

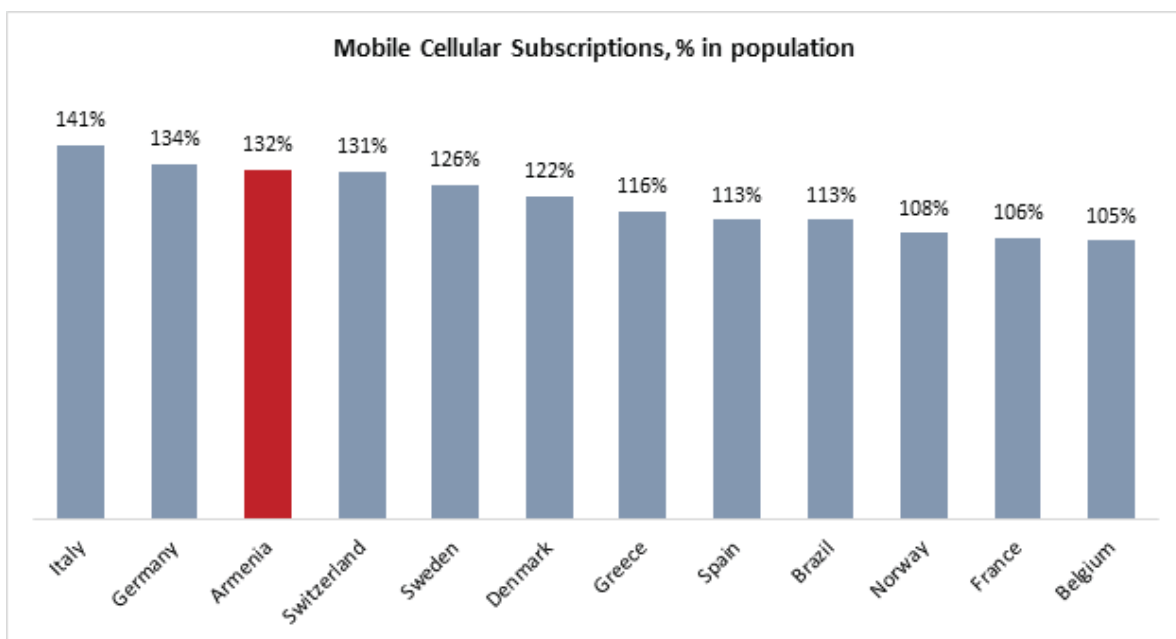


GLOBAL TRENDS IN MOBILE SECTOR: WHAT IS DRIVING THE INDUSTRY?

Global mobile industry has reached a milestone of 5 billion subscriptions by 2017 and will most likely keep the growth trend further by 2025 . Over the coming eight years the number of SIM card subscriptions is expected to reach 5.9 billion, equivalent to 71% of the world’s population. The developing countries, particularly China, India, Pakistan, Indonesia, Bangladesh and Sub-Saharan Africa and Latin America will be the main drivers of growth.

However, the speed of mobile penetration growth is slowing having approached saturation in most of the developed world, and some parts of developing world, including Armenia.

The telecommunication industry is over-exhausted in the European countries. There is no much room for further extensive development, i.e. increase of customer base. Among the top performers are Italy, Germany and Switzerland with mobile cellular subscriptions above 130% of population.



Source: <https://databank.worldbank.org>

Armenia has been a fast growing market in Western Asia since 2004 when the mobile operator VivaCell-MTS entered and disrupted the monopoly of the mobile market by offering affordable GSM services to Armenian citizens. Later in 2009 the third operator introduced the solution “optics to Armenian homes” providing subscribers with services of IPTV, fixed internet and digital voice services. Today there are 3 operators in Armenia (VivaCell-MTS, VEON Armenia and Ucom) and 3.5 million mobile cellular subscriptions (113% penetration).

According to GSMA report “The Mobile Economy”, 2018.

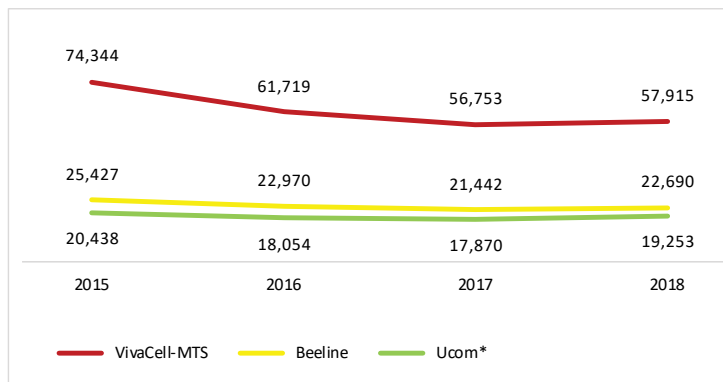
Traditional mobile services of Voice and SMS provide less and less revenue growth opportunities, making them look for other potential sources for growth

Unique mobile subscriptions to traditional services are growing at a slower phase and competition among operators is getting more intense. GSMA estimates that global mobile revenue will grow only by 1% during the period 2017-2020 (CAGR) and will reach over \$1.1 trillion by 2020.

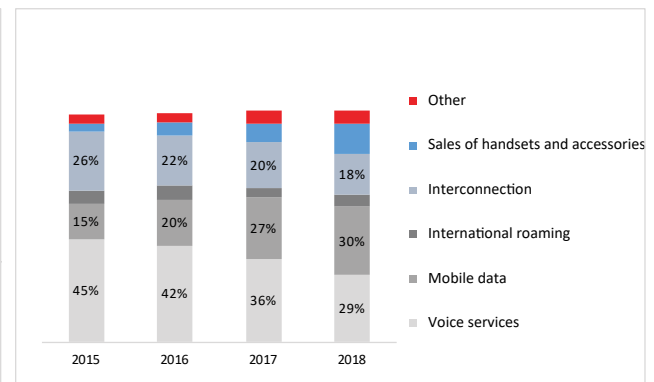
China, as a developing country, offers the largest revenue growth opportunity for operators. The competition has intensified at unprecedented levels in the US: operators are offering unlimited plans hoping to recover decreasing revenues from traditional mobile services. The European mobile sector is also recovering after several years of mobile revenue declines (since 2008) due to a lessening regulatory impact, in-market consolidation, a shift to higher 4G and 5G data usage and an improved macro-economic performance across many countries.

Armenia is following the global trend of reshaping telecommunication market. The operators look beyond their core connectivity revenues (mobile and SMS) for diversifying the sources of growth. Some of the diversification focus is towards mobile data (growing at CAGR of 20%) and sales of mobile devices and accessories (CAGR of 46%). These helped the Armenian companies to rebound the growth dynamics after couple years of decline in revenues.

Revenue dynamics of mobile operators in Armenia, 000 AMD



Revenue structure of mobile operators in Armenia, %



*Note: In 2015 Ucom acquired 100% shares of Orange Armenia thus ensuring its presence in Armenian mobile market.

The largest operators globally are moving even further beyond their traditional telco businesses to explore new revenue streams in a fast-changing competitive landscape. The predominant drivers are:

- **the convergence of telecoms and media (leveraging existing data assets and acquiring advertising platforms to help build advertising-supported media models),**

- **the rise of Internet of Things (IoT), and**
- **the evolution of the wider digital ecosystem.**

AT&T in the US is penetrating into Media and Entertainment industry. Verizon is making acquisitions across areas of digital media and advertising (Yahoo and AOL), IoT (telematics and smart cities) and fiber networks with advent of the 5G era.

In the fintech market, Orange Bank started operations across France since November 2017, offering a full range of banking services via mobile platforms. Beeline, MTS and MegaFon in Russia launched banking products. Viva-Cell-MTS in Armenia, in cooperation with financial institutions in the country offers citizens loan and payment services through MobiDram payment terminals. Another Armenian mobile operator Ucom launched Upay, an online money-transfer and payment service for its subscribers.

At the end of 2016, Rostelecom Russia launched a new service - mobile connection, thus becoming the first federal QuadroPlay operator in Russia - all services from one company.

Can the considerable smartphone market create additional opportunities in the digital era with 5G Network migration?

GSMA predicts a more significant global growth opportunity in mobile internet. It is expected that 1.75 billion new users will subscribe to mobile internet by 2025, and the industry will reach the milestone of 5 billion users over the period (61% of global population in 2025 vs 43% in 2017) (GSMA). The global up-driving forces of mobile data traffic are both access to smartphones that operate on high-speed mobile networks, and increasing consumer tendency to engage in the digital world. According to Ericsson (in its Mobility Report November 2017), global mobile data traffic for all devices will increase eight-fold by 2023, reaching 110 exabytes per month. Smartphones will account for over 95% of total mobile data traffic by 2023.

Video technology continues to evolve and generate higher demand for video-based content globally. Hence, video is predicted to account for over 75% of global mobile data traffic by 2025, up from 55% in 2017 (Ericsson). Video traffic drivers in the most developed markets will be the availability of 5G networks and applications that make video content even more immersive (such as augmented reality (AR) and virtual reality (VR)).

Innovation and telecoms, are they talking the same language?

Since 2015 private equity companies and venture funds globally have invested \$1.2 trillion to finance tech start-ups and emerging companies in a range of sectors, with an all-time record level of financing in 2017.

These investing companies support innovation and development in technology areas such as IoT, AR and VR, networks and self-driving vehicles.

Mobile operators in both developed and developing markets follow the recent trends and show increasing corporate venture capital (CVC) activity in Information technologies. This drives innovation and moves operators into new business lines such as media, content and fintech.

Across Asia Pacific and Africa, cooperation between mobile operators and start-ups is evolving successfully as operators have the scale and reach that start-ups need, and start-ups have the innovation that operators lack. Successful examples are the collaboration between Vodacom, MTN and Orange and startups in Africa, as well as Telenor and Axiata in Asia.

Ucom is investing in tech education in Armenia. The operator set up a Digital Lab intended for 3-10 grade students in a private school in Armenia to help them gain competencies in the fields of programming and AI, combine computing techniques and art. Armath Engineering Laboratories for kids aged 10-18 is another program in Armenia in partnership with mobile operators Ucom and VivaCell-MTS. The aim of the program is to introduce science, technology, engineering and math (STEM) through interactive after-school classes in innovative camps. Beeline Armenia is investing in Startup Incubator that is aimed to create a favorable ecosystem for emerging startups in Armenia.

What does the future hold?

Telecoms are progressively turning to partnerships and acquisitions of companies in Media sector to help them make the most of their assets like data. Such partnerships enable them to focus on core competencies while still being able to deliver a bundle of necessary value-added services to subscribers. While some of the largest players are able to expand through acquisitions, in most cases, locals avoid acquisitions due to cost, regulations and time to market.

However, strategically working with data-rich and tech-savvy partners can help telecoms in developed and emerging markets, including Mobile operators in Armenia, to benefit from powerful technologies and maximize monetization of assets. Given the global digital transformation the only way for the incumbent mobile operators to survive and thrive is to shift their focus on data, cloud and artificial intelligence, as well as other disruptive technologies.



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