

Nokia 5G Readiness Report

Data breakdown - regional findings and methodology

Contents

- Global data
- <u>Australia</u>
- <u>Finland</u>
- <u>Germany</u>
- Japan
- Saudi Arabia
- South Korea
- United Kingdom
- United States
- Survey methodology and demographics



Global findings



Growth is on the horizon

43% of technology decision makers have increased their overall investment in their strategic technology planning. This represents a 27% net increase in the number of budgets that have increased.

			ced our overall investment	Our investment levels have not changed	
		We have incre	eased our overall investment		Net change in those investing more
	Total	16%	41%	43%	+27%
Market	UK	12%	41%	47%	+35%
TIAIRCC	Germany	11%	47%	42%	+31%
	South Korea	17%	38%	46%	+29%
	Finland	14%	44%	43%	+29%
	US	14%	44%	42%	+28%
	Australia	18%	39%	43%	+25%
	Japan	22%	33%	45%	+23%
	Saudi Arabia	21%	41%	38%	+17%
Costor					
Sector	Healthcare	11%	39%	50%	+39%
	Mining	10%	42%	48%	+38%
	Energy & Utilities	17%	36%	48%	+31%
	Public Sector	13%	48%	38%	+25%
	Transportation	20%	40%	40%	+20%
	Manufacturing	23%	40%	37%	+14%

The extent to which the pandemic has impacted business technology requirements

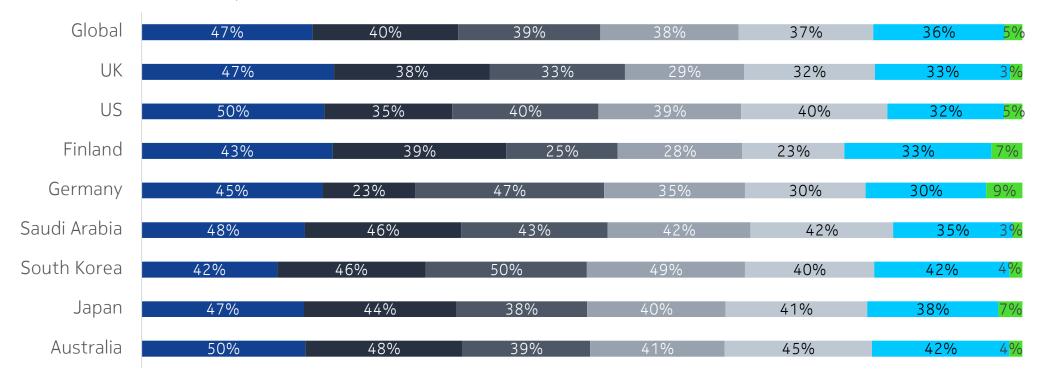
95% of technology purchasers have had their technology requirements impacted by COVID-19

We need greater provision for remote working for staff
 We need to digitally transform our business operations
 We need more investment in cyber security
 It hasn't impacted

We need greater provision for online services for customers

■ We need greater automatation of operations

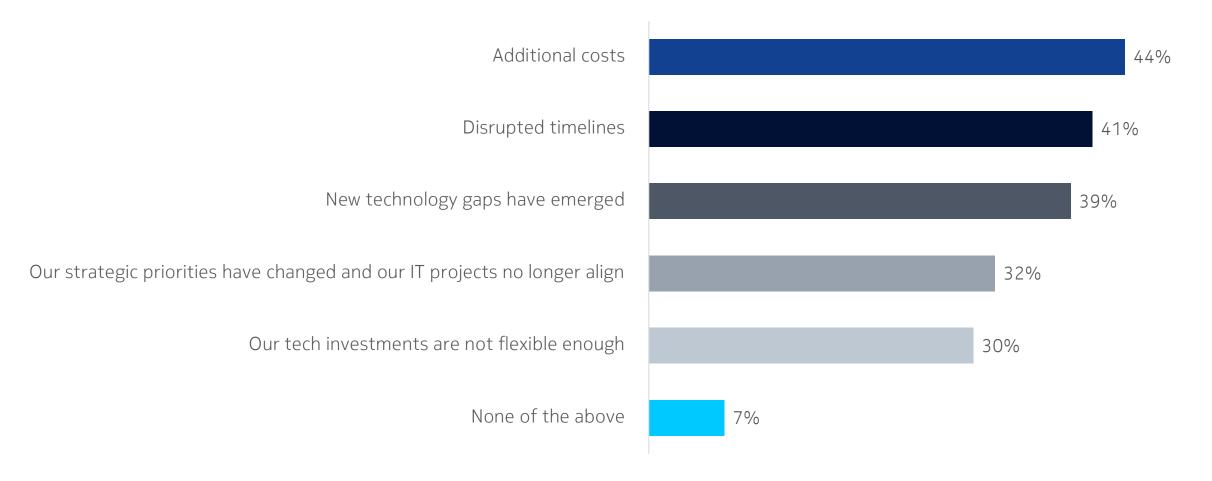
We must digitise our customer or client-facing operations



Q. To what extent has the pandemic impacted your business' technology requirements?

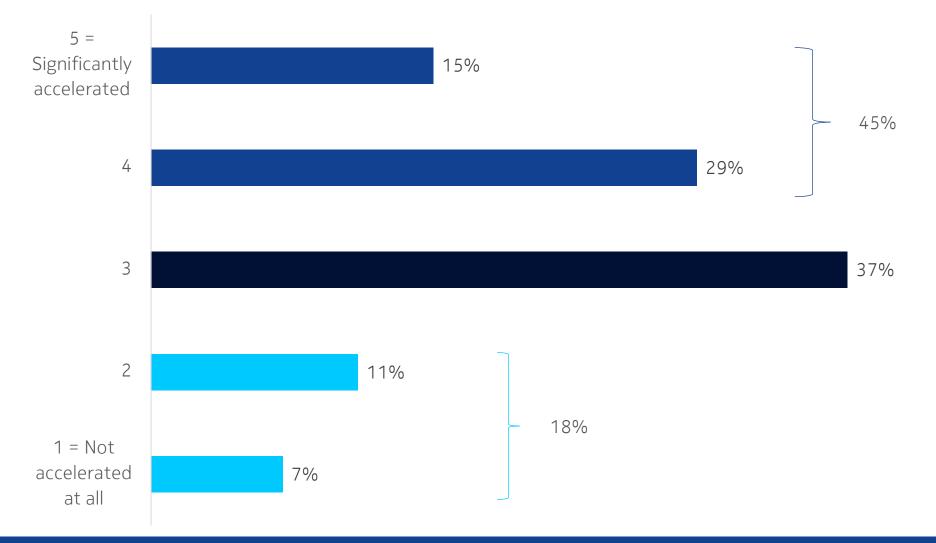
The COVID impact

Additional costs (44%), disrupted timelines (41%) and the emergence of new technology gaps (39%) have been the most prevalent impacts of COVID-19 on technology road maps.



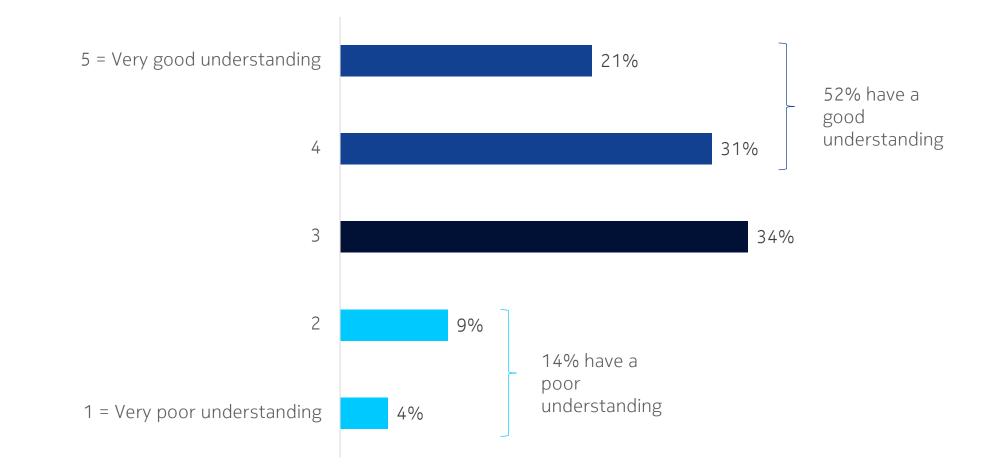
Digital transformation - the COVID effect

45% have expediated their digital transformation program due to COVID-19.



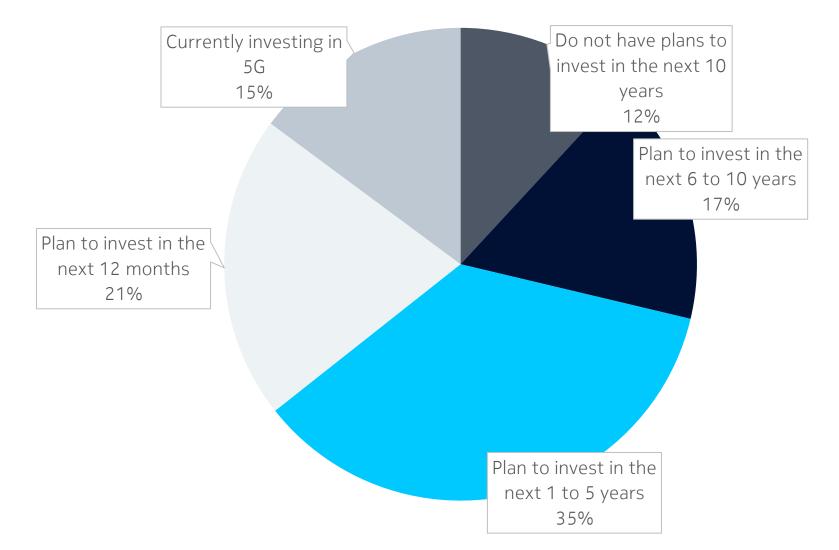
Levels of understanding are still mixed

Only half of technology decision makers (52%) think there is a good understanding of 5G in their organization



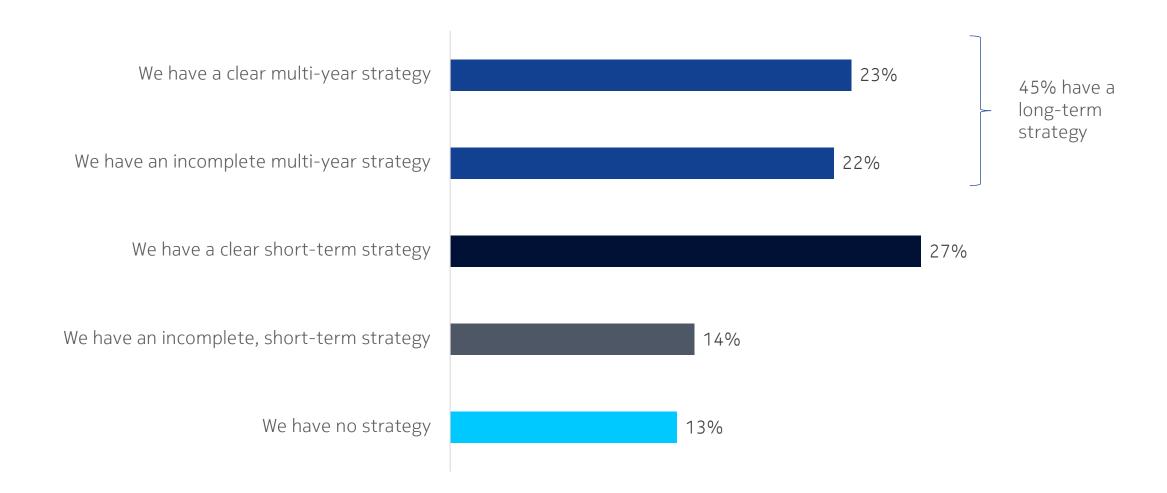
Planning for 5G

15% are currently investing in 5G; with 71% planning investment in the next 5 years



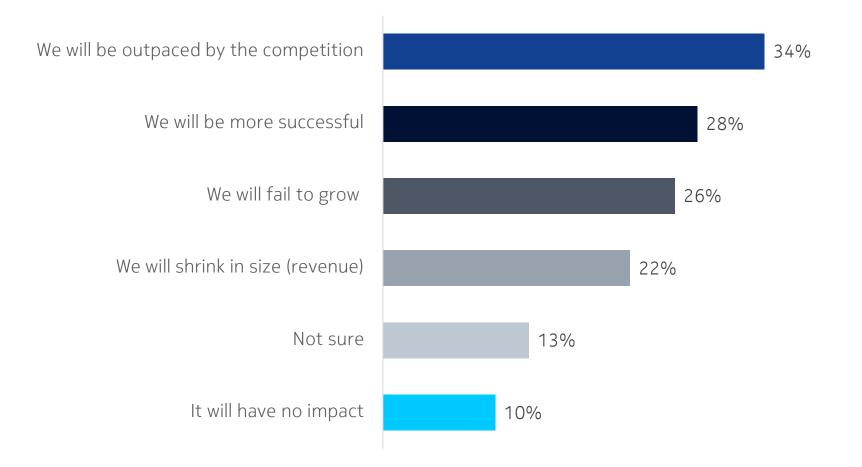
A short or long-term approach?

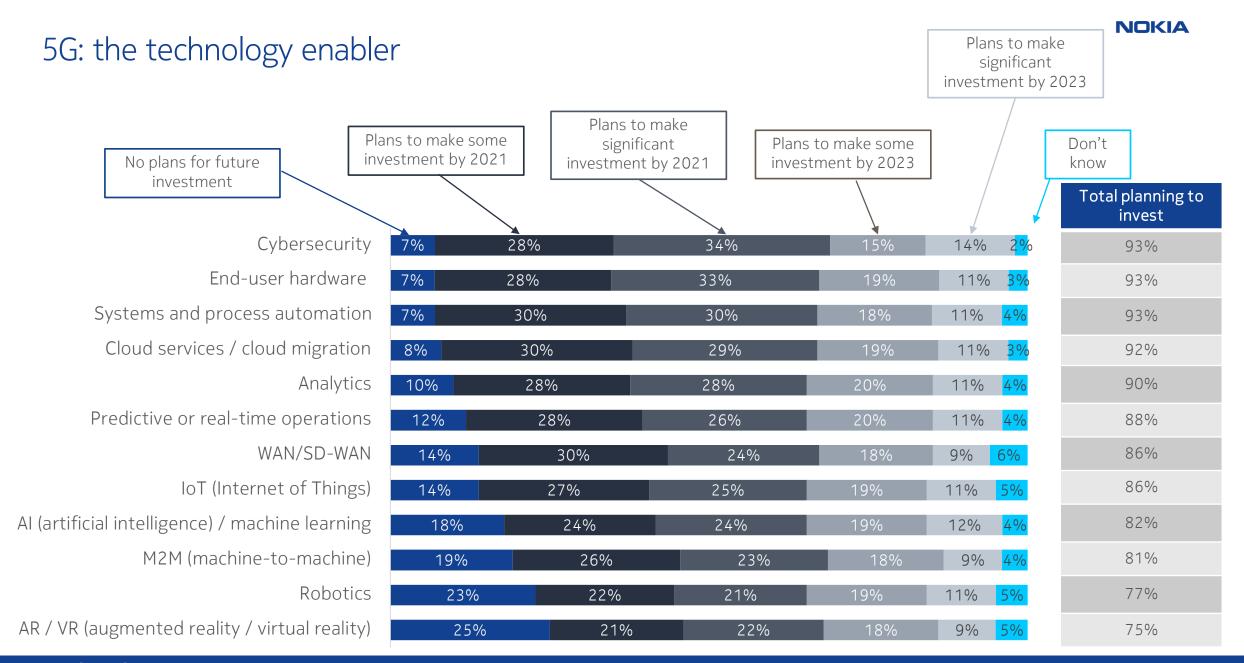
45% of technology decision makers have a long term 5G strategy Just over 1 in 10 have no strategy whatsoever (13%)



The risks of standing still

A third of organizations fear being outpaced by the competition should they not invest in 5G.

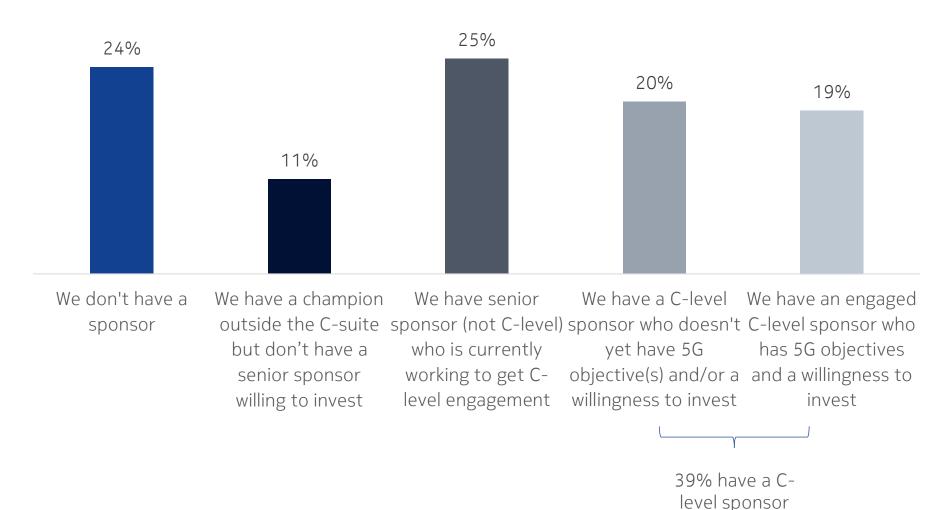




Q. Which of the following will your organization invest in over the next 2-3 years?

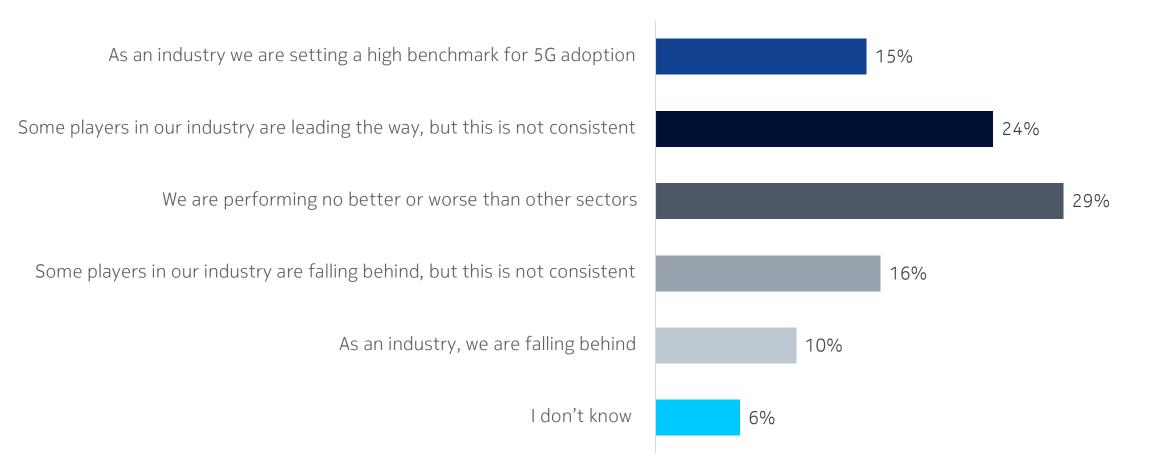
Leading from the top?

40% of organizations have a C-level sponsor for 5G implementation but a quarter don't have any 5G champion within management (24%)



5G: Few are resting on their laurels

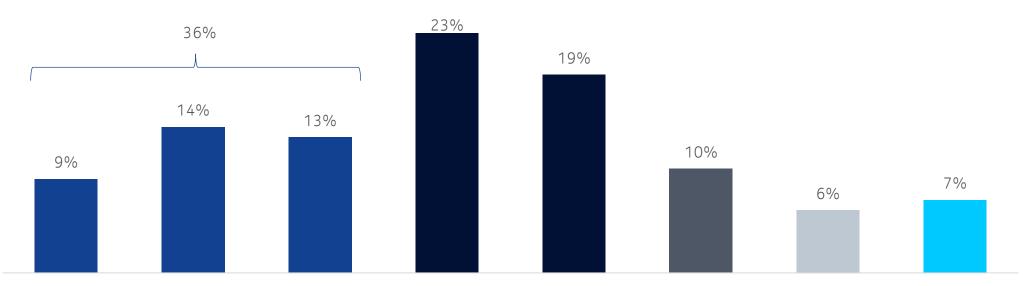
Businesses aren't overstating their place: they are most likely to feel that their industry is middling in terms of 5G adoption.



Q. Do you believe your industry is leading, or falling behind, in 5G adoption?

5G: Where next, post-COVID?

1 in 10 are not implementing a clearer 5G investment plan due to COVID-19 Just over a third (36%) are still on hold

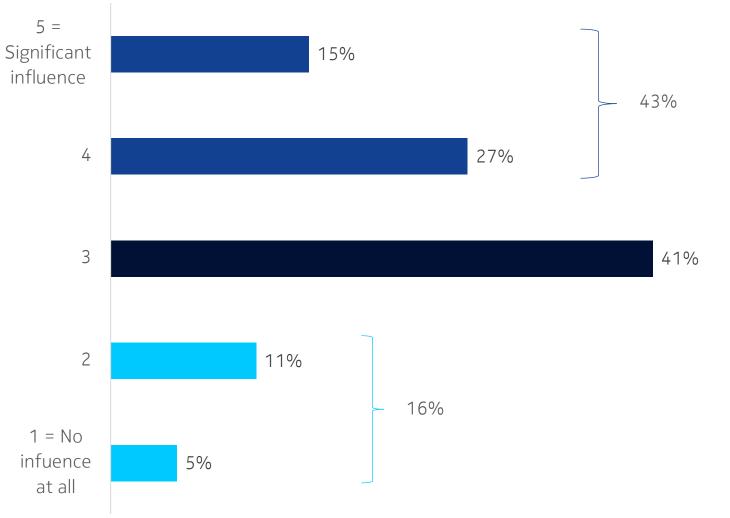


All plans have Plans were put on Plans were put on We have a clearer We have a clearer We have a clearer Coronavirus has We have no plans been put on hold hold at the start hold at the start view of how we view of how we view of how we not made any for 5G until there is of the pandemic of the pandemic; need to evolve need to evolve need to evolve impact on our investment or more certainty and we are now having reviewed but are unable to and are in the and are in the plans for 5G implementation about the future re-evaluating them, they are no make any firm process of process of investment and / them for the longer fit for developing this implementing this planning or future commitments plan implementation purpose plan until we have more certainty about the future

Base: 1628

5G: The benefits of the unknown

The unknown potential of 5G being fully introduced is an influence on those who are the most ready for 5G in their organization.



Q. A comprehensive list of what 5G can do is impossible to put together because it's not possible to predict every disruptive technology, app or unintended consequence of the network being introduced. To what extent does / will this prospect influence

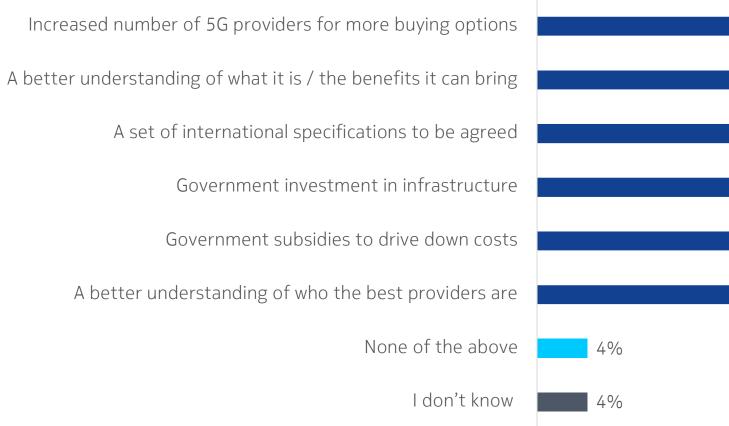
5G: What's stopping organizations?

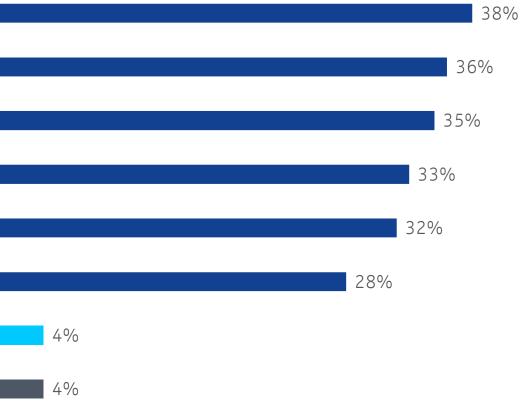
Availability of 5G enabled products and costs are the biggest barriers to 5G investment

The costs are too high It is not a priority right now22%Security risks22%Lack of coverage19%I'm worried about the political debate surrounding it (nationally / internationally)18%The decision makers within the business do not understand it17%I am not confident that we would be able to implement the associated technologies15%I don't know enough about it14%I don't understand the true benefits13%There are concerns within the business about its links to health13%I don't believe it will bring benefits to the business11%I don't understand it11%I don't understand it11%I don't understand it11%I don't believe it will bring benefits to the business11%I don't understand it7%	Availability of 5G-enabled products	28%
Security risks Lack of coverage I'm worried about the political debate surrounding it (nationally/ internationally) The decision makers within the business do not understand it I am not confident that we would be able to implement the associated technologies I don't know enough about it I don't understand the true benefits There are concerns within the business about its links to health I don't believe it will bring benefits to the business I don't understand it I don't understand it I don't understand it I don't understand it	The costs are too high	26%
Lack of coverage19%I'm worried about the political debate surrounding it (nationally / internationally)18%The decision makers within the business do not understand it17%I am not confident that we would be able to implement the associated technologies15%I don't know enough about it14%It is unproven13%I don't understand the true benefits13%There are concerns within the business about its links to health13%I don't believe it will bring benefits to the business11%I don't understand it11%I don't believe it will bring benefits to the business11%I don't understand it11%I don't understand it11%	It is not a priority right now	22%
I'm worried about the political debate surrounding it (nationally / internationally) The decision makers within the business do not understand it I am not confident that we would be able to implement the associated technologies I don't know enough about it I don't understand the true benefits There are concerns within the business about its links to health I don't believe it will bring benefits to the business I don't understand it I don't understand it I don't believe it will bring benefits to the business I don't understand it I don't understand it I don't understand it	Security risks	22%
The decision makers within the business do not understand it I am not confident that we would be able to implement the associated technologies I don't know enough about it It is unproven I don't understand the true benefits There are concerns within the business about its links to health I can't identify a provider I don't believe it will bring benefits to the business I don't understand it U don't understand it	Lack of coverage	19%
I am not confident that we would be able to implement the associated technologies I don't know enough about it It is unproven I don't understand the true benefits There are concerns within the business about its links to health I can't identify a provider I don't believe it will bring benefits to the business I don't understand it U don't understand it	I'm worried about the political debate surrounding it (nationally / internationally)	18%
I don't know enough about it It is unproven I don't understand the true benefits There are concerns within the business about its links to health I can't identify a provider I don't believe it will bring benefits to the business It won't benefit my business I don't understand it There are concerns within the business about its links to health I can't identify a provider I don't believe it will bring benefits to the business I don't understand it I don't understand it	The decision makers within the business do not understand it	17%
It is unproven I don't understand the true benefits There are concerns within the business about its links to health I can't identify a provider I don't believe it will bring benefits to the business I don't benefit my business I don't understand it 7%	I am not confident that we would be able to implement the associated technologies	15%
I don't understand the true benefits There are concerns within the business about its links to health I can't identify a provider I don't believe it will bring benefits to the business It won't benefit my business I don't understand it 7%	I don't know enough about it	14%
There are concerns within the business about its links to health I can't identify a provider I don't believe it will bring benefits to the business It won't benefit my business I don't understand it	It is unproven	14%
I can't identify a provider I don't believe it will bring benefits to the business It won't benefit my business I don't understand it 7%	I don't understand the true benefits	13%
I don't believe it will bring benefits to the business It won't benefit my business I don't understand it 7%	There are concerns within the business about its links to health	13%
It won't benefit my business 11%	I can't identify a provider	11%
I don't understand it 7%	I don't believe it will bring benefits to the business	11%
	It won't benefit my business	11%
	I don't understand it	7%
None of the above 6%	None of the above	6%

How can they get there?

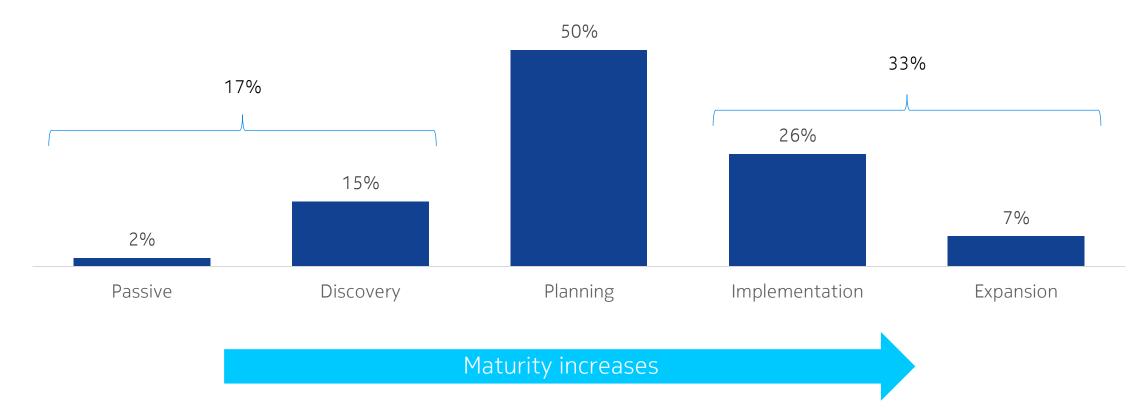
More 5G providers and a better understanding of the benefits would encourage greater investment in 5G





5G maturity – the current picture

Globally, a third of organizations are at the top end of 5G maturity (33%), with 7% at the highest level; just under 1 in 5 (17%) have lower 5G maturity; and half occupy a middle ground.



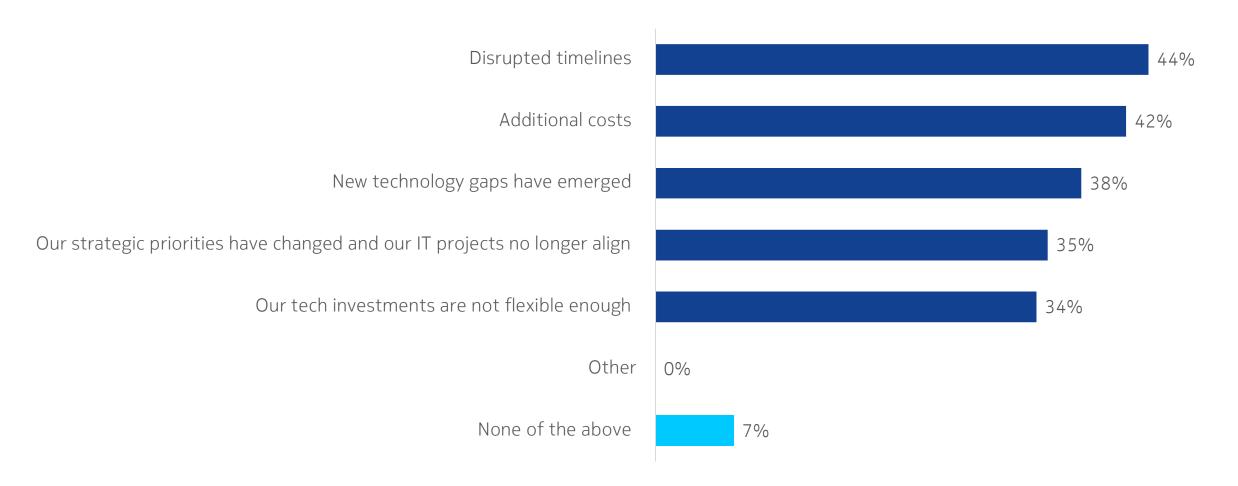
Australia





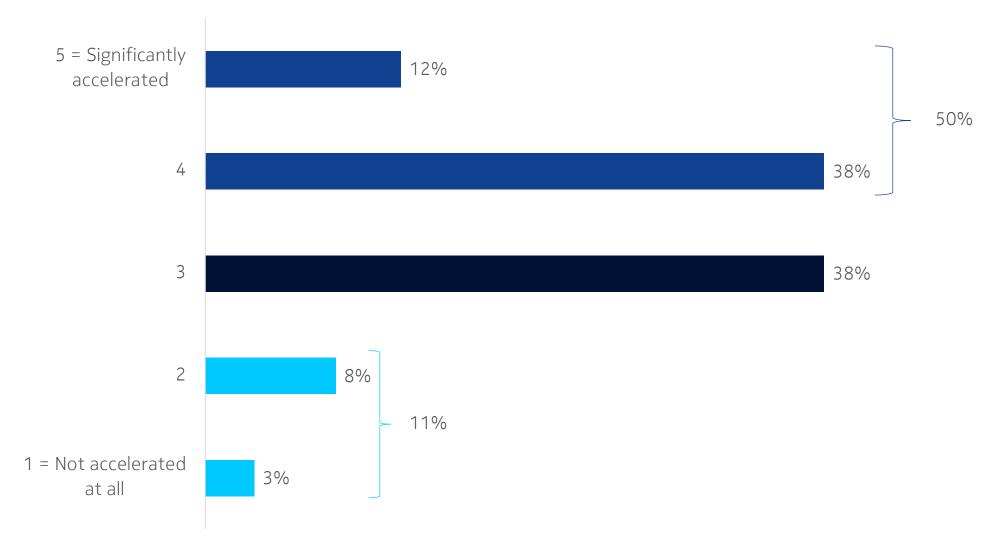
The COVID impact

Disrupted timelines (44%), additional costs (42%) and the emergence of new technology gaps (38%) have been the most prevalent impacts of COVID-19 on technology road maps



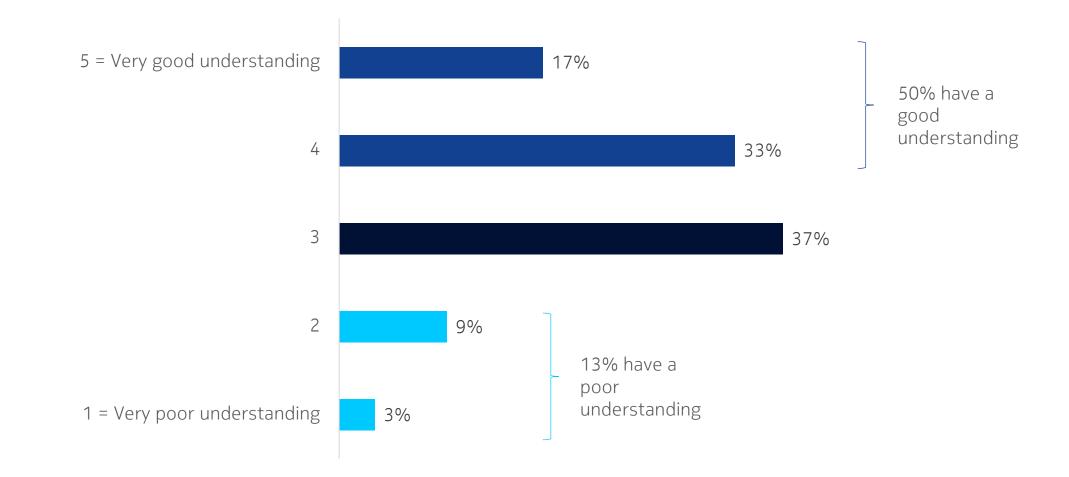
Digital transformation - the COVID effect

Half have expediated their digital transformation program due to COVID-19 (50%)



Levels of understanding are still mixed

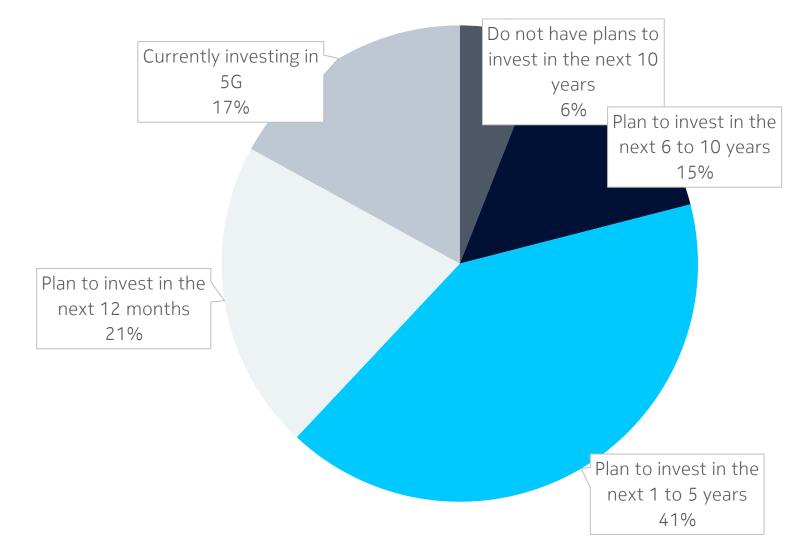
50% think there is a good understanding of 5G in their organization



Q. How would you describe the understanding of 5G in your business?

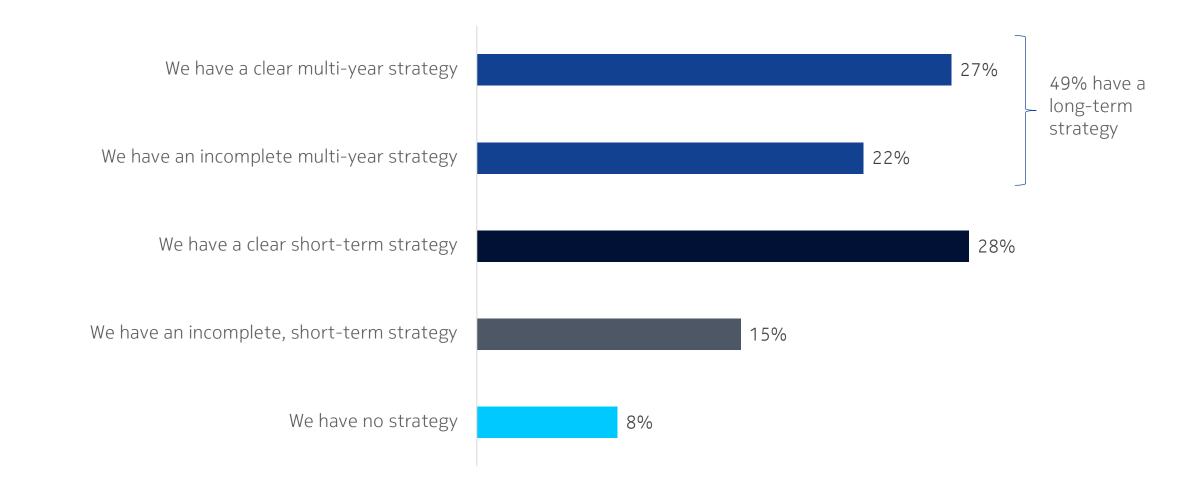
Planning for 5G

17% are currently investing in 5G; with 79% planning investment in the next 5 years



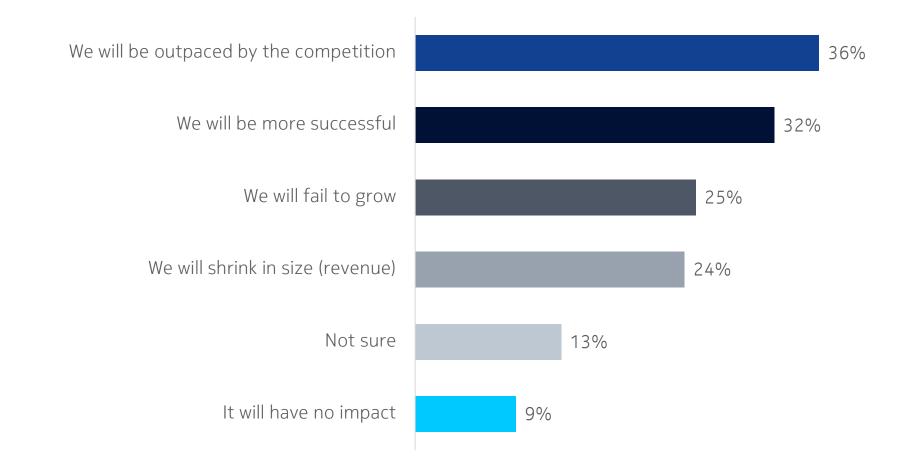
A short or long-term approach?

49% of technology decision makers have a long term 5G strategy Just under 1 in 10 have no strategy whatsoever (8%)



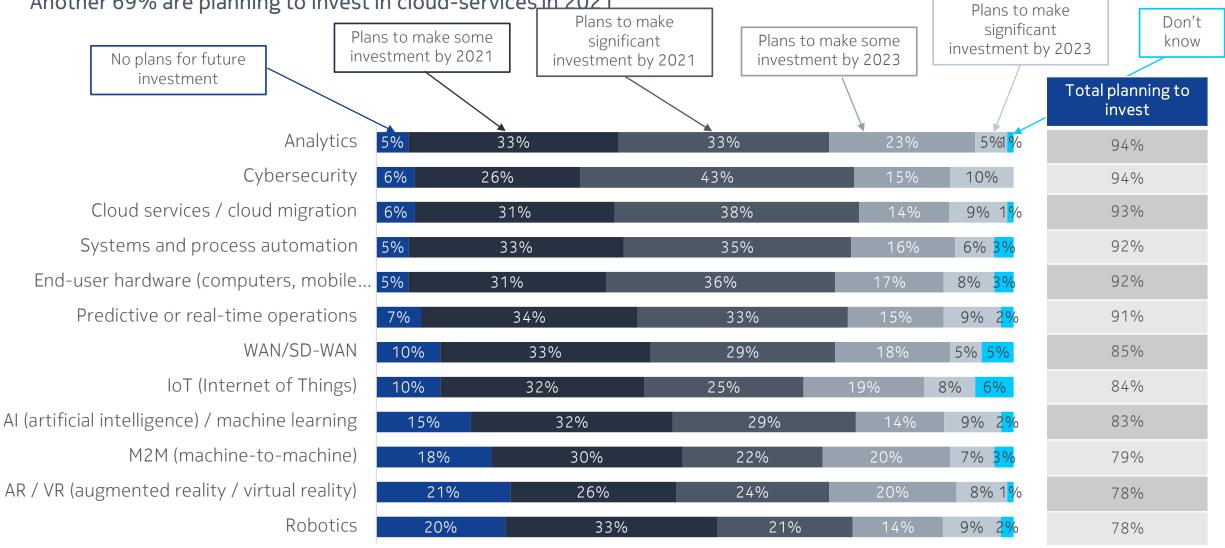
The risks of standing still

Over a third fear being outpaced by the competition should they not invest in 5G (36%), however 32% feel whatever their 5G investment they will still be successful



5G: the technology enabler

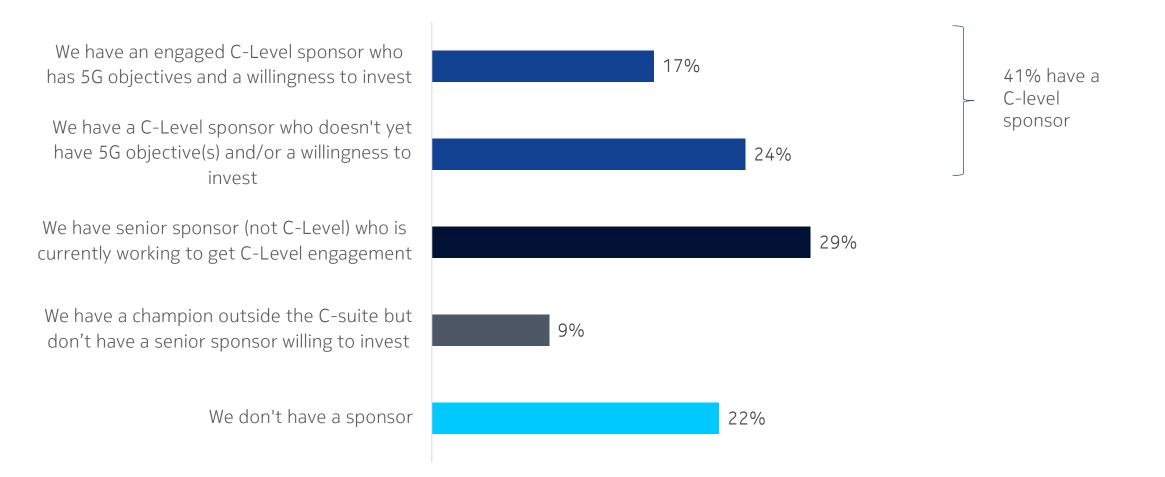
69% of technology buyers are planning investment in cybersecurity in 2021 Another 69% are planning to invest in cloud-services in 2021



Q. Which of the following will your organization invest in over the next 2-3 years?

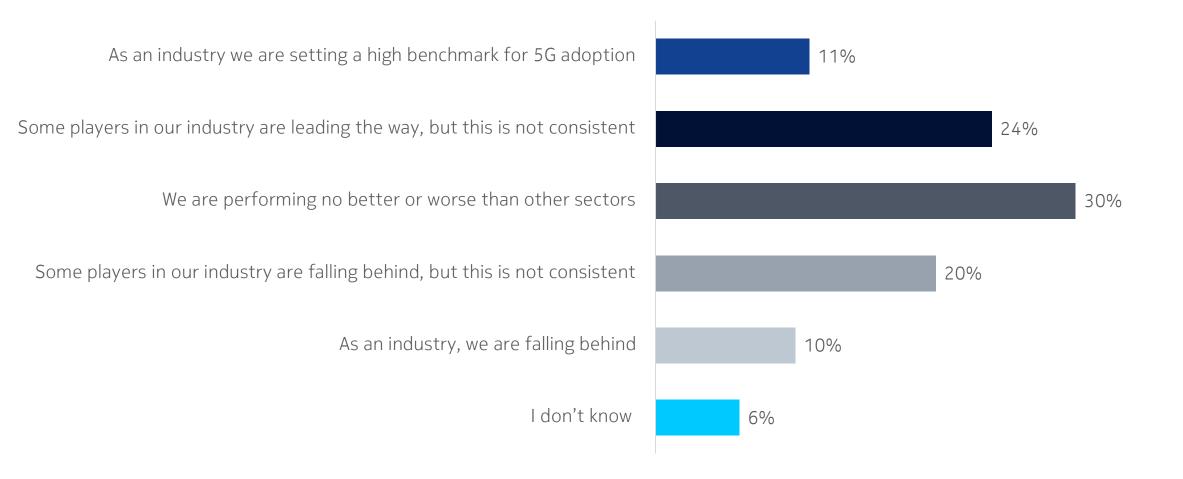
Leading from the top?

41% have C-Level sponsor for 5G implementation in their organization Almost a quarter don't have any 5G championing from management (22%)



5G: Few are resting on their laurels

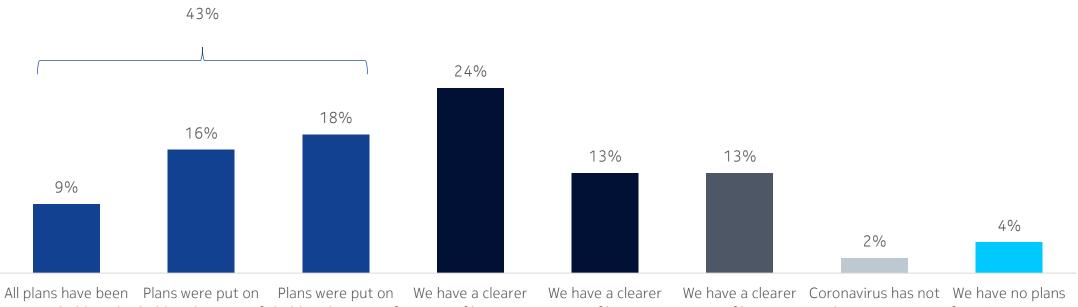
Businesses are more likely to feel that their industry is middling in terms of 5G adoption, with only 11% setting a high benchmark



Q. Do you believe your industry is leading, or falling behind, in 5G adoption?

5G: Where next, post-COVID?

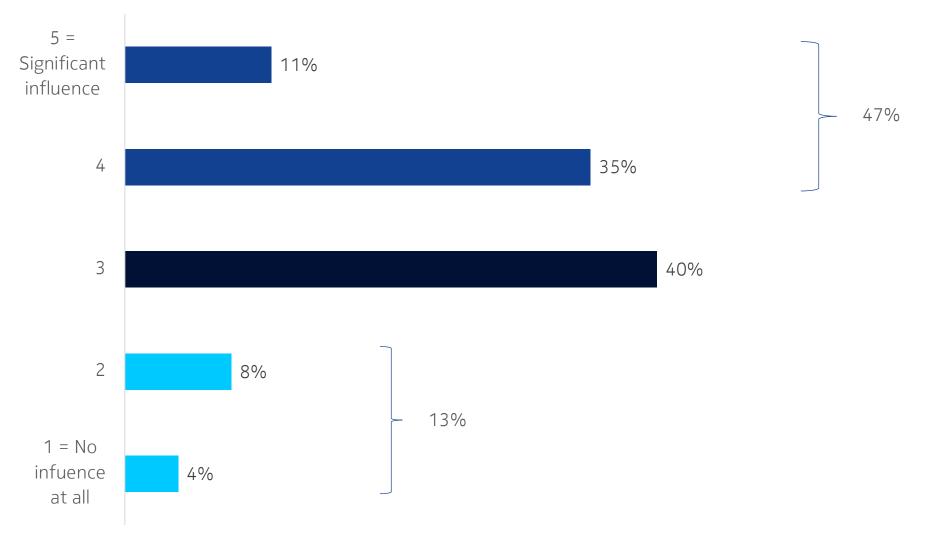
Just over 1 in 10 (13%) are now implementing a clearer 5G investment plan due to COVID-19 43% are still on hold



hold at the start of hold at the start of view of how we view of how we view of how we put on hold until made any impact on for 5G investment there is more need to evolve but need to evolve and need to evolve and our plans for 5G or implementation the pandemic and the pandemic; certainty about the having reviewed are unable to make are in the process of are in the process of investment and / or we are now reevaluating them for them, they are no any firm planning developing this plan implementing this future implementation commitments until the future longer fit for plan we have more purpose certainty about the future

5G: The benefits of the unknown

The unknown potential of 5G being fully introduced is an influence on 47% of decision makers



Q. A comprehensive list of what 5G can do is impossible to put together because it's not possible to predict every disruptive Base: 203 technology, app or unintended consequence of the network being introduced. To what extent does / will this prospect influence

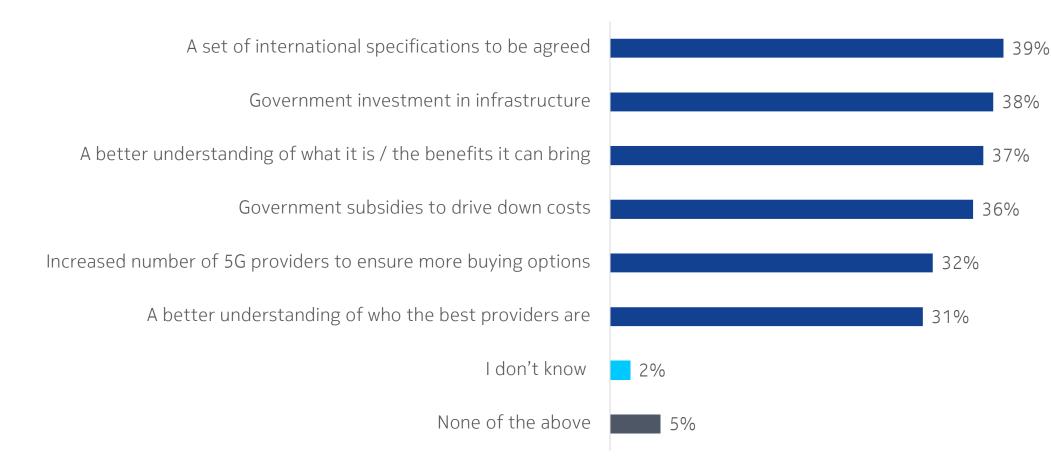
5G: What's stopping organizations?

Availability of 5G enabled products, costs and security risks are the biggest barriers to 5G investment

Availability of 5G-enabled products	33%
The costs are too high	27%
Security risks	27%
Lack of coverage	25%
It is not a priority right now	23%
I am not confident that we would be able to implement the associated technologies	20%
I don't know enough about it	18%
It is unproven	18%
The decision makers within the business do not understand it	17%
I'm worried about the political debate surrounding it (nationally / internationally)	14%
There are concerns within the business about its links to health	14%
I can't identify a provider	14%
I don't understand the true benefits	13%
It won't benefit my business	12%
I don't understand it	9%
I don't believe it will bring benefits to the business	8%
None of the above	3%

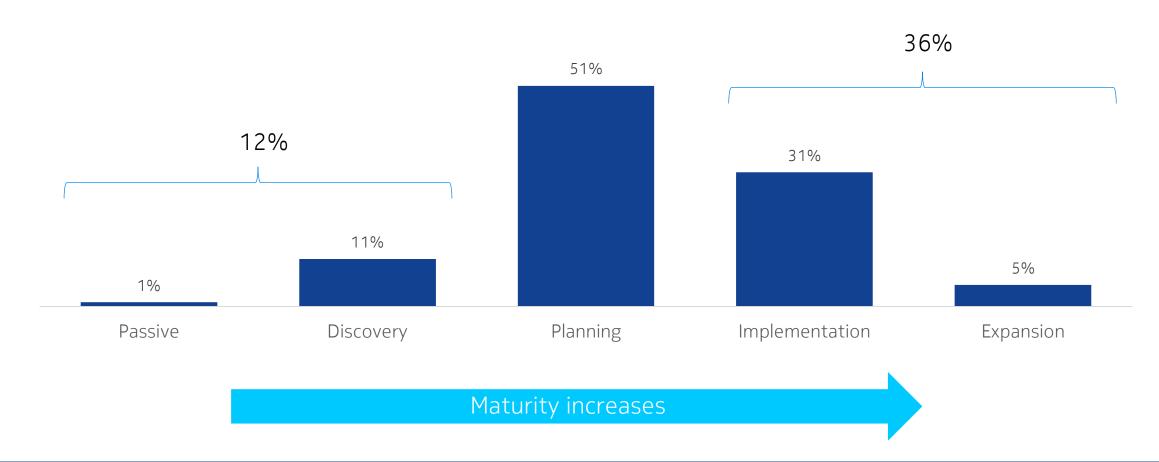
How can they get there?

A lack of international specifications for 5G networks is holding back greater investment and implementation.



5G maturity – the current picture

Over a third of Australian organizations are at the top end of 5G maturity (36%), with 5% at the highest level; 12% have lower 5G maturity; and 51% occupy a middle ground



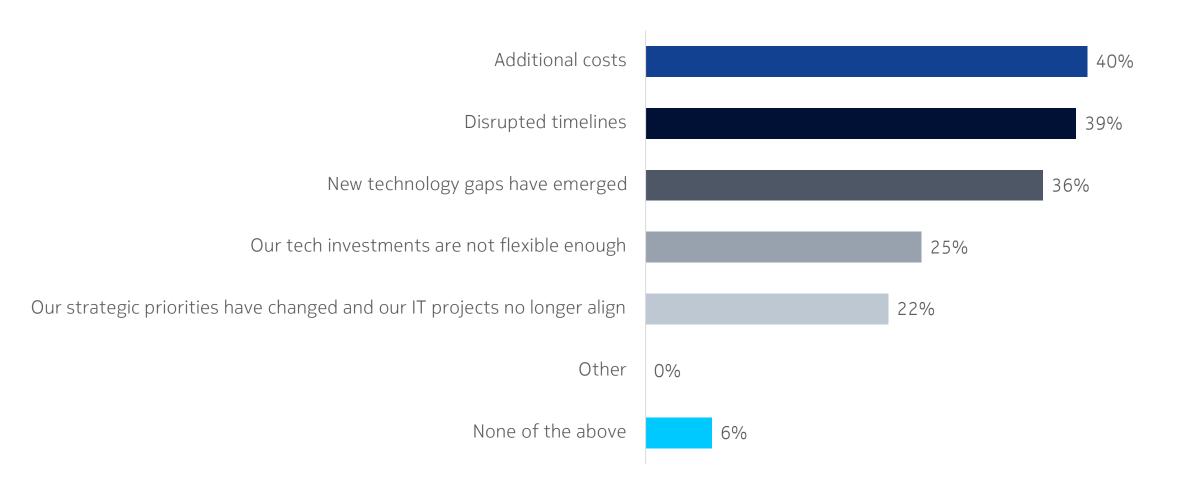
Finland





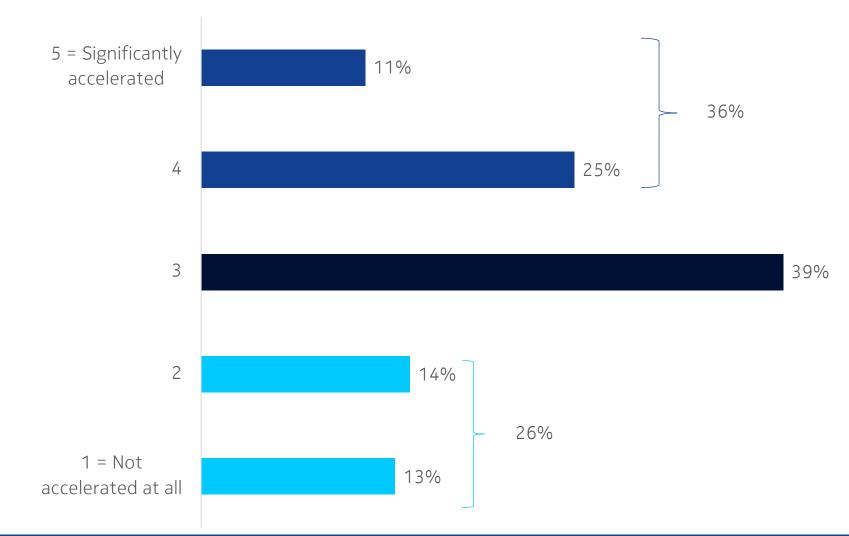
The COVID impact

Additional costs (40%), disrupted timelines (39%) and the emergence of new technology gaps (36%) have been the most prevalent impacts of COVID-19 on technology road maps



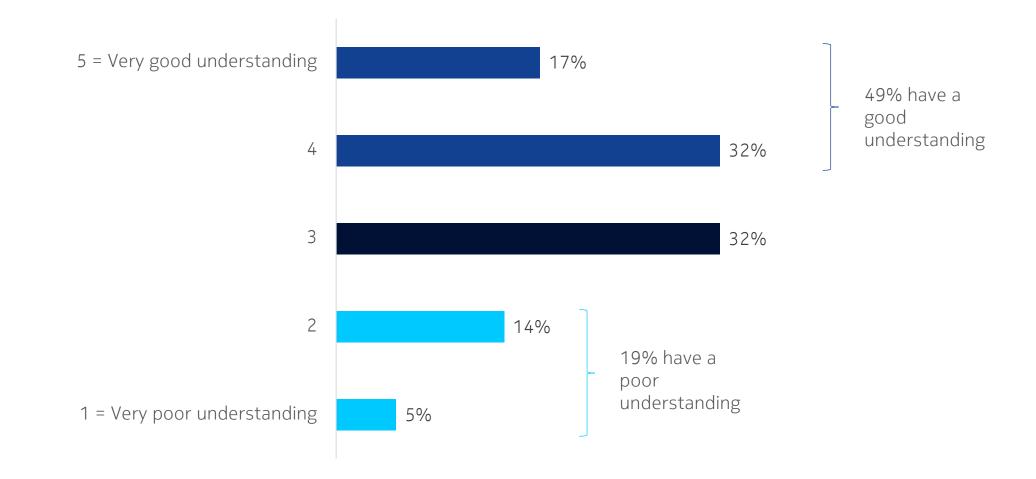
Digital transformation - the COVID effect

36% have expediated their digital transformation program due to COVID-19



Levels of understanding are still mixed

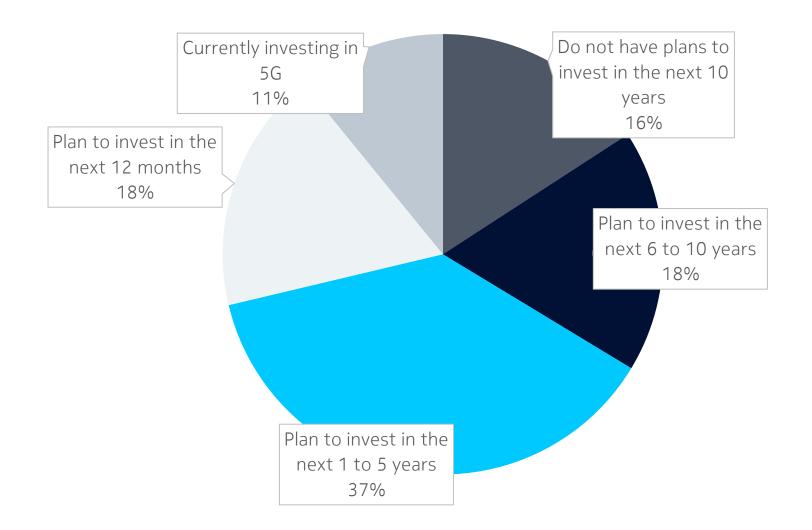
49% think there is a good understanding of 5G in their organization



Q. How would you describe the understanding of 5G in your business?

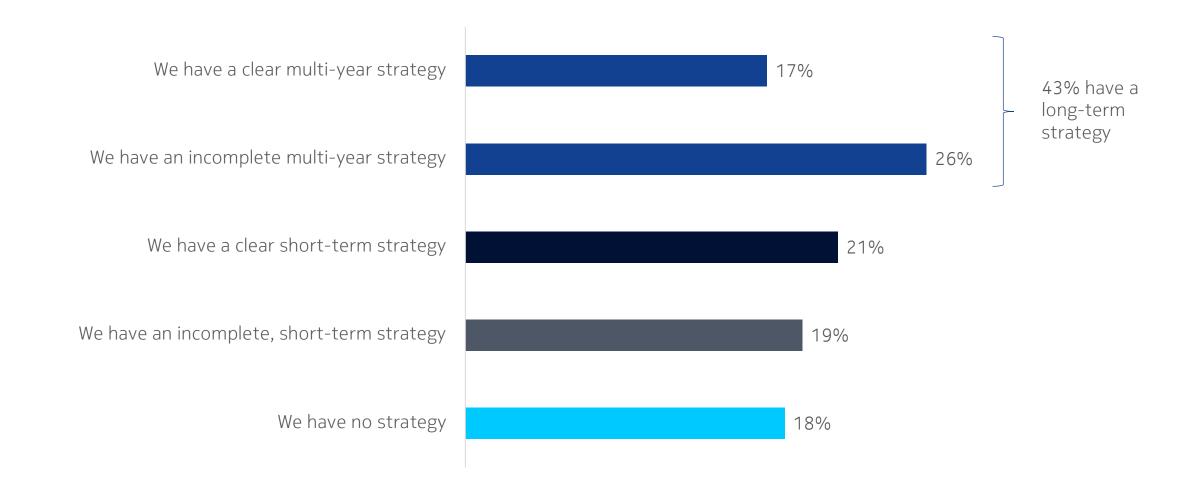
Planning for 5G

11% are currently investing in 5G; with 67% planning investment in the next 5 years



A short or long-term approach?

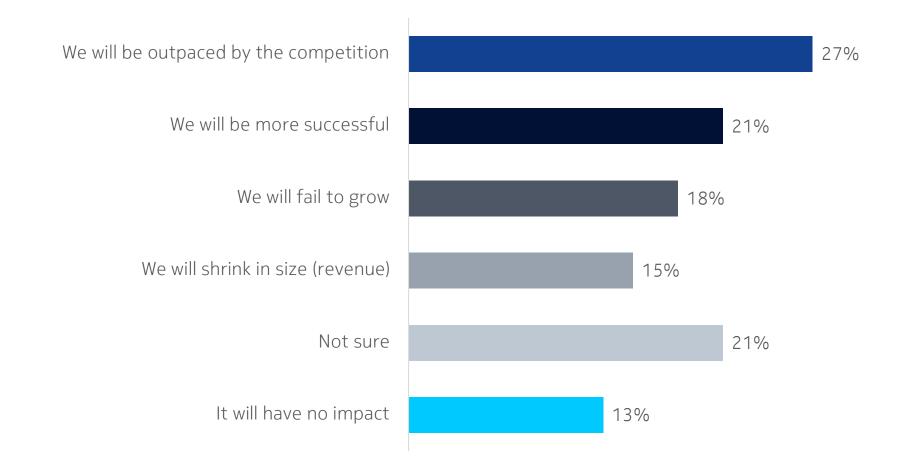
43% of technology decision makers have a long term 5G strategy Just under 1 in 5 have no strategy whatsoever (18%)





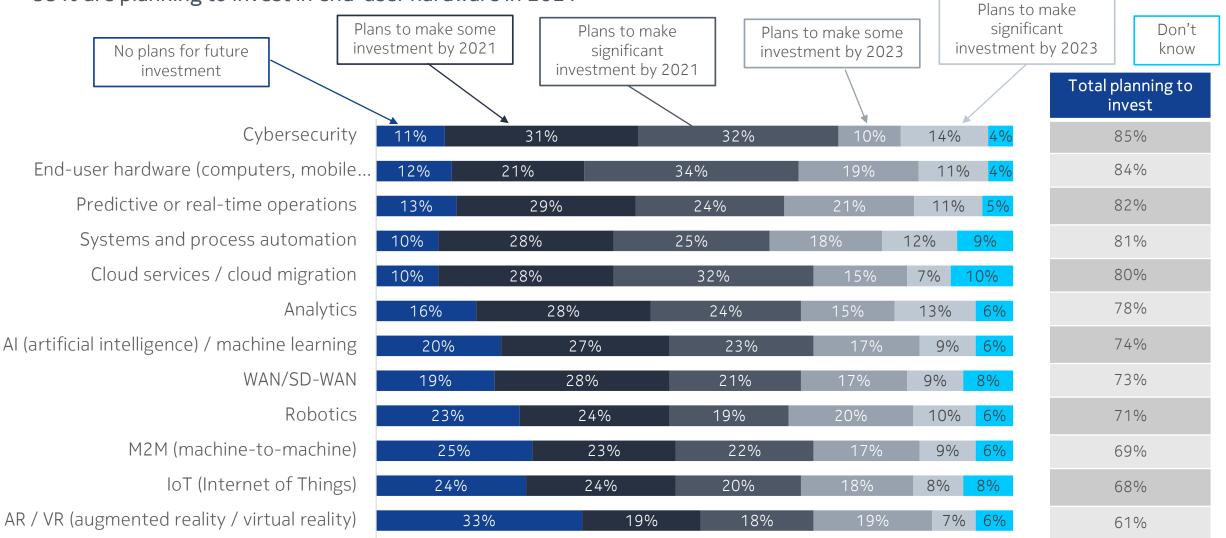
The risks of standing still

A quarter fear being outpaced by the competition should they not invest in 5G (27%), however 21% feel whatever their 5G investment they will still be successful



5G: the technology enabler

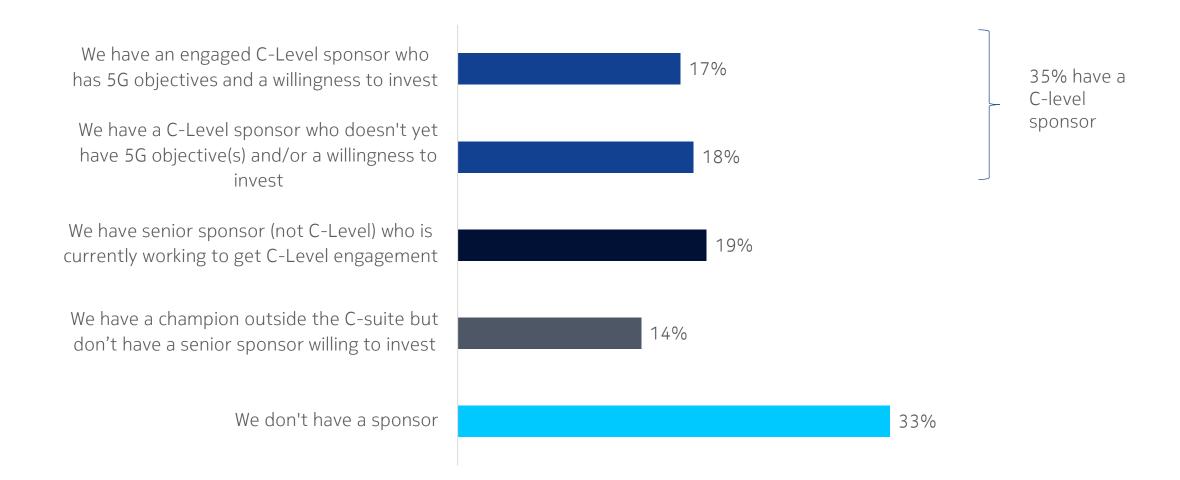
63% of technology buyers are planning to investment in cybersecurity in 2021 55% are planning to invest in end-user hardware in 2021



Q5. Which of the following will your organization invest in over the next 2-3 years?

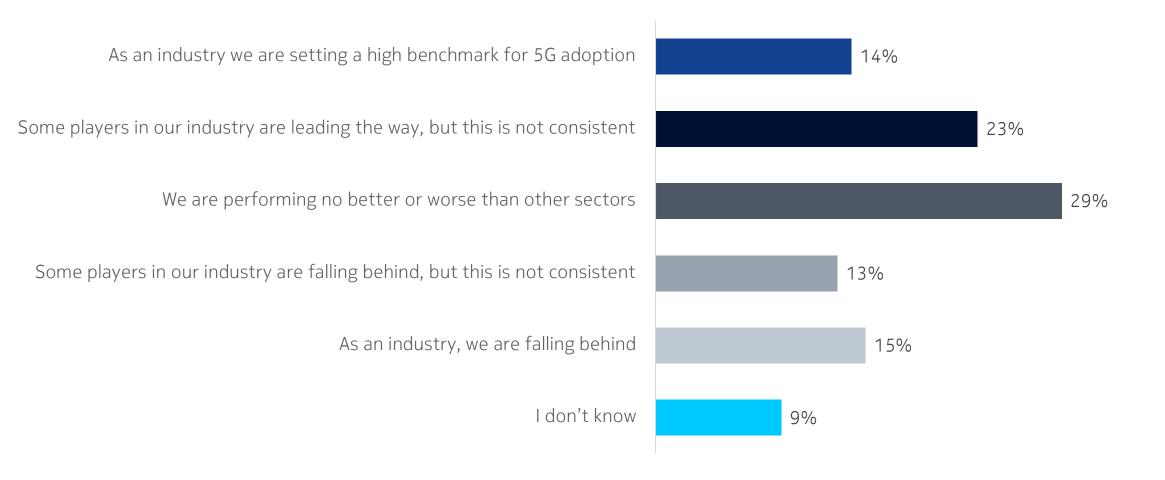
Leading from the top?

35% have C-Level sponsor for 5G implementation in their organization A third don't have any 5G championing from management (33%)



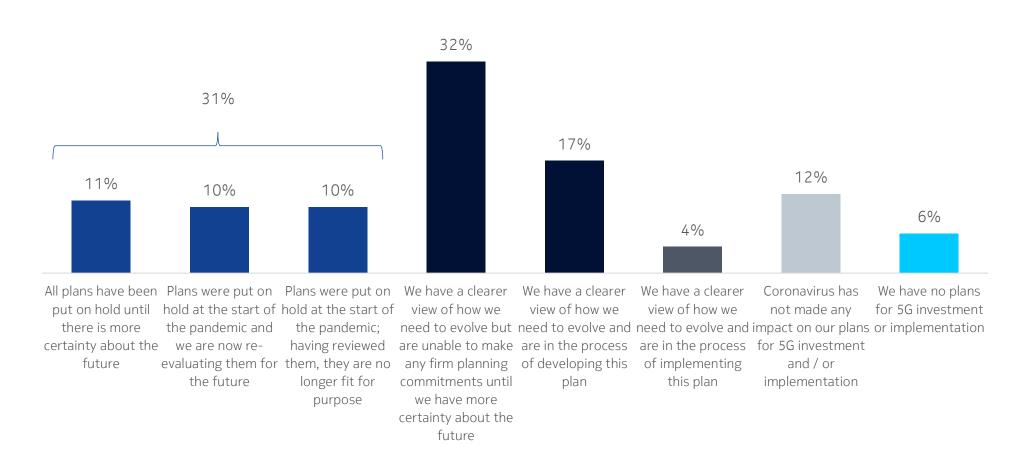
5G: Few are resting on their laurels

Businesses are more likely to feel that their industry is middling in terms of 5G adoption, with 14% setting a high benchmark



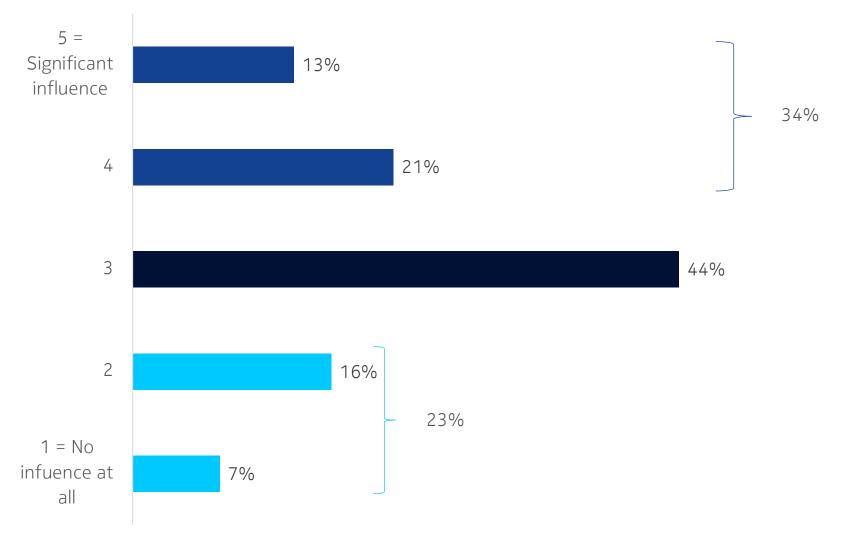
5G: Where next, post-COVID?

Only 4% are now implementing a clearer 5G investment plan due to COVID-19 31% are still on hold



5G: The benefits of the unknown

The unknown potential of 5G being fully introduced is an influence on 34% of decision makers



Q. A comprehensive list of what 5G can do is impossible to put together because it's not possible to predict every disruptive technology, app or unintended consequence of the network being introduced. To what extent does / will this prospect influence

Base: 200

5G: What's stopping organizations?

Availability of 5G enabled products and lack of priority are the biggest barriers to 5G investment

s 31%	Availability of 5G-enabled products
N 25%	It is not a priority right now
h 23%	The costs are too high
t 19%	The decision makers within the business do not understand it
t 18%	I don't know enough about it
s 17%	Security risks
e 16%	Lack of coverage
s 12%	I don't understand the true benefits
s 12%	I am not confident that we would be able to implement the associated technologies
s 11%	I don't believe it will bring benefits to the business
h 11%	There are concerns within the business about its links to health
10%	I'm worried about the political debate surrounding it (nationally / internationally)
n 9%	It is unproven
s 9%	It won't benefit my business
r 8%	I can't identify a provider
t 4%	I don't understand it
e <u>3</u> %	None of the above

33%

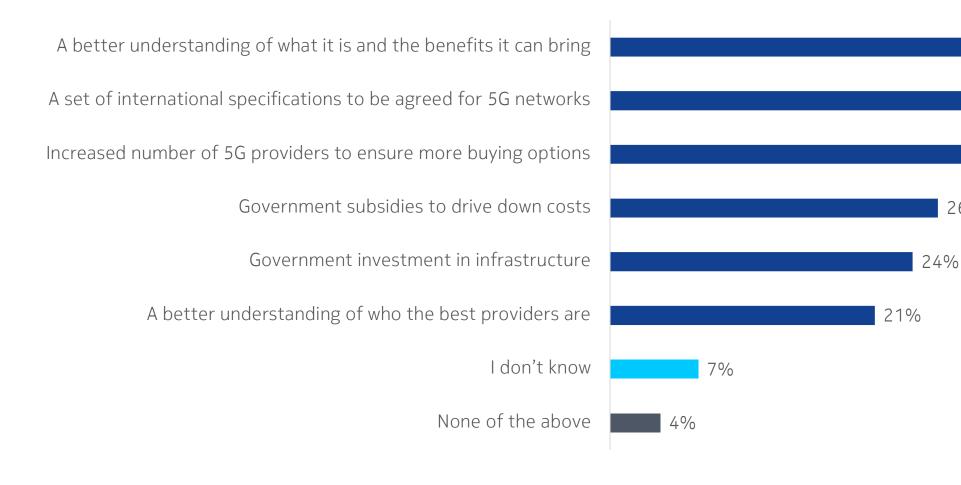
33%

30%

26%

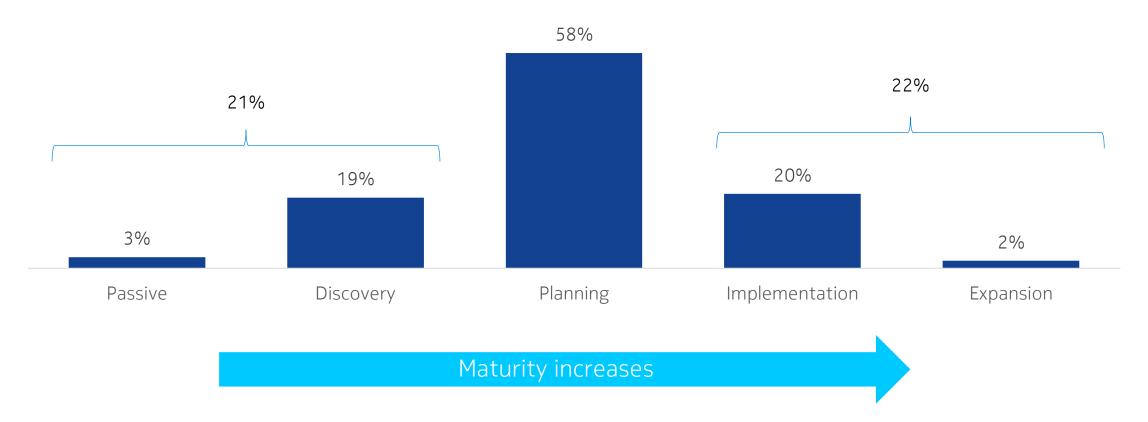
How can they get there?

A lack of understanding of 5G and its benefits, and a lack of agreed international specifications are holding back greater investment and implementation.



5G maturity – the current picture

Over a fifth of Finnish organizations are at the top end of 5G maturity (22%), with 2% at the highest level; 21% have lower 5G maturity and 58% occupy a middle ground





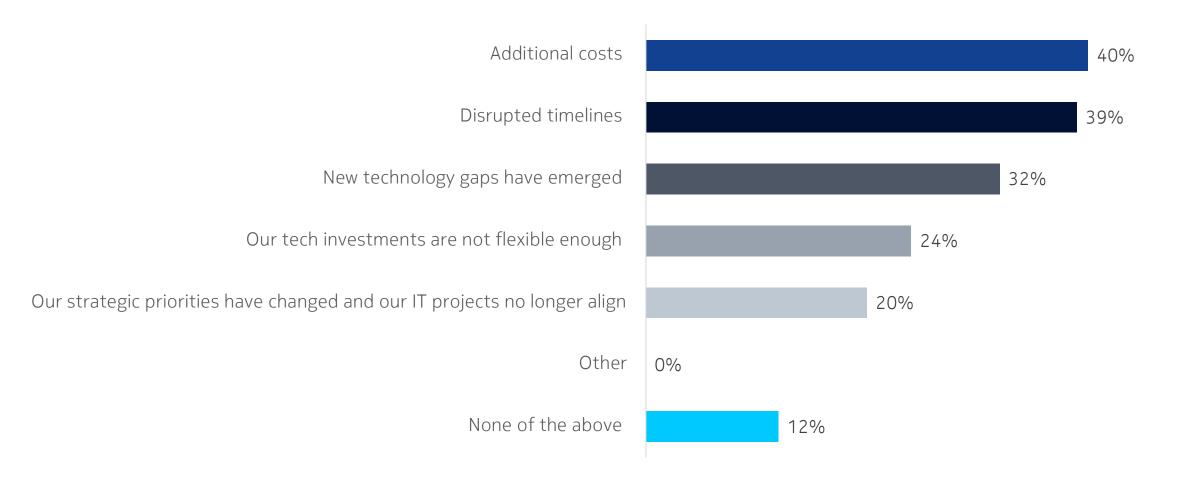
Germany





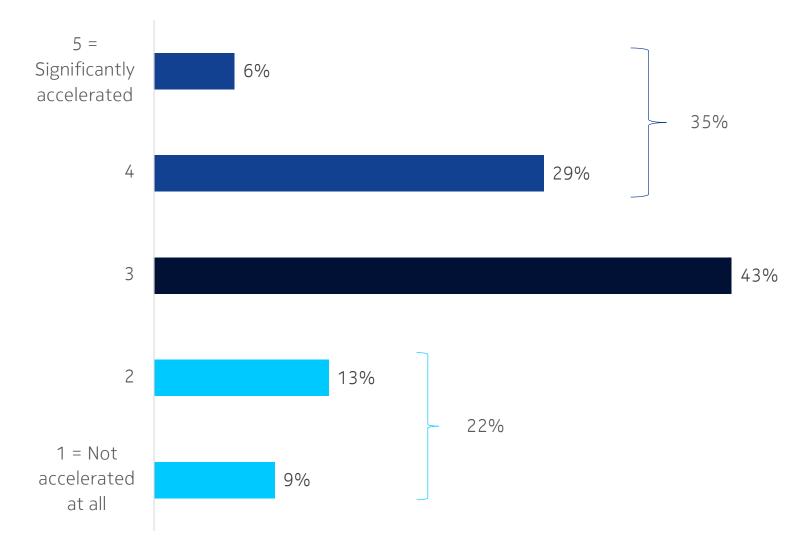
The COVID impact

Additional costs (40%), disrupted timelines (39%) and the emergence of new technology gaps (32%) have been the most prevalent impacts of COVID-19 on technology road maps



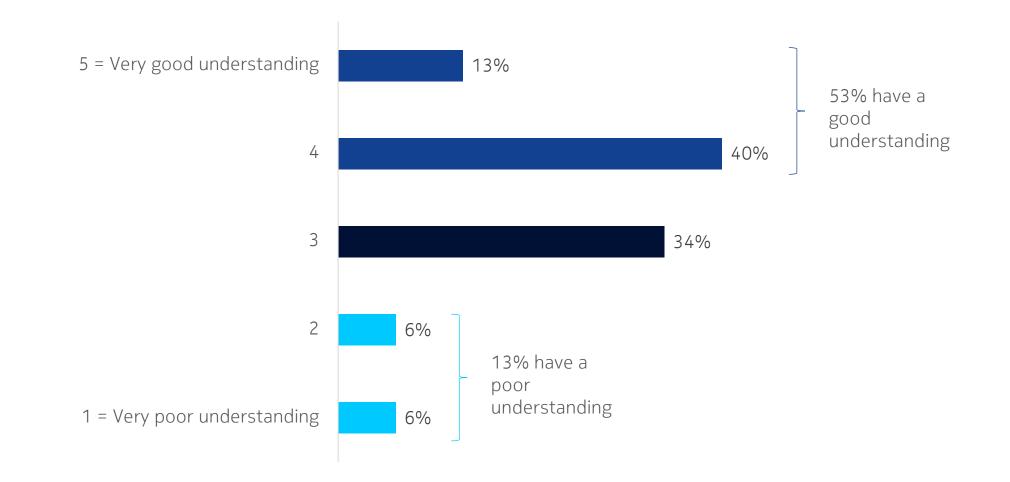
Digital transformation - the COVID effect

35% have expediated their digital transformation program due to COVID-19



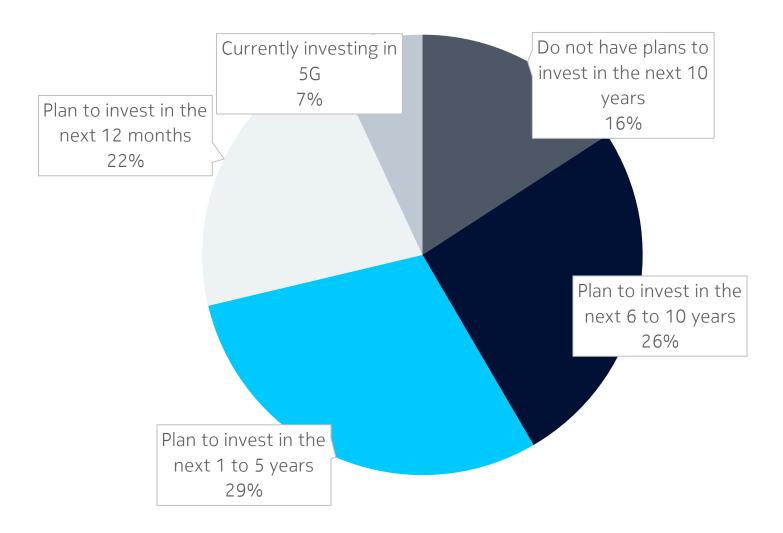
Levels of understanding are still mixed

53% think there is a good understanding of 5G in their organization



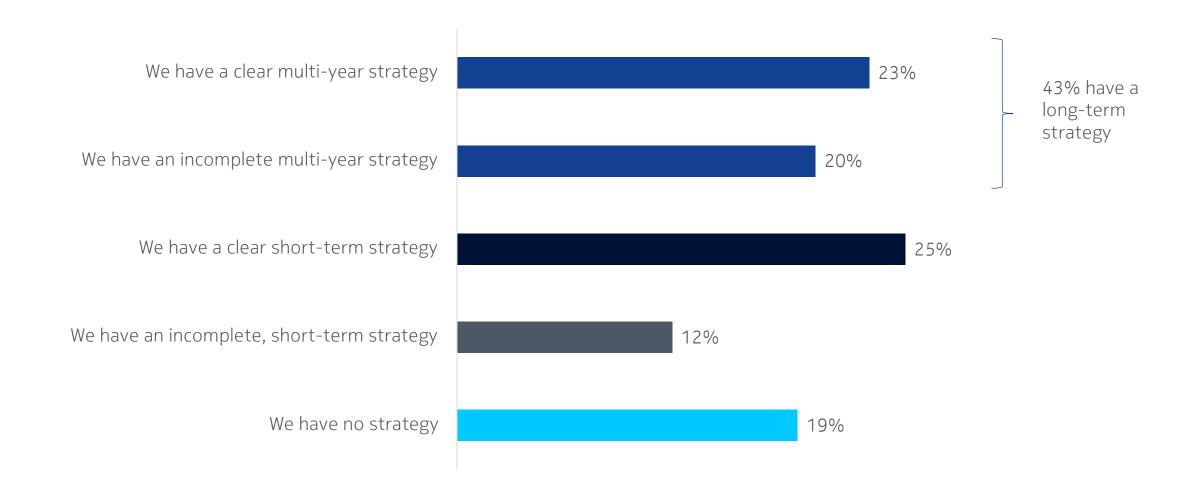
Planning for 5G

7% are currently investing in 5G; with 84% planning investment in the next 10 years



A short or long-term approach?

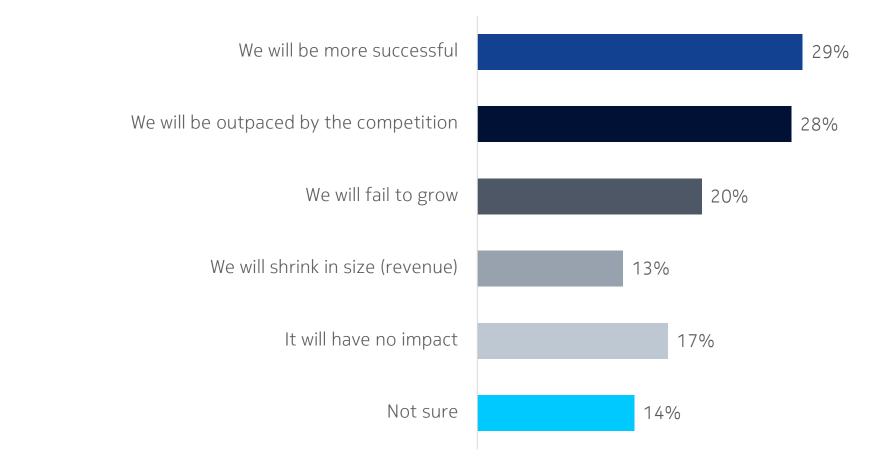
43% of technology decision makers have a long term 5G strategy Just under 1 in 5 have no strategy whatsoever (19%)





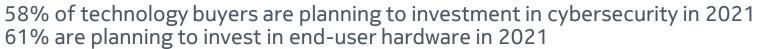
The risks of standing still

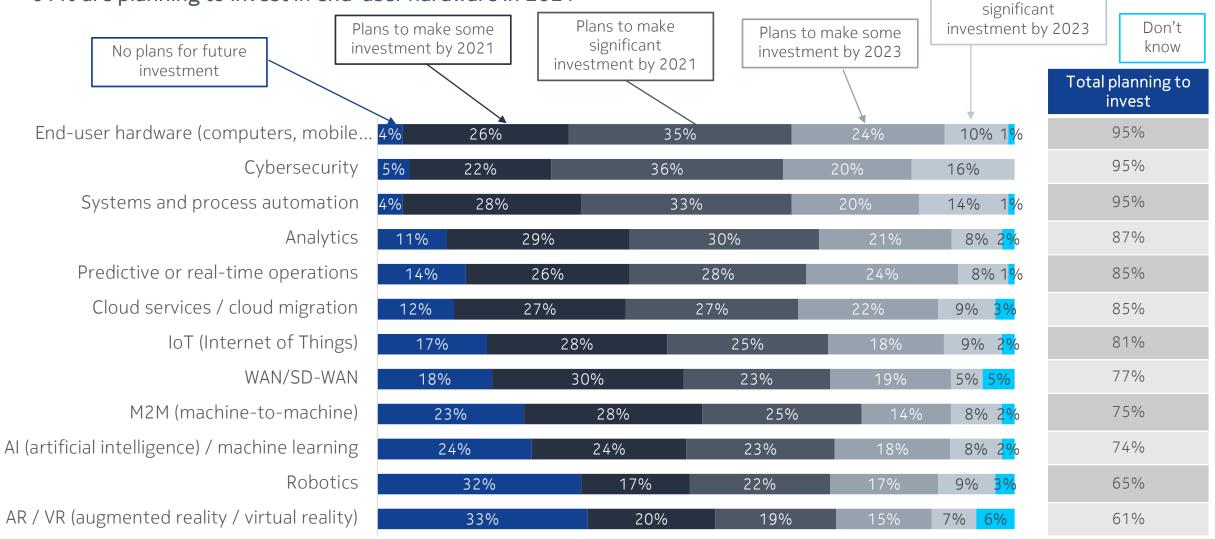
28% fear being outpaced by the competition should they not invest in 5G, however 29% feel whatever their 5G investment they will still be successful



Plans to make

5G: the technology enabler

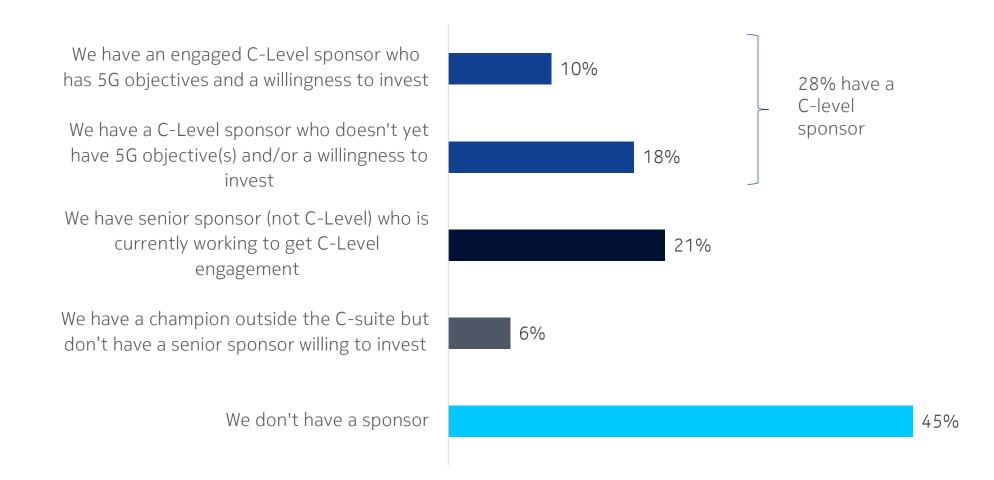




Q. Which of the following will your organization invest in over the next 2-3 years?

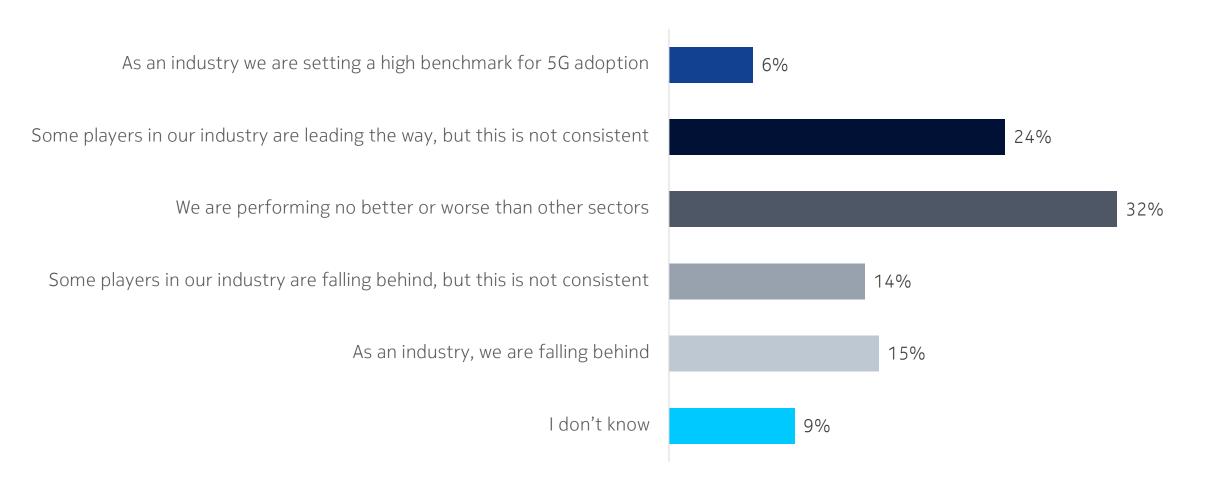
Leading from the top?

45% don't have a sponsor at all for 5G implementation in their organization Just over a quarter have a C-level sponsor (28%)



5G: Few are resting on their laurels

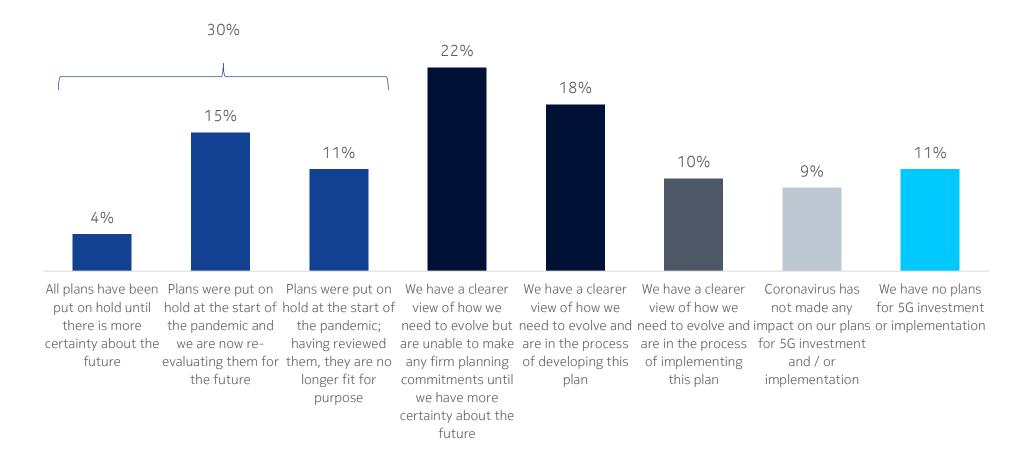
Businesses are more likely to feel that their industry is middling in terms of 5G adoption, with 6% setting a high benchmark



Q. Do you believe your industry is leading, or falling behind, in 5G adoption?

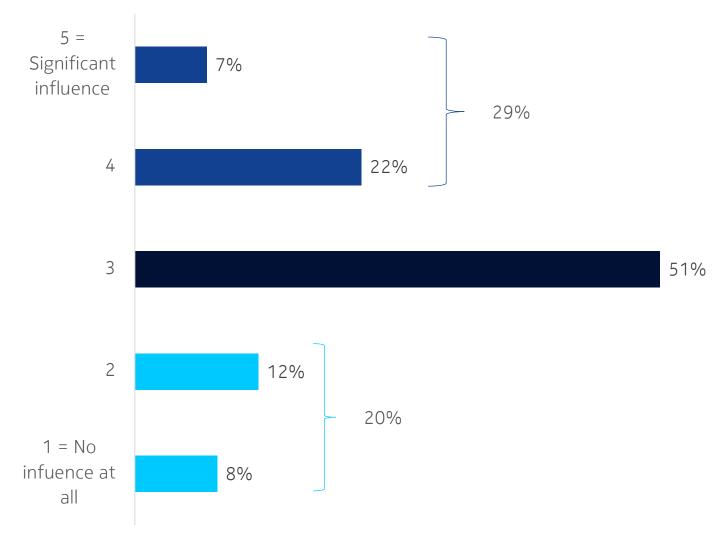
5G: Where next, post-COVID?

1 in 10 (9%) are now implementing a clearer 5G investment plan due to COVID-19 30% are still on hold



5G: The benefits of the unknown

Just under a third (29%) say the unknown potential of 5G is an influence on their decision to invest



Q. A comprehensive list of what 5G can do is impossible to put together because it's not possible to predict every disruptive technology, app or unintended consequence of the network being introduced. To what extent does / will this prospect influence

Base: 203

5G: What's stopping organizations?

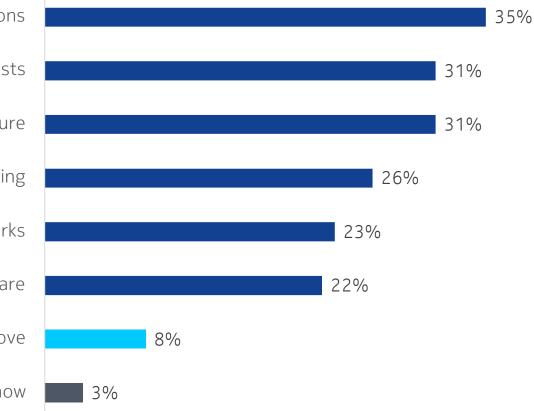
Costs and a lack of priority are the biggest barriers to 5G investment

The costs are too high	24%
It is not a priority right now	21%
Availability of 5G-enabled products	20%
Security risks	14%
Lack of coverage	13%
I'm worried about the political debate surrounding it (nationally / internationally)	13%
None of the above	12%
It won't benefit my business	12%
It is unproven	11%
I am not confident that we would be able to implement the associated technologies	11%
I don't believe it will bring benefits to the business	11%
The decision makers within the business do not understand it	10%
I don't understand the true benefits	8%
There are concerns within the business about its links to health	8%
I don't know enough about it	8%
I can't identify a provider	6%
I don't understand it	2%

How can they get there?

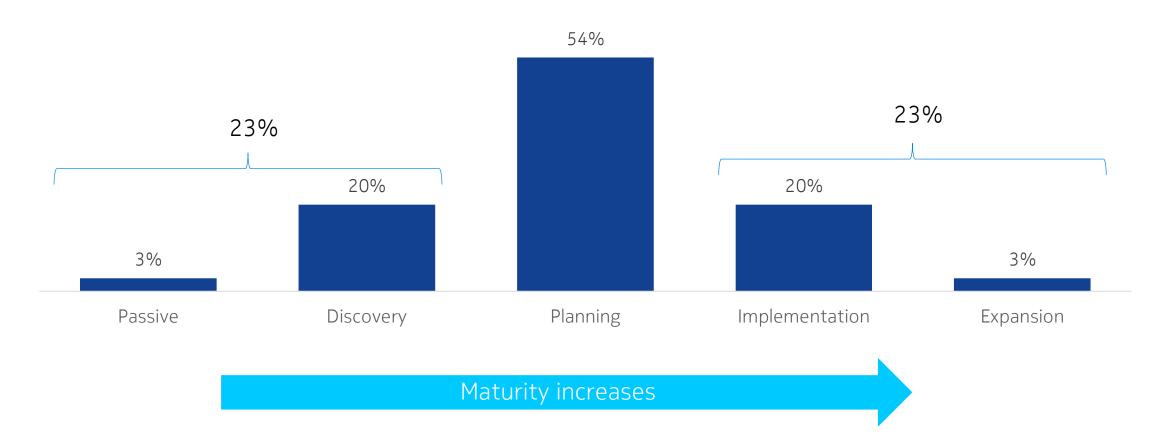
A lack of 5G providers in the marketplace is holding back greater investment and implementation.

Increased number of 5G providers to ensure more buying options Government subsidies to drive down costs Government investment in infrastructure A better understanding of what it is and the benefits it can bring A set of international specifications to be agreed for 5G networks A better understanding of who the best providers are None of the above I don't know



5G maturity – the current picture

Over half of German organizations occupy a 5G middle-ground of readiness; 23% have lower 5G maturity; and are at the top end of 5G maturity (23%), with 3% at the highest level

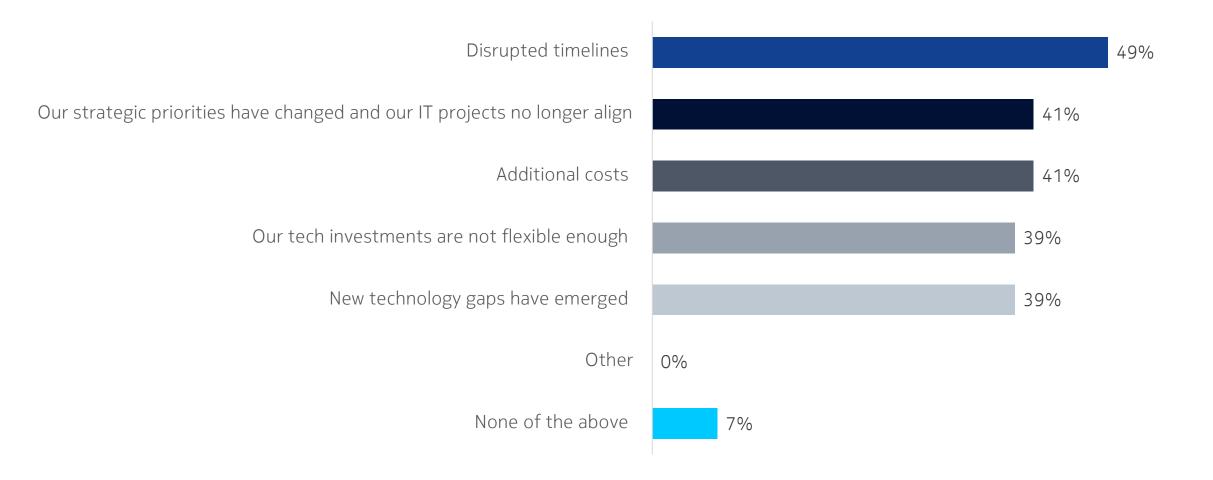






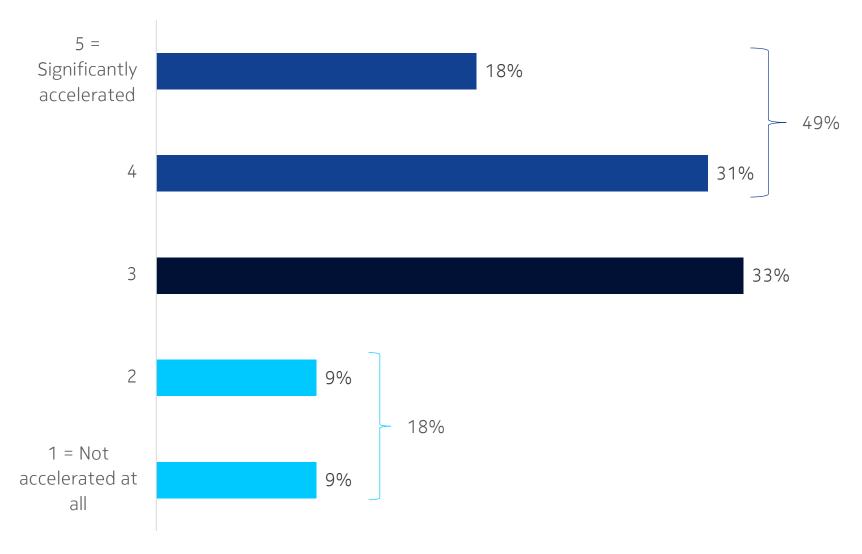
The COVID impact

Disrupted timelines (49%), changing strategic priorities (41%) and additional costs (41%) have been the most prevalent impacts of COVID-19 on technology road maps



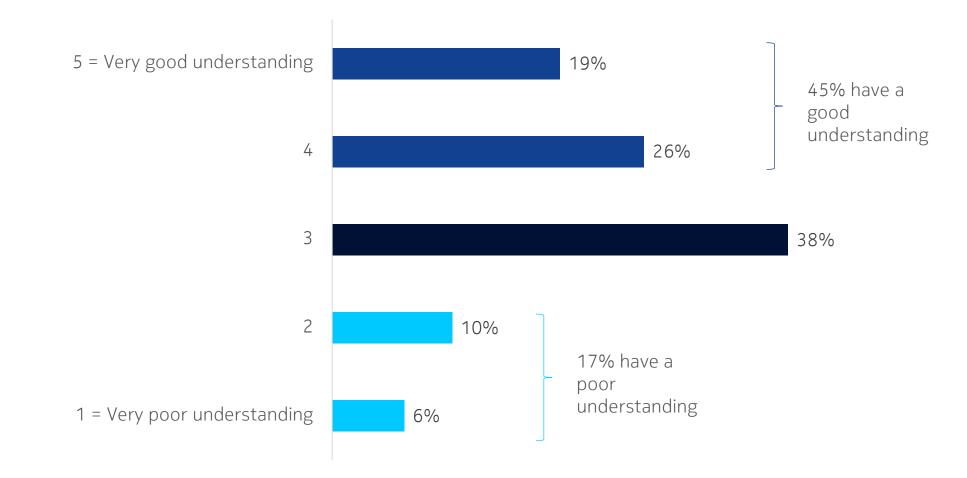
Digital transformation - the COVID effect

49% have expediated their digital transformation program due to COVID-19



Levels of understanding are still mixed

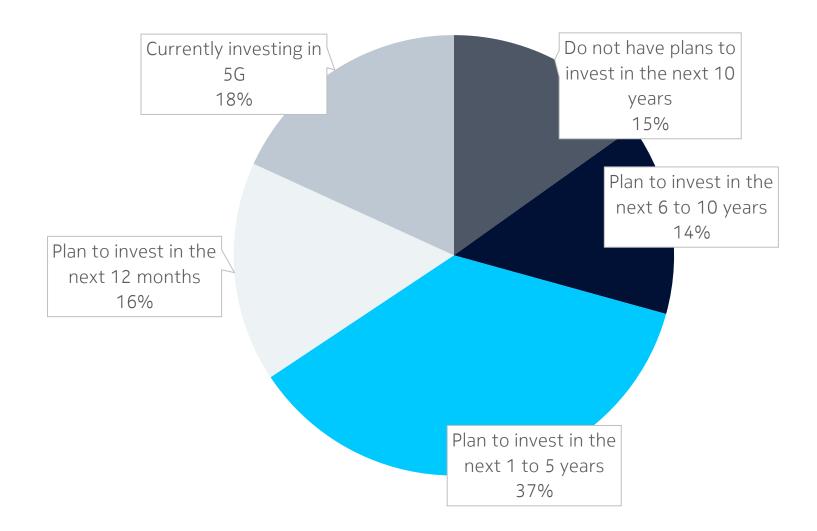
45% think there is a good understanding of 5G in their organization



Q. How would you describe the understanding of 5G in your business?

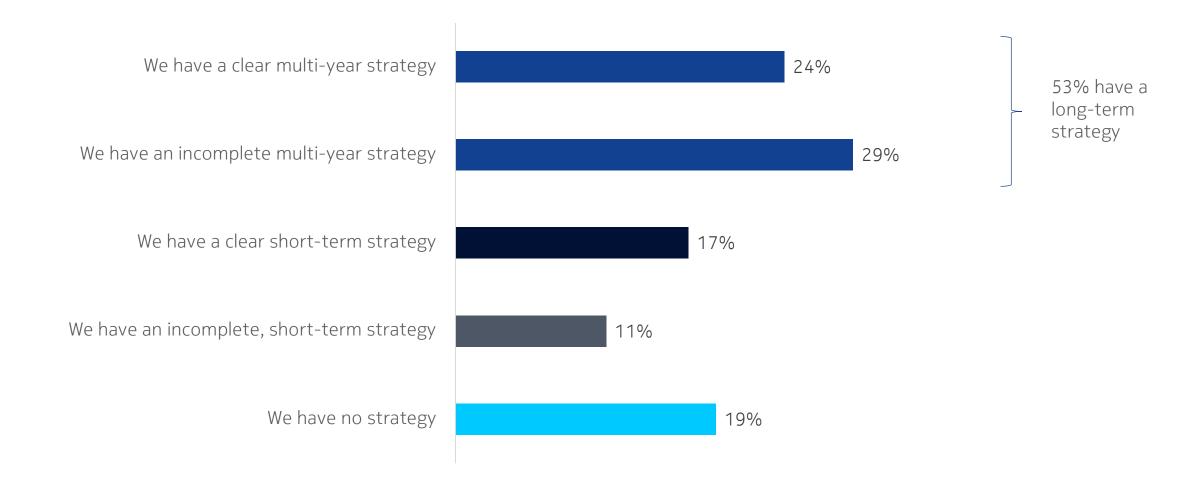
Planning for 5G

18% are currently investing in 5G; with 70% planning investment in the next 5 years



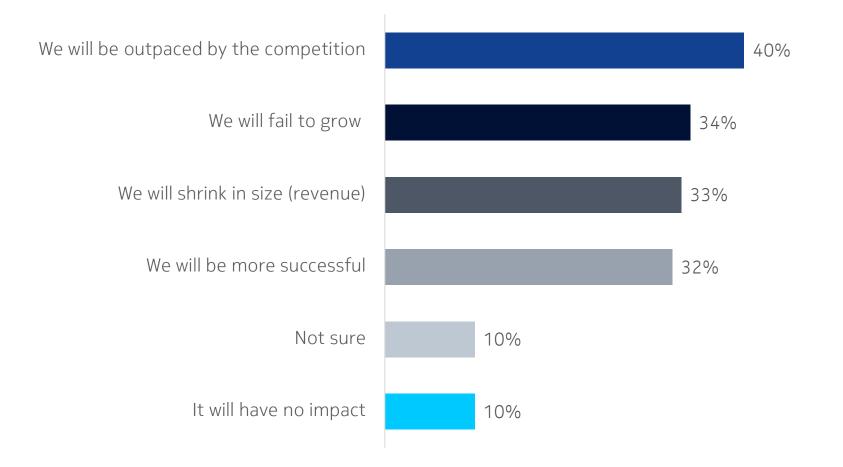
A short or long-term approach?

53% of technology decision makers have a long term 5G strategy 1 in 5 have no strategy whatsoever (19%)



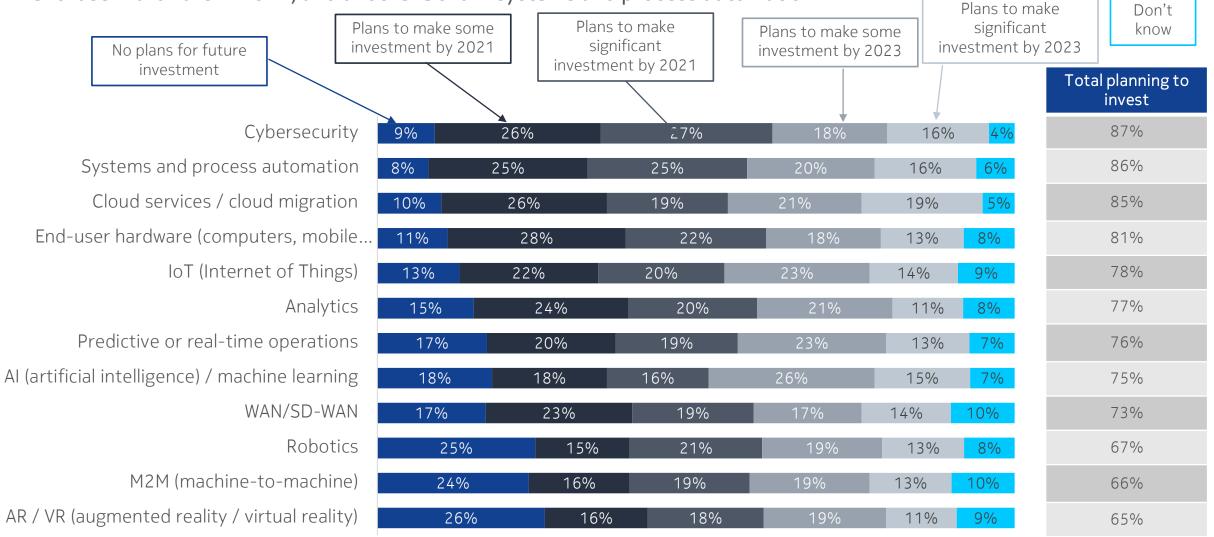
The risks of standing still

2 in 5 fear being outpaced by the competition should they not invest in 5G, however 32% feel whatever their 5G investment they will still be successful



5G: the technology enabler

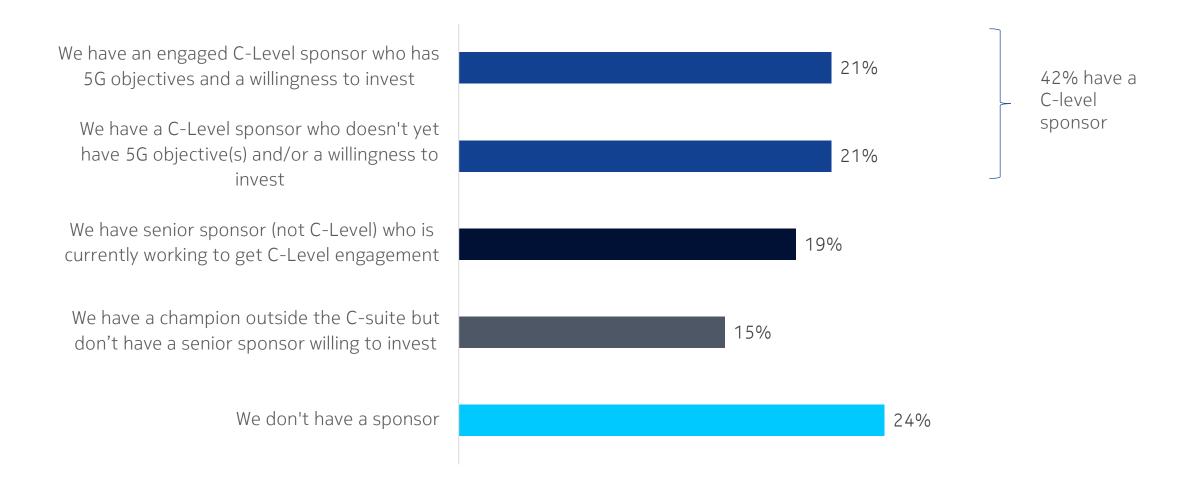
53% of technology buyers are planning to investment in cybersecurity in 2021; 50% are planning to invest in end-user hardware in 2021, and another 50% in systems and process automation



Q. Which of the following will your organization invest in over the next 2-3 years?

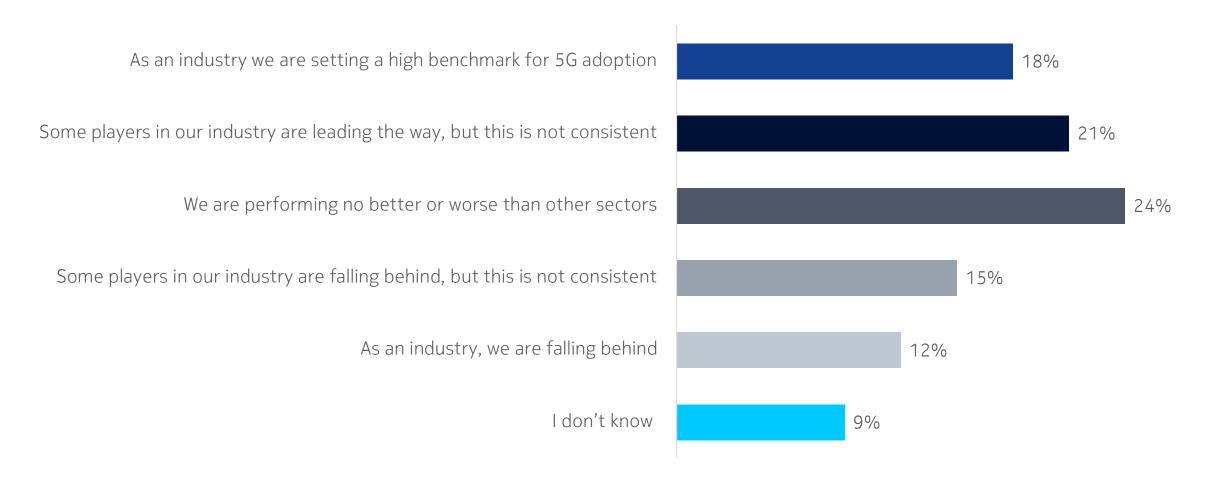
Leading from the top?

42% have C-Level sponsor for 5G implementation in their organization A quarter don't have any 5G championing from management (24%)



5G: Few are resting on their laurels

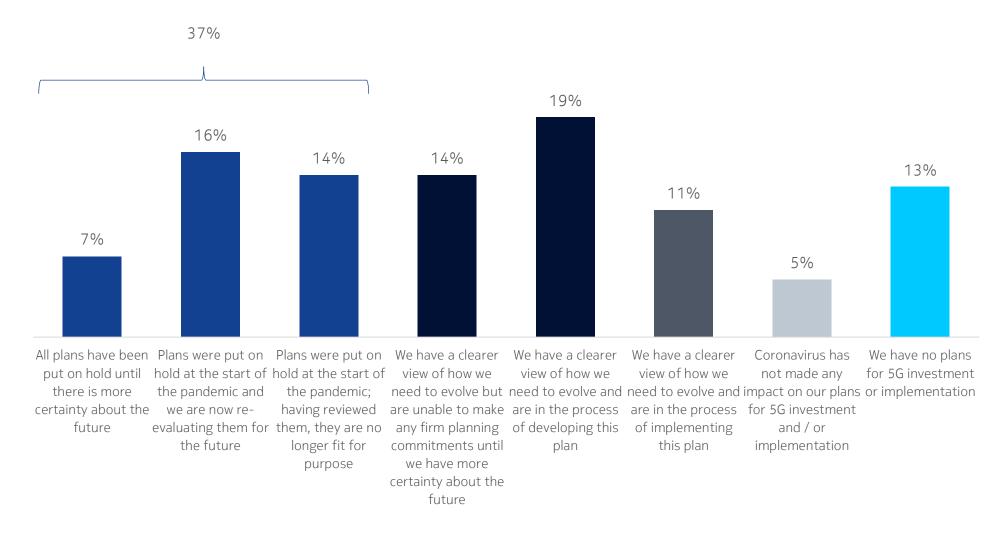
Businesses are more likely to feel that their industry is middling in terms of 5G adoption, with 18% setting a high benchmark



Q. Do you believe your industry is leading, or falling behind, in 5G adoption?

5G: Where next, post-COVID?

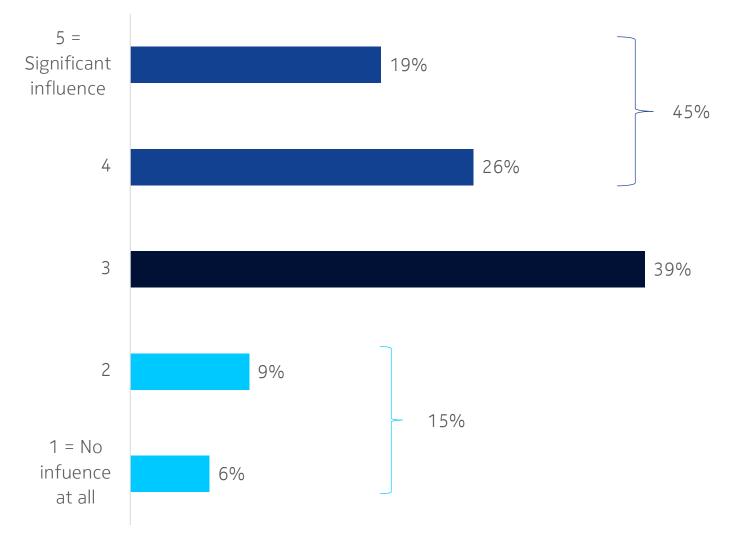
1 in 10 (11%) are now implementing a clearer 5G investment plan due to COVID-19 37% are still on hold



Base: 203

5G: The benefits of the unknown

The unknown potential of 5G being fully introduced is an influence on 45% of decision makers



Q. A comprehensive list of what 5G can do is impossible to put together because it's not possible to predict every disruptive technology, app or unintended consequence of the network being introduced. To what extent does / will this prospect influence

5G: What's stopping organizations?

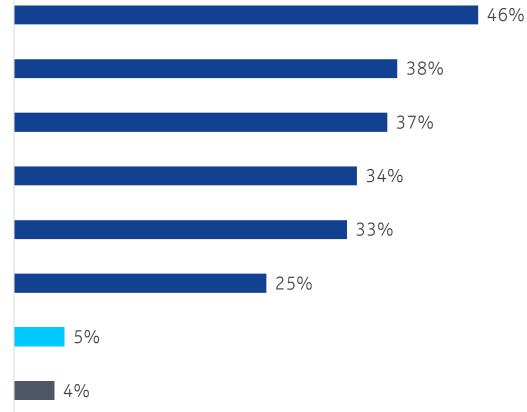
Lack of 5G priority and costs are the biggest barriers to 5G investment

It is not a priority right now	27%
The costs are too high	25%
Availability of 5G-enabled products	22%
I am not confident that we would be able to implement the associated technologies	22%
Security risks	22%
I'm worried about the political debate surrounding it (nationally / internationally)	21%
I don't understand the true benefits	20%
The decision makers within the business do not understand it	19%
It is unproven	18%
Lack of coverage	17%
I don't know enough about it	16%
I don't believe it will bring benefits to the business	15%
It won't benefit my business	14%
I don't understand it	13%
I can't identify a provider	11%
There are concerns within the business about its links to health	11%
None of the above	4%

How can they get there?

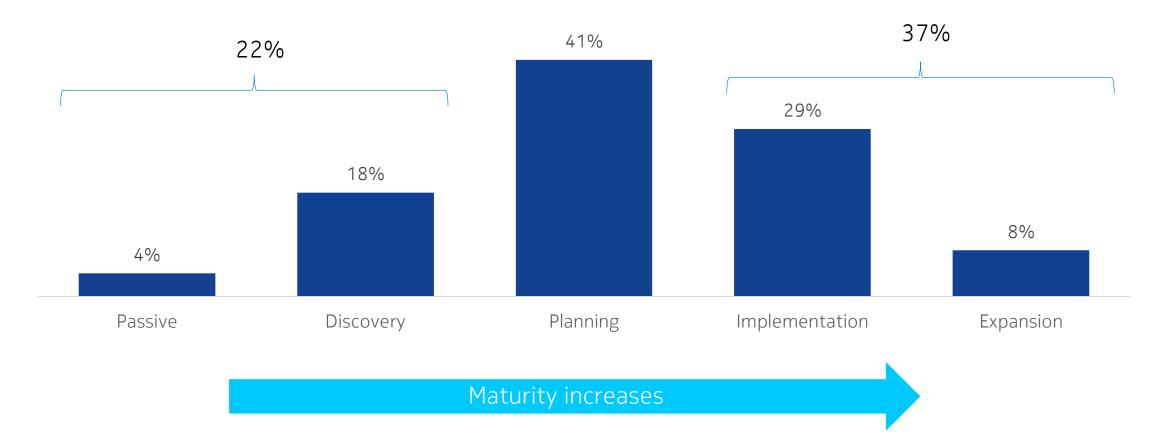
A lack of understanding of 5G is holding back greater investment and implementation.

A better understanding of what it is and the benefits it can bring	
Increased number of 5G providers to ensure more buying options	
Government subsidies to drive down costs	
A set of international specifications to be agreed for 5G networks	
Government investment in infrastructure	
A better understanding of who the best providers are	
l don't know	5%
None of the above	
	4%



5G maturity – the current picture

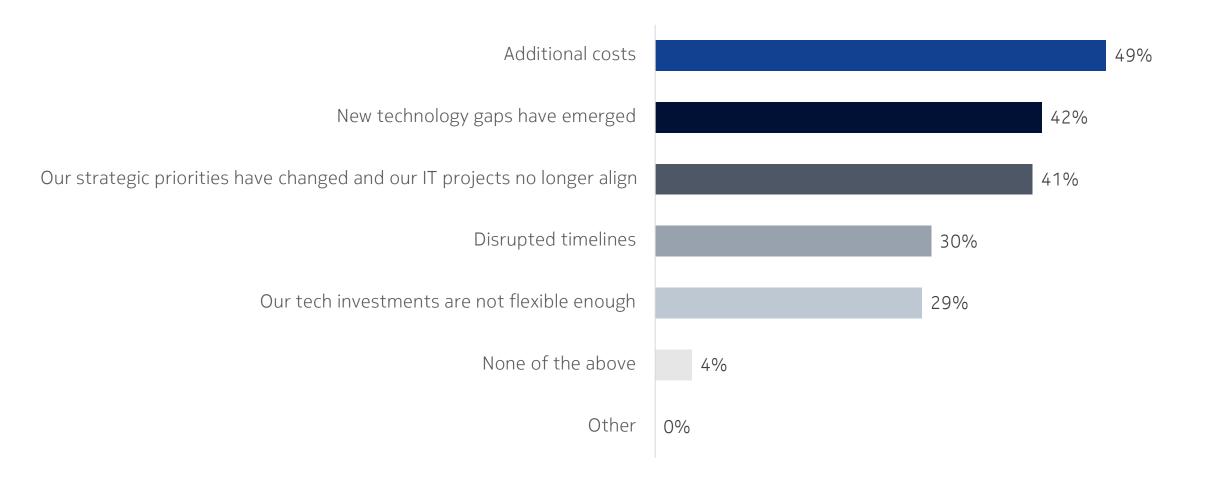
Over a third of Japanese organizations are at the top end of 5G maturity (37%), with 7% at the highest level; 22% have lower 5G maturity; and 41% occupy a middle ground





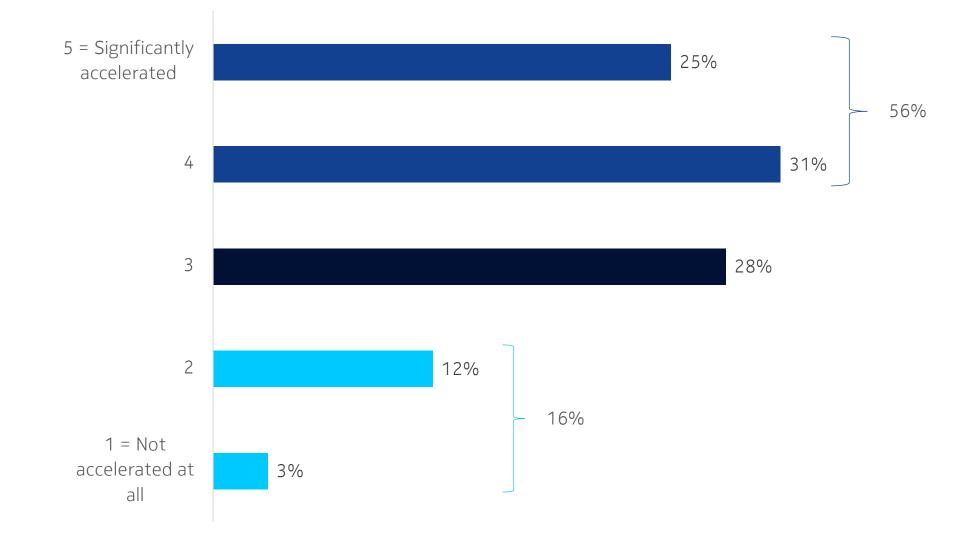
The COVID impact

Additional costs (49%), the emergence of new technology gaps (42%), and misaligned IT projects due to different strategic priorities (41%) have been the most prevalent impacts of COVID-19 on technology road maps



Digital transformation - the COVID effect

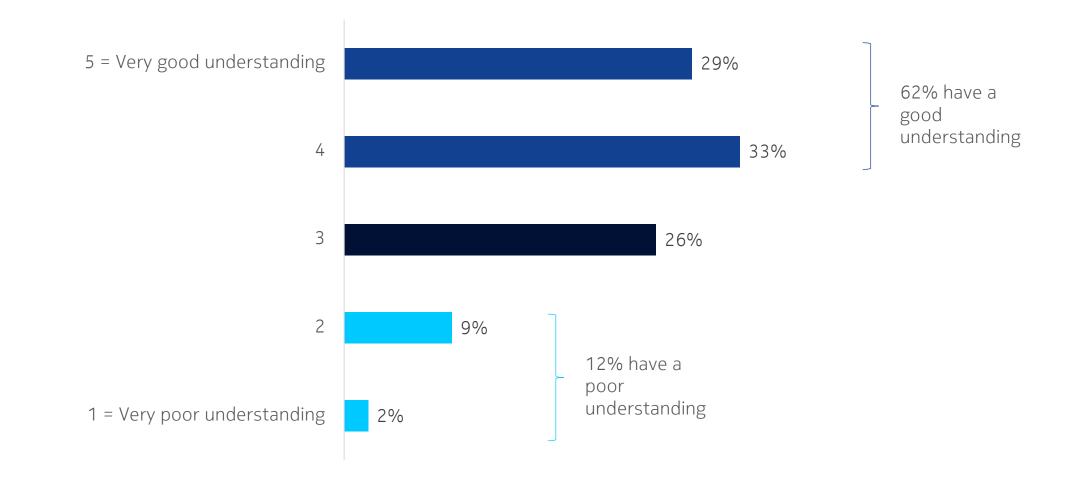
56% have accelerated their digital transformation program due to COVID-19



Q. To what extent has the COVID-19 crisis accelerated your organization's digital transformation program?

Levels of understanding are still mixed

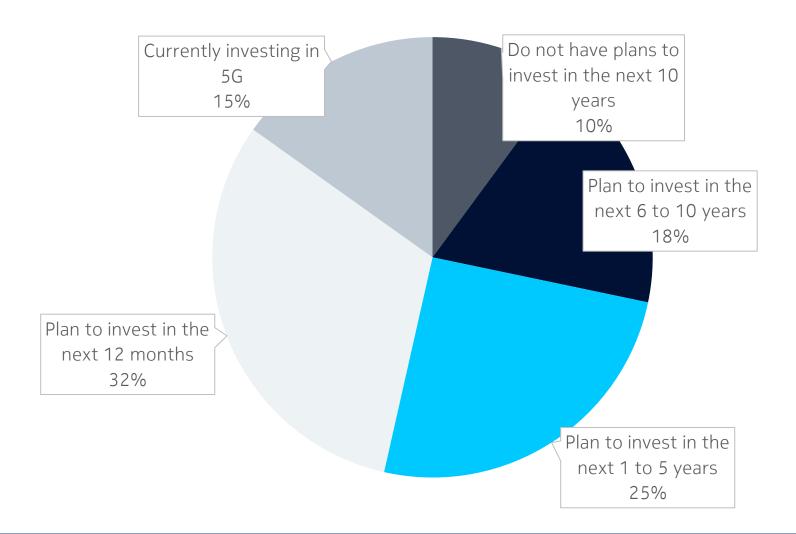
62% think there is a good understanding of 5G in their organization



Q. How would you describe the understanding of 5G in your business?

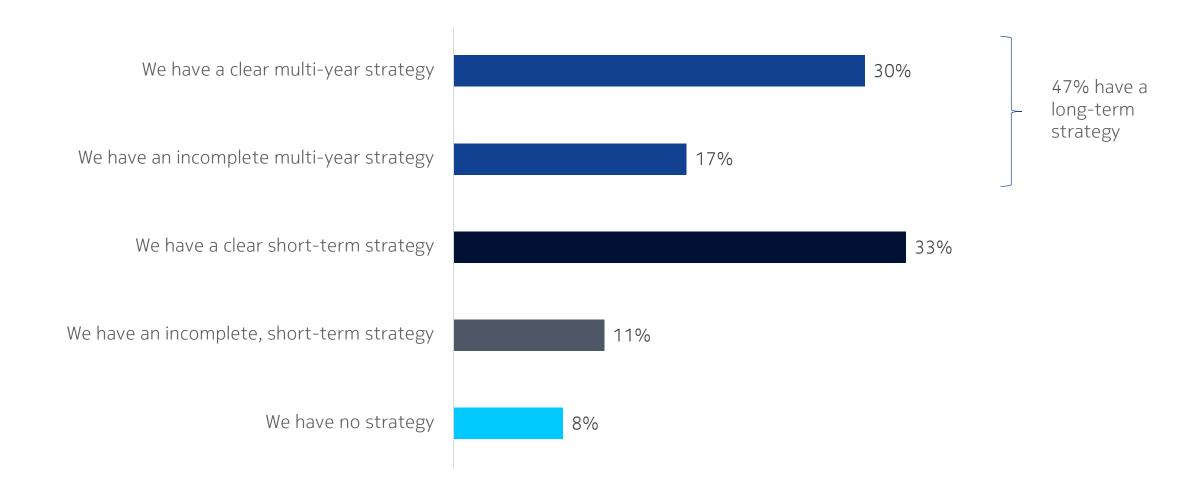
Planning for 5G

15% are currently investing in 5G; with 71% planning investment in the next 5 years



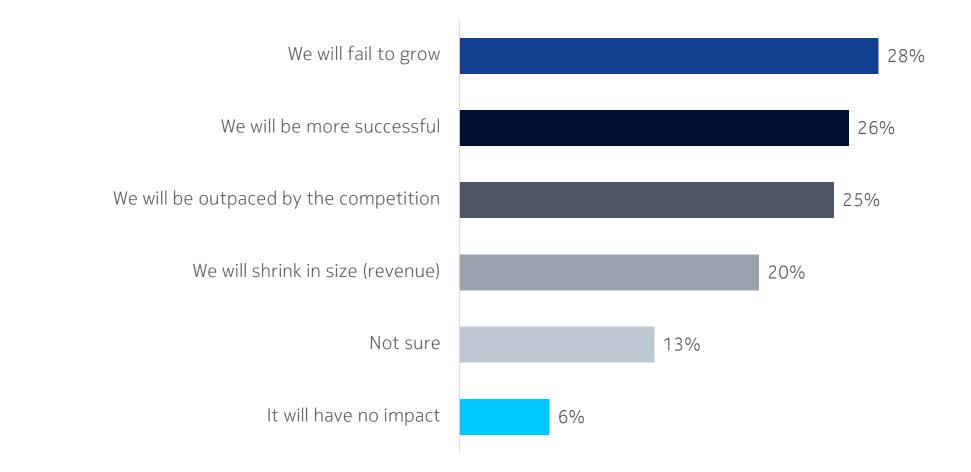
A short or long-term approach?

47% of technology decision makers have a long term 5G strategy Just under 1 in 10 have no strategy whatsoever (8%)

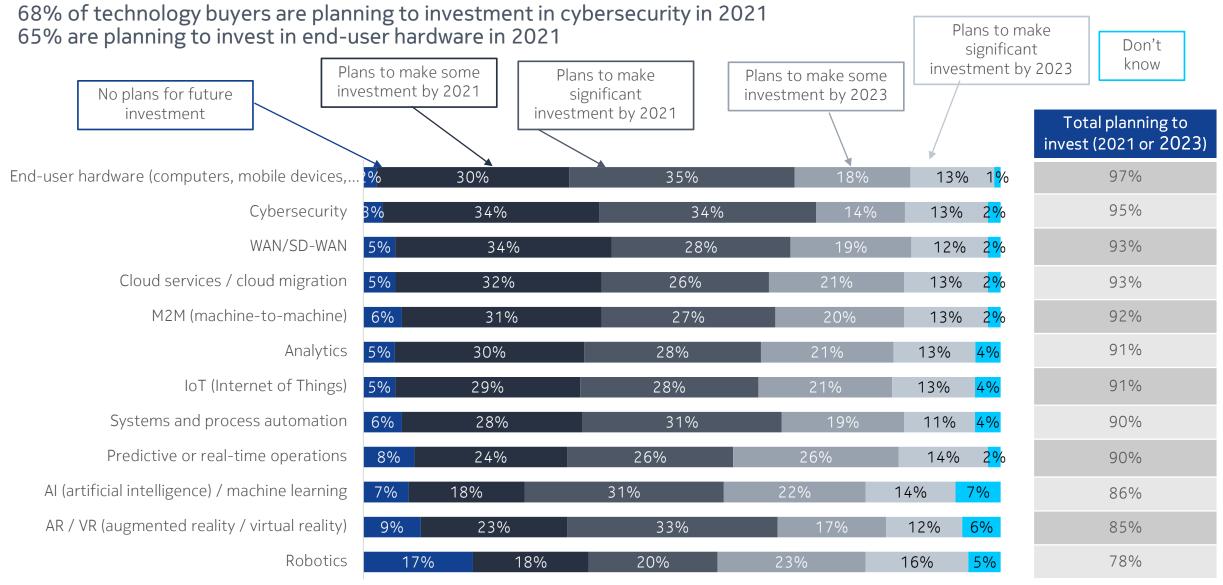


The risks of standing still

Over a quarter fear they will fail to grow should they not invest in 5G (28%), however 26% feel whatever their 5G investment they will still be successful



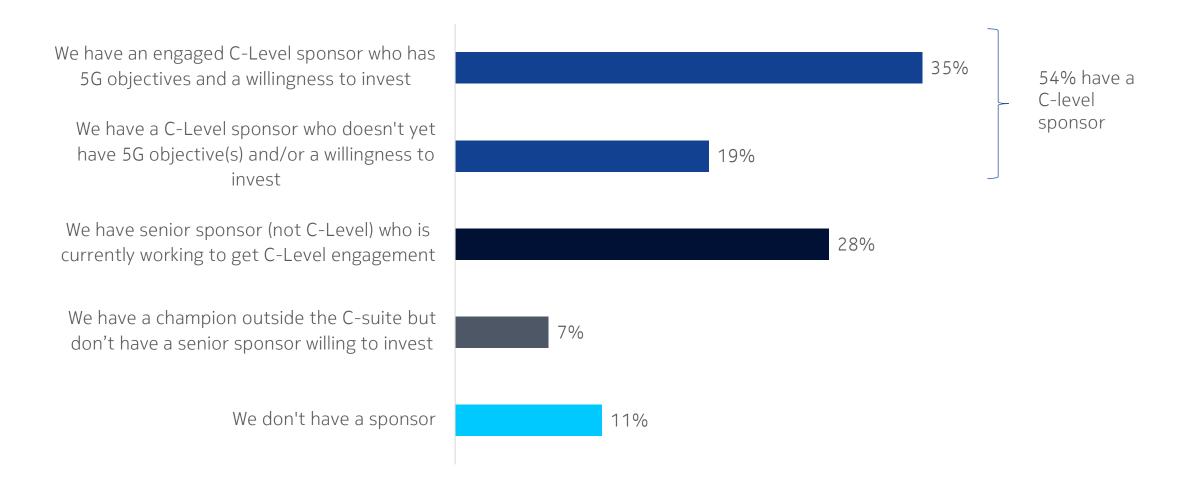
5G: the technology enabler



Q. Which of the following will your organization invest in over the next 2-3 years?

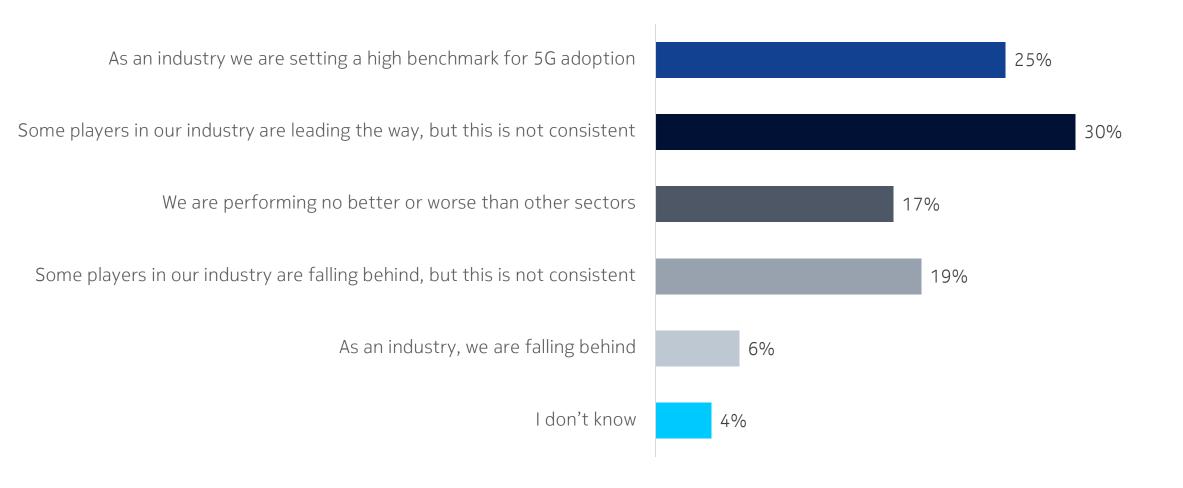
Leading from the top?

54% have C-Level sponsor for 5G implementation in their organization Only 1 in 10 don't have any 5G championing from management (11%)



5G: Few are resting on their laurels

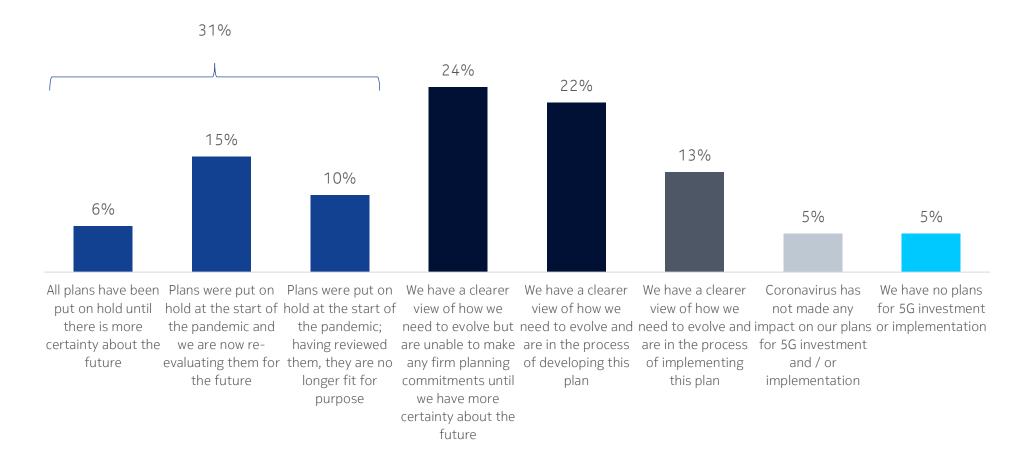
Businesses are more likely to feel that only some players in their industry are leading the way in terms of 5G adoption (30%), while 25% believe they themselves are setting a high benchmark



Q. Do you believe your industry is leading, or falling behind, in 5G adoption?

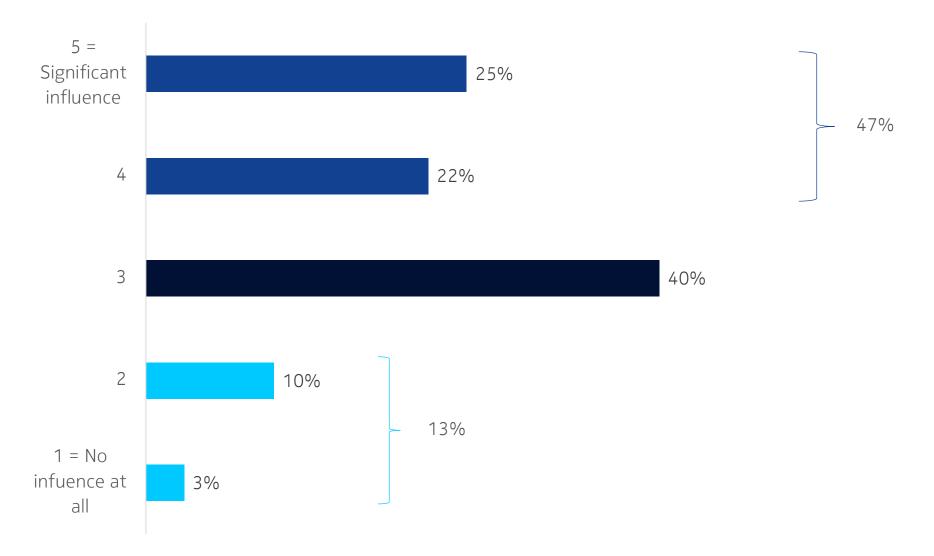
5G: Where next, post-COVID?

Over 1 in 10 (13%) are now implementing a clearer 5G investment plan due to COVID-19 31% are still on hold



5G: The benefits of the unknown

47% of technology buyers are motivated to invest in 5G by it's unknown potential



Q. A comprehensive list of what 5G can do is impossible to put together because it's not possible to predict every disruptive technology, app or unintended consequence of the network being introduced. To what extent does / will this prospect influence

Base: 202

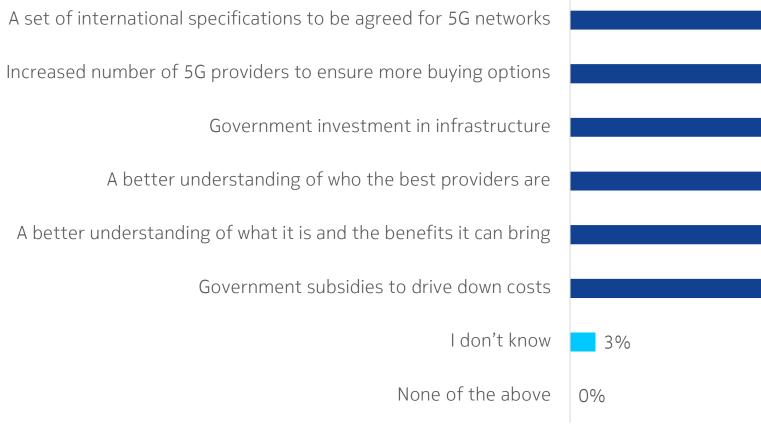
5G: What's stopping organizations?

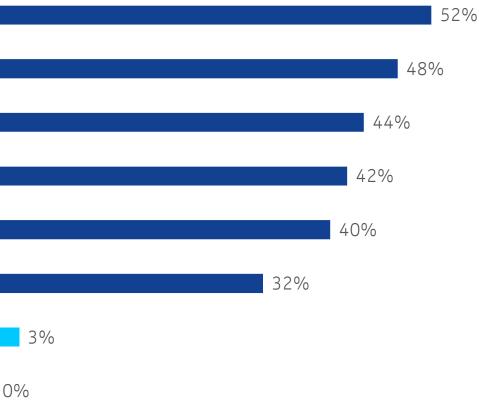
Availability of 5G enabled products and costs are the biggest barriers to 5G investment

Availability of 5G-enabled products	35%
The costs are too high	31%
Lack of coverage	28%
Security risks	27%
I'm worried about the political debate surrounding it (nationally / internationally)	25%
There are concerns within the business about its links to health	20%
The decision makers within the business do not understand it	17%
It is unproven	16%
It is not a priority right now	16%
I can't identify a provider	15%
I am not confident that we would be able to implement the associated technologies	15%
It won't benefit my business	11%
I don't believe it will bring benefits to the business	10%
I don't know enough about it	10%
I don't understand the true benefits	9%
None of the above	6%
I don't understand it	5%

How can they get there?

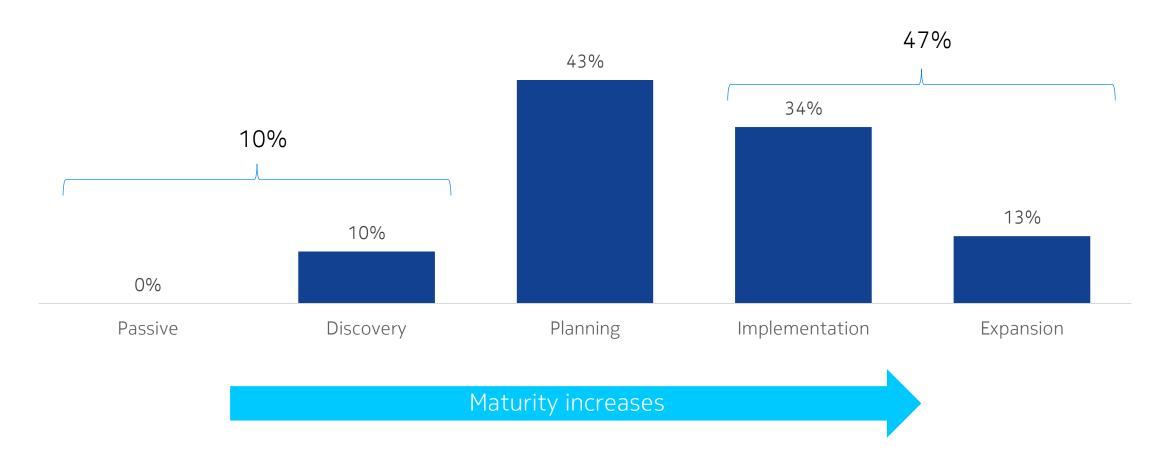
A lack of international specifications agreed for 5G networks is holding back greater investment and implementation.





5G maturity – the current picture

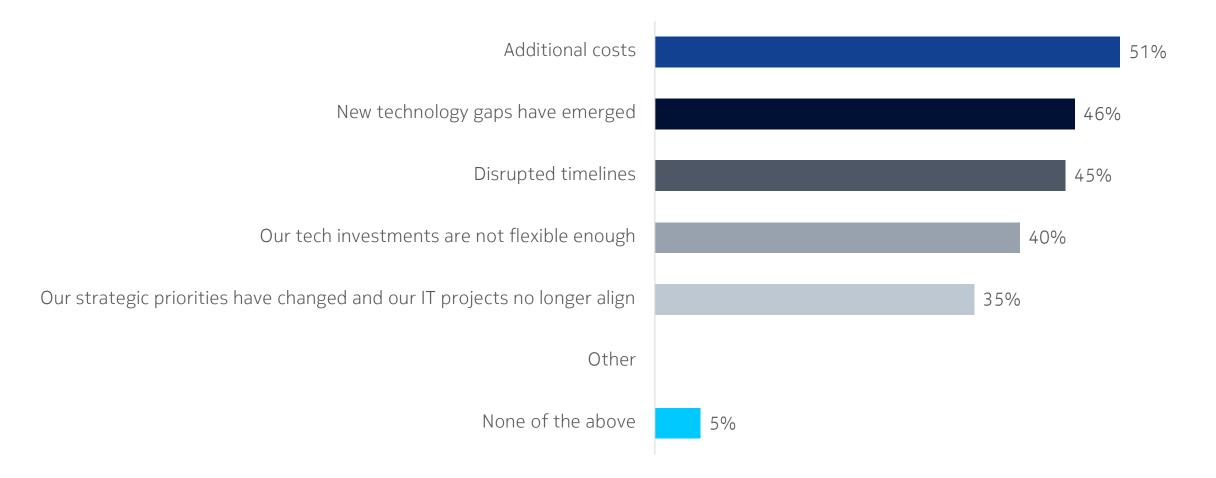
Nearly half of Saudi Arabian organizations are at the top end of 5G maturity (47%), with 13% at the highest level; 10% have lower 5G maturity; and 43% occupy a middle ground



South Korea

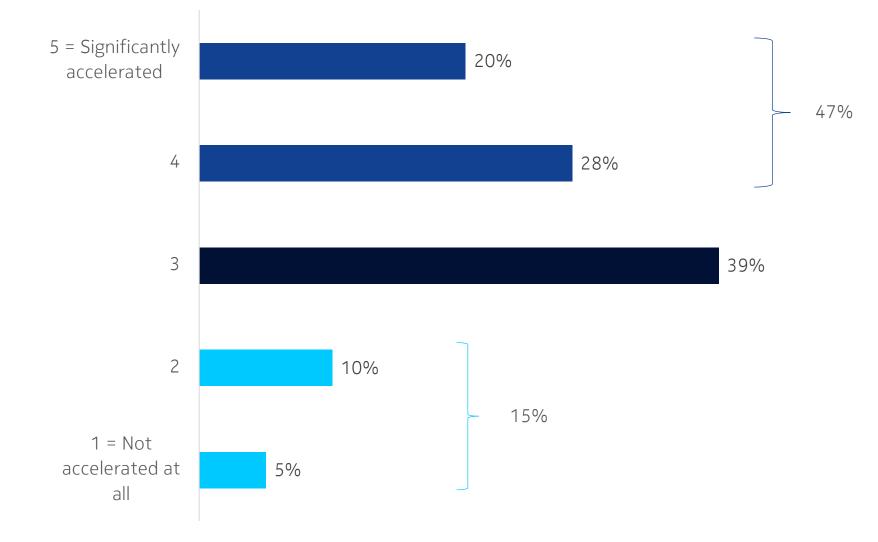
The COVID impact

Additional costs (51%), the emergence of new technology gaps (46%) and disrupted timelines (45%) have been the most prevalent impacts of COVID-19 on technology road maps



Digital transformation - the COVID effect

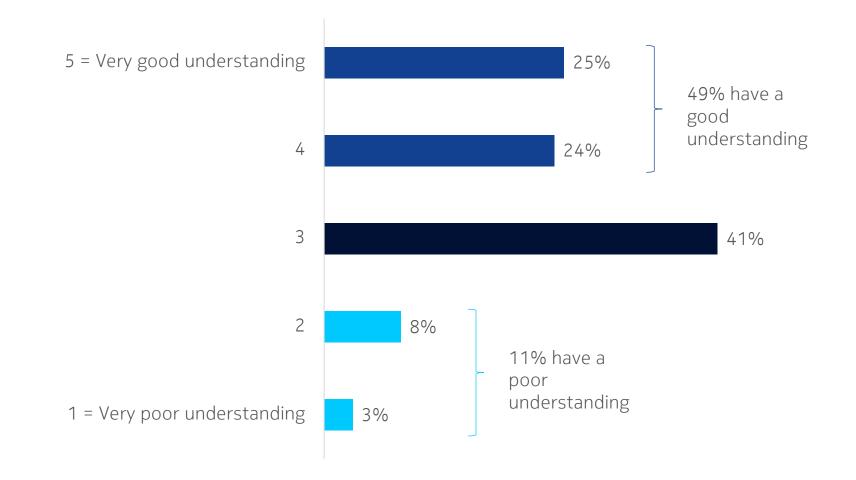
47% have expediated their digital transformation program due to COVID-19



Q. To what extent has the COVID-19 crisis accelerated your organization's digital transformation program?

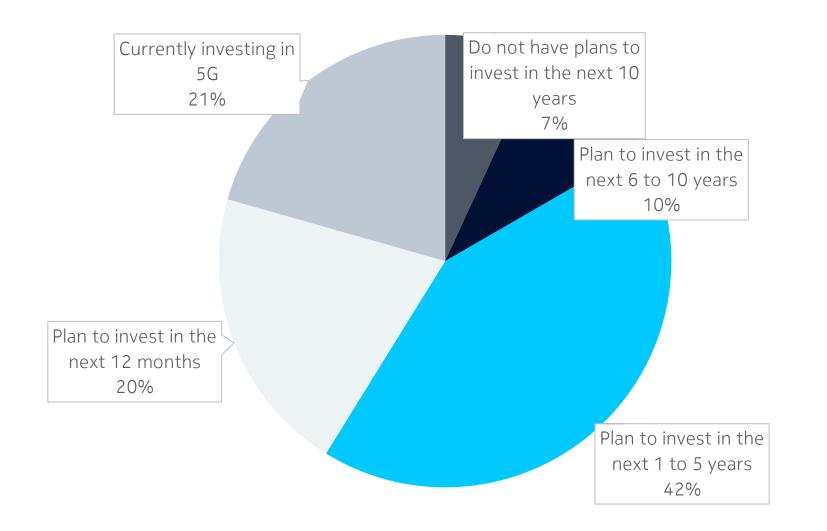
Levels of understanding are still mixed

49% think there is a good understanding of 5G in their organization



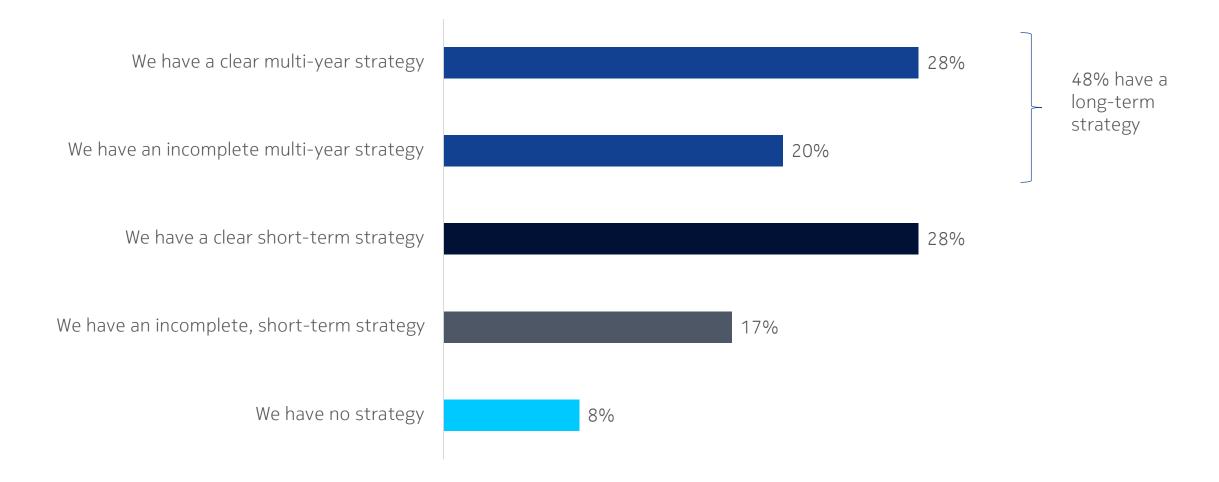
Planning for 5G

21% are currently investing in 5G; with 94% planning investment in the next 10 years



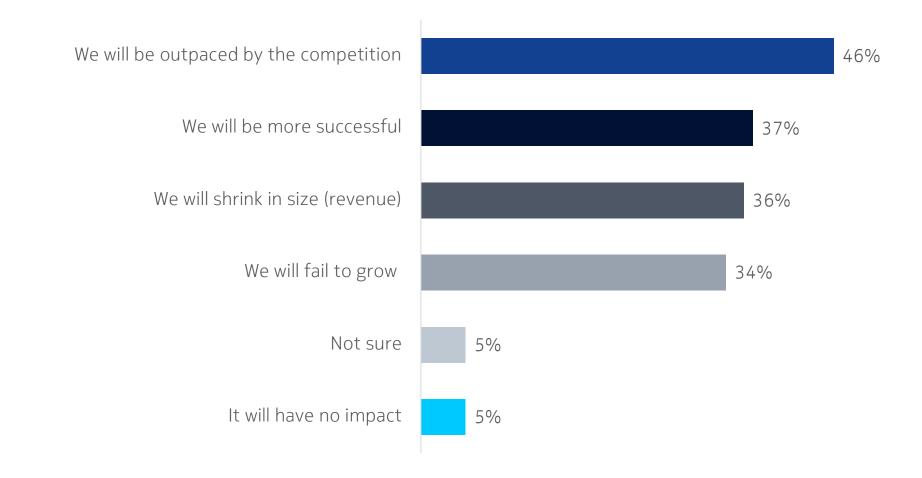
A short or long-term approach?

48% of technology decision makers have a long term 5G strategy Just under 1 in 10 have no strategy whatsoever (8%)

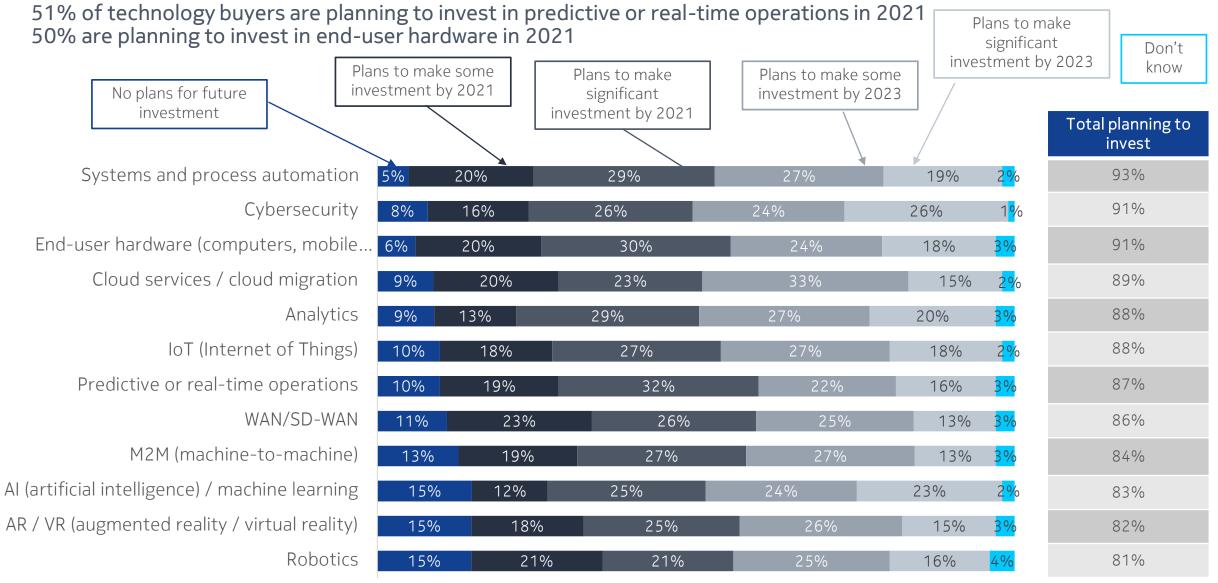


The risks of standing still

Almost half fear being outpaced by the competition should they not invest in 5G (46%), however 37% feel whatever their 5G investment they will still be successful



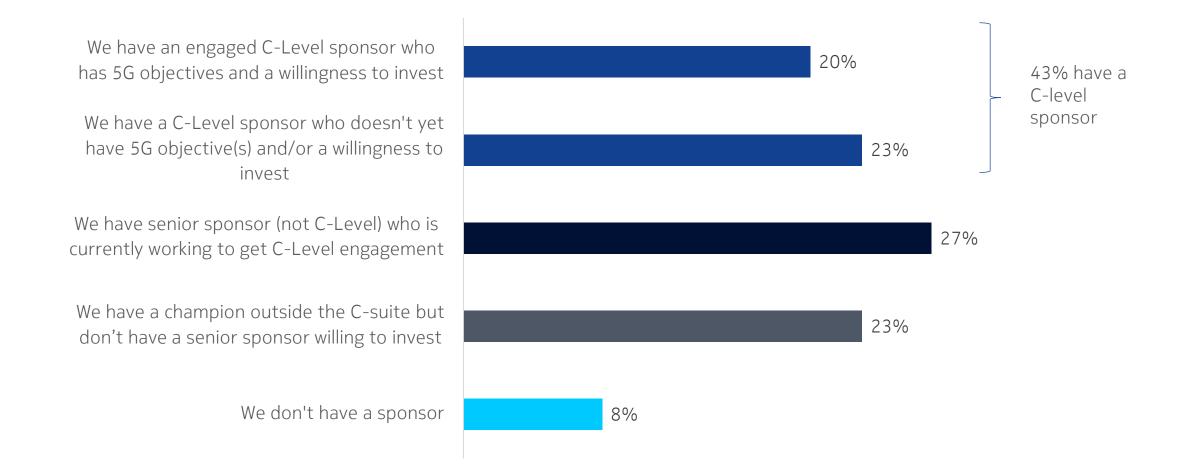
5G: the technology enabler



Q. Which of the following will your organization invest in over the next 2-3 years?

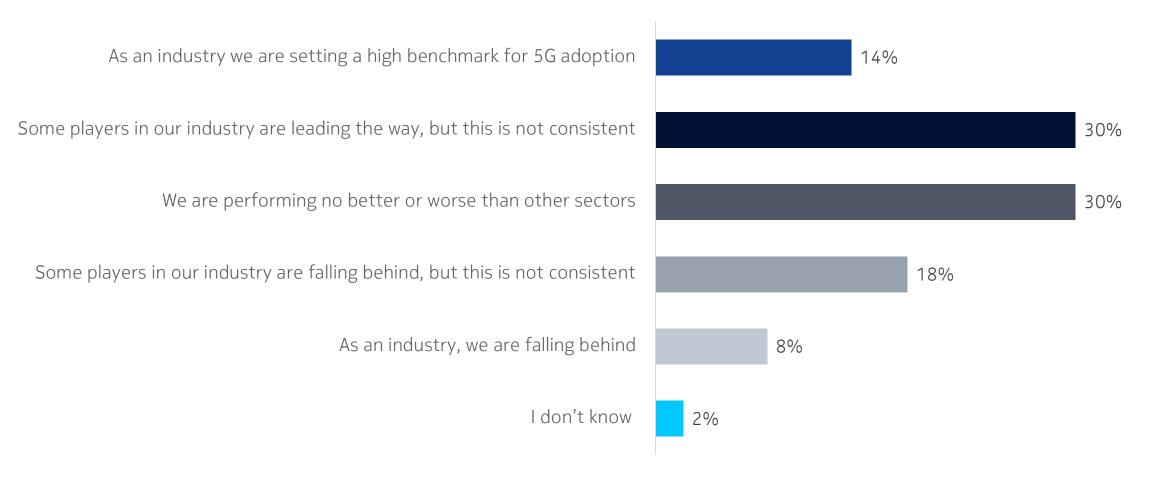
Leading from the top?

43% have C-Level sponsor for 5G implementation in their organization Only 1 in 10 don't have any 5G championing from management (8%)



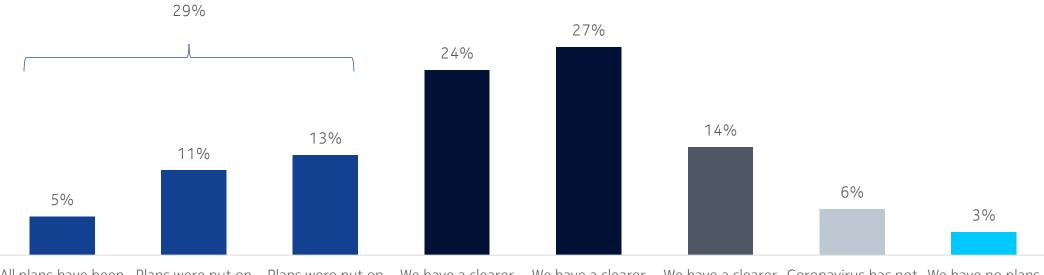
5G: Few are resting on their laurels

Businesses are equally likely to feel that their industry is middling in terms of 5G adoption, or that some players in their industry are leading the way but that this is not consistent (30%)



5G: Where next, post-COVID?

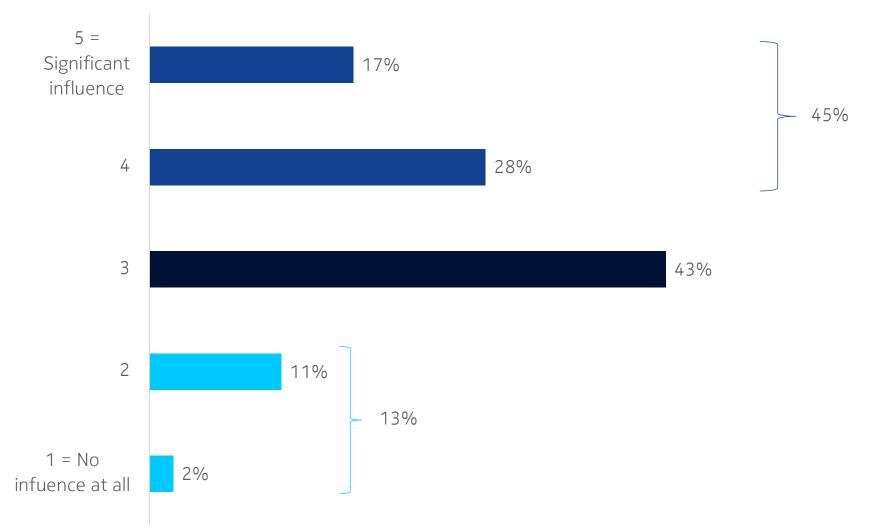
Over 1 in 10 (14%) are now implementing a clearer 5G investment plan due to COVID-19 29% are still on hold





5G: The benefits of the unknown

The unknown potential of 5G being fully introduced is an influence on 45% of decision makers



Q. A comprehensive list of what 5G can do is impossible to put together because it's not possible to predict every disruptive technology, app or unintended consequence of the network being introduced. To what extent does / will this prospect influence

Base: 200

5G: What's stopping organizations?

Costs and availability of 5G enabled products are the biggest barriers to 5G investment

The costs are too high	32%
Availability of 5G-enabled products	29%
I'm worried about the political debate surrounding it (nationally / internationally)	26%
Security risks	25%
It is not a priority right now	24%
The decision makers within the business do not understand it	24%
I am not confident that we would be able to implement the associated technologies	20%
I don't believe it will bring benefits to the business	18%
It is unproven	18%
I don't know enough about it	18%
It won't benefit my business	18%
Lack of coverage	18%
I can't identify a provider	17%
There are concerns within the business about its links to health	17%
I don't understand the true benefits	15%
I don't understand it	11%
None of the above	3%



46%

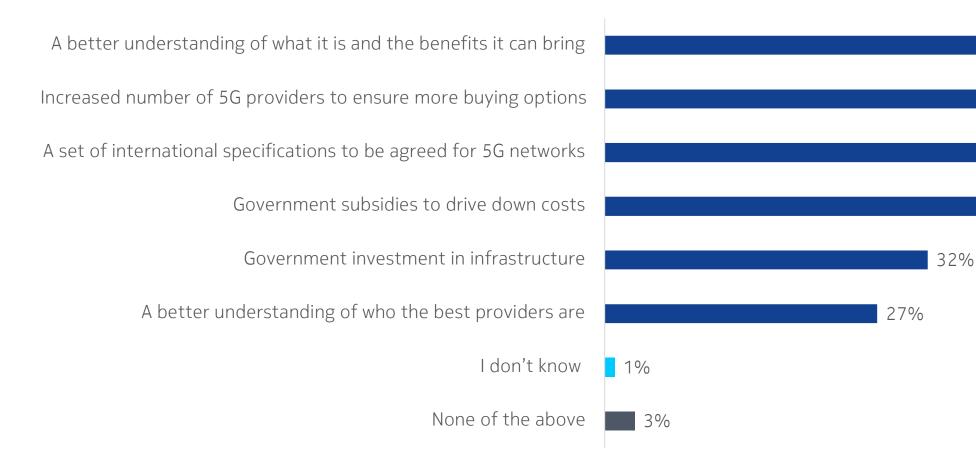
46%

44%

39%

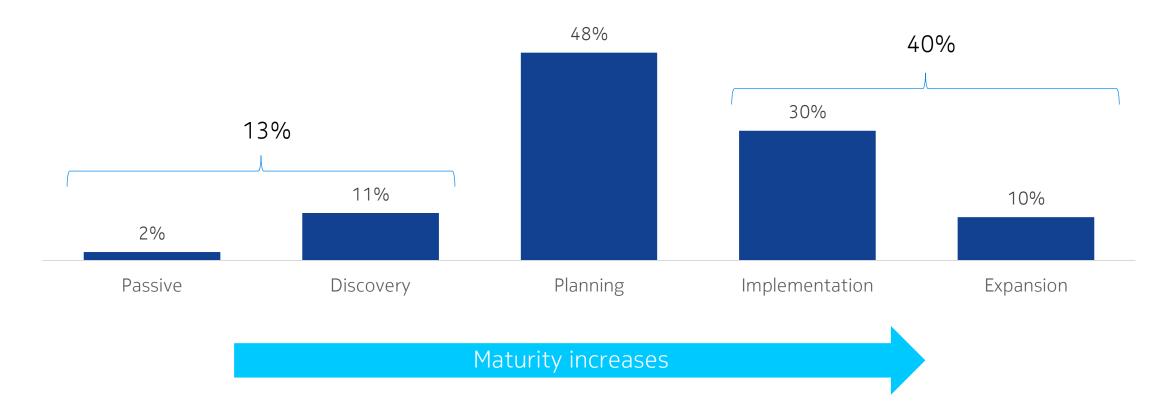
How can they get there?

A lack of understanding of 5G and its benefits, and a lack of 5G providers are holding back greater investment and implementation.



5G maturity – the current picture

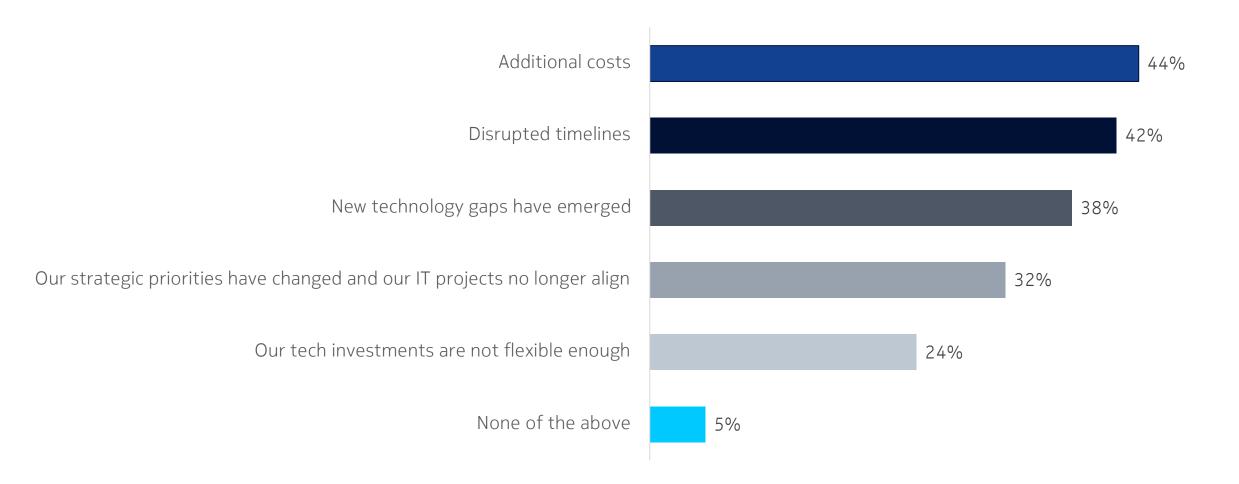
Two in five South Korean organizations are at the top end of 5G maturity (40%), with 10% at the highest level; 13% have lower 5G maturity; and 48% occupy a middle ground



United Kingdom

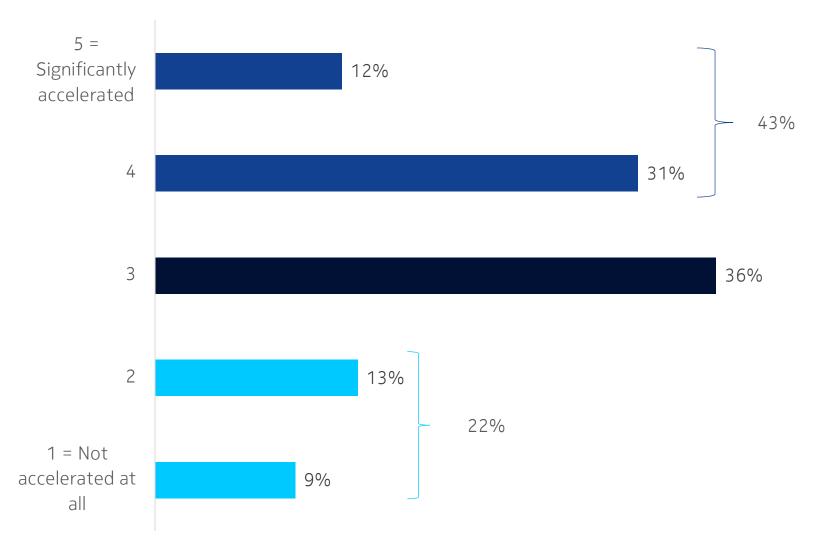
The COVID impact

Additional costs (44%), disrupted timelines (42%) and the emergence of new technology gaps (38%) have been the most prevalent impacts of COVID-19 on technology road maps



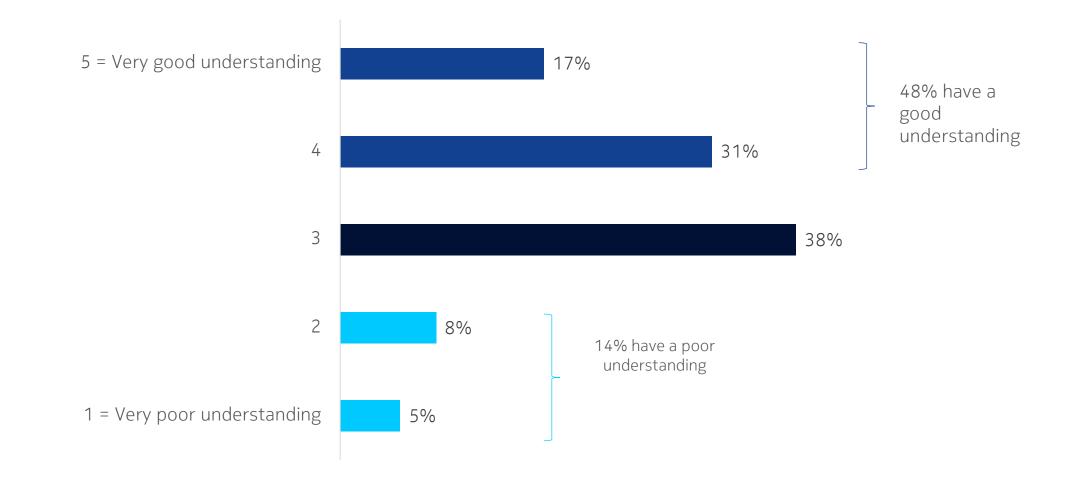
Digital transformation - the COVID effect

43% have expediated their digital transformation program due to COVID-19



Levels of understanding are still mixed

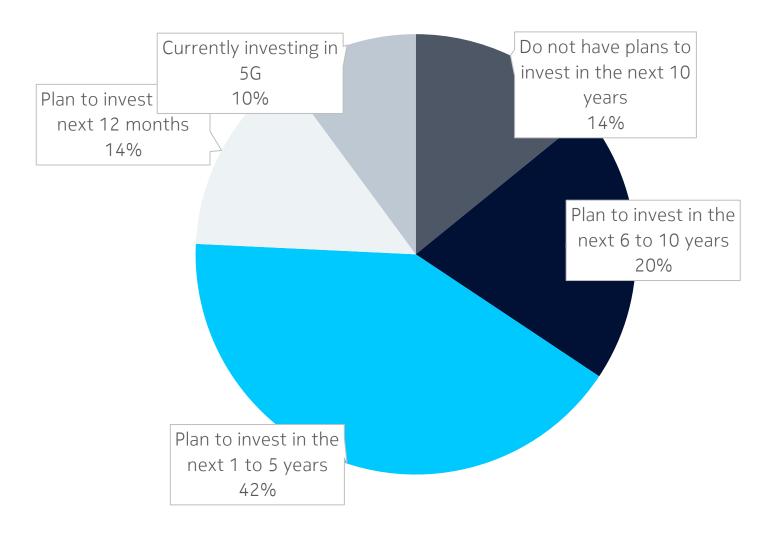
48% think there is a good understanding of 5G in their organization



Q. How would you describe the understanding of 5G in your business?

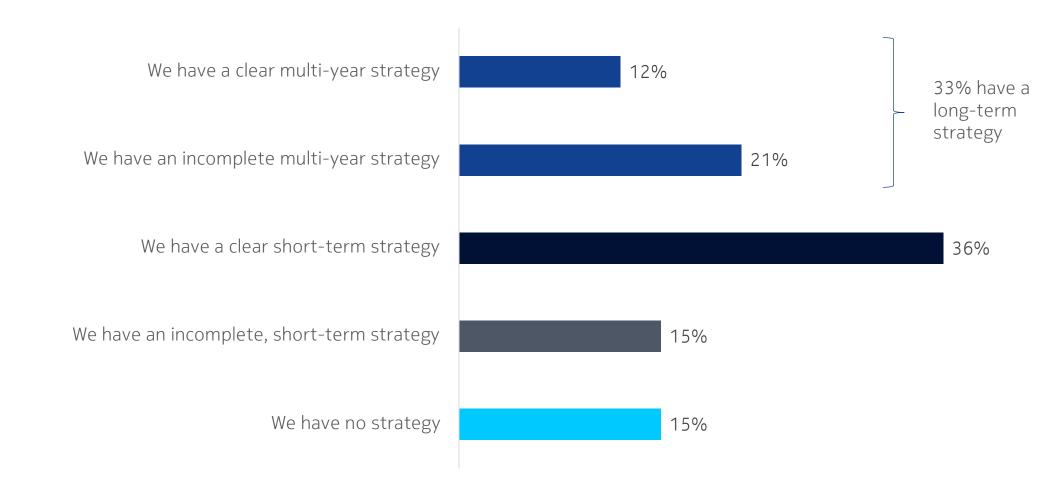
Planning for 5G

10% are currently investing in 5G; with 65% planning investment in the next 5 years



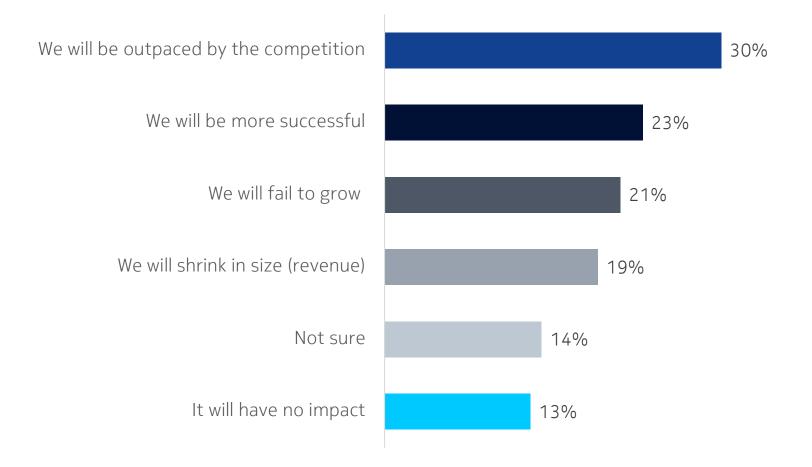
A short or long-term approach?

33% of technology decision makers have a long term 5G strategy Just over 1 in 7 have no strategy whatsoever (15%)



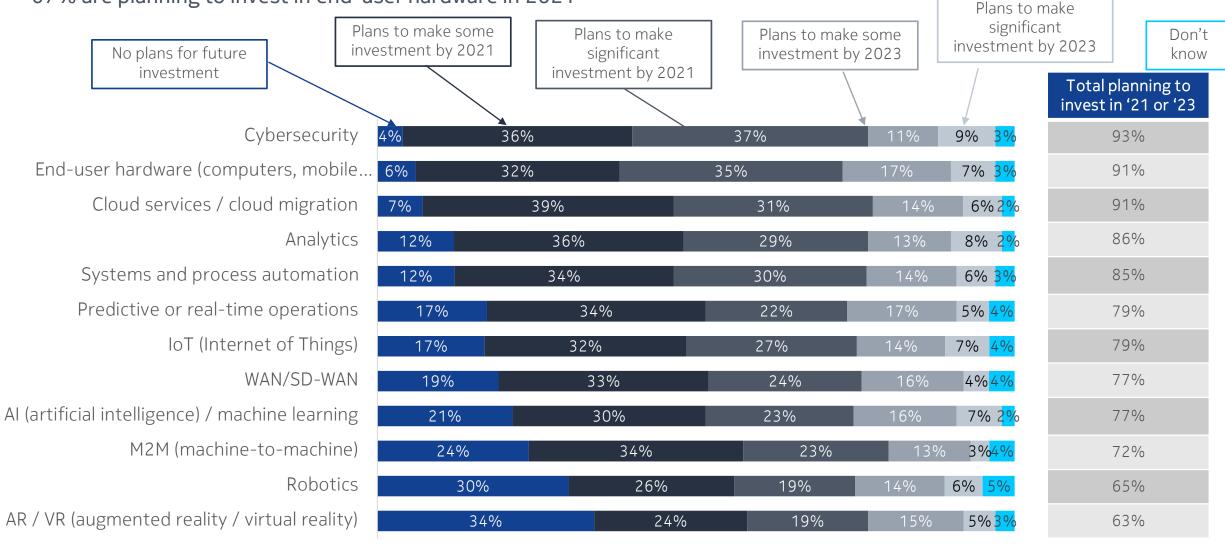
The risks of standing still

Nearly 1 in 3 fear being outpaced by the competition should they not invest in 5G, however 23% feel whatever their 5G investment they will still be successful



5G: the technology enabler

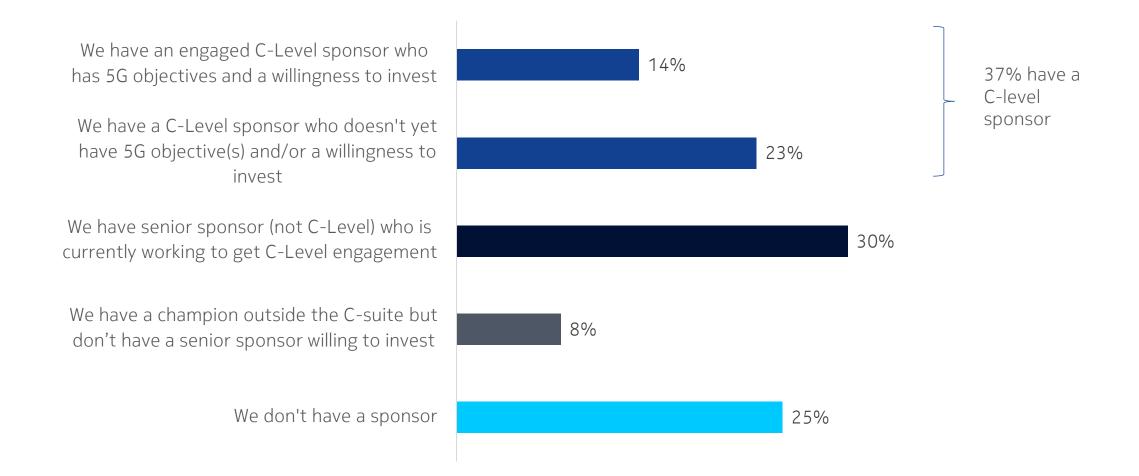
73% of technology buyers are planning to investment in cybersecurity in 2021 67% are planning to invest in end-user hardware in 2021



Q. Which of the following will your organization invest in over the next 2-3 years?

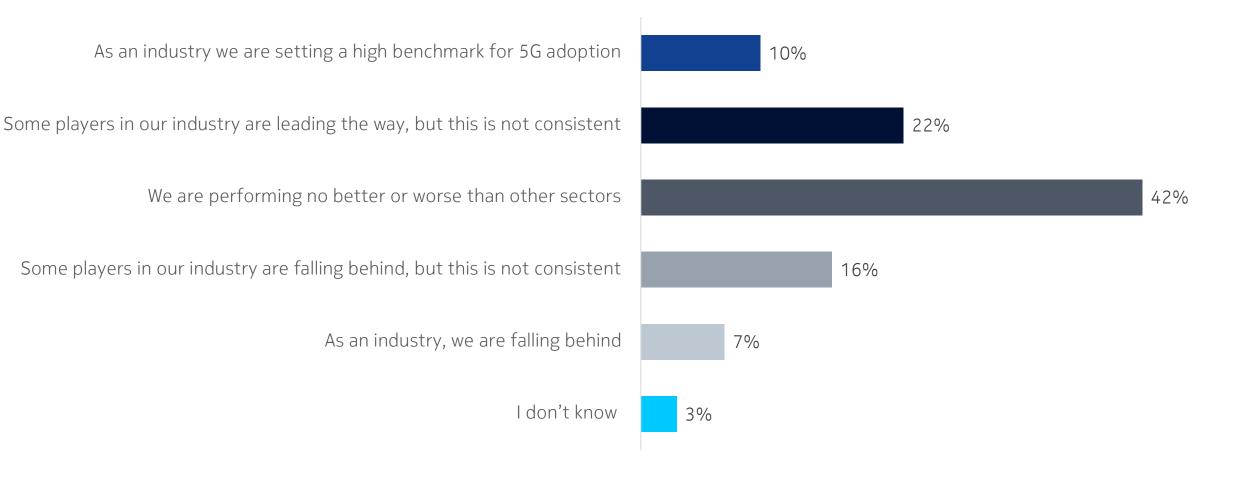
Leading from the top?

37% have C-Level sponsor for 5G implementation in their organization A quarter don't have any 5G championing from management (25%)



5G: Few are resting on their laurels

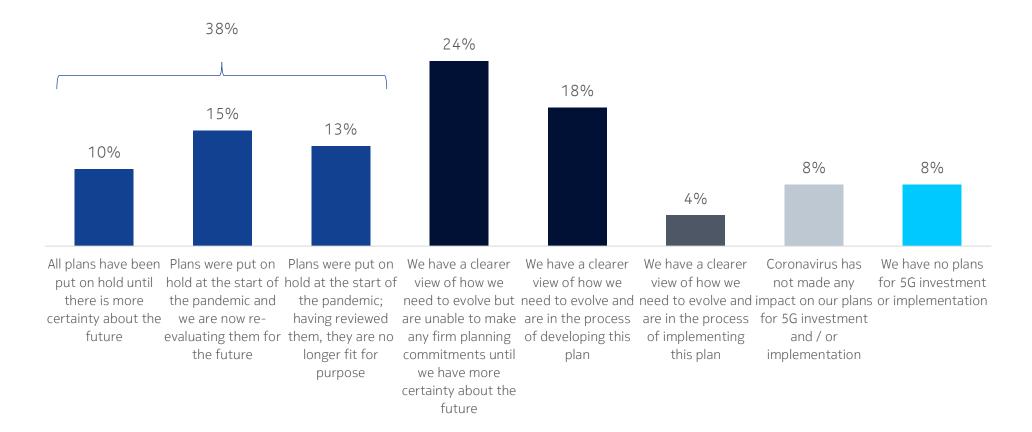
Businesses are more likely to feel that their industry is middling in terms of 5G adoption, with 10% setting a high benchmark



Q. Do you believe your industry is leading, or falling behind, in 5G adoption?

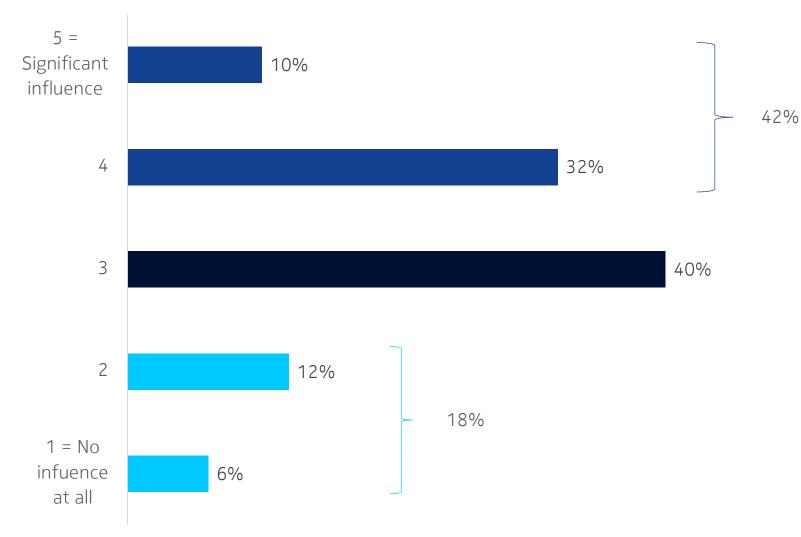
5G: Where next, post-COVID?

Just 4% are now implementing a clearer 5G investment plan due to COVID-19 38% are still on hold



5G: The benefits of the unknown

42% are influenced by the unknown potential of 5G in their investment decision



Q. A comprehensive list of what 5G can do is impossible to put together because it's not possible to predict every disruptive technology, app or unintended consequence of the network being introduced. To what extent does / will this prospect influence

Base: 207

5G: What's stopping organizations?

Availability of 5G enabled products and security risks are the biggest barriers to 5G investment

Availability of 5G-enabled products	29%
Security risks	23%
It is not a priority right now	20%
Lack of coverage	18%
I'm worried about the political debate surrounding it (nationally / internationally)	17%
The costs are too high	17%
The decision makers within the business do not understand it	14%
I don't know enough about it	12%
It is unproven	12%
I am not confident that we would be able to implement the associated technologies	12%
There are concerns within the business about its links to health	11%
I don't understand the true benefits	9%
It won't benefit my business	8%
I can't identify a provider	7%
I don't believe it will bring benefits to the business	7%
I don't understand it	6%
None of the above	5%



38%

32%

32%

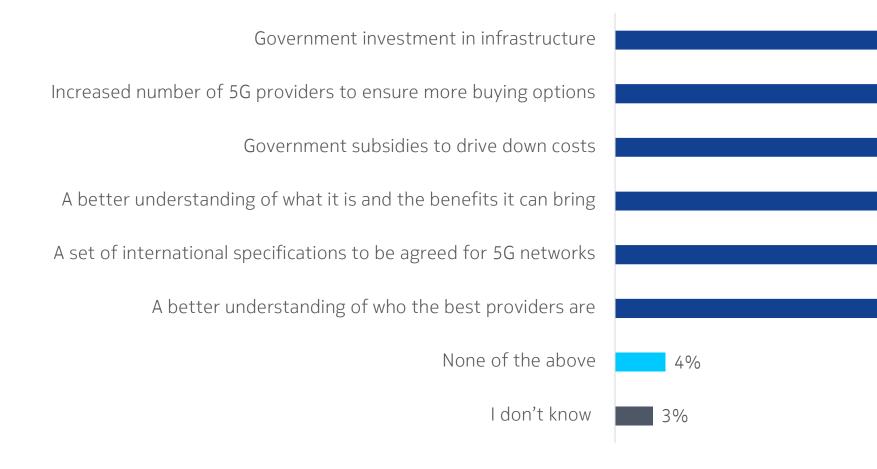
29%

27%

27%

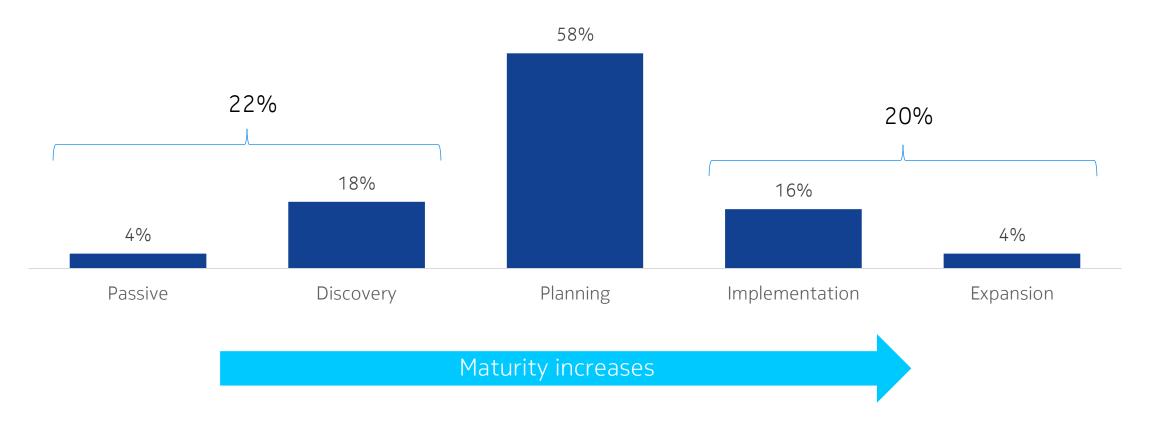
How can they get there?

More Government support in terms of both investment in infrastructure and subsidies to drive down costs would boost investment in 5G, as well as an increased number of providers



5G maturity – the current picture

A fifth of British organizations are at the top end of 5G maturity (20%), with 4% at the highest level; 22% have lower 5G maturity; and 58% occupy a middle ground



United States

A REAL PROPERTY.

88 a.m.

......

......

.....

AND NO.

NOKIA

mmm

mmm hum

mmm

mmm

mmm

mmm

mm

IIIIIIII IIIIIIII

IIIIIIII

IIIIIIII

mmm

HHHH

HIIIII

11111111

mmm

IKIN IIIIIII IN THE TRAILING

LAR INCOME

LANS HILIHILL LANS

LAN UNHILL D

AND INCOME THE

THUT THUR THEFT

THE REAL PROPERTY IN

IIIIII

IIIIII

Ullun

HIIII

HIIIII

HIM

IIIIII Hillin

HUID

Hum

HUI

IIIIII

HIIII

IIIIII

HIIII

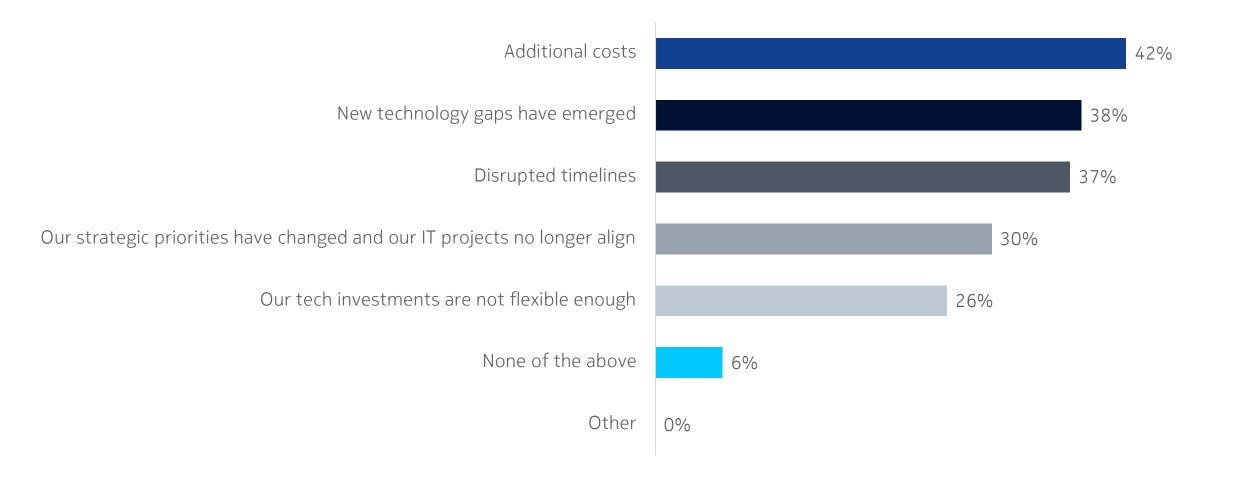
HIIII

111

mann

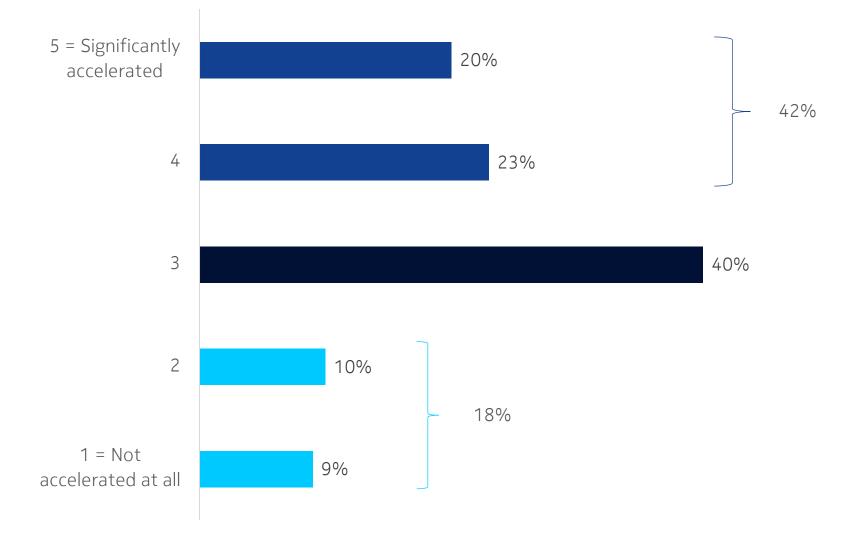
The COVID impact

Additional costs (44%), disrupted timelines (42%) and the emergence of new technology gaps (38%) have been the most prevalent impacts of COVID-19 on technology road maps



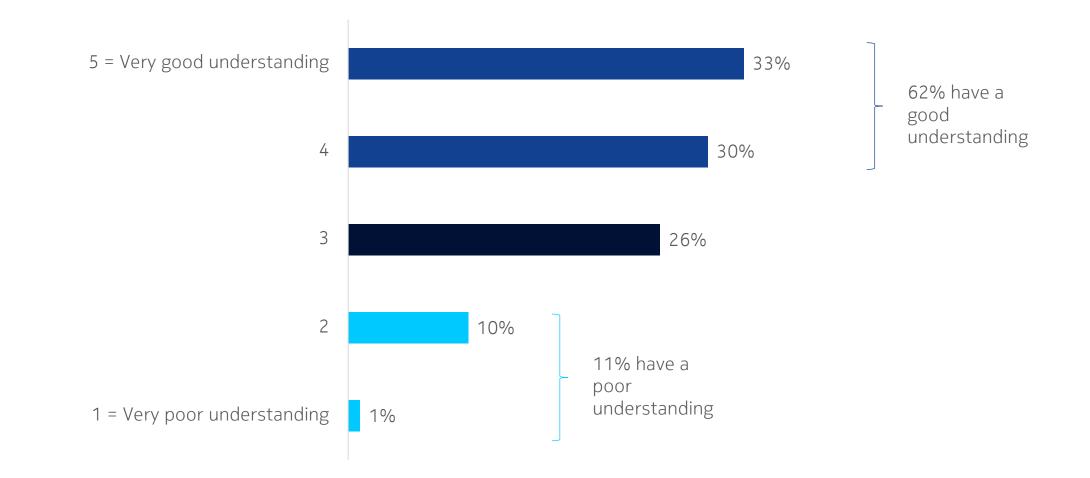
Digital transformation - the COVID effect

42% have expediated their digital transformation program due to COVID-19



Levels of understanding are still mixed

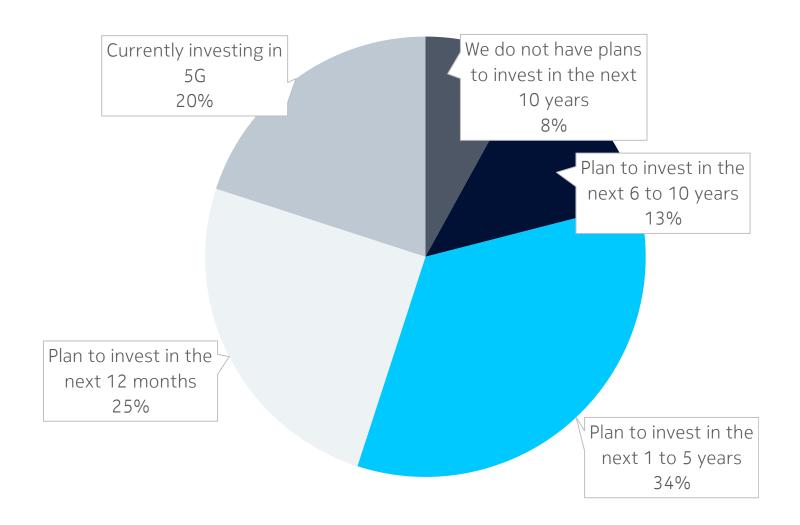
62% think there is a good understanding of 5G in their organization



Q. How would you describe the understanding of 5G in your business?

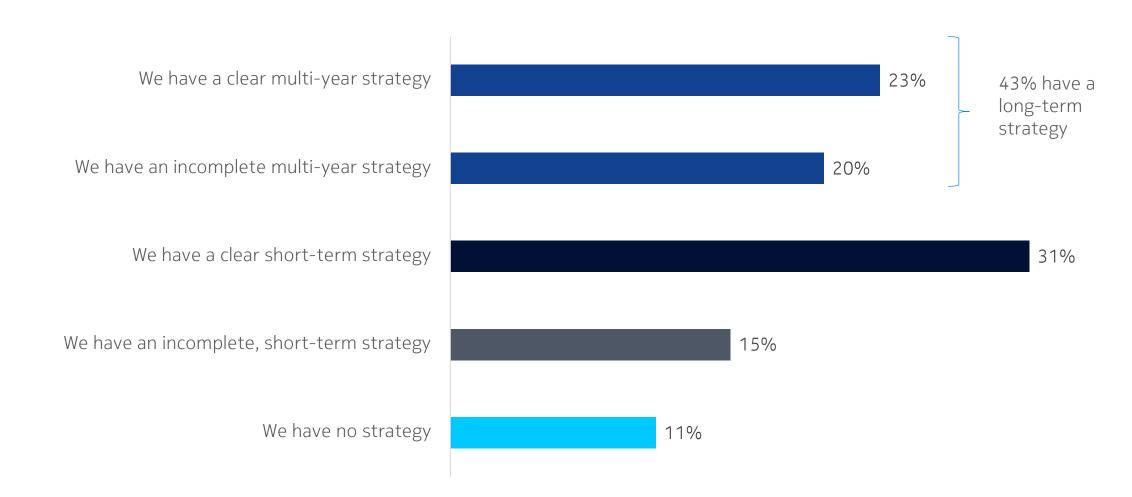
Planning for 5G

20% are currently investing in 5G; with 79% planning investment in the next 5 years



A short or long-term approach?

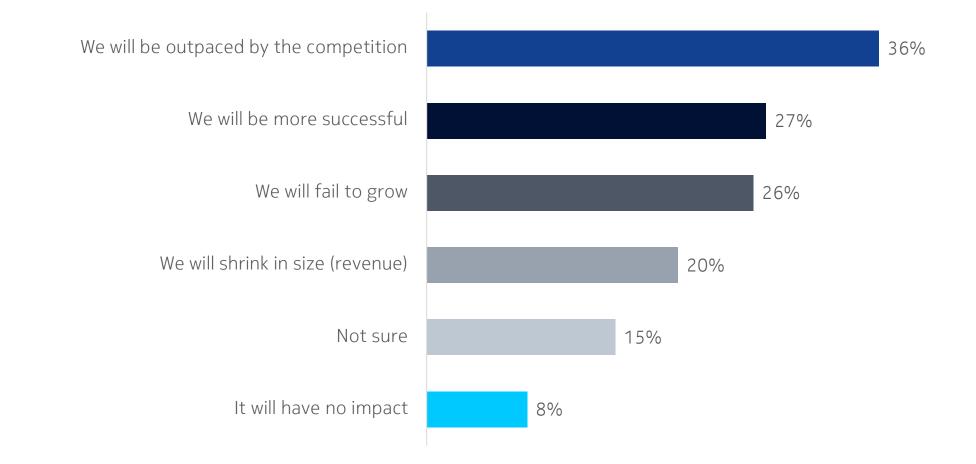
43% of technology decision makers have a long term 5G strategy Just over 1 in 10 have no strategy whatsoever (11%)





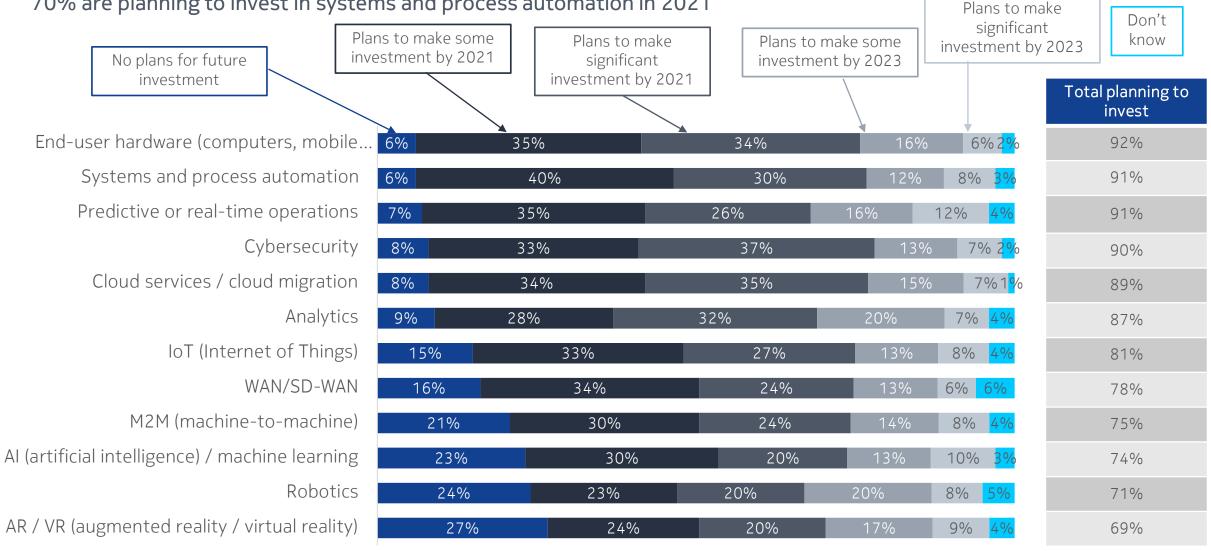
The risks of standing still

Over a third fear being outpaced by the competition should they not invest in 5G, however 27% feel whatever their 5G investment they will still be successful



5G: the technology enabler

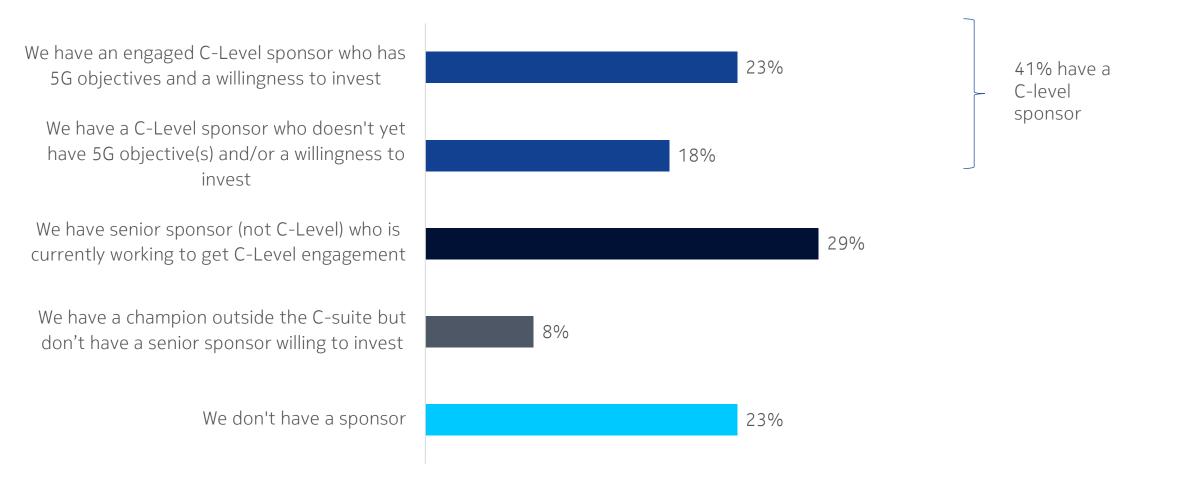
69% of technology buyers are planning to investment in end-user hardware in 2021 70% are planning to invest in systems and process automation in 2021



Q. Which of the following will your organization invest in over the next 2-3 years?

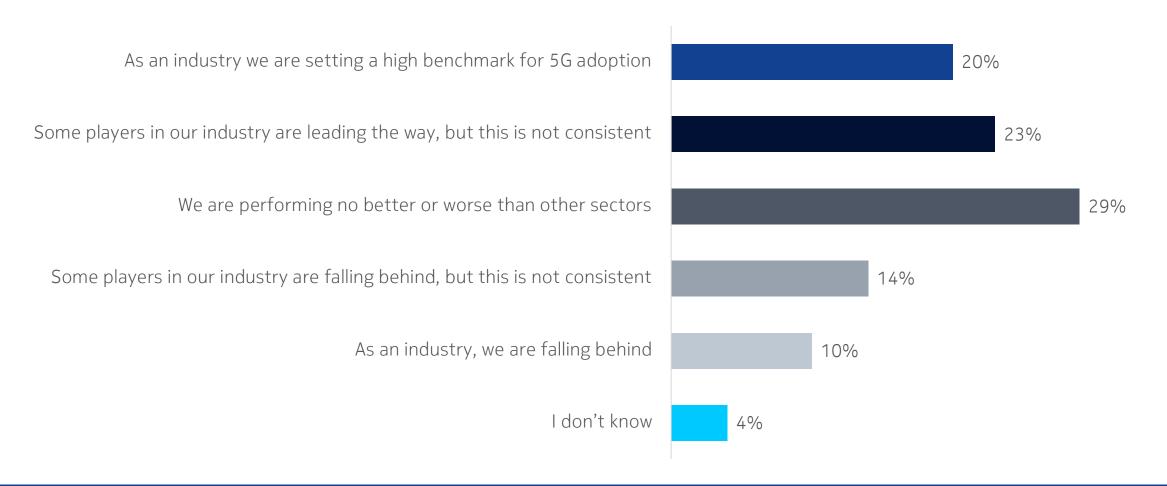
Leading from the top?

41% have C-Level sponsor for 5G implementation in their organization A quarter don't have any 5G championing from management (23%)



5G: Few are resting on their laurels

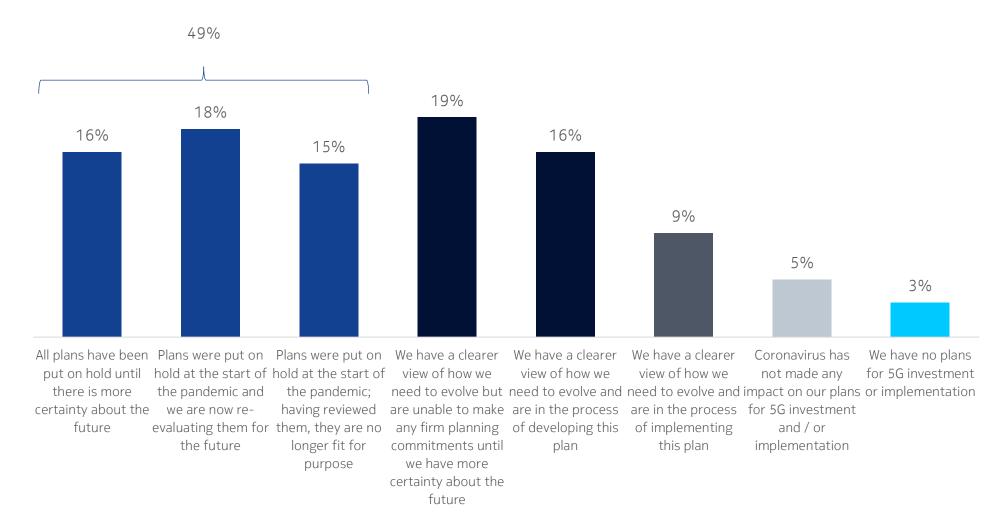
Businesses are more likely to feel that their industry is middling in terms of 5G adoption, with 20% setting a high benchmark



Q. Do you believe your industry is leading, or falling behind, in 5G adoption?

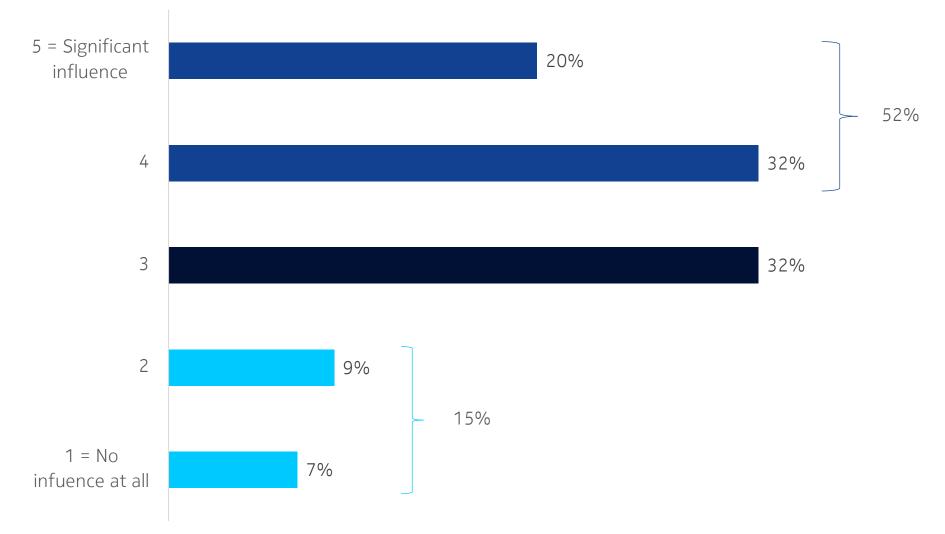
5G: Where next, post-COVID?

1 in 10 (9%) are now implementing a clearer 5G investment plan due to COVID-19 49% are still on hold



5G: The benefits of the unknown

52% of technology buyers are motivated to invest in 5G by it's unknown potential



Q. A comprehensive list of what 5G can do is impossible to put together because it's not possible to predict every disruptive Base: 210 technology, app or unintended consequence of the network being introduced. To what extent does / will this prospect influence

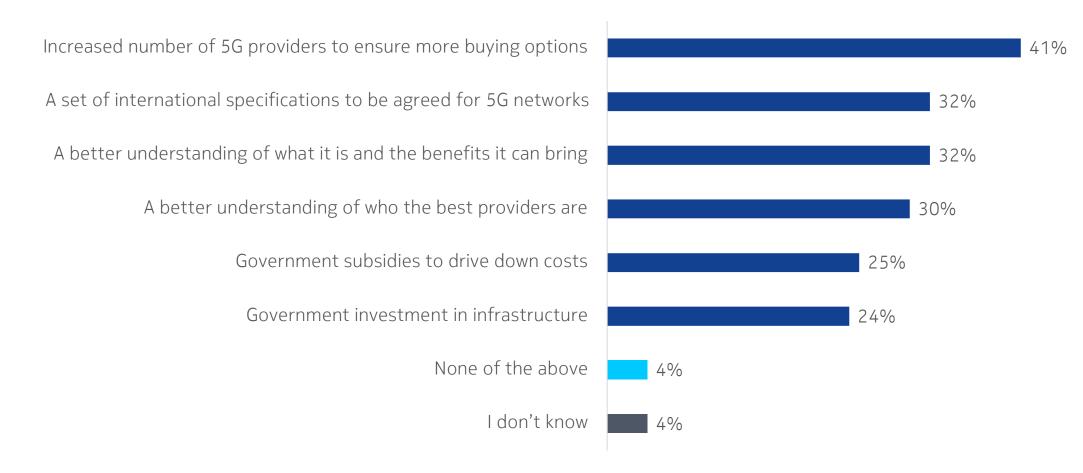
5G: What's stopping organizations?

Availability of 5G enabled products and costs are the biggest barriers to 5G investment

Availability of 5G-enabled products	27%
The costs are too high	26%
Security risks	21%
It is not a priority right now	19%
The decision makers within the business do not understand it	18%
I don't understand the true benefits	16%
Lack of coverage	15%
I'm worried about the political debate surrounding it (nationally / internationally)	15%
There are concerns within the business about its links to health	14%
I am not confident that we would be able to implement the associated technologies	12%
It is unproven	11%
I don't know enough about it	11%
It won't benefit my business	8%
I don't believe it will bring benefits to the business	8%
I can't identify a provider	7%
I don't understand it	4%
None of the above	10%

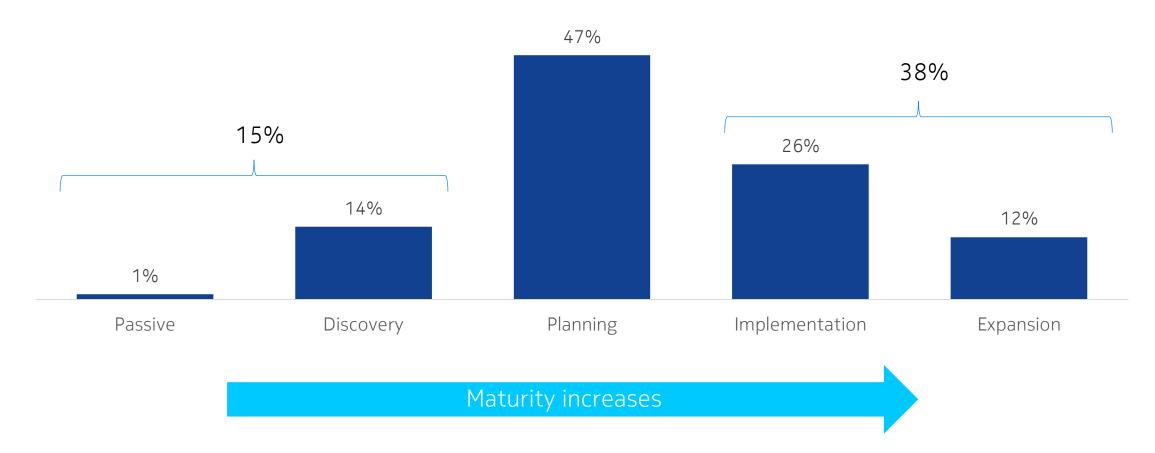
How can they get there?

A lack of 5G providers in the marketplace is holding back greater investment and implementation.



5G maturity – the current picture

Nearly two in five American organizations are at the top end of 5G maturity (38%), with 12% at the highest level; 15% have lower 5G maturity; and 47% occupy a middle ground



Survey methodology and demographics

We surveyed 1,628 technology purchasing decision makers in eight markets and across six industry sectors in July and August 2020. This fieldwork was carried out during the COVID-19 pandemic.



Nokia OYJ Karakaari 7 02610 Espoo Finland

CID210070

About Nokia

We create the technology to connect the world. Only Nokia offers a comprehensive portfolio of network equipment, software, services and licensing opportunities across the globe. With our commitment to innovation, driven by the award-winning Nokia Bell Labs, we are a leader in the development and deployment of 5G networks.

Our communications service provider customers support more than 6.4 billion subscriptions with our radio networks, and our enterprise customers have deployed over 1,300 industrial networks worldwide. Adhering to the highest ethical standards, we transform how people live, work and communicate. For our latest updates, please visit us online www.nokia.com and follow us on Twitter @nokia.

Nokia is a registered trademark of Nokia Corporation. Other product and company names mentioned herein may be trademarks or trade names of their respective owners.

© 2020 Nokia