



# REVOLUTIONISING ROAMING

Practical steps for operators  
to take their roaming business  
to the next level



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**W**hat's next for roaming? Changing regulations in different parts of the world, increased competition, the adoption of internet-based roaming alternatives and several other complex factors have led to a challenging environment. At a time when subscriber expectations for Quality of Experience (QoE) and overall demand for data services have reached their highest recorded levels, these factors are making many operators rethink their roaming business.

**Fortunately, every new challenge brings with it new opportunities.** Traditional roaming revenues may have stagnated, but the next generation of roaming service delivery is here, with new technologies and business models for improving revenues and margins. This paper presents some practical steps operators can take in order to boost their roaming business for long-term growth.

The roaming business will need to keep pace with the industry as a whole in the move from voice and SMS to data. Operators will therefore have to develop their data roaming offerings to capture this revenue stream, reshaping their roaming business entirely.

## CONTENTS

3. **Introduction**
4. **'Show me the money': what's next for the roaming business?**
6. **Five considerations for identifying the right next-gen roaming strategy**
10. **Big data – supporting the strategy for roaming opportunities**
11. **Conclusion**

# INTRODUCTION



**T**oday's subscribers are more open to the concept of roaming than ever before. Increased smartphone adoption, 24/7 internet use and increased travel have created unprecedented demand for international roaming.

Until recently, operators focused on boosting roaming use - some roamers opted for local SIM cards, others used WiFi services, while others just remained silent when abroad. Today, subscribers are more open to the idea of roaming. In this context, operators need to adapt their legacy roaming cost structures to the new market reality, and are finding that they have very little control over the subscriber experience while roaming. This can result in compromised QoE and consequently, subscriber churn.

## THE RISE OF A NEW ERA FOR ROAMING



In June 2017, the landmark EU decision to abolish mobile roaming tariffs came into force. The Eurozone-wide change in regulation has further encouraged subscribers to keep their phones on while abroad. Although this has driven data roaming use to an all-time high, it also fundamentally altered a key revenue driver for operators. Changes in roaming regulations are not limited to Europe: other regions around the world, for example Africa, are also considering the abolition of intra-regional roaming charges.

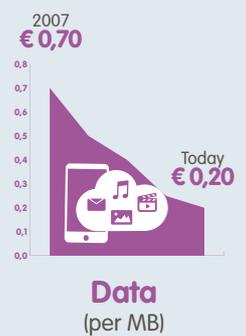
Since 2007, when the EU's first roaming directives were issued, the unit costs of voice calls, SMS and data for subscribers roaming outside of their home network have declined significantly – and are today the same as domestic prices<sup>1</sup>.



## Roaming when travelling in the EU

**From 15 June 2017: no extra charges**

Maximum roaming prices decreases since the EU took action in 2007 (prices in euro cents, excl. VAT)



## The new roaming opportunity

Do operators have the means to make the most of the ever-growing number of people travelling?

Do they have the insights needed to better serve subscribers?

Do they have the capabilities to introduce innovative roaming models and reduce costs while preventing fraud?

How can they gain further control over QoE?

What new mobile services can they develop for new segments?

**Having the answers to these questions would enable them to drive up ARPUs once more.**

<sup>1</sup> <https://ec.europa.eu/digital-single-market/en/roaming-tariffs>

# 'SHOW ME THE MONEY'

## WHAT'S NEXT FOR THE ROAMING BUSINESS?



It's easy to see why operators place so much value in their roaming business. Traditionally, this lucrative stream has provided them with additional revenues above and beyond domestic network access fees, representing in excess of USD 54 billion in 2015 and 2016 alone<sup>2</sup> and accounting for almost 6% of operator revenues across the board<sup>3</sup>. This will only continue to grow with the increasing amount of business and leisure travel we are seeing across all segments.

Roaming has also been seen as essential for mobile operators trying to reverse the ongoing decline in ARPU, which has dropped in every region of the globe in the last 10 years<sup>4</sup>. However, the roaming playing field has changed, and this is due to three key factors:

# 1

### STRENGTHENING REGULATIONS

As demonstrated by the EU's abolition of roaming tariffs and other changes taking place around the world.



# 2

### QoE CHALLENGES AND MISSED OPPORTUNITIES

Subscribers who are let down by a poor user experience while roaming, or those that remain silent and avoid using mobile services at all when away from the domestic network.

# 3

### INCREASED COMPETITION

Whether from other operators offering new, tailored roaming packages, alternative service providers with specialised roaming SIMs or digital service providers offering over-the-top alternatives.



<sup>2</sup> Juniper Research's Roaming Revenues report, July 2017

<sup>3</sup> Deloitte report, 2014

<sup>4</sup> PWC telecom trends, July 2017

With such a vital part of their business at stake, the time to make changes is now, particularly as three lucrative opportunities are presenting themselves to operators who are willing to move into the next generation of roaming service delivery:



## INSIGHT-LED QoE AND SUBSCRIBER PERSONALISATION

Operators can use insights from big data analytics to stimulate the roaming business through availability, convenience and a high-quality experience. Furthermore, a more in-depth view of roaming performance will help ensure consistent QoE.



## ENTERPRISE AND THE IoT

The Internet of Things (IoT) is set to grow roaming revenues. IoT devices will soon surpass mobile phones as the largest category of connected devices, and many of these devices will need global connectivity. Delivering high-quality roaming for IoT devices is a major opportunity for operators.

*Global connectivity is a central enabler for machine-to-machine opportunities and new subscriber roaming services.*

Ensuring QoE for consumers as well as IoT devices, while boosting roaming use, will be a vital factor in helping operators to move up the value chain.



## ACTIVATION OF THE DATA REVENUE STREAM

Through real-time engagement, attractive bundles tailored to individual preferences and the offer of new services such as VoLTE roaming, operators can trigger a step-change in the revenue curve.



<sup>5</sup>Ericsson Mobility Report, June 2016

# FIVE CONSIDERATIONS FOR IDENTIFYING THE RIGHT NEXT-GEN ROAMING STRATEGY

The decline in global roaming revenues has required operators to focus on innovation as the mechanism for driving new, revenue-generating usage. Almost every growth-generation strategy has its foundations in the use of network data and advanced analytics, to succeed, and this is where operators are in a unique position.

They have vast data lakes of network and subscriber information that can drive next-generation opportunities. However, this also presents a challenge associated with managing additional traffic and roaming partner QoE, on top of existing subscriber demands.

So, with this in mind, here are four key questions operators need to ask themselves about the future of roaming according to the type of customer:

## SUBSCRIBER OPPORTUNITIES

### 1 HOW CAN CUSTOMER CENTRICITY BE ACHIEVED?

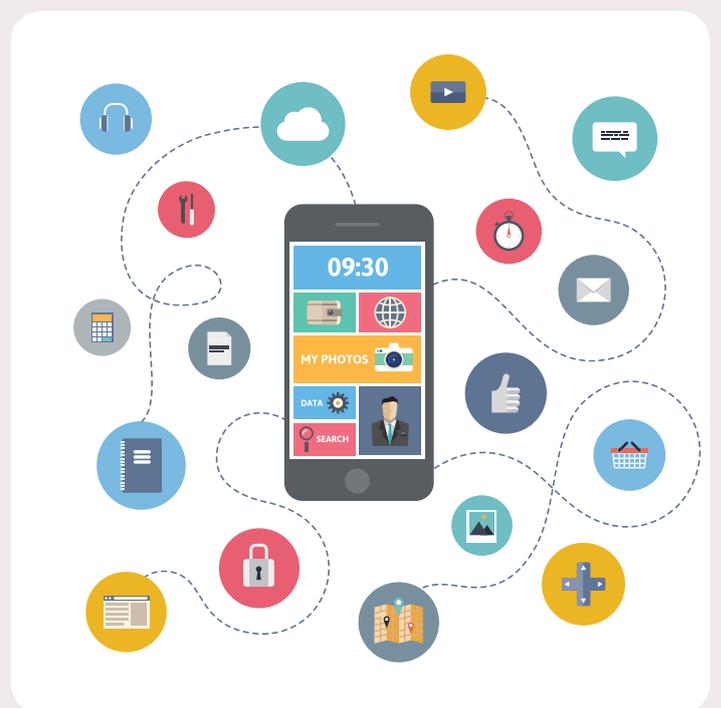
Consideration	STRATEGY
 <p>Understand customers' preferences and expectations</p>	 <p>Subscriber usage pattern analytics using data already in operator systems</p>
<p>Meet customers' needs with innovative products and pricing</p>	<p>Timely warnings, usage caps and transparent, proactive communications</p>
<p>Deepen engagement</p>	 <p>Data analytics to achieve insights into subscriber preferences</p>
 <p>Protect customers from bill shock</p>	<p>Real-time data usage tracking and proactive communications to prevent bill shock</p>
	 <p>Prevent fraud in order to capture all roaming revenue opportunities</p>

#### The personalised roaming experience use case:

Operators can stimulate roaming by addressing the specific demands of the mobile-first, content-led lifestyle of today's subscribers. By understanding the preferences of each customer and which services they engage with the most, operators can offer tailored packages that enable them to continue accessing those services whilst abroad.

For example, a subscriber who regularly uses an Internet TV service on the home network could be offered access to preferred programmes while abroad at a reduced rate. In addition to generating up-front revenues for the operator, this bundle would move the subscriber away from Wi-Fi, and so also stimulate further data usage.

Crucially, to avoid damaging the relationship through bill shock, the operator could send proactive warnings or introduce an automated cap once the subscriber reaches a pre-set data limit.



## SUBSCRIBER OPPORTUNITIES

2

### HOW CAN THE SUBSCRIBER EXPERIENCE BE OPTIMISED WITH STEERING STRATEGIES?

Consideration	STRATEGY
 <p>Achieve control over customers' roaming experience</p> <p>Protect consumers from fraud</p>	 <p>Proactively steer roaming customers to carefully selected partner networks to guarantee QoE</p> <p>Optimise inter-operator tariffs by establishing a reliable network of preferred partners</p>
 <p>Optimise customer tariffs</p> <p>Be relevant and well-timed</p>	 <p>Migrate to VoLTE roaming for control over IMS service and cost structure</p>

#### The roaming QoE use case

Subscriber groups such as frequent travellers and migrant workers are two subsets of users that represent high conversion rates for customised roaming bundles.

For example, a frequent business visitor to Singapore could be offered a 'premium traveller' bundle containing a per-day level of data use and priority high-quality access to certain applications, tailored to the subscriber's individual requirements.

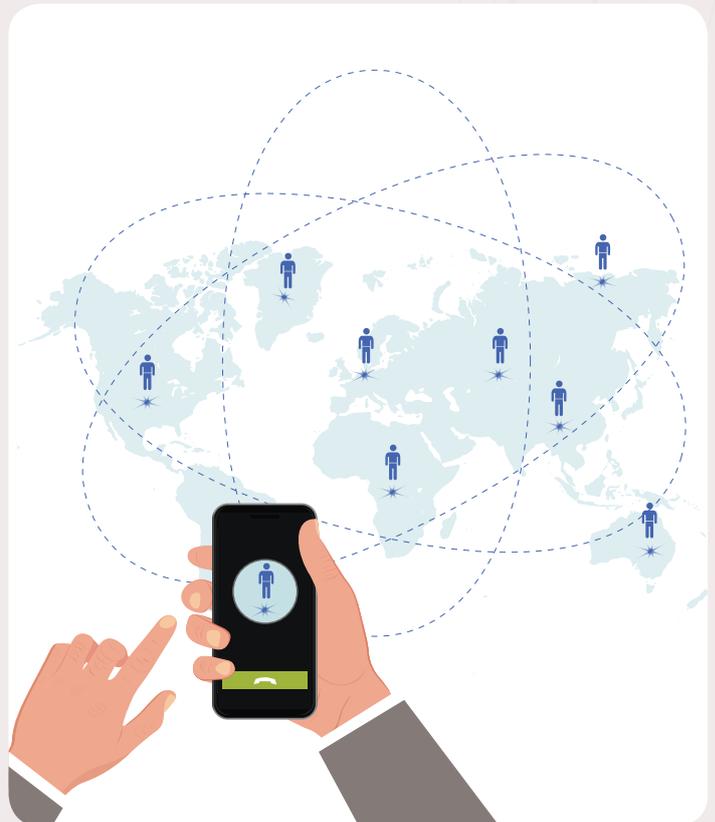
#### Prerequisites for success:



**a.** The foundation of this revenue generator is big data analytics. Not only is real-time tracking of roaming usage required to identify the individual subscribers and their requirements, but it also enables timely reminders to prevent bill shock and avoid disputes.



**b.** Ease of use is key. This starts with the initial marketing message that sparks the up-sell opportunity, but extends to the subsequent activation and updates regarding the subscriber's subsequent use of the bundle.



## 3

### HOW CAN THE IoT ROAMING OPPORTUNITY BE CAPITALISED UPON?

Consideration	STRATEGY
 <p>Help enterprises to extend their connected business beyond domestic borders</p>	 <p>Incorporate a global connectivity proposition into your IoT offering - this is a highly lucrative revenue opportunity</p>
<p>Achieve a global machine-to-machine network footprint</p>	<p>Use a roaming hub as the gateway to these new sources of inbound roaming revenue, for simplicity and efficiency</p>
 <p>Deliver high quality of service for IoT deployments</p>	 <p>Deliver reliable and high-quality connectivity, crucial for enterprises deploying IoT devices</p>

#### The enterprise IoT use case:

Picture a connected tracking device in a package containing high-value goods that is travelling between two countries. A constant, reliable data stream from the device is required to ensure the package is on schedule and, of course, in order to offer greater visibility to the end customer. The roaming solution must be flexible enough to ensure connectivity wherever the package goes.



For other IoT use cases, such as remote video surveillance, the roaming solution will need to steer traffic from the device onto a preferred roaming partner in that country with a high QoS. By being flexible enough to address specific enterprise roaming needs, mobile operators will become vital partners for enterprises – transforming business operations by delivering connectivity without complexity.

## WHOLESALE OPPORTUNITIES

### 4 HOW TO MAXIMIZE ROAMING REVENUE BY ADDRESSING LONG TAIL OPPORTUNITIES?

Consideration	STRATEGY
 <p>Achieve global roaming coverage, including less visited countries, while minimising operational complexity</p>	 <p>Explore innovative models, such as hub-based or sponsored roaming, to seamlessly achieve multilateral linkages through a single technical and commercial relationship with adequate security</p>
 <p>Acquire the cloud needed to manage the technical and commercial relationships with partner networks (particularly smaller operators)</p>	
	 <p>Use a comprehensive one-stop solution from a reliable partner to outsource the management of the roaming infrastructure including connectivity, clearing, analytics and voice/messaging/data services, minimising the cost of roaming management and facilitating a profitable relationship with any MNO or MVNO</p>

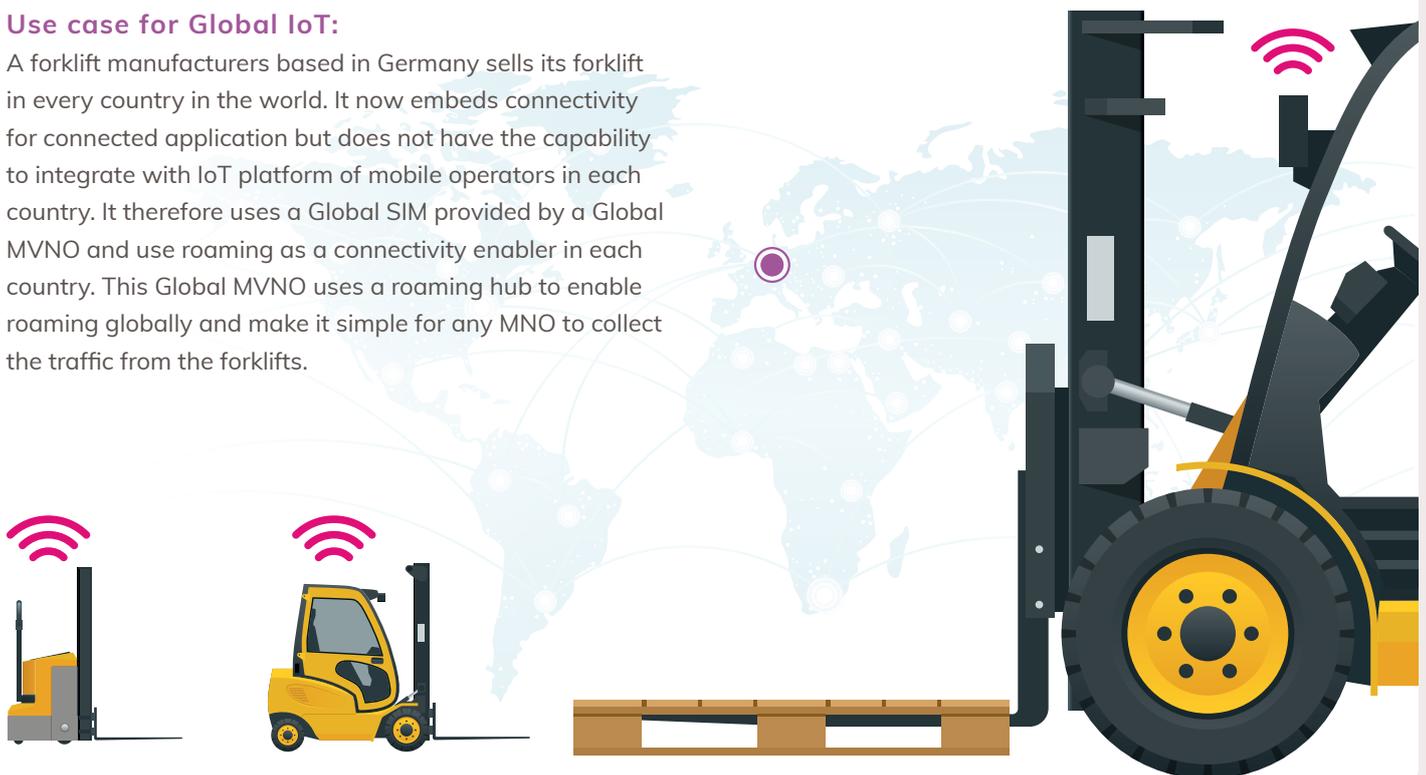
## WHOLESALE OPPORTUNITIES

### 5 WHY INBOUND ROAMING IS THE BIGGEST OPPORTUNITY FOR ROAMING BUSINESS?

Consideration	STRATEGY
 <p>Market is huge with billions of new connected devices coming to mobile networks</p>	 <p>Open your network to as many as possible to these new players</p>
 <p>New MVNOs, Global IoT players (enterprises needing global connectivity for their IoT projects) and digital service providers have global connectivity as a central business requirement - they need access to mobile network to deliver their value proposition</p>	
	 <p>Use a roaming hub as the gateway to these new sources of inbound roaming revenue - it offers the simplicity and the efficiency that the ecosystem needs for this new global connectivity requirement</p>

#### Use case for Global IoT:

A forklift manufacturers based in Germany sells its forklift in every country in the world. It now embeds connectivity for connected application but does not have the capability to integrate with IoT platform of mobile operators in each country. It therefore uses a Global SIM provided by a Global MVNO and use roaming as a connectivity enabler in each country. This Global MVNO uses a roaming hub to enable roaming globally and make it simple for any MNO to collect the traffic from the forklifts.



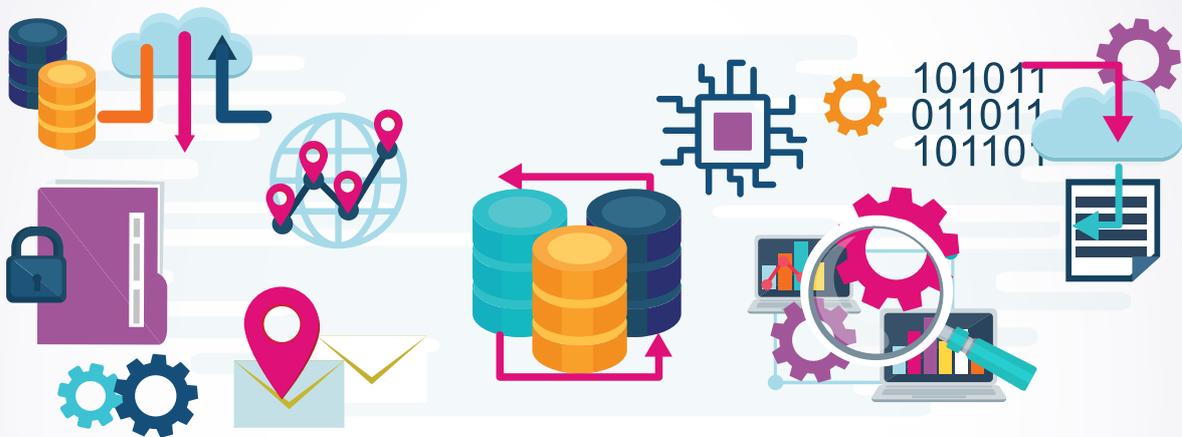
# BIG DATA - SUPPORTING THE STRATEGY FOR ROAMING OPPORTUNITIES

**The role of network, usage and subscriber data is set to become ever-more essential for operators to boost their roaming business and achieve margin growth – and will be essential for effective management of the mobile network in the age of the IoT.**

Each time a subscriber accesses the network, engages with an application or makes a phone call, they are creating more insights into their preferences.

The same applies for an IoT device. If this information is structured and analysed in the right way, and subsequently combined with network data, it can be used to deliver highly personalised bundles that help drive the growth of roaming revenues in the future or that identify when and where traffic needs to be prioritised.

When it comes to informing the future of roaming opportunities, and particularly the IoT, use of data is the mechanism by which operators can add value beyond connectivity in order to drive new revenues:



Question	Consideration	STRATEGY
How can operators use big data to prevent roamers switching to roaming alternatives?	<p>The roaming market is facing stiff competition from alternative roaming services.</p> <p>More opportunities for low-cost roaming are available to subscribers than ever before, yet some still become silent roamers when abroad.</p>	<p>Use big data analytics to identify each subscriber's preferred services, then differentiate through availability and convenience.</p> <p>Offer greater control and visibility of consumption while roaming, enticing subscribers to keep their phones switched on and connected to the mobile network.</p>
How can operators use insights from data for customising the roaming experience?	<p>Revenues increase if operators differentiate via QoE.</p> <p>This depends on real-time insights into subscriber preferences, gleaned from analytics and usage data.</p>	<p>Develop personalised roaming bundles – matching usage profile, time spent in other countries and other preferences.</p> <p>Combine bundles with prioritised access to OTT video and other services from the domestic network to attract usage.</p> <p>Use these data to hold roaming partners accountable and identify problems in real time. In addition, automate QoE management for affected subscribers or take informed steps manually.</p>
How can operators use network data to help wake up silent roamers?	<p>Silent roamers are a major opportunity for operators to generate additional revenues from their own subscribers.</p> <p>The silent roamer opportunity was predicted to exceed USD 5 billion by the end of 2017<sup>6</sup>.</p>	<p>Empowered by subscriber data, operators can develop specific marketing campaigns aimed at stimulating roaming among this subset of users.</p> <p>Using real-time data access to give these subscribers flexibility is key. Setting daily usage caps, tracking data consumption and providing real-time alerts will give subscribers new confidence in roaming services.</p>

<sup>6</sup>From page five of Juniper's "Mobile Roaming" report, permission needed

# CONCLUSION

**D**emand for roaming services will only continue to grow, and has the potential to drive revenues. However, as the EU example has shown, it is important to adapt to a new paradigm where roaming has turned into a commodity for the mass market, have the strategies in place to take advantage of consumer reliance on roaming services, stimulate their use through personalised offers and optimise the user experience while maintaining profitability.

Advanced data analytics will underpin the future of roaming revenues. BICS' solutions have been designed with this need in mind. Building on its heritage as a leading wholesale carrier, BICS has a widespread global footprint and a range of value-added services that make it easy for operators to implement controls on data usage and consumption per partner, application or subscriber, use network traffic and subscriber data to unlock the next generation of roaming opportunities, increase QoE and enhance customer loyalty.

Finally, our mobile ecosystem is changing fast, and global connectivity is an enabler to stimulate growth of our mobile industry. New players from the IoT ecosystem, digital service providers, and MVNOs need roaming connectivity to deliver their value proposition everywhere. With 2 billion IoT devices, the opportunity is immense for mobile operators and a roaming hub will be a must-have for mobile operators to maximise it, acting as a gateway between mobile operators and these new players.

Operators today have the opportunity to step up and identify new ways of roaming for speed and agility, incorporate new opportunities and thus avoid becoming a victim of changing circumstances, such as regulation and new competitors. To emerge as winners, they need to be prepared.



**IoT**   
**ON THE MOVE**





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