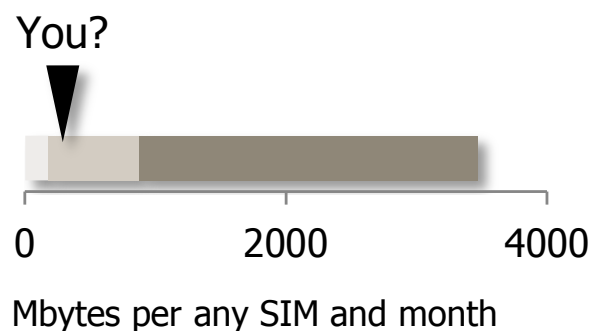


## Industry analysis #4 2014

Final version

# Mobile data usage: Global top list



*tefficient* has updated you on the mobile data usage development numerous times since 2012 – but we believe this analysis has the potential to be our most studied so far.

For the first time, we have combined regulator reported data with operator reported data from around the world allowing comparisons between markets as well as in markets.

**We also present a new number 1 on the country top list. [Spoiler: It's not the USA]**

This is the final version containing reported country figures also for USA, Austria and Australia. We have also added operator-specific usage information as reported by regulators<sup>1</sup> in Sweden, Norway, Denmark and Lithuania.

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<sup>1</sup> Thanks to Svante Bergqvist at Ericsson who gave this feedback based on the preliminary version

## Mobile data usage top list

The following two graphs – split at the median value of 245 Mbytes for readability reasons – show the mobile data usage volumes of countries and operators<sup>2</sup>. The usage is measured as the average Mbytes per *any* SIM and month.

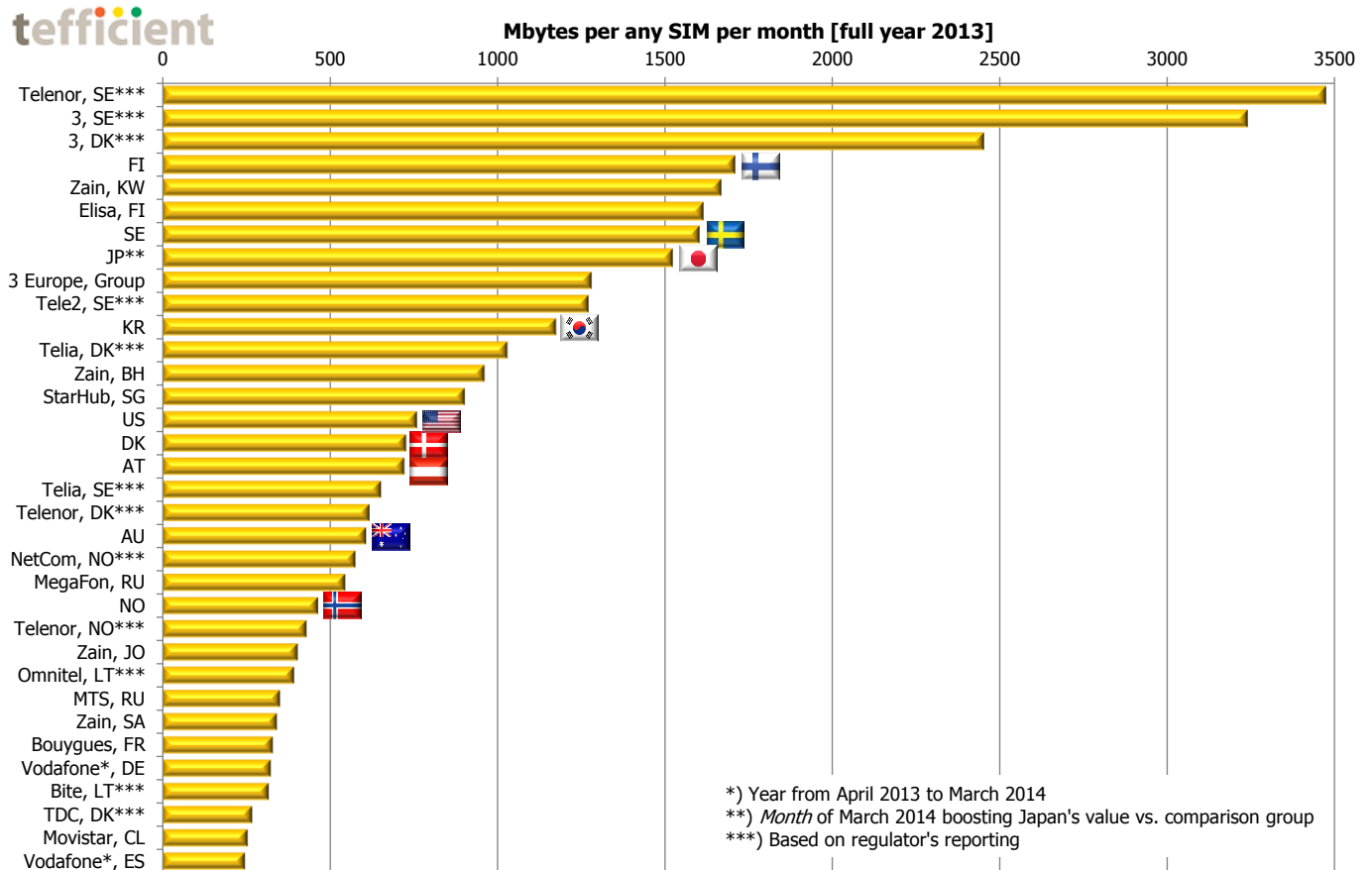


Figure 1. Top list of mobile data usage for reported countries and operators

The operator with the highest (in this case reported by the regulator) mobile data usage in the world is **Telenor** in Sweden who has close to 3500 Mbytes per any SIM and month. Local competitor '**3**' follows closely. There are multiple explanations to these top positions:

- Both operators have a high share of high usage **data-only** subscriptions in their total base
- **Smartphone** penetration is also high at a level of around 70% of total SIM base
- The joint Telenor/Tele2 **4G LTE** network is together with Korean, Japanese (and Kuwaiti, see below) among the ones with highest population coverage of the world<sup>3</sup>. In Sweden, 4G LTE adoption is still

<sup>2</sup> Either operator or regulator (\*\*\*) reported

<sup>3</sup> See e.g. <http://opensignal.com/reports/state-of-lte-q1-2014/>

only at 11% of total SIM base, but 4G LTE enables operators to offer data-only subscriptions with generous allowances.

- Due to a licensing criterion based on coverage (and network-centric competition), Swedish **3G** networks have very wide national coverage and are generally of high quality

In Figure 1a below, the Swedish operators – as well as the country average – have been highlighted. There is significant spread in usage levels in the country: Market leading Telia is at only **41% of country average** and Tele2 at 79% when '3' is at 202% and Telenor 217% of country average.

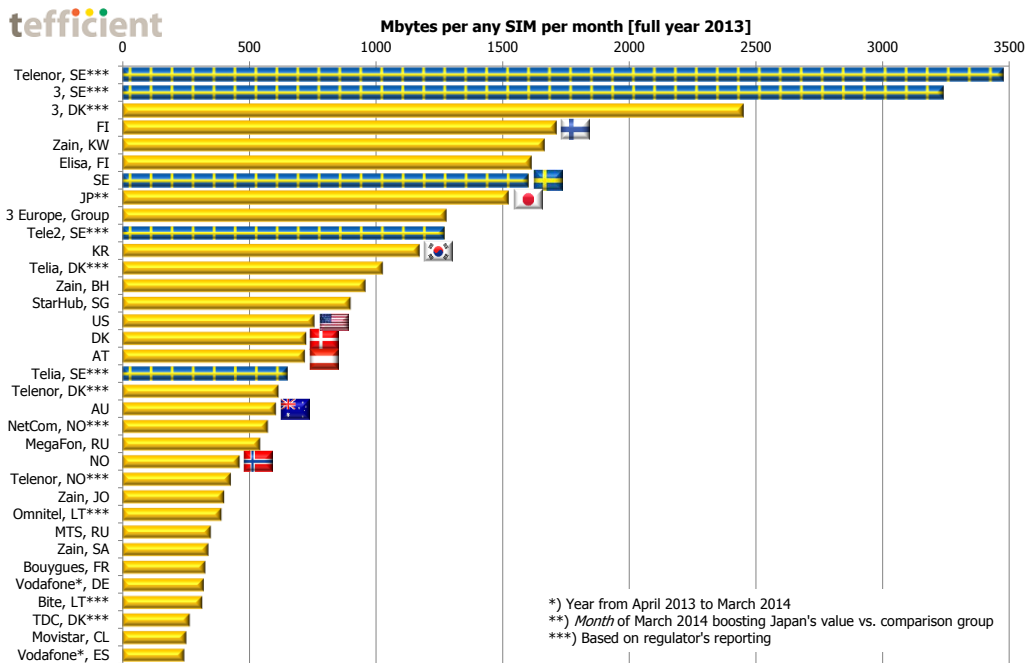


Figure 1a. Top list of mobile data usage for reported countries and operators (Sweden highlighted)

We can identify similar differences in neighbouring **Denmark**, see Figure 1b.

'3' Denmark is the global number 3 in usage level. Their usage per SIM level is 338% of the Danish average – driven by data-only. Telia is at 142% and Telenor at 85% [these two operators are now sharing a common network].

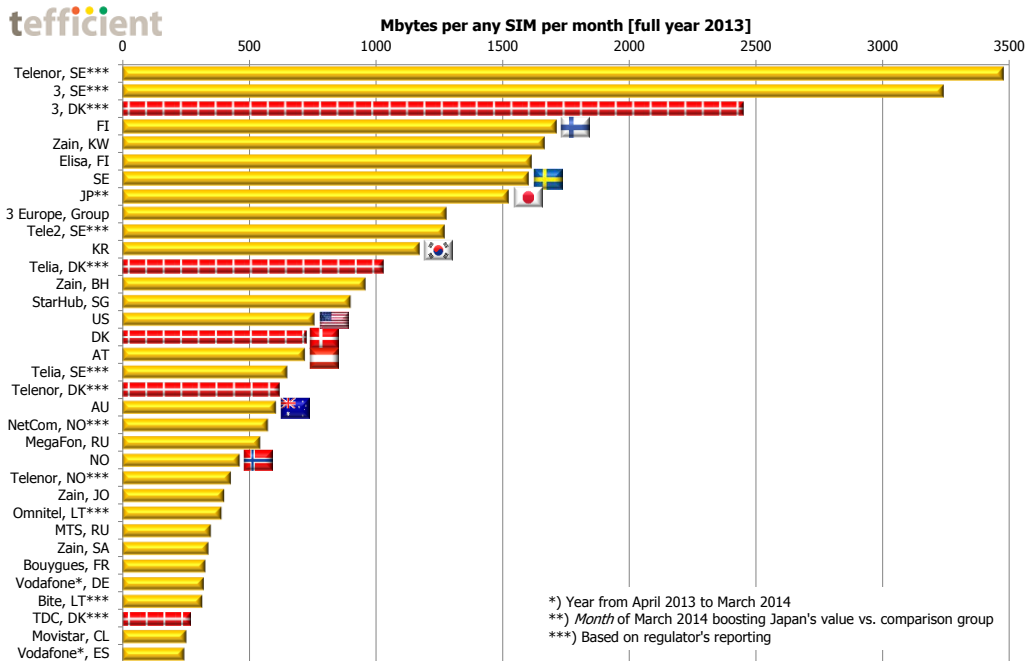


Figure 1b. Top list of mobile data usage for reported countries and operators (Denmark highlighted)

Market-leading TDC is only at **37% of country average**. TDC has as many data-only SIMs as '3' – the difference is that a '3' data-only SIM has **8 times the usage** of a TDC data-only SIM. In a market where all competitors have been generous with data allowances, TDC has been restrictive. In our industry we've spoken much about the risk of being too generous with data allowance – but there might also be a risk in being too *ungenerous*: Mobile users with an interest for mobile data – undoubtedly the future – seem to prefer TDC competitors.



The *country* with the highest usage in the world is **Finland** who during second half of 2013 overtook Sweden as number 1. A key explanation to this is that two of the three Finnish operators – Elisa and DNA – are still not having a volume cap<sup>4</sup> on their consumer subscriptions, something which today is unusual in the rest of the world. Finland was also previously behind its Nordic peers in smartphone penetration – a gap which during 2013 has been more or less closed. Finnish operator **Elisa** is number 6 in the top list<sup>5</sup> – slightly below the Finnish average. This suggests that either Sonera, or more likely DNA given their unlimited proposition, are above the average.

The *self-reporting* operator with the highest mobile data usage is **Zain** in Kuwait. In a mobile data centric country, Zain has 100% 4G LTE population coverage – a figure so far not claimed by any other operator.

Other top-ranked usage countries are **Japan** and **Korea**. **USA** has climbed two positions in 2013 – passing **Denmark** and **Austria** – to become number 5.

Keeping the same scale as in Figure 1, we look at the below-median part of the usage list:

<sup>4</sup> But a premium on 4G LTE vs. 3G

<sup>5</sup> Based on the assumption that Elisa's reported mobile data traffic doesn't include Estonia (not explicitly stated)

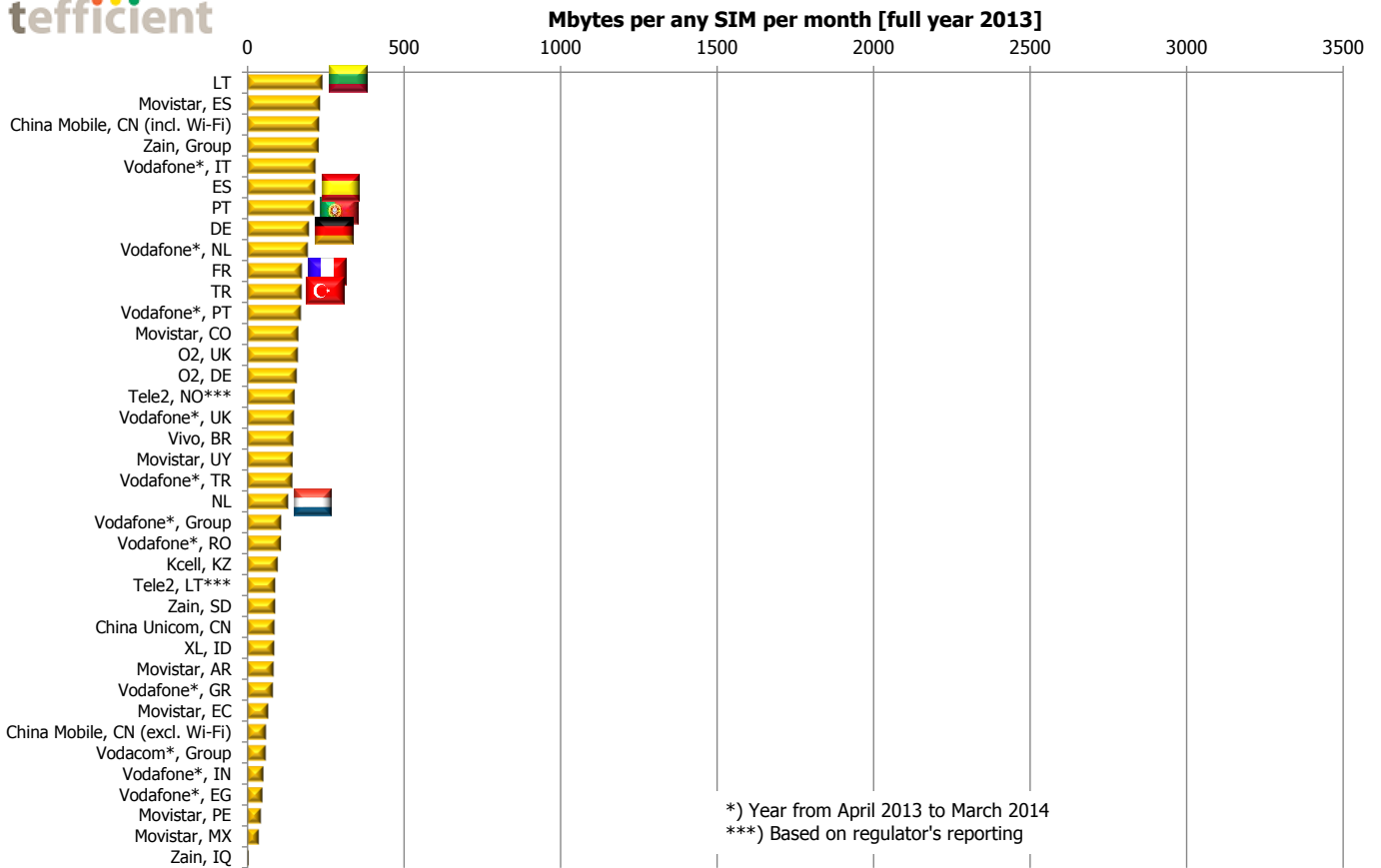


Figure 2. Bottom list of mobile data usage for reported countries and operators



We've touched on the position of the **Netherlands** in earlier analyses and concluded that the Dutch mobile customers by any comparison pay very much for the mobile traffic they actually use. This has incentivised customers to use Wi-Fi whenever available. Cable operators like Ziggo add fuel to this when making Wi-Fi homespots<sup>6</sup> widely available. A general lack of smartphones is not behind the low mobile data usage: Vodafone reports a smartphone penetration of 60% in their Dutch operation in March 2014. This is much higher than for non-Dutch operators with a similar data usage as the Dutch average (in e.g. Turkey, Latin America, Eastern Europe).

Also British operators are low on average usage – both **Vodafone** and **O2** are well below 200 Mbytes per month. Vodafone's reported smartphone penetration in March 2014 was 61% and O2's 50%, so again it's not a general lack of smartphones which explains the low usage.



Instead, the position of countries like the Netherlands and the UK can partly be explained by a **low share of data-only SIMs** of the total SIM base. Whereas e.g. top-placed Sweden has over 15% of total SIM base in data-only (in PCs, modems and tablets), the Netherlands has below 4% and the UK around 6%. No rule without exception; top-placed Japan has just about 2% of SIMs in data-only.

<sup>6</sup> Using the set-top-box in the customer home as a semi-public hotspot – open to other cableco customers



**Lithuania** is another market with significant spread in mobile data usage between operators:

We have to go back to Figure 1 to identify **Omnitel** with a usage level of 165% of country average and **Bite** with 133%. In the lower half of Figure 2, we find **Tele2** with a usage level of just 37% of country average. Tele2 passed Omnitel as the largest operator revenue-wise as late as 2013 but it's clear that the leadership position has been won through attracting **voice rather than data** oriented customers.

### Mobile data usage development

Figure 3 shows the development of the mobile data usage for the countries where regulators have reported mobile data traffic for the period up to December 2013.

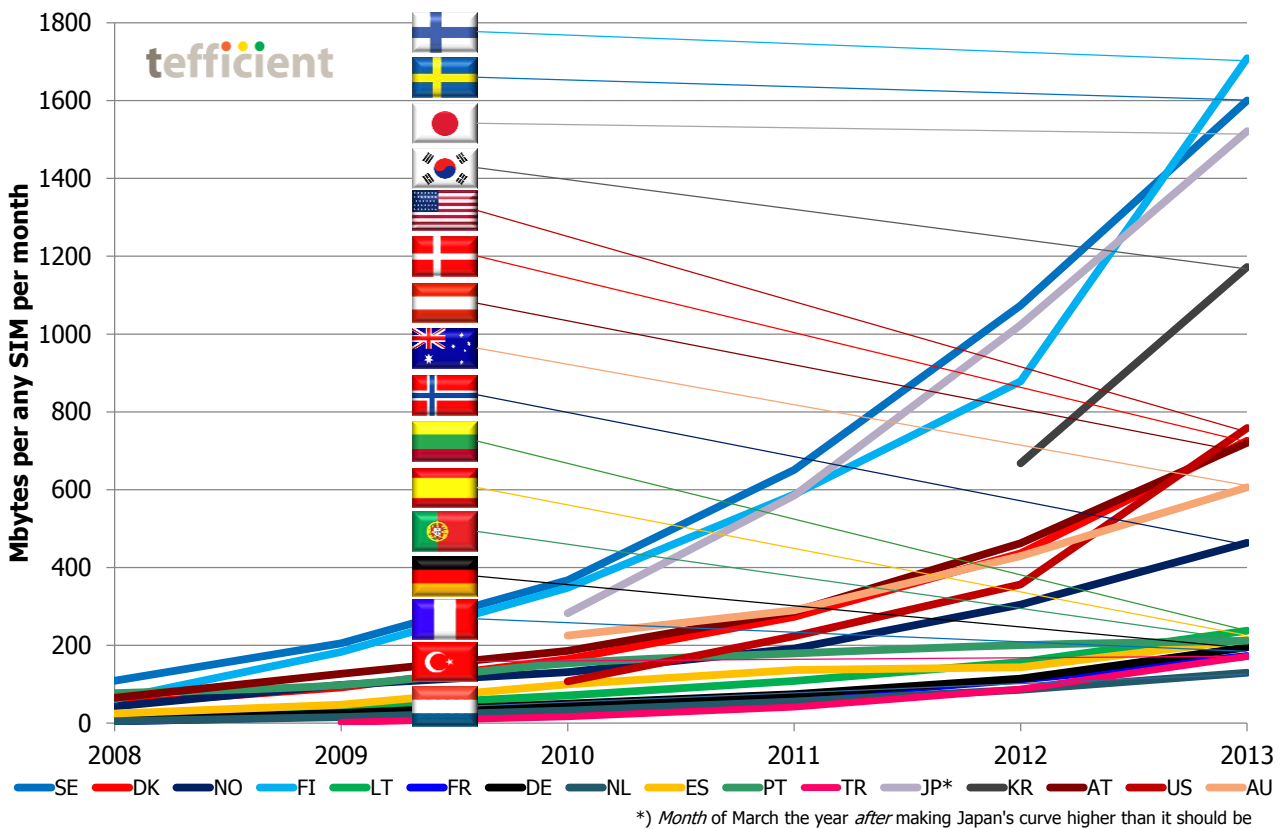


Figure 3. Development of mobile data usage per SIM per country

It is worth noting that the countries who were early into mobile data continue to grow usage **without any sign of saturation**. The only exception to this is Portugal in which mobile data usage initially was high since mobile substituted fixed Internet. Through the impressive rollout of fibre-to-the-home networks – combined with high and growing adoption of IPTV – the Portuguese fixed operators have been able to gradually convert these data-only mobile users to fixed users.

Figure 4 compares the growth rate of mobile data usage per SIM in these countries.

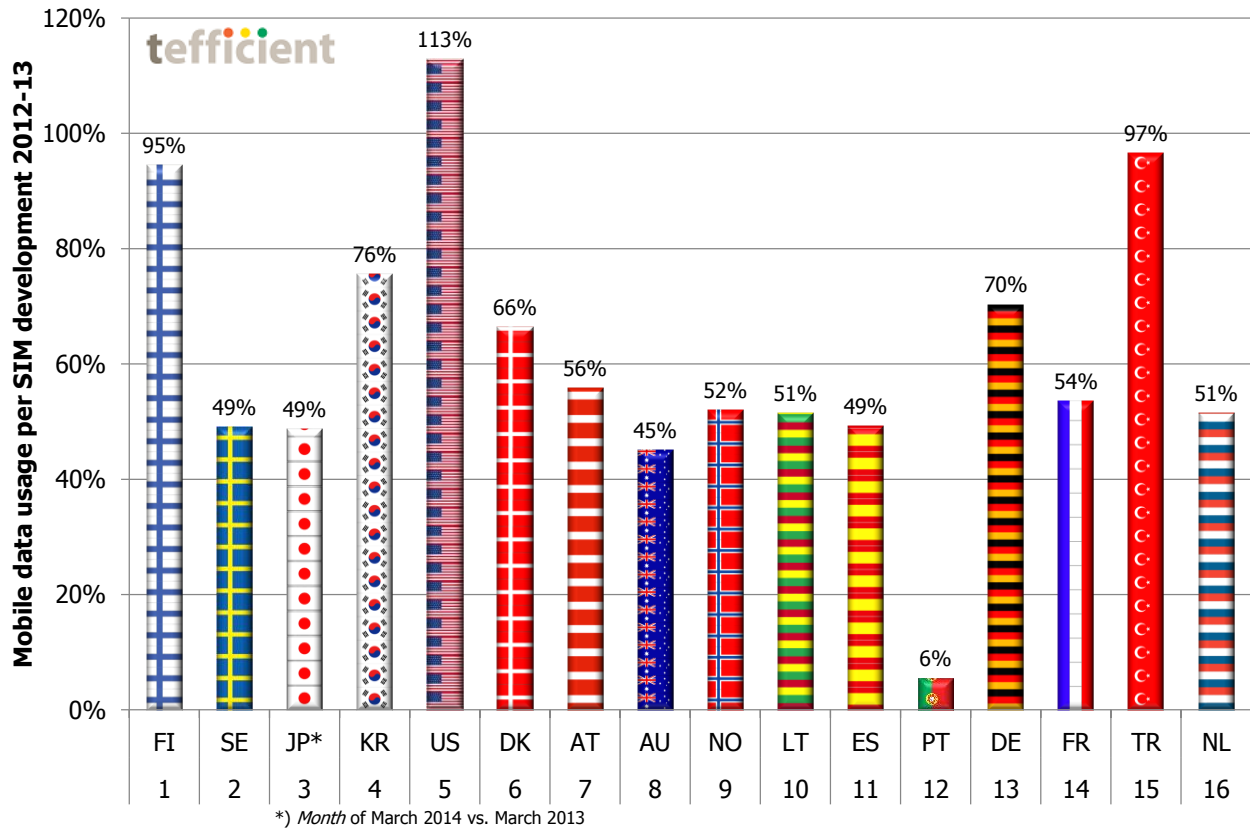


Figure 4. Development of mobile data usage per SIM 2012-2013 (with usage ranking indicated 1-16)



**USA** has had a massive usage growth – 113% – in 2013 driven by an almost exploding rollout of 4G LTE networks and a competitive context which has increased data allowances. T-Mobile and Sprint are in addition still having unlimited offers in their portfolios. US operators are also pushing cellular-enabled **tablets** to a point where they now represent a majority of all mobile contract net adds.

If the low usage countries should close the gap on the top usage countries, growth rates must be faster in the bottom than in the top. Figure 4 shows that this is *not* the case – in most countries usage growth rates are about 50% regardless of current usage level. It is currently difficult to see the European countries in positions 10-16 and with average usage around 200 Mbytes per SIM and month ever being able to challenge the top countries<sup>7</sup>.

<sup>7</sup> Possibly with the exception of Turkey who still has market growth potential

## Factors behind data usage

As touched upon in this analysis and as detailed in our previous usage analyses<sup>8</sup>, **three factors** explain the usage level:

- |                                     |                  |
|-------------------------------------|------------------|
| 1. Effective <b>price per Mbyte</b> | Strongest driver |
| 2. <b>Data-only</b> SIM penetration | Strong driver    |
| 3. <b>Smartphone</b> penetration    | Weak driver      |

To this, based on the Finnish usage growth (and to some extent the US growth), we should now possibly add a fourth driver:

4. Monetisation ***not based on volume***

Obviously, driver 4 is strongly linked to 1 and it's difficult to say if the monetisation model *as such* drives usage – even if total cost would be high. We still believe that high usage primarily is explained by the effective price per Mbyte.

The deployment of **4G LTE networks** and adoption of capable handsets can only to a low extent explain usage. World usage-leader Finland has e.g. been late with 4G LTE licensing and rollout compared to lower-usage neighbours Sweden and Denmark. Korea has the highest 4G LTE handset adoption in the world supported by large networks, but even if usage is high, it is not higher than in e.g. Japan with a lower 4G LTE adoption and less network coverage.

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<sup>8</sup> See e.g. [Mobile data usage: The global top list](#)



## Conclusion

Regardless of usage level, mobile data usage per SIM continues to **grow with about 50% or more per year**<sup>9</sup>.

Operators in **Nordic countries** and in **Korea** and **Japan** have the customers with the highest mobile data usage globally. **USA** has had very fast growth during 2013 and is currently number 5 in the world.

Actual data from Denmark, Sweden, Norway and Lithuania (where regulators report traffic per operator) show a **significant difference in usage levels between operators in the same market**. Operators with the ambition to monetise mobile data through very tight allowances should be aware of the risk of ending up with a customer base essentially uninterested in mobile data. This might be dangerous for their future business. At the other end of the scale, very high (or unlimited) allowances might also be a risk – if available already on basic subscriptions.

Large mature European countries like **Germany**, the **Netherlands**, the **UK** and **France** continue to be well behind on mobile data usage which opens up for **fixed and cable operators to disrupt** the mobile data market through Wi-Fi further.

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<sup>9</sup> With Portugal as the exception