

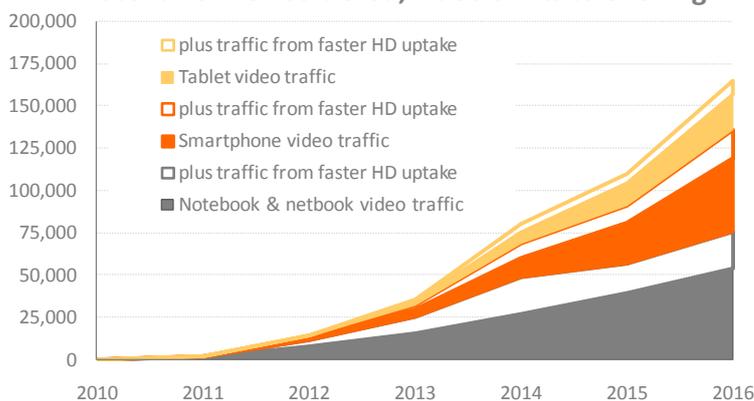
Rewheel Mobile Data Impact Analysis Report

E-Plus Germany – Ready to disrupt the market

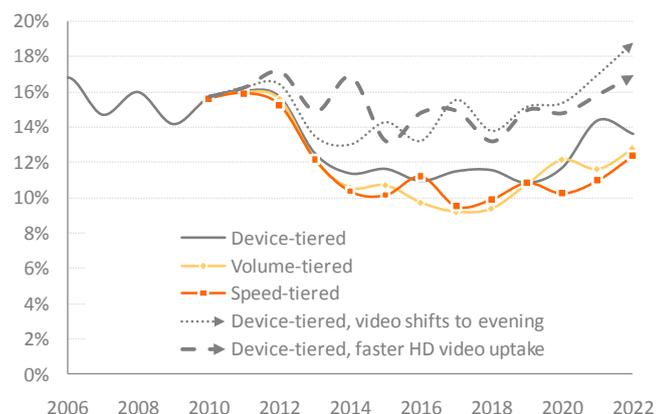
Report highlights

- Contrary to the common industry belief, missing out from the popular 800 MHz spectrum will not cause E-Plus a significant competitive handicap because their unique position in the 1800 MHz and 2.1 GHz bands will allow them to build out a continuous high capacity mobile data network across their target footprint
- E-Plus’s data traffic, driven by video, will grow by a CAGR of 61% and the average monthly usage of smartphones, tablets and notebooks will exceed 4, 11, and 13 GB respectively
- E-Plus could comfortably accommodate the astronomic traffic increase on its HSPA 2.1 GHz network while providing a good user experience and without any significant LTE investments till 2017
- E-Plus’s network modernization program will prevent a Capex to sales hike during the rollout heavy period of 2010-2012. The new low cost, high capacity network can accommodate the traffic growth with a long term Capex to sales of 10%-12%, despite rolling out new 3G coverage sites near the edges of their footprint
- In the baseline scenario E-Plus’s mobile revenues will grow by a CAGR of 3.5% outperforming the market (CAGR 2%). Its revenue share will grow from 15% to 21% (connection share will grow from 17% to 24%)
- E-Plus’s mobile data revenue share out of total E-Plus revenues will grow from 4% to 52%
- By moving away from restrictive volume tiered tariffs and instead offering speed or device-tiered tariffs, E-Plus could fully unlock its data growth potential and accelerate its annual revenue growth rate to more than 6%, propelling the company to 25% revenue market share

E-Plus video Busy Hour Gigabytes by device category
Scenario: Device-tiered, video shifts to evening



E-Plus Capex to sales



The Rewheel Mobile Data Impact Analysis Framework

The rise of mobile data is forcing mobile operators to undergo a fundamental business transformation. In our Mobile Data Impact Analysis series we select operators facing the data opportunity/challenge and investigate the impact of the surging data traffic on their key financial indicators going forward. Our business modelling framework is characterized by the combination of comprehensive market analysis, novel demand modelling and in-depth technology models. This integrated framework enables us to capture the top and bottom-line impact given a set of commercial, spectrum and technology strategies.

Introduction

The main aim of our study was to put E-Plus's new mobile data strategy to the test using our mobile data impact analysis methodology. In the core of our methodology lies a bottom-up market demand and network dimensioning model that dynamically projects key financial indicators such as Capex to Sales, EBITDA margin and EBIT for different market size scenarios, different E-Plus market shares and different data tariff tiering strategies.

Up until late 2009 E-Plus had been following a low cost challenger strategy primarily targeting customers with no or very light mobile data needs. But late last year, when it became apparent that fast mobile data is not a niche offering any longer but is becoming an essential need of the mass consumer base in Germany and in other developed telecoms markets, they swiftly declared a new, "voice+data" strategy.

Despite E-Plus's competitive handicap in terms of low frequency radio spectrum and significant mobile broadband coverage lag, we believe that thanks to their right and timely actions on the spectrum and network vendor fronts E-Plus has now the platforms to maintain or even accelerate their growth momentum in the increasingly data centric battle field. We are confident that by executing on their strategy they can reach 25% mobile revenue share without compromising profitability.

We will demonstrate our opinion by:

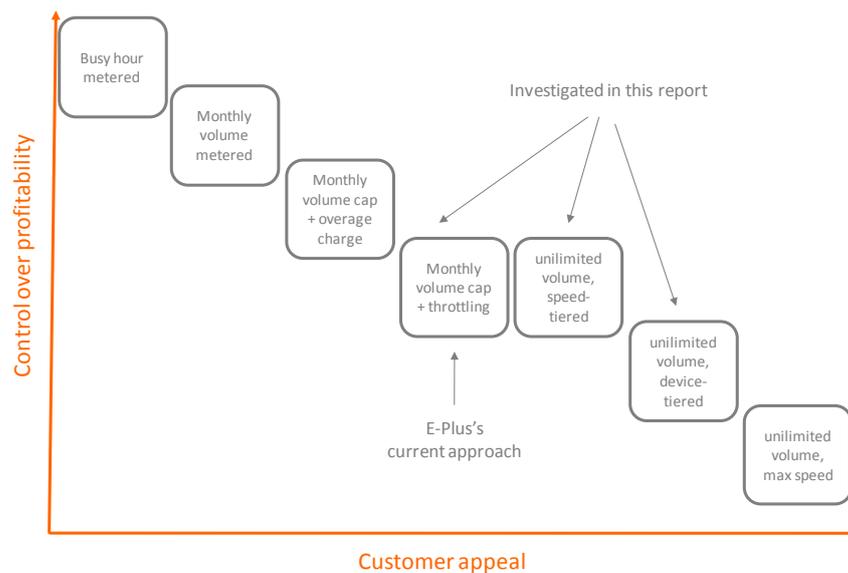
- Analyzing and forecasting the mobile market in Germany
- Appraising E-Plus's data pricing options, exploring volume-based, speed-based and device-based tariff tiering strategies
- Forecasting monthly average and busy hour traffic per customer using a novel video-centric demand modeling approach
- Appraising the required coverage and capacity related network investments
- Characterizing E-Plus's spectrum holdings
- Projecting E-Plus's financial KPI outlook under various market scenarios

Data pricing options

Like for any other retail industry, market segmentation plays a critical role in exploiting potential revenue streams and maximizing profits of the mobile data business. This latter one, the profitability, has been considered a particularly critical issue of mobile data because of the significant variable cost component associated with serving the potentially highly traffic heavy customers.

The main reason operators are looking into introducing tariff tiers is to be able to charge traffic heavy customers more, while keeping the service price affordable for the traffic-light ones. One needs to understand though that traffic volume alone cannot fully capture network related costs. For example, a “heavy user” that generates 100 gigabytes a month but never uses the network in the peak hours, may mean zero or very low variable network related cost to the operator. In contrast, a “light user” that generates only one gigabyte but it uses the service always in the peak hour may cause the operator a net loss. Nevertheless, traditionally (probably for the sake of simplicity) in the minds of both commercial and technology telecom experts network costs have been framed by the monthly data consumption. And probably this is the reason why many operators talk primarily of volume capping as the most straightforward remedy against the capacity crunch. However, as illustrated in the chart below, there are many other possible tiering approaches to profit control. The three pricing approaches analyzed in this report are highlighted on the chart.

Possible mobile data tiering approaches. Profit control potential versus customer appeal.



Source: Rewheel

Scenario map

We framed the mobile data impact analysis by modeling five scenarios.

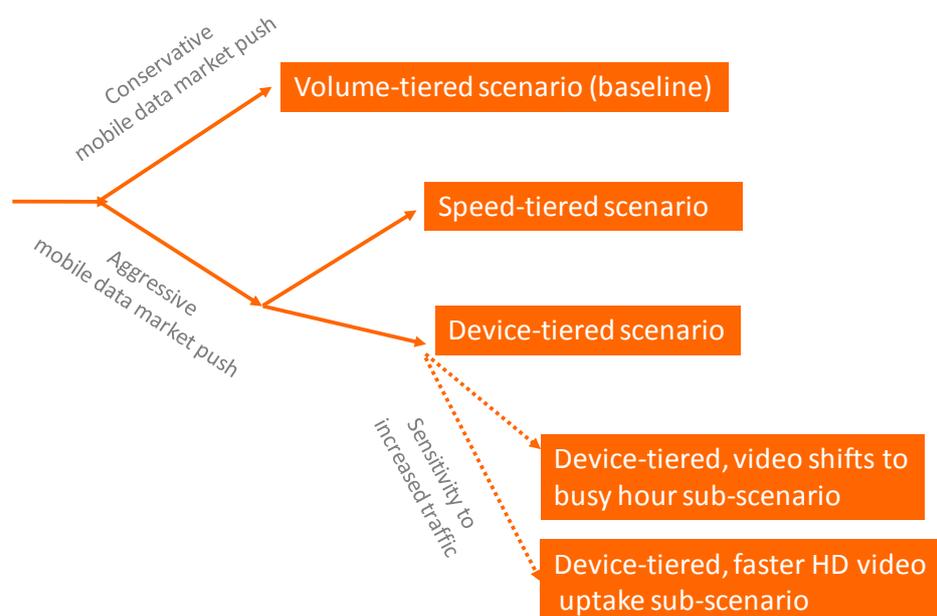
The baseline **Volume-tiered scenario** represents the extrapolation of E-Plus's current (as of November 2010), volume-capped retail data pricing approach.

The **Speed-tiered scenario** assumes that E-Plus migrates to access-speed tiered data tariffs with quasi unlimited volume (subject to fair usage limitations against truly extreme usage). The resulting consumer data demand will be primarily determined by the customers' appetite for streaming video which in gigabyte terms will be modulated by the maximal data rate of the tiers.

The **Device-tiered scenario** explores the concept of device-type based tiers having quasi unlimited volume and no artificial limitation on the access speed. The resulting data demand will be shaped by the amount of content that can be comfortably consumed on a given device category considering the device's physical constraints.

The purpose of the **Device-tiered, video shifts to busy hour sub-scenario** and the **Device-tiered, faster HD video uptake sub-scenario** is to check the financial KPI's sensitivity to further increased traffic demand.

Scenario map showing the logical relationship of the five modelled scenarios. The scenarios have been framed around different data tariff tiering strategies.



Source: Rewheel

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Disclosures

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