

## **Global Interconnection Index 2023**

Measuring the Growth of the Global Digital Economy Volume 6

## **Table of Contents**

3	Introduction	15	Interconnection Strategy	28	Appendix
4	Executive Summary	18	Forecast & Benchmark	28	Global
5	What Is the GXI?			30	Americas
6	Highlights	19	Global	32	EMEA
7	Predictions	20	Americas	34	Asia-Pacific
8	Digital Infrastructure	22	EMEA		
9	Recommendations	24	Asia-Pacific		
10	Macro Trends	26	Methodology		

27 Next Steps

- 11 1. Digital Presence
- 2. Digital Participation 12
- 3. Digital Proximity 13
- 4. Sustainability 14



Forecast & Benchmark

Methodology

Next Steps

# YOUF Ecosystem Is Now Your **hfrastructure**

Tapping into a vast ecosystem of suppliers and industry partners is essential to accelerate a digital-first strategy, while prioritizing sustainability. And digitizing business means navigating change to compete and thrive-demanding faster transformation and adaptable digital infrastructure now more than ever before.

#### Appendix

ullh. EQUINIX

## **Executive Summary**

## The latest edition of The Global Interconnection Index—2023—validates a key tenet of successful digital transformation:

## Your ecosystem is now your infrastructure.

## Increase Your Advantage with Digital-first

By embracing the power of ecosystems, organizations are leading with a digital-first strategy. This means merging digital business and technology strategies so they become indistinguishable.

Leading with digital is essential to close any profit performance gaps, increase opportunities and accelerate Environmental, Social and Governance (ESG) objectives. To further speed these ESG goals, leaders are making it a top priority that their sustainability values are aligned with those of their customers and partners.

#### Design Your Infrastructure to Become the Disruptor, Not the Disrupted

An increasing number of businesses are turning to digital-first to stay ahead, with the number of organizations becoming digital leaders growing by 30%—despite supply chain constraints and geopolitical and economic instabilities. And this digital growth is global. Interconnection bandwidth is forecast to continue growing at over 35% CAGR in each region and major metro over the next five years, according to GXI data.

To achieve leadership, you need a digital infrastructure that helps you leap ahead and solves for the combination of digital core, digital ecosystems and the digital edge, with an automated and flexible edge-to-cloud consumption model.

Digital leaders are moving beyond digitizing business as usual with this approach. They're designing for digital business revenue, identifying and investing in their core strengths and developing a flexible edge strategy leveraging a platform to extend digital infrastructure. These leaders have grown their digital infrastructure more in the last five quarters than in the past five years.



## The Global Interconnection Index

## **Industry Research**

The GXI forecasts how organizations are using interconnection bandwidth and distributed infrastructure to shape and scale the global digital economy. It is presented by industry and geography and supported by global deployment data.

This research explains the macro trends contributing to organizations' profit performance gap. It outlines the observed strategies/actions that all digital leaders employ to make the leap to digital transformation faster than in years past. And it provides details on the size and growth rate of digital deployment activity to inform a digital-first strategy.

Overall, GXI research shows how leaders responsible for digital transformation are focused on industry change, while disruption and market pressures are overwhelming late adopters.





## **Highlights**

## **Digital-first Is the Answer**

The number of organizations becoming digital leaders increased by 30%<sup>1</sup> despite supply chain constraints and geopolitical and economic instabilities.

## **1** Digital Growth Is Global

Interconnection bandwidth is forecast to continue growing at over 35% CAGR in each region and major metro over the next five years.<sup>1</sup>



## **Enterprises Are Becoming Digital Providers**

The forecast shows that, within two years, Enterprises will match Service Providers in growth rates and capacity deployed.



•••

## **Ecosystem Density Is the Catalyst for Speed**

Interconnected leaders have grown their digital infrastructure more in the last five quarters than in the past five years.



## The Move to the Edge Is Accelerating

Both Enterprises and Service Providers are interconnecting edge infrastructure 20% faster than the core.



## Digital as a Path to Sustainability

All industries are tapping digital to accelerate ESG objectives—even Energy & Utility, which is forecast to lead in digital growth rate for the next two years.



EQUINIX

## **Predictions**

## **BY 2025**,

85%

of global companies will expand multicloud access across several regions.

## **BY 2025,** 90%

of Fortune 500 companies will become digital providers, both selling and consuming digital services.

**BY 2026,** 80%

of G2000 companies will be digital leaders, interconnecting with 4+ Hyperscale Providers and 30+ SaaS/business partners, on average.









## **Digital Infrastructure**

The advantage of digital infrastructure comes from the combination of digital core, digital ecosystems and digital edge, with an automated and flexible edge-to-cloud consumption model.

## Digital Core

Removing traditional technology limitations, with cloud adjacent becoming the new on-prem.

# Digital Ecosystem

Capitalizing on access to digital marketplaces and ecosystems for exponential capabilities and speed.



Delivering differentiated experiences globally in proximity to population centers everywhere.



## EQUINIX

 $\bigcirc$ 

## **Recommendations**

As part of any organization's digital transformation initiative, infrastructure must be designed to enable the business to operate in the digital economy—to be a disruptor, and not one of the disrupted.

## **Digital Leaders Must Do the Following:**

## Develop a Flexible Edge Strategy

Utilize a platform to extend the organization's digital infrastructure. Don't invest in the piecemeal infrastructure at the edge.

## **Design for Digital**

When it comes to business revenue, don't just digitize business as usual.

## Design for Sustainability

Move to colocation and interconnect to ecosystem partners that share the organization's sustainability goals.

## Rethink the Core

Evolve from rigid and centralized to being adaptable and distributed.

## Invest in the Organization's Strengths

Commoditize and leverage ecosystems for everything else.



# Macro Trends in Digital

Large-scale global trends are driving a digital-first strategy

#### Appendix

## EQUINIX

# Digital Presence

Digital transformation investment levels for 2022–2024 are expected to be \$6.3 trillion and 55% of all ICT investment by the end of 2024.<sup>2</sup>

### **Macro Trend**

Business is transforming to engage and deliver value electronically. Therefore, to compete in the digital economy, organizations are shifting to digital services.

## Implications

Forces the need for a digital infrastructure optimized for proximity to, and interconnection with, networks and clouds.

Enables digital development with elastic scale. IT becomes a revenue-generating function and the basis of competitive advantage for developing connected product bundles.

<sup>2</sup>IDC FutureScape: "<u>Worldwide Digital Transformation</u> <u>2022 Predictions</u>," Doc #US47115521, Oct. 2021.



# Digital Participation

By 2023, 1 in 2 companies will generate more than 40% of their revenues from digital products and services.<sup>3</sup>

### **Macro Trend**

Digitizing trade and accessing digital marketplaces (digital B2B commerce) where goods and services are exchanged in the digital economy.

Leveraging ecosystem and network effects, optimizing collaboration and compounding business value.

## Implications

Forces the need to interconnect digital infrastructure with research communities, supply chains and marketplaces. This enables composable business models.

IT becomes a business technology broker across an ecosystem of digital services and facilitates collaboration with network effects.

<sup>3</sup>IDC FutureScape: "Worldwide Digital Transformation 2022 Predictions," Doc. #US47115521, Oct. 2021.



# 3 Digital Proximity

By 2028, the global infrastructure edge footprint will be 40 gigawatts, with 63% supporting healthcare, manufacturing, energy, retail and transportation.<sup>4</sup>

### **Macro Trend**

Digitizing the front office for localized and personalized delivery—to customers, employees and operations where business happens.

Digitizing the physical world for the physical infrastructure and operations intelligence needed to optimize commercial and environmental impact.

## Implications

Requires a digital infrastructure close to, and interconnecting with, experiences, things (IoT) and intelligent operations. This is where digital meets the physical world.

IT becomes fully integrated with operational technology (OT) to balance transparency, efficiency and sustainability with greater mobility, security and control.

<sup>4</sup>"<u>State of the Edge 2021</u>," A Market and Ecosystem Report for Edge Computing, The Linux Foundation, 2021 s Appendix





90% of executives believe sustainability is important, but only 60% of organizations have sustainability strategies.<sup>5</sup>

#### **Macro Trend**

Companies are now being held accountable by investors, employees and customers to demonstrate progress on Environmental, Social and Governance (ESG) commitments.

### Implications

Requires setting and measuring sustainability goals through science-based targets and key initiatives. IT must subscribe to the most efficient commodity services from sustainability leaders. Sustainability has become such a priority that organizations must include a dedicated section to this topic in all RFIs moving forward.

<sup>5″</sup>Why sustainability is crucial for corporate strategy,' World Economic Forum, June 9, 2022.

#### Appendix

Next Steps



# Interconnection Strategy

Leaders leverage interconnection to scale and remove distance, thereby improving their competitive advantage to realize outstanding results.

#### Appendix

Next Steps

## EQUINIX

## **Digital Requires Interconnection Oriented Architecture**<sup>®</sup>

Forward-thinking businesses have been designing their digital infrastructure around points of interconnection (the direct private exchange of data with each other) for years. This is a consistent pattern called Interconnection Oriented Architecture (IOA<sup>®</sup>), and it is key to business growth as interconnection becomes the backbone of the digital economy.

### **History of IOA**

Digital leaders and Network Service Providers have been following IOA principles for 20 years to create and scale the internet. Today, digital leaders across all industries are using this architecture and leveraging interconnection to deploy a digital core, digital ecosystems and digital edge to gain a competitive advantage. In the GXI benchmark data, locations that are primarily used to provision capacity between networks, clouds, XaaS providers and organization digital infrastructure have been identified as core metros. Edge metros are those locations primarily used as the interface between the physical and digital worlds as organizations connect to customers, edge devices and places of business and participate in local marketplaces.

## **Flexibility and Simplicity Amid Rapid Change**

Today, implementations can be entirely edge-to-cloud automated, with simplified management of infrastructure services provided in flexible compute models. This software-defined infrastructure means organizations can rewire and reconfigure business infrastructure when demand changes (as with sudden geopolitical and economic uncertainties). Digital leaders easily move into new markets, shift capacity where it's needed, add or reduce capacity to support revenue growth, and more-all with low risk and a localized advantage. It's not surprising that IOA has been such an enduring architecture in these times of rapid digital business change.

The GXI Report includes the observed strategies and deployment data of how global digital leaders, from all industries, are implementing their digital infrastructure.



## The Network as the Foundation

Instead of connecting remotely distant things back to a centralized service or cloud **(Fig.1)**, IOA is about removing the distance and directly interconnecting those services close enough to optimize bi-directional traffic exchange **(Fig 2)**.

This architecture is designed for digital business, interconnecting digital services and ecosystems in proximity to where business happens. At the same time, it keeps pace with the exponential growth of data, and it unlocks localized control over speed, scale, choice, security, reliability and efficiency.







# Forecast & Benchmark

Global deployment and market research data deliver a geographic breakdown of interconnection bandwidth growth and interconnection benchmark insights.



Next Steps

EQUINIX

Next Steps

## **Global Forecast: Industry**

The digital economy continues to accelerate globally past economic and supply chain disruption. Global interconnection bandwidth is forecast to grow at a 40% five-year CAGR reaching 27,762 Tbps, which is equivalent to 110 zettabytes of data exchanged annually.

**Digital infrastructure** 

Service Providers show the

greatest distribution of their

digital infrastructure and the

While the majority of cabinets

are in core locations, the edge

infrastructure is growing

50% faster.

largest percent of edge locations.

#### **Global Growth**

27.762 Tbps

40% CAGR

2025

2024

- 2023

2022

2021

30,000

25,000

20,000

10,000

5.000

Tbps

Enterprises

2021-2025

**Global Mix** 

57%

#### **Regional forecast**

**Service Providers** 

Service Providers are forecast to

#### consume 57% of interconnection bandwidth (15,897 Tbps). Network Providers consume the most bandwidth, and Hyperscale Providers are the fastest growing.

/NSP



Cloud & Hyperscale Content & Digital Media IT Services Providers

	Core	Edge	Total	
Average # of Metros	8	9	17	
Average # of DI* Cabinets	405	225	630	
Annual DI Growth Rate	Leaders are growing edge 1.5x faster than the digital core			

#### **Enterprises**

#### **Regional forecast**

While Enterprise industries are forecast to consume 43% of interconnection bandwidth, they are once again outpacing Service Providers. Returning to pre-pandemic growth rates, Enterprises are showing the greatest acceleration in growth in 2024 and 2025.

#### **Digital infrastructure**

The focus Enterprises have had on solving network access and cloud adjacency is evident in the fact that 60% of leaders' locations are in the core. As Enterprises re-think their business, the edge has now become the focus, with infrastructure growing over 2x faster than the core.



	Core
Average # of Metros	6
Average # of DI Cabinets	140
Annual DI Growth Rate	Leaders are g

#### 19 Equinix.com | © 2022 Equinix, Inc. #GXIreport \*Digital Infrastructure

Service

Providers







**Digital infrastructure** 

With a balanced deployment

across an average of six locations,

Providers are showing over 2x the

rate of infrastructure growth at

the edge. As Providers leverage

400/100G from core to edge,

the last mile becomes the new bottleneck, driving an increased

## **AMER Forecast: Industry**

The Americas region continues to lead the deployment of interconnection bandwidth and is forecast to grow at a 39% CAGR through 2025 to reach 13,238 Tbps, equivalent to 52 zettabytes of data exchanged annually. Enterprise sectors in the Americas are forecast to reach a higher annual deployment than Services Providers.

#### **Regional Growth**

13,238 Tbps

**39%** CAGR

2025

2024

- 2023

2022

2021

14,000

12.000

10.000

8,000

6,000

4.000

2,000

Tbps

Enterprises

#### **Regional forecast**

fastest growing.

Service Providers are forecast to consume 56% of interconnection bandwidth (7,478 Tbps). Network Providers are both the largest users of interconnection bandwidth and the

Telecommunications

/NSP

**Service Providers** 



Cloud &

IT Services

36% CAGR

35% CAGR

Hyperscale

Providers

Content &

Digital Media

Core Edge Total Average # of Metros 3 3 6 Average # of DI\* Cabinets 115 85 200 Leaders are growing edge 2.4x Annual DI Growth Rate faster than the digital core

#### **Enterprises**

#### **Regional forecast**

AMER industries are showing growth rates that indicate they are becoming digital providers. In 2025 Banking & Insurance will deploy more interconnection bandwidth than Network Providers, while Wholesale and Retail trade will deploy more bandwidth than Content & Digital Media.

#### **Digital infrastructure**

nearly 3x faster.



	Core
Average # of Metros	2
Average # of DI Cabinets	50
Annual DI Growth Rate	Leaders are g

Service

Providers

56%

2021-2025

**AMER Mix** 

#### Appendix

Enterprise leaders have expanded their edge to equal the number of locations as the core. While two-thirds of Enterprise digital infrastructure is at the core, digital edge infrastructure is growing







#### Next Steps

## **AMER Forecast: Distribution**

The large footprint of the Network, Cloud and Financial Services ecosystems continues to drive the majority of interconnection bandwidth, with 86% of bandwidth distributed across core locations. LATAM is showing the fastest growing core and edge locations.



#### Appendix

EQUINIX

**Digital infrastructure** 

digital infrastructure.

EMEA Service Providers are

on average distributed across

these are at the digital edge.

EMEA leads all other regions

in the average deployment of

six locations, and two-thirds of

## **EMEA Forecast: Industry**

Europe, Middle East and Africa makes up 25% of the global interconnection forecast and is predicted to grow at a 40% CAGR through 2025, reaching 6,972 Tbps, equivalent to 28 zettabytes of data exchanged annually. EMEA digital infrastructure deployment is 20-30% larger than other regions showing a current focus on hybrid deployments.

#### **Regional Growth**

6,972 Tbps

40% CAGR

## **Service Providers**

#### **Regional forecast**







/NSP





Cloud &	Hyperscale	Content &
IT Services	Providers	Digital Media

	Core	Edge	Total
Average # of Metros	2	4	6
Average # of DI* Cabinets	160	80	240
Annual DI Growth Rate		growing con the digital ec	

\*Digital Infrastructure

#### **Enterprises**

#### **Regional forecast**

Enterprise industries across EMEA are accelerating to peak growth rates in 2024 as organizations finally leave the pandemic behind. Securities & Trading is the largest consumer of interconnection bandwidth and will add more bandwidth than Cloud & IT, Hyperscale Providers or Content & Digital Media.

#### **Digital infrastructure**

EMEA shows the largest average deployment of digital infrastructure across core and edge locations of any region. Even with two-thirds of the infrastructure distributed across core locations, growth is slightly faster than edge, showing the demand for cloud adjacent solutions.



	Core	Edge	Total
Average # of Metros	2	2	4
Average # of DI Cabinets	60	30	90
Annual DI Growth Rate	Leaders are growing core 1.2x faster than the digital edge		

#### Next Steps Appendix







#### Next Steps

## **EMEA Forecast: Distribution**

Core locations in EMEA are growing at a 40% CAGR, making up 77% of the region's forecast. The top edge locations are expanding capacity 8-10% faster than the core, with the fastest growth in the metros adjacent to subsea mooring locations.



#### Appendix

Dubai, Madrid and Barcelona are the fastest growing edge locations with Network access as the primary use case. Stockholm is unique in EMEA with the largest percent of connection to business partners, driven by Healthcare & Life Sciences. Wholesale & Retail Trade.



## **APAC Forecast: Industry**

At 27% of the global interconnection forecast, Asia-Pacific is predicted to grow at a 40% CAGR through 2025, reaching 7,552 Tbps, equivalent to 30 zettabytes of data exchanged annually. With the fastest growing Cloud & IT and Hyperscale Providers, APAC's core locations support the larger population centers and denser ecosystems.

#### **Regional Growth**

#### **Regional forecast**

2,500

2,000

500

Tbps -

/NSP

**Service Providers** 

#### 7,552 Tbps 40% CAGR













average distributed across five locations. Growing 1.5x faster than core, one-third of Service Provider infrastructure is at the edge.



Telecommunications Cloud & Hyperscale Content & Digital Media IT Services Providers

	Core	Edge	Total
Average # of Metros	3	2	5
Average # of DI* Cabinets	130	65	195
Annual DI Growth Rate		growing edg the digital co	0

#### **Enterprises**

#### **Regional forecast**

Enterprise industries are forecast to consume 43% of regional interconnection bandwidth (3,224 Tbps). With a 58% interconnection CAGR, Energy & Utilities and Banking & Insurance are the fastest growing industries in APAC, and also globally.

#### **Digital infrastructure**

Due to the extremely large and dense population centers, Enterprises in APAC heavily leverage Providers for their digital infrastructure requirements, resulting in the smallest average infrastructure deployments. Edge deployments in APAC are accelerating 4x faster than digital core.



	Core
Average # of Metros	2
Average # of DI Cabinets	30
Annual DI Growth Rate	Leaders are g









## **APAC Forecast: Distribution**

At 78% of the region's forecast, core locations in APAC are growing at a 39% CAGR. Previously classified as an edge, Shanghai is forecast to reach 801 Tbps by 2025. With a 44% CAGR from a strong mix of Cloud & IT, Hyperscale Provider and Enterprise growth, Shanghai has now been reclassified as a digital core location.



#### Appendix

Melbourne is the fastest growing edge metro, with a 53% CAGR, and shows the largest percent mix of interconnection from Enterprise sectors. One of the largest population centers, Beijing shows nearly as much growth in 2025 as the rest of the edge



## **Methodology: Creating the GXI**

The GXI is composed of two primary components: global deployment data and market research data, including a proprietary study, supporting the interconnection forecasts and strategy.<sup>6</sup>

## **Interconnection Profiles**

Digital deployments across every region and major metropolitan area were analyzed to understand average interconnection profiles, including both local and multinational deployments across geographies.

The research sample was stratified across industries and organization size segments, providing a comprehensive breakdown of colocation subscribers and their interconnections, which were validated against digital infrastructure benchmarks.<sup>7</sup>

## **Market Conditions**

Market research assessed local and regional market conditions, including macro economic trends, market demographics and industry concentrations, to determine their impact on bandwidth provisioning.<sup>8</sup>

A primary research study was also conducted, analyzing the growth of interconnection investments by organizations across the carrier-neutral data center market. Average interconnections per organization were applied to global counts of colocation participants to identify the current volume of interconnections worldwide. This allowed for the development of a set of indicators and market condition filters to assist in producing tailored predictions.

## 

## **Predictive Models**

Predictive models combined these components to build an interconnection bandwidth growth forecast by region and market segment. Key demand drivers of digital business that force the distribution and interconnection of IT components within the proximity of users were analyzed.

Each variable was weighted to factor in its impact in driving digital business transformation. The provisioned bandwidth, as measured in gigabits per second, was estimated for interconnections used by organizations in this study.<sup>9</sup>

<sup>6</sup>This report contains forward-looking statements that involve known and unknown risks and uncertainties that may cause actual events or results to differ materially from the estimates or the results implied or expressed in such forward-looking statements.

<sup>7</sup>Deployment data includes an analysis of >500 organizations that deployed >5,000 implementations worldwide between Q12016 and Q12022. 44% of the studied organizations are F500/G2000, with a mix of local and multinational deployments across the regions (42% AMER, 36% EMEA, 22% Asia-Pacific).

<sup>8</sup>Used technology market intelligence from data sources including Synergy Research Group, IDC and Gartner.

<sup>9</sup>The methodology accounts for both physical and virtual interconnections, including those participants whose via SDN. Average interconnections per organizations were applied to global counts of colocation participants to identify the current volume of interconnections, validated against digital infrastructure growth benchmarks.

#### Appendix

Next Steps



## **Power Your Advantage**

Learn how to fuel business advantage with digital-first strategies

Leaders' Guide to Digital Infrastructure



## **Stay Future-Ready as a Digital Leader**

Explore how our global platform, product portfolio and ecosystems help digital leaders build a competitive advantage for today-and whatever comes next.

#### Vision Paper





## Forecast Global

Vertical	2021	2022	2023	2024	2025	CAGR	Mix
Enterprise	2,586	3,540	4,962	7,818	11,865	46%	43%
Service Provider	4,680	7,197	10,210	12,871	15,897	36%	57%
Total	7,266	10,737	15,172	20,689	27,762	40%	100%
Service Provider	2021	2022	2023	2024	2025	CAGR	Mix
Telecommunications	2,237	3,404	4,811	6,108	7,609	36%	27%
Cloud & IT Services	1,341	2,052	2,916	3,672	4,533	36%	16%
Hyperscale Providers	711	1,133	1,625	2,034	2,478	37%	9%
Content & Digital Media	391	608	858	1,057	1,277	34%	5%
Total	4,680	7,197	10,210	12,871	15,897	36%	<b>57%</b>
Enterprise	2021	2022	2023	2024	2025	CAGR	Mix
Banking & Insurance	683	953	1,367	2,197	3,398	49%	12%
Securities & Trading	629	824	1,116	1,701	2,516	41%	9%
Manufacturing	522	705	974	1,518	2,276	45%	8%
Energy & Utility	158	234	338	555	871	53%	3%
Wholesale & Retail Trade	160	230	331	534	821	51%	3%
Healthcare & Life Sciences	108	154	221	356	548	50%	2%
Consumer Services	104	141	197	308	462	45%	2%
Business & Professional Services	108	143	194	296	439	42%	2%
Industrial Services	69	92	129	202	303	45%	1%
Public Sector	35	49	73	118	181	51%	1%
Other Enterprises	10	15	22	33	50	50%	<1%
Total	2,586	3,540	4,962	7,818	11,865	46%	43%

Region	2021	2022	2023	
Americas	3,531	5,203	7,330	
APAC	1,943	2,884	4,087	
EMEA	1,792	2,650	3,755	
Total	7,266	10,737	15,172	2

2024	2025	CAGR	Mix
9,924	13,238	39%	48%
5,608	7,552	40%	27%
5,157	6,972	40%	25%
20,689	27,762	40%	100%



## Benchmark Global

Breakdown by Industry				Core						I	Edge
	Metros/ Customer	Cabinets/ Customer	Interconnections/ Customer	NSP	IAAS	Business Partners	Average # of Partners	Metros/ Customer	Cabinets/ Customer	Interconnections/ Customer	NSP
Telecommunications	9	440	1,240	45%	9%	47%	189	11	240	520	51%
Cloud & IT Services	7	570	405	56%	13%	31%	61	8	355	200	57%
Banking & Insurance	6	180	265	24%	9%	66%	71	4	70	65	45%
Manufacturing	6	150	150	56%	25%	19%	27	4	100	65	45%
Securities & Trading	6	260	415	29%	7%	64%	94	5	50	70	46%
Content & Digital Media	8	215	300	57%	11%	32%	62	8	110	160	58%
Business & Professional Services	6	110	70	58%	20%	21%	22	5	50	60	55%
Energy & Utilities	6	135	140	56%	17%	27%	33	4	100	50	42%
Wholesale & Retail	7	220	170	60%	18%	22%	30	4	65	80	52%
Healthcare & Life Sciences	5	75	70	55%	26%	19%	23	3	50	40	53%
Consumer Services	5	70	100	60%	22%	18%	17	3	10	10	78%
Industrial Services	6	100	125	61%	19%	20%	28	4	35	50	55%
Top Six Metros by Indus	try 1st	:	2	nd		3rd		4th		5th	
Telecommunications	Wa	shington, D.C	. Sil	icon Valley		Frankfurt		London		Singapor	re
Cloud & IT Services	Wa	shington, D.C	. Sil	icon Valley		London		Amsterd	am	Singapor	re
Banking & Insurance	Wa	shington, D.C	. Ch	nicago		London		Frankfur	t	Singapor	re
Manufacturing	Wa	shington, D.C	. Sil	icon Valley		Frankfurt		London		Singapor	re
Securities & Trading	Nev	w York	Ch	nicago		London		Frankfur	t	Singapor	re
Content & Digital Media	Silio	con Valley	W	ashington, D	D.C.	Amsterda	im	London		Sydney	
Business & Professional Services	Wa	shington, D.C	. Ne	ew York		London		Paris		Hong Ko	ng
Energy & Utility	Dal	las	Ch	nicago		London		Amsterd	am	Singapor	re
Wholesale & Retail	Wa	shington, D.C	. Sil	icon Valley		London		Frankfur	t	Singapor	re
Healthcare & Life Sciences	Wa	shington, D.C	. Sil	icon Valley		London		Frankfur	t	Singapoi	re
Consumer Services	Wa	shington, D.C	. Da	allas		London		Frankfur	t	Singapor	re
Industrial Services	Wa	shington, D.C	. Ch	nicago		London		Frankfur	t	Singapo	re

#### Appendix

	Business Partners	IAAS
77	33%	16%
36	22%	21%
21	28%	26%
16	26%	29%
23	34%	20%
40	18%	24%
19	22%	23%
17	36%	21%
23	16%	31%
13	21%	26%
5	0%	22%
12	24%	21%

#### 6th

Sydney Sydney

Hong Kong

Tokyo

Tokyo

Singapore

Sydney

Tokyo

Tokyo

Tokyo

Tokyo

Hong Kong



## Forecast Americas

Vertical	2021	2022	2023	2024	2025	CAGR	Mix
Enterprise	1,322	1,785	2,473	3,839	5,760	44%	44%
Service Provider	2,209	3,418	4,857	6,085	7,478	36%	56%
Total	3,531	5,203	7,330	9,924	13,238	39%	100%
Service Provider	2021	2022	2023	2024	2025	CAGR	Mix
Telecommunications	972	1,498	2,148	2,742	3,438	37%	26%
Cloud & IT Services	650	986	1,381	1,706	2,070	34%	16%
Hyperscale Providers	372	595	847	1,045	1,255	36%	9%
Content & Digital Media	215	339	481	592	715	35%	5%
Total	2,209	3,418	4,857	6,085	7,478	36%	56%
-	2021	2022	2023	2024	2025	CAGR	MIX
Enterprise	2021	2022	2023	2024	2025	CAGR	Mix
Banking & Insurance	464	631	885	1,392	2,115	46%	16%
Banking & Insurance Manufacturing	464 282	631 382	885 529	1,392 822	2,115 1,226	46% 44%	16% 9%
-							
Manufacturing	282	382	529	822	1,226	44%	9%
Manufacturing Securities & Trading	282 227	382 287	529 374	822 546	1,226 785	44% 36%	9% 6%
Manufacturing Securities & Trading Wholesale & Retail Trade	282 227 77	382 287 109	529 374 156	822 546 251	1,226 785 384	44% 36% 49%	9% 6% 3%
Manufacturing Securities & Trading Wholesale & Retail Trade Healthcare & Life Sciences	282 227 77 63	382 287 109 90	529 374 156 130	822 546 251 208	1,226 785 384 319	44% 36% 49% 50%	9% 6% 3% 2%
Manufacturing Securities & Trading Wholesale & Retail Trade Healthcare & Life Sciences Energy & Utility	282 227 77 63 52	382 287 109 90 77	529 374 156 130 110	822 546 251 208 176	1,226 785 384 319 271	44% 36% 49% 50% 51%	9% 6% 3% 2% 2%
Manufacturing Securities & Trading Wholesale & Retail Trade Healthcare & Life Sciences Energy & Utility Consumer Services	282 227 77 63 52 58	382 287 109 90 77 77	529 374 156 130 110 106	822 546 251 208 176 163	1,226 785 384 319 271 242	44% 36% 49% 50% 51% 43%	9% 6% 3% 2% 2% 2%
Manufacturing Securities & Trading Wholesale & Retail Trade Healthcare & Life Sciences Energy & Utility Consumer Services Business & Professional Services	282 227 77 63 52 58 41	382 287 109 90 77 77 53	529 374 156 130 110 106 70	822 546 251 208 176 163 104	1,226 785 384 319 271 242 151	44% 36% 49% 50% 51% 43% 39%	9% 6% 3% 2% 2% 2% 1%
Manufacturing Securities & Trading Wholesale & Retail Trade Healthcare & Life Sciences Energy & Utility Consumer Services Business & Professional Services Public Sector	282 227 77 63 52 58 41 26	382 287 109 90 77 77 53 37	529 374 156 130 110 106 70 55	822 546 251 208 176 163 104 89	1,226 785 384 319 271 242 151 137	44% 36% 49% 50% 51% 43% 39% 52%	9% 6% 2% 2% 2% 1%

Metros	2021	2022	2023
Core	3,037	4,473	6,280
Edge	375	547	787
Other	119	183	263
Total	3,531	5,203	7,330
Core Metros	2021	2022	2023
New York	874	1,237	1,702
Washington, D.C.	627	932	1,317
Silicon Valley	563	851	1,208
Chicago	542	802	1,120
Dallas	332	504	718
Sao Paulo	99	147	215
Total	3,037	4,473	6,280
Edge Metros	2021	2022	2023
Los Angeles	90	132	190
Toronto	59	86	127
Atlanta	60	86	122
Miami	49	69	95
Mexico City	36	53	77
Seattle	35	53	77
Houston	24	35	51
Montreal	22	33	48
Total	375	547	787

#### Appendix

2024	2025	CAGR	Mix
8,431	11,099	38%	84%
1,121	1,613	44%	12%
372	526	45%	4%
9,924	13,238	39%	100%

2024	2025	CAGR	Mix
2,321	3,108	37%	23%
1,736	2,237	37%	17%
1,603	2,083	39%	16%
1,502	1,973	38%	15%
957	1,247	39%	9%
312	451	46%	3%
8,431	11,099	38%	84%

2024	2025	CAGR	Mix
269	385	44%	3%
186	271	46%	2%
170	240	41%	2%
129	180	38%	1%
115	176	49%	1%
109	154	45%	1%
73	106	45%	1%
70	101	46%	1%
1,121	1,613	44%	12%

EQUINIX

## Benchmark Americas

\_

Breakdown by Industry				Core						I	Edge
	Metros/ Customer	Cabinets/ Customer	nterconnections/ Customer	NSP	IAAS	Business Partners	Average # of Partners	Metros/ Customer	Cabinets/ Customer	Interconnections/ Customer	NSP
Telecommunications	3	135	410	47%	10%	44%	50	4	100	200	60%
Cloud & IT Services	3	140	185	53%	12%	34%	24	3	120	80	59%
Banking & Insurance	2	60	120	17%	7%	76%	30	2	30	40	42%
Manufacturing	2	60	50	54%	24%	21%	9	2	30	20	46%
Securities & Trading	2	110	240	21%	6%	73%	47	2	15	30	34%
Content & Digital Media	3	80	160	53%	11%	36%	24	3	35	85	63%
Business & Professional Services	2	25	20	57%	23%	20%	7	2	15	20	63%
Energy & Utilities	2	40	45	60%	19%	20%	10	2	25	30	61%
Wholesale & Retail	3	60	100	60%	23%	17%	12	2	10	30	56%
Healthcare & Life Sciences	2	35	40	56%	27%	17%	9	1	10	20	54%
Consumer Services	3	20	60	30%	40%	30%	10	3	10	10	78%
Industrial Services	2	40	40	63%	21%	16%	11	2	15	30	51%
<b>Top Five Metros by Indus</b>	try 1st	:		2nd			3rd		4t	h	
Telecommunications	Wa	shington, D.C.		Silicon V	'alley		Miami		Chi	cago	
Cloud & IT Services	Wa	shington, D.C.		Silicon V	'alley		Chicago		Dal	las	
Banking & Insurance	Wa	shington, D.C.		Chicago			New York		Sili	con Valley	
Manufacturing	Wa	shington, D.C.		Silicon V	/alley		Chicago		Dal	las	
Securities & Trading	Nev	w York		Chicago			Washington, D	.C.	Tor	onto	
Content & Digital Media	Silio	con Valley		Washing	ton, D.C.		New York		Mia	mi	
Business & Professional Services	Wa	shington, D.C.		New Yor	k		Dallas		Chi	cago	
Energy & Utility	Dal	las		Chicago			Silicon Valley		Rio	de Janeiro	
Wholesale & Retail	Wa	shington, D.C.		Silicon V	'alley		Seattle		Nev	w York	
Healthcare & Life Sciences	Wa	shington, D.C.		Silicon V	'alley		São Paulo		Chi	cago	
Consumer Services	Wa	shington, D.C.		Dallas			Silicon Valley		Sea	attle	
Industrial Services	Wa	shington, D.C.		Chicago			Dallas		Tor	onto	

#### Appendix

IAAS	Business Partners	
11%	30%	29
18%	22%	13
25%	33%	9
35%	19%	6
17%	49%	11
17%	20%	13
22%	15%	6
26%	13%	7
33%	11%	8
31%	14%	5
22%	0%	5
25%	24%	6

#### 5th

New York	
New York	
Dallas	
São Paulo	
Silicon Valley	
Chicago	
Los Angeles	
Miami	
Los Angeles	
New York	
Philadelphia	
Silicon Valley	



Zurich

Dubai

Sofia

Total

Barcelona

## Forecast EMEA

\_

Vertical	2021	2022	2023	2024	2025	CAGR	Mix
Enterprise	595	830	1,174	1,871	2,881	48%	41%
Service Provider	1,197	1,820	2,581	3,286	4,091	36%	59%
Total	1,792	2,650	3,755	5,157	6,972	40%	100%
Service Provider	2021	2022	2023	2024	2025	CAGR	Mix
Telecommunications	600	906	1,274	1,624	2,028	36%	29%
Cloud & IT Services	370	560	801	1,024	1,280	36%	18%
Hyperscale Providers	150	235	337	426	523	37%	8%
Content & Digital Media	77	119	169	212	260	36%	4%
Total	1,197	1,820	2,581	3,286	4,091	36%	59%
Enterprise	2021	2022	2023	2024	2025	CAGR	Mix
Securities & Trading	191	258	359	562	855	45%	12%
Banking & Insurance	111	161	236	385	606	53%	9%
Manufacturing	79	108	150	235	358	46%	5%
Energy & Utility	55	79	111	181	283	51%	4%
Wholesale & Retail Trade	42	62	90	146	229	53%	3%
Healthcare & Life Sciences	36	51	73	119	185	51%	3%
Business & Professional Services	31	41	56	86	128	43%	2%
Consumer Services	26	37	52	83	126	48%	2%
Industrial Services	18	24	34	53	80	45%	1%
Public Sector	5	7	10	16	24	48%	<1%
Other Enterprises	1	2	3	5	7	63%	<1%
Total	595	830	1,174	1,871	2,881	48%	41%

Metro	2021	2022	2023	2024	2025	CAGR	Mix
Core	1,402	2,094	2,956	4,028	5,385	40%	77%
Edge	265	379	553	794	1,139	44%	16%
Other	125	177	246	335	448	38%	6%
Total	1,792	2,650	3,755	5,157	6,972	40%	100%
Core Metros	2021	2022	2023	2024	2025	CAGR	Mix
London	617	955	1,359	1,879	2,553	43%	37%
Frankfurt	315	459	639	859	1,128	38%	16%
Amsterdam	259	382	543	730	962	39%	14%
Paris	211	298	415	560	742	37%	11%
Total	1,402	2,094	2,956	4,028	5,385	<b>45</b> %	77%
Edge Metros	2021	2022	2023	2024	2025	CAGR	Mix
Madrid	63	96	143	210	305	48%	4%
Milan	47	70	101	142	200	44%	3%
Stockholm	49	64	93	133	189	40%	3%
Dublin	36	54	80	113	159	45%	2%

50

35

6

4

379

72

50

9

5

553

39

24

4

3

265

2024	2025	CAGR	Mix
210	305	48%	4%
142	200	44%	3%
133	189	40%	3%
113	159	45%	2%
103	149	40%	2%
72	106	45%	2%
13	20	50%	0%
8	11	38%	0%
794	1,139	44%	16%

## Benchmark EMEA

\_

Breakdown by Industry				Core						I	Edge
	Metros/ Customer	Cabinets/ Customer	Interconnections/ Customer	NSP	IAAS	Business Partners	Average # of Partners	Metros/ Customer	Cabinets/ Customer	Interconnections/ Customer	NSP
Telecommunications	3	135	460	40%	7%	53%	77	5	80	220	51%
Cloud & IT Services	2	265	120	54%	14%	32%	19	3	135	75	62%
Banking & Insurance	2	50	90	19%	8%	73%	26	1	30	15	59%
Manufacturing	2	60	50	61%	23%	16%	9	1	60	20	53%
Securities & Trading	2	80	120	24%	6%	70%	30	2	15	25	52%
Content & Digital Media	2	75	80	54%	11%	35%	19	3	35	45	65%
Business & Professional Services	2	65	30	57%	18%	25%	8	2	10	15	56%
Energy & Utilities	2	75	60	57%	19%	24%	13	1	65	10	43%
Wholesale & Retail	2	125	40	67%	19%	14%	8	1	35	10	57%
Healthcare & Life Sciences	1	25	20	54%	30%	16%	6	1	20	10	56%
Consumer Services	1	15	10	50%	25%	25%	4	0	0	0	0%
Industrial Services	2	50	70	57%	15%	28%	10	2	20	20	59%
Top Five Metros by Indu	stry 1st	t		2nd			3rd		4t	h	
Telecommunications	Fra	nkfurt		London			Amsterdam		Pai	ris	
Cloud & IT Services	Lor	ndon		Amster	dam		Frankfurt		Pai	Paris	
Banking & Insurance	Lor	ndon		Frankfu	ırt		Amsterdam		Pai	ris	
Manufacturing	Fra	nkfurt		London			Amsterdam		Pai	ris	
Securities & Trading	Lor	ndon		Frankfu	ırt		Zurich		An	nsterdam	
Content & Digital Media	Am	nsterdam		London			Frankfurt		Pai	ris	
Business & Professional Services	Lor	ndon		Paris			Frankfurt		An	nsterdam	
Energy & Utility	Lor	ndon		Amstero	dam		Paris		Mil	an	
Wholesale & Retail	Lor	ndon		Frankfu	ırt		Amsterdam		Ma	nchester	
Healthcare & Life Sciences	Lor	ndon		Frankfu	ırt		Dublin		An	nsterdam	
Consumer Services	Lor	ndon		Frankfu	irt		Amsterdam		Wa	irsaw	
Industrial Services	Lor	ndon		Frankfu	rt		Amsterdam		Zu	rich	

#### Appendix

IAA	s Busines Partne	
9%	40%	35
16%	22%	13
21%	20%	6
33%	5 14%	6
17%	31%	7
19%	16%	14
16%	29%	6
0%	57%	4
29%	5 14%	4
22%	22%	4
0%	0%	0
16%	25%	6

#### 5th

Stockholm
Dublin
Milan
Dublin
Paris
Stockholm
Madrid
Madrid
Paris
Stockholm
Stockholm
Stockholm



## Forecast APAC

Vertical	2021	2022	2023	2024	2025	CAGR	Mix
Enterprise	669	925	1,315	2,108	3,224	48%	43%
Service Provider	1,274	1,959	2,772	3,500	4,328	36%	57%
Total	1,943	2,884	4,087	5,608	7,552	40%	100%
Service Provider	2021	2022	2023	2024	2025	CAGR	Mix
Telecommunications	665	1,000	1,389	1,742	2,143	34%	28%
Cloud & IT Services	321	506	734	942	1,183	39%	16%
Hyperscale Providers	189	303	441	563	700	39%	9%
Content & Digital Media	99	150	208	253	302	32%	4%
Total	1,274	1,959	2,772	3,500	4,328	36%	57%
Enterprise Securities & Trading	2021	2022	<b>2023</b> 383	<b>2024</b> 593	<b>2025</b> 876	<b>CAGR</b> 43%	
Enterprise	2021	2022	2023	2024	2025	CAGR	Mix
Manufacturing							12%
nanalactaring	161	215	295	461	692	44%	12% 9%
Banking & Insurance	161	215 161	295 246	461 420	692 677	44% 58%	
-							9%
Banking & Insurance	108	161	246	420	677	58%	9% 9%
Banking & Insurance Energy & Utility	108 51	161 78	246 117	420 198	677 317	58% 58%	9% 9% 4%
Banking & Insurance Energy & Utility Wholesale & Retail Trade	108 51 41	161 78 59	246 117 85	420 198 137	677 317 208	58% 58% 50%	9% 9% 4% 3%
Banking & Insurance Energy & Utility Wholesale & Retail Trade Business & Professional Services	108 51 41 36	161 78 59 49	246 117 85 68	420 198 137 106	677 317 208 160	58% 58% 50% 45%	9% 9% 4% 3% 2%
Banking & Insurance Energy & Utility Wholesale & Retail Trade Business & Professional Services Industrial Services	108 51 41 36 24	161 78 59 49 33	246 117 85 68 47	420 198 137 106 75	677 317 208 160 114	58% 58% 50% 45% 48%	9% 9% 4% 3% 2% 2%
Banking & Insurance Energy & Utility Wholesale & Retail Trade Business & Professional Services Industrial Services Consumer Services	108 51 41 36 24 20	161 78 59 49 33 27	246 117 85 68 47 39	420 198 137 106 75 62	677 317 208 160 114 94	58% 58% 50% 45% 48% 47%	9% 9% 4% 3% 2% 2% 1%
Banking & Insurance Energy & Utility Wholesale & Retail Trade Business & Professional Services Industrial Services Consumer Services Healthcare & Life Sciences	108 51 41 36 24 20 9	161 78 59 49 33 27 13	246 117 85 68 47 39 18	420 198 137 106 75 62 29	677 317 208 160 114 94 44	58% 58% 50% 45% 48% 47% 48%	9% 9% 4% 3% 2% 2% 1%

Metros	2021	2022	2023	2024	2025	CAGR	Mix
Core	1,603	2,372	3,336	4,507	5,928	39%	79%
Edge	270	409	605	899	1,349	50%	18%
Other	70	103	146	202	275	41%	4%
Total	1,939	2,878	4,078	5,594	7,530	40%	100%
Core Metros	2021	2022	2023	2024	2025	CAGR	Mix
Токуо	499	719	1,017	1,358	1,758	37%	23%
Singapore	402	597	816	1,094	1,429	37%	19%
Hong Kong	265	398	569	763	998	39%	13%
Sydney	252	369	521	713	942	39%	13%
Shanghai	185	289	413	579	801	44%	11%
Total	1,603	2,372	3,336	4,507	5,928	43%	<b>79</b> %
Edge Metros	2021	2022	2023	2024	2025	CAGR	Mix
Beijing	110	174	259	385	577	51%	8%
Seoul	41	59	88	129	189	47%	3%
Mumbai	32	47	71	106	160	50%	2%
Osaka	34	48	69	101	149	45%	2%
Guangzhou, Shenzhen	24	39	57	85	128	52%	2%
Melbourne	17	24	36	57	94	53%	1%
Jakarta	12	18	25	36	52	44%	1%
Total	270	409	605	899	1,349	50%	18%

2024	2025	CAGR	Mix
4,507	5,928	39%	79%
899	1,349	50%	18%
202	275	41%	4%
5,594	7,530	40%	100%

## Benchmark APAC

\_

Breakdown by Industry				Core						E	Edge
	Metros/ Customer	Cabinets/ I Customer	Interconnections/ Customer	NSP	IAAS	Business Partners	Average # of Partners	Metros/ Customer	Cabinets/ Customer	Interconnections/ Customer	NSP
Telecommunications	3	170	370	49%	9%	43%	62	2	60	100	42%
Cloud & IT Services	2	165	100	60%	14%	25%	18	2	100	45	49%
Banking & Insurance	2	70	55	36%	13%	50%	15	1	10	10	35%
Manufacturing	2	30	50	53%	28%	18%	9	1	10	25	37%
Securities & Trading	2	70	55	42%	10%	48%	17	1	20	15	52%
Content & Digital Media	3	60	60	65%	11%	25%	19	2	40	30	46%
Business & Professional Services	2	20	20	62%	20%	18%	7	1	25	25	46%
Energy & Utilities	2	20	35	51%	12%	37%	10	1	10	10	23%
Wholesale & Retail	2	35	30	54%	13%	33%	10	1	20	40	44%
Healthcare & Life Sciences	2	15	10	56%	22%	22%	8	1	20	10	50%
Consumer Services	1	35	30	90%	10%	0%	3	0	0	0	0%
Industrial Services	2	10	15	64%	19%	17%	7	0	0	0	0%
Top Five Metros by Indu	stry 1st	t		2nd			3rd		4t	h	
Telecommunications	Sir	igapore		Sydney			Hong Kong		Tol	(yo	
Cloud & IT Services	Sir	igapore		Sydney			Tokyo		Но	ng Kong	
Banking & Insurance	Sir	igapore		Hong K	ong		Sydney		Toł	«уо	
Manufacturing	Sir	igapore		Tokyo			Hong Kong		Syd	dney	
Securities & Trading	Sir	igapore		Tokyo			Hong Kong		Syd	dney	
Content & Digital Media	Syd	dney		Singapo	ore		Tokyo		Но	ng Kong	
Business & Professional Services	Но	ng Kong		Sydney			Singapore		Sha	anghai	
Energy & Utility	Sir	igapore		Tokyo			Sydney		Per	rth	
Wholesale & Retail	Sin	igapore		Tokyo			Hong Kong		Syd	dney	
Healthcare & Life Sciences	Sir	igapore		Tokyo			Shanghai		Но	ng Kong	
Consumer Services	Sir	igapore		Tokyo			Sydney		Sha	anghai	
Industrial Services	Sin	gapore		Hong K	ong		Shanghai		Tol	(yo	

Rounding may affect totals.

#### Appendix

verage # f Partners	Business Partners	IAAS
13	29%	28%
10	23%	29%
6	32%	32%
4	44%	19%
5	21%	27%
13	19%	35%
7	24%	30%
6	38%	38%
11	24%	32%
4	25%	25%
0	0%	0%
0	0%	0%

#### 5th

Melbourne
Melbourne
Osaka
Shanghai
Melbourne
Osaka
Токуо
-
Shanghai
Osaka
Hong Kong
Sydney

