



MVNOs in LATAM

Market Outlook

May you require further info, please contact:

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INTRODUCTION

Purpose of the Document

NEREO has prepared the following document to highlight the MVNO opportunity offered by the current market and regulatory situation in some LATAM countries

NEREO



MVNO Landscape in LATAM

- We are Strategy and Investment advisors in the TMT sector
 - We have assisted clients in launching **over 30 MVNOs** in more than 15 countries
 - In Latin America:
 - We have developed the **1st Full-MVNO** in Central America
 - We have delivered projects in more than 10 countries in the region (including Brazil, Mexico, Colombia and Chile)
 - We are analyzing MVNO opportunities **all over Latin America** on a permanent base
-
- Among the quickest growing regional markets worldwide
 - Some of the MNOs have already developed wholesale offers and have **bought into the MVNO concept** as a way to compete
 - Rapidly approaching or have already passed **100% penetration** in all markets with a clear **preponderance of prepaid over postpaid**
-
- Some regulatory bodies in the region have already issued resolutions that **regulate the MVNO markets** while others are looking to do so
 - **MTRs are being reviewed** by most of the regulators in order to facilitate the arrival of new entrants
 - **Number portability** is in place (or will soon be) in all LATAM countries
 - Several MVNOs have already been launched in the region, with Chile (4 MVNOs) and Colombia (5 MVNOs) leading the regional MVNO market development

LATAM is one the regions with biggest potential in the world for a proactive development of the MVNO market

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MVNO BUSINESS ESSENTIALS

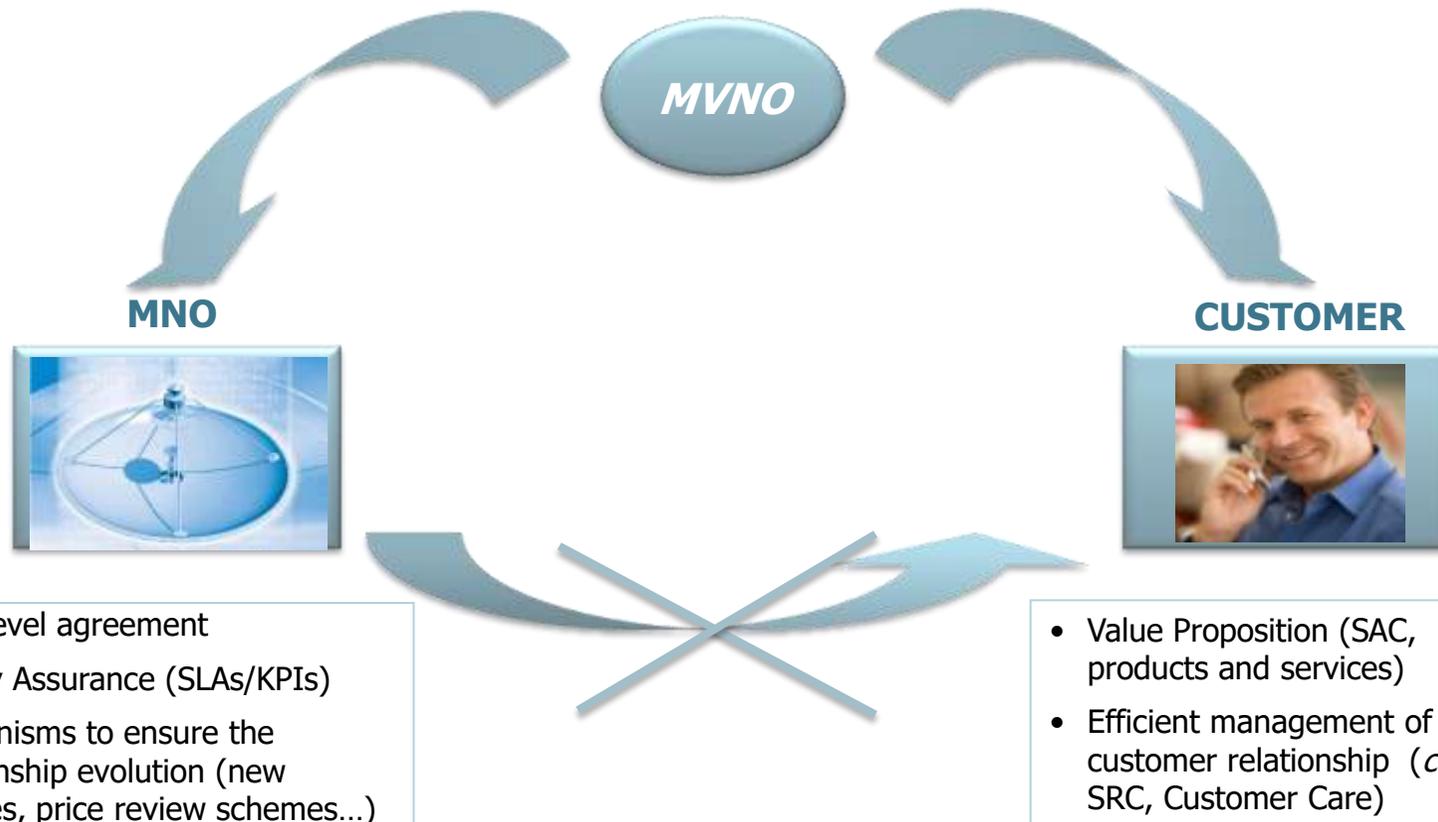
LATAM MARKETS OUTLOOK

ABOUT US

MVNO BUSINESS ESSENTIALS

MVNO business basics

A Mobile Virtual Network Operator (MVNO) provides mobile services without owning spectrum relying on the Mobile Network Operator's (MNO) network infrastructure



**Essentially, MVNO business consists in managing two key relationships:
Mobile Network Operator (MNO) and the end-user**

MVNO BUSINESS ESSENTIALS

Market entry strategies

The new MVNOs must leverage on their available key assets to develop their entry strategies and efficiently target their market segments



MVNO BUSINESS ESSENTIALS

Key Assets

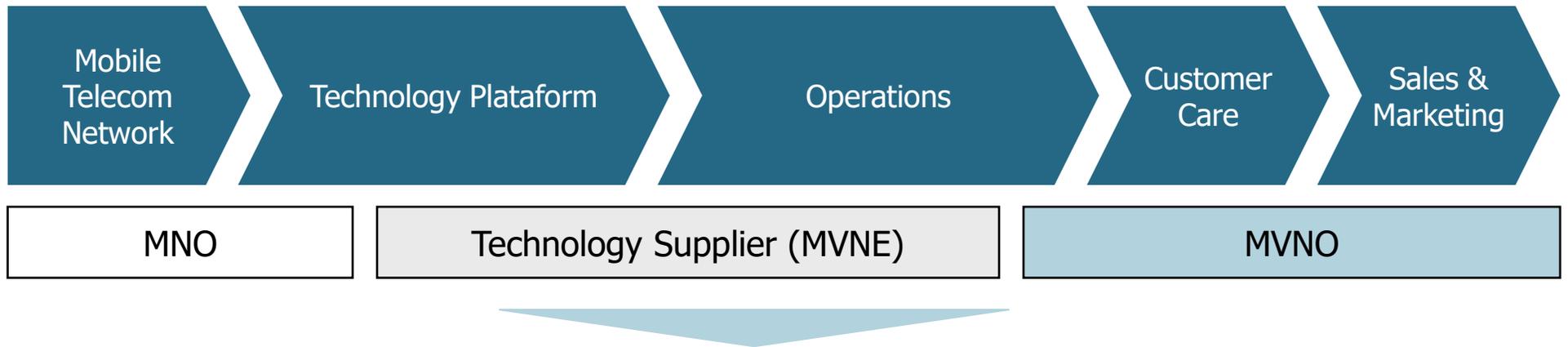
MVNOs need access to certain assets that can use to more efficiently target their market segment than traditional MNOs to add value to the chain

Key assets	Description	Launched MVNOs
Segmentation	<ul style="list-style-type: none"> Ability to target a specific market segment 	 
Distribution	<ul style="list-style-type: none"> Control or access to high capillarity distribution channels 	 
Customer Base	<ul style="list-style-type: none"> Own a wide and stable customer base on which cross-selling strategies can be applied 	 
Branding	<ul style="list-style-type: none"> Leverage on a brand recognition and prestige 	 
Efficiency	<ul style="list-style-type: none"> Develop an optimal operational structure 	 
Applications / Contents	<ul style="list-style-type: none"> Access to appealing contents and innovative applications 	 
Customer Management	<ul style="list-style-type: none"> Deliver a unique customer experience 	 

MVNO BUSINESS ESSENTIALS

What is an MVNO?

A Mobile Virtual Network Operator (MVNO) is a mobile telecommunications service provider that has not its own radio access



An MVNO needs to possess or develop the assets and key competencies related to the Sales & Marketing functions, either within its existing customer base or targeting a specific market segment

By partnering with the right technology partner, the MVNO are able to concentrate its efforts in differentiating themselves in the marketing and commercial activities

MVNO BUSINESS ESSENTIALS

MVNO Models

The relation between an MVNO and its HNO can be based on different operational models

	Functionalities	Branded Reseller	Service Provider	Enhanced SP	Full MVNO
Network Infrastructure & Service Provisioning	Radio Access Network	Not delivered by MVNO	Not delivered by MVNO	Not delivered by MVNO	Not delivered by MVNO
	Numbering Resources	Not delivered by MVNO	Not delivered by MVNO	Not delivered by MVNO	Delivered by MVNO
	Switching Systems	Not delivered by MVNO	Not delivered by MVNO	Not delivered by MVNO	Delivered by MVNO
	Value Added Services	Not delivered by MVNO	Not delivered by MVNO	Might be delivered by MVNO	Delivered by MVNO
Contents & Applications	IN Platform	Not delivered by MVNO	Not delivered by MVNO	Might be delivered by MVNO	Delivered by MVNO
	SIM Programming	Not delivered by MVNO	Might be delivered by MVNO	Delivered by MVNO	Delivered by MVNO
Operations	Billing	Not delivered by MVNO	Might be delivered by MVNO	Delivered by MVNO	Delivered by MVNO
	Pricing	Not delivered by MVNO	Might be delivered by MVNO	Delivered by MVNO	Delivered by MVNO
	Provisioning	Not delivered by MVNO	Delivered by MVNO	Delivered by MVNO	Delivered by MVNO
Customer Care & Activation	Customer Care	Might be delivered by MVNO	Delivered by MVNO	Delivered by MVNO	Delivered by MVNO
	Branding / Packaging	Delivered by MVNO	Delivered by MVNO	Delivered by MVNO	Delivered by MVNO
Branding, Marketing & Sales	Distribution	Delivered by MVNO	Delivered by MVNO	Delivered by MVNO	Delivered by MVNO

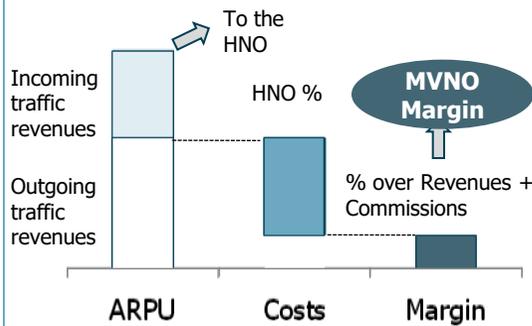
Delivered by MVNO
 Might be delivered by MVNO
 Not delivered by MVNO

MVNO BUSINESS ESSENTIALS

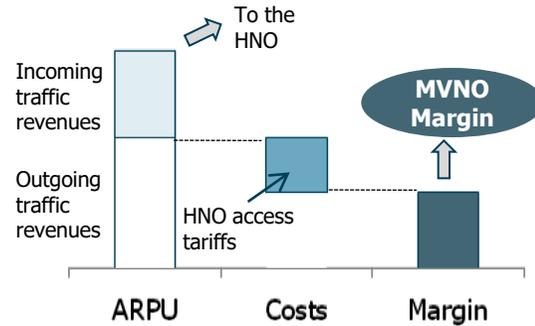
Revenue Models

An MNO wholesale strategy must be strongly related to the MVNO business models and their specific economic implications

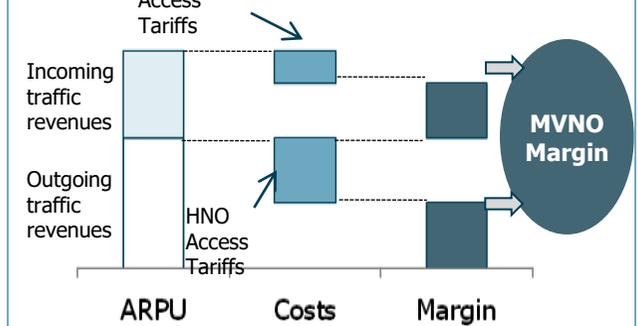
Branded Reseller



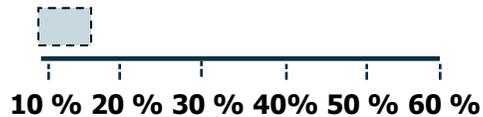
Service Provider



Full-MVNO

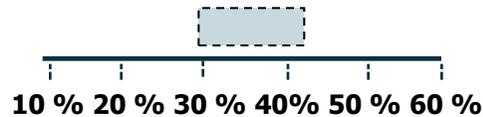


MVNO Margin (Retail Minus)



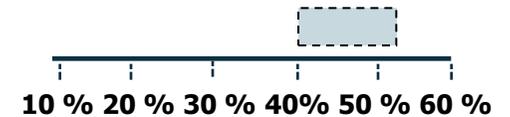
- The MVNO does not control retail prices
- The MVNO receives a % over the customer generated revenues (outgoing traffic)
- The MVNO might receive commission for subscriber acquisition or brand licensing
- The HNO receives all incoming revenues

MVNO Margin (Retail Minus)



- The MVNO controls retail prices
- The wholesale prices to access the HNO network depend on the call destination:
 - On/Off Net calls
 - National / International traffic
- The HNO receives all incoming revenues

MVNO Margin (Retail Minus)



- The MVNO controls retail prices
- The MVNO pays the HNO a wholesale radio access price that apply both to incoming and outgoing traffic
- The MVNO receives all incoming revenues

The margin captured by the MVNO depends heavily on the selected operational model

MVNO BUSINESS ESSENTIALS

MNO vs MVNO Business Models

The business approach and financial metrics between MVNOS and more traditional operator are very different

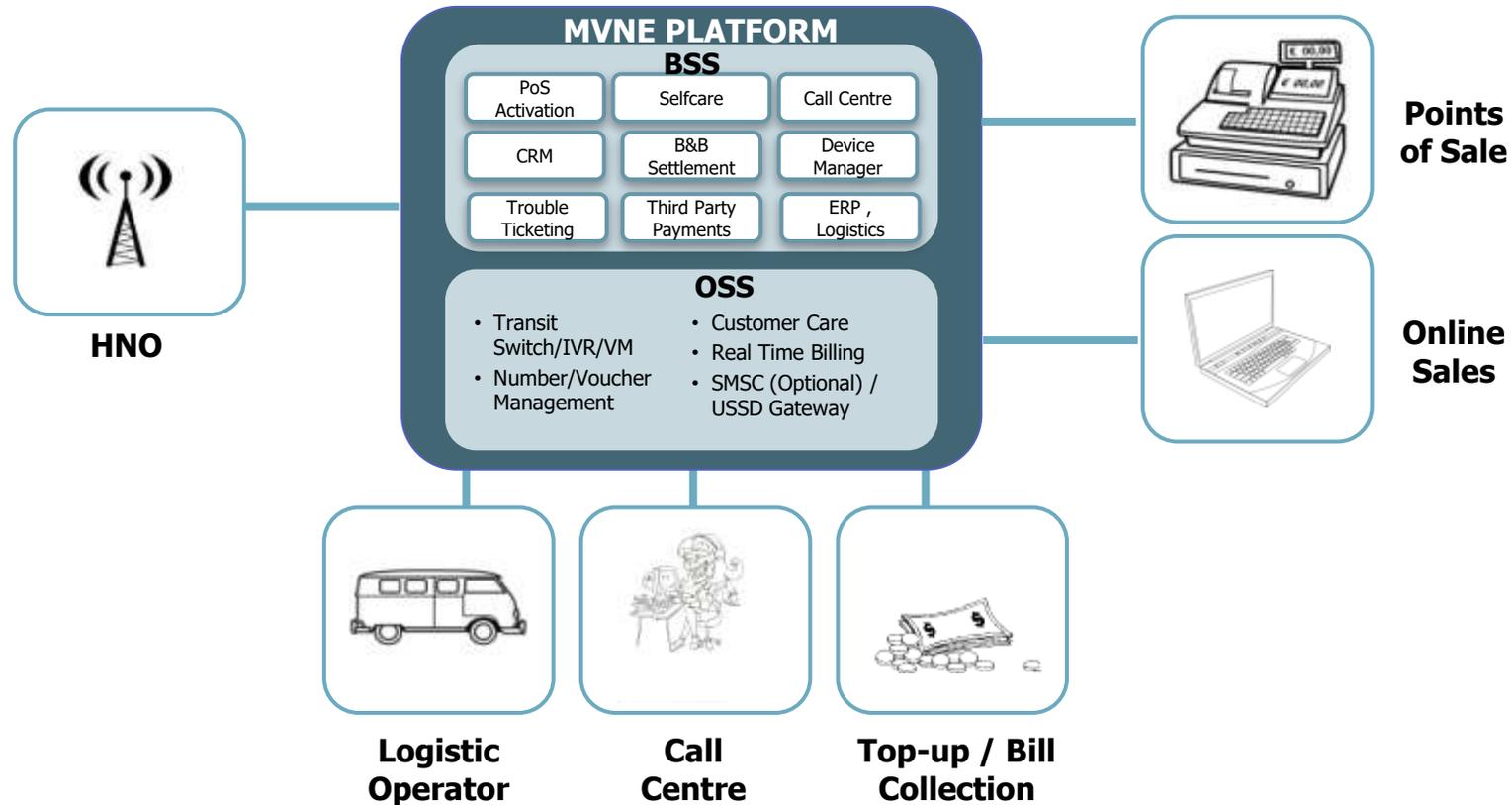
	MNO MODEL	MVNO MODEL
Radio Spectrum Licenses	Own	Third-Party license
Mobile Network	Own	Reseller
Cost Structure	Fixed (Network)	Variable (resell wholesale)
Value Proposition	Mass Market: Adapt proposition to different segments	Niche Approach: Segmentation differentiation
CAPEX	High	Low
OPEX (% of Revenues)	Medium	High
Risk (regulatory)	Medium/ High	Low, easy in & out

The MVNO model faces a lower risk than an MNO, with much smaller capital investment and fixed costs

MVNO BUSINESS ESSENTIALS

MVNO Ecosystem

An MVNO should partner with different companies to cover all the functionalities required to deliver the service



While technology will not be differential for an MVNO, selecting the right MVNE platform partner can help the MVNO to achieve the desired goals

MVNO BUSINESS ESSENTIALS

Industry trends

Some of the industry trends are common both for MNOs and MVNOs whereas other are specific to MVNOs

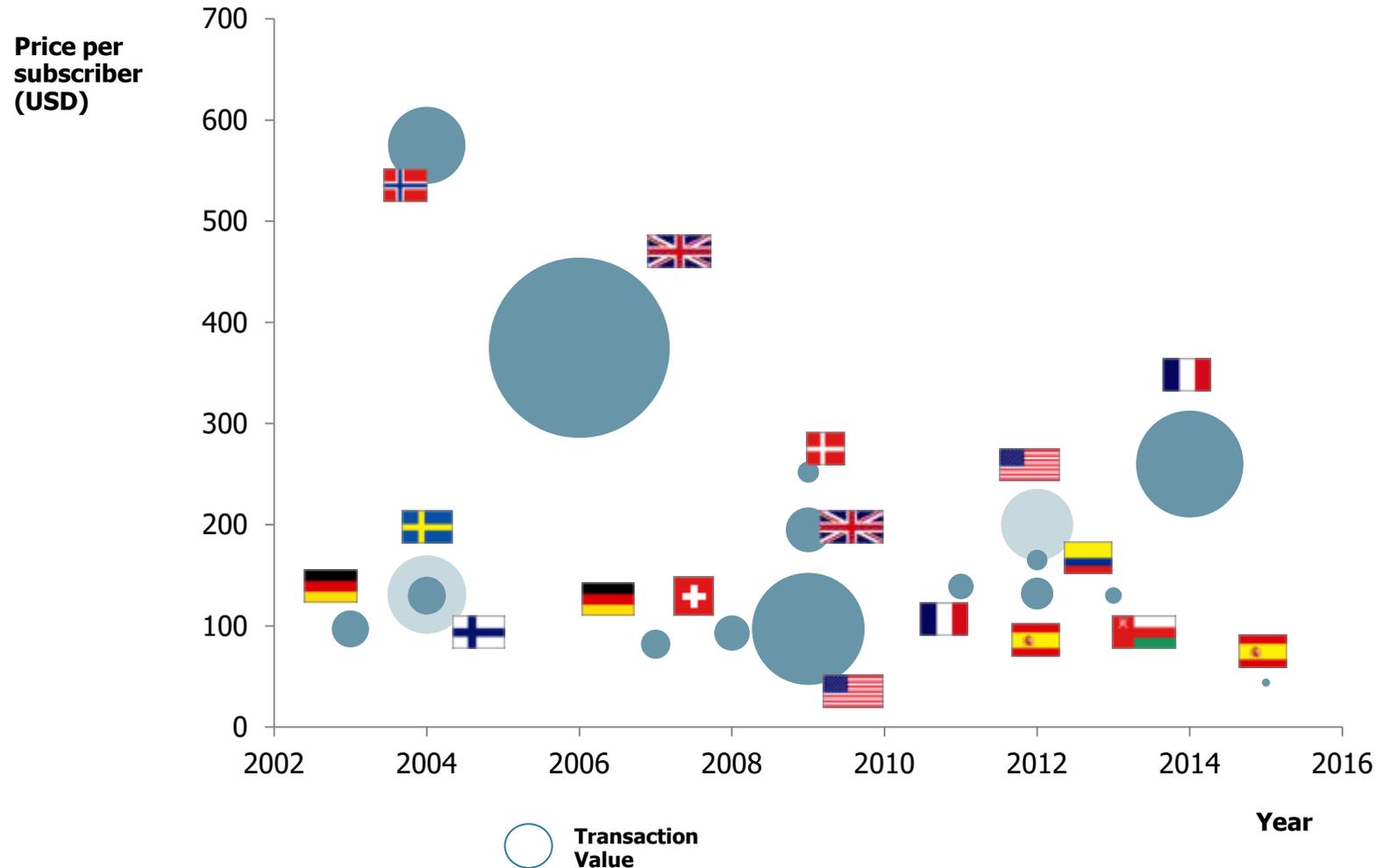
Strategy	Focus on...	Example MVNOs
MNOs & MVNOs	<ul style="list-style-type: none"> • Data Usage.- As data becomes more and more relevant, some MVNOs have launched value propositions that mostly leverage on data usage and smartphones 	
	<ul style="list-style-type: none"> • M2M.- M2M MVNOs focus on multi-network connectivity and device control 	
MVNOs only	<ul style="list-style-type: none"> • Community-based service delivery.- Certain MVNOs are leveraging on certain services being delivered directly by customers 	
	<ul style="list-style-type: none"> • Social networks.- MVNOs built around the membership to a community leverage on social aspirations 	

Innovative MVNO business models are being developed around data and the way customers relate with themselves and the MVNO

MVNO BUSINESS ESSENTIALS

Exit strategies

Multiple transactions involving MVNO acquisitions have taken place in the last years



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MVNO BUSINESS ESSENTIALS

LATAM MARKETS OUTLOOK

Regional Outlook

Chile

Colombia

Mexico

Brazil

ABOUT US

REGIONAL OUTLOOK

MVNOs in the World

MVNOs have radically changed the telecom sector in different regions of the World



North America
>50 MVNOs

2nd wave of MVNOs led by no-frills retailers

Europe
>300 MVNOs
Dynamic MVNO environment



Asia
10 MVNOs

Developed markets with successful operations in several countries



Latin America
>10 MVNOs

First MVNOs launched in 2011 in Brazil and Costa Rica, while new ones have been recently appearing in Mexico, Colombia and Chile

Africa
3 MVNOs

Some agreements are being negotiated



Middle East
5 MVNOs

Existing MVNOs in Saudi Arabia, Oman & Jordan



Australia
>30 MVNOs

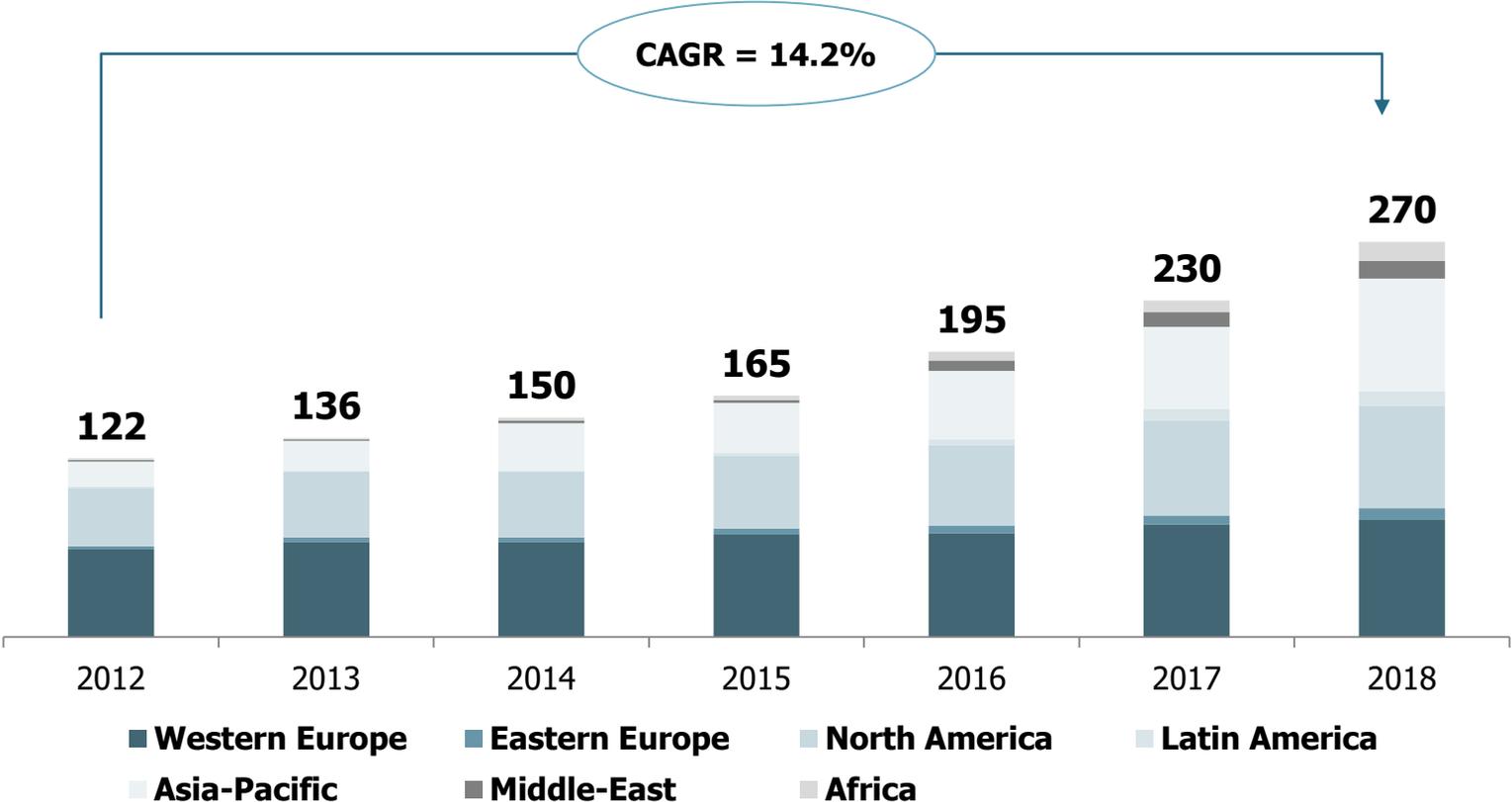
Developed market in Australia and New Zealand

The MVNO business has evolved differently in several regions of the world

REGIONAL OUTLOOK

Regional forecasted evolution

The MVNO world market is forecasted to reach 270 million subscribers by 2018



While Western European and North American MVNO markets have already reached maturity, all other markets will show significant growth in the next years

REGIONAL OUTLOOK

MVNOs in LATAM

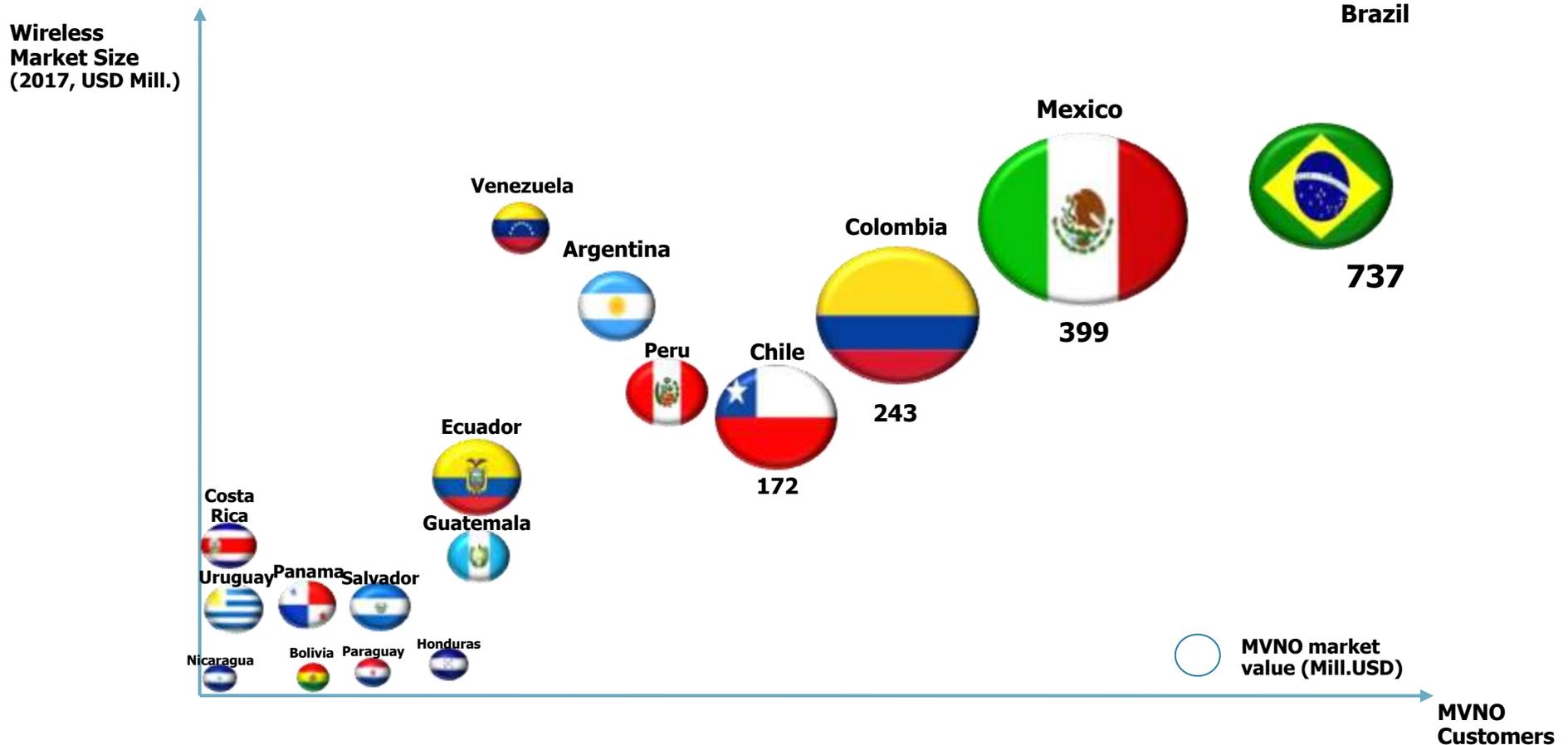
The first MVNOs were launched in the region at start of this decade, while a full market development in the main markets of the region is expected for the coming years



Chile and Colombia are the countries where the MVNO market has developed the most

REGIONAL OUTLOOK

The MVNO market can reach a value of near USD 2 billion in year 2017, with Brazil, Mexico, Colombia and Chile as the markets with the biggest potential value



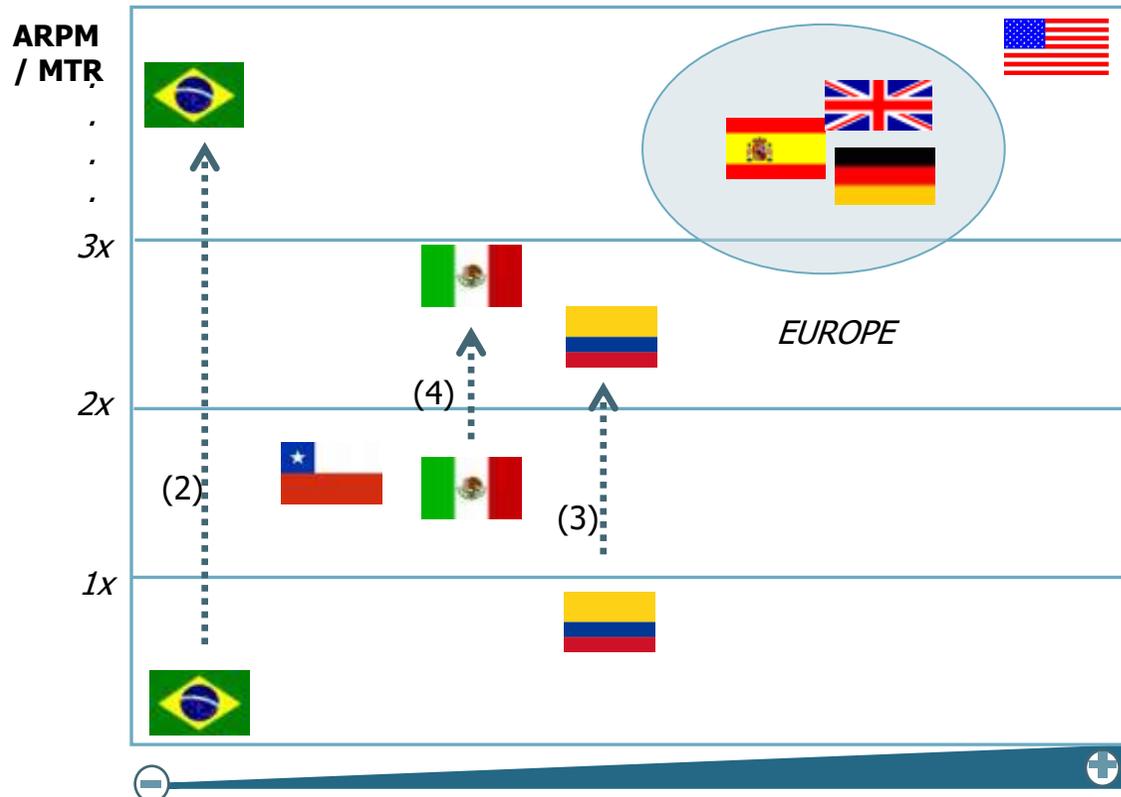
The four main countries (Brazil, Mexico, Colombia and Chile) will account for circa 75% of the whole MVNO market in the region

REGIONAL OUTLOOK

ARPM vs MTR

MTRs are being reviewed in LATAM's main countries; High interconnection costs makes more difficult the arrival of new competitors (MVNOs)

ARPM⁽¹⁾ vs MTRS



MVNO market development

- (1) Average Revenue per Minute (market average)
- (2) Assuming that Bill&Keep regulation will be in place for "Autorizados"
- (3) Assymetric MTR set for Claro
- (4) Assymetric MTR set for Telcel

Rationale

- One of the key challenges that MVNOs have to face is the **creation of a customer base**
- This issue is more relevant at the start-up stage, where **most of the calls will be off-net**, and an interconnection cost will be held
- In those markets where MVNOs have achieved a higher market share (Europe), the **ARPM/MTR ratio** is around 2x-3x. This is even more evident in the US, where Bill&Keep charging model applies
- Not being able to price off-net calls reasonably (due to **high MTR**) may cause the MVNOs not to be competitive in that market
- This fact is particularly important in LATAM, where high MTRs have made MNOs to put a **strong price pressure over on-net calls**
- This sets a **high barrier** for MNO customers to migrate to an MVNO

REGIONAL OUTLOOK

Case Study: Chile

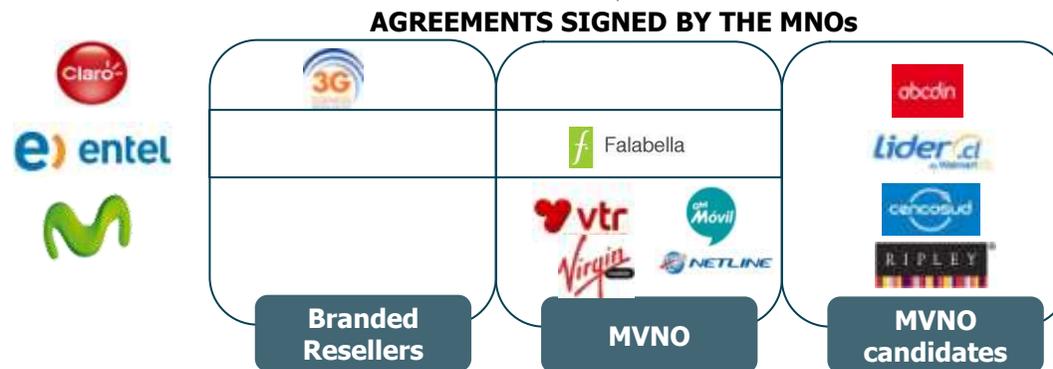


Chile has become one of the most competitive markets due to the arrival of new MNOs and the development of MVNOs

Wireless Market (2014)	MNO	M/S	EBITDA	ARPU	MVNOs
		38%	34%	US\$10.9	
		23%	5%	US\$9,7	
		36%	29%	US\$12.3	
	Others ¹	3%	NA	NA	

- **Movistar** has been the first Chilean MNO to sign an MVNO agreement. It has already signed 3 and is negotiating with other candidates
- **Entel** signed an agreement with Falabella in 4Q'12 to become its MNO and is currently negotiating with several candidates
- **Claro (América Móvil)** has not yet shown a big interest in the MVNO market; it has only launched a Branded Reseller targeting the evangelist community
- The MVNO market is very dynamic: Several players have shown interest in this market, with **retailers and fixed line operators** being the main candidates

1) Includes Nextel and MVNOs



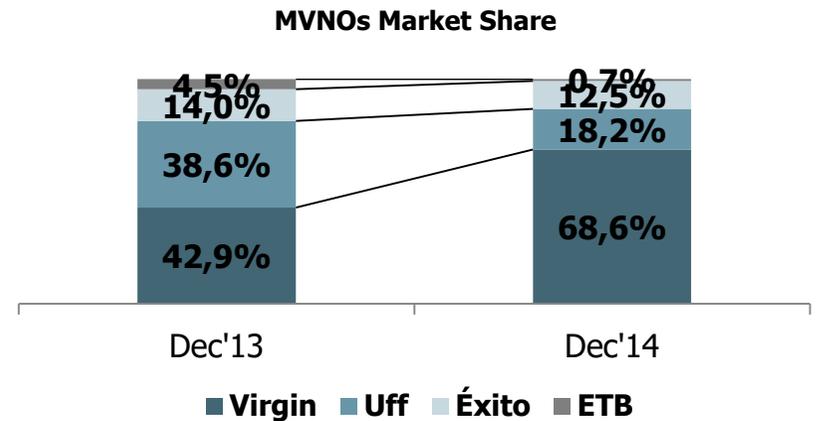
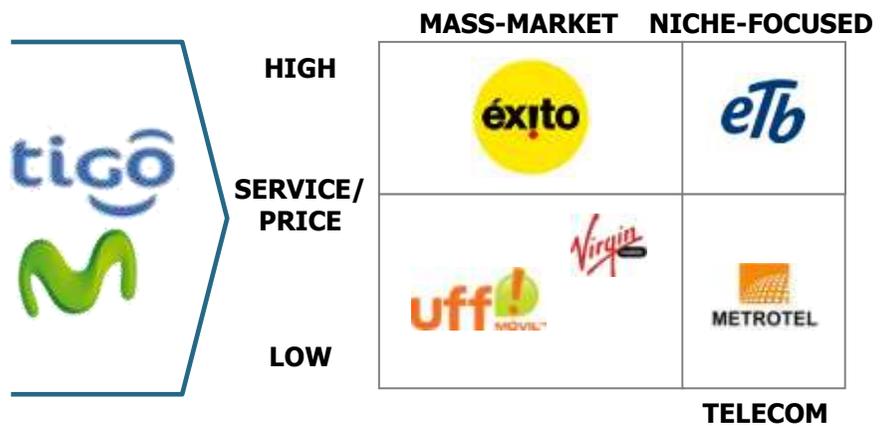
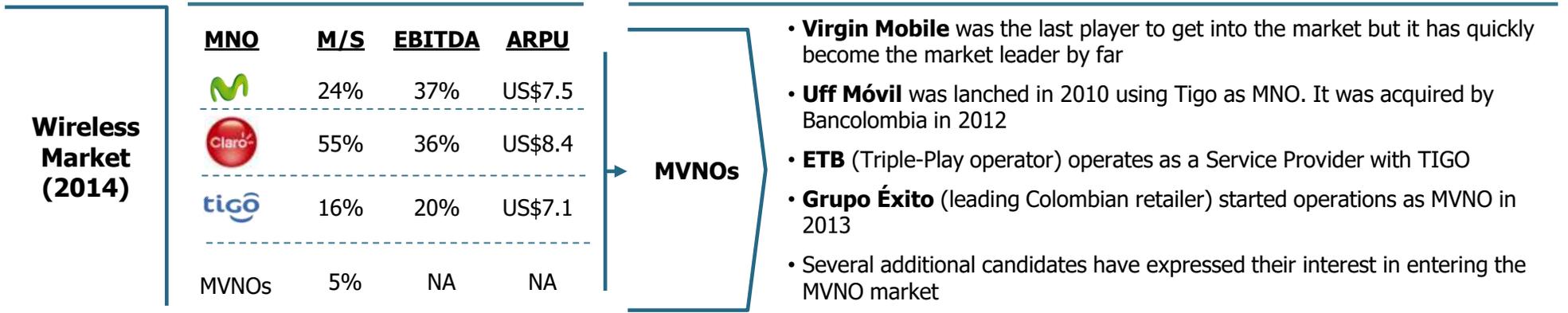
Market size and excess of offer can lead to retail prices erosion in the Chilean market

REGIONAL OUTLOOK

Case Study: Colombia



Tigo has been the first operator to enter the MVNO market and it has launched a wholesale strategy, and that has enabled them to develop different business models



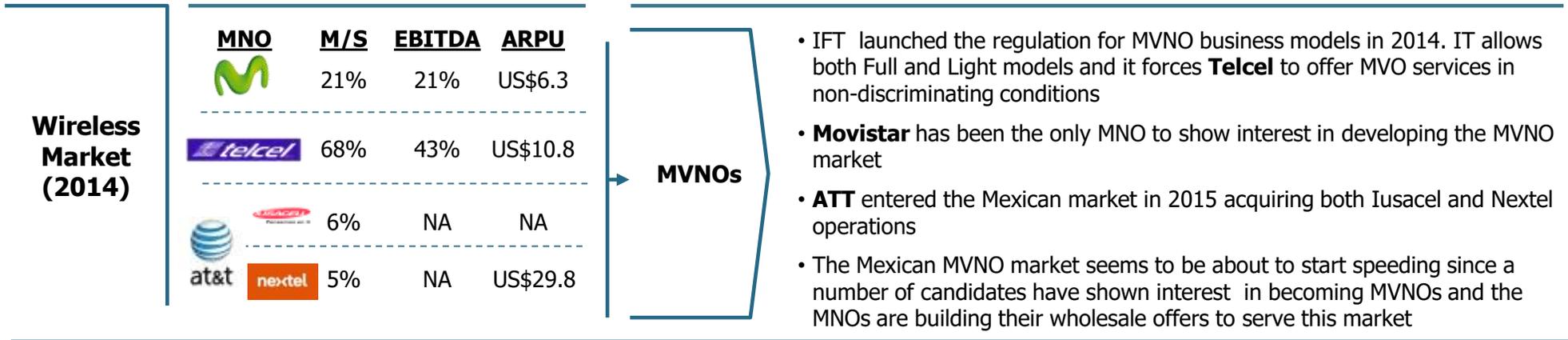
Tigo wholesale strategy helps them compensate the weaknesses of their retail commercial offer

REGIONAL OUTLOOK

Case Study: Mexico



Mexico shows one of the biggest market share concentration in the region but this will likely change with the arrival of MVNOs



Market size and regulation changes will make Mexican market one of the most attractive in the region

REGIONAL OUTLOOK

Case Study: Brazil

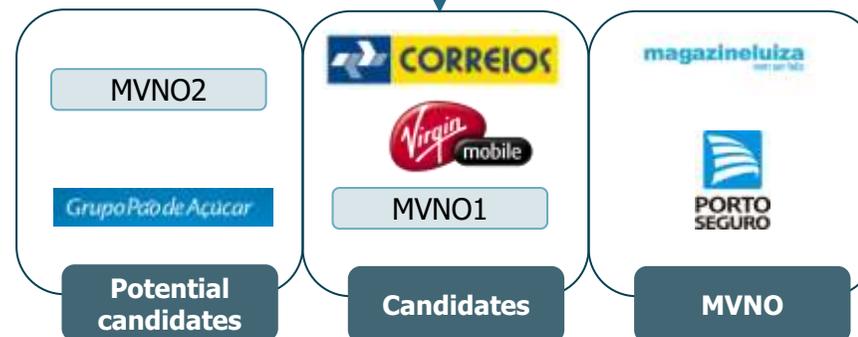


Brazil is the biggest wireless market in LATAM, has almost reached a 140% penetration rate

Wireless Market (2014)	Operator	M/S	EBITDA	ARPU	MVNOs
		29%	32%	US\$9.0	
		26%	25%	US\$5.6	
		27%	30%	US\$6.8	
		18%	25%	NA	
Others ¹	2%	NA	NA		

- **ANATEL** issued the “**Autorizado de Red Virtual**” that covers the Reseller and Branded Reseller models, while “**Credenciado de Red Virtual**” covers Service Provider and Full MVNO models in 2010
- **ANATEL** has recently established Bill& Keep interconnection system to enforce competition
- **Porto Seguro Conecta**, an M2M operation, where the insurance company uses the connectivity to control and monitor insured vehicles is the first MVNO in Brazil
- **MagazineLuiza** has launched a Branded Reseller offer over the Claro network
- Even though no additional MVNOs have started operation, some companies (like **Correios and Virgin Mobile**) have already expressed their intention to launch
- Retailers will be the most interested players in entering this market, and among them, in Brazil, **Pao de Açucar** is one of the top candidates

1) Includes Nextel and MVNOs



The Brazilian MVNO market will become the biggest in the LATAM region

REGIONAL OUTLOOK

MVNEs in LATAM

Several MVNEs are already working in the region and offering different business models

	Single-country agreements		Multi-country agreements	
	Provider	Client	Provider	Client
MNO provides MVNE service		 		
MVNE provides service to MNO		 Falabella		
MVNE provides service to MVNO	 			
		 		
	CENET*			
				

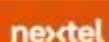
There is a wide choice of MVNEs and models to work with in the region

* CENET only provides BSS

REGIONAL OUTLOOK

Developed / Allowed MVNO Business Models

The chosen MVNO business model should depend on the market entry strategy and value proposition that the MVNO wants to develop

Deployed infrastructure requirements	+		-		
	Branded Reseller	Service Provider	Enhanced Service Provider	Full MVNO	MNO
	  	  	  		 
		  			 
	 	   			 
					    
					  

REGIONAL OUTLOOK

Challenges & Opportunities for MVNOs in LATAM

MVNO candidates will have to face important challenges to be successful

- **Low ARPUs** in the region (<\$12) do not leave much space for new product propositions
- **High Mobile Termination Rates** hinder the entry of new players, since they lack the network effect of already established players and sets high entry barriers
- **MNO operational readiness** is yet to be developed in certain countries and MNOs
- Access to **distribution networks** will be fundamental

Challenges

- **MVNO competition is still low** due to the recent opening of the market
- Regulators see MVNOs as a catalyst to **increase market competition**
- **Number portability** is in place in all markets
- Certain **MNOs have showed their willingness** to develop wholesale offers to develop the MVNO market
- **Data Usage and smartphone penetration** are growing quickly, creating options for financing handset purchasing

Opportunities

LATAM market conditions offer unique opportunities for those candidates being the first movers in the market

REGIONAL OUTLOOK

Opportunities & Trends (I)

Different opportunities and value propositions are being developed in the LATAM region

	RATIONAL	OPPORTUNITIES
Retailers	<ul style="list-style-type: none"> In countries where banks are not available to all population, retailers have developed a credit relationship with their customers that enables to: <ul style="list-style-type: none"> Leverage on knowledge about customer to build offer Increase financial services Built customer loyalty Retailers have become the main distribution channel for Mobile Telecommunication Services in LATAM 	
Fixed telecom operators	<ul style="list-style-type: none"> Fixed telecom operators have entered the MVNO business worldwide. Having this service in their portfolio enables them to: <ul style="list-style-type: none"> Create convergent offers Build bundled offer Attack other operators customers base without facing cannibalization risk Create defensive strategy to defend from other operators 	
Financial institutions	<ul style="list-style-type: none"> Some financial institutions are considering the set up of an MVNO to reach the following goals: <ul style="list-style-type: none"> Increase customer loyalty Promote mobile banking Raise financial services penetration through mobile services among the lowest socio-economic groups 	

REGIONAL OUTLOOK

Opportunities & Trends (II)

Different opportunities and value propositions are being developed in the LATAM region

RATIONAL

OPPORTUNITIES

Socio-demographics

- MNOs do not have the branding, positioning, image or channels to tackle certain market niches
- Some MVNOs can benefit from using specific brands to set very focused positioning and target these niches
- Specific demographic niches (such as football clubs' fans, religious communities or ethnic communities) can be targeted developing laser focused value propositions



Ethnic model

- Develop value propositions around ethnic communities living in foreign countries
- These MVNOs are typically built around:
 - Reduced tariffs for international calls
 - Double IMSI
 - Money transfers and prepaid credit top-ups
- Among the largest communities that can be targeted is that of Peruvians living in Chile
- Other standard model that can be developed is the "Reverse Ethnical Model" which is based on an MNO developing an MVNO in a foreign country to exploit brand, image and community affinity developed in its home country



REGIONAL OUTLOOK

Opportunities & Trends (III)

As the MVNO market reaches maturity new figures, like the MVNAs, will appear within the MVNO landscape

	RATIONAL	OPPORTUNITIES
MVNA	<ul style="list-style-type: none"> • Brazil.- Brazilian regulation allows MVNAs as “Autorizado de Red Virtual” • Colombia.- Even though MVNAs are allowed by Colombian regulation none exists at present. We expect the appearance of MVNAs in Colombia in the near future. • Chile.- Chilean regulation allows MVNAs and Netline is already operating in the country • México.- The MVNO market is still at its startline and we do not foresee the launch of MVNAs in the near future 	
International MVNOs	<ul style="list-style-type: none"> • Companies that have already launched MVNO operations in other countries are among the candidates to enter new markets to leverage on its sector knowledge • To overcome the lack of specific market knowledge, these players will likely try to build consortiums with local partners 	
M2M	<ul style="list-style-type: none"> • MVNOs cost structure and flexibility brings additional benefits such as improved coverage (through multi-network agreements) and device management possibilities that makes them ideal to develop M2M business such as: <ul style="list-style-type: none"> • Sales force automation • POS terminal • Fleet management 	

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MVNO BUSINESS ESSENTIALS

LATAM MARKETS OUTLOOK

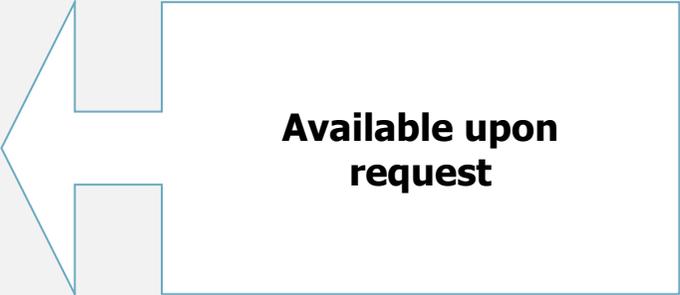
Regional Outlook

Chile

Colombia

Mexico

Brazil



**Available upon
request**

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MVNO BUSINESS ESSENTIALS

LATAM MARKETS OUTLOOK

ABOUT US

ACERCA DE NEREO

Nereo & Nereo Green Capital

NEREO ofrece soluciones practicas y efectivas, desarrolladas para alcanzar las metas de nuestros clientes



¿Quién es NEREO?

NEREO ha sido creado por un grupo de profesionales con amplia experiencia en el área de Energía y Telecomunicaciones, con sólida formación en Marketing, Finanzas, Regulación, Operaciones y Estrategia

Actividad

Se centra en desarrollo de negocio, gestión de inversiones y estrategia, en las áreas de energía y telecomunicaciones, con orientación a los resultados

Objetivo

Desarrollar ventajas competitivas sostenibles para nuestros clientes, a fin de alcanzar mayor rentabilidad

Enfoque

Desde el inicio Nereo ha tenido un enfoque internacional lo cual le ha permitido ampliar sus horizontes para incluir diversos rincones del mundo

ACERCA DE NEREO

Credenciales

NEREO tiene una amplia experiencia, habiendo trabajado para las principales empresas de los siguientes sectores:

SECTOR ENERGÍA



SECTOR TELECOM



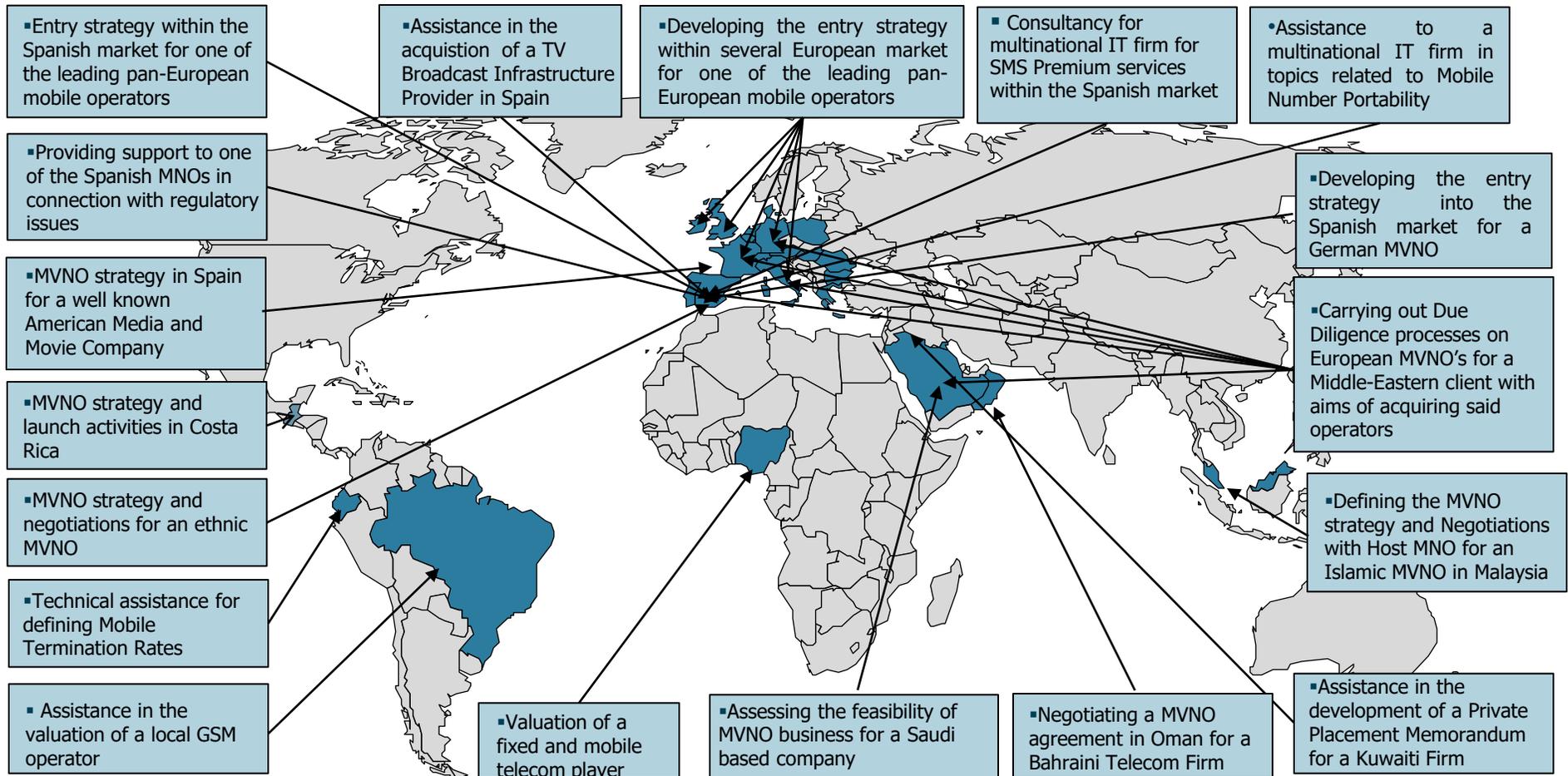
OTROS SECTORES



CREDENTIALS

Telecom Practice

NEREO has an extensive experience in the mobile telecoms space worldwide....

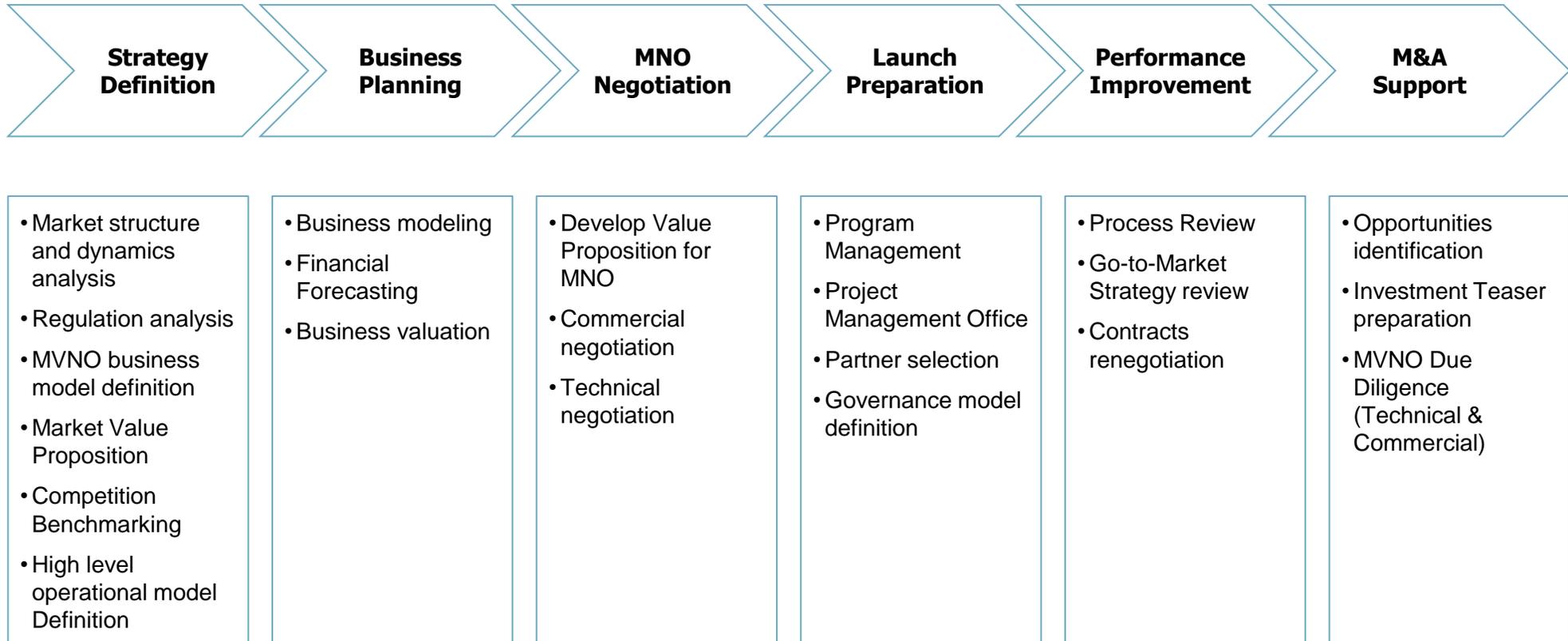


NON EXHAUSTIVE

ABOUT US

Our Services – for MVNOs

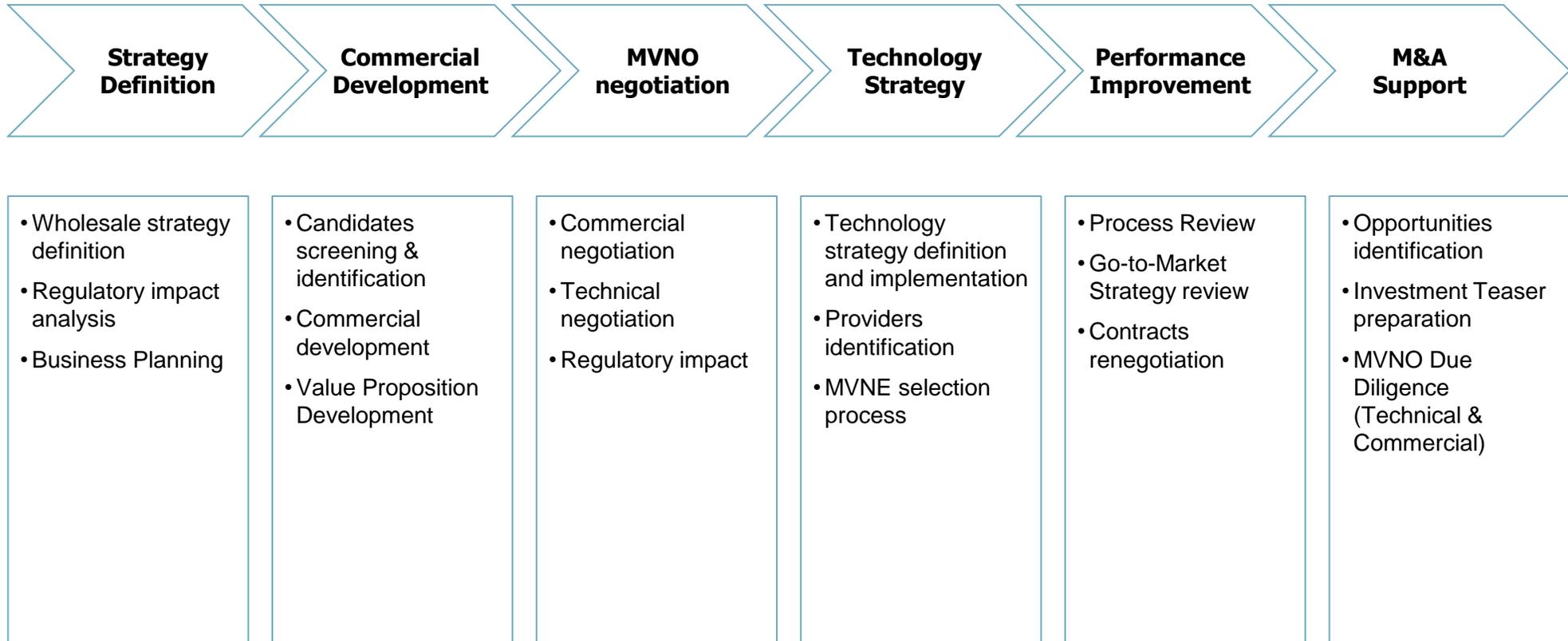
NEREO helps MVNOs all the way from Business Evaluation to Go-live milestone and to execute their exit strategies



ABOUT US

Our Services – for MNOs

NEREO helps the MNOs to define and implement successful wholesale strategies to target the MVNO market



ACERCA DE NEREO

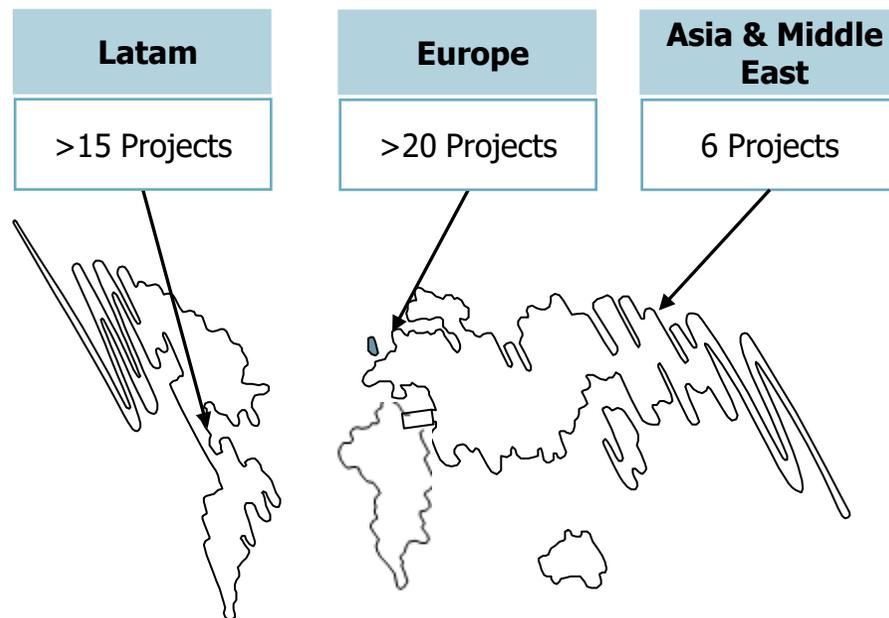
Experiencia en MVNOs (I)

En el ámbito Telecom, NEREO dispone de una amplia experiencia internacional MVNOs, habiendo realizado proyectos en más de 15 países ...

Experiencia en MVNOs

		PROYECTOS DESARROLLADOS
Modelo Funcional de MVNO	Branded Reseller	>10
	Service Provider	>10
	Full-MVNO	>20

Alcance geográfico



La especialización de NEREO en el ámbito de los MVNOs nos ha permitido desarrollar más de 40 proyectos en los últimos 4 años

NEREO

www.nereomc.com

May you require further info, please contact:

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MVNO

Glossary

- **ANATEL:** (Agencia Nacional de Telecomunicações) Brazilian telecom regulatory body
- **ARPU:** (Average Revenue Per User) revenues generated over the last twelve months divided by the weighted average number of customers over the same period.
- **Call Center:** Department of a company that offers operator-supported voice services. A large number of operators handle *inbound calls* via a hotline.
- **Churn rate:** Proportion of or subscribers who leave a supplier during a given time period.
- **COFETEL:** (Comisión Federal de Telecomunicaciones) Mexican telecom regulatory body.
- **CRC:** (Comisión de Regulación de Comunicaciones) Colombian telecom regulatory body.
- **GPRS:** (General Packet Radio Service) mobile data service
- **GSM, UMTS:** Different mobile technologies
- **HNO:** (Host Network Operator) MNO that provides services to an MVNO
- **IM :**(Instant Messaging) for example Messenger.
- **LBS:** (Location Based Services) service which uses knowledge provided about where a user is located in order to deliver information relevant to the user's position.
- **MNO:** (Mobile Network Operator) Telephone company that provides services for mobile phone subscribers. Examples are Vodafone, Orange.
- **MOU:** (Minutes Of Use) minutes used by a user or trafficked between networks.
- **MTR:** (Mobile Termination Rate) fees mobile phone companies charge other carriers to terminate calls on their networks.
- **MVNA** (Movil Virtual Network Aggregator) is a company that provides the services of an MVNE and the HNO agreement
- **MVNE:** (Mobile Virtual Network Enabler) is a company that provides services to MVNOs, such as billing, network element provisioning, administration, operations.
- **MVNO:** (Mobile Virtual Network Operator) An organization which provides mobile telephony services to its customers, but does not have allocation of spectrum.
- **SAC:** (Subscriber Acquisition Cost) Average cost of signing up a new customer. Usually handset subsidies and marketing expenditures are included here.
- **SIM:** (Subscriber Identity Module) A small smart card type device that has details of the mobile subscriber including public telephone number and the numbers required by the network to recognize and authenticate the subscriber.
- **Subtel:** (Subsecretaría de Telecomunicaciones del Gobierno de Chile) Chilean telecom regulatory body.
- **Telemarketing:** Telephone sales where potential customers are contacted via outbound calls
- **USSD:** (Unstructured Supplementary Service Data) is a protocol used by GSM cellular telephones to communicate with the service provider's computers. USSD have many different uses as for WAP browsing, prepaid callback service, mobile-money services, location-based content services or menu-based information services among others.