Methodology

The state of 4G pricing and spectrum usage – 2nd half 2016 DFMonitor 6th release

DFMonitor tracks two types of 4G LTE plans. 4G LTE smartphone plans with at least 1,000 national minutes & SMSs and 4G LTE mobile broadband (data-only) plans. DFMonitor tracks these two types of plans in the European Union (EU28) and OECD countries. Beside prices DFMonitor tracks market data usage metrics such spectrum usage and mobile data usage per capita/SIM and adoption metrics such as mobile broadband connectivity penetration (take-up). DFMonitor also tracks zero-rated or differential priced applications and services offered by operators in EU28 & OECD markets.

The 2nd half 2016 DFMonitor 6th release tracked 1,775 4G LTE tariff plans offered by 135 operators and 57 major MVNOs in EU28 & OECD. During September 2016 4G LTE smartphone tariff plans with at least 1,000 or unlimited minutes & SMS were offered by almost all EU28 and OECD operators. In all EU28 & OECD markets smartphone plans with at least 1,000 minutes & SMS were the de facto monthly rolling plans offered by operators. DFMonitor's 6th release includes 1,039 smartphone tariff plans and 736 mobile broadband (data-only) tariff plans. The 135 operators present in the 41 countries are part of 68 operator groups. DFMonitor tracked tariff plans from the main brands of all 135 operators and as well from 39 sub-brands that are owned by operators and 57 independently owned Mobile Virtual Network Operators (MVNOs). Joint ventures between mobile network operators and third parties e.g. Tesco Mobile UK is presumed not to be independent and therefore are designated as sub-brands. Operators that have not yet launched 4G LTE with their own frequencies (LuxemburgOnline in Luxemburg, Melita in Malta and T-2 in Slovenia) and operators that did not offer smartphone plans inclusive of 1,000 minutes allowance but only had per minute available charges (Max Telecom and Bulsatcom in Bulgaria and 4ka in Slovakia) were excluded.

Data collection methodology

All underlying data (tariff plans, number of SIMs per operator, total mobile data volumes per country and operator, spectrum holdings per operator, penetration, etc.) were collected from public sources. Smartphone and mobile broadband (data-only) tariff plan prices were collected online from the operator websites during September 2016. Our data collection team could read and understand English, Finnish, Swedish, French, Greek and Hungarian. For the remaining operator web sites which were not available in any of these six languages the team used the automatic translation function of Google. The data collection team has taken and archived screen shots from every single operator tariff that was used in the comparative analysis and as well downloaded and archived the tariff terms and condition wherever available. Please note that the number of SIMs reported by each operator could vary considerably. There are no standardized reporting methods for subscribers and therefore some reported figures include a substantial amount of M2M SIMs and/or an inflated amount of prepaid SIM cards that are considered active but have little to do with underlying unique subscriber numbers.

DFMonitor's 6th release includes 1039 consumer monthly rolling 4G LTE smartphone tariff plans having a minimum of 1,000 national minutes and 1,000 national SMSs and 736 mobile broadband (data-only) tariff plans including plans intended for stationary home broadband use that had a minimum 4G speed of 1 Mbps at all times. We logged all the SIM-only tariffs and tariffs with handset subsidies that have higher gigabyte volume allowance than the maximum possible that consumers could obtain with SIM-only tariffs. The following parameters have been collected for each tariff: the date and time of collection, the country, the operator name, the brand name of the operator, the brand type (operator main or sub-brand or MVNO), the price in local currency, the included data allowance, the included minute & SMS allowances, the maximum download speed of data if applicable, tethering restrictions if applicable, mobility restrictions if applicable (stationary mobile broadband tariffs for e.g. home usage) handset subsidies if applicable, contract duration, tariff name and any applicable options and finally the URL of the operator.

Every tariff has been marked with ‘Yes’ (tethering allowed with no restrictions) where we found written documentation (web site notes, product browsers, tariff information sheets, terms and conditions of service, support pages and responses, forum responses, etc.) that tethering functionality for the entire volume is allowed or with ‘No’ where we found written documentation that there are tethering restrictions or where the customer service teams have stated that tethering is not allowed. For operators that we did not find any information we inserted the question mark symbol in the DFMonitor-PRO Spreadsheet but presumed that tethering is allowed.

All commercial promotions available at the time of collection were taken into account (e.g. 2 month free if purchased online or 10% off if purchased before the 20th of September 2016). Bundle offers such as fixed broadband plans combined together with smartphone or mobile broadband plans or offers for special customer groups such as second family line for 25% off, youth offers, senior offers, etc. were excluded. If a tariff plan was cheaper with longer contract duration we logged in the database the lowest available price (e.g. 10% off for 24 month contract). If an operator did not offer SIM-only tariff plans we logged the operator’s cheapest available plans with handset subsidy that fulfilled all other conditions.

The database includes off-the-shelf tariff plans (e.g. RED S 1GB, RED M 3G, RED L 5GB) and as well added additional data or options that increase the total monthly data allowance wherever applicable. We only considered eligible monthly rolling data add-ons. One time use add-ons that expired in the end of the billing cycle were excluded. Promotions that temporary increased the volume allowance or maximum speed were taken into account only if they were applicable for the entire duration of the tariff contract or in case of monthly rolling contracts for minimum 12 months.

No Purchase Power Parity (PPP) operation has been performed on the raw tariff plan prices. Prices in EUR are the retail VAT included prices found on the operator web sites. Prices in other national currencies have been converted to EUR by simply using the exchange rate displayed by Google on the day of collection.

The tariff monthly fee does not include one-off fees (activation porting, service etc). Such fees, with few exceptions, do not significantly increase the monthly tariff fee for the duration of the contract or when they applied for a 12 month period in monthly rolling tariffs.

Plans with unlimited data volume

4G plans that were advertised as unlimited data volume plans were considered to have unlimited data volume in our data set if they had no fair usage policy finite volume limit and a 4G speed of at least 1 Mbps at all times. Advertised unlimited data volume plans where operators reserved the right to throttle the speed or de-prioritize the subscriber traffic during network congestion after the subscriber has crossed a pre-defined volume limit were treated as finite volume plans in our data set (the fair usage limit was set as the plan’s finite volume). If an unlimited data volume plan had a finite volume limit for tethering/hotspot functionality we treated the plan as two separate plans; an unlimited data volume plan where tethering/hotspot functionality is not allowed and a plan with a finite volume where tethering/hotspot functionality was allowed.

Methodology for price metrics and charts

The 2nd half 2016 DFMonitor 6th release uses five price metrics to analyse the tariff data. a) Maximum GBs that a predefined amount of EUR basket (e.g. GB for €30) buys in a country or for a given operator b) minimum price for a predefined GB basket (e.g. price for 20 GB) in a country or for a given operator c) operator base and incremental gigabyte price d) EU28 and country weighted (by operator SIMs) base and incremental gigabyte price e) fully allocated median price per gigabyte for operators, countries, EU28 and OECD.

The five price metrics are used both for smartphone and mobile broadband (data-only) tariffs. Below we provide additional details on how these metrics have been calculated and presented in the corresponding charts.

Maximum GBs that a predefined amount of EUR basket (e.g. GB for €30) buys in a country or for a given operator: Charts presenting this metric include tariffs from operator main or sub-brands or any MVNO that uses the operator network. Typically it is the main or sub-brand of an operator that offers the most GBs but in few exceptions an MVNO offers more for the given EUR basket and in that case the operator value appearing in the chart will be determined by the MVNO tariff. All tariffs are included in the comparison irrespective if they restrict or not tethering (smartphone plans) or if they are intended for stationary use only (mobile broadband plans). Unlimited smartphone plans were assigned a finite volume of 60 GB while unlimited mobile broadband (data-only) plans were assigned a finite volume of 100 GB. 60 GB and 100 GB were the highest finite volume allowance €30 and €25 could bought in smartphone and mobile broadband plans during September 2016 in EU28 & OECD markets. Minimum price for a predefined GB basket (e.g. price for 20 GB) in a country or for a given operator: Same rules as above.

Operator base and incremental gigabyte price: Using a linear regression (line fitting) we calculate for operator main brands only the price for incremental gigabytes and a base data traffic independent price (zero gigabyte price including the built-in minute & SMS allowance in case of smartphone plans). The base and incremental gigabyte price is not calculated for operator main brands that offer unlimited data volume. Incremental gigabyte price for such operators is zero while the monthly fee of the tariff is the base price. Mobile broadband plans intended only for stationary (home broadband) use are excluded from the calculation because typically they include more gigabytes for a lower price than plans with full mobility.

EU28 and country weighted (by operator SIMs) base and incremental gigabyte price: The calculation includes only operator main brands (due to the limitation of only knowing the SIM numbers per operator and not per brand) and only operators that offer tariffs with finite gigabyte volume allowances.

Fully allocated median price per gigabyte for operators, countries, EU28 and OECD: Fully allocated price per gigabyte is calculated as the tariff monthly fee that includes VAT divided by the included gigabyte volume allowance. Charts presenting the median price per operator include all tariffs from the operator main or sub-brands and as well the MVNO tariffs that use the operator network. All tariffs are included in the comparison irrespective if they restrict or not tethering (smartphone plans) or if they are intended for stationary use only (mobile broadband plans). Unlimited smartphone plans were assigned a finite volume of 60 GB while unlimited mobile broadband (data-only) plans were assigned a finite volume of 100 GB. 60 GB and 100 GB were the highest finite volume allowance €30 and €25 could bought in smartphone and mobile broadband plans during September 2016 in EU28 & OECD markets.

Mobile-centric and fixed-centric operators

In the 2nd half 2016 DFMonitor 6th release we grouped operators in two mutually exclusive groups; *mobile-centric* operators and *fixed-centric* operators. Mobile-centric operators are all mobile-only operators (operators that do not sell fixed-line broadband) and as well a hand full of operators that while does sell fixed-line broadband they put mobile-first by selling unlimited data volume smartphone plans for less €30 or less and as well unlimited data volume mobile broadband plans for €25 or less. The three Finnish mobile operators (Elisa, Sonera and DNA) are among the operators that are assigned the mobile-centric status even though they do sell as well fixed-line broadband (Elisa and DNA actively market their €20 unlimited mobile broadband plans across the country including some locations even in the metropolitan Helsinki area where they do not own fixed-line infra or resell fixed-line broadband). Operators that were not assigned as mobile-centric were fixed-centric operators. Out of the 92 operators in EU28 32 were mobile-centric operators and 60 where fixed-centric operators. Out of the 135 operators in EU28 & OECD 42 were mobile-centric operators and 93 where fixed-centric operators. Operator groups where assigned as mobile-centric groups if most operators owned by the group and present in EU28 or OECD markets were mobile-centric operators. Iliad was assigned as a mobile-centric group (i.e. fixed-centric in France and mobile-centric in Switzerland and soon in Italy).

Please do let us know if you notice any broken links, incorrect links, tariff errors, other errors, any tariffs that met the criteria at the time of data collection which we missed, any MVNOs that we might missed and offer competitive data caps and prices or if you would like to make suggestions for improvements by emailing us at contact@dfmonitor.eu