Findim Group

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Presentation for Findim Group

Review of Telecom Italia 3-year strategy

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Confidentiality notice

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Contents

We have worked with Findim on the development of an alternative plan for TI focused on ensuring future growth and relevance

The events of 2013

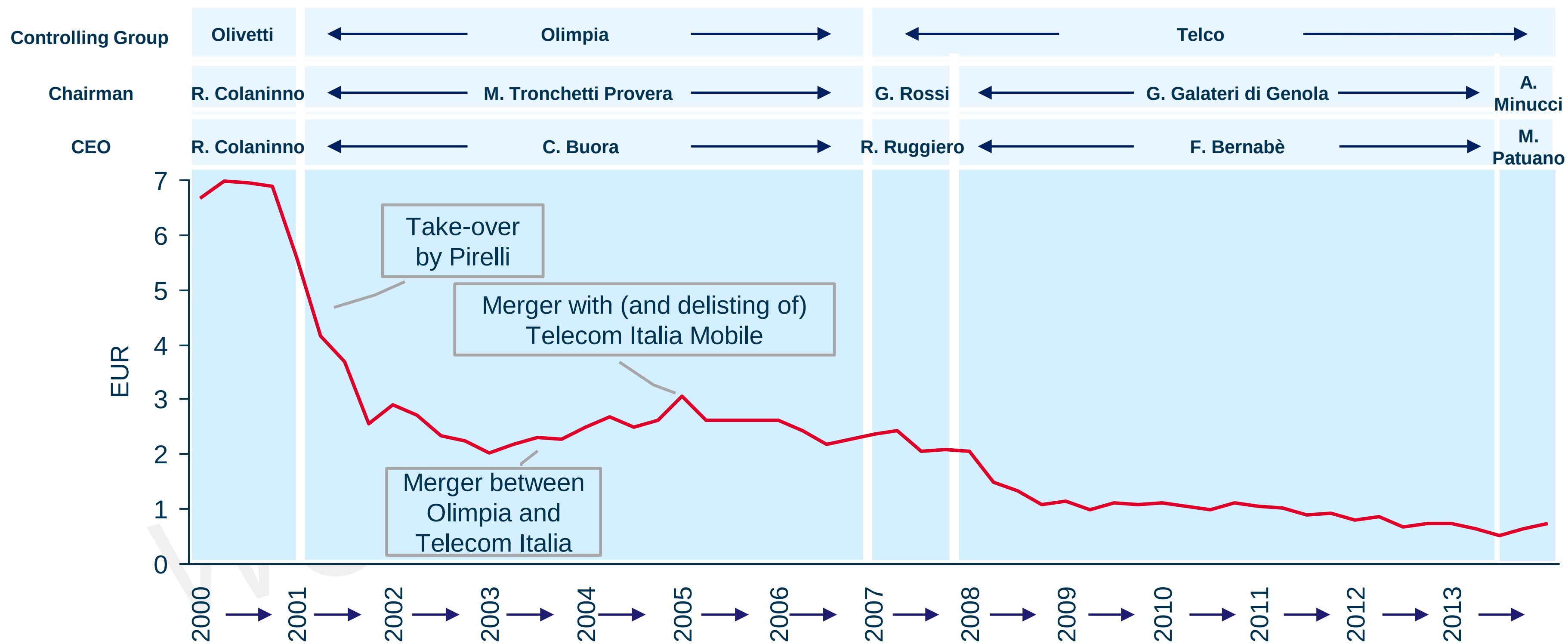
- Telecom Italia (TI) is the incumbent telecoms operator in Italy, and is 22% owned by the holding company Telco which is itself majority-owned by Telefonica
- Telco has, in recent years, nominated the majority of the members of the Board of Directors (BoD) of TI
- The BoD has come under criticism, especially from minority investor Findim Group (Findim), regarding the company's recent performance and potential conflicts of interests of the board
- Findim presented a motion for the dismissal of TI's BoD at a special shareholders meeting on 20 December 2013, and for the election of new BoD members. This motion was narrowly dismissed
  - Telco won the backing of 50.3% of shareholders present at the meeting
  - Findim's proposal was backed by more than 40% of the shareholders present
  - 50.4% of the shareholders were represented at the meeting

Current and future events

- TI's next shareholders meeting is scheduled for 16 April 2014, when it is due to elect a new board
- We understand that there will again be different competing lists of nominations for the board with Findim presenting a minority list of candidates and putting forward, to the shareholders, Mr. Vito Gamberale as a nominee for the Chairman position
- Findim is also presenting a business plan that will ensure that the business:
  - has a solid basis for future relevance and growth
  - can continue to play a key role in the development of the Italian telecoms sector, in particular with reference to broadband infrastructure
- Analysys Mason has assisted Findim and Mr. Vito Gamberale in defining and quantifying the business plan on the basis of publicly available sources

The share price of TI has been falling since 2001 as the company has focused on reducing its leverage

Evolution of Telecom Italia's share price and leverage



TI has been focusing on debt reduction since 2005 which has resulted in a lack of investment, possibly constraining its future growth prospects

Leverage	1.4	2.7	2.6	2.6	2.5	3.1	2.9	3.1	3.0	3.1	2.8	2.5	2.5	2.9

Leverage before adjustments for Telecom Argentina closing and other items

Note. Share prices have been taken on a quarterly basis

Source: Telecom Italia, leverage defined as reported net debt over EBITDA

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The TI group is today predominantly a domestic company (92% of 2013 operating cashflow) with Brazil being the only international contribution

TI's financial performance, FY 2013 (Pro-forma excluding Telecom Argentina)

FY 2013	Unit	Group	Domestic	Voice	Broad-band*	Mobile	Whole-sale**	Elim. and other	TI Media	Other***	TIM Brasil
Revenues	**EUR bn**	**23.4**	**16.2**	4.9	3.0	5.6	3.6	-0.9	**0.1**	**0.2**	**6.9**
% group	%	100%	69%	30%	18%	35%	22%	-6%	1%	1%	30%
YoY change	%	-3%	-3%	-3%	-0%	-5%	-3%	-6%	-18%	-3%	-2%
EBITDA	**EUR bn**	**9.5**	**7.7**						**-0.0**	**-0.0**	**1.8**
% group	%	100%	81%						-0.0%	-0%	19%
YoY change	%	-3%	-4%						-65%	-46%	-3%
EBITDA margin	**% revs**	**41%**	**48%**						**-2%**	**-10%**	**26%**
% group	%	100%	81%						-0%	-0%	19%
YoY change	*p.p.*	-0%	-1%						19%	48%	-1%
Capex	**EUR bn**	**4.4**	**3.0**						**0.0**	**0.0**	**1.3**
% group	%	100%	69%						0%	0%	31%
YoY change	%	-2%	-0%						-28%	-33%	-3%
EBITDA - Capex	**EUR bn**	**5.1**	**4.7**						**-0.0**	**-0.0**	**0.5**
% group	%	100%	92%						-0%	-0%	9%
YoY change	%	-4%	-6%						-39%	-45%	-2%

Domestic

The domestic operations have seen deteriorating performance and have limited growth prospects according to the current guidance

** Includes Internet access and business data **includes Sparkle; ***Olivetti, other operations and eliminations,*

Source: Analysys Mason based on TI investor relations

We have developed a strategy for each of the main areas of TI's current and potential future areas of operation

- The following slides provide an indication of our proposed approach for each of TI's main businesses, including new areas that we believe could be sources of significant future growth. These are addressed individually as follows:

Domestic fixed-line	Revitalising TI's domestic fixed-line operations
Domestic mobile	Repositioning TI's domestic mobile operations (TIM)
TIM Brasil	Expanding TI's mobile and fixed telecoms operations in Brazil (TIM Brasil), exploring organic and inorganic means for growth
Services	Creating a services business unit
Company	Reconfiguring the company structure

Further analysis and details are provided in the main sections of this report

A long-term fixed strategy needs to create a virtuous circle by addressing both investments and demand in parallel

Demand cannot materialise without adequate investment

Investments (network)

Demand (for broadband and ultrabroadband)

Demand enables further investment

TI should accelerate upgrades to its fixed network in order to lay foundations for future growth and opex rationalisation

IDENTIFIED PROBLEMS	PROPOSED ACTIONS
▪ TI has started to upgrade its network to higher-capacity FTTC, but these plans do not address the fundamental problems or lay foundations for growth – the coverage target remains at c. 50% of households by 2016 – FTTC deployments are an overlay to legacy local exchange-fed DSL without the capacity to migrate all users to FTTC	▪ Make FTTC the leading platform ▪ Increase FTTC coverage and capacity and be ready to exploit FTTH opportunity in some areas
▪ Multiple parallel (modern and legacy) networks are operated, increasing network complexity and opex	▪ Plan a gradual migration of legacy voice to broadband infrastructure to allow rationalisation of network

FTTC: Network uses high-speed optical fibre as far as the cabinet, and copper-based wires from the cabinet to the customer premises

FTTH: Network uses high-speed optical fibre as far as the customer premises

Telecom Italia needs to improve its positioning in the retail broadband market to drive demand and increase ARPUs

IDENTIFIED PROBLEMS	PROPOSED ACTIONS
▪ Demand in Italy is lower than average (mainly explained by low ICT literacy) and requires stimulation by both TI and other players	▪ Put pressure on government to pursue actions to improve ICT literacy ▪ Increase attractiveness of offers by adding value through content and applications – partnerships with OTT and content providers
▪ TI is positioned as a low-value provider in the broadband market and is losing lines	▪ Increase entry-level speed (nominal bandwidth) in order to position TI as a high-end provider
▪ TI's FTTC and FTTH products are positioned at a significant premium to its lower-speed DSL products which is not encouraging take-up of the higher-speed products	▪ Reduce premium for fixed-line ultra-broadband (UBB) products relative to entry-level products to attract users onto higher-value products

TI needs to reposition itself in the domestic mobile market to better monetise its network

IDENTIFIED PROBLEMS	PROPOSED ACTIONS
▪ TI is the market leader in terms of subscriber numbers, but mainly attracts lower-value subscribers in each market segment	▪ Focus on monetisation/value creation rather than defence of subscriber base
▪ TI has a strong position in terms of mobile network quality and coverage, for both existing (2G and 3G) and 4G networks, but so far has not been able to monetise its network	▪ Re-balance investments vs. fixed: no overspend on mobile network and closer alignment between marketing/sales and network investment
▪ More than 60% of the European mobile market has been consolidated into four major groups whereas TI remains one of the largest stand-alone players and risks missing out on the consolidation benefits	▪ Explore and adopt partnership models in order to gain some of the benefits from consolidation

TIM Brasil requires additional network investment, an increased focus on the postpaid and data segments and greater scale in the fixed market

IDENTIFIED PROBLEMS	PROPOSED ACTIONS
TIM Brasil is behind its competitors in terms of network coverage and especially quality	Need for further significant network investments
TIM Brasil has a strong position in the prepaid segment but is weak in postpaid and data markets, which are expected to see the most significant growth	Need to increase its focus on higher-value segments (e.g. postpaid and data) and, more generally, seek to become the primary operator for its users
TIM Brasil is the only mobile player without a (significant) fixed access network	Pursue partnership to viably increase scale and footprint in the fixed market and maximise opportunities in the convergent market

TIM Brasil has room to grow organically but should nevertheless consider opportunities to extend its operations inorganically in the short to medium term

A new services business unit would help TI address its current service gap

IDENTIFIED PROBLEMS	PROPOSED ACTIONS
▪ TI needs content and other services to stimulate demand for fixed and mobile data services ▪ It is much less active than its peers when it comes to innovative and traditional digital and ICT solutions and products	▪ TI should set up a dedicated services business unit tasked with pursuing new solutions to provide to: – the other business units – other operators – companies and public administration ▪ The unit should follow a partnership model to capture innovation and combine internal and external know-how

TI needs to regain the flexibility to pursue long-term growth through investment

IDENTIFIED PROBLEMS

- TI is a stand-alone player in a world dominated by large groups
- It has had to operate within certain cash constraints, which has lead to a sub-optimal approach to investments and upgrades (longer-term growth and opex savings have been sacrificed due to a lack of capacity to invest)
- The organisation has been geared more towards the preservation of the status quo than towards growth

PROPOSED ACTIONS

- New organisational structure to provide greater flexibility for each line of the business to pursue its individual goals
- The proposed structure would comprise three business units with clear actions for each business unit to increase financial flexibility
  - **Mobile business unit** to be allowed to pursue partnerships and joint ventures/mergers in Europe and Brazil
  - **Fixed business unit** to pursue a limited capital increase, in cash or in kind, to address investment gap
  - **Services unit** to create the right environment and sufficient organisational and financial flexibility for innovation
- Divestments welcome but only if they create value for shareholders; pure sale-and-lease-back deals without upside to be avoided

The Findim Group has outlined an organisation structure that would allow TI to address some of its key problems

TI group

Mobile	Fixed	Services
Potential for **growth through JVs** with local operators or partnerships with major groups with non-overlapping footprint	Limited increase in **capital for network upgrade** coming from institutional investors	New unit to **drive future growth**, with solutions enabled by partnerships, JVs and other means

The mobile and fixed business units will continue to provide services to each other (e.g. backhaul and backbone services, retail service for 4P bundles) but the new organisation will provide greater flexibility to TI to pursue the objectives of the strategic plan

We have suggested some overall main targets for each of the business units [1/2]

Business unit	Actions and proposed targets
Fixed domestic	▪ Expansion of FTTC capacity and coverage to target 70% of HHs and FTTH coverage to target 25% of HHs (incl. Milan) in the medium term – EUR1.5-2.0 bn investment in addition to the EUR1.7 bn announced by TI for 2014-16 ▪ Stabilisation of broadband (BB) market share at current level ▪ Increase ultrabroadband (UBB) share to 50-60% of BB lines, driven by partnerships with international and domestic over-the-top content providers while gradually reducing the price premium of UBB over BB to c. EUR5 per month ▪ Additional up to EUR1 bn investment over three years to accelerate network delayering with target of savings of 30-40% of legacy network opex and 30% of maintenance capex
Mobile domestic	▪ Slight increase in handset subsidies to prepaid subs. to accelerate smartphone penetration ▪ Increase focus on postpaid and high-value segments (target of +1pp postpaid, -1pp prepaid market share by 2016) and do not engage in further price war ▪ Improve effectiveness of marketing and up-selling of VAS and add-ons, leading to broadly stable ARPU by segment and single digit CAGR increase in VAS/data ARPU ▪ Explore partnerships to further enrich content offering ▪ Closer alignment between network roll-out and sales and marketing. Rather than too aggressively expand LTE coverage, focus should be on improving the 3G network to keep capex below 13% of revenues

We have suggested some overall main targets for each of the business units [2/2]

Business unit	Actions and proposed targets
TIM Brasil	▪ Improve coverage and capacity of data network, bringing 3G coverage to 85% by 2016. 20-25% additional investments to the EUR3.4 bn announced by TIM Brasil for 2014-16 ▪ Target market share increase of 0.5-1.0p.p. in prepaid segment and 1.5-2.0p.p. in the postpaid segment ▪ Refocus on higher-value subscriber and data take up to stabilise blended ARPU at above EUR6 per month ▪ Be ready to pursue partnership to improve position and scale on the fixed market and achieve up to 5% savings on opex and capex
Services	▪ Aim for best-in-class stand-alone performance in the mid- to long term: generating c. 15-20% of group revenues with EBITDA margin of c. 10-15% ▪ Solutions supplied will allow other business units to provide more attractive products, thereby improving also their performance ▪ Services to be commercialised through various channels including direct sales, through the fixed and mobile business units, partners and where appropriate wholesale (depending on product and target market)

Contents

Introduction

- Telecom Italia (TI) is quoted on the Milan Stock Exchange (Borsa Italiana) and on the New York Stock Exchange. The largest shareholder, with a 22% share, is the holding company Telco, which in turn is majority-owned by Telefónica. Telco has typically nominated the majority of the Board of Directors (BoD) in the last shareholder meetings
- Findim Group (Findim), the investment vehicle of the Fossati family, has held a stake in TI for several years and currently owns 5% of the company's shares
  - **Findim has publicly criticised TI's current BoD** citing a conflict of interest in relation to Telefónica. Prior to the special shareholders meeting on 20 December 2013 Findim held a roadshow, aimed at convincing other shareholders (and proxy advisors) to back its position
  - **Findim presented a motion at the special shareholders meeting for dismissal of TI's BoD**, and nomination of new BoD members. Its motion was narrowly dismissed, as the Telco position won the backing of 50.3% of shareholders present at the meeting (representing c.54% of the share capital) - Findim was backed by more than 40% of the present shareholders
- **TI's next shareholders meeting is scheduled for 16 April 2014. Among other things, this meeting is supposed to elect a new BoD**
- We understand that it is very likely that there will again be different competing lists of nominations for the BoD with Findim Group again presenting a list for the minority stake including Mr. Vito Gamberale as Chairman nominee, Mr. Girolamo di Genova and Mr. Franco Lombardi

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Analysys Mason's assignment

The principals

- An alternative group of investors, led by the Findim Group, with the supervision and advice of Mr. Vito Gamberale, have expressed a desire for the development of an alternative business plan for TI
- This business plan is intended to provide an alternative forward view for TI beyond its short-term cash constraints to ensure that:
  - the business has solid bases for future relevance and growth
  - TI can continue to play a key role in the development of the Italian telecoms sector, in particular with reference to the development of broadband infrastructure

Our engagement

- Analysys Mason has been engaged to assist with the preparation of the business plan following the overall directions and guidelines of the Findim Group and Mr. Gamberale
- Our work has been conducted largely independently but with regular alignment meetings with Mr. Gamberale and with the Findim Group and with inputs from Mr di Genova and Mr Lombardi
- The assignment has been carried out without any contact with TI and using information from publicly available sources
- Our engagement has been funded by the Findim Group

In November 2013, the Findim Group presented an outline strategy for Telecom Italia (TI) to the market which has now been further developed

Overall guidelines proposed by Findim Group

Create long-term value for all shareholders

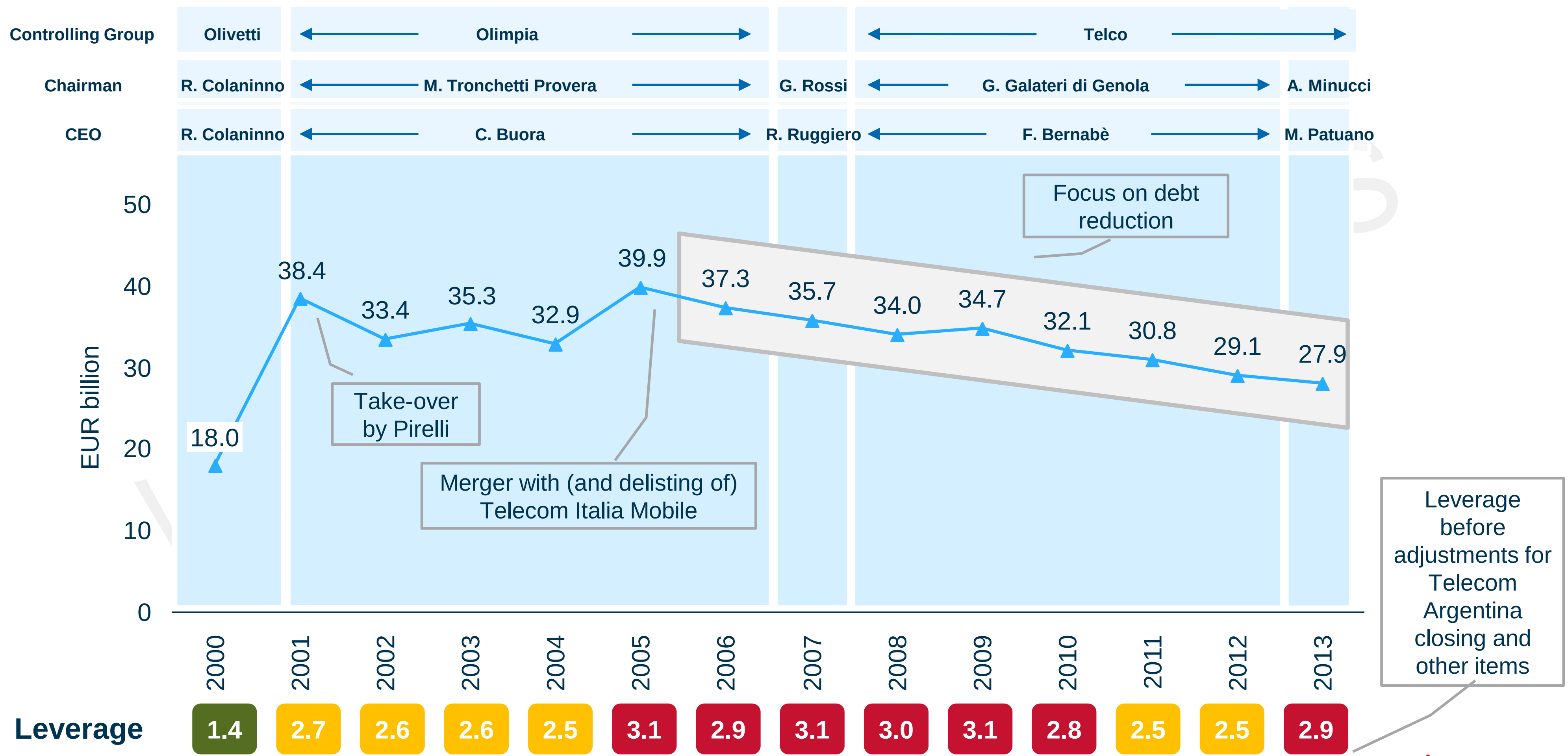
1. Install a **new democratic, independent Board** that will fairly represent all shareholders
2. **Defer sale of TIM Brasil** until business strategy is optimised and market environment can yield maximum price, unless a very high multiple can be achieved now
3. Execute **new group strategy** focused on driving organic growth from the existing portfolio and through partnerships
4. **Address leverage without selling core assets**

Organise TI into three capability-based operating units to facilitate organic growth with more focused management to stop TI's decline

1. Encourage each unit to adopt **best practice to resume growth and regain the leadership in Italy**
2. Facilitate business heads to think outside the box to capture **new growth opportunities**
3. Allow business to form **strategic partnerships** (best-in-class)
4. Create environment for business to evolve from monopolistic-utility mind-set to **entrepreneur growth mind-set**

TI has been dealing with the heavy debt burden created through its leveraged take-overs since 2001

Evolution of TI's net debt



Note. Share prices have been taken on a quarterly basis

Source: Telecom Italia, leverage defined as reported net debt over EBITDA

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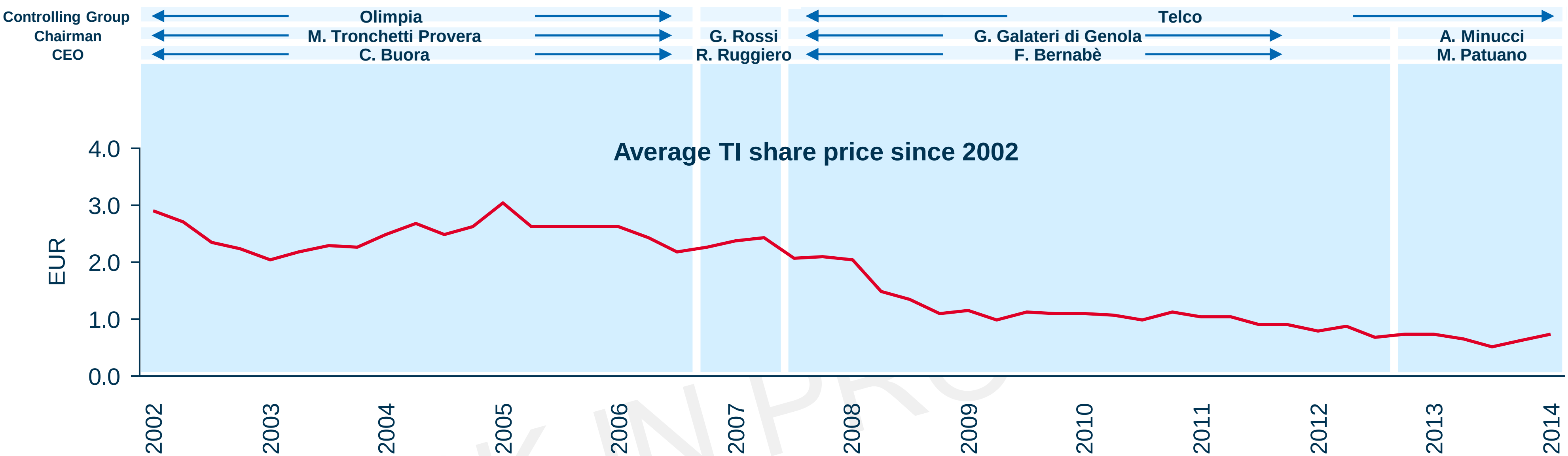
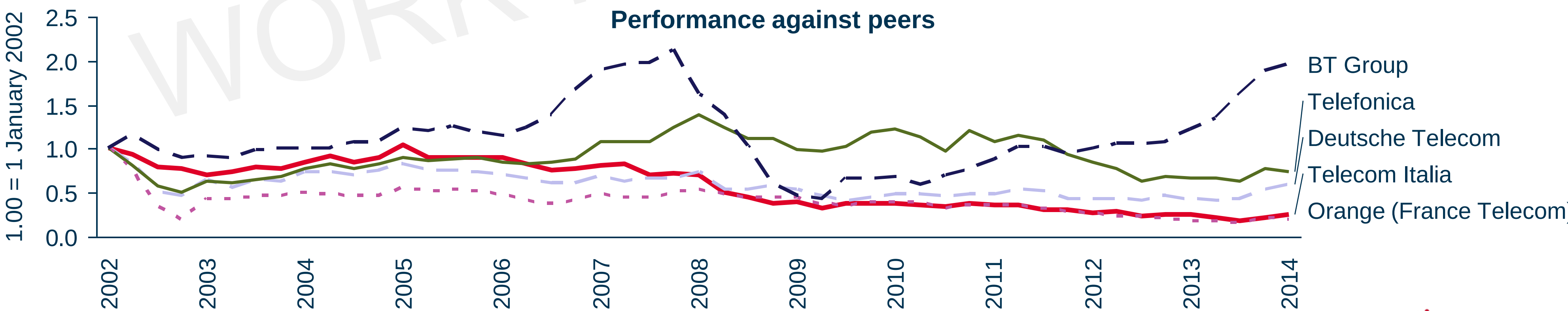
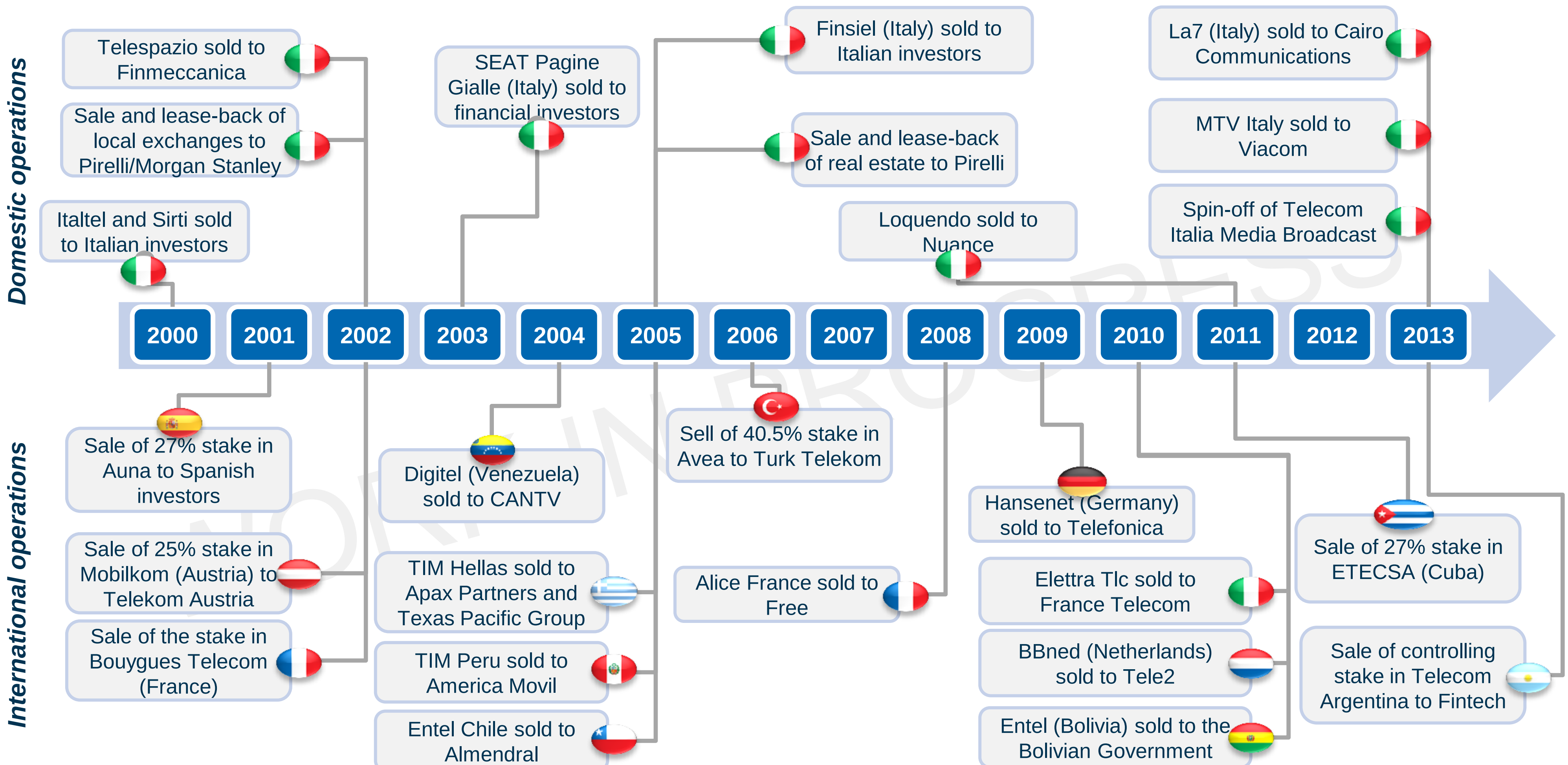
The share price has been constantly declining during the debt reduction period and performance is in the bottom range of peers





Source: Yahoo finance

Operations, both in Italy and internationally, have been divested with proceeds used to reduce debt



Source: TI, press searches

92% of TI's 2013 cashflow (EBITDA – capex) comes from its domestic operations, which are still dominated mostly by voice and mobile services

TI's financial performance, FY 2013 (Pro-forma excluding Telecom Argentina)

FY 2013	Unit	Group	Domestic	Voice	Broad-band*	Mobile	Whole-sale**	Elim. and other	TI Media	Other***	TIM Brasil
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YoY change	%	*-4%*	*-6%*						*-39%*	*-45%*	*-2%*

Domestic

** Includes Internet access and business data * *includes Sparkle; ***Olivetti, other operations and eliminations*

Source: Analysys Mason based on TI investor relations

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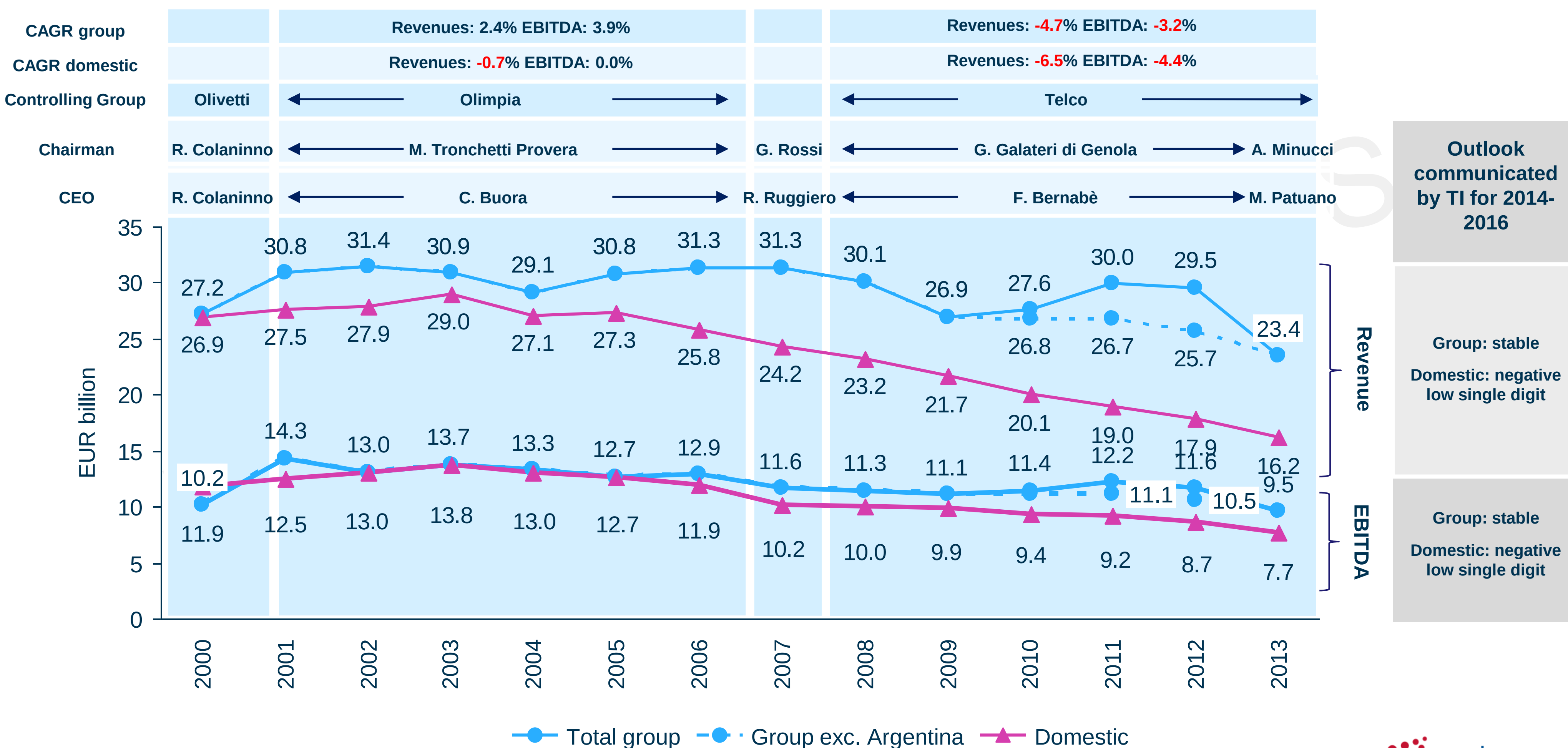
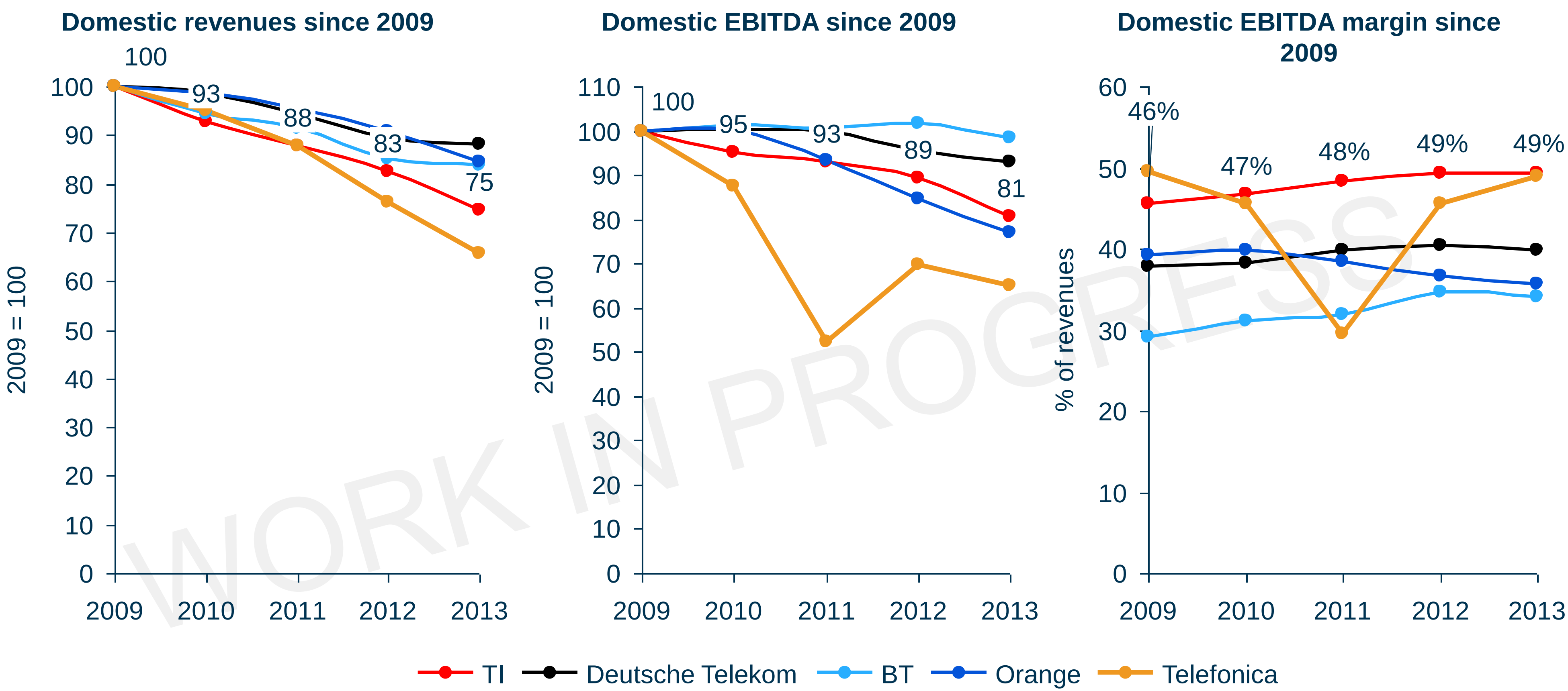
TI has seen declining revenue and EBITDA at the domestic level and at group level, with negative outlook for domestic and stable for the group

Development of consolidated group revenues and EBITDA



Note: Telecom Argentina consolidated in the group accounts from 2010 to 2012, Source: Telecom Italia

TI's performance in the domestic market since 2009 has been poorer than peers

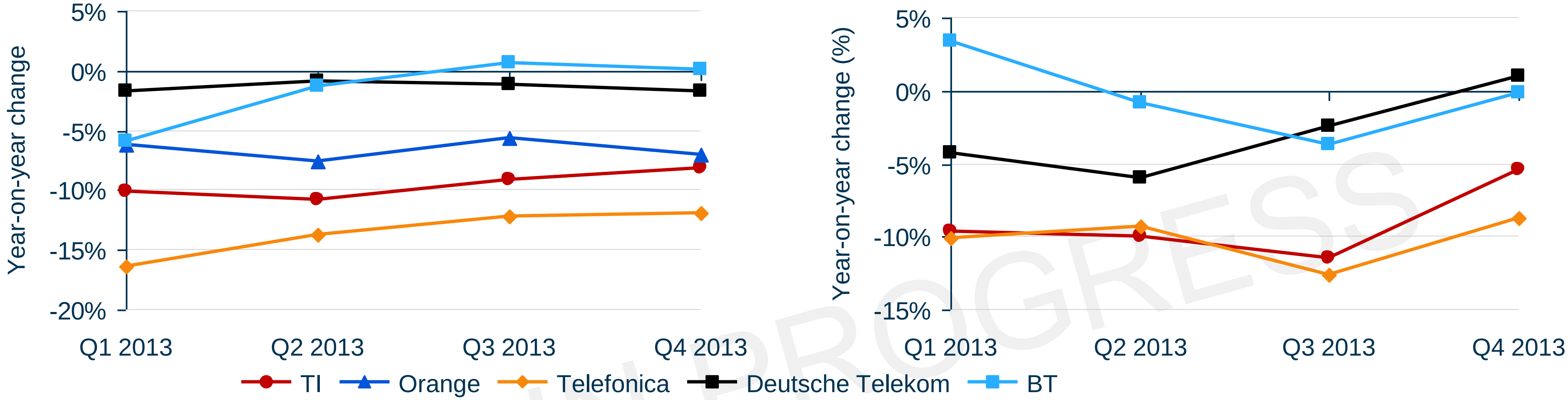


- Telecom has lost more domestic revenues than Deutsche Telekom, BT and Orange since 2009
- In terms of EBITDA it has performed worse than BT and Deutsche Telekom over the same period even if its EBITDA margin has improved and is the highest of the EU5 incumbent operators

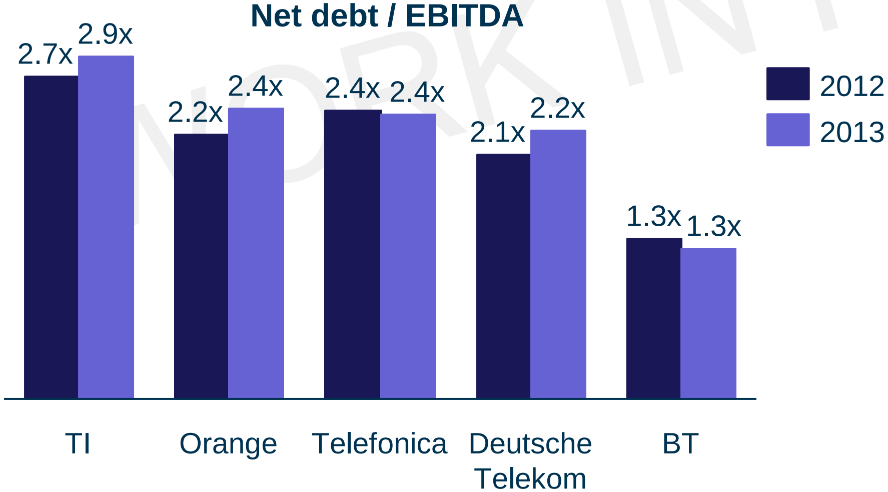
Source: Analysys Mason based on operator filings

During 2013, TI and Telefonica have continued to post the worst performance of all EU5 incumbents

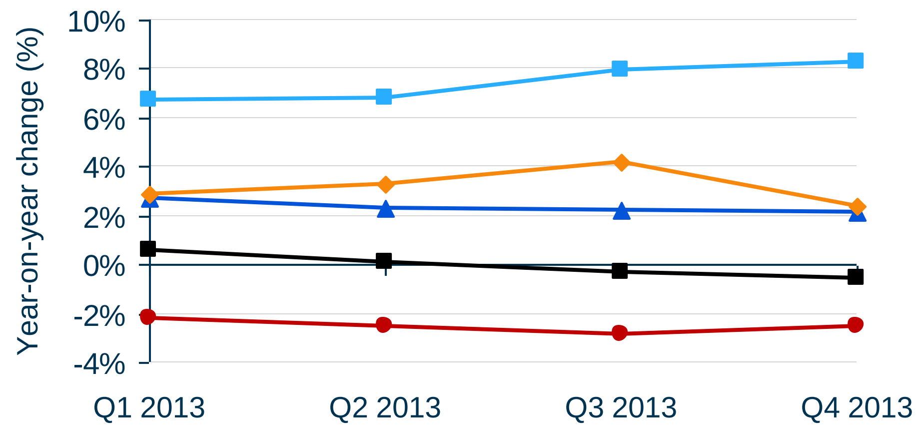
Domestic revenue year-to-date / Domestic EBITDA year-to-date



Net debt / EBITDA



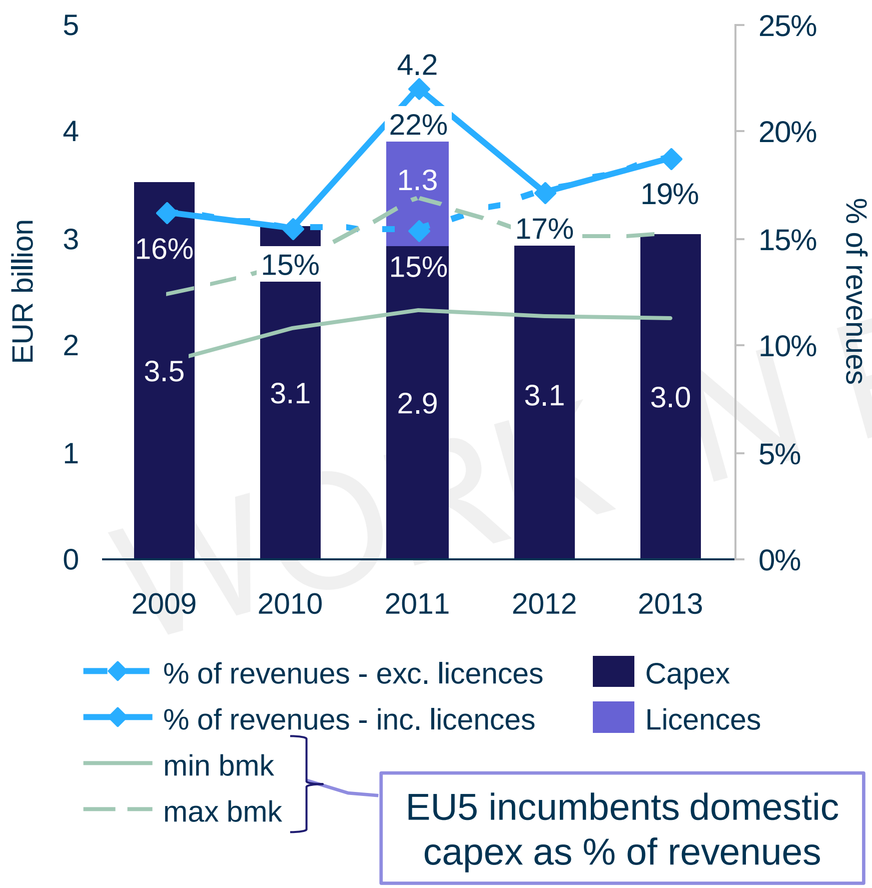
Domestic broadband lines



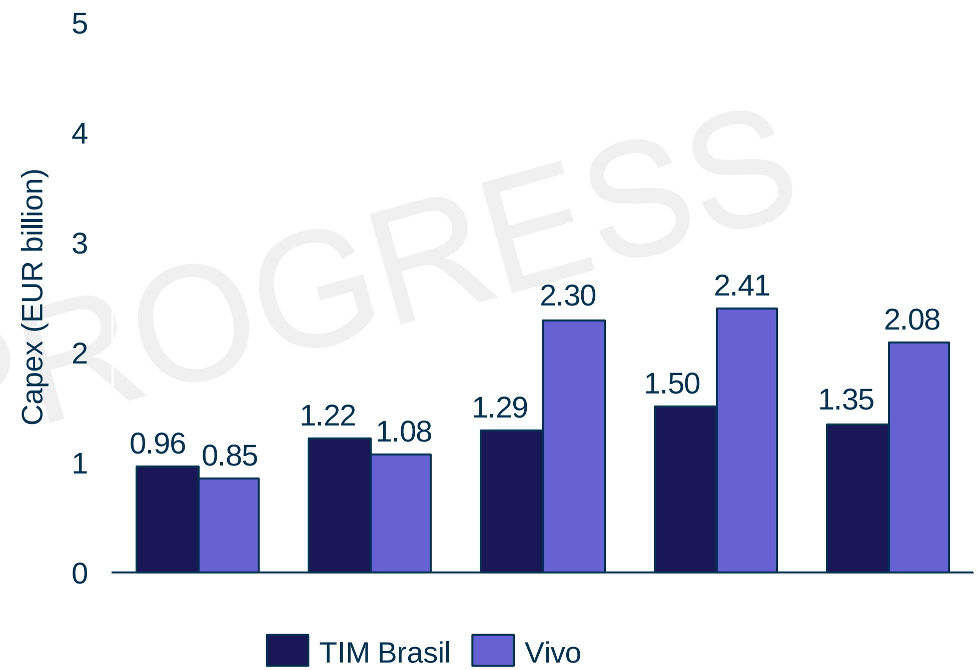
Source: Analysys Mason based on operator filings

TI has continued to reinvest a significant share of its revenues but has fallen behind its competitors in Brazil

Domestic: capex has remained broadly stable but is rising as share of revenues



TIM Brasil: investments are 35% lower than its main competitor's



Source: TI, BT, Orange, Deutsche Telecom, Telefonica

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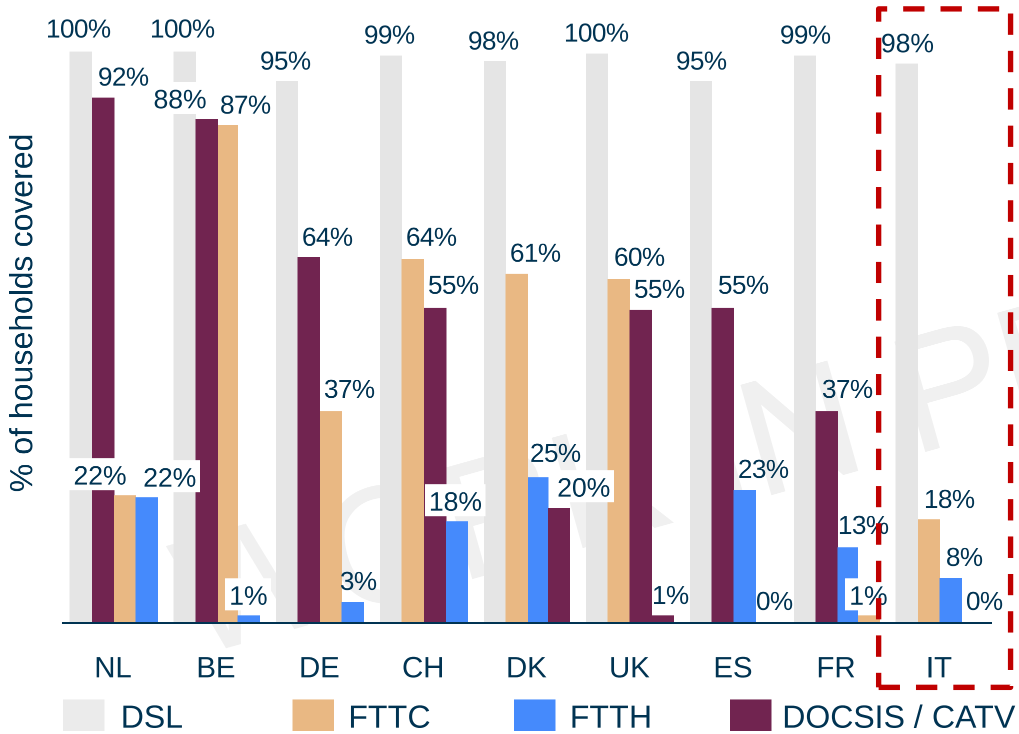
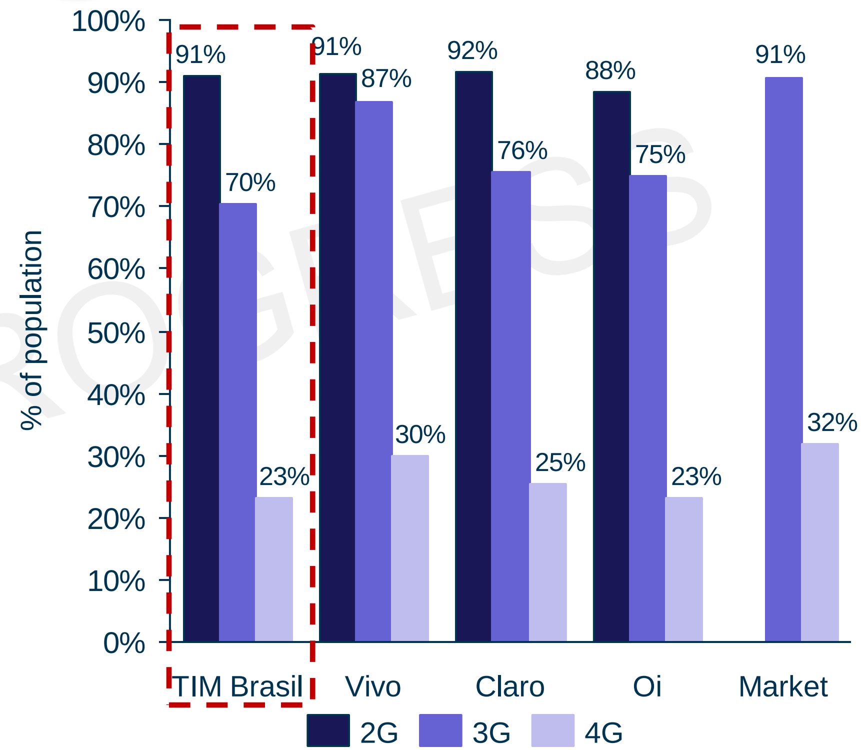
There are significant gaps between the status of both the fixed network in Italy and the mobile network in Brazil versus peers/competitors

Domestic fixed: Lowest NGA coverage among European incumbents



TIM Brasil: competitive disadvantage on 3G/4G coverage

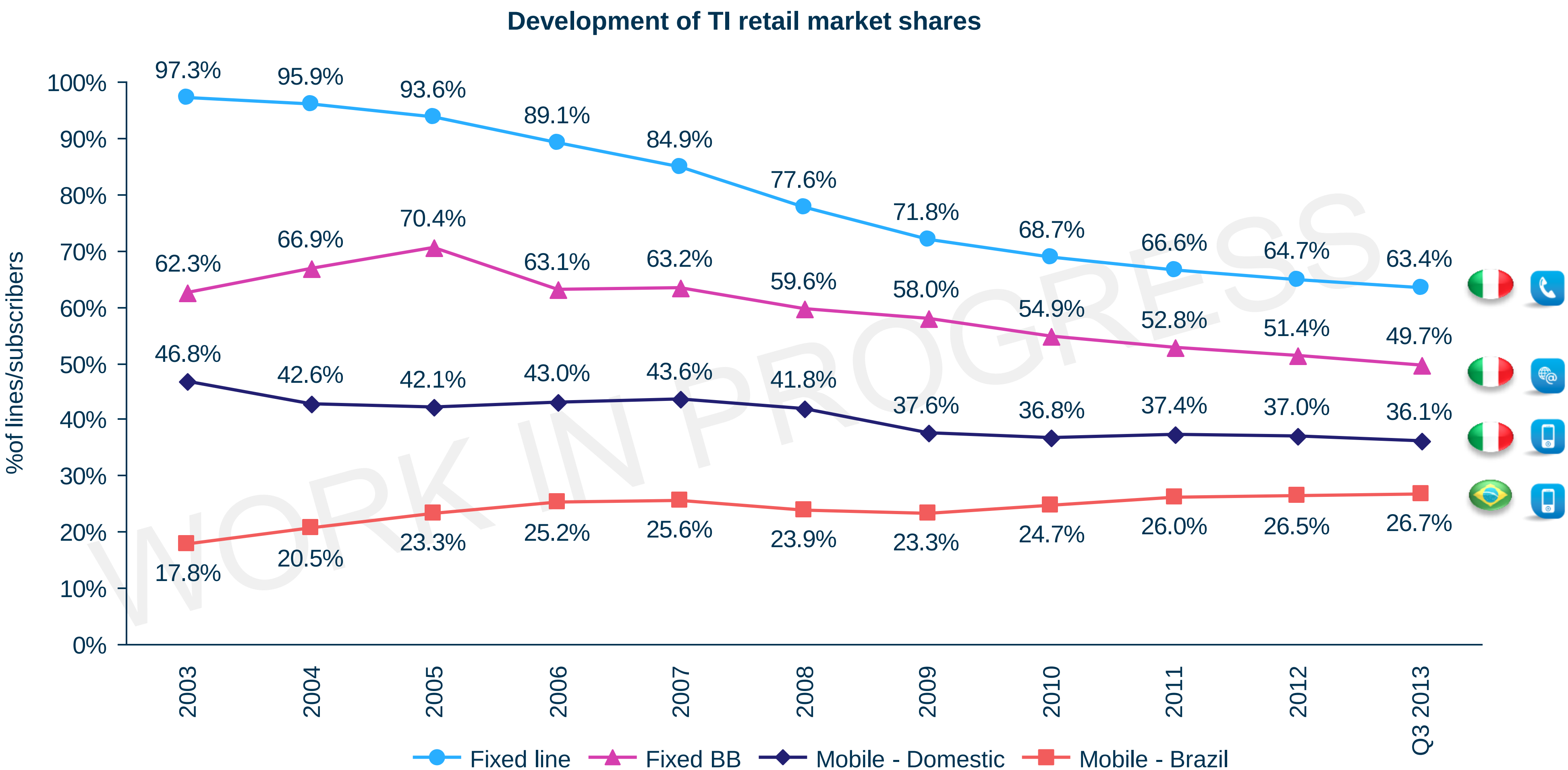


Investments required to guarantee the future relevance of TI's fixed network

Investments required to support and benefit from data-driven growth

Source: Analysys Mason Research, MiSE, Teleco

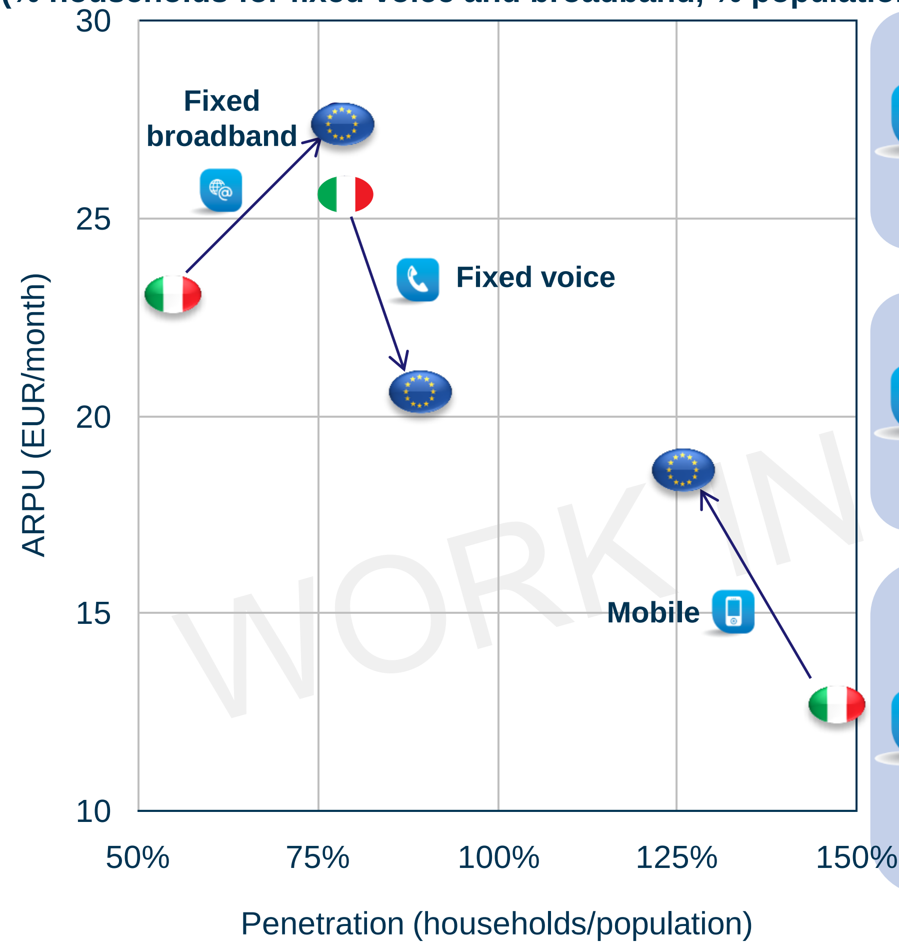
Domestic market shares have been steadily declining while the company has expanded its subscriber market share in Brazil



Source: TI, Analysys Mason Research, Wireless Intelligence, AGCOM

In Italy there seems to be room for growth in broadband by rebalancing with fixed voice services, but mobile has suffered value destruction

Italian market vs. rest of Western Europe*
(% households for fixed voice and broadband, % population for mobile)



Status: Underdeveloped demand/penetration and spending per active user

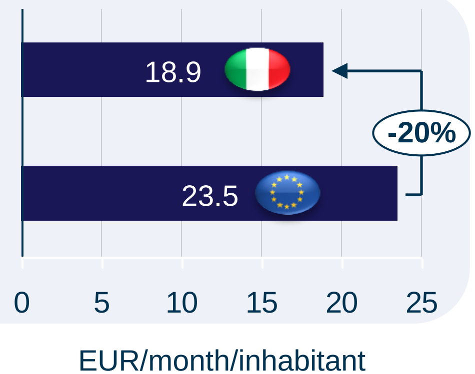
Objective: stimulate both demand and willingness to spend

Status: Still the main component of fixed services (replaced by broadband in other countries)

Objective: management of line loss and trade-off of ARPU with broadband

Status: Hyper-competitive and saturated market has destroyed value

Objective: increase value offers through data (LTE and multi-device) and innovative services (M2M m-payments etc.)



** Western Europe includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, the Netherlands, Norway, Portugal, Spain, Switzerland and the UK*
Source: Analysys Mason Research Telecom Market Matrix, Q3 2013

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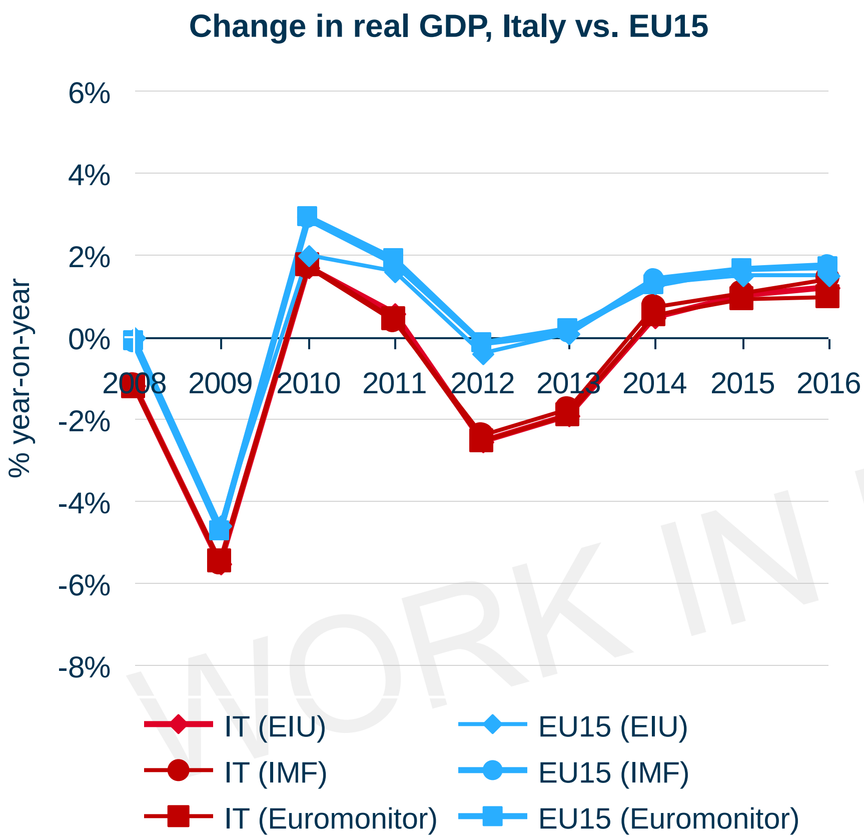
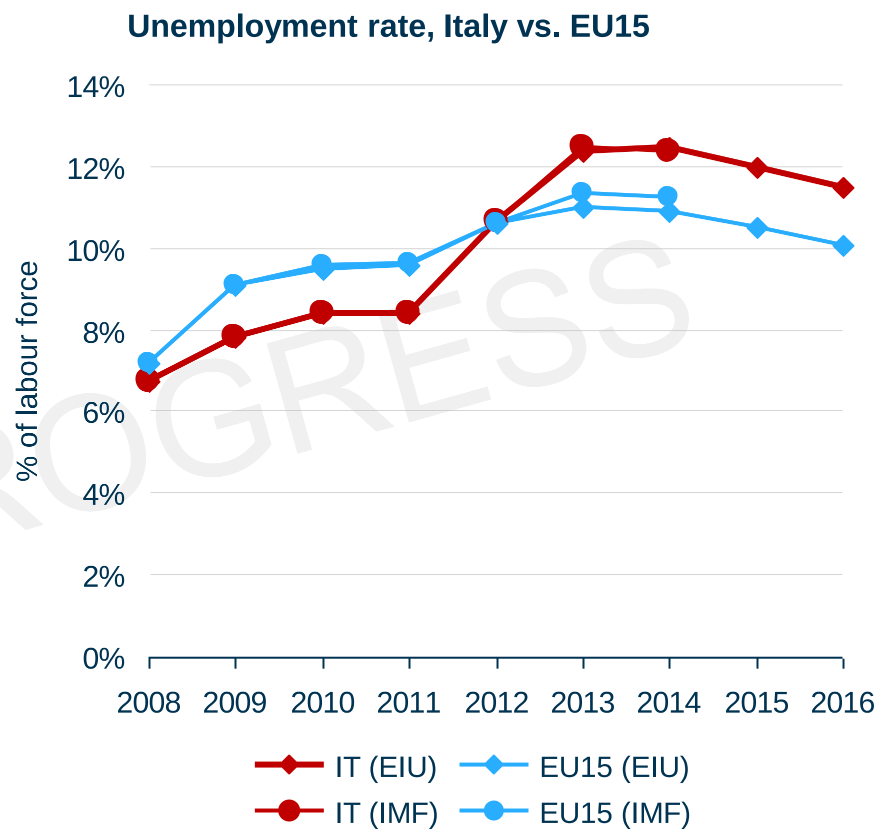
The macro-economy has been sluggish in Italy since 2008 but the outlook is for a return to GDP growth and a reduction in unemployment





Source: EIU, IMF, Euromonitor

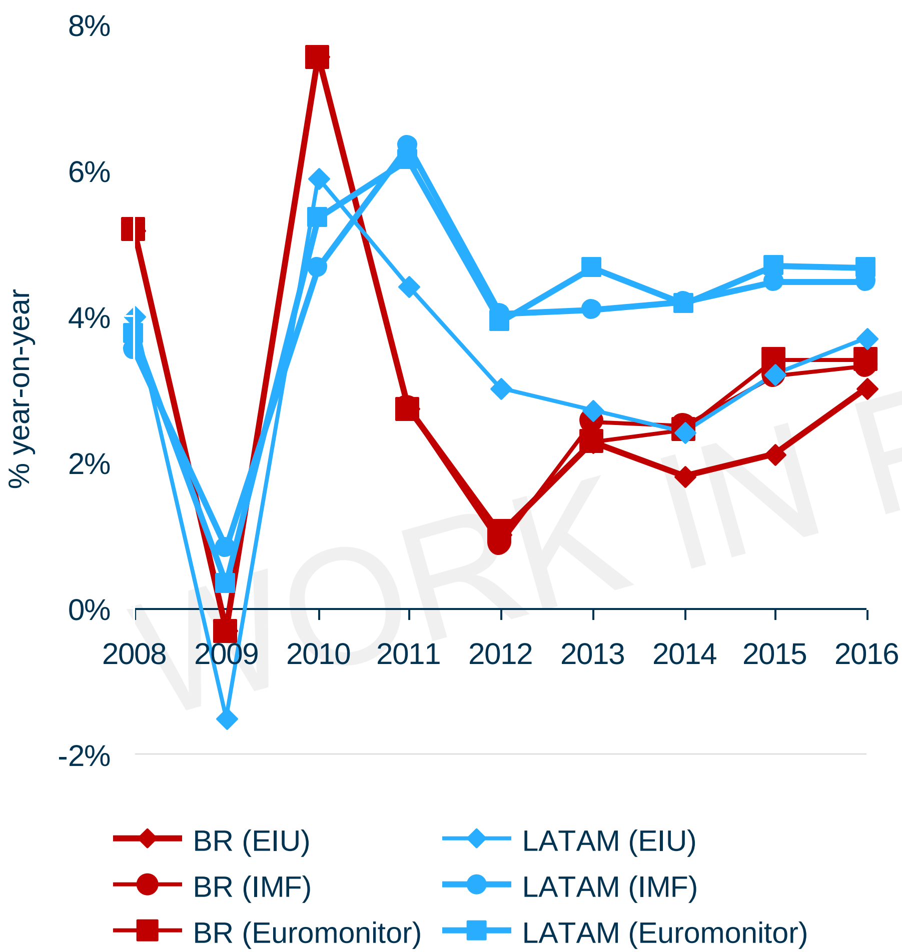
TI is conditioned by the regulatory environment in Italy although it is unlikely that the environment will deteriorate in the near future

Key issues	Current status	Outlook
Ex-ante regulation	TI is subject to ex-ante obligations on the main fixed access markets including local loop unbundling, line rental, wholesale broadband access and covering both copper and FTTC/H networks Access prices for copper network were reduced during 2013 whereas FTTC/H prices were set for the first time	There might be scope for wholesale price increases on copper Wholesale price decreases on fibre are likely, but the wholesale revenues from fibre are very limited so the impact would be limited for now
Approval for launch of retail offers	TI needs to submit all retail offers using fixed wholesale inputs to the regulator for approval before commercial launch	Regulation may be reduced if TI can demonstrate that it has sufficient measures in place to guarantee equality of inputs
Termination rates	Pure LRIC-based termination rates have been implemented on both mobile and fixed operations	Impact already factored in – prices likely to be stable going forward
Notification for copper network switch-off	TI needs to provide five years’ notice and/or provide equivalent access before switching off its current copper network	Switch-off has been announced in Milan but no further movements have occurred

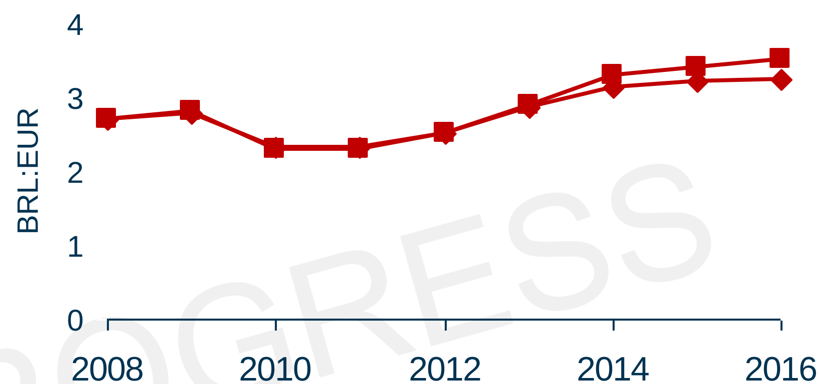
Source: Analysys Mason based on TI and other sources

Brazilian GDP growth slowed down in 2011 but is now rebounding somewhat, and inflation is expected to remain above 5%

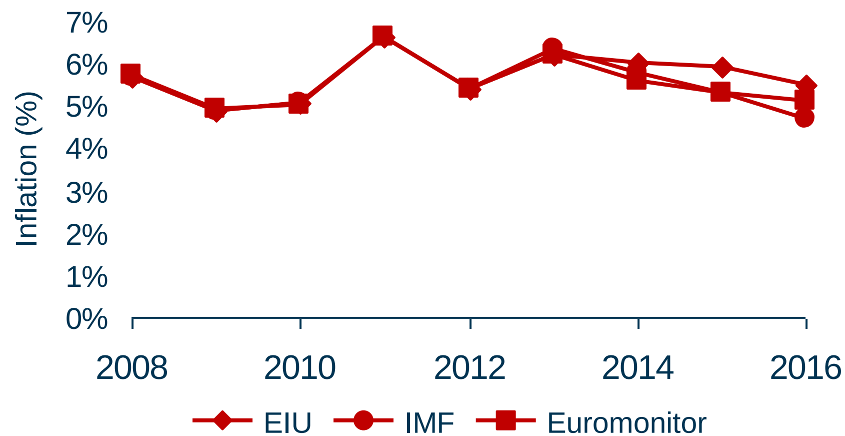
Change in real GDP, Brazil vs. Latin America



Exchange rate (BRL:EUR)



Inflation (change in consumer prices) in Brazil

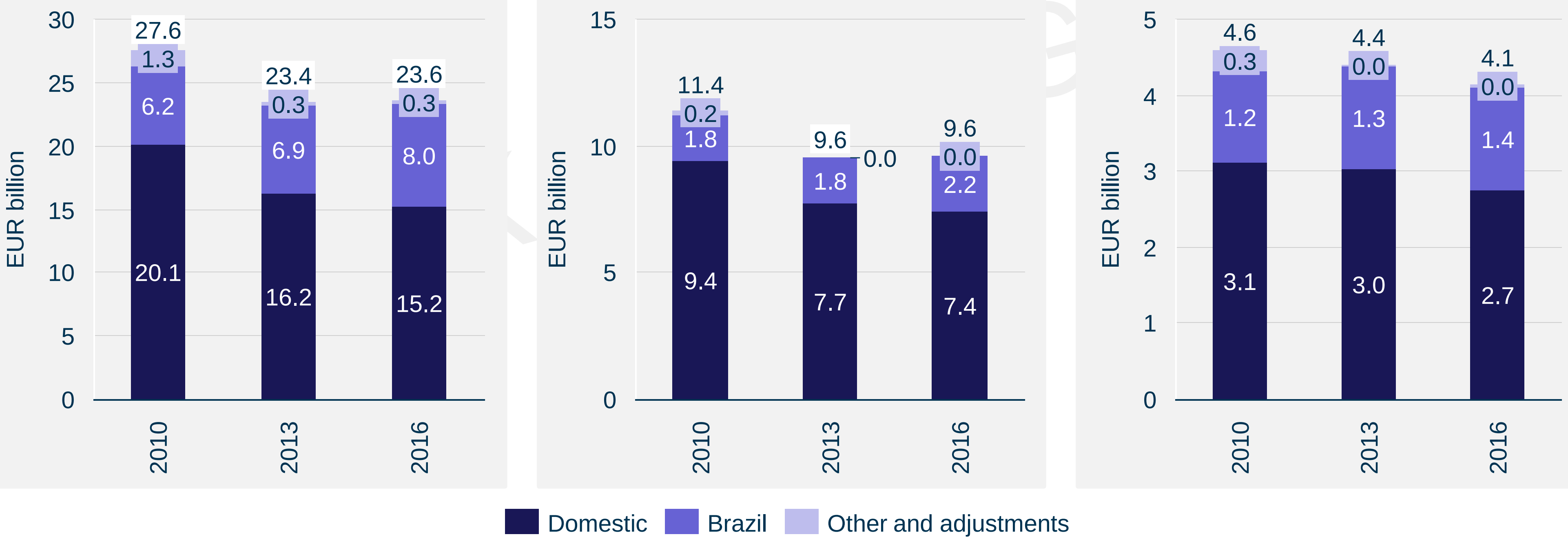


Source: EIU, IMF, Euromonitor

TI has issued very limited details on its three-year targets but its outlook is for a stabilisation at the group level and continued loss in Italy

Revenues	EBITDA	Capex
Guidance issued by Telecom Italia		
Group: stable	Group: stable	Group: <EUR14 bn cum. 2014-16
Domestic: negative low single digit	Domestic: negative low single digit	Domestic: 18% capex / revenues
Brazil: positive mid single digit	Brazil: positive mid single digit	Brazil: 17% capex / revenues

Illustration of 2010 and 2013 actual performance vs. 2016 targets issued by Telecom Italia



Source: Analysys Mason based on TI investor presentation from 7 March 2014

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Contents

A long term fixed strategy needs to create a virtuous circle by addressing both investments and demand in parallel

Demand cannot materialise without adequate investment

Investments (network)

Demand (for broadband and ultra-fast broadband)

Demand enables further investment

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TI should accelerate upgrades to its fixed network in order to lay foundations for future growth and opex rationalisation

IDENTIFIED PROBLEMS	PROPOSED ACTIONS
▪ TI has started to upgrade its network to higher-capacity FTTC, but these plans do not address the fundamental problems or lay foundations for growth – the coverage target remains at c. 50% of households by 2016 – FTTC deployments are an overlay to legacy local exchange-fed DSL without the capacity to migrate all users to FTTC	▪ Make FTTC the leading platform ▪ Increase FTTC coverage and capacity and be ready to exploit FTTH opportunity in some areas
▪ Multiple parallel (modern and legacy) networks are operated, increasing network complexity and opex	▪ Plan a gradual migration of legacy voice to broadband infrastructure to allow rationalisation of network

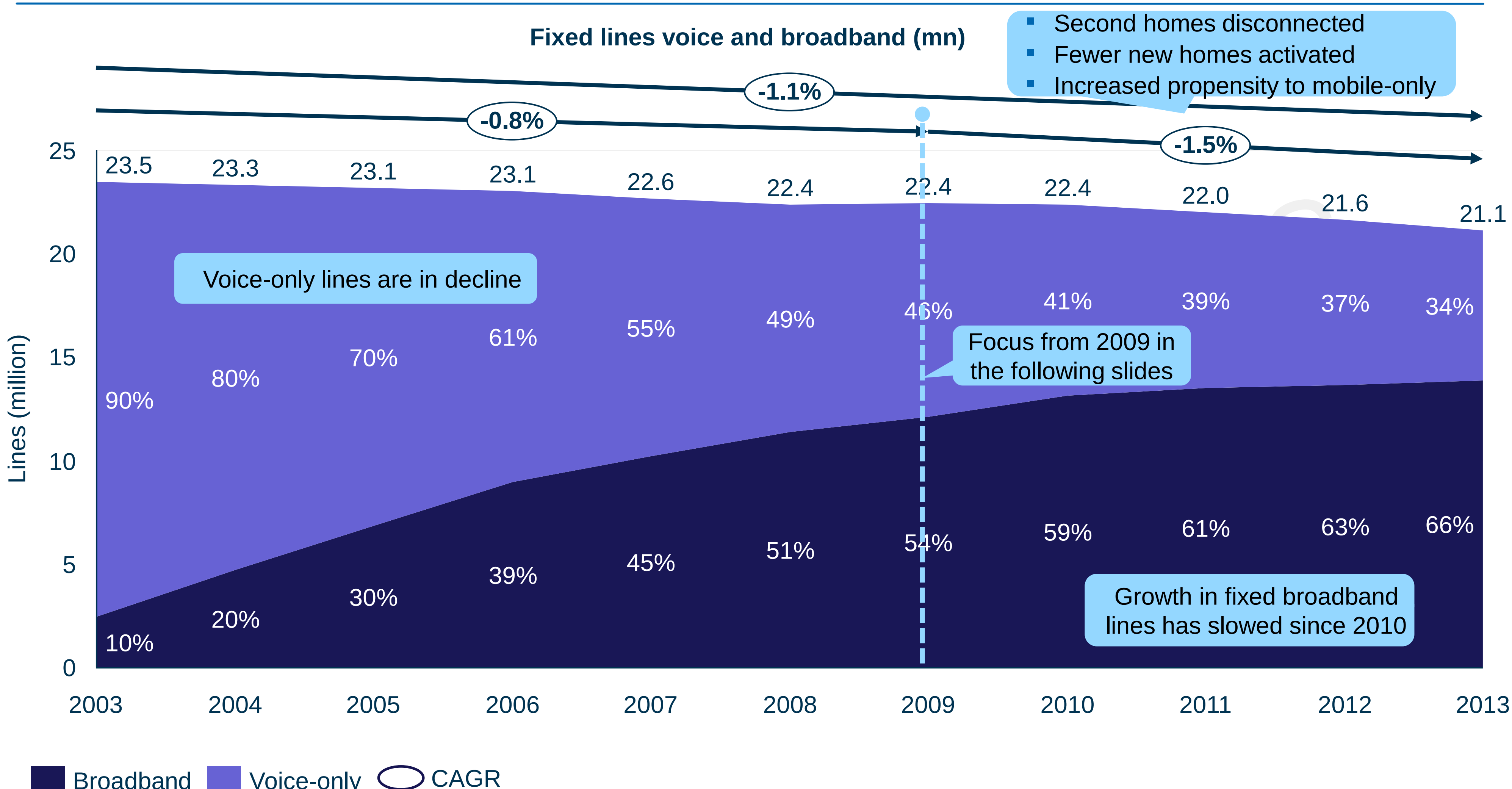
FTTC: Network uses high-speed optical fibre as far as the cabinet, and copper-based wires from the cabinet to the customer premises

FTTH: Network uses high-speed optical fibre as far as the customer premises

Telecom Italia needs to improve its positioning in the retail broadband market to drive demand and increase ARPUs

IDENTIFIED PROBLEMS	PROPOSED ACTIONS
Demand in Italy is lower than average (mainly explained by low ICT literacy) and requires stimulation by both TI and other players	Put pressure on government to pursue actions to improve ICT literacy Increase attractiveness of offers by adding value through content and applications – partnerships with OTT and content providers
TI is positioned as a low-value provider in the broadband market and is losing lines	Increase entry-level speed (nominal bandwidth) in order to position TI as a high-end provider
TI's FTTC and FTTH products are positioned at a significant premium to its lower-speed DSL products which is not encouraging take-up of the higher-speed products	Reduce premium for fixed-line ultra-broadband (UBB) products relative to entry-level products to attract users onto higher-value products

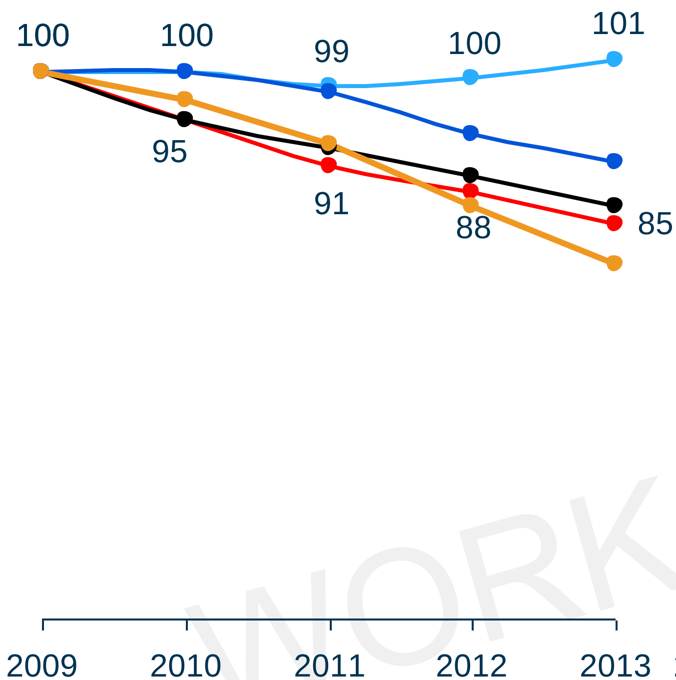
Italy is characterised by declining demand for fixed-line services, accelerated over the past few years by economic crisis



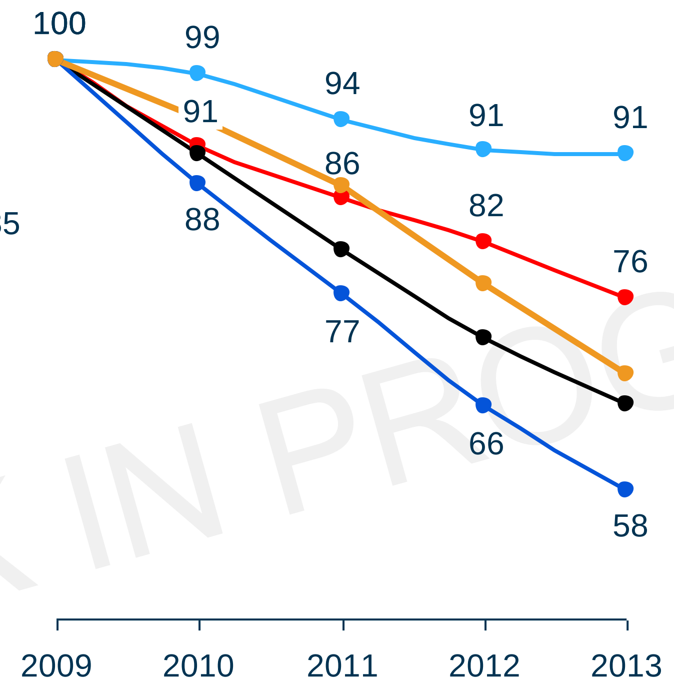
Source: Analysys Mason based on AGCOM, Analysys Mason Research and TI

The Italian fixed market is performing poorly compared to EU5 mainly due to a lack of growth in broadband revenues

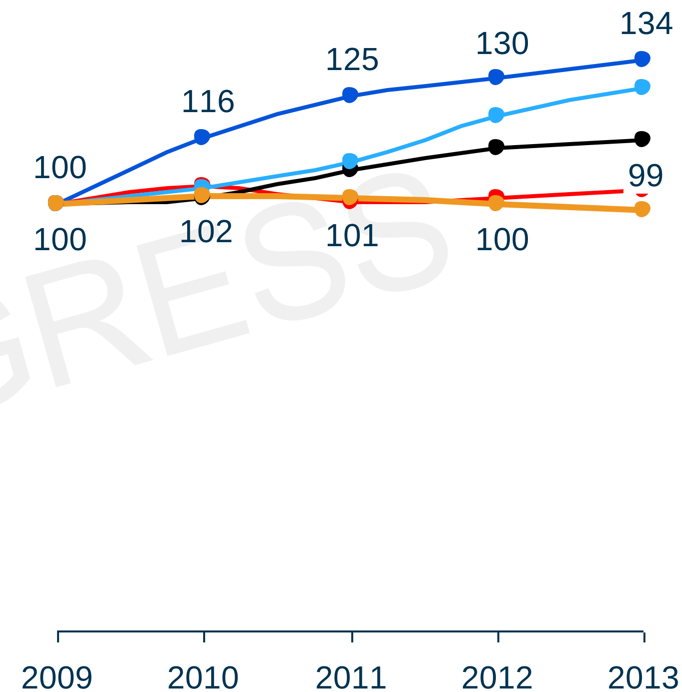
Fixed line retail revenues (2009 = 100)



Fixed voice* revenues (2009 = 100)



Fixed broadband revenues (2009 = 100)



IT DE UK FR ES

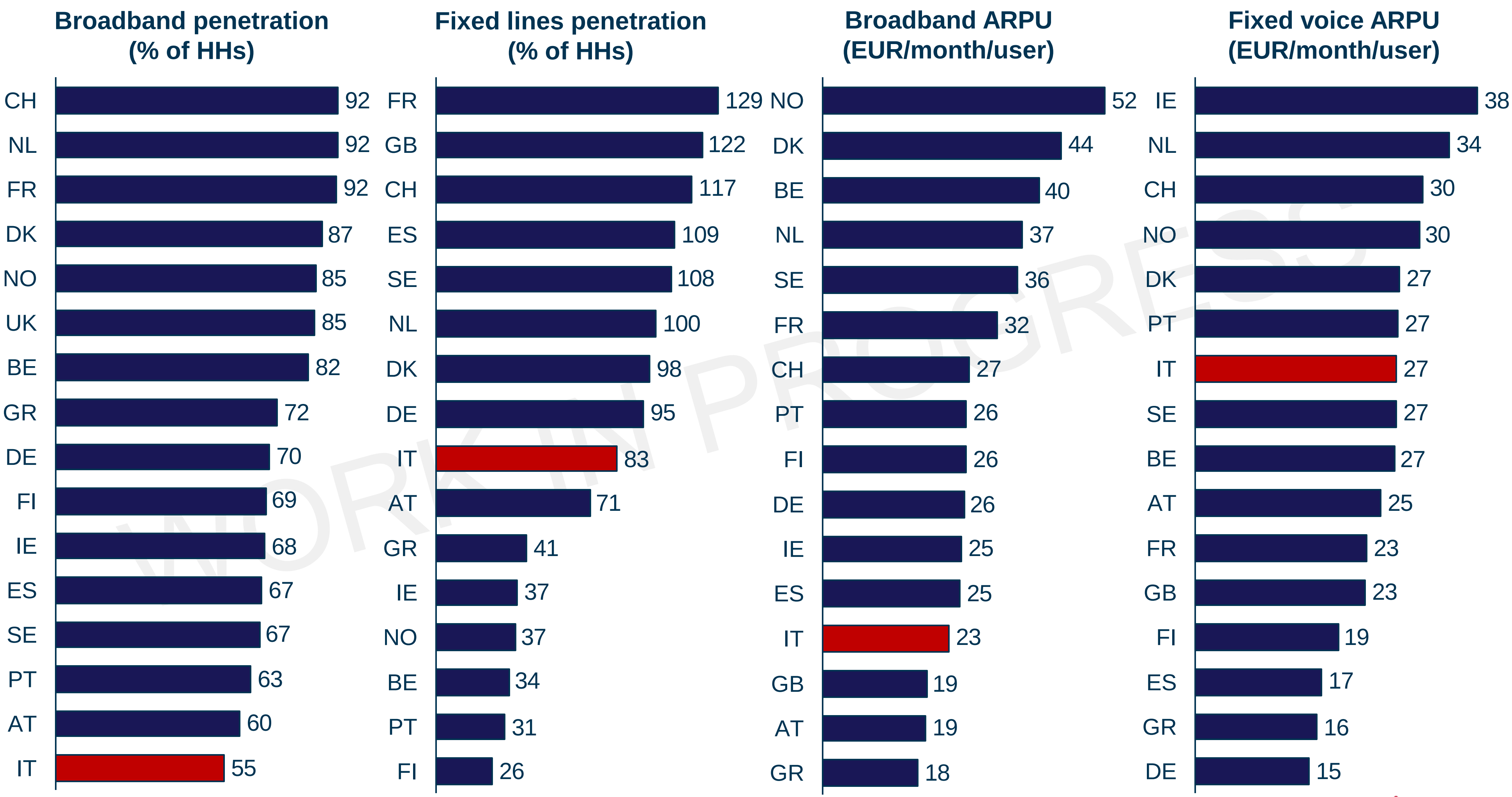
- Italy has suffered a significant decline in fixed line retail revenues
  - in line with Germany and Spain
- In France and the UK, retail revenues were retained

- Italy has suffered a decline in fixed-line voice revenues, although to a lesser extent than EU5 peers (excl. UK)

- Broadband revenues in Italy have grown more slowly than in any other EU5 country except Spain

** Includes line rental and traffic revenues*
Source: Analysys Mason Research

Italian broadband penetration and ARPU are amongst the lowest in Western Europe, whilst the picture is somewhat better on fixed voice



Note: data shown refers to Q3 2013
Source: Analysys Mason Research

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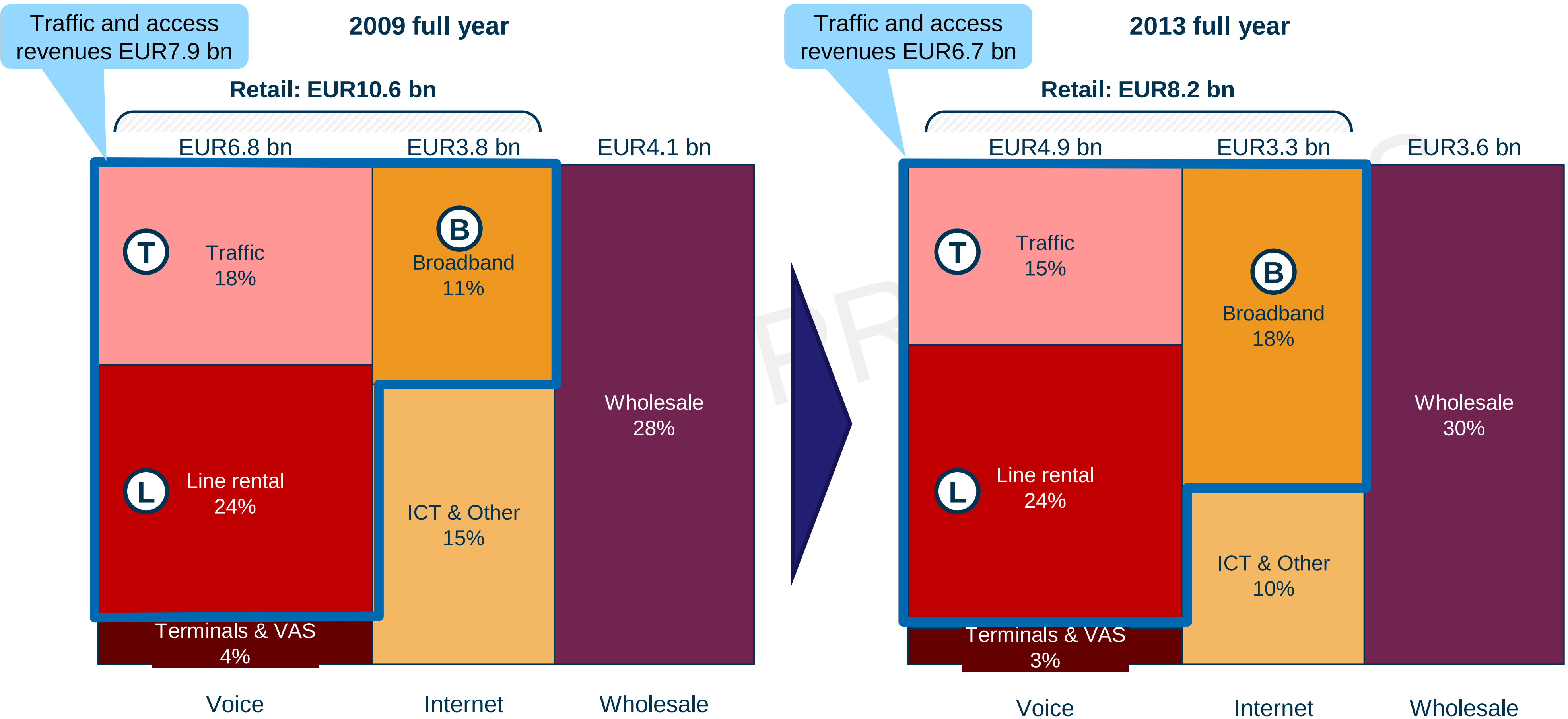
Legacy voice services still dominate the fixed revenues of TI, and growth from broadband has been limited

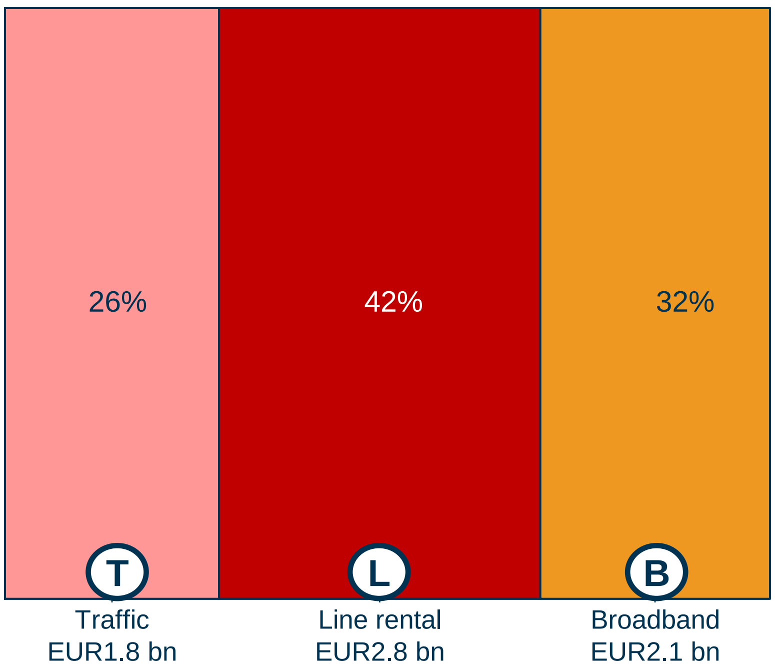
TI's fixed domestic operations revenues



Note: broadband residential and business
Source: Analysys Mason based on TI

Italy has greater potential for increased retail broadband revenues than is the case for other EU5 incumbent operators

TI's fixed domestic retail revenues (2013)



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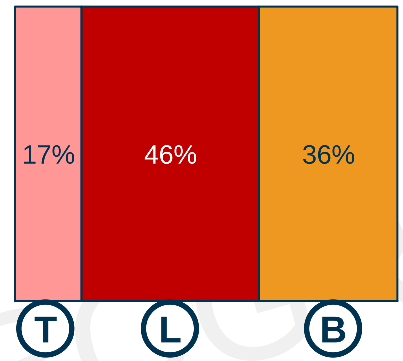

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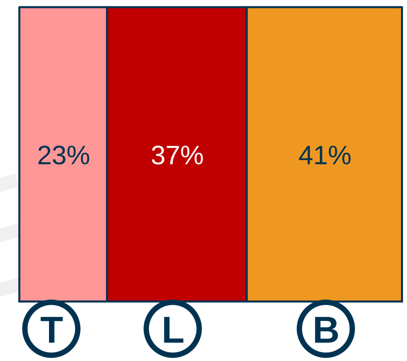
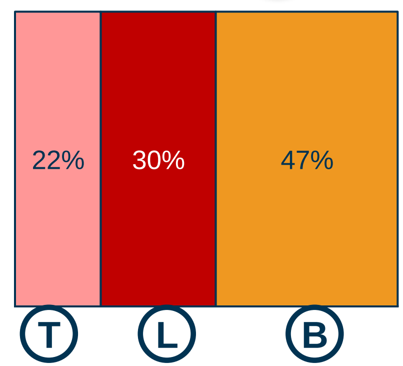
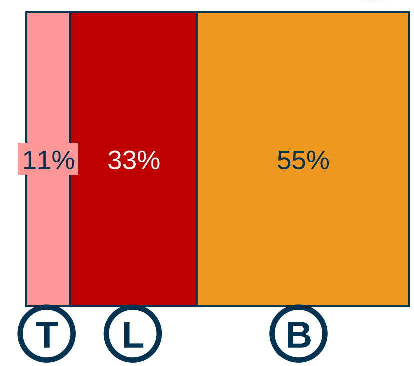


Telefónica

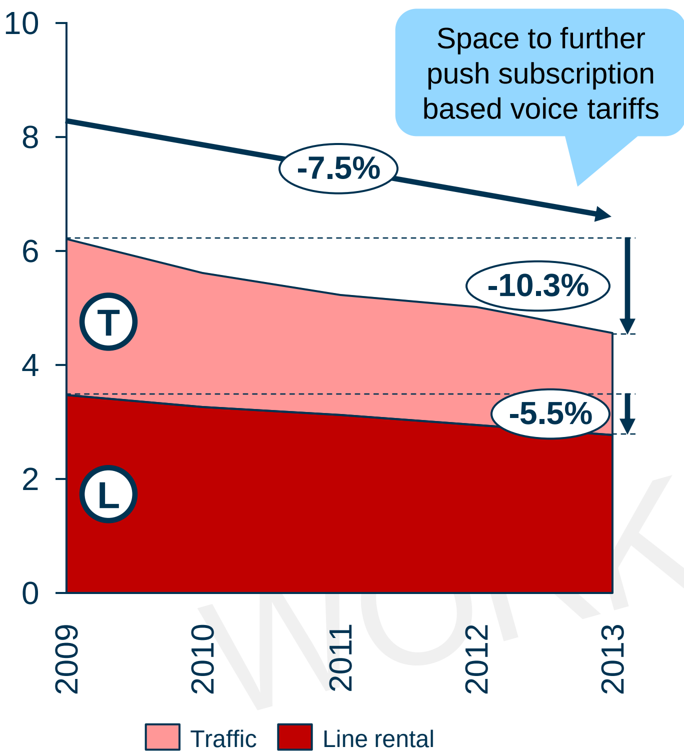


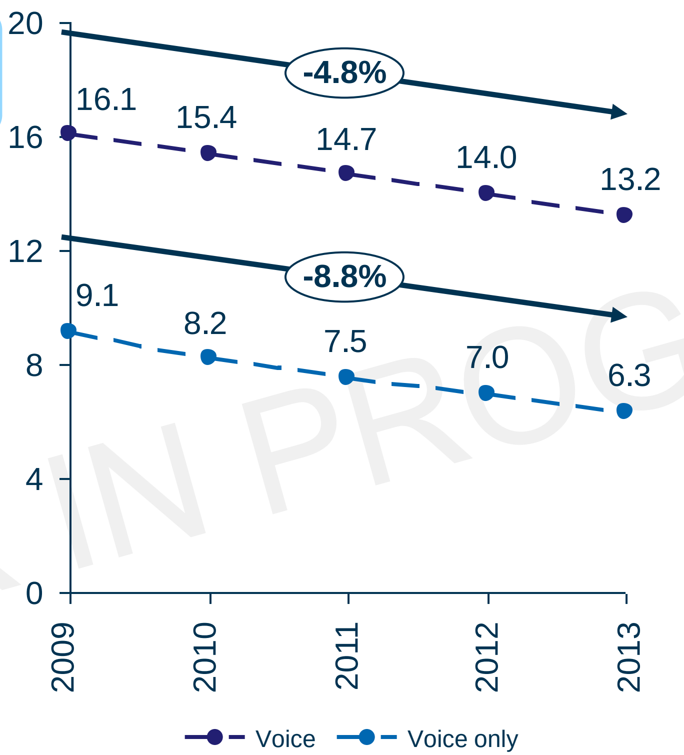
Deutsche Telekom

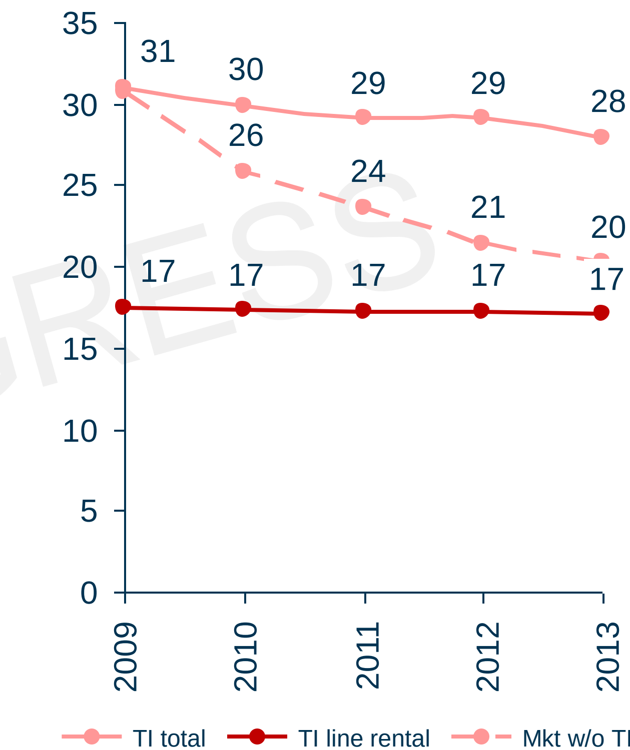


Note: broadband residential and business; TI data refers to full year (2013), EU peers refer to 9 months ending Q3 2013
Source: Analysys Mason Research and TI

Legacy voice services have been in constant decline in recent years driven by falling revenues from (mainly voice-only) line rental and traffic







- TI's fixed voice revenue declined
  - strong decrease of fixed voice traffic
  - increase in line rental not offsetting overall line decline

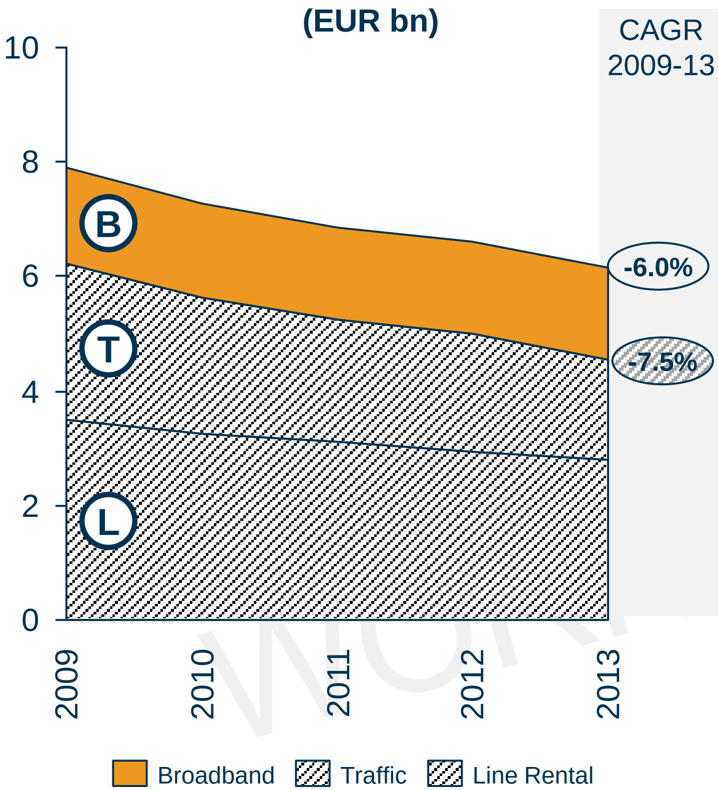
- Voice-only lines are declining faster than lines with broadband services
  - commoditised telephony service has resulted in intense price competition
  - greater tendency for voice-only to be abandoned (in favour of mobile)

- Other operators are behaving aggressively in the market and have significantly lower voice ARPU than TI

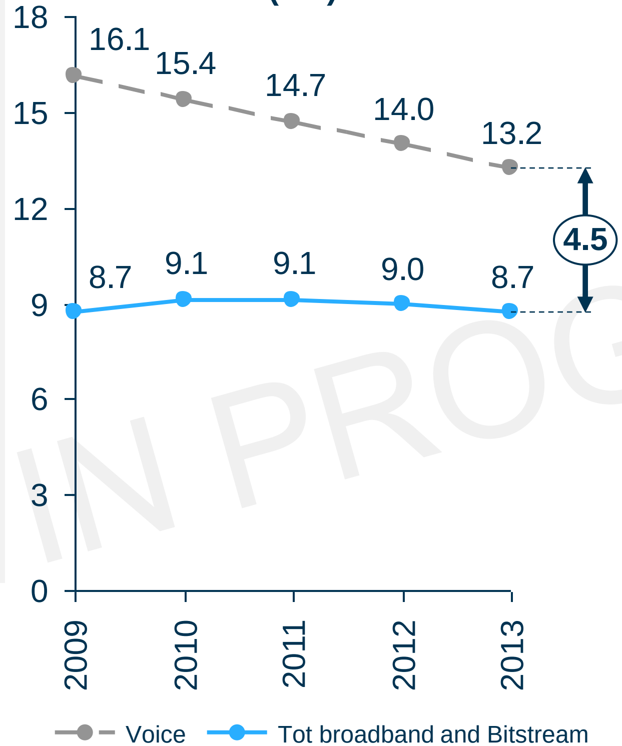
Source: Analysys Mason based on Analysys Mason Research and TI

The decline in TI's voice revenues has been only partially offset by rising broadband revenues

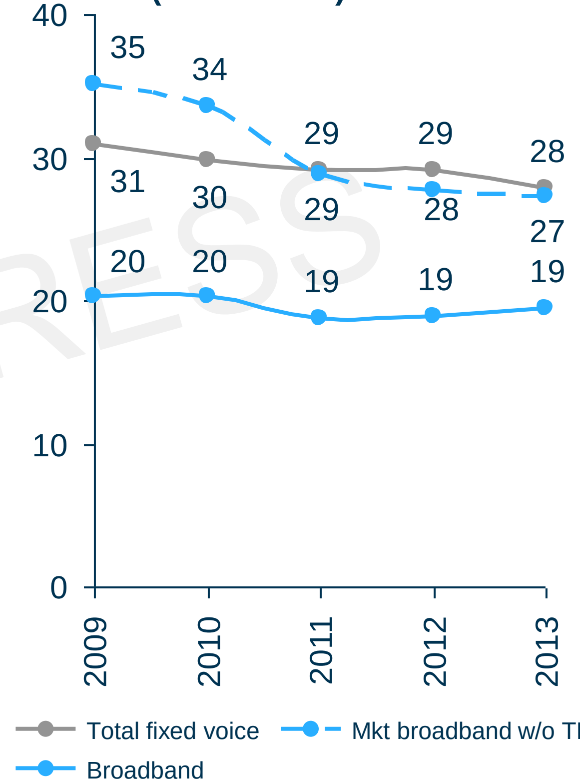
TI fixed **voice and broadband revenues (EUR bn)**



TI fixed voice and broadband lines (mn)



TI fixed voice and broadband ARPU (EUR/month)



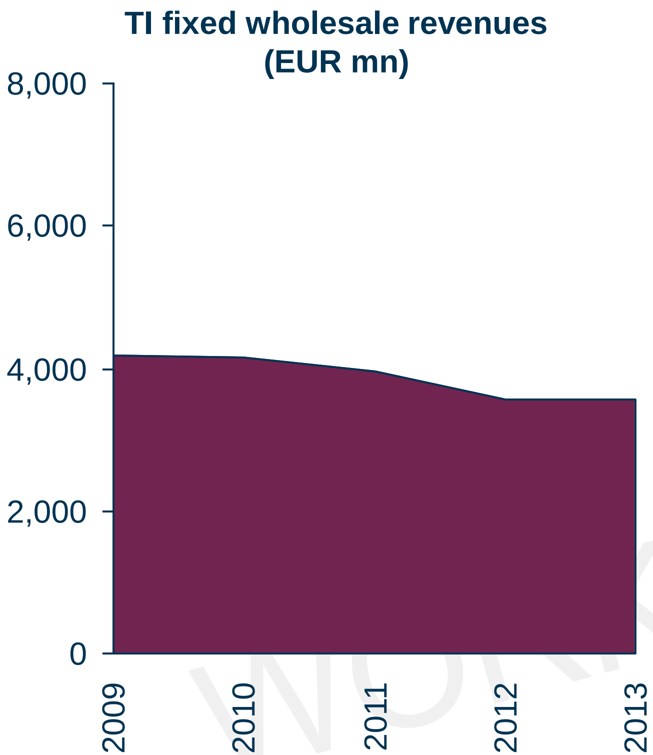
- Broadband revenues have only partially offset the decline in traditional voice
- TI would benefit from upgrading voice-only lines to bundles with broadband services

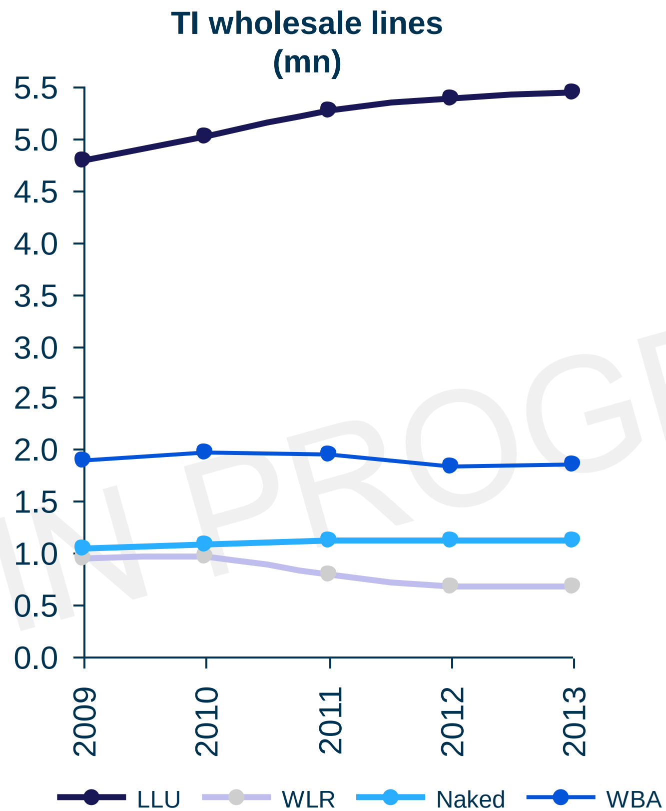
- Broadband subscribers typically have higher switching costs (vs. voice-only users)

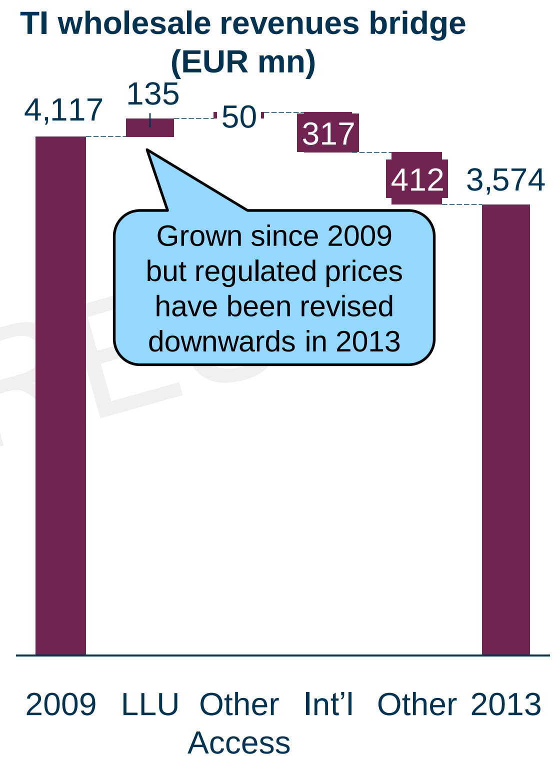
- TI's broadband ARPU has remained broadly flat over the years

Source: Analysys Mason based on Analysys Mason Research and TI

TI's wholesale revenue have declined despite a modest rise in revenues from access services (mainly LLU)







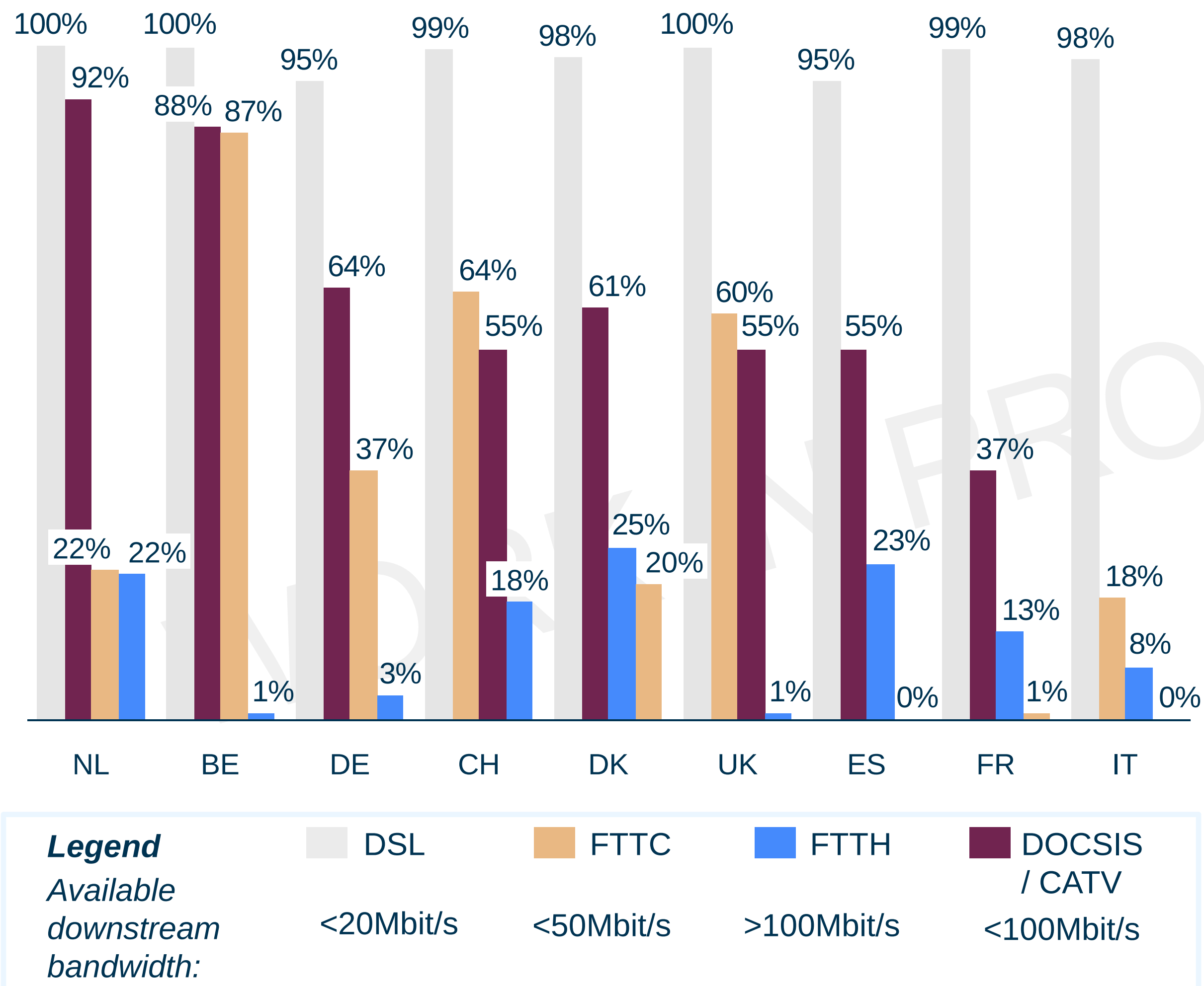
- Wholesale revenues declined in the years to 2012 and have since stabilised
  - regulatory pressure on prices is not expected to significantly harm TI's wholesale revenues going forward
- Overall LLU lines have grown although somewhat slower in the last year
  - share of narrowband access lines has declined substantially in line with the trend observed in other EU markets
- Wholesale revenue decline was mainly driven by TI's intl. wholesale business (mainly Sparkle) and other wholesale service (e.g. leased lines, dedicated links, etc.)

Source: TI

Contents

In Italy, fixed broadband mainly relies on TI's legacy DSL network; in other countries there is much greater infrastructure competition thanks to CATV

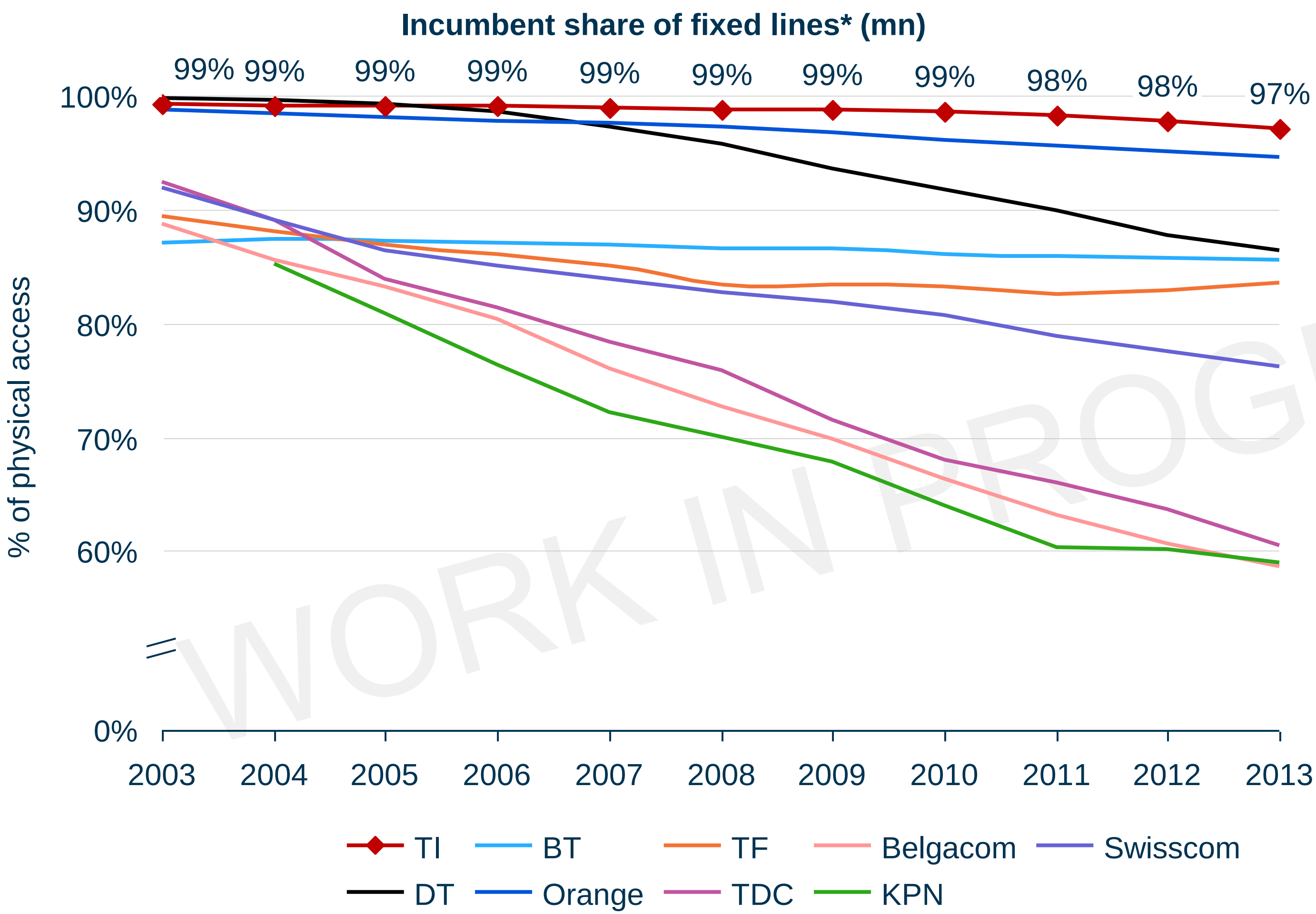
Broadband coverage % HHs by platform (latest available data, for Italy 2013)



- Italy is the only European country without a high-speed broadband network over cable (DOCSIS)
- Alternative FTTH coverage is limited to Milan where it is operated by wholesale operator Metroweb and alternative operator Fastweb
  - TI partially uses the Metroweb network for its FTTH in Milan
- FTTC has been deployed only recently
  - led by TI, with Fastweb also building its own network in parallel using TI copper sub-loops
- The lack of alternative networks means that TI is ideally positioned to exploit the growth of UBB by
  - strengthening its position in FTTC
  - deploying FTTH tactically where demand/density allows it

Source: Analysys Mason based on Analysys Mason Research, European Commission (Broadband Coverage in Europe 2012), Rapporto Caio (2014), TI

TI's network is a strategic infrastructure for Italy as there is no cable competition and limited FTTH roll-out



97% of physical accesses supplied by TI

Other EU countries have infrastructural competition from cable operators

Expected competition at infrastructure level in Italy

- *FTTC via TI's infrastructure*
- *Some wireless substitution*

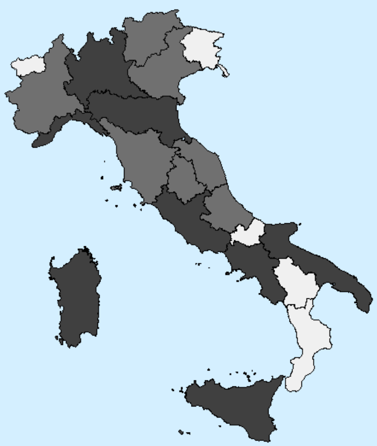
** Retail and wholesale*

Source: Analysys Mason based on AGCOM and Analysys Mason Research

Italy still needs substantial investment to reach the EC digital agenda (DAE) targets for 2020

Objective DAE 2013: *100% of residents **covered** by basic broadband services*

Actual achieved 2013: 98% of population covered up to 2Mbit/s
(rest partly served by FWA)



"Italy is de facto compliant with the first EU broadband target" [Caio, 2014]

Objective DAE 2020: *100% of residents **covered** by fast broadband (≥30Mbit/s)*

Actual achieved 2013: 18% of households covered with FTTC/VDSL (30-100Mbit/s)

"Recent investments to FTTC/VDSL upgrades by all operators makes this objective look achievable" [Caio, 2014]

Objective DAE 2020: ≥50% of HHs **subscribed** to UBB (≥100Mbit/s)

Actual achieved 2013: FTTH coverage still nascent (FTTH offers available in some part of selected cities)

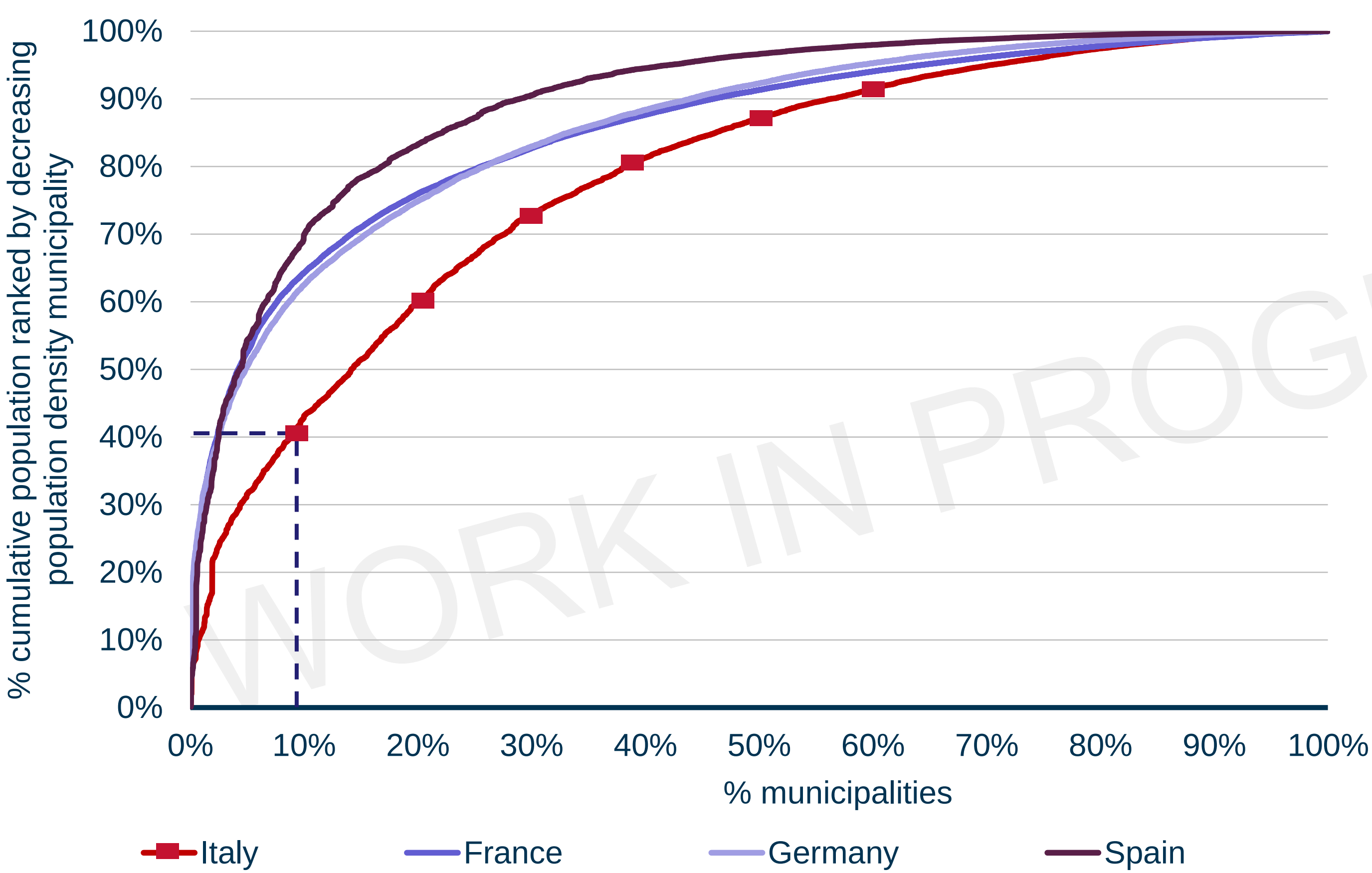
"Based on current regulatory rules, level of demand and planned investments the third objective of the DAE will not be met" [Caio, 2014]

Legend: *High* *Medium* *Low* • *Example of cities where FTTH is available*

Source: Analysys Mason based on MiSE, Rapporto Caio (2014) and TI

The Italian population is more evenly distributed than in Germany, Spain and France, requiring greater investment to meet the DAE targets

Correlation between population and number of municipalities



- The population in Italy is generally more dispersed across the country than in its benchmarked peers
- The first 10% of most densely populated municipalities account for:
  - 40% of all inhabitants in Italy
  - 60% of all inhabitants in France and Germany
  - 70% of all inhabitants in Spain
- There may be a need for public funds to boost coverage and meet the DAE targets in Italy

Source: Analysys Mason based on national statistics offices

EU policy for broadband plans stands between a liberalised US approach and a ‘public-oriented’ Asian one, but its effectiveness has yet to be proven

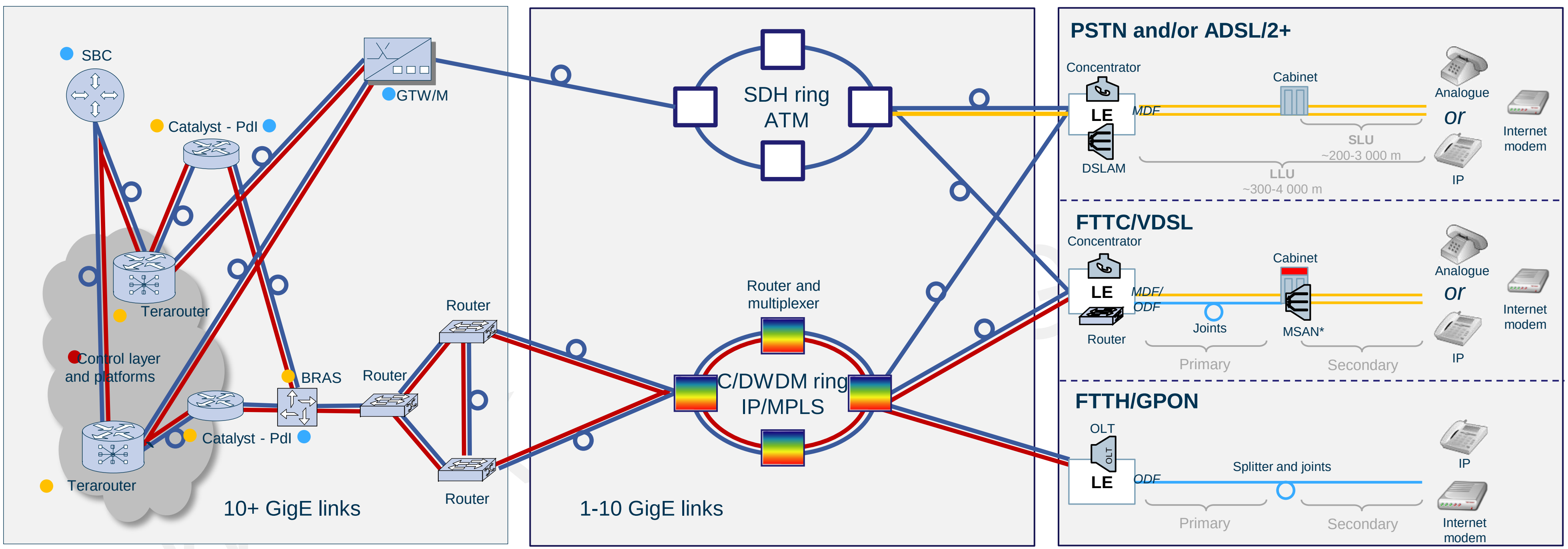
Country/ region	US	EU	JP, KR, SG
Investing entity	Predominantly private	Predominantly private (public in rural areas)	Predominantly public
Access obligations	Limited access regulation	Access regulation	Access regulation
Coverage (technology)	50% FTTx 85% DOCSIS3.0	37% FTTx 23-49% DOCSIS3.0*	94-99% FTTx 58-99% DOCSIS

Broadband policy in EU seems to stand in between that of east Asia (where access regulation is imposed but public funds were made available) and that of the USA (where investments were predominantly private but no access regulation was imposed)

** 49% coverage for DOCSIS refers to the average of the Western European area*
Source: Analysys Mason, Analysys Mason Research

TI’s network can be gradually upgraded to achieve long-term objectives and growth, but this requires investment in the backhaul and access

National or long distance | **Regional or backhaul** | **Access**



- **Link between regional locations and national backbone – PtP and DWDM** *(30 national sites; star network topology with 2 main hubs)*
- **Link between exchanges and the and second hierarchy of the network - C/DWDM links** *(~600 physical locations)*
- **Last-mile infrastructure connecting end users and LE mainly via copper** *(10 500 LEs, 150 000 cabinets and ~600 000 km of copper cables)*

Domain *Interconnection* *Platform*
Multiplexing on fibre *Copper* *Fibre*

Investments largely incurred

Mix of legacy and modern protocols. Scope for rationalisation

Requires significant investments for upgrade

Note: VDSL provided by local exchange if local loop short enough
Source: Analysys Mason on AGCOM, Notiziario Tecnico Telecom Italia – Numero 2/2012, TI

TI needs to aggressively invest in NGA in order to remain the main access network provider in Italy

Political and regulatory pressure

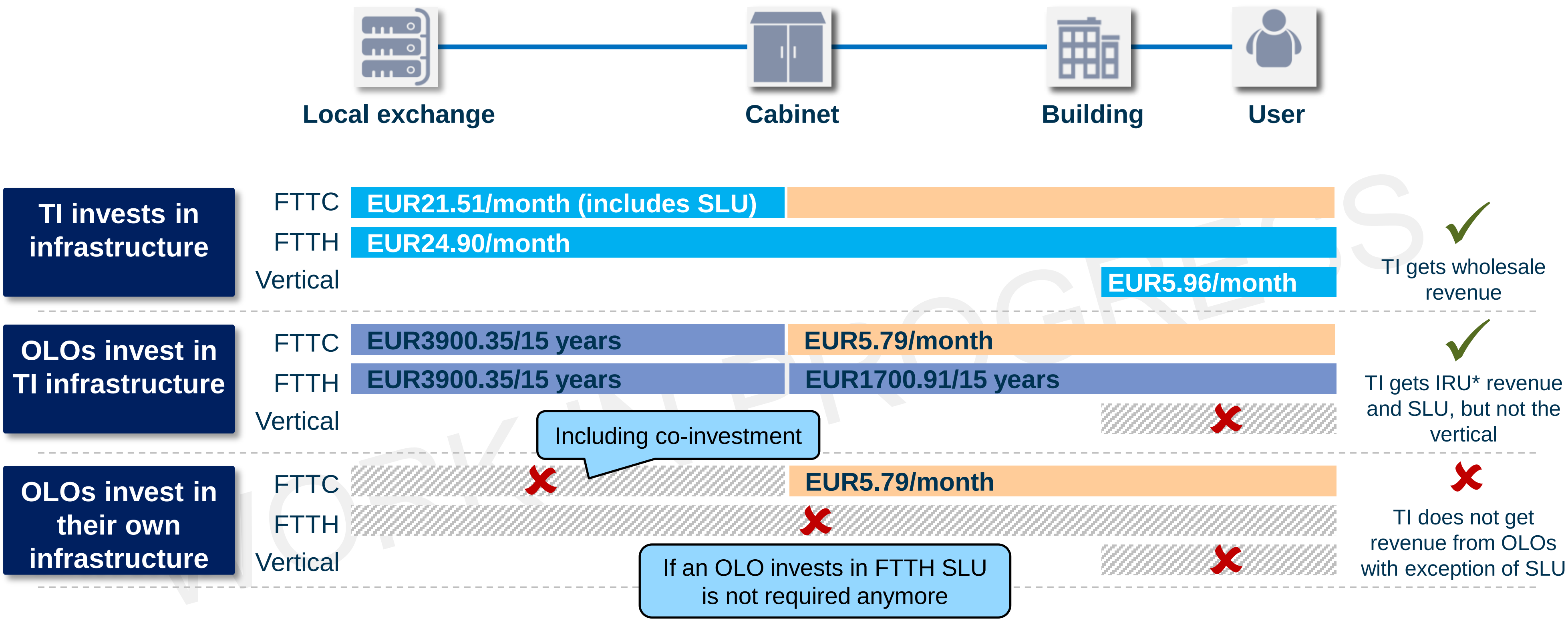
- Italy is at risk of not meeting the EC's digital agenda targets for 2020
- A fundamental contradiction exists between the pressure to meet EC's digital agenda targets and the limited return envisaged for NGA investment
- This has resulted in significant political pressure on TI to develop its network
  - TI is the main private-sector entity that can contribute to the achievement of these targets
- Various government members, including the current and previous prime ministers, have expressed support for the access network separation of TI if it does not accelerate roll-out

Pressure to increase roll-out

Competitive pressure

- The lack of infrastructure competition (especially the lack of CATV) has until now limited the need for investments to maintain the competitive position
- Even dominant operators need to invest to maintain their position:
  - Microsoft continued Windows upgrades to maintain dominance
  - Some incumbents (e.g. in Bulgaria and Romania) delayed launch of DSL services and now have to compete with multiple new entrants
  - in Milan, Metroweb has already replaced TI as the main broadband network

Continued network dominance would allow TI to safeguard wholesale revenues, even if some retail market share is lost



In most cases OLOs have access to the final users thanks to TI access network

Legend:

- *Payable when line is active*
- *Commitment for 15 years*
- *Copper SLU*

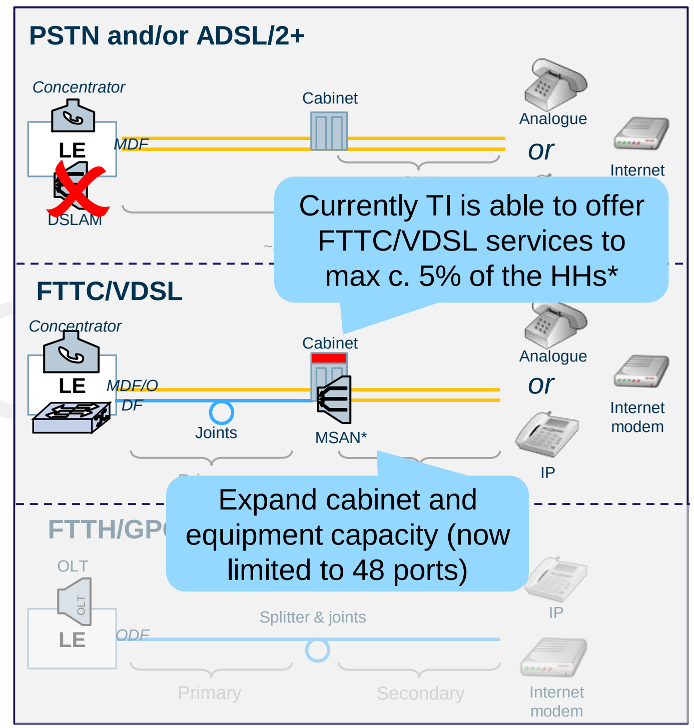
**IRU = indefeasible right of use*
Source: TI's reference offer (2014)

FTTC should become the only technology for broadband in covered areas which would enable cost savings for TI and a modern network for all users

Make FTTC the leading broadband platform

- TI intends to provide broadband from the LE in parallel to FTTC
  - MSAN at cabinet not dimensioned to serve all fixed broadband users
  - TI is currently able to offer FTTC/VDSL services to max c. 5% of the HHs*
- TI looks for UBB demand to materialise before committing to further investments
  - experience from other markets demonstrate that demand lays behind coverage
- Opex savings (maintenance, energy, space etc.) fully achieved if FTTC becomes the only platform (by removing DSLAM)

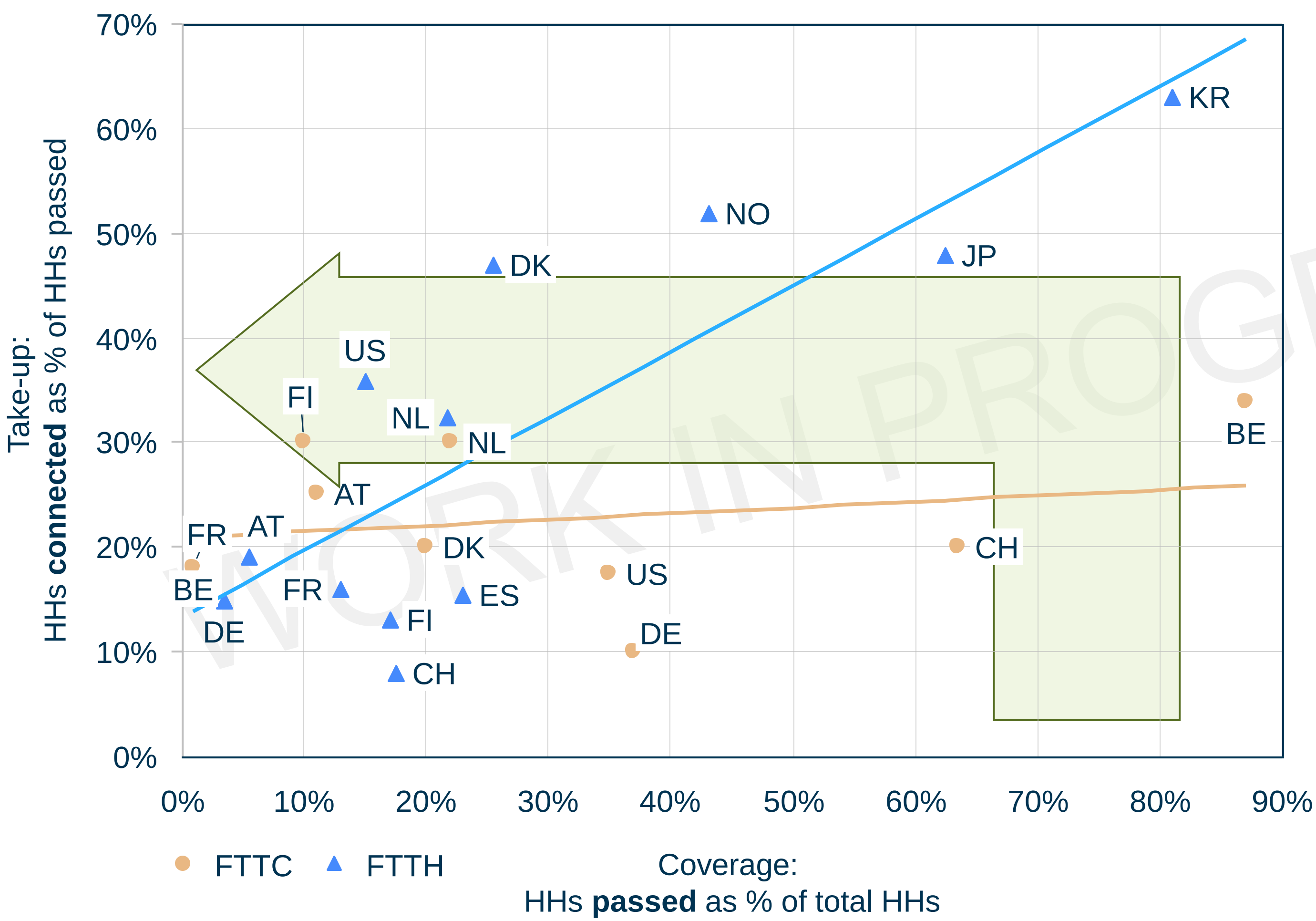
Access



* 18% pop. FTTx coverage = 4.5 mn HHs
Note: Assuming an average cabinet size of 180 lines, TI would have upgraded 25 000 cabinets with fibre (or 1.2 million HHs effectively covered)
Source: Analysys Mason Research, Notiziario Tecnico Telecom Italia

Investments to extend coverage are required to ensure take-up and long-term return on investments

Coverage and take-up benchmark (excluding Italy)



- International evidence proves that take-up follows coverage
- FTTC coverage in Italy stands at 18% of households
  - take-up is still very limited given FTTC's nascent stage
- FTTH coverage in Italy stands at 8% of total households …
  - … of which 14% (i.e. ~300k) are connected mainly by Fastweb

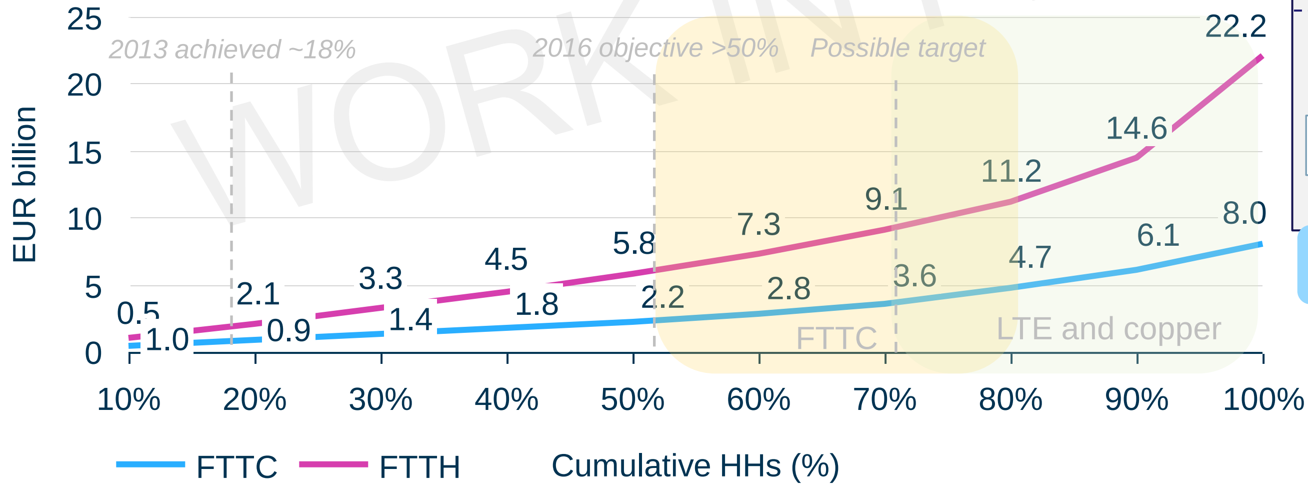
Source: Analysys Mason Research

TI should accelerate and expand FTTC investments with an option to move to FTTH in the future

Increase FTTC coverage and be ready to exploit FTTH

- TI expects to achieve over 50% population FTTx coverage by 2016
  - we envisage a further acceleration and expansion of coverage targets to meet DAE objectives and enable exploitation of FTTH potential (commercial impact)
- LTE is not positioned as a perfect substitute to the fixed broadband line (as capacity is shared among users)
  - however, without rapid investment in FTTx, a cost-effective roll-out of LTE by OLOs might erode the role of TI's fixed network infrastructure in certain areas

FTTx coverage capex (FTTH incremental to FTTC)



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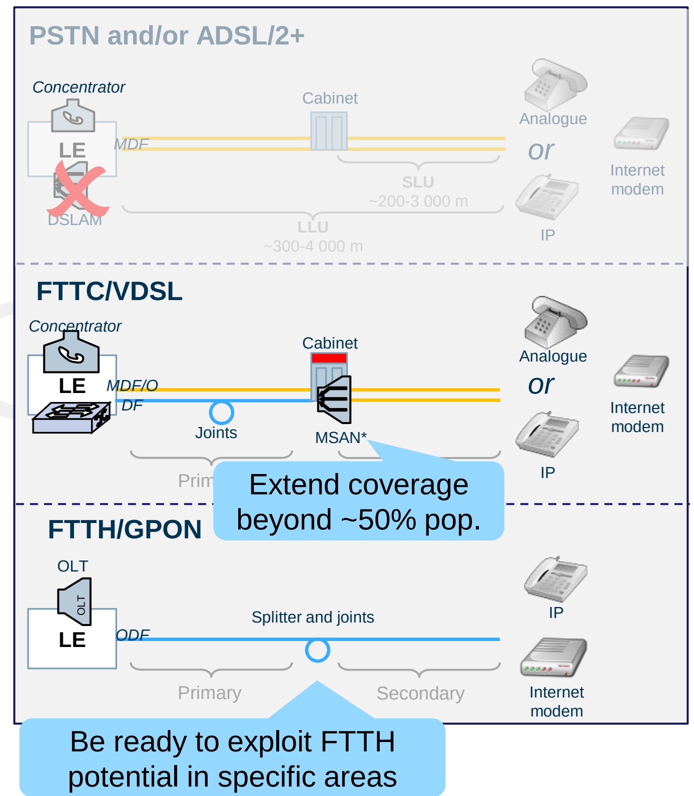


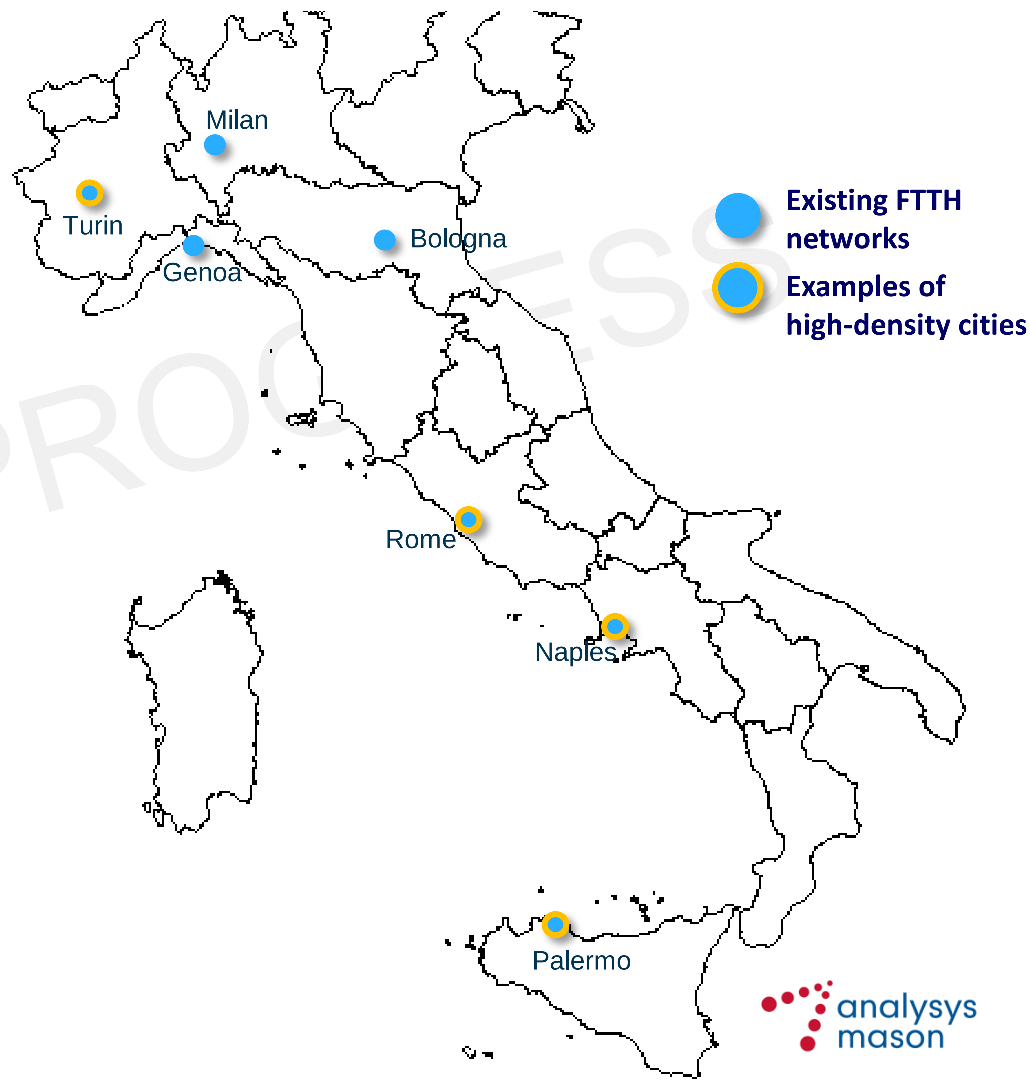
Note: FTTB can be used as an alternative to FTTH in specific circumstances

Source: Analysys Mason based on Analysys Mason Research, Notiziario Tecnico Telecom Italia

Partnerships with existing fibre access networks could allow TI to accelerate its network deployment and move to FTTH in certain areas

- There are many institutional investors in Italy that invest in infrastructure of strategic importance for the country
  - some have expressed an interest to invest in the TI's fixed access network
- There are existing metropolitan fibre networks in Italy
  - some of them operate in (or have begun investments in) Milan and other cities such as Genoa, Bologna, Naples and Rome
- A partnership with existing fibre access networks would allow TI to:
  - accelerate its network upgrade in certain cities where it could move towards a higher-speed FTTH architecture
  - make savings on FTTC deployments
- This can be considered in specific areas of the country with
  - high dwelling density (dwellings per building)
  - high network density (metres of network per building)
  - existing infrastructure presence (reusable for FTTH)

Existing FTTH networks and examples of high-dense cities



Source: Analysys Mason, press searches

TI should gradually migrate legacy voice (PSTN) to more modern and cost-effective voice-over-broadband (VoBB) technology

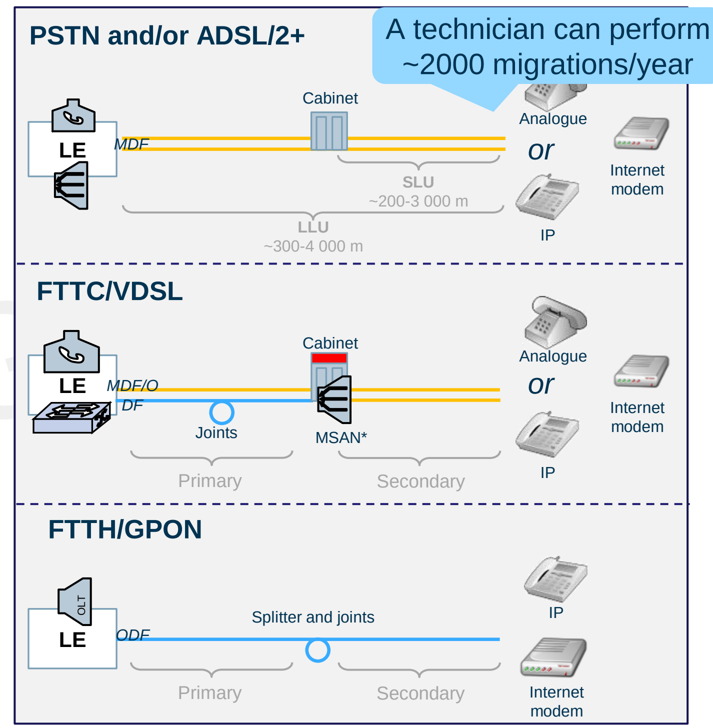
Gradual migration to VoBB

- Voice is declining in importance to users and as source of revenue for TI
- Increasing momentum towards phasing out of PSTN/ISDN in EU
  - end-of-life for equipment (vendors discontinue support); increasing cost per sub (O&M – incl. SLAs, energy)
  - O&M savings achievable with VoBB; broadband upsell opportunity (bundling); property sale/rationalisation (real-estate and copper)
- To gain VoBB synergies, migration must be co-ordinated with FTTx roll-out

VoBB strategies (examples)

Operator	Commentary
Deutsche Telekom	▪ Pursuing PSTN switch-off across its eight markets by 2018 ▪ Migrate remaining voice-only customers using MSANs
AT&T	▪ Transition to an all-IP network using native VoIP by 2020 ▪ Regulatory issues: non-migrating customers being cut-off
Telenor	▪ Offer only VoBB or fixed wireless IP based by 2017 ▪ Copper phase out in some rural areas with high O&M
Belgacom	▪ Phase out PSTN by 2018 by MSAN-based migration strategy in conjunction with FTTC roll-out
Telekom Austria	▪ Successfully completed the transformation of its PSTN to VoIP in 2013 ▪ Migrated 1481 exchanges and 2.3 million access lines

Access

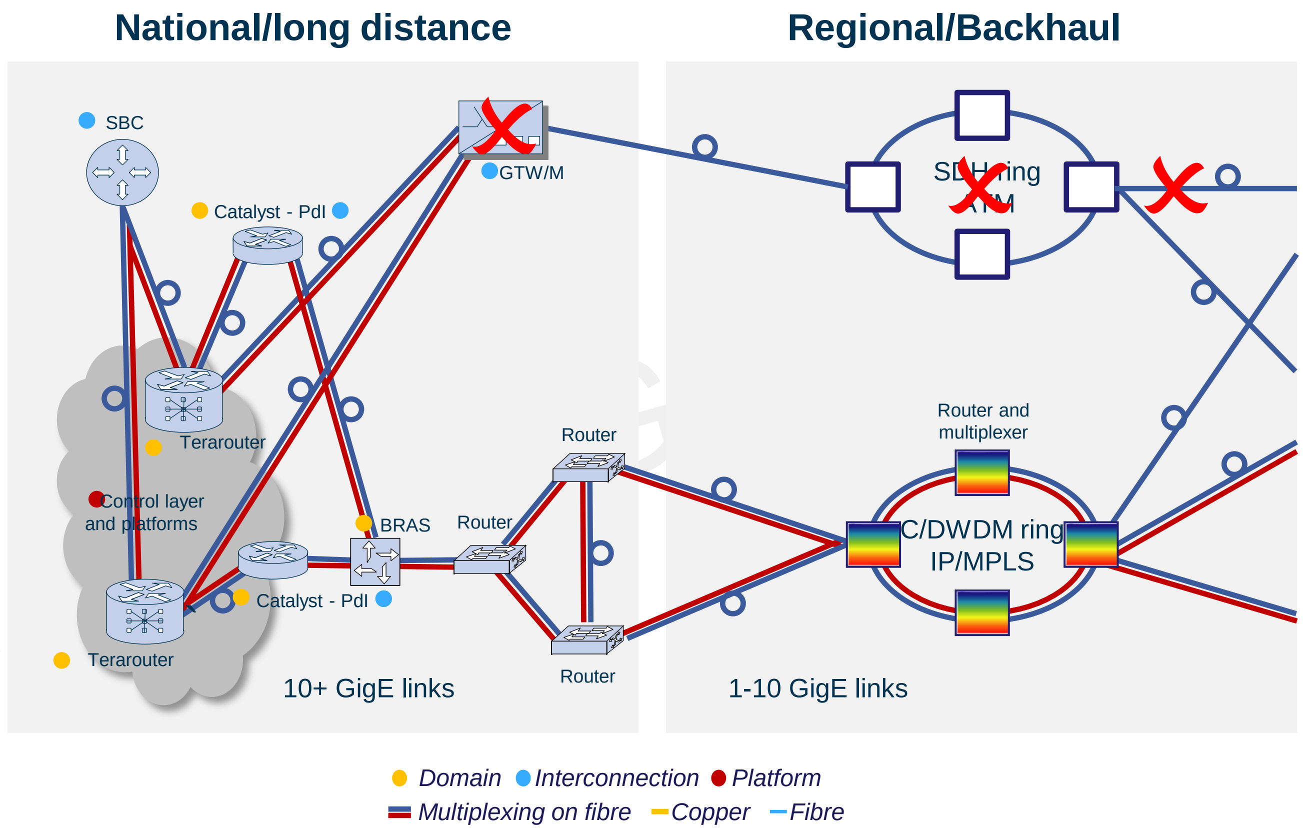


Source: Analysys Mason based on Analysys Mason Research and operators' institutional website, Notiziario Tecnico Telecom Italia

Phasing out the legacy fixed voice services would enable a simplification of TI's national/long distance and regional/backhaul networks

Network simplification

- Full upgrade to optical transport function and IP routeing will allow a 'clean-up' of intermediate technologies and protocols
  - decommission legacy network transmission protocols (i.e. ATM, ETH and TDM)
- Major simplification of network architecture and equipment
  - significant reductions in unit cost of bandwidth
- The extent to which TI will be able to rationalise its real estate depends on the degree of geographical co-location and the scope to terminate leases or sell real estate



Source: Analysys Mason based on Analysys Mason Research and operators' institutional website, Notiziario Tecnico Telecom Italia

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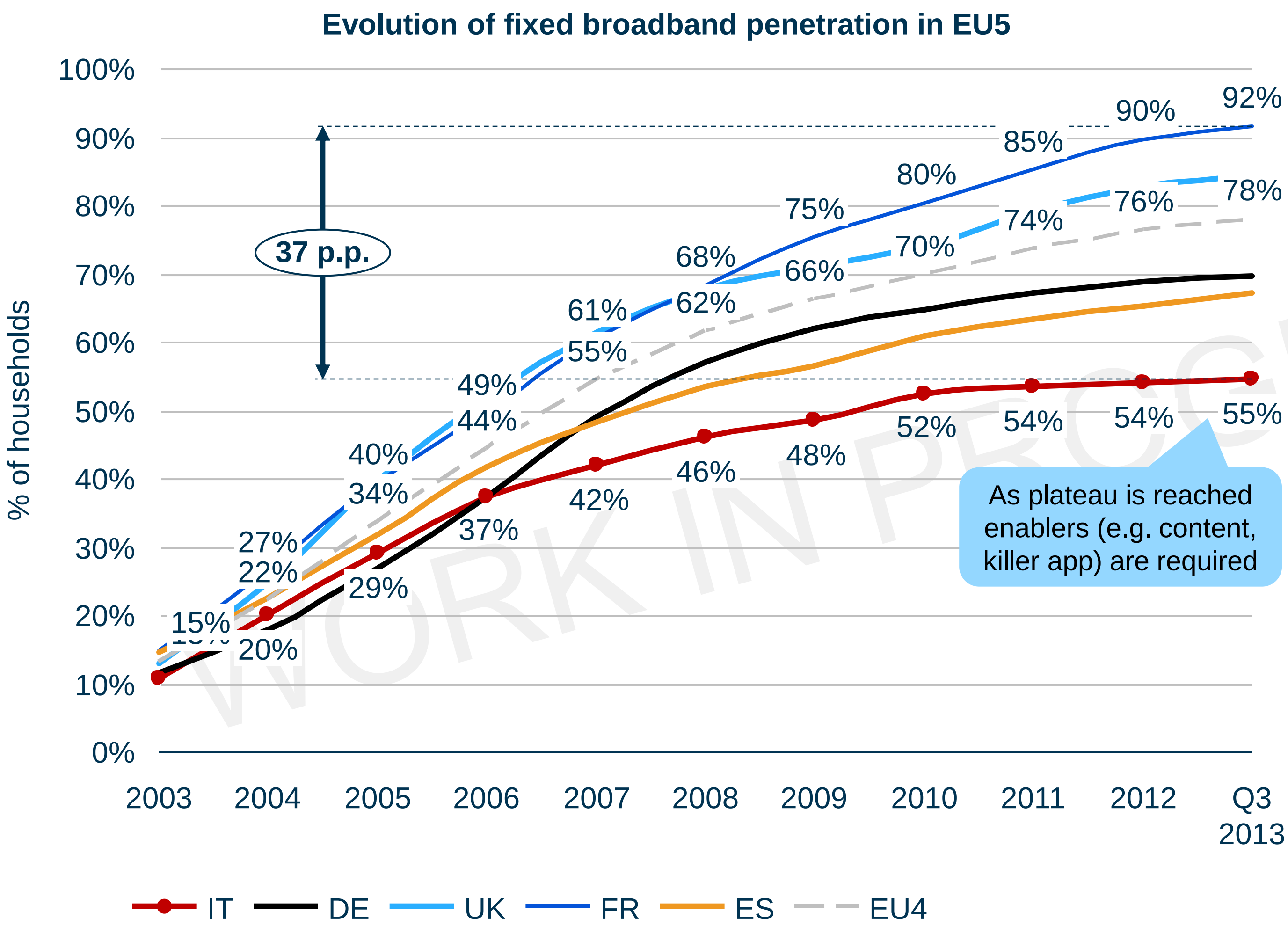
Italy has fallen six years behind its EU5 peers in terms of broadband penetration, yet it seems to have reached a plateau



Broadband users in other EU5 grew on average at 5.4% CAGR in 2009-12 compared to 4.2% in Italy…

… despite already higher penetration (66% vs. 48% in 2009 respectively)

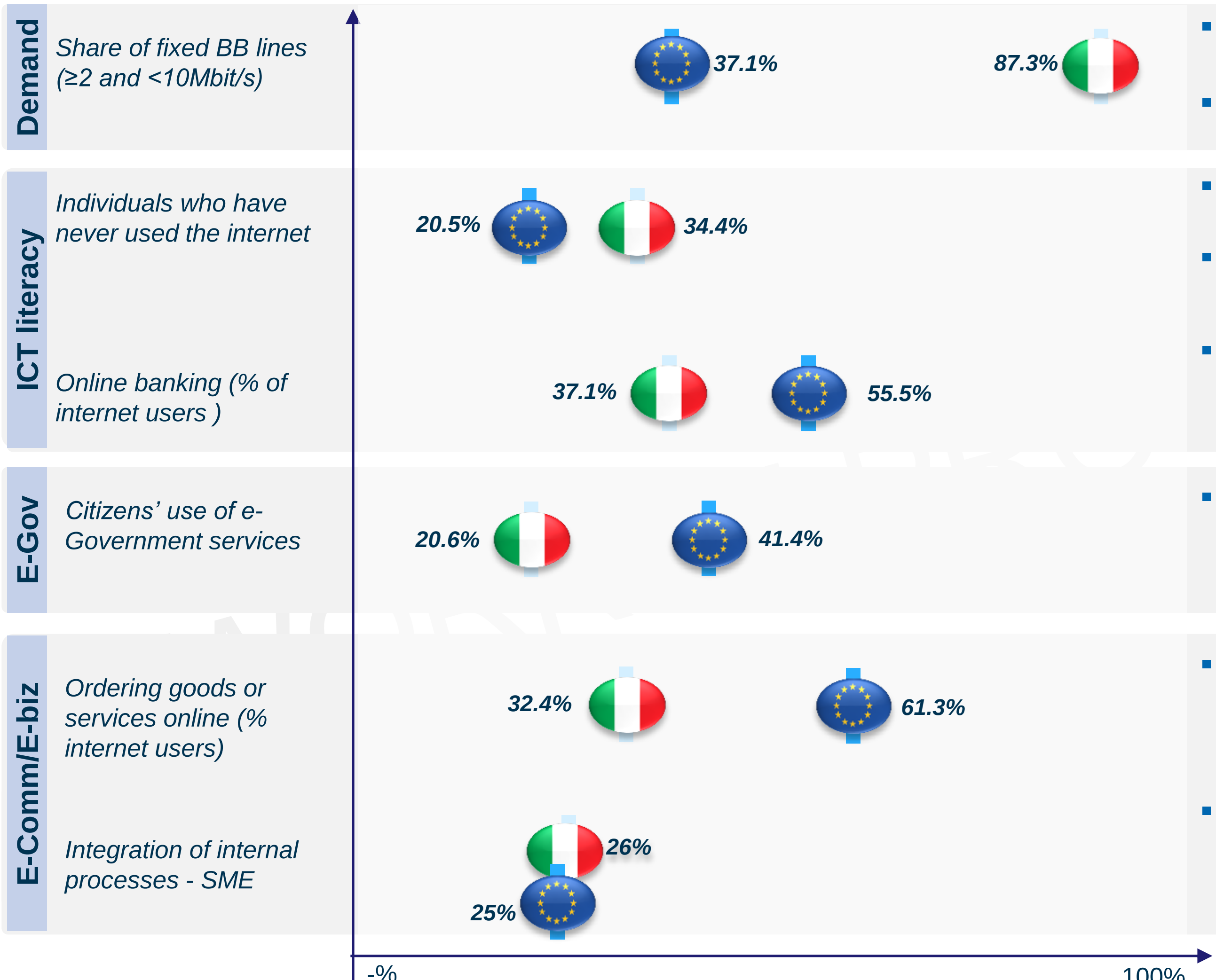
In Q3 2013 penetration in Italy equalled the average of other EU5 in 2007

A commitment to investment in infrastructure could catalyse a rapid growth in take-up, especially if coupled with greater availability of content…

…putting Italy on a convergent trend with EU5 peers

Source: Analysys Mason Research

Demand-related issues are currently limiting take-up of broadband services in Italy



- Fixed broadband lines ≥10Mbit/s account for 15% of lines in Italy (vs. EU average of 64%)
- Italy fixed broadband lines ≥30Mbit/s negligible

- Individuals regularly using Internet: 56% in Italy vs. 72% in EU
- Nomadic use (laptop/tablet) to access Internet uncommon amongst Italians: 13% vs. 24% in EU
- Individuals accessing info on goods and services in past three months: 64% of Internet users vs. 79% in EU

- Italian enterprises using eGOV services close to EU (85% vs. 88% of enterprises, respectively)

- Unlike Italian consumers, SMEs and large enterprises purchase online as much as their European peers (15% and 25% of enterprises, respectively)
- In terms of SMEs (10-249 employees) and large corporations, Italy has same level of integration of internal processes (with an ERP) as the EU (73% of all enterprises both in Italy and EU)

Note: data refers to 2013
Source: European Commission

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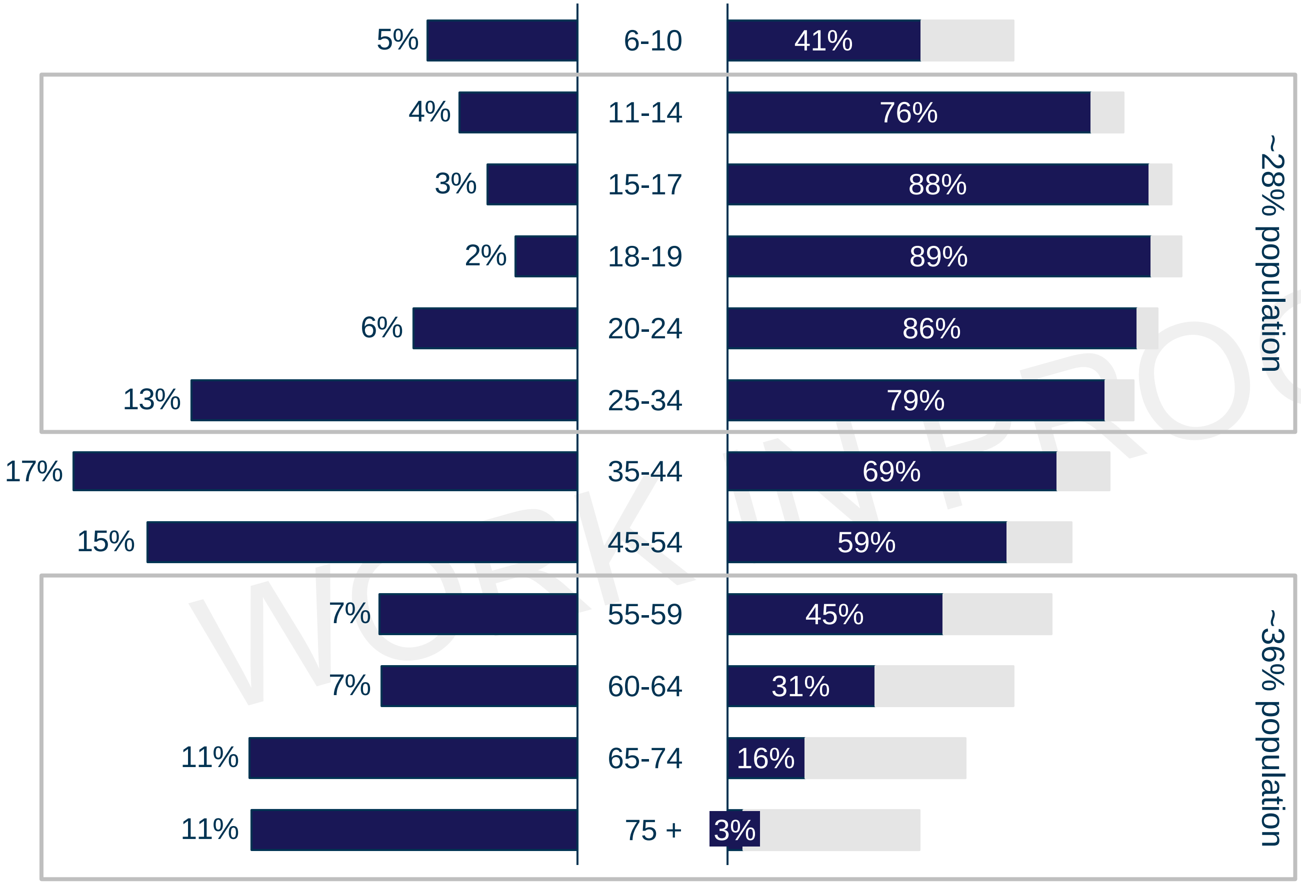
Internet usage will naturally increase as the Italian population ages, which will further stimulate broadband take-up

Population distribution by age group | **Individuals who used Internet in last 12 months by age group**



52.5% | 73.0%*

~82% of young people have used Internet in the last 12 months

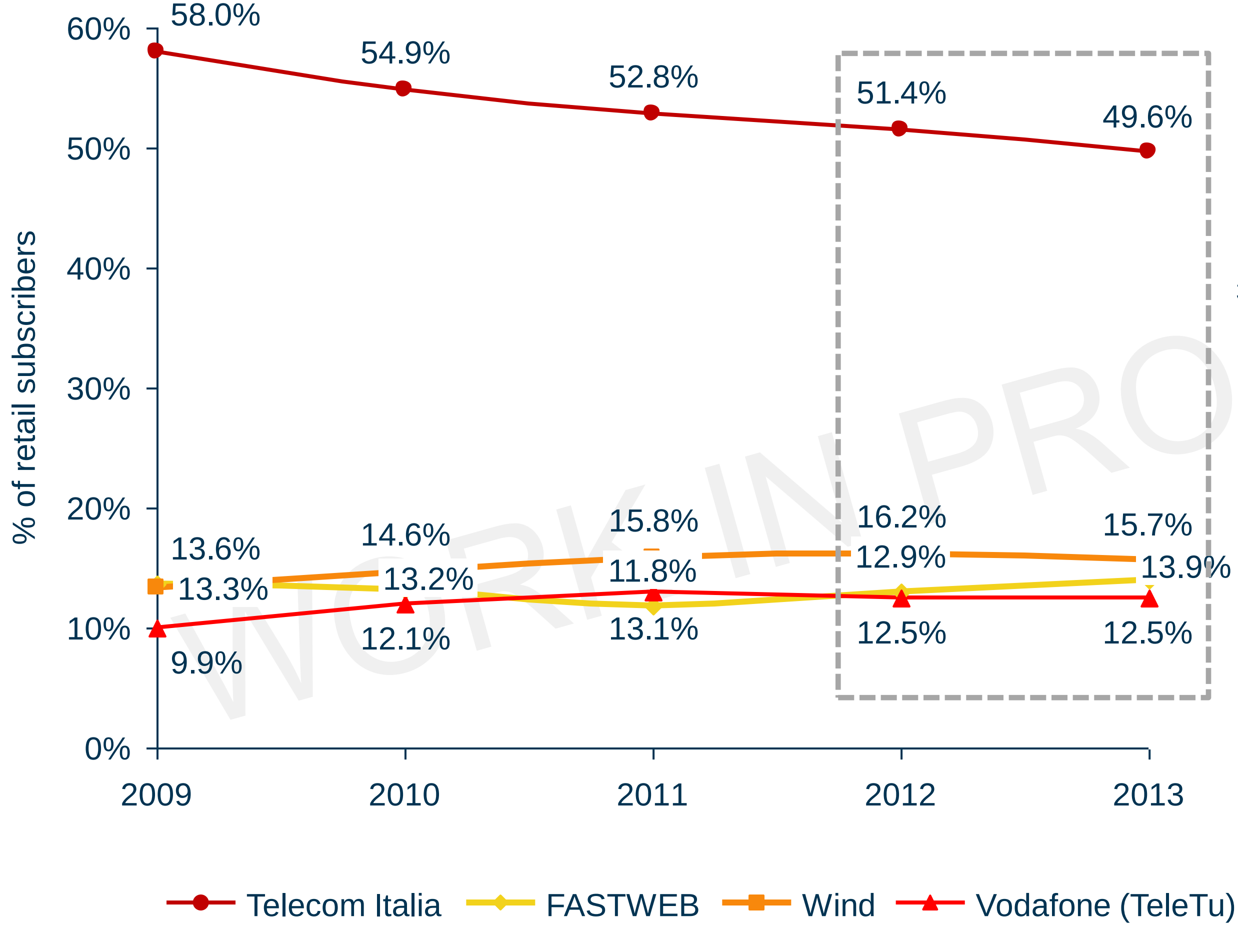
only ~20% of older people have used Internet in the last 12 months

Illustrative: expected individuals using the Internet

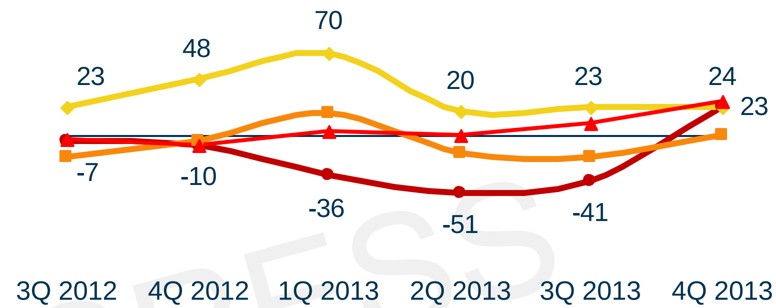
** Internet users penetration (% population)*
Source: Analysys Mason based on Istat and Euromonitor

In a stagnant broadband market, TI performed poorly especially when compared to Fastweb which is gradually extending its network footprint

Fixed broadband retail market share



Fixed broadband net additions ('000)



- TI is gradually losing broadband subscribers
  - although such trend recently reversed after ten quarters of contraction
- Fastweb is aggressively signing new customer, helped by the expansion of its infrastructure footprint
  - it has traditionally focused on the business segment demonstrating a significant ARPU premium (vs. market)
  - Fastweb co-invested with TI to cover 19 cites with FTTC by the end of 2014
- Vodafone and Wind have maintained broadly subscriber bases
  - Vodafone plans to cover 150 cities (6.4 million HHs) with FTTC by 2016

Source: Analysys Mason Research

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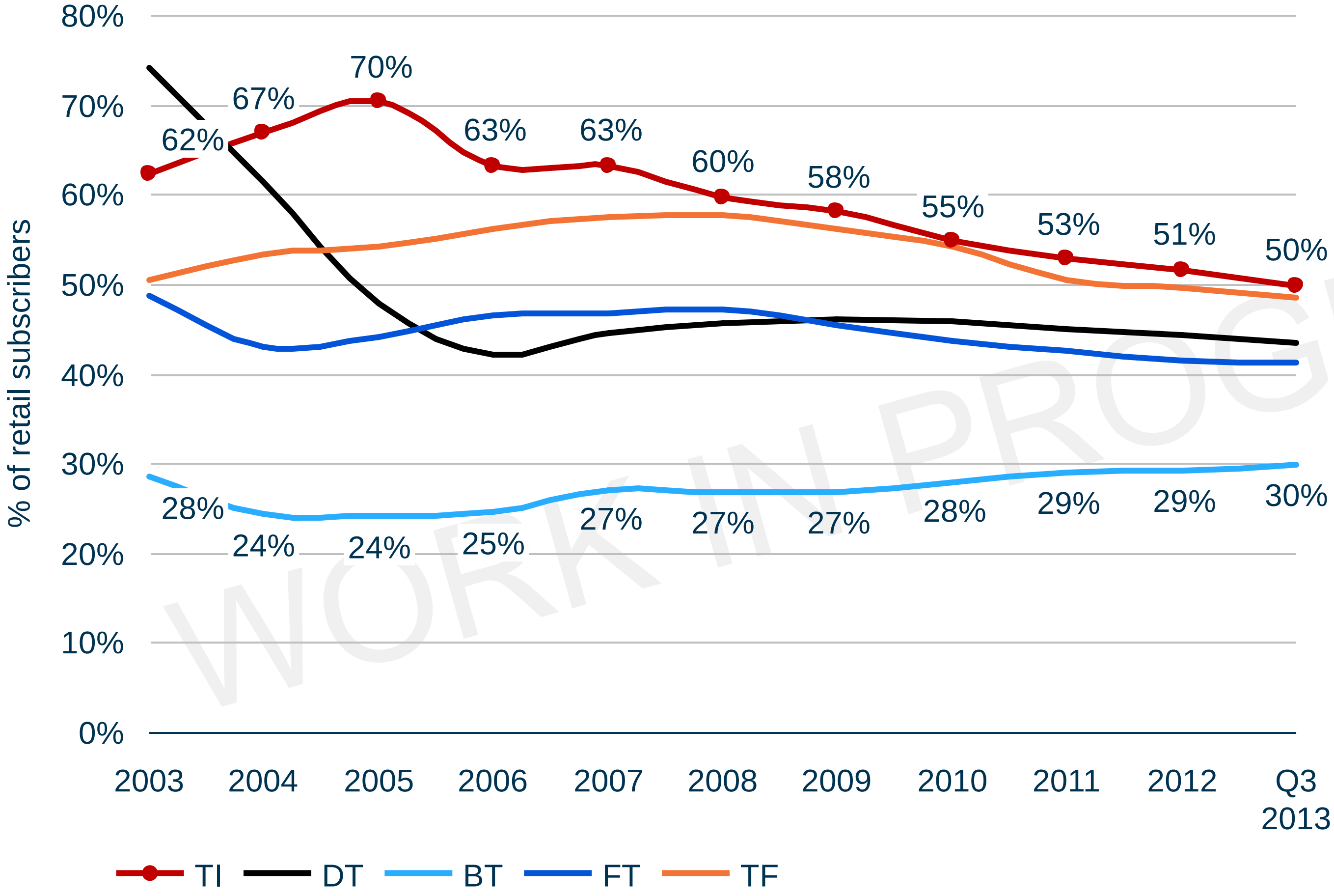
TI should be able to reverse market share loss at a higher level than other European incumbents given the lack of infrastructure competition

Evolution of incumbents broadband retail subscribers market share in EU5

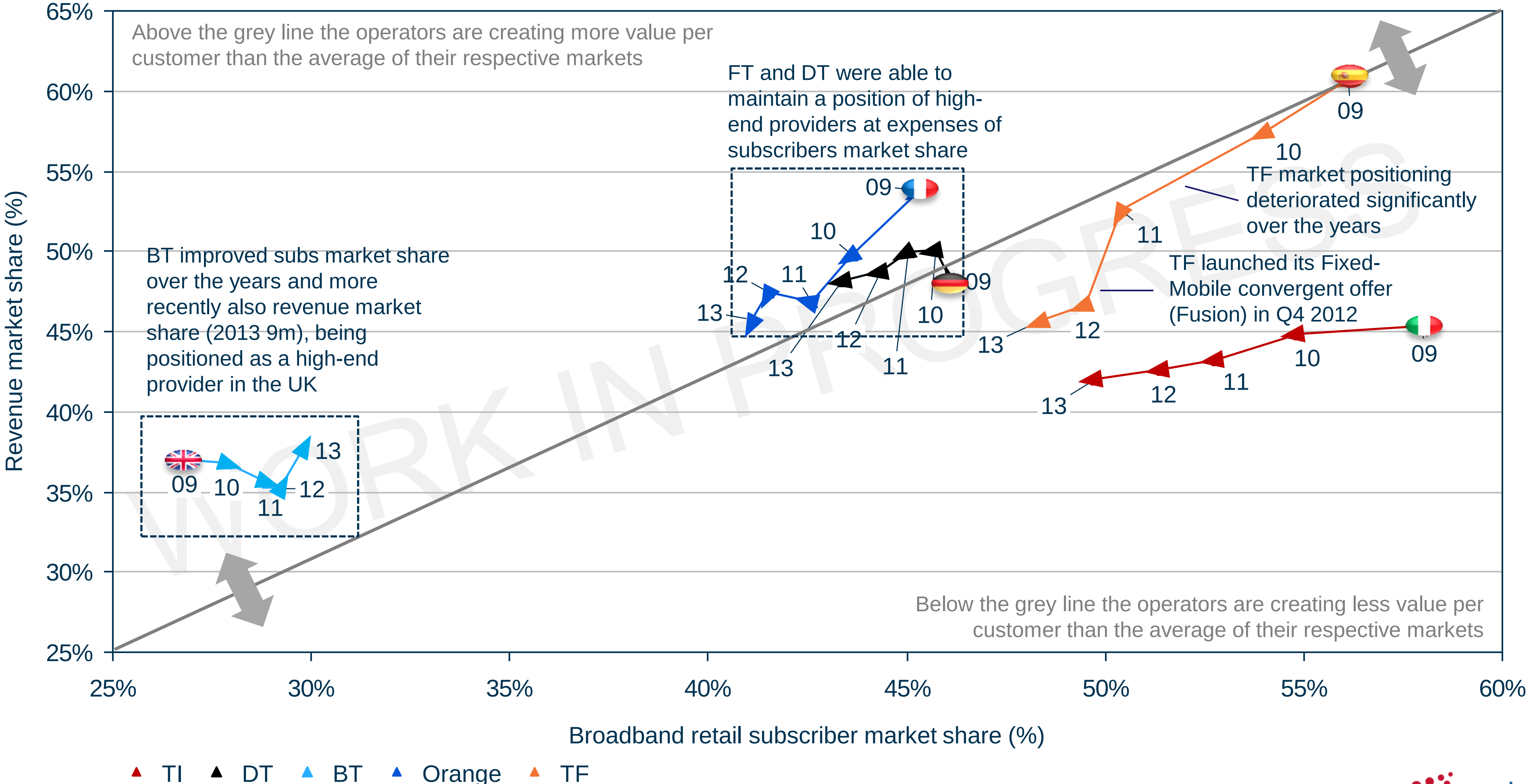


- Incumbent operators in other markets have successfully reversed similar trends in the loss of market share
  - evidence from UK and Germany
- TI has a more favourable opportunity than its international peers due to the relatively limited infrastructure competition in Italy
  - lack of infrastructure competition means that TI will generate wholesale revenues even if losing retail market share

Source: Analysys Mason Research

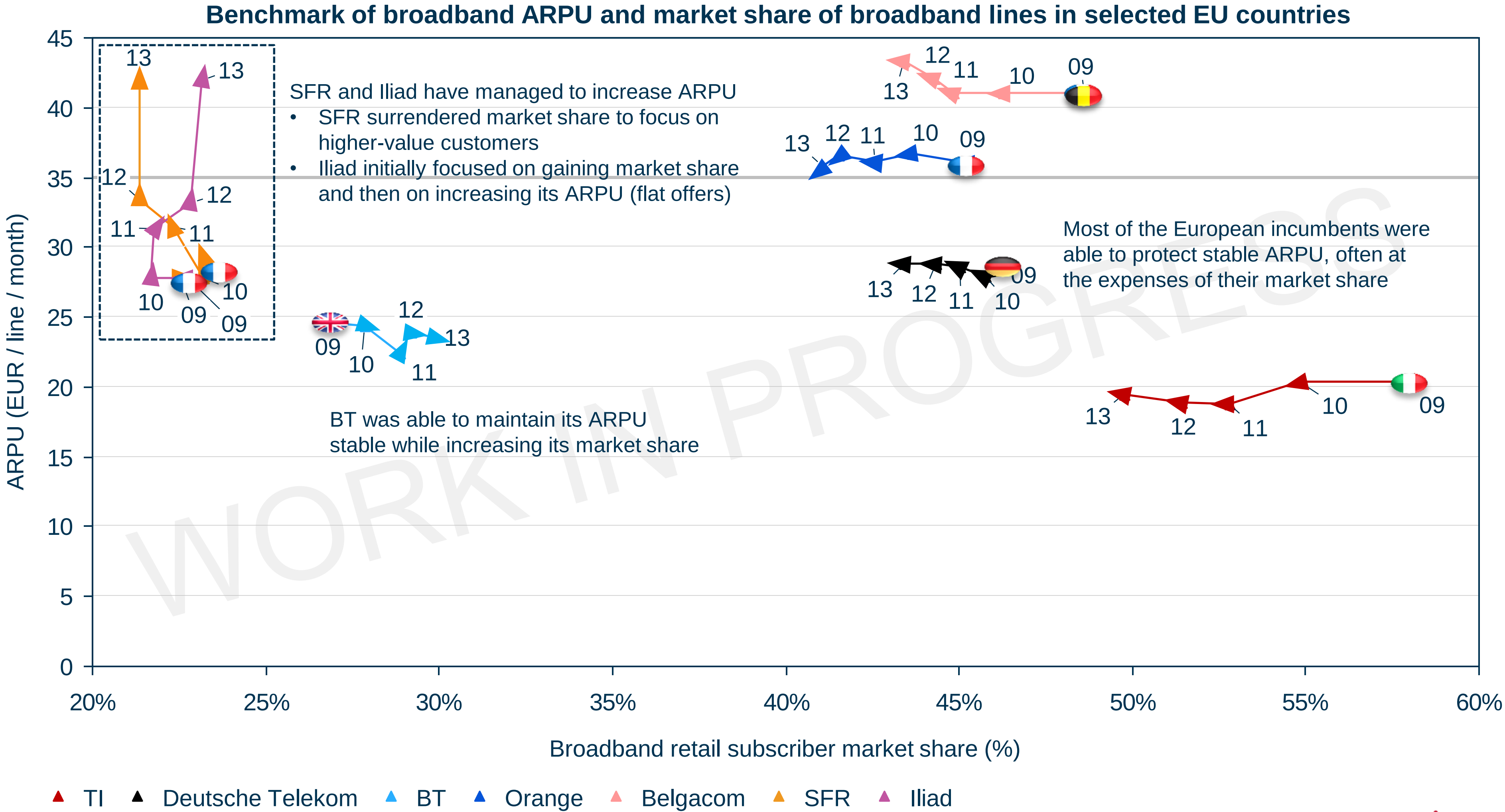
TI has a lower ARPU than the overall broadband market and has been unable to improve its market share

Fixed broadband market share of major EU5 fixed incumbents



Source: Analysys Mason Research

There are examples of operators that have successfully increased ARPU, but this can be at the expense of some market share loss



Source: Analysys Mason Research

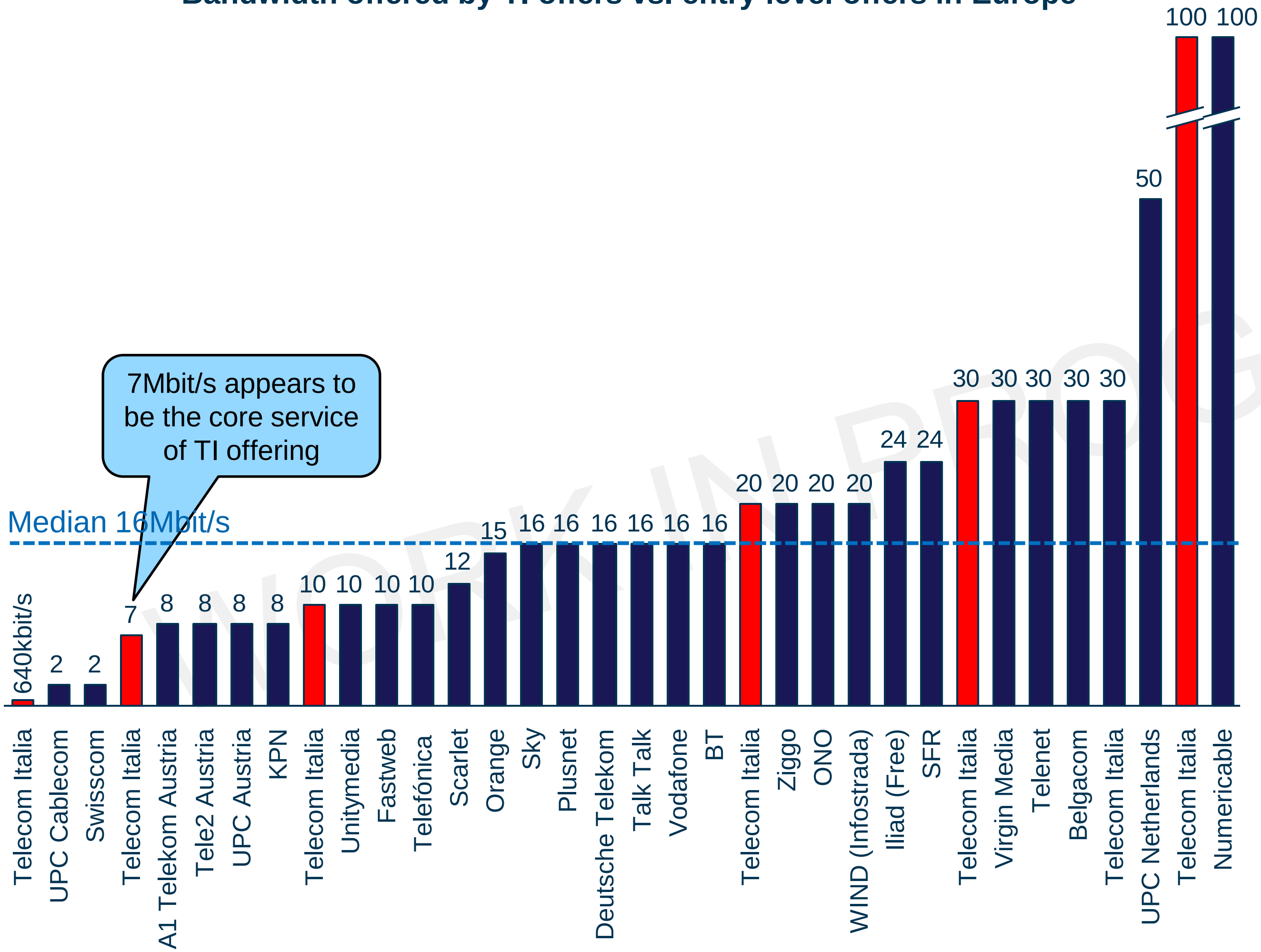
Operators are focusing on different levers to drive take-up and ARPU to guarantee sustainability and long-term value creation

Levers	Example of operators	Example of initiatives	Applicability to TI
Narrow price differential and **introduce discounts** to favour upsell	BT, Portugal Telecom, Orange, SFR, Iliad	**BT**: typically charges an extra GBP5/month for FTTH product; **PT**: no price difference; **Orange**: discounts FTTH to make its equivalent DSL-based bundles at the same price for 12 months	✓
Increase speed to improve user-experience	BT, Orange, Belgacom	**BT**: BT Broadband (DSL) up to 16Mbit/s, BT Infinity (VDSL) up to 76Mbit/s, BT Infinity (FTTH) up to 300Mbit/s	✓
Partner with content aggregator and provide value-added services to enrich offer and make it attractive for users	BT, Virgin Media, Portugal Telecom, ZON Optimus, Deutsche Telekom, Orange	**BT**: HD extra channels and BT Sport; **Virgin Media**: Netflix; **PT**: music streaming, cloud storage and cloud gaming service; **Orange**: special offers on premium content for FTTH subs	✗ *No need for proprietary pay-tv platform* ✓ *VoD, movies, music, gaming, etc.*
Partner with consumer electronics suppliers to offer multi-screen solutions	Virgin Media, ZON Optimus	**Virgin Media**: TiVo DVR; **ZON Optimus:** NDS Snowflake and DVR	✓

Source: Analysys Mason

TI should focus on increasing entry-level speed (nominal bandwidth) in order to position itself as a quality and high-end provider

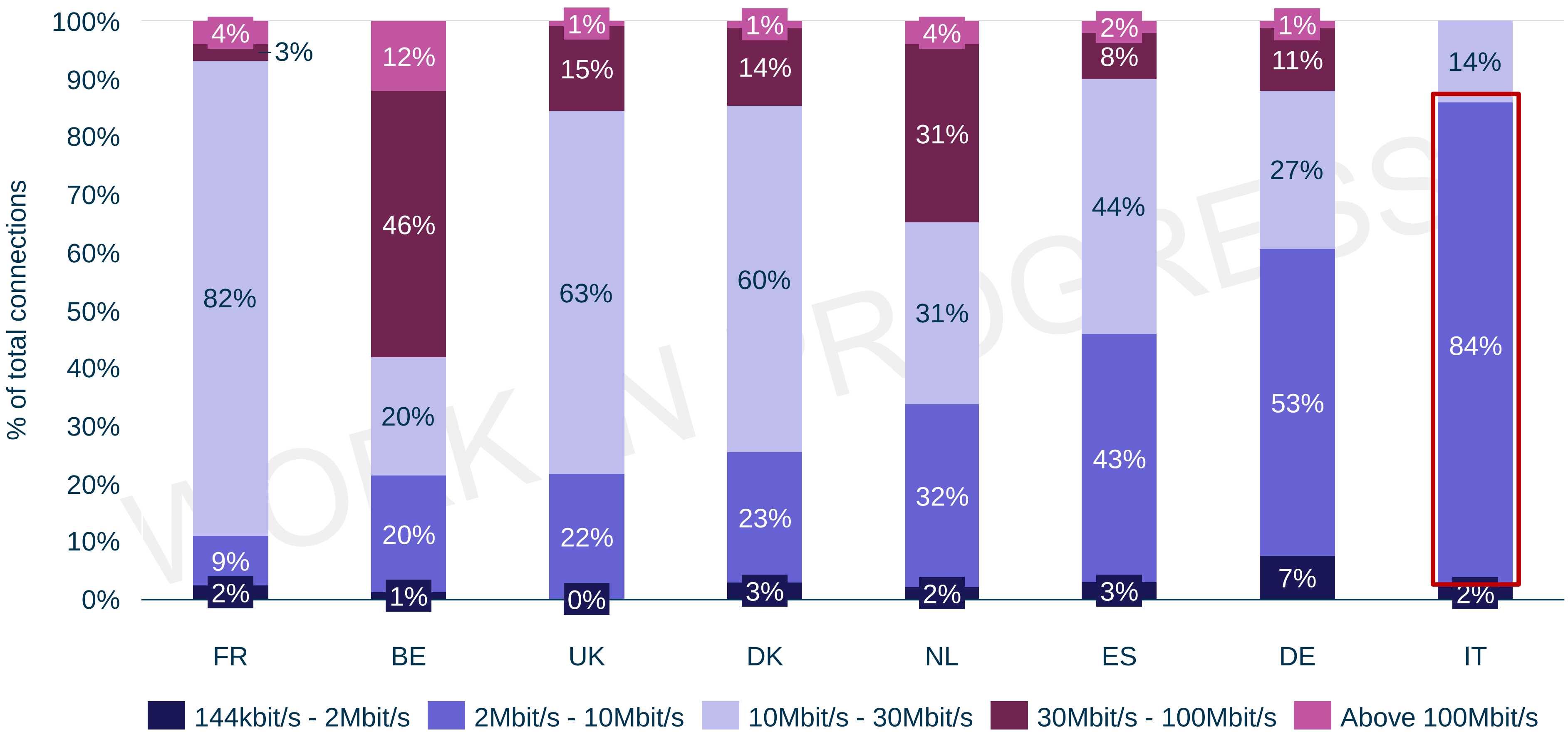
Bandwidth offered by TI offers vs. entry-level offers in Europe



- Users can be migrated to higher download speeds relatively cheaply by:
  - upgrading DSLAM line cards (if needed)
  - expanding bandwidth/user in backhaul/core
- TI can position itself as a quality and high-end provider by
  - leveraging on its unique network assets
  - differentiating from competition

Source: Analysys Mason based on Analysys Mason Research and TI

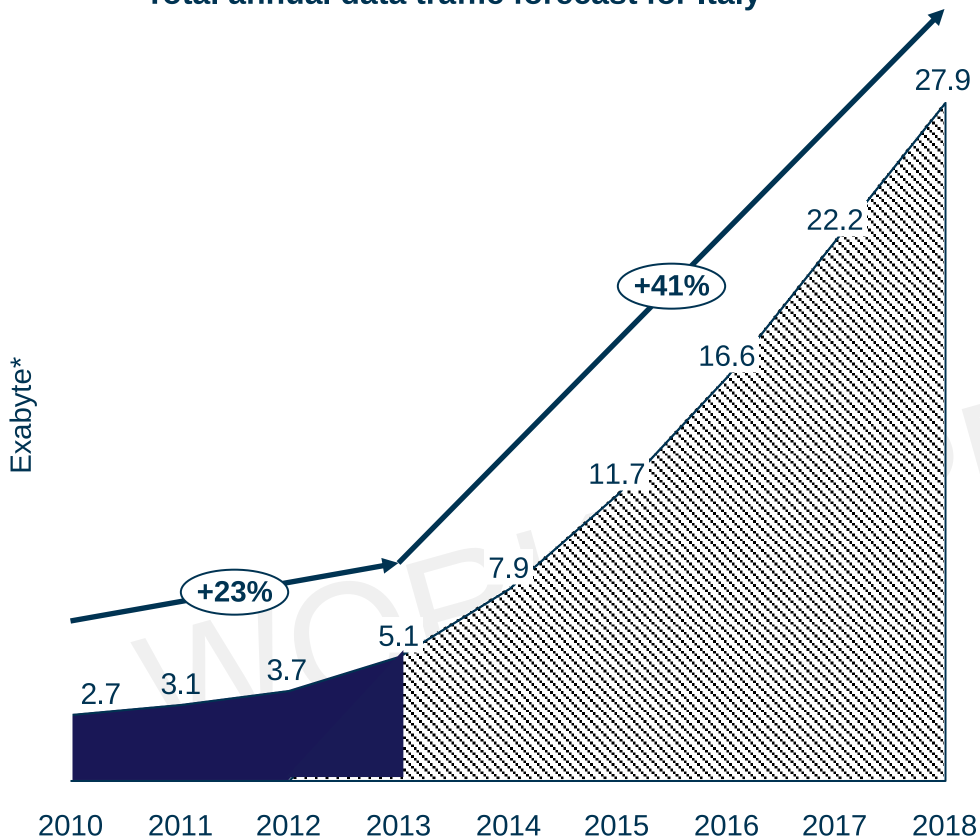
Italy is behind other EU countries in terms of download nominal speed



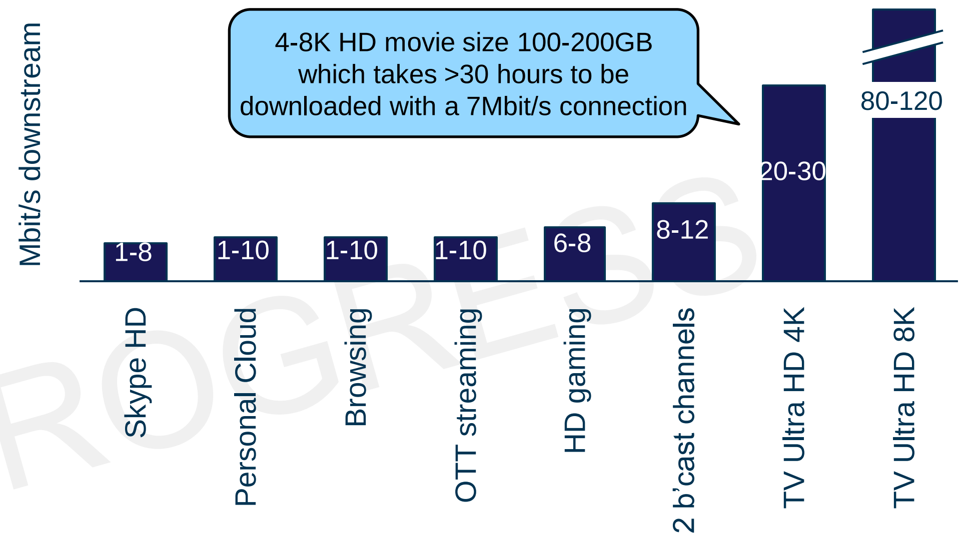
Source: Analysys Mason based on European Commission

New services, such as 4-8K HD TV, will drive an exponential growth of data traffic which requires high-capacity fixed networks

Total annual data traffic forecast for Italy



Examples of bandwidth requirements per service



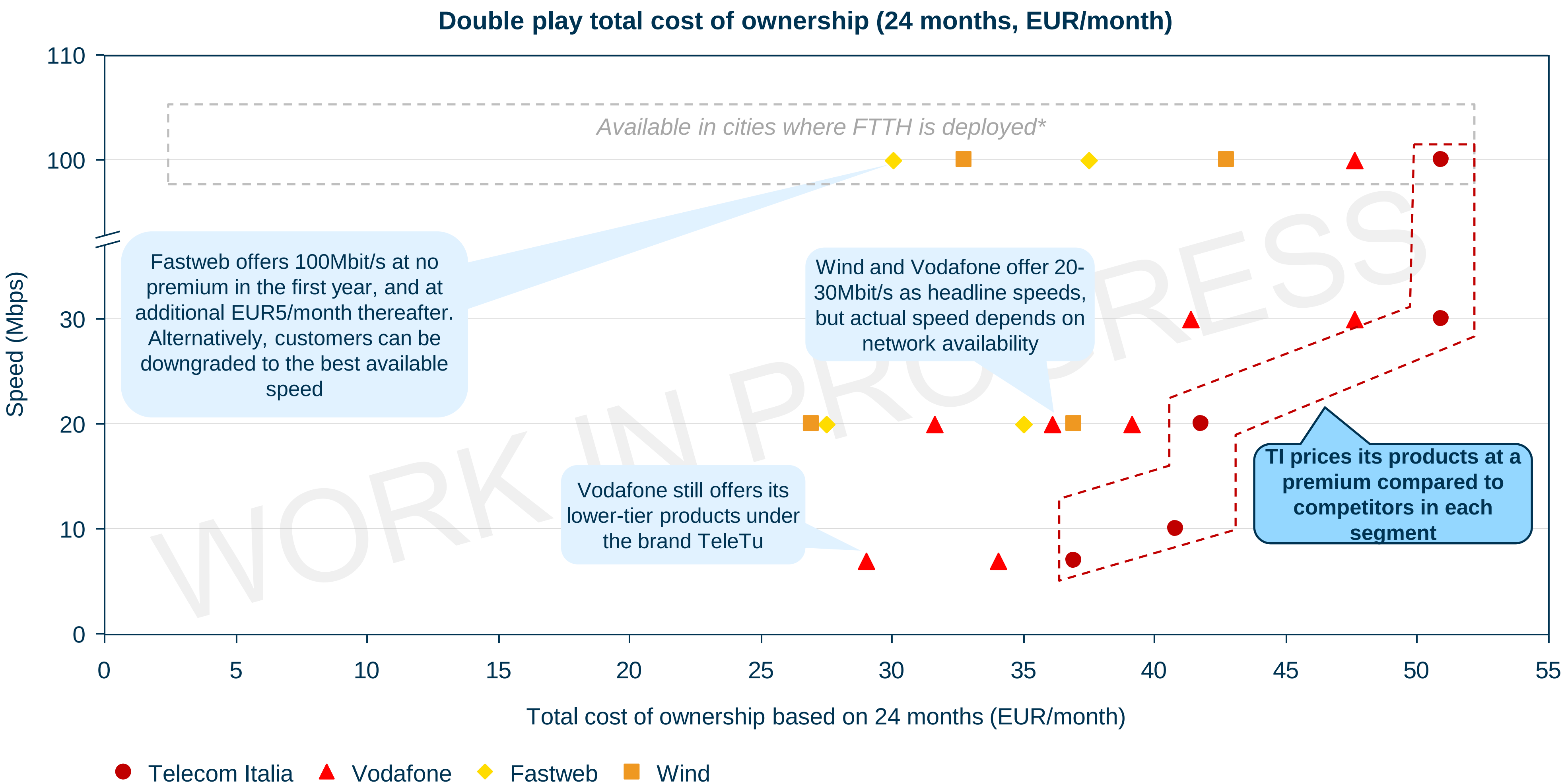
Drivers for traffic increase include:

- Connected/smart TV adoption and new video formats
- Fifth generation Wi-Fi with >1.3Gbit/s transmission contributing to increasing mobile off-load
- SME digitalisation / take-up cloud solutions

There is a requirement for upgrades of networks to FTTC/H as legacy fixed networks (DSL) and mobile networks do not have sufficient capacity to provide the expected capacity

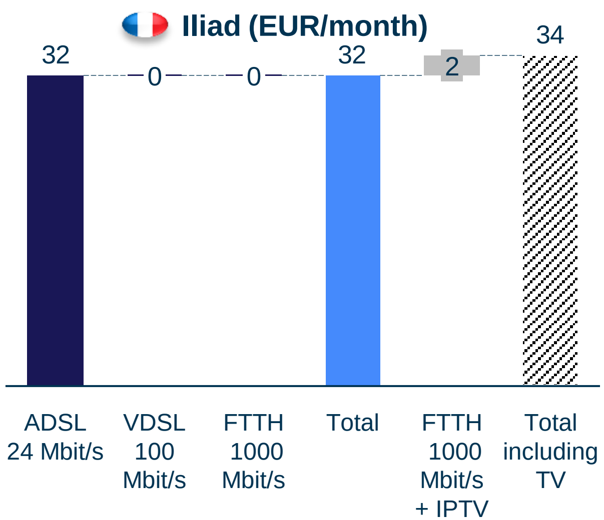
** 1 Exabyte = 1 billion gigabytes*
Source: Analysys Mason Research, Telecom Italia, press search

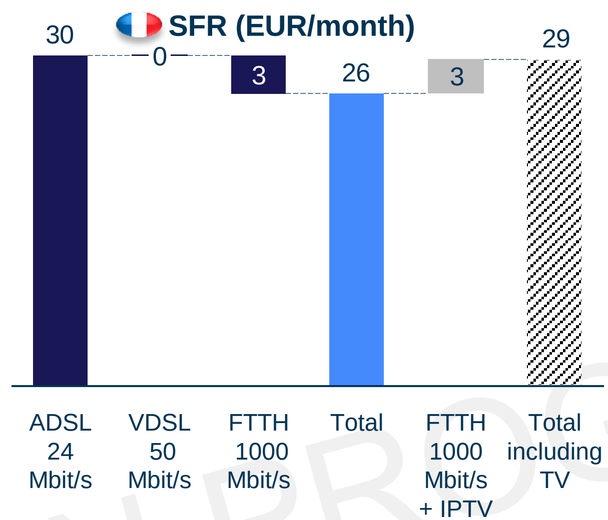
TI's broadband offers are consistently priced at a premium compared to its competitors across all its product offerings

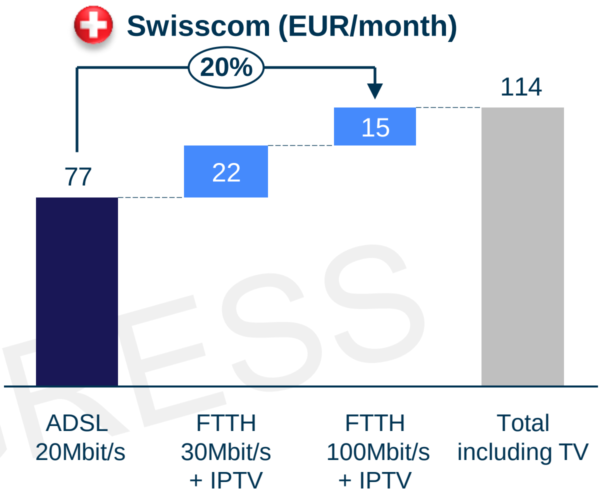


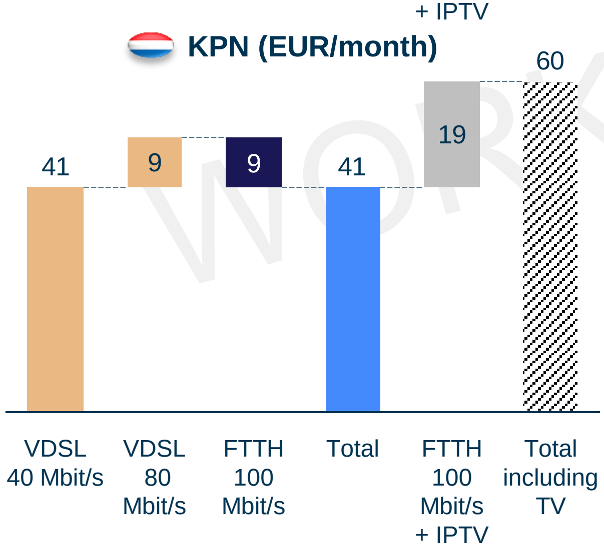
*For Vodafone and TI where 100Mbit/s is not available the 30Mbit/s is offered at the same price
Note: tariffs shown include VAT
Source: Analysys Mason based on operators' institutional websites (March 2014)

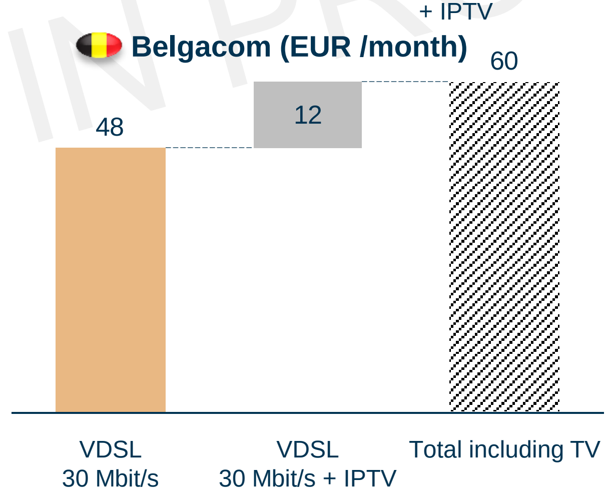
The premiums charged for higher speeds and TV services vary a great deal; in France, where competition is high, the premiums are negligible







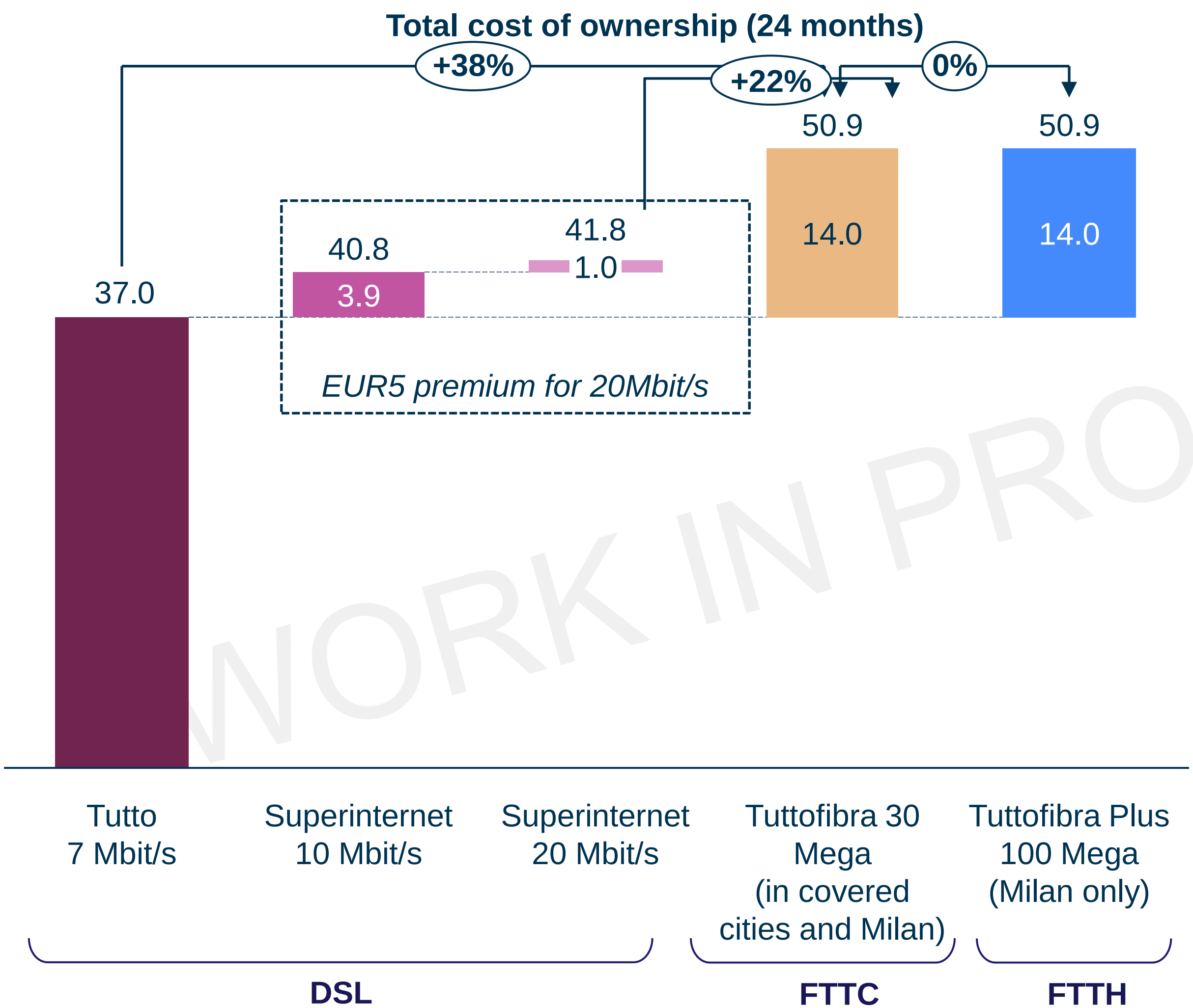




- In France, Iliad and SFR offer DSL and FTTx products at the same price (or even discounted for FTTH) and no high premium is charged for better speeds or TV add-on
  - this is largely due to the intense competition in the French market
- Swisscom, KPN and Belgacom charge customers a premium for each incremental upgrade
  - network, speed and TV

Note: tariffs shown include VAT and refer to the total costs of ownership (24 months, EUR/month)
Source: Analysys Mason Research

TI should reduce the premium it charges for UBB products relative to entry level to favour upsell

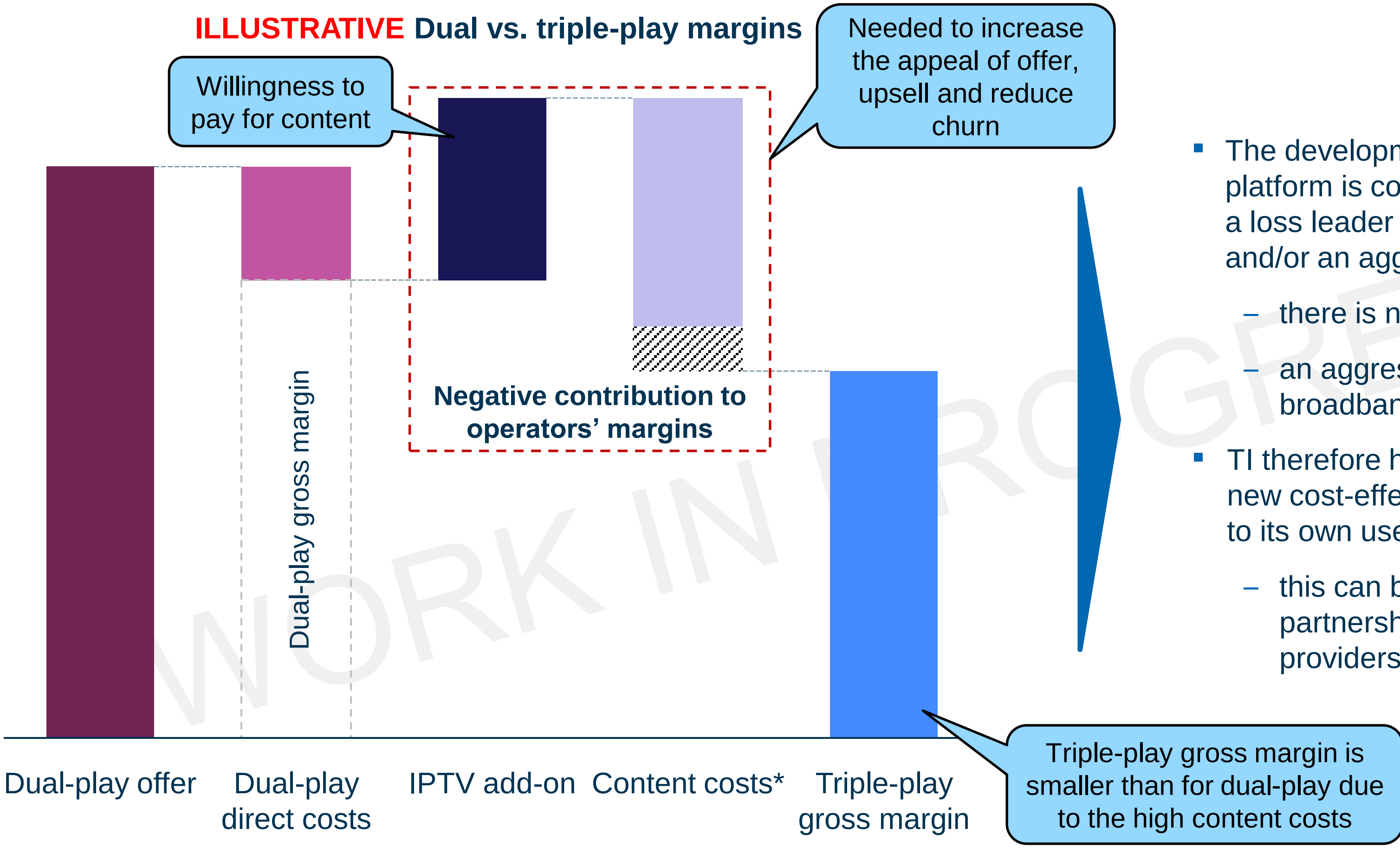


- **Tutto 7Mbit/s**: DSL entry-level offer is expensive given speed offered
  - Belgacom and KPN offer 30–40Mbit/s as entry level
  - Fastweb offers 100Mbit/s at EUR37.5/month (which includes voice allowance)
- **Superinternet 20Mbit/s**: premium price is higher than Italian and EU peers
- **Tuttofibra 30Mbit/s**: premium over DSL basic offer does not incentivise take-up
  - Swisscom charges a 20% premium to upgrade from 20 to 100Mbit/s including IPTV
- **Tuttofibra Plus 100Mbit/s**: available only in Milan
  - priced at no premium over the Tuttofibra 30Mbit/s offer in Milan where infrastructure competition is in place
  - Iliad, SFR and KPN offers no premium between DSL, FTTC and FTTH

Note: tariffs shown include VAT
Source: Analysys Mason based on TI

A full proprietary pay-TV or triple-play offering does not seem appropriate in the Italian market context

ILLUSTRATIVE Dual vs. triple-play margins



- The development of a proprietary IPTV platform is costly and it is usually used as a loss leader to neutralise cable offerings and/or an aggressive new entrant
  - there is no cable competition in Italy
  - an aggressive new entrant in the broadband market seem unlikely
- TI therefore has the opportunity to explore new cost-effective ways to provide content to its own users
  - this can be done through e.g. partnerships with content and OTT providers

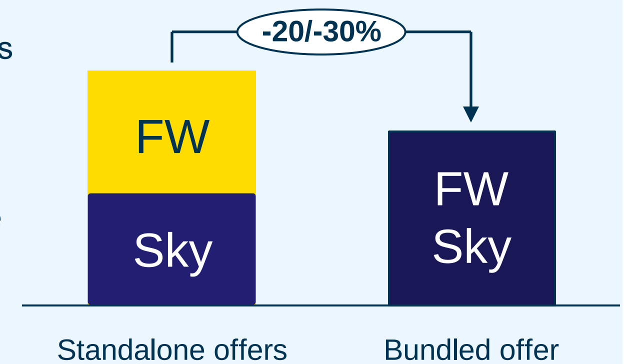
** Includes the amortised cost for platform development and set-top boxes*
Source: Analysys Mason

TI recently signed an agreement with Sky, but this appears to be limited and has to be explored further in the future

Telecom operator	Content provider	Collaboration agreement highlights
Fastweb (FW)	**Sky**	▪ The partnership allows Fastweb's and Sky's customers to benefit from an enriched experience at a discounted price ▪ Sky content is made available through the DTH platform with VoD features accessible through Fastweb's broadband service
TI	**Sky**	▪ In November 2013, TI struck an agreement for Sky's Winter Olympics content available to TI subscribers on mobile devices (~30 000 activations) with plans on making more content available in the future ▪ Looking forward, TI has announced that it will partner with Sky to explore the possibility of delivering content over the TI's fixed broadband network

Sky is looking to expand its customer base which seems to have reached a plateau

Fastweb and Sky offer comparison



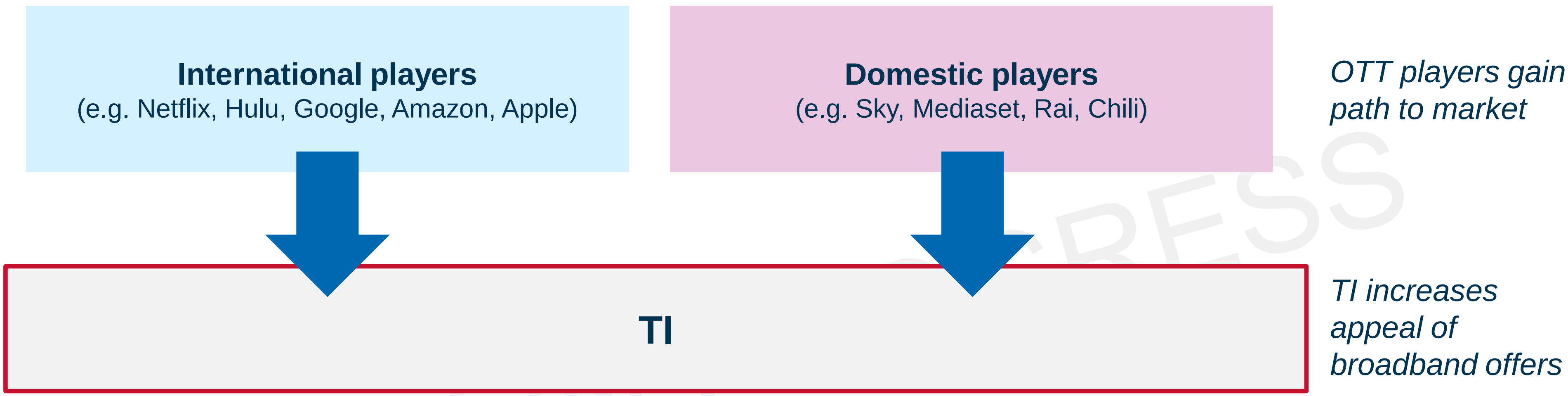
Switching costs and reduce churn

Offer appeal

Source: Analysys Mason on operators' institutional websites

TI should take advantage of exclusive collaborations to drive the appeal of its UBB proposition

Example of strategic collaborations



- TI should enter into retail partnership agreements with international and/or domestic OTT players
- TI should leverage OTT endorsement and co-marketing to drive appeal of its FTTx offer (as opposed to its traditional DSL offer)
- Its aim should be to increase broadband subscriber take-up and improve retention rather than monetisation of the add-on services
  - partnership does not need to drive a direct increase in revenues for TI: add-ons can be sold at very low or zero margin for TI
- Retail-level partnerships with OTT providers could also allow TI to benefit from commercial network-access agreements (such as the ones entered into by Netflix in the USA) and move towards a two-sided business model

Source: Analysys Mason

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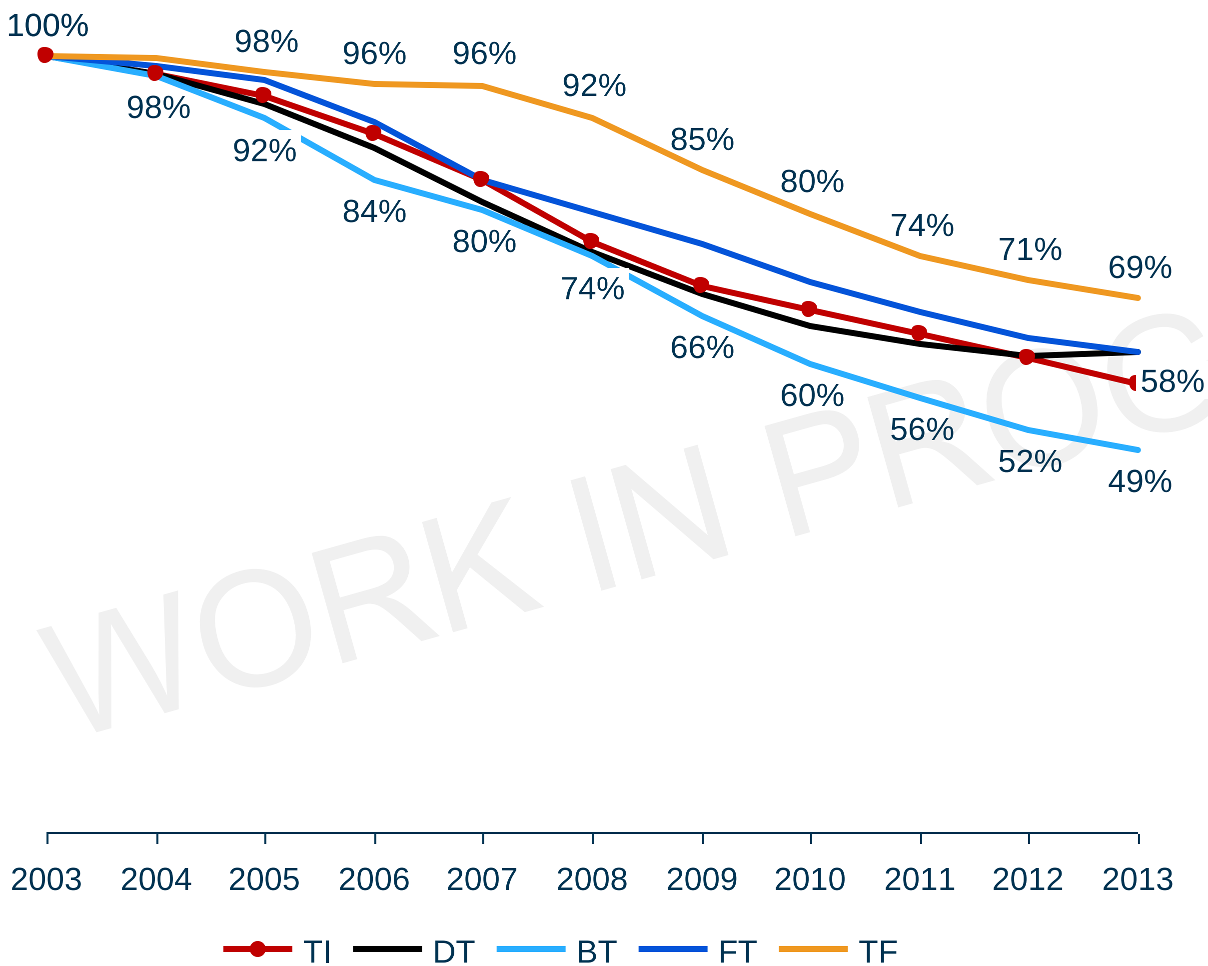
Fixed lines have been in decline over the past decade in Italy and elsewhere, although TI has lost more lines than other EU5 incumbents

Evolution of incumbent fixed access lines in EU5 (2003=100%)

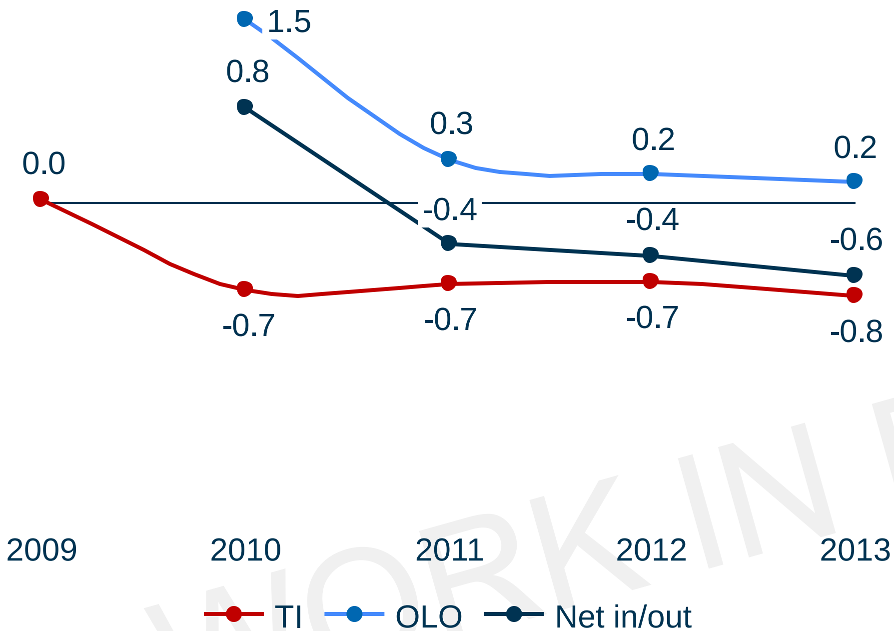


- Fixed line (voice-only and bundled) decline is an inevitable trend for incumbent operators
- Among the factors contributing to decline in fixed lines are
  - competition from cable operators
  - FMS
  - OTT/VoIP solutions
  - Intl. crisis (e.g. disconnecting second/holidays homes)
- Operators' focus on convergent offers (e.g. Telefónica Fusion) helps them containing such declining trend

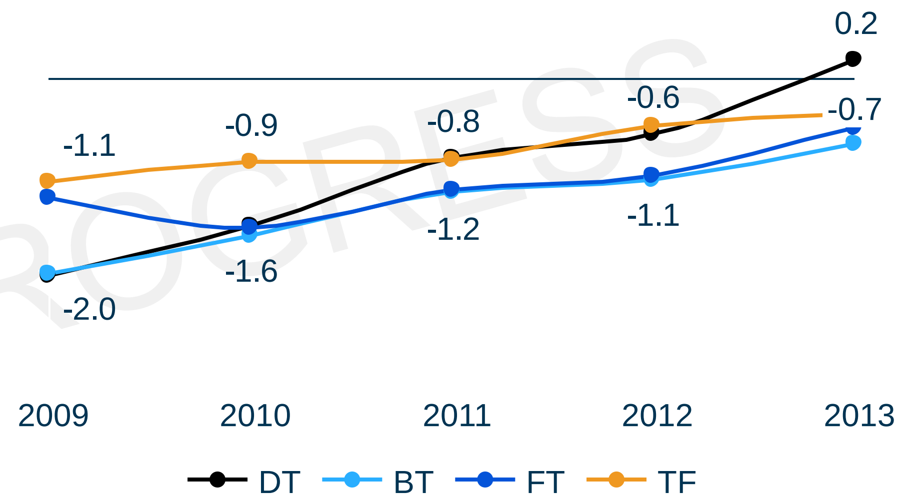
Source: Analysys Mason Research

Incumbent operators in various countries are addressing ‘unavoidable’ loss of fixed lines

Italy’s fixed lines net additions (million)



EU5 incumbents fixed lines net additions (million)



- TI’s lost fixed lines are almost all disconnections, rather than customers churning to other operators
- TI can attempt to contain this trend by developing convergent products (e.g. TIM SMART)

- EU5 incumbents have protected themselves against fixed lines loss more effectively, in part by developing strong convergent propositions (e.g. Fusion Telefonica)

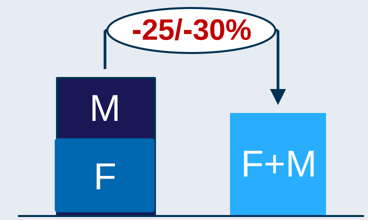
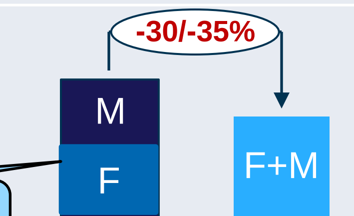
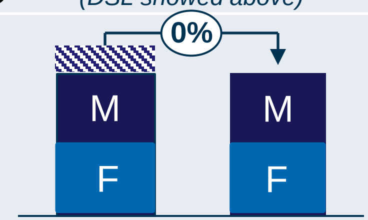
Source: Analysys Mason Research, AGCOM

Fixed-mobile substitution (FMS) is a recurring trend in the industry, but operators can minimise the impact by implementing tailored initiatives

	Driver for FMS	Profile	TI's loss	Initiatives
Voice-only subscriber	▪ Price ▪ Nomadic use of mobile ▪ Scarce value added	▪ Second/holiday homes ▪ Elderly people	▪ Line rental ▪ Fixed voice traffic ▪ Wholesale revenues (if w/s line)	▪ Fixed-mobile convergent offers (compliant to regulation and margin squeeze tests) ▪ Mobile win-back ▪ FWA offers
Broadband subscriber	▪ Scarce utilisation at home ▪ No use of content (e.g. light web browsing, mail) ▪ Scarce value added	▪ Families without teenagers ▪ Students ▪ Workers (commuting or living in a city for working week-only)	▪ Line rental ▪ Fixed voice traffic ▪ Wholesale revenues (if w/s line)	▪ Stimulate the attractiveness of /willingness to pay for content ▪ Complimentary/ bundling offers

Source: Analysys Mason

TIM Smart is a first attempt at a convergent offer although a careful consideration on ARPU 'value destruction' should be considered

FMC offers	Description	Offer	Implied discount
TIM Smart (prescribed bundle)	Fixed-mobile offer targeted at families who internet access on the move and at home **Triple-play offer:** fixed + mobile voice + Internet Up to 4 SIMs per fixed line activated at a discounted fee	**Fixed:** unlimited ADSL (7Mbit/s), unlimited calls to fixed/mobile lines (only call set-up fee charged) **Mobile:** 400 min/month to national fixed/mobile lines, 400 SMS to all national mobile operators, 2GB/month	
Telefonica Fusión (prescribed bundle)	Targeted at households and who want internet access on the move and at home **Triple-play offer:** fixed + mobile voice + Internet with possibility to add TV content Single invoice and possibility to add additional SIM for extra fee	**Fixed:** ADSL 10Mbit/s, unlimited calls to fixed, 550 min/month to mobile lines **Mobile:** unlimited calls, unlimited SMS, 1GB/month 4G Internet traffic Reactive move into a rapidly deteriorating market	 *Discounts vary by technology (DSL showed above)*
Telekom Vorteil (loose bundle)	Targeted to families (up to 4 SIMs) and individuals who want internet access on the move and at home Single invoice	Subscribers combine specified fixed and mobile services to get some services for free: ▪ free calls between family members on one fixed line and up to four mobiles (worth EUR4.95 per month) ▪ multi-device security package (worth EUR3.95 per month)	 *Discounts in the form of additional free packages (same price for additional value)*

***Prescribed bundle**: subscribers sign up to a bundle that is defined by the operator in order to benefit from any savings or additional features. **Loose bundle**: subscribers get a discount and/or some other benefit for combining fixed and mobile services from the same operator, but billing is not unified*

Source: Operators' institutional websites

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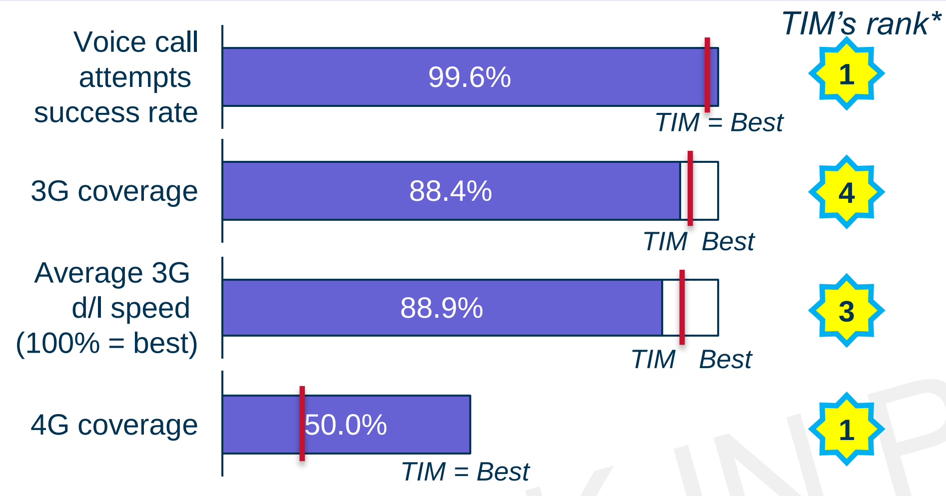
TI needs to reposition itself in the domestic mobile market to better monetise its network

IDENTIFIED PROBLEMS	PROPOSED ACTIONS
TI is the market leader in terms of subscriber numbers, but mainly attracts lower-value subscribers in each market segment	Focus on monetisation/value creation rather than defence of subscriber base
TI has a strong position in terms of mobile network quality and coverage, for both existing (2G and 3G) and 4G networks, but so far has not been able to monetise its network	Re-balance investments vs. fixed: no overspend on mobile network and closer alignment between marketing/sales and network investment
More than 60% of the European mobile market has been consolidated into four major groups whereas TI remains one of the largest stand-alone players and risks missing out on the consolidation benefits	Explore and adopt partnership models in order to gain some of the benefits from consolidation

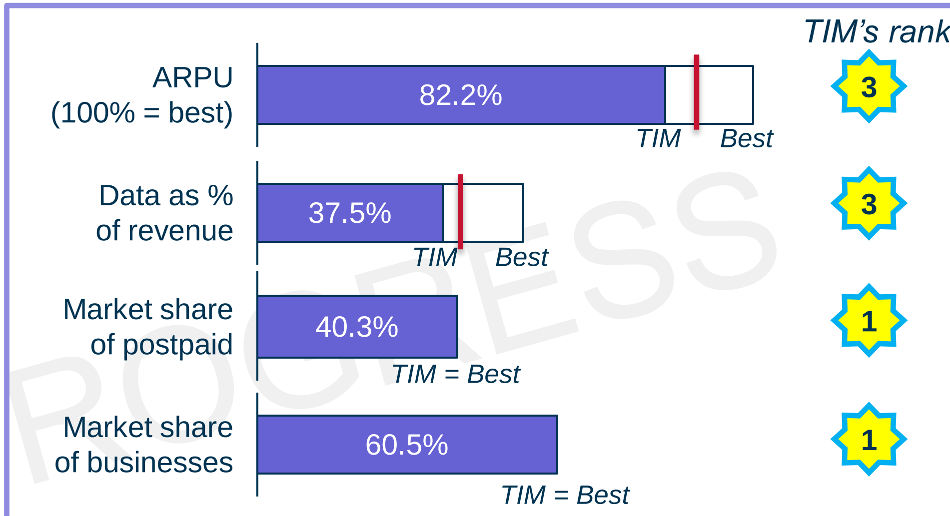
TIM should strive to fully monetise its mobile network by improving its content offering and especially the way these are marketed to subscribers

TIM has invested heavily in its mobile network, which now is the second best in the country



- TIM has achieved a competitive edge in terms of 4G coverage although the 3G network lags behind competitors both in terms of coverage and average download speed

TIM has not been able to fully monetise its investments to date



- TIM could better exploit its strong foothold in traditionally high-value segments

Market average

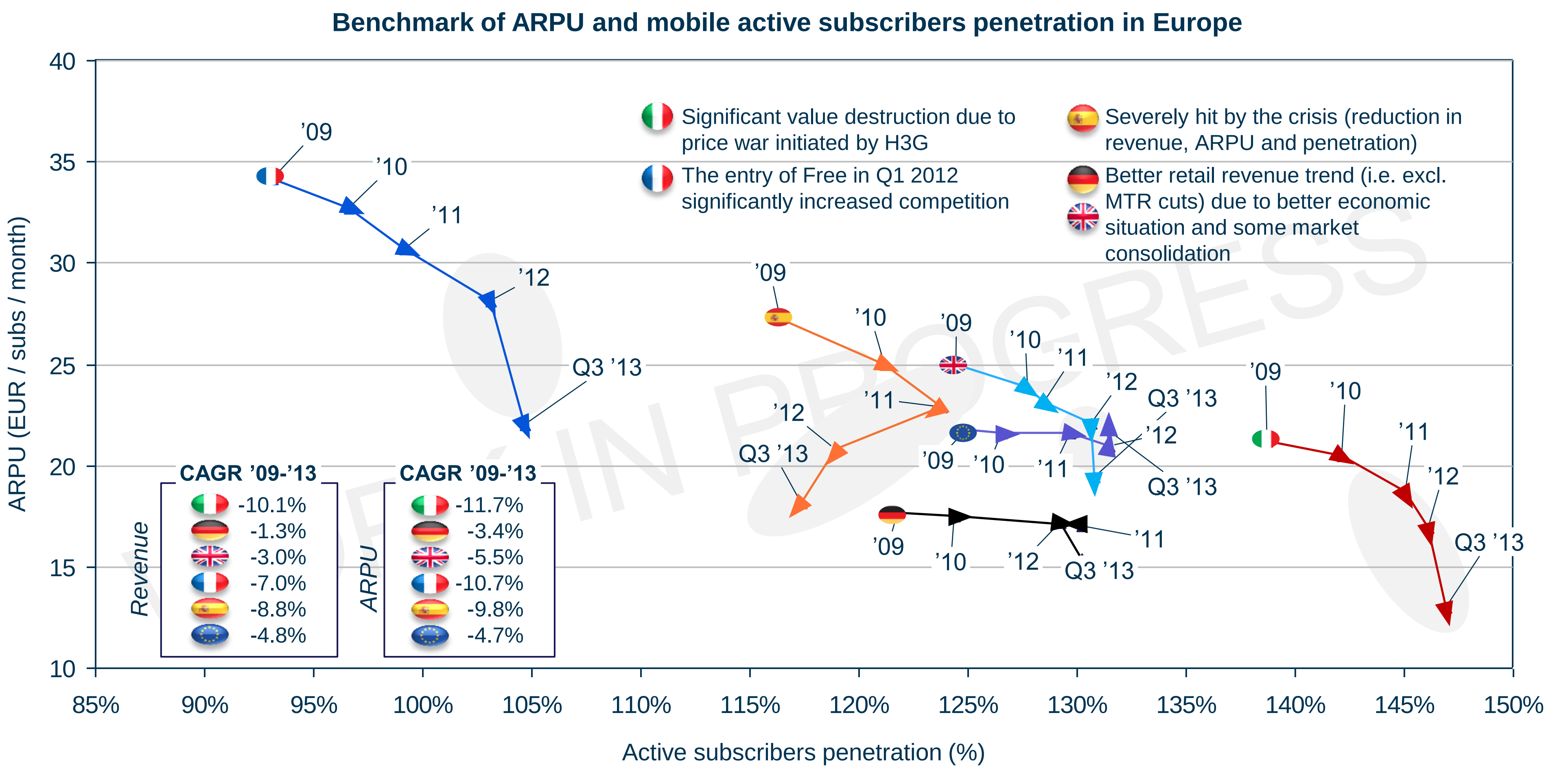
- Invest to improve coverage and capacity of the 3G network, which will continue to play a key role in the short to medium term, and re-balance capex between fixed and mobile to tactically exploit 4G leadership

- Stimulate upselling to higher-volume traffic bundles by enriching the basket of content and applications available to customers (potentially by means of partnerships) and improve the effectiveness with which these services are marketed

** TIM has been compared against the performance of the three mobile competitors*

Source: Analysys Mason

Aggressive price competition has destroyed value in the Italian mobile market and resulted in the lowest market ARPU in EU5

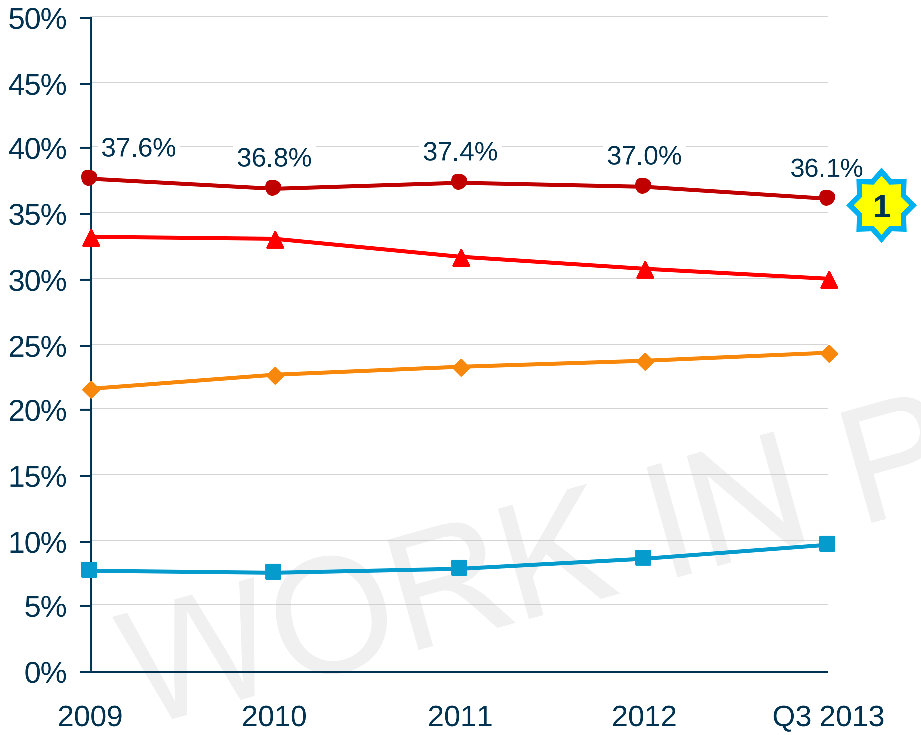


Note1. Rest of Western Europe (RWE) includes: Austria, Belgium, Denmark, Finland, Greece, Ireland, Netherlands, Norway, Portugal, Sweden and Switzerland
Note2. Penetration has been calculated with active SIMs only (i.e. SIMs that have been used in the last three months), excluding M2M and including wholesale SIMs
Note3. UK's ARPU has been cleaned from currencies fluctuation by applying a fixed GBP:EUR exchange rate

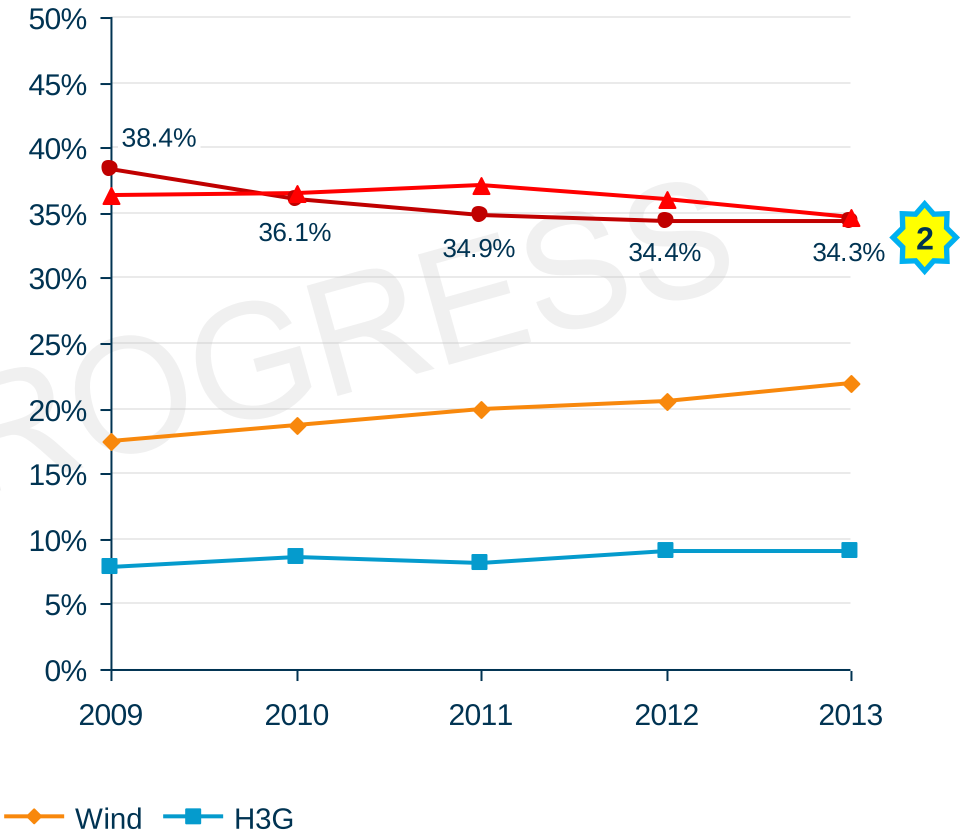
Source: Analysys Mason Research

TIM remains the largest mobile operator in terms of subscriber market share but its position is not reflected in a revenue premium

Market share of active subscribers



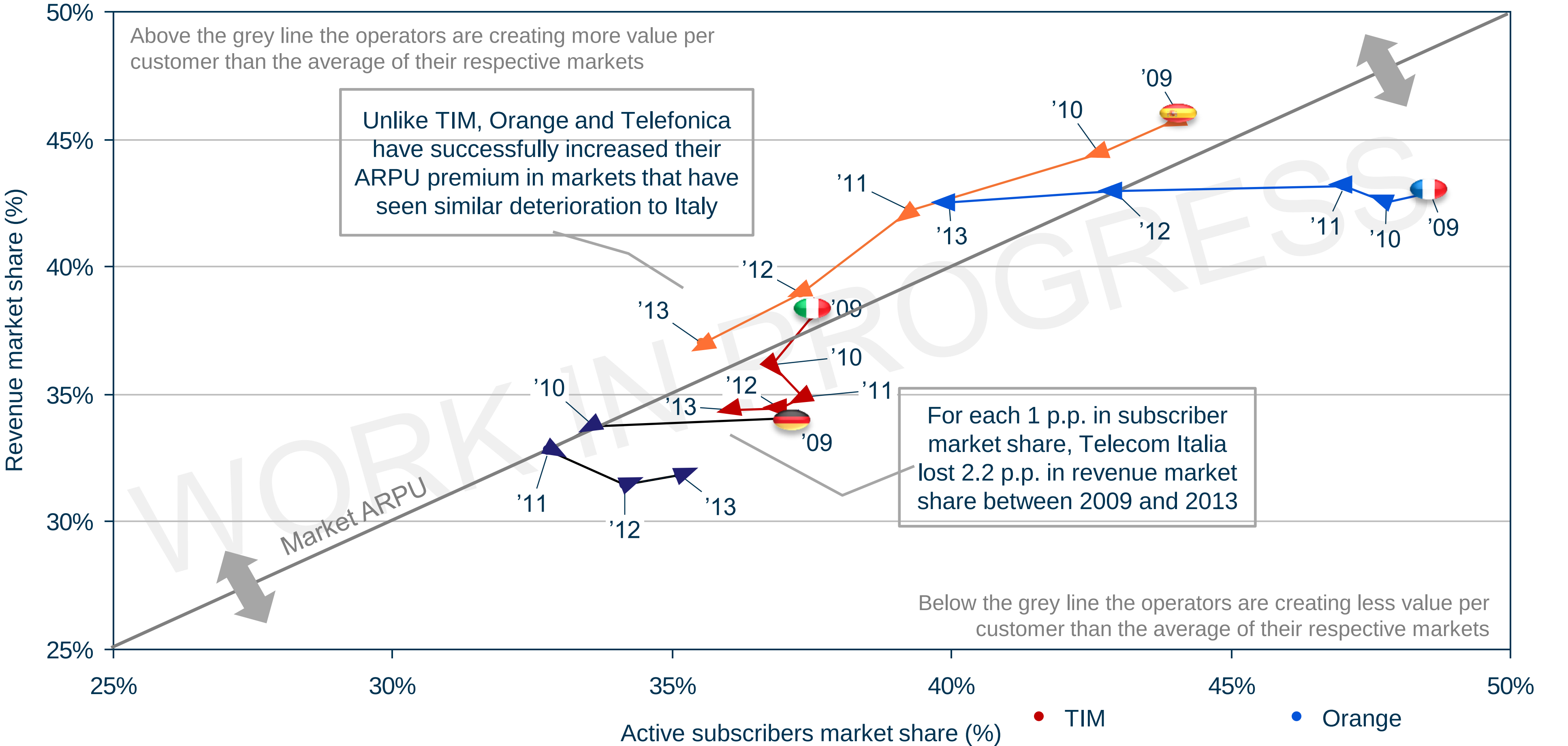
Market share of revenue (incl. interconnection)



Source: Analysys Mason Research

TIM has defended its domestic subscriber market share at the expense of ARPU which (unlike most peer incumbents) is now below market average

Mobile market share of major EU5 fixed incumbents based on active subscribers

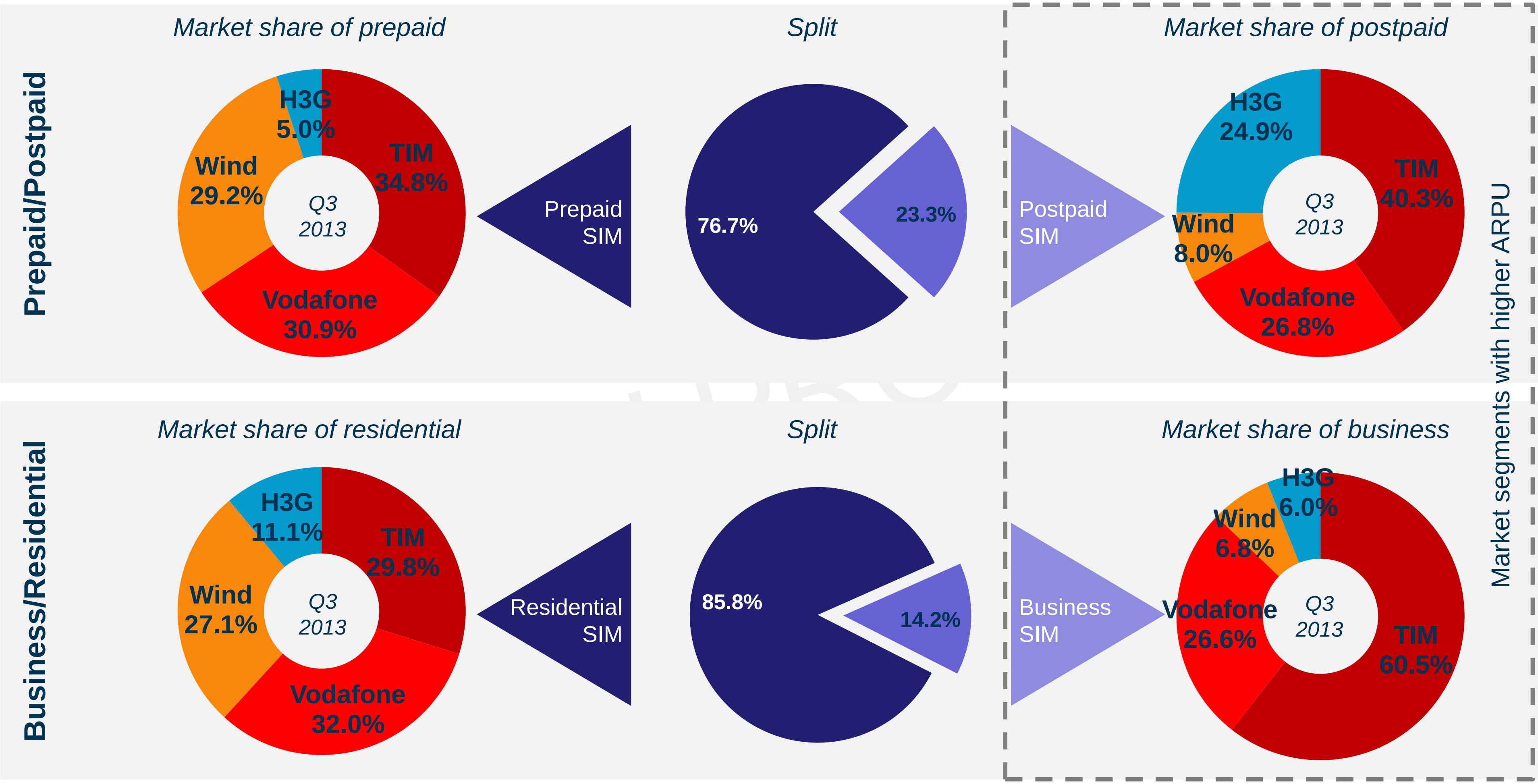


Note1: BT has not been included as it is a fixed-only operator
Note2 :Wholesale SIMs included, M2M SIMs excluded

Source: Analysys Mason Research, GSMA Intelligence, TIM

analysys mason

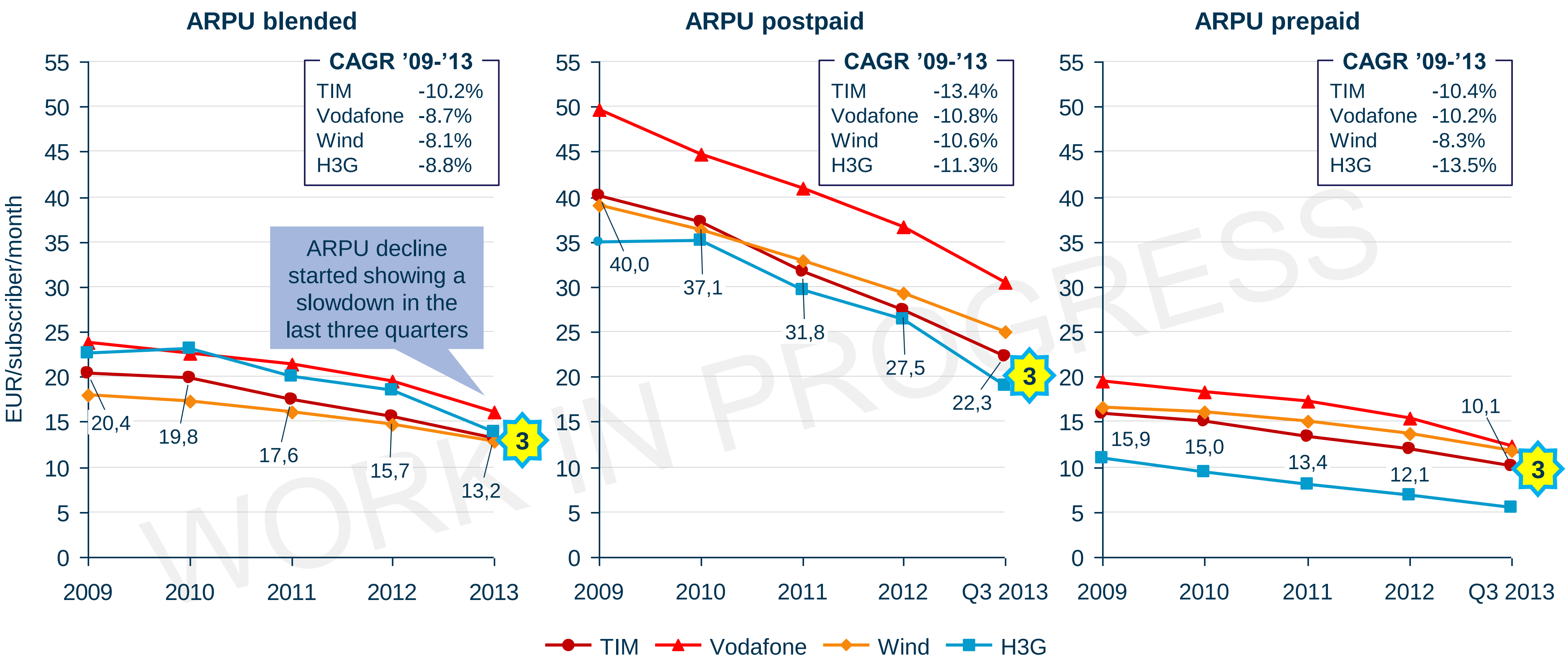
TIM’s ARPU does not reflect its subscriber market share leadership in the postpaid and business segments



Note: Due to different sources being used, the residential/business split is based on registered SIMs, whereas the prepaid/ postpaid split is based on active SIMs

Source: Analysys Mason Research, AGCOM quarterly reports

TIM has the third lowest ARPU among Italian MNOs in both prepaid and postpaid segments, with an increasing discount over market ARPU



TIM discount over market ARPU has increased over time in both the prepaid and the postpaid segment

-3% → -6% | -4% → -7% | -7% → -9%

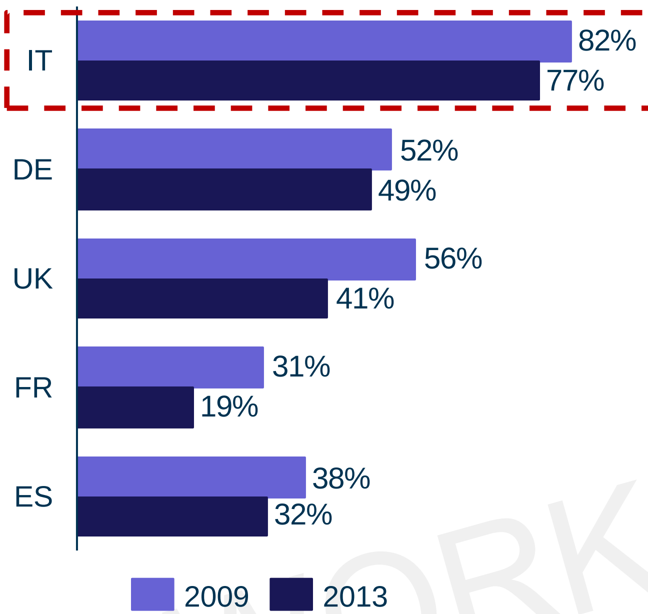
Note: ARPU has been calculated using active SIMs only

Source: Analysys Mason on Analysys Mason Research

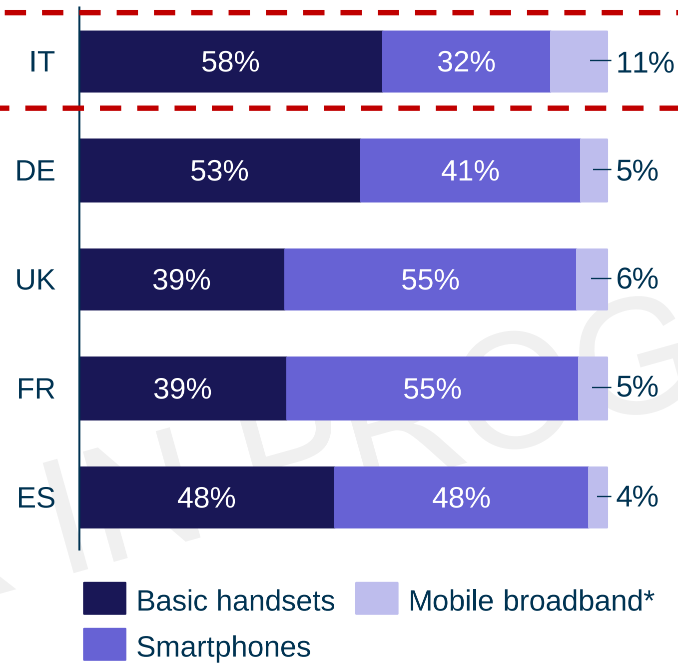
analysys mason

Italy is still a highly prepaid market compared to EU5, with a lower smartphone penetration and therefore lower data share of revenue

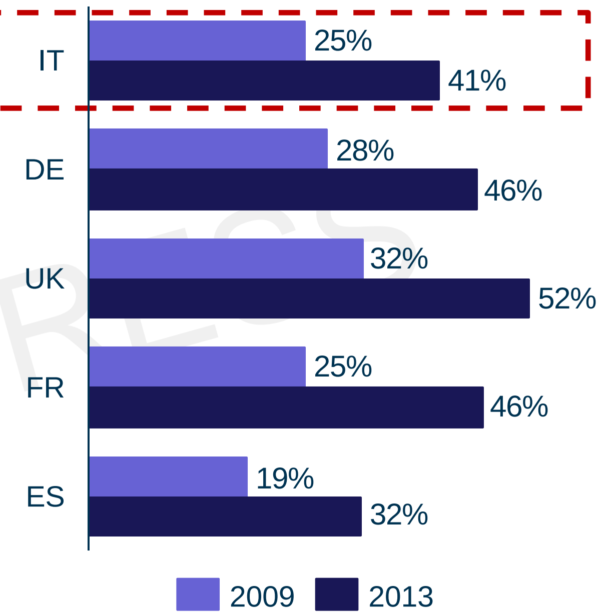
Share of prepaid contracts



SIM split by device in use (2013)



Share of data revenue



- The historically high proportion of prepaid subscribers in Italy is mainly due to the extra tax of EUR5.16 (12.91 for corporates clients) applied to postpaid plans. This is unique in Europe, and operators should lobby for its removal

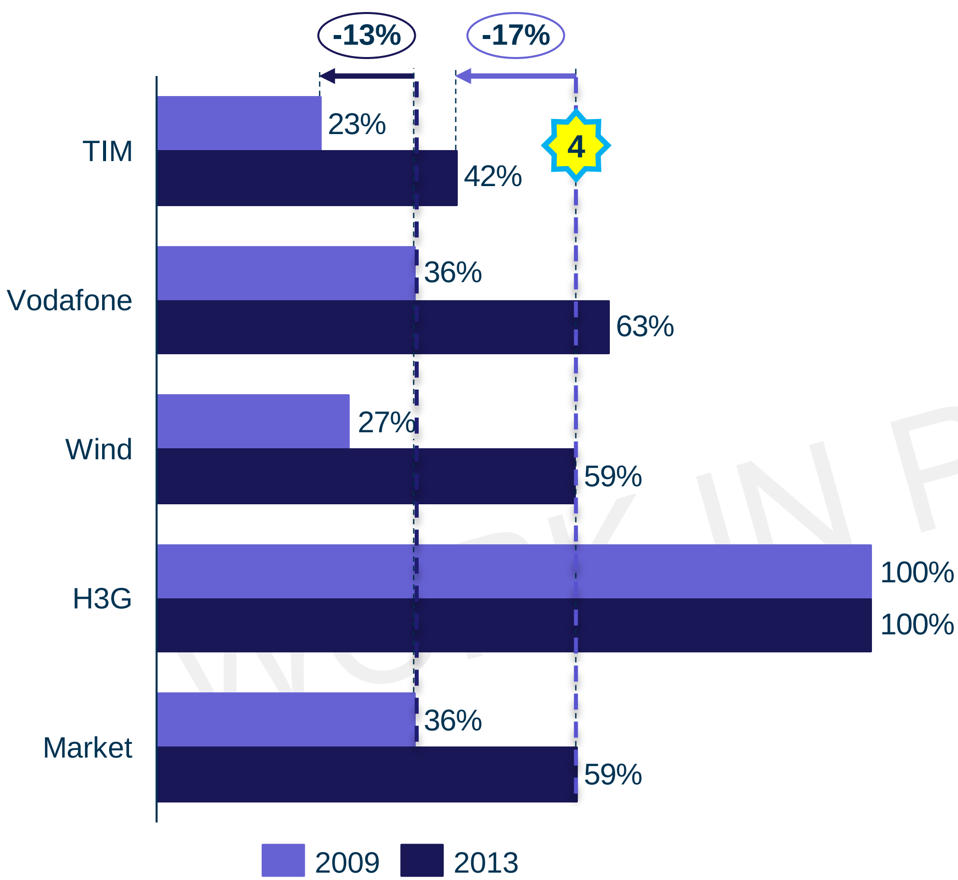
- Italy has the lowest smartphone penetration in EU5

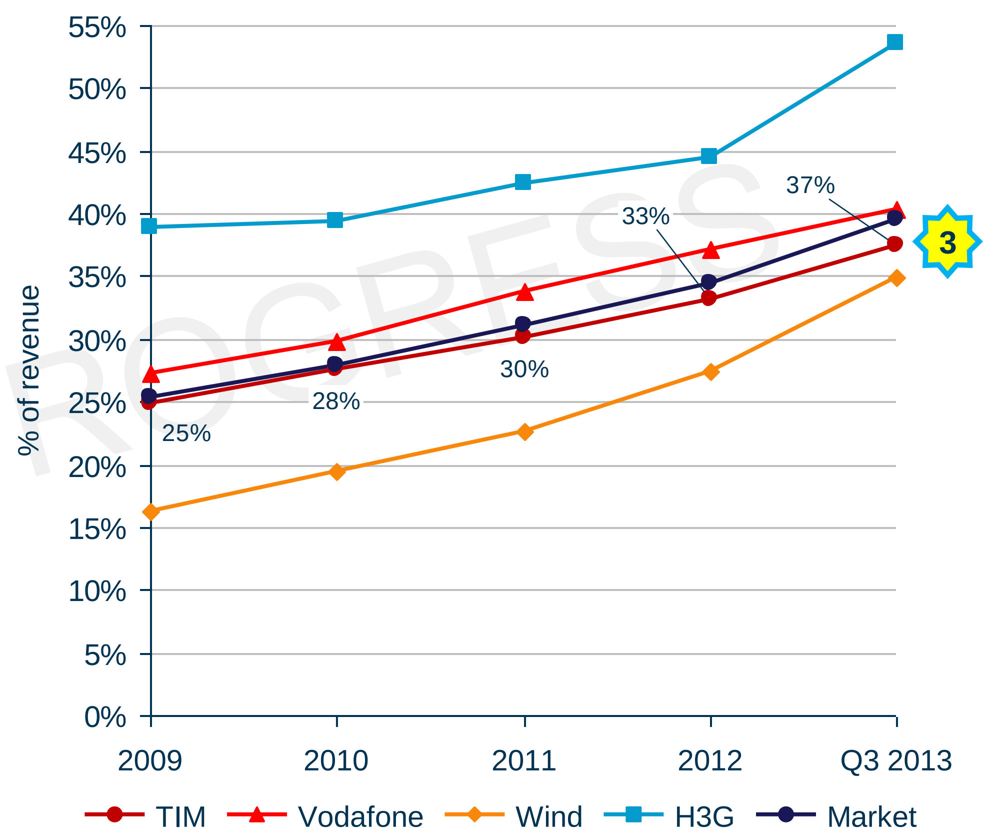
** Mobile broadband (MBB) is defined as all mobile broadband (2G+) PC, laptop, netbook or tablet connections via a USB modem or datacard.*

- A low smartphone penetration inevitably leads to data contributing a lower share of revenue (i.e. MNOs are unable to fully exploit the growing demand for data services)

Source: Analysys Mason Research

TIM has the lowest share of 3G/4G subscribers in the market and is struggling to extract value from data services



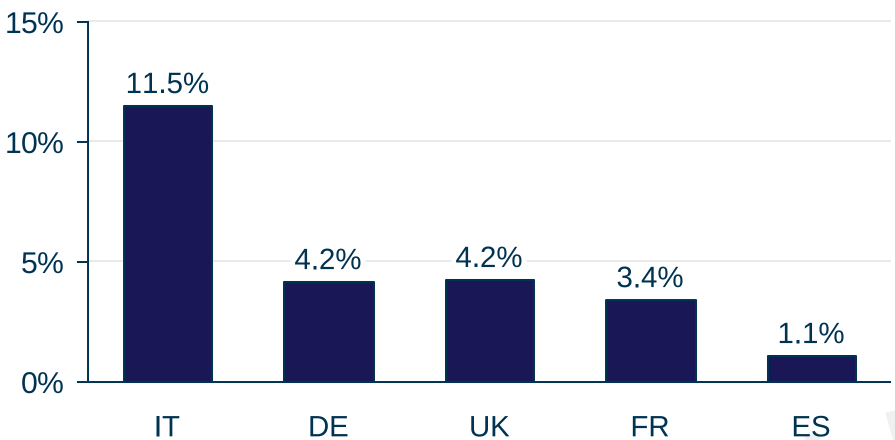


TIM should look to increase smartphone penetration and take-up of data services across its subscriber base

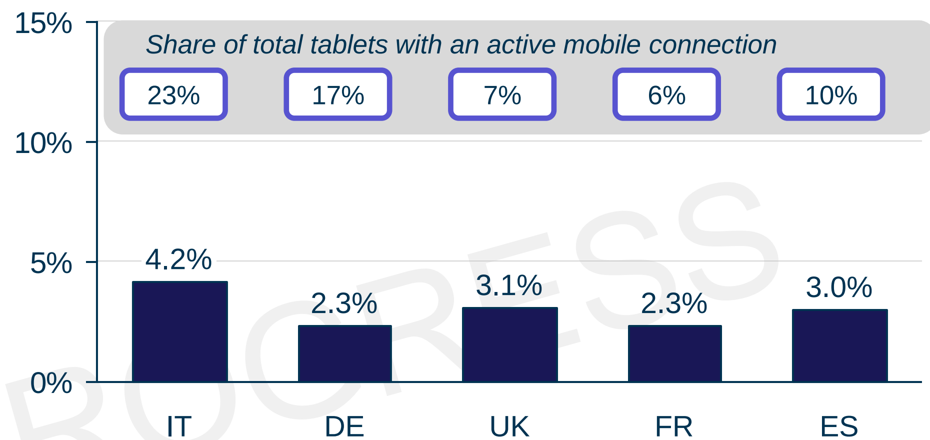
Source: GSMA Intelligence, Analysys Mason Research

Italy has the highest MBB penetration in EU5, driven by intense price competition

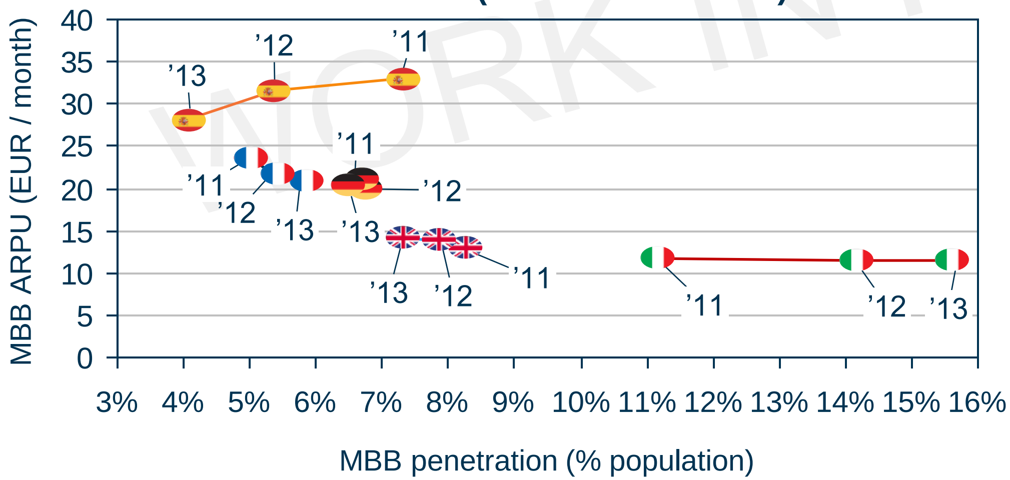
Datacard penetration of population (2013)



Tablet penetration of population (2013)



ARPU from MBB (datacards + tablets)



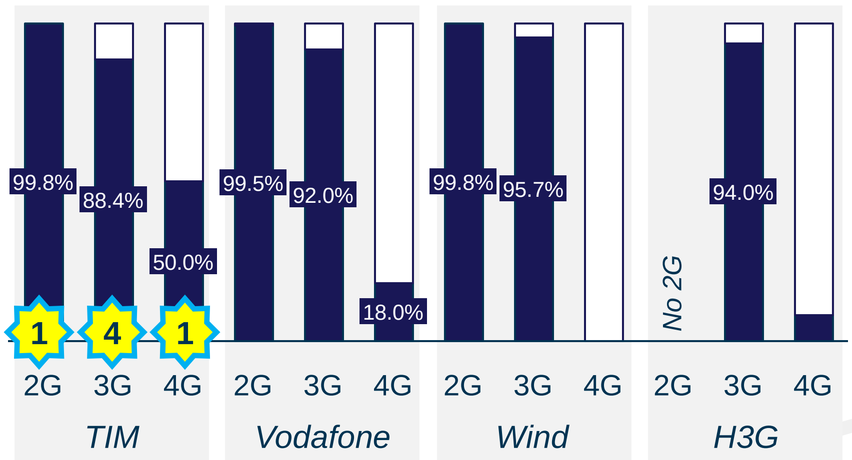
- MBB has been very successful in Italy, due to:
  - the lack of UBB infrastructure and low fixed broadband usage, which have led to a certain degree of fixed-mobile substitution
  - price competition, led by mobile-only operator H3G, has brought MBB ARPU to the lowest of the EU5

Notes:
Datacards include all mobile broadband (3G+) PC, laptop, netbook connections via a USB modem or datacard. Excludes tablets and e-readers
Tablets include e-readers, excluding PC, laptop and netbooks

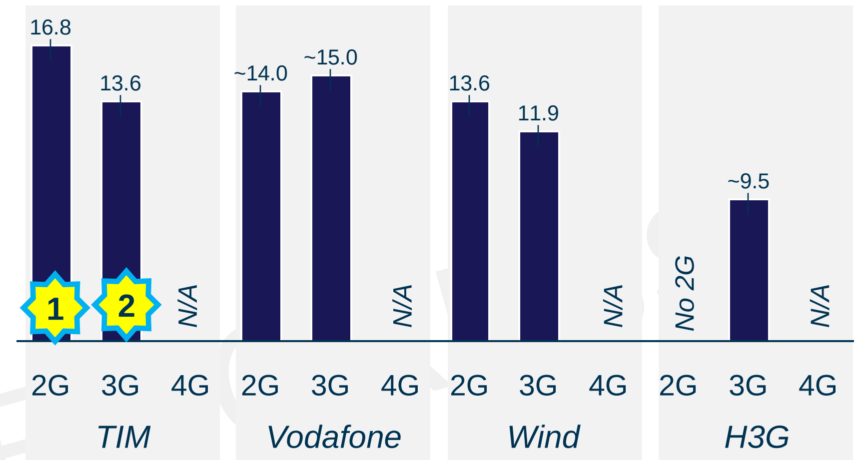
Source: Analysys Mason Research, Euromonitor, AGCOM quarterly reports, press release

TIM has not managed to monetise what overall seems to be the second best network in the market

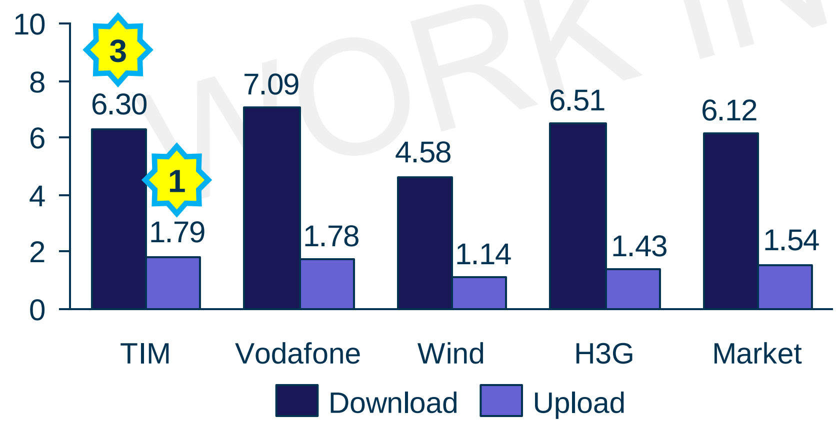
Population coverage at the end of 2013



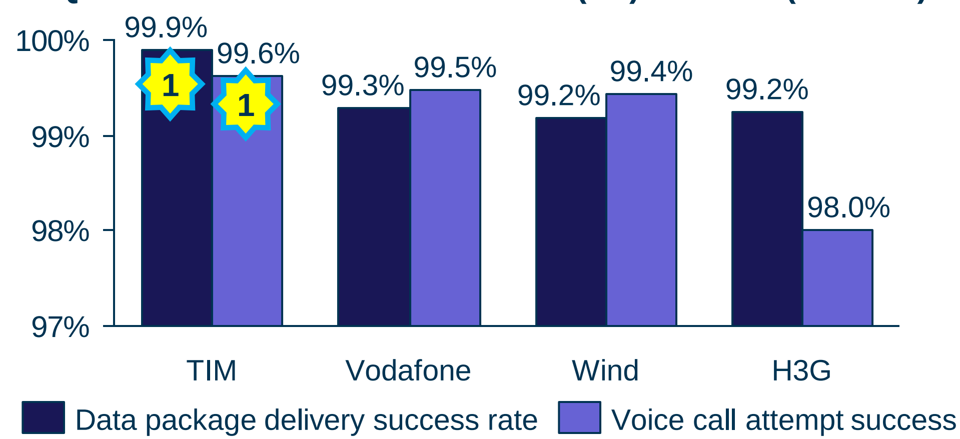
Last reported number of sites in 2012 (thousand)



3G average download and upload speed in 2013 (Mbit/s)



QoS indicators for voice and data (3G) services (H1 2013)



Source: Analysys Mason, AGCOM, Telegeography, GSMA Intelligence, operators' data, press release

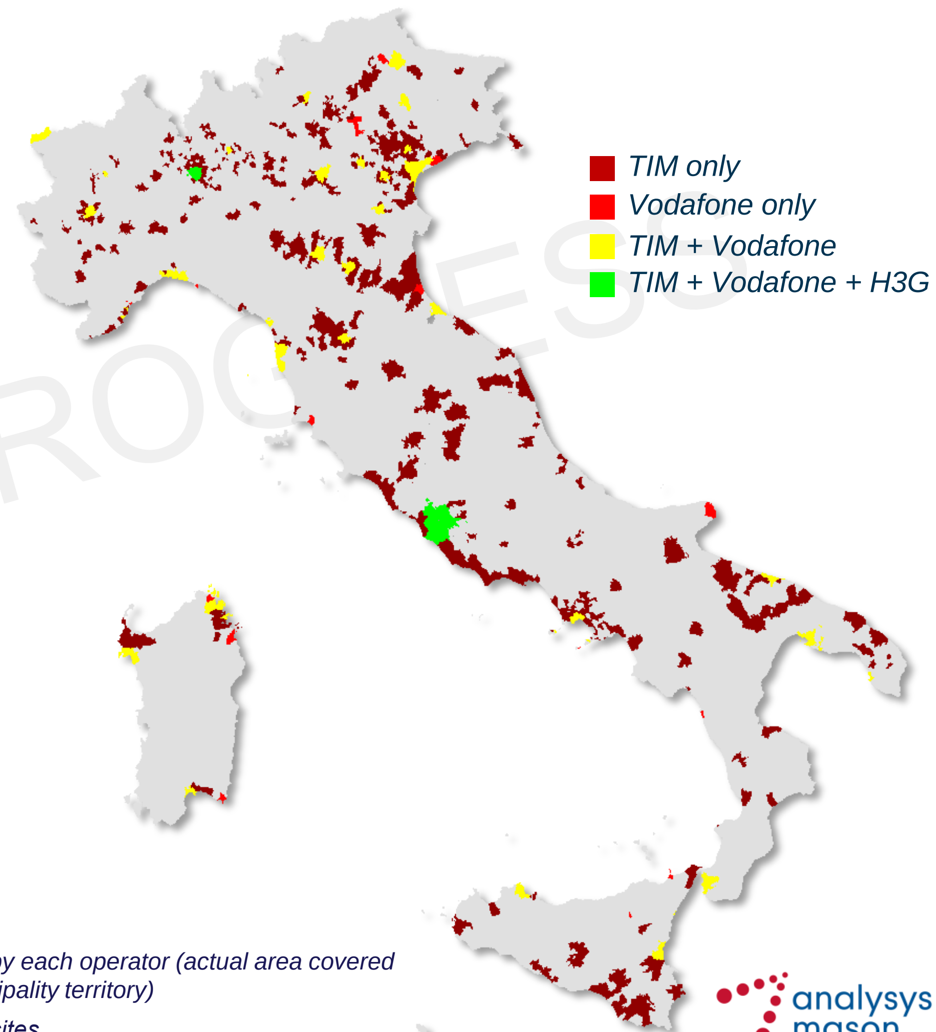
TIM has achieved a clear position of leadership in terms of 4G network coverage but must now tactically focus on monetising its 3G/4G networks

- TIM's 4G network covered c.50% of population at the end of 2013
  - TIM management's plan is to reach 70% by 2015 and 80% by 2016
  - Vodafone, TIM's main competitor and leader in terms of network quality, is well behind, with coverage of c. 20% of the population

TI must rebalance investments in fixed and mobile networks, favouring the former for the next three years

Rather than further expanding LTE coverage (already significantly beyond competition), TIM should focus mobile investment on improving the 3G network (which we believe will continue to play a major role in the short to medium term) and maximise value extraction from 4G network to exploit the 4G lead it has achieved

4G coverage (10 March 2014)

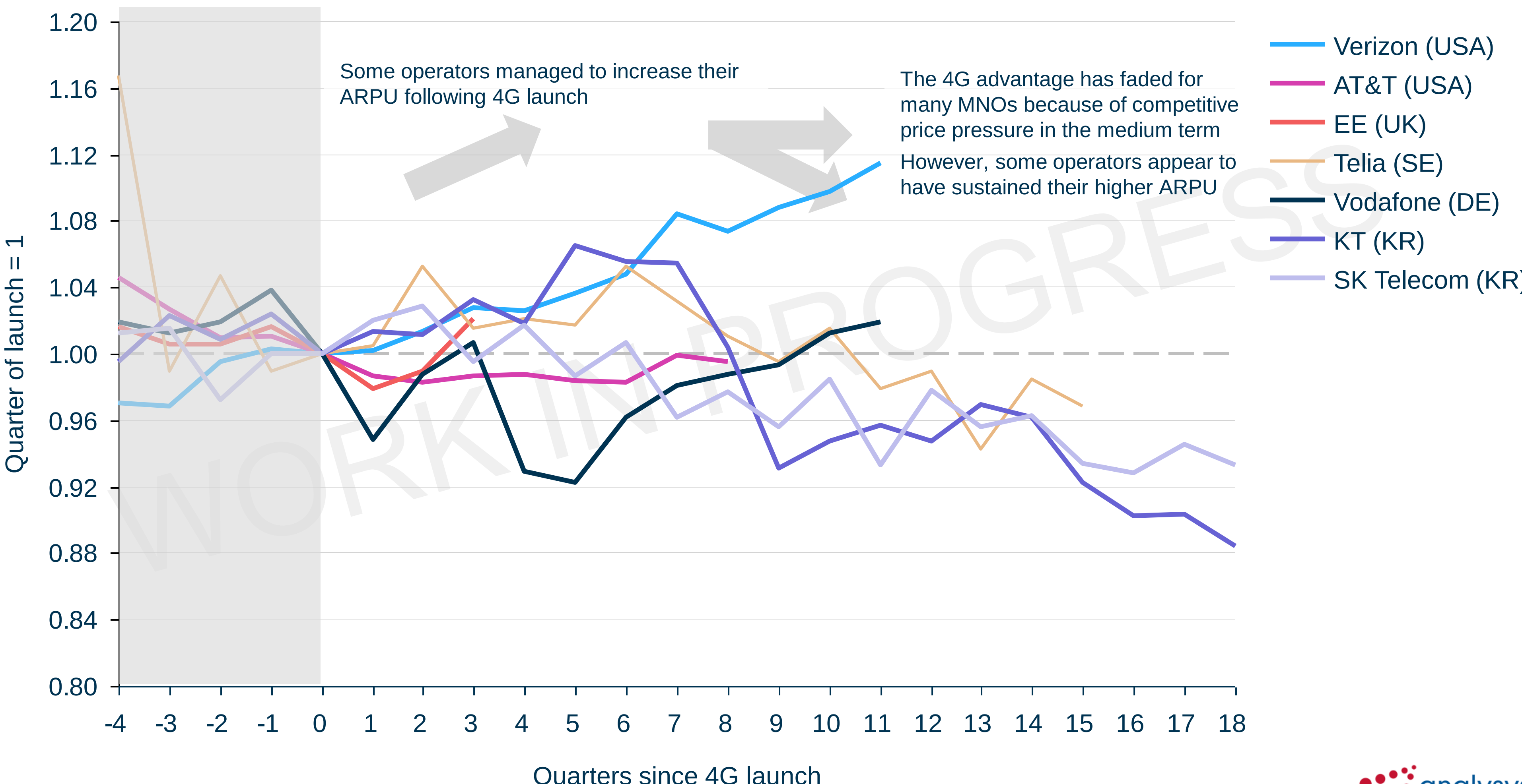


Note: map shows municipalities covered by each operator (actual area covered may be smaller than the overall municipality territory)

Source: Analysys Mason, operators' websites

In other markets, mobile operators have been able to exploit 4G services to increase ARPU, a goal so far unachieved by Italian MNOs

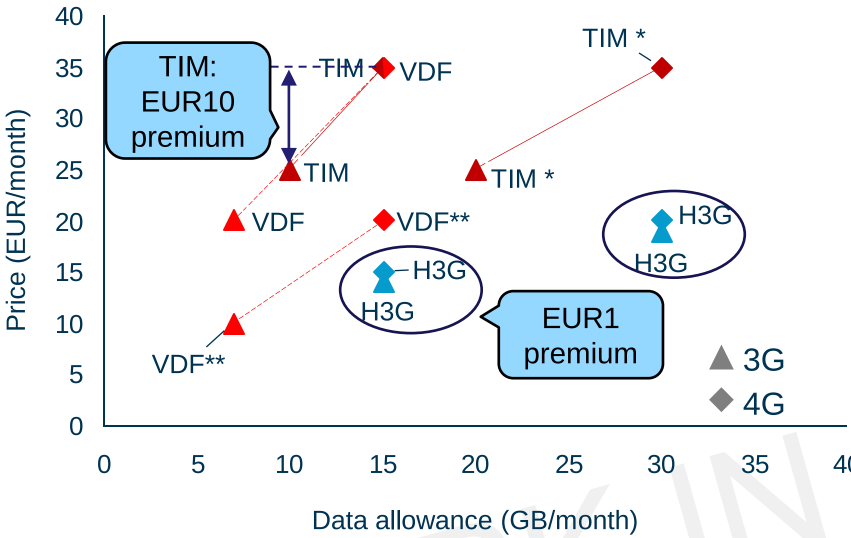
ARPU evolution since the launch of 4G



Source: Analysys Mason on GSMA Intelligence

TIM's marketing strategy for 4G smartphone plans seems to focus solely on speed and does not promote upselling through content

Monthly tariffs of data-only plans for dongles and tablets



Smartphones plans: 4G premium vs 3G

Operator	4G premium (EUR/month)	Additional traffic (GB/month)
TIM	EUR5	0GB
Vodafone	EUR10	2GB
H3G	EUR1	0GB

4G included by default in top-tier postpaid plan

Note: Table above applies to both prepaid and postpaid plans
Note: Wind has not launched 4G services at the time of writing

- **Tablets and dongles:** TIM's 4G plans - like Vodafone's - are priced at a premium over 3G plans but combine the higher speed of 4G with a larger data traffic allowance
  - the new pricing schemes should aim to incentivise upselling and cross-selling
- **Smartphones:** TIM prices 4G as an option on all 3G plans that reflects increased speed but no extra data allowance; furthermore TIM does not explicitly promote content services to 4G smartphone users
  - We believe this approach to be too focused on speed and so does not stimulate additional consumption, hindering monetisation

TIM should be advertising content and applications more effectively and directly to its mobile users in order to incentivise upselling

** TIM offer for existing clients (either fixed or mobile);*
***VDF (RELAX) offer is limited to clients with a RELAX plan*
Source: Analysys Mason on operators' data and Analysys Mason Research

TIM appears to lag behind EU5 peers in terms of content breadth and applications offered, developed mostly in-house rather than with partners

Operator	ICT	Content video	Content music	Other (selection)	Voice and messaging	M2M, verticals (selection)	Assess-ment
Vodafone	• Cloud (5GB free, EUR5 per month for 1000GB)	• Football (Italy) • Sky Sport (UK)	• Spotify	• M-payments (Vodafone Wallet) • Press (RCS) • Telepass (Italy)	• Voice Message+	• Automotive (Volkswagen, Bosch, TomTom) • Banking (ASB Bank)	■■■
Orange	• Cloud (free)	• Orange TV • Football	• Deezer	• M-payments (Orange Cash, with Visa)	• PartyCall (Facebook)	• Automotive (Renault) • Energy (GDF Suez)	■■■
Deutsche Telekom		• Mobile TV	• Spotify	• Gaming (with Zynga and Rovio) • Mobile NFC (with Mastercard)		• Automotive (AG) • Smart home (QIVICON)	□■■
Telefonica	• mCloud	• Movistar TV	• Spotify	• Gaming (with EA Games)	• TU Go	• Avea • OnStar	□■■
TIM	• TIM Cloud (200GB on 4G)	• Football • Cubovision	• Cubomusic	• Cubogame • Press (Espresso) • NFC (Intesa Sanpaolo)		• Automotive (FIAT)	□□■

Developed in-house

External partnerships

TIM is largely dependent on applications developed in-house and has not invested sufficient effort on marketing them as an add-on to pure connectivity

Note. The table includes a non-exhaustive selection of most evidently marketed content/applications
Source: Analysys Mason

TIM should look to monetise its existing 4G network by offering innovative services to existing and new segments

4G-based services across target user and product segments

Data

Voice

1 Enhanced data

- **On the go** (e.g. video-streaming/download, TV, online gaming, music and entertainment ✓
- **At home** (e.g. voice on demand (VoD), online gaming, music and entertainment) ✓✓

2 VoLTE + add-on features ✗

- Add-on features for consumer segments include rich communication services messaging
- Add-on features for SMEs include video conferencing

3 Enhanced mobility applications ✓

- Videoconferencing, tele-presence, large file transfers, real-time remote access to business apps, rich media collaboration

4 Wholesale solutions

- **M2M/Wholesale connectivity:** remote fleet tracking, m-health, smart home etc. ✗
- **Utility solutions:** healthcare, education, agriculture etc. ✗
- **Pure wholesale:** service provision to VoIP provides ✗

Consumer segment

Corporate/government segment

TIM today

✓✓ Fully offered

✓ Partially offered

✗ Not offered

Legend: *New services and segments that can be addressed with 4G*

Note: VoLTE = Voice over LTE

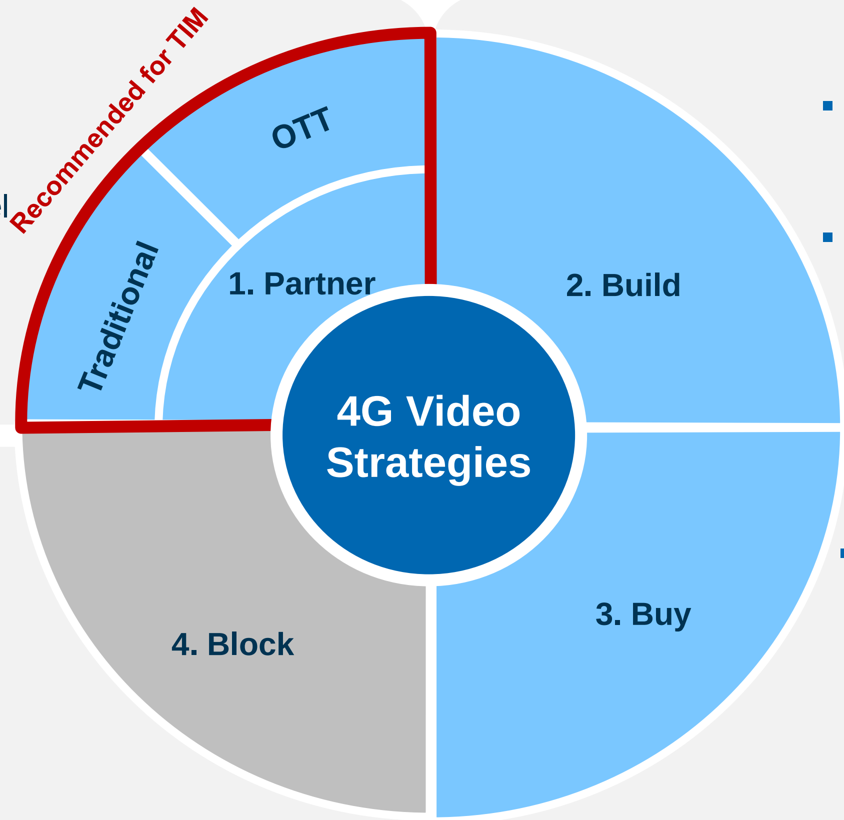
Source: Analysys Mason

We would recommend that TIM follows a partnership approach for the deployment of video services over 3G and 4G

1 *Enhanced data*

- Partnering with OTT video providers such as Netflix and Hulu
- Partnering with TV channel providers and Direct To Home/cable pay-TV operators to offer live TV services

- Developing in-house applications that provide video search and streaming
- Offering content as a mix of ad-supported and paid-for content



- Blocking access to OTT video, this is not a permanent solution

- ‘Backwards-integrating’ by acquiring service providers who can be a valuable addition to their service portfolio and offer exclusive content

Monetisation of video generates revenues through either a new stream, more of the same data consumption or a hybrid of the two

Source: Analysys Mason, Industry Inputs

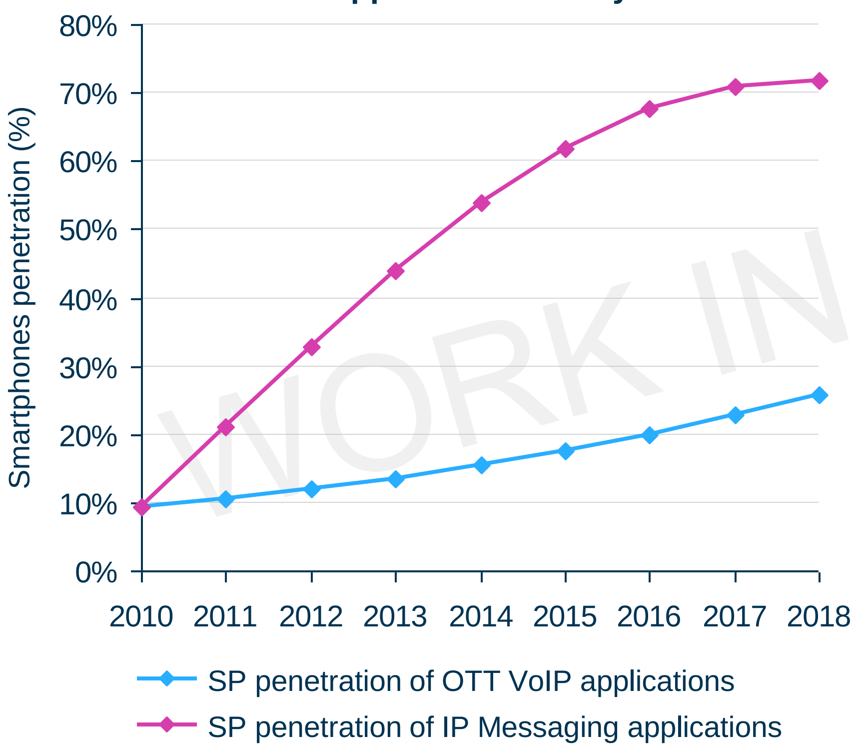
Given the take-up of IP messaging and VoIP, TIM should look at providing integrated solutions to address this demand and limit revenue loss

2 *VoLTE + Add-ons*

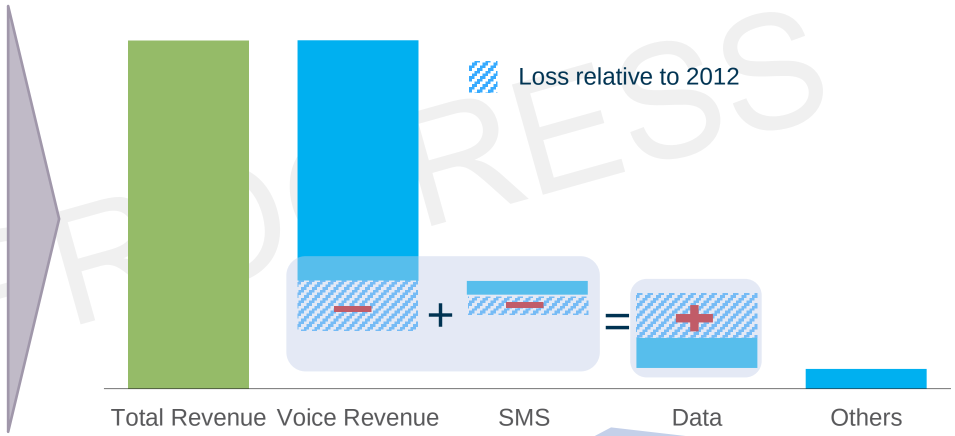
The enhanced user experience and aggressive pricing of OTT players is eroding TIM's revenues (although this is an industry-wide trend)...

... and this will be even more acute in a 4G environment, unless operators are more pro-active

Smartphone (SP) penetration of OTT VoIP and messaging applications in Italy



Illustrative share of TIM's revenue by segment, 2016



- **Enhance data rev:** Operators have so far been unable to neutralise the threat from OTT services. In a 4G environment, with larger data allowances, operators will face a greater risk of revenue loss unless they proactively counter the threat
- **New services:** VoLTE + rich communication services enable operators to offer integrated voice, video and IM services that can offer an enhanced user experience, hence countering the OTT threat

Source: Analysys Mason, Industry Inputs, operator websites and reports

For VoLTE operators, voice, video and IM integration is a strong differentiator as current usage of integrated services is limited to Wi-Fi/fixed networks

2 *VoLTE + Add-ons*

	Pure mobile networks	LTE
Voice	Voice calls	**Integrated offer on-the-go and in homes/offices** HD Voice calls (higher quality, lower connection time) HD Video calling HD video conferencing Media/phonebook sharing IM services on data plan Email/data
	VoIP (e.g.Skype calls)	
Add-ons: Video	Video calling (e.g. Facetime) on 3G	
	VoIP with video (e.g.Skype)	
Add-ons: IM/Media	SMS	
	IM services on data plan (e.g. WhatsApp)	
	Email/data	

- *Pure mobile services allow a low level of integration across different voice + add-on services*

- *4G networks can address the mobile opportunity for HD voice and integrated services*
- *4G networks can also drive usage away from Wi-Fi.* ***A survey of 4G users in the UK found that since using 4G, 43% of users use fewer or no public Wi-Fi hotspots***

- *Highly integrated service, which allows features switching back and forth between voice and video calls*
- *VoLTE with rich communications services integration does not require users to sign up to an app. Service is enabled on handset and works across operators*

Legend : Though these services are offered on 3G, the experience is sub-optimal

Level of service integration: *Low* – *High*

Source: Analysys Mason

TIM is not yet exploiting 4G to offer mobility applications/solutions for SMEs and enterprise customers, which Verizon is doing effectively

3 *Enhanced mobility applications*

Verizon's 4G enterprise/SME plans

Home > Verizon Products and Solutions for Small Business > Mobility >

Mobile Office Solutions

Become More Mobile

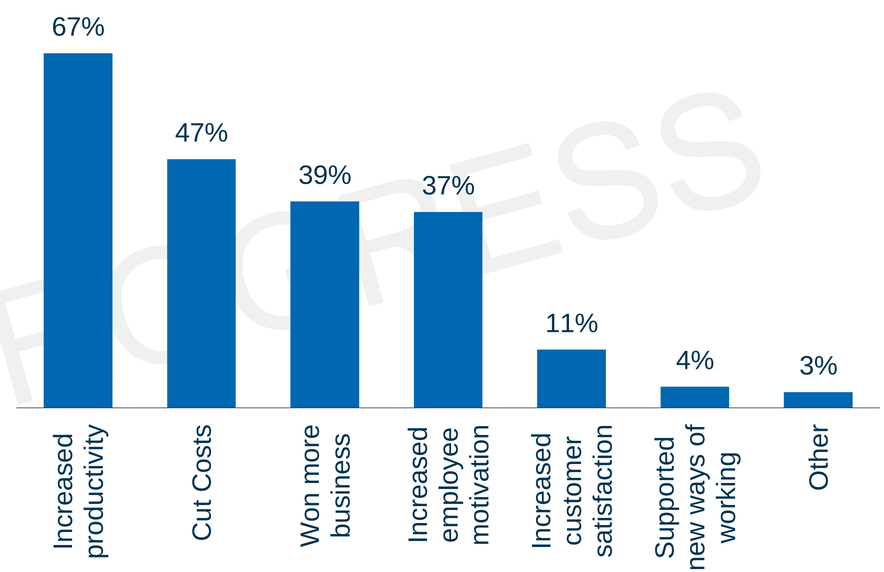
- Applications for Business
- Mobile Broadband
- Mobile Devices for Business
- Mobile Office Solutions
  - Wireless Email
  - Microsoft Office 365
  - Wireless Office
  - Videoconferencing
  - Custom Caller ID
- Mobile Point of Sale
- Push to Talk

Verizon offers cloud-based HD video conferencing to SME customers

Additional features:

- *Multi-party video conferences from any smartphone*
- *Cross-platform content collaboration across participants*
- *Data protection and encryption*
- *Content-sharing with participants, including HD video*
- *Real-time mark-up of documents*
- *Use of OS-native applications*
- *Deploy real-time pointers and sticky notes in discussions*

Benefits identified by US businesses using 4G*
Has 4G benefitted your organisation?



- There are multiple pricing plans for businesses, depending on their size, sector and their mobility and business requirements
- Verizon also has an SME support portal, from which it recommends applications (even third-party apps) for different business needs for SMEs

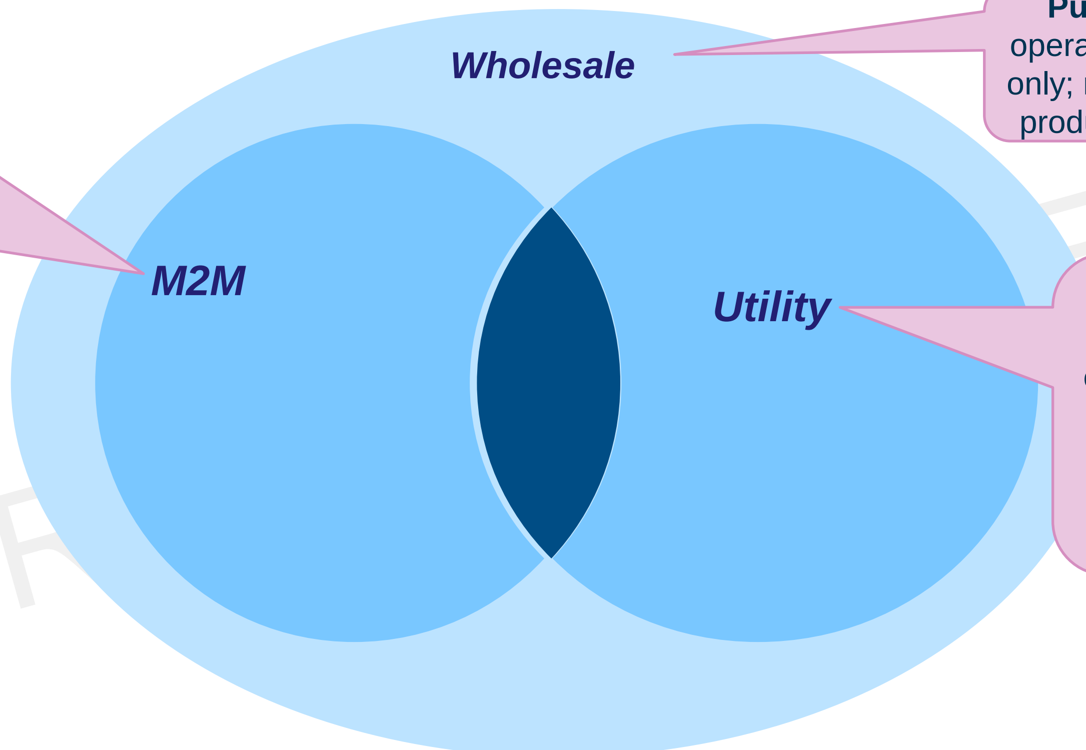
** Survey by Arthur D. Little of 256 US businesses using LTE. Survey base not exclusively Verizon-served businesses, and includes businesses using other LTE services as well*

Source: Analysys Mason, Verizon website and press releases

Finally, TIM should look to monetise 4G by offering wholesale services and enter new areas within M2M and utility services

4 *Wholesale solutions*

M2M: supporting communication between machines, operator creates products in-house or supports external developers by selling capacity



Pure wholesale: operator sells capacity only; no involvement in product development

Utility: supporting sectors such as health and education, operator creates products in-house or supports external developers by selling capacity

Given the better bandwidth and lower latency, 4G would allow TIM to sell additional bandwidth through wholesale services targeting various applications, as well as directly offer new services within M2M and utility services

Source : Analysys Mason, Verizon, AT&T, DSME

Partnering with established players in the European market could unlock synergies, diversify risk and increase share price

Value creation of partnerships

Operational synergies

- Savings could be achieved by means of
  - creation of ***procurement clubs*** to consolidate demand and apply greater bargaining power
  - Entering into international ***roaming agreements*** could reduce overall interconnection costs and improve TIM's position amongst travellers

Risk mitigation and diversification

- Partnerships can **reduce time to market** and implementation risks of innovative initiatives within the company, by sharing best practices across the group/partners
- The increased ***geographical diversification*** resulting from a potential merger reduces market-specific risk
  - TIM would be less subject to domestic market fluctuations

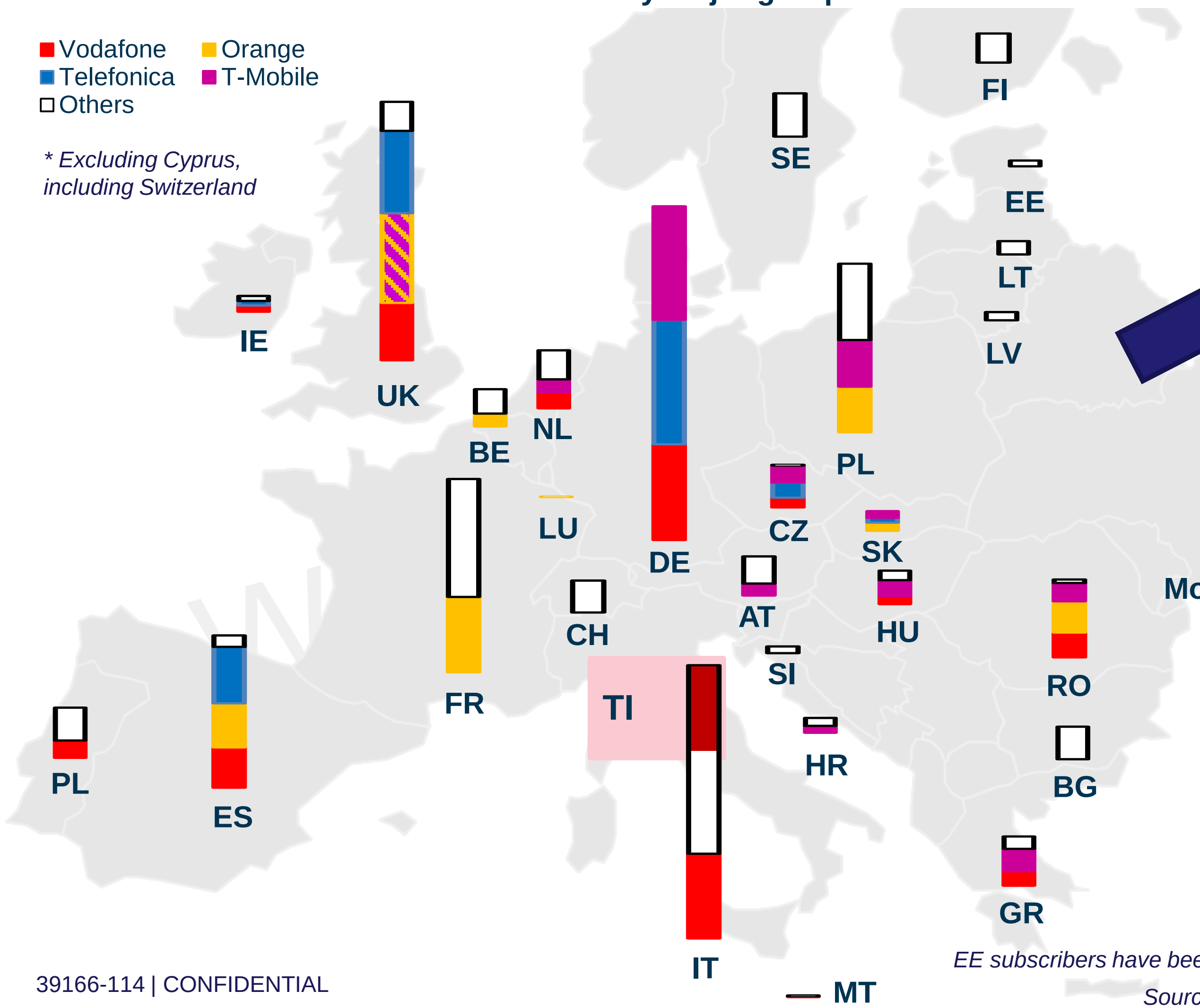
Increase in share value

- Financial markets expect consolidation in the telecoms sector: active participation in this process may increase TI's share value
- A merger with other European players (a more extreme form of partnership) could reduce the TI's leverage and cost of debt

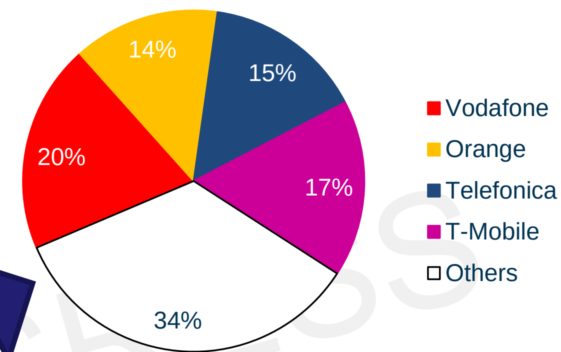
Source: Analysys Mason

TI has not participated in the consolidation of the EU mobile market, where two thirds of subscribers are now controlled by four major groups

Mobile subscribers in EU27* by major group

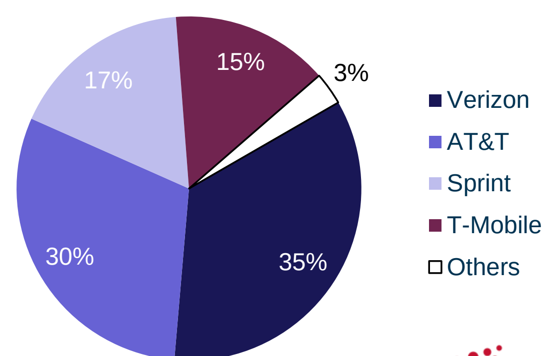


Mobile subscriber market share in the EU27*



Europe is tending towards a more consolidated market structure, in line with the current US market

Mobile subscriber market share in the USA



EE subscribers have been split equally between T-Mobile and Orange

Source: Analysys Mason based on TeleGeography

analysys mason

Any potential partnership with one of the major telecoms groups is difficult to achieve due to the marked difference in scale

Vodafone

- Unlikely to agree on partnership given it is TIM's main competitor in the Italian market

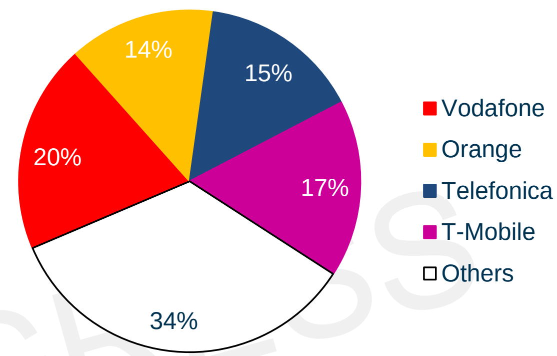
Telefonica (Movistar)

- TIM could better use its the existing relationship with Telefonica to extract full potential of unexploited synergies

Orange or Deutsche Telekom (T-Mobile)

- Orange or Deutsche Telekom (T-Mobile) could be good partners in terms of the complementary footprint with respect to TIM…
- … but both groups have a significantly greater scale to TI, so relations of power could be unfavourable

EU27* mobile subscribers market share (2013)



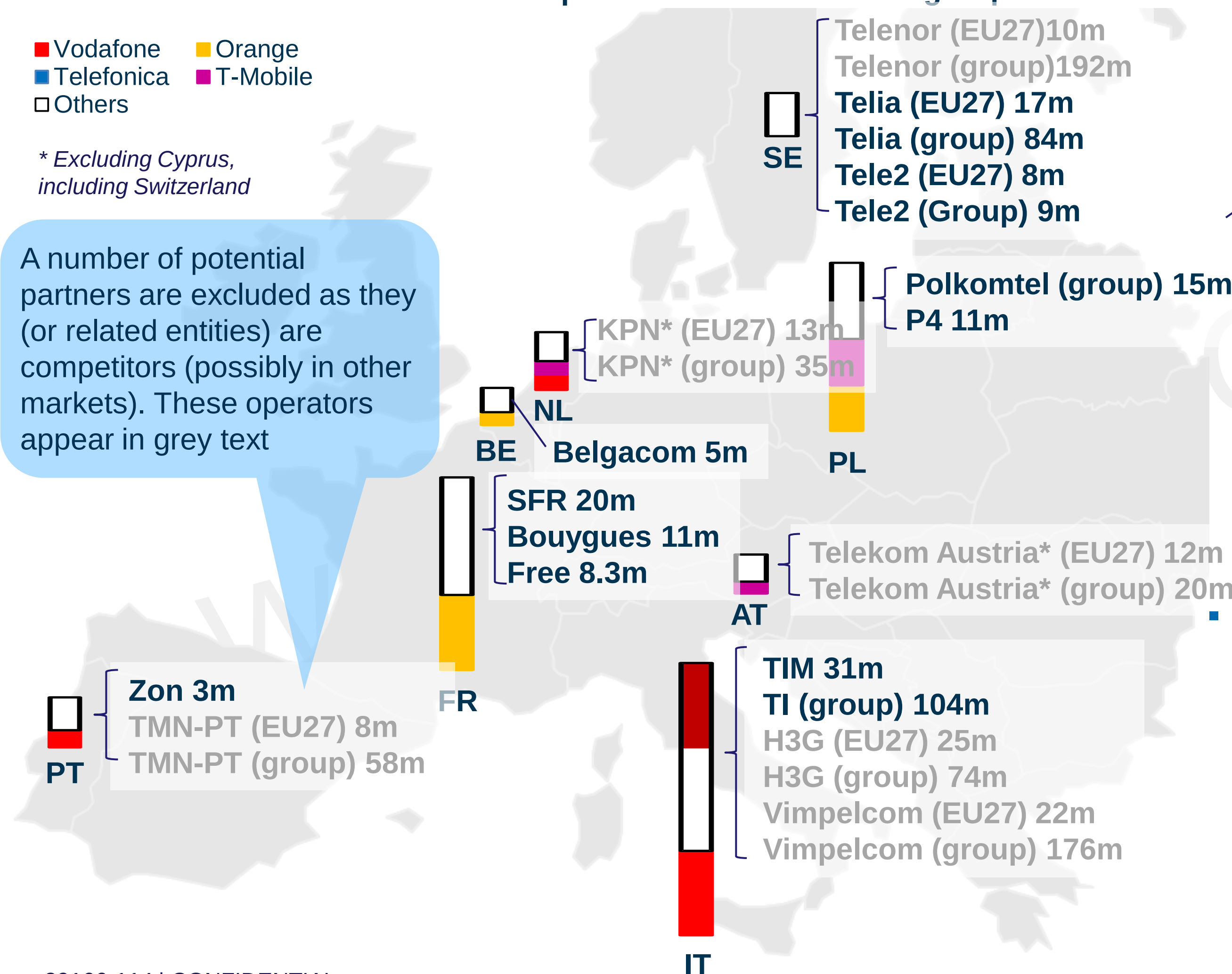
Subscribers and revenue in EU27* by Group (2013)

Group	Subscribers (million)	Mobile rev. (EUR billion)	Total rev. (EUR billion)
Vodafone	126.3	25.4	32.5
T-Mobile**	106.9	20.1	38.7
Telefonica	96.6	17.1	26.9
Orange**	88.4	20.2	33.8
TIM	31.4	5.6	16.5

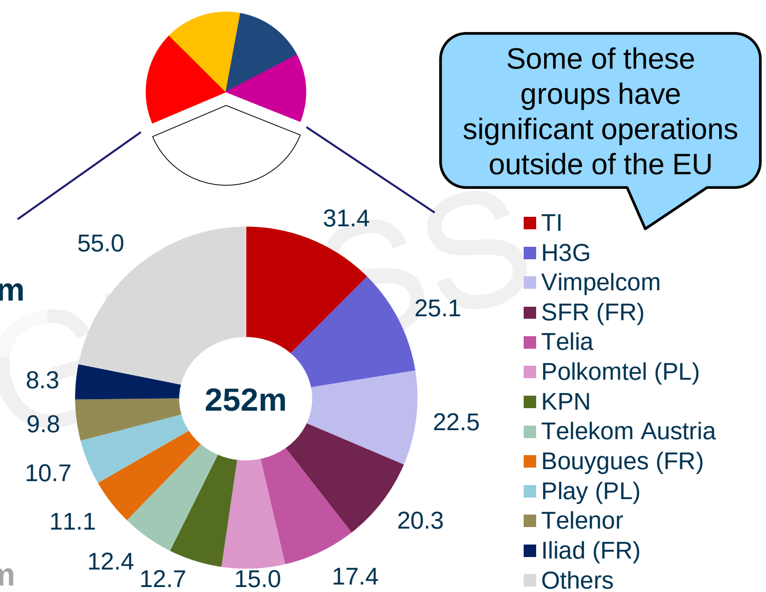
** Excluding Cyprus, including Switzerland*
*** EE revenue and subscribers have been split 50% between T-Mobile and Orange each*
Source: Analysys Mason based on GSMA Intelligence, operators' public filings

There are opportunities for partnerships with smaller groups with European presence or with any of the French independent operators

Mobile subscriber of selected operators and second-tier groups



Subscriber market share in the EU27*



- Based on criteria of non-competition and size, TIM could seek to partner
  - with other large independent (French) operators, Bouygues, SFR, Iliad, or Telia Group
  - with any of the smaller EU operators (e.g. Polkomtel, P4, Tele2, Belgacom, Oi, Elisa, Zon)

Source: Analysys Mason based on TeleGeography

Contents

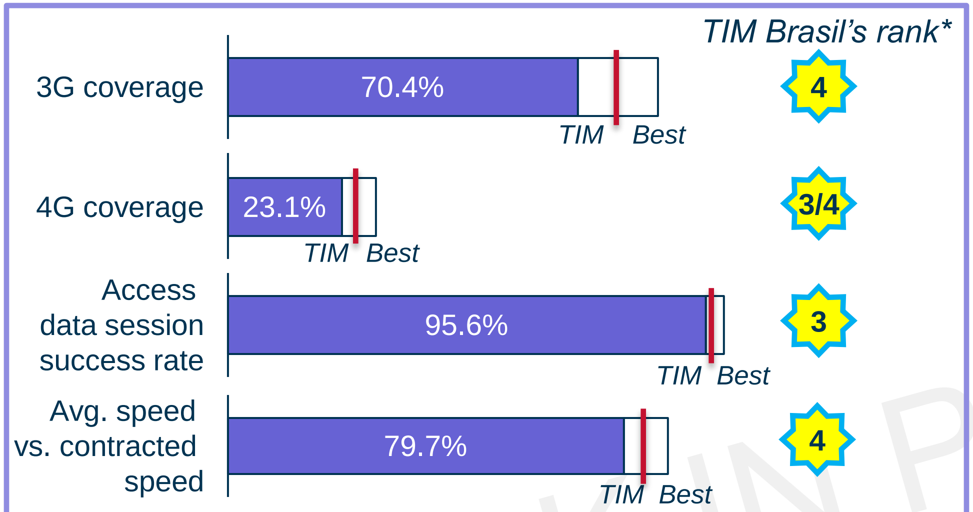
TIM Brasil requires additional network investment, an increased focus on the postpaid and data segments and greater scale in the fixed market

IDENTIFIED PROBLEMS	PROPOSED ACTIONS
TIM Brasil is behind its competitors in terms of network coverage and especially quality	Need for further significant network investments
TIM Brasil has a strong position in the prepaid segment but is weak in postpaid and data markets, which are expected to see the most significant growth	Need to increase its focus on higher-value segments (e.g. postpaid and data) and, more generally, seek to become the primary operator for its users
TIM Brasil is the only mobile player without a (significant) fixed access network	Pursue partnership to viably increase scale and footprint in the fixed market and maximise opportunities in the convergent market

TIM Brasil has room to grow organically but should nevertheless consider opportunities to extend its operations inorganically in the short to medium term

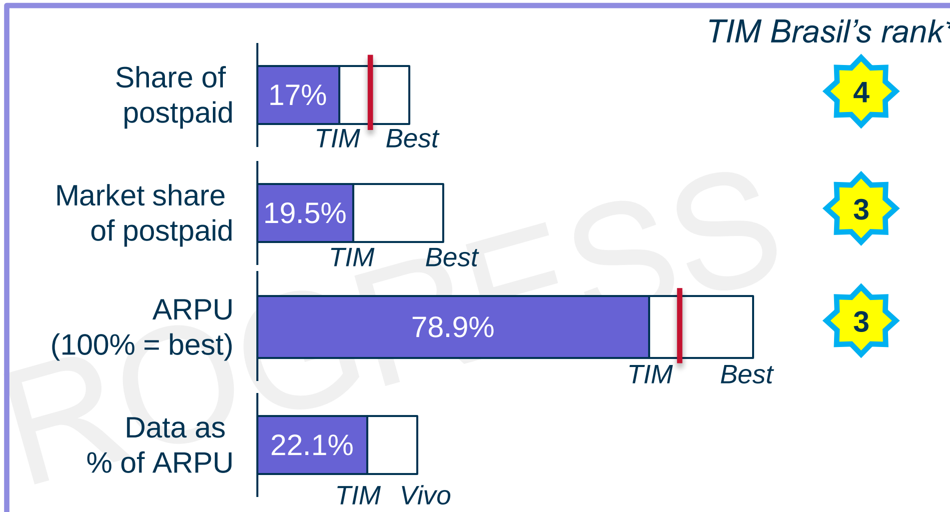
TIM Brasil needs to improve its network and shift its commercial focus in order to be able to capture the postpaid and data opportunity

TIM Brasil's lags behind peers in both coverage and quality



- Brazil is a developing telecoms market seeing rapid growth in data services, which requires higher-quality mobile networks

TIM Brasil has gained market share by focusing on prepaid and lower-value subscribers



- Planned MTR reductions will result in some users disconnecting secondary SIMs
  - this is a risk for TIM in light of its focus on low-value prepaid customers

Market average

- TIM Brasil needs to keep **investing significantly** to catch up in terms of network coverage, capacity and capabilities in order to be able to exploit the opportunity

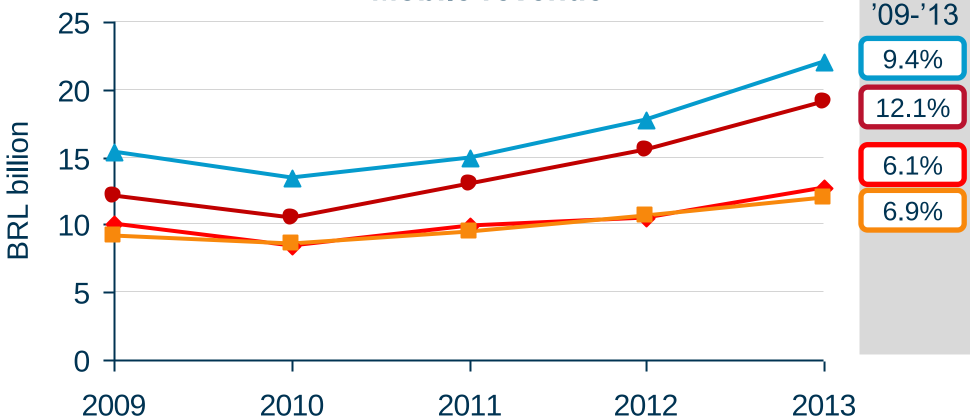
- A **new commercial strategy** increasingly focused on quality and value (rather than pure subscriber acquisition) is needed to mitigate the risk of losing prepaid subscribers and to increase ARPU

* TIM Brasil has been compared against the performance of the three major mobile operators

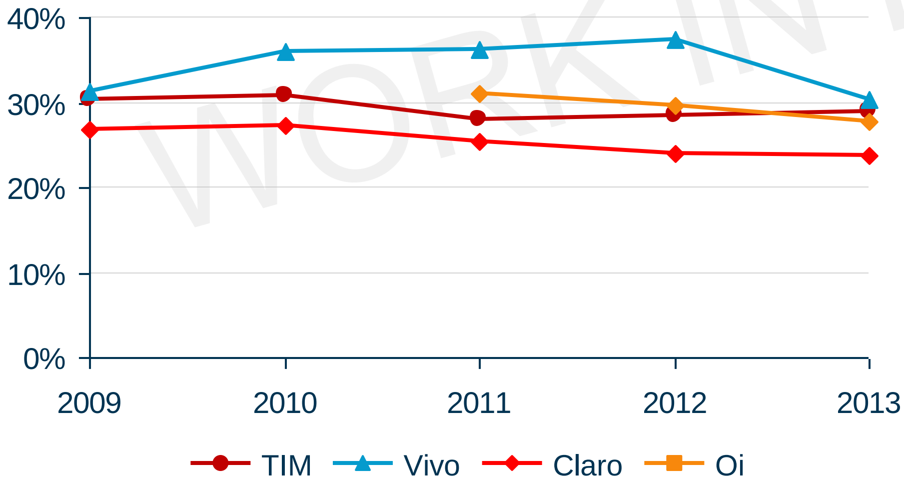
Source: Analysys Mason

TIM Brasil has outperformed the market average in terms of revenue growth and EBITDA margin …

Mobile revenue



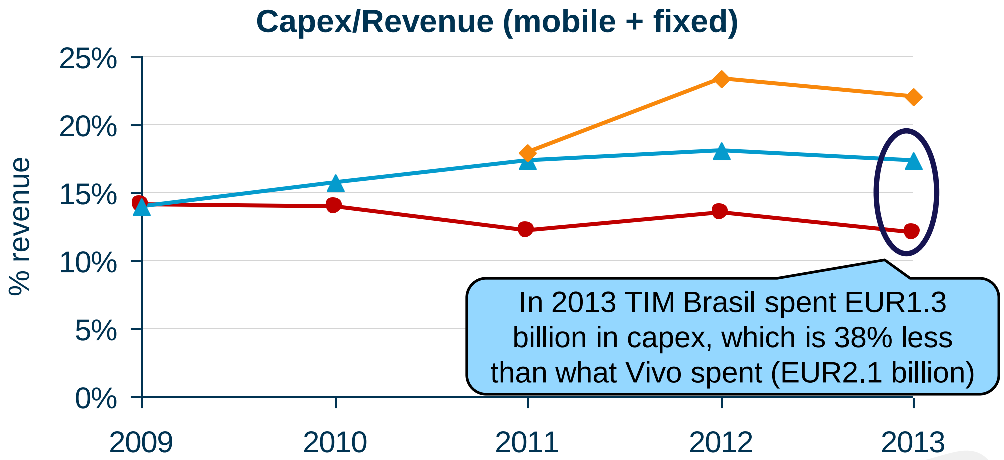
EBITDA margin (mobile + fixed)

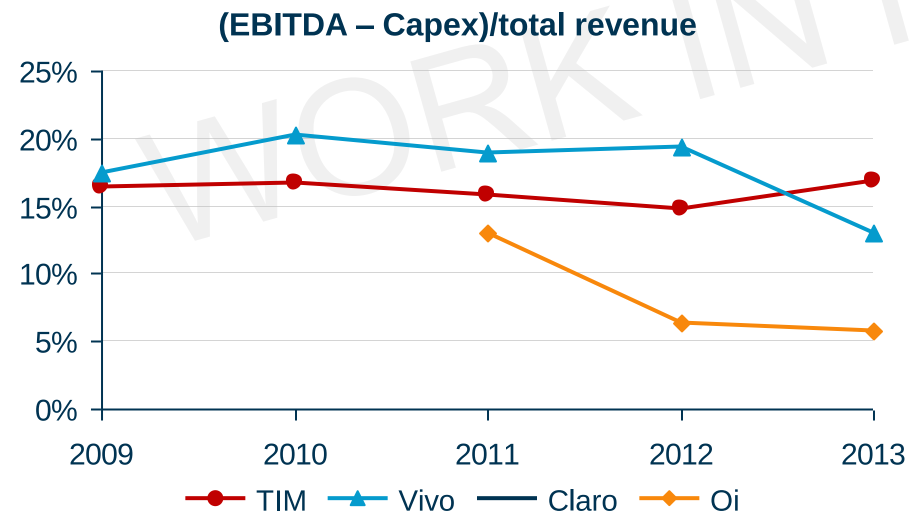


- TIM Brasil has had a good revenue performance in the last four years, having increased its mobile revenue by 12% CAGR
  - only Vivo has maintained higher revenues
  - Oi and Claro revenues grew markedly more slowly
- It has also managed to keep EBITDA margin broadly constant at around 30%
  - Vivo performed very well on this measure until 2013, which saw a sharp drop due to increased subsidies and expenses incurred to attract post-paid subscribers
- Overall EBITDA margins in Brazil are in line with European averages…
- …but below those in Italy; TI's Italian mobile operations deliver a margin close to 50%

Source: GSMA Intelligence, Teleco, operators' public filings

... although it seems to have focused on cashflow generation rather than on investments

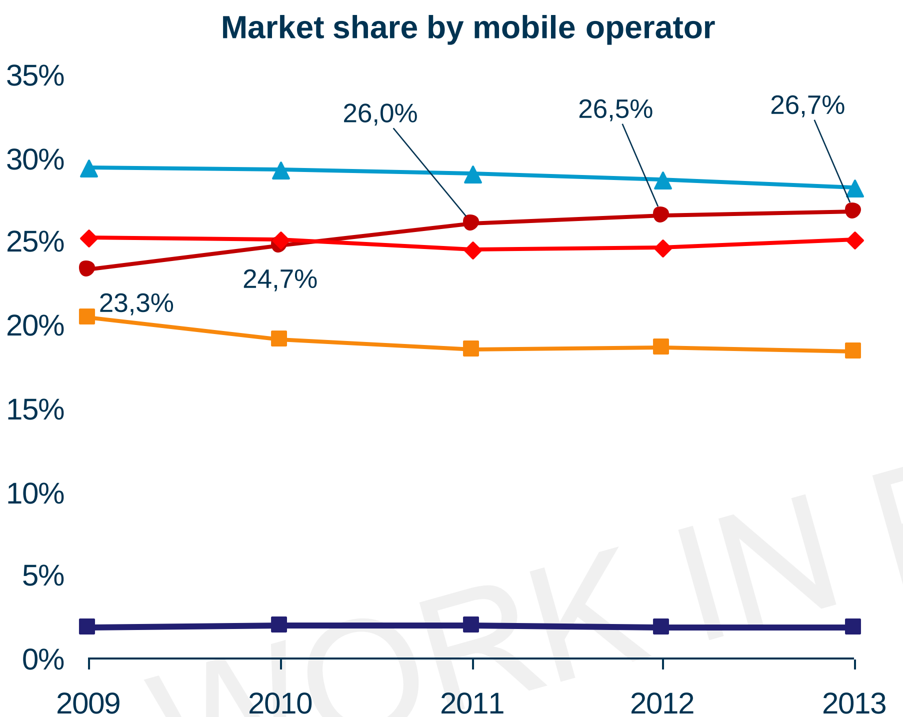


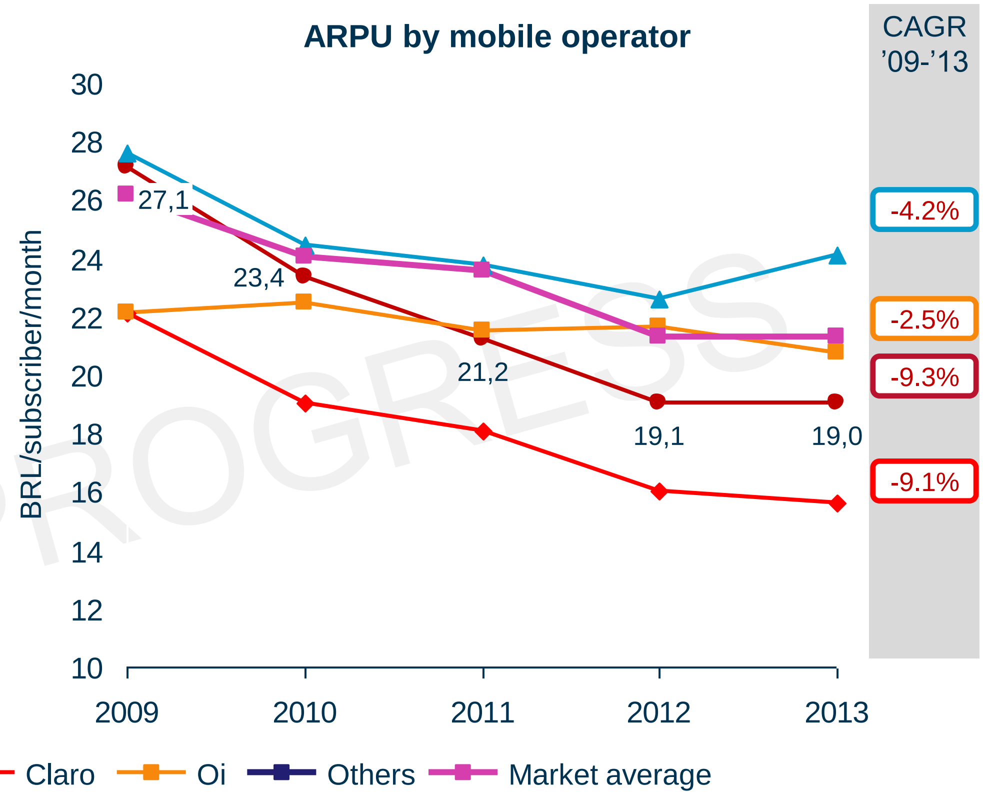


- In EU markets, MNOs invest capex equal to an average of 10-15% of revenue
- Brazil is naturally a more capex-intensive market than EU counties:
  - It is a developing market, with a large area, coupled with exacting coverage obligations
- Despite the good revenue and EBITDA performance, TIM Brasil has invested less with respect to peers (as a proportion of revenue)
  - It seems TIM Brasil has used EBITDA generation to increase free cashflow rather than prioritising re-investment
    - possibly to repay debt

Source: GSMA

TIM Brasil has gained mobile market share by diluting its ARPU below market average

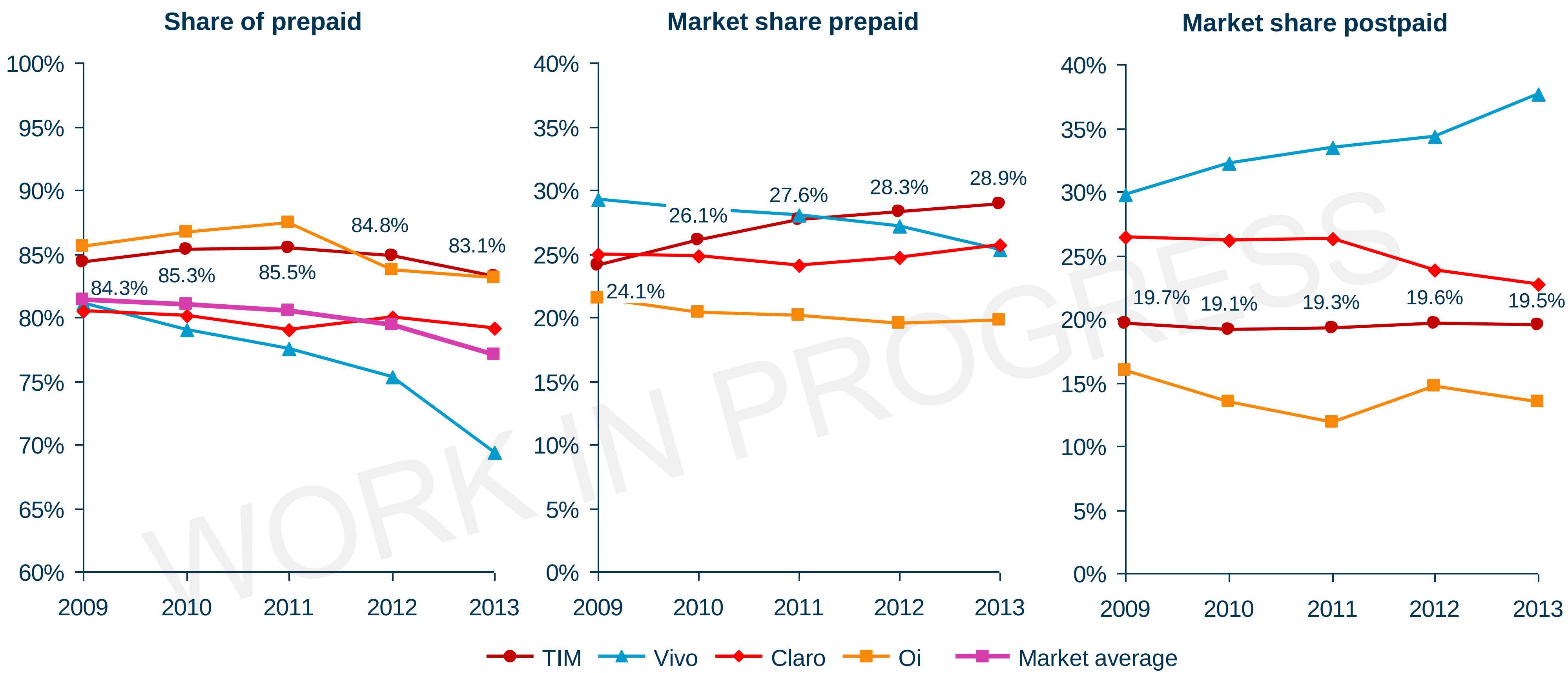




- TIM Brasil has steadily increased its market share since 2009, overtook Claro in 2011 and is today the second operator by market share of subscribers
- Mobile ARPU in the market has been falling since 2009
- Competition has intensified and SIMs rose from 91% to 136% of population at the end of 2013
  - TIM Brasil has significantly diluted its ARPU (-11% discount over market ARPU in 2013) in order to gain market share

Source: GSMA Intelligence, Teleco

TIM Brasil's strategy to focus on prepaid subscribers has helped it gain market share but this now needs revision to achieve sustainable growth

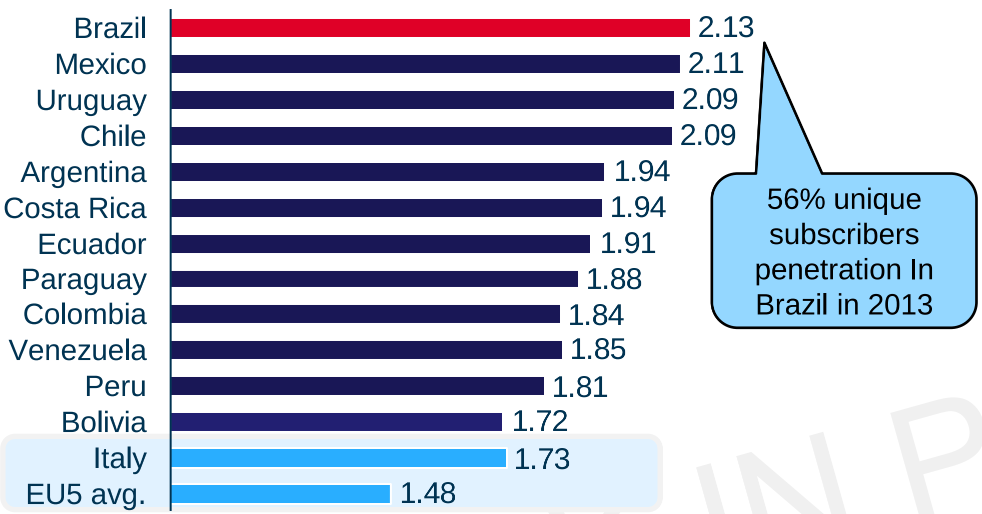


- TIM Brasil (along with Oi) has the highest share of prepaid subscribers…
- …and has increased its market share of prepaid significantly in the last four years (+5p.p.) mainly at the expense of Vivo
- TIM Brasil has kept a broadly constant share of postpaid subscribers
- Vivo has focused on postpaid, where it has strengthened its market leadership

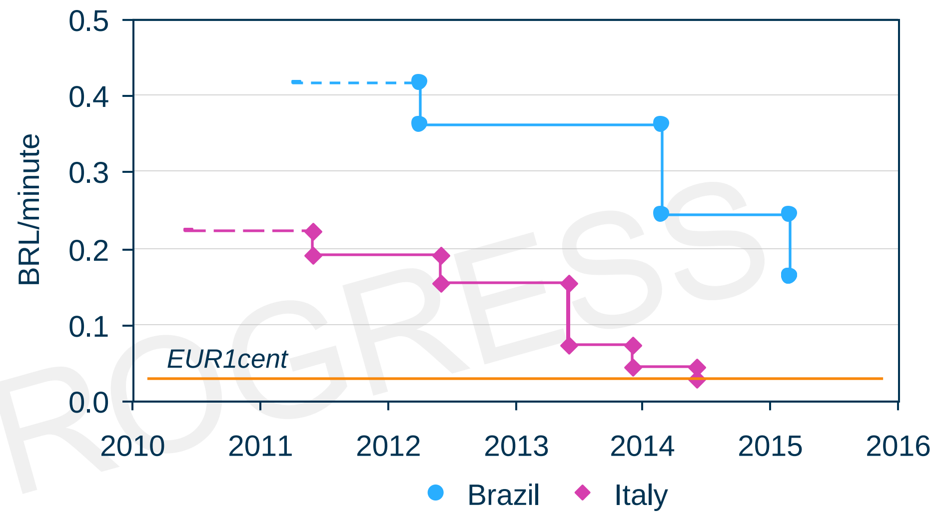
Source: GSMA Intelligence

A new focus on quality and postpaid subscribers is needed in light of the potential disconnection of secondary SIMs following planned MTR cuts

Average SIMs per subscriber in Latin America, Q4 2013



MTR evolution

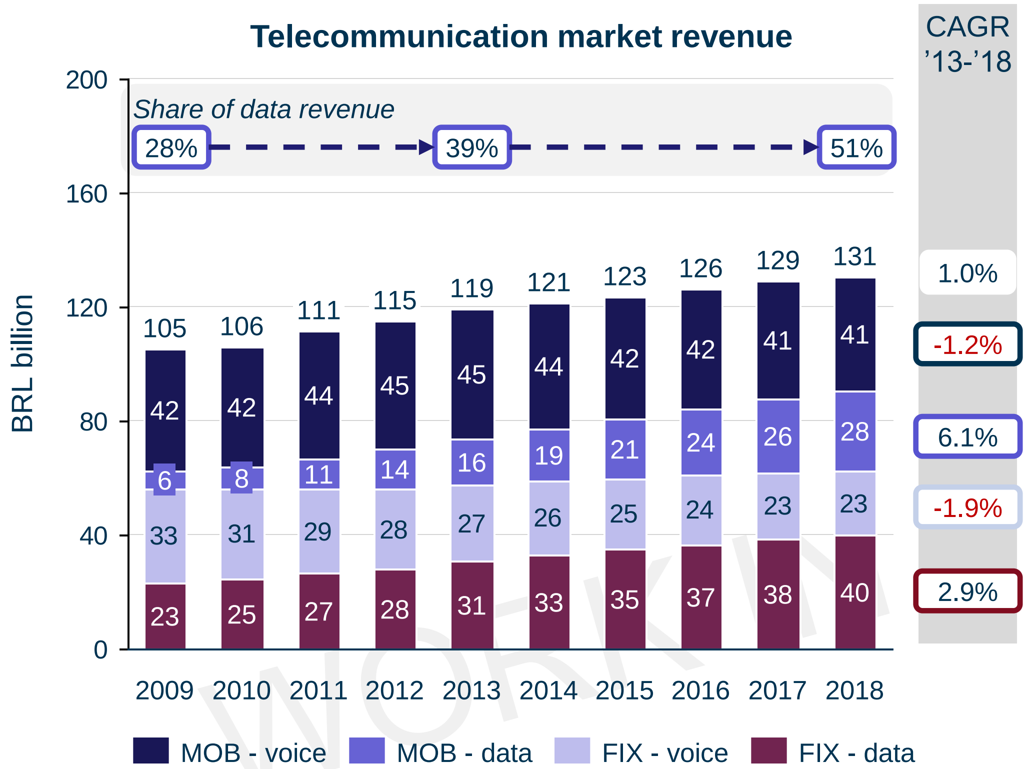


- Due to high MTRs, prices for on-net calls are significantly lower than for off-net calls. As a consequence:
  - Brazilian mobile users optimise their spend by owning multiple SIMs, using each SIM for calls to the same network (around 80% of all mobile calls placed in the country are on-net)
  - Brazil's multi-SIM usage is the highest in Latin America and significantly higher than in Italy and the rest of Europe
- The Brazilian regulator, Anatel has already reduced MTRs by 32% starting from February 2014, and will reduce them again by 33.3% in 2015
- MTR reduction will allow operators to lower off-net rates, incentivising users to consolidate to a single SIM
  - this is a risk for TIM Brasil in light of its greater reliance on low-value prepaid customers than Vivo and Claro
  - but it is also an opportunity for TIM Brasil to increase ARPU if it can move away from pure on-net price competition and focus more on value and quality

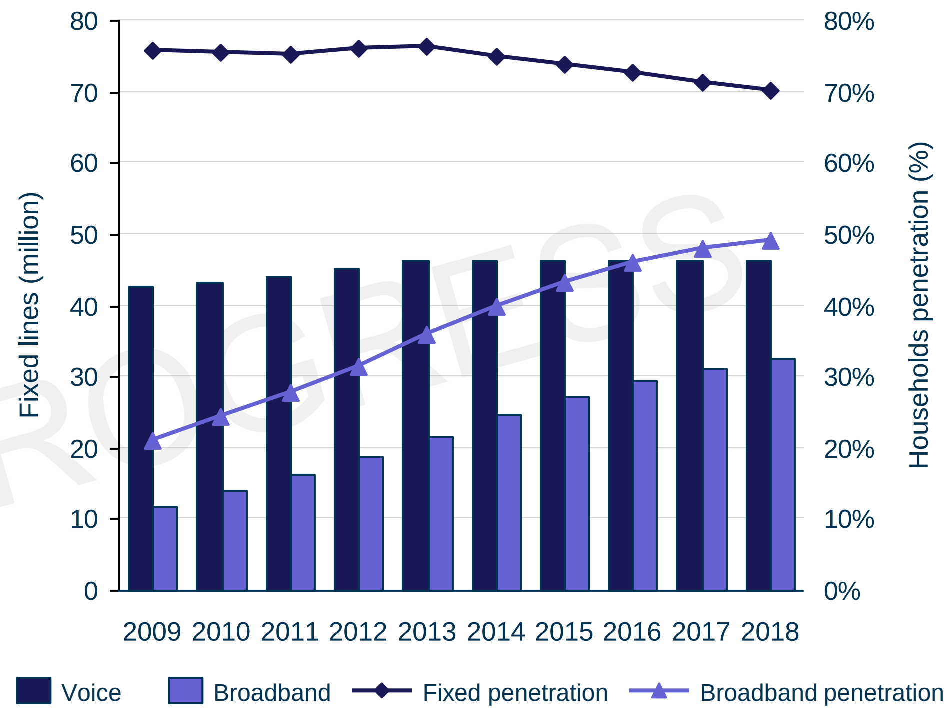
Source: GSMA Intelligence, Teleco, Anatel

Brazil is a developing telecoms market that is seeing robust growth in data services

Telecommunication market revenue



Fixed lines and households penetration



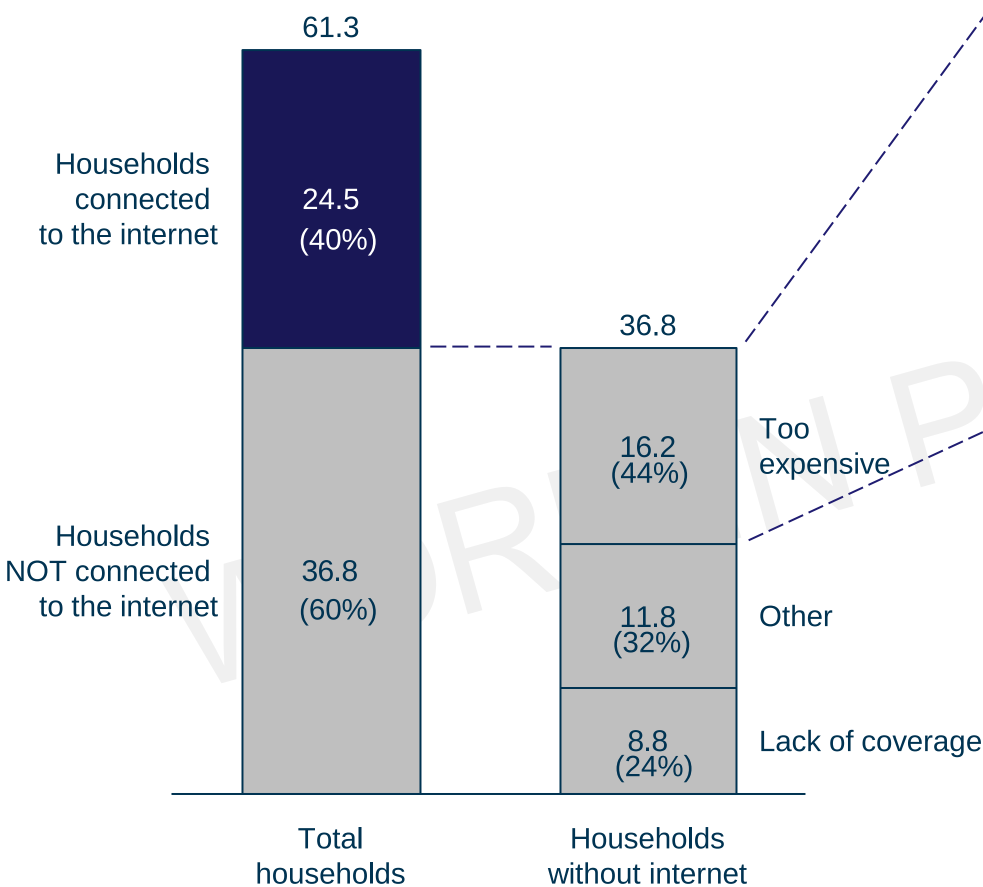
- Brazil is a market where voice is still the predominant service in terms of revenue
- However, by 2018 data services are forecast to generate more revenue than voice
  - mobile data in particular is projected to grow by 6.1% CAGR in the period 2013-18

- 14% of Brazilian households cannot receive fixed broadband services in 2012 (latest data available)
- Analysts project that fixed voice penetration will fall in the short term
  - this represents a significant opportunity for mobile operators (including TIM Brasil)

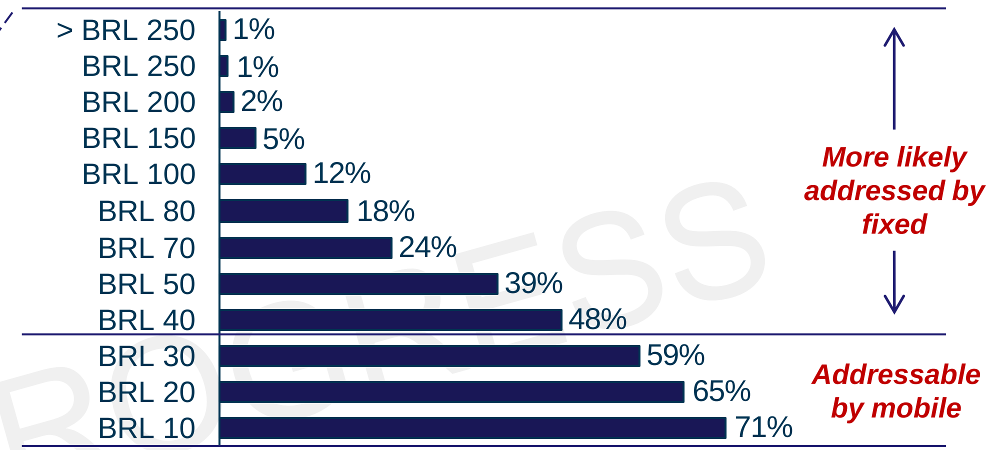
Source: GSMA Intelligence, Analysys Mason Research, Anatel, CETIC, TIM Brasil

Mobile services are generally more affordable than fixed and can exploit the broadband opportunity in both urban and rural areas

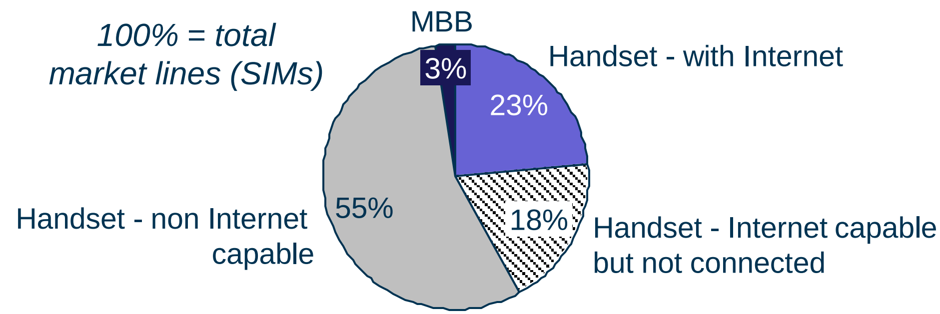
Households without internet and reasons for not having it (2012, latest available data)



Willingness to pay (2012, latest available data)



Capability of mobile SIMs in Brazil (2012)



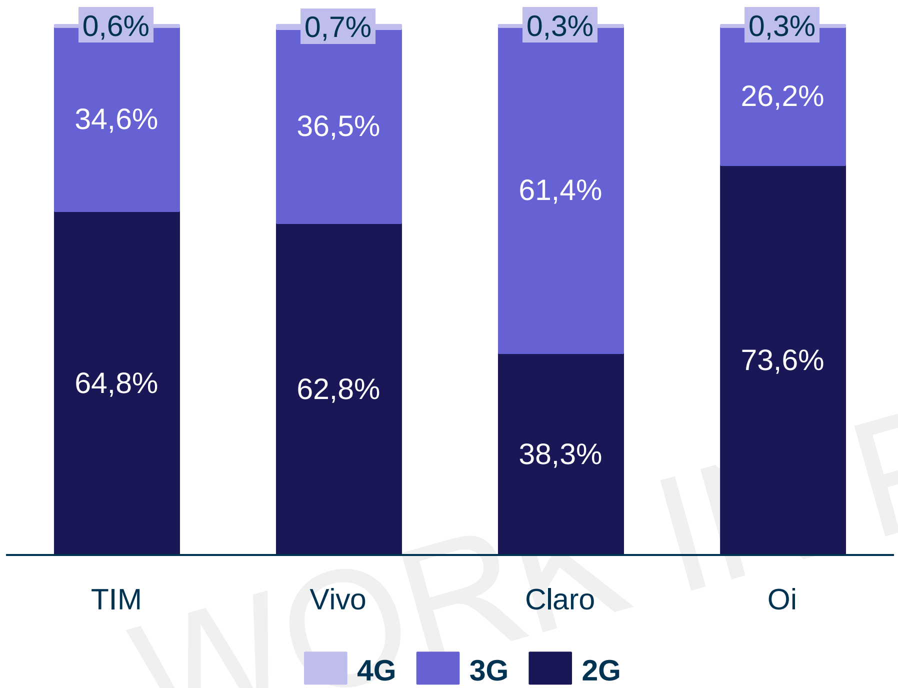
~25% of SIMs use Internet services

Note: MBB = 'dongles', datacards, tablets and eReaders

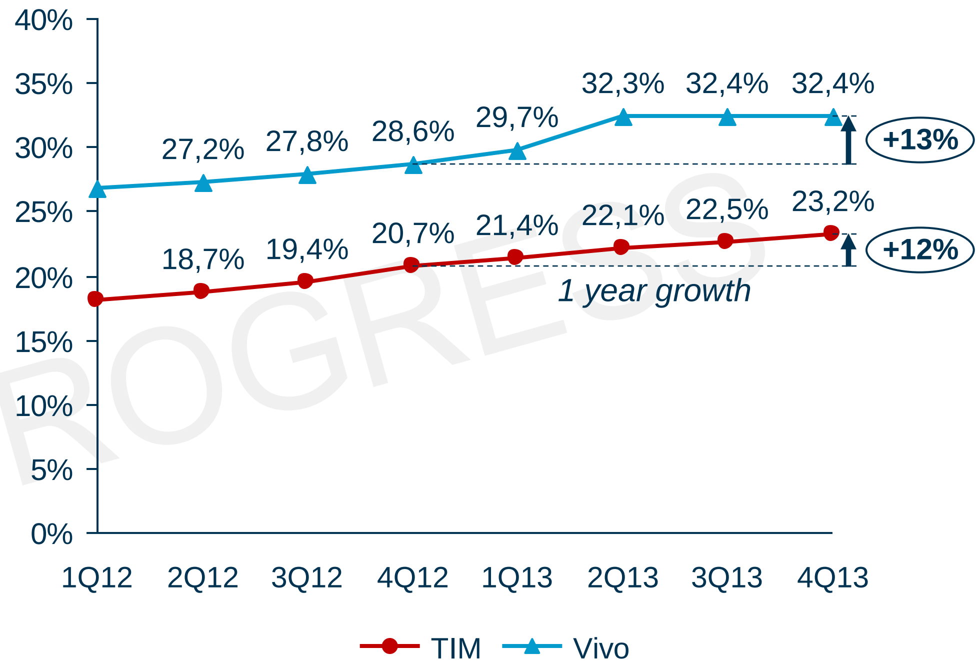
Source: Analysys Mason on CETIC and TIM Brasil's data

TIM Brasil is lagging behind in capturing revenues from data services, and needs to change its strategy to tap into the market opportunity

Mobile subscribers by technology (2013)



Data revenues as % of mobile revenues



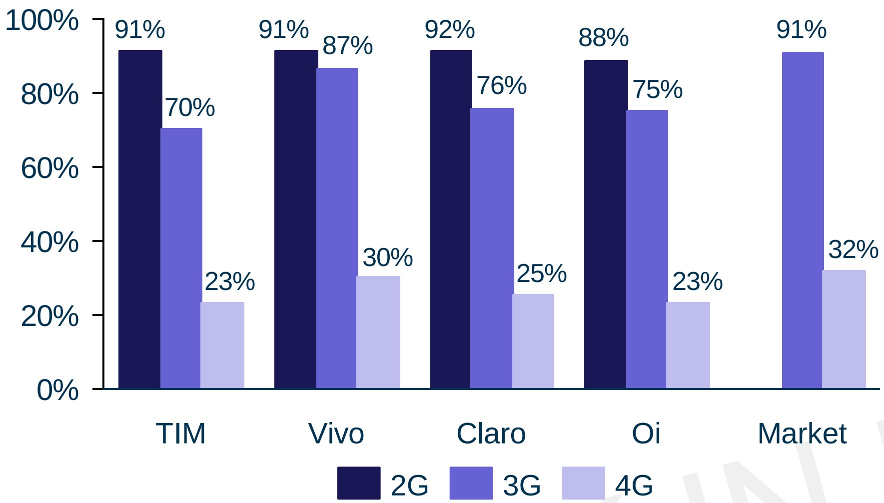
- TIM Brasil's current mix of 2G/3G/4G subscribers is not inferior to Vivo's and Oi's (but significantly worse that Claro's)
- We have not been able to find data regarding the proportion of 3G/4G handsets that actively buys data services (it is common in Latin America to have an advanced device without data plans)

- However, TIM Brasil is lagging behind Vivo (market leader) in terms of data as a proportion of revenue
  – likely to be due to TIM Brasil's customer base being dominated by lower-spending prepaid customers
  – this in turn may be in part due to TIM Brasil's poorer data network

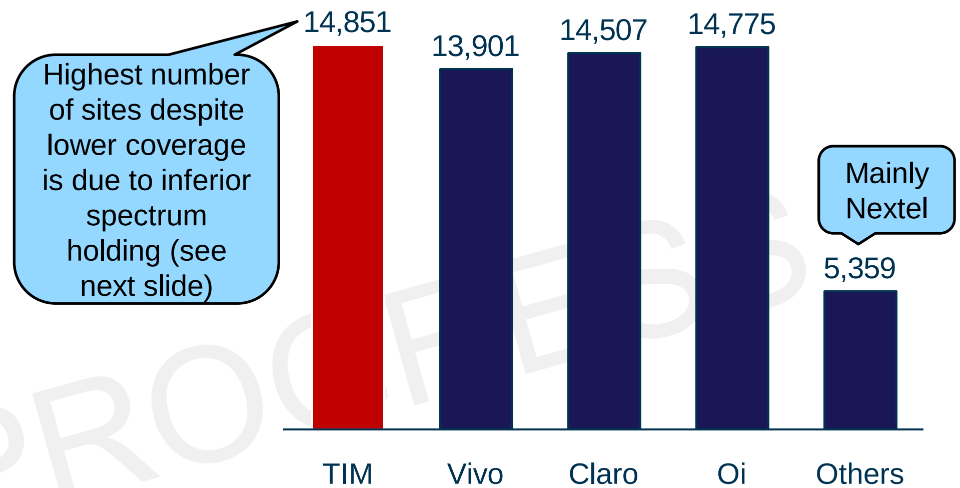
Source: GSMA Intelligence, Teleco, Analysys Mason Research

TIM Brasil needs to invest more in network improvements to fill the coverage gap with Vivo and Claro

Population coverage (Q4 2013)



Number of sites by operator (4Q 2013)

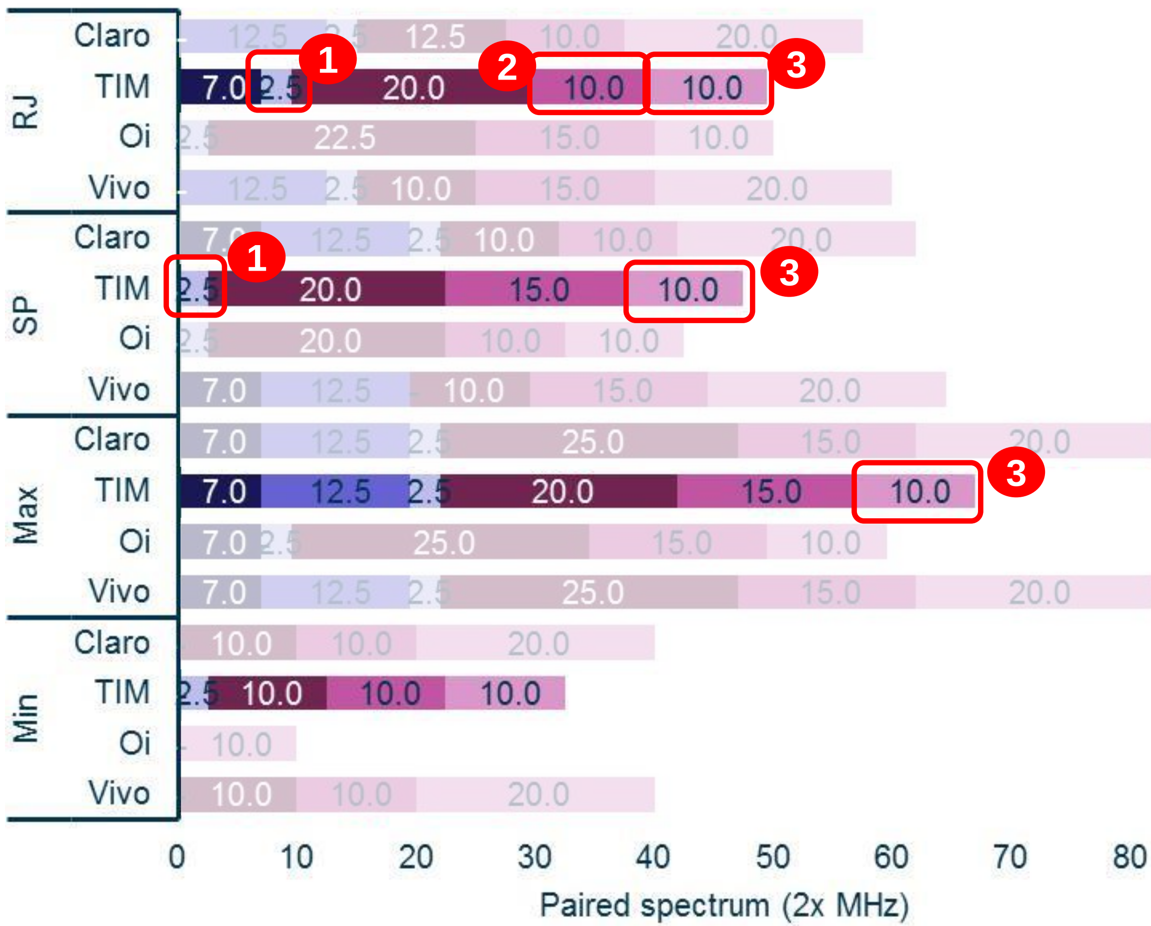


- TIM Brasil's 2G coverage is in line with Vivo's and Claro's
  - however, TIM Brasil's spectrum holdings in low-frequency bands are likely to translate into inferior indoor voice coverage
- All four MNOs are subject to stringent 3G coverage obligations (60% of municipalities with less than 30 000 inhabitants) which will require significant capex
  - on 3G coverage, TIM Brasil lags well behind Vivo and Claro
  - TIM Brasil and Oi were reported to have failed to meet the 3G coverage targets in November 2013
- Similarly onerous coverage obligations are attached to the recently awarded 4G licences in the 2500MHz band
  - the upcoming 700MHz auction may open an opportunity for TIM Brasil and the whole industry to lobby for milder coverage obligations as well as for band-agnostic coverage obligations
  - this would allow TIM Brasil use 700MHz spectrum to reach the coverage obligations set on its 2.5GHz holding and thereby realise significant capex savings

Source: Analysys Mason on Teleco's data

TIM Brasil’s spectrum holdings lead to more costly coverage and lower capacity in the network, especially in Rio and Sao Paulo

Spectrum holding of the four main MNOs in Brazil



Band	Technology
450MHz	LTE
850MHz	GSM/3G
900MHz	GSM/3G
1800MHz	GSM/3G
2100MHz	3G
2500MHz	LTE

1	Very little 900MHz spectrum in Rio and Sao Paulo	Inferior/more costly 2G indoor coverage in Rio and Sao Paulo Impossible to deploy 3G in this band
2	Only 10MHz at 2.1GHz for 3G in Rio	Slower and less capable 3G network in RJ
3	Only 10MHz at 2.5GHz for LTE	Slower and less capable LTE network in the short term

Note: Minima and maxima calculated across all regions; totals are not representative of any single region

Source: Analysys Mason

analysys mason

TIM Brasil had severe problems with network quality in 2012, which it is addressing with an investment plan

- Brazilian mobile operators have consistently faced problems with network quality (high dropped call rates and poor call completion rates)
- There have also been high levels of complaints to Anatel in the areas of billing, call centre services and the time taken to solve problems
  - as a result, Anatel has set quality targets for both fixed and MBB providers
- In 2012, Anatel suspended the sale of mobile voice and internet services in 19 states (out of 27) for TIM Brasil* due to network capacity issues, excessive service interruption, and number of complaints
- In order to gain the suspension of the penalty, TIM Brasil had to present an investment plan addressing the detected network quality issues

“Plano de Melhorias”: BRL9.52 billion in 2012-14

Network expansion	Network resilience
Roll-out of additional sites and fibre backhaul to increase capacity of the existing network	Reduction in fault rate
Network optimisation	**Customer care channels**
Network upgrade aimed at improving the quality of service	New customer care channels in place

Results achieved by Dec 2013

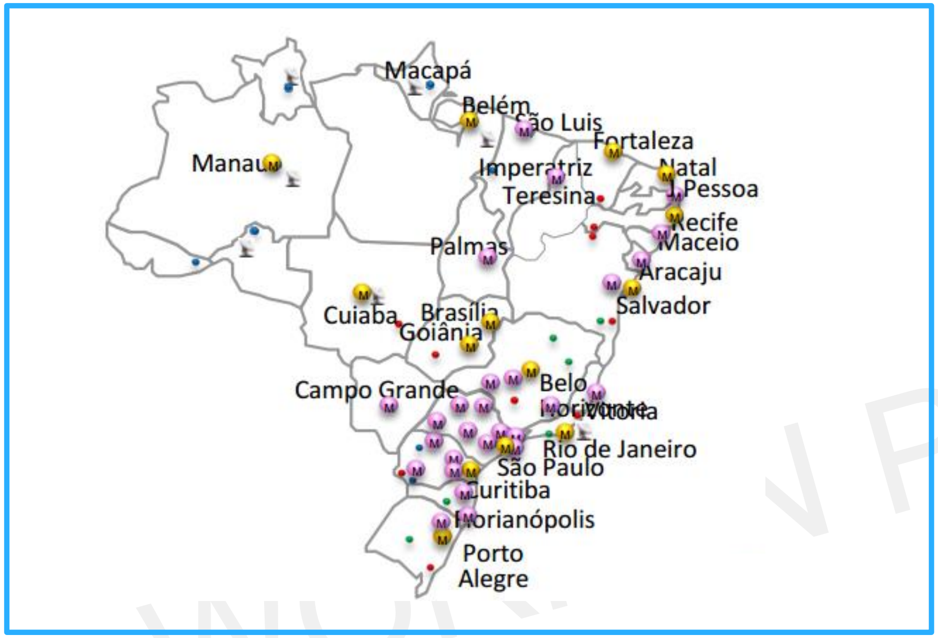
KPI	Achievement
2G antennas	1138 additional antennas
3G antennas	2597 additional antennas
Optic fibre	Reached 46 959km
Modernisation	63% of equipment has been updated

** Anatel suspended service sale to Oi and Claro in 5 and 3 states, respectively, while no infringement was detected for Vivo*

Source: Anatel, TIM Brasil

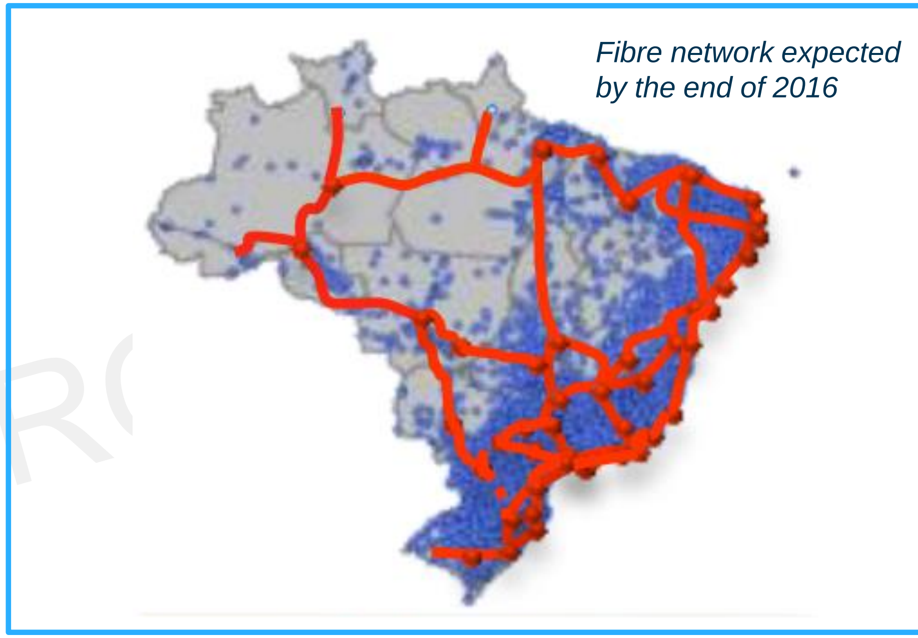
Significant effort has been dedicated to improving TIM Brasil's fibre backhaul and backbone infrastructure

MBB/FTTS Project (backhaul)



- Fibre to the site (FTTS) allows the capacity of a site to be increased from 2-8Mbit/s to >100Mbit/s
- 95% of sites have active fibre (FTTS phase 2) in the targeted 39 cities (25% of population), allowing for better average speeds

Fibre network expansion (backbone + backhaul)

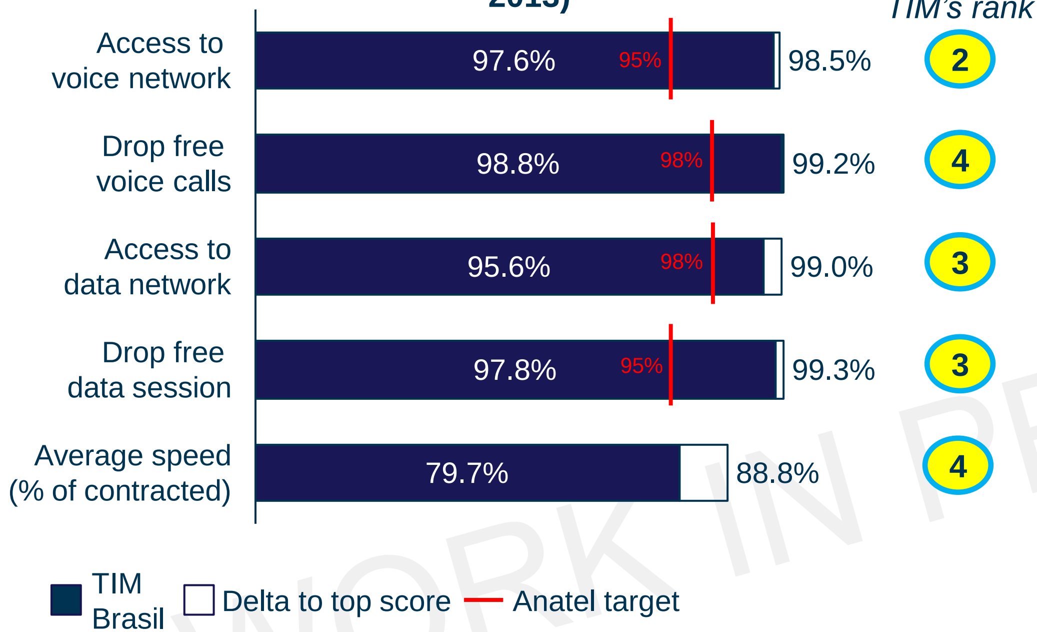


Year	km of fibre	Action
2009	15 000	Acquisition of Intelig
2011	20 500	AES Atimus acquisition – Rio de Janeiro and Sao Paulo – 5500km of fibre backhauling
2013	46 000	Own construction and fibre swap with Telebras
2016	65 000	Further fibre backbone expansion

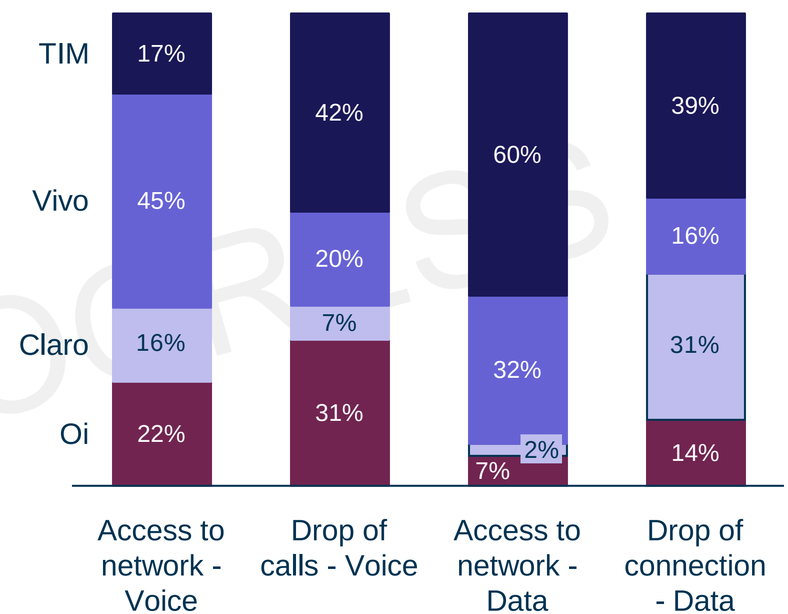
Source: TIM Brasil

TIM Brasil's mobile network still scores poorly vs. competitors on a number of quality indicators, signalling the need for further investments

Quality indicators – TIM Brasil vs top performer* (October 2013)



% of municipalities where the operator had the worst quality indicators (April 2013, latest data available)



- Anatel conducts periodical reviews of network quality in which TIM Brasil performs poorly relative to competitors
- TIM Brasil needs to increase its level of investments in order to support the commercial strategy
  - network quality is a necessary attribute for an operator aiming to exploit the significant opportunity in data traffic
- We believe TIM Brasil should explore ways to maximise its network-sharing agreement with Oi in order to save capex required to bring its network coverage and quality to parity with market leaders

** In the 6 largest cities*

Source: Analysys Mason based on Anatel data

analysys mason

TIM Brasil is the only major mobile operator in Brazil without significant fixed operations

Mobile operations: Brand	Mobile operations: Market share*	Fixed operations: Brand	Fixed operations: Market share**	Main shareholder
TIM Brasil	27%	Live TIM Intelig	<1%	
Vivo	28%	Vivo	18%	**Telefónica**: Spanish telecoms incumbent with fixed/mobile operators in several countries
Claro	25%	Embratel Net	30%	**América Móvil:** Mexican company, major shareholder of Telmex with fixed/mobile operations in various American markets
Oi	18%	Oi	28%	**Portugal Telecom**: Portuguese incumbent with fixed/mobile operations in several Portuguese speaking countries
		GVT	12%	**Vivendi:** French media and telecoms company; owner of SFR, one of major mobile operators in France
Algar	<1%	Algar	2%	**Others**: Mainly national shareholders and public/private ventures
Sercomtel	<1%			

** Mobile subscribers; ** Broadband subscribers*

Source: Analysys Mason based on Teleco, GSMA Intelligence, Telegeography

TIM Brasil has a very limited foothold in the fixed market, which should be expanded to exploit the opportunity from the fixed broadband growth

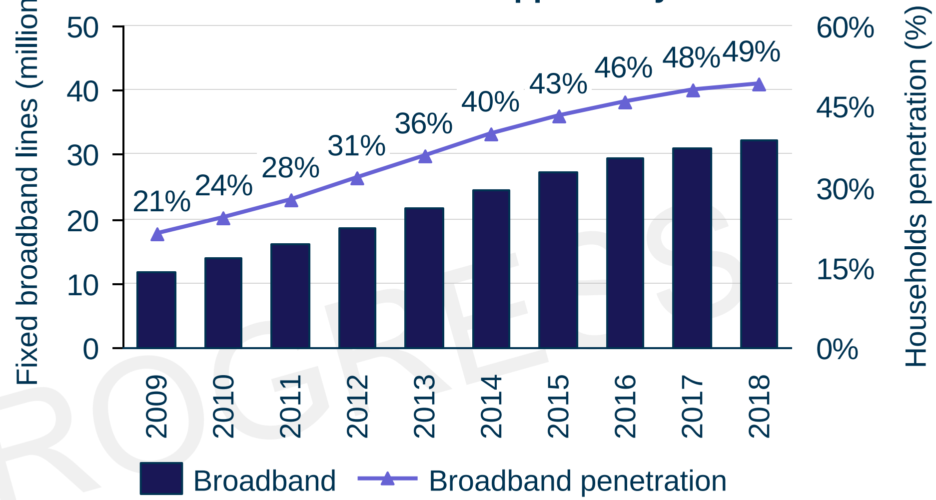
TIM Brasil's fixed network

- FTTH in Rio de Janeiro and Sao Paulo with 881 000 homes passed (Q3 2013)
- Intelig: an operator that focuses on business market segment, acquired in 2009
- TIM Brasil has a very low share of the national market because of its very limited footprint
  - however, it is the leading provider of UBB services (>34Mbit/s download speed) in its areas of coverage

TIM Brasil's Strategic Plan for 2014-16

- TIM Brasil's strategic plan puts little emphasis on the fixed broadband market growth opportunity
- Although the plan mentions the exploitation of fibre assets, it also stresses the fact that it will be done with "*reduced investment and efficient approach*"
- Intelig is due to be restructured in order to exploit the synergies with mobile to increase the addressable market

Fixed broadband opportunity



- There is a strong opportunity to be exploited in the market for fixed broadband lines, which are expected to grow by 8% CAGR in the next five years
- Offering quadruple play services would help TIM Brasil to re-position and better address high-value market segments
- There is room for TIM Brasil to grow organically in the fixed broadband market

Source: Analysys Mason, TIM Brasil, Analysys Mason Research

TIM Brasil can achieve significant value creation organically but should nevertheless be ready to consider partnerships for further growth

ILLUSTRATIVE

TIM Brasil today

Organic growth

- We developed a strategic plan for the **organic growth of TIM Brasil** based on three pillars to capture the data opportunity:
  - further investments to improve the capillarity and quality of the networks to close the gap with competitors
  - market re-positioning to address higher value segments
  - expansion in the fixed market that can be achieved leveraging on its existing assets (further FTTH roll-out, fibre backbone and backhaul deployment, restructuring of Intelig)

Organic growth + partnerships

- In addition, as an upside to the organic growth plan, TIM Brasil should be ready to consider **opportunities to partner or merge** with other established players in the Brazilian market in order to:
  - expand footprint with reduced time to market
  - optimise investments
  - exploit convergence
  - enrich service offering

Source: Analysys Mason

TIM Brasil's value could be increased by partnering with established fixed operators with commercial fit, robust network and compatible operations

1

TIM Brasil would greatly benefit from partnering with a fixed operator with triple-play capabilities in order to better target high-value market segments (e.g. affluent families and businesses) and help TIM Brasil reposition

Service complementarity and commercial fit

Robust and capillary network

2

TIM Brasil is implementing a significant investment plan to complete its backbone and backhaul networks. Partnering with a national fixed operator would allow TIM Brasil to achieve capex savings and shorten time to market

Industrial partnerships can maximise the value of TIM Brasil

4

The ideal partner should have non-conflicted shareholders and operations in Brazil that are compatible with TIM Brasil's from an antitrust point of view

Antitrust-compatible operations and non-conflicted shareholders

Track record

3

TIM Brasil should seek partnerships with established operators with a strong footprint and operational track record in the fixed market

In light of these considerations, GVT and Oi seem to be ideally positioned to partner with TIM Brasil

Source: Analysys Mason

GVT and Oi could be suitable partners that would allow TIM Brasil to achieve its full potential by exploiting product and network synergies

	Partnership opportunity with GVT	Partnership opportunity with Oi
1 *Services*	▪ Complementary product portfolio that could give TIM Brasil the opportunity to offer quad-play ▪ High-quality voice, broadband and pay-TV services (via cable and satellite): GVT could help TIM Brasil address high value segments	▪ Oi offers quadruple play services in all states ▪ 40% (#1) and 28% (#2) market share of voice and broadband respectively on a national basis
2 *Network*	▪ Owned access (mainly copper, with some FTTH) and fibre backbone infrastructure that covers 150 cities	▪ Fixed incumbent operator in areas accounting for 78% of total population ▪ Access network mainly based on copper with FTTH in Rio de Janeiro and Belo Horizonte
3 *Conflict*	▪ Wholly owned by Vivendi, which has no conflicting interests with Telecom Italia in Brazil or elsewhere	▪ Oi has recently been announced to be on the verge to merge with parent company Portugal Telecom that does not compete with Telecom Italia in any market outside Brazil
4 *Track record*	▪ Efficient company with a significant commercial track record that can be exploited for cross-selling purposes - GVT has been gaining market share over the years in the fixed, broadband and pay-TV markets	▪ Established in 2012 as the merge of former national incumbents Brasil Telecom, Tele Norte Leste and Telemar ▪ Track record in cooperating with TIM Brasil (network sharing agreement for both 3G and 4G networks)

Source: Analysys Mason, Telegeography

Contents

A new services business unit would help TI address its current service gap

IDENTIFIED PROBLEMS		PROPOSED ACTIONS
▪ TI needs content and other services to stimulate demand for fixed and mobile data services ▪ It is much less active than its peers when it comes to innovative and traditional digital and ICT solutions and products	→	▪ TI should set up a dedicated services business unit tasked with pursuing new solutions to provide to: – the other business units – other operators – companies and public administration ▪ The unit should follow a partnership model to capture innovation and combine internal and external know-how

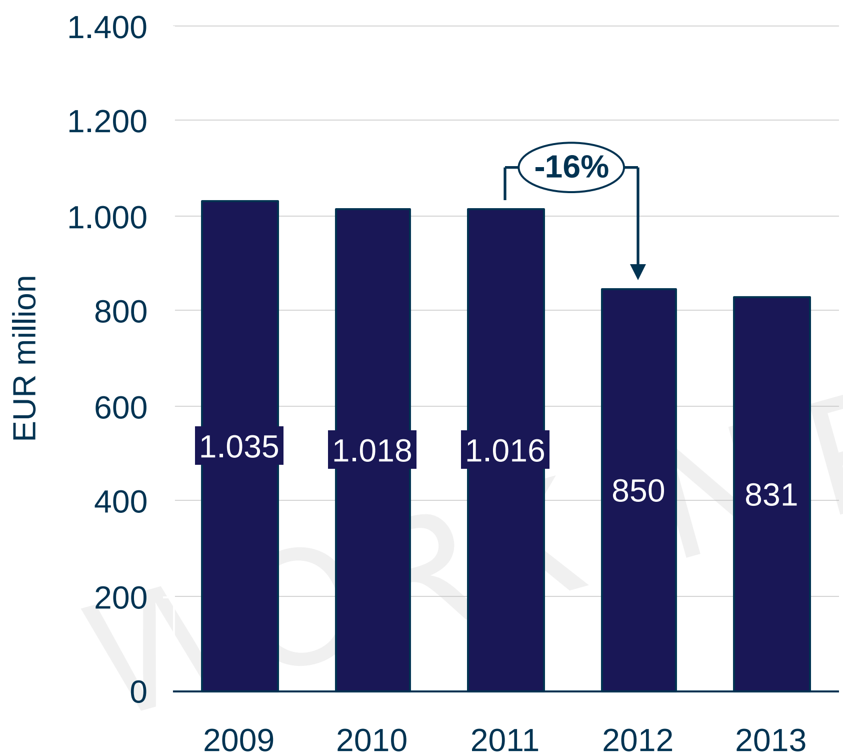
TI already offers some digital and ICT services and runs a start-up incubator aimed at fostering innovation

	Nuvola Italiana	a) TI Digital Solutions b) Global Partnership Programme	Working Capital
What	▪ On-demand cloud solutions commercialised to companies and the public sector also via the Impresa Semplice brand	a) TI Digital Solutions caters for large companies with services dedicated to customer support b) The Global Partnership Programme caters for international operators with consultancy-like support	▪ Working Capital is an incubator programme targetted at digitally innovative start-ups ▪ Presence in Milan, Rome and Catania
Products and initiatives	▪ Examples of services provided: – storage – security – surveillance – education platform	a) Solutions such as CRM and social analytics b) Sharing of best practices, improvement of platforms and services, ready-made solutions	▪ Startups supported via: – commercial platform – support from venture capital experts – economic grants
Comments	▪ TI can differentiate itself by leveraging its network	▪ Solutions tailored for the specific client and commercialised as consultancy projects	▪ Working Capital aims to support TI's Open Innovation mission

Source: TI websites

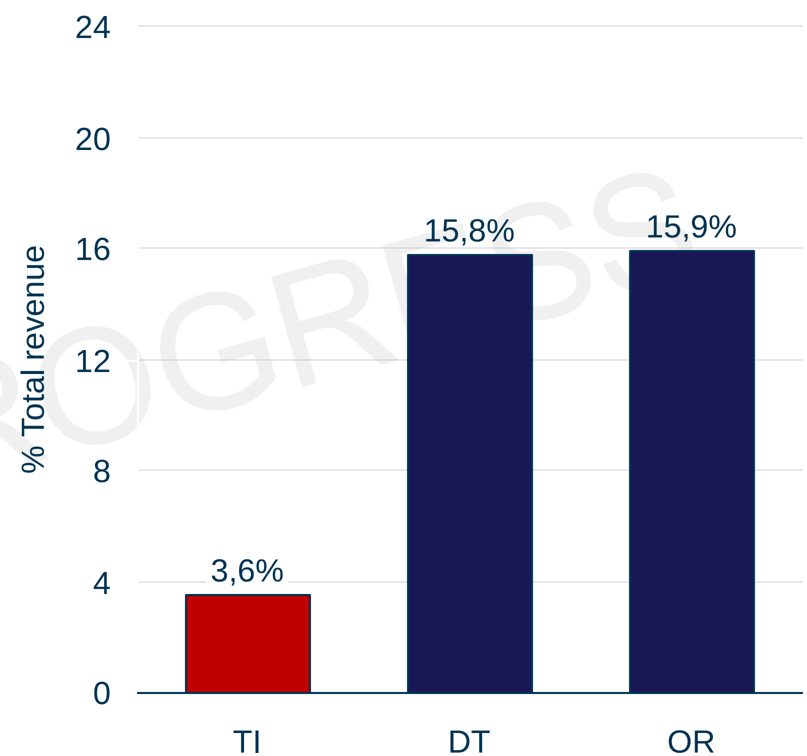
TI's enterprise services revenues are in decline and account for a much smaller proportion of total revenues than international benchmarks

Enterprise services revenue for TI



- Enterprise services revenue have been calculated as the sum of revenues from ICT services and the sale of equipment

Benchmark of Enterprise services revenue (2013)



- TI enterprise services account for a far smaller proportion of total revenues with respect to Orange and Deutsche Telekom

Note: Enterprise services for TI consider revenue from the sale of ICT services and Equipment;
DT figures consider the System Solutions unit; Orange figures consider the Enterprise Services unit
TI = Telecom Italia, DT = Deutsche Telekom; OR = Orange
Source: TI, Deutsche Telekom, Orange

There is a gap between TI's digital proposition and those of its international peers

NON EXHAUSTIVE

Benchmark of digital propositions (who does what)

Areas of development

Company	Innovation Lab	Venture capital arm/Incubator	Solutions for developers/integrators	M2M/IoT initiatives	Payments partnerships	Big data initiatives
TI	✓ Spot initiatives	✓ Working Capital (in collaboration with VC funds)		✓ Limited proposition Global M2M association		✓ Spot initiatives e.g. Big Data Challenge (competition)
Orange	✓ Orange Institute	✓ Orange Fab	✓ API standardisation	✓ IoT Program for Startups	✓ Visa Europe (NFC)	✓ Soon to launch initiatives
Deutsche Telekom	✓ Telekom Innovation Labs	✓ T Venture, hub:raum	✓ Developer Garden	✓ M2M Partner Program	✓ PayPal, Trevica (Mastercard)	✓
Telefonica	✓ Telefonica Innovation & Development (TID)	✓ Telefonica Ventures (VC fund) Wayra (global incubator)	✓ Mobile billing (Boku, Fortumo) API platform (Apigee deal)	✓ M2M World Alliance	✓ Bluevia, Bango, Trevica (Mastercard, Germany)	✓ Telefonica Digital Insights
Vodafone	✓ Vodafone Innovation Park (Germany)	✓ Vodafone Ventures/xone	✓ Developer portal	✓ M2M Partners	✓ Trevica (Mastercard, Germany)	✓ Presented Big Data Pilot at MWC 2014
BT	✓ Collaboration with industry and academic partners	✓ BT Infinity Lab				✓ Assure Analytics (network security tool)
AT&T	✓ AT&T Research AT&T Labs	✓ AT&T Foundry	✓ Developer Portal	✓ M2M development platform		✓ Agreement with IBM to develop joint platform
Verizon	✓ Verizon Innovation Program	✓ Verizon Innovation Center	✓ Developer Portal	✓ M2M Developer Portal		✓ Precision Market Insights
Telenor	✓ Open innovation with partners	✓ Dtac accelerate (Thailand)	✓ Mobile billing (Boku, Fortumo)	✓ Telenor Connexion	✓ Telefonica (Bluevia)	✓ Partnerships

Note: M2M = Machine to Machine; IoT = Internet of Things
Source: operators' websites

TI should develop new competencies to bridge the existing gap, this can be realised through a dedicated business unit and through partnerships

A business unit focussed on services would help to attract know-how

- TI has the opportunity to develop and bring new digital services onto the market
- It should develop digital services that
  - enable the fixed and mobile business units to provide innovative services to their respective end-users
  - cater directly to corporates and the public sector with tailored solutions
- This can be done via a dedicated business unit that would
  - attract new competencies beyond those in the traditional TI business
  - focus on partnerships in a flexible fashion (i.e. without the bureaucratic burdens typical of large corporations)

Partnerships can support the development of a well-rounded digital proposition

- Developing cross-industry partnerships would:
  - complement competencies available in-house with those available elsewhere in the market
  - support the development of innovative solutions/products by joining forces with external parties
- TI brings value to partnerships with
  - network infrastructure ownership and know-how
  - customer base (customer insights, customer care and distribution channels)
- Partners should be selected on the basis of
  - competencies and the intellectual properties owned
  - capability to help TI reduce the time-to-market

- Several companies have created dedicated subsidiaries either to offer new services…
  - in the telecoms industry: Deutsche Telekom, SingTel, SK Telecom have each recently created digital subsidiaries that operate outside the legacy business, in order to limit the bureaucracy that is typical of large companies
- …or to cater to a new market
  - in the FMCG industry: when Nespresso (controlled by Nestle) expanded beyond the business market for coffee capsules to enter the home market in the 2000s, it started a dedicated subsidiary. This move allowed the company to immediately adopt a new culture and pivot from a B2B to a B2C marketing approach

An overall digital proposition should focus on the development of innovations and should target both the Group and external clients

Workstreams to support the development of an all-round digital proposition

Workstream		Description	Actions
Investment/growth opportunity			
1 Digital	1a Research and Development	▪ Scouting of innovation trends ▪ R&D of innovative digital products	▪ **Partnerships** with **industry leaders** ▪ **Incubation of** promising **start-ups** ▪ **Development** and testing of product **concepts**
	1b Service enabler	▪ Support the **fixed and mobile units** to launch innovative services for end-users	▪ Streamlining of solutions to **enable digital services for** the Group's fixed and mobile units
Current activity/Opportunity to enlarge scope			
2 ICT and Cloud		▪ Address **companies** and the **public administration** with digital services	▪ Focus on providing **tailored solutions** to **companies** and the **public administration**

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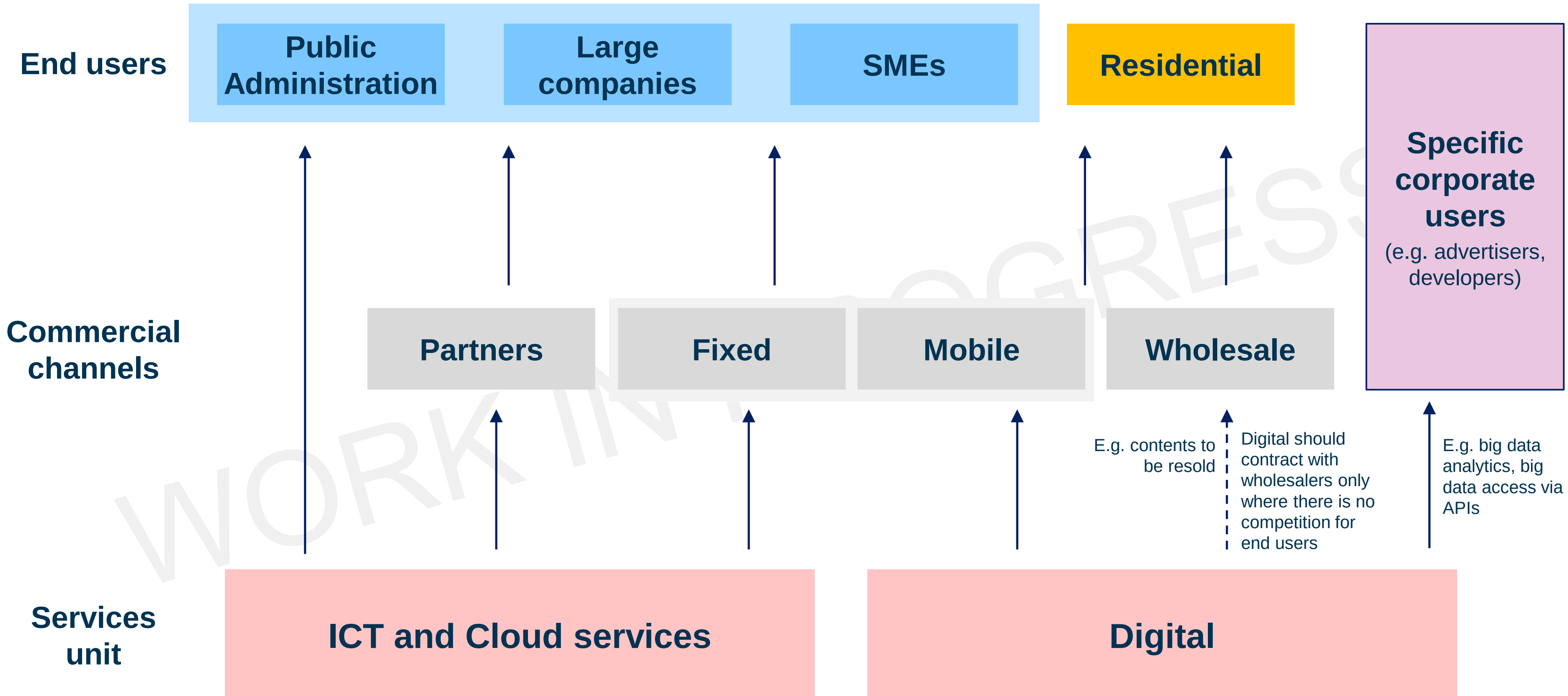
The services unit will use a range of commercial channels to reach end users



1a The Research and Development function of the ‘digital’ stream should work with a wide and flexible remit so as to capture radical innovations

Partnerships

- Working with **partners** (market leaders, universities) and being part of an **ecosystem** is critical to success in the new digital market
- Each **partner** brings **unique expertise** in its field and can support the definition of innovative
  - products
  - services
  - applications
- **Examples of companies that cooperate with partners**
  - AT&T
  - Verizon
  - T Systems (Deutsche Telekom)

Research and Development

Incubation of startups Scouting of trends

- **Incubating startups** and the **scouting** of **trends** would foster the generation of ideas and projects within the Digital services unit
  - innovative products and services are more and more often the product of startups
  - technological trend start arising years in advance of commercial deployment and TI should experiment solutions early
- **Examples of companies that support startups**
  - Telefonica (Wayra, Amérigo)
  - Vodafone Ventures
  - T Venture (Deutsche Telekom)

Development of concepts and deployment of partners’ solutions

- The R&D function would support TI by:
  - developing digital product concepts
  - deploying new products in collaboration with partners

1a TI can initially focus its activities on digital segments where the best prospects for growth can be identified

NON EXHAUSTIVE

Examples of focus areas for the research and development function

Research and development

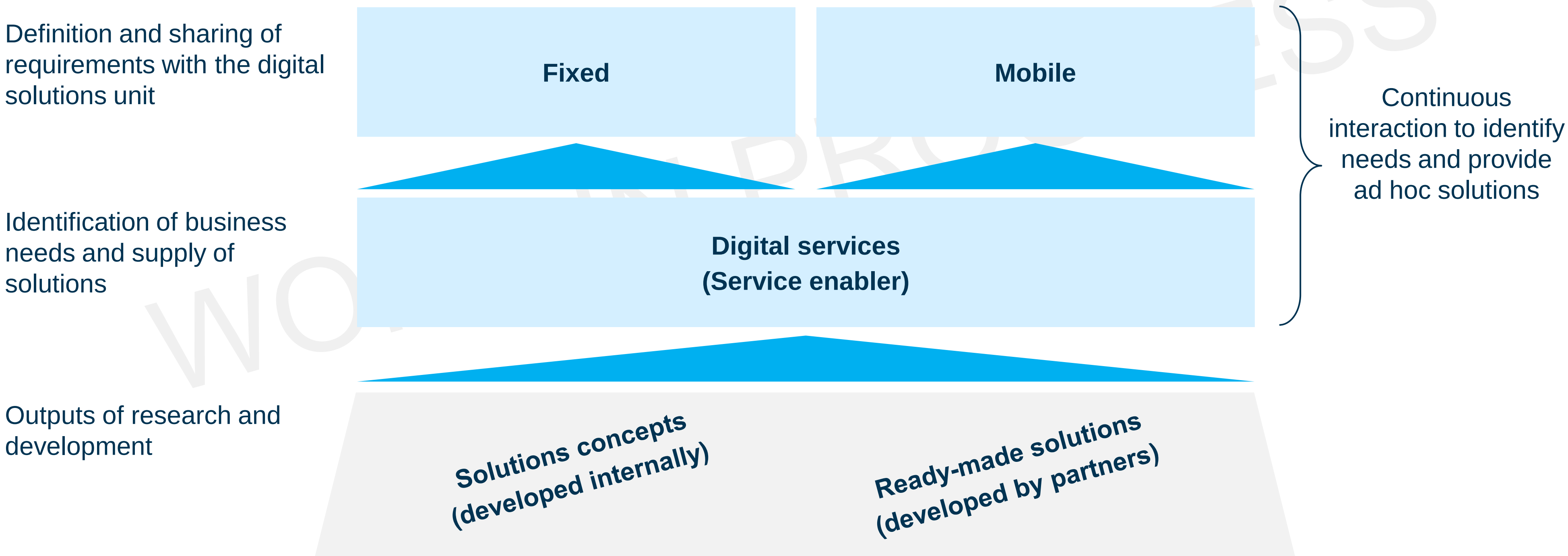
Big data (monetise user data)	▪ Mobile operators have access to large amounts of behavioural data (e.g. positioning, calls, numbers called) that are well suited to be analysed to provide insights on consumer habits ▪ Data availability keeps growing and the commercialisation of analytics programs could effectively allow TI to cope with traditional revenue streams otherwise losing ground
M2M (catering to smaller vertical sectors)	▪ Currently, much of the M2M value is tied to a small number of large contracts with players such as automotive manufacturers and utilities. Nonetheless, there is considerable value in smaller vertical sectors ▪ TI could focus on developing tailored end-to-end solutions by partnering with providers active in different/smaller vertical sectors (e.g. patient monitoring, maintenance of heavy equipment)

To be further investigated

1b

The 'service enabler' function of the digital stream should streamline solutions to enable the commercial launch of digital services

- The fixed and mobile units would be the main clients of the digital services unit, these units would acquire
  - digital solutions to support the provision of innovative services to end-users
  - solutions to improve service quality and customer satisfaction (e.g. analytics platform)



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1

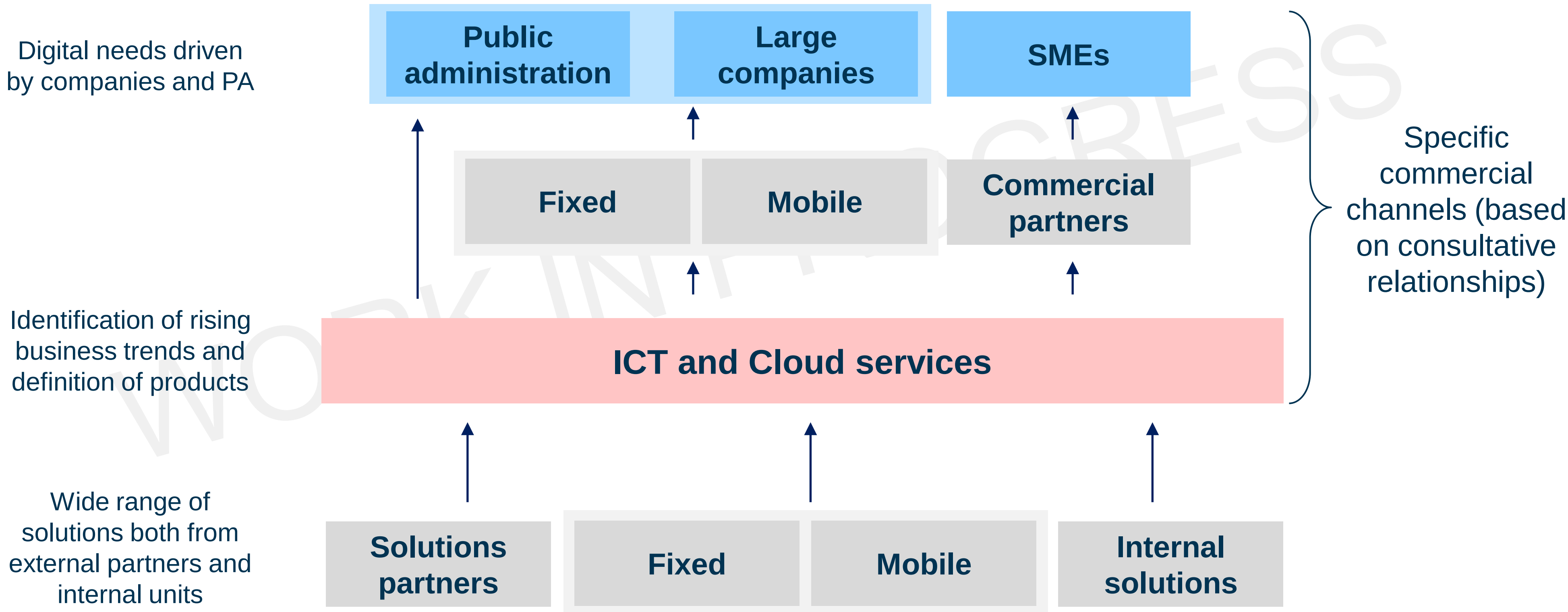
The ‘digital services’ function would benefit from partnerships that can bring relevant know-how to develop new products and services

ILLUSTRATIVE

	Benefits of partnership	Examples of potential partners
Hardware manufacturers	▪ Test hardware being in concept phase and anticipate trends	▪ Italtel, Telit, STM, Cisco, Huawei
Software producers	▪ Participate in the development of innovative software	▪ Microsoft, Android, Firefox OS
Analytics tools providers	▪ Participate in the development of data analytics tools	▪ HP, IBM, SAS
Home automation	▪ Address a developed ecosystem of hardware integrators and installers	▪ Bticino, Vimar, Philips
Payments	▪ Exploit the experience and know-how of long-standing players	▪ CartaSì, Ingenico, Gemalto, Isis, Bluevia (Telefonica)
Healthcare	▪ Participate in the development of health-related connected tools	▪ Philips, General Electric

2 The ICT and cloud function should focus on tailored solutions to reduce ICT complexity for the public administration, large companies and SMEs

- Public administration, large companies and SMEs are offered tailored solutions that can address current and future needs e.g.
  - cloud computing
  - integrated communication solutions



2 The ICT and cloud solutions can be clustered into three segments that answer enterprise needs from different angles

	Legacy applications	Innovative applications	End-user solutions
Core solutions	▪ Management of **business critical services** – ERP system – CRM system ▪ **Corporate collaboration** – HD videoconferencing – Telepresence ▪ **Customer interaction** ▪ **Data centres**	▪ **Vertical solutions** tailored **for** specific **industries**, (energy, transport, logistics, healthcare) ▪ **Enterprise solutions** – cloud computing – data warehousing – analytics applications – hosting services	▪ **Flexible workplace:** solutions to provide flexibility in the workplace, allowing employees to work from different locations ▪ **Data security**: protection of data stored on mobile devices
Support services	▪ **WAN optimisation**	▪ **ICT security**	▪ **Service desk**

The ICT and cloud function would benefit from partnerships that can help build high-quality integrated solutions for enterprises

2

ILLUSTRATIVE

	Benefits of partnership	Examples of potential partners
Hardware integrators Software integrators	Develop tailored hardware and software solutions	Almaviva, HP, CSC, IBM, Accenture, Engineering
Data centres	Cater to the needs of the largest clients	TelecityGroup, KPNQwest
Consultancies	Support clients on extensive projects	Altran, Accenture
Advertising	Develop innovative solutions for billboards, mobile advertising,…	JPDecaux
Logistics	Develop innovative solutions for parcel delivery	DHL, ups, Amazon

Contents

TI needs to regain the flexibility to pursue long-term growth through investment

IDENTIFIED PROBLEMS

- TI is a stand-alone player in a world dominated by large groups
- It has had to operate within certain cash constraints, which has lead to a sub-optimal approach to investments and upgrades (longer-term growth and opex savings have been sacrificed due to a lack of capacity to invest)
- The organisation has been geared more towards the preservation of the status quo than towards growth

PROPOSED ACTIONS

- New organisational structure to provide greater flexibility for each line of the business to pursue its individual goals
- The proposed structure would comprise three business units with clear actions for each business unit to increase financial flexibility
  - **Mobile business unit** to be allowed to pursue partnerships and joint ventures/mergers in Europe and Brazil
  - **Fixed business unit** to pursue a limited capital increase, in cash or in kind, to address investment gap
  - **Services unit** to create the right environment and sufficient organisational and financial flexibility for innovation
- Divestments welcome but only if they create value for shareholders; pure sale-and-lease-back deals without upside to be avoided

The organisation outlined by the Findim Group would allow TI to address some of its key problems

TI group

Mobile

- Potential for **growth through JVs** with local operators or partnerships with major groups with non-overlapping footprint

Fixed

- Limited increase in **capital for network upgrade** coming from institutional investors

Services

- New unit to **drive future growth**, with solutions enabled by partnerships, JVs and other means

Separating domestic fixed and mobile operations into separate business units runs against the prevailing trend for increased integration.
It may be necessary to address TI's problems and would not preclude offering converged products if implemented correctly

Each business unit will be tasked with pursuing its specific key issues

Proposed group organisation – objectives

TI Group

Mobile

- Aim to participate in cross-border consolidation
- Manage transition from voice- to data-centric operator
- Increase domestic user spend by leveraging LTE and data/content potential
- Gradually increase value of Brazil operations by improving company positioning in a growing market

Fixed

- Enable large-scale NGA deployment to ensure future relevance
- Stimulate broadband take-up and willingness-to-pay (for connectivity and content)
- Manage traditional voice revenue decline while extracting short-term cash
- Explore long-term opex savings vs. short-term cash management

Services

- Create a strong new player in the ICT infrastructure and digital economy
- Exploit economies of scope and of scale with the other BUs

Each BU will have its own management team and P&L to ensure appropriate incentives and focus

We have suggested an outline perimeter for each business unit

TI Group

- Retail network
- Admin, finance, overall strategy

Mobile

TIM Italy
- Mobile brand
- Mobile network (mobile dedicated assets including BTS, RAN)
- Product development and marketing
- Spectrum

TIM Brasil
- All operations

Fixed

Fixed network
- Access copper and NGA
- Backhaul and core

Wholesale operations
- Regulated and commercial
- TI Sparkle

Retail operations
- Broadband, PSTN and others
- Sales of quad-play
- Product development and marketing
- B2B
- Broadband, PSTN
- Managed network services
- Vertical solutions
- Sales responsibility for add-on services (cloud, etc.)

Services

Technology and product development focus

Digital
- Big data
- Payments
- Entertainment and social

ICT and cloud
- ICT infrastructure
- Cloud
- Cyber security
- Verticals

TI should conduct a detailed project before setting up the new structure in order to refine the perimeters, responsibilities and management

Areas to be assessed during set-up of business unit

Assessment of management skills	▪ Assessment of skills of the current management and their fit with the new organisation structure ▪ Identification of profiles to recruit externally
HR policies	▪ Review of HR activities, communication and terms of employment to ensure retention of skilled staff and to ensure that they have appropriate training, skills and incentives to support the new organisation
Activities and responsibilities	▪ Full mapping of the activities and responsibilities of each business unit and of interactions between them
Assets	▪ Identification of tangible and intangible assets to be transferred to each business unit
Brand	▪ Evaluation of brand strategy ▪ Investigation of possibility to move to a one-brand solution or to adopt different brands – to include existing and potentially new brands
Financial structure	▪ Debt and equity structuring considerations and negotiations between business units and holding

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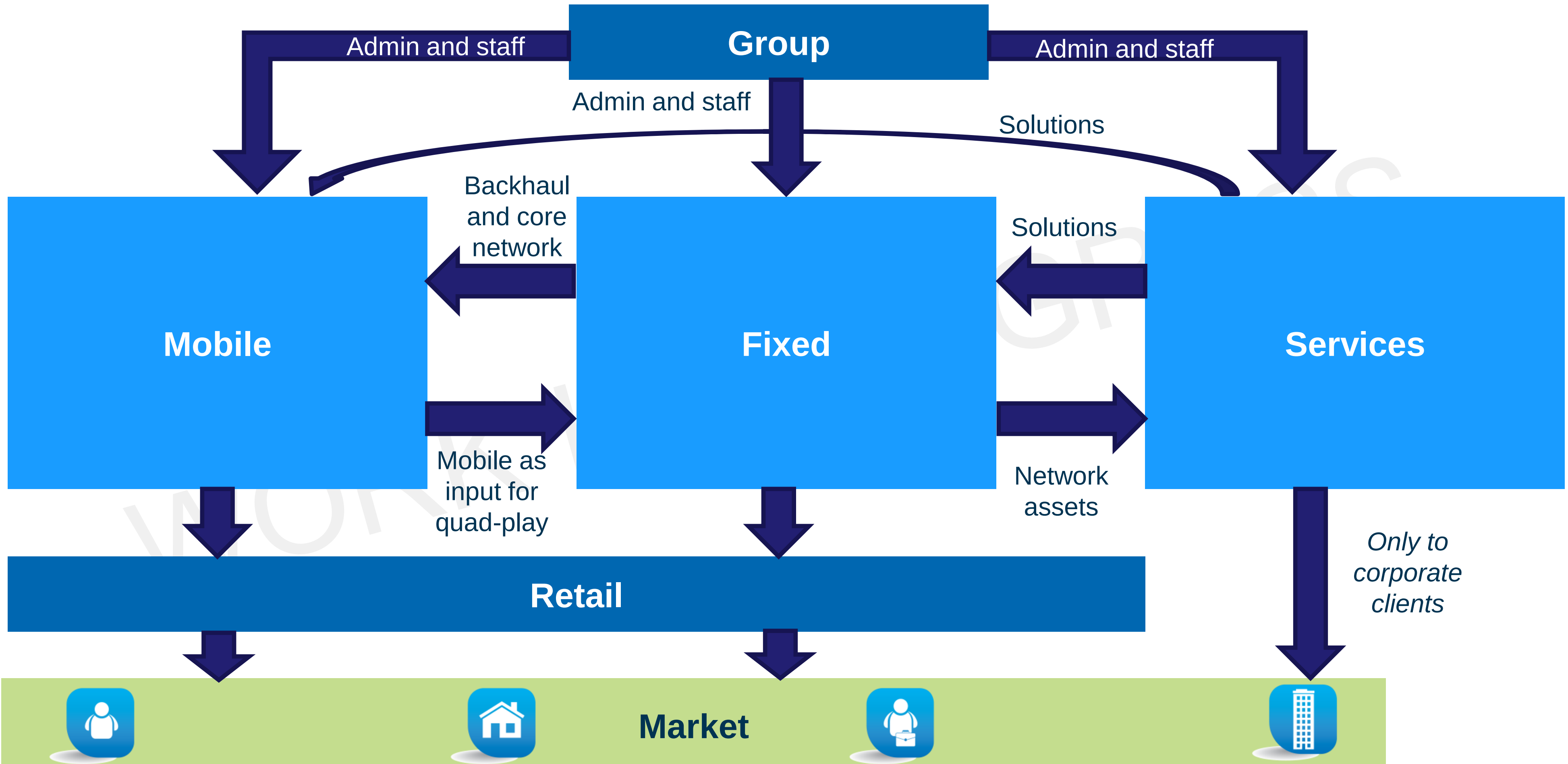
Economies of scale and of scope will be guaranteed through the set-up of a range of agreements between the units

Proposed group organisation – illustration of interactions between the units



Note: excludes wholesale to external clients

The plan is based on the premise of the existing group perimeter but we do not believe that divestments should be excluded *a priori*

We believe different types of divestments should be treated differently

Type of divestment	Examples	Recommended approach
Non-strategic/ non-substantial	▪ Telecom Italia Media Broadcast *Most of these activities have already been divested*	▪ Continue with divestment plans
Strategic and substantial but that can be easily separated	▪ TIM Brasil *Most of these activities have already been divested*	▪ Divest if value can be maximised. This may require some strengthening of the company situation and choosing the right moment to divest and being open to JVs
Sale and lease-back	▪ Towers in Italy and Brazil ▪ Real estate in Italy	▪ Carefully assess and design divestments to avoid pure cash vs. opex swap ▪ Focus on ensuring value creation for TI (upside for the investor that is recognised to TI and/or future opex savings/ efficiencies enabled by the divestment)

A tower sale in Italy can create value for TI but TI needs to carefully consider the details of the deal to ensure that the value is internalised

- A tower sale-and-lease-back creates value to TI if the buyer's valuation of the portfolio is higher TI's assessment of the NPV of the cash flows transferred to the buyer*
- The values depend on transaction-specific details such as the commercial terms and perimeter of the sale. To illustrate the impact, we have therefore compared

1 the value to a buyer

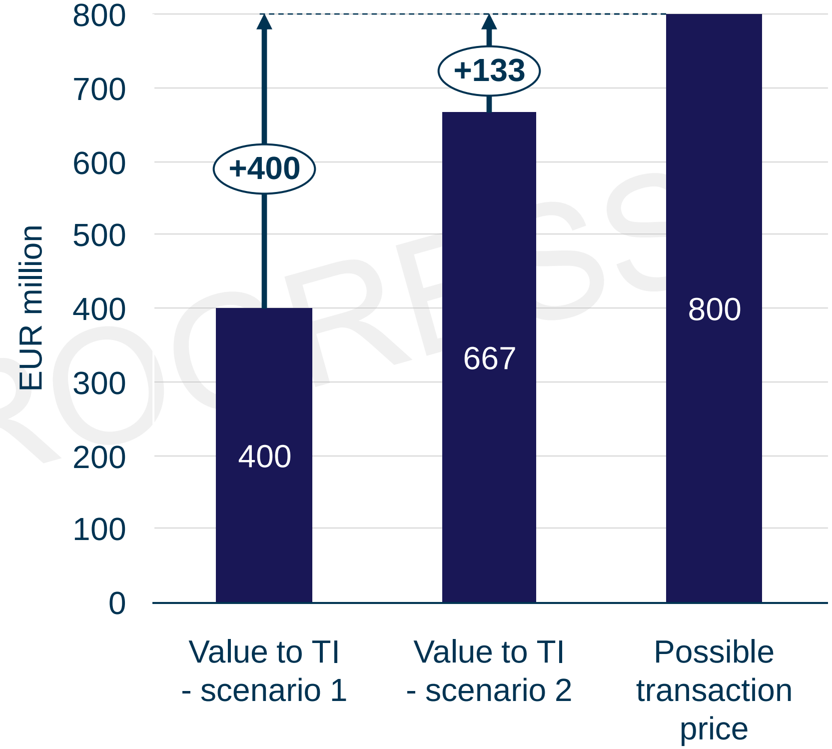
  - based on benchmarks of recent transactions, e.g. E-Plus/American Towers, we estimate this to be up to c. EUR200 000 per tower (assuming full size towers and not roof tops)

2 the value to TI based on the perpetuity of:

  - cash flows transferred to the buyer of EUR10 000 per year per tower
  - cost of capital of 6% (i.e. cost of debt) or 10% to scenarios of TI using the proceeds instead of debt financing or to remunerate its average cost of capital
  - this provides us with a value per tower of between EUR100 000 (10% CoC) and EUR170 000 (6% CoC)

- TI has c. 12 000 sites but we do not know how many of these that can be divested. Based on previous transactions we assume that no more c. 4000 towers can be divested

Illustration of value creation of sale of Italy towers



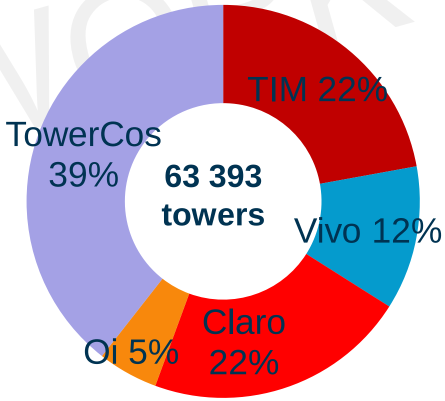
- A transaction at a similar price to the one achieved by E-plus appears to make economic sense to TI under our assumptions

Notes: cash flows transferred to buyer include: Lease-back by TI, lease revenues from third parties and costs (e.g. land lease) incurred by TI today. The 12 000 sites of TI likely include rooftop sites. The largest transactions we are aware of in Europe comprised c. 2000 towers (Bouygues Telecom and E-Plus)

The upside for TI of a tower sale may be higher in Brazil than in Italy due to the market maturity

- A buyer of a tower portfolio can create an upside by attracting more external tenants than the operator would do on its own – the greater the scope for doing so, the higher the upside typically paid by the buyer to the MNO
- In the Brazilian market, significant investment is expected from all MNOs for increasing network coverage. This leaves significant scope for an independent TowerCo to increase tenancy ratios
  - **consolidation in the Brazilian tower market is expected**. The independent tower market has grown rapidly in the past few years, following tower spin-offs from national MNOs and a growing presence of independent TowerCos (including AMT, SBA)
  - TIM Brasil could also benefit from consolidation by gaining access to existing sites for its network extension
- The Italian market is much more mature which means that the upside for a buyer is significantly smaller and a transaction would therefore be much more similar to a financial lease

Distribution of existing towers in Brazil (2013)



Number of towers per independent operator (2013)

TowerCo	# of towers
American Towers	7500
Grupo TorreSur	6000
BR Towers	4000
SBA Communications	5000
Others	4000

Source: Analysys Mason, Teleco, press releases

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TI still retains some real estate that it can potentially monetise through sale and lease-back deals

- TI has c. 10 400 local exchanges, often situated in prime urban locations
  - these were built to house copper main distribution frames (MDFs), voice (PSTN) concentrators and other switching equipment
- Modern technologies allow a significant reduction of the footprint of the installed in local exchanges which provides the possibility for the operators to divest or let their real estate portfolio
  - a full rationalisation requires a decommissioning of MDFs which can requires that all (voice and broadband) lines are migrated to FTTx
- TI entered into sale-and-lease-back deals for the majority of its local exchange buildings in 2002 (with Pirelli Re and Morgan Stanley) and in 2006 (with Pirelli Re.) which limits the scope for TI to benefit from such rationalisation
- We understand that TI still has a relatively large real estate portfolio of office and technical buildings that it could monetise through a sale-and-lease-back deal
  - TI has not made public any details on this real estate portfolio

TI should continue to attempt to influence some key market developments

Key issues	Current status	Outlook
Pursue digital agenda	▪ Italy has low ICT literacy compared to peers which is a key driver for the low broadband take-up ▪ There is likely to be a need for some public intervention to ensure ubiquitous high-speed coverage	▪ Uncertain outlook as the government has yet to implement any of the announced plans ▪ TI should, together with the other operators, push the government to become an enabler
OTT payment for network usage	▪ European operators have limited scope to charge OTT players for the traffic generated due to pressures over net neutrality	▪ Regulatory outlook uncertain, TI and other European operators are lobbying for changes ▪ Operators in the USA have started to reach commercial solutions which also TI could pursue
Mobile market over-establishment	▪ The Italian mobile market is exceptionally competitive: the fourth operator, H3G, generates limited returns despite having been in the market for c. 10 years ▪ Other large European markets such as the UK and Germany have seen consolidation with Germany being in the process of reducing to three operators	Consolidation has been discussed – e.g. in the shape of a merger between Wind and H3G or even between TI and H3G ▪ Negotiations between Wind and H3G appear to have broken down ▪ Difficult for TI to participate in consolidation process given its high market share ▪ Uncertainty over reaction from competition authorities

Source: Analysys Mason based on TI and various other sources

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Summary of the value creation actions proposed in the strategic plan

- Throughout the report we have made a number of recommendations to enable TI to resume growth, both domestically and internationally, and create value for its shareholders
- In the remainder of this section we:
  - summarise the actions and recommendations for each operational business unit
  - propose a selection of operational targets for the company to provide guidance on the suggested implementation of the plan
  - provide a suggested timeline for the implementation of the strategic plan

Actions and initiatives for value creation: domestic fixed

Area	Actions	Initiatives and results
Broadband and ultrabroadband	▪ Increase FTTx coverage and capacity	▪ Expansion of FTTC capacity and coverage to target 70% of HHs and FTTH coverage to target 25% of HHs (incl. Milan) in the medium term – EUR1.5-2.0 bn investments in addition to the EUR1.7 bn announced by TI for 2014-16
	▪ Make FTTC the leading platform	▪ Increasing UBB share of BB in line with other EU countries (target: 50-60%) – aim at gradually switching off legacy DSL equipment in local exchanges
	▪ Pursue actions to improve ICT literacy	▪ Actively influence government to enhance focus on digital agenda, resulting in an improvement of ICT literacy and an increase in broadband penetration
	▪ Stabilise BB market share	▪ Stabilisation of BB market share at current level, in line with virtuous EU5 incumbents

Actions and initiatives for value creation: domestic fixed

Area	Actions	Initiatives and results
Broadband and ultrabroadband	Increase attractiveness of offers	Improve content through collaboration with international and domestic OTT content providers Upgrade existing and new users to higher speeds (access and backhaul network upgrades) Gradual alignment of UBB 'pricing premium' to c. EUR5/month; restructuring of BB pricing
De-layering	Migration of users to VoBB	VoBB migration, starting with commercial offer and then moving to forced migration in high BB and UBB penetration areas (possibly not fully achievable in plan timeframe)
	De-layering and rationalisation of network	Increased investments of up to EUR1.0 bn over 3 years to complete migration (CPE and adapters and network capacity upgrades)
	Opex savings in the medium-term	Long-term savings of up to 30-40% of legacy network opex and 30% of maintenance capex

Actions and initiatives for value creation: mobile domestic

Analysis	Actions	Initiatives and results
Mobile domestic	▪ Accelerate smartphone penetration in the customer base	▪ Slight increase in handset subsidies to prepaid subscribers to accelerate smartphone penetration
	▪ Privilege monetisation / value creation and not (subscriber) market share defence ▪ Enrich the basket of content and applications available to customers, potentially by means of partnerships, and improve marketing effectiveness	▪ Increase focus on postpaid and high-value segments (target of +1pp postpaid, -1pp prepaid market share by 2016) ▪ Do not engage in further price war ▪ Improve effectiveness of marketing and up-selling of VAS and add-ons, leading to broadly stable ARPU by segment and single digit CAGR increase in VAS/data ARPU ▪ Explore partnerships to further enrich content offering
	▪ Re-balance investments vs. fixed, avoiding to overspend on mobile network	▪ Closer alignment between network roll-out and sales and marketing ▪ Rather than too aggressively expand LTE coverage, focus should be on improving the 3G network to keep capex below 13% of revenues

Source: Analysys Mason

Actions and initiatives for value creation: TIM Brasil

Area	Actions	Initiatives and results
TIM Brasil	▪ Need for further significant network investments	▪ Improve coverage and capacity of data network, bringing 3G coverage to 85% by 2016 ▪ 20-25% additional investments to the EUR3.4 bn announced by TIM Brasil for 2014-16
	▪ Need to increase its focus in higher-value segments (e.g. postpaid and data) and, more in general, seek to become the primary operator for its users	▪ Target market share increase of 0.5-1.0p.p. in prepaid segment and 1.5-2.0p.p. in the postpaid segment ▪ Refocus on higher-value subscriber and data take up to stabilise blended ARPU at above EUR6 per month
	▪ Pursue partnership to viably increase scale and footprint in the fixed market and maximise opportunities in the convergent market	▪ Depending on partner, there can be a revenue upside in high-end / postpaid segments currently not effectively targeted by TIM Brasil ▪ Depending on partner 2-5% opex savings ▪ Depending on timing and partner, 3-5% capex savings

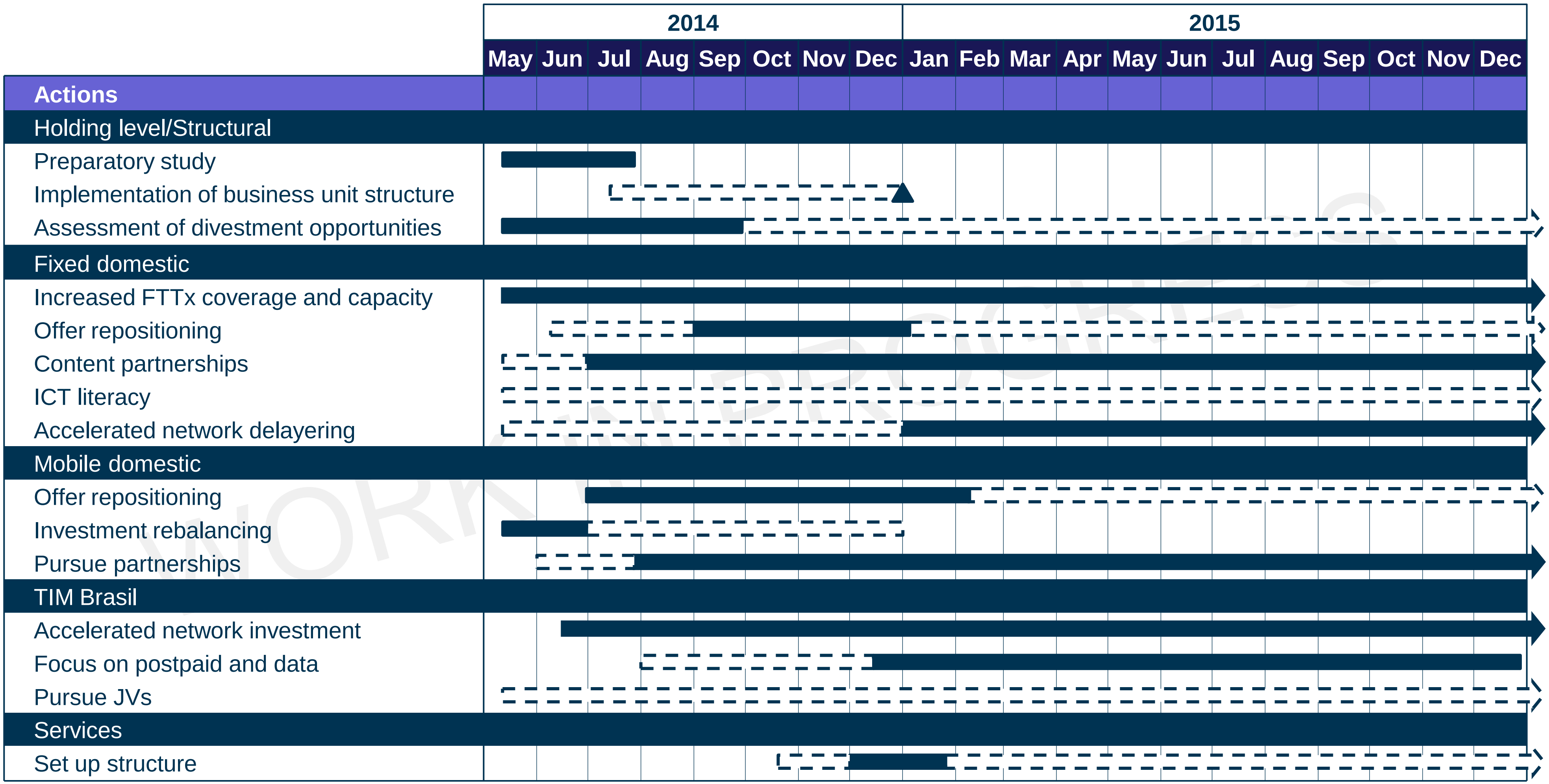
Source: Analysys Mason

Actions and initiatives for value creation: services

Area	Actions	Initiatives and results
Services	▪ Set up a services business unit	▪ Focus on supply to other group BUs, enterprise customers and wholesale ▪ Define and implement partnership framework ▪ Start commercialising services through various channels including direct sales, through the fixed and mobile BUs, partners and where appropriate wholesale (depending on product and target market) ▪ Aim at best-in-class stand-alone performance in the mid-to-long term: generating c. 15-20% of group revenues with EBITDA margin of c. 10-15% ▪ Solutions supplied will allow other BUs to provide more attractive products, thereby improving also their performance

Source: Analysys Mason

Possible timeline for main proposed actions



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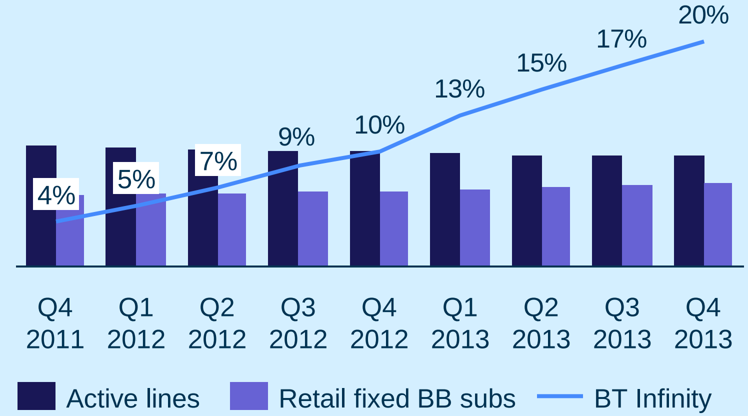
BT links video and broadband to drive penetration of its superfast BT Infinity services; Virgin Media does the same to protect its TV base

BT (incumbent operator UK)

- BT Infinity penetration grew five-fold to 1.9 million in two years; BT's broadband ARPU increased by 14%, while line loss was more than halved, driven by
  - narrow pricing differential between DSL-like and Infinity-based propositions (typically GBP5/month)
  - speed increases to the BT Infinity services widening the quality differential with DSL services
  - value-added/content services made available for BT Infinity (e.g. HD extra channels, BT Sport* directly to the TV and 802.11ac Home Hub)

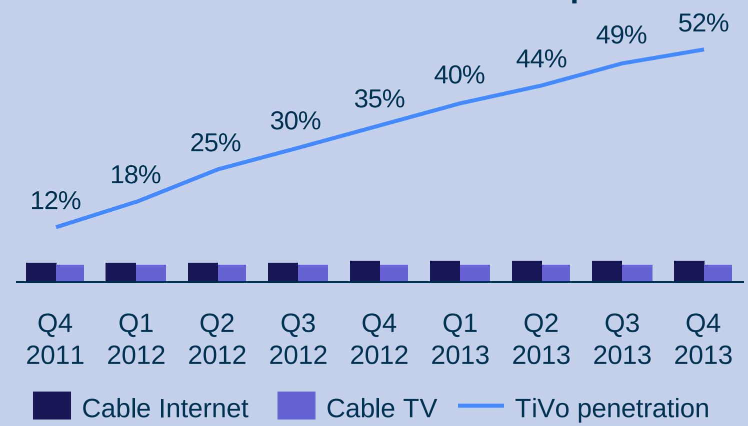
Broadband subscribers and Infinity penetration



Virgin Media (cable-TV operator UK)

- Launch of TiVo-centric triple-play bundles (Q2 2012) enabled Virgin Media to limit cable TV RGUs losses to -0.6%, while cable broadband RGUs increased by 6.6%
- The co-branded, TiVo-powered TV service enables Virgin Media to differentiate itself through a range of features
  - e.g. content search/recommendation and access to apps such as Netflix and YouTube on the TV

Cable Internet and TV RGUs and TiVo penetration



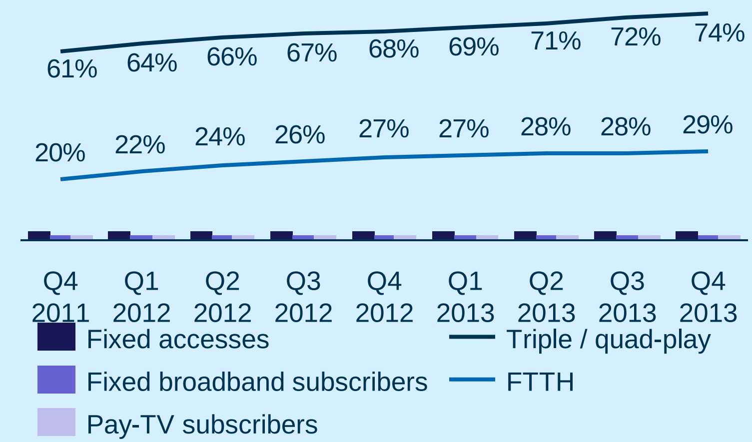
** BT acquired exclusive live broadcast rights (2015-17) to Champions League and Europa League football for GBP900 million*
Note: RGU = Revenue Generating Unit; TiVo is a DVR developed and marketed by TiVo, Inc.
Source: BT and Virgin Media institutional websites, press search

PT and ZON Optimus have both successfully driven the penetration of NGA services in their battle for market supremacy

Portugal Telecom (incumbent operator in Portugal)

- FTTH subscribers increased by 70% to 372 000 thanks to PT's bundling strategy which enabled it to grow its pay-TV and fixed broadband subscriber bases by 26.2% and 17.1%, respectively
- PT fixed broadband recent growth was also sustained by the launch of quad-play bundles ('M4O') in Q1 2013
  - M4O combine traditional services with MEO-branded services
    - value added services: music streaming (NMusic), cloud storage and cloud gaming service (Playcast Media Systems) on PCs
  - M4O are offered at no differential price between DSL or fibre version

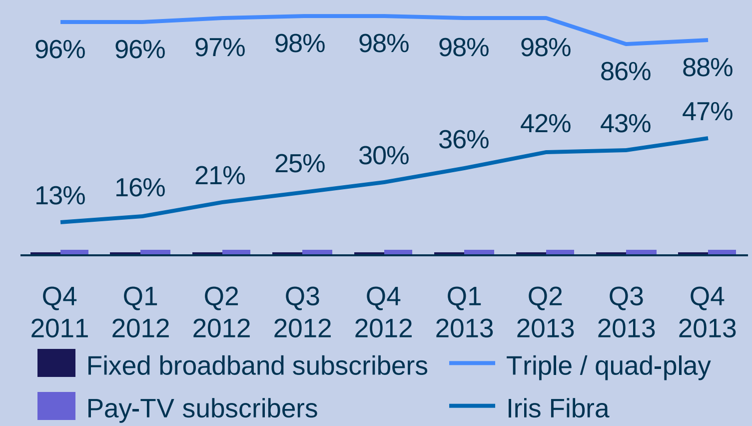
Subscribers evolution and 3P/4P bundle penetration



ZON Optimus (cable operator in Portugal)

- Iris Fibra 3P bundle was launched in Q1 2011 combining 30Mbit/s+ cable broadband with a next-generation TV experience featuring content search and recommendation through the NDS Snowflake user interface, more TV channels, a DVR and a multi-screen video service
  - Iris Fibra subscribers more than quadrupled to 437 600 in the 2 years to Q4 2013
- Despite of the strong competitive challenge from PT, the Iris Fibra bundles enabled ZON to grow its cable pay-TV subscriber base by 2.2% over the period

Cable internet and TV RGUs and TiVo penetration



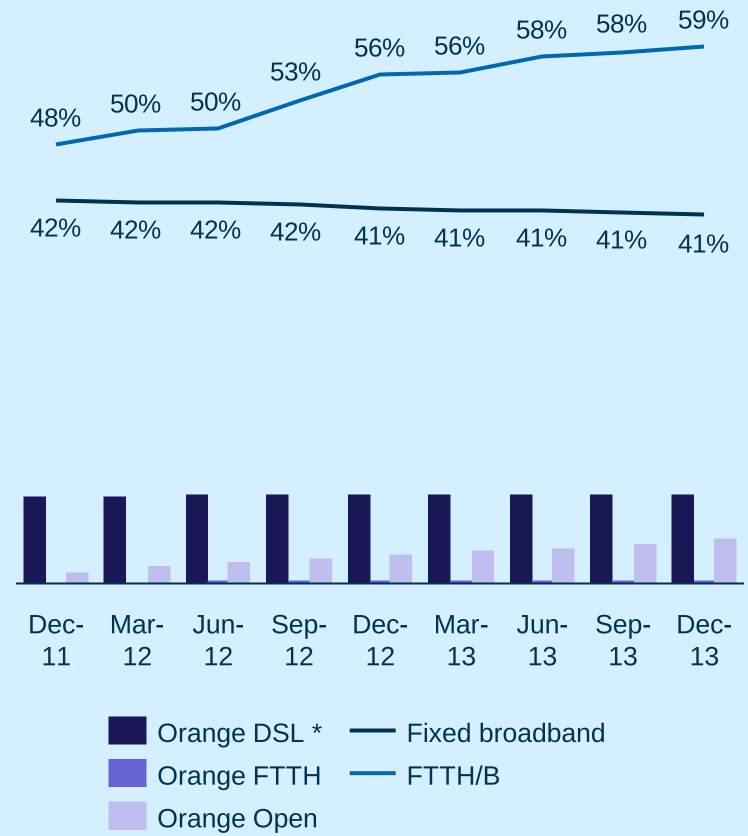
Source: PT and ZON Optimus institutional websites

Orange is losing overall fixed broadband market share but its share of FTTH/B is increasing thanks to its Orange Open quad-play bundles

Orange (incumbent operator France)

- Orange's market share has decreased by ~2p.p. in the past 2 years
  - however, the number of Orange FTTH subscribers grew more than three-fold to 319 000 during the same time
- Part of this success can be attributed to the Orange Open quad-play bundles
  - launched in August 2010 as a pre-emptive measure against Free Mobile's anticipated entry into the market (which eventually occurred in January 2012), the number of Orange Open subscribers quadrupled to 4.8 million in the 2 years to December 2013
- The fibre-based Open bundles cost EUR5 more per month than comparable DSL-based bundles. Orange incentivises subscribers to take up the higher-end fibre-based bundles with:
  - promotional tariffs which puts them on par with equivalent DSL-based bundles for 12 months
  - special offers on premium content, available to fibre subscriber only
- Orange also emphasises the benefits of fibre, such as faster downloads, or the ability to use multiple Internet-connected devices concurrently

Subscribers evolution and 3P/4P bundle penetration



** Orange DSL subscribers include small number of subscribers who receive broadband by satellite and other technologies*
Source: Orange and ARCEP institutional websites

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Glossary of acronyms [1]

Acronym	Explanation	Acronym	Explanation
2G	Second-generation mobile technology	EC	The European Commission
3G	Third-generation mobile technology	EIU	The Economist Intelligence Unit
4G	Fourth-generation mobile technology	ETH	Ethernet
ADSL	Asymmetric digital subscriber line	EU	The European Union
ARPU	Average revenue per user	EU5	The 5 largest EU countries: France, Germany, Italy, Spain, the UK
ATM	Asynchronous transfer mode	FBB	Fixed broadband (BB access via fixed network)
B2B	Business to business	FMCG	Fast moving consumer goods
BB	Broadband Internet connection	FMS	Fixed-mobile substitution
BRAS	Broadband remote access server	FTR	Fixed termination rate (fee paid by calling operator to the receiving (fixed-line) operator to terminate a voice call)
BTS	Base transceiver station	FTTx*	Fibre to the home / cabinet / street
BoD	Board of Directors	FFTC*	Fibre links LE to cabinet
BU	Business unit	FTTH*	Fibre links LE to home
CAGR	Compounded annual growth rate	FTTS*	Fibre to LE to street (Cabinet)
Capex	Capital expenditure	FWA	Fixed-wireless access
CoC	Cost of capital	FY	Fiscal year
CATV	Cable television	G&A	General and administrative
DAE	Digital Agenda for Europe	GDP	Gross domestic product
DOCSIS	Data over cable service interface specification (standard allowing the transmission of data on a cable system)	ICT	Information and communication technology
DSLAM*	Digital subscriber line access multiplexer	IMF	International Monetary Fund
EBITDA	Earnings before interest, taxes, depreciation, and amortisation	IoT	Internet of things

**See slide on topology of access networks; Source: Analysys Mason*

Glossary of acronyms [2]

Acronym	Explanation
IP/MPLS	Internet protocol/multi-protocol label switching
IRU	Indefeasible right of use
KPI	Key performance indicator
JV	Joint venture
LRIC	Long-run incremental cost
LE	Local exchange
LTE	Long-term evolution (4G mobile technology standard)
LLU	Local loop unbundling
M2M	Machine to machine
MBB	Mobile broadband (BB access via mobile network)
MDF*	Main distribution frame
MNO	Mobile network operator
MTR	Mobile termination rate (fee paid by calling operator to the receiving (mobile) operator to terminate a voice call)
MSAN*	Multi-service access node
NGA	Next-generation access (FTTx, DOCSIS 3.0+)
NPV	Net present value
ODF*	Optic distribution frame
Opex	Operational expenditure
OLT*	Optical line terminal
OTT	Over the top (online distributor of digital content, usually independent from telecom operators)
PSTN*	Public switched telephone network

Acronym	Explanation
RAN	Radio access network - part of a mobile telecom system that bridges the core network to end-users' devices
RGU	Revenue-generating unit
SDH	Synchronous Digital Hierarchy
SIM	Subscriber identity module, also known as SIM card
SLU	Sub-loop unbundling
SME	Small and medium enterprises
TDM	Time domain/division multiplexing
TI	Telecom Italia
TIM-B	TIM Brasil
UBB	Ultra Broadband (>30Mbit/s)
VAS	Value-added services
VAT	Value-added tax
VDSL*	Very-high-bit-rate digital subscriber line
VoBB	Voice over broadband
VoD	Video on demand
VoIP	Voice over IP
VoLTE	Voice over LTE
WACC	Weighted average cost of capital
WAN	Wide-area network
xWDM	x-wavelength division multiplexing (C: code; D: dense)
YoY	Year-on-year

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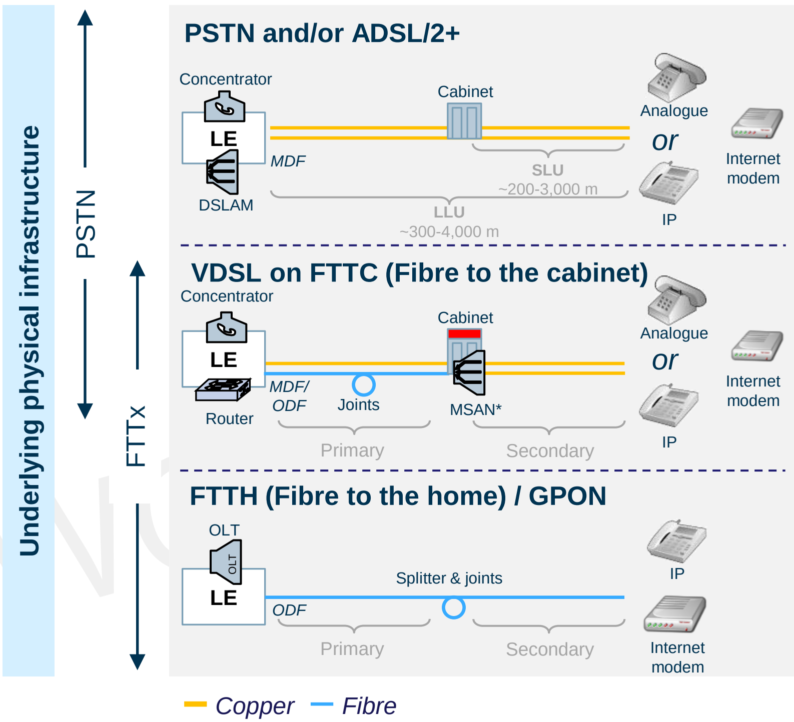
Country codes

Code	Country	Code	Country
AT	Austria	IE	Ireland
BE	Belgium	IT	Italy
BG	Bulgaria	LT	Lithuania
CY	Cyprus	LU	Luxembourg
CZ	Czech Republic	LV	Latvia
DE	Germany	MT	Malta
DK	Denmark	NL	Netherlands
EE	Estonia	PL	Poland
GR	Greece	PT	Portugal
ES	Spain	RO	Romania
FI	Finland	SE	Sweden
FR	France	SI	Slovenia
		SK	Slovakia
HR	Croatia	GB	United Kingdom
HU	Hungary		

Topology and speed of access networks



Access infrastructure	Speed attainable *Download (Mbps)*	Speed attainable *Upload (Mbps)*
PSTN and/or ADSL/2+	20	1
VDSL on FTTC (Fibre to the cabinet)	55 (VDSL)	3 (VDSL)
FTTH (Fibre to the home) / GPON	100-1,000	100-1,000

Copper *Fibre*

Note: VDSL can be provided if local loop is short enough; GPON = Gigabit Passive Optical Network
Source: Analysys Mason on AGCOM, Notiziario Tecnico Telecom Italia and Telecom Italia

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