

Context – market consolidation and new entrants in Europe

The business case of a 4th mobile network operator is among the '*most unknowns*' in the telecom industry and has been the subject of heated debates and partisanship for as far back the 3G auctions of the early 2000s.

There are those, mostly the market incumbents and their investors, who argue that in today's saturated markets the profitability prospects of 4th mobile network operators (e.g. Tele2 Netherlands) were gloomy while the business case of new green field entrants (e.g. Iliad Italy) is, well as they say, '*hopeless*'.

Is that right and should investors, sector regulators and competition authorities take such self-serving views at face value?

The European Commission, when asked to generalize about the right number of mobile network operators always stated "*each case is different and must be examined on its own merits*". Nevertheless, the Commission has persistently rejected the consolidators' counterfactual that absent of the merger the 4th mobile network operator will not survive on its own. Now, we wrote this statement before the Commission unexpectedly announced the unconditional approval of the T-Mobile / Tele2 Dutch 4 to 3 mobile merger citing¹ "*uncertainties concerning Tele2 NL's role as an important competitive force in the Dutch market*". So, the debate rages on.

At first sight the facts on the ground do not seem to support the consolidators' view. After all, not a single mainstream mobile network operator has ever gone bust in Europe. Moreover, the consolidators always tend to argue that their operations are not viable in a 4-MNO market, only to miraculously resurrect themselves with more investment and lower prices, right after the mergers are blocked (see Three in the UK and T-Mobile in the US).

The first wave of 4th MNO entrants in Western European markets took place during the 3G auctions of the early 2000s. During the late 2000s a number of Eastern European markets followed suit by licensing a 4th MNO and in some case a 5th MNO using previously unassigned 1800, 2100 or 2600 MHz spectrum. Belgium issued a fourth 3G national mobile operator licence to Telenet in 2011 but Telenet, absent of strict coverage obligations, decided to acquire the 3rd MNO BASE rather than building a mobile network from scratch.

France and Netherlands were next in line. France facilitated the entry of Iliad as the 4th MNO using previously unassigned 2100 MHz spectrum while the Netherlands in 2012 set-aside 2x10 MHz in the 800 band for a new 4th entrant paving the way for Tele2's entry. Few years later, Iliad in France cemented its position by acquiring spectrum in the 2600, 1800 and 900 bands and by outbidding SFR and Bouygues Telecom in 2015 to win 2x10 MHz in the French 700 MHz auction.

Undeniably, many European governments saw 3G and 4G spectrum auctions as an opportunity to boost effective competition in mobile markets by encouraging through spectrum caps or facilitating through spectrum set-asides new mobile network operator entries. We believe that many governments will see the upcoming 3400 – 3800 MHz 5G spectrum auctions as an opportunity to do the same.

New 4th entrants or challenger mobile operators that secure sizable holdings in the 3400 – 3800 MHz bands and some spectrum in the low- or mid- frequency bands could become formidable competitors in mobile and as well challenge the dominance of fixed-line incumbents and cable operators in home broadband.

By 2018 the 4- versus 3-MNO debate spread to Belgium and Germany. The Belgian Government acknowledged² that "*Countries with four mobile networks have lower prices for mobile data, higher data usage and more investments*", citing our research, and announced that it will set aside a very attractive spectrum package³ for a potential new 4th entrant in the upcoming 700/900/1400/1800/2600/3600 auction. The cabinet of Deputy Prime Minister Alexander De Croo told us that a European telecom group has shown interest and provided input into the process.

In Germany Bundeskartellamt, the national competition authority, and many politicians from the governing coalition publicly urged⁴ the sector regulator Bundesnetzagentur to facilitate the entry of a 4th mobile network operator in the upcoming 3600/2100 spectrum

¹http://europa.eu/rapid/press-release_IP-18-6588_en.htm

²<https://www.alexanderdecroo.be/alexander-croo-wil-vierde-mobiele-operator-toegang-geven-tot-belgische-markt/>

³https://www.bipt.be/public/files/fr/22571/Communication_parametres_26_juillet.pdf

⁴https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2018/24_08_2018_Stellungnahme_BNetzA.html;jsessionid=17EA036EA6407AEE3AB3C9524798D9CE.2_cid378?nn=3599398

auction by setting favourable conditions such as a 5G national roaming obligation. Bundesnetzagentur, which historically has been very close to the market incumbents, resisted the calls and in the end adopted auction terms that pleased neither the incumbents nor the potential new entrants. Deutsche Telekom, Vodafone, Telefonica, 1&1 and Freenet all sued⁵ to block the auction.

Back in 2014 Bundeskartellamt was among the many national competition authorities that revolted against⁶ Joaquin Almunia's plan to approve the 4 to 3 German mobile merger between Telefonica O2 and E-Plus with MVNO based remedies. Bundeskartellamt has recently purchased a license for our consolidation studies and invited us in Bonn during October 2018 to discuss the conditions that may lead to a new 4th MNO entry in Germany.

To the surprise of many, European merger control proved an equally important tool in facilitating new 4th MNO entries. In September 2016 the European Commission, in a landmark decision⁷, approved the 4 to 3 mobile merger⁸ between Wind and Hutchison-3 subject to Iliad becoming the new upfront 4th mobile network operator in Italy.

Previously the European Commission, under the helm of Margrethe Vestager, blocked⁹ the Danish¹⁰ in 2015 and UK¹¹ in 2016 4 to 3 mobile mergers after the parties failed to offer an effective remedy i.e. the upfront creation of a 4th mobile network operator.

At first it appeared that Margrethe Vestager tried to restore normality in European merger control in an effort to undo the damage inflicted by Joaquin Almunia's controversial¹² approvals of the Austrian (2012¹³), Irish (2014¹⁴) and German (2014¹⁵) 4 to 3 mobile mergers.

According to the Financial Times Joaquin Almunia succumbed¹⁶ to political pressure and waived through the mergers with ineffective remedies i.e. on the sole basis of behavioural MVNO wholesale access commitments and without any potent upfront structural divestments.

But all that came to question when in November 2018 she unconditionally approved the 4 to 3 Dutch mobile merger after first formally opposing it by raising serious competition concerns and by issuing a Statements of Objections. The European Commission, after opening an in-depth investigation¹⁷ on the 12th of June 2018 detailing its preliminary competition concerns, took the formal step by addressing to the parties its serious competition concerns by issuing a Statement of Objections in early September 2018. Deutsche Telekom publicly acknowledged¹⁸ that it has received the Statement of Objections on the 13th of September 2018. Rewheel, in an independent study¹⁹ that was included by the Commission in the file of the Dutch merger and discussed with the case team in Brussels, derived the same conclusion as the conclusion derived by the Commission in the Statement of Objections, i.e. that the merger will raise serious competition concerns.

Why the Commission changed its mind and unconditionally cleared the Dutch 4 to 3 mobile merger after first issuing a Statement of Objections is a mystery. Guillaume Lorient, director of the ICT unit at the DG Competition at the European Commission stated²⁰ on the 28th of November during the ECTA conference in Brussels that the decision not to impose any remedies was reflecting the '*significant uncertainties*' concerning Tele2's future in the Netherlands.

We disagree. In our Dutch merger study, we have rebuffed the Tele2 counterfactual which also was first rejected by the Commission only to be miraculously accepted few weeks later. We believe that once again political intervention made all the difference. According to various reports by Bloomberg²¹, TelecomTV²² and Politico the change of heart could have been politically motivated.

⁵<https://www.handelsblatt.com/today/companies/not-on-the-same-wavelength-lawsuits-overshadow-germanys-upcoming-5g-auction-/23823644.html?ticket=ST-780492-zpFdncMnXgezKZXpLNxe-ap1>

⁶<https://www.ft.com/content/d10483aa-f8a0-11e3-befc-00144feabdc0>

⁷http://research.rewheel.fi/insights/2016_sept_premium_italy_hutch_wind_merger/

⁸<https://veon.com/media-center/Press-releases/2015/CK-Hutchison-and-VimpelCom-to-form-joint-venture-of-their-telecoms-businesses-in-Italy/>

⁹<https://www.telenor.com/media/press-release/telenor-and-teliasonera-withdraw-from-merger-in-denmark/>

¹⁰<https://www.telenor.com/media/press-release/telenor-and-teliasonera-withdraw-from-merger-in-denmark/>

¹¹http://europa.eu/rapid/press-release_IP-16-1704_en.htm

¹²http://research.rewheel.fi/insights/2015_jan_premium_austria/

¹³http://europa.eu/rapid/press-release_IP-12-1361_en.htm

¹⁴http://europa.eu/rapid/press-release_IP-14-607_en.htm

¹⁵http://europa.eu/rapid/press-release_IP-14-771_en.htm

¹⁶<https://www.ft.com/content/8e4c0c18-002f-11e4-a3f2-00144feab7de>

¹⁷http://europa.eu/rapid/press-release_IP-18-4141_en.htm

¹⁸<https://www.telekom.com/en/media/media-information/archive/merger-in-the-netherlands-540298>

¹⁹http://research.rewheel.fi/downloads/T-Mobile_Tele2_4_to_3_mobile_merger_effective_remedies_REDACTED_PUBLIC.pdf

²⁰<https://www.telecompaper.com/news/ec-says-uncertain-tele2-nl-future-drove-merger-approval-decision--1271140>

²¹<https://www.bloomberg.com/news/articles/2018-11-11/germany-inc-s-bid-to-be-world-champion-hits-eu-antitrust-snags>

²²<https://www.telecomtv.com/content/news/has-vestager-thrown-dutch-consumers-under-the-bus-for-political-gain-33353/>

Study preamble

In this study we set out to answer one of the most burning questions in the telecom industry: can a 4th green field mobile network operator make money?

Now, if we were economists we would have probably attempted to tackle this problem by building a hypothetical market model with complex demand-supply mechanisms, multi-dimensional product substitutability, dynamic efficiencies and a little a bit of dark energy to top it all off. The model, similarly to string theory, could produce the desirable (i.e. 4th MNOs are not viable) outcome but as well any other outcome depending on our sponsor's agenda.

But we are not economists, we are electrical engineers, so we will instead try to keep it real by limiting ourselves to a case study i.e. Iliad's entry into Italy, and hopefully conclude with a simple Yes or No answer.

We focus our analysis on a handful of make-or-break business case factors, listed below, and project the sensitivity of Iliad's profitability metrics (cash flow, payback period) as a function of those critical factors.

- How large mobile network will Iliad need to build to become an effective competitor, by when and how much will it cost?
- How much more spectrum will it need to buy and by when?
- Can it push 5G wireless home broadband with just 20 MHz of 3.7 GHz?
- How low can Iliad push its operating expenses in Italy?
- Can Iliad break even only with mobile subscribers or will it need to tap into the growing broadband market?
- Can it make money by selling smartphone plans for as little as €8 to €10?
- How many mobile subscribers and broadband connections Iliad must acquire and at what ARPU to break even?
- Fixed broadband, 5G wireless broadband, or both?
- Should it spend big to buy Fastweb or will it be more profitable to seek organic broadband growth? Is there a third way?
- How many billions of EUR in revenues will TIM, Vodafone and WindTre shed if Iliad breaks even with a very low ARPU?
- Will WindTre follow Three UK's footsteps and attack the home broadband market head-on with 5G wireless plans?
- How far can WindTre go with just 20 MHz of 3.7 GHz spectrum? Will it need more spectrum and by when?
- Do fixed wireless operators (Linkem, Tiscali, Go Internet, etc.) have a future?
- Will the operators be able to deploy 5G if the Italian radiation limits are not relaxed?
- How much larger will the site exclusion zones become if operators deploy 20, 40, 60, 80 or more MHz in the 3.6 GHz bands with massive MIMO? Will the site exclusion zone become a 5G show stopper?

Iliad Italy revenue, OPEX, CAPEX & annualized spectrum fees

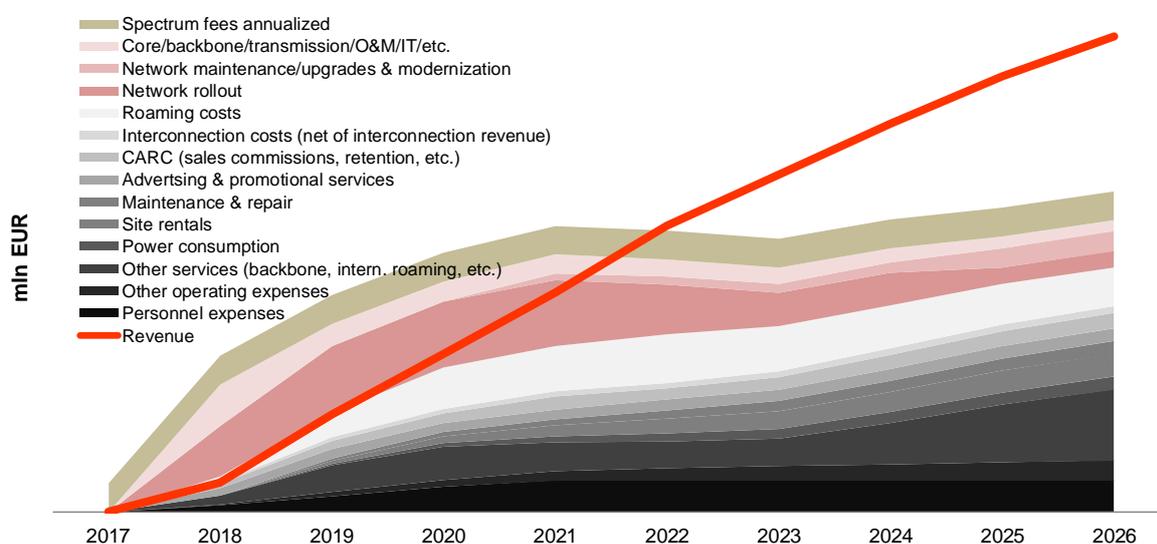


Table of Contents

1	Executive summary.....	7
2	The Italian mobile market: From 4 MNOs to 4 MNOs, same but different!	13
2.1	Iliad's entry ticket into Italy: The 4 th MNO remedy package	17
3	Market model	19
3.1	Mobile subscribers, fixed and 4G/5G wireless broadband connections.....	19
3.2	ARPU.....	27
3.3	Revenue	29
3.4	Data volume	33
4	Iliad's business case.....	39
4.1	Mobile network	40
4.2	Italian strict EMF radiation limits, 5G killer?	43
4.3	Revenue	46
4.4	Purchases used in production	47
4.5	Operating expenses.....	54
4.6	CAPEX	56
4.7	Spectrum fees	58
4.8	Gross profit, EBITDA and Cash Flow	60
4.9	Payback period.....	62
4.10	Payback period as a function of Iliad's market share and ARPU	64
4.11	Impact of Iliad's spectrum holdings on mobile network capacity utilization and national roaming costs	66
4.12	Organic growth or build broadband market share through an acquisition?	72
5	WindTre – Gamble 5 billion EUR on Fastweb or pursue fixed-to-mobile broadband substitution	76
5.1	WindTre's mobile network capacity potential – Is 20 MHz of 3.6 GHz enough or much more MHz are needed?	77

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About Rewheel

*New radio spectrum bands, 4.5G and 5G technology, unlimited mobile data plans and the Internet of Things radically change mobile network operators' cost, revenue and profitability dynamics. **Rewheel's mission is to help operators prepare for the paradigm shift in network and spectrum strategy, spectrum valuation, network sharing, M&A, MVNO economics and mobile data pricing.***

Founded in 2009, Rewheel is a Finland based boutique management consultancy. Our clients are mainly European mobile network operators, telco groups, MVNO groups, sector regulators, governments, global internet firms, mobile data-centric start ups, PE and VC investors.

We delivered management consultancy work for clients in the United Kingdom, United States, Ireland, Switzerland, Finland, Sweden, Belgium, Greece, Poland, Slovenia, Hungary, Russia, Romania. Buyers of our research reports and related strategic workshops include many companies and authorities across Europe and worldwide.

Since 2010 we have been supporting a number of European challenger mobile operators in multiband (700, 700 SDL, 800, 900, 1400 SDL, 1800, 2600, 3.5 GHz) auctions with spectrum valuation and strategic advisory services.

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For comprehensive data usage, spectrum usage and capacity utilisation metrics in EU28 and OECD markets visit

⇒ <http://research.rewheel.fi/networkeconomics/>

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