

**World Broadband Statistics:
Q4 2009**

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1. Introduction

This report continues the series of Point Topic's quarterly *World Broadband Statistics* publications. The series originated as several DSL reports, first published in Q2 2002, which were eventually expanded to include cable modem and other technologies in Q2 2003.

Other technologies covered include optical fibre and different forms of broadband Internet such as, for example, Fixed Wireless Access (FWA), Satellite and Powerline. Fibre in this context means anything from Fibre-to-the-kerb to Fibre-to-the-home and is often generalised as "FTTx."

Mobile broadband is undoubtedly taking off in many countries where 3G or WiFi/WiMAX networks are used as an alternative or complementary to fixed-line broadband access. To address the importance of this new development, Point Topic embarked on a special wireless broadband project in Q3 2006 with the aim of including more comprehensive coverage of wireless subscriber numbers in our quarterly broadband statistics report. Throughout this data collation process, we found that the figures are still very much restricted to certain geographical regions.

Consequently, it remains too early for wireless subscriber data to be examined in depth within the world broadband statistics analysis. However, as far as available, WiFi and WiMAX broadband subscriber data is being entered into GBS and clients to this Point Topic service are welcome to conduct their own in-depth analysis. For Q4 2009, GBS coverage has been extended to 112 countries and over 440 operators.

This report begins with an examination of the growth in broadband subscribers for Q4 2009 at both a global and a regional level. The next section of the report addresses technology trends and choices, looking firstly at general trends in uptake followed by an analysis of regional market shares in a variety of broadband technologies.

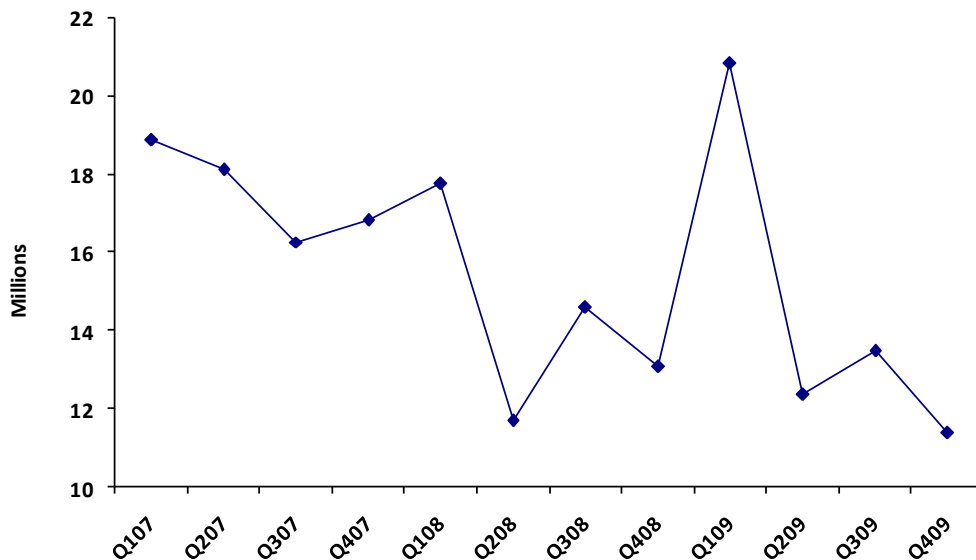
The focus of the report then shifts to the "top ten" broadband countries for Q4 2009. Here we examine the total number of broadband subscribers, the net additions for the quarter, quarterly and annual percentage growth, technologies adopted as well as population and household penetration. The last section of the report offers a selection of tables highlighting both, quarterly and annual changes in total broadband, DSL and Non-DSL subscriber figures.

2. Global and Regional Perspectives

2.1 Overall Growth

By the end of 2009 there were 466.95 million broadband subscribers worldwide, up 2.5 per cent on the previous quarter from 455.57 million. The quarterly net additions over the last three years are shown in figure 1. The highest number of net additions was acquired in Q1 2009 totalling 20.85 million, whereas the lowest number during this period was in Q4 2009 at 11.38 million.

Figure 1: World Broadband Subscriber Net Additions (Q1 2007 – Q4 2009)



Following the highest number of net additions in Q1 2009, the number of new broadband subscribers acquired in the following quarters has been much lower. While this fall was partly due to the uncertain economic climate, the overall number of broadband subscribers is still increasing. This increase illustrates the importance of broadband services with respect domestic as well as business use.

Over 2009, 58.1 million new broadband subscribers were added globally. This represents 12.44 per cent of total subscribers reported by the end of 2009. Worldwide population penetration stood at 8.1 per cent, up from 7.9 per cent in the previous quarter and up from 7.1 per cent a year ago. Worldwide household penetration was 29.7 per cent, up from 28.9 per cent in the previous quarter and 26 per cent a year ago.

2.2 Regional Trends

The broadband subscribers by region are shown in figure 2. Quarterly growth by region together with population is shown in figure 3. The regions with the largest shares of broadband subscribers are South and East Asia (25.21 per cent) and Western Europe (24.41 per cent). North America with a 20.4 per cent share is in third place, followed by Asia Pacific (14 per cent), Latin America (6.84 per cent), Eastern Europe (6.2 per cent) and Middle East and Africa (2.94 per cent).

Figure 2: Share of World Broadband Subscribers by Region in Q4 2009

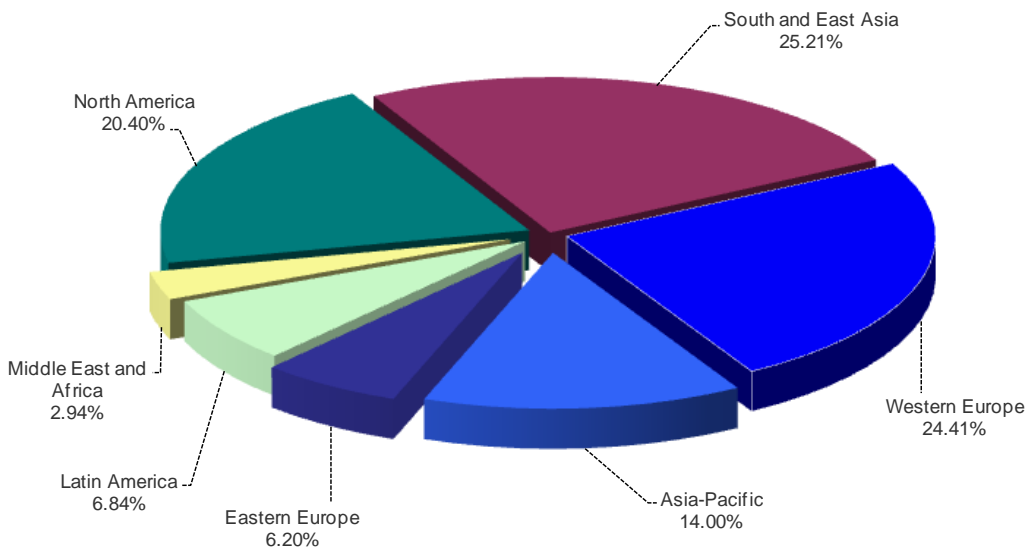
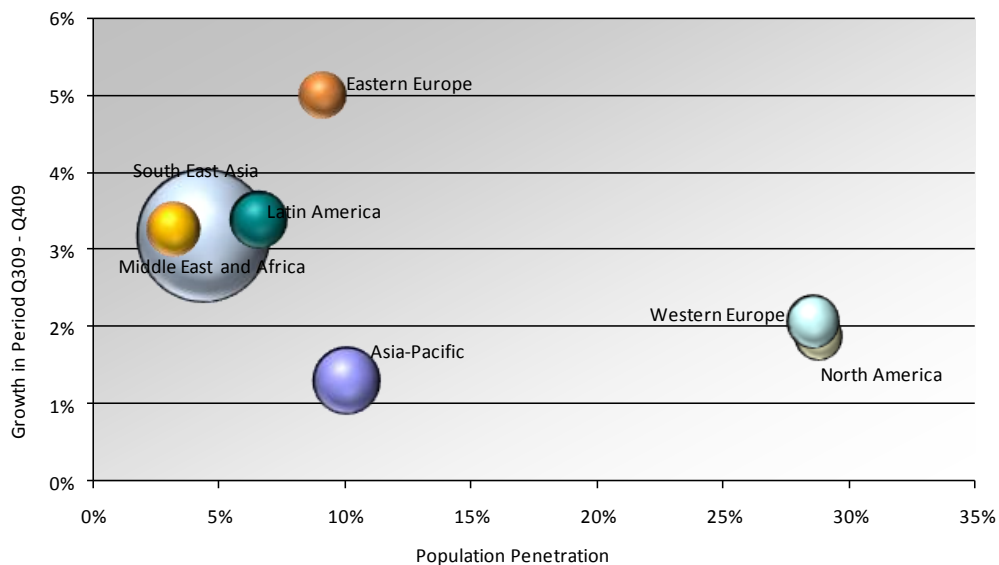


Figure 3: Penetration & Quarterly Growth by Region in Q4 2009



As shown in figure 3, the population of each region is illustrated by the size of each globe. For example, South and East Asia is a much larger globe than all of the others because it includes the two most populated countries in the world, China and India.

The position of each globe relative to the horizontal axis is an indication of population penetration. Both North America and Western Europe have the highest penetration rates worldwide at 28.8 per cent and 28.6 per cent respectively. Asia Pacific and Eastern Europe have the next highest penetration rates at 10.1 per cent and 9.1 per cent respectively.

Regions such as the Middle East and Africa and Latin America have less developed broadband markets than those in Western Europe and North America. As a result penetration in these areas is much lower at 3.2 per cent in the Middle East and Africa and 6.6 per cent in Latin America. Penetration in South and East Asia was also low at 4.4 per cent.

Quarterly growth in each region was illustrated by the position of the globes relative to the vertical axis. Western Europe and North America are homes to some of the most developed broadband markets in the world. It is therefore unsurprising that growth in these regions is so low (2.07 per cent and 1.86 per cent respectively), since many of these markets are approaching saturation.

At 1.29 per cent growth in Asia Pacific is also low, which could be due a number of different reasons. The region includes some very well developed broadband markets in countries such as South Korea, Taiwan and Japan, where quarterly growth was very low. Also, wireless broadband access is very popular in some of the countries in this region, and in some cases the uptake has overtaken that of fixed broadband access.

Growth in South and East Asia, Middle East and Africa and Latin America was very similar at 3.18 per cent, 3.26 per cent and 3.4 per cent respectively. All three regions reported comparatively high growth since they have the countries with the least developed broadband markets globally. Eastern Europe reported the highest quarterly growth at 5 per cent.

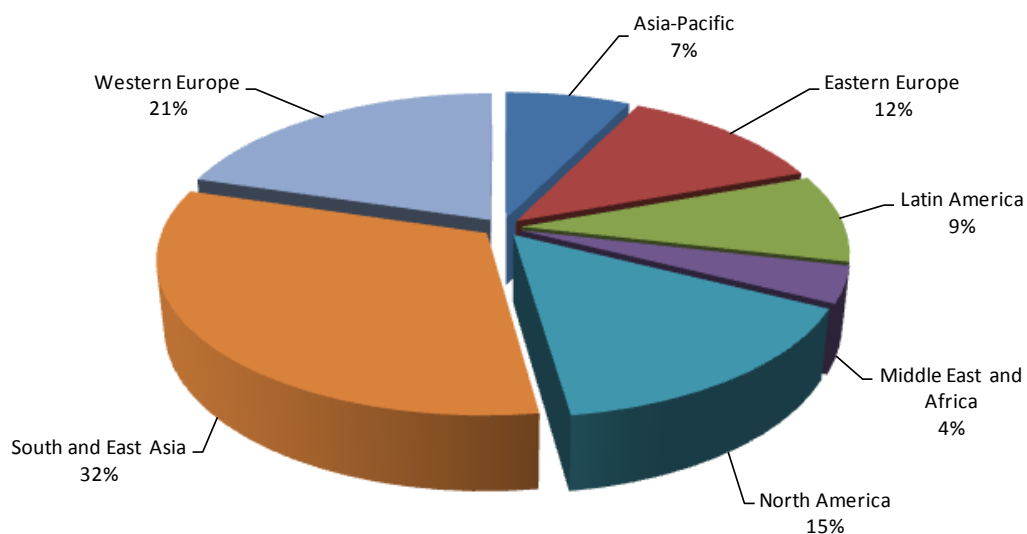
In all regions quarterly growth was positive. In four regions, quarterly growth from Q3 2009 to Q4 2009 was less than that growth from Q2 2009 to Q3 2009. These regions were South and East Asia which reported the largest fall (down from 5.66 per cent to 3.18 per cent), Latin America (down from 4.29 per cent to 3.4 per cent), North America (down from 2.2 per cent to 1.86 per cent) and Asia Pacific (down from 1.4 per cent to 1.29 per cent).

Growth in the remaining three regions was up on the previous quarter. This included growth in the Middle East and Africa which experienced the highest increase in quarterly growth (up from 1.92 per cent to 3.26 per cent), Eastern Europe (up from 4.02 per cent to 5 per cent) and Western Europe (up from 1.72 per cent to 2.07 per cent).

Figure 4 shows net additions by region during Q4 2009. South and East Asia reported the largest share of net additions at 32 per cent, representing 3.63 million new subscribers. Western Europe acquired the second largest share at 21 per cent, or 2.31 million net additions. North America was third with a 15 per cent share representing 1.74 million new subscribers.

Eastern Europe had the next largest share at 12 per cent (1.38 million), followed by Latin America with 9 per cent (1.05 million), Asia Pacific with 7 per cent (829,000) and the Middle East and Africa had the smallest share at 4 per cent (433,000).

Figure 4: Regional Share of World Broadband Net Additions in Q4 2009



South and East Asia had the largest fall in net additions compared with the previous quarter (Q3 2009). Net additions fell by 40.58 per cent from 6.11 million to 3.63 million. The two countries largely responsible for this fall were China and India. Despite the large fall, China had the highest number of net additions in this region overall. Net additions in China fell by 39.75 per cent from 4.71 million to 2.83 million. India had the second highest number of net additions in the region, despite a 61 per cent fall from 1.08 million to 420,000.

Two Chinese operators had the greatest impact on the fall in net additions. They were China Telecom whose net additions fell by 20 per cent from 1.89 million to 1.51 million, and China Unicom (Hong Kong) Ltd whose net additions fell by 57.6 per cent from 2.55 million to 1.083 million.

In Latin America net additions fell by 17.46 per cent from 1.27 million to 1.05 million. Mexico had the highest number of net additions in Q4 2009, but they were down 42.21 per cent on the previous quarter from 674,900 to 390,000. Brazil had the second highest number of net additions and showed the greatest proportional increase on the previous quarter. Net additions in Brazil were up over 95 per cent from 198,100 to 387,600.

In Mexico, Telmex experienced the largest fall in net additions, down 45.16 per cent from 403,000 to 221,000. The Brazilian equivalent was NET Servicos, whose net additions were down 50 per cent from 185,000 to 92,000. The Brazilian operator that reported the greatest improvement in net additions was CTBC, up over 300 per cent from 17,000 to 72,000.

North America also experienced a reduction in its quarterly net additions, from 2.01 million to 1.74 million (down 13.58 per cent). Net additions in the USA were down 15.88 per cent from 1.84 million to 1.55 million, while in Canada they were up 11.89 per cent from 166,500 to 186,300.

Operators in this region that experienced the greatest change in quarterly net additions include US-based Comcast, whose quarterly net additions fell by 32 per cent from 362,000 to 246,000. US-based operator Windstream experienced the largest increase in quarterly net additions in terms of absolute figures, up by 215 per cent from 25,900 to 81,600.

Asia Pacific experienced the smallest reduction in quarterly net additions from 893,000 to 829,600 (down 7.1 per cent). Out of those countries with significant broadband markets in this region, the Philippines experienced the greatest improvement in quarterly net additions. In the Philippines they increased by 59 per cent from 160,000 to 256,000. South Korea also increased its quarterly net additions, by 46.51 per cent from 160,800 to 235,600. Japan experienced the largest fall in net additions in terms of absolute figures, down 47.5 per cent from 225,000 to 118,000.

Philippines-based operator PLDT showed the greatest improvement in its net additions, up 64.43 per cent from 150,858 to 248,000. Indonesian operator PT Telkom experienced the largest fall by 31.9 per cent from 163,000 to 111,000.

The Middle East and Africa showed the greatest improvement with respect to quarterly net additions, increasing by 73.15 per cent from 250,300 to 433,400. This improvement was mainly due to Turkish incumbent Turk Telecom, whose quarterly net additions increased from zero to 200,000. Telecom Egypt reported the largest fall in quarterly net additions down by 57.5 per cent from 104,000 to 44,200.

Quarterly net additions in Eastern Europe were up 29.56 per cent from 1.065 million to 1.38 million. Countries that significantly increased their quarterly net additions include Russia (up 26 per cent from 495,400 to 624,500), Poland (up 37.78 per cent from 115,250 to 158,800), Romania (up 44.17 per cent from 76,940 to 110,900) and Hungary (up 118 per cent from 45,000 to 98,500).

Russia showed the largest improvement in net additions in terms of absolute figures. This was due to operators such as Comstar, whose quarterly net additions were up 136.8 per cent from 38,000 to 90,000 and Northwest Telecom whose net additions were up 14 per cent from 90,000 to 103,000. Other operators that increased their net additions include Polish operator Netia (up 124.44 per cent from 31,000 to 70,000) and Romanian incumbent Romtelecom (up 177.4 per cent from 21,240 to 58,900).

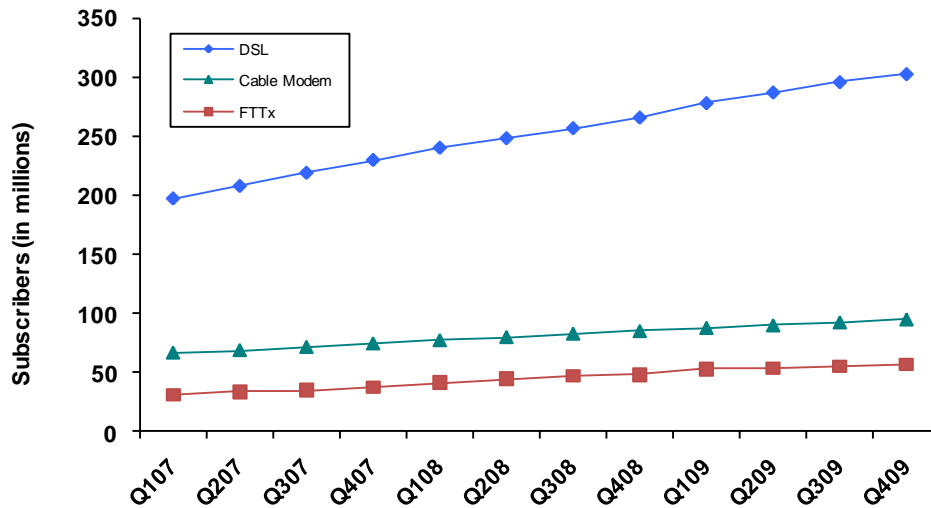
Western Europe was the only other region to increase its quarterly net additions, this time by 22.79 per cent from 1.88 million to 2.31 million. By proportion it had the third largest increase in net additions and by absolute figures showed the greatest improvement.

The top country in this region was Germany, where quarterly net additions were up by the largest amount proportionally and in terms of absolute figures. The proportional increase was 71.04 per cent up from 360,900 to 617,300. Other top countries in this region include France (up 10.6 per cent from 339,700 to 375,700), UK (up 47.75 per cent from 209,000 to 308,800) and Spain (up 25.5 per cent from 168,300 to 211,317).

The top performing operators in Western Europe include UK incumbent BT, whose net additions increased by over 44 per cent from 169,000 to 244,000, German incumbent Deutsche Telecom (up 100 per cent from 100,000 to 200,000) and German-based Arcor (up 60 per cent from 99,000 to 159,000).

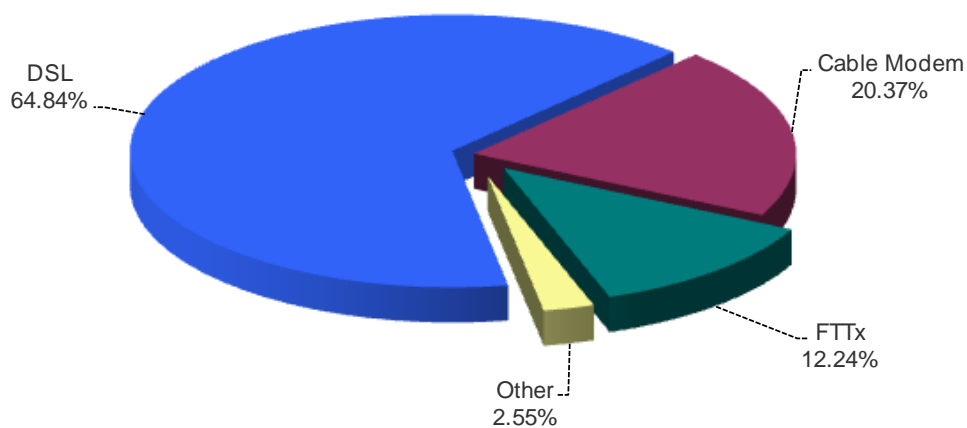
3. Technology Trends and Choices

Figure 5: Technology Trends in Q4 2009



The breakdown of broadband subscribers by technology is shown in figures 5 and 6. Figure 5 shows that the take-up of broadband services using all three technologies continues to increase. DSL is the most popular technology by far, used by over 64 per cent of the global broadband market (302.75 million lines). This was followed by the use of cable modem with 20.37 per cent of the total (95.12 million lines) and FTTx with a 12.24 per cent share of the market (57.17 million lines).

Figure 6: Total Broadband by Technology in Q4 2009



Quarterly growth of all three technologies was similar, but growth of FTTx connections was the highest of the three at 2.91 per cent (representing 1.66 million new lines), followed by cable modem at 2.7 per cent (2.57 million lines) and the growth of DSL connections was third at 2.31 per cent (almost 7 million lines).

Growth during this quarter was up on the previous quarter with respect to FTTx connections. This was up from 2.66 per cent in Q3 2009 to 2.91 per cent in Q4 2009. The quarterly growth of cable modem connections was down from 2.88 per cent to 2.7 per cent. The growth of DSL connections experienced the greatest fall from 3.07 per cent to 2.31 per cent.

The market shares by region and technology are shown in figure 7. Western Europe and South and East Asia are home to over 60 per cent of the world's DSL subscribers. Their respective market shares were 31.3 per cent (94.76 million lines) and 31.4 per cent (95.06 million lines). The countries in these regions with the highest numbers of DSL subscribers were Germany with 22.64 million DSL subscribers, France (17.74 million subscribers), UK (14.48 million subscribers) and Italy (12.83 million subscribers). China has the largest DSL market in the world with over 83.89 million lines, representing 27.71 per cent of the global DSL total.

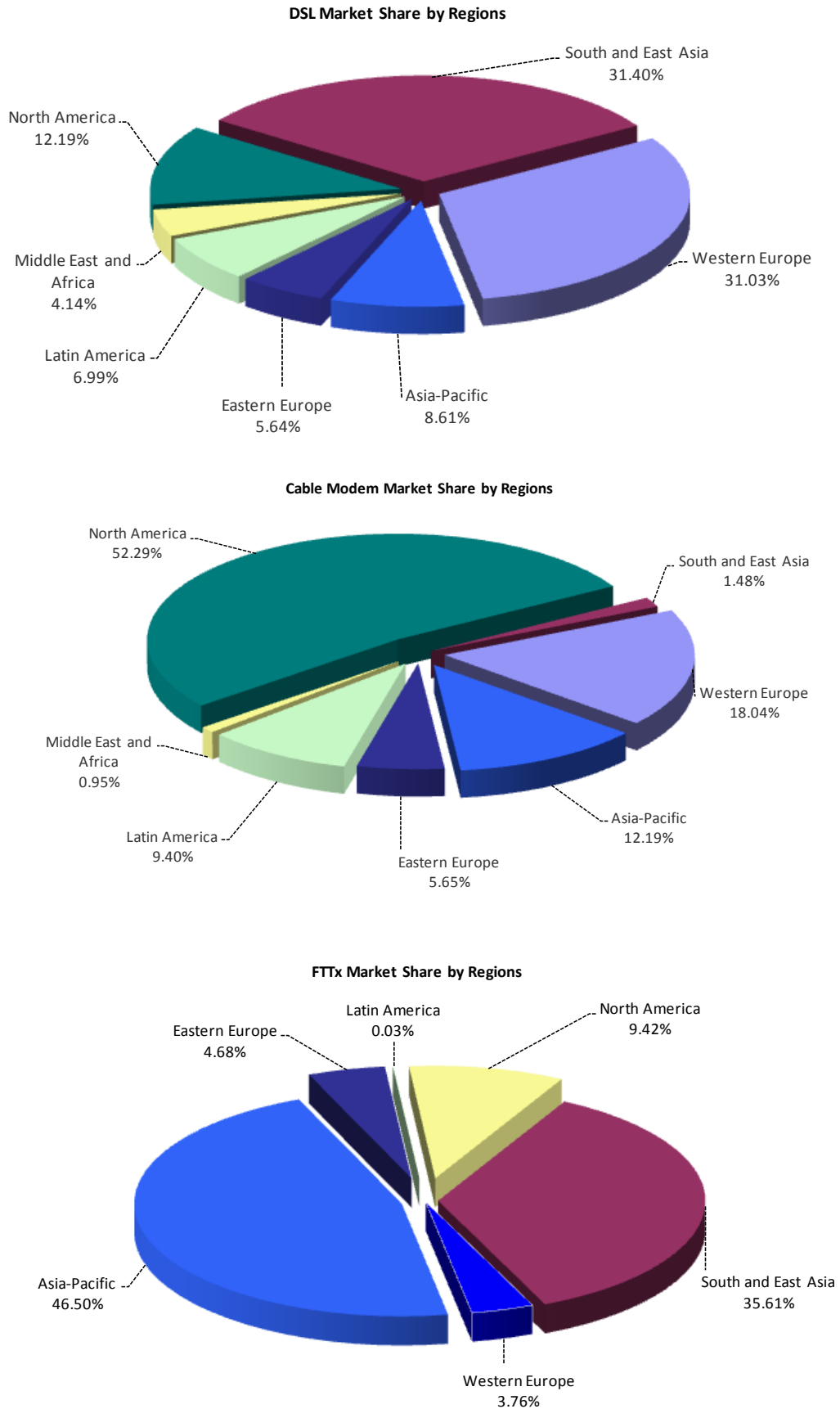
North America had the third largest share of the global DSL market at 12.19 per cent, or 36.9 million lines. With 32.48 million lines, the USA had the largest DSL market in this region and the second largest DSL market in the world, representing 10.7 per cent of the global DSL total. Canada had 4.4 million DSL subscribers.

The USA had the largest cable modem subscriber base in the world, totalling 44.19 million lines and representing 46.45 per cent of the worldwide cable modem total. As shown in figure 7, North America has the largest share of the cable modem market at 52.29 per cent. This is mainly due to the USA but Canada also contributed 5.55 million cable modem subscribers, representing 5.8 per cent of the worldwide cable modem total.

Western Europe also had a substantial share of the cable modem market, amounting to 18.04 per cent or 17.16 million lines. The UK had the largest cable modem market in Western Europe with 3.85 million lines, followed by Germany with 2.4 million lines, the Netherlands (2.38 million lines) and Spain (1.86 million lines) and Belgium (1.26 million lines).

Countries in Asia (Asia Pacific and South and East Asia) are embracing FTTx technology, since they are home to over 82 per cent of worldwide FTTx subscribers representing 46.88 million connections. China has the largest FTTx market in the world with 19.67 million subscribers (34.4 per cent of the global FTTx market). Japan had the second largest FTTx market globally with 17.1 million subscribers (30 per cent of the FTTx market), followed by South Korea with 7.8 million subscribers (13.6 per cent of the FTTx market).

Figure 7: World DSL, Cable Modem & FTTx Market Share by Region in Q4 2009



The DSL market in only one region experienced negative growth. This region was Asia Pacific where it fell by 1.19 per cent from 26.37 million to 26.06 million. The highest growth was in Eastern Europe at 4.82 per cent from 16.28 million to 17.07 million. Countries in this region that reported significant quarterly growth were Montenegro at 11 per cent (from 49,500 to 54,980), Moldova at 8.9 per cent (from 166,500 to 181,300), Ukraine at 8.27 per cent (from 761,000 to 823,900) and Romania at 7.87 per cent (from 748,440 to 807,300).

The growth of DSL markets in South and East Asia, Middle East and Africa and Latin America were similar at 3.83 per cent, 3.34 per cent and 3.22 per cent respectively. Quarterly growth in Latin America remained unchanged from the previous quarter. However, quarterly growth in the Middle East and Africa was up from 1.9 per cent and in South and East Asia quarterly growth was down from 7.23 per cent.

Countries in South and East Asia with the highest quarterly growth include Viet man at 9.41 per cent (from 2.72 million to 2.97 million), Pakistan at 6.63 per cent (from 188,500 to 201,000), India at 5 per cent (from 6.19 million to 6.5 million) and China at 3.58 per cent (from 81 million to 83.9 million). Equivalent countries in the Middle East and Africa include Tunisia at 10.74 per cent (from 298,000 to 330,000), Jordan at 8.56 per cent (from 130,800 to 142,000) and Algeria at 7.84 per cent (from 536,000 to 578,000).

In Latin America the countries with the highest quarterly growth were Bolivia at 14.29 per cent (from 70,000 to 80,000), Uruguay at 8.15 per cent (from 319,000 to 345,000), Paraguay at 5.56 per cent (from 36,000 to 38,000) and Venezuela at 4.5 per cent (from 1 million to 1.045 million).

The cable modem markets in all regions had positive growth over the quarter. The highest growth was in Eastern Europe at 4.58 per cent. Countries in this region with the highest growth were Croatia at 25 per cent (from 24,000 to 30,000), Hungary at 13.15 per cent (from 635,500 to 719,100) and Belarus at 10.13 per cent (from 79,000 to 87,000).

Following the previous two quarters when its cable modem market had the highest growth South and East Asia is now in second place with quarterly growth at 3.98 per cent. Countries in this region with high quarterly growth include Pakistan at 9.85 per cent (from 132,000 to 145,000), Vietnam at 9.38 per cent (from 32,000 to 35,000) and India at 5.88 per cent (from 851,000 to 901,000).

South and East Asia was closely followed by Latin America and Western Europe. Quarterly growth rates in these regions were 3.79 per cent and 3.67 per cent respectively. Latin American countries with the highest growth were Bolivia at 8.84 per cent (from 14,700 to 16,000), Argentina at 5.85 per cent (from 1.025 million to 1.085 million), Venezuela at 5.43 per cent (from 460,000 to 485,000) and Mexico at 5 per cent (from 2.65 million to 2.78 million). In Western Europe the countries were Cyprus at 30.67 per cent (from 7,500 to 9,800), Ireland at 9.79 per cent (from 134,900 to 148,000) Germany at 8.26 per cent (from 2.24 million to 2.43 million) and France at 6 per cent (from 905,000 to 960,000).

The remaining regions had cable markets that grew by less than 3 per cent. They were North America (2.59 per cent), Middle East and Africa (1.8 per cent) and Asia Pacific (0.04 per cent).

Many operators consider FTTx to be the next step in broadband evolution and are aggressively marketing this technology to new customers. However, the FTTx markets in many countries are still relatively small, and it is therefore important to note that small changes to net additions will have a relatively large influence on quarterly growth.

Quarterly growth of all FTTx markets was positive. Latin America had the highest growth at 9.68 per cent but this was due to only one country, Colombia (from 15,500 to 17,000). Eastern Europe was next with 7.75 per cent growth, followed by Western Europe with 6.65 per cent growth.

The European country with the highest quarterly growth was the UK at 70.59 per cent. However, this represented a small increase from 1,700 to 2,900. Other European countries with significant FTTx growth included Hungary at 50 per cent (from 5,496 to 8,247), Switzerland at 23.66 per cent (from 186,000 to 230,000), Slovakia at 13.6 per cent (from 147,000 to 167,000) and Poland at 11.3 per cent (from 61,100 to 68,000).

North America had the next highest quarterly FTTx growth at 5.89 per cent. This was due to the USA whose FTTx market grew from 5.08 million to 5.38 million. Operators in this country with the highest growth were Cincinnati Bell at 30.77 per cent (from 7,800 to 10,200) and Verizon at 4.66 per cent (from 3.28 million to 3.43 million).

Asia Pacific and South and East Asia both had FTTx markets that grew by less than 4 per cent. Growth in these regions was 3.84 per cent and 0.03 per cent respectively.

4. “Top Ten” Broadband Countries

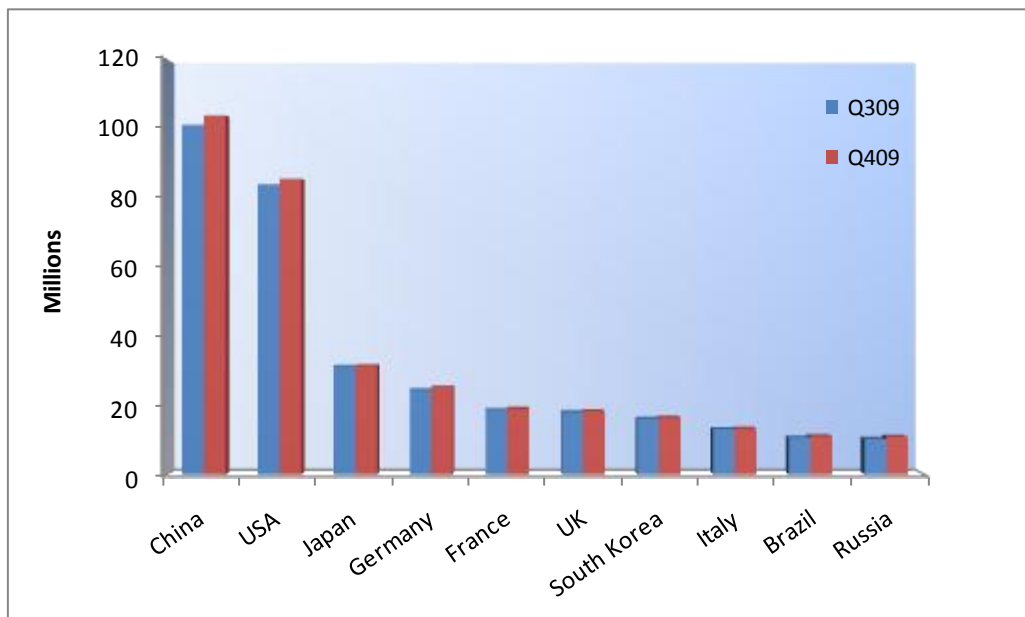
4.1 Number of Subscribers

The ‘top ten’ countries in terms of total broadband subscribers as of Q3 2009 and Q4 2009 are shown in figure 8. Since displacing the USA in Q2 2008, China has maintained its number one position while the USA is in second place.

China had 103.64 million subscribers, up by 2.81 per cent on the previous quarter from 100.8 million. The USA had 85.28 million subscribers, up by 1.86 per cent on the previous quarter from 83.73 million. Between them China and the USA are home to over 40 per cent of the worldwide broadband market.

The difference between the subscriber bases in China and the USA was 18.35 million in Q4 2009, up 7.52 per cent on the previous quarter when the difference was 17.07 million. The number of broadband subscribers in China continues to grow at a faster rate than that in the USA.

Figure 8: Total Number of Subscribers in Q3 2009 and Q4 2009



4.2 Broadband Subscribers Added

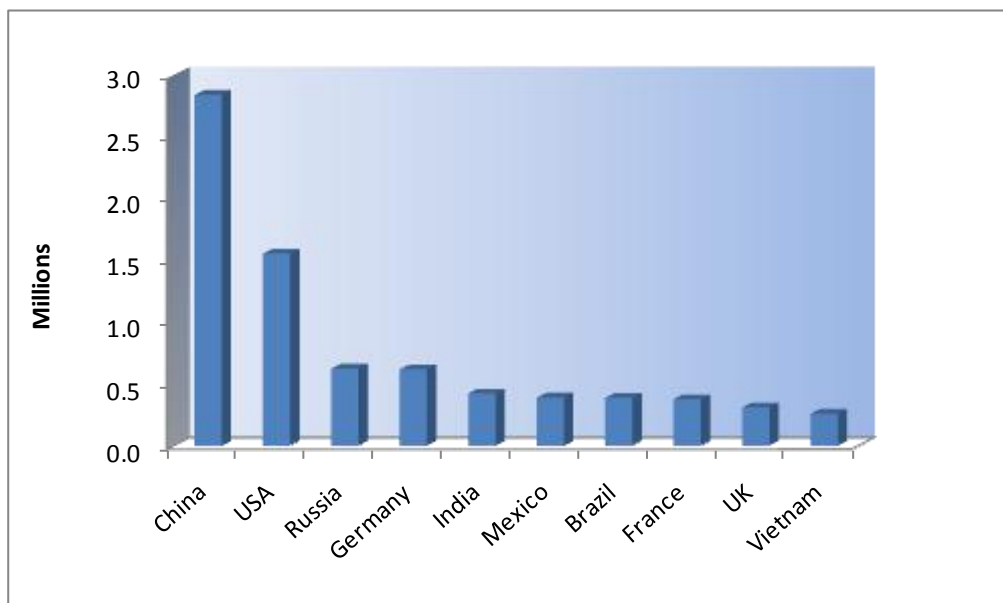
The ‘top ten’ countries ranked in terms of net additions during Q3 2009 and Q4 2009 are shown in figure 9. China added the most new subscribers during Q4 2009 totalling almost 2.84 million followed by the USA with 1.55 million new subscribers. They were the only two countries to add over a million new subscribers during the quarter. China and the USA combined added over 38.5 per cent of all net additions

for the quarter. Russia was in third place, with 624,582 new subscribers followed by Germany, which added 617,300 new subscribers.

Of the countries in figure 9, six improved their net additions total compared with those added in the previous quarter. They were Russia (up 26 per cent from 495,400), Germany (up 71 per cent from 360,900), Brazil (up 95.66 per cent from 198,100), France (up 10.6 per cent from 339,700), UK (up 47.75 per cent from 99,800) and Vietnam (up 7.25 per cent from 241,500).

The remaining four countries added less new subscribers compared to the previous quarter. They were China (down 39.75 per cent from 4.7 million), USA (down 15.88 per cent from 1.85 million), India (down 61 per cent from 1.08 million) and Mexico (down 42.2 per cent from 674,929).

Figure 9: Broadband Subscribers Added in Q4 2009



4.3 Percentage Growth

The 'top ten' countries in terms of quarterly and annual growth are shown in figures 10 and 11 respectively. Only countries with at least 100,000 broadband subscribers were included. This reduced the effect of disproportionately high growth rates exhibited by countries with very small subscriber bases.

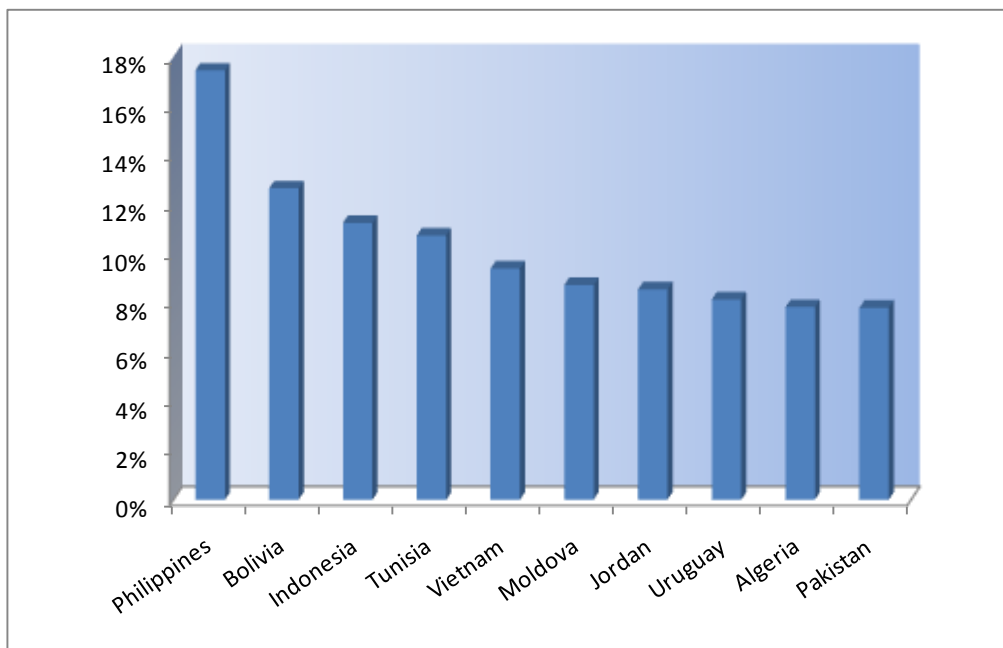
As shown in figure 10, the Philippines had the highest quarterly growth at 17.46 per cent. This represents 256,059 net additions, up by 59 per cent on the previous quarter when net additions were 160,800. Bolivia was in second place with 12.67 per cent quarterly growth. Net additions totalled 11,500, up 57 per cent from 7,300 in the previous quarter.

Indonesia had the third highest quarterly growth at 11.26 per cent. Indonesia was previously in first place and as such net additions were down from 163,000 in Q3 2009 to 111,000 in Q4 2009.

Of the countries shown in figure 10, Vietnam added the most new subscribers during the quarter, totalling 259,000. The Philippines closely followed, adding 256,059 new subscribers during Q4 2009 and Indonesia was third, adding 111,000 new subscribers. These three countries were the only ones to add more than 100,000 new subscribers. Jordan added the least number of subscribers, totalling 11,200 but Bolivia added a similar number of new subscribers at 11,500.

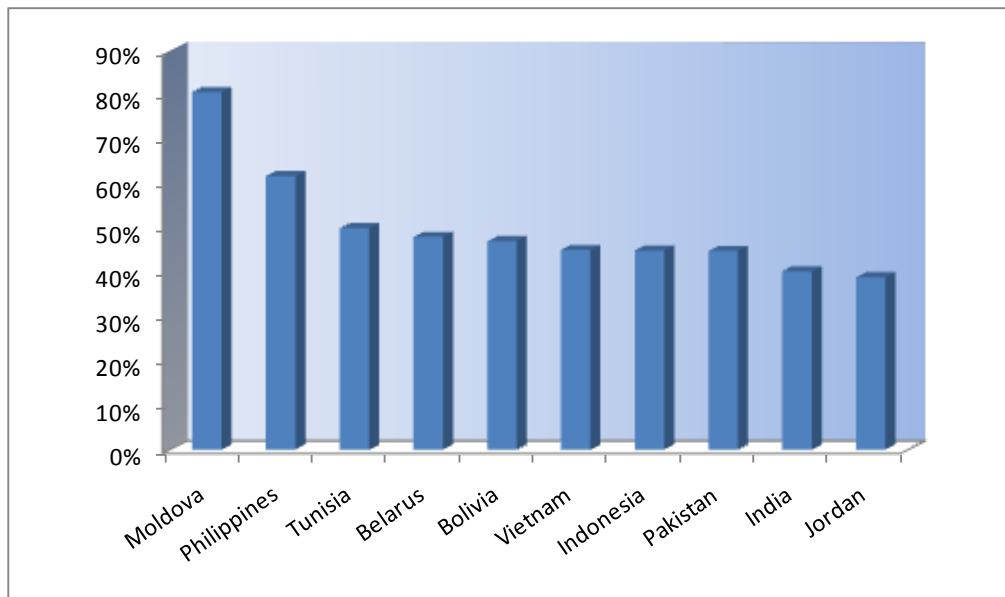
There were four new entrants compared with the ranking in the previous quarter. They were Bolivia, Tunisia, Uruguay and Algeria. The countries displaced by these new entrants are Egypt, Malta, Cyprus and Belarus.

Figure 10: Top Ten Countries by Quarterly Growth in Q4 2009



As shown in figure 11, Moldova continues to remain in first position in terms of annual growth, which was 80.7 per cent. In second place was the Philippines (61.74 per cent) followed by Tunisia (50 per cent), Belarus (48 per cent) and Bolivia (47 per cent representing growth 32,737 net additions).

India added the most new subscribers during 2009, totalling 2.34 million. Including India, seven of the countries shown in figure 11 acquired more than 100,000 new subscribers in 2009. They were Vietnam with 936,000 net additions, followed by the Philippines (657,490), Indonesia (340,000), Belarus (120,000), Tunisia (110,000) and Pakistan (109,000). Bolivia added the smallest number of new subscribers, totalling 32,737.

Figure 11: Top 10 Countries by Annual Growth from Q4 2008 to Q4 2009

There were four new entrants compared to the previous top ten. They were Jordan, India, Vietnam and Bolivia. The countries displaced were Egypt, Bahrain, Cyprus and Ukraine.

4.4 Technologies Adopted

The 'top ten' countries featured in figure 8 in terms of the technologies used are shown in figure 12. Collectively these 10 countries collectively represent over 71 per cent of the worldwide broadband market, so the analysis of these countries gives a good indication of global technology trends.

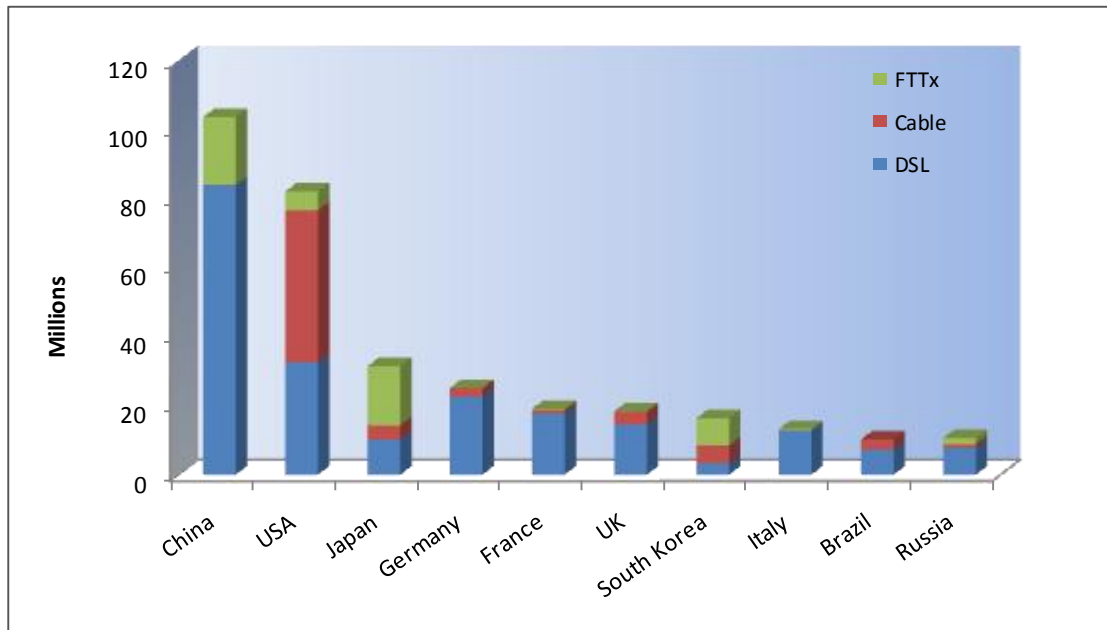
DSL is the most popular technology with over 212.45 million subscribers in the top ten countries. This represents 63.5 per cent of all subscribers in the top ten. As shown in figure 12, DSL is the main technology of choice in six out of the ten countries. These countries were China, Germany, France, UK, Italy and Brazil.

Cable modem was the second in terms of popularity in the top ten countries. Subscribers using this technology amounted to 64.93 million, representing 19.42 per cent of subscribers in the top ten. Countries where cable modem had a significant presence included the USA, Brazil, and South Korea.

FTTx technology is relative young compared to DSL or cable modem and as such has the smallest number of subscribers in the top ten. Nevertheless, there are significant FTTx markets in China, Japan and South Korea.

China has the largest DSL and FTTx markets in the world with 83.89 million and 19.67 million subscribers respectively. The USA has the largest cable modem market in the world with 44.19 million subscribers.

Figure 12: Total Subscriber Numbers by Technology Adopted in Q4 2009

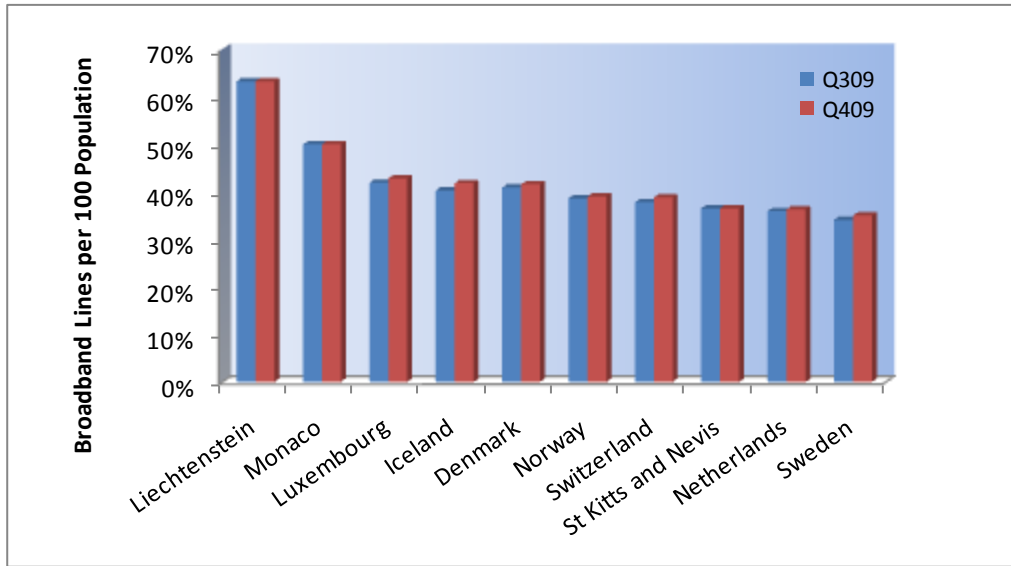


4.5 Population and Household Penetration

The 'top ten' countries ranked in terms of population penetration in Q3 2009 and Q4 2009 are shown in figure 13. For the second quarter running Liechtenstein is in the number one position with 63.2 per cent penetration. Monaco is in second place with 50 per cent penetration, followed by Luxembourg with 42.8 per cent penetration.

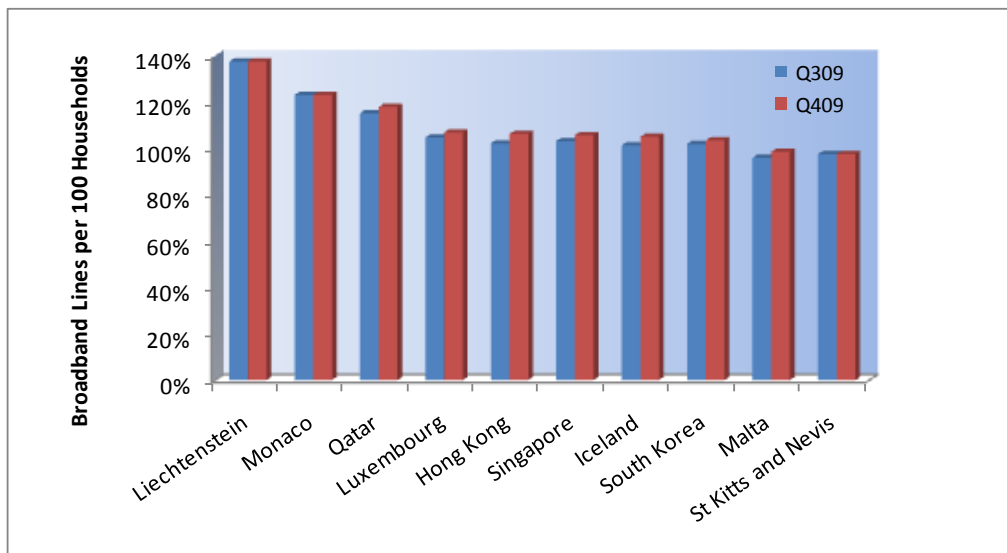
Iceland moved up one position to fourth place with 41.8 per cent penetration, displacing Denmark to fifth position with 41.6 per cent penetration. Norway remained in sixth place with 39 per cent penetration, followed by Switzerland (38.8 per cent), St Kitts and Nevis (36.5 per cent), the Netherlands (36.3 per cent) and Sweden (35 per cent). Sweden was the only new entrant while Malta no longer appears in the top ten.

Figure 13: Broadband Penetration by Population in Q3 2009 and Q4 2009



The 'top ten' countries in terms of household penetration in Q3 2009 and Q4 2009 are shown in figure 14. Liechtenstein was in the number one spot for the second time running with 137.5 per cent penetration, followed by Monaco with 123.1 per cent and Qatar with 117.9 per cent. St Kitts and Nevis was the only new entrant with 97.5 per cent penetration, while Bahrain is no longer in the top ten.

Figure 14: Broadband Penetration by Household in Q3 2009 and Q4 2009



5. Methodology and Supporting Material

5.1 Data Collection

Point Topic aims to offer the most complete, up-to-date and accurate source for world broadband statistics and estimates. In order to do this, we collect quarterly statistics from major primary suppliers of DSL lines, cable modems and FTTx services. We also collate data from service providers which resell products provided by these primary suppliers. Many operators now publish quarterly numbers as part of their regular reporting cycle. Numerous others provide us with their numbers via email and personal communication. We are, as always, most grateful to all of them for having taken the time to do so.

Many operators continue to release annual reports as opposed to quarterly ones. Some also choose to aggregate subscriber trends into overall totals, avoiding breakdowns by technology. In these cases, Point Topic has continued conservatively estimating broadband up-take. Key sources for such estimated totals typically include prior and partial reports by the operators themselves. National Regulatory Authorities (NRAs) also frequently report DSL and other broadband statistics, although often with a greater time delay. Despite any difficulties that may arise as a consequence of this publication schedule, Point Topic will continue to provide the most up-to-date broadband statistics and estimates in our reports. In cases where these sources are unavailable, DSL and cable vendors often give useful indicators, as do estimates quoted by the trade press. Where we do have secondary estimates, we try as far as is possible to trace these to their original source.

During the research process for the latest quarterly statistics report, we often return to preceding quarters with the aim of synchronising earlier estimates with official sources. Some changes to the figures in Q3 2009 were necessary and deviation from earlier reports is possible. We shall continue to maintain close correspondence with broadband operators, national regulators and industry organisations in order to avoid ambiguities and also so as to minimise the number of restatements. Some of the historical statistics will be different from those published in earlier reports and contained within Excel spreadsheet datasets. Point Topic's *Global Broadband Statistics* service (GBS) contains the most up-to-date information and we endeavour to continuously update its data entries on an ongoing basis. Generally, precedence should be given to the figures contained within the most recent report (this report) and the figures in GBS.

Data collected for individual operators may be aggregated in GBS in order to derive country and region totals, growth and penetration rates, market shares of operators and net additions. Full details at the operator level are also contained in the GBS service, which is available to Point Topic subscribers.

5.2 Variations in Coverage and Definitions

In principle, the definition of broadband Internet refers to connections with speeds of no less than 256 Kbps. For DSL statistics, all lines which are described by their suppliers as "DSL" are included. In practice the great majority of these are ADSL, variants such as ADSL2+ or other such versions of ADSL. The main exceptions are:

- VDSL lines, of which Korea Telecom and Hanaro are the major reporting suppliers
- Symmetrical DSL lines, offered mainly by Competitive Local Exchange Carriers such as Covad in the USA and their counterparts in other countries

Occasionally, there are contradictions between operator and regulator reports. This happens in South Korea, for example, where the operators typically report broadband subscriptions as either DSL or cable modem, whereas the regulator chooses to break this down further down into an "apartment LAN" or "A-LAN" category. A-LAN is defined as using a shared fibre or broadband copper connection to the apartment block with Ethernet-based distribution within the apartment block. Operator classifications of these A-LAN subscriptions vary, but they are often included as DSL lines. We have classified all these A-LAN lines as FTTx, although a proportion of them do use copper rather than fibre backhaul.

Other reported statistics may combine broadband lines of different technology types. If a number is an aggregate of major broadband types, such as DSL and cable modem, we generally break up such an aggregate and state uptake for each category separately in GBS. In cases where there is only a marginal proportion using a different technology, the aggregate is kept and assigned to the larger group. These cases are usually noted with a comment in the source 'Notes' of (GBS v2).

5.3 Resources for Subscribers

In August 2006, Point Topic launched the full version of its *Global Broadband Statistics* database (GBS). Subscribers to Point Topic who wish to carry out their own analyses of broadband trends are welcome to query GBS and download data relevant to their own research.

Subscribers to the *Operator Source* service will also be granted direct online access to data in old workbooks collated up to December 2005. For further information, please refer to our website. This workbook series was discontinued in Q1 2006.

It is inevitable that a production of this nature will contain errors and omissions. We would be grateful if readers would notify us of any they may discover by sending an email to info@point-topic.com.

6. Tables

Table 1. DSL subscribers, Non-DSL, and total broadband subscribers in major countries (Top 30): Americas

Country	Total broadband subscribers			Non-DSL subscribers			DSL subscribers		
	Q309	Q409	Q309-Q409, Growth	Q309	Q409	Q309-Q409, Growth	Q309	Q409	Q309-Q409, Growth
World Total	455,572,746	466,952,606	2.50%	159,644,476	164,199,738	2.85%	295,928,270	302,752,868	2.31%
USA	83,733,531	85,287,100	1.86%	51,461,534	52,806,534	2.61%	32,271,997	32,480,566	0.65%
Brazil	10,618,800	11,006,400	3.65%	3,644,000	3,807,000	4.47%	6,974,800	7,199,400	3.22%
Canada	9,784,615	9,970,914	1.90%	5,370,387	5,546,135	3.27%	4,414,228	4,424,779	0.24%
Mexico	9,290,402	9,680,465	4.20%	2,885,721	3,045,000	5.52%	6,404,681	6,635,465	3.60%
Argentina	3,400,300	3,542,600	4.18%	1,025,000	1,085,000	5.85%	2,375,300	2,457,600	3.46%
Other Americas	7,560,431	7,689,745	1.71%	2,814,053	2,820,909	0.24%	4,746,378	4,868,836	2.58%
Total Americas	124,388,079	127,177,224	2.24%	67,200,695	69,110,578	2.84%	57,187,384	58,066,646	1.54%

Table 1. (continued) DSL subscribers, Non-DSL, and total broadband subscribers in major countries: APSEA

Country	Total broadband subscribers			Non-DSL subscribers			DSL subscribers		
	Q309	Q409	Q309-Q409, Growth	Q309	Q409	Q309-Q409, Growth	Q309	Q409	Q309-Q409, Growth
China	100,804,000	103,641,000	2.81%	19,806,000	19,745,000	-0.31%	80,998,000	83,896,000	3.58%
Japan	31,310,500	31,428,500	0.38%	20,815,500	21,302,500	2.34%	10,495,000	10,126,000	-3.52%
South Korea	16,099,352	16,334,969	1.46%	12,723,091	12,988,859	2.09%	3,376,261	3,346,110	-0.89%
India	7,748,287	8,168,883	5.43%	1,556,600	1,666,600	7.07%	6,191,687	6,502,283	5.02%
Australia	5,274,500	5,272,500	-0.04%	943,500	918,500	-2.65%	4,331,000	4,354,000	0.53%
Taiwan	4,986,000	5,001,000	0.30%	2,187,000	2,335,000	6.77%	2,799,000	2,666,000	-4.75%
Vietnam	2,754,000	3,013,000	9.40%	34,000	37,000	8.82%	2,720,000	2,976,000	9.41%
Hong Kong	2,326,954	2,417,654	3.90%	991,954	1,055,654	6.42%	1,335,000	1,362,000	2.02%
Philippines	1,466,348	1,722,407	17.46%	65,348	291,407	345.93%	1,401,000	1,431,000	2.14%
Malaysia	1,401,000	1,431,000	2.14%	422,000	341,000	-19.19%	979,000	1,090,000	11.34%
Other APSEA	4,456,658	4,659,734	4.56%	59,544,993	60,681,520	1.91%	3,320,541	3,388,158	2.04%
Total APSEA	100,804,000	103,641,000	2.81%	119,089,986	121,363,040	1.91%	80,998,000	83,896,000	3.58%

Table 1. (continued) DSL subscribers, Non-DSL, and total broadband subscribers in major countries: EMEA

Country	Total broadband subscribers			Non-DSL subscribers			DSL subscribers		
	Q309	Q409	Q309-Q409, Growth	Q309	Q409	Q309-Q409, Growth	Q309	Q409	Q309-Q409, Growth
Germany	24,486,150	25,103,450	2.52%	2,283,450	2,466,350	8.01%	22,202,700	22,637,100	1.96%
France	18,652,500	19,028,200	2.01%	1,206,500	1,285,200	6.52%	17,446,000	17,743,000	1.70%
UK	18,047,200	18,356,000	1.71%	3,805,200	3,870,200	1.71%	14,242,000	14,485,800	1.71%
Italy	13,039,650	13,232,890	1.48%	394,650	402,890	2.09%	12,645,000	12,830,000	1.46%
Russia	10,245,418	10,870,000	6.10%	2,984,000	3,160,000	5.90%	7,261,418	7,710,000	6.18%
Spain	9,448,880	9,660,197	2.24%	1,875,668	1,920,036	2.37%	7,573,212	7,740,161	2.20%
Netherlands	5,859,100	5,919,500	1.03%	2,517,400	2,596,200	3.13%	3,341,700	3,323,300	-0.55%
Poland	4,626,079	4,784,877	3.43%	1,600,767	1,697,755	6.06%	3,025,312	3,087,122	2.04%
Belgium	3,157,500	3,245,500	2.79%	1,223,000	1,265,000	3.43%	1,934,500	1,980,500	2.38%
Sweden	3,086,602	3,167,702	2.63%	1,204,602	1,242,702	3.16%	1,882,000	1,925,000	2.28%
Romania	2,823,840	2,934,762	3.93%	2,075,400	2,127,400	2.51%	748,440	807,362	7.87%
Switzerland	2,819,100	2,896,400	2.74%	1,021,100	1,093,400	7.08%	1,798,000	1,803,000	0.28%
Denmark	2,222,797	2,257,797	1.57%	922,697	963,097	4.38%	1,300,100	1,294,700	-0.42%
Greece	2,002,734	2,096,780	4.70%	3,916	3,916	0.00%	1,998,818	2,092,864	4.71%
Czech Republic	1,988,620	2,051,100	3.14%	1,237,920	1,267,000	2.35%	750,700	784,100	4.45%
Portugal	1,840,614	1,911,023	3.83%	829,614	860,023	3.67%	1,011,000	1,051,000	3.96%
Austria	1,842,200	1,884,060	2.27%	571,900	574,860	0.52%	1,270,300	1,309,200	3.06%
Ukraine	1,770,000	1,872,900	5.81%	1,009,000	1,049,000	3.96%	761,000	823,900	8.27%
Other EMEA	11,278,334	11,658,422	3.37%	3,801,427	4,068,125	7.02%	7,476,907	7,590,297	1.52%
EMEA Total	139,237,318	142,931,560	2.65%	30,568,211	31,913,154	4.40%	108,669,107	111,018,406	2.16%