Independent market research and competitive analysis of next-generation business and technology solutions for service providers and vendors

HEAVY READING
WHITE PAPER

Service Provider PON Strategies:
Unlocking Value with Multi-Gigabit PON

A Heavy Reading (now part of Omdia) white paper produced for Nokia

NOKIA

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EXECUTIVE SUMMARY

Passive optical network (PON)-based technology has been a staple of fiber broadband service provider (SP) networks for more than two decades. PON has achieved this level of market success because it has proven to be a cost-effective approach to meet burgeoning broadband demand from both residential and business customers.

To meet these dynamic broadband customer-driven requirements, many SPs are now in the process of accelerating their PON infrastructure upgrade programs to support multi-gigabit service tier speeds.

To obtain a definitive view of commitment and drivers for deploying multi-gigabit PON, Heavy Reading (now part of Omdia) recently collaborated with Nokia to conduct a global survey of service providers worldwide to gain insight into their multi-gigabit PON strategies and how they plan to leverage this technology to unlock value and enhance market competitiveness.

This white paper presents the key findings and detailed data points from this survey project.

Topics covered include:

- The demand, drivers, and timeline for supporting multi-gigabit connectivity
- Broadband service monetization strategies
- Technology upgrade preferences, including commitment to deploy 10 Gigabit Symmetric PON (XGS-PON)
- Most popular service tiers
- Network upgrade barriers
- The traffic impact of artificial intelligence (AI)

Key findings

- More than 9 out of 10 survey respondents assess multi-gigabit connectivity as either an extremely important (32%), very important (44%), or an important (20%) ingredient of their corporate strategy.
- This strong strategic ranking translates into 75% of SPs supporting multi-gigabit speeds for residential services within the next two years.
- Monetizing broadband is not solely about selling low latency services. SPs' top, leading monetization aspects also encompass greater service reliability (67%) and security (44%).
- PON infrastructure upgrade drivers are both revenue- and competition-focused. These include the ability to generate more revenue (58%), stay future-ready to anticipate competition (52%), and need to compete better (43%). An additional consideration that resonated with the respondents was to serve enterprise and other high ARPU customers (37%).
- Service providers are committed to upgrading to XGS-PON. Of all SPs, 69% have either already started upgrading (27%) or plan to upgrade within 12–24 months (42%). Only 2% said they have no plans.

- SPs are also now starting to look beyond 10G. Mostly larger operators (13%) have already kicked off activities to upgrade their networks beyond 10G, while 38% plan to start 25G or 50G upgrades in the next 12−14 months. These upgrades will drive an assessment of the optical line terminals (OLTs).
- SPs are essentially split over whether their OLTs support 25G or 50G, with 22% saying they can upgrade OLTs to 25G, and 23% expressing the belief that they are ready for 50G upgrades. The largest group, which represents a third of respondents (33%), believes their OLTs can be upgraded to support both.
- More than 7 out of 10 SPs (77%) believe that backend system complexity is the greatest barrier to introducing new residential service tiers.
- Most SPs are essentially already using some form of PON to service enterprise customers. Their top priorities are government and private sector (69%), large enterprises (64%), small and medium-size businesses (61%), and education, healthcare, and hospitality verticals (54%).
- The 1 to <5G service tier is most popular among enterprise customers (44%). Still, some SPs have already experienced higher service tiers becoming more popular with their enterprise customers.
- More than 6 out of 10 (68%) SPs believe that AI will result in either a moderate increase in traffic, which is manageable by their current broadband networks (45%), or a significant increase (23%).

NETWORK UPGRADE AND SERVICE STRATEGIES

Before diving into PON adoption strategies, Heavy Reading (now part of Omdia) first wanted to understand SPs' overall organizational priorities. To do this, Omdia asked the respondents to rank their organization's capability priorities from a diverse mix that encompassed network security and reliability, monetization, opex savings, increased agility, and customer experience.

The latter, customer experience, as shown in **Figure 1,** achieved the highest-ranking score (rank 1 = 306 points), followed closely by network security and reliability (rank 2 = 273 points). Also well represented in the mix were monetization (rank 3 = 246) and opex savings (rank 4 = 221). In fifth place was increased agility (rank 5 = 145).

To understand data sensitivity trends, each of the survey questions was filtered based on annual revenue. Two filter groups were utilized:

- Large SPs: Those with at least $1bn in annual revenue
- Small to medium SPs: Those with less than $1bn in annual revenue

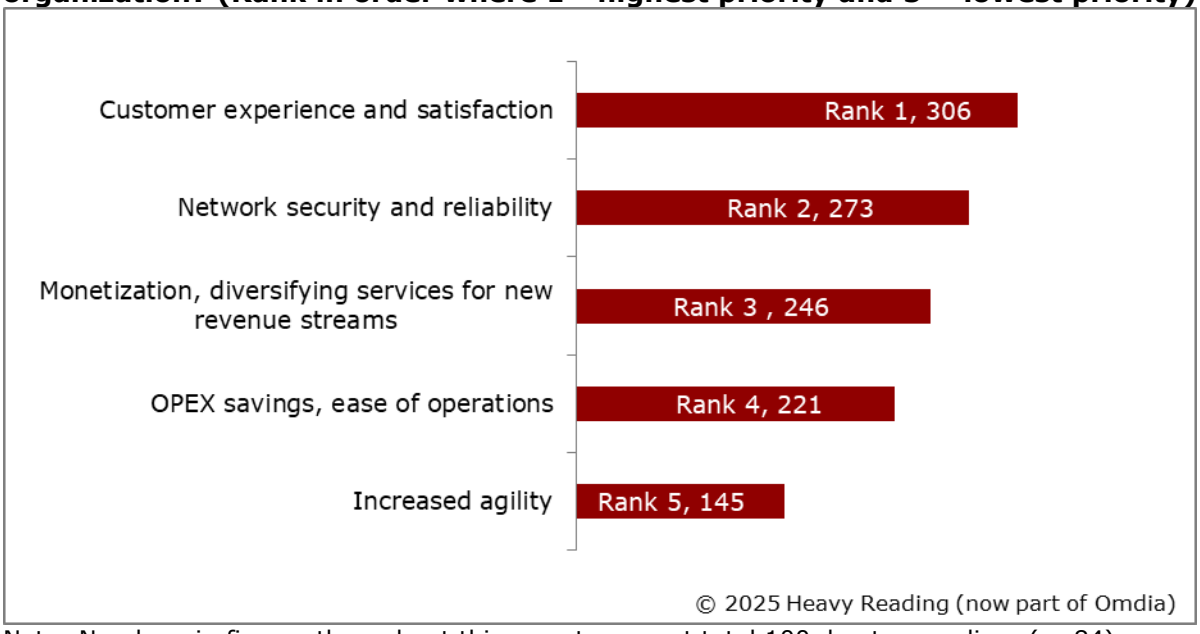
Both the large and small to medium SP filter groups in this case also selected customer experience and network security and reliability as their top two choices (see **Figure 16, *Appendix B***).

It is clear that SPs of all sizes have "top-of-mind" priorities that coalesce around customer experience and network performance. However, the relatively strong third and fourth place rankings for monetization and opex savings and ease of operation, respectively, confirm that both are measured and significant factors in the SPs' corporate culture priorities.

Overall, Heavy Reading (now part of Omdia) interprets the range of all inputs as confirming that SPs continue to delicately manage a diverse set of capabilities.

Additionally, Heavy Reading (now part of Omdia) believes that the strong focus on customer experience, as well as satisfaction and reliability, plays well to the strengths of the PON investment and upgrade business cases, because PON has proven to be a cost-effective approach to meet the customer experience needs of a broadband-hungry global marketplace.

Figure 1: To what extent are the following capabilities priorities for your organization? (Rank in order where 1= highest priority and 5 = lowest priority)



Note: Numbers in figures throughout this report may not total 100 due to rounding. (n=84)
Source: Heavy Reading (now part of Omdia)

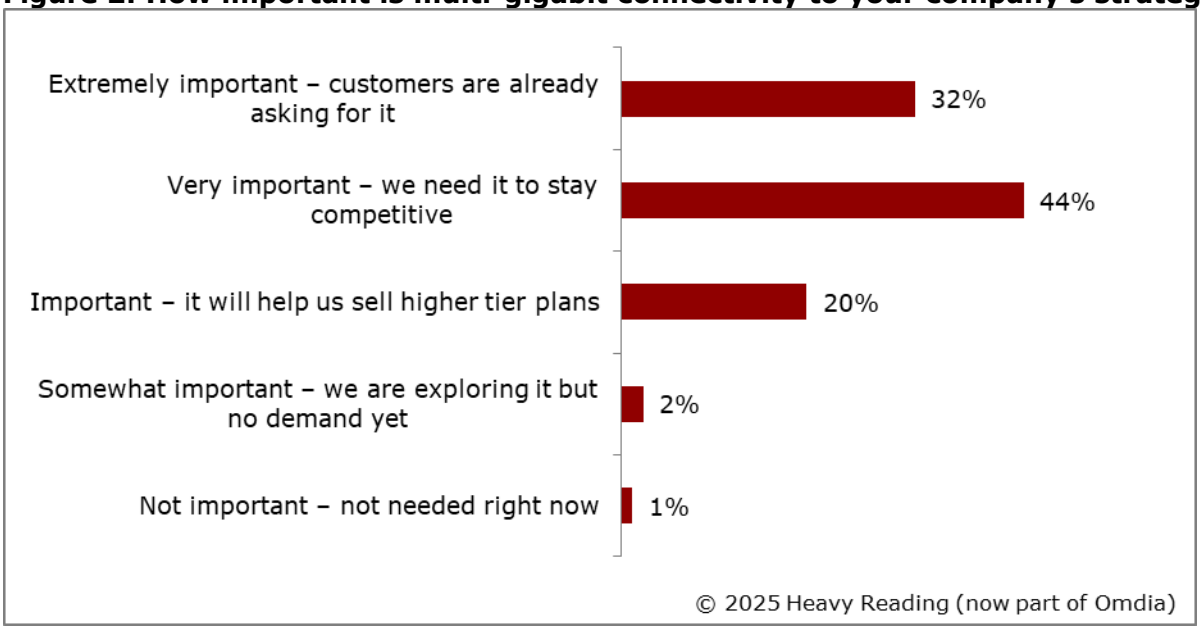
One of the main objectives of this research was to document SPs' multi-gigabit connectivity service delivery strategies and associated timelines.

Because multi-gigabit connectivity is an important foundational capability for enhancing customer experience and monetization and service diversification (see **Figure 1**), it is not surprising that, as illustrated in **Figure 2**, 96% of the respondents assess multi-gigabit connectivity as either extremely important (32%), very important (44%), or important (20%).

The large and medium to small filter groups are both strongly aligned on the value proposition (see **Figure 17, *Appendix B***).

These inputs in aggregate confirm, without question, that multi-gigabit connectivity represents a strategic imperative for SPs of all sizes.

Figure 2: How important is multi-gigabit connectivity to your company's strategy?



n=84

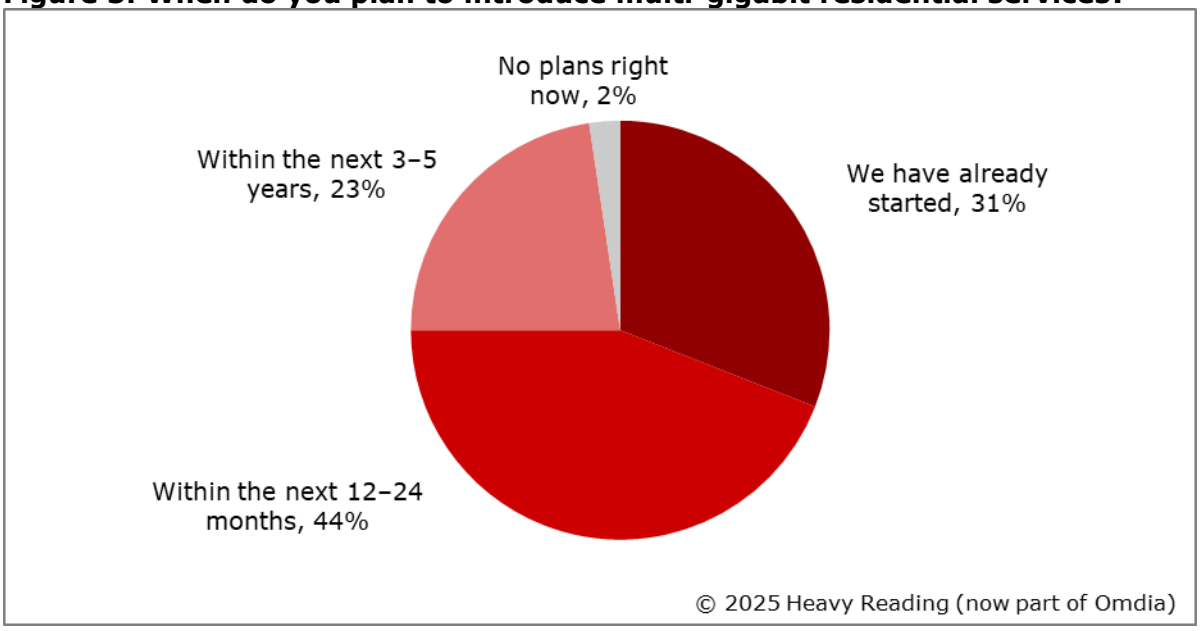
Source: Heavy Reading (now part of Omdia)

Having established that multi-gigabit connectivity is viewed in a highly strategic light, the next survey question sought to obtain insights into when this broadband capability would be rolled out and commercialized for residential customers.

As captured in **Figure 3,** about a third (31%) have already started rolling out multi-gigabit for residential services, while the largest group (44%) plans to do so in the next 12–24 months. This aggressive plan will translate into 75% of residential services supporting multi-gigabit speed within the next two years.

The largest SPs filter group leads in the already started category (43%) versus their small to medium-size colleagues (21%); however, the majority (68% = 21%+47%) of this latter group still expect to support multi-gigabit residential services within 24 months, confirming a robust market and investment commitment (see **Figure 18, *Appendix B***).

Figure 3: When do you plan to introduce multi-gigabit residential services?



n=84

Source: Heavy Reading (now part of Omdia)

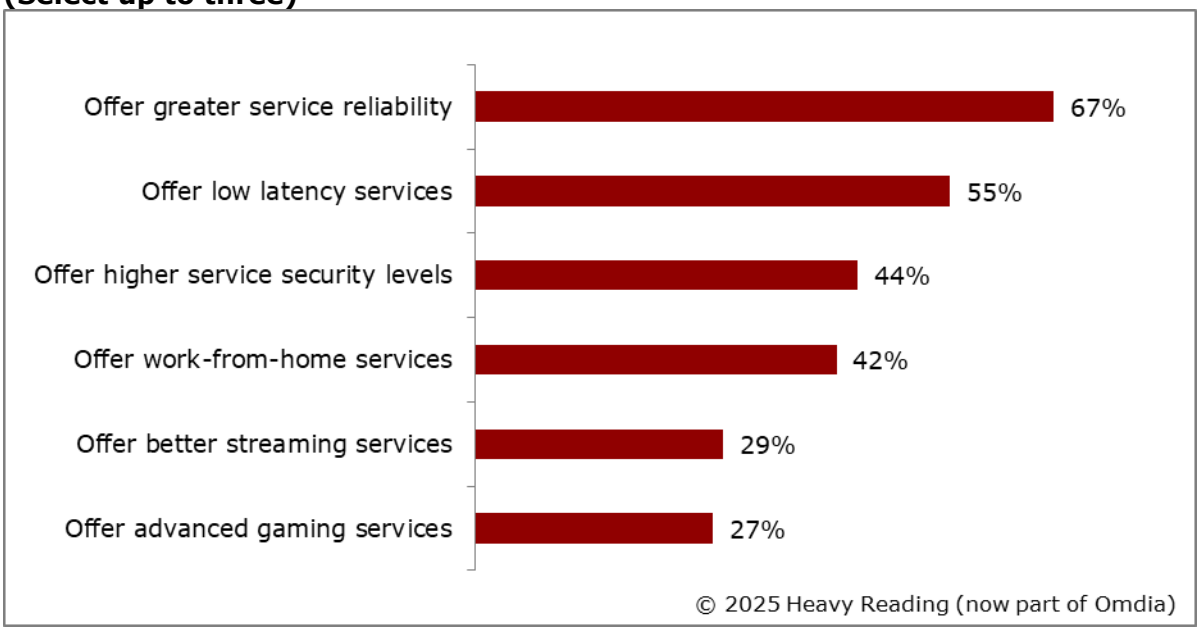
Broadband service delivery has increased customer demand for several reasons, including the demand for low latency services essential for work-from-home services, which grew exponentially during the past five-year period.

However, monetizing broadband is not solely about low latency services. As shown in **Figure 4,** SPs' top leading monetization aspects also encompass greater service reliability (67%), ahead of low latency services (55%).

Security is also a high runner with 44% of respondents focusing on this as a monetization opportunity. This focus on security is logical, given that the advent of the broadband era has provided more sophisticated bad actors with a much greater threat landscape to target home workers, video streamers, and gamers.

Both large and small to medium SPs are aligned on monetization aspects with some minor differences, including a greater focus on security by larger operators (54%) versus small to medium (36%) (see **Figure 19, *Appendix B***).

Figure 4: How do you plan to monetize other aspects of your broadband service? (Select up to three)



n=84
Source: Heavy Reading (now part of Omdia)

Service providers have several technology paths for delivering multi-gigabit broadband speeds to their residential and enterprise customer base.

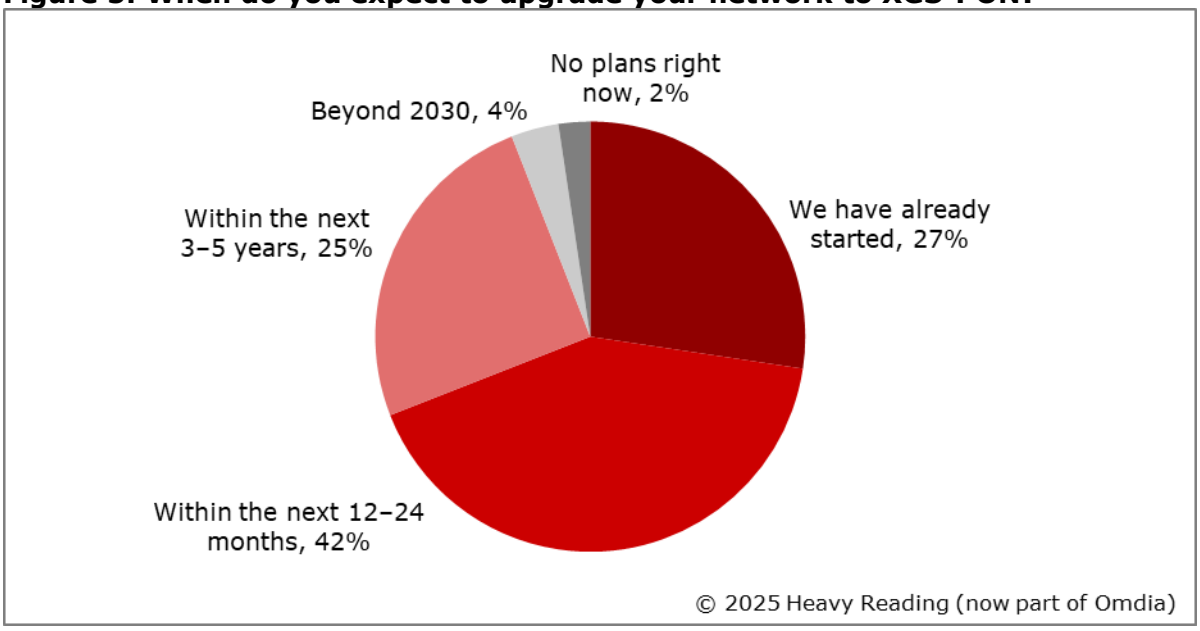
One technology choice is XGS-PON. XGS-PON is gaining market momentum because it supports up to 10Gbits (= XG) symmetrically both for upload and download speeds. This represents a considerable advantage over previous generation asymmetrical-based design approaches such as Gigabit PON (GPON), which typically support higher download (typically, 1Gbit) and lower upload speeds.

Figure 5 confirms that many operators are committed to upgrading to XGS-PON. In fact, only an insignificant 2% have no plans compared to the 98% who plan to upgrade. Of these, 27% have already started, with the largest group (44%) planning to upgrade in 12–24 months.

This leaves 25% who are targeting upgrades in three to five years and 4% who are future-gazing beyond 2030. Based on these metrics, as many as 69% (already started = 27% and 12–24 months = 42%) of SPs could be close to having completed their XGS-PON upgrades within the next two years.

The largest operators are slightly ahead in terms of already started and planning to upgrade in the next 12–24 months (see **Figure 20, *Appendix B***).

Figure 5: When do you expect to upgrade your network to XGS-PON?



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Source: Heavy Reading (now part of Omdia)

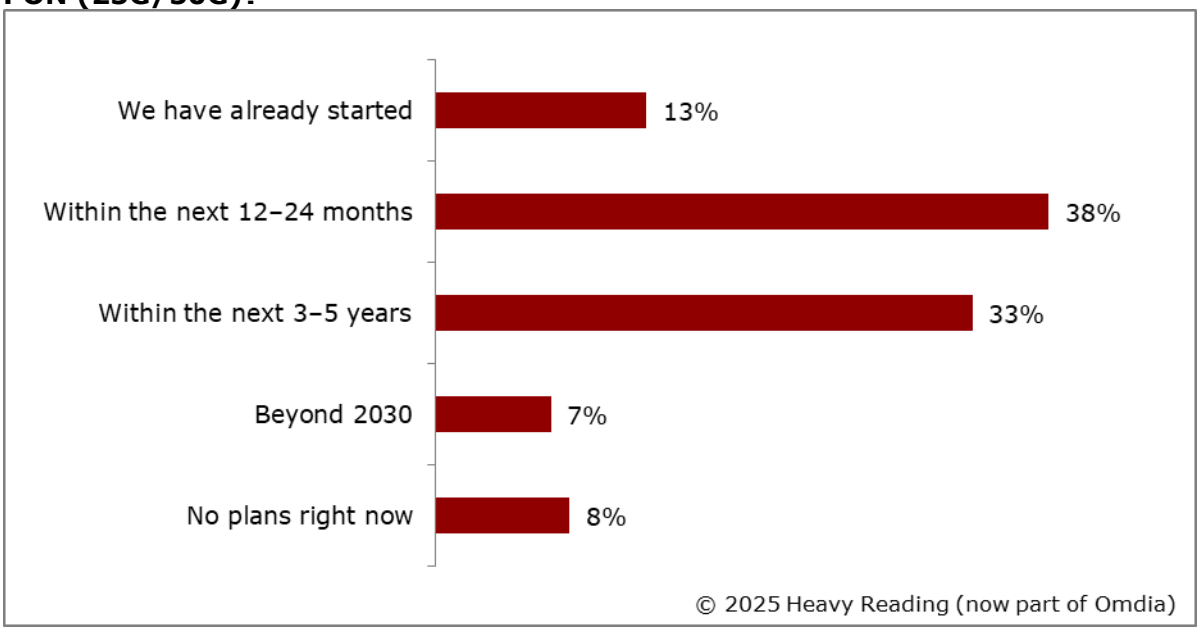
Although the availability of a 10G service tier will greatly enhance customer experience, broadband demand is so strong that ultimately, in a few years, it may not fully meet the demand of high ARPU bandwidth-hungry customers (see **Figure 8**). This reality has driven the standardization and vendor development of both 20G and 50G PON solutions.

In response, a small percentage of SPs (13%) have already kicked off activities to upgrade their networks beyond 10G. The largest group of the dataset (38%) plans to start upgrading in the next 12−14 months, which is like XGS-PON 12–24-month deployment commitment (42%) (see **Figure 5**).

Almost half of the remaining respondents (48%) believe upgrades will happen in the next three to five years (33%), after 2030 (7%), or never at all (8%). As documented later in this report, the impetus for these upgrades is in part driven by current customer service tier expectations (see **Figure 12**).

Predictably, SPs from the large filter group are considerably ahead in terms of starting to upgrade their PON systems (22%) compared to small to medium (6%). This latter group is more aligned with a 12–24-month window (45%) (see **Figure 21**, ***Appendix B***).

Figure 6: When do you expect to start upgrading your networks to beyond XGS-PON (25G/50G)?



n=84
Source: Heavy Reading (now part of Omdia)

There are a number of decision trees that SPs must typically maneuver when they formulate and execute PON upgrade strategies. These can vary from upgrade to upgrade, based on network design and technology already deployed.

For example, if an SP in the future wants to upgrade their PON to beyond the 10Gbits supported by XGS-PON to, say, 25 or even 50Gbits, as Heavy Reading (now part of Omdia) has noted above, it must confirm that its installed base of OLT endpoints can be upgraded to manage higher speed frame conversion and data transmission.

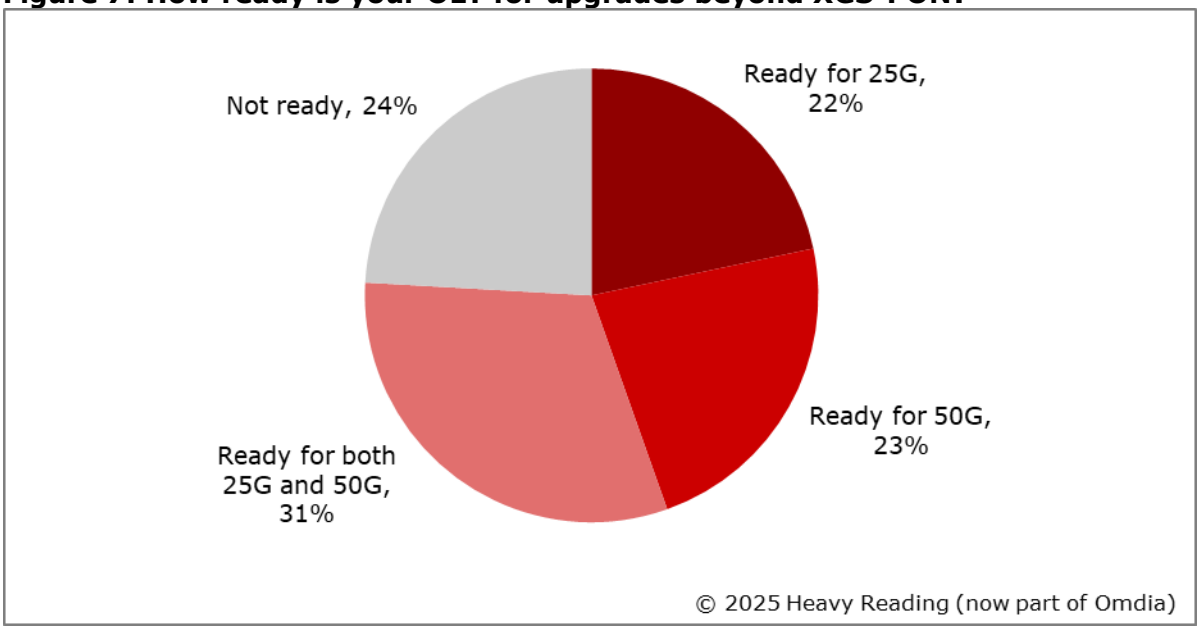
This topic of OLT upgradability was addressed in the next question of the survey. Overall, OLT upgradability, as captured in **Figure 7,** is mixed. The respondents are essentially split over whether they can support 25G or 50G, with 22% saying they are able to upgrade OLTs to 25G, and 23% expressing the belief that they can support 50G upgrades.

The largest group, which represents almost a third of respondents (31%), believes their OLTs can be upgraded to support both. This leaves almost a quarter of respondents (24%) who believe they are *not* 25G or 50G ready.

A greater number of respondents from the small to medium SPs believe their OLTs are ready to be upgraded to both 25G and 50G (39%), compared to the larger network group of only 22%, perhaps because they have fewer OLTs to manage (see **Figure 22, *Appendix B***).

Heavy Reading (now part of Omdia) believes that SP interest in 25G and 50G is, in part, driven by vendor innovation as well. Although in the past 50G was viewed as lacking maturity and a more complex integration, recently, vendors such as Nokia have demonstrated that it is possible to upgrade to 50G remotely without the additional cost of a site visit.

Figure 7: How ready is your OLT for upgrades beyond XGS-PON?



n=83
Source: Heavy Reading (now part of Omdia)

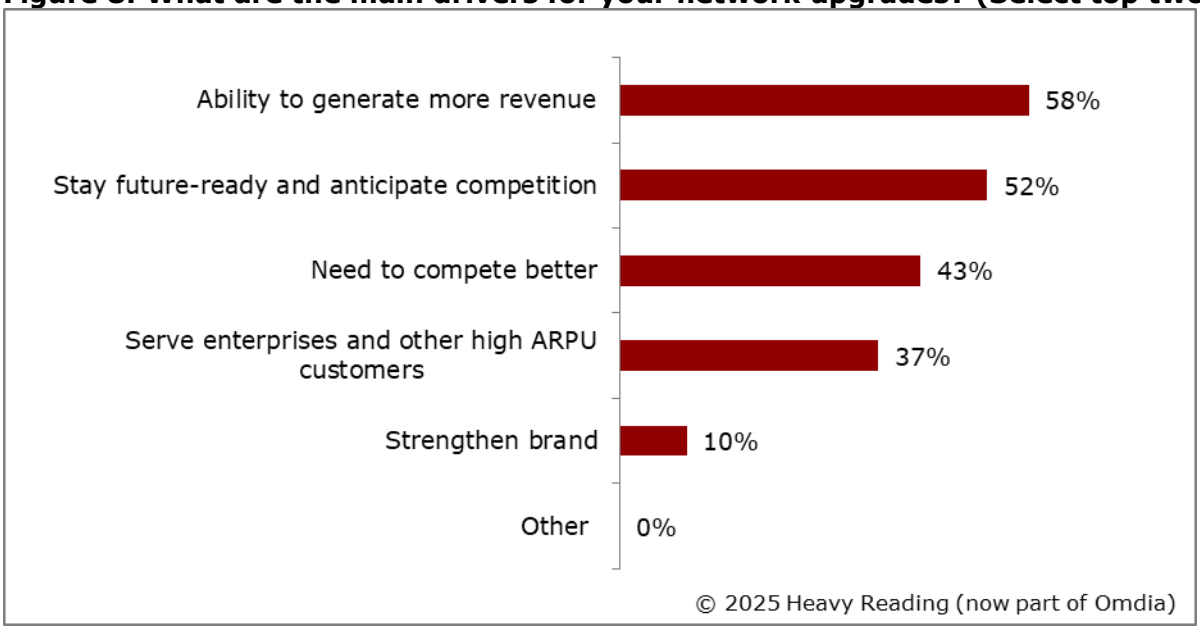
As documented in **Figure 1**, SPs believe that service monetization and customer experience are foundational organizational attributes.

Figure 8 confirms this in a network upgrade context. As illustrated in the figure, the respondents believe network upgrade drivers generate more revenue (58%), stay future-ready to anticipate competition (52%), and need to compete better (43%). An additional consideration that resonated with the respondents was to serve enterprise and other high ARPU customers (37%).

These inputs were not unexpected given how dynamic the competitive landscape has become; however, it does serve to definitively confirm that SPs are doubling down on ensuring that any network investment generates more revenue and enhances their overall competitive standing.

The ability to generate more revenue was the number one driver for both filter groups (large = 57%, small to medium = 60%) (see **Figure 23**, ***Appendix B***).

Figure 8: What are the main drivers for your network upgrades? (Select top two)



n=84

Source: Heavy Reading (now part of Omdia)

Understanding the challenges and barriers that SPs must manage and navigate in rolling out multi-gigabit service tiers was also an area of survey focus.

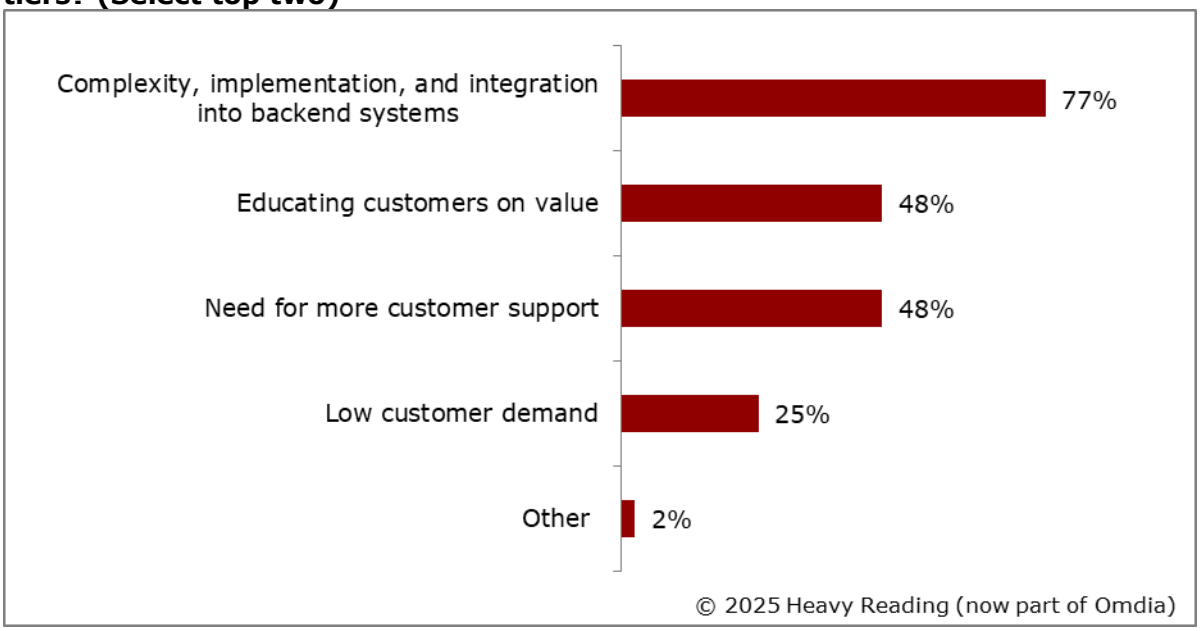
In broad terms, as captured in **Figure 9**, the top barriers for introducing new residential service tiers are both network and customer related. In a network context, the greatest barrier by a wide margin is the complexity associated with making and integrating changes in backend systems (77%).

In second and third place, there are two customer-centric issues. These are educating customers on the value proposition of new service tiers and the need for more customer support (both 48%).

Both filter groups are aligned: backend integration complexity is the leading barrier (large = 73%, small to medium = 81%) (see **Figure 24**, ***Appendix B***).

Although SPs believe that they need to launch programs to educate customers on service tier value propositions and provide greater customer support, the greatest concern without question is backend system complexity.

Figure 9: What are the biggest barriers to introducing new residential service tiers? (Select top two)



n=84
Source: Heavy Reading (now part of Omdia)

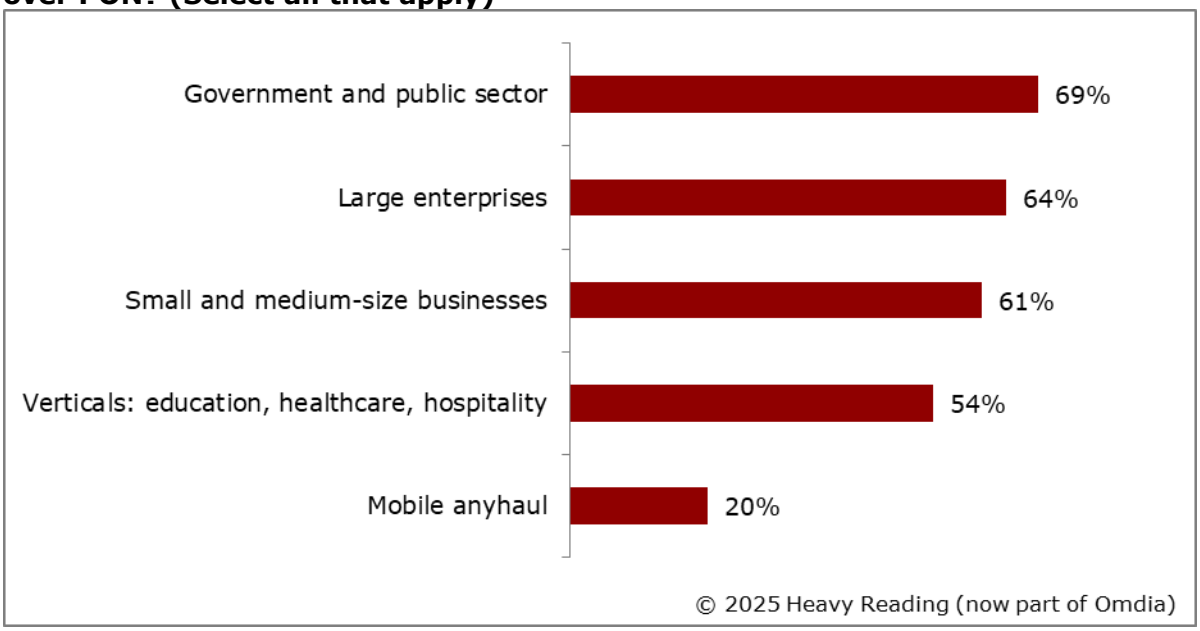
The survey also investigated how SPs could generate more revenue from PON in both residential and nonresidential markets. To accomplish this, focusing on nonresidential markets, Heavy Reading (now part of Omdia) first asked which channels SPs currently serve customers with PON.

The responses in **Figure 10** confirm that SPs are essentially already using some form of PON in a broad range of sectors. The top priorities are government and private sector (69%), large enterprises (64%), small and medium-size businesses (61%), and the education, healthcare, and hospitality verticals (54%).

A significant PON penetration was anticipated because all these organizations are typically heavy broadband consumers. However, it does again provide another reference point for how important PON is to SPs' network and service investment strategies (see **Figure 2**).

The "top priorities" trends for the large and small to medium filter groups are similar (see **Figure 25**, ***Appendix B***).

Figure 10: Which of the following nonresidential sectors do you currently serve over PON? (Select all that apply)



n=84
Source: Heavy Reading (now part of Omdia)

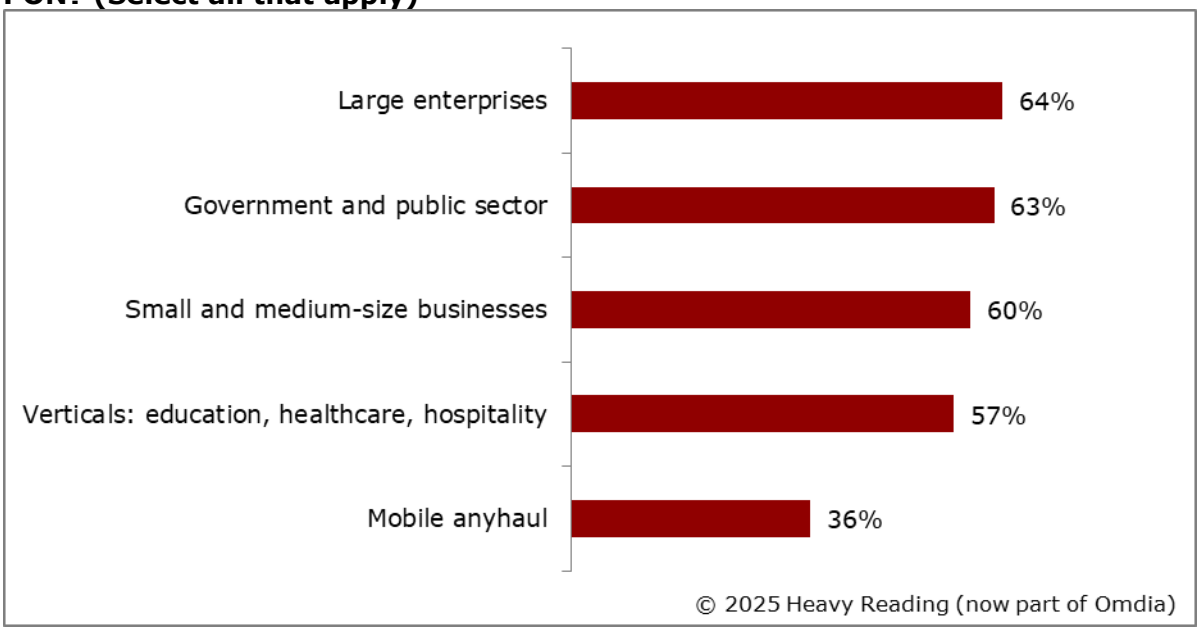
Having established that the enterprise channels already served only PON infrastructure, the next question asked the respondents to provide insight into which of these areas they planned to continue to focus on.

The data from **Figure 11** confirms that there are also areas they plan to focus on to fuel subscriber growth. Although all four constitute strategic focus areas, large enterprises lead by a slight margin (64%), followed by government and public sector (63%), small and medium-size businesses (60%), and education, healthcare, and hospitality (57%).

A greater percentage of the large filter group is focused on enterprise sectors (see **Figure 26**, ***Appendix B***).

Based on these inputs, Heavy Reading (now part of Omdia) believes the only logical takeaway here is that SPs consider all their traditional channels as growth areas, and therefore worthy of expanding PON service support.

Figure 11: Which of the following nonresidential sectors do you plan to serve over PON? (Select all that apply)



n=84
Source: Heavy Reading (now part of Omdia)

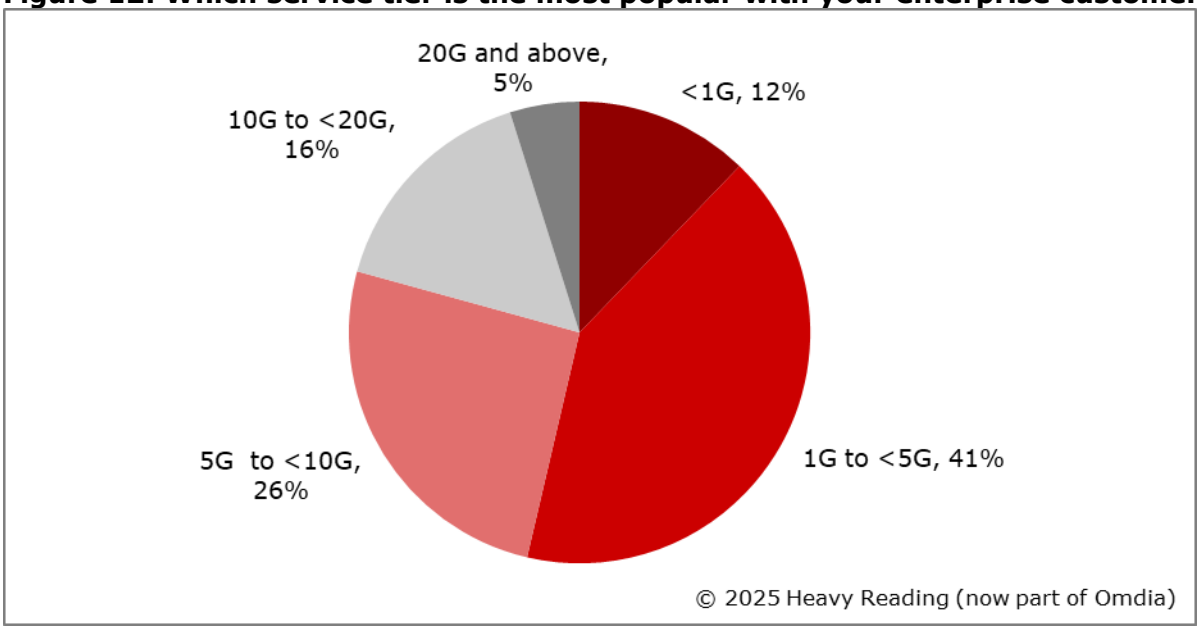
To succeed in the multi-gigabit era, SPs must balance the cost of upgrading their PON infrastructure with customer performance expectations and what service tier they will ultimately pay for. The data points in **Figure 12** provide detailed insights into the service tiers that are most popular with enterprise customers.

As captured, the leading service tier selected by 41% of respondents is the 1 to <5G service. Discounting the 12% who selected the less than 1G tier leaves 47% of respondents who are already seeing higher service tiers becoming more popular with their enterprise customers. These include 26% for the 5G to <10G, which maps well to XGS-PON.

The remaining include 16% for the 10 to <20G tier and 5% for 20G and above. Heavy Reading (now part of Omdia) interprets these last two data points as further validation that there is significant customer demand fueling the support for 20G and 50G PON upgrades, as previously noted in **Figure 6**.

Both the large and small to medium filter groups are aligned: the most popular service tier for nearly half of their enterprise customer base (47% and 45%, respectively) is the 1G to <5G connectivity band (see **Figure 27**, ***Appendix B***).

Figure 12: Which service tier is the most popular with your enterprise customers?



n=82
Source: Heavy Reading (now part of Omdia)

The mass adoption of AI will have a transformative effect on SPs' networks. This is in part because AI solutions are being tailored by developers to improve customer experience, network reliability and security, and even service monetization, the core foundation elements identified in **Figure 1**.

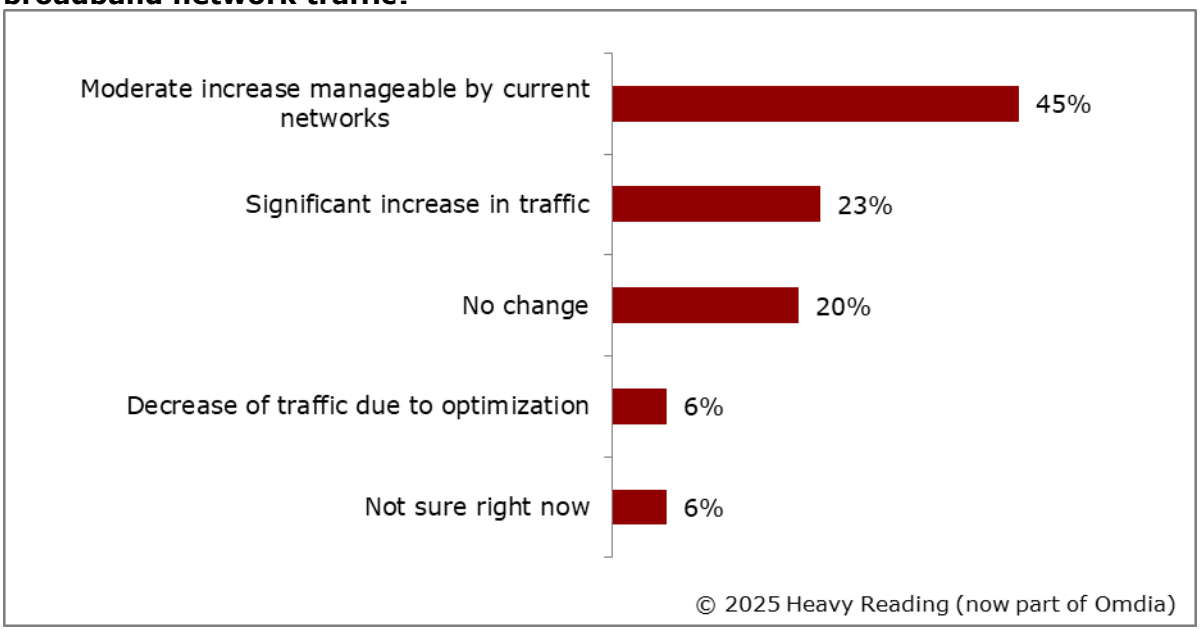
The potential downside is that AI integration may drive a significant increase in network traffic, resulting in the need to upgrade broadband network capacity.

This topic was investigated in the next survey question. As shown in **Figure 13**, more than 6 out of 10 (68%) of SPs believe that AI will result in either a moderate increase manageable by current networks (45%), or a significant increase (23%) that implies future PON investment will be needed.

The logical takeaway here is that while many SPs are concerned about AI-based broadband traffic growth, only about a quarter (23%) believe it will have a significant impact. The remainder believe that it will either be moderate at best (45%), will have no impact at all (20%), or may even decrease traffic (6%).

Although both filter groups are generally aligned on AI impacts, a higher percentage of the larger operators believe AI will drive a significant level of traffic growth on their broadband networks (see **Figure 28**, ***Appendix B***).

Figure 13: What impact do you think artificial intelligence (AI) will have on your broadband network traffic?



n=83
Source: Heavy Reading (now part of Omdia)

The final question in the survey served to close the feedback loop on several topics spanning AI and customer experience, as well as network performance and security.

Having established at the beginning of the survey that customer satisfaction and network reliability and security were considered key organization attributes (see **Figure 1**), Heavy Reading (now part of Omdia) asked the respondents how important these capabilities, as well as AI (see **Figure 13**), were for enhancing their multi-gigabit portfolio.

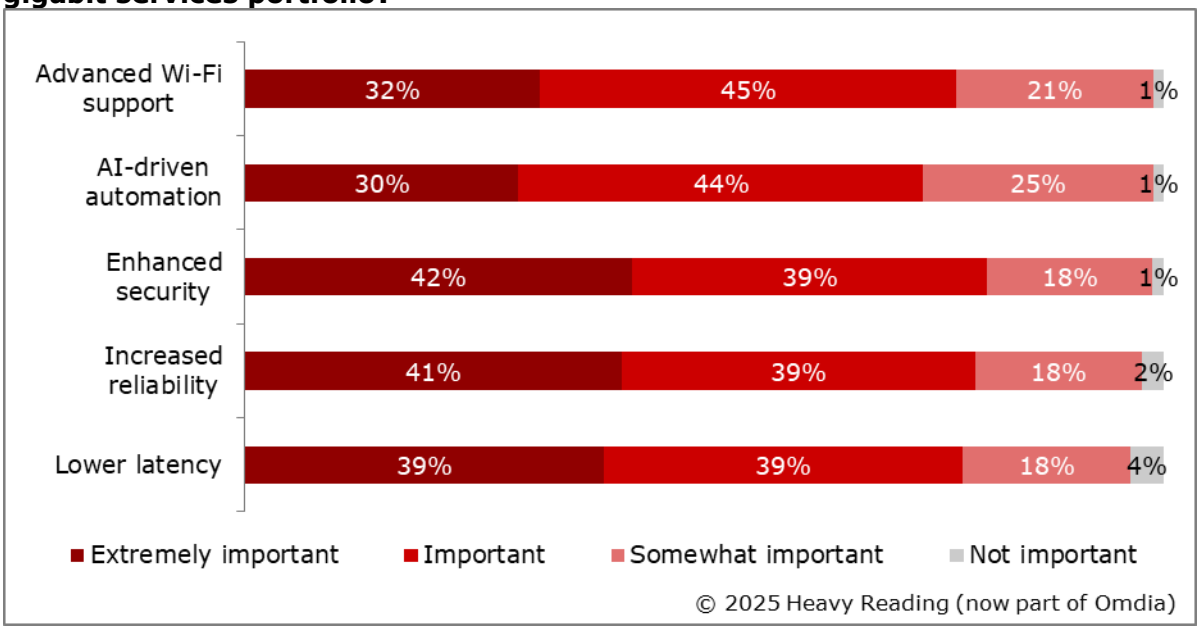
As shown in **Figure 14,** based on *extremely important* responses, the top three capabilities were enhanced security (42%), increased reliability (41%), and lower latency (39%). Rounding out the inputs on the lower end of the scale were advanced Wi-Fi support (32%) and AI-driven automation (30%).

It is also important to note that 26% or less of respondents believe these capabilities are either only *somewhat important* (18–25%) or *not important* (1%), which equates to about 75% of respondents believing these capabilities are either *extremely important* or *important*.

Both filter groups agree that enhanced security and increased reliability are the leading *extremely important* considerations, but in reverse order (see **Figure 29**, ***Appendix B***).

Overall, based on these metrics, it is clear that most SPs believe that numerous attributes must be factored into their equation for enhancing their multi-gigabit services portfolio. Among these, two traditional considerations, security and reliability, still achieve the greatest weightings.

Figure 14: How important are the following capabilities for enhancing your multi-gigabit services portfolio?



n=84

Source: Heavy Reading (now part of Omdia)

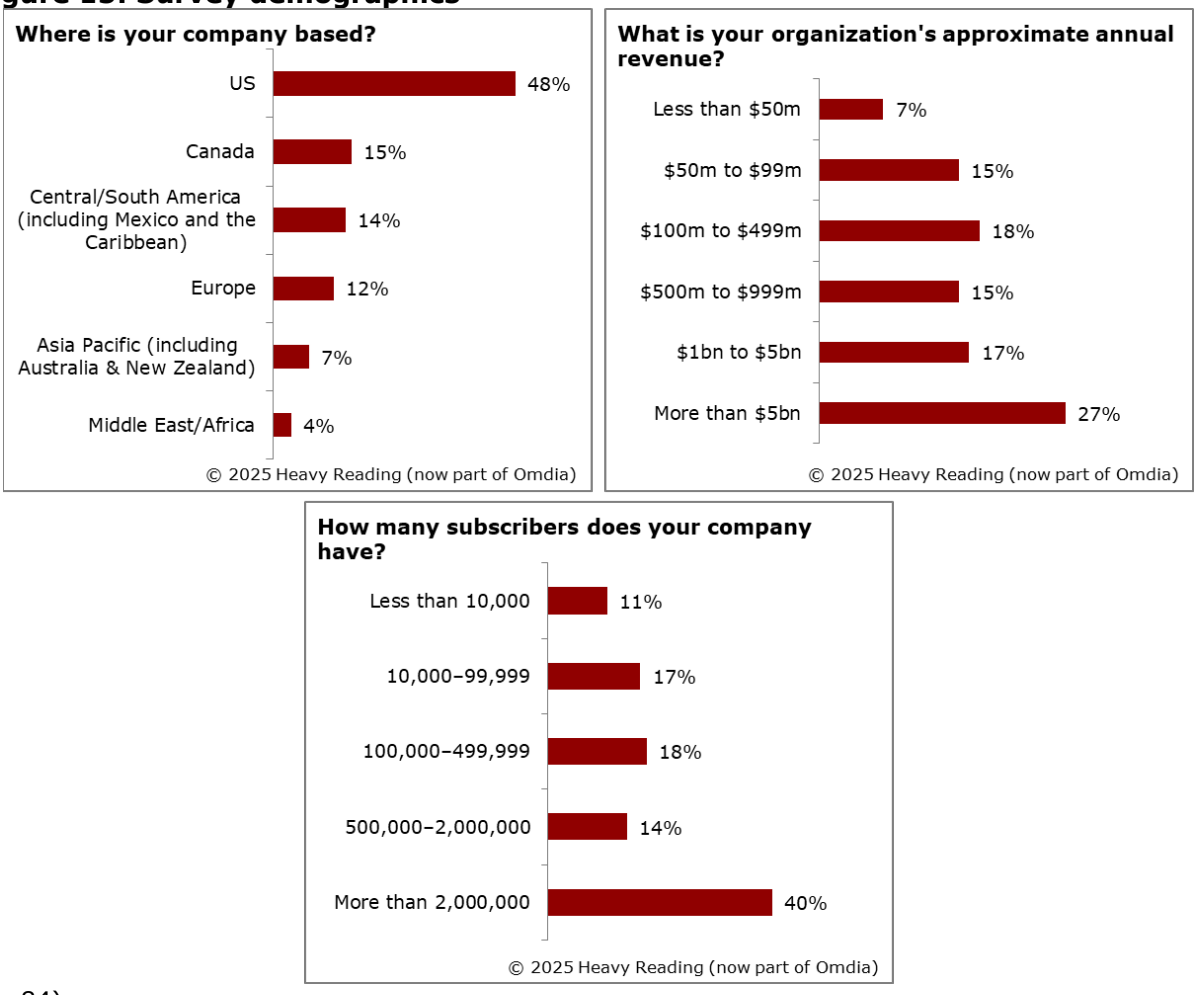
APPENDIX A: SURVEY DEMOGRAPHICS

This Heavy Reading (now part of Omdia) white paper is based on a web-based global survey of service providers. The custom survey, jointly developed by Heavy Reading (now part of Omdia) and Nokia, was fielded globally by Light Reading parent Informa TechTarget in September and October 2025.

Respondents were drawn from the SP list of the Light Reading readership database. All responses are confidential and are only ever presented in aggregate form. Heavy Reading (now part of Omdia) does not share individual names or company names from the survey. After reviewing and removing incomplete responses, 84 qualified responses remained.

The full survey demographics are provided in **Figure 15**.

Figure 15: Survey demographics



(n=84)
Source: Heavy Reading (now part of Omdia)

APPENDIX B: FILTER GROUP DATA

This appendix provides per-question response data for the two filter groups: large and small to medium-size service providers. Key findings documenting response similarities and differences are also included.

Figure 16: To what extent are the following capabilities priorities for your organization? (Rank in order where 1= highest priority and 5 = lowest priority)

Large (n=37)

Responses	Score
Customer experience and satisfaction	131
Network security and reliability	122
Monetization, diversifying services for new revenue streams	107
Opex savings, ease of operations	102
Increased agility	60

Small-medium (n=47)

Responses	Score
Customer experience and satisfaction	175
Network security and reliability	151
Monetization, diversifying services for new revenue streams	139
Opex savings, ease of operations	119
Increased agility	84

Source: Heavy Reading (now part of Omdia)

Key findings

Both the large and small to medium-size SP filter groups had very similar inputs, with customer experience, network security and reliability, and monetization being their sequential top three choices.

Figure 17: How important is multi-gigabit connectivity to your company's strategy?

Large (n=37)

Responses	Proportion of respondents
Extremely important – customers are already asking for it	32%
Very important – we need it to stay competitive	43%
Important – it will help us sell higher tier plans	22%
Somewhat important – we are exploring it but no demand yet	3%
Not important – not needed right now	0%

Small-medium (n=47)

Responses	Proportion of respondents
Extremely important – customers are already asking for it	32%
Very important – we need it to stay competitive	45%
Important – it will help us sell higher tier plans	19%
Somewhat important – we are exploring it but no demand yet	2%
Not important – not needed right now	2%

Source: Heavy Reading (now part of Omdia)

Key findings

Both filter groups are strongly aligned on the value proposition based on very similar inputs across the board captured in the tables above (e.g., extremely important = 32% for both groups) and very similar metrics spread among the other three input ranges.

Figure 18: When do you plan to introduce multi-gigabit residential services?

Large (n=37)

Responses	Proportion of respondents
We have already started	43%
Within the next 12–24 months	41%
Within the next 3–5 years	16%
No plans right now	0%

Small-medium (n=47)

Responses	Proportion of respondents
We have already started	21%
Within the next 12–24 months	47%
Within the next 3–5 years	28%
No plans right now	4%

Source: Heavy Reading (now part of Omdia)

Key findings

The largest service providers lead in the already started category (43%), versus their small to medium-size colleagues (21%); however, the majority (68% = 21%+47%) of this latter group still expect to support multi-gigabit residential services within 24 months.

Figure 19: How do you plan to monetize other aspects of your broadband service? (Select up to three)

Large (n=37)

Responses	Proportion of respondents
Offer greater service reliability	68%
Offer low latency services	54%
Offer higher service security levels	54%
Offer work-from-home services	41%
Offer better streaming services	35%
Offer advanced gaming services	38%

Small-medium (n=47)

Responses	Proportion of respondents
Offer greater service reliability	66%
Offer low latency services	55%
Offer higher service security levels	36%
Offer work-from-home services	43%
Offer better streaming services	23%
Offer advanced gaming services	19%

Source: Heavy Reading (now part of Omdia)

Key findings

Both large and small to medium-size SPs are aligned on monetization aspects, with some minor differences, including a greater focus on security by larger operators (54%) versus the small to medium-size operators (36%).

Figure 20: When do you expect to upgrade your network to XGS-PON?

Large (n=37)

Responses	Proportion of respondents
We have already started	30%
Within the next 12–24 months	46%
Within the next 3–5 years	16%
Beyond 2030	5%
No plans right now	3%

Small-medium (n=47)

Responses	Proportion of respondents
We have already started	26%
Within the next 12–24 months	38%
Within the next 3–5 years	32%
Beyond 2030	2%
No plans right now	2%

Source: Heavy Reading (now part of Omdia)

Key findings

Although the largest operators are slightly ahead in term of already started and planning to upgrade in the next 12−24 months (large filter group = 76%, already started = 30%, 12−24 months = 46%) than small -medium operators (=64%, already started = 26%, 12–24 months = 38%), overall, both groups are committed to upgrading their networks to XGS-PON.

Figure 21: When do you expect to start upgrading your networks to beyond XGS-PON (25G/50G)?

Large (n=37)

Responses	Proportion of respondents
We have already started	22%
Within the next 12–24 months	30%
Within the next 3–5 years	32%
Beyond 2030	5%
No plans right now	11%

Small-medium (n=47)

Responses	Proportion of respondents
We have already started	6%
Within the next 12–24 months	45%
Within the next 3–5 years	34%
Beyond 2030	9%
We have already started	6%

Source: Heavy Reading (now part of Omdia)

Key findings

SPs from the large filter group are considerably ahead in terms of starting to upgrade inputs (large = 22%, small to medium = 6). Instead, a larger group of small to medium aligned with a 12–24-month window(45%). About a third of both groups believe the upgrades will take place in the next three to five years (large = 32%, small to medium = 34%).

Figure 22: How ready is your OLT for upgrades beyond XGS-PON?

Large (n=37)

Responses	Proportion of respondents
Ready for 25G	24%
Ready for 50G	24%
Ready for both 25G and 50G	22%
Not ready	30%

Small-medium (n=47)

Responses	Proportion of respondents
Ready for 25G	20%
Ready for 50G	22%
Ready for both 25G and 50G	39%
Not ready	20%

Source: Heavy Reading (now part of Omdia)

Key findings

Both filter groups share similar inputs; however, one notable difference is that a greater percentage of the small to medium-size operators believe their OLTs are ready to be upgraded to both 25G and 50G (39%), compared with the larger network group of only 22%.

Figure 23: What are the main drivers for your network upgrades? (Select top two)

Large (n=37)

Responses	Proportion of respondents
Ability to generate more revenue	57%
Stay future-ready and anticipate competition	54%
Need to compete better	38%
Serve enterprises and other high ARPU customers	43%
Strengthen brand	8%
Other	0%

Small-medium (n=47)

Responses	Proportion of respondents
Ability to generate more revenue	60%
Stay future-ready and anticipate competition	51%
Need to compete better	47%
Serve enterprises and other high ARPU customers	32%
Strengthen brand	11%
Other	0%

Source: Heavy Reading (now part of Omdia)

Key findings

Results are generally similar among both groups, with the ability to generate more revenue being the top driver (large = 57%, small to medium = 60%) and being future-ready as the second driver (large = 54%, small to medium = 51%). The small to medium group selected the need to compete better as the third driver (47%), while the large filter group selected serving enterprises and other high ARPU customers as their third choice (43%).

Figure 24: What are the biggest barriers to introducing new residential service tiers? (Select top two)

Large (n=37)

Responses	Proportion of respondents
Complexity, implementation, and integration into backend systems	73%
Educating customers on value	57%
Need for more customer support	35%
Low customer demand	30%
Other	5%

Small-medium (n=47)

Responses	Proportion of respondents
Complexity, implementation, and integration into backend systems	81%
Educating customers on value	40%
Need for more customer support	57%
Low customer demand	21%
Other	0%

Source: Heavy Reading (now part of Omdia)

Key findings

Both groups agree that backend integration complexity is the leading barrier (large = 73%, small to medium = 81%). The need for more customer support resonated with small to medium-size respondents as the second greatest barrier (57%), while the large group respondents selected educating customers on value as the second greatest barrier (57%).

Figure 25: Which of the following nonresidential sectors do you currently serve over PON? (Select all that apply)

Large (n=37)

Responses	Proportion of respondents
Government and public sector	65%
Large enterprises	73%
Small and medium-size businesses	81%
Verticals: education, healthcare, hospitality	62%
Mobile anyhaul	27%

Small-medium (n=47)

Responses	Proportion of respondents
Government and public sector	72%
Large enterprises	57%
Small and medium-size businesses	45%
Verticals: education, healthcare, hospitality	47%
Mobile anyhaul	15%

Source: Heavy Reading (now part of Omdia)

Key findings

The "top priorities" trends for the large and small to medium-size filter groups are similar. The top two priorities for the large filter group are small and medium-size businesses (81%) and large enterprises (73%). The top two for the small to medium-size filter group are government and public sector (72%) and large enterprises (57%).

Figure 26: Which of the following nonresidential sectors do you plan to serve over PON? (Select all that apply)

Large (n=37)

Responses	Proportion of respondents
Large enterprises	73%
Government and public sector	73%
Small and medium-size businesses	76%
Verticals: education, healthcare, hospitality	68%
Mobile anyhaul	43%

Small-medium (n=47)

Responses	Proportion of respondents
Large enterprises	57%
Government and public sector	55%
Small and medium-size businesses	47%
Verticals: education, healthcare, hospitality	49%
Mobile anyhaul	30%

Source: Heavy Reading (now part of Omdia)

Key findings

A greater percentage of the large filter group is focused on enterprise sectors (range = 68−73%) compared to the small to medium-size filter group (range = 47−57%). The top sector area for the large group is small and medium-size businesses (76%), while the small to medium-size top sector is large enterprises (57%).

Figure 27: Which service tier is the most popular with your enterprise customers?

Large (n=37)

Responses	Proportion of respondents
<1G	9%
1G to <5G	47%
5G to <10G	20%
10G to <20G	26%
20G and above	9%

Small-medium (n=47)

Responses	Proportion of respondents
<1G	15%
1G to <5G	45%
5G to <10G	30%
10G to <20G	9%
20G and above	2%

Source: Heavy Reading (now part of Omdia)

Key findings

Both the large and small to medium-size filter groups are aligned: the most popular service tier for nearly half of their enterprise customer base (47% and 45%, respectively) is the 1G to <5G connectivity band.

The preference for higher speeds beyond 10G is greater for enterprise customers serviced by the large. This includes both 10G to <20G (large = 26%, small to medium = 9%) and 20G and above (large = 9%, small to medium = 2%).

Figure 28: What impact do you think artificial intelligence (AI) will have on your broadband network traffic?

Large (n=37)

Responses	Proportion of respondents
Moderate increase manageable by current networks	51%
Significant increase in traffic	24%
No change	11%
Decrease in traffic due to optimization	3%
Not sure right now	11%

Small-medium (n=47)

Responses	Proportion of respondents
Moderate increase manageable by current networks	39%
Significant increase in traffic	22%
No change	28%
Decrease in traffic due to optimization	9%
Not sure right now	2%

Source: Heavy Reading (now part of Omdia)

Key findings

Although both groups are aligned in terms of significant increase potential (large = 24, small to medium = 22%), a greater percentage of large respondents (51%) forecast moderate increase compared with 39% of small to medium-size respondents.

The other notable difference is that a greater percentage of small to medium-size respondents (28%) believe AI will have no change to traffic patterns on their broadband network, compared with only 11% of the large operators.

Overall, more than 6 out of 10 respondents from both groups believe AI will result in a moderate or significant increase in network traffic (large = 51%+24% = 75%, small to medium = 39%+22% = 61%).

Figure 29: How important are the following capabilities for enhancing your multi-gigabit services portfolio?

Large (n=37)

Responses	Extremely important	Important	Somewhat important	Not important
Advanced Wi-Fi support	38%	51%	11%	0%
AI-driven automation	32%	57%	11%	0%
Enhanced security	50%	36%	14%	0%
Increased reliability	53%	39%	8%	0%
Lower latency	47%	39%	11%	3%

Small-medium (n=47)

Responses	Extremely important	Important	Somewhat important	Not important
Advanced Wi-Fi support	28%	40%	30%	2%
AI-driven automation	28%	34%	36%	2%
Enhanced security	36%	40%	21%	2%
Increased reliability	32%	38%	26%	4%
Lower latency	33%	39%	24%	4%

Source: Heavy Reading (now part of Omdia)

Key findings

Both filter groups agree that enhanced security and increased reliability are the top two *extremely important* considerations, in opposite order. Although the large filter group selected increased reliability first (53%), it ranked enhanced security (50%) second. The small to medium-size group preferences in order were enhanced security (36%) and increased reliability (32%).

Generally, the small to medium-size group had a greater range of somewhat important responses (21−36%) than the large group (8−14%), which could be interpreted as a little less urgency in the need to enhance their multi-gigabit services portfolio.