Accelerate Your Business with Cisco Optics

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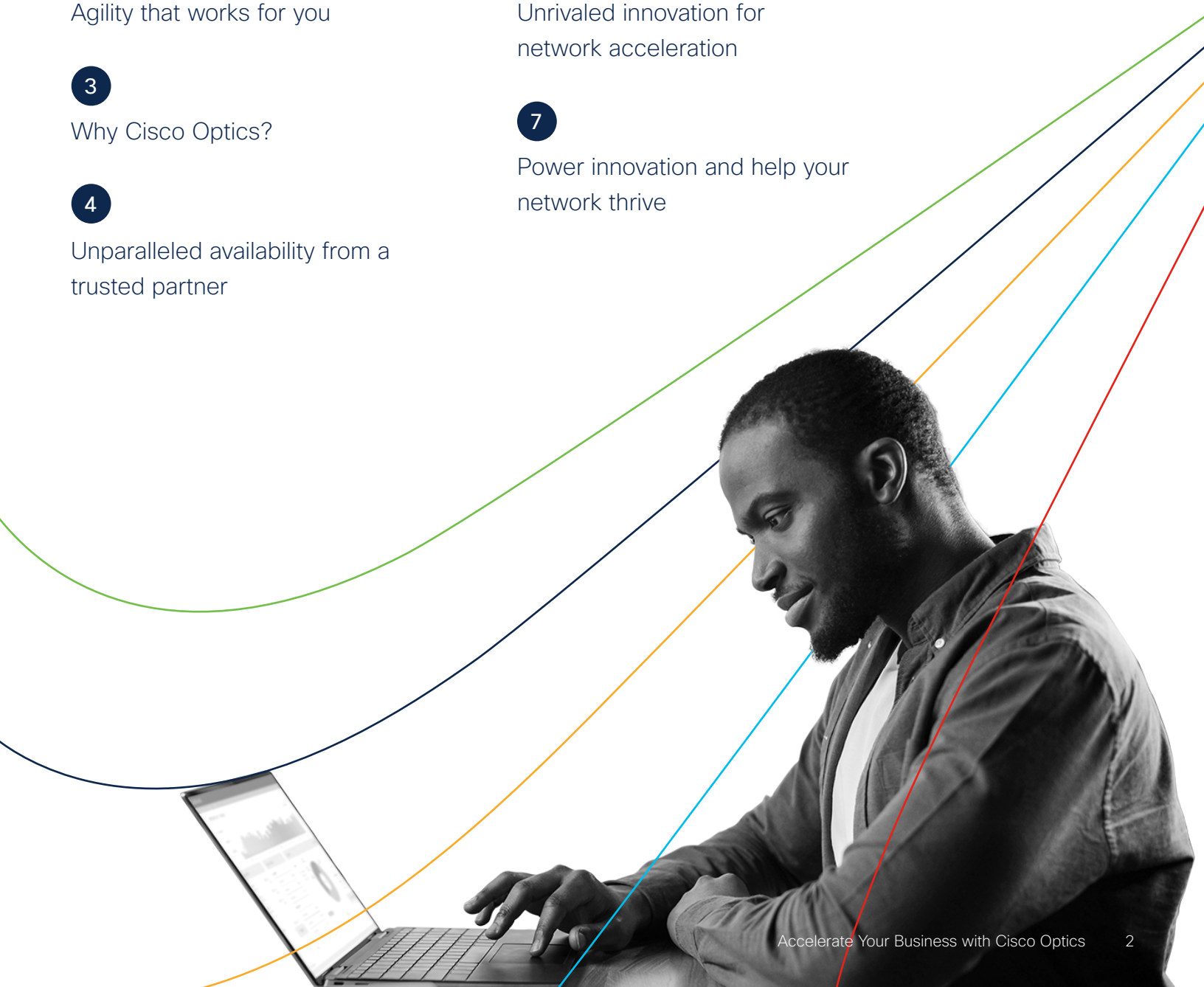


Why network transformation is essential in a connected world

Connectivity is ever-changing, and a growing dependence on the internet impacts how people and businesses interact. With expectations for seamless, high-quality, and secure connections rising, businesses are leaping into the digital world. This requires network connections to support increasingly demanding experiences for remote and mobile work, education, health, cloud-connected applications, high-performance computing, artificial intelligence, real-time video streaming, and more.

Pluggable optics, which convert between high-speed electrical and optical signals, enable high-data-rate transmission between servers, switches, and routers connected with fiber optics cables. These pluggable optics allow you to increase your network's capacity with maximum flexibility. You can select optical module data rates and fiber lengths to fit your network architecture needs, and plug in the optical modules you need as network requirements grow.

29 billion

devices will access the internet by 2023.

Source: Cisco Annual Internet Report (2018–2023) White Paper

500 million+

new apps will be written by 2023.

Source: Businesswire

88%

of global enterprises have encouraged work from home.

Source: Gartner

Agility that works for you

It's becoming increasingly complex to adopt higher network data rates. In the past, it was simple to match optics to distance and data rates, and pluggable optics tended to be an accessory to network architecture. However, as data rates have increased and more choices between pluggable optics have become available, selecting the right optical modules can have significant implications on your fiber cable infrastructure, your ability to upgrade network hardware, and the overall reliability—uptime—of mission-critical network connections.

Every day, optics are becoming more sophisticated, complex, and integral to your network architecture. Frequently, they're the starting point for network architecture—and are quickly becoming massive capital investments. Thanks to advances in silicon (ASICs), the cost per bit for router/switch ports have steadily decreased. However, the cost per bit for pluggable optics has not come down as fast as router/switch ports. As a result, they represent a larger fraction of total hardware costs.

Cisco® Optics deliver reliability for mission-critical connections across servers, switches, and routers—meeting your connectivity requirements today and in the future. And when your technology is working for you, your organization can spend more time on high-value tasks to deliver the connected experiences that your customers expect.

74%

of CIOs reported that their digital projects that would have taken a year to be approved are now being approved in a matter of weeks.

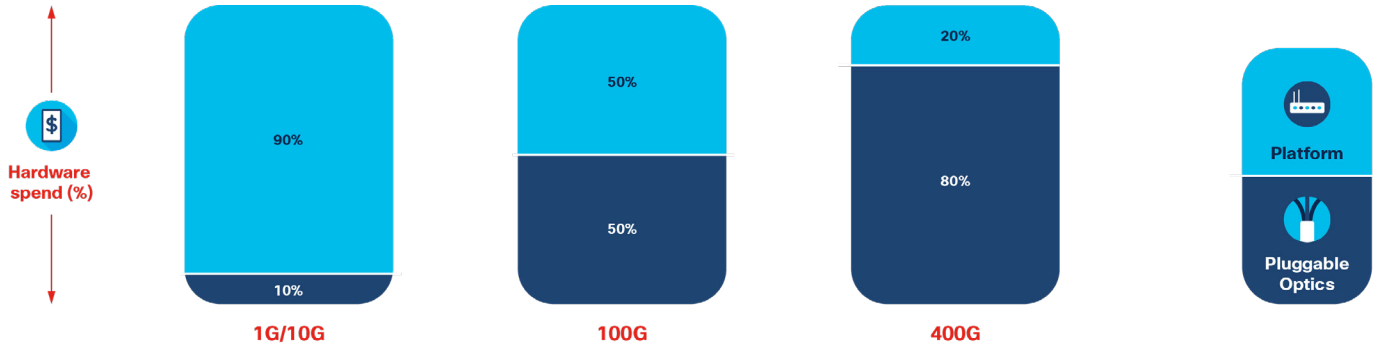
Source: The Agents of Transformation Report 2020: COVID-19 Special Edition, AppDynamics, Cisco, 2020

60%

of IT professionals said their data center's outage could have been prevented with better management/processes or configuration.

Source: Uptime Institute, Annual Data Center Survey Results, 2019

Optics contribution to hardware spend increases with data rate



Why Cisco Optics?

Rest easy

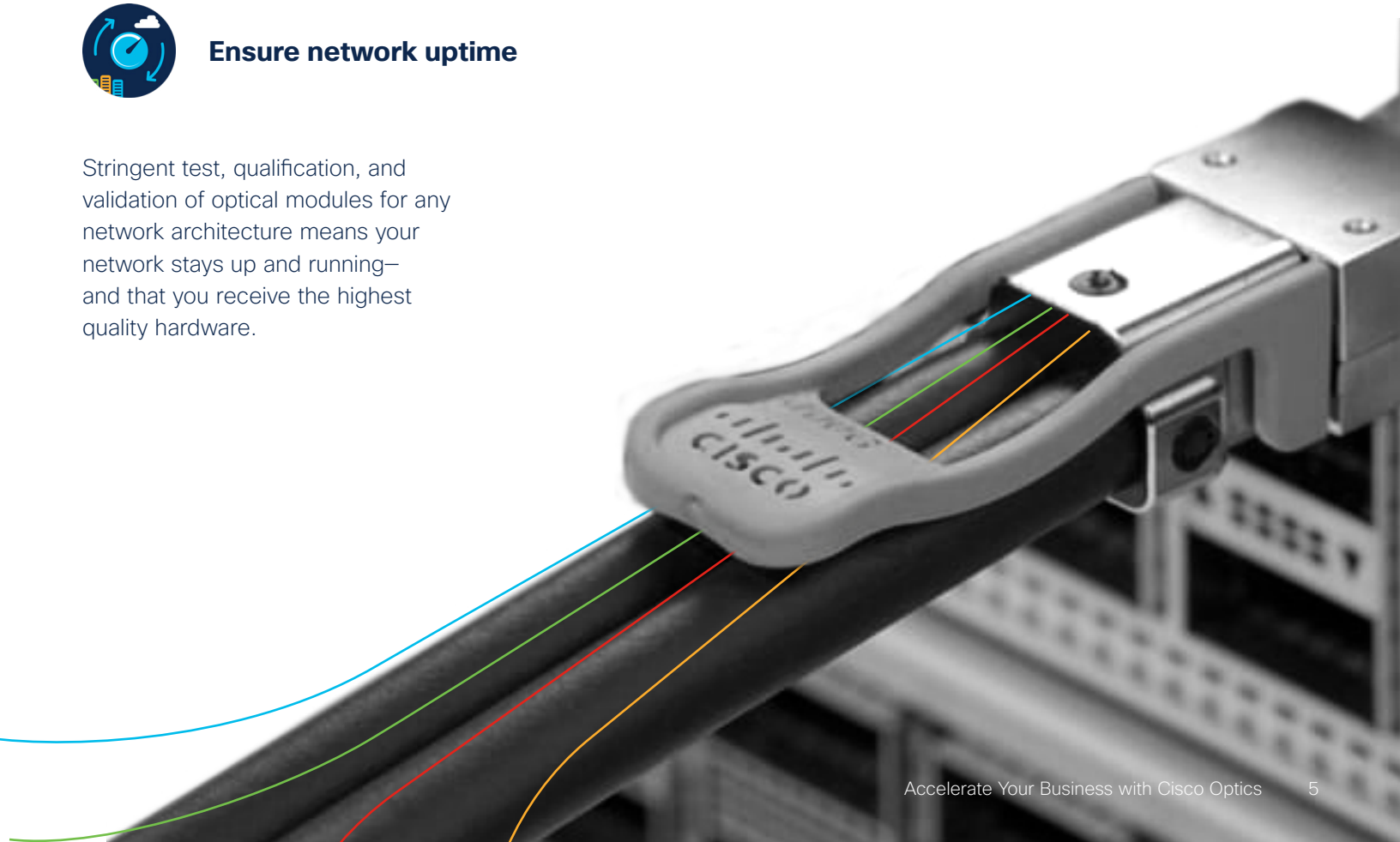
With the help of Cisco Optics, you can rest easy knowing the optics you need will be available when you want them, and work when you get them.

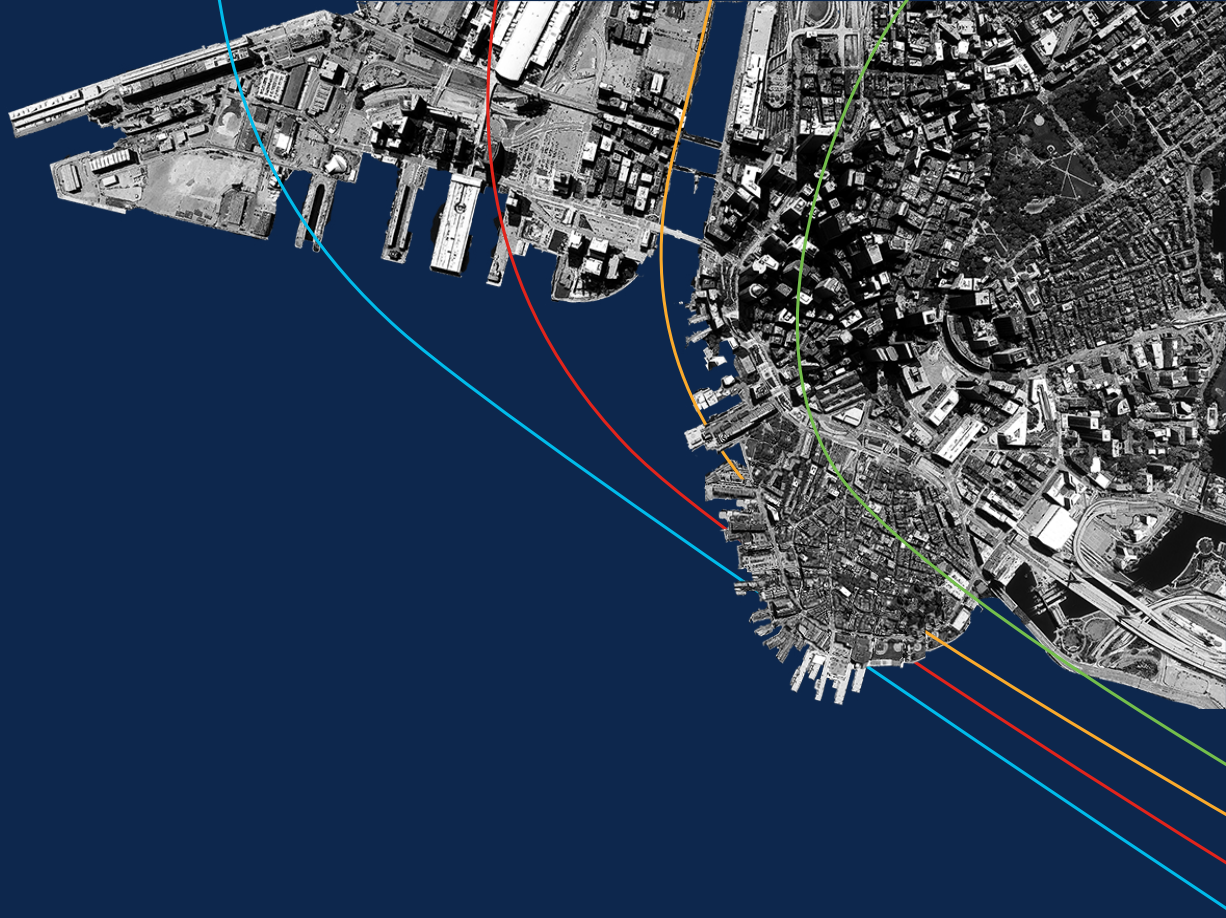
Confidently prepare for the future

We help you free up resources and enable your own future-ready, fast, and reliable connectivity—for unrivaled innovation within your business.

Ensure network uptime

Stringent test, qualification, and validation of optical modules for any network architecture means your network stays up and running—and that you receive the highest quality hardware.





Built for your architecture

> We have been facing increasing traffic volume, now doubling every two years. With Cisco we have been able to expand capacity at the core, aggregation, and access areas of our network.
>
> Sarmad Ahmed | CEO at Earthlink

> Conventional architectures and technologies built on decades of accumulated complexity fall short in helping us keep up with customer demands for more, consistent bandwidth and a high-quality experience. Standardized, coherent pluggable modules are the next natural step in evolving cost structures, efficiency, and scaling capabilities.
>
> Staffan Göjeryd | CEO at Telia Carrier

> We knew we could trust Cisco both as an innovator and a partner in our success, because of its commitment to bridging the digital divide and leadership in the industry.
>
> Dawit Birhanu | CEO and co-founder of WebSprix

Unparalleled availability from a trusted partner

Cisco offers the world's best supply chain. Always looking further downstream, we offer a single point of access to a secure, multisource optics supply chain, and take care of logistics to ensure optics product availability for your network—whenever and wherever you need it.

As a network equipment manufacturer, we understand how optics work in your architecture—connecting servers, switches, and routers across campus, data center, and transport networks. We have the optical module portfolio to meet every need and use case, from fiber reuse to new deployments, and from connections within the data center to the networks between them.

From product assistance to module replacements throughout the optics lifecycle, Cisco's global service and fulfillment sites provide same-day replacements, and 24/7 support teams to help minimize network downtime.

A case study in proactive risk management:

When an earthquake and tsunami struck Japan on March 11, 2011, Cisco was prepared. The disaster was one of the largest disruptions to global supply chains, with a total economic loss of at least $217 billion. During the turbulent time, Cisco supply chain risk mitigation was well prepared–this resulted in little revenue loss. In only 12 hours, risk managers identified over 300 suppliers in their regions, from tier 1 to raw material suppliers, to assess the impact of the disaster. The team listed more than 7000 affected parts by number and assigned risk ratings to each part to chart a mitigation response.

Source: MIT Center for Transportation & Logistics

#1

supply chain
ranked by Gartner.

Source: Gartner

35 years

of building
customer trust

24/7

access to Technical Assistance Center and same-day replacements

Uncompromising quality from a leader in tech and sustainability

Wherever you plug in, even across ports from different vendors, we ensure standards compliance, cross-platform compatibility, and optical module interoperability. Cisco tests and verifies optical, electrical, and mechanical design for every optical module. As a result, our pluggable optical transceivers offer reliability you can count on—performing better than industry benchmarks—with fewer than 100 parts per million field return rates.

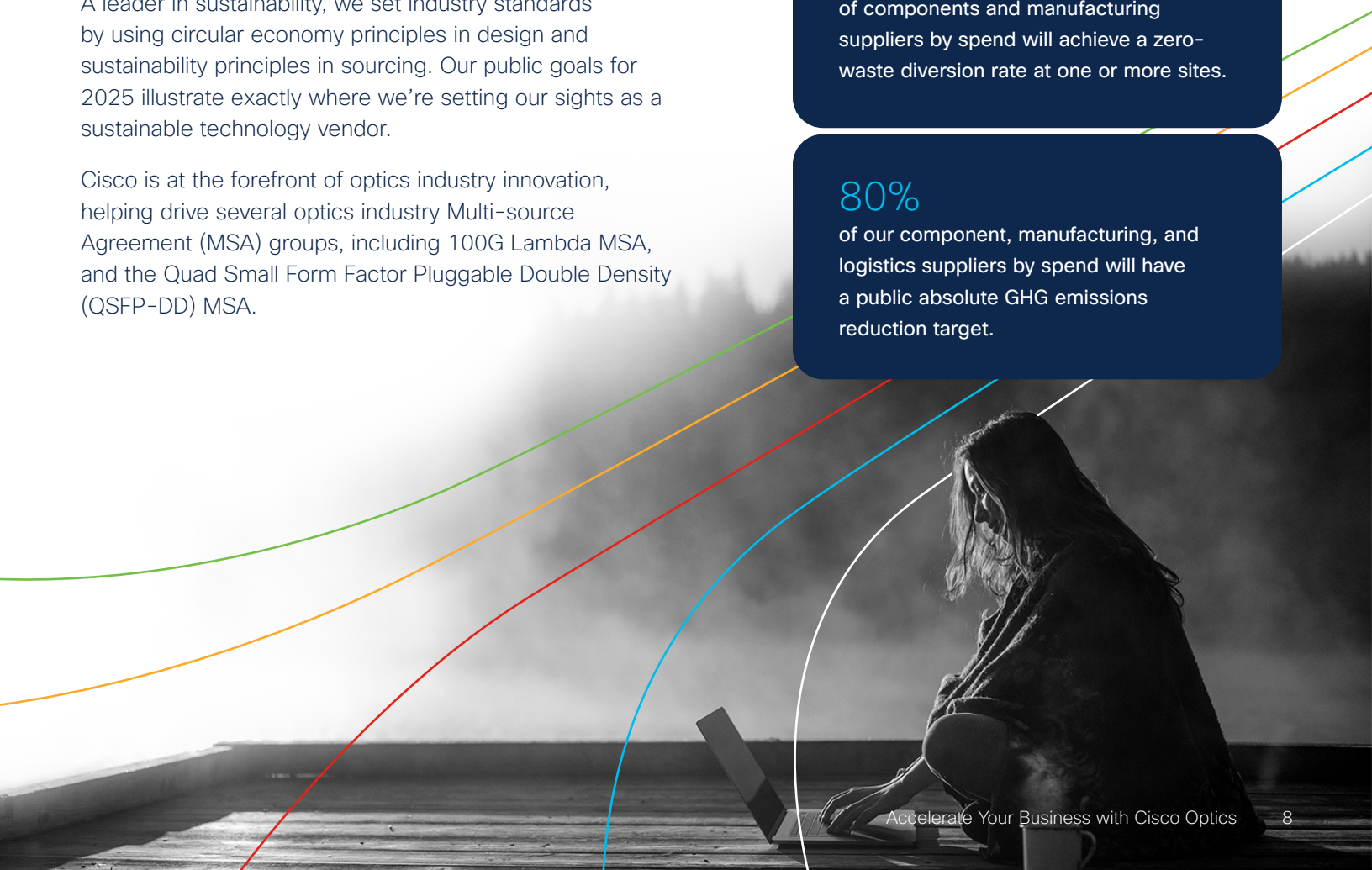
A leader in sustainability, we set industry standards by using circular economy principles in design and sustainability principles in sourcing. Our public goals for 2025 illustrate exactly where we're setting our sights as a sustainable technology vendor.

Cisco is at the forefront of optics industry innovation, helping drive several optics industry Multi-source Agreement (MSA) groups, including 100G Lambda MSA, and the Quad Small Form Factor Pluggable Double Density (QSFP-DD) MSA.

100%
of new Cisco products will incorporate circular design principles by 2025.

70%
of components and manufacturing suppliers by spend will achieve a zero-waste diversion rate at one or more sites.

80%
of our component, manufacturing, and logistics suppliers by spend will have a public absolute GHG emissions reduction target.



12 million+

pluggable optical transceivers per year are shipped by Cisco.

650,000+

coherent ports, accounting for approximately **25%** of global coherent ports deployed, have been shipped by Cisco/Acacia.

Source: Cignal AI

As much as

85%

reduction of power consumed by Acacia coherent optical interconnects on a watt/bits basis has been achieved since 2013.

Low power

Cisco Optics are designed to sustain the highest possible temperatures, enabling you to lower the fan speed within your system and reduce overall power consumption.

Unrivaled innovation for network acceleration

We continually develop leading-edge solutions for optical performance. Over the past 10 years and counting, Cisco has spent more than $6 billion on inorganic investments. Our deep and unrivaled commitment to silicon, optics, and software investments makes accelerated innovation possible.

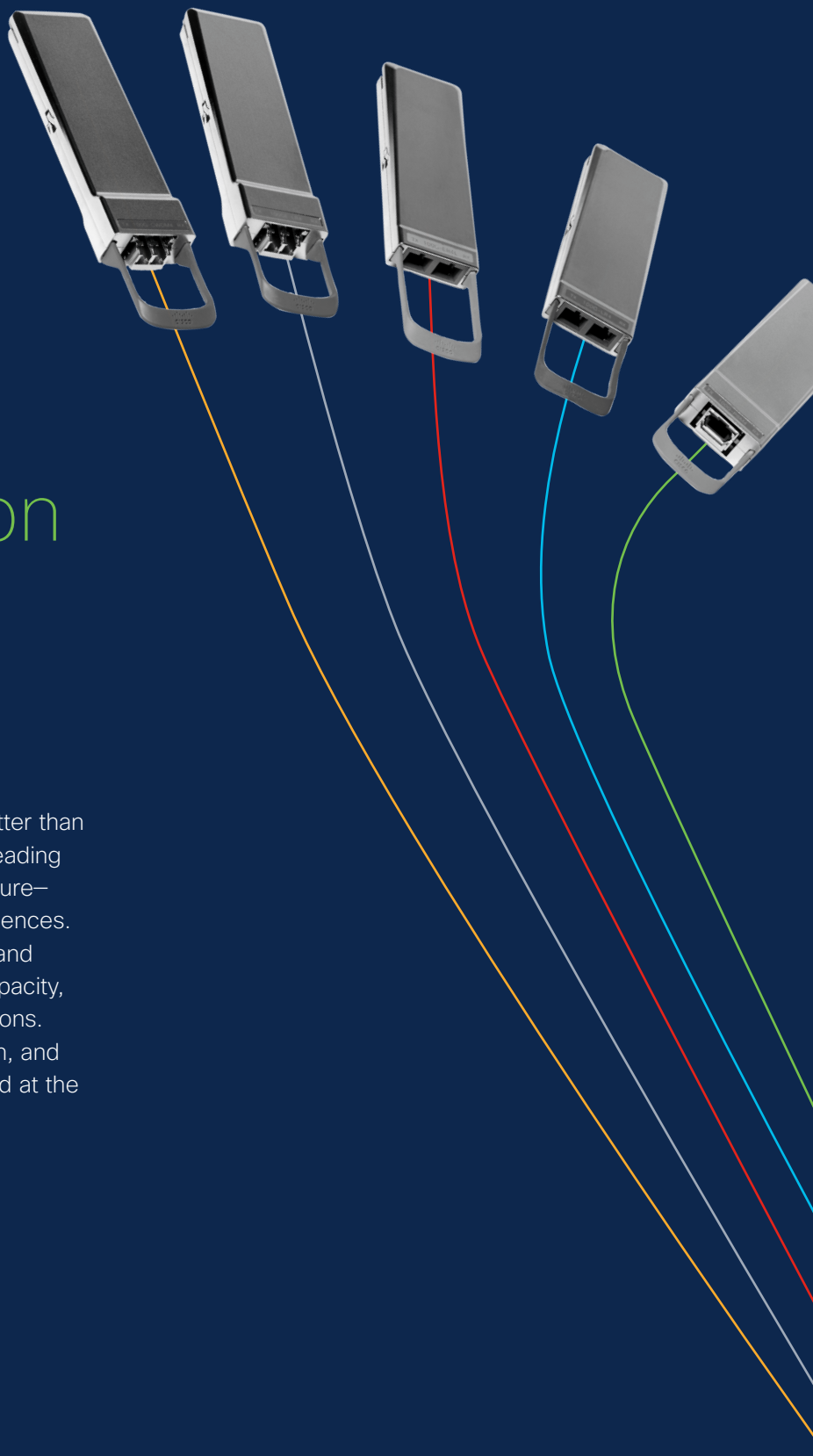
> Acacia's choice to back silicon photonics for coherent optics was an "industry trailblazing decision".
>
> – Gazettabyte

Pioneering Silicon Photonics

- Leveraging high-yield semiconductor manufacturing processes, we integrate more optical functions to produce large volumes of highly complex optics. This achieves higher data rates and better performance with lower power consumption.
- In 2012, Acacia was the first coherent module vendor to envision silicon as an integration platform of multiple discrete photonic functions–pioneering silicon photonics to ultimately increase the density and reduce the cost of optical products.

Lowering TCO

- Cisco's bidirectional and short-reach transceivers allow for flexible migration to higher data rates, while reusing existing fiber infrastructure.
- Single-wavelength 100G innovations enable migration to higher data rates, and optimize utilization across single-mode fiber links.
- Architecture is simplified when deploying coherent optical links as part of converged routed optical networking solutions.



Power innovation and help your network thrive

No one knows how optics work in your network better than Cisco. We offer the highest quality, performance-leading optical transceivers for deployment in any architecture—enhancing your organizational and customer experiences. Our comprehensive portfolio of future-ready, fast, and reliable optical transceivers gives you increased capacity, reach, and speed for your critical network connections. Backed by extensive testing, qualification, validation, and customer support, Cisco Optics offer peace of mind at the heart of your network.

Discover Cisco Optics