



RCS & Messaging as a Platform

November 2017





The GSMA is working with mobile operators, vendors and brands to accelerate the adoption of RCS Business Messaging to enable advanced Messaging-as-a-Platform (MaaP) services



Rich Communications Services (RCS)





RCS at a Glance

RCS is an upgrade to SMS on a global scale.

- Universal Profile resolving legacy issues
- Feature parity vs. other messaging applications
- Momentum in networks, handsets and users
- Intrinsic advantages in business messaging
- Enabling Messaging-as-a-Platform

To find out more about RCS, visit our website:

<https://www.gsma.com/futurenetworks/rcs/>





RCS Mission Statement: Why now?

RCS is an upgrade to SMS on a global scale. RCS evolves SMS and gives customers the experience they've come to expect from OTTs natively in their handset. RCS is particularly well placed for A2P or business messaging as operators have a pre-existing relationship with customers based on secure identity and billing information.

RCS is an operator service that will work on any smart device or network, bringing the messaging services of the future to over 4 billion mobile phone users.

The roll-out of RCS has begun: Operators and OEMs are introducing RCS to the GSMA's Universal Profile standard, guaranteeing interoperability across devices, networks and operating systems.

To find out more about RCS, visit our website:

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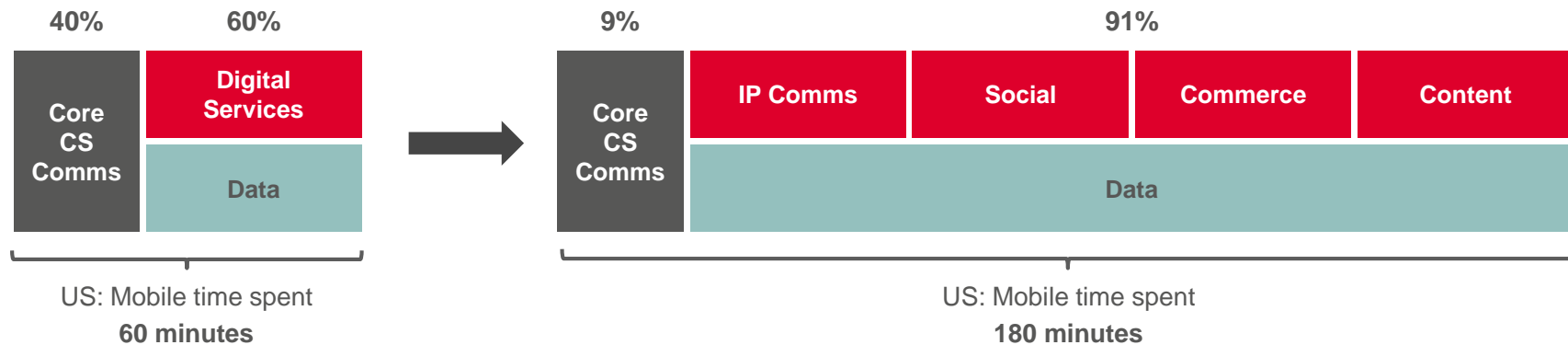


GSMA Universal Profile (UP)

- A single, industry-agreed set of features and technical enablers
- Developed to simplify the product development and global operator deployment of RCS
- Will enable the industry to deliver a more advanced messaging experience for 4.7 billion subscribers
- Key Benefits of the Universal Profile:
 - **Simplicity:** Common feature set and configuration
 - **Consistency:** One common experience across all devices and operators worldwide
 - **Efficiency:** Reduced time to market and interoperability testing
 - **GSMA Accreditation:** Giving reassurance to mobile network operators and developers
- Download the UP now at: <https://www.gsma.com/futurenetworks/rcs/universal-profile/>



How does RCS fit into the consumer usage climate?



Source: Tango (OTT platform for carriers), Delta Partners

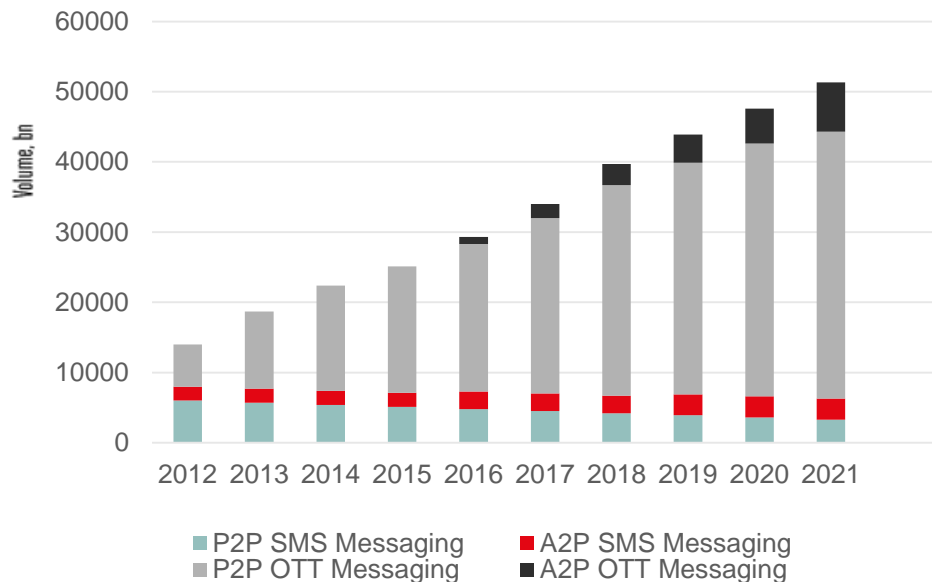
- Time spent on mobile has trebled in the past 5 years
- **Over 90% of the user's engagement with mobile occurs in services that are NOT controlled by operators**
- Less than 10% of time spent on core CS communications but IP communications is still a key service for consumers

To maintain revenue, Operators need to extract value from customers' mobile activities



Mobile Messaging Volumes: SMS vs. OTT

To protect and grow messaging revenue:
Operators need to deploy RCS and move from
Messaging to Messaging as a Platform



- A2P SMS is still growing (~5% CAGR) to reach \$74bn by 2021
- A2P message volumes on OTT platforms are expected to grow, reaching 100% penetration
- However, OTT apps do not yet rival SMS for penetration or trust



RCS Global Adoption

- RCS is gaining momentum with global launches and growing handset adoption
- The open platform provides developers with everything they need to build and deploy advanced communications applications
- For more information on how to adopt RCS with the following providers, visit:
www.gsma.com/futurenetworks/rcs/technology-partners/

RCS NETWORKS

50

Launched and announced
RCS networks



RCS SUBSCRIBERS

145m

Monthly Active Users of
RCS services



ANDROID DEVICES

1.4bn

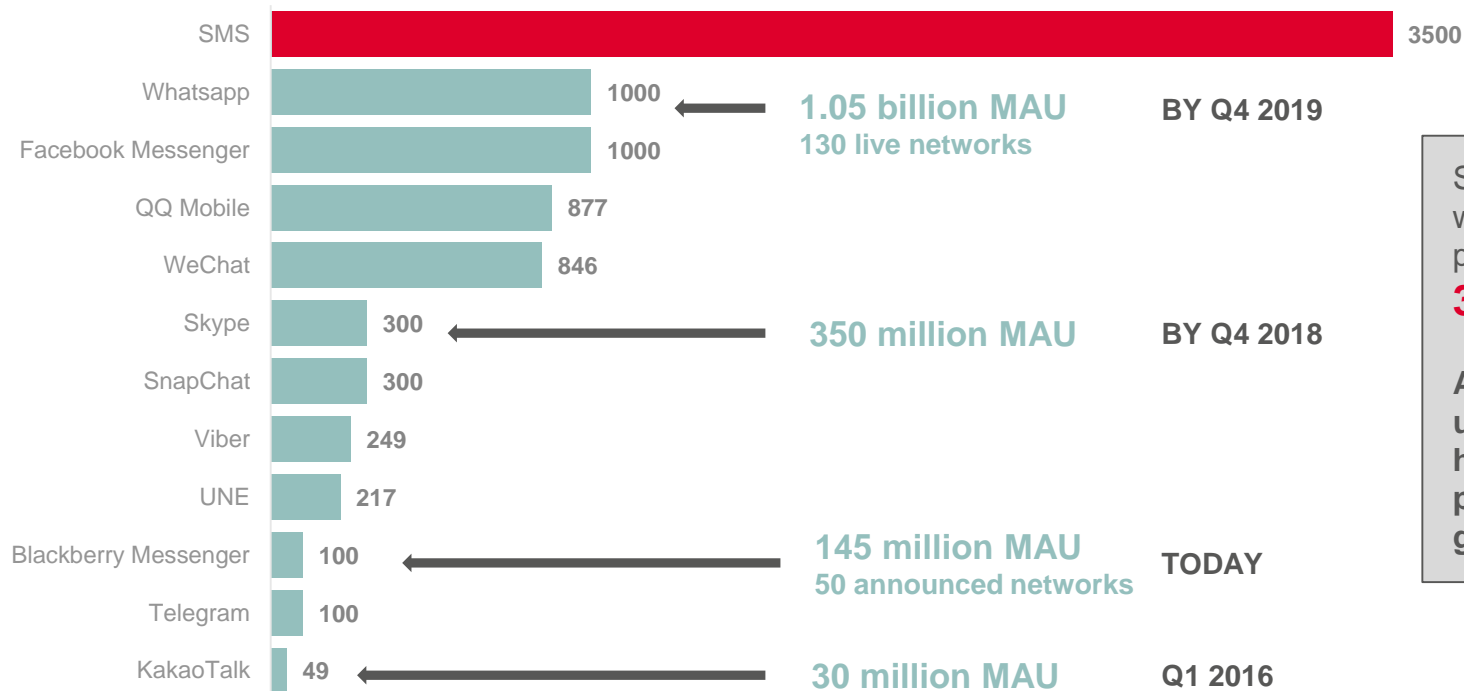
Active users





RCS Active User Momentum

Messaging Apps by Monthly Active Users (in billions)



SMS remains the world's largest platform with **3.5bn MAU**.

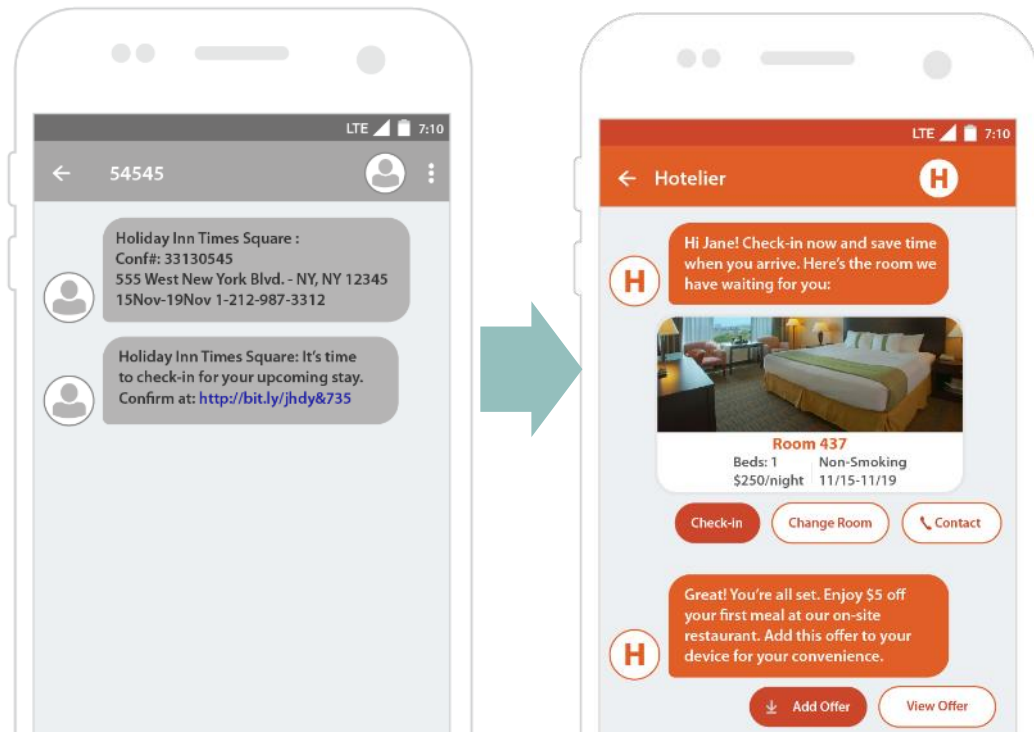
As an SMS upgrade, RCS has this potential for growth.



RCS Intrinsic Business Messaging Advantages

Operator Inbox

- 98% open-rate
- 90 second response time
- Over 90% of users active after 90 days
- Anti-spam measures
- Ubiquitous without downloads
- Clear business model
- Trusted by brands and consumers



Alternatives

E-mail

- 20% opened
- 2% responded

Apps

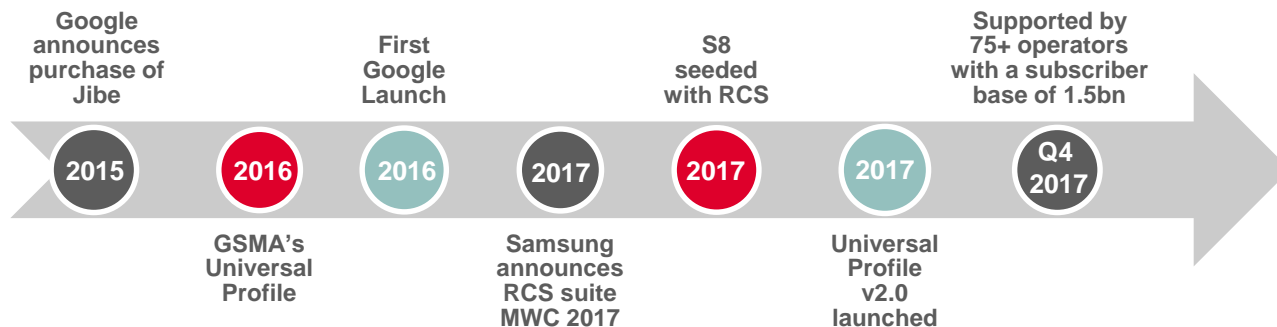
- 25% never used 26% only used once
- Loose 77% users in the first 3 days 95% after 90 days

OTT

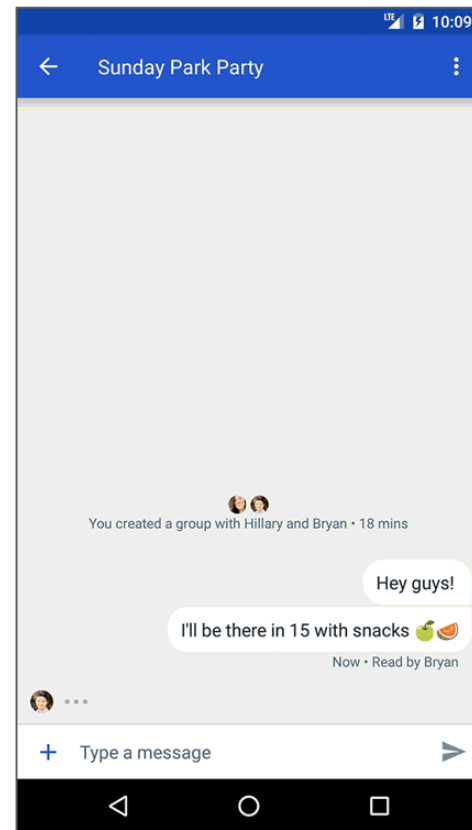
- GDPR concerns
- Ad-based model concerns
- Which app?



RCS is gaining momentum



Operators now launched include:





Network and Handset Momentum

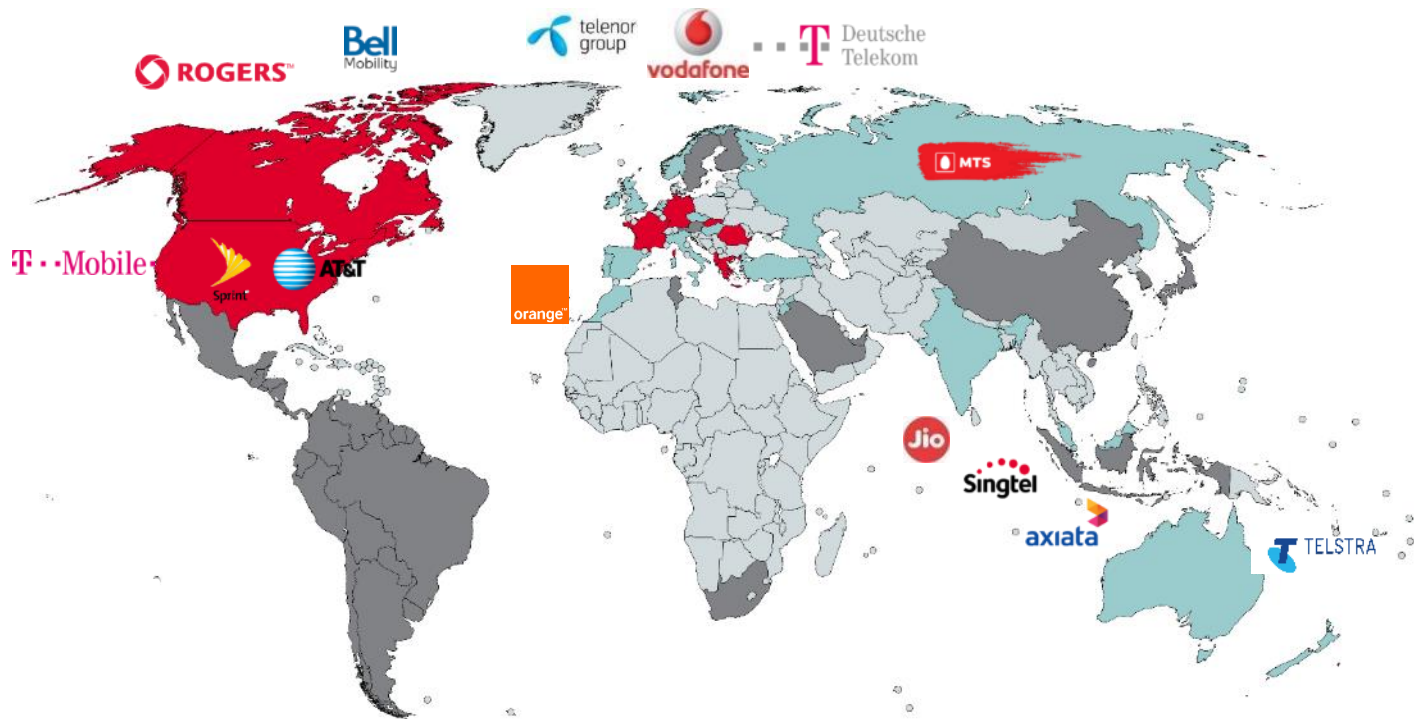
- Multiple launches
- Launched
- High interest

50 RCS launched & announced networks

157 million Monthly Active Users (MAU)

25 Operators planning to launch RCS in 2017-18

22 Handset manufacturers implementing RCS Universal Profile



alcatel

GENERAL MOBILE



hTC



Lenovo



NOKIA

SAMSUNG

SONY

ZTE



Snapshot: Americas

5 RCS launches

28 Operators planning to launch RCS in 2017-18



■ Multiple launches
■ Launched
■ High interest

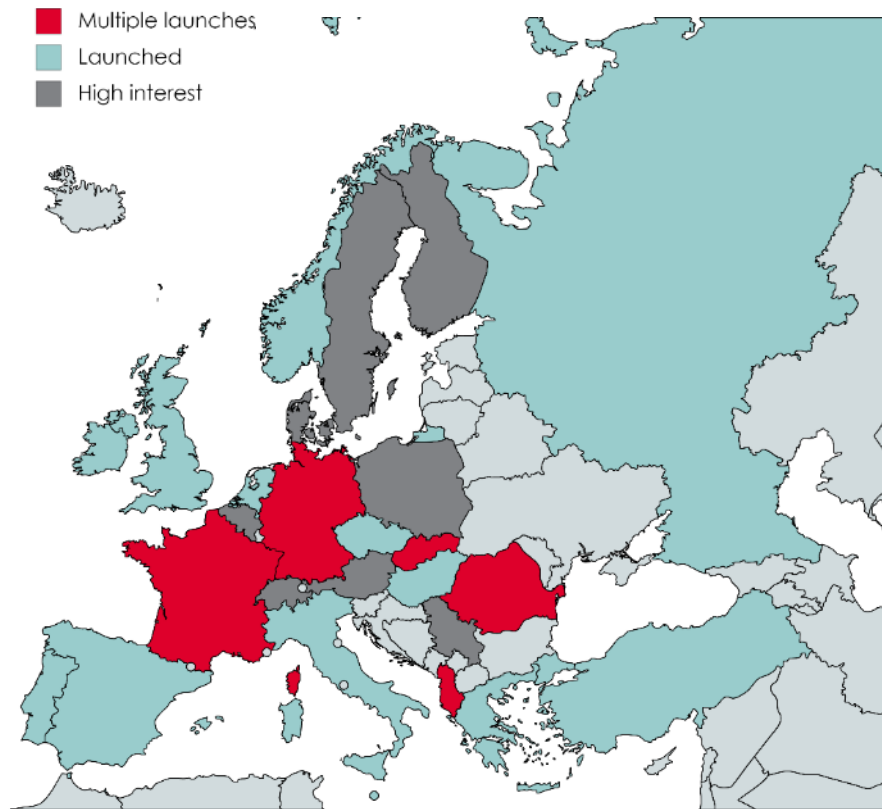




Snapshot: Europe

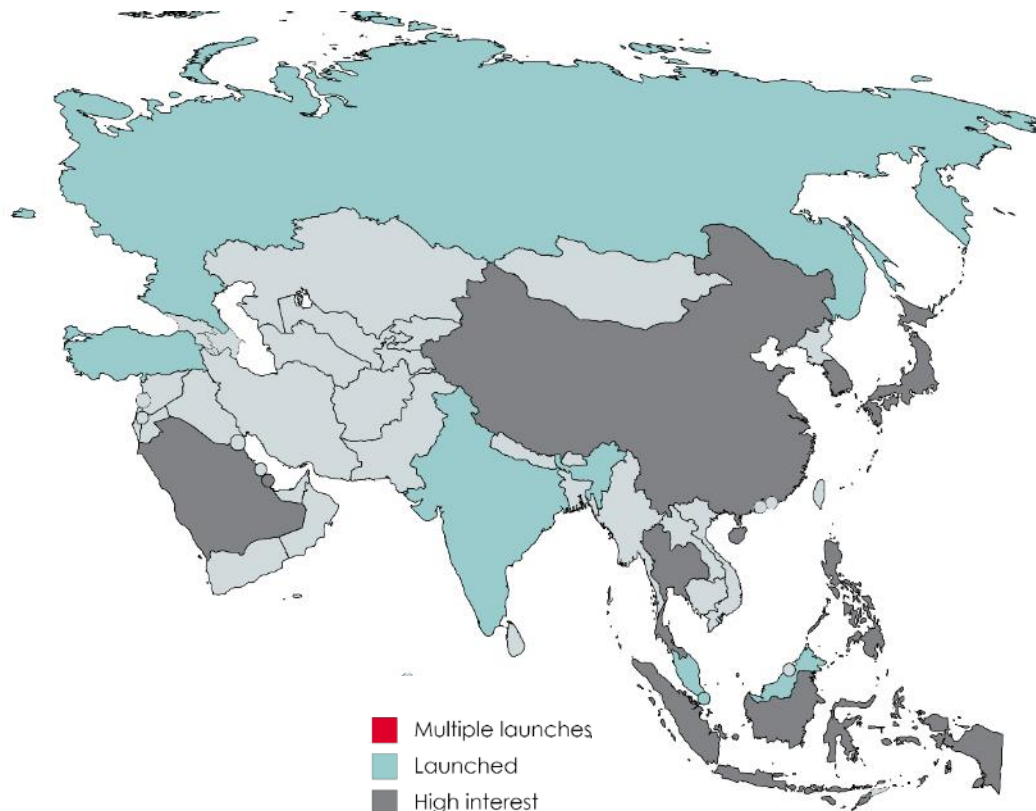
25 RCS launches

20 Operators planning to launch RCS in 2017-18



5 RCS launches

8 Operators planning to launch RCS in 2017-18





Apple's Deployment of RCS

- Apple Inc. represents under 15% of handset sales globally but up to 40% in some markets
- Recently Apple has engaged in discussions with GSMA and Operators about including RCS in iOS to:
 - Provide a better fall-back than SMS, when messaging non-iMessage devices (Apple to Apple would still use iMessage)
 - Improve the Apple-to-non-Apple messaging experience for its customers
 - Meet the needs of Operators in high-Apple-concentration markets deploying RCS
 - Prepare for the post-2G, post-SMS future
- Operators should enquire directly to Apple for details of Apple's plans





Messaging Product Feature Comparison

FEATURES	RCS	WhatsApp	Messenger	WeChat	QQ	Snapchat	Telegram	KakaoTalk
Messaging and file transfer	X	X	X	X	X	X	X	X
Read receipt	X	X	X	.	.	X	X	X
isTyping	X	X	X	X	X	X	X	.
Last seen online	Planned	X	X	.	.	.	X	.
Location sharing	X	X	X	X	X	X	X	X
Group chat	X	X	X	X	X	X	X	X
Voting and event creation in group chat	.	.	X	.	.	.	.	X
Enriched calling	X	.	.	.	.	.	.	.
SMS fallback	X	.	.	.	.	.	.	.
Chatbots	X	.	X	X	X	X	X	X
Rich cards	X	.	X	.	.	.	.	.
Plug-ins	X	.	X	X	X	X	X	X
Payments	Planned	.	X	X	X	X	.	X
Mini apps	.	.	.	X	.	.	.	.
Multi-device support	Planned	.	X	X	.	.	.	.



GSMA Universal Profile Commitments

The GSMA ensures interoperability between RCS clients, networks and hubs.

53
Operators



11
OEMs



2
OS Providers





Hosted vs On-Premises Options





Hosted Solution: Technical Perspective

ADVANTAGES

- **Easy to deploy**
 - Only requires providing access from cellular network and enabling authentication
 - Access may even be straightforward if using the internet APN as HOS APN
 - Almost no in-house experience is required
- **Easy interconnect**
 - Almost instant connectivity to other networks hosted by same party and all networks that party connected to already
 - No technical expertise required for further connections
- **Quicker to deploy**

DISADVANTAGES

- **Separate infrastructure**
 - Requires dual registration
 - Somewhat less efficient on client side
- **Little control over feature roadmap of network**
- **More difficult to connect to legacy messaging infrastructure**
 - Fall-back to SMS on the client is probably most viable approach
- **Requires providing 3rd parties with options to authenticate user**
 - Limits authentication options
 - Somewhat mitigated from UP 2.0 onwards with OpenID connect authentication that can be performed against endpoint provided by operator
- **Less visibility of traffic**
 - Customer support and general monitoring (e.g. fraud prevention) will be harder



Operator Owned Solution: Technical Perspective

ADVANTAGES

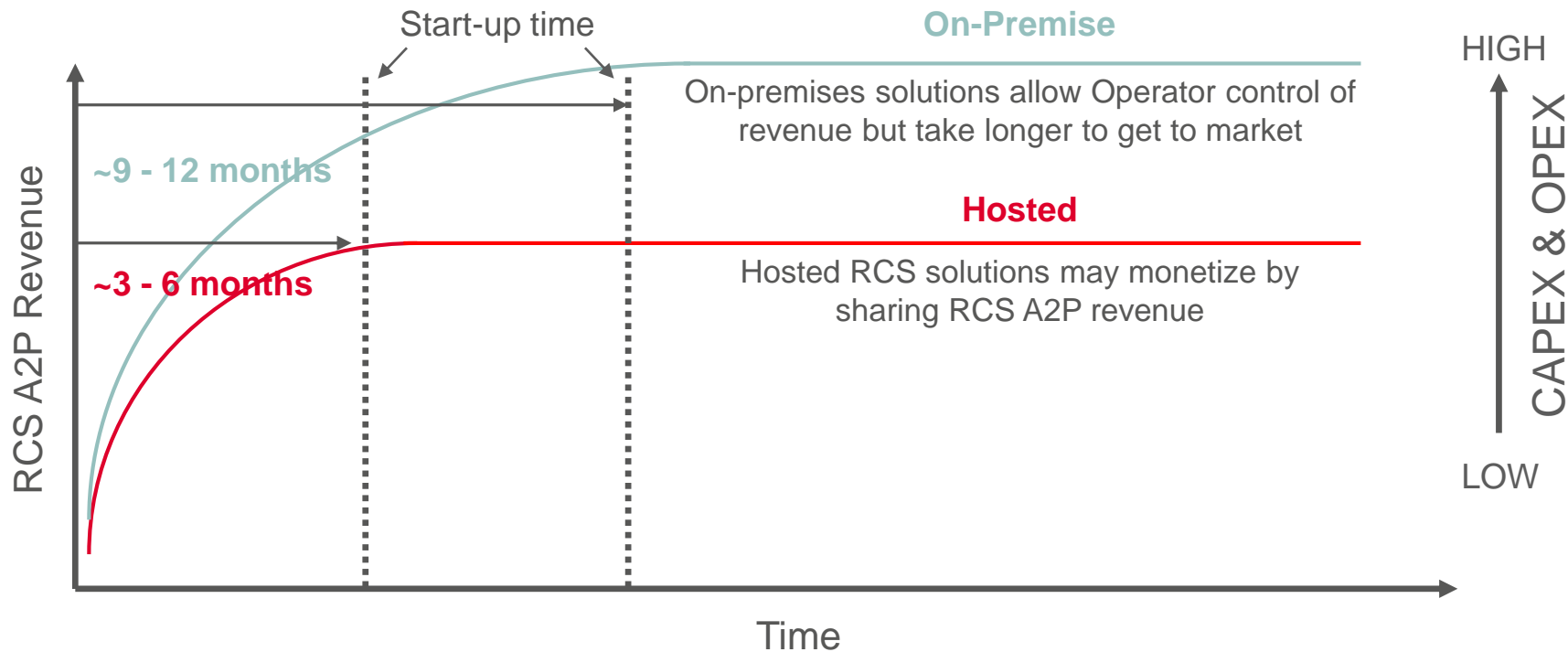
- **More flexibility**
 - More options for differentiation from other operators
 - E.g. integration with legacy messaging
- **Infrastructure can be partly shared with VoLTE**
 - Allows to use joint registration
 - More efficient on client-side (e.g. battery consumption)
- **Provides more visibility of the traffic and user behaviour**
 - Makes it easier to provide customer support
- **No need to provide authentication options to 3rd parties**

DISADVANTAGES

- **Requires more expertise to set up and operate**
- **Deployment timeline will normally be longer**
- **Requires the establishment of specific connections with other networks**
 - Most networks can be covered with connections through hubs
 - Some may need dedicated connections (e.g. other major operators in country)
 - Need for joint project with other network



Hosted vs. On-Premises A2P Revenue & Capex





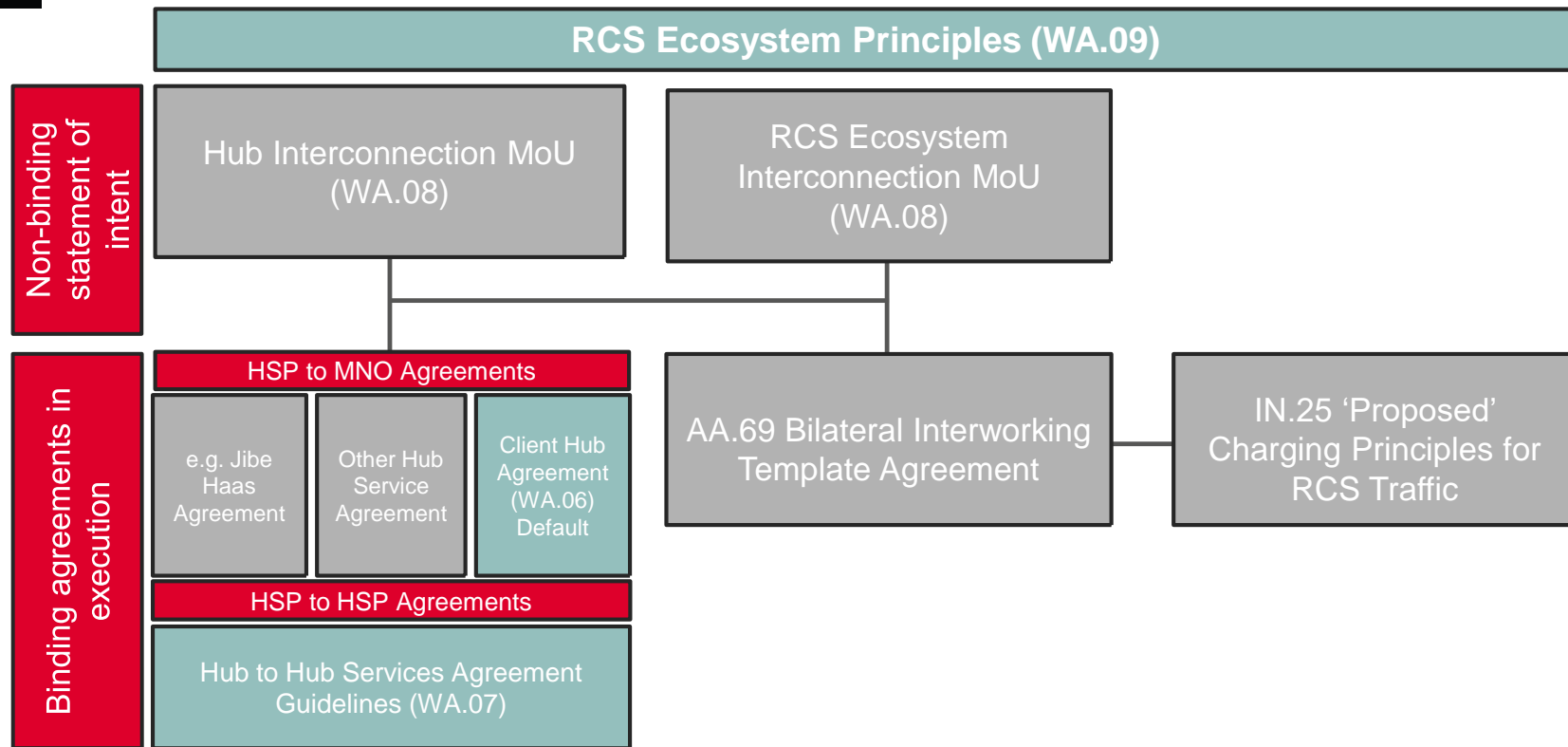
Ecosystem Principles: WA.09

- WA.09 – Ecosystem Principles is designed to support Operators in their discussions with the RCS supplier base, be it Client Provider, Hosted Platform Provider or Hub Service Provider
- Aligning the engagements will help standardise the ecosystem and help drive ubiquity.
- The document covers the following;
 - Implementation Principles
 - Specification for compliance and certification
 - Terms for Hosted Services
 - Hub Interconnections
 - Interoperability
 - Data Confidentiality
 - Key references

Prior to engaging with suppliers, Operators need to read WA.09 - RCS Ecosystem Principles (Available on GSMA Infocentre)



Ecosystem Principles: WA.09





Messaging as a Platform





What is Messaging as a Platform?

- The user base for major IP messaging services will exceed 4 billion by the end of 2017
- MaaP is the evolution of mobile messaging
- Through chatbots and AI, MaaP enables brands and operators to:
 - Increase engagement with customers
 - Grow revenue
 - Play a central role in the future of IP-based messaging
- Users gain direct access to brands and services from within the messaging app itself
- Engage with virtual assistants to book flights, buy clothes, make reservations and more



Messaging as a Platform Revenue



MaaP covers 4 distinct revenue streams in different stages of development:

Existing Revenue Opportunity

A2P MESSAGING

Improving existing A2P SMS business with rich cards and receipts

Potential: >\$90bn

PLUG-INS

Stickers, chat-based tools, games etc.

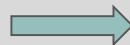
Potential: \$2-3bn



Future Revenue Potential as Platform Evolves

CONVERSATIONAL COMMERCE

On-line Search, Digital Personal Assistants, Customer Support Call Centres and e-commerce forecasted to move to chatbots



ARTIFICIAL INTELLIGENCE

Applications in business, local government, health, transport and many other fields



Why RCS A2P can dominate brand messaging

- **Email:** 20% open rate, 2% response rate
- **Apps:** 25% never use, 26% only used once
- **OTT Business Messaging:** Mixes personal and business, assumes app is present GDPR concern
- **SMS A2P:** 100% coverage, 98% open-rate
- **RCS A2P builds on SMS A2P with richer interface and improved functionality**





Why RCS is well placed for A2P Messaging

Operator messaging is particularly well placed to play a role in MaaP as operators have a pre-existing relationship with customers based on secure identity and billing information.

"The biggest advantage for brands and marketers is the massive amount of benefits RCS provides to consumers, and therefore, their target audience."

— Jay Emmet, General Manager, OpenMarket

"RCS A2P gives our customers a chance to communicate with their customers one on one and provide a terrific multimedia experience for their consumer."

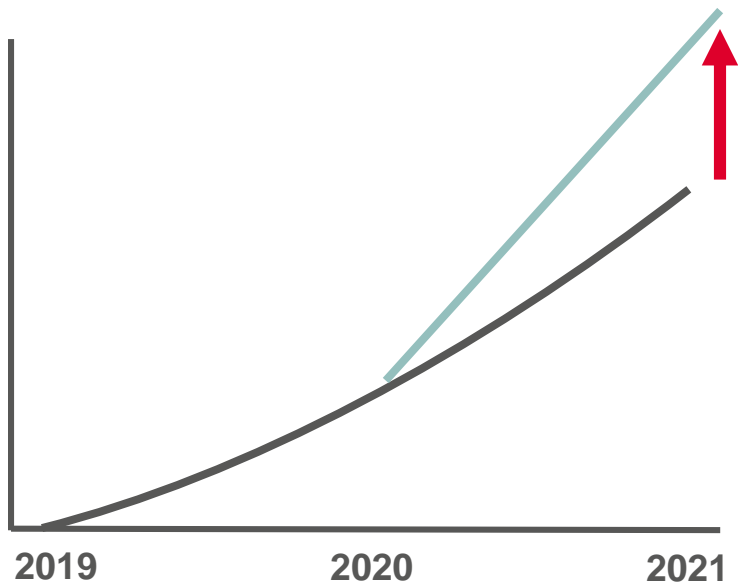
— John Duffy, CEO, 3Cinteractive

"We believe it's important to upgrade carrier messaging standards to improve the Android native messaging experience for billions of mobile users worldwide. SMS is one of the most widely used messaging technologies today, but it's a decades old standard."

— Amir Sarhangi, Head of RCS, Google



The MaaP Opportunity



>\$90 billion

10 – 30% increase

\$74 billion

SMS A2P reaches **\$74bn** by **2021** on projected growth rate, with a potential further increase of **10 – 30%**, driven by improved RCS functionality.

- Over 50 leading brands and 30 messaging aggregators in trial programs already
- Pilots expected by end Q1 2018
- Commercial launches across 2018



From SMS...

Booking.com
is showcasing
the future of
RCS A2P Messaging

WATCH DEMO



to RCS A2P



From SMS...

Claro
is improving customer
engagement through
RCS A2P Messaging

WATCH DEMO



to RCS A2P



Business Model for Hosted RCS

- Hosted RCS solutions are a low-Capex, faster way to introduce RCS A2P services
- Service provider may seek to monetise provision of the RCS service through revenue-sharing on A2P revenue
- Operators considering hosted services should:
 - Be aware of the WA.09 ecosystem principles
 - Be aware of the short, medium and long term financial pros and cons
 - Ensure they maintain control of the directory of chatbots reachable from the device
 - Ensure that they contractually maintain the right and technical ability to connect to aggregators and chatbots, regardless of whether the chatbots are enabled by the hosted solution provider or another party



Commercial Landscape

	A2P SMS	RCS (MaaP)	WhatsApp	Apple BC
Primary key	Phone number	URL		URL
User originates to business	Yes – To business phone number from user mobile number	Yes – To SIP URL from user mobile number (some implementations No)	Yes	Yes – To URL or QR Code from anonymous long-lived-session ID
Business originates to user	Yes – From business phone number from user mobile number	Yes – From SIP URL to user mobile number	Yes	No – So no spam
Business knows user phone number	Yes	Yes	Yes	No – Keyboard shortcuts help reveal so you can associate with long-lived-session-id
User knows business phone number	Yes	Yes – but via Business Info card, not natively	Yes	Yes – but via Business Info card, not natively
Opt out	Stop keyword	Bot dependent	Unknown	Consumer deletes conversation



Commercial Landscape

	A2P SMS	RCS (MaaP)	WhatsApp	Apple BC
Fee per message or session	Yes – Per message	Yes – Per message or session based	Unknown	No
Verification process of business	No	Yes – Google or per carrier process	Yes	Yes – Apple process
Business gets language and device region info	No	Mobile country code can be provided	Unknown	Yes
Payments built-in	No	No – Future versions yes)	Unknown	Yes – Apple Pay
Rich Lists	No	Yes	Unknown	Yes
Handset	All	Android, Windows OS	Apple, Android	Apple



WhatsApp and 'Business Messaging'

- WhatsApp is introducing 'Business Messaging'
- Similar functionality to A2P RCS:
 - Brand can only contact customers who have previously granted permission
 - Entry point for P2A chatbots and A2P messaging
 - Business accounts verified
- Price points not announced but likely to be initially low-cost /free to grow usage
- Impact on A2P SMS revenue likely to be high in countries where WhatsApp nears 100% penetration
- Also likely to impact on RCS A2P pricing



RCS A2P Labs and Groups





RCS A2P Future Messaging Labs

A new global Marketing initiative, designed to convene a multitude of companies to get RCS Business Messaging live!

- A cross-functional team working together – operators, marketing companies, aggregators, solution providers and brands
- Focused on making RCS A2P an industry-leading messaging platform
- Dealing with operational and commercial requirements: Monetisation, Privacy, Security & Trust, Interconnection, Customer Experience

8 Labs | 450 Attendees





Mobile Operators

TELE2



vodafone

T-Mobile



SoftBank



Singtel



docomo



verizon





Aggregators





Brands



Walgreens



Booking.com

IHG

tatango





Solution Providers





RCS Working Groups

- **GFRG:** Global Functional Requirements Group in which the product requirements and the user stories are prepared.
- **GSG:** Global Specifications Group in which the technical specifications are addressed for the product requirements.
- **MaaP Taskforce Plenary Group:** General discussions about Messaging as a Platform projects.
- **MaaP API and Developer Portal Group:** Messaging as a Platform API specifications are prepared in this group.
- **Interoperability and Testing Group:** The goal of the IOT group is to ensure interoperability of RCS clients and networks.





Global Functional Requirement Group (GFRG)

- RCS Global Functional Requirements Group (GFRG) is responsible for delivering Service Requirements for the RCS technical standards.
- The GFRG works to deliver Service Descriptions Documents (SDD) that allows mobile operators to offer competitive services to their customers and provide clear, well-developed and prioritised requirements to the technical standardisation groups.
- The GFRG is open to members from MNOs, device vendors, infrastructure vendors and software vendors.



Global Specification Group (GSG)

- RCS Global Specification Group (GSG) is set up and governed by the RCS Leadership.
- The goal of the group is to produce a set of converged specifications for Rich Communication Services.
- The GSG is open to members from MNOs, device vendors, infrastructure vendors and software vendors.



Messaging as a Platform Taskforce

- The Messaging as a Platform initiative is an initiative established by the IPCET to work on defining the opportunity and establishing the framework for connecting RCS to businesses.
- The Messaging as a Platform Task Force consists of Plenary Group and MNO-only Group.



Messaging as a Platform: APIs and Developer Portal Group

- This is a subgroup under Messaging as a Platform taskforce.
- The group is responsible for the API definition and development for MaaP services and also the establishment of the developer portal to present APIs and partner programs.
- The membership is open for MNOs, device vendors, infrastructure vendors and software vendors.



Interoperability and Testing (IOT) Group

- The goal of the IOT group is to ensure interoperability of RCS clients and networks.
- The IOT group set to define a "test harness" that will allow Operators, Hosted Solution Providers and Original Equipment Manufacturers (OEMs)/clients vendors to verify interoperability at device and network level.



Thank you

