GSMA Intelligence

M2M in Latin America: state of the market

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This research note outlines our latest cellular M2M connections forecasts for the Latin America region, looking at the opportunities for development and the barriers to adoption. It also focuses on the region's largest M2M market, Brazil, highlighting several of the M2M initiatives currently being deployed by operators in this country across various vertical sectors.

GSMA Intelligence estimates that there were 16.1 million cellular M2M connections in Latin America[1] as of year-end 2014, making it the fourth-largest region worldwide after Asia Pacific, Europe and Northern America. M2M connections growth is expected to be strong over the next few years, at a compound annual growth rate (CAGR) of 25% over the period to 2020, by which date the total number of connections will have reached 62 million. Across the region, M2M accounts for only around 2% of all connections, but this is forecast to rise to 7% by 2020.

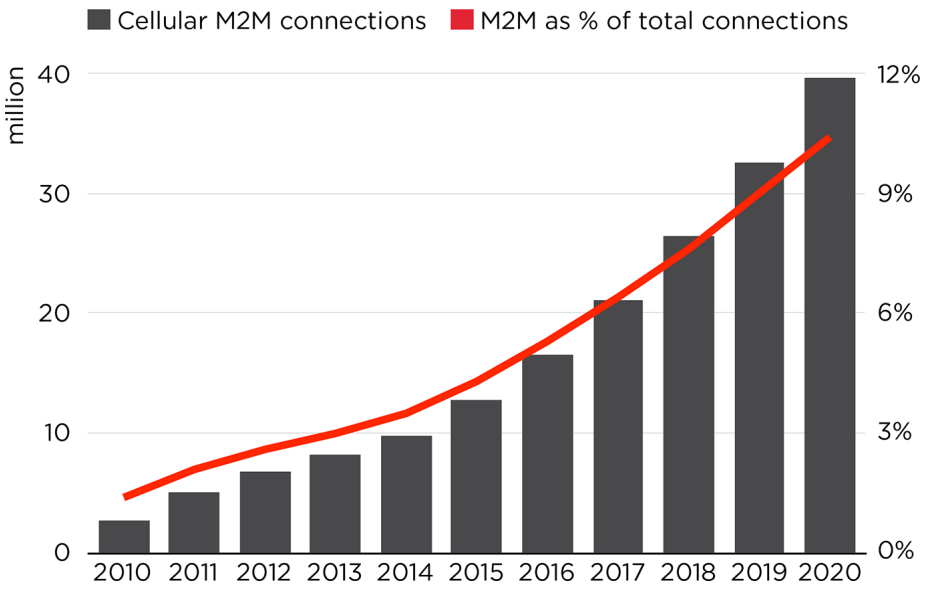

Figure 1: Cellular M2M connections and M2M as percentage of total connections, Latin America, 2010–2020

Source: GSMA Intelligence

Brazil: Latin America's largest M2M market

Brazil is the largest market in Latin America in terms of number of M2M connections. As of Q4 2014 the country had 9.9 million cellular M2M connections, accounting for 61% of the total cellular M2M connections in the Latin American region[1]. M2M connections has grown at a CAGR of 48% over the last four years, mainly driven by point of sale (PoS) terminals connected via GPRS, the migration of payment cards to the EMV (Europay, MasterCard and Visa) standard, and vehicle telematics services such as SVR (stolen vehicle recovery).

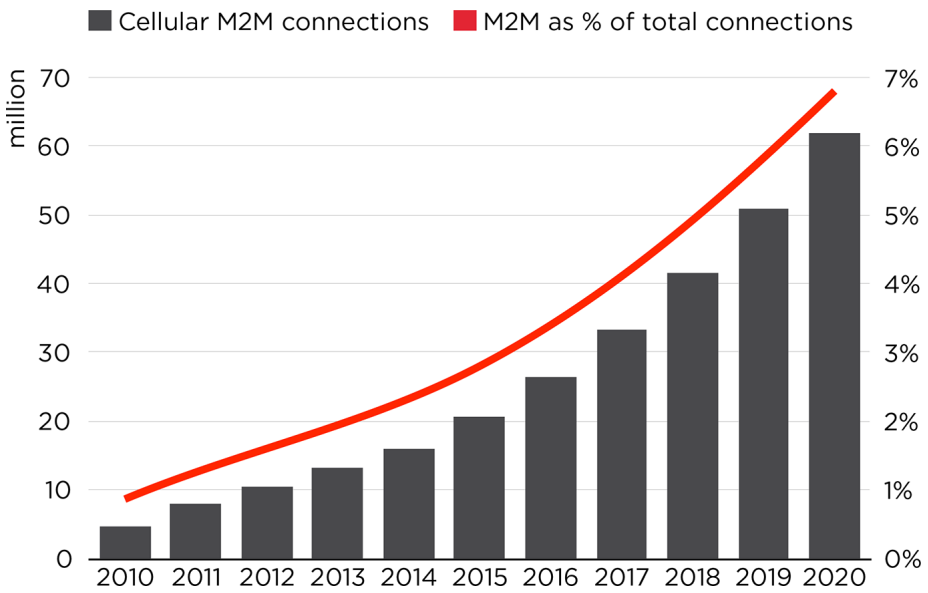

Figure 2: Cellular M2M connections and M2M as percentage of total connections, Brazil, 2010–2020

Source: GSMA Intelligence

M2M as a share of total connections is an indicator of M2M market maturity. As of Q4 2014, cellular M2M connections accounted for 3.5% of total connections in Brazil, slightly above the global average of 3.3%; but below China (5.1%), South Africa (5.5%) and the US (11.3%). This suggests that there is potential for growth, assuming that certain market conditions are met. As highlighted in our report analysing the M2M market in China, public-private partnerships, supportive government policy and the engagement of operators all play an in important role in creating a M2M ecosystem. Chinese operators are developing sophisticated M2M service propositions that go far beyond the provision of basic connectivity. Through partnerships with ecosystem players, they are moving towards providing end-to-end solutions, supported by systems integration, cheaper modules and dedicated charging policies.

The impact of regulation and tax on Brazil's M2M market

In May 2014, the Brazilian government passed new regulations approving tax breaks for M2M connections. The decree approved two tax reductions under the Telecommunications Inspection Fund (FISTEL)[2]:

- The Installation Inspection Tax (TFI), a one-off tax applied to all new connections when a SIM is first activated, from BRL 26.83 ($9.43) to BRL 5.68 ($2.00)
- The Operation Inspection Fee (TFF), applied on an annual basis to all active SIMs, from BRL 8.94 ($3.14) to BRL 1.89 ($0.66)

In both cases this translated into a tax reduction of approximately 80%. Prior to the reduction in the tax rate on M2M connections, the Brazilian Government's tax policy did not distinguish between M2M SIMs and traditional SIMs used by consumers for voice and data services. However, M2M connections generate a lower average revenue per unit (ARPU). As we stated in our previous report, cellular M2M connectivity ARPU typically ranges between $2 to $5, with Vivo Brazil executives indicating that M2M monthly ARPU stood at R$5 ($1.76) in 2012. Thus, a year one fee of $12.57 on an annual ARPU of $21.08 poses a significant burden on an operator's M2M business model and serves as a major barrier to adoption. Between August 2014 and January 2015, special M2M device connections benefiting from the tax reduction have grown by 26%, while standard M2M devices have grown only by 7%[3]. Hence special M2M as a share of total M2M connections has increased from 12% to 14% at the same time. While it is still early days, there are initial encouraging signs that the new tax regime has been effective in removing barriers to M2M growth.

The government has also set the scene for the adoption of M2M in automotive sector by creating the stolen vehicle-tracking mandate SIMRAV Project ('Sistema Integrado de

Monitoramento e Registro Automático de Veículos'), otherwise known as CONTRAN 245/07 legislation, which requires that all new vehicles be fitted with the capability to be tracked and disabled in case of theft. However, this programme has been postponed several times already. Despite the fact that the mandate has not so far been enforced, our discussions with operators in Latin America indicate that it has had spillover effects, serving to boost public awareness of telematics services in Brazil while also facilitating the creation of an ecosystem for hardware and devices.

Key M2M operators' activities in Brazil

As noted in our earlier report, in order to maximise the value opportunity, operators will be required to develop new capabilities and explore new business models that move beyond simply providing the mobile connectivity component.

Operators in Brazil are moving away from being M2M connectivity-only providers by looking to provide more value-added services and also partner with specialist companies to provide a wider range of M2M services, allowing them to move up the value chain. For example, in November 2012 Telefonica Vivo launched a management platform for M2M ("Smart Center"), and in April 2013 the operator signed an M2M partnership agreement with Brazilian mobile resource management company Sascar to jointly develop fleet management services in the country. Similarly, in order to offer tailored M2M tariffs, in February 2013 the region's largest M2M provider Claro (América Móvil) extended its existing partnership with Jasper.

Operators are also looking to address vertical opportunities. According to Telefónica, the addressable opportunity in utilities in Brazil is very sizeable - there are 100 million endpoints taking into account energy, water and gas services, with smart metering, prepayment and meter-to-cash applications already in use. As such, Telefónica's Vivo will provide M2M connectivity solutions for a smart grid and smart metering project in development for Brazil's state-run power group Eletrobras. The operator was selected by a consortium formed by Siemens, Telemont and Itron, which won a public tender to develop a smart grid project for the state-owned utility. In addition to providing M2M technology, Vivo will be responsible for transferring data from all the meters to a control centre in Brasilia, and connecting it back to the regional centres of the six Eletrobras subsidiaries.

Another large addressable opportunity is the automotive market - according to the OICA (International Organization of Motor Vehicle Manufacturers) there were 39.7 million vehicles in use in 2013, with vast potential for aftermarket applications, and 3.5 million cars sold in 2014, with potential for OEM embedded connectivity and applications. Operators are working to tap into this market opportunity. For example, in October 2014, Vodafone Brazil announced a contract with BMW Group for M2M services in relation to its latest vehicle in Brazil, the BMW i3. A Vodafone SIM card supports the Connected Drive technology within the vehicle, which allows access to the internet on a wide screen on the dashboard and interaction with smartphones from various applications and GPS navigation.

Aftermarket vehicle telematics is another area of focus. In summer 2012, insurance company Porto Seguro partnered with Datora Telecom and TIM Brasil to launch an M2M offering as an MVNO. This MVNO provides a service allowing it to track and monitor the driving habits of its customers. Porto Seguro ended April 2014 with almost 100,000 M2M connections, a 50-fold increase over its initial 2,000 customer base at the time of launch.

The opportunities for M2M in the Brazilian market extends beyond utilities and automotive sector. Security, which historically has been served by PSTN lines, is also another area that cellular M2M is reaching into, driven partially by fixed line disconnections. Additionally, we expect the lower taxes to reduce the total cost of service, hence allowing for further penetration of M2M services, while boosting the business case for innovative M2M services, targeting smaller, more cost-conscious enterprises, and low margin industries such as farming and social services.

M2M development in other Latin American countries

The main M2M application verticals in Latin America are the payment, automotive, security and utilities industries. Brazil leads in terms of the adoption of cellular M2M in Point of Sale (PoS) terminals, but PoS is an important vertical in a range of other countries in the region, including Colombia and Chile.

The automotive sector will be the major growth driver over the forecast period to 2020, with applications such as vehicle tracking, fleet management as well as original equipment manufacturer (OEM) embedded solutions continuing to increase in deployment terms. Some operators in Latin America have launched their own vehicle tracking solutions, giving them a direct relationship with end-users. For instance, in 2008 Telefonica Venezuela launched Ubicar, a vehicle tracking service which includes a number of additional options and alerts that end-users can configure online, such as stolen vehicle recovery, speed limit violation and geo-fencing.

The utilities sector also has great potential to embrace M2M-centred solutions. However, the adoption of smart metering depends on the readiness and willingness of utility companies to make investments in reducing non-technical losses, primarily from energy theft and fraud. Today smart metering is at a nascent stage, but it offers a substantial opportunity for M2M. There are instances where activity is already picking up. For example, in Colombia operators are working on a 'proof of concept' project in relation to smart grids while operators in Chile "see utilities as major growth area for M2M."

The Brazilian energy regulator, ANEEL, has has regulated the use of smart meters but has not mandated a rollout. Therefore deployment has been restricted to cases where the higher prices of smart meters are justified by specific conditions, typically in areas impacted by high levels of non-technical losses.

Use of mobile for home and business security is also on the rise, as noted in our recent report Cellular M2M forecasts and assumptions. Gustavo Alejandro Bergoc, Product and Alliances Manager, Enterprise for Claro Argentina said that "Mobile is used for home security because of the big territory - coverage of fixed services is not ubiquitous, cost of landline in remote locations is more expensive. Thus, mobile is more attractive in terms of cost but also offers faster time to market."

M2M can also add value in the field of agriculture, through applications that can enable farmers and agriculture businesses to, amongst other things, monitor equipment, precisely manage their crops and livestock and asses the environmental impact of production, as well as keeping track of tractors, harvesters and other vehicles. For instance, in Costa Rica M2M-based fleet management solutions are being used in the cane industry to deal with the issue of delays in transport of cane to processing plants, due to theft of gasoline from trucks. This M2M solution was provided by a fleet management provider and supplied with a SIM from Grupo ICE/kölbi.

In order to take full advantage of deploying cellular M2M there is a need for partnerships between the public and private sectors, as well as cooperation between M2M ecosystem players to drive economies of scale. As an example of that, in February 2015 Telefonica extended its M2M Global Partner Programme - which in a year brought together 500 registered companies in Europe and the United States - to Latin America. The programme aims to create a Partner Ecosystem by working in collaboration with the key players in the M2M value chain such as device manufacturers, solution providers and distributors. The M2M Global Partner Programme has been launched in Peru and Mexico and is scheduled in four additional countries (Chile, Colombia, Argentina and Brazil) throughout the first half of 2015. Other countries in the region will then follow suit during the second half of 2015.

[1] Excluding Caribbean

[2] All figures in USD using spot exchange rates as of Q1 2015

[3] According to Decree 8.234/2014, special M2M represents devices used in machine-to-machine communication systems which, without human intervention, use telecommunication networks in order to transmit data to remote applications aiming to monitor, measure and control the device itself, the environment around it or data systems connected to it through these networks; the reduced FISTEL tax applies to these terminals

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