Messaging as a Platform
The Operator Opportunity

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Network 2020

The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with almost 300 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces industry-leading events such as Mobile World Congress, Mobile World Congress Shanghai, Mobile World Congress Americas and the Mobile 360 Series of conferences.

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The GSMA's Network 2020 Programme is designed to help operators and the wider mobile industry to deliver all-IP networks so that everyone benefits regardless of where their starting point might be on the journey.
The programme has three key work-streams focused on: The development and deployment of IP services, the evolution of the 4G networks and the 5G Journey, developing the next generation of mobile technologies and services.

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What is Messaging as a Platform?

Mobile messaging is undergoing something of a renaissance with the rise of Messaging as a Platform. This is an exciting new area that represents an incredible opportunity for businesses and mobile network operators to increase their engagement with customers. MaaP enables communications services between third party businesses and customers opening up a range of services that utilise chatbots, Plugins, Artificial Intelligence (AI) and industrial applications. This provides users with direct access to a range of brands and services from within the messaging app itself allowing them to engage with virtual assistants to book flights, buy clothes or make restaurant reservations without having to download multiple apps. It also represents a number of advantages for businesses who can offer 24/7 'always on' services to customers. Gartner predicts that **by 2020 85% of customer interactions will be managed without a human[1].**

CUSTOMERS SPEND
85% OF THEIR
SMARTPHONE
TIME IN APPS

There are already a number of services available today such as Apple Siri, Amazon Echo, Wechat, Google Assistant and Facebook Messenger, however, the majority, with the notable exception of China's Wechat, are in their infancy in terms of customer reach and capability.

Application–to-Person (A2P) services, are being upgraded by adding richer message functionality via RCS and a diverse and more flexible range of functions that can be taken over by chatbots, which will grow as functionality improves. A2P SMS provides operators with an opportunity to migrate ther SMS traffic to enriched RCS based messaging and then further into chatbots. A2P can be considered the precursor of chatbots and the first step in creating a full-fledged chatbot platform. This is a huge market - Mobilesquared estimate the chatbot market to be worth **$58.75 billion by 2020[2].**

MaaP is expected to go mainstream in the next 6-18 months and represents an opportunity for operators to expand their existing SMS A2P businesses by establishing an advanced and flexible MaaP ecosystem that capitalises on their pre-existing customer bases and key assets such as customer trust and privacy. However, in order to achieve this, they must collaborate with large internet players to help develop new value propositions. Operators are well positioned to be part of this next wave of transformation and the opportunity is there for to build partnerships and engage with new entrants in this emerging space, playing a central role and helping to shape its future development.

MaaP is an opportunity for operators to reshape and revitalise their messaging services and play a central role in the future of IP-based messaging. According to Nielsen, **customers spend 85% of their time on smartphones in apps** but only five apps see heavy use[3]. The GSMA's vision is to establish a common, global and interconnected messaging platform that removes the need for multiple messaging apps and delivers a unified, consistent and engaging user experience. Through partnerships and industry collaboration operators can create a community that can be scaled to almost **two billion users by 2020.** This report highlights the key steps operators need to take to deploy these services.

[1] http://www.gartner.com/imagesrv/summits/docs/na/customer-360/C360_2011_brochure_FINAL.pdf
[2] http://www.mobilesquared.co.uk/blog/mobilesquareds-latest-databook-says-mobile-operators-key-to-unlocking-massive-a2p-messaging-opportunity/
[3] http://www.businessofapps.com/we-spend-84-of-our-time-using-just-five-mobile-applications/

Role of Artificial Intelligence

The development of artificial intelligence has paved the way for a rise in the number of virtual assistants that are helping to make our lives a lot easier and change the way we interact with businesses.

AI based assistants have the ability to learn and incorporate information in their knowledge bases as well as recognise speech and provide messages. Indeed, Google estimates that 50% of all searches will be voice searches by 2020[4]. Amazon's digital assistant, Alexa, for example, can tell you the news, play music or adjust your lighting or heating settings via voice commands. Or Apple's Siri, which is used for a range of services including financial transactions. It is a huge growth area that has seen huge investment from internet giants such as Google, Facebook and Microsoft. More than USD$300 million was invested by venture capitalists in AI startups in 2014[5].

This, in turn, has kick-started the development of chatbot services by third party organisations opening up the number of services available to customers. This is no surprise considering the Digital Virtual Assistants market is expected to be worth USD$15.8 billion in 2021, according to the consulting firm, Tractica[6].

[4] https://www.branded3.com/blog/ok-google-give-stats-voice-search/
[5] https://www.bloomberg.com/news/articles/2015-02-03/i-ll-be-back-the-return-of-artificial-intelligence
[6] Virtual Digital Assistants: Virtual Agents, Chatbots, and Virtual Assistants for Consumer and Enterprise Markets Utilizing Artificial Intelligence, Natural Language Processing, and Conversational User Interfaces. Tractica, L.L.C. 2016

Chatbots for Business

A chatbot is an intelligent 'agent' or 'software robot' that mimics human conversation to communicate with customers through a messaging interface using artificial intelligence. It can help enterprises and service providers add customer value for comparatively little effort by helping people to send money, order food or book flights by using simple chat style interactions. It is a fast-growing market; developers have built over 30,000 bots in six months for Facebook Messenger[7].

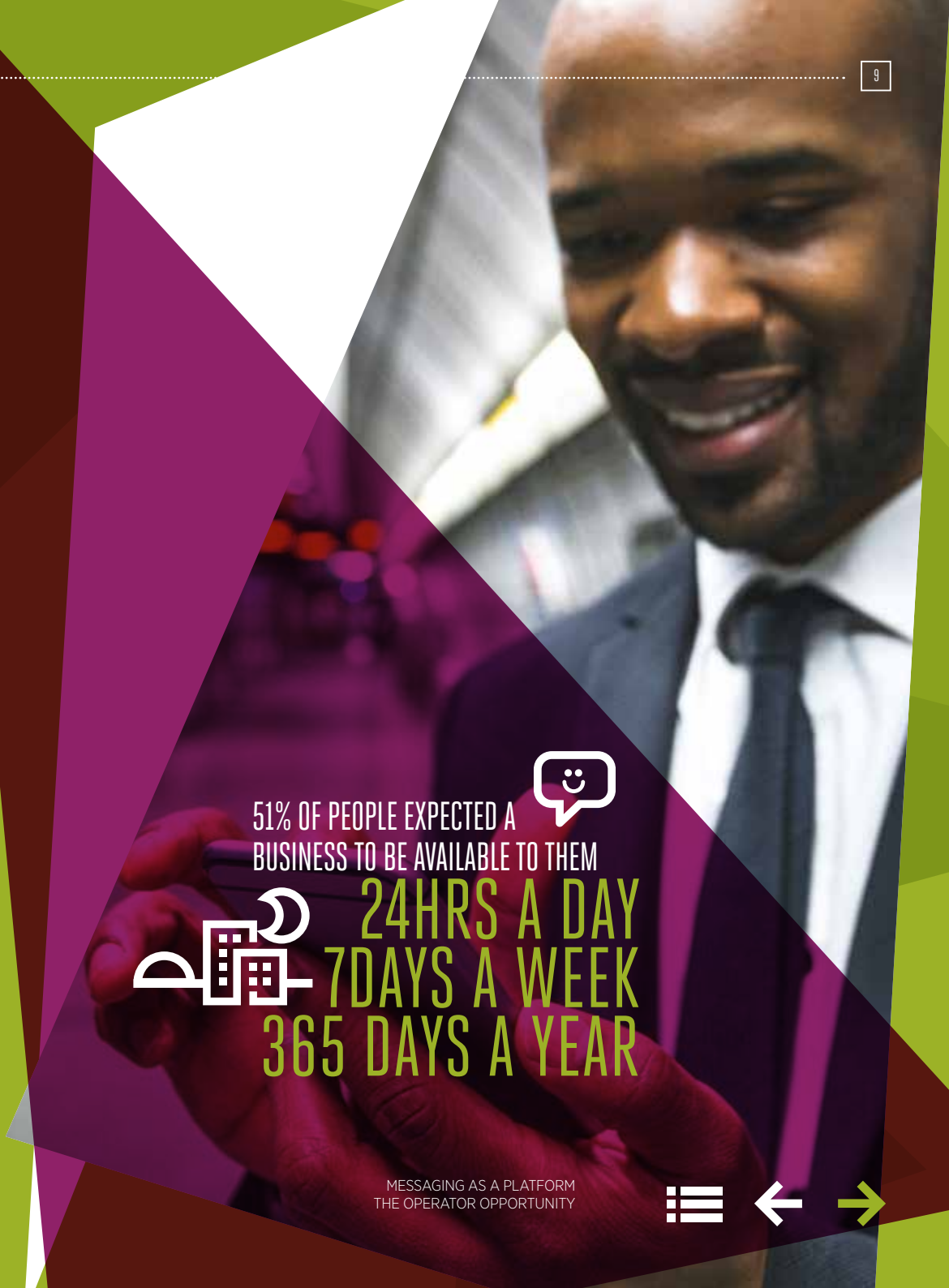
Chatbots represent a tremendous opportunity for enterprises and businesses. They provide a simple, convenient and interactive way of connecting directly with customers on their devices offering a similar experience to conversing with a human agent or employee from a service based organisation. Chatbots can be purpose built for any messaging platform and can support businesses in ways a human team can't by offering a 24/7/365 online presence, support and direct customer engagement.

Research by mobile messaging software platform, Ubisend, highlighted the changes in customer behaviour in the internet age. It found that 51% of people expected a business to be available to them 24/7, that 45.8% would rather contact a business through messaging than email and 49.4% would rather message than phone.

Opening hours no longer exist; customers are savvier and prefer social media and messaging platforms to organise their lives. They want a less formal, instant and more personal touch from businesses. Chatbots are the answer to this and are the present and future of customer engagement. They augment existing human staff to fulfil customer demands.

According to the consulting firm, Tractica, there will be an estimated 1.8 billion unique, active chatbot or virtual assistant users by 2021[8] and a market worth more than $600 billion in revenues by 2020.[9] This is an opportunity that operators cannot afford to miss.

[7] http://newsroom.fb.com/news/2016/09/more-seamless-more-ways-to-share-more-ways-to-buy-more-context-introducing-messenger-platform-v1-2/
[8] Virtual Digital Assistants: Virtual Agents, Chatbots, and Virtual Assistants for Consumer and Enterprise Markets Utilizing Artificial Intelligence, Natural Language Processing, and Conversational User Interfaces. Tractica, L.L.C. 2016
[9] Inbenta: http://sjstransky.writerfolio.com/attachments/81067.pdf



The Operator Opportunity

The user base for major IP messaging services is projected to exceed four billion[10] by the end of the year.

This is a larger user base than the entire social media market and is approaching parity with the number of unique mobile subscribers worldwide. In 2016, the top two over the top (OTT) IP messaging services both surpassed a billion active users each. OTT messaging services are now becoming platforms to introduce and monetise other services such as music, gaming and payments that are enhanced by the use of chatbots and AI. This approach is most evident in Asia via providers such as WeChat, Line and Kakao. With the emergence of chatbots and AI, Facebook, Apple, Microsoft, Samsung and Amazon have all begun to establish platforms to leverage these new innovations choosing to either compete with operator messaging businesses or partner with them by integrating their platforms.

The commercialisation of messaging platforms has opened up the ecosystem to other suppliers. Adjacent industries such as energy, retail, automotive, manufacturing and construction have undergone a digital transformation in recent years and are looking to provide consumers with digital services that enhance their user experience on top of existing services as well as improve customer engagement and increased revenues. The third quarter of 2015 saw the largest amount of venture-capital activity on record in the mobile sector which was driven by mobile commerce as new companies and services like chatbots continued to emerge and scale rapidly.

[10] https://www.gsmaintelligence.comresearch/?file=8750c0890d2671335ceee4b3c19738c0&download

MARKET WORTH
USD$74 BILLION
BY 2021

The Challenge

The challenge for operators is to seize the opportunity and respond through innovation by reshaping messaging to build relevant service features for industry partners as well as more attractive propositions for their end-users.

According to research by analyst house, Informa, the rise of OTT messaging applications means operators can no longer depend on person to person SMS revenue, and in time A2P SMS revenue will also come under pressure. In future both should be replaced by launching Advanced Messaging and augmenting and migrating the A2P business to the new technical basis. Informa estimates that this will be a market worth USD$74 billion by 2021.

MaaP is an opportunity for operators to grow revenue by augmenting and then migrating their A2P business to a new technical basis that offers new capabilities and shares in the revenue generated by new business paradigms such as Artificial Intelligence, chatbots and in-chat search. If operators do not respond quickly to this opportunity, they could lose out on this part of the communication value chain.

The large messaging platforms in the market today are proprietary solutions, characterised by a few dominant players where new entrants find it difficult to compete. Messaging app users can only communicate with other users of the same app, forcing end users to have multiple applications installed on their devices. **The GSMA's vision is to establish a "Connected standard or platform"** next to existing OTT "single islands". Operators could then offer their own MaaP service or partner with global platforms to enable co-operation models with different third parties. Operators are well positioned to be part of this next wave of transformation and the opportunity is there for them to build partnerships and engage with new entrants in this emerging space, playing a central role and helping to shape its future development.

THE GSMA'S VISION IS TO ESTABLISH A

"CONNECTED STANDARD OR PLATFORM"

NEXT TO EXISTING OTT

"SINGLE ISLANDS".

Key Principles for MaaP

MaaP will require a paradigm shift in the way operators work and require closer relationships with partners and a mindset shift to deal with them as partners and not vendors. This has implications for business models, business architecture and customer experience. The following principles are essential to ensuring Advanced Messaging emerges as the communications platform of choice.

- **Openness:** Universal access for customers and partners ensuring all participants can contribute to and enjoy a competitive marketplace with simplicity underpinning the connection and operation of the platform.
- **Innovation:** Increased competitiveness of new and existing services based on messaging bringing innovative new products to market.
- **Reach:** Realising the value of the global MNO user base, where any chatbot can reach any advanced messaging user.
- **Quality:** Messaging performance and partner applications and interactions must adhere to the highest standards respecting customer preferences and privacy.
- **Protection:** MNOs will retain the ability to control access to its customers and maintain adherence to standards.
- **Reward:** Parties in the ecosystem, such as MNOs and partners will share the rewards according to contributed value.
- **Value:** commercial agreements will underpin access to MNO MaaP.
- **Transparency:** Ensure that participants in the value chain have visibility of the value flows and benefits accrued to each party.
- **Privacy:** customer privacy and the value of the MNO customer base shall be protected through optional anonymity.

OPERATORS WORKING IN PARTNERSHIP
FOR BENEFIT OF THE END USER

Building a Successful Ecosystem

MaaP can't be created in isolation and requires operators to develop industry partnerships and work collaboratively with service providers, internet players and the wider ecosystem to deliver a business model that can scale globally and deliver collective long-term commercial success.

In order to compete with the richness of the experience on other platforms, operators need to collaborate with other players in the content and devices world in a way that goes beyond the current vendor-customer relationship.

Successful platforms have often prioritised scale over value. The ecosystem strategy should focus initially on determining the requirements of the platform, the products and services, and the partners and collaborators that will drive uptake and achieve scale. Once achieved the core offering will emerge and evolve. As scale develops, the focus can build on the initial value propositions with network effect driving uptake and further creation of value.

The discovery and adoption of new business models are critical to capturing value. One of the most important revenues streams will be in building or enhancing "user profiles" which will lead to personalised advertising and branding. Operators can generate revenues from this and for access to the customer. It may be difficult, however, to quantify and account for this value created outside of the messaging client.

MaaP is ideally placed to act as an enabler to a potential ecosystem of developers and service providers in much the same way as Apple, Google and Salesforce have with their platform business models. By bringing all operators together behind a single MaaP strategy a community of almost two billion users can be created. A community of this scale gives MaaP the scale to compete at the global level.

Enabling Collaboration and Competition

Ecosystems, particularly around platform business models, require collaboration. However, the realities of contracting, on-boarding, knowledge sharing and technical integration all represent challenges, particularly for operators that have traditionally operated in a ring-fenced manner where interoperability dominates over collaboration and commonality.

Players within ecosystems work both cooperatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations. Co-operation is the new business model for the platform generation and where operators act in the role of a platform provider, they will need to be subject to the same principles of collaboration and competition, no different to third-party platform providers.

Successful platforms invest significant time and resource into generating demand side value. Developers, brands and other demand-side providers need a simple route to connect with and utilise the platform. This could take the shape of a standard approach for connecting chatbot platforms to operator networks such as a single contract for services and access or other forms such as self-service or one-stop shop usage models; metered usage charging; accessible support and a developer engagement programme to communicate, educate and motivate.

Collaboration and co-creation within the ecosystem allows each participant to access skills and capabilities from others to create synergies and achieve scale (the co-operation business model). Each participant has to have a clear understanding of the role or roles they can play and a focus on the strategic threats and potential opportunities that make part-ownership of a large platform business model more valuable than complete ownership of a small single business model.

Use Case Examples

There are a huge number of areas where innovative third-party services can be supported by chatbots or plugins. Here are some examples:

Travelling

- Query your airline about available flights and make a booking through the conversational interface.
- Receive flight check-in reminders, change seat or select your meal in advance. Receive boarding passes within the conversation thread as well as flight status notifications.

Mobile Banking

- Contact your bank and using secure authentication, use financial services with another bank such as transfer money or request account balance.
- Inform your bank that you are going to a specific foreign location beforehand to pre-authorise foreign usage of credit cards.
- Be reliably contacted by your bank checking on a suspicious credit card charge. Block the card and obtain new one while taking the necessary fraud reporting steps immediately from the conversation.

Customer Services and Support

- Send questions and concerns directly to a company about your subscription through a conversational-based messaging interface instead of waiting in a long phone queue.
- Compose a message with your request at your convenience and receive meaningful feedback in return.

Resource reservation and Personal organisation

- Book a ticket for the cinema, select your movie, your seat and finally complete the booking by triggering the payment and receiving the ticket (e.g. QR code) in your conversation screen.

Shopping & Purchasing

- Purchase goods online. Contact the seller and explain exactly what you want.
- The seller can have a conversation with you to find you the best offer or product.
- Once you have made your choice you can confirm and initiate the payment within the conversation.
- Your retailer will keep you updated with messages to indicate the delivery to you.
- After you have received your item you can share a rating and review about the service and the purchased item.

Geo-location and calendar-based services

- Combine location, calendar and public APIs to receive information from a chatbot suggesting times and routes to your next destination based on the events in your calendar. For example, you could receive a message from the chatbot to let you know when you have to get on your way to your next event, with directions, best route, traffic information, and/or public transportation details.

Stickers and other content

- Browse and download stickers, pictures, animations or cartoons and insert them into your conversation exchange with any contact.

Information exchange and media subscriptions

- Send a one-off message to anonymously vote in your favourite TV show
- Receive confirmation and a reminder about the next opportunity to vote.
- Receive an offer to watch premium content e.g. pay and watch the video of the winning song through the messaging interface

Gaming

- Keep yourself amused with conversation-based games and puzzles in a gaming chatbot.
- Interaction within a game is saved and accessible to be continued at your convenience in the messaging conversation.
- Communicate with others on the top scoreboard and pay to keep privileges (e.g. gold star for not missing a day).

Intra-company communication

- Receive messages from a closed user group such as an intra-company communication designed for employees of the same company.
- Support confidentiality obligations i.e. communications are not subject to data mining etc.
- Initiate a voice call to a number associated with the chatbot owner during the session.

Payment

- Pay for products or services with end to end encryption within the messaging app.
- These interactions can have different levels of authentication based on the service (i.e. buying a sticker can occur anonymously, but transacting with your bank account requires higher levels of security). Geo-location and calendar-based services.
- Combine location, calendar and public APIs to receive information from a chatbot suggesting times and routes to your next destination based on the events in your calendar. For example, you could receive a message from the chatbot to let you know when you have to get on your way to your next event, with directions, best route, traffic information, and/or public transportation details.

Location tracking

- Share your location with close ones so that they know where you are.
- Agree on a meeting venue with friends in a group conversation and track each other on your way to the venue.

To do lists

- Set up and manage shopping lists or to-do list within a 1-to-1 or group conversation.
- Cross off items once they are purchased or completed and share the list with contacts as desired.

Voting and polls

- Set up a poll or quiz for invited contacts to participate in.

Translation

- Translate text in any language as you type.

Fitness

- Track fitness using the smartphone's activity data and share this with the fitness tracking provider of your choice.
- Receive regular information on sports exercises, messages of encouragement, health tips and recipes etc.

Non-conversational use cases

Mobile messaging services already provide the communication infrastructure for many other use cases that do not require chatbots, for example:-

Appointment alerted service management

- Get reminders on tasks that need to be completed.

Promotional codes

- Receive marketing messages that contain brand logos and images of products as well as promotional codes.

The Value Chain

The user base for major IP messaging services is projected to exceed four billion[11] by the end of the year. This is a larger user base than the entire social media market and is approaching parity with the number of unique mobile subscribers worldwide.

Ensuring openness in the ecosystem provides the opportunity for increased competition and innovation of new services, especially in cooperation with local and global partners or operators who will provide platforms on top of Advanced Messaging. Operators are strongly positioned in the value chain. The chatbot platform can be a content provider and may provide the messaging backend to the operator. If an operator takes the role of a chatbot Store or A2P partner and distributes content across other networks, they must enter into equivalent agreements with other operators as any other chatbot platform would do.

Operators should consider an agreed contractual and technical framework or set of principles in order to provide a consistent entry point to the MaaP ecosystem regardless of which operator an A2P partner contracts with.

[11] https://www.gsmaintelligence.comresearch/?file=8750c0890d2671335ceee4b3c19738c0&download

Monetising MaaP

There are two key models for monetising MaaP which are direct and indirect based revenue models. A direct-based model is where an operator collects value directly from a user or content owner either through charging for the messages or charging for the content of messages. The indirect model is where the value is collected elsewhere in the ecosystem, for example by a chatbot, Plugin developer or AI and a share of the revenue is received by the operator.

Operators currently enjoy a 100% billing relationship with their customers and billing is seen as a key asset and differentiator for operator based MaaP. By enabling quick and easy payment mechanisms with low friction, operators can develop an additional direct revenue source. With the emergence of new services, indirect revenue models will need to coexist with and supplement the direct revenue models. Bilateral commercial agreements will, therefore, need to exist between platform or content providers and operators as a precondition for access to Advanced Messaging. Operators can also successfully build a MaaP ecosystem capitalising on assets such as customer trust and privacy as well as their larger customer base and existing SMS A2P businesses.

Universal Profile for Advanced Messaging

The GSMA's Universal Profile for Advanced Messaging (UP) has united mobile operators (MNO), operating system providers and handset manufacturers behind a single global specification for IP-based carrier messaging.

A single, open and common UP simplifies and accelerates the adoption of interoperable communications services allowing customers to benefit from a richer and more consistent messaging experience regardless of what device or network they are on. It also removes the need to download multiple messaging apps. As this is adopted around the world customers will benefit from upgraded voice and SMS services and other enhanced features such as instant messaging, chat, photo sharing, live video, video calling and file sharing that work across any device and on any network. It is currently supported by 58 operators, OEMs and OS providers worldwide.

Messaging as a Platform (MaaP) utilises the UP to enable a range of services through the use of chatbots, plugins, AI and third-party industrial applications providing users with direct access to a range of brands and services from within the messaging app itself. MaaP will be a key component of the next Universal Profile release expected in Spring 2017 providing MNOs and partners with the ability to shape the future of messaging.

The GSMA Support

The GSMA has a mission to help Advanced Messaging progress as quickly as possible, rather than be restrained by a rigid and time-consuming release schedule. Each release will be backwards compatible, ensuring the advanced messaging apps can interact with earlier back-end and handset software. The Universal Profile is a key building block in the construction of an Advanced Messaging proposition that delivers reliability and reach without being rigid.

By delivering economies of scale and interoperability, the Universal Profile will ensure mobile operators remain at the heart of the communications experience. It is the next generation of messaging and it is the right time to do it. Over 500 networks, billions of users from the existing SMS community, Android and other OS users to engage with. Everything is in place.

Making Messaging as a Platform a reality

“Messaging as a Platform offers significant advantages to operators and the wider ecosystem’.

By establishing a clear ecosystem strategy from the outset, MaaP can be successful. However, this requires a concerted and unified effort by operators to move their messaging solutions to the next level and MaaP acts as the launch pad for chatbots and Plugins but also looks ahead to other core businesses. All ecosystem stakeholders must also work as a collective and think creatively about business models, charging and interconnect principles to nurture the MaaP opportunity and help it achieve scale and long-term commercial success. MaaP will be a key component of the next release of the GSMA’s Universal Profile expected in Spring 2017 and operators and partners have the ability to be involved and shape the bright future of MaaP.

To find out more about Network 2020 please go to www.gsma.com/network2020