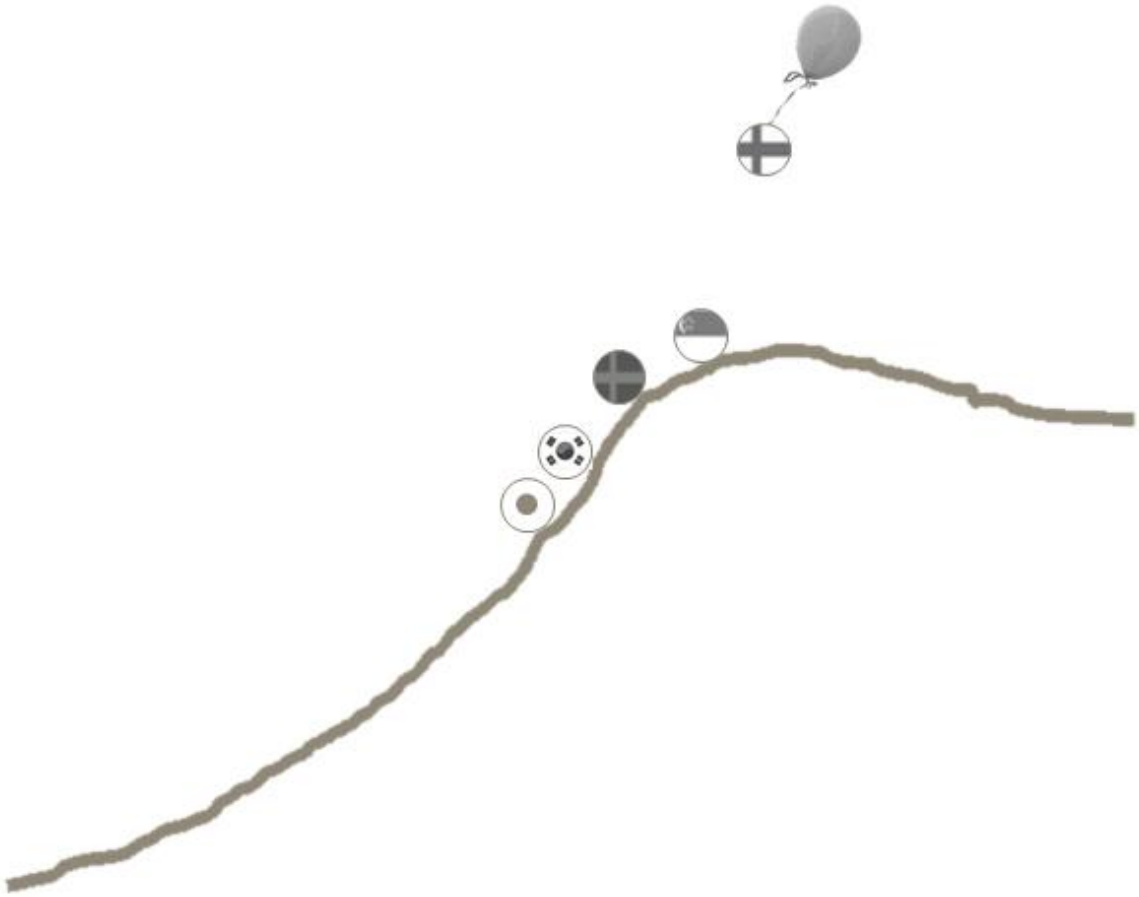
tefficient

Industry analysis #7 2014

1H 2014 mobile usage indicates

"Peak data" in sight



This is *tefficient*'s 10th public analysis on the development of mobile data usage. For the first time, we see clear signs of saturation.

Operators' squeeze-out of unlimited customers continues. The growth in smartphone penetration has levelled out in high usage markets. 4G is becoming mainstream. Public Wi-Fi starts to disrupt.

Are we approaching "peak data"?

Finland takes the lead in mobile data usage

Figure 1 shows the development of mobile data usage for 22 countries where regulators[1] report mobile data traffic. 17 of these countries have reported stats also for 1H 2014.

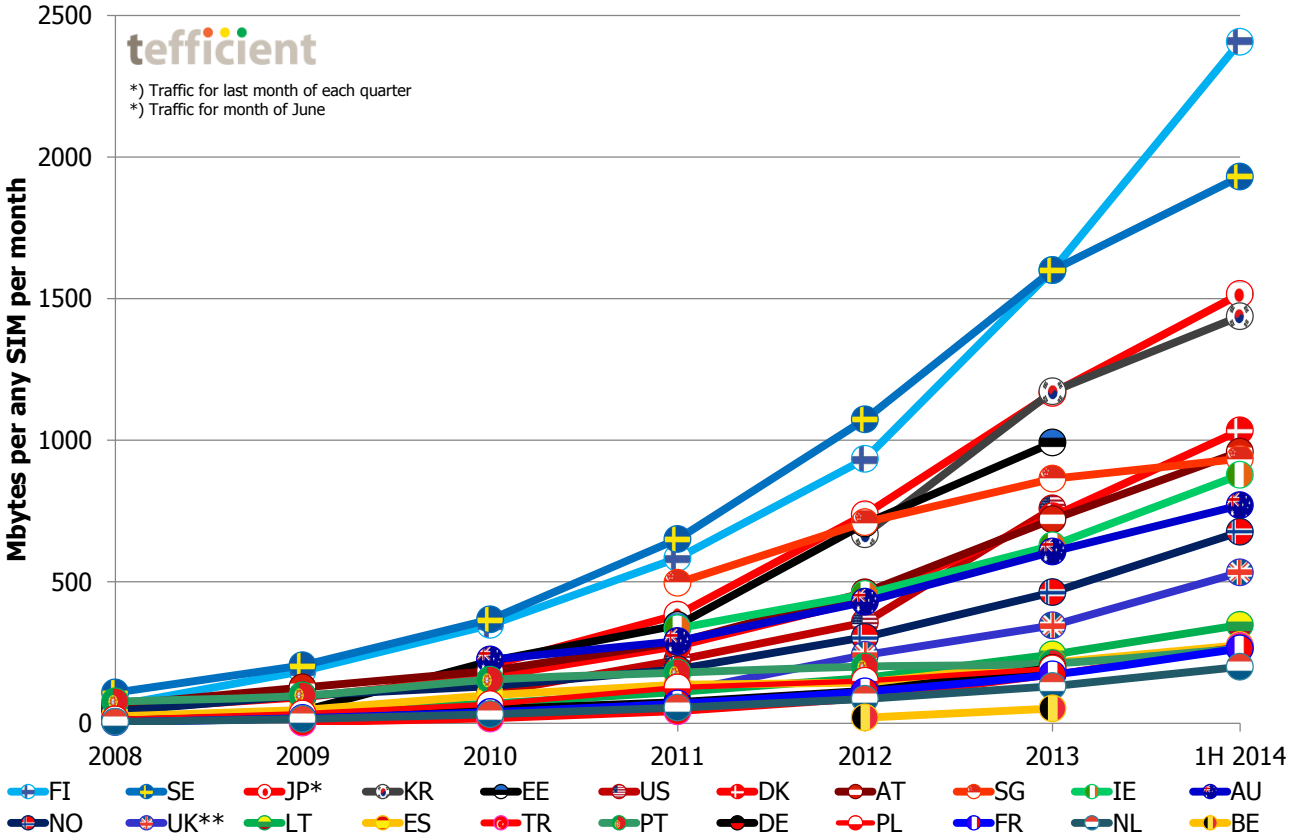


Figure 1. Development of mobile data usage per SIM per country

Finland is now the country in the world with the highest mobile data usage. The average Finnish SIM carried **2,4 GB per month** in 1H 2014. Two of the three Finnish operators – **Elisa** and **DNA** – continue to offer unlimited subscriptions whereas the third, **Sonera**, has volume caps, but these are high (1, 10 or 50 GB). **Elisa** is reporting its mobile data traffic and in 1H 2014 Elisa's usage levels matched the Finnish average – 2,4 GB per SIM and month[2].

Monetisation in Finland is effectively based on throughput tiers (3G vs. 4G) and not on volume. Even though Swisscom has a similar setup in Switzerland, Finland is the only mature *market* where this business logic still prevails. During 2014, 4G networks have been rolled out in Finland and customers have started to adopt 4G.

[1] Exception: USA, where data is from industry body CTIA
[2] Assuming that the reported mobile data traffic doesn't include Estonia – not explicit

This has helped the business results of all Finnish operators in 2014, but the question for the future is of course for how long technology-based upgrades can be monetized.

Sweden is now number 2 with 1,9 GB per month followed by **Japan** with 1,5 GB and **Korea** with 1,4 GB. **Estonia** was number 5 in 2013, but without newer figures, it's not possible to definitely say which country has the number 5 position in 1H 2014. It can also be **USA** who experienced significant usage growth in 2013.

The two neighbouring countries **Belgium** and the **Netherlands** occupy the lowest positions in Figure 1. As shown in previous analyses, the high effective price per Mbyte in these countries is the prime explanation. This has increased the attractiveness of Wi-Fi even further. Consequently, **public Wi-Fi** now represents a clear alternative to mobile data since Dutch and Belgium cable TV companies – **Ziggo**, **UPC**, **Telenet**, **VOO** – have been opportunistic and made Wi-Fi widely available through the use of **homespots**[3]. Incumbent operators **KPN** and **Proximus** have followed.

Table 1 shows the full list of countries.

Position	Country	Mbytes per any SIM and month 1H 2014	Mbytes per any SIM and month FY 2013
1	Finland	2407	[4]1600
2	Sweden	1930	1601
3	Japan	1516 March+June figures times 3	1166 March+June+September+December figures times 3
4	Korea	1437	1172
5	Estonia	n/a	992
6	USA	n/a	758
7	Denmark	1034	731
8	Austria	960	721
9	Singapore	935	864
10	Ireland	877	628
11	Australia	770 Q to June times 2. Download only, but data over satellite on the other hand included.	606 Q to December+Q to June times 2. Download only, but data over satellite on the other hand included.
12	Norway	677	463
13	UK	533 Month of June 2014 times 6	346 Month of June 2013 times 12
14	Lithuania	347	243
15	Spain	276	214
16	Turkey	271	172
17	Portugal	264	212
18	Germany	n/a	195
19	Poland	n/a	194
20	France	264	172
21	Netherlands	200	131
22	Belgium	n/a	53

Table 1. Mobile data usage per any SIM and month – visualised in Figure 1

[3] Using the home modems of customers to transmit dual SSIDs: One private for the home and one public for guests and passers-by
[4] In 2014, the Finnish regulator lowered the previously reported mobile data traffic for 2013

Clear signs of saturation

In previous analyses, we haven't seen any signs of saturation: The demand for mobile data increased with about 50% or more – even for high usage countries. 1H 2014 represents a trend shift: With one exception, **high usage countries now have lower growth rates** than lower usage countries.

Figure 2 compares the 1H 2014 usage level with its development since full year 2013.

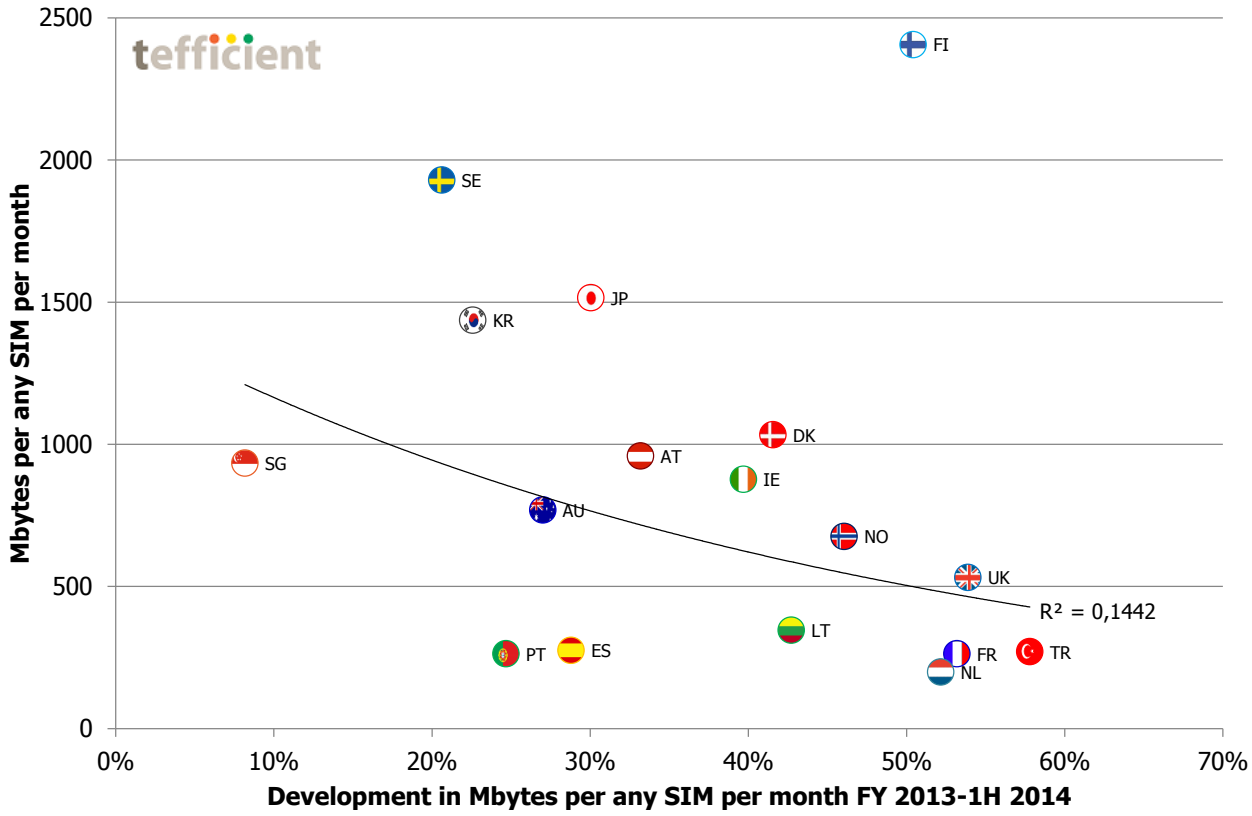


Figure 2. Mobile data usage per any SIM 1H 2014 vs. its development from full year 2013

Low usage countries like the **UK**, **France**, **Turkey** and the **Netherlands** have seen mobile data usage go up more than 50% in 1H 2014. High usage countries like **Sweden**, **Korea** and **Japan** have seen mobile data usage increase 21%-30%. In 2013[5], Sweden and Japan grew at typical levels whereas Korea grew even faster.

The average usage in **Singapore** grew only 9% in 1H 2014 and the question is if Singapore will be the first market to reach "peak data" where usage no longer grows – or even declines?

The positions of Portugal and Spain are mainly explained by a rapid decrease in the number **of data-only SIMs**. Even though smartphone penetration increases, the data carried over a smartphone is typically much

[5] Mobile data usage: Global top list

lower than that over a data-only (dongle) SIM. The number of data-only SIMs in Portugal fell 10% in 1H 2014 to represent 4,2% of total base. In Spain it fell 6% to just 3,5% of total base.

The obvious exception in Figure 2 is **Finland**. Without volume caps, mobile data usage continues to grow almost as fast as in the lowest usage countries. With this distinctly different business model, we should expect Finland to continue to distance itself to the rest of the world.

The impact of 4G LTE

In previous analyses, we've identified these three drivers for mobile data usage:

1. Low effective **price per Mbyte** Strongest driver
2. High **data-only** penetration Strong driver
3. High **smartphone** penetration Weak driver

If you, like Finland, don't have **caps**, it will also be a very strong driver of usage. But in essence, it is the same as point 1 since lack of caps automatically leads to a low effective price per Mbyte.

We suspect that an additional driver of demand is the deployment of **4G LTE networks** and the adoption of 4G LTE capable equipment. Table 2 compares the population coverage of 4G LTE networks – as communicated by operators – in the top 4 usage countries to the bottom 4.

Position	Country	4G LTE population coverage	Based on
1	Finland	74%-90%	DNA 74%, Elisa 90% both Sep 2014
2	Sweden	99%	Tele2/Telenor Mar 2013, Telia Dec 2014
3	Japan	99%	KDDI Mar 2014
4	Korea	99%-100%	KT 99% 2012, LG Uplus 100% 2012, SK Telecom 100% 2013
...			
19	Poland	59%	T-Mobile/Orange Sep 2014
20	France	25%-71%	Free 25% Jun 2014, SFR 40% Mar 2014, Bouygues 70% Jun 2014, Orange 71% Sep 2014
21	Netherlands	70-95%	T-Mobile 70%, Vodafone 95% both Sep 2014
22	Belgium	63%-81%	Base 63%, Mobistar 81% both Sep 2014

Table 2. Operator communicated 4G LTE population coverage in top and bottom usage countries

It's clear that the top 4 countries in general have higher population coverage on 4G LTE than the bottom 4. This would suggest that the observed trend – low-usage countries experience faster data traffic growth than high-usage countries – will continue when 4G LTE coverage is improved in the low-usage countries.

(Too) few national regulators are reporting the actual 4G LTE subscriber base. It would have been interesting to try to correlate the 4G LTE adoption with the overall data usage. Figure 3 contains the six countries where regulators have reported it.

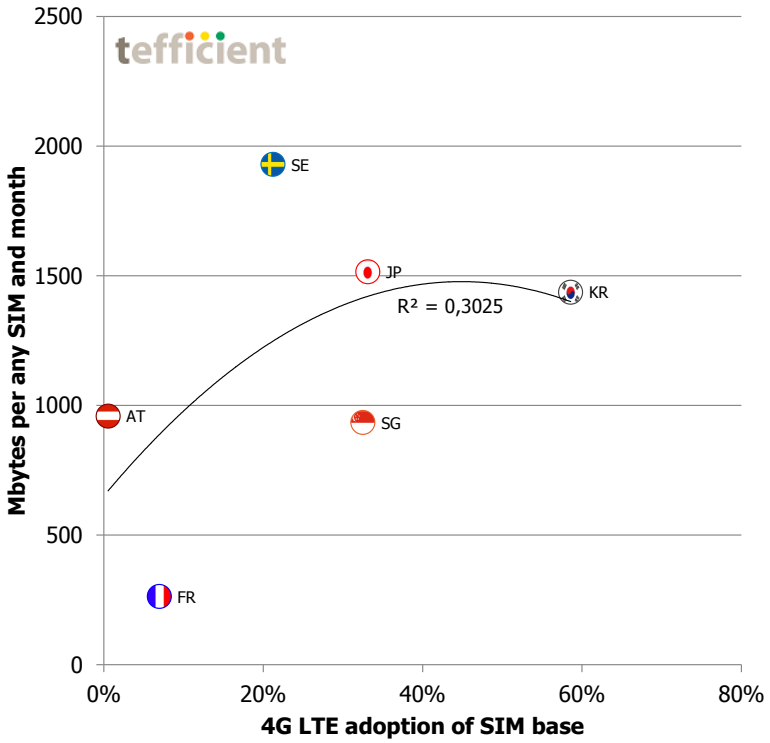


Figure 3. Attempt to correlate 4G LTE adoption with overall mobile data usage (1H 2014)

Well aware of the small sample, it's still interesting to note that **Sweden** – where the world's first 4G LTE network was launched by **Telia** five years ago – only had 21% 4G LTE adoption in June 2014. **Singapore** has a higher adoption than that, but lower usage levels. In **Austria**, the number of 4G LTE customers is very low according to the regulator, but average usage is still close to a gigabyte per month.

To complement Figure 3, let's compare 4G LTE adoption as communicated by operators in top and bottom usage countries:

Position	Country	4G LTE adoption	Based on
1	Finland	11%	Elisa Mar 2014 (% of phone base LTE capable)
2	Sweden	30%	Telia Dec 2014
3	Japan	35%-41%	KDDI 35%, NTT docomo 41% both Sep 2014
4	Korea	57-73%	SK Telecom 57%, KT 60%, LG Uplus 73% all Sep 2014
...			
19	Poland	2%	Orange Sep 2014
20	France	4%-19%	SFR 4% Mar 2014, Orange 10% Sep 2014, Bouygues 19% Sep 2014
21	Netherlands	17%	KPN Sep 2014
22	Belgium	7%	Mobistar Sep 2014

Table 3. Operator communicated 4G LTE adoption in top and bottom usage countries

Table 3 shows that even though top countries generally have higher 4G LTE user adoption, some operators in low-usage France and the Netherlands have at least as high 4G LTE adoption as world usage leader Finland. Consequently, increasing mobile data usage is **not just about increasing 4G LTE adoption**.

Our view is still that a **low effective price per Mbyte** continues to be the strongest driver. Figure 4 supports that.

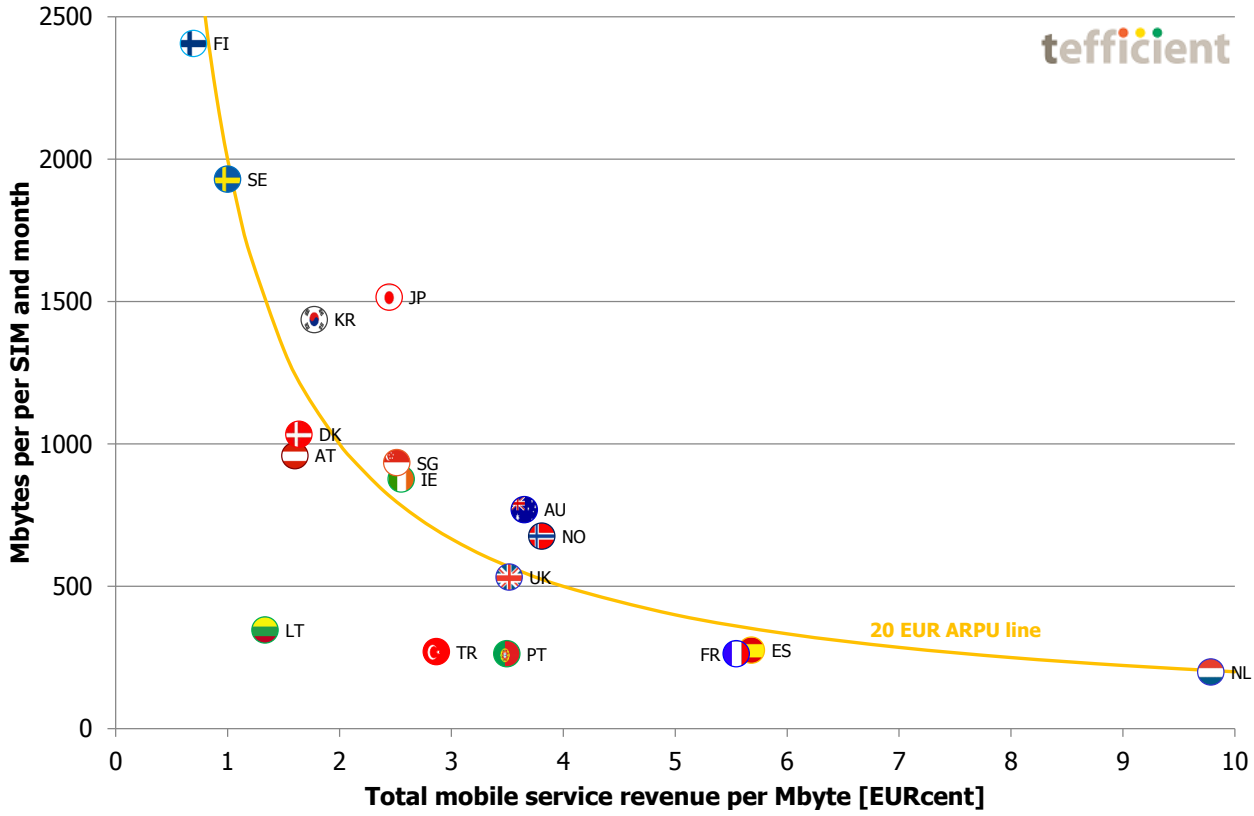


Figure 4. Coupling total mobile service revenue per Mbyte with mobile data usage (1H 2014)

If making the simplification that the mobile service revenues are *solely* related to the consumption of Mbytes[6], an effective Mbyte price can be calculated as in Figure 4. **Netherlands** is the country where the effective revenue per Mbyte is the highest – 14 times higher than in **Finland**.

The yellow line in Figure 4 shows **how to make 20 EUR** of monthly service ARPU. Countries above that line have higher service ARPU than 20 EUR, countries below a service ARPU lower than 20 EUR.

[6] In most of the studied markets, voice and messaging are included in a monthly flat rate but Mbytes monetized based on volume

Conclusion

Operators in **Finland**, **Sweden**, **Japan** and **Korea** continue to have the customers with the highest mobile data usage in the world.

In previous analyses, the usage growth rates were the same in high usage and in low usage countries. With the exception of Finland, this is **no longer the case**: The growth – measured in % – in high usage countries is now slower. Some of the most mature markets **might reach "peak data" in 2015**.

Consequently, we should expect some of the laggard countries to catch up. Speeding up the 4G LTE rollout appears to be a prerequisite, but operators' initial rollout cautiousness – combined with high data pricing – mean that many end-users in laggard countries already developed a **Wi-Fi first** behaviour. Aggressive fixed-only operators have been keen to assist.

The point of "peak data" in countries like Germany, France, Netherlands and Belgium might therefore be much lower – regardless of the smartphone and 4G LTE adoption. Since operators' monetisation of mobile today is based on mobile data volume, the outlook for revenue growth is consequently poor. To address this, operators in low usage countries are trying to expand mobile into **converged quad-play** and integrate public **Wi-Fi**. In hindsight, it would have been better to use pricing to create demand for mobile data. Is it too late now? Let's see when we summarise global traffic stats for 2014 in June 2015.