify** potential pitfalls and optimize performance by monitoring AI models end-to-end, tracking KPIs in real time.
- **Provide** early wins and build confidence/ momentum by selecting those projects most likely to succeed.

Discover how Verizon's end-to-end network solutions can help your business unlock the full potential of digital transformation. Click here to learn more.