



# SMARTER HOMES, MORE SECURITY WORRIES

Why service providers and router vendors need to start protecting connected homes now

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# EXECUTIVE SUMMARY

F-Secure's extensive research uncovers trends in consumer attitudes and behavior related to online security and privacy.

Despite a heightened awareness of security by consumers, concerns are continuing to escalate. Security worries are impacting behavior to the extent that consumers are postponing purchases of new smart home devices.

Complexity is a serious threat to security. According to our study, consumers feel overwhelmed with managing security across all their devices. They are turning to trusted sources for security – their communication service providers.

This, coupled with the finding that consumers are more willing to pay for security, means business opportunities for:

## **Communication service providers:**

Offer security as a service with connectivity, increase ARPU and customer stickiness.

## **Router vendors:**

Add security into gateway products and become the supplier of choice.

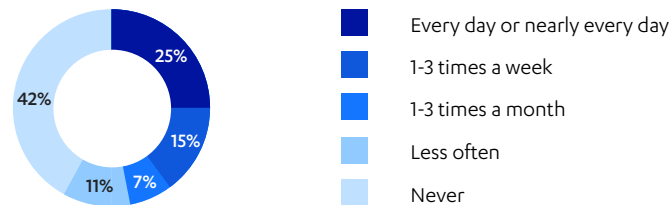
F-Secure's connected home security solution and the support of our experienced team will make providing customer security effortless for service providers and router vendors.

# WORKING FROM HOME HAS IMPACTED CONSUMER SECURITY AWARENESS

The COVID-19 pandemic has broken old habits and introduced new behaviors. According to McKinsey, “we have covered a decade in days in adoption of digital”.<sup>\*</sup> Working from home is one of the most significant changes brought about by the pandemic. It is impacting our online security awareness and behavior.

The hybrid work model has turned our homes into an extension of the workplace network. The majority of us (58%) now regularly work from home, 40% on a weekly basis. This means that our business laptops and phones share a network with our personal devices and a wide range of smart home devices.

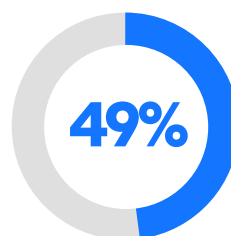
## WORKING FROM HOME HAS BECOME THE NORM



Smart home devices are notorious for their security flaws and vulnerabilities, which means they could also be risking the business devices connecting to the same network. This translates into a growing need of cyber security.

has increased for every second person (49%). **Internet service providers and router manufacturers have a key role in helping consumers** manage these risks. In this whitepaper you will learn more about the market need and business potential for connected home security.

The digital leap created by COVID-19 has affected our awareness of online security risks. Security awareness



have been working more from home in the last twelve months and this has increased their awareness of security risks

Source: McKinsey, How COVID-19 is changing consumer behavior – now and forever, July 30, 2020  
<https://www.mckinsey.com/industries/retail/our-insights/how-covid-19-is-changing-consumer-behavior-now-and-forever>



## EXTENSIVE MARKET RESEARCH TO UNDERSTAND CONSUMERS

Since 2014, F-Secure has surveyed consumers about their attitudes and behavior related to online security and privacy. Over four waves of research, we have interviewed over 27,000 consumers. In addition, we have conducted research related to specific themes such as identity protection and product packaging.

This report summarizes the findings of our latest study, conducted in June 2021, and compares those findings with those of our previous studies, conducted in 2015, 2018, and 2020. In these comparisons, we have used data from countries that were included in all studies: Brazil, France, Germany, the UK, and the USA.

### F-SECURE CONSUMER SURVEYS

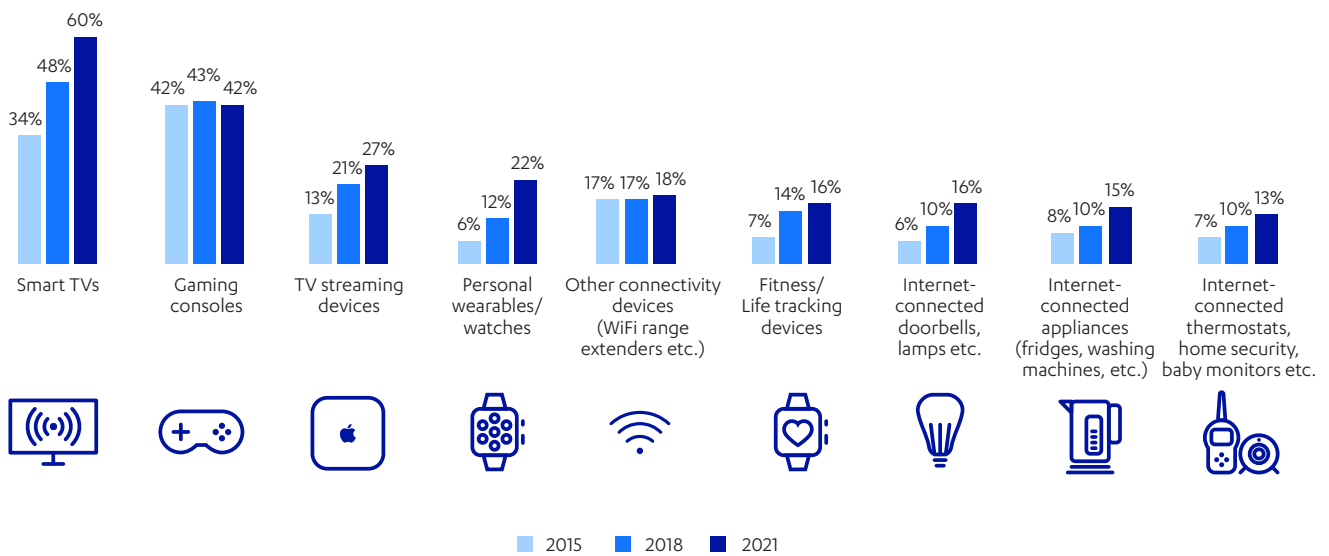
	<b>"WAVE 1"</b> (2014)	<b>"WAVE 2"</b> (2015)	<b>"WAVE 3"</b> (2018)	<b>"WAVE 4"</b> (2021)
<b>Country coverage</b>	<b>6 countries:</b> USA, UK, Germany, Brazil, Philippines	<b>11 countries:</b> USA, UK, Germany, France, Brazil, Sweden, Mexico, Argentina, Columbia, India, Italy	<b>8 countries:</b> USA, UK, Germany, France, Brazil, Mexico, Sweden, Japan	<b>9 countries:</b> USA, UK, Germany, France, Brazil, The Netherlands, Mexico, Sweden, Japan
<b>Sample size</b>	6 countries x 800 respondents - <b>4800 respondents</b>	11 countries x 800 respondents - <b>8800 respondent</b>	8 countries x 800 respondents - <b>6400 respondent</b>	9 countries x 800 respondents - <b>7200 respondent</b>

# THE NUMBER OF SMART HOME DEVICES KEEPS INCREASING

Our latest research shows a massive increase in the number of devices connecting to the home network. This growth is highest in the categories of smart TVs, TV streaming devices, personal wearables and fitness devices, internet-connected devices, such as doorbells and

home security, and appliances, such as fridges and coffee machines in the home. For internet-connected devices that have been part of our lives for a longer time, like gaming devices and Wi-Fi range extenders, the ownership has stabilized.

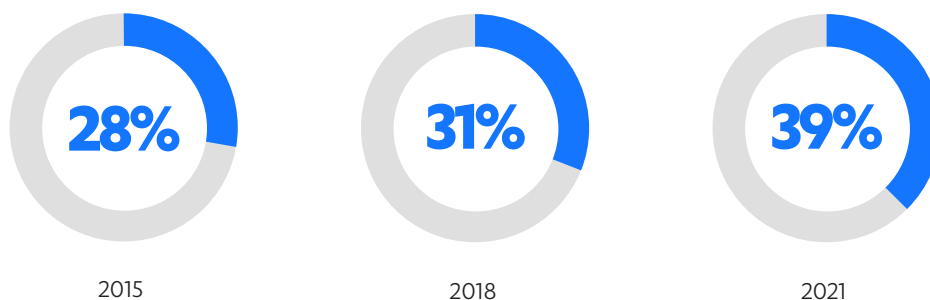
## SMART HOME DEVICE OWNERSHIP



39% of respondents to our study are planning to buy more smart Internet of Things (IoT) devices in the next 12 months as product variety, usability and benefits improve. Regardless of the positive development in

smart home device ownership and the growing purchase intent, security worries are casting a shadow over the IoT market outlook.

## CONSUMERS PLANNING TO BUY NEW SMART DEVICES IN THE NEXT 12 MONTHS







## IOT MARKET GROWTH IS DAMPENED BY CYBER SECURITY CONCERNS

The Internet of Things consumer market growth has accelerated in the past few years, driven by faster-than-expected adoption of B2C applications in the smart home. McKinsey estimates that the economic value of the global IoT market could be between \$5.5 trillion to \$12.6 trillion by 2030. B2C applications are expected to account for 35% to 38% of the total IoT value in 2030, up from 30% estimate in 2015.

However, one of the headwinds hindering the IoT market growth is the lack of cyber security. According to McKinsey, “Consumers, enterprise customers, and governments are increasingly concerned with IoT cyber security, as the rising number of connected endpoints offer vulnerable points for hackers to exploit. Addressing this challenge requires security to be built in from the ground up, through every layer of the stack.” \*

## WHICH CONSUMER SEGMENT IS DRIVING THE SMART HOME GROWTH?

Not all consumers are alike. Those who own many internet-connected devices, spend a good deal of time online and are excited about new technologies are undoubtedly a potential audience for online security and privacy – unless they are unengaged with and unwilling to pay for such services.

Understanding the preferences and motivations of different buyer segments helps you target your sales and marketing efforts towards consumers with the highest business potential. We have grouped consumers into four segments and identified the most lucrative segment for online security and privacy services.

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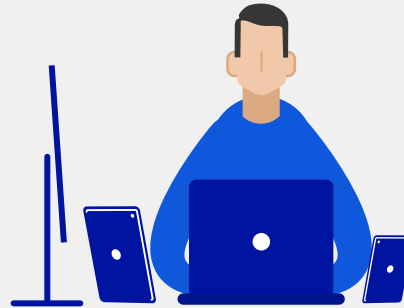
Source: McKinsey, Report “IoT value set to accelerate through 2030: Where and how to capture it”, November 9, 2021

# F-SECURE'S VALUE-BASED SEGMENTATION MODEL HELPS YOU ACHIEVE BETTER BUSINESS PERFORMANCE



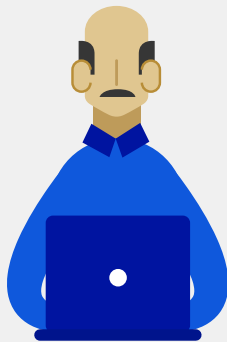
## Experience Seekers

- Active online, but security and privacy are not relevant
- The risks are seen as minimal - there is nothing to lose
- Protect some devices, but not all
- The least likely segment to pay for security



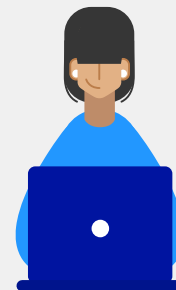
## Idea Hunters

- Early adopters of new technology
- Appreciate visibility of the functionality
- Appreciate all-in-one security
- Pay for extra features
- Likely to buy security and privacy from mobile or broadband service provider



## Stability Seekers

- Followers of the security market
- Not security, privacy, or tech savvy – struggle to keep up
- Not active online, typically the last one to adopt new technologies
- Likely to choose a free offering
- Only critical device(s) are protected



## Relationship Builders

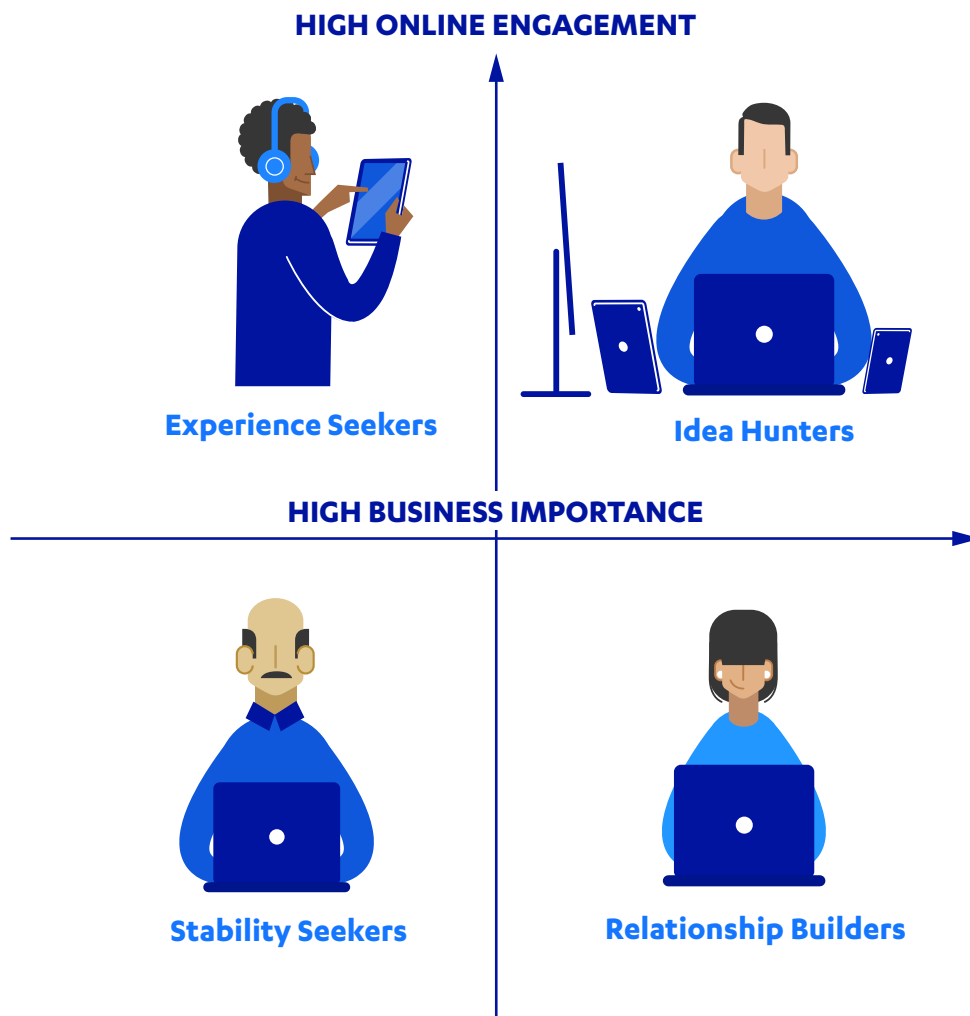
- Early majority customers for technology
- Security and privacy are important
- Receptive to security related messages
- Protect devices proactively
- Some pay for security, some don't



Consumers with **high online engagement** (Idea Hunters and Experience Seekers) own many internet-connected devices, spend a lot of time online, are interested in new technology and are early adopters. These segments are potentially more exposed to online threats.

The segments with the **highest business importance** (Idea Hunters and Relationship Builders) are proactive in installing and paying for security and privacy solutions, aware of cyber security risks, and take action when needed.

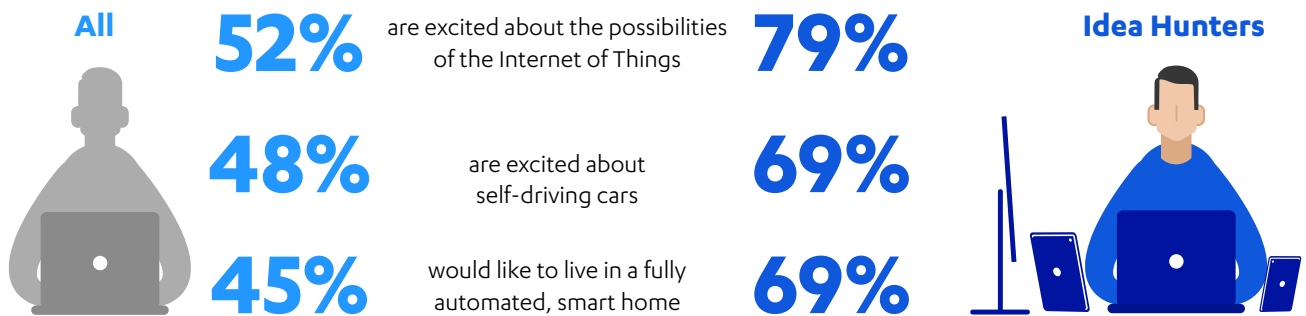
## IDEA HUNTERS ARE THE LEADING-EDGE SEGMENT, RELATIONSHIP BUILDERS HIGH-VALUE TOO



**Idea Hunters are the most lucrative segment** for security and privacy services, followed by Relationship Builders. Experience Seekers are active online, but their willingness to pay for security is the lowest. Idea Hunters are excited about the possibilities offered by new

technologies and lead the way in smart home devices purchases. Focusing your efforts on this segment makes sense – they are listening, they understand what you offer, and are willing to pay for it.

## IDEA HUNTERS ARE THE MOST EXCITED ABOUT THE ADDITIONAL VALUE THAT SMART THINGS CAN BRING TO THEIR DAILY LIVES



## IDEA HUNTERS LEAD THE WAY IN SMART HOME DEVICES PURCHASES



## CONNECTED HOME SECURITY WORRIES ON THE RISE

The growing number of smart devices in our homes places us at an elevated risk of cyber threats. Many IoT devices have not been designed with security in mind, nor do they have mechanisms for fixing vulnerabilities. Intense competition in the marketplace can drive manufacturers to overlook the security of their devices creating this risk.

Cyber criminals and hackers are aware of security flaws in IoT devices and are eager to exploit them. Criminals

can use unsecured devices to access the home network, hijack other devices in the network, such as laptops, tablets and phones, and steal valuable data.

Our research shows consumers recognize this risk. Respondents are very worried about connected home security (66%) and privacy (65%). Tech savvy Idea Hunters are the most worried (79% security and 75% privacy).

## CONNECTED HOME WORRIES

All



Idea Hunters



66%

are worried that one of their internet-connected devices (e.g., wearables, connected home appliances etc. excluding smartphones, laptops, tablets) could get **infected by a virus or malware, or be hacked.**

79%

65%

are worried that their new internet-connected devices (e.g., wearables, connected home appliances etc. excluding smartphones, laptops, tablets) could lead to a **violation of their privacy** (e.g., tracking their habits, health data etc. and informing unauthorized third parties)

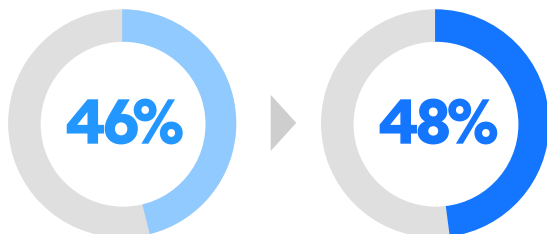
75%

Alarming, security and privacy concerns cause about half of consumers to avoid purchasing new smart home

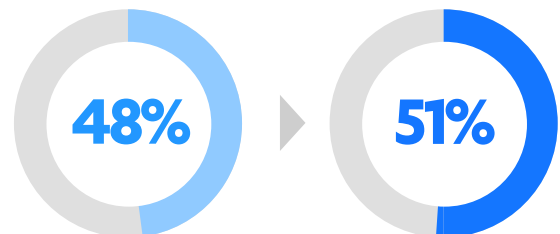
devices. Consumers postponed purchases of smart home devices more often in 2021 than in 2018.

## CONSUMERS POSTPONE SMART DEVICE PURCHASING DUE TO ONLINE SECURITY AND PRIVACY WORRIES

Online SECURITY worries



Online PRIVACY worries



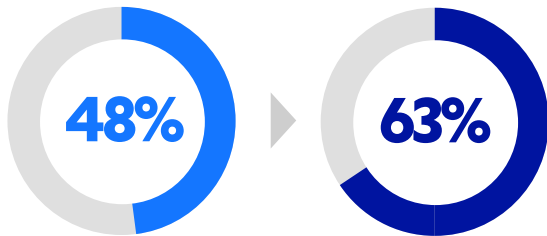
■ 2018 ■ 2021

As the most knowledgeable segment regarding online security, Idea Hunters are postponing their smart home device purchases the most. Idea Hunters are more excited about smart home opportunities and planning to

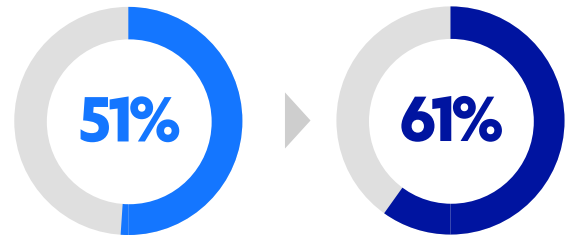
buy more smart home devices than the other segments, therefore, their behavior has the most significant impact on smart device market growth.

## CONSUMERS POSTPONE SMART DEVICE PURCHASING DUE TO ONLINE SECURITY AND PRIVACY WORRIES

### Online SECURITY worries



### Online PRIVACY worries



■ 2021 - All consumers ■ 2021 - Idea hunters

## IDEA HUNTERS ARE BY FAR THE MOST KNOWLEDGEABLE SEGMENT ABOUT ONLINE SECURITY

### All



44%

spend time reading about online security solutions and security threats

### Idea Hunters



74%

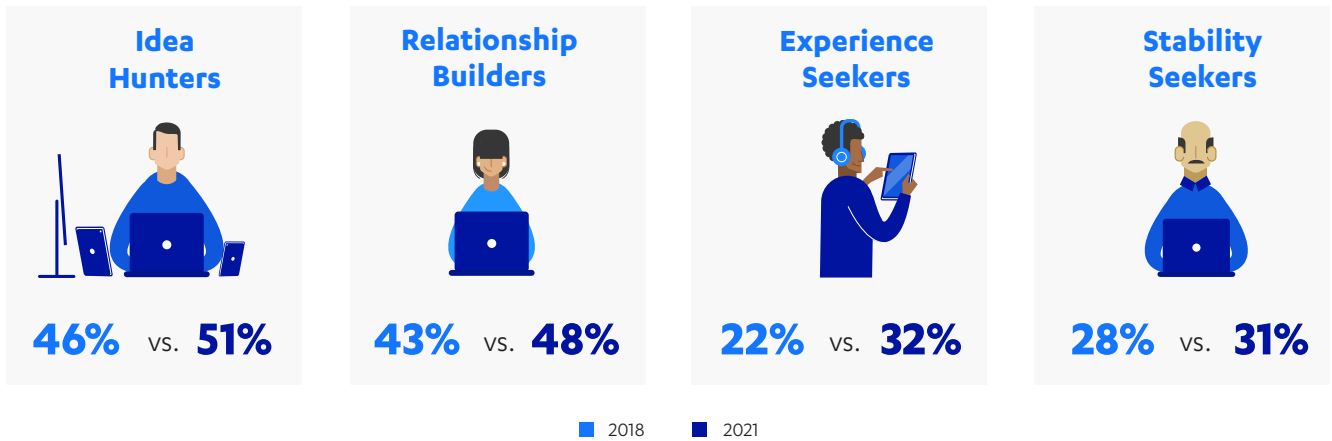
## PANDEMIC ANXIETY IMPACT: CONSUMERS LOOK FOR CONTROL

The pandemic-related restrictions and drop in socialization have had a negative impact on people's self-confidence and self-esteem. Optimism for the future has taken a beating. Consumers are looking for order and control in the face of uncertainty.

This has had clear implications for online security attitudes and behavior. **People are more inclined to**

**seek control of what they can control and reduce risks of what they can't.** Online security has become more important, and its valuation for all segments has grown.

## WILLINGNESS TO PAY FOR ONLINE SECURITY AND PRIVACY SOLUTIONS

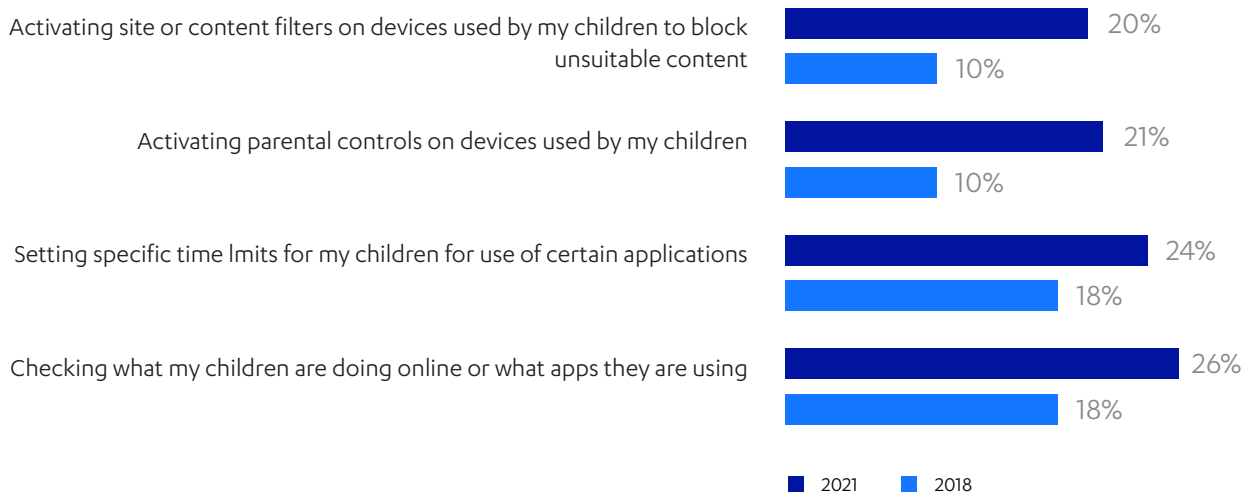


## THE COMPLEXITY OF MANAGING ONLINE SECURITY AND KEEPING KIDS SAFE

As the online threat landscape diversifies, the increasing number of devices require protection. This feels overwhelming to the majority of consumers. 61% say that trying to manage security across all their connected devices is almost an impossible task.

The pandemic has also influenced children’s online habits. As lockdowns increased children’s screen time, their parents have awakened to the need to keep them safe online. Usage of parental controls and content filters has doubled from pre-pandemic levels.

## KEEPING KIDS SAFE ONLINE BECOMING MORE IMPORTANT





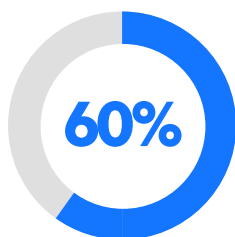
## CONSUMERS TURN TO SERVICE PROVIDERS FOR SECURITY AND PEACE OF MIND

Online security is a natural extension of internet connectivity and the devices you provide to your customers. 64% of the respondents to our survey say they would prefer to purchase online security and privacy services from their internet service provider, up from 60% in 2018.

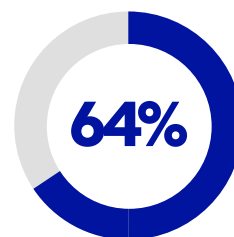
Being on the receiving end of positive consumer attitudes puts service providers in a great position to help customers, increase ARPU and reduce churn. Giving customers a sense of security and control over their digital lives will elevate their trust – and ensure their stickiness.

### CONSUMERS WANT TO BUY SECURITY FROM THEIR INTERNET SERVICE PROVIDER

in 2018



in 2021





# HOW SERVICE PROVIDERS CAN PROTECT THEIR CUSTOMERS' CONNECTED LIVES

The pandemic has increased consumers' awareness of online threats and their willingness to pay for security. Given that they are also more eager to buy security from their service providers creates an opportunity for you.

Ensure peace of mind for your customers with F-Secure's connected home security solution. It consists of two seamlessly integrated products: F-Secure SENSE for protecting all internet-connected devices at home and F-Secure TOTAL for securing your customers phones, tablets, PCs and Macs also on the go.

## SMART HOME SECURITY

Protects connected devices against online threats and hacking



## BROWSING & BANKING PROTECTION

Lets users explore the internet with worry-free online banking and shopping



## MALWARE PROTECTION

Keeps devices safe from viruses, trojans, spyware and ransomware



## PRIVACY PROTECTION

Stops trackers and ensures your customers have privacy online



## IDENTITY PROTECTION

Secures your customers' passwords and offers 24/7 monitoring with alerts if their ID has been stolen



## FAMILY RULES

Lets parents set healthy boundaries for their children at home and on the go



## PROTECTION ON THE GO

Protects phones, tablets, PCs, Macs everywhere, even on public Wi-Fi



## DEVICE RECOGNITION

Lets users see and manage all devices connected to their home networks



## HYPER SPEED

Minimizes security impact on consumer broadband speeds

You can offer the award-winning online security as an all-in-one package, or with features that best match your value proposition. Choose to offer as-is, or customize with your own name and branding.

new customers with a compelling security offering covering the connected home and beyond. Start securing your customers' digital moments now – and enjoy their trust.

Partner with the global leader in the service provider channel. Respond to real consumer concerns and attract



## HOW ROUTER VENDORS CAN PROVIDE SECURE WI-FI TO THEIR CUSTOMERS

Homes have now become an extension of the office network, As the number of IoT devices increases exponentially, consumers are becoming more and more concerned about security risks. You can be part of the solution.

Add security into your gateway products from the ground up with the help of our experienced team. Deliver your customers a fast and secure Wi-Fi that protects against online threats targeting connected home devices.

With us, being secure does not mean you have to worry about sacrificing speed. Our industry-leading

HyperSpeed technology ensures maximum security with virtually no impact on throughput and latency. Our software works on a variety of platforms, we are experienced with Broadcom, EcoNet, Intel, and Realtek chipsets, and xDSL, FttX, and Docsis access technologies.

A skilled team of expert developers and quality assurance will support you all the way. When you team up with F-Secure, we'll help you with your go-to-market approach and sales channels worldwide. More than 20 CPE and Wi-Fi management technology providers have integrations with us – and appreciate working with us.

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Get in touch with us to learn more:  
[f-secure.com/operators](https://f-secure.com/operators)

## ABOUT F-SECURE

Nobody knows cyber security like F-Secure. For three decades, F-Secure has driven innovations in cyber security, defending tens of thousands of office, homes, and millions of people. F-Secure shields enterprises and consumers against everything from advanced cyber attacks and data breaches to widespread ransomware infections. F-Secure's AI-driven solutions also help to protect the connected devices and homes of your customers. The unique combination of technology and world-class Business Services supporting the entire customer lifecycle is what makes F-Secure an excellent fit for the service provider channel.

[f-secure.com/operators](https://f-secure.com/operators)

