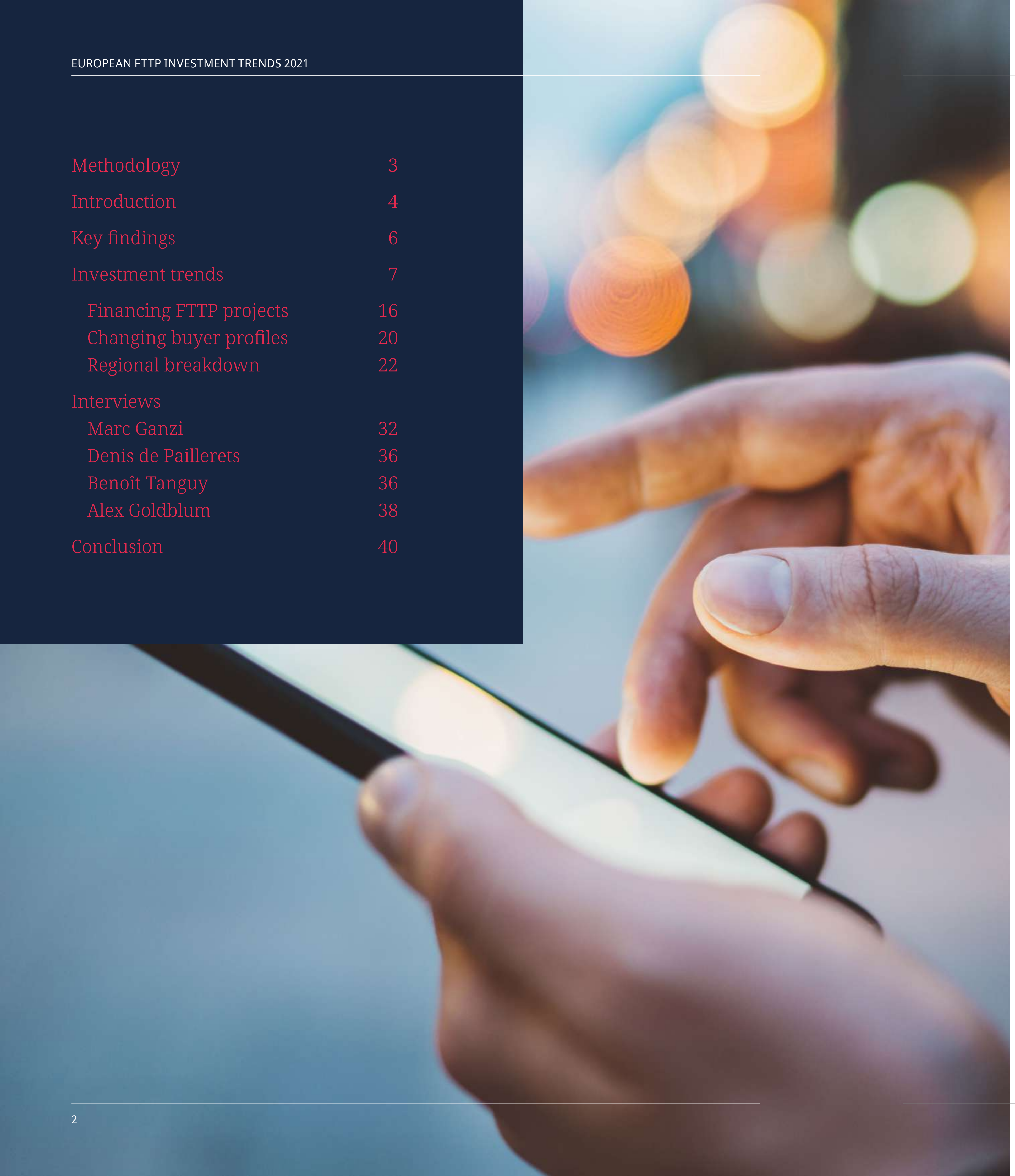
Building a Full Fibre Future: European Fibre-to-the-Premises (FTTP) Investment Trends 2021

DLA PIPER

TMT Finance



Methodology

In the third quarter of 2020, TMT Finance, on behalf of DLA Piper, surveyed 62 senior executives on the topic of Fibre-to-the-Premises (FTTP) investments in Europe. The respondents represent major investors, lenders, operators and advisors to the FTTP sector from across Europe, including the UK, France, Ireland, Germany, Austria, Switzerland, Spain, Italy, the Nordics, CEE, and from key overseas markets such as the US, Canada and Japan, all with a strong presence in the European market.

Of the 62 respondents, 33% were from investment banks (lending and advisory); 25% were from specialist professional advisories (M&A advisory, management consultancy, due diligence); 21% were senior industry executives (telecom operators, fibre operators, infrastructure operators); 15% were from investment firms (private equity, infrastructure funds and other asset management) and 6% were other asset managers or network vendors.

The findings of the report are based on a combination of quantitative and qualitative questions which included a series of three in-depth interviews, with the CEO of a major global infrastructure investor, the CEO of a multinational European fibre operator, and the Co-Heads of TMT at a key investment bank and lender to the sector. The results have been collated and analysed by TMT Finance, in collaboration with DLA Piper. All responses are anonymised and presented in aggregate. Percentages have been rounded off.

Thank you to all our respondents for their contribution to uncovering and highlighting trends and investment insights in the European FTTP market.

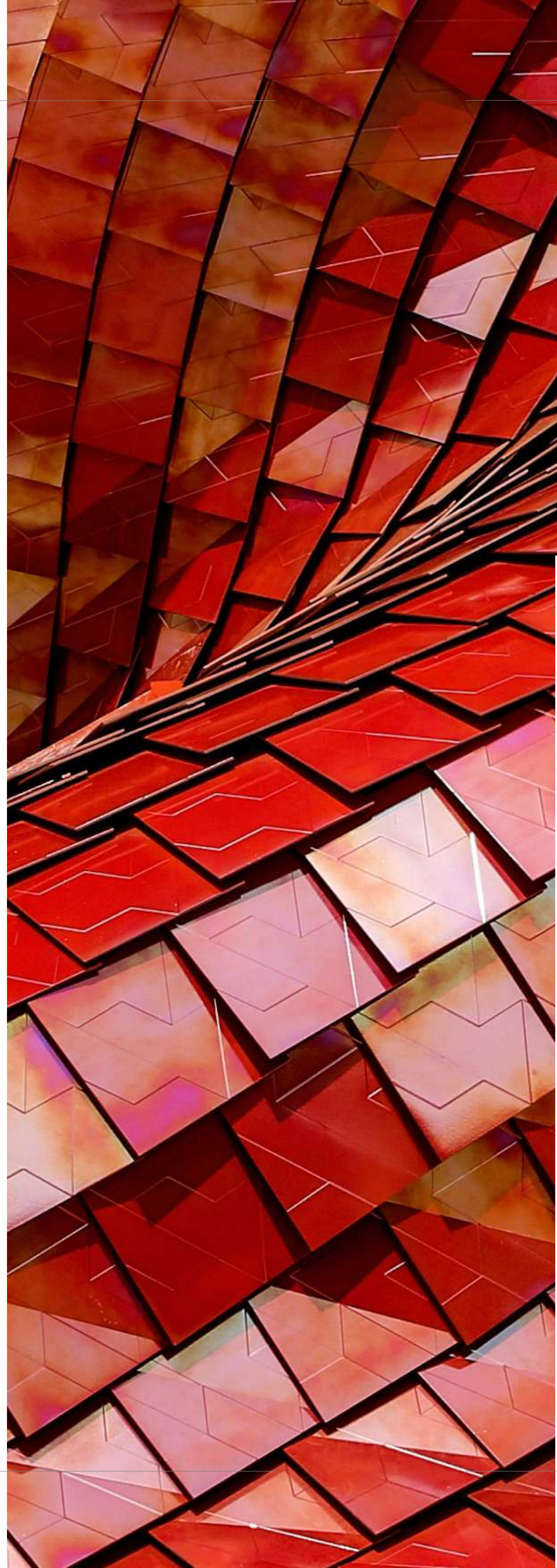
78%

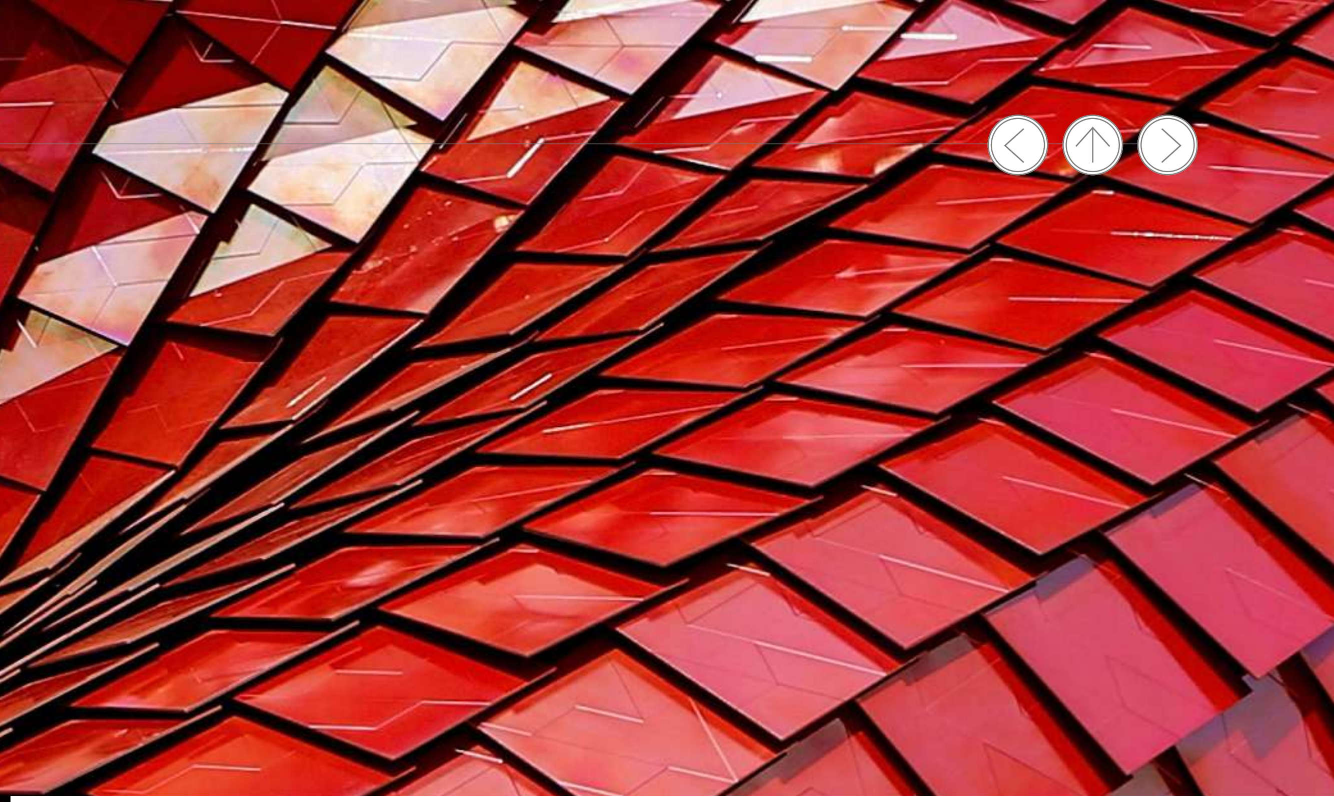
expect the overall value of **investment will increase** for FTTP projects in Europe over the next 24 months

Introduction

In the past 24 months, investment in FTTP in Europe has continued to surge to new heights, buoyed by the relatively low fibre penetration rates in key markets, government support and continued demand for data. That journey looks set to continue on a similar trajectory over the coming 24-month period, with a broad consensus that the sector is still in relative infancy of its investment lifecycle.

> *"FTTP investment has rapidly moved from being seen as an unusual and high risk investment towards being accepted as – if not quite (yet) conventional, at least as a well understood asset. Our survey helps us understand why this is."*
>
> — **Mike Conradi**
> Co-Chair, International Telecoms,
> DLA Piper





Demand for ultra-fast broadband connections has never been as high as it is now, and FTTP has been identified as one of the strongest candidates to deliver it. Political and commercial pledges to deliver fibre connections have been made across the continent.

The sector has traditionally been dominated by telecoms players, but has seen an upsurge in investment by financial investors – traditional private equity funds, specialist infrastructure investors and other asset managers – and supported by lenders, who are all looking to allocate an abundance of capital to mission-critical digital infrastructure, against a backdrop of rising uncertainty across other non-TMT sectors. This survey looks at some of the key investment drivers, barriers to entry, cost of capital and changing nature of the actors involved.

While the broad fundamentals are clear, the study highlights big differences in appetite for greenfield versus brownfield assets. While the availability of debt and equity for brownfield is abundant, greenfields are more challenging due to their lack of existing cash flows. However, the survey found institutional bondholders are increasingly warming to the asset class.

Concerns over the risk of overbuild is rated as the biggest obstacle to investing in FTTP in Europe; in this regard, some respondents say the UK, Portugal and Spain are the least attractive regions for investment, due to high competition levels.

However, the UK divides respondents. Many are optimistic of opportunities beyond the consumer market. Indeed, alongside Germany and Poland, the UK is rated as one of the most attractive countries from an investment or financing standpoint. High end-user demand and government incentives are some of the main reasons cited.

In the following pages, we examine these and other questions and consider what underlying dynamics might be at work.

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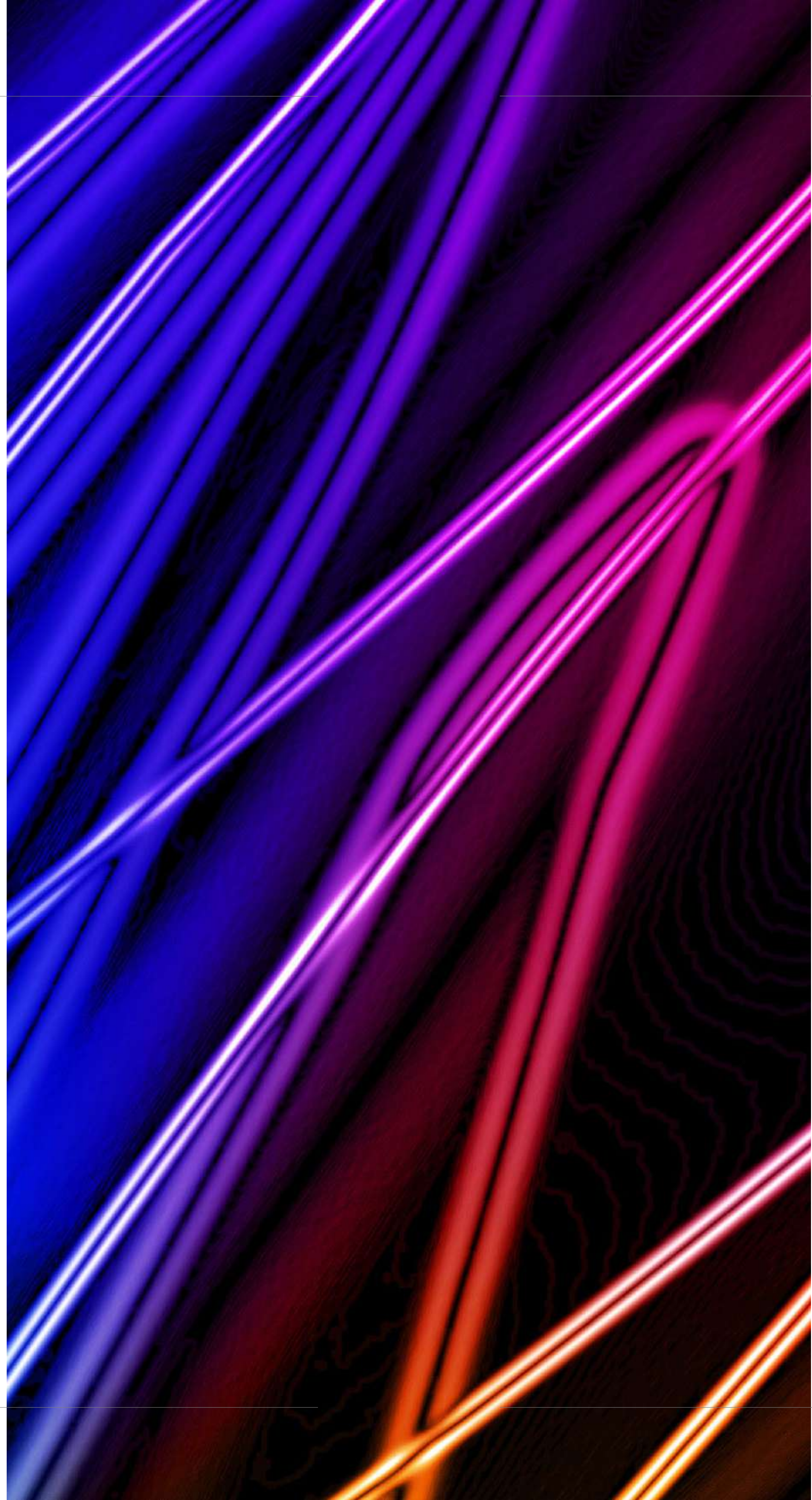
Key findings

1. 78% of survey respondents expect the overall value of investment will increase for FTTP projects in Europe over the next 24 months compared with the previous 24 months.
2. 24% of respondents indicate that their organisation had allocated between EUR100 million to EUR250 million to FTTP investments in the last 24 months. 22% had invested between EUR500 million to EUR1 billion, and 18% indicate that their organisation had invested more than EUR1 billion in the sector.
3. 23% of respondents expect their company (or client's organisation) to invest between EUR500 million and EUR1 billion over the next 24 months; 14% estimate between EUR250 million and EUR500 million and 21% say between EUR100 million and EUR250 million.
4. Up to EUR50 billion can be deployed in Europe over the next 24 months by players in the telecom industry to support fibre roll-out projects, according to one key sector lender.
5. Infrastructure funds (84%) are expected to be the biggest FTTP investors over the next 24 months, which is in line with the previous 24 months (84%). Increased participation is expected by pension funds and other asset management firms; while a decrease is expected from telecom operators and private equity firms.
6. 65% of respondents indicate that FTTP is becoming a more important vertical for their organisation.
7. The industry is around 30% into the investment cycle, with roughly another seven years left to run, according to the CEO of a major investment fund.
8. 41% of all respondents think financing costs for European FTTP projects has become slightly lower or significantly lower in the past 24 months, versus other sectors, while only 16% indicate that costs had increased.
9. 43% of respondents say they expect to be involved in five or more FTTP M&A related transactions over the next 24 months.
10. Germany (26%), the UK (21%) and Poland (15%) are rated the most attractive from an FTTP investment or financing standpoint in the next 24 months.
11. Risk of overbuild (40%), regulatory complexity (26%) and competition with other investors (26%) are rated the biggest obstacles to investing in FTTP in Europe.



Investment trends

Investments into FTTP projects continue to weather the challenges in the wider economy very well. Due to the combination of increased demand for ultra-fast broadband connections, strong commercial take-up, supportive government policies, and sustained lending appetites from banking and debt institutions, European operators often treat FTTP projects as ringfenced investments.

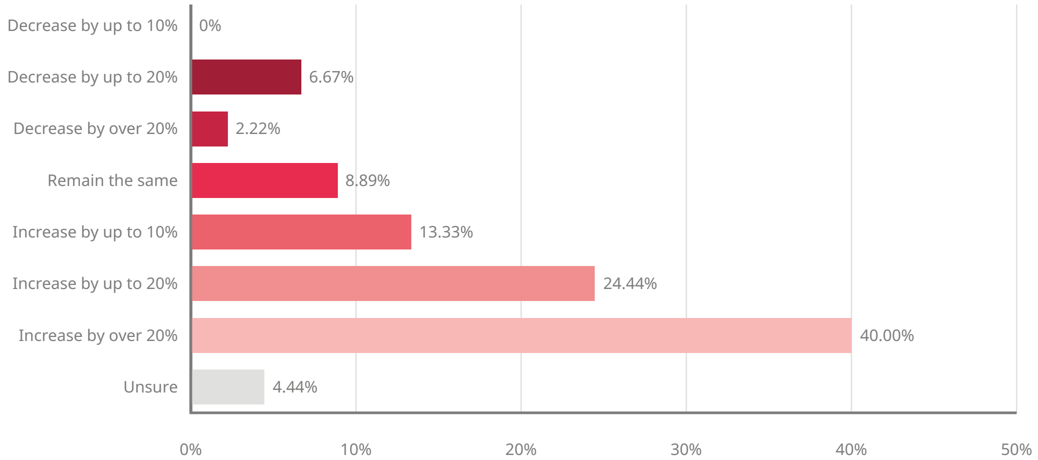
Underlining demand in the sector, recent notable transactions reported by TMT Finance News include:

- EQT's and Omers' joint acquisition of Deutsche Glasfaser, a German FTTP/fibre-to-the-home (FTTH) specialist from KKR for EUR2.8 billion.
- Bouygues Telecom and joint venture partner Vauban Infrastructure Partners' EUR1.1 billion financing facility for the 'Project Asterix' fibre project.
- Antin Infrastructure-backed Eurofiber's ambitious growth and expansion strategy throughout the Netherlands, Belgium and France, with the company adding more than 19,000 km of fibre network and eight data centres, having invested close to EUR400 million, and making several bolt-on acquisitions.
- Iliad's several notable fibre deals, including a partnership with InfraVia in France (worth EUR600 million) to roll out FTTH outside very densely populated areas; a deal with Open Fiber in Italy to offer fixed-line data services; and the signing of a new EUR300 million financing agreement with the EIB to accelerate the roll-out of fibre across France.

When asked about whether the overall value of investment (including debt) will increase for European FTTP projects, 78% of survey respondents indicate that they anticipate an increase to some degree over the next 24 months compared to the previous 24 months.

"How do you expect the overall value of investment (including debt) will change for FTTP projects in Europe over the next 24 months – compared to that of the previous 24 months?"

Fig 1.



The survey found that 41% of respondents think the overall value of investment including debt will increase by over 20%, while 24% believe it will increase up to 20%.

The fact that nearly half of respondents expect the value of sector investments to increase by more than 20% is a clear sign of the growing importance of the FTTP vertical across Europe.

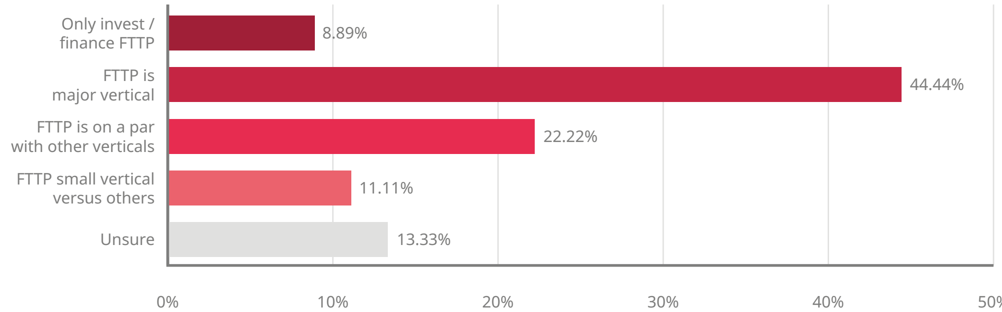
Only 13% of respondents think it will increase up to 10%, and just 9% of respondents believe it will decrease to some degree.

40%

of respondents think the overall value of investment including debt will increase **by over 20%**

"In what proportion is your company (or client) investing in FTTP compared to other verticals?"

Fig 2.

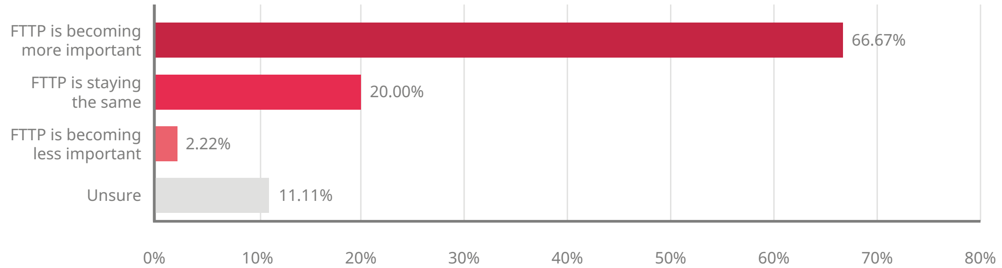


In line with the increasing value of FTTP investments, 44.4% of respondents indicate that FTTP now takes up a major proportion of investments compared to other verticals in their organisations, while 23% of respondents indicate that FTTP investments were on par with other current verticals.

This observation reiterates the growing importance of FTTP and the switching of focus that many industry players are implementing or have already implemented. As one respondent indicates when asked to give advice to new market entrants: "It's getting crowded, stay away!"

"How is that changing?"

Fig 3.



In terms of perspective, 65% of respondents believe that FTTP is becoming more important as a sector and vertical for their organisation or client, while hinting at the fact that market risks are not a deterrent, and that lower financing costs create even more opportunities to build.

20% of all respondents indicate that the importance of FTTP investments will remain the same, so a fifth of all respondents indicate that the market has reached some sort of status quo.

"Why is that?"

Respondents say the rise in home working due to numerous technological advances of late and COVID-19 restrictions driving end-user demand are major contributions to this increased interest in the asset class. The sheer level of deal opportunities in the space alongside the monopolistic characteristics of FTTP were also commonly cited reasons.

Other key drivers include mobile infrastructure ROI being more challenging and national telecom operators actually decreasing their fibre investments, providing other organisations with an opportunity to build long-term asset value in the FTTP space.

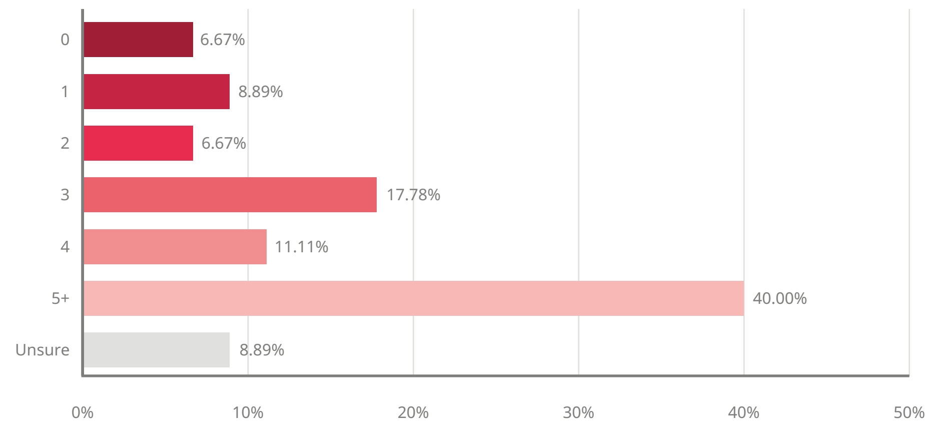
In relation to investments staying the same, one respondent indicates that the largest deals within Europe have already been done, with major countries such as Spain, France, Italy, the UK and to a lesser extent Germany, as having their "FTTP plans and players largely sorted," expecting volumes to abate.

Other respondents indicate that the importance of FTTP investments have already been at a high level and will not intensify further, while some respondents indicate that the emergence of 5G will affect FTTP investments once wireless infrastructure develops.

> *"The key drivers behind this acceleration is the combination of increased demand for ultra-fast broadband connections which benefit from a strong commercial take up at the moment and 5G related investments (incl. FTTT), significant dry powder from infrastructure funds and supportive banking and debt institutions on the lending appetite."*
>
> — Global TMT co-head at a major investment bank.

"How many FTTP projects in Europe has your company invested in, advised on or financed in the past 24-month period?"

Fig 5.



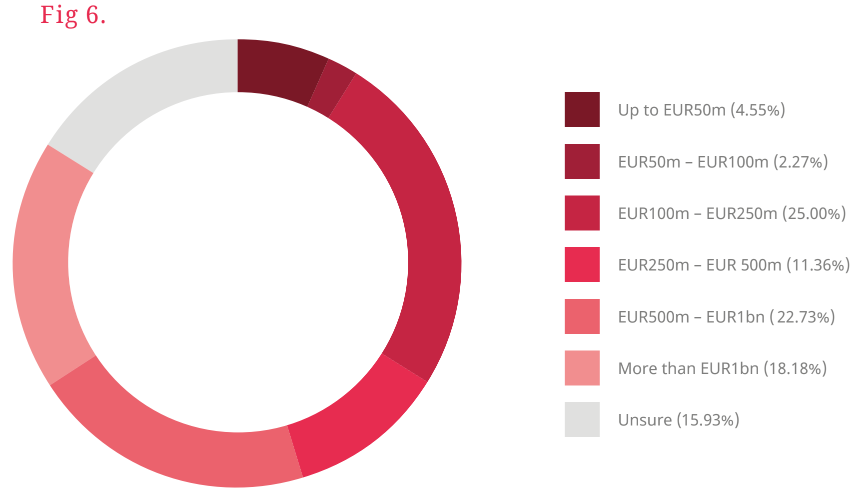
40% of respondents say that in the past 24-month period, their company has invested in, advised on or financed more than five FTTP projects; only 7% financed zero projects and 9% were unsure.

"What estimated value of investment or debt did your organisation (or your client's organisation) allocate to European FTTP over the past 24 months?"

Over the past 24 months, survey respondents have allocated a mean average of EUR672 million in investment or debt to European FTTP projects, with some respondents indicating past investment allocations as high as EUR5 billion.

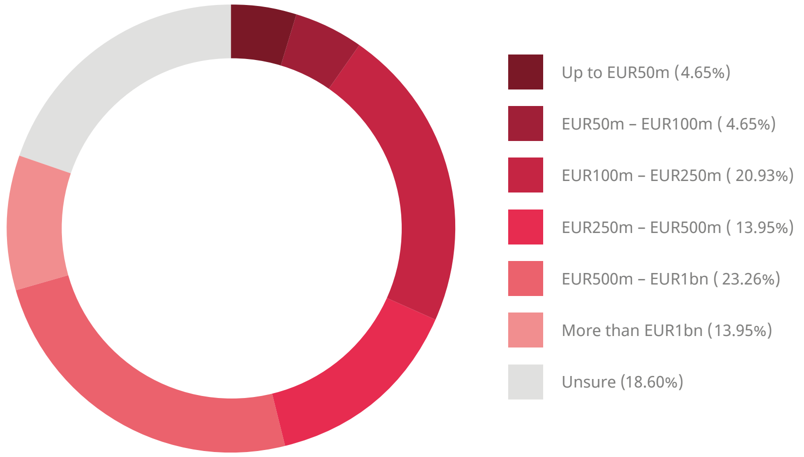
23% of respondents estimate the value allocated to be between EUR500 million and EUR1 billion; 11% estimate it to be between EUR250 million and EUR500 million, while 25% estimate it to be between EUR100 million and EUR250 million. 18% of respondents indicate that their invest and debt allocations had surpassed EUR1 billion.

Fig 6.



"And what do you expect it will allocate over the next 24 months?"

Fig 7.



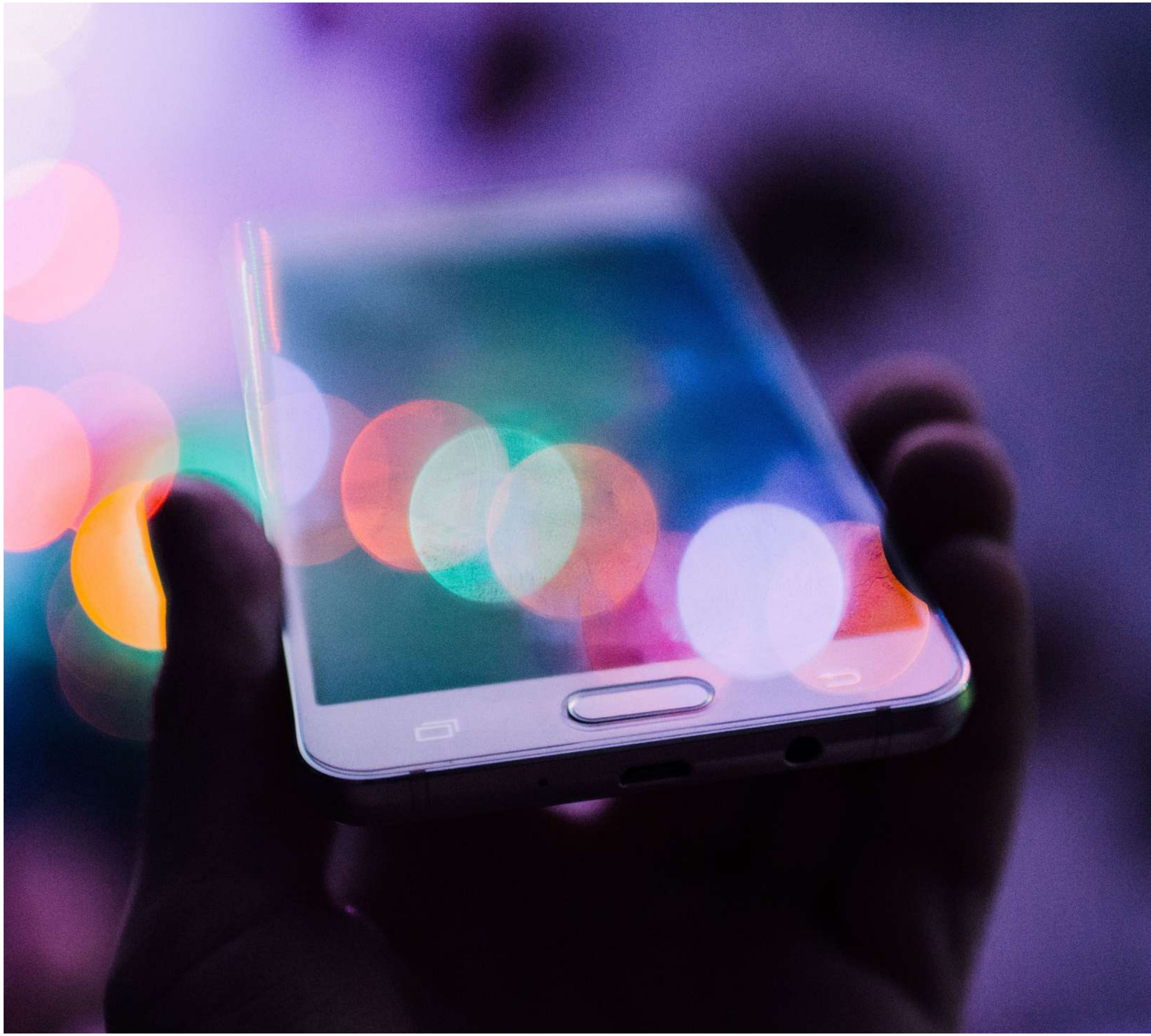
The mean average calculated across all respondents indicated that organisations will allocate EUR645 million to European FTTP over the next 24 months (and some up to EUR5 billion – broadly in line with what was indicated for the previous 24 months), suggesting that investment levels will remain at a similar level for the foreseeable future.

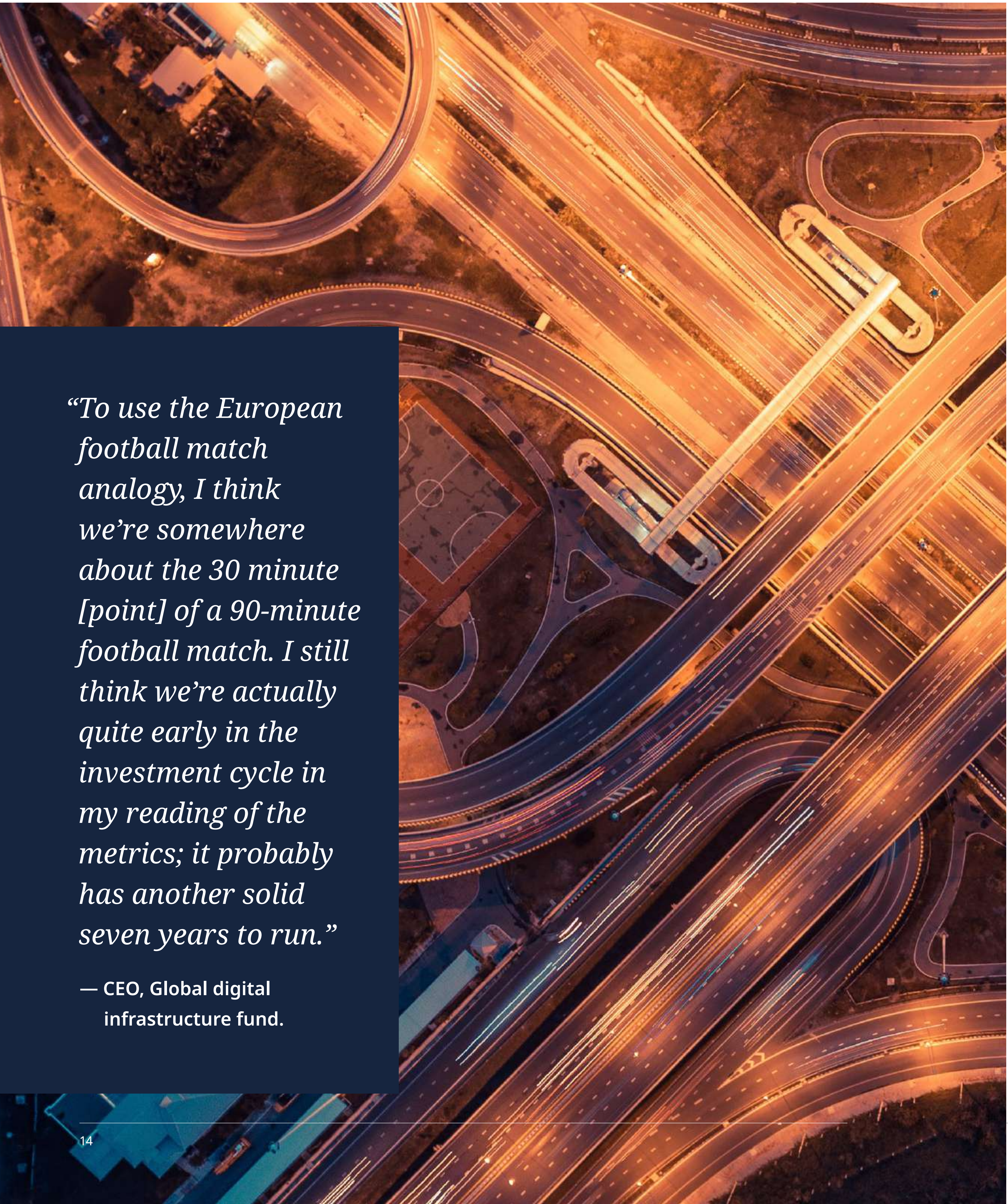
14% of respondents indicate that their client or organisation will allocate more than EUR1 billion and 23% indicated an allocation between EUR500 million and EUR1 billion.

A senior executive at a major investment bank indicates that FTTP investment will in fact accelerate over the next 24 months and estimates that as much as EUR50 billion can be deployed in Europe by players in the telecom industry to support fibre roll-out projects.

EUR645m

Average amount organisations indicated they intend to allocate to European FTTP over the next **24 months**



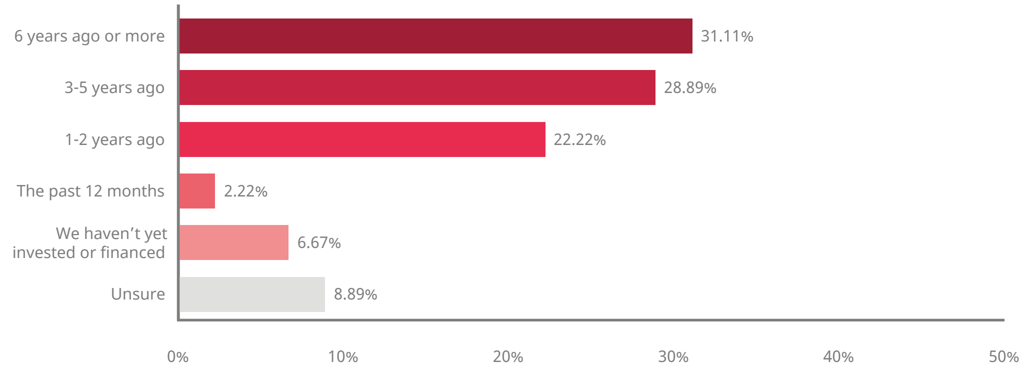


"To use the European football match analogy, I think we're somewhere about the 30 minute [point] of a 90-minute football match. I still think we're actually quite early in the investment cycle in my reading of the metrics; it probably has another solid seven years to run."

— CEO, Global digital infrastructure fund.

"When was your company's (or client's) first investment or financing project in European FTTP?"

Fig 8.



The majority (31%) of survey respondents say they were involved in their company's first FTTP transaction six years ago or more; while for 29%, it was three to five years ago.

Although this implies that the sector is already reasonably mature, many respondents feel there is still plenty of scope left for European FTTP projects, as one of our interviewees observes.

The football analogy is a good indicator of the fact that despite a previous high level of activity, there is plenty of scope for more projects to commence after half time, with some great reserve players on the bench in the form of dry powder on the funding side.

If, at half time, some of the disruption caused by the ongoing pandemic can be laid to rest and local government is actively engaged in seeing projects through, the second half of FTTP investments in Europe could see investment activity increase beyond previous years.

Nearly half (43%) of respondents say they expect to be involved in five or more FTTP M&A related transactions over the next 24 months, up slightly from 40% being involved in the same number of projects in the past 24 months. Looking ahead, many of the FTTP investment opportunities may be found in rural and secondary markets, which remain largely underpenetrated. And more so, when considering the reduction in costs of FTTP project financing.

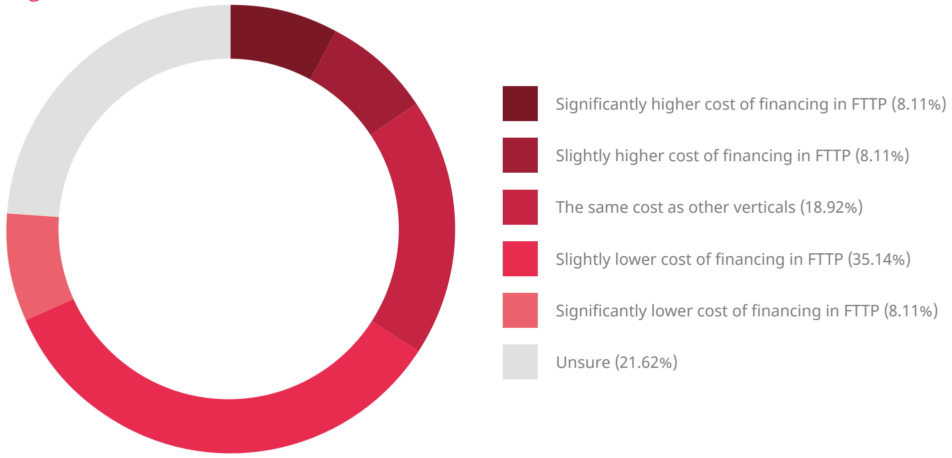
"Our survey highlights that 43% of respondents expect to be involved in five or more FTTP related M&A transactions over the next 24 months, with strong interest from infrastructure funds. This high level of expected activity is consistent with DLA Piper's recent experience in the market."

— Martin Nelson-Jones, Global Co-Chair, Infrastructure, Construction and Transport, DLA Piper

Financing FTTP projects

"How would you assess the cost and availability of financing for European FTTP projects in the past 24 months, versus other key verticals?"

Fig 9.



The survey reveals that a large proportion of the audience (35%) think there was a slightly lower cost of financing in FTTP in the past 24 months, versus other sectors. Considering various inputs from respondents, lower financing costs seem to be the result of supportive banking and debt institutions, showing tremendous lending appetite for FTTP and fibre infrastructure projects.

Looking forward 24 months, the consensus among participants is that the current cost of financing will remain the same, as they expect favourable financing conditions to persist and that financing FTTP projects will remain attractive despite yield compression and increased competition. Some respondents indicate that financing costs may increase in tandem with the rate of overbuild.

Nearly one-fifth of all respondents anticipate financing costs will remain the same as other verticals, with one respondent indicating that this remains "highly dependent on specifics of each project, particularly regarding revenue predictability."

"Typically, what has been the debt-to-equity ratio used in FTTP projects in the past 24 months?"

Just over half of the survey respondents (53%) think that, typically, the ratio used in FTTP projects in the past 24 months has been in the 60-75% debt to equity range.

Only one respondent indicates a 50/50 equity to debt ratio and some respondents indicate higher debt levels in greenfield roll-outs.

Aggregating all responses, the general trend is that the norm lies in the 70/30 debt to equity range. However, many respondents reiterate that it depends on the maturity of the asset base (greenfield versus brownfield).

The study also reveals significant divergence between debt providers and equity investors in terms of investment behaviour. For example, debt providers are a little more cautious with fibre due to the difficulty of securitising assets. Unlike with other digital infrastructure assets, fibre assets often have short visibility to the annual return date and an anticipated repayment date for a bond holder, due to business model structures.

"The availability of debt and equity for brownfield is abundant. There's plenty of infrastructure funds that want to be invested in fibre. Greenfields are more challenging, as they require very substantial equity checks. On greenfield, it's highly speculative – you don't know until you start getting the cash flows from the consumers whether it's going to pan out or not"

— CEO, Global digital infrastructure fund.

"And what proportion of financing is off balance sheet or via a ring-fenced SPV?"

55% indicate that at least 75% of FTTP financing is via a ring-fenced SPV (vs off balance sheet).

In relation to SPV financing, the majority of respondents indicate that SPV models are the most popular model for the roll-out of FTTP, as well as joint ventures in the sector.

Some respondents even indicate that between 90-100% of FTTP specific financing operations within their organisations use an SPV structure or are kept off-balance sheet.

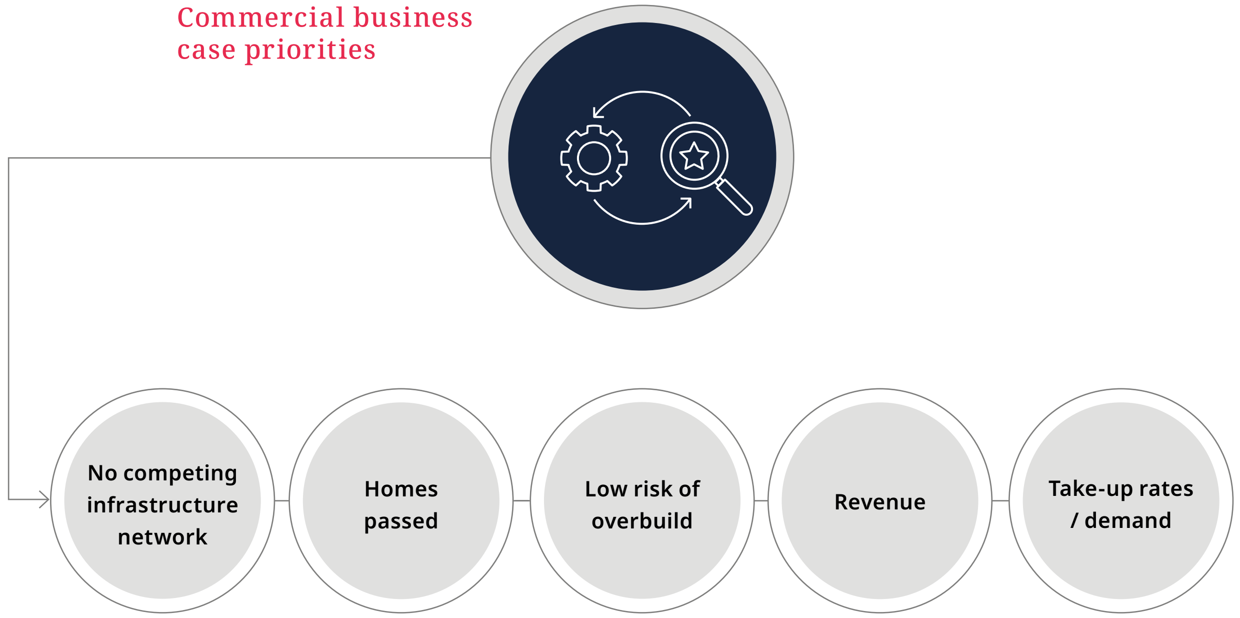
Some respondents indicate that they might change as more incumbents are looking for specific financing.

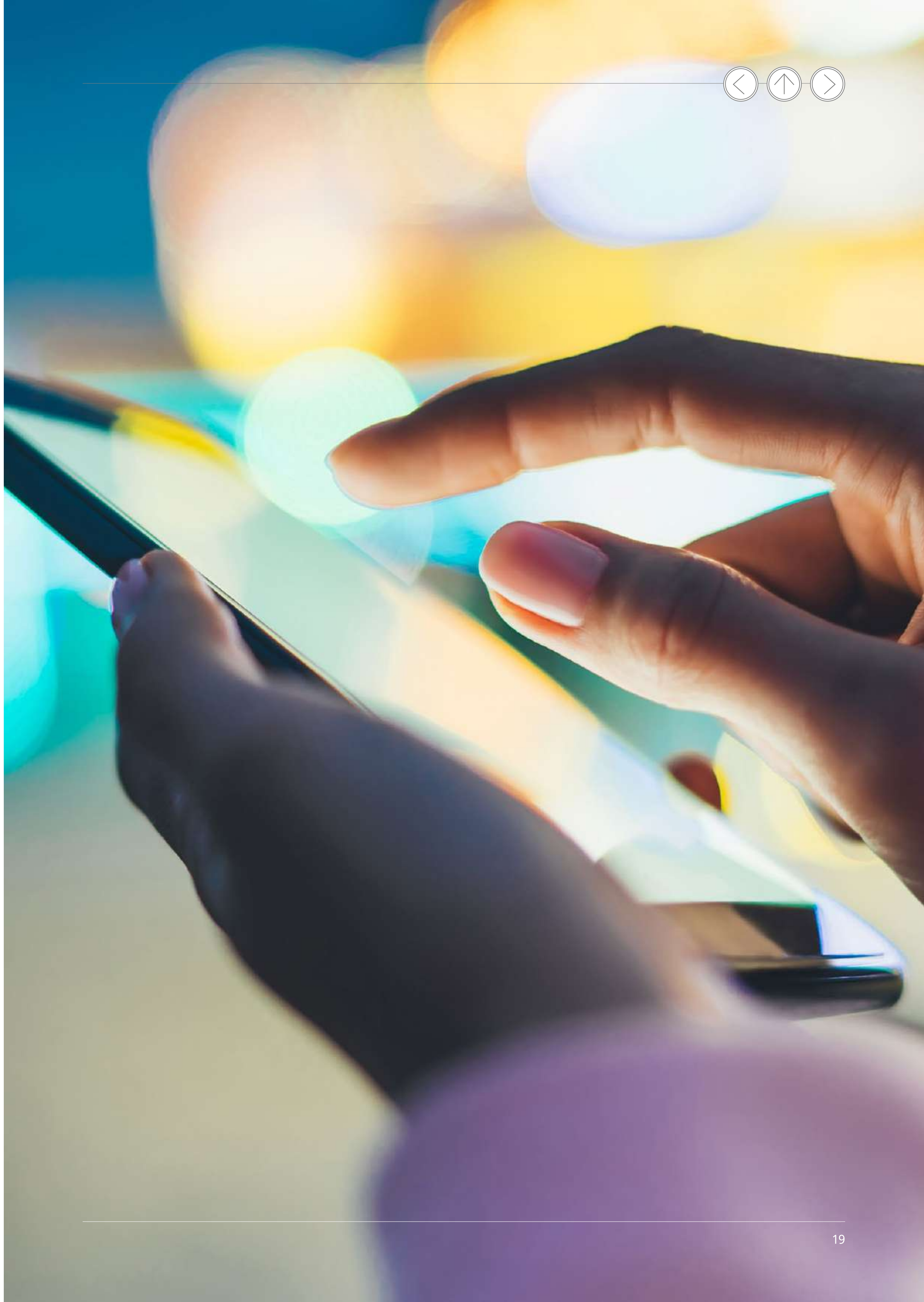
"What are the top three commercial business case priorities your company or client would need to show in order to access financing on an FTTP project?"

When assessing business case priorities in relation to getting access to FTTP project financing, the majority of respondents mention take-up rates, homes passed and projected demand as key components to illustrate. Several respondents also mention the importance of displaying committed revenue and limited exposure to overbuild.

Some respondents mention the wholesale penetration rate as an important business case priority when trying to access project financing, as well as overbuild risk mitigation strategies. A few respondents mention ARPUs and government backing or government targets as key priorities to access financing.

Commercial business case priorities



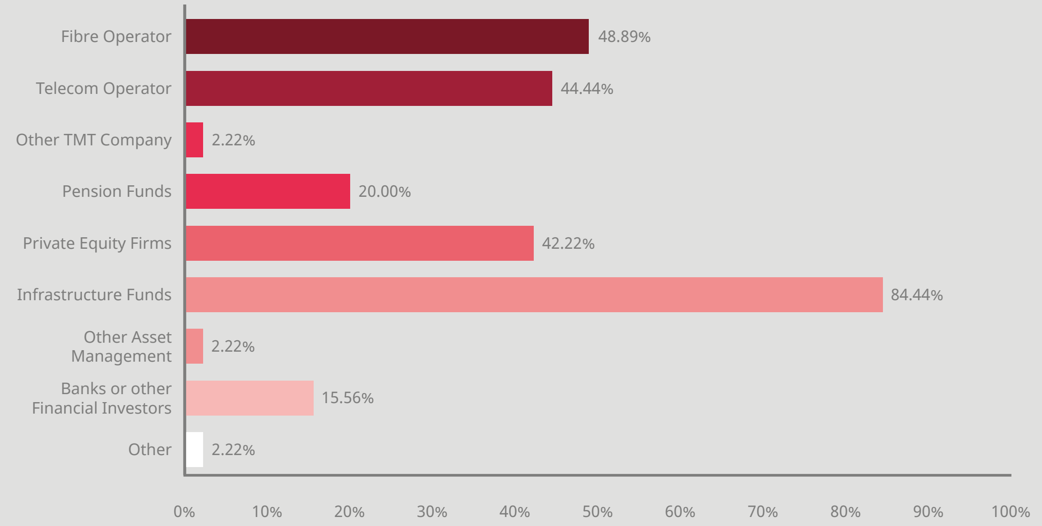


Changing buyer profiles

While the sector was traditionally dominated by telecoms players, infrastructure and institutional investors have been increasingly turning their attention towards digital infrastructure assets and the global roll-out of fibre broadband (in particular FTTP) for the past few years, as the asset class has matured.

“Which organisations do you consider to be the major investors into FTTP projects in Europe at the moment? (Select top three)”

Fig 12.



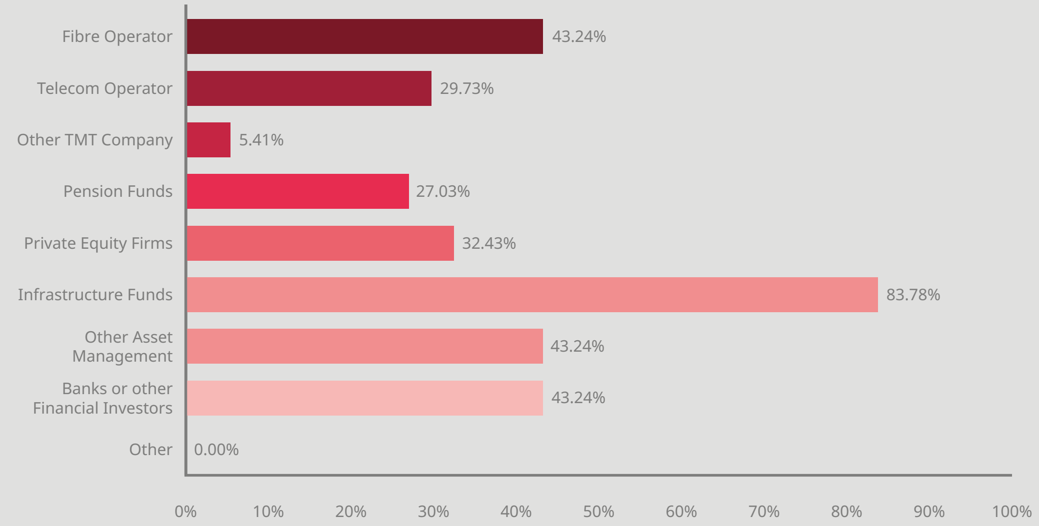
82% of respondents consider infrastructure funds to be among the major investors in FTTP projects in Europe at the moment, while only 42% consider fibre operators to be a major investor into the space. Given their size and investment horizons, infrastructure funds are able to deploy capex for the long term, which is important, as this space is very capital intensive.

Even less so for telecom operators, which only 32% of respondents consider a major investor, on the same level as private equity firms. While infrastructure funds may price these smaller investors out, they may seek smaller greenfield projects.

26% of respondents consider pension funds to have been a major investor, making interesting in-roads competing on expected returns, a longer term investment horizon and less demanding requests on governance. While just 5% of respondents consider banks and other financial investors to be major investors in European FTTP projects at the moment.

“Which type of business do you expect to be most active in acquiring FTTP operators over the next 24 months? (Select top three)”

Fig 13.



According to the survey, 84% of respondents expect infrastructure funds to be most active in acquiring FTTP operators in the next 24 months.

43% of respondents expect fibre operators to be the second most active acquisition organisation type in the sector within the next 24 months.

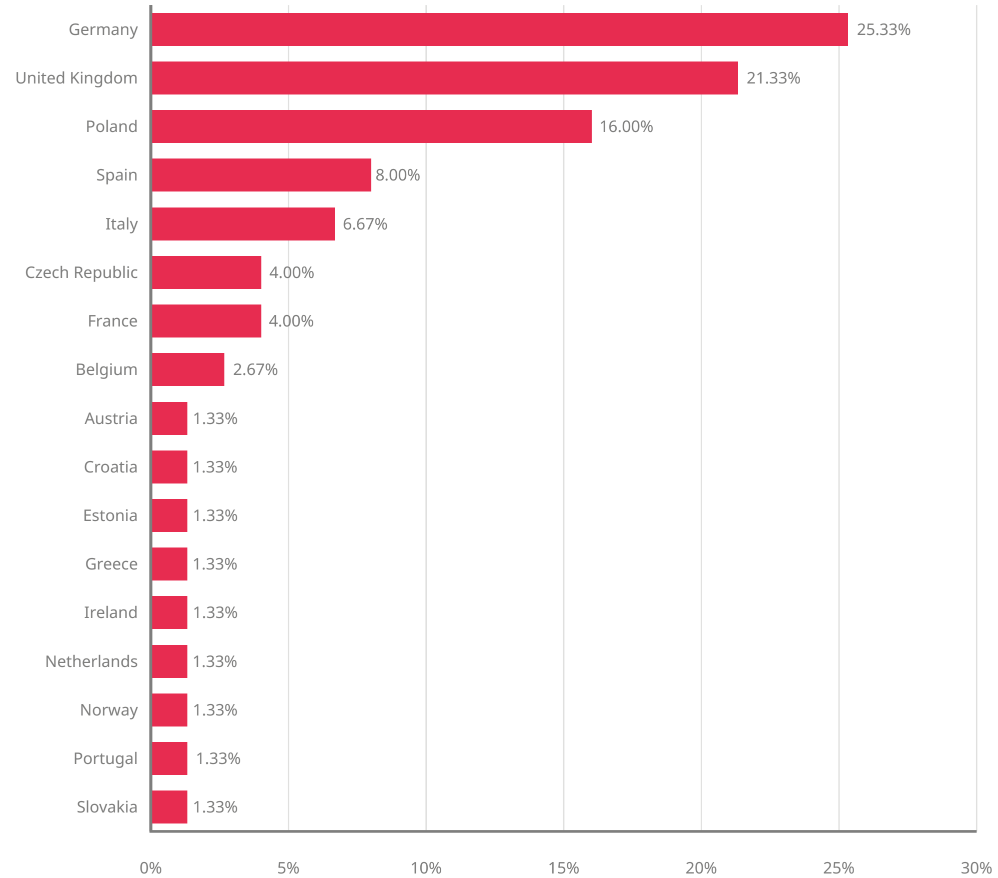
Where telecom operators are seen by 44% of respondents to have been a major player in the previous 24 months, only 29% of respondents see them as becoming more active in the next 24 months. Respondents also expect activity within private equity funds to drop, as only 32% of respondents consider them to be part of the most active organisations in terms of acquiring FTTP operators.

Respondents anticipate pension funds will become more active in the investment space – up 27.03% from 20%. A total of 10.81% of respondents believe other asset management firms will become more active, up from just 2.22% when asked about who the major players had been in the past.

Regional breakdown

"In your view, which European countries look most attractive and least attractive from an investment or financing standpoint in the next 24 months?"

Fig 14.
Most attractive countries



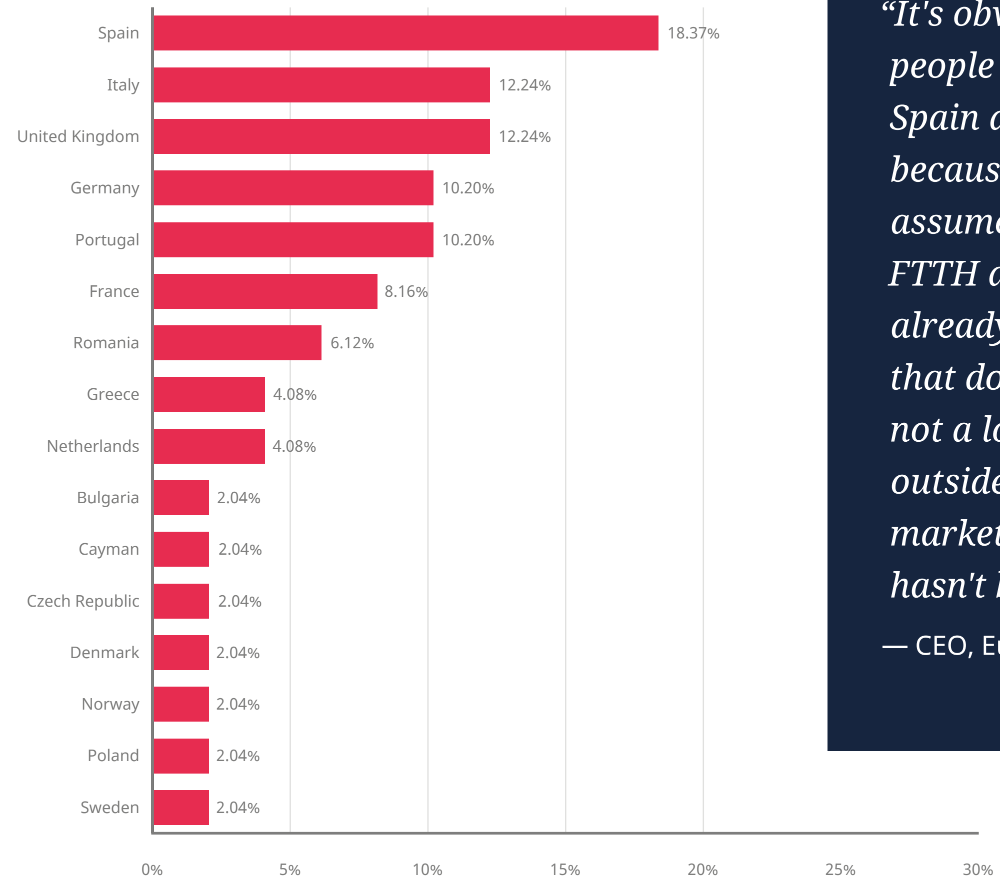
Respondents indicate that the most attractive countries from an investment or financing standpoint in the next 24 months are: Germany (26%), the UK (21%) and Poland (15%). The main reasons cited are low penetration levels, high retail ARPUs, high end user demand and government incentives.

Specifically for Germany, a significant majority of respondents indicate that the country's low FTTP penetration rate for a developed economy makes it very attractive from an investment perspective, coupled with high retail ARPU and government incentives.

Low FTTP penetration is also a primary reason for respondents, indicating the UK as an attractive investment target, with some respondents mentioning that the UK has been surprisingly late in fibre deployment.

Respondents that indicate Poland as an attractive country for FTTP investment and financing projects also highlight supportive regulatory regimes, less competition and high end-user demand.

Fig 15.
Least attractive countries



"It's obvious why some people said Portugal and Spain are less attractive because they probably assume that a lot of the FTTH deployments have already taken place. But that doesn't mean there's not a lot of opportunity outside of the consumer markets that currently hasn't been tapped."

— CEO, European fibre operator.

On the contrary, 12% of respondents also indicate that the UK is among the least attractive countries, alongside Portugal (10%) and Spain (18%). The main reasons cited are that these markets are too competitive, come with complex political risks and have a presence of strong national incumbents.

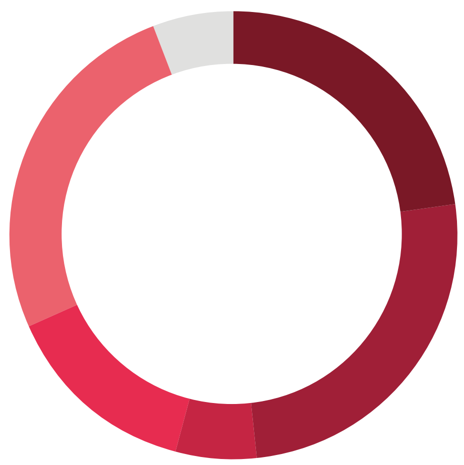
For the UK in particular, respondents indicate a lack of government support, high cost of deployment, and strong national incumbents as primary reasons for the less attractive outlook in terms of future investment and financing for FTTP projects. Interestingly, the UK divides the audience in terms of attractiveness for investment.

While strong national incumbents and high fibre penetration in cities have put many off the region, others see opportunities beyond consumer markets. Such as the business market, where multiple networks in the same location make sense because some businesses want a backup option.

For Spain, respondents cite high existing coverage, little room for growth and low ARPUs as the main reasons for not considering it as an attractive market. Similarly for Portugal, high levels of FTTP penetration across the country as well as little opportunity for greenfield growth and roll-out seem to be making the country less attractive to survey respondents.

"How do you view the amount of FTTP building currently happening in Europe, and how sustainable is current roll-out activity?"

Fig 16.

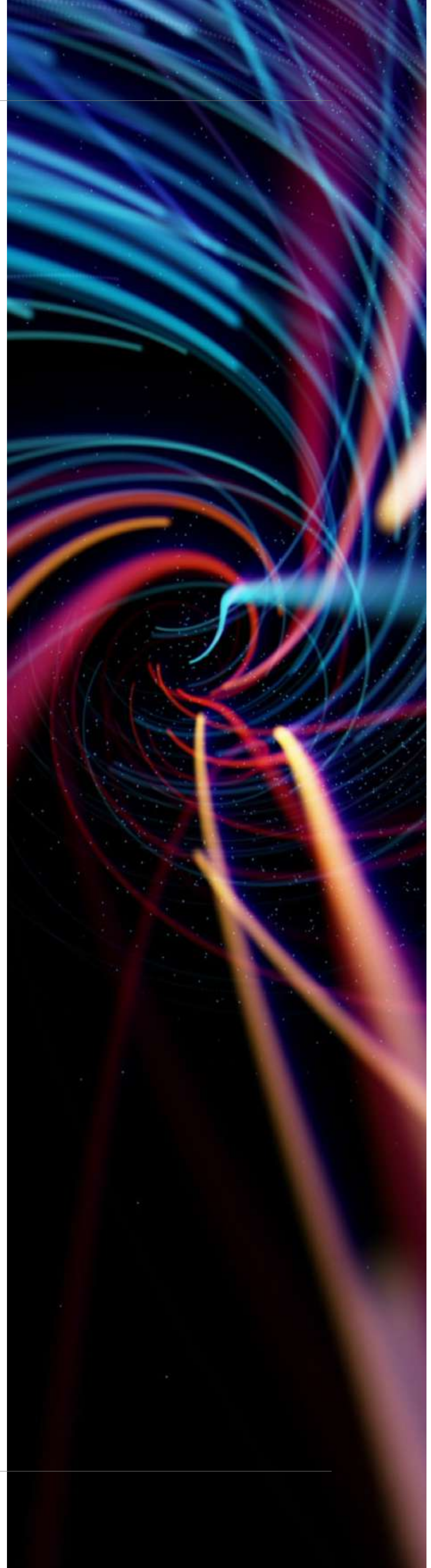


- Significant danger of overbuild (22.86%)
- Slight danger of overbuild (25.71%)
- About the right level of building (5.71%)
- Still some opportunity to build (14.29%)
- Significant opportunity to continue building (25.71%)
- Unsure (5.71%)

Nearly half of survey respondents identify a danger of FTTP overbuilding happening: 23% think there is a significant danger of overbuild; 26% think there is a slight danger.

However, the danger of overbuild occurring down the line hasn't stopped investor or financier appetite, and a large number of the respondents still see some or significant opportunities to build, with 25% indicating that there is still a significant opportunity to continue building, and 14% who think there is some opportunity, for a total of 39% who believe that there continues to be opportunity to build.

5% of remaining respondents think there is a balanced level of building, with 7% being unsure.



"What are the main commercial risks of building FTTP in Europe?"

According to the survey, the most common commercial risks of building FTTP in Europe are overbuilding, lack of consumer adoption, regulatory factors and changing demand patterns. The risk of 5G superseding FTTP and the reach of incumbent wholesale providers are also cited.

Risk of overbuild is cited in 45% of the survey responses as being a major commercial risk of FTTP building in Europe.

Regulatory complexity is cited in a quarter of all responses, along with competition with other investors.

Building costs and ARPU pressure are also among reasons cited by respondents for what presents primary commercial risks to FTTP building in Europe.

- Overbuilding
- Lack of consumer adoption
- Regulatory factors
- Changing demand patterns
- 5G superseding FTTP
- The reach of incumbent wholesale providers

> *"The ability of the incumbents to overbuild their own infrastructure, going from copper to fibre, is very available to them. We've seen that already in the US with AT&T, CenturyLink and Windstream."*
>
> — CEO, Global digital infrastructure fund.

"What approaches are you taking to mitigate those risks?"

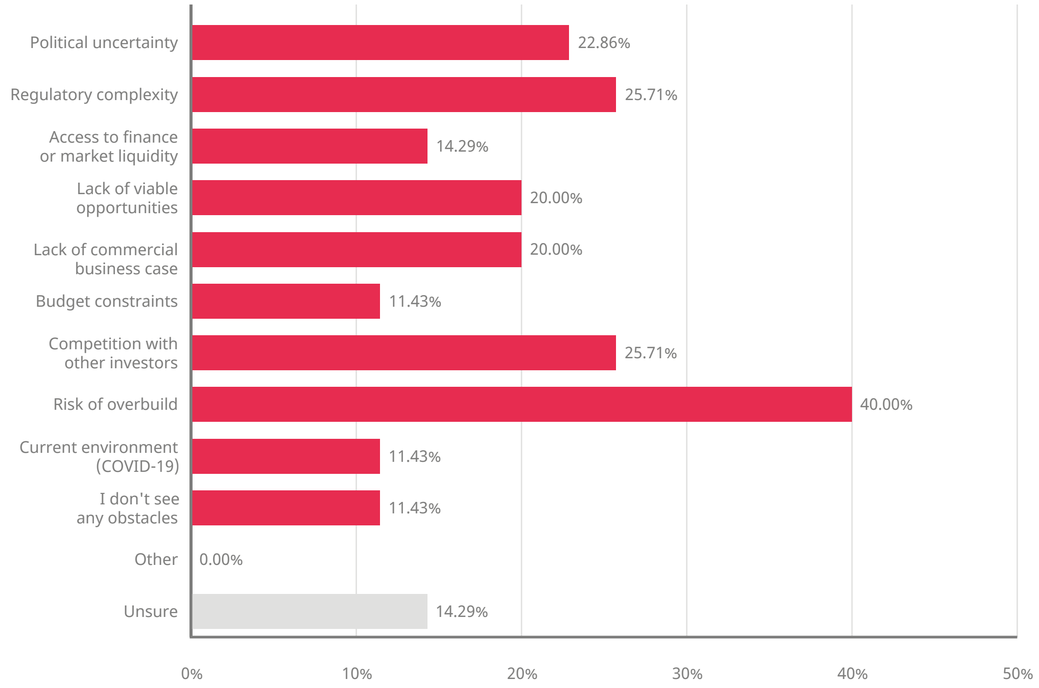
Regarding the approach respondent's organisations are taking or advising clients to take to mitigate these risks, focusing on low penetration areas is cited the most; followed by due diligence and ROI assessments.

Relationships with regulators and clients are also quoted, with some respondents indicating a more selective approach to geographies to avoid some of the aforementioned risks.

- Due diligence
- ROI assessments
- Avoid overbuilding
- Selective of region / geography

"What (if any) do you consider to be the biggest obstacles to investing in FTTP in Europe for your organisation? (Select top three)"

Fig 17.

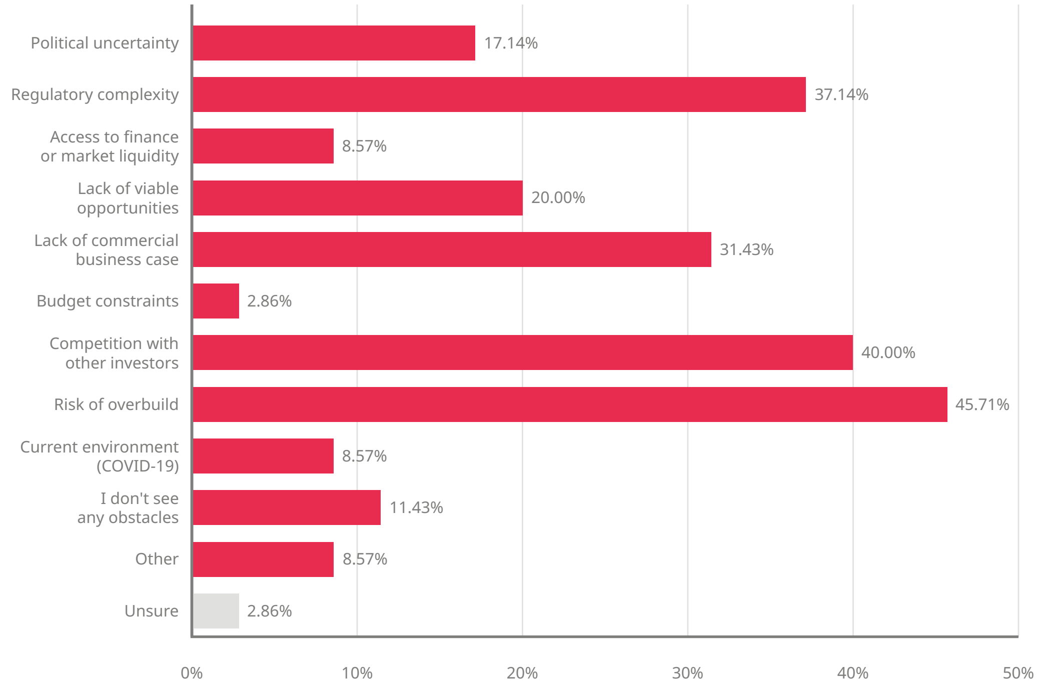


Different from commercial risks, respondents also indicate their top ranging obstacles to investing in FTTP in Europe for their organisation or client.

Very similar to commercial risks, 40% cite risk of overbuild as a top investment obstacle. 26% of respondents cite both regulatory complexity and competition with other investors. 23% cite political uncertainty and 20% cite both a lack of viable opportunities and a lack of commercial business cases.

"What do you consider to be the biggest obstacles to investing in FTTP in Europe for investors and financiers in general? (Select top three)"

Fig 18.



When assessing the biggest obstacles for investors and financiers in general, the overall trend remains the same but emphasis is added across the spectrum.

46% of respondents indicate that risk of overbuild is a major obstacle, 40% indicate that competition with other investors is a top ranging obstacle for them and 37% indicate that regulatory complexity poses a major concern.

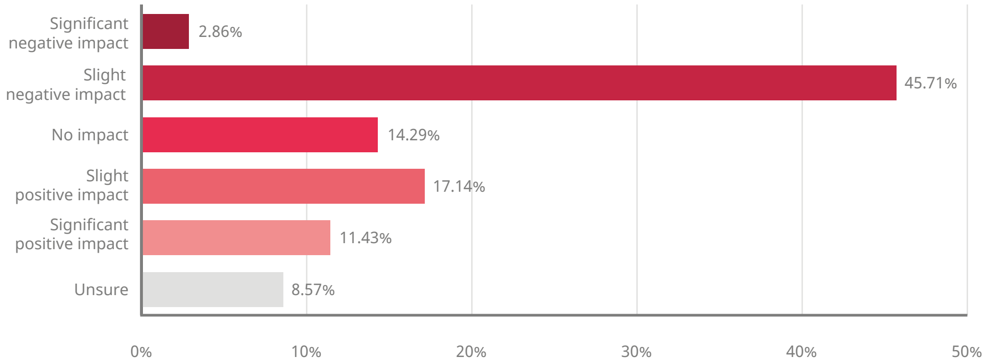
"Are there any other practical obstacles that make it more difficult to build FTTP networks? How easy is it to deal with the necessary central or local government departments?"

When asked to indicate more practical obstacles and ease of dealing with local or central government, many respondents indicate that practical obstacles have diminished as greenfield expansion and roll-outs become more common. Particularly for the UK, one respondent mentions that increased government barrier "busting" is adding real value to projects.

However, according to the majority of answers given by respondents, some practical obstacles remain; among others are access to skilled labour, construction capacity and particularly problematic local government permit approval.

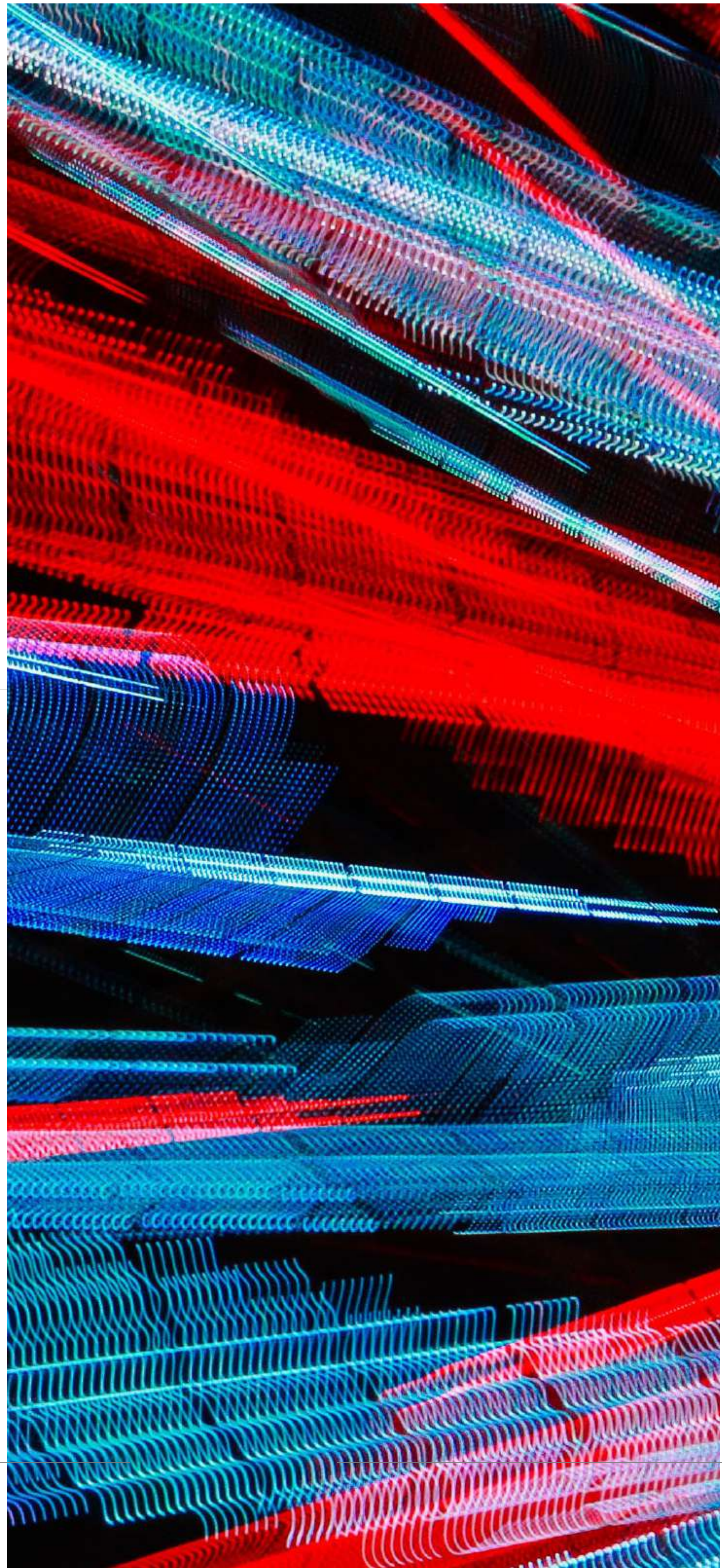
"To what extent has COVID-19 affected FTTP project roll-out and appetite in Europe since March 2020?"

Fig 19.



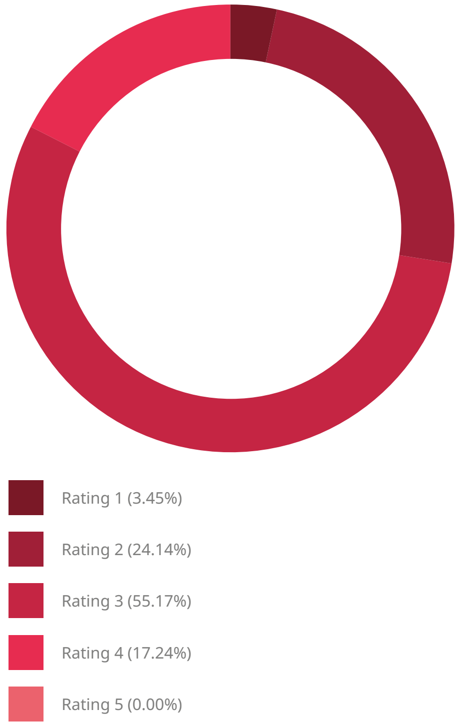
The largest proportion of respondents believe COVID-19 has had a slightly negative impact on the FTTP sector (45%), while 14% believe COVID-19 has had no impact.

28% believe that the ongoing pandemic has had a slight or a significant positive impact on FTTP project roll-out and appetite in Europe since March 2020, while 11% remain unsure.



"How effective would you rate the current process for securing planning consents and rights of way (eg Electronic Communications Code Powers in the UK) for FTTP projects (from an operator perspective)."

Fig 20.



Regarding how effective respondents would rate the current process for securing planning consents and rights of way (eg Electronic Communications Code Powers in the UK) for FTTP projects from an operator perspective on a one to five scale, with five meaning excellent, the majority (55.17%) say three. 24.14% say two, 17.24% say four, 3.45% say one and 0% say five.

These results indicate that while the majority of respondents find the current process for securing planning consents and rights of way satisfactory, a large portion of the respondents find the process lacking effectiveness, with some respondents even giving the process the lowest score possible.

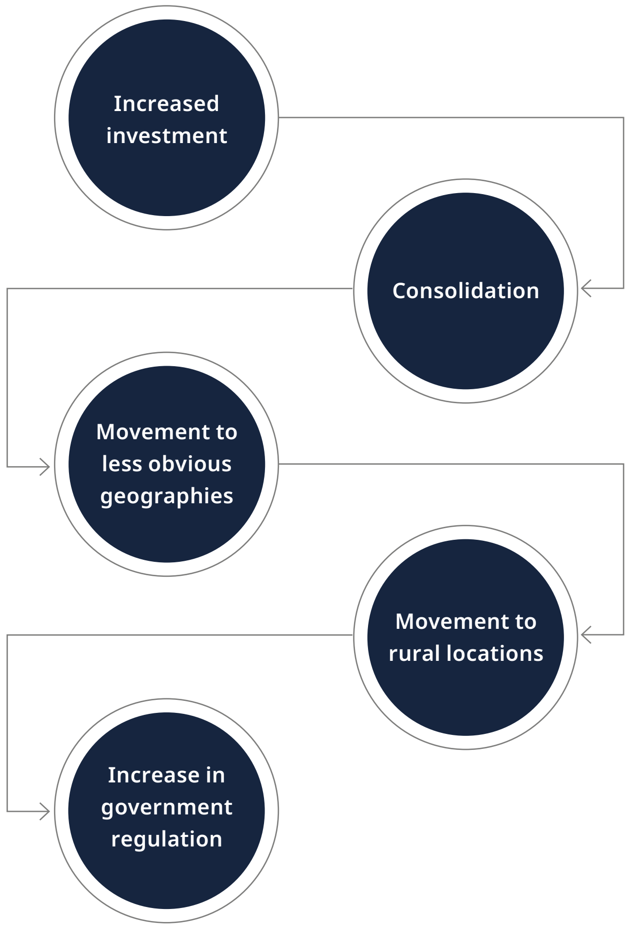
In conclusion, much could be done by national governments to increase efficiency and effectiveness in processes central to FTTP projects.

"What do you think the overriding trend in Europe's FTTP market will be in the next 24 months?"

Several respondents indicate that there will be continued investments, led by infrastructure funds and – to an increasing degree – by pension funds, looking to make landgrabs, resulting in an increase in deployment and an acceleration of planned and new roll-outs.

Some respondents indicate that incumbents will press for more fibre in their legacy networks, and that investment pace will increase as telcos spin-off infrastructure and use EU fund subsidies to reach the numerous digital agenda targets that many nations have signed into.

Few respondents mention consolidation as an overriding trend in Europe's FTTP market in the next 24 months.



Interviews

Marc Ganzi

President and Chief Executive Officer of Colony Capital, Inc. and Chief Executive Officer of Digital Colony

The majority of survey respondents believe the level of FTTP investment in Europe will increase to some degree in the next 24 months. What do you think will be the key drivers behind that growth?

The primary reason for the investment right now is that compared to other first-world economies – like Japan and the US – Europe is wildly underpenetrated from an FTTP perspective, which has created a really significant opportunity for private-public partnerships to build out the infrastructure which is needed.

Similar to the US five years ago, communities that are sub 20,000 inhabitants have really been left behind. In the US that started to change, and now in Europe it's changing also, so I think we'll start to see a lot of the rural build-up opportunities and secondary market opportunities which dominated a lot of the capital spending in the US over the last five years.

The majority of our audience were involved in their company's first FTTP transaction three to five years ago (29%) or six years or more (31%). Where do you think we are in the cycle for FTTP investment in Europe?

To use the European football match analogy, I think we're somewhere about the 30 minute [point] of a 90-minute football match. I still think we're actually quite early in the investment cycle in my reading of the metrics; it probably has another solid seven years to run.

As you think about FTTP, you also have to think about some of that fibre being re-utilised for mobile infrastructure as well. In that context, we haven't even kicked off yet, people are out on the field stretching.

Small cell infrastructure hasn't taken off in Europe yet either, and small cell infrastructure is a great way for carriers to extend their mobile networks closer to home. We're already seeing that in the US, where some mobile operators are looking at 5G as a delivery mechanism for content.

What are the key considerations when accessing both debt and equity financing in FTTP, and how does the cost and availability of capital compare to other sectors?

It depends on whether or not you're engaged in greenfield or brownfield. To the extent you're dealing with an existing network and existing infrastructure where incremental capex is being called on to continue to build the project, that's a lot easier to finance because you have existing cash flows. The availability of debt and equity for brownfield is abundant, there's plenty of infrastructure funds that want to invest in fibre.

Greenfields are more challenging; they require very substantial equity checks. On greenfield it's highly speculative, you don't know until you start getting the cash flows from the consumers whether it's going to pan out or not.

How are debt to equity ratios changing? What are lenders comfortable with?

The fibre asset class is stuck in the old way of financing telecommunications infrastructure: senior bank debt. Going back 15 years when the tower market was first able to present itself as a real estate asset class, it completely flipped the script on how that asset class was ultimately financed from a debt perspective. Data centre and small sell securitisation followed.

So why hasn't fibre been securitised? Well, there are attributes in fibre that are very different from other forms of digital infrastructure. Contracts aren't particularly long and it's hard to securitise something that doesn't have a long cash flow stream, and it's very hard to put high amounts of leverage on something that has short visibility to the annual return date and an anticipated repayment date for a bond holder.

Now, take the other side of the business which is more infrastructure like – wholesale. A wholesale route is where you lease the route to somebody like Telefonica or Deutsche Telekom for 15, 20, 25 years. That is eminently financeable, but you have to take all the risk, you've got to sign the customer up, and you've got to get them on the network, so getting institutional investors comfortable with the debt financing on fibre is going to take time. It's not going to happen overnight.

I think fibre is the last asset class to be understood by institutional bondholders. It's going to take time to develop the narrative but we will get there.

What kind of SPV structures are proving most popular?

I think we're seeing a lot of interest in holding corporate structures. You haven't seen a lot of real estate investment trusts (REITs) put together yet in the fibre space, I think that'll come in due course. We have our first fibre REIT in the US right now which is called Uniti and so that's the first business that's figured out how to present itself as a real estate investment trust. I think ultimately once again the asset class will evolve. And there is a great amount of tax efficiency, particularly in Europe with Luxembourg.

The majority of respondents think that infrastructure funds will continue to be the dominant investors in FTTP. Do you find that surprising, and have you seen a shift in the profile of investors in European FTTP?

I think the early innings of fibre in Europe was private equity. I think now what you are seeing today is, just given the size and the sheer mass of these builds, the migration path to infrastructure capital because infrastructure investors have more money and are willing to accept and underwrite a single-digit return, which is what European FTTP deals are now producing.

Germany, the UK and Poland are cited as the most attractive for the biggest growth in FTTP opportunities. To what extent do you agree, and what reasons do you think make these markets stand apart?

Germany and Poland have some of the lowest penetration rates in Europe and markets that are wildly under-penetrated present opportunity.

The UK is also cited alongside Portugal and Spain as the least attractive. Do you find that surprising, and why do you think the UK appears highly attractive for some, while least attractive for others?

The reality is there's a lot of infrastructure in the UK and there's been a lot of investments, particularly by Virgin and BT. At the same time, you've got Cityfibre with very grandiose builds and there's probably a dozen challenger brands in the UK trying to do what Cityfibre is doing.

Respondents are quite split on whether there is: a danger of FTTP overbuild, and still opportunity to build. What is your view?

This is a tricky question because every geography is different and every business model is different. The ability of the incumbents to overbuild their own infrastructure, going from copper to fibre, is very available to them. We've seen that already in the US with AT&T, CenturyLink and Windstream.

If you build a de novo fibre network, you'll have to operate it and be tasked with the assignment of chasing customers. If you build a wholesale network where the customer is paying you a recurring monthly fee, you're not taking as much of a risk. So, I'd almost flip that question around to investors and say: "Fine, both of those business models work but what are your returns?" If you're entering into a 25-year deal with an investment grade customer, you can afford a return on that, but if you're being responsible for building this and operating the network, you're responsible for customer procurement and customer experience and churn and programming, that's a very complicated business, and to take that risk, you've got to be prepared to be rewarded. So I think this is really a question of returns, not so much which business model is better. And how are you going to underwrite it? Ultimately, can you get comfortable with that underwriting and can you perform? Performance is everything.

43% of respondents expect to be involved in five or more FTTP M&A related transactions over the next 24 months. Do you share that view, and if so, what will drive that wave of activity?

I think we absolutely would be one of the people that anticipate looking at five or more fibre related transactions in Europe in the next 24 months. But what I would say is they're not all going to be FTTP. There's certainly going to be situations like GTT that are a combination of long haul and metro fibre; there's going to be enterprise fibre opportunities like what we saw between PGGM and Eurofiber. And there's going to be other situations that come up because remember, there's so many verticals in fibre today; there's FTTP wholesale, there's FTTP retail, wholesale commercial fibre, enterprise fibre, long haul fibre and sub-oceanic cabling.

"I think fibre is the last asset class to be understood by institutional bondholders. It's going to take time to develop the narrative but we will get there."

— Marc Ganzi

What other major trends do you expect for the FTTP market in the next 12-24 months?

I think there's a solid five to seven year runway ahead of us in terms of fibre infrastructure construction in Europe, so I'm pretty bullish on the future of the sector, broadly.

I'm actually quite bearish though, when it comes to the opportunities. We've seen a lot of people be super aggressive on pricing. We've seen people make incredibly large bids for assets that we don't know will bring a return on capital.

I think pricing is a big concern in the marketplace today. I think there's just a lot of general infrastructure funds chasing FTTP that perhaps don't fully appreciate or understand the operational complexities of the business. And I think those operational complexities are going to manifest themselves over the next 24 months; so it's going to be quite interesting to see if infrastructure investors can deal with churn. Are they going to be in a business that's consumer facing? Are they going to be in a wholesale business? And which of these investment models are working, and which ones are not working?

Interviews

Denis de Paillerets and Benoît Tanguy


Global Co-Heads of Technology, Media & Telecoms,
Société Générale Corporate and Investment Banking

“We do consider infrastructure funds as the dominant investors in the space. However, we do see pension funds and insurers making interesting in-roads competing on expected returns, a longer term investment horizon and less demanding requests on governance.”

78% of respondents think the level of FTTP investment in Europe will increase to some degree in the next 24 months vs the previous 24 months. Furthermore, 67% think FTTP is becoming more important as a sector for their organisation. What will the key drivers be behind that predicted growth in activity?

We do believe indeed that FTTP investment will accelerate over the next 24 months and estimate EUR50 billion can be deployed in Europe by the telecom industry to support fibre roll-out in this period.

The key drivers behind this acceleration is the combination of increased demand for ultra-fast broadband connections, which benefit from a strong commercial take-up at the moment and 5G related investments (including FTTP), significant dry powder from infrastructure funds and supportive banking and debt institutions on the lending appetite.

How are debt to equity ratios changing? What are lenders comfortable with?

Overall, the 70/30 debt to equity ratio still applies across the board, as a result we estimate a EUR35 billion debt volume to be raised to support fibre roll-out over the next two years. SG-led fibre financings for a total of EUR20 billion over the last five years in Europe.

Respondents agree that infrastructure funds will continue to be the dominant investors in FTTP. Do you find that surprising, and have you seen a shift in the profile of investors in European FTTP?

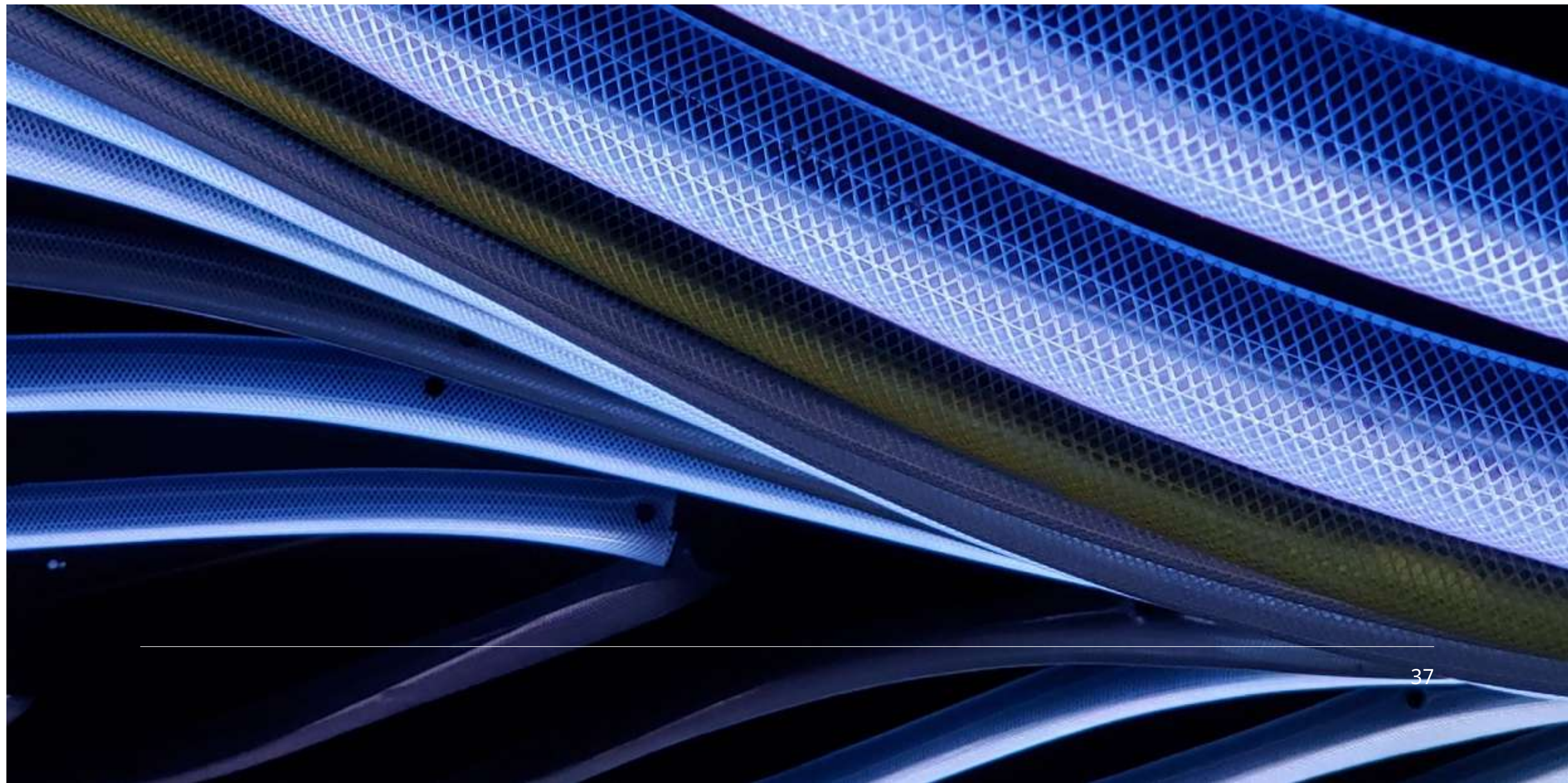
We do consider infrastructure funds as the dominant investors in the space. However, we do see pension funds and insurers making interesting in-roads competing on expected returns, a longer term investment horizon and less demanding requests on governance.

Germany, the UK and Poland are cited as the most attractive for the biggest growth in FTTP opportunities. To what extent do you agree, and what reasons do you think make these markets stand apart?

We see huge potential in Germany and the UK for extended FTTP roll-out as there’s evidence the same in-balance between, on the one hand, lowest levels of FTTH penetration today and, on the other hand, very high internet consumption levels. Considering the size of the population to be still connected with limited competition from ultra-fast broadband and cable connections, we expect these two countries to constitute the main growth drivers for new FTTP connections in the coming years.

43% of the respondents expect to be involved in five or more FTTP M&A related transactions over the next 24 months. Do you share that view, and if so, what will drive that wave of activity?

Absolutely, M&A drivers are coming from different fronts: fibre owners (telecom operators, utilities) seeking value in selling existing assets, telecom operators continuing to outsource their FTTP capex roll-out, medium term the inevitable consolidation of the regional fibre operators into nation-wide ones then longer term the creation of European fibre champions.



Interviews

Alex Goldblum

Chief Executive Officer of Eurofiber

The majority of survey respondents believe the level of FTTP investment in Europe will increase to so some degree in the next 24 months. What do you think will be the key drivers behind that growth?

These findings don't surprise me. Just look at the demand drivers that have been accelerating for the past 24 months. Cloud adoption is now really accelerating at pace, that means low latency is becoming more important. As a result, people move across to fibre. Not just large enterprises, but small and medium ones, too. Obviously, COVID-19 really pushed remote working, which is also putting increased pressure on the requirement to have high-quality bandwidth.

And then there's smart cities. We're seeing a lot of demand for CCTV, traffic management systems, and the automation of public infrastructure; that all requires fibre.

The majority of respondents were involved in their company's first FTTP transaction three to five years ago (29%) or six years or more (31%). Where do you think we are in the cycle for FTTP investment in Europe?

It really depends on how you define FTTP. Deployment to large corporates is quite mature, but deployment to mid-sized corporates and small sized corporates is immature, where penetration rarely exceeds 50%.

There are very few markets that have more than 50% penetration in the business market, and in some consumer markets they are as low as 5-10% penetration. So in that respect, depending on the geography, you have quite diverse penetration rates with none being particularly high. So, I think we're still quite early in the cycle.

How are debt to equity ratios changing? What are lenders comfortable with?

If I take a period of ten years, then there's been a shift. There's more comfort from the lenders to finance large deployments. There's also more comfort from infrastructure funds to become involved in deployments of fibre. In that respect, both debt and equity availability is growing.

Respondents also think that infrastructure funds will continue to be the dominant investors in FTTP. Do you find that surprising, and have you seen a shift in the profile of investors in European FTTP?

I've seen a range of different investors in this space. Whereas in the past the investors came from the venture or private equity space, we've seen a move towards larger infrastructure funds more recently. Those infrastructure funds are becoming more specialised in fibre and getting more comfortable with it as a thesis. Given their size and given their investment horizons, they are able to deploy capex for the long-term, which is important, given this space is very capital intensive, and I think they'll continue to be the larger investors in the space.

Germany, the UK and Poland are cited as the most attractive for the biggest growth in FTTP opportunities. To what extent do you agree, and what reasons do you think make these markets stand apart?

It all comes down to penetration levels. Penetration in the UK and Germany is pretty low. And then you need to look at regulation.

They're also both big economies and therefore the long-term assumption is fibre will ultimately be the carrier of choice. So that's why it's an exciting opportunity.

The UK is also cited alongside Portugal and Spain as the least attractive. Do you find that surprising, and why do you think the UK appears highly attractive for some, while least attractive for others?

It's obvious why some people said Portugal and Spain are less attractive because they probably assume that a lot of the FTTH deployments have already taken place. But that doesn't mean there's not a lot of opportunity outside of the consumer markets that currently hasn't been tapped. So, we go back to the demand drivers, business markets, government markets, health and education, they all need digitalisation solutions and just because you might have deployed FTTH in certain geographies doesn't mean that those other segments have also already been covered. So I think it depends on the lens that you use.

Respondents are quite split on whether there is a danger of FTTP overbuild, and still opportunity to build. What is your view?

It doesn't really make sense in my view to have two or three networks next to each other if you're building greenfield. There might be some examples outside of the consumer markets, in the business market for example, where it's perfectly sensible to have two or three networks in the same location, because some businesses want diversity from different suppliers.

We deploy open infrastructure, which means the whole market can make use of the network, which is really important. By not competing with our partners with services for the end customer we become a preferred carrier.This open access concept has really accelerated in the last five years, and is becoming increasingly an industry standard. We would never deploy networks solely for our own use.

43% of the respondents expect to be involved in five or more FTTP M&A related transactions over the next 24 months. Do you share that view, and if so, what will drive that wave of activity?

Well, I can't speak for them, but we'll be involved in that many in the next 12 months so that's certainly true for us. Network consolidation is key; for example, acquiring regional or local networks, where the companies have done a great job in building out to a certain scale and now need a different type of financing structure to grow further.

What other major trends do you expect for the FTTP market in the next 12-24 months?

People still need to look beyond FTTP as being FTTH because the market opportunity is more significant than pure FTTH – we look holistically at Fibre-to-the-X (FTTX) so maybe we will be talking more about FTTXin the future.

Conclusion

With rising demand and political appetite for ultra-fast broadband, the stars are aligned for FTTP investment to reach new heights.

However, when such demand is translated into business cases, operators and investors need to consider a wide range of factors and balance priorities. These include risk of overbuild, regulatory complexity and competition.

Furthermore, while it's broadly considered to be early days in the FTTP investment lifecycle, it may pay to be bearish when it comes to opportunities. Many investors have been aggressive on pricing, making large bids on assets without solid return on capital guarantees.

Many investors perhaps don't fully appreciate the operational complexities which will likely manifest themselves over the next 24 months, according to some survey respondents.

> *"DLA Piper has seen a significant increase in FTTP investment just in the last 18 months and this survey gives us confidence it will continue for some time yet."*
>
> — **Mike Conradi**
> Co-Chair, International Telecoms, DLA Piper

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