The Evolution of Android in the Enterprise

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A Closer Look at Android Enterprise Adoption Trends

Evolution of U.S. enterprise smartphone market

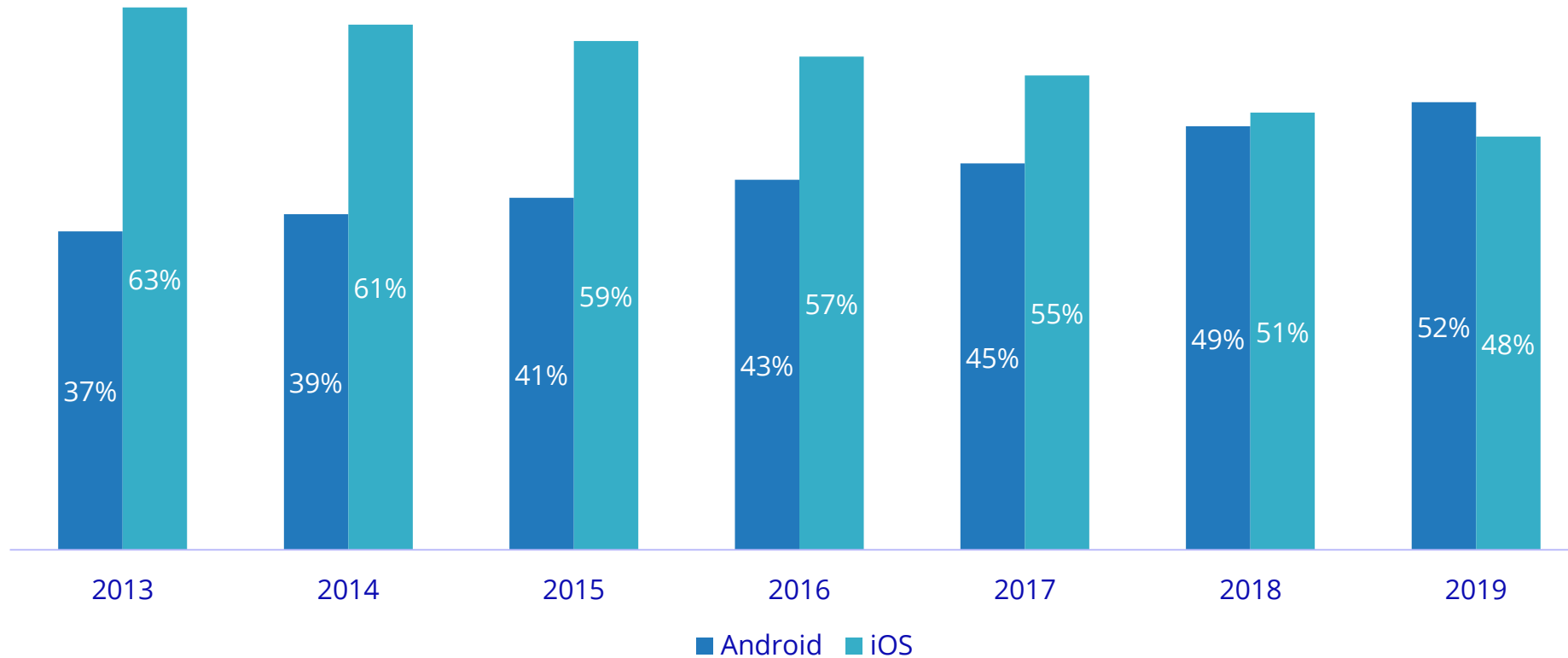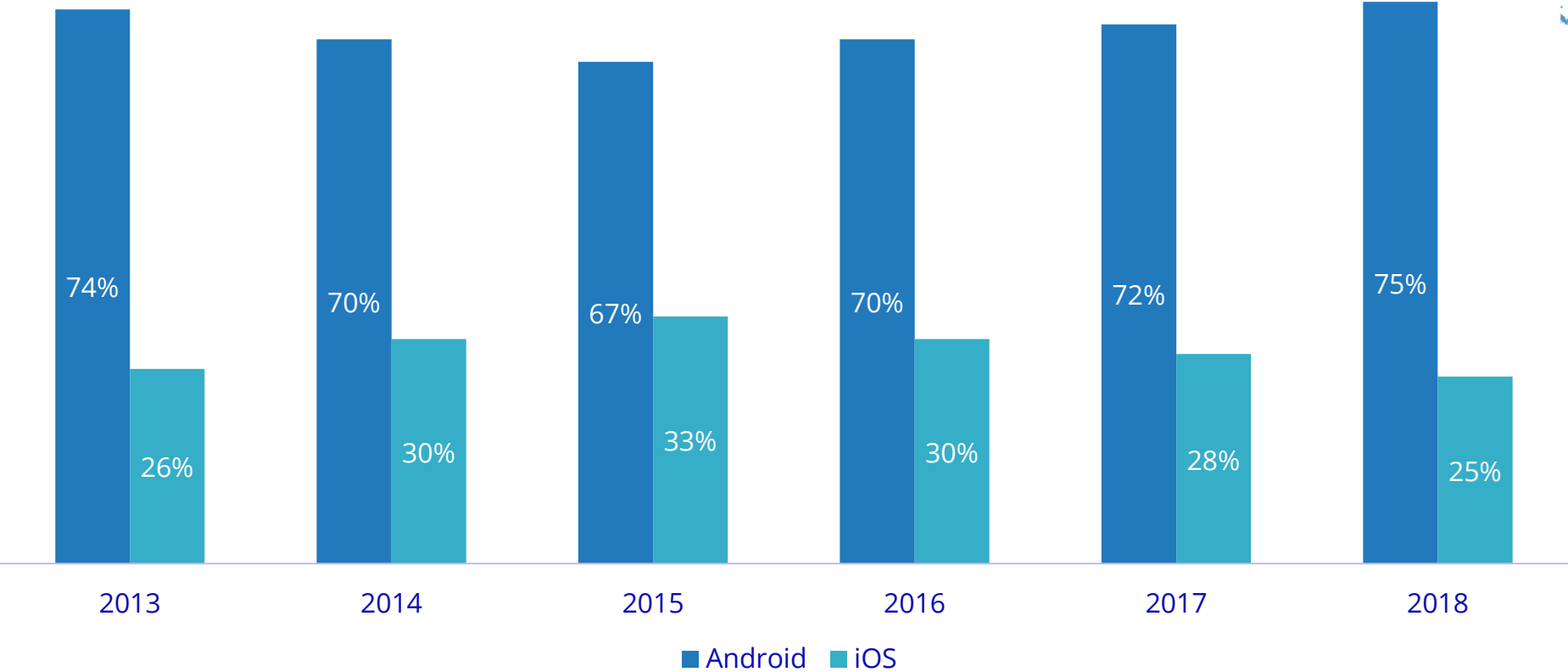2009   2014/2015   2019

U.S. Android share of business devices now matching/surpassing iOS

U.S. corporate-liable and BYOD device installed base: Android vs. iOS

	2013	2014	2015	2016	2017	2018	2019
Android	37%	39%	41%	43%	45%	49%	52%
iOS	63%	61%	59%	57%	55%	51%	48%

■ Android ■ iOS

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Excluding U.S., Android has dominated worldwide corporate-liable device market for many years

Corporate-liable device installed base: Android vs. iOS: All Regions ex-USA


Year	Android	iOS
2013	74%	26%
2014	70%	30%
2015	67%	33%
2016	70%	30%
2017	72%	28%
2018	75%	25%

■ Android ■ iOS

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CYOD is the new normal: Android tops CYOD choice

Enterprise CYOD plans

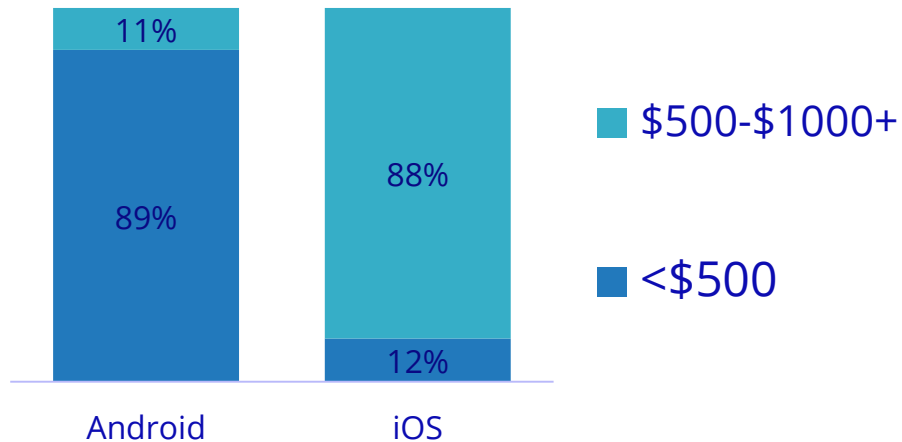Does your organization support a Choose Your Own Device option for employee smartphones?

Yes, 58%
No but plan to, 23%
No, no plans, 18%
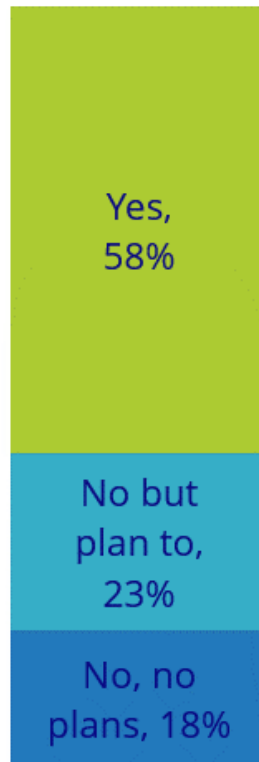
What mobile operating system is most commonly favored in CYOD deployments?

Android, 53%

iOS, 39%
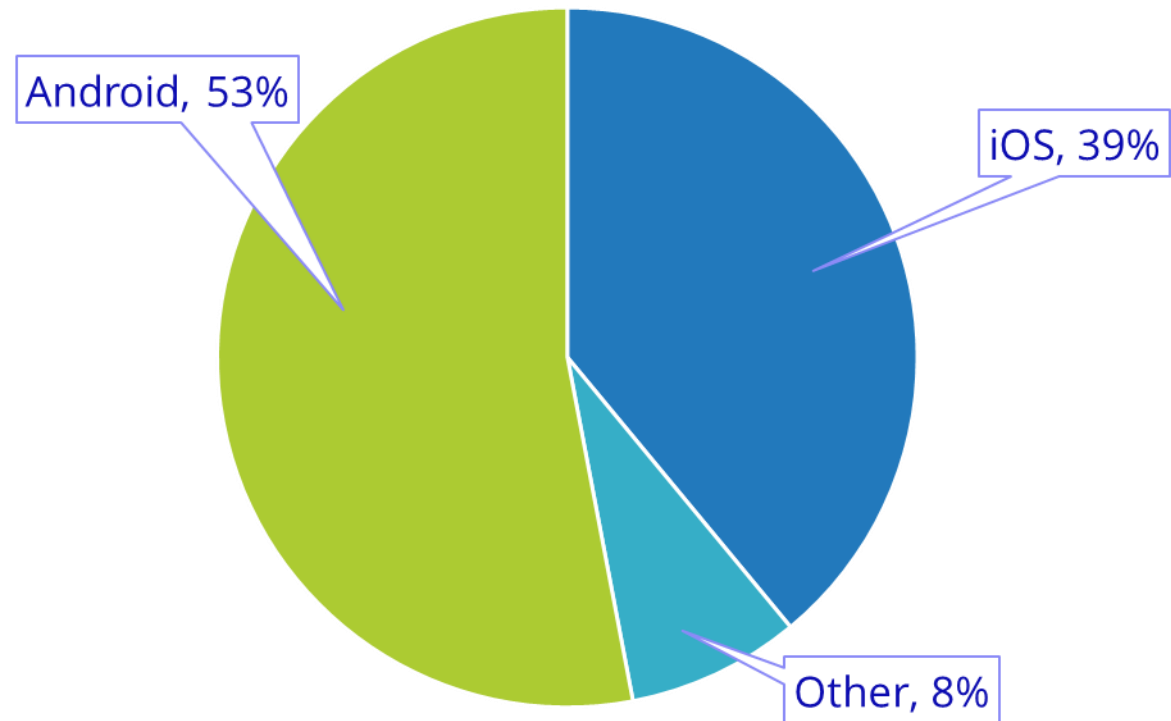
Other, 8%

Other drivers for Android enterprise growth

% of device shipments by
price range, 2018

■ $500-$1000+

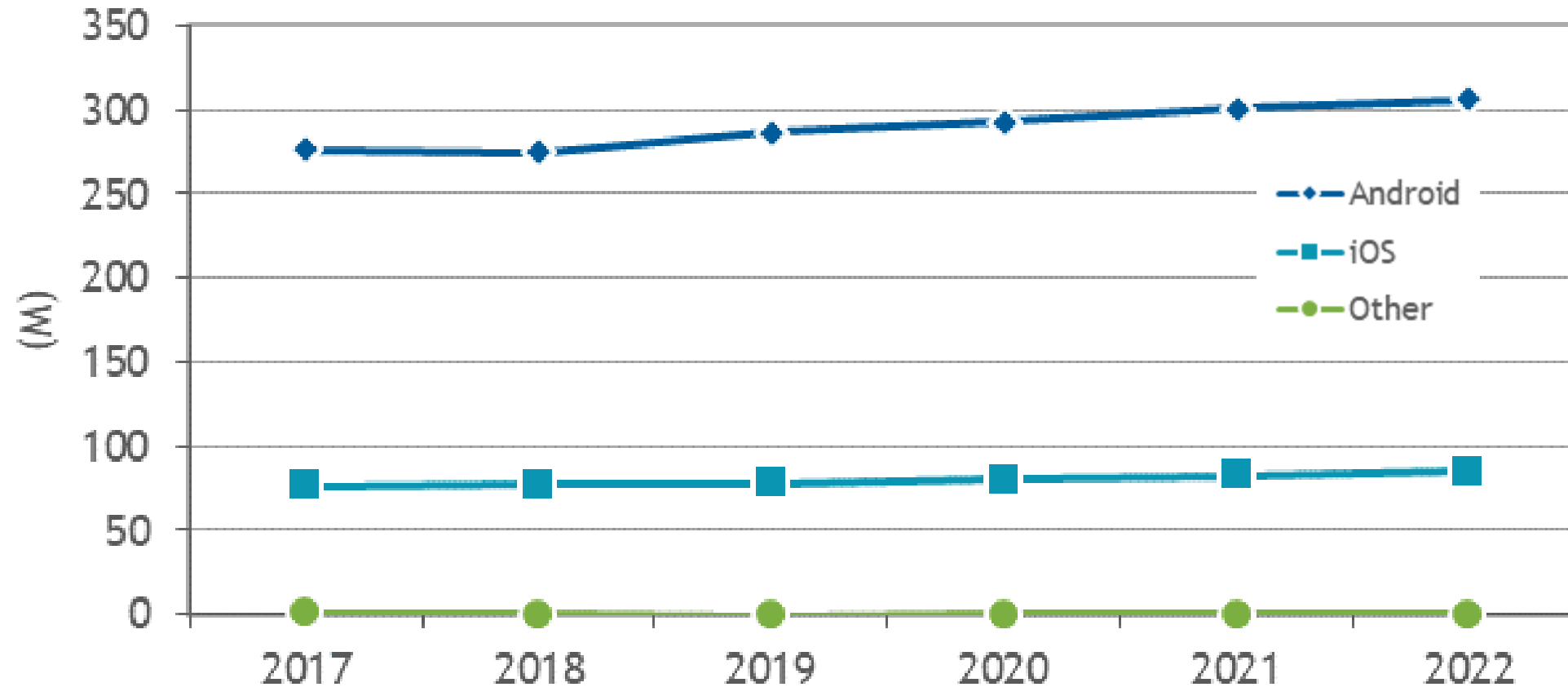■ <$500

Android   iOS

Price points

▪ Android offers a broader range
  of devices at lower price points
  for large-scale enterprise
  deployments.

Device & use case diversity

▪ Diversity of price points and form factors
  opens up net-new deployment
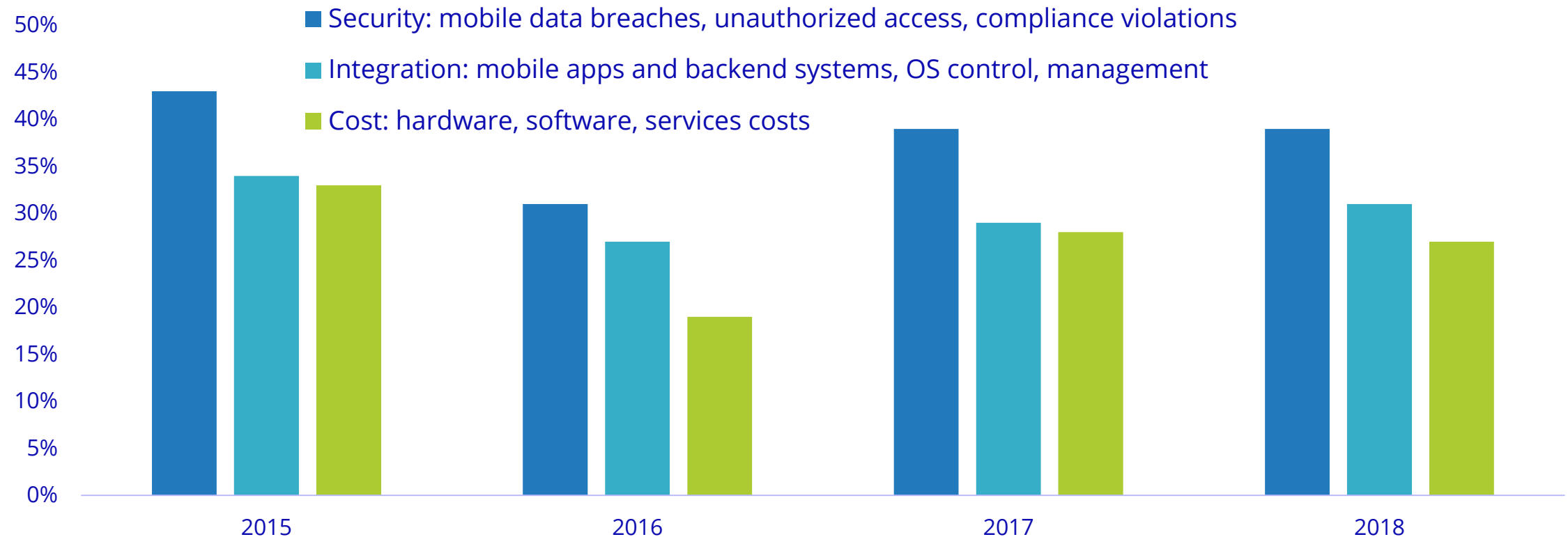 opportunities in business mobility
  scenarios.

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# Worldwide business-use smartphone forecast

Mobile Security Trends

Top 3 mobility challenges are the same every year

Legend:
- Security: mobile data breaches, unauthorized access, compliance violations
- Integration: mobile apps and backend systems, OS control, management
- Cost: hardware, software, services costs

Bar chart showing percentages for Security, Integration, and Cost across years 2015–2018:

Year	Security	Integration	Cost
2015	43%	34%	33%
2016	31%	27%	19%
2017	39%	29%	28%
2018	39%	31%	27%

- Other challenges: user adoption; lack of IT support/resources; vendor shortcomings; complexity

User activity, not device vulnerability, are focus of top mobile security issues
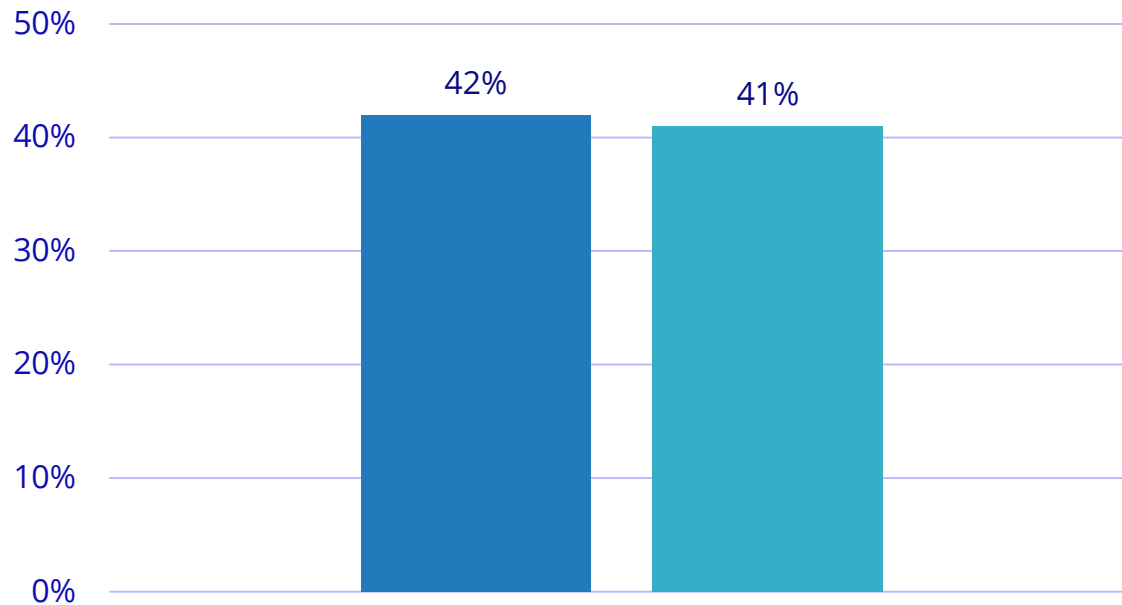
What mobile-related security incidents have you experienced over the past 12 months?
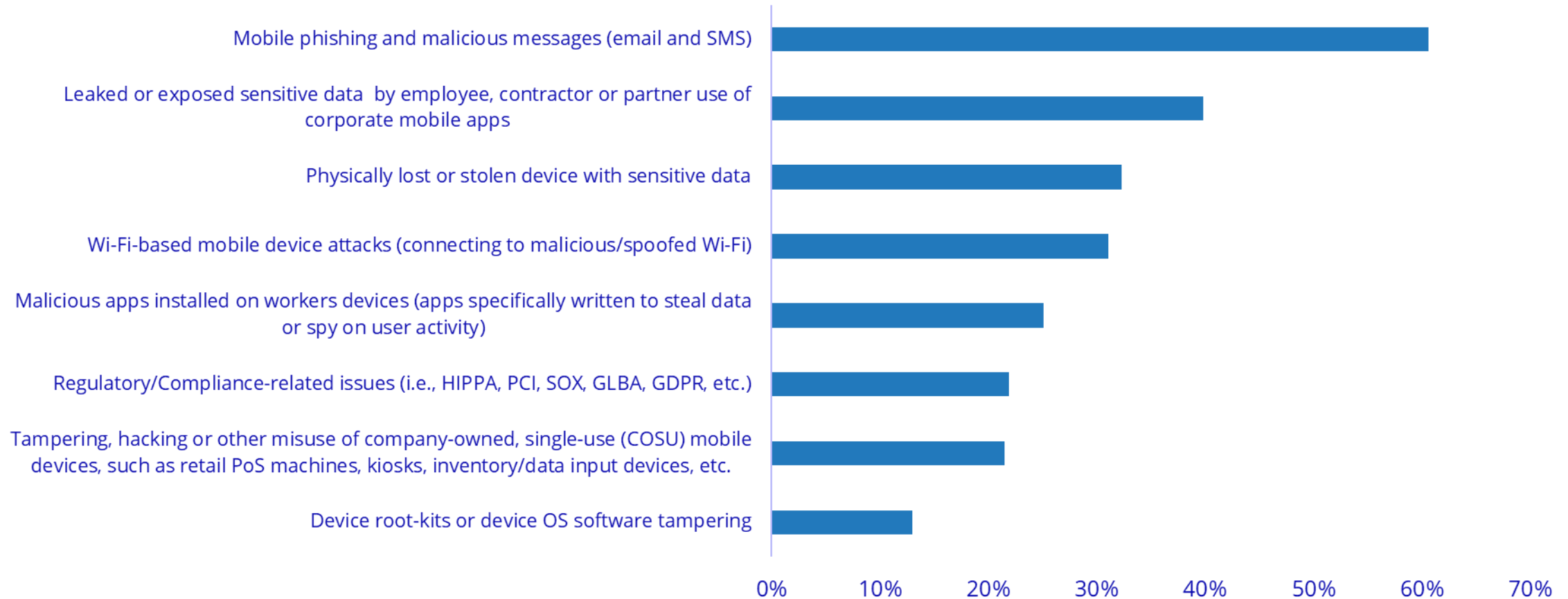
# Security incidents are largely mobile OS agnostic

Respondents who said security was their top mobility challenge

- iOS-majority deployments (greater than 50% of devices deployed)
- Android-majority deployments (greater than 50% of devices deployed)

Also, the narrative that enterprises deploying Android devices at scale experience more security incidents is not supported by data; in some cases, it's the opposite

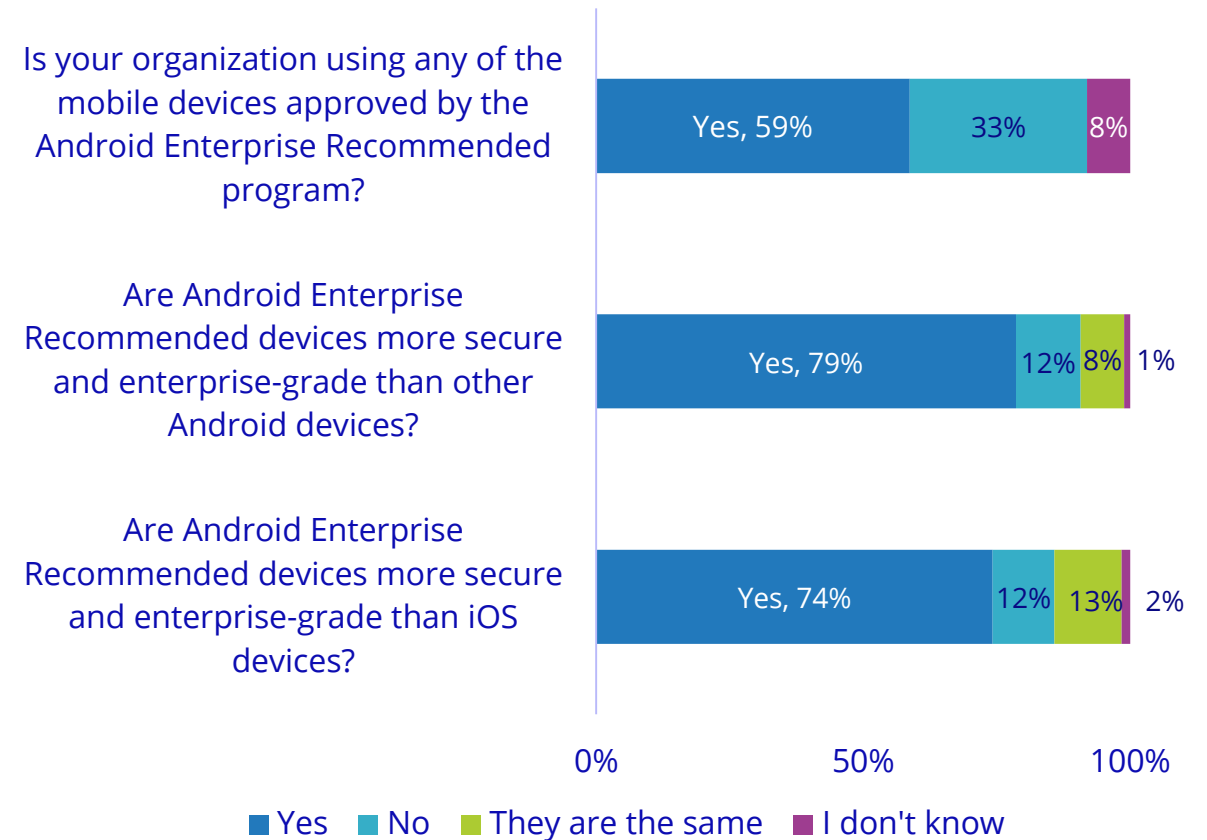**Frequency of incidents among Android- and iOS-majority enterprises**

- iOS
- Android

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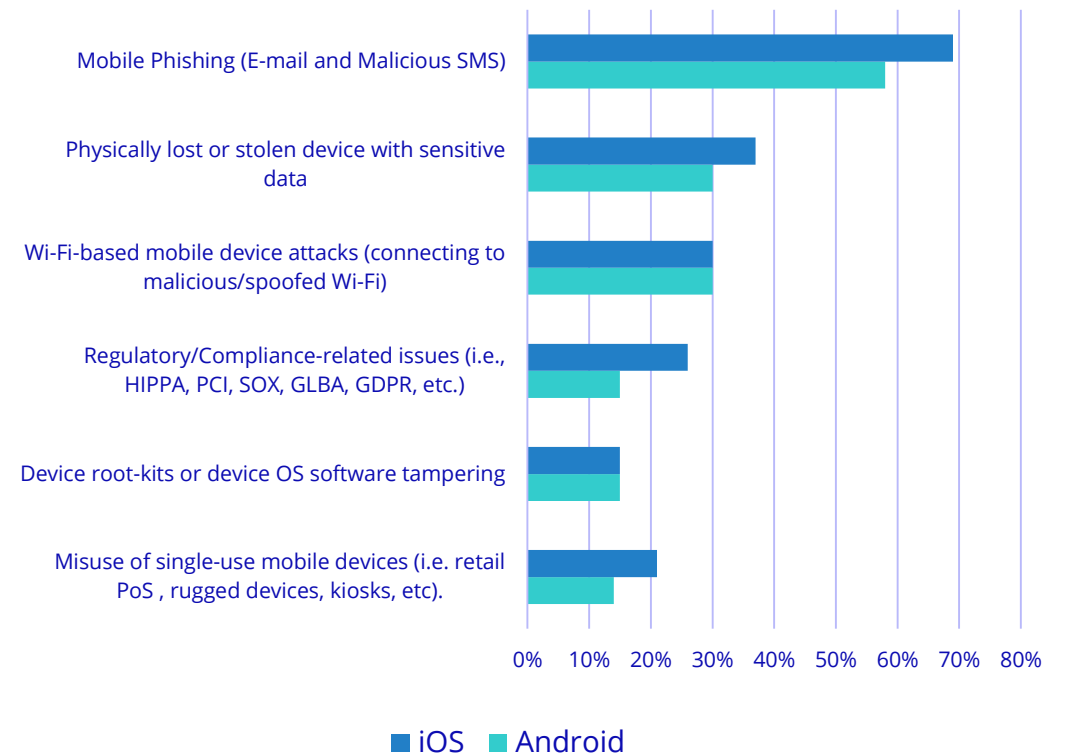
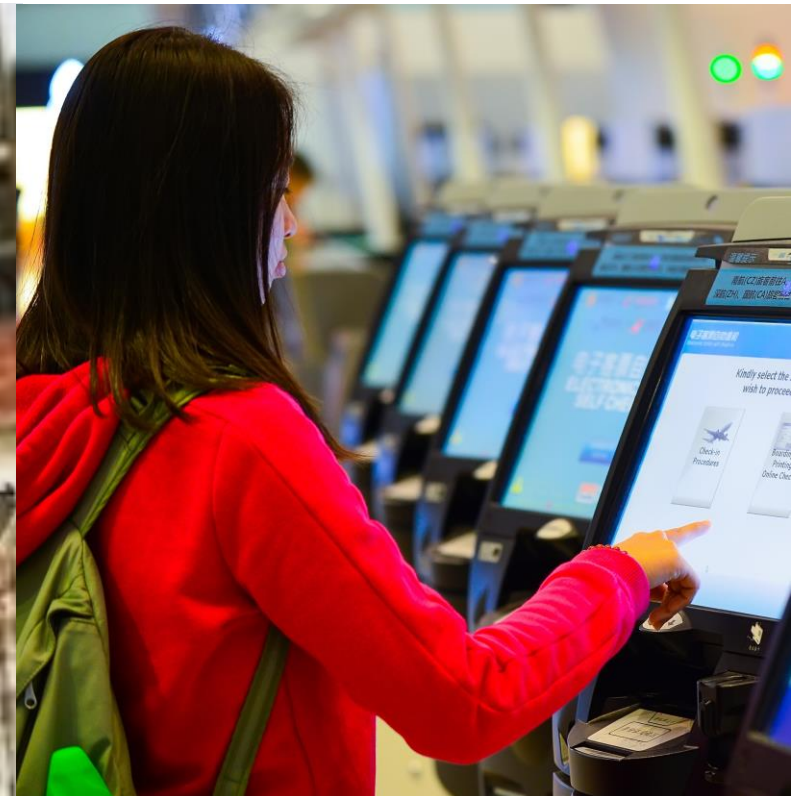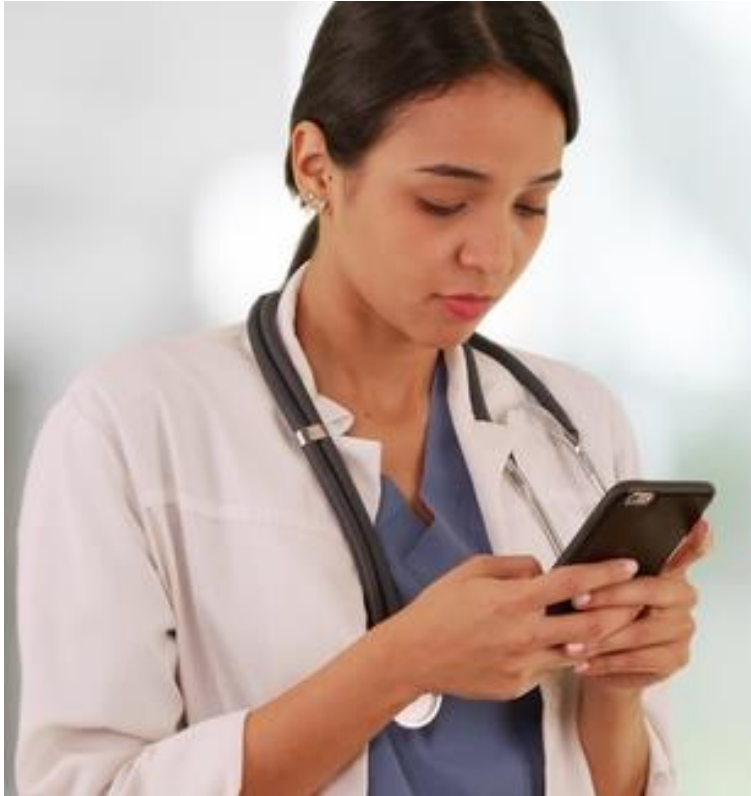# Not all Android devices are equally secure, in the eyes of IT

- **Google's Android Enterprise Recommended (AER) initiative**
  - A program for Android device OEMs and service providers where configuration and security guidelines are a prerequisite
    - Periodic OS patches and security updates required
    - Common look and feel, UX, default apps, etc.
    - Support for enterprise-focused services (zero touch enrolment)

Usage and perceptions about AER devices

Is your organization using any of the mobile devices approved by the Android Enterprise Recommended program?
Yes, 59% | 33% | 8%

Are Android Enterprise Recommended devices more secure and enterprise-grade than other Android devices?
Yes, 79% | 12% | 8% | 1%

Are Android Enterprise Recommended devices more secure and enterprise-grade than iOS devices?
Yes, 74% | 12% | 13% | 2%

0%   50%   100%

■ Yes ■ No ■ They are the same ■ I don't know

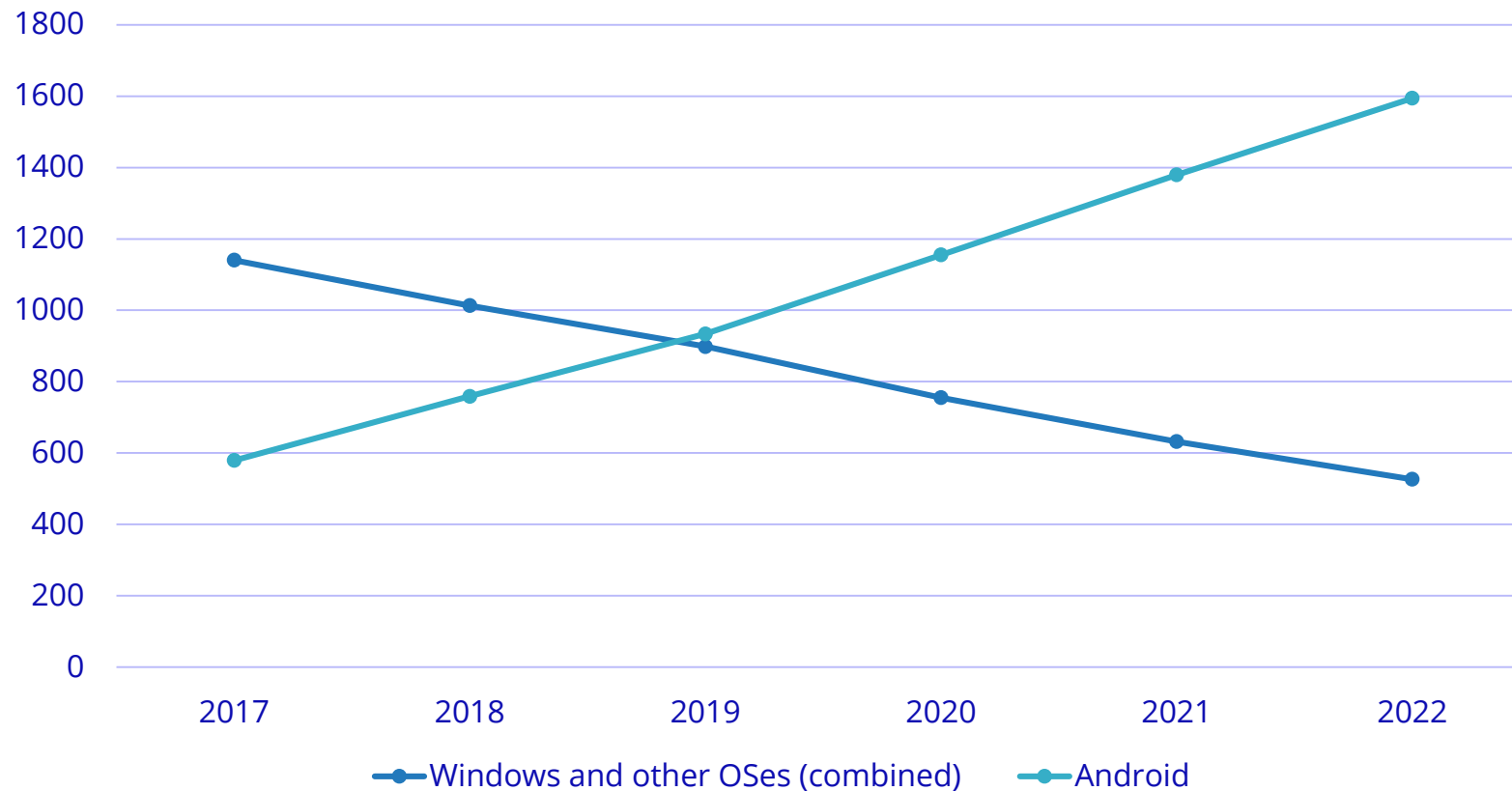# Emerging Android opportunities and use cases

Trends in rugged device adoption

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Android poised to take over rugged device space

Worldwide Rugged Mobile Device Forecast, 2018-2022

Android Rugged Device Growth Drivers

- Existing/legacy rugged device replacement (Windows CE, etc) with Android devices
- Net new use cases for Android rugged devices

Legend: Windows and other OSes (combined) — Android

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Shifting workloads from PCs to mobiles

Has your organization considered replacing PC with smartphones for certain workloads?

- Frontline worker scenarios
- Data input, task-oriented work
- Content creation, editing, production
- Collaboration and productivity tools
- Vertical/industry-specific apps

Yes, we have already deployed it, 20.0%

Yes, we are doing trials, 39.2%

No, but we are planning to, 22.0%
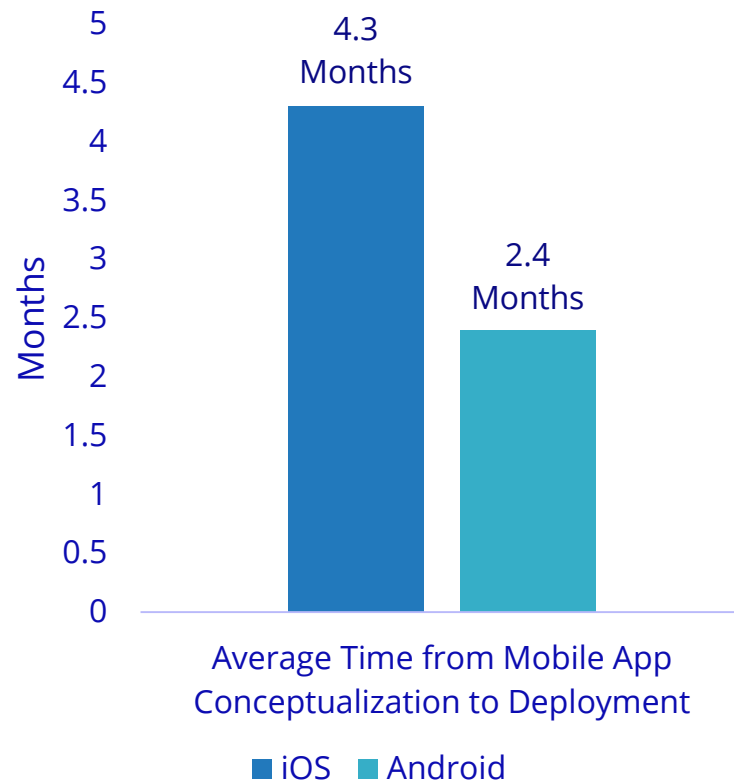
No and we have no plans to, 17.2%

Don't know, 1.6%

The Android DX opportunity

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Enterprise mobile app development trends

Average time it takes to create enterprise apps: Android vs. iOS

4.3 Months

2.4 Months

Months

Average Time from Mobile App Conceptualization to Deployment

■ iOS ■ Android

Businesses develop custom apps faster, and with better business outcomes, on Android

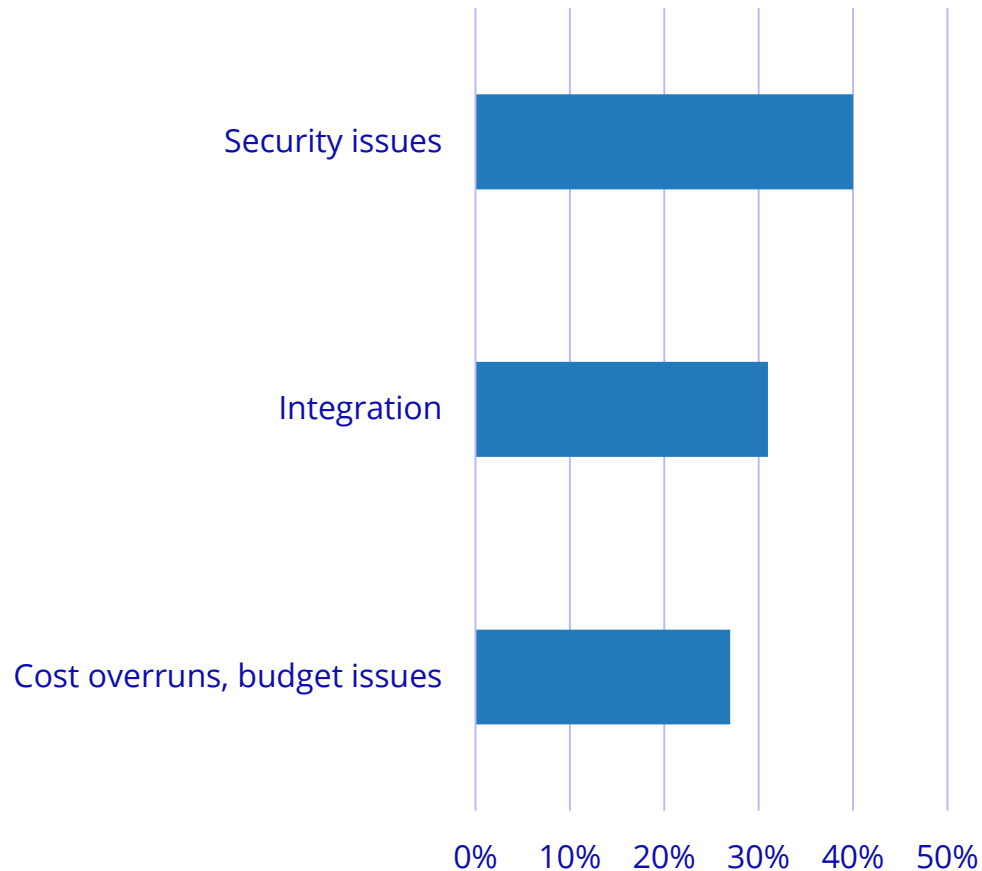## Organizations whose mobile deployments "exceeded" expectations

55%

45%

Type of Custom Mobile Apps Used for Organizations Whose Expectations Were Exceeded

■ iOS ■ Android

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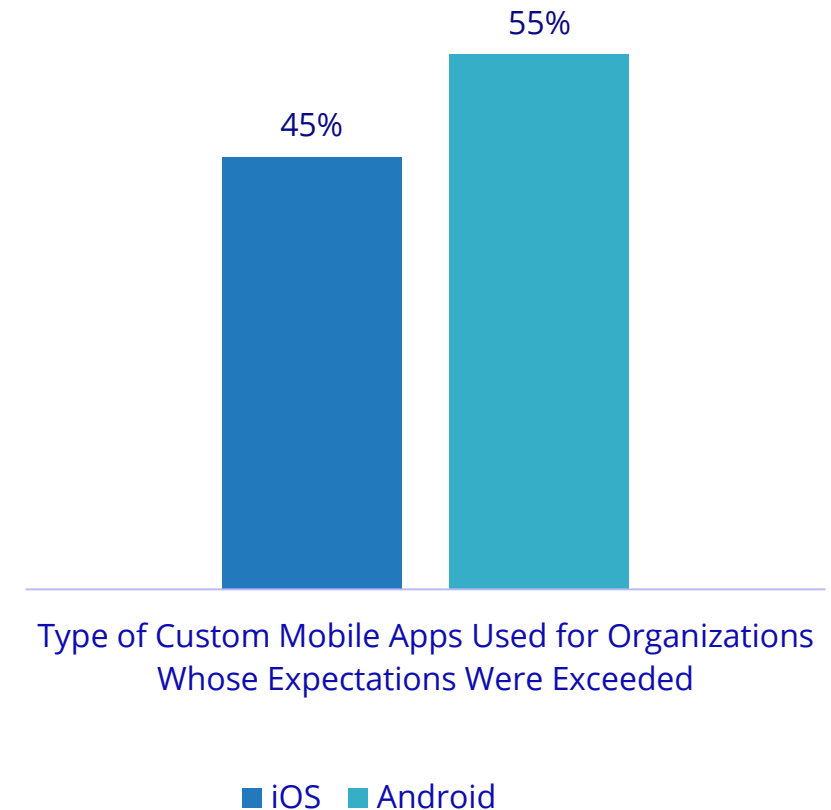
Examples of top IDC DX use cases by vertical

Industry	Use Case	Enabling Technologies Needed	Use Case Summary
Banking	Digital marketing	Real-time (or near-real-time) data; Interactive kiosks; digital signage	Create a more engaging marketing environment in the local branch that speaks directly to the consumer and small business customer visiting the location.
	Mobile branch staff	Mobile apps & devices (calendaring, queuing, customer authentication); Integrated automated and staffed	Empower branch staff to provide a fluid environment in the branch to "come to the customer" and better enable greeter services: queue busting, remote experts.
Manufacturing	Smart warehousing	Robotics, AR/VR, cloud, cognitive, and mobile	Tightly integrated process workflow and physical automation provide augmented and autonomous execution in the warehouse.
	Transportation optimization	Cognitive, IoT, robotics, and industry cloud	This real-time contextual model balances long-term cost optimization with near-term service levels.
Retail & Hospitality	Mobile inventory information management	Cloud, mobile, inventory systems, and mobile apps	Hospitality partners can serve consumer needs easily and help increase the efficiency of the hotel by having interconnected systems with reliable inventory information at their fingertips.
	Mobile task management	Mobile device, task management software, mobile apps, and IoT	Provide digitization and automation of the task management function.
	Mobile customer engagement	Mobile payments, omni-channel commerce, wearables, other mobile apps, mobile devices, and IoT	Use the mobile-first approach to customer engagement, providing multiple mobile touch points for customers and equipping the sales associate with clienteling tools
Utilities & Energy	Connected safety wear	Cloud, analytics, cognitive, social, sensors, communications	Use sensors to ensure that workers are wearing all necessary safety equipment for the right jobs.
	Virtual muster	Cloud, analytics, cognitive, social, sensors, communications	Workers wear locators, sensors or smartphones so that safety and emergency staff immediately know worker location/status.

Complex use cases require new partners types

Top Challenges

Security issues — 40%

Integration — 31%

Cost overruns, budget issues — 27%

(x-axis: 0% 10% 20% 30% 40% 50%)

Most Critical Partners: 3 Years Ago & Now

2015
- 40%
- 23%
- 25%
- 8%
- 4%

2018
- 32%
- 18%
- 33%
- 16%
- 1%

- ■ Mobile Operators (AT&T, Verizon Wireless, Sprint)
- ■ Device OEMs (Samsung, Apple, Zebra)
- ■ System Integrators and VARs (Accenture, DXC, Capgemini)
- ■ ISVs (SAP, IBM, Microsoft)
- ■ Don't know
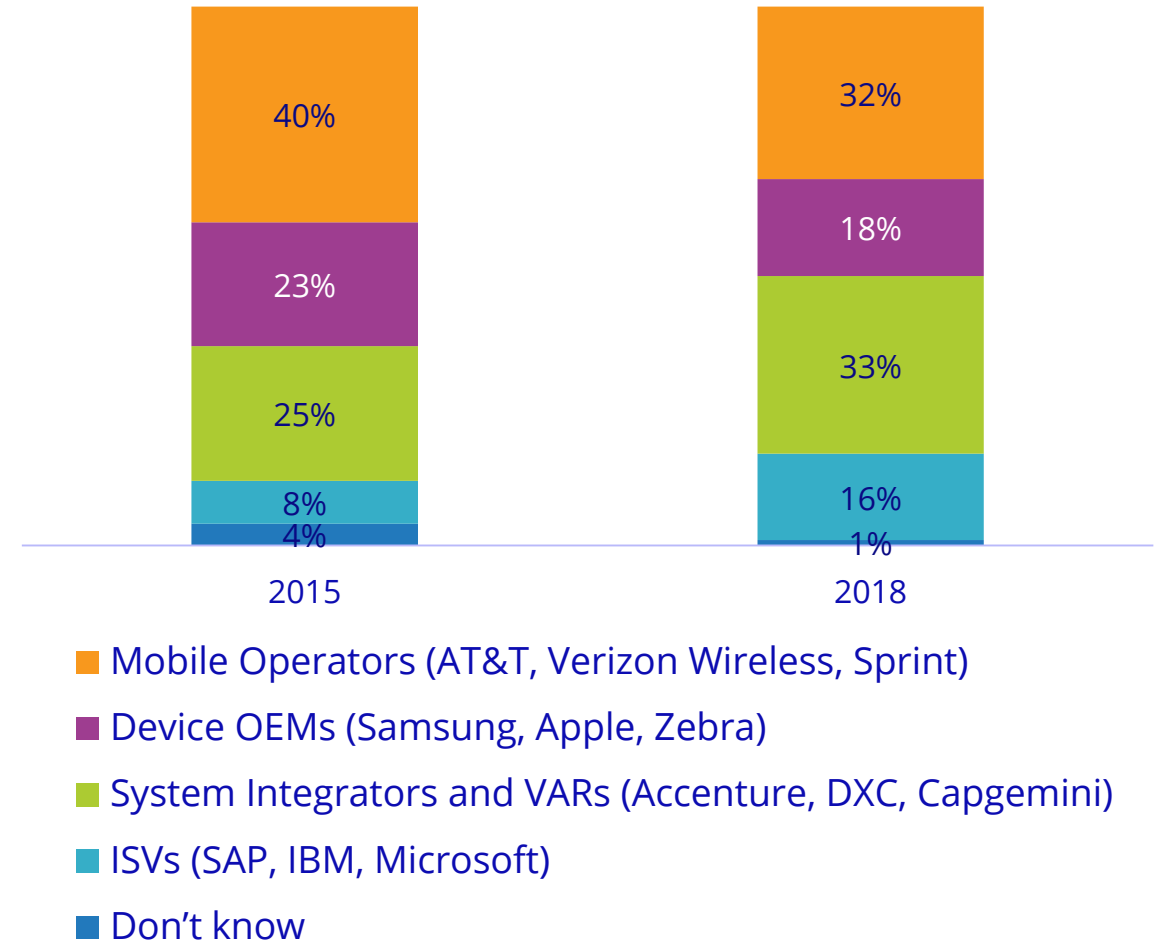
Conclusions and Recommendations

Conclusions

- Enterprises should view Android as a business-class mobile OS

- Android security concerns have diminished

- Device form factor and diversity of Android allow for broader deployment scenarios

- DX use cases with mobile/Android start to emerge

Recommendations

- Identify mobile technology use cases beyond the traditional "mobile worker"

- Consider mobile device deployments in new areas; PC replacement, digital signage, kiosk, other net-new deployment opportunities

- Look to technology partners with strong expertise (hardware, software, services) for advanced, DX-focused mobile initiatives

Questions?

- **More information**
  - Android/IDC Microsite
  - Whitepapers, videos and other content