

# IoT DEVELOPER SURVEY RESULTS

April 2018



# SURVEY INTRODUCTION

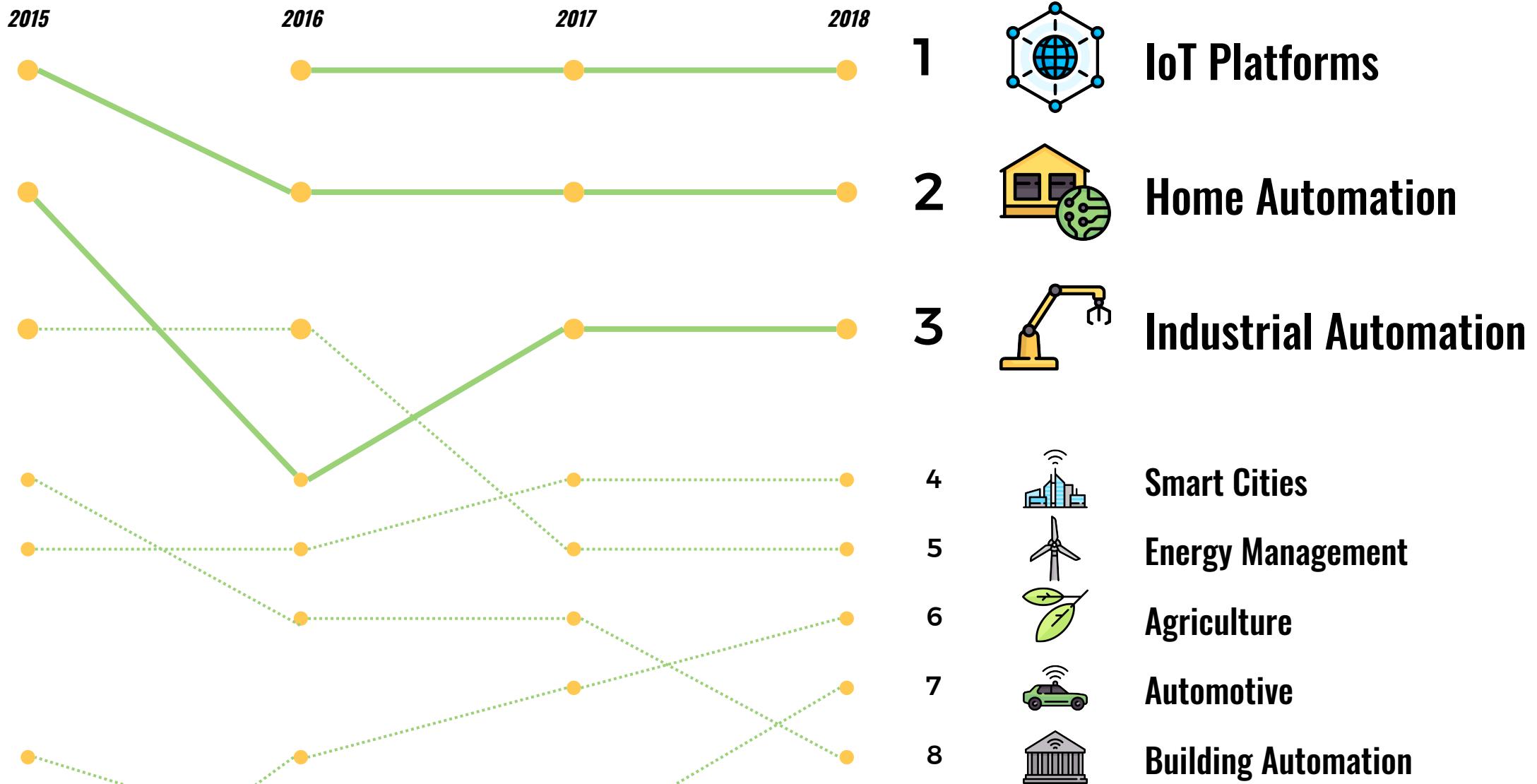
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- The **Eclipse IoT Working Group, AGILE IoT, IEEE, and the Open Mobile Alliance** co-sponsored an online survey to better understand how developers are building IoT solutions.
- The survey was open from January 24 until March 5, 2018. A total of **502 individuals participated** in the survey. Each partner promoted the survey to their communities through social media and web sites.
- This annual survey has been conducted since 2015 and has evolved over the years. Results from previous years are available at: [\*\*tiny.cc/iot15\*\*](http://tiny.cc/iot15), [\*\*tiny.cc/iot16\*\*](http://tiny.cc/iot16), [\*\*tiny.cc/iot17\*\*](http://tiny.cc/iot17)



**KEY FINDINGS**

# WHAT PEOPLE ARE BUILDING



# KEY IoT CONCERNS



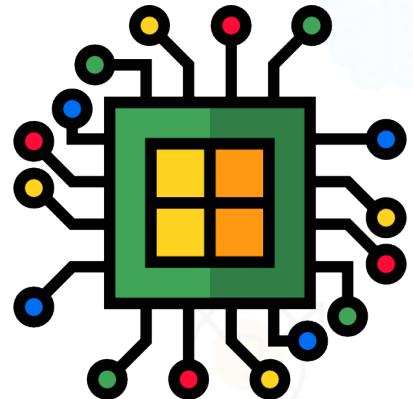
**Security**



**Data Collection & Analytics**



**Connectivity**

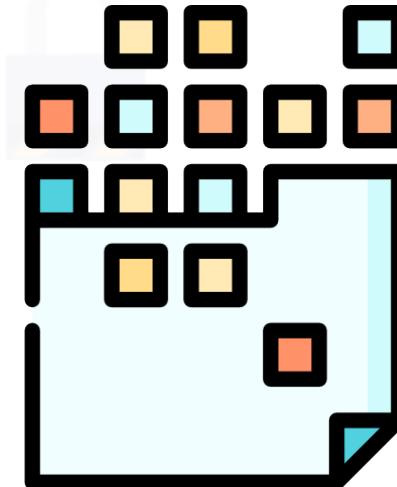


**Hardware Integration**

# KEY IoT SECURITY TECHNOLOGIES

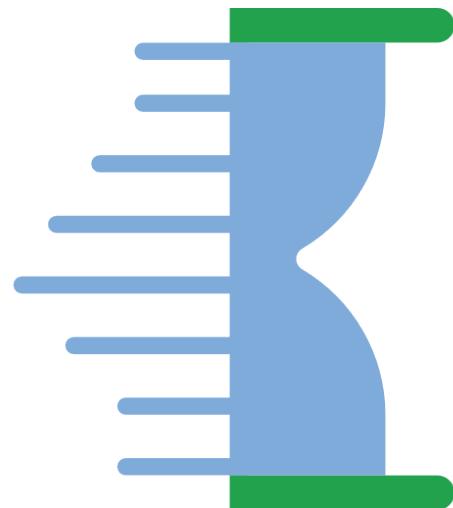


**Communication security**  
(e.g TLS, DTLS)

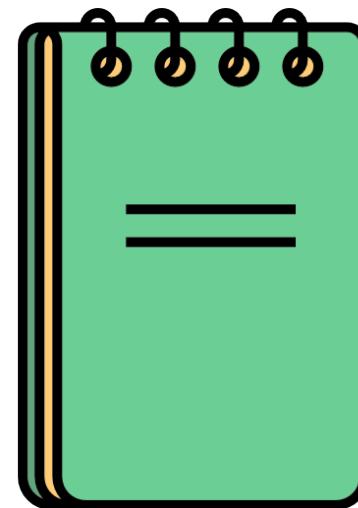


**Data Encryption**

# MOST COLLECTED TYPE OF DATA



**Time Series Data**

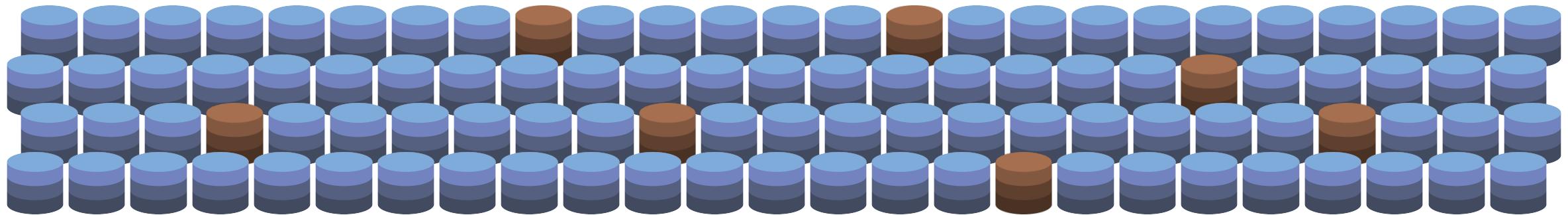


**Device  
Information**



**Log Data**

# 93% OF DATABASES USED IN IoT ARE OPEN SOURCE



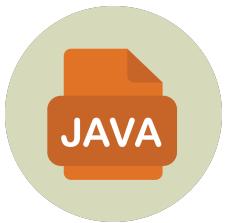
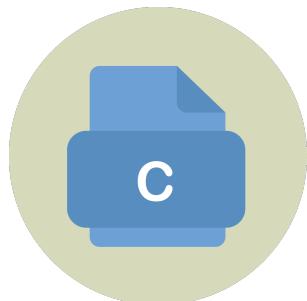
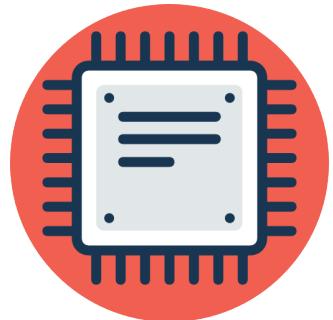
mongoDB



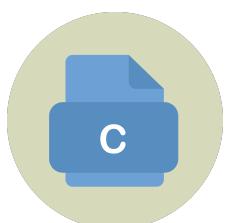
**influxdb**

# TOP IoT PROGRAMMING LANGUAGES

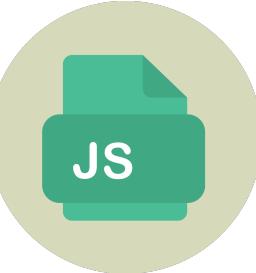
**Devices**



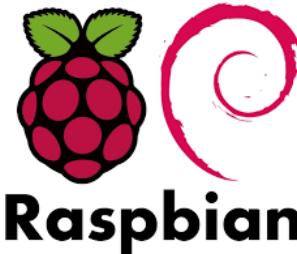
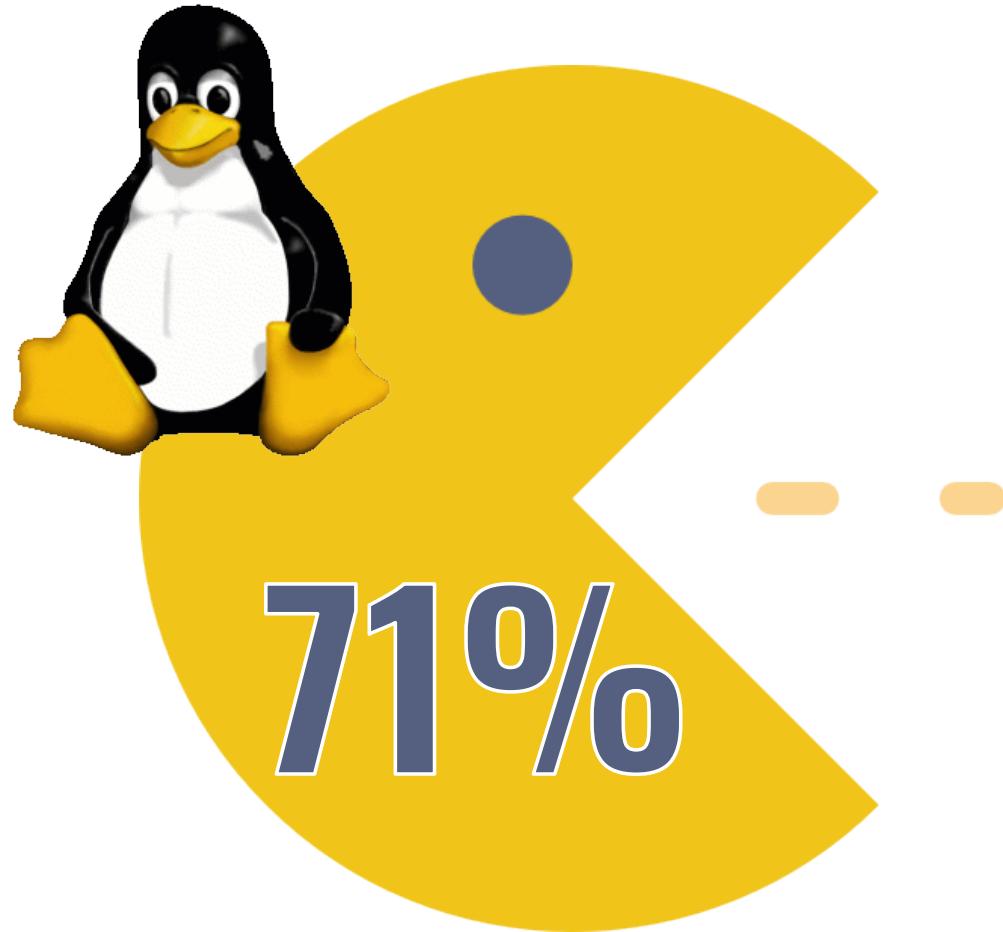
**Gateways**



**Cloud**



# TOP IoT OPERATING SYSTEMS & DISTROS



ubuntu®

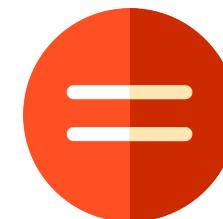


debian

# CLOUD PLATFORMS OF CHOICE FOR IoT



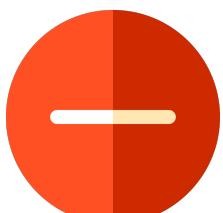
Google Cloud Platform



# CONSOLIDATION IN MESSAGING PROTOCOLS



**HTTP/2**



**HTTP**

**Proprietary  
protocols**

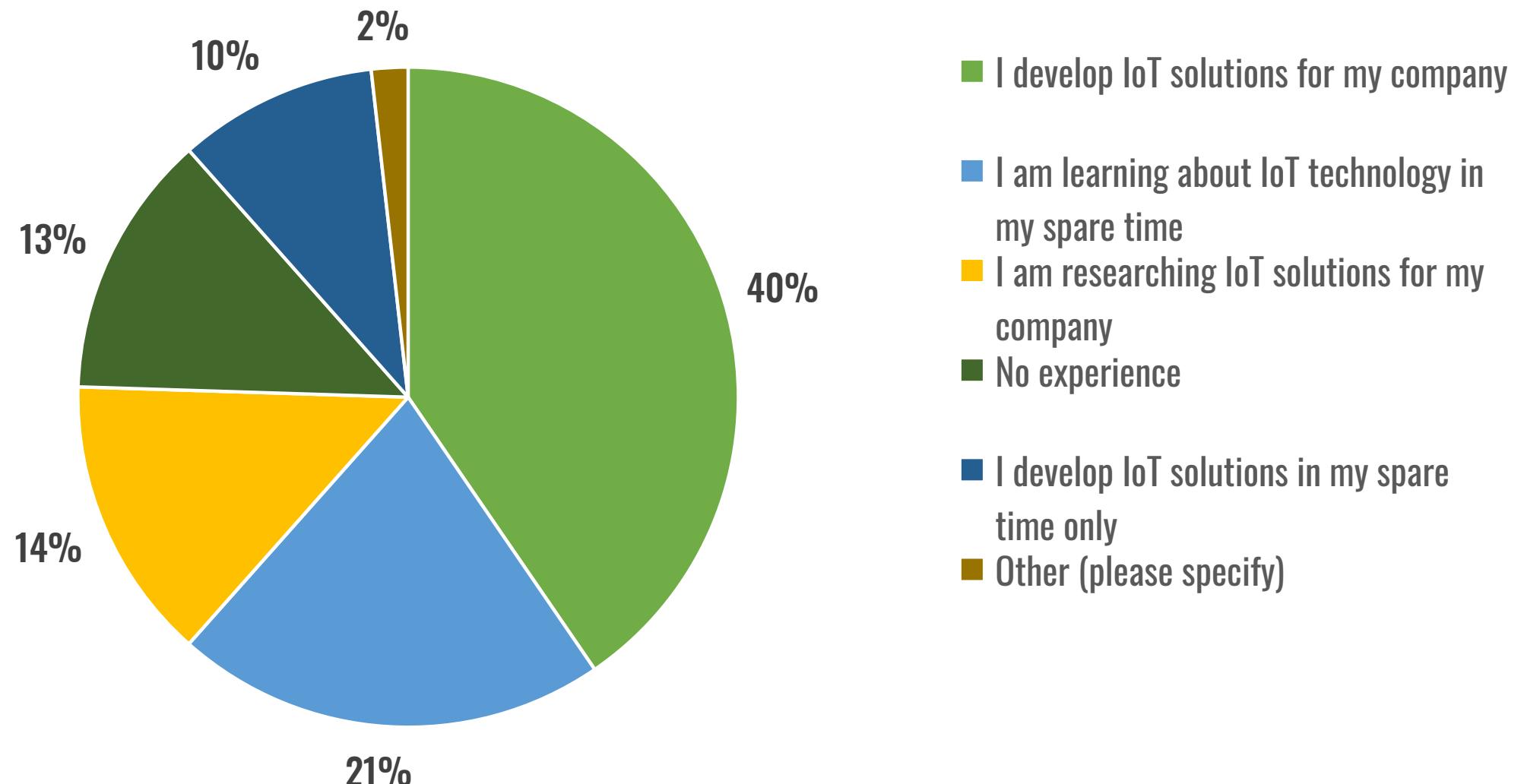


**IoT EXPERIENCE**

# IoT EXPERIENCE

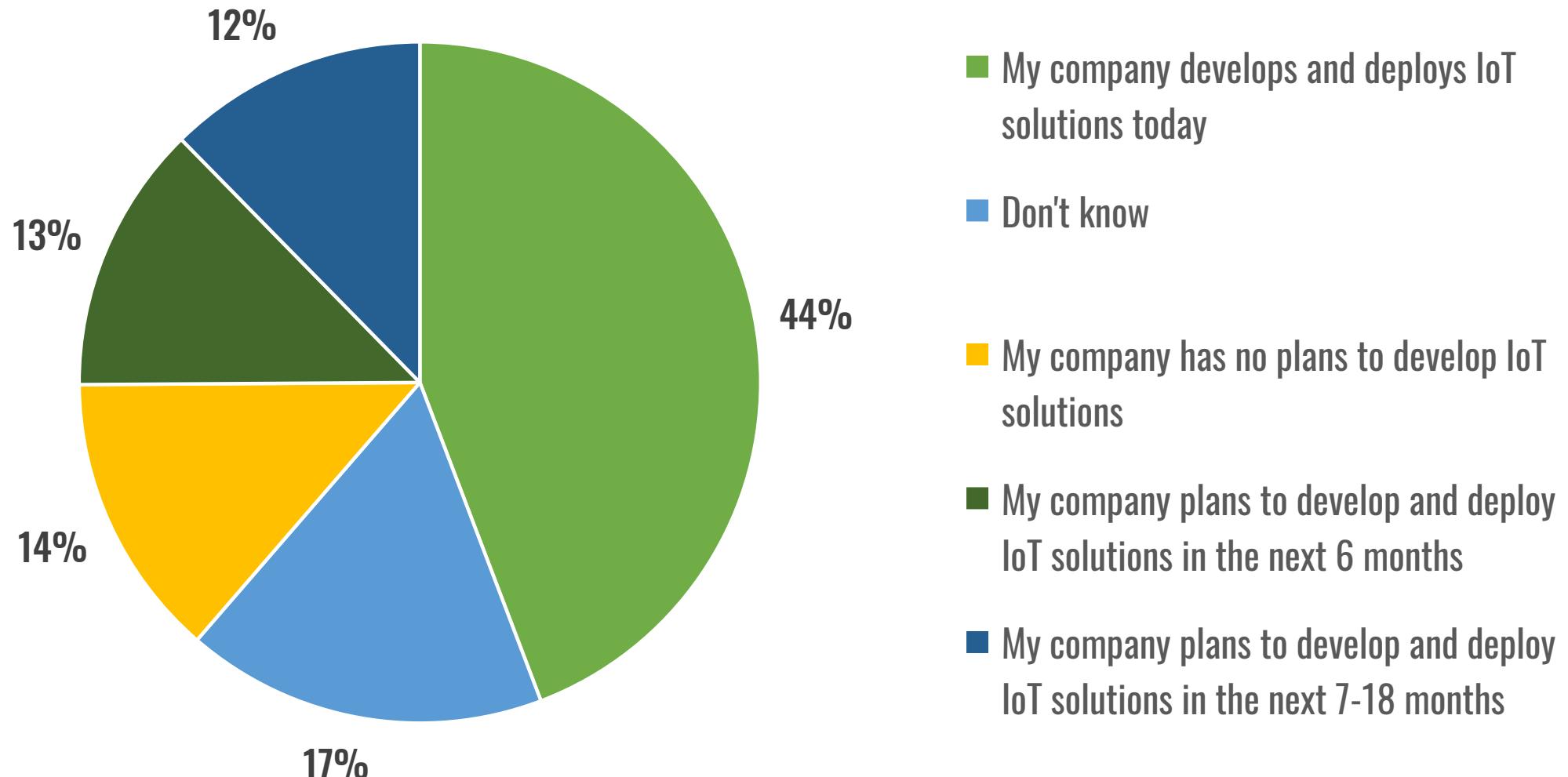
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*What is your primary experience with building IoT solutions?*



# COMPANY PLANS FOR IoT

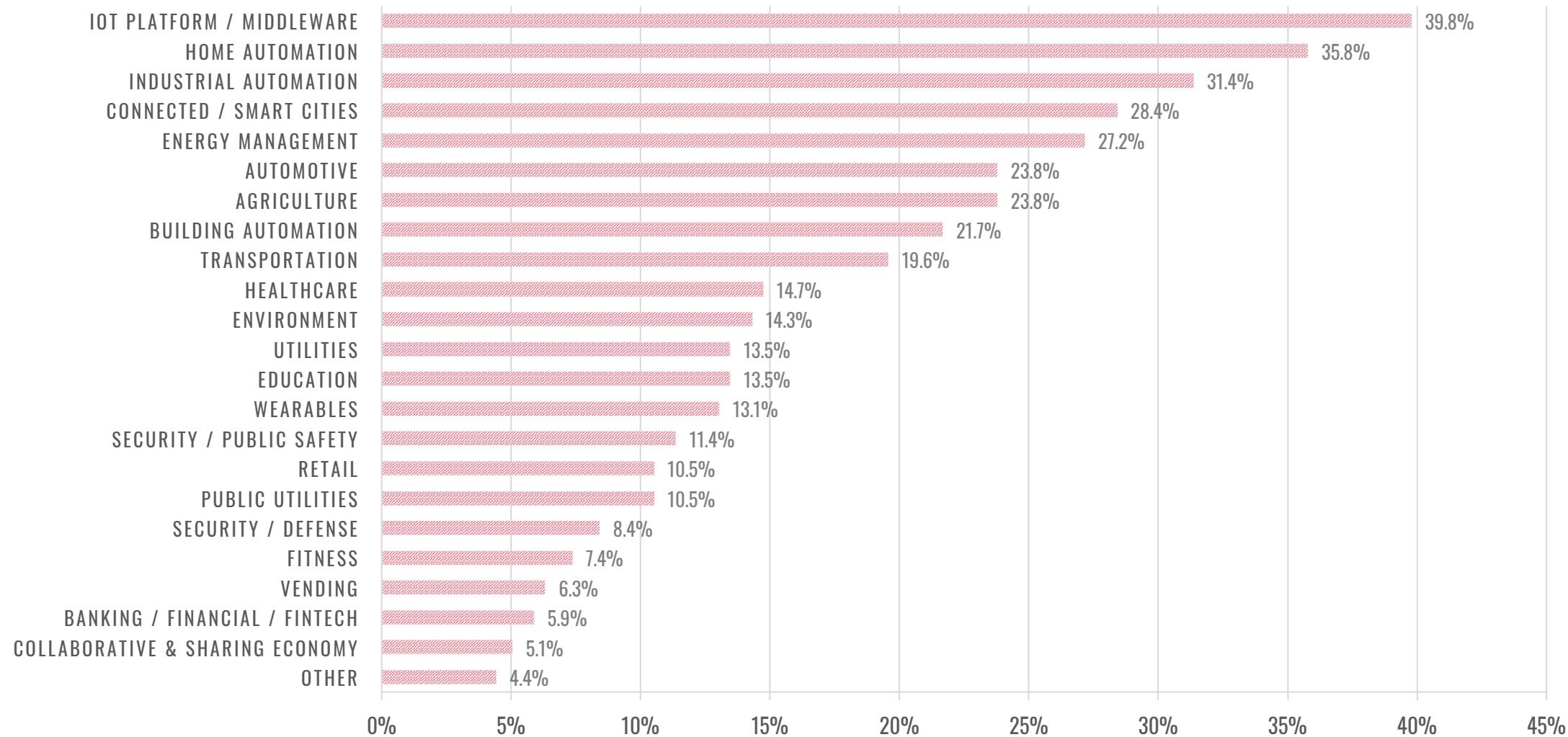
*What is your company's plan for IoT solutions?*



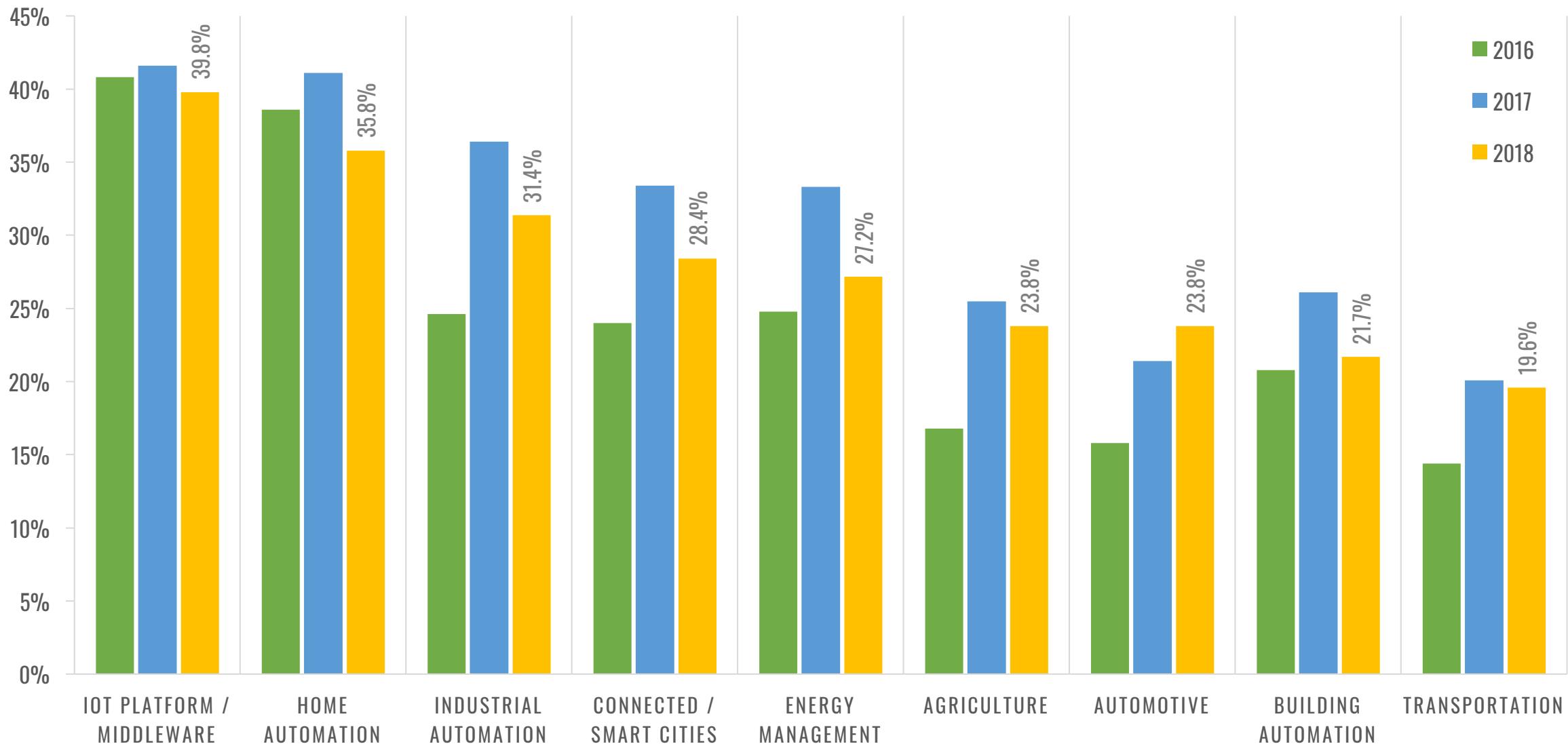
# KEY INDUSTRIES

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*What industry or industries best describe(s) the type of IoT solutions you have built or will build?*

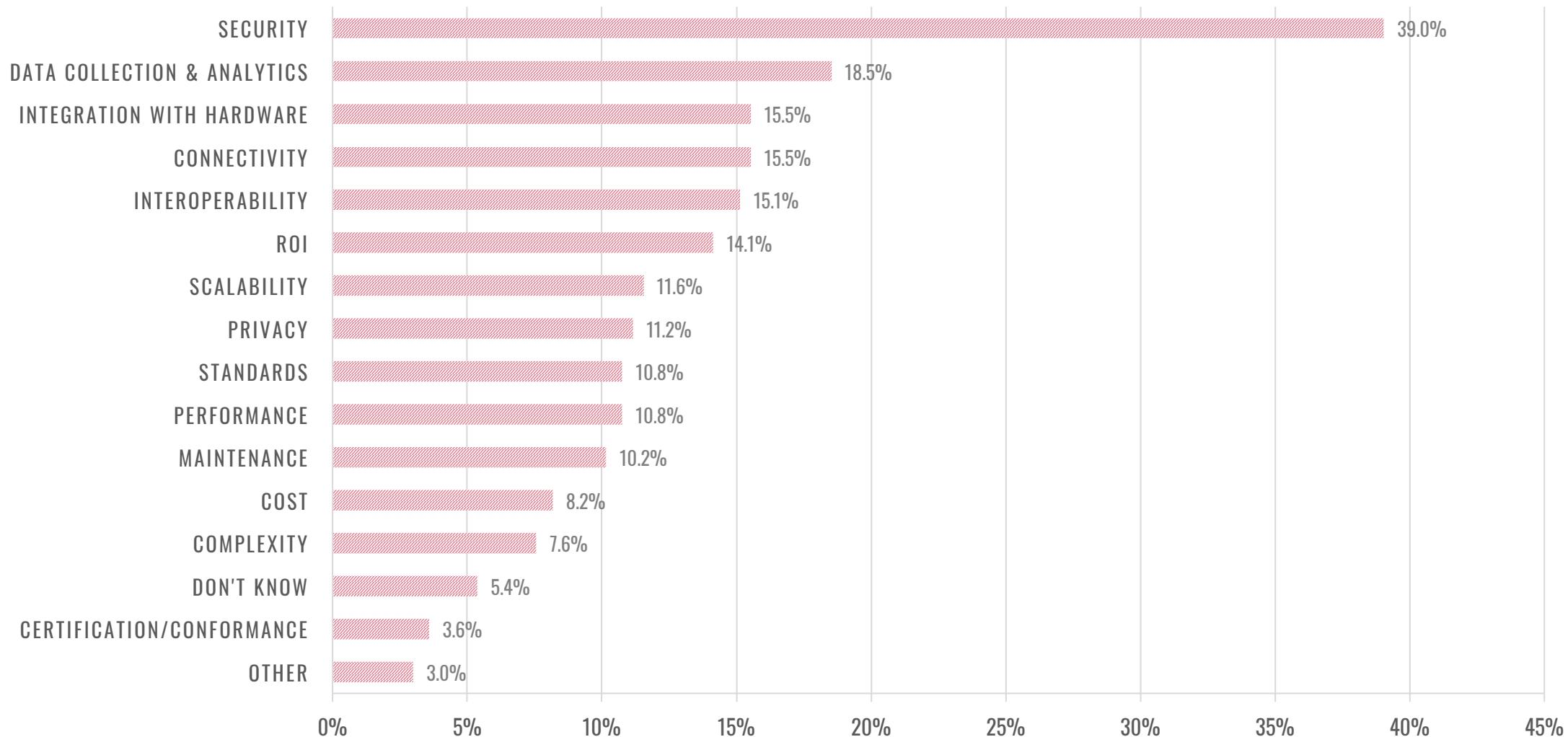


# KEY INDUSTRIES / TRENDS 2016-2018

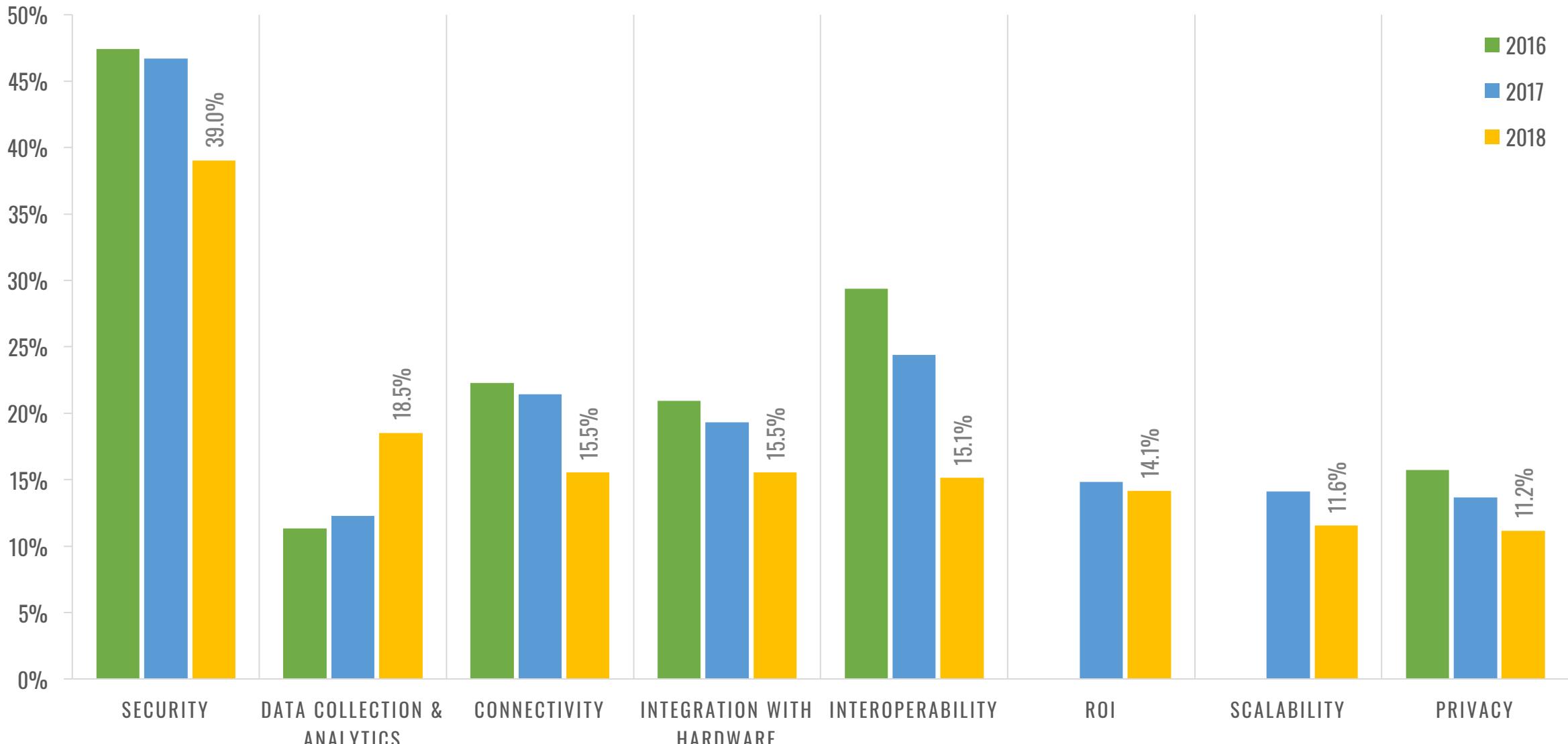


# TOP IoT CONCERN

*What are your top 2 concerns for developing IoT solutions?*



# TOP IoT CONCERNS / TRENDS 2016-2018

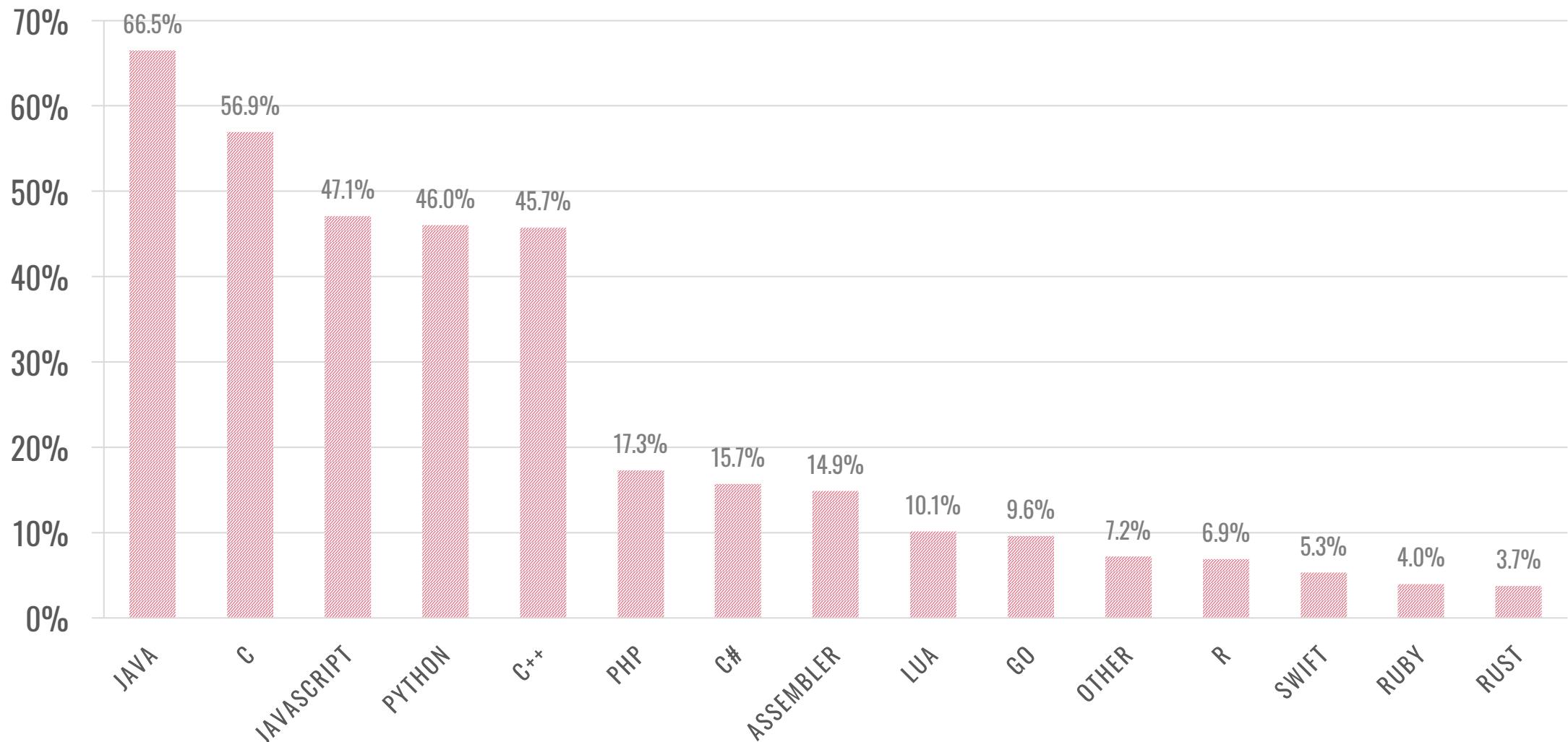




# TECHNOLOGY USED FOR IoT

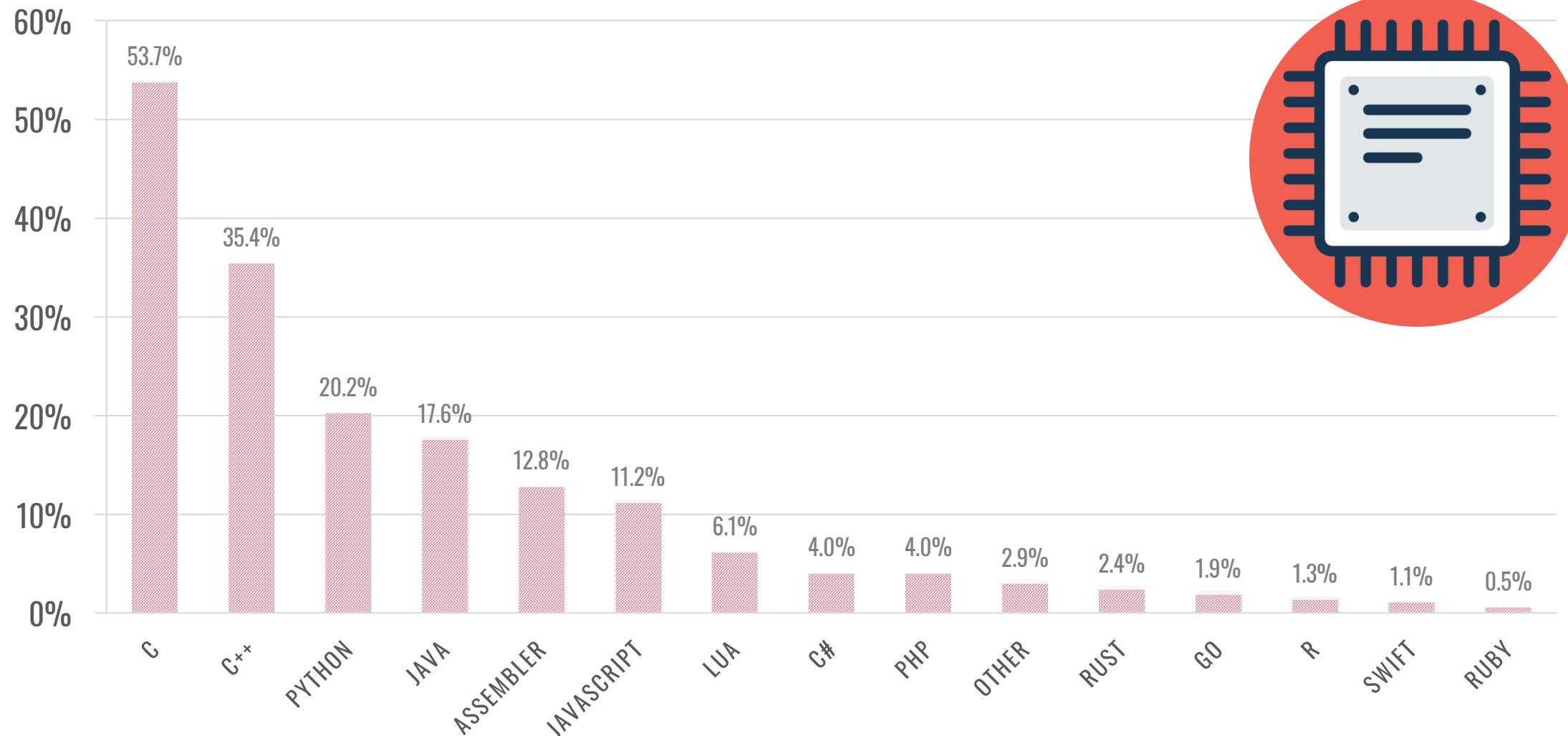
# OVERALL SUMMARY OF PROGRAMMING LANGUAGES

*Which of the following programming languages, if any, do you use to build IoT solutions?*



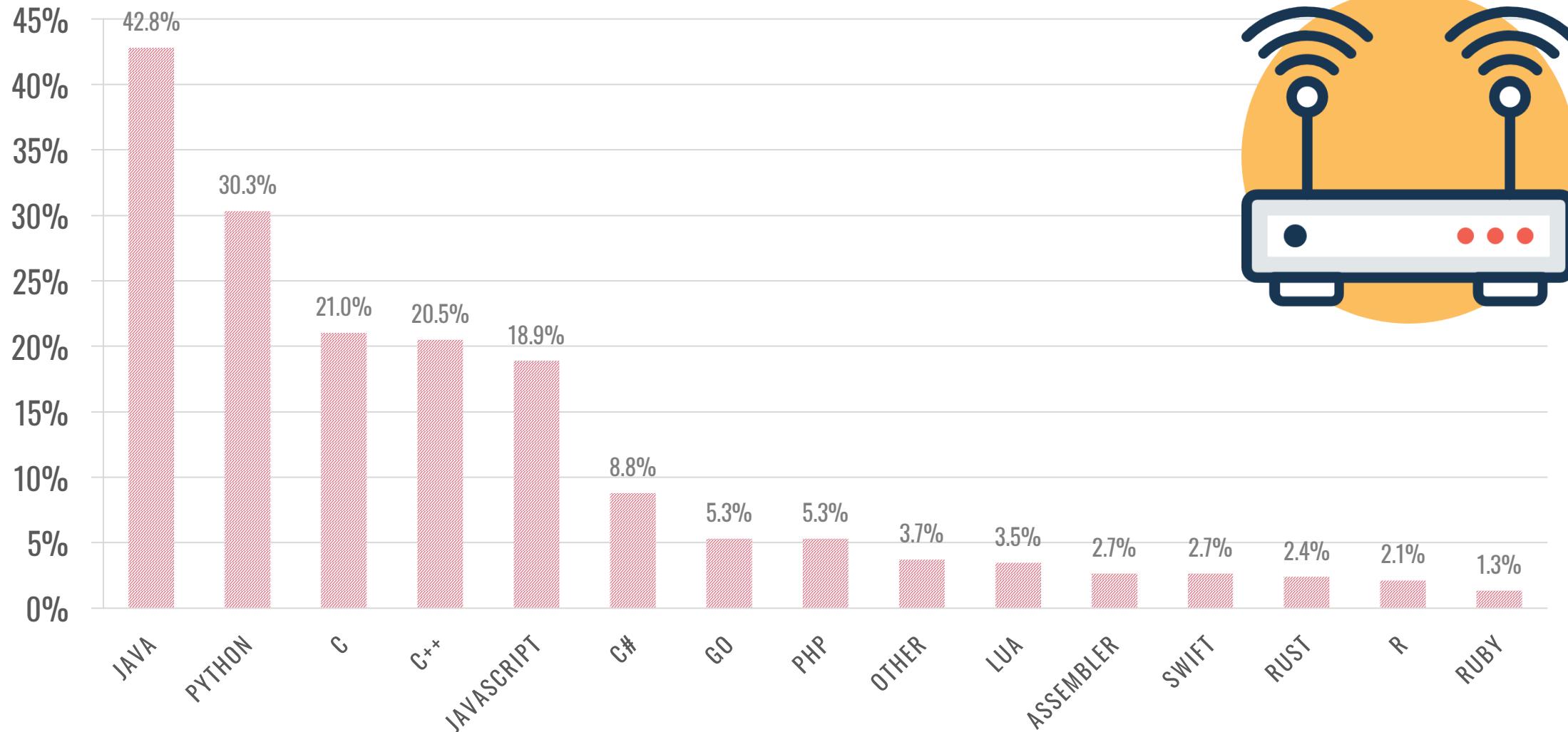
# PROGRAMMING LANGUAGES – CONSTRAINED DEVICES

*Which of the following programming languages, if any, do you use to build IoT solutions? (Constrained Devices)*



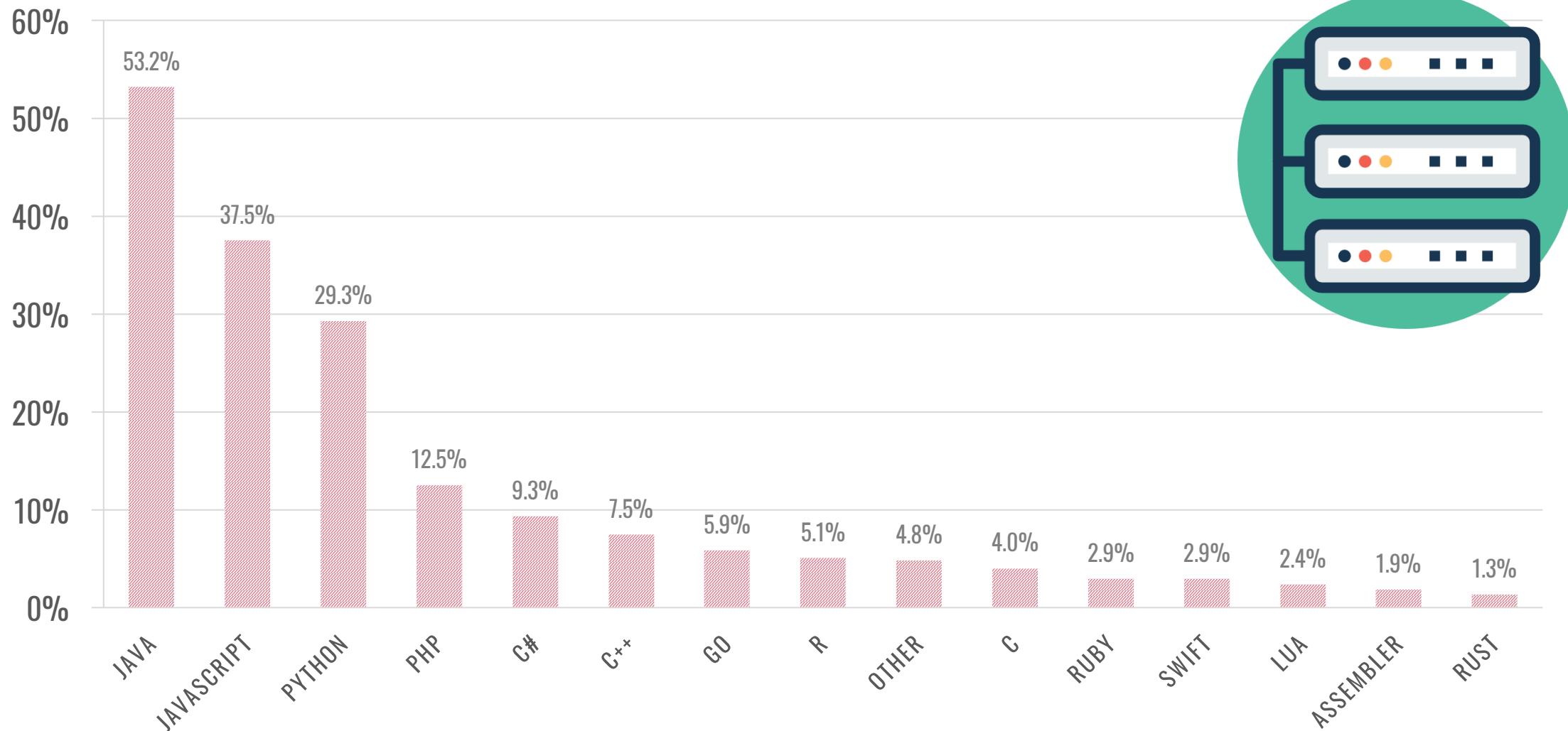
# PROGRAMMING LANGUAGES – IoT GATEWAYS

*Which of the following programming languages, if any, do you use to build IoT solutions? (Gateways)*



# PROGRAMMING LANGUAGES – IoT CLOUD

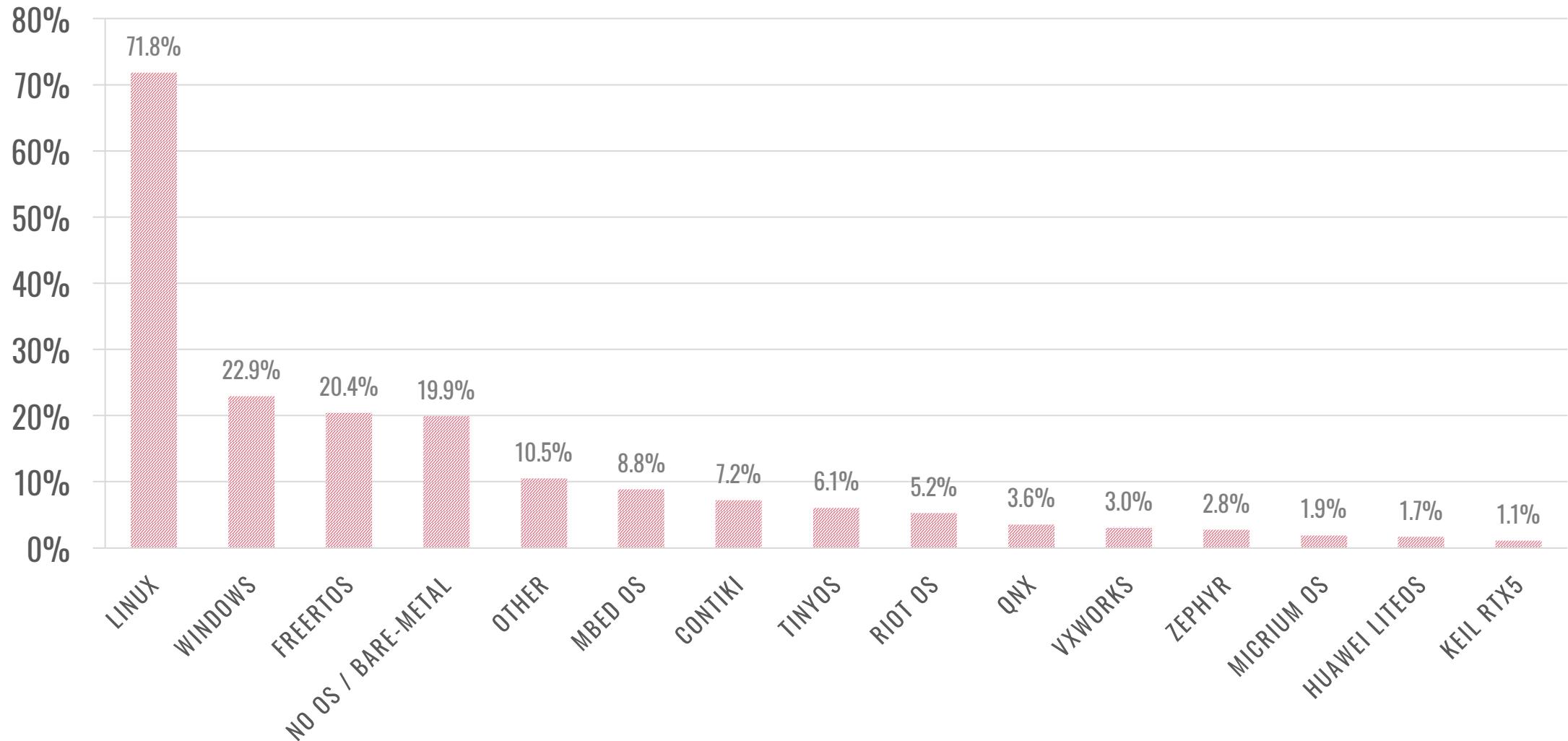
*Which of the following programming languages, if any, do you use to build IoT solutions? (Cloud Platform)*



# IoT OPERATING SYSTEMS

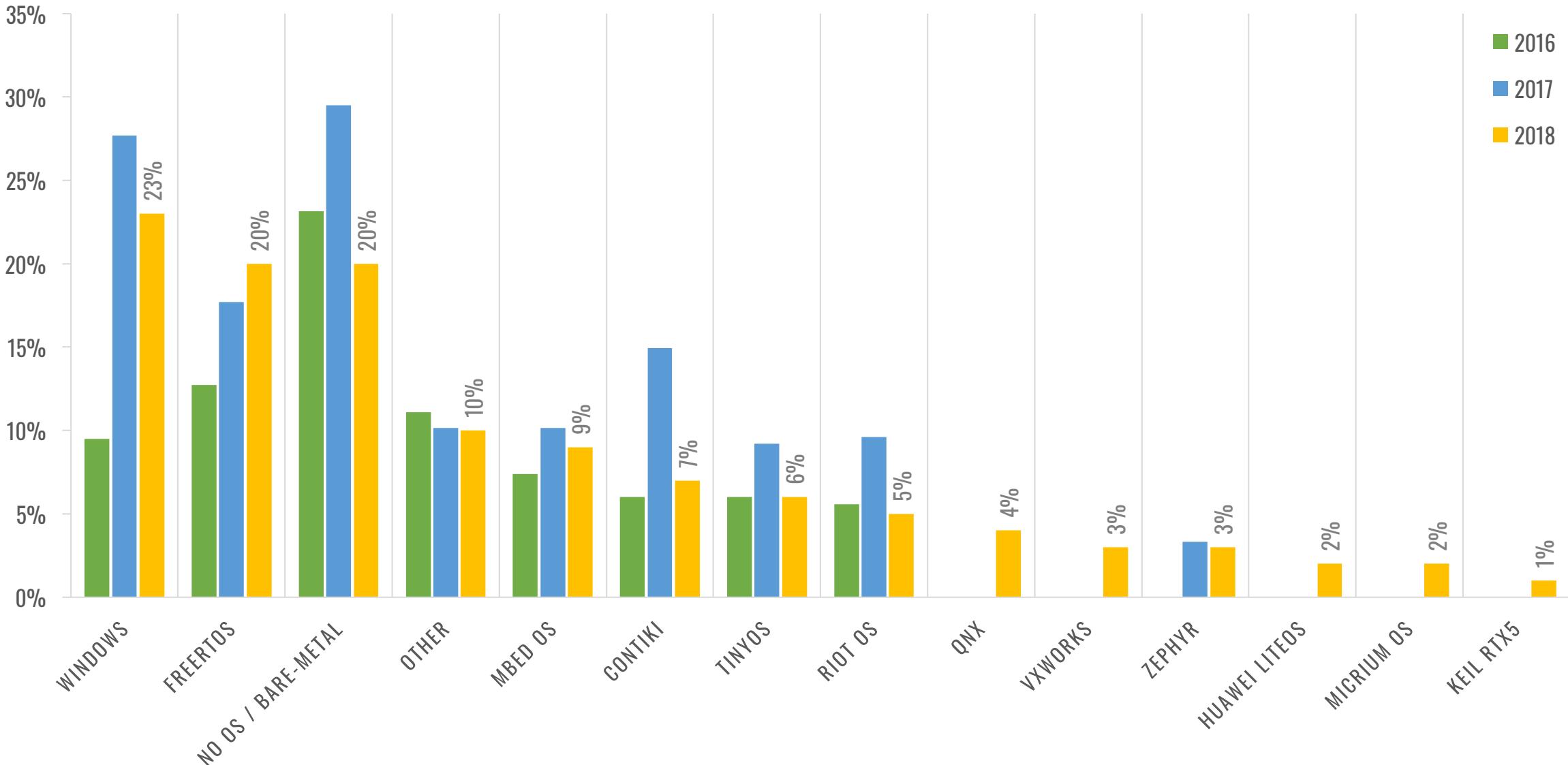
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*Which operating system(s) do you use for your IoT devices?*



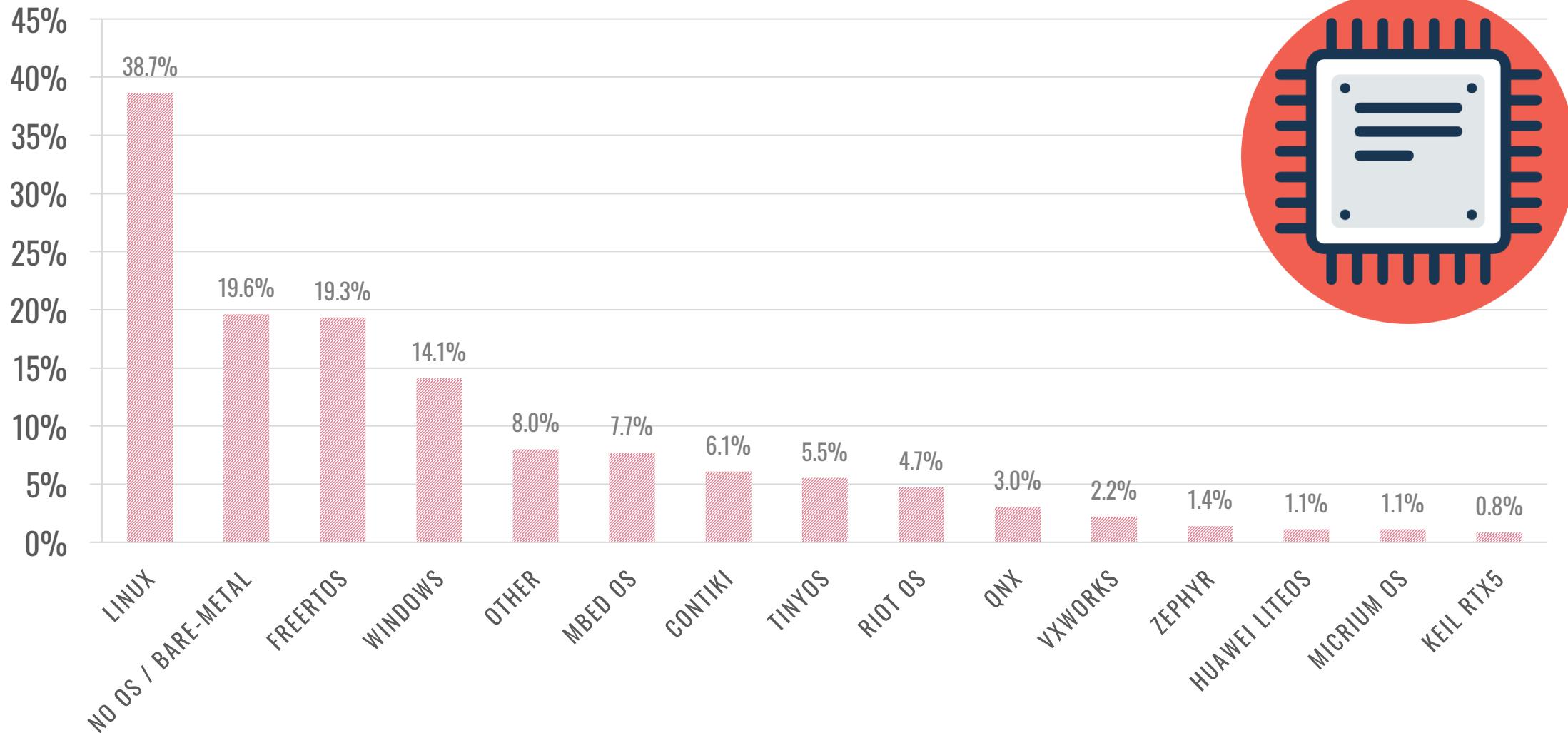
# ALTERNATIVES TO USING LINUX FOR IoT

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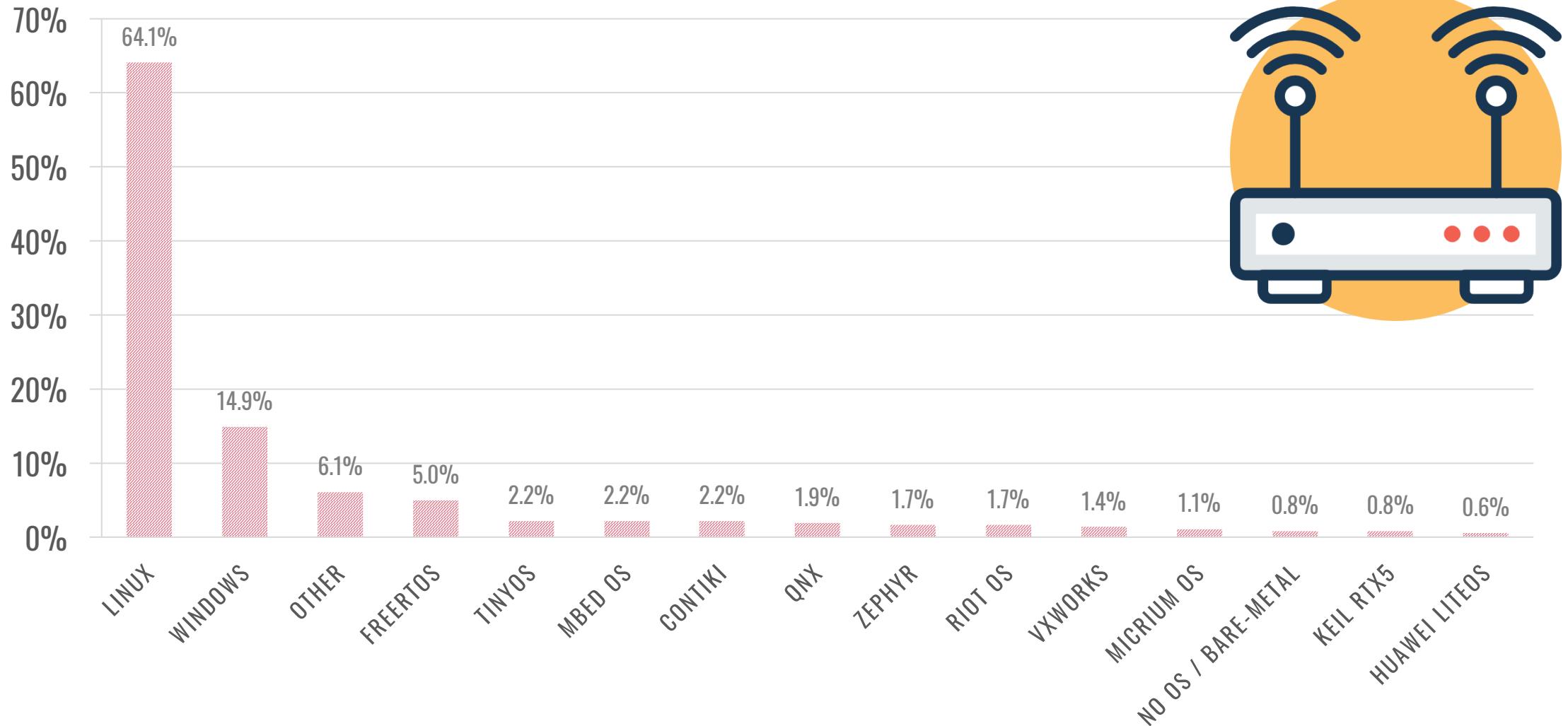
# IoT OPERATING SYSTEMS – CONSTRAINED DEVICES

*Which operating system(s) do you use for your IoT devices? (Constrained Devices)*



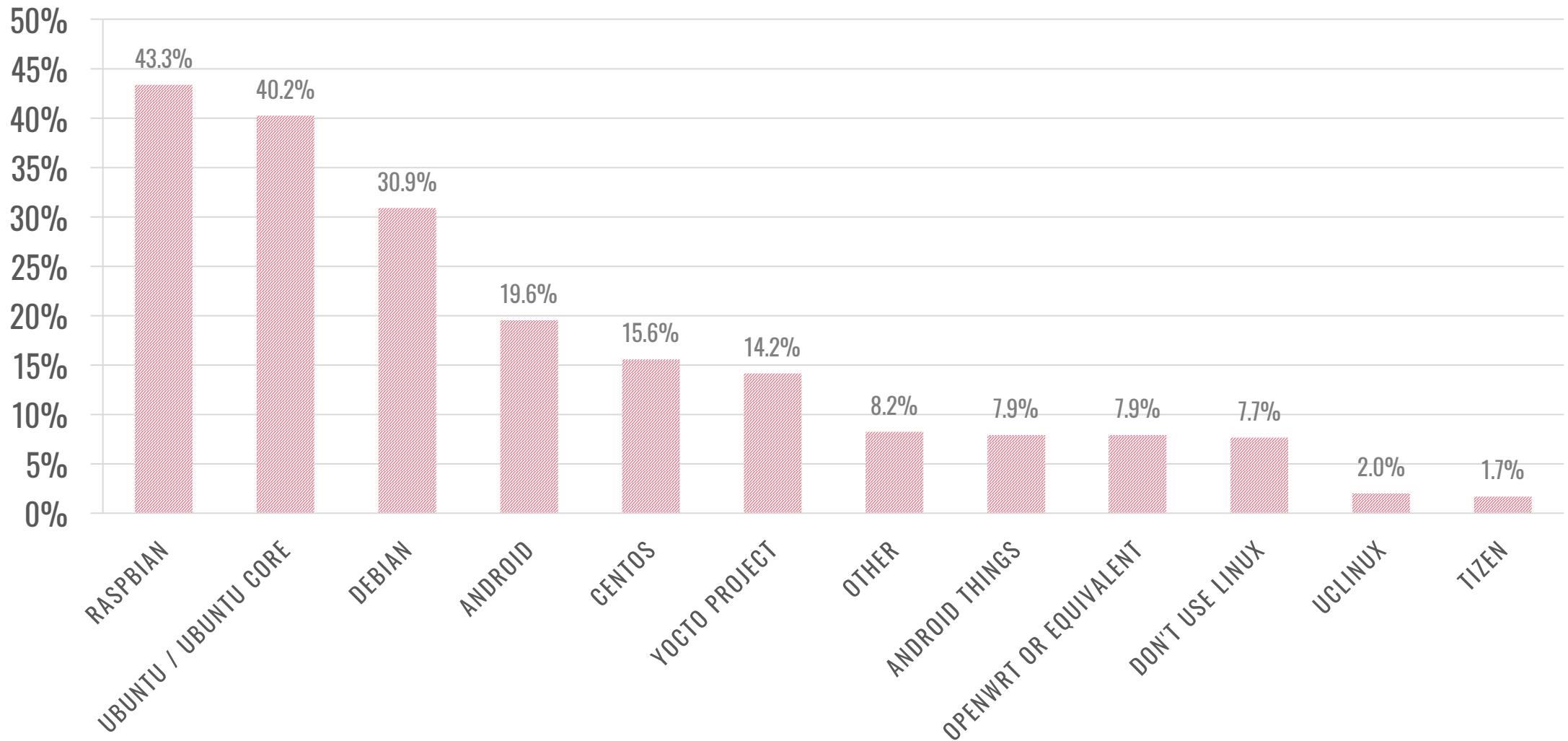
# IoT OPERATING SYSTEMS – IoT GATEWAY

*Which operating system(s) do you use for your IoT devices? (Edge / Gateway)*



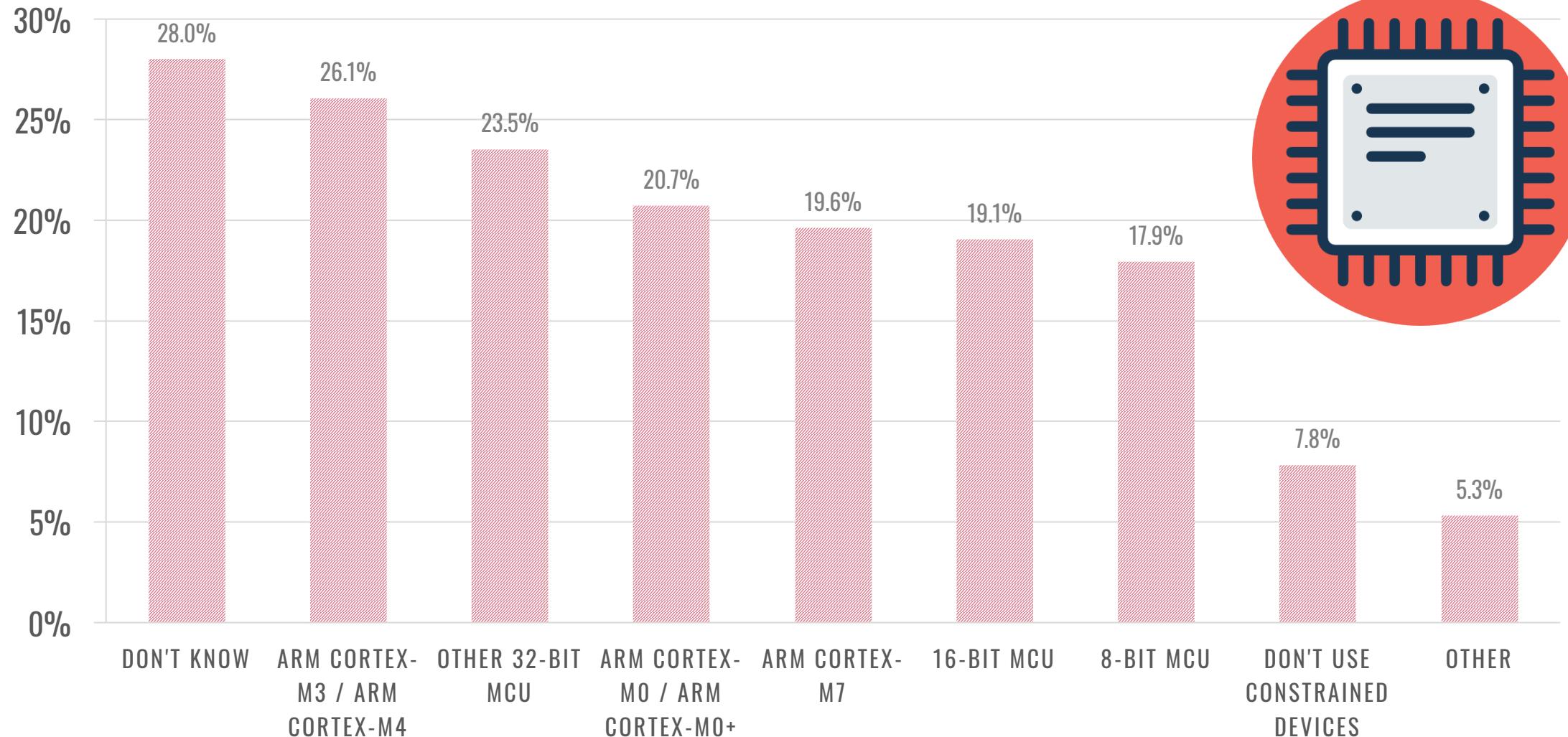
# IoT OPERATING SYSTEMS / LINUX DISTROS FOR IoT

*If you are using Linux, what distribution do you typically use for your IoT solution?*



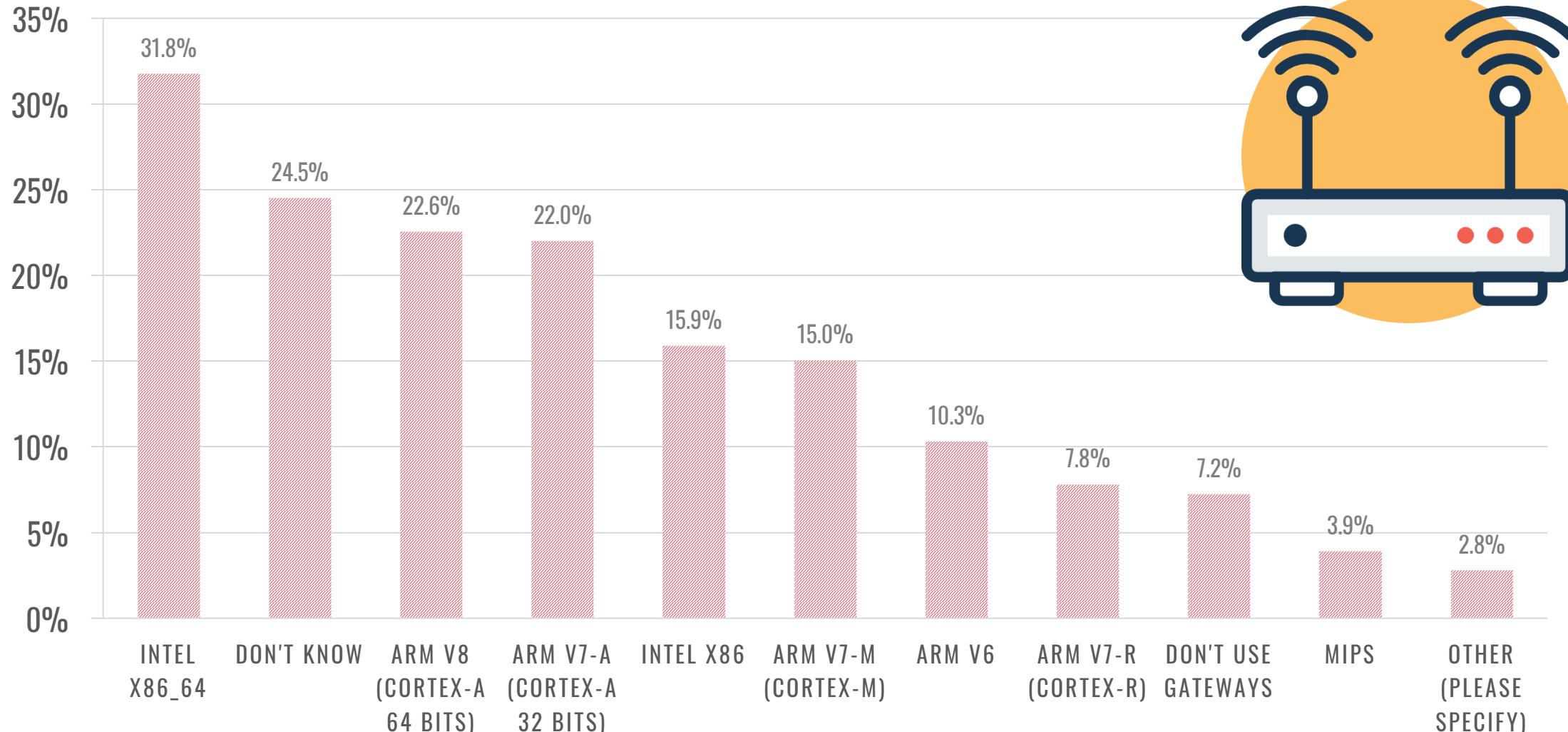
# IoT HARDWARE ARCHITECTURES

*What hardware architectures are you using for your IoT constrained device(s)?*



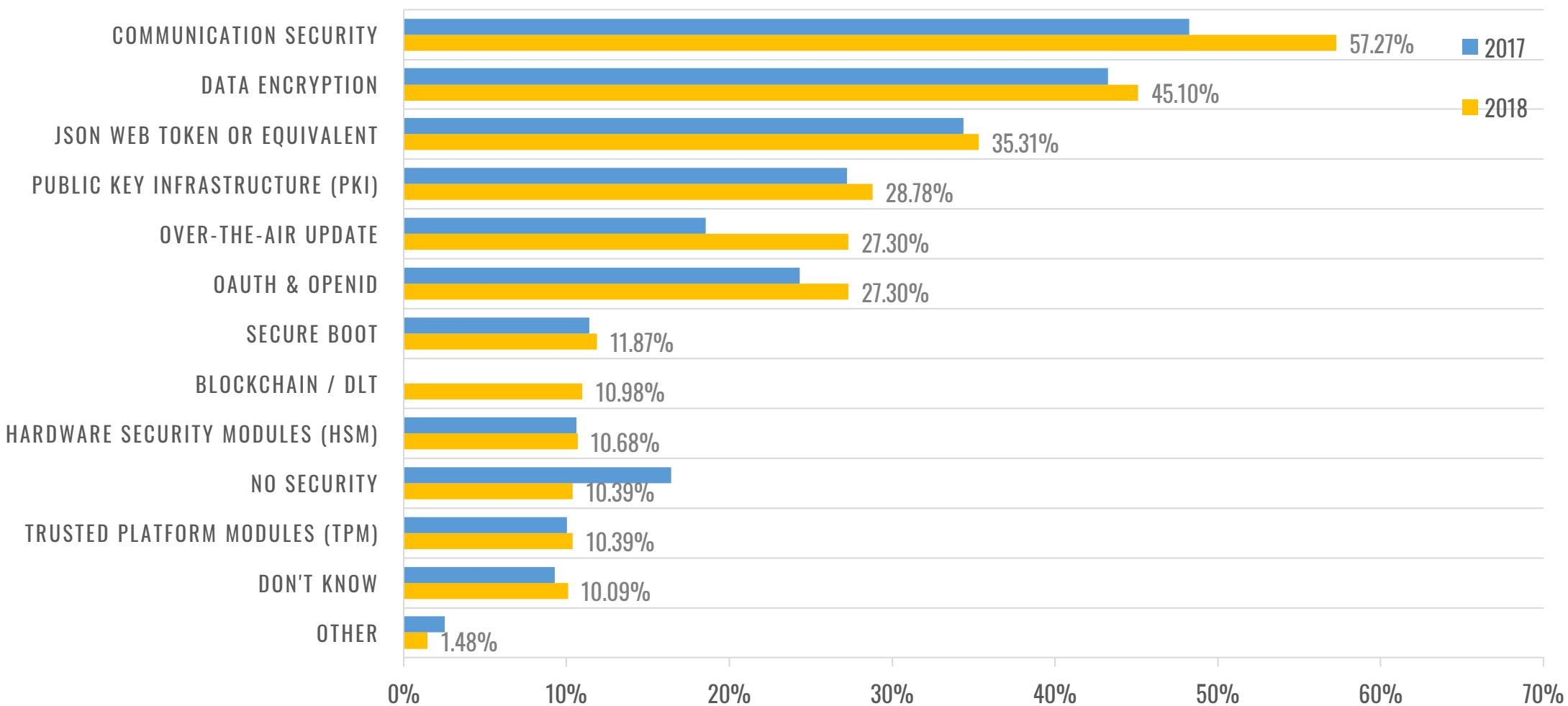
# IoT HARDWARE ARCHITECTURES

*What hardware architectures are you using for your IoT gateway(s)?*



# IoT SECURITY TECHNOLOGIES

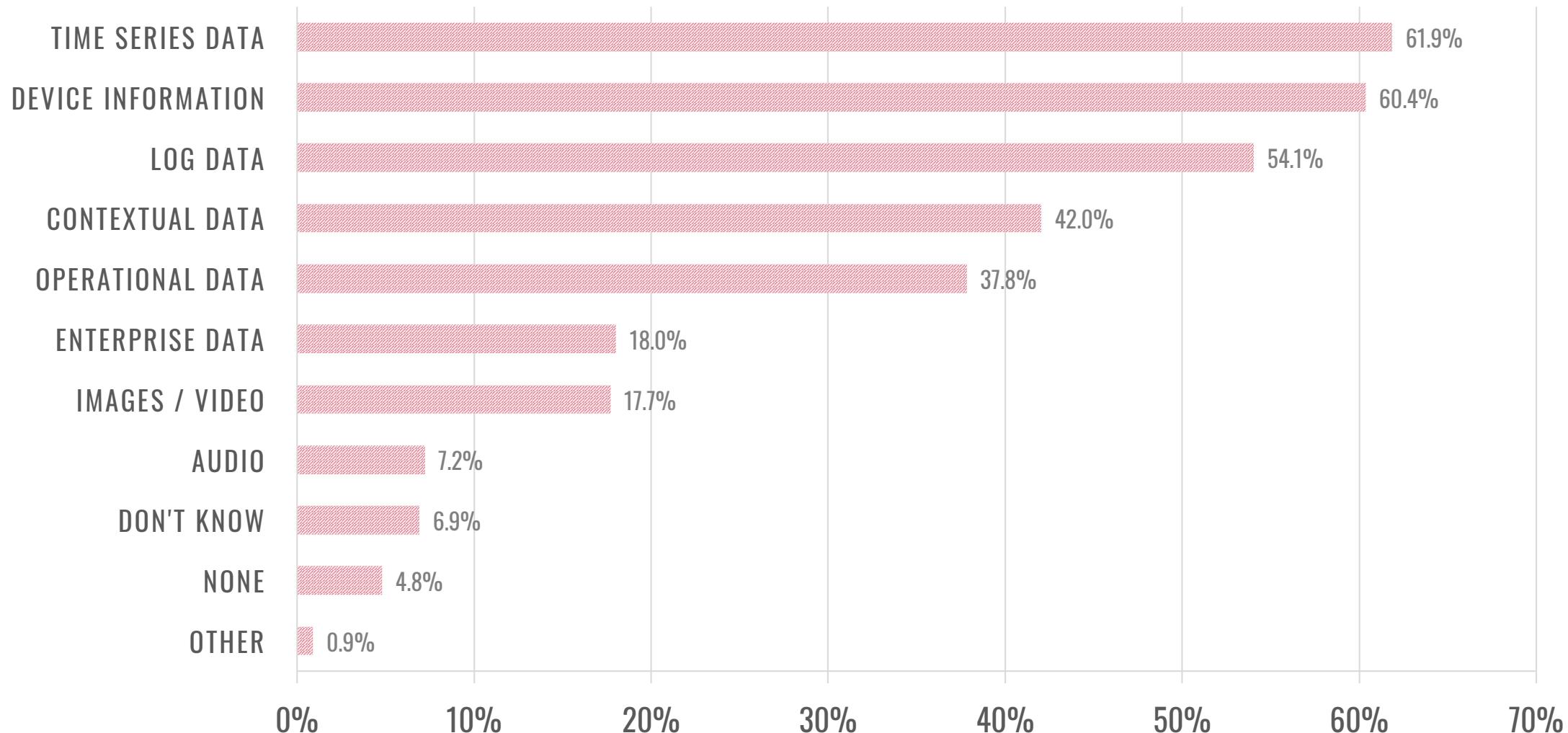
*Which of the following security-related technologies do you use in your IoT solution?*



# IoT DATA

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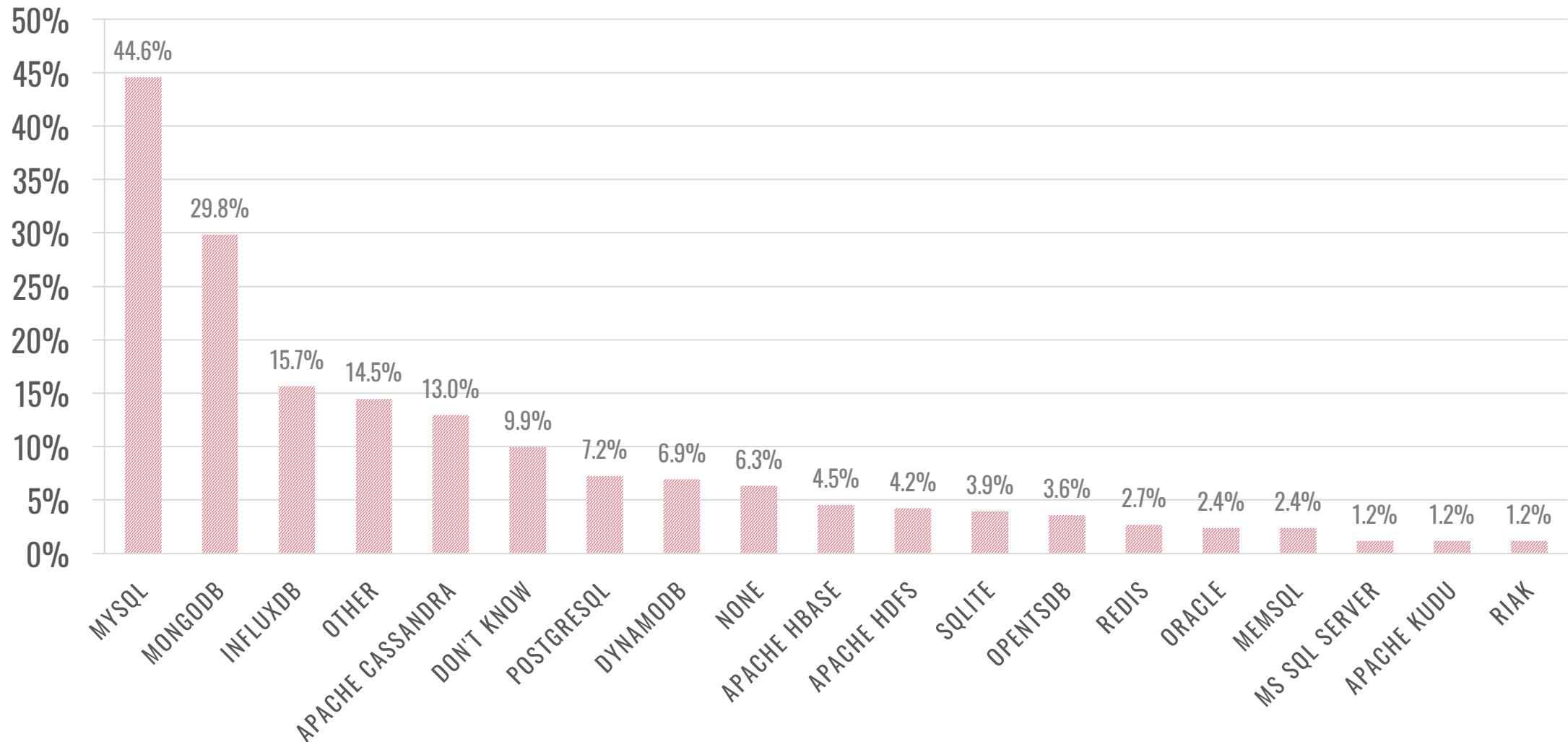
*What type of IoT data are you storing in a database or data store?*



# IoT DATABASES

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*Which of the following database technologies do you use in your IoT solution?*

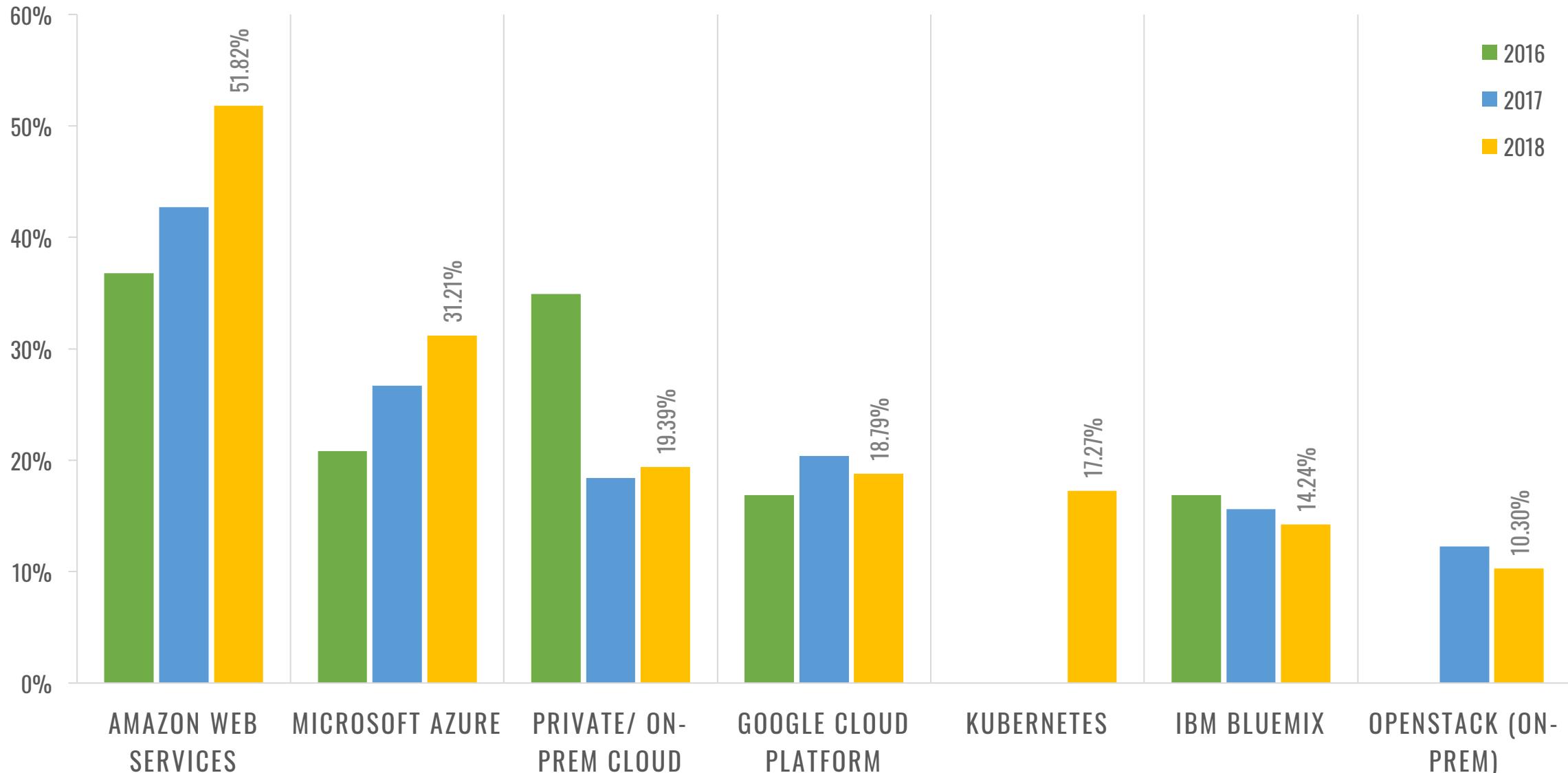


# CLOUD SERVICES FOR IoT

*Do you use, or plan to use, any of the following cloud service offerings for implementing your IoT solution?*

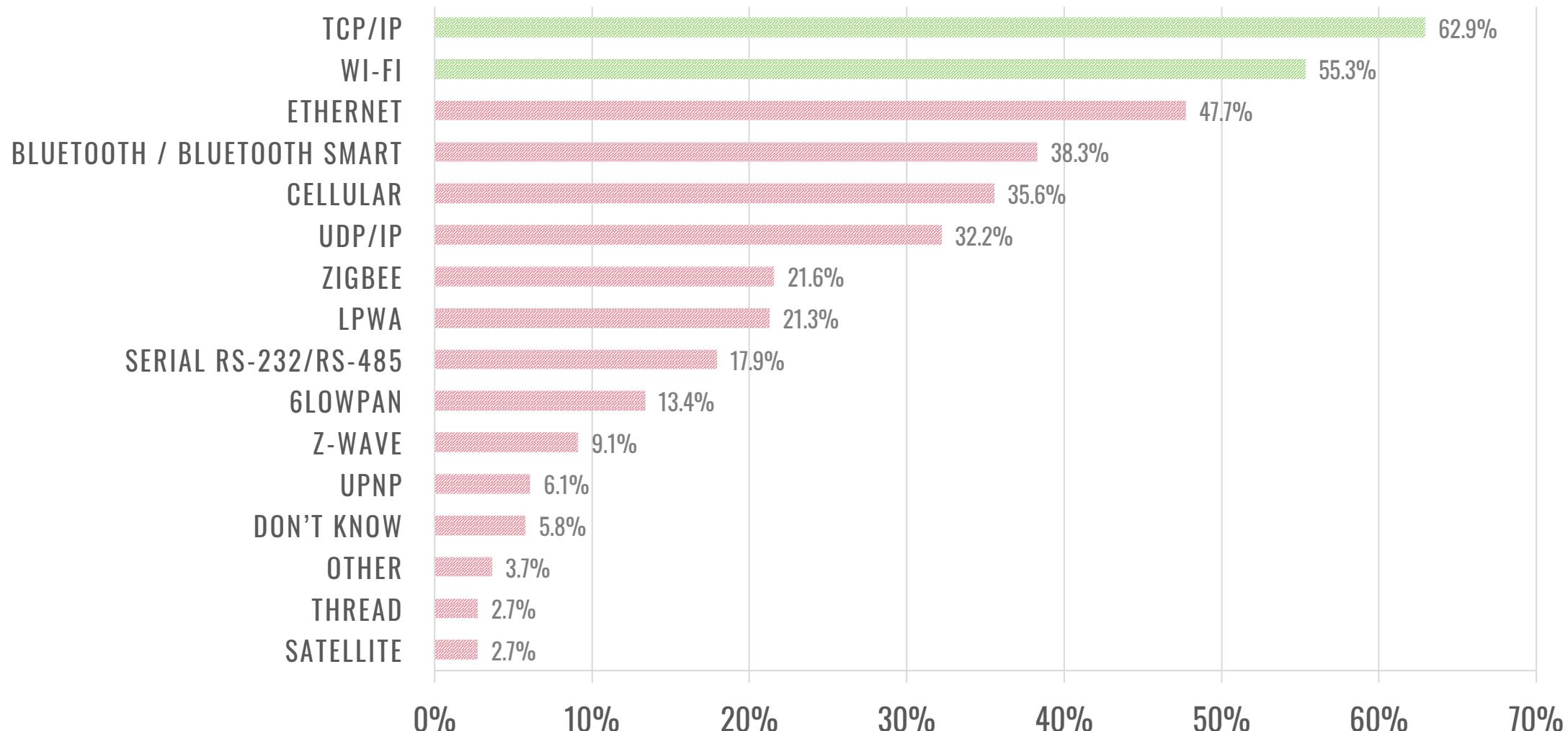


# TRENDS OF CLOUD SERVICES FOR IoT 2016-2018



# CONNECTIVITY PROTOCOLS

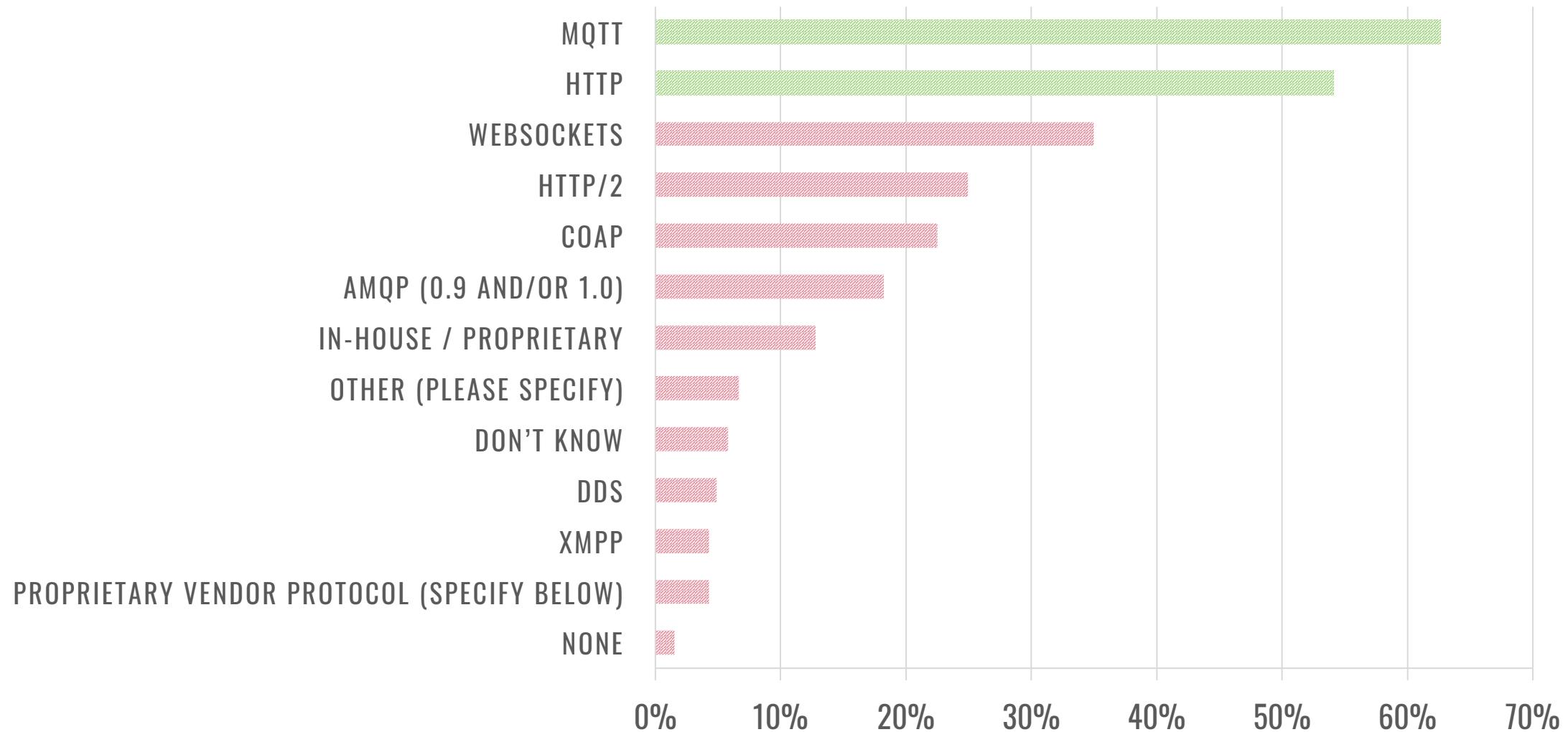
*What connectivity protocol(s) do you use for your IoT solution?*



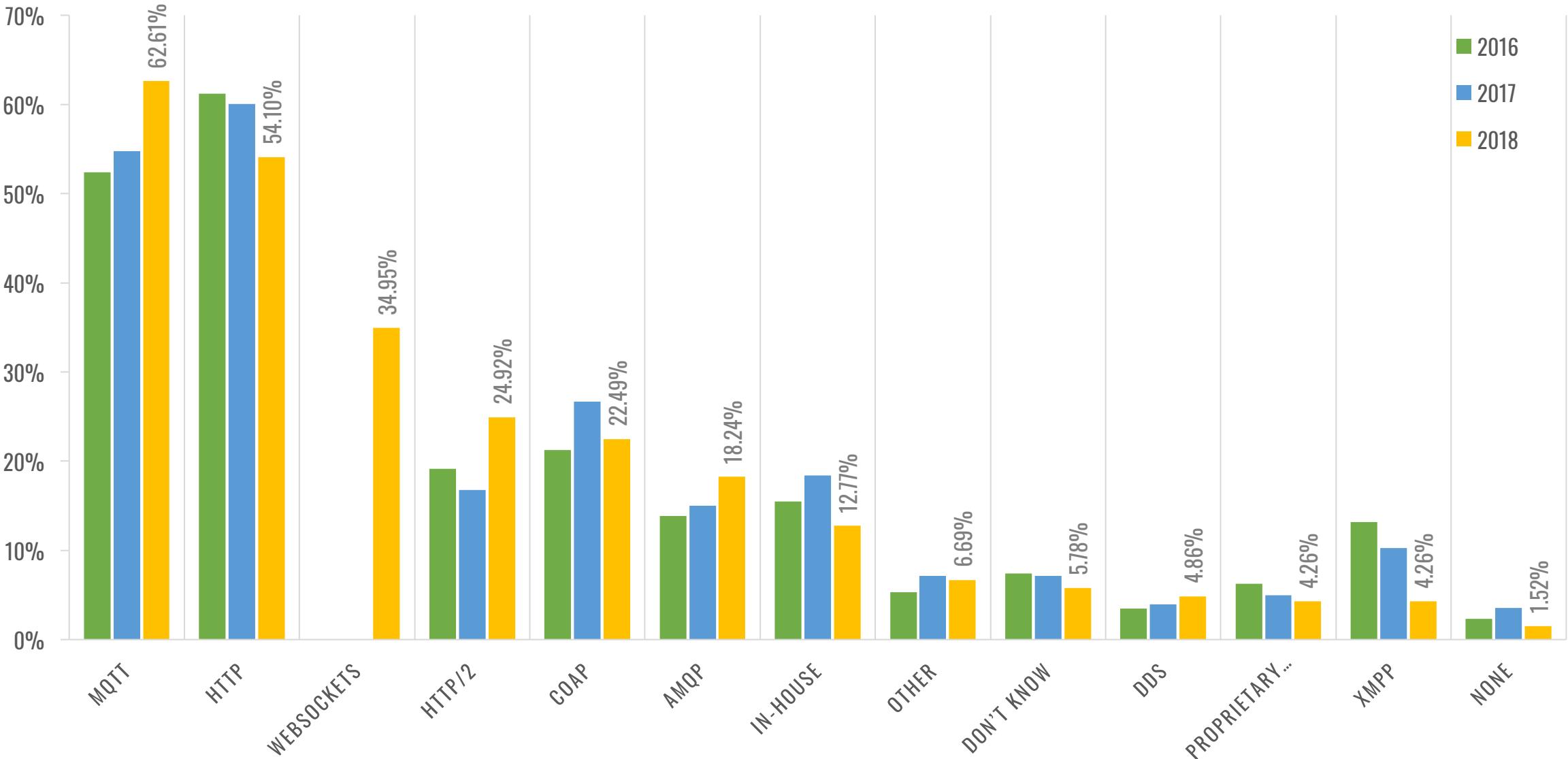
# MESSAGING STANDARDS

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*What messaging protocol(s) do you use for your IoT solution?*



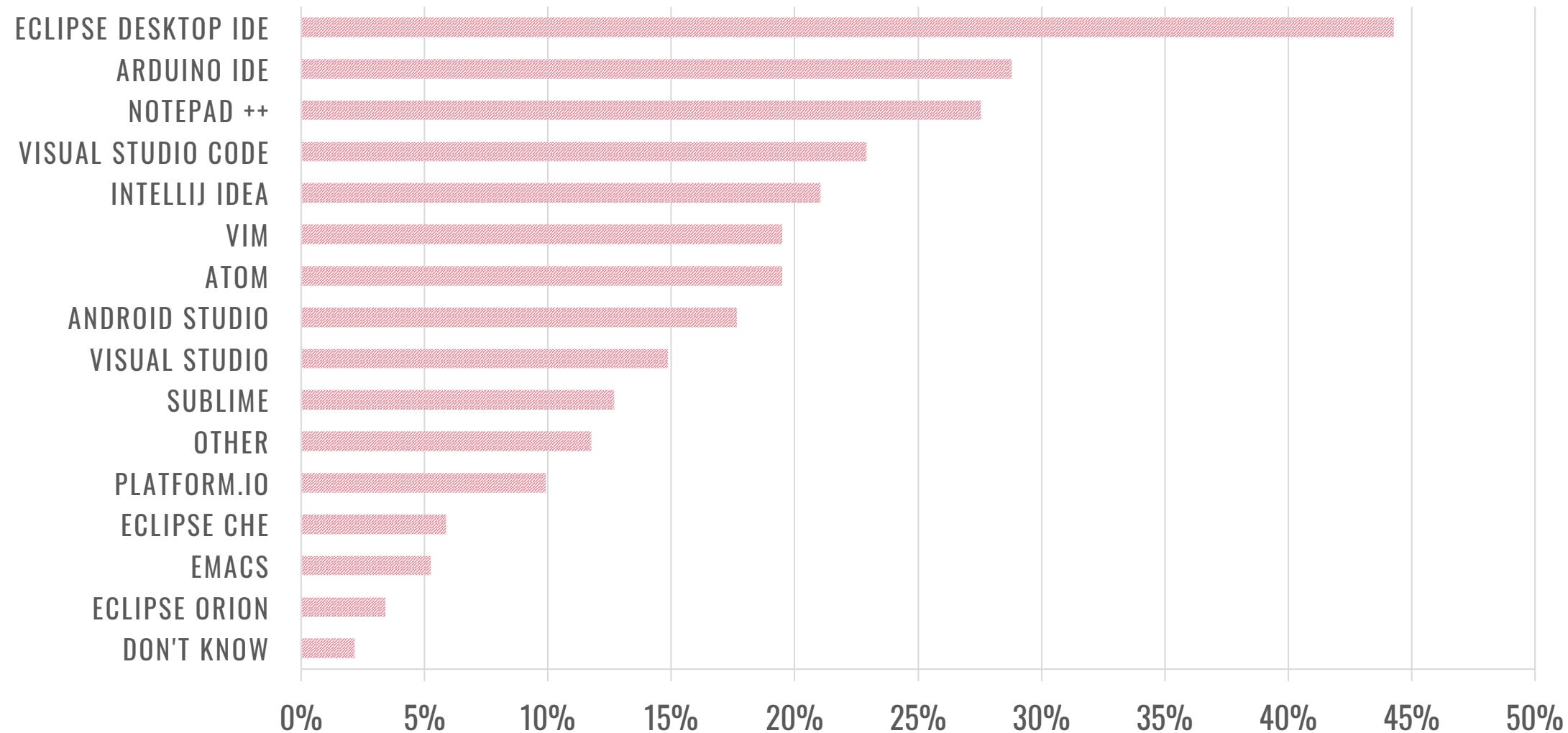
# MESSAGING STANDARDS - TRENDS



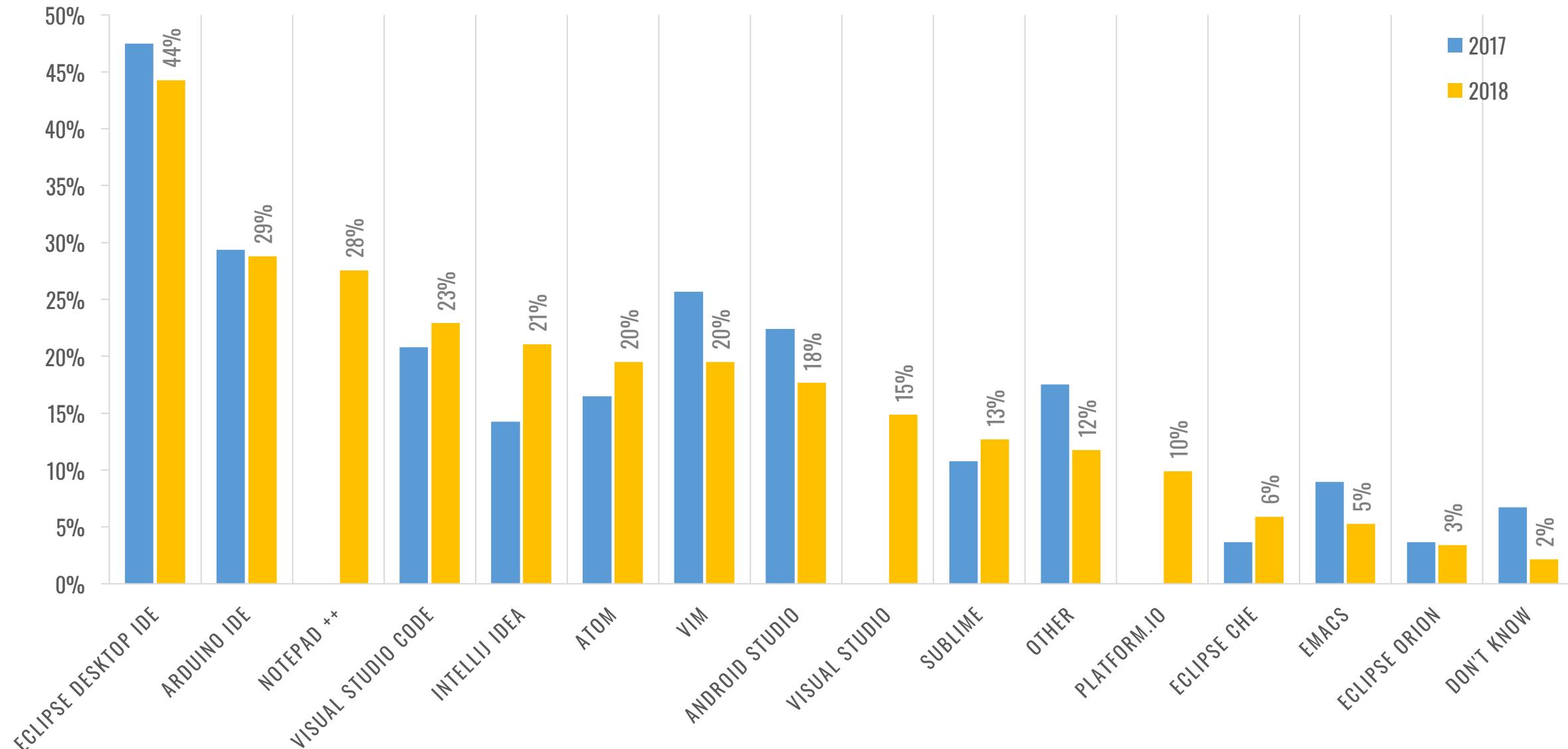
# TEXT EDITORS / IDES

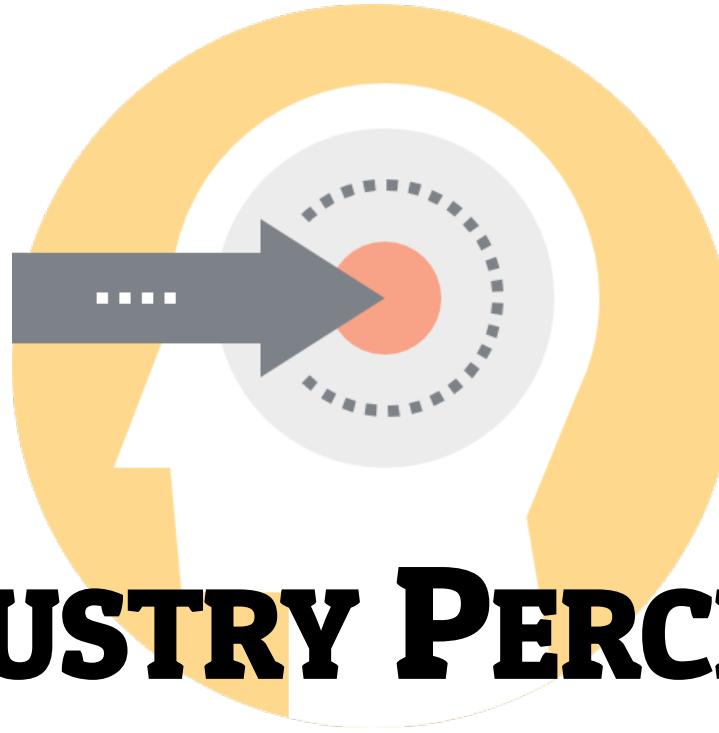
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*Which text editor(s) or IDE(s) do you use when building IoT solutions?*



# TEXT EDITORS / IDEs - TRENDS

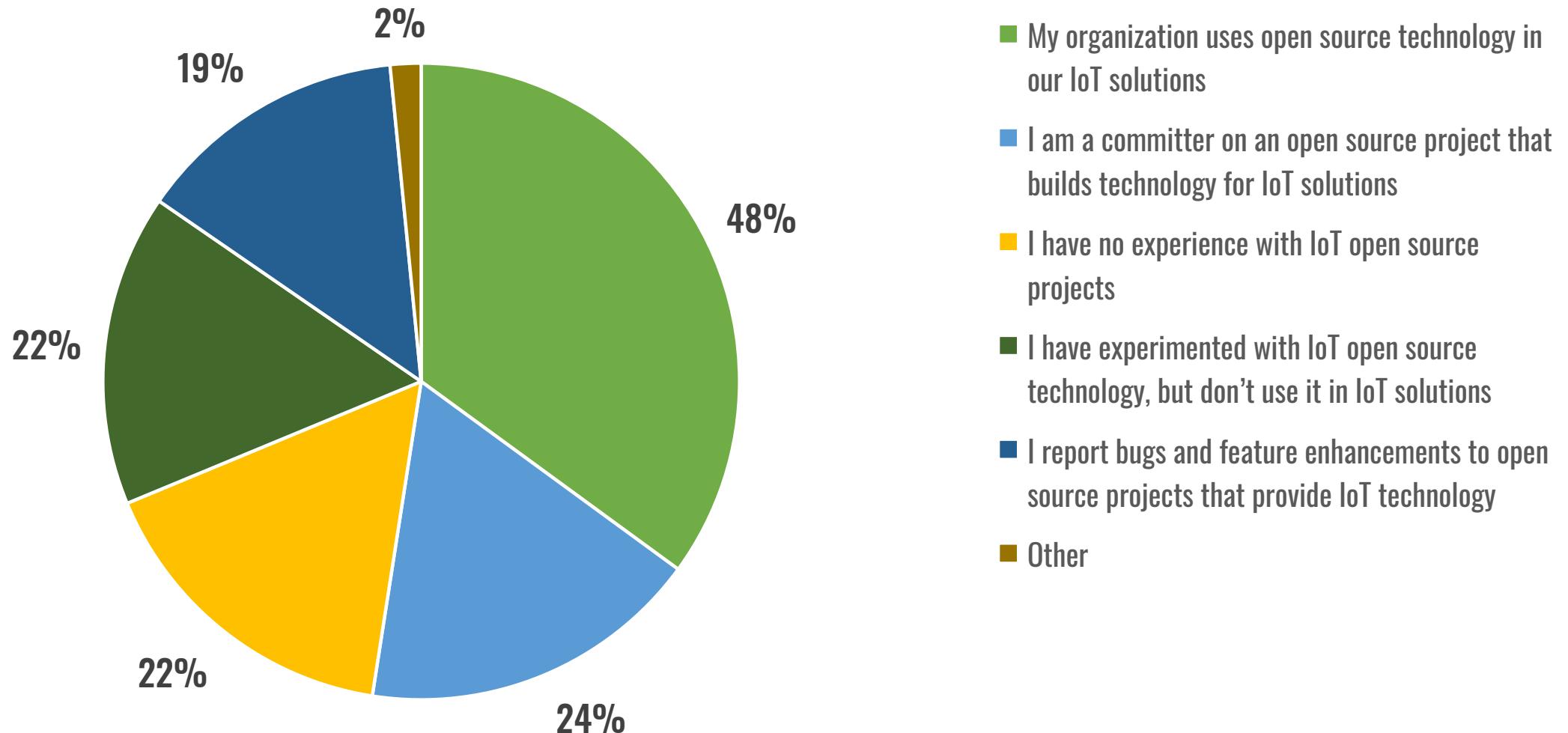




# IoT INDUSTRY PERCEPTIONS

# OPEN SOURCE POLICY

*Which of the following statement(s) best describes your IoT open source project participation?*



# IoT CONSORTIUMS

*How would you rank your organization's perceived importance of the following IoT Consortiums to your IoT strategy? ( 1 = Important, 5 = Never heard of them)*

	Important	Neutral	Not Important	Don't Know	Never heard of them	Average rating
Eclipse IoT	56.89%	21.20%	6.36%	11.31%	4.24%	1.85
Apache Foundation	44.24%	29.14%	8.63%	16.91%	1.08%	2.01
W3C	38.72%	31.58%	11.65%	15.79%	2.26%	2.11
IEEE	37.59%	28.95%	13.53%	18.05%	1.88%	2.18
IETF	29.02%	26.67%	10.59%	23.53%	10.20%	2.59
LoRa Alliance	30.80%	23.95%	13.31%	17.49%	14.45%	2.61
Industrial Internet Consortium (IIC)	19.23%	26.54%	14.23%	24.23%	15.77%	2.91
Open Mobile Alliance (OMA)	24.03%	22.09%	11.63%	21.32%	20.93%	2.93
OASIS	13.15%	27.09%	17.13%	25.10%	17.53%	3.07
Open Connectivity Foundation (OCF)	18.22%	22.48%	13.18%	23.64%	22.48%	3.1
oneM2M	15.18%	24.51%	15.18%	21.01%	24.12%	3.14
Thread Group	10.81%	20.08%	15.83%	24.71%	28.57%	3.4
OpenFog	11.37%	20.00%	10.59%	25.49%	32.55%	3.48

# TOP IoT CORPORATE LEADERS

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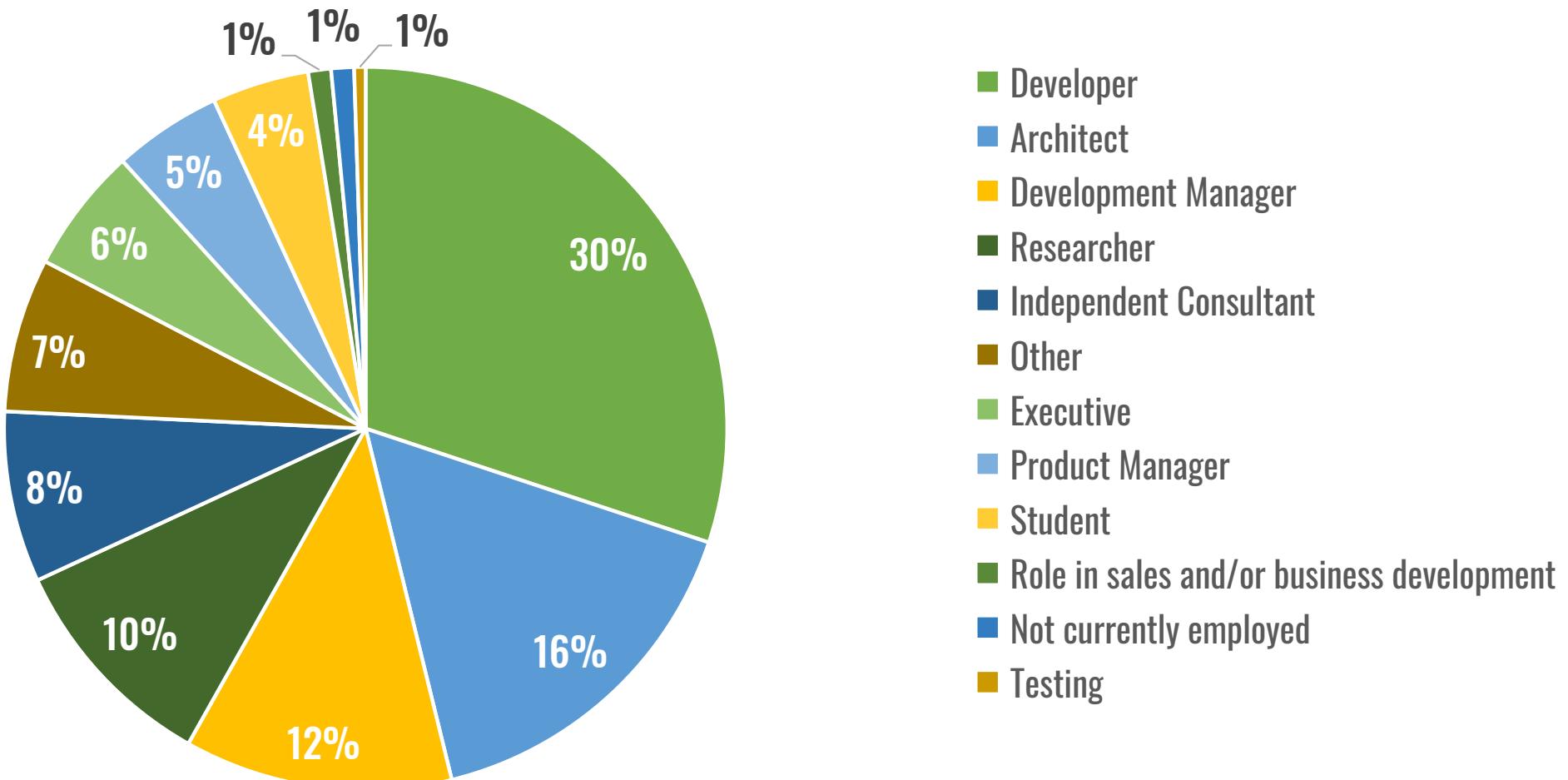


# WHO RESPONDED?

# JOB TITLE

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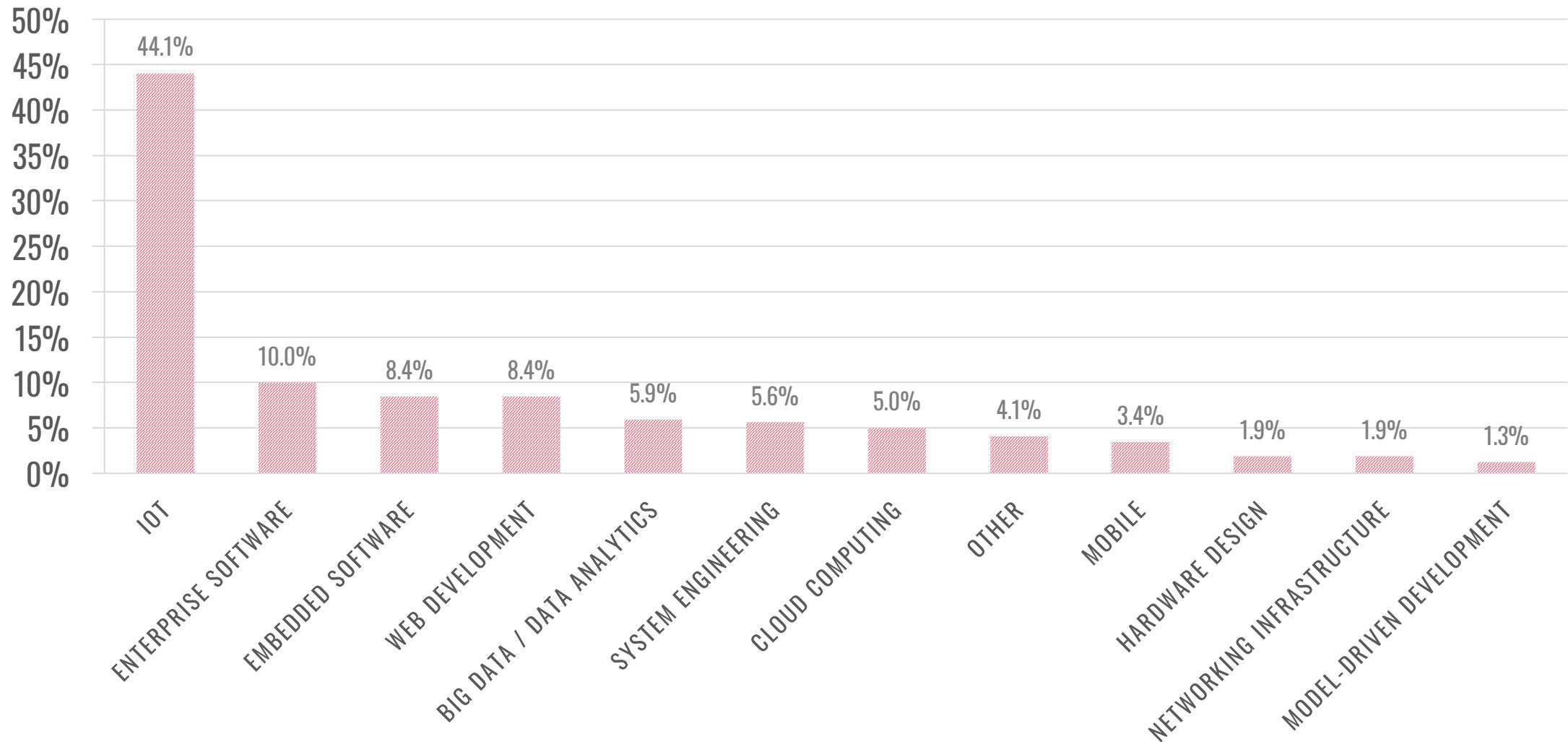
*What is your job title?*



# TECHNOLOGY FOCUS

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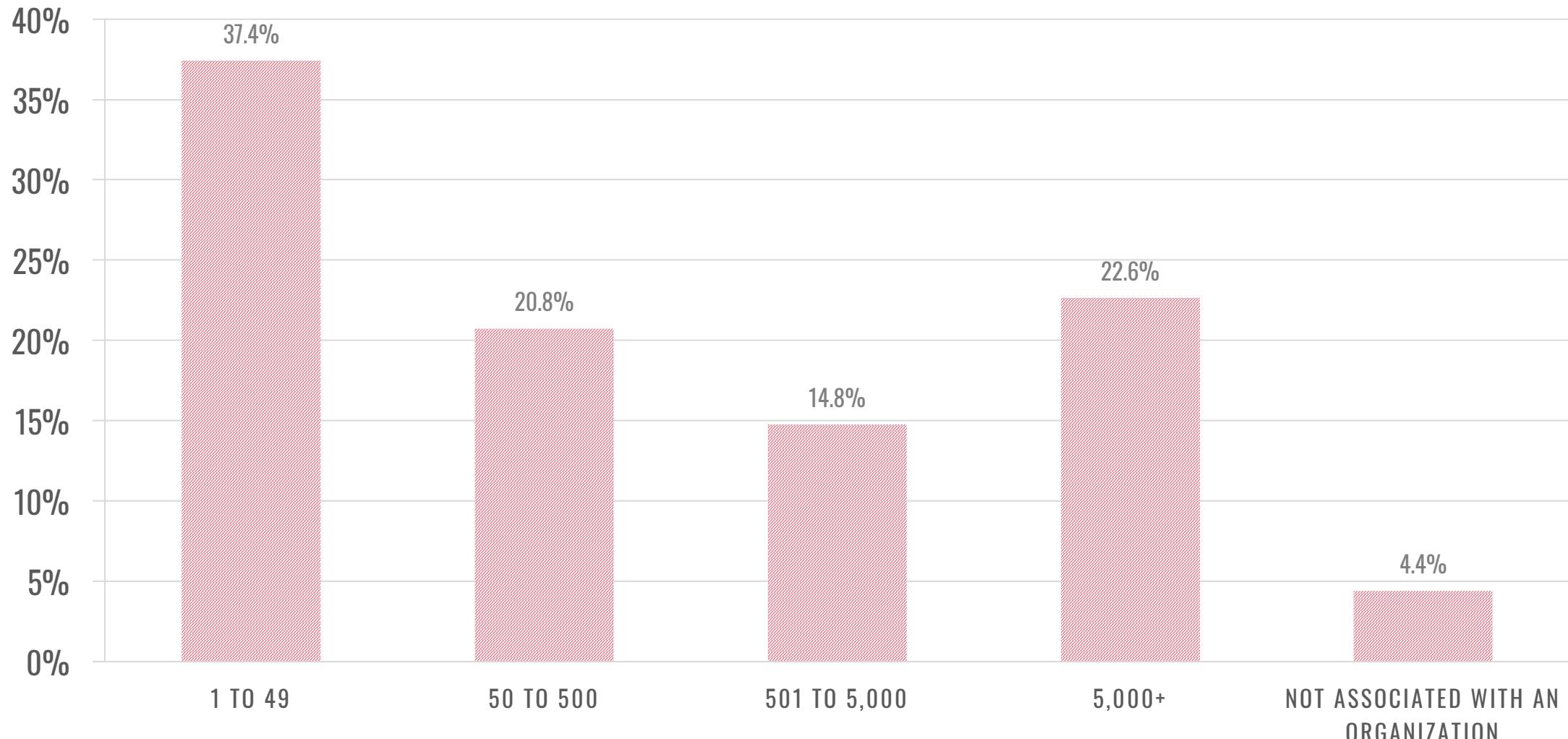
*What is your personal current technology focus within your organization?*



# ORGANIZATION SIZE

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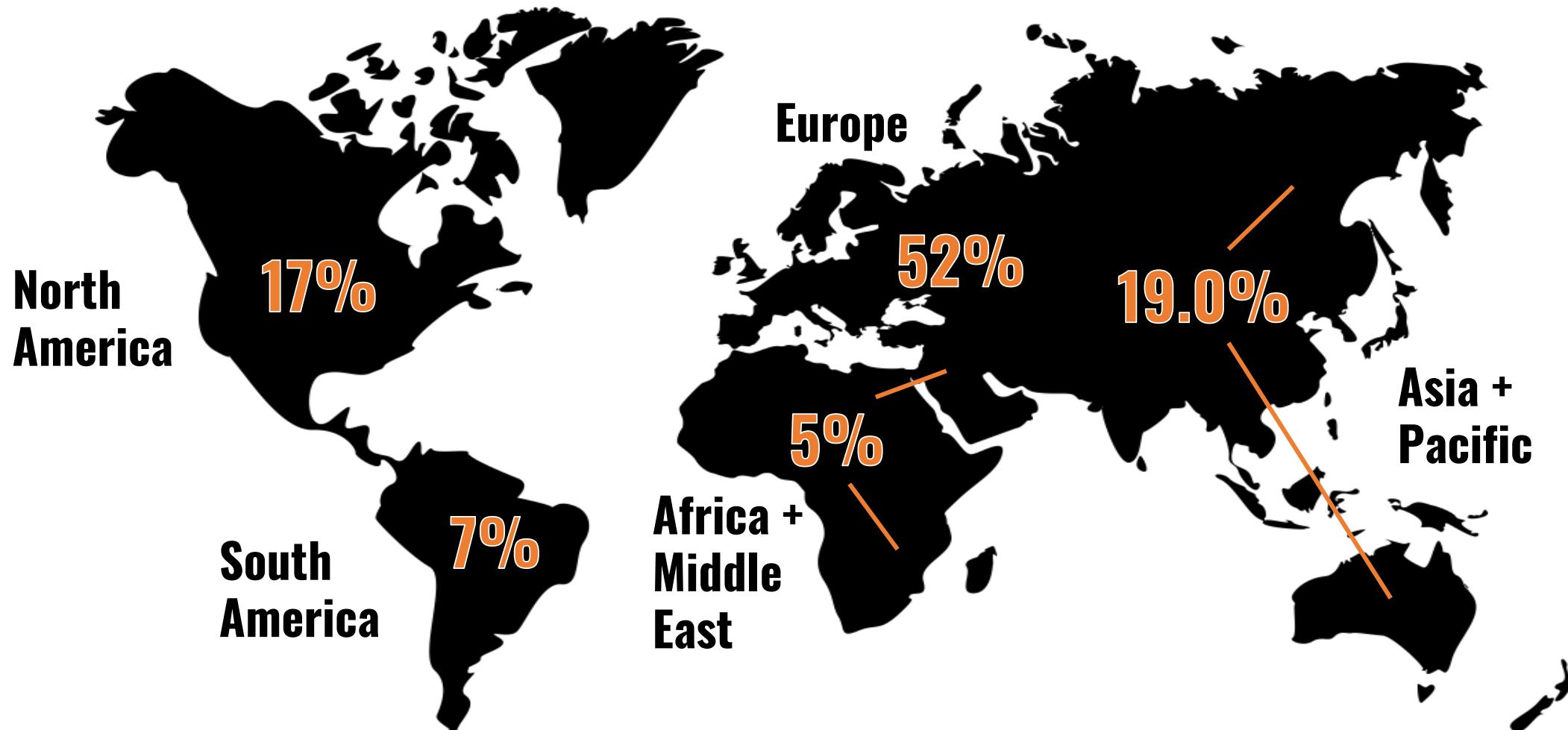
*How large is the organization you work for (# employees)?*



# REGION

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*Where do you live?*



# CONTACT INFORMATION

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[iot.eclipse.org](http://iot.eclipse.org)

 [@EclipselIoT](https://twitter.com/EclipselIoT)



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