

# THE FIVE

09  
2015

# ASIAN TIGERS

A LOOK AT WHAT THEY HAVE TO SAY ABOUT SURVIVAL AND INNOVATION

## THE NEW ASIAN CARRIERS

The ultimate  
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VOLUME 1

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# SURVIVAL OF THE FITTEST

We are at a point in the history of the international carrier world where we need to ask ourselves the serious questions: Is there still a need for thousands or even hundreds of carriers in a world where high quality, fast paced innovation and continued pressure on price and margin is becoming the name of the game? Are we reaching a point in our industry where carriers will need to be put on the endangered species list?

The evolution towards IP and LTE, and the high quality, high bandwidth services it enables, is changing the laws of the jungle. Lowest price, average quality voice termination is not good enough anymore, and these requirements were what the carrier world was built to deliver. Multiple hops and complex traffic routing models was what the service providers needed in a world where quality was a good-to-have and not necessarily a must-have.

But now that quality is back on the agenda to support high definition voice, high bandwidth applications, content and video, global mobile groups are gearing up to exchange traffic directly or at least use a high quality/secure IPX provider as an alternative. So the era of the carrier middleman is most probably at an end.

But all is not lost for those who are ready to take the leap into a world where carriers operate above and beyond connectivity and where value is created from the ability to constantly adapt to new technologies, new requirements, new partners, new competitors and new opportunities almost in real time.

So what will this new breed of carriers look like? Well first of all, with the current morphing of voice into data, and with end-users' growing hunger for content from everywhere, most definitely, the carrier of the future will be data orientated, with an underlying global, high capacity, rapidly expandable backbone. It will also be a carrier that is able to move up the value chain from the basic support of connectivity, to playing a key role in the interworking and interoperability of different technologies, networks and players. Ultimately, it will want to position itself at the top of the food chain and support data analytics and the information and control functions of the Internet of Things era.

But only a handful of carriers will be able to succeed on this evolutionary path. Others, who do not have what it takes to reinvent themselves in that way, should focus on developing capabilities in a specific technology, a specific market or a specific segment. As, like never before in the history of our industry, the big boys will need to partner with nimble, leading edge companies, to keep up with the quickening pace of innovation. Working with the right partners will be key.

I had the opportunity to discuss the future of the carrier world with five of the industry's leaders and this portfolio of articles gives a compendium of their key messages. Let's see what they have to say.

Isabelle Paradis  
President, HOT TELECOM





# CONTENT



## OPENING YOUR MIND TO THE DIGITAL WORLD

## FAST & FURIOUS THE NEED FOR SPEED

## GIVING INNOVATION WINGS

## ABOVE AND BEYOND INTERCONNECTION

## LEAPING UP THE CARRIER VALUE CHAIN

## THE FUTURE OF INTERNATIONAL CARRIERS

NAPOLEON NAZARENO  
CEO  
PLDT

MARC HALBFINGER  
CEO  
PCCW Global

RANGU SALGAME  
CEO - Growth Ventures  
and Service Provider  
Group  
Tata Communications

ALEXANDRE PÉBEREAU  
CEO  
Orange International  
Carrier

ANDREAS HIPPE  
CEO  
Epsilon

REPORT ON  
WHAT AWAITS  
CARRIERS  
ABOVE & BEYOND  
CONNECTIVITY

Page 6

Page 10

Page 14

Page 18

Page 22

Page 26



**‘PLDT is making the digital pivot’**

# OPENING YOUR MIND TO THE DIGITAL WORLD

Napoleon Nazareno  
President and CEO - PLDT

**P**LDT is one of the most dynamic telecom groups, when it comes to launching new leading edge initiatives and services and is therefore taking the necessary steps to take the leap into the digital world. Mr. Napoleon Nazareno, CEO of PLDT, has a clear vision of where the carrier world has to evolve to in order to ensure its survival and the next phase in its evolutionary path. Here is what he sees as the keys to carrier success in this new era.

Asia, we will see this accelerate as more people turn to smartphones and as networks become more capable of handling large data flows. This will be accompanied by a surge in the usage of a growing range of applications and solutions by people – and by machines. In response, carriers are going digital, with varying degrees of urgency.

Traditional revenue sources such as voice and text remain substantial and must be managed well. But it is clear that customer engagement is increasingly being driven by digital services. That is already a large part of the present and will be the dominant reality of the future.

## OPENING YOUR MIND TO DATA

*In your opinion, what key trends will be shaping the international telecom market over the next 2 years?*

All over the world, Asia included, markets and technologies are going digital. The pace of change varies from place to place. But by and large, the transformation is taking place faster than formerly expected. In emerging markets of

*How should carriers evolve to survive?*

The carrier market will be increasingly data driven. To survive and thrive, carriers need to turn themselves as rapidly as possible into platforms for the efficient delivery of digital services. This shift has already taken place in



developed markets and emerging markets are following quickly. For operators to succeed in this environment, they will have to make their networks much more capable of intelligently managing the growing flow of data traffic. Carriers need to overhaul their business processes, billing systems and service delivery platforms so that they can quickly deliver new services of their own and/or those of other players in the digital ecosystem.

### OPENING YOUR MIND TO BIG DATA

*How do you see PLDT's role developing to be able to support the evolving needs of your customers in this time of flux?*

As our chairman, Mr. Manny Pangilinan put it, PLDT is decisively making the "digital pivot". We have recently implemented a major reorganization in the Group so that we clearly focus on the enterprise and consumer markets and offer our customers compelling digital services and solutions. We have stepped up investments in our networks and platforms so that PLDT can deliver a growing portfolio of services with the best possible customer experience.

For example, we are offering big data services that will raise enterprise effectiveness and productivity to the next level. We are pursuing innovations developed within the PLDT Group and forging partnerships with the leading innovators in the digital world.

*How do you see PLDT's role developing to be able to support the evolving needs of your customers in this time of flux?*

We've recently launched a slew of new offerings in both the enterprise and consumer space. I cited earlier big data services. This is an exciting new field for PLDT. With big data, we have numerous opportunities to equip private enterprises and government agencies with a higher level of intelligence in the conduct of their businesses.

In the consumer market, we have started offering quad-play packages that take advantage of the combined strength and reach of our fixed and mobile networks.

PLDT will continue to take advantage of this synergy. We can deliver increasingly rich video content to the four screens – mobile phones, tablets, laptops and TVs. We are also enriching our music content and adding to our home security solutions – all delivered through our wired and/or wireless services. We also have one of the biggest gaming platforms in the Philippines through the online portal GameX.

For the enterprise market, our goal is to be the enabler of the digital economy in the Philippines. For consumers, we are offering connectivity, entertainment and peace of mind everywhere.

### OPENING YOUR MIND TO CHANGE

*What do you find the most challenging/exciting at the moment in your role as an industry leader?*

The most daunting task that we face as industry leaders is to understand the rapid changes that are taking place in the lifestyles and work habits of young people using various

digital technologies, and how this impacts on our business.

This is such a huge challenge because change is taking place at a dizzying pace and is coming from many different directions. To do this, we must be constantly curious about what is happening in the lives of young people.

I actually enjoy this because it's a great way to stay young – even if only in spirit. It's also a great way to be close with my grandchildren. They are my in-house researchers.

But more importantly, we need to keep an open mind and make a constant effort to review our assumptions. We need to accept that change is inescapable and has a habit of surprising us.

Thus, we should be able to **keep up with these changes**. We should **keep on innovating**. We should **keep on learning**.



# FAST & FURIOUS THE NEED FOR SPEED

Marc Halbfinger  
CEO - PCCW Global

**P**CCW Global continues to be a leader in high quality innovative services such as HD voice and video conferencing, while continuing to extend its high capacity global network for both carrier and enterprise services. I have had the opportunity to spend time talking with Marc Halbfinger, CEO of PCCW Global, to get his insight into what the future holds for wholesalers in this new high bandwidth, high quality, virtual telecom world.

download speeds upwards of 150 Mbps and even up to 300 Mbps in many parts of Hong Kong. In addition, the coverage requirement is mindboggling. For instance, some customers are able to watch live television on their mobile devices on the MTR (Hong Kong's subway) and this access needs to continue as customers move around the city so that coverage extends to all areas.

### FEEL THE NEED – NEED THE SPEED

*What do you see as the key trends currently impacting the telecom market and in Asia more specifically?*

This means more demand for bandwidth to support more bandwidth intensive applications everywhere. The service providers therefore need to accept that data has become the driver for the infrastructure that supports the bulk of their services.

The first thing that comes to my mind is the tremendous demand for bandwidth coming from mobile users. In Hong Kong for example, our sister company CSL, was one of the first players in the world to launch LTE-A, enabling

From a network planning point of view, it means that a shift will need to occur to move away from a thought process of planning for voice services, towards a different type of network planning to support bandwidth hungry data applications.

**‘Innovation, pace & rhythm are key’**



In addition, quad-players such as ourselves, where fixed networks and mobile networks are increasingly intersecting and serving one another, will require strong and integrated engineering designs and teams.

The preponderance of these data applications will ultimately yield a shift in commercial parameters and the way bandwidth is sold, and perhaps one day we shall move away from minutes of traffic to variable units of bandwidth. This is starting to happen in roaming to some extent, but ultimately I believe this might happen across all areas of the retail and wholesale business.

The other element, that I think will become critical, is what transactional behavior takes place over the high quality IPX interconnects that international carriers have developed over the last 5 years. Is it just the transfer of voice minutes or basic roaming data packets? I don't think so.

I think we have to look at the design of IP and transmission networks that are being built today and optimize them around software designed networks (SDN) that allow applications and hardware to be virtualised. In my opinion, these SDN-type infrastructures are going to yield a different type of interconnect between operators over the next 3 to 5 years and we can expect these will allow for virtualised elements or applications to be delivered homogeneously across partner networks.

The IPX infrastructure is therefore the basis to creating a new SDN interconnection environment that would allow for any type of application to be automatically provisioned and delivered across networks, provided that this infrastructure is deployed homogeneously.

I think we are at the very early stages of that, but it is coming and it is very exciting.

### TURNING VALUE INTO MONEY

*What effects will the trends you just discussed have on wholesalers going forward and how should they react?*

With the market undergoing change at an accelerating pace, wholesalers have to find different forms of monetization to counter-balance loss in revenue in traditional services. Ultimately, service providers and wholesalers are looking to stabilize their so-called legacy revenue, while building up new revenue streams. For example, content can be used as an alternative form of monetization for traditional traffic, either voice or traditional data, and wholesalers have to find the optimal business model to extract the most value out of that traffic.

What wholesalers need to do now is create transfer of value capabilities between different services, and service the wholesale infrastructure accordingly. Once this takes place, there will be no limit to what can be delivered and monetized.

Sitting on top of an IPX-enabled global network that connects many service providers around the world, PCCW Global is continually striving to find ways to monetize the wholesale mobile ecosystem around advanced applications. Part of this is also made possible through our cooperation with our retail arm in Hong Kong, which is showing us the way as a leader in the retail business.

Finally, I believe that the people who for years

have been trading in voice and roaming, understand better than most the nature of the wholesale intersection of traffic with variable values that trade dynamically. I believe the new SDN-based environment across networks, and the way high bandwidth applications will evolve, will recreate markets where the skillsets of people who have been involved in the negotiation of minutes will actually take on a new important role. It is only left to us, as Senior Managers of these organisations, to make sure that we structure our organisations to face this new environment aggressively and not to only react to it.

### RHYTHM AND PACE, THE KEYS TO SUCCESS

*What is the main challenge to succeed in this new fast pace innovation environment?*

One constant in our business has been that we always need to embrace change. I am a firm believer in that and I am convinced everyone understands that. But the real challenge now is that the pace of change is far more aggressive than it used to be. Therefore, not all wholesalers in the industry are always in sync with one another, when it comes to embracing this change, and this lack of rhythm can lead to challenges, as it would in any relationship.

As a large part of the success of wholesale is based on relationships that are in-sync with innovation and technology, if we are all embracing change and innovation at different rhythms I think we are going to find ourselves dealing with some relationship challenges.

We will therefore have to be patient with each other for the industry to emerge from this next

round of rapid change in a way that ensures our success and survival. Some will not be able to keep up with the pace, but the end result will reinforce our role in the future of communications.



**‘A 360° view of the industry is key’**

# GIVING INNOVATION WINGS

Rangu Salgame  
CEO - Growth Ventures and Service Provider Group  
Tata Communications

**T**ata Communications is not only one of the world's largest International carriers, it is also a dynamic force and a pioneer when it comes to creating new concepts and services to take the industry to new heights. I recently conversed with Rangu Salgame, CEO - Growth Ventures and Service Provider Group at Tata Communications, about why the role of international carriers needs to evolve from an interconnection to an innovation enabler. Here is some of the key messages he shared with me.

those shifts together with their customers. Until recently, carriers have been concentrating mainly on facilitating international interconnection and facilitating the transport of basic voice and data services, but the time is ripe for carriers to move up the value chain and play a vital role in driving innovation and value throughout the industry.

In Asia more specifically, carriers should focus on empowering three key revolutions: Mobility, Globalisation and the Cloud.

## ENABLER

*How do you see the role of International carrier evolving over the next 5 years?*

There are a number of momentous shifts currently taking place in communications, and in my opinion, carriers who want to remain relevant in the future should focus on enabling

As one of the largest and most advanced mobile markets in the world, Asia is a leader in the evolution of mobility. High speed mobile connectivity is already playing a central role in people's day to day lives in that region, whether in terms of entertainment, commerce or enhanced interaction with friends and family. In this case, carriers are central to the success of this revolution through the provision of high speed, high quality connectivity.



But with mobility comes globalisation, not only of the consumers (through social media and mobile content), but also of the enterprises, with mobile applications now easily extending the reach of the businesses outside of their home market's boundaries.

I also believe we will see more and more locally produced content which will be consumed globally. Here again, carriers have a key role to play to enable the globalisation of the end-user and enterprise experience, this time through global reach and coverage.

Finally, with the need for global content access comes the requirement for robust cloud support. More than ever, content will need to reside in a high quality, secure cloud environment to easily be accessed locally or globally. Consequently, carriers able to offer a compelling cloud offering coupled with global reach will win big here.

**PARTNER**

*How is Tata Communications planning to support these shifts?*

Not all carriers will be able to support all levels of innovation, and carriers should therefore play to their strengths and focus on offering what they are best at.

In the case of Tata Communications, two of our strengths are undoubtedly our global high capacity, high quality network and our capability to pioneer new concepts and be chosen as a partner for innovation.

I think our partnership with Formula 1 has shown our ability to successfully deploy such a business model and looking ahead, we will

continue partnering with strong brands which are forerunners in their respective industries to launch new leading edge services. More recently, we have expanded our partnerships to include Red Bull Media House, where we are supporting both their media connectivity and innovation needs.

Tata Communications will be the preferred media connectivity partner for Red Bull events globally, transmitting live data over its fibre network to the Red Bull Media House HQ, and ensuring maximum uptime, reliability and premium quality of video delivery.

As mentioned earlier, Mobility, Globalisation and Cloud are three of the key trends that carriers should address and the Tata Communications' Media Ecosystem does just that. It enables seamless global transport and management of content as a cloud based managed service and supports global broadcast, OTT and mobility applications.

More broadly, we will also work closely together with Red Bull in fostering innovation in service and product development.

In addition to fostering innovation with partners outside of our organisation, we truly believe that the innovative spirit should come from within, which is why we are putting a great deal of efforts to encourage this within our organisation, and build a genuine entrepreneurial culture that is key to our success.

As part of the 'Shape the Future' Corporate Innovation Program, we run internal contests wherein we invite our people to submit ideas that have the potential to become multi-million businesses within 5 years. Out of this process, multiple teams were selected to incubate their ideas, run them like a small company with

complete autonomy and get funding based on precise milestones.

**LEADER**

*What is most exciting for you as a leader in the current telecom environment and what do you see as the secret to success?*

For me, what is exciting is the dynamic nature of the business and how I can use the experience I have gained in other industry facets to lead my team towards success.

In addition, nothing is linear in this business anymore and senior managers such as myself therefore have to keep a 360 degree view of what is going on with new services and applications, technologies and customers and be able to react rapidly to align themselves to take advantage of these exciting and challenging opportunities. Finding the right partners that will support you in this journey will also be key.

Action not reaction will be the name of the game!



**‘Global reach is crucial’**

# ABOVE AND BEYOND INTERCONNECTION

Alexandre Pébereau  
CEO - Orange International Carriers

Orange is one of the few carriers well on its way to addressing the evolving digital needs of customers in Asia and around the world and elevating itself from a provider of interconnection to a partner for innovation. I had the chance to discuss Orange’s roadmap towards higher value with Alexandre Pébereau, CEO Orange International Carriers, as well as how he sees the International telecom environment evolving over the next 5 years. Here are some of his key messages.

### IS VOICE VOICE OR IS VOICE DATA?

*The telecom industry is currently undergoing a complete transformation. What in your opinion will be the key trends impacting international carriers?*

Indeed, the proliferation of smartphones and

LTE, and with it the explosion of high speed mobile Internet, is changing the nature of end-users’ mobile experience and expectations. Mobile users, like you and I, are increasingly demanding access to their digital world at any time, from everywhere and from any device, at high quality and at a competitive price.

From an international carrier’s point of view, this poses a great challenge, as they are then expected to provide high capacity connectivity (in the case of data) and high quality termination (in the case of voice) to and from anywhere. So high quality global reach is becoming crucial for carriers to remain relevant and this is something Orange excels at.

In addition to an evolution of customers’ expectation when it comes to access, quality and speed, the last 5 years has seen a significant business model shift triggered by the free voice connectivity apps provided by



social media companies. I expect this trend to accelerate over the next 2 to 5 years, with apps such as Whatsapp adding voice to their service mix. In Asia more particularly, regionally-focussed players such as WeChat and Line have been immensely successful at deploying user-friendly voice and messaging applications tailored to the Asian market, which have forced service providers to question the validity of the per minute voice business model.

The questions being posed in this great debate is: 'Is voice voice or is voice data? Meaning, should voice still be charged using the per minute business model (which would protect service providers' top line revenue for as long as possible) or, now that it is only another IP packet, should it be charged using a capacity business model (which would enable service providers to use more innovative charging business models and better compete with OTTs)? The outcome of this historic debate may prompt one of the greatest shift in recent telecom history, but to date, it is very difficult to know which business model will prevail.

Carriers' challenges will therefore be to support the re-invention of service providers' business models if necessary, and also to connect OTT communities within and between each other, while protecting their own margin. Not a small feat.

### THE NEW CARRIER ARCHETYPE

*Based on the different trends and challenges you just discussed, how do you think carriers should evolve to survive?*

It is clear, pressures on carriers' traffic, revenue and margin will continue. Carriers' will therefore

need to find ways to climb up the international value chain, above an interconnectivity role, and start offering mobile value added services to replace the loss in traditional services' revenue.

In my opinion, carriers who will be most successful will not only offer high quality international connectivity, but will also offer value added services enabled by real-time intelligence extracted from signalling. With these two combined capabilities, the possibilities are endless for carriers to help service providers, not only monetize each and every end-user when roaming, but also the international needs of IoT down the line.

With Asia being such a dynamic mobile market, we expect these capabilities to be crucial to carriers' success in the region. Only a handful of carriers are able to offer these two key components at present, and being a mobile-focused carrier, Orange is one of them.

### INNOVATION THROUGH PARTNERSHIP

*How do you see the carrier ecosystem evolving over the next 5 years?*

In my opinion, consolidation will accelerate between the medium and large carriers, with many of the smaller non-specialised players losing their relevance and slowly disappearing.

Nevertheless, small carriers who are able to offer highly differentiated and specialised niche services will still have a key role to play in the carrier world going forward. For example, a small player able to deploy a value added application that no one else can offer will be highly successful.

As carriers increasingly need to innovate and differentiate in an ever more complex world, one of the keys to success will be to conclude winning strategic partnerships with players who can help add value to their offering, rapidly, at low cost and with minimal risk.

Additionally, as the telecom world becomes more and more software and application orientated, value add will often come from small IT teams with specialised applications. Therefore, acquisitions or strategic partnerships between carriers and small innovative IT providers will grow in popularity.

### MOVING UP THE VALUE CHAIN

*How do you foresee Orange's role evolving in order to succeed in this time of flux?*

At Orange, enabling customer experience is our priority and this is something we will continue to achieve by focussing on offering global reach and connectivity for all devices and high quality at competitive prices, all this while enabling innovation.

On the innovation front, we aim at assisting mobility companies of the future by focusing on supporting IoT (and 5G, which will be an IoT enabler down the line), mobile banking (which is a natural focus for us being part of a mobile group) and data/privacy protection (which will help with the monetization of OTT traffic).

We believe we will have an important role to play in the enablement of IoT interconnection, not only globally but also on a regional basis. For example in Asia, where intra-regional interconnections are not always a priority, Orange will be a key asset to support IoT regional connectivity, through

its cable capacity and PoPs in Hong Kong and Singapore. But above and beyond connectivity, Orange is also well positioned to leverage its expertise in the management of large mobile database and identity/privacy protection and extend this knowhow to climb up the value chain of the IoT world.

In Asia more specifically, Orange will also continue to support mobile operators with monetization, through real time applications and the provision of video content.

### REACHING THE TOP THROUGH AGILITY AND CONSTANT INNOVATION

*What, in your opinion, will be the most challenging to ensure success in the new telecom world?*

The two main challenges will be to remain agile and to innovate continually. If you are able to achieve this, you will succeed at remaining the leader. This is done by continually bringing in new expertise and new blood, and this is where the strategic partnerships and also acquisitions of niche players with particular expertise come into play.

Maintaining this clear focus on change is always difficult in a large established carrier and so my challenge is to always ensure that we are identifying the developments in the industry, recognizing our opportunity and having the agility to react to make that opportunity a reality.



**'We aim to drive and lead change'**

# LEAPING UP THE CARRIER VALUE CHAIN

Andreas Hipp  
CEO - Epsilon

**E**psilon has been enabling carriers' evolution and success for some time now and has become central to many of the industry's key players' connectivity and reach. I spent some time talking with Andreas Hipp, CEO at Epsilon, to discuss the role the company intends to play in assisting carriers to take the leap up the carrier value chain.

On top of that, we will see content becoming localized and moving to the edge, so the importance of hubs like Singapore and Hong Kong, for streaming and centralized content hosting for the region, might be drawing close to the end as well.

## DEATH BY A THOUSAND CUTS

*Do you think there is still hope for the traditional carrier market going forward?*

Finally, we will soon reach the saturation of the connected people potential, as there is a limit to how many people in many populous countries can afford a laptop or a mobile device and spend \$15-\$20 a month on data communication services.

We are seeing a long and slow death of traditional voice and messaging and probably the end of cash cows, as we know them, for carriers. In Asia more particularly, I think we will soon see the end of protected markets, with things opening up following a long decline in transport and Internet transit pricing.

All these trends point towards a constant decline in revenue and an increased pressure on margin for carriers in Asia and across the globe. Talking about infrastructure, point-to-point circuits, minutes and Internet transit is not cool anymore and you don't get much attention from anyone when you talk about these services.



The commoditized space, more specifically in Asia, has lost its relevance and can be dealt with in different ways that are more efficient and ensure better margins.

So the million dollar question is: Where do we go from here and what do we do beyond the basic carrier business? In my opinion, the key to survival in this type of downward environment is to successfully move up the value stack and to find ways to remain relevant.

**IT IS TIME TO TAKE THE LEAP FORWARD**

*In your opinion, how should carriers react to the different downward trends and challenges currently impacting their industry and in Asia more specifically?*

The first thing to do is to get your mind-set right and to understand what this new world is all about in terms of new technologies, new competitors, new services and understanding what our customers' customers are doing and are expecting. This is the first obstacle to leap.

Once this is achieved, then you have to work at positioning yourself effectively to tackle the challenges and take advantage of the opportunities that are present in this new environment. This could mean that you need to self-cannibalize some of your products to leap forward, as there is no time for slow-walking anymore, the market is changing too rapidly now.

In terms of new services, Big Data and analytics is certainly a big opportunity, but the question is: Do carriers have what it takes

to compete with players such as Google and some of the other big boys who own the applications?

This could be achievable if some carriers can focus locally where they already own customers and have the retail capabilities to mine data and try to monetize it. This is not necessarily an international carriers' strength, but they could start playing in this field, either by partnering with specialised firms or by bringing in new people with these types of expertise.

Carriers will also need to decide what role they will play in the Internet of Things (IoT), which is basically Machine-to-Machine (M2M) communication, for which the current business model will not work, as this type of traffic requires cheap and extremely scalable transport with security assurance.

This will require carriers to think completely differently and consider not only business models that are a world apart from what they are used to, but also maybe consider using virtualized transport network infrastructures that will enable them to support this new type of traffic cost effectively.

On the efficiency side, carriers should look at delivering their services quicker, cheaper and with less effort. They should therefore consider using self-service cloud applications and automation, which would equate to doing more with less people and changing the going-to-market process flow.

Finally, the boundaries between applications and infrastructure are changing, with different players working together to deliver the new types of services that are on the rise.

Partnering will therefore become crucial to carriers' survival and this is not necessarily something they have been very good at in the past.

**EPSILON - LEADING BY EXAMPLE**

*How do you see Epsilon's role in enabling the leap that carriers need to take to continue to thrive?*

Our roadmap for the future is following three main paths: Technology, Intelligence and Cloud.

We have invested in a technology division with its R&D in California which is looking at understanding what is going on in Layer 7 of the communication structure and delivers technology which supports VoLTE, VoWiFi and enables applications such as WebRTC, unified communication and service intelligence. Within this, the discussions we have with our customers are about providing the necessary environment or ecosystems to enable quality of experience, rather than selling components.

The second path is self-service and eCommerce. We are working at providing our customers with visibility into their network and empowering them to self-service and self-networking. Real time SDN and technology enablement is key here to help them move their commercial model toward improved efficiency and towards a world where order to delivery instantaneously is a reality.

Finally, we are working on deploying our cloud infrastructure connectivity services,

which would also include dedicated and managed servers and platforms where people can just put down their application software and serve their clients, while we look after the infrastructure. This will enable us to target not only clients outside the carrier segment in the cloud and application space ,but also data centres as customers for this service.

**GOOD THINGS COME IN SMALL PACKAGES**

*What lights your fire in this new exciting telecom world?*

What is exciting in this new world is that now success is not always related to size and money, but it has more to do with competence and leadership. We are a small company compared with other contenders in the industry, but we feel we have the right people to make a difference and lead in terms of innovation. In this new world, if you get it right, you can gain momentum very quickly and that is very exciting.

This is a world of opportunities for the small and nimble ones with the right people who can drive and lead change.



## Above and beyond **CONNECTIVITY**

### What is the future of international carriers?

## The future of international carriers

HOT TELECOM recently published the second edition of its International carrier market report. The report provides a unique and comprehensive global view of the International carrier market including trends, drivers, traffic and revenue forecasts through 2020 for voice (International, wholesale, VoLTE), messaging, data roaming and IPX services (voice, data and Diameter signaling).

### The objectives of this report are to:

- Provide a complete overview of the International Telecoms Interconnect Business
- Identify and discuss the main trends in this area, highlighting the changes in wholesale offerings as many services move to an IP infrastructure
- Deliver a comprehensive model that forecasts traffic and revenue for the voice, data and IPX segments on a total, wholesale, global and regional basis

### Who should purchase this report:

- **Carriers** and **mobile data hubs** seeking to understand how the segment is evolving in terms of trends, revenue, services, customers and competitors to help them define their strategy and plans for the near future
- **Operators** and **OTTs** needing to understand how the voice and data wholesale market is evolving to help guide their strategic and purchasing decisions going forward
- **Product and Engineering teams** planning for the growth and evolution of the international interconnect business
- **Vendors** looking to understand the needs of wholesalers, mobile data hubs and wholesale customers and where new opportunities will come from.

More info: <http://www.hottelecom.com/reports/wholesale-2015.html>

## Some key findings from our report

### Trends and drivers

- With the introduction of HD voice/video and LTE applications, quality is a must-have and not only a good-to-have anymore
- With the increased complexity of networks, technologies and players, service providers are increasingly looking for carriers who can help them simplify the international part of their business
- Increasingly, carriers are looking to help service providers above and beyond access and connectivity through value added services
- Carriers are playing a growing role in enabling innovation and monetization of service providers' businesses

### Voice

- International traffic growth continued its declining trend in 2014. From growth trends in the double digits only a few years ago, international voice traffic increased by an estimated 3.5% in 2014
- As the number of middle-men needed to terminate high quality wholesale traffic is diminished, some of the wholesale players traditionally focused on arbitrage will disappear and the overall size of the industry as measured by total revenue will diminish

### Data roaming

- Most of the data roaming traffic is now being transported over IPX and this trend should continue over the foreseeable future
- A growing portion of International SMS are sent over SMS hubs rather than via direct interconnects and this segment is expected to grow significantly over the next 5 years. The number of international SMS sent over SMS hubs in 2014 reached 48 billion
- Over the next 6 years, LTE data roaming traffic is set to grow by a CAGR of 147.7%

### IPX

- Mobile operators are now looking into the launch of VoLTE on a global scale and the establishment of VoLTE termination and particularly roaming should be the next big development for IPX in late 2015 and 2016
- We expect the VoIPX traffic to grow at a healthy pace over the forecasted period with a CAGR of 30.3%
- We estimate that the total Diameter traffic transported over IPX in 2014 surpassed 120 billion messages

More info: <http://www.hottelecom.com/reports/wholesale-2015.html>



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