

Mobile India 2011

Content Regulation and Net Neutrality

VAS Revenue Share and Broadband Challenges

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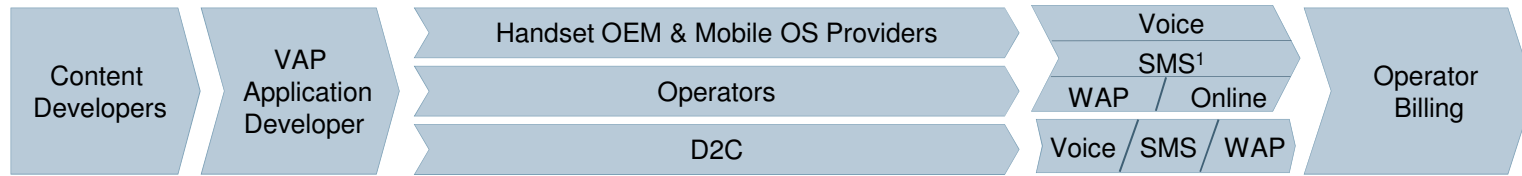
Agenda

Value Added Services Revenue Share

Wireless Broadband – Spectrum Challenges

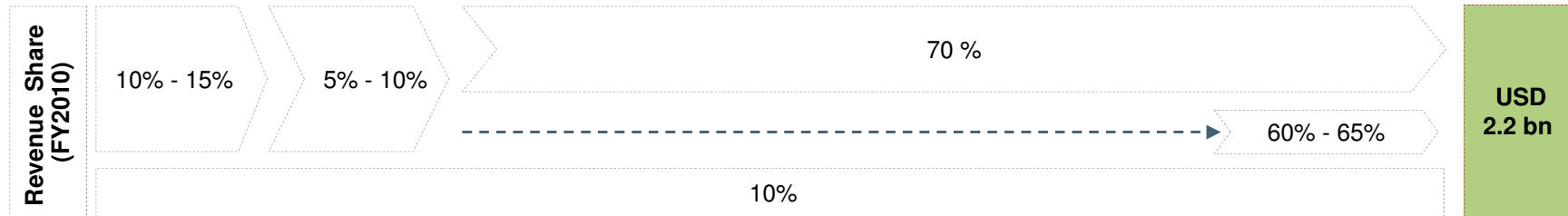
Revenue share for commoditized services/apps are reducing, with operators keeping majority of the revenue

Mobile VAS Value Chain and Revenue Share in India



Technology Platform Enablers

Major Value Chain Participants	<ul style="list-style-type: none"> • Produce variety of content • Hold content rights 	<ul style="list-style-type: none"> • VAS technology platform such as music on demand 	<ul style="list-style-type: none"> • Provide hardware to connect to the mobile network 	<ul style="list-style-type: none"> • Develop software platform to operate mobile handsets 	<ul style="list-style-type: none"> • Owns the consumer • Billing 	<ul style="list-style-type: none"> • Multiple content delivery channels, each suitable for different types of content 	<ul style="list-style-type: none"> • IN platforms & operator billing systems • Non operator billing options (negligible no. of D2Cs)
	<ul style="list-style-type: none"> • Enable the software platforms on which different services / applications can be hosted 						

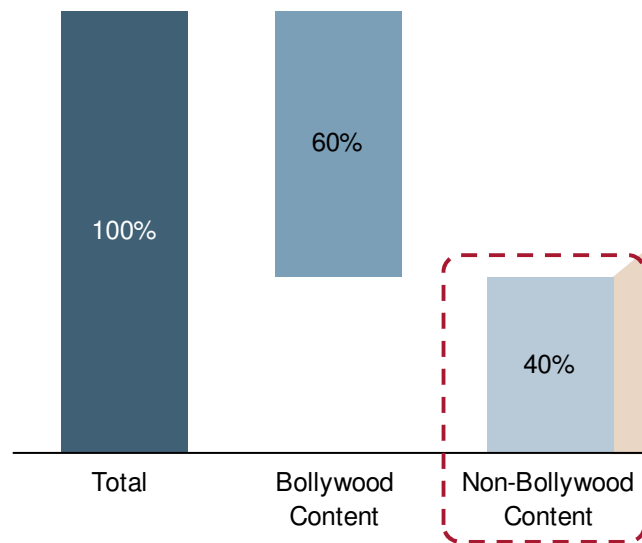


Moreover, billing remains the biggest challenge for non-telco players to successfully implement transaction based models

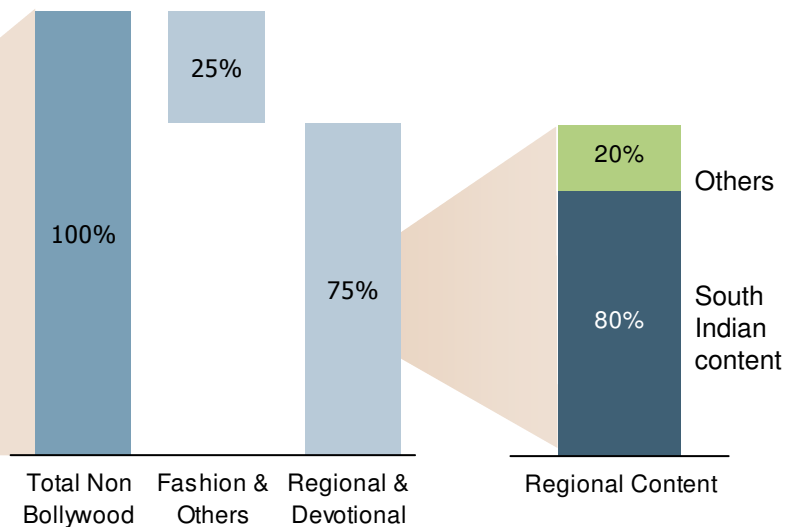
	On-Deck	Off-Deck with Carrier Billing	Off-Deck without Carrier Billing
Process Flow	<p> ---> Flow of Cash —> Flow of Content </p>	<p> ---> Flow of Cash —> Flow of Content </p>	<p> ---> Flow of Cash —> Flow of Content </p>
Definition	<p>VAS companies that provide white labeled vendor services to the carriers using their infrastructure, branding and promotions</p>	<p>VAS companies that use carrier billing for their products and services, but the marketing and branding is independent of the carrier</p>	<p>VAS companies that use carrier only as an access channel with billing, infrastructure, marketing and branding independent of the carrier</p>
Challenges	<ul style="list-style-type: none"> Operator controlled - No direct visibility and reach to consumer 	<ul style="list-style-type: none"> Carrier is sharing 60% - 70% of revenue depending upon type of content, even though it is playing the role of payment mechanism in the process flow 	<ul style="list-style-type: none"> Lack of scale and mass reach as compared to carrier channel Limited credit card and mobile payments penetration lead to lower adoption of services

This has led to content aggregators focussing on regional content for better margins

**Content Aggregation –
Bollywood vs. Non-Bollywood**



**Composition of Non-Bollywood Content
in India**

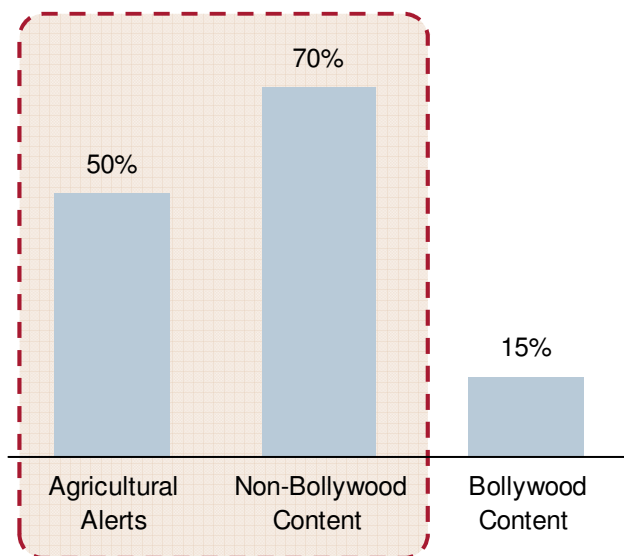


- Non-Bollywood content is gaining traction and it now contributes to 40% of total content aggregation market as compared to almost negligible share till 2006

- Content aggregators make significantly higher gross margins on non-Bollywood content (such as regional and devotional) as compared to Bollywood content

Moreover, with new and innovative services, VAS providers have been able to command a better revenue share

Content Aggregator's Gross Margins from Different Types of Content



- Due to differentiated content / services, content aggregators are able to command a higher revenue share from such services, leading to higher overall gross margins

Reuter Market Light Case Study: Agricultural Alert Services

	Description
User Base	<ul style="list-style-type: none"> • ~ 0.3 mn farmers have subscribed to RML (Q1 2010); targeting 0.5 mn by 2010 end • So far, the service has reached more than 1 mn farmers across 15K villages (Nov 10)
Pricing and Revenue	<ul style="list-style-type: none"> • Price: INR 175 (USD 3.8) for 3 months; INR 75 (USD) per month by Idea Cellular • 2009 Revenue: Crossed USD 1 mn mark
Distribution and Margins	<ul style="list-style-type: none"> • RML is focusing on building awareness through media; recently started TV ad campaigns • Offers a channel margin of 15 to 20% leading to retailers pushing the service

- The service adoption is also driven by word of mouth / recommendations by friends / family, retailers and NGOs
- RML receives a revenue share of around 50%

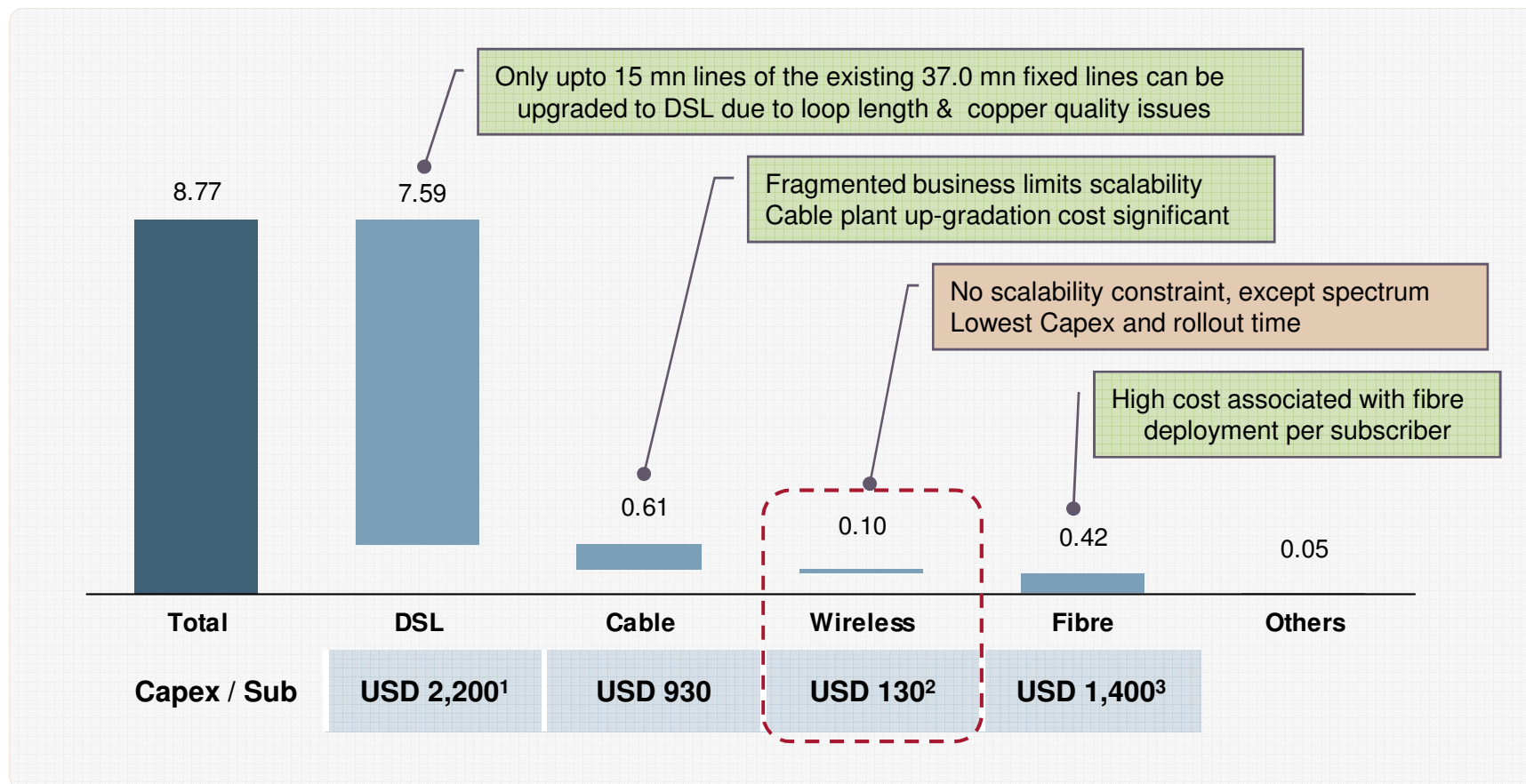
Agenda

Value Added Services Revenue Share

Wireless Broadband – Spectrum Challenges

Wireless broadband deployment is scalable as compared to fixed line technologies such as xDSL, Cable and Fibre

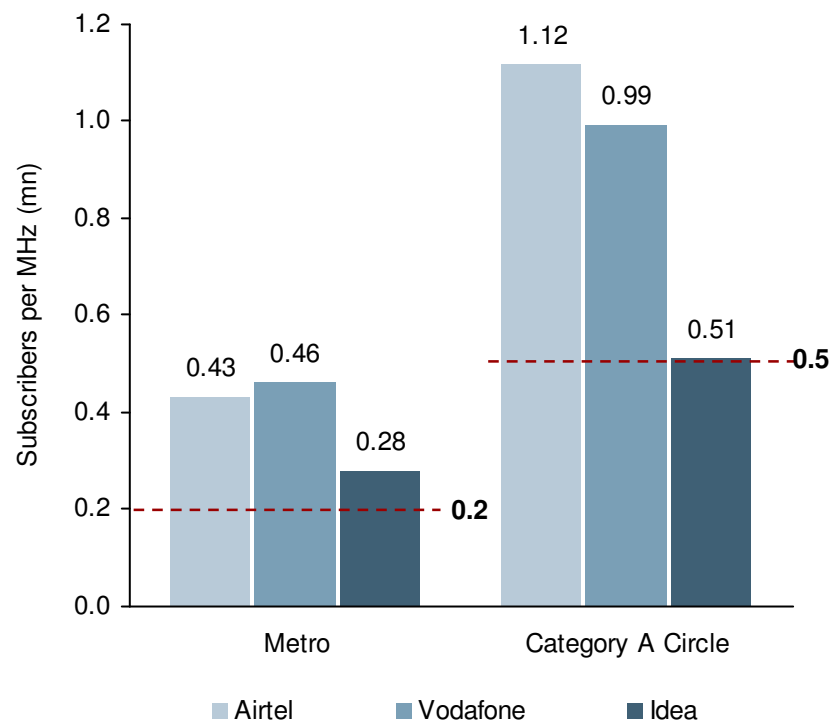
Broadband Lines in India Split by Technologies, 8.77 mn (Mar'10)



Note: 1. DSL Capex per sub comprises of cost for FTTN New Copper line while for existing line Capex per sub is USD 800; 2. Wireless Capex per sub includes Capex for WiMAX of USD 133, HSPA capex per sub as USD 125 and Capex per sub for EvDO as USD 123
3. Capex per sub for Fibre comprises of FTTB connection

However, with severe spectrum congestion in voice services, carriers find it difficult to spare capacity for wireless data

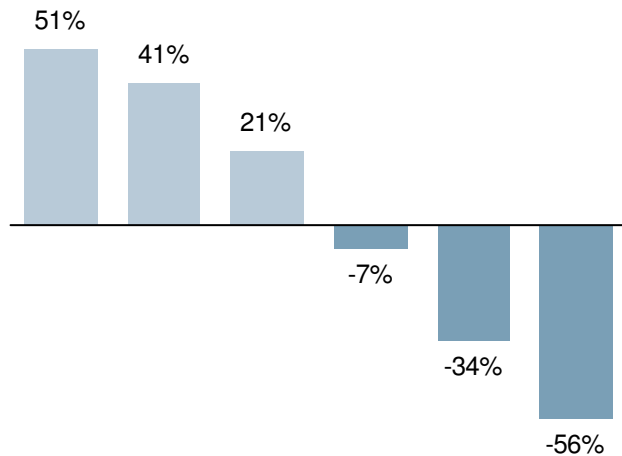
Subscribers per MHz for GSM Carriers in Metro and Category A Circle¹
QE-Mar 2010



- Almost all major GSM carriers are already facing spectrum congestion in the metro areas for offering basic voice services, and do not have network capacity to offer EDGE based data services
- With the allocation of 3G and BWA spectrum, some of the voice congestion will get relieved, and operators will have spare capacity to offer data services
- However, 3G spectrum allocation is only 5 MHz and will only be able to support limited number of wireless broadband users

This lack of spectrum will be a formidable constraint to realizing the broadband potential

Spare Spectrum Availability Based on Existing Allocation



	2010	2011	2012	2013	2014	2015
Bandwidth per User (Kbps) ¹	383	570	916	1,414	1,978	2,476
Allocated Bandwidth (MHz)	5.0	5.0	5.0	5.0	5.0	5.0
Cell Capacity (Users)	1,233	874	597	436	352	309

- The current spectrum allocation will not support the projected number of broadband users
- A high level analysis based on projected demand per user, available spectrum and current network coverage indicates that the operators will not be able to serve more than ~80 million subscribers without significant additional investments in sites
 - ♦ The associated investments for smaller cell size and more dense coverage is unlikely to make the take-up of broadband in suburban and rural areas economically viable



Note: 1. Represents average subscriber bandwidth of concurrent users
 Source: Analysys Mason

A clear policy roadmap for allocation of additional spectrum is required to help achieve this growth potential

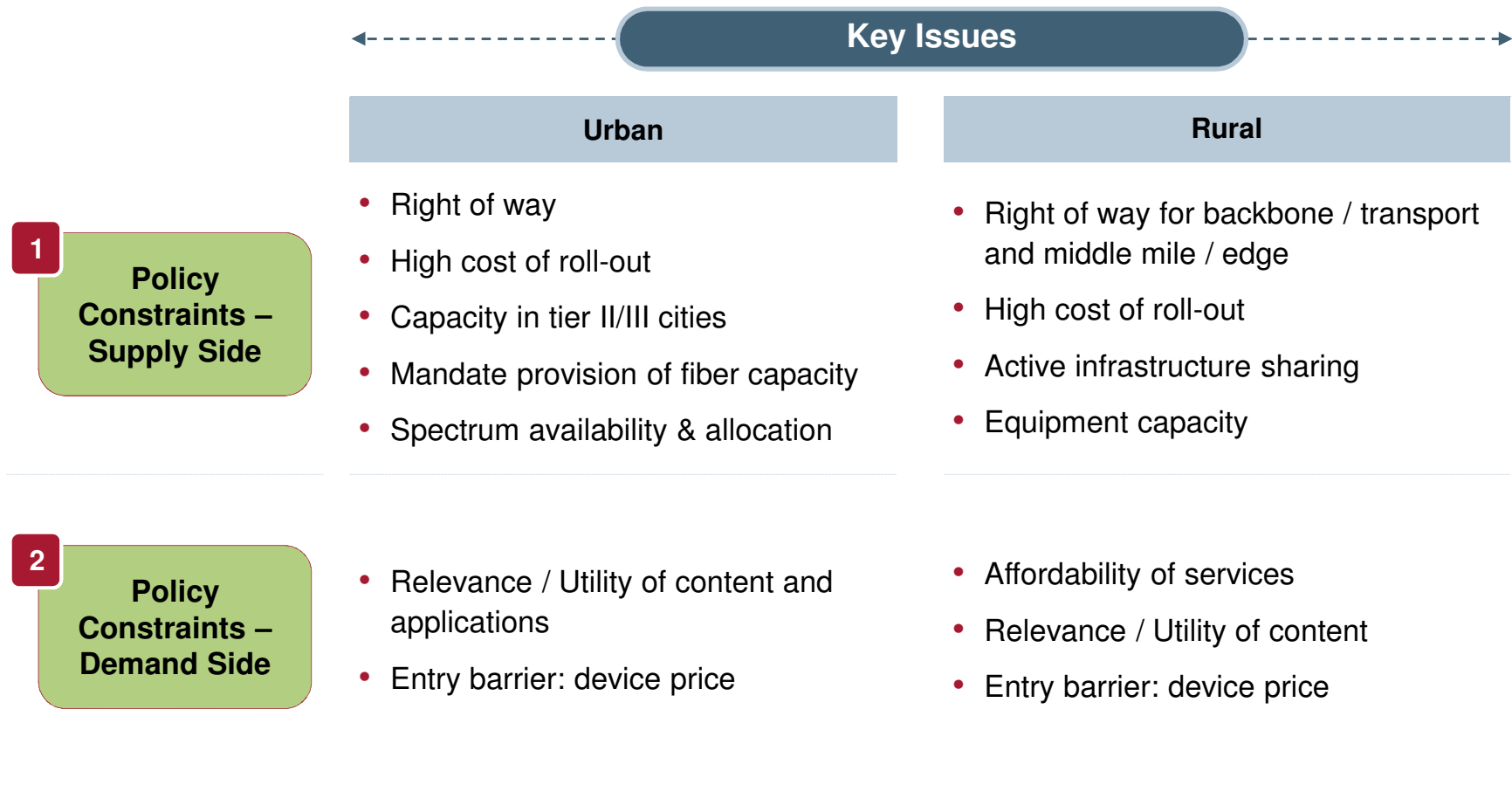
Frequency Bands and Key Issues

3.3GHz	Existing Allocation and Availability
2.5GHz	Future Roadmap ¹ / Satellite Interference
2.3GHz	Capacity Constraint ²
2.1GHz	Capacity Constraint / Future Roadmap
1800MHz	Capacity Constraint
900MHz	Capacity Constraint
800MHz	Capacity Constraint
700 MHz	Future Roadmap
450MHz	Future Roadmap

Digital Dividend Spectrum

- Future Roadmap: Future allocation of various frequency bands is not clear making it difficult for carriers to plan network rollout and establish their technology roadmap for services
- Digital Dividend: Lower frequency bands such as 450 MHz and 700 MHz are best suited for providing rural broadband services and can substantially reduce roll-out cost
- Existing Allocation & Availability: Better coordination between different Govt departments tracking where / how much spectrum is being used, and thus support re-farming to increase total capacity available and allow more efficient allocations
- In addition, there are other policy constraints limiting broadband adoption such as Right of way, active infrastructure sharing and mandate provision of fiber capacity

In addition, supply and demand side policy constraints exist in both urban and rural areas

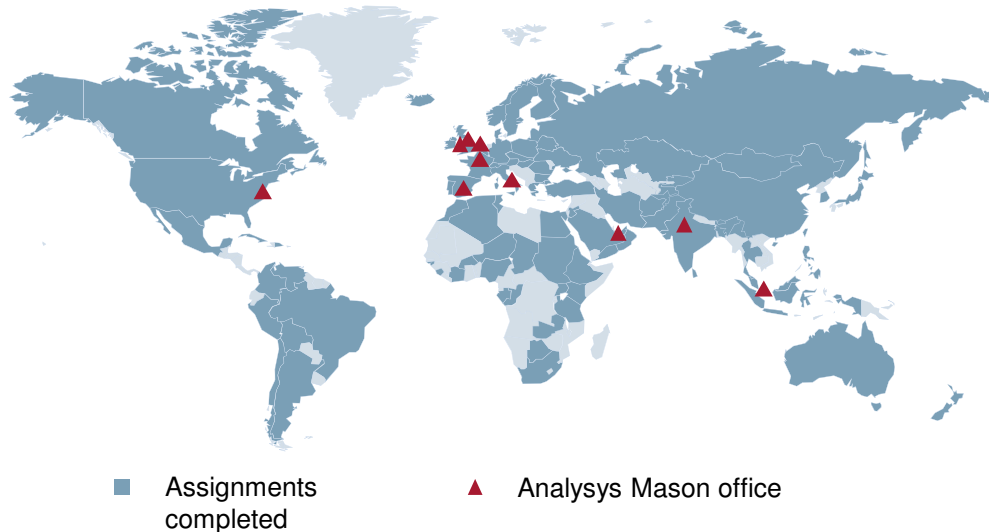


Agenda

Appendix

Analysys Mason is the world's premier adviser in telecoms, IT and media

Global presence and experience



Integrated service offering



- Analysys Mason is a trusted adviser on telecoms, technology and media. Through our global presence, we deliver strategy advice, operations support and market intelligence to leading commercial and public-sector organisations in over 100 countries
- For nearly 25 years, our intellectual rigour, operational experience and insight have helped our clients resolve issues ranging from development of operator strategy, evolution of national sector regulation and execution of major financial transactions, to the deployment of public and private network infrastructure. Analysys Mason consistently delivers significant and sustainable business benefits
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