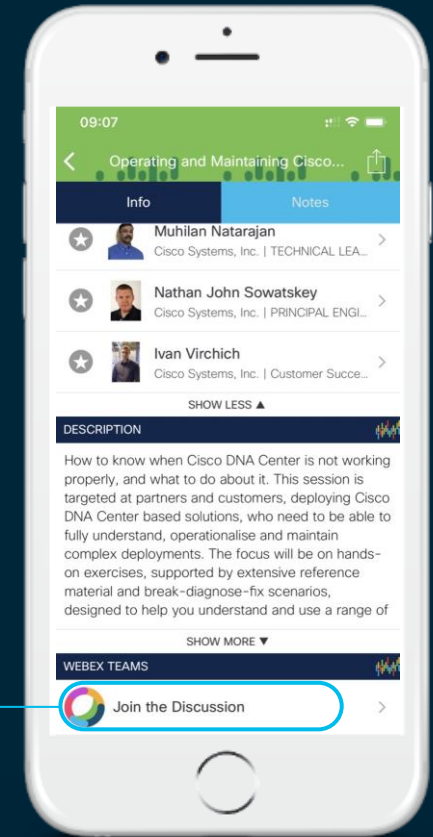CISCO

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Cisco Webex Teams

Questions?
Use Cisco Webex Teams to chat
with the speaker after the session

How

1 Find this session in the Cisco Events Mobile App

2 Click "Join the Discussion"

3 Install Webex Teams or go directly to the team space

4 Enter messages/questions in the team space

Agenda

- Introduction – Top 5 Networking Trends for 2020

- Trend #1: SDN to IBN

- Trend #2: Network AI Augment Human Operations

- Trend #3: Multicloud and Edge Change Networking

- Trend #4: 5G and Wi-Fi6 Combine for OpenRoaming

- Trend #5: AI and Automation Require New Skills

- Conclusion

The Network Faces Its Greatest Transformation Yet

Licklider's Vision
1962

"Intergalactic computer network" around the world would be interconnected to provide quick access to data and programs from anywhere.

Connectivity-driven network
(1983-2019)

Business outcomes enabler
(2019+)

Reactive
Device Management
Centralized Compute
Fixed Wired Access
Perimeter Security

Proactive
Policy-based Automation
Multicloud
Wireless 5G + WiFi6
Zero Trust

Predictive
Intent-based
Cloud / Edge
Ubiquitous Roaming
Self-Defending

Opportunity: Enable network to operate in complete harmony with the business

Cisco 2020 Global Networking Trends Report
Research Methodology

Objective

Provide IT leaders, strategists and practitioners
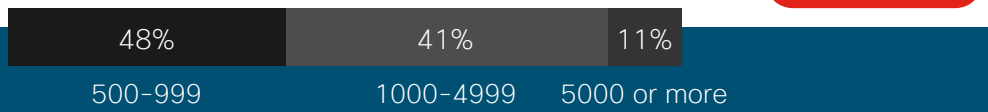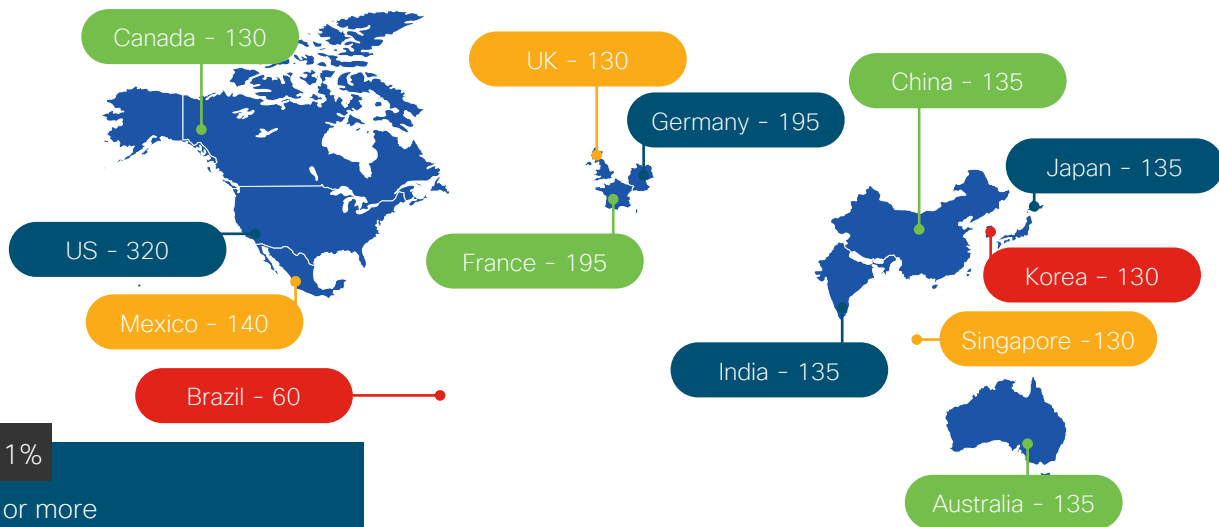
1. Insight on the current state of the network, with respect to:
   - Network readiness and maturity
   - Network priorities and challenges
2. Essential guidance across networking technology, operations and talent

Demographics

Respondents Surveyed: 2061

IT Leaders: 505
Have overall IT oversight (including the network)

NW Strategists: 1556
Responsible, or part of a team that is responsible for developing / defining the network strategy

Canada - 130

UK - 130

China - 135

Germany - 195

Japan - 135

US - 320

France - 195

Korea – 130

Mexico - 140

Singapore –130

India - 135

Brazil - 60

Australia - 135

48%	41%	11%
500-999	1000-4999	5000 or more

Top 5 Takeaways

1. Intent-Based Networking (IBN) completes the unmet needs of SDN

2. AI augments human mental capabilities and accelerates IBN transformation

3. Multicloud and edge computing drives new network architectures

4. Wireless (Wi-Fi6 and 5G) will have the biggest impact over the next 5 years

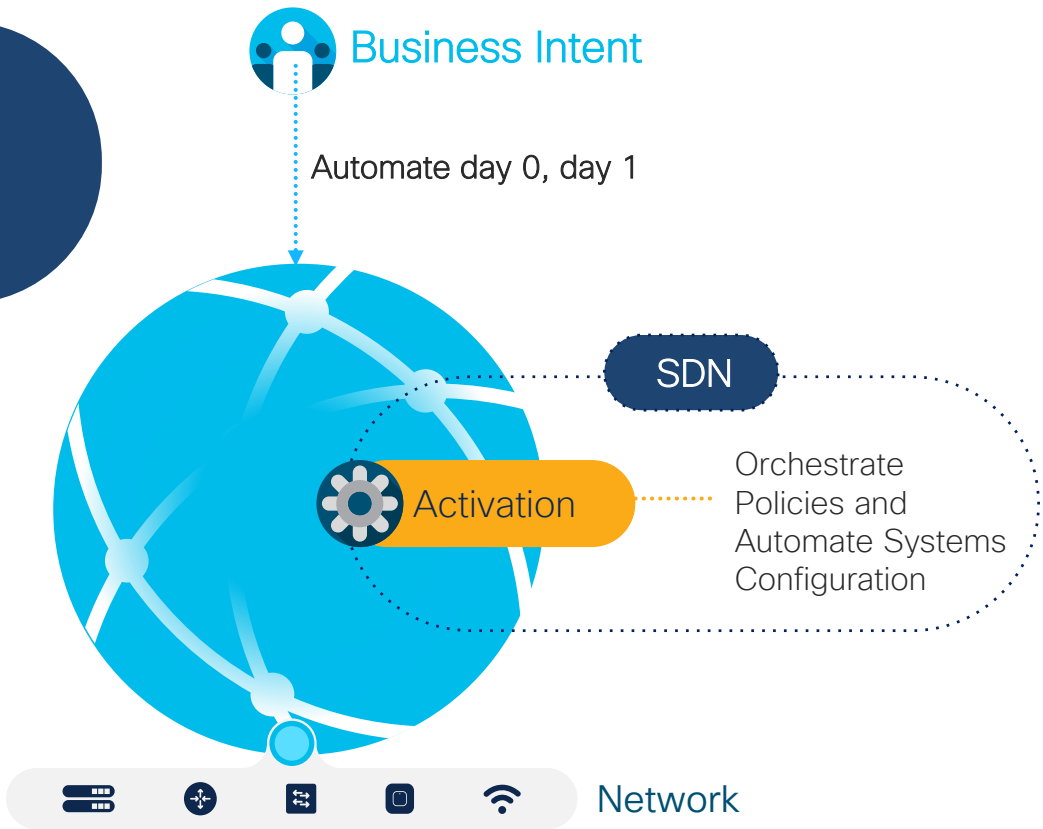5. Organizations face significant talent and operations gaps; IT must break siloes

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2020 Global Netw⊙rking
Trends Report

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Takeaway #1
Beyond SDN to IBN

SDN: Wide Adoption But Only Partial Solution

Respondents report:

64% deployed SDN in DC:

58% deployed SD-WAN

Business Intent

Automate day 0, day 1

SDN

Activation

Orchestrate Policies and Automate Systems Configuration

Network

Intent-Based Networking (IBN) Expands SDN to Meet Business Demands

Plan to be intent-based

4% today

35% within 2 years
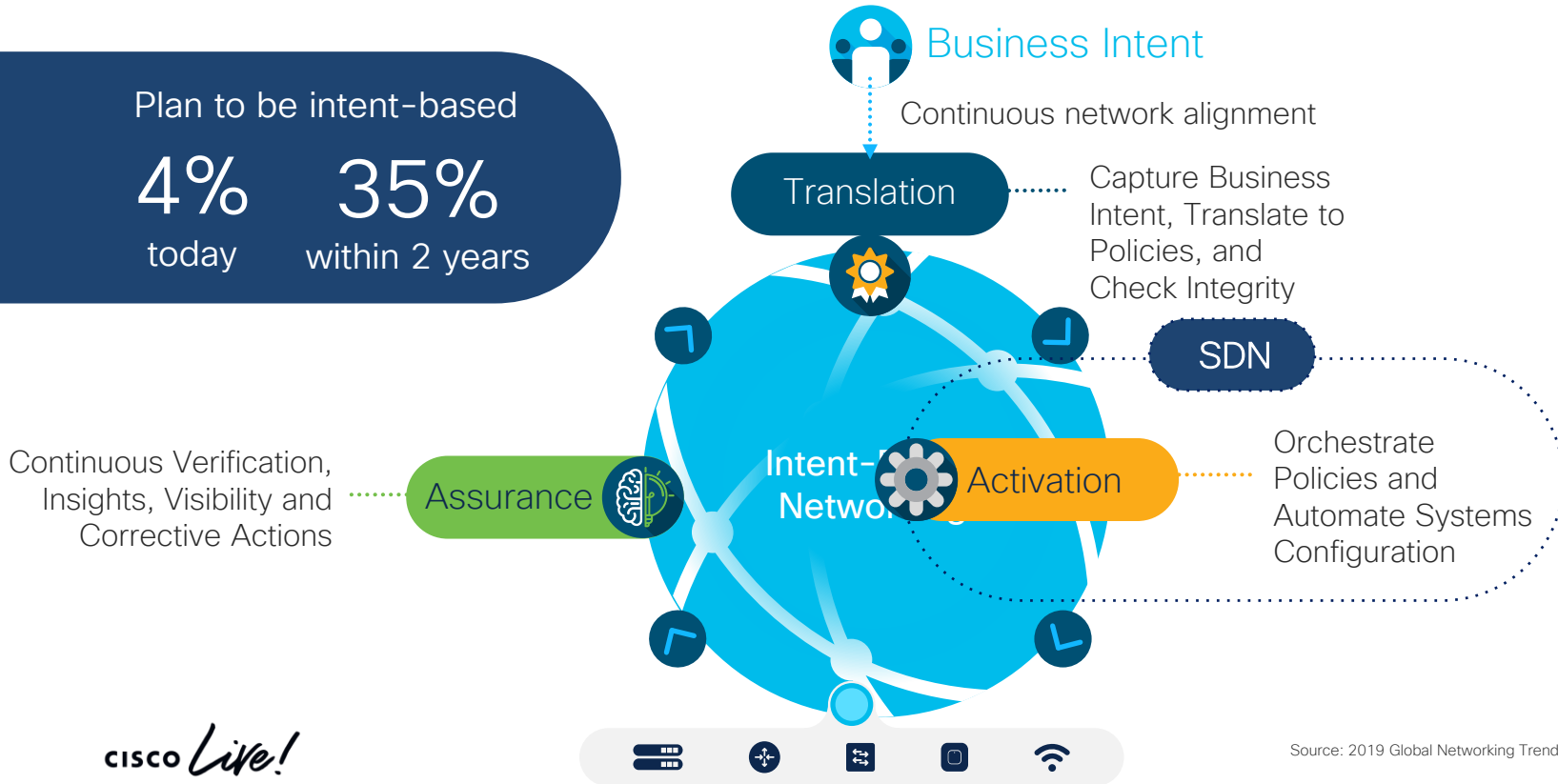
Business Intent

Continuous network alignment

Translation

Capture Business Intent, Translate to Policies, and Check Integrity

SDN

Intent-Based Networking

Assurance

Continuous Verification, Insights, Visibility and Corrective Actions

Activation

Orchestrate Policies and Automate Systems Configuration

Source: 2019 Global Networking Trends Survey; n=2061

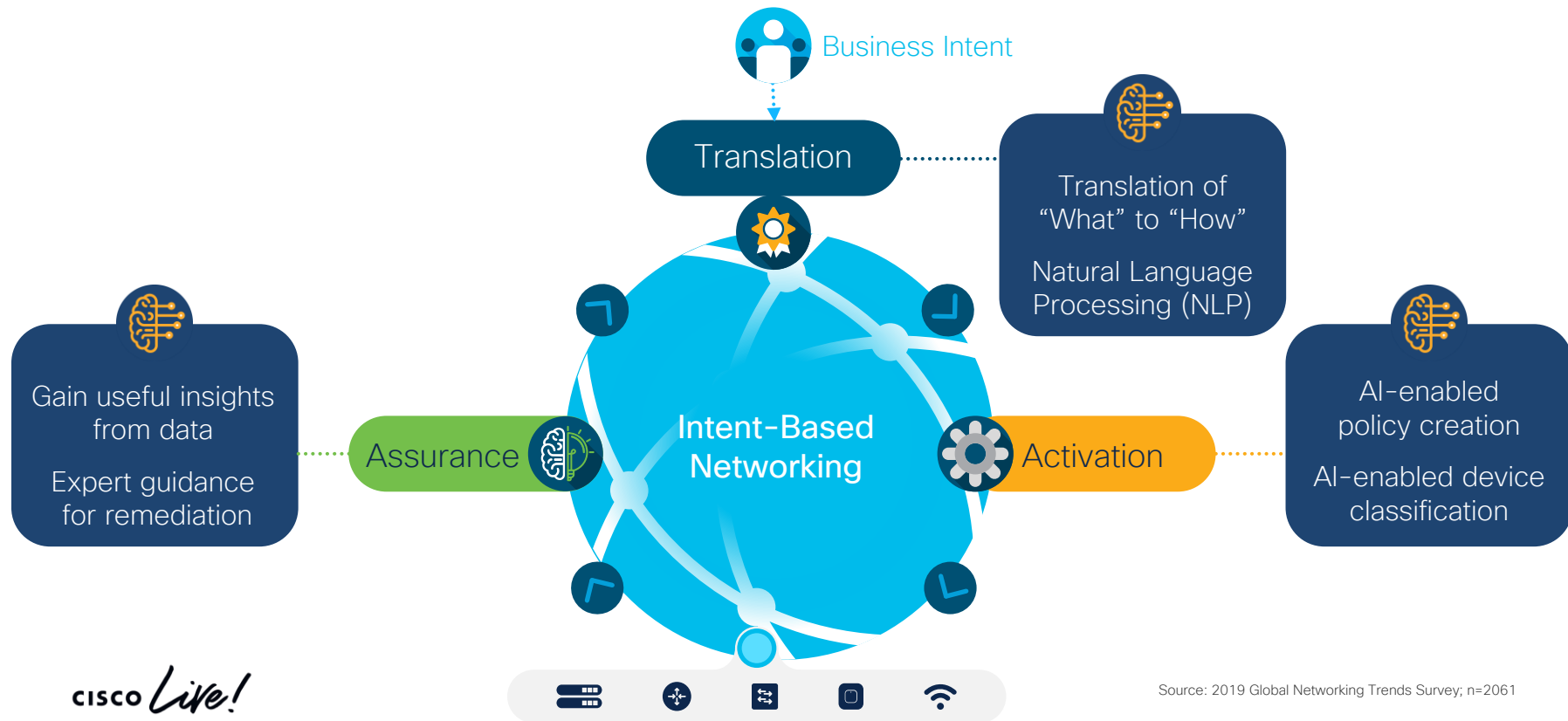CISCO *Live!*

Plan your IBN Journey

1. Learn about IBN basics: www.cisco.com/go/ibn

2. Assess the readiness of your network www.cisco.com/go/ibnassessment

3. Watch the SDN to IBN webinar here

Check out the 2020 Global Networking Trends report: cisco.com/go/networkingreport

Takeaway #2

AI Augments
Human Operations

AI: Accelerating Transformation to Business-Optimized Network

Business Intent

Translation

Translation of "What" to "How"

Natural Language Processing (NLP)

Intent-Based Networking

Assurance

Gain useful insights from data

Expert guidance for remediation

Activation

AI-enabled policy creation

AI-enabled device classification

Source: 2019 Global Networking Trends Survey; n=2061

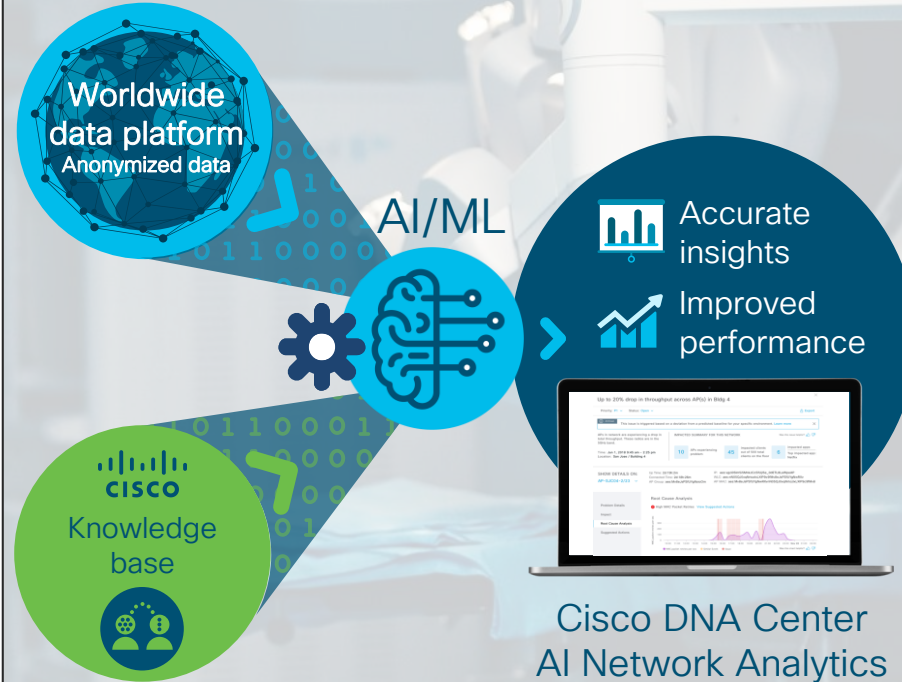# AI/ML Augments Human Mental Capabilities

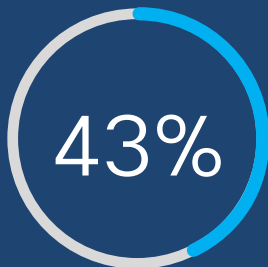**50%** of network strategists identify AI as a priority investment needed to deliver their ideal network

72% of network strategists project using AI-enabled predictive insights or prescriptive remediation within the next 2 years

Source: 2019 Global Networking Trends Survey; n=2061

Cisco AI Network Analytics

Worldwide data platform
Anonymized data

AI/ML

Knowledge base

CISCO

Accurate insights

Improved performance

Cisco DNA Center
AI Network Analytics

Zero-Trust Security Needs Automated and AI-enabled Networking

43% of network teams identified improved embedded network security capabilities as a priority – 2nd only after AI

75% of network leaders are planning to have some AI-enabled policy definition and enforcement in 2 years

Embedded IBN Security

- Continuous Visibility
- Zero-Trust Access
- Constant Protection

Intent-Based Network Security

Intent-Based Networking
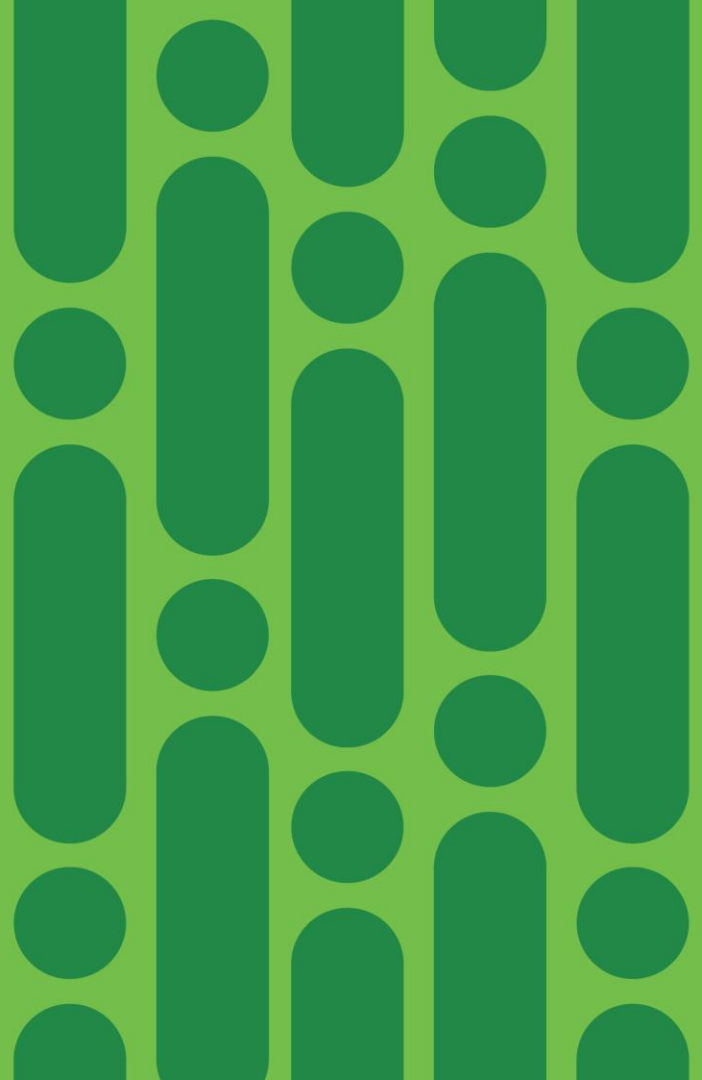
Network is the foundation

Get Going with Network AI...........

1. Explore the DNA Wireless Assurance demo [here](#)

2. Learn about Cisco AI Network Analytics [here](#)

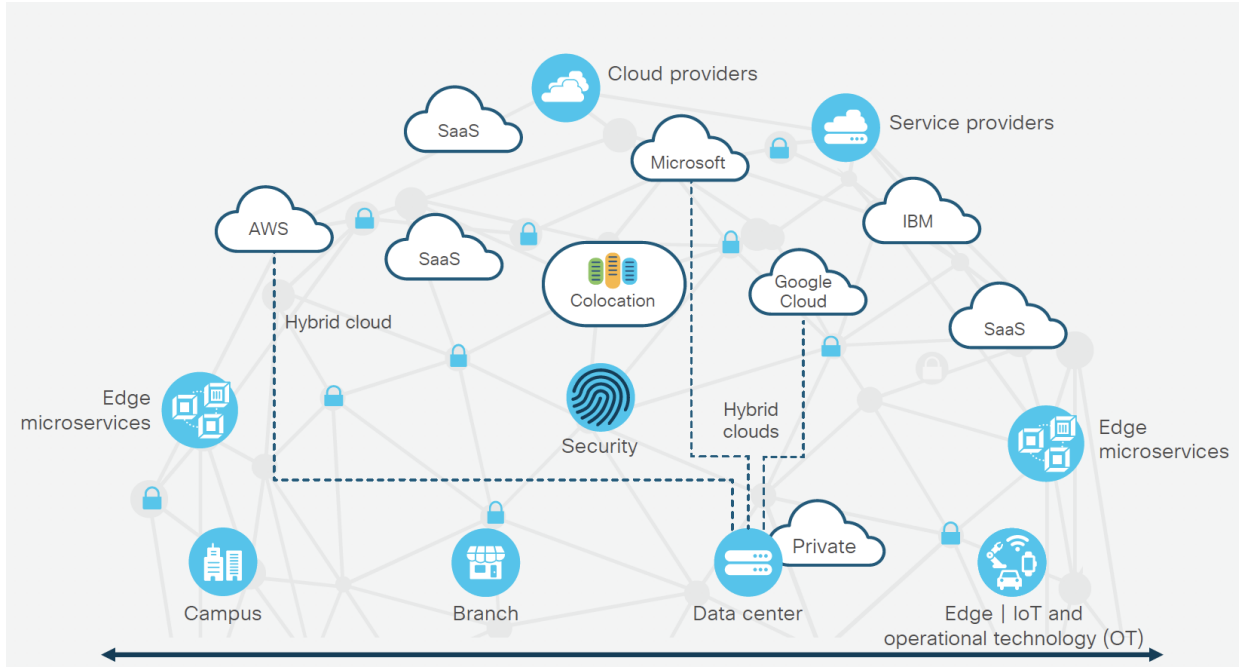3. Learn about Intent-Based Networking Security [here](#)

Check out the 2020 Global Networking Trends report: cisco.com/go/networkingreport

Takeaway #3

Multicloud and Edge Change the Face of Networking

Client-to-service and inter-workload communications

"The increased reliance on cloud is also driving increased WAN traffic, with global business IP WAN traffic expected to grow twofold by 2022, reaching 5.3 exabytes per month."

– Cisco VNI 2017

New Application Models From Multicloud to Edge

47% of respondents predict they will have AI-enabled SD-WAN in the next 2 years

27% of customers predict they will achieve an intent-based multicloud network in 2 years

Multicloud Networking

Cisco SD-WAN

Cloud edge

Data Center Cisco ACI

Public Cloud Cisco ACI Anywhere

SaaS Applications

WEB — Internet

Common policy and comprehensive security

Get Going with SD-WAN..........

1. Do the SD-WAN demo [here](#)

2. Get started with SD-WAN
   www.cisco.com/go/sdwan

3. Find out how a multicloud-enabled network can [pay for itself](#)

Check out the 2020 Global Networking Trends report: cisco.com/go/networkingreport

Takeaway #4

Wireless (5G + Wi-Fi 6) will have the biggest impact over the next 5 years

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Wi-Fi 6 provides plenty of advantages now
Built on the same wireless foundation as 5G

Higher Data-rates

Support new applications & outcomes

Increase in network capacity

Support new applications & outcomes

IoT at scale

Support new applications & outcomes

Faster Device Adoption

Support new applications & outcomes

802.11ax/Wi-Fi 6 is much more than speeds and feeds

5G and Wi-Fi 6 Open New Experiences

43%
of IT leaders predict wireless (5G and Wi-Fi 6 together) will have the biggest impact on the network in the next 5 years

72%
of network strategists plan to augment their SD-Access deployment with AI capabilities within 2 years

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5G and Wi-Fi 6 Use Cases

Campus Networks
Uninterrupted Access to Immersive Experiences

Branch Offices
Consistent Policy over Optimized WAN

5G 6

Mission Critical Services
Low Latency with High Determinism

Remote Users, Things
Seamless Mobility & SLA Extension

Get Going with Wi-Fi 6...........

1. Find out more about Wi-Fi 6
    www.cisco.com/go/wifi6

2. Learn more about SD-Access
    www.cisco.com/go/sdaccess
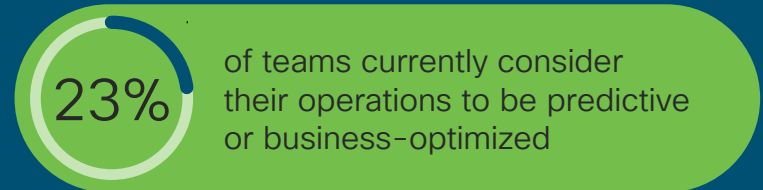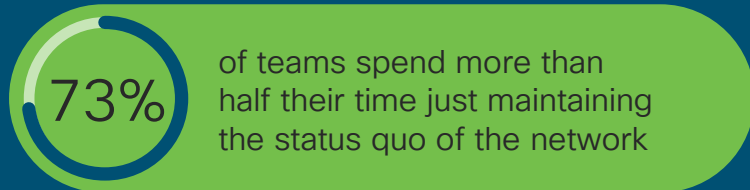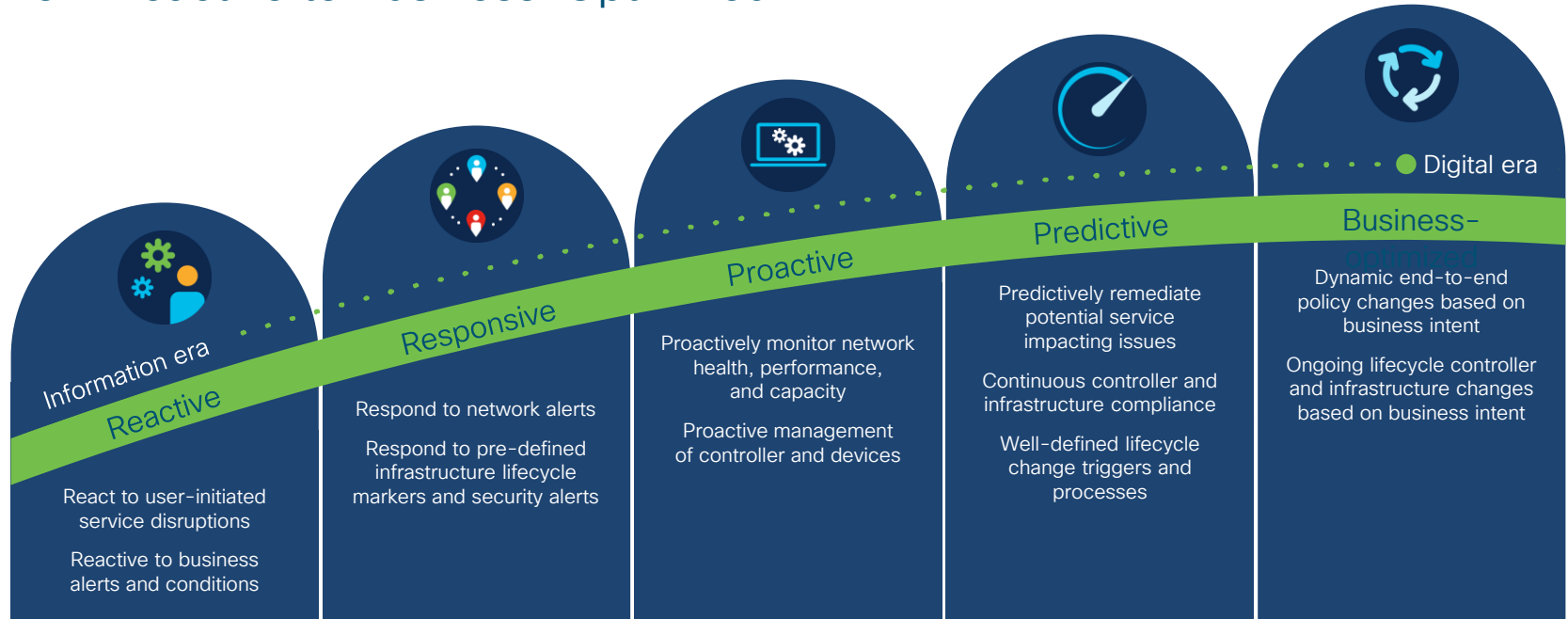
3. Visit Cisco booth at MWC

Check out the 2020 Global Networking Trends report: cisco.com/go/networkingreport

Takeaway #5

Talent and operations
gaps slowing down
adoption

Operations Readiness Model:
From Reactive to Business-Optimized

Digital era

Information era

Reactive

React to user-initiated service disruptions

Reactive to business alerts and conditions

Responsive

Respond to network alerts

Respond to pre-defined infrastructure lifecycle markers and security alerts

Proactive

Proactively monitor network health, performance, and capacity

Proactive management of controller and devices

Predictive

Predictively remediate potential service impacting issues

Continuous controller and infrastructure compliance

Well-defined lifecycle change triggers and processes

Business-optimized

Dynamic end-to-end policy changes based on business intent

Ongoing lifecycle controller and infrastructure changes based on business intent

73% of teams spend more than half their time just maintaining the status quo of the network

23% of teams currently consider their operations to be predictive or business-optimized

AI Turns Reactive Operations into Predictive Operations

29% of IT leaders identified AI Ops as the innovation that would make the biggest network impact over next 5 years

34% of IT leaders believe their teams are not well equipped with skills to support AI Operations – **biggest skill gap**

"By 2025 network operations teams will be able to do predictive problem detection and root cause analysis between any client or device and any business service, and 'what–if' analyses of any network changes."

– Rich Plane, CTO of Customer Experience, Cisco

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Talent Evolution:
Will Networking Teams Be Recognizable in Two Years?

27% of IT leaders identified the lack of necessary skills as a main obstacle to transitioning to an advanced network

22% of IT leaders prioritize reskilling and upskilling to address the skills gap

"By 2025, 75% of networking teams will spend less than a third of their time maintaining the network status quo and two-thirds delivering innovation and creating value for the business."

– Joe Clarke, distinguished engineer, Cisco

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Emerging Roles for Network Strategists

Consider acquiring technical, business, and software expertise that allows you to develop along one or more of the following tracks:

The business translator
will focus on aligning IT performance to dynamic business intent.

The network guardian
will focus on bridging network and security architectures.

The network data architect
will focus on leveraging network analytics and AI.

The network integration architect
will focus on integration across network and IT domains.

Get Going with Upskilling..........

1. Read the Operations and Talent Sections of [2020 Trends Report](#)

2. Find out about the new Devnet Certifications https://developer.cisco.com/certification/

3. Find out about the new Cisco Network Certs: [here](#)

Check out the 2020 Global Networking Trends report: cisco.com/go/networkingreport

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