

ICT SECTOR IN LEBANON

► 2018 FACTBOOK



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ALL YOU NEED TO KNOW ON LEBANON

Invest in Lebanon and enjoy the most hospitable MENA destination for business, culture and leisure with a Mediterranean climate, cosmopolitan lifestyle and a variety of touristic attractions and activities across breathtaking natural landscapes. Strategically located at the intersection of Europe, Asia and Africa, Lebanon can provide companies easy access to regional and global markets. Lebanon also boasts state-of-the-art health care services, internationally renowned for the quality medical centers and staff. A historic melting pot for multiple civilizations, Lebanon is a small, multilingual haven of culture and diversity that is worth the journey.

Lebanon, with its official non-interventionist stance toward private investments, offers one of the most liberal investment climates in the Middle East. The economic openness of the country is harnessed through the absence of legal restrictions on the entry or exit of many firms, encouraging free market competition and furthering the development of the private sector. Liberal trade and investment policies have allowed foreign direct investments to account for a considerable share of Lebanese GDP.



ECONOMIC PROFILE AND SYSTEM

GDP at current prices: USD 54.18 Billion

GDP/Capita: USD 12,013

Real GDP growth: 1.5%

GDP composition by sector:

Real Estate: 15%

Education & Health Services: 14%

Commercial Trade: 13%

Mining, manufacturing and Utilities: 11%

Public Administration: 10%

Financial Services: 8%

Construction: 4%

Agriculture, Forestry & Fishing: 3%

Information & Communication: 3%

Others (including catering, transport...): 19%

Current Account balance: USD -12.13 Billion

Balance of Payments: USD -156 Million

Domestic credit to private sector: 102.8% of GDP

Corporate tax rate: 17%

Main Import Partners (2017): USA, Greece, Russia, Italy, Spain, Ukraine

Main Export Partners (2017): Turkey, Syria, KSA, Egypt, Kuwait, UAE, Iraq

FDI inflows (2017): USD 2.63 Billion

Airport passengers (2017): 8.24 Million

Source: International Monetary Fund (IMF), World Bank, Bank Audi, Central Administration for Statistics (CAS), Ministry of Economy and Trade, Lebanese Customs Administration

Note: Latest available figures in the time of publication.



SECTOR OVERVIEW

01. SECTOR PERFORMANCE

The Lebanese ICT sector is a fast-growing sector having reached a market size of USD 436.2 million in 2016 and is projected to reach a value of USD 543.5 million by 2019¹ (Table 1). The market grew at a compounded annual growth rate (CAGR) of 7% over the period 2014 – 2016 and is expected to grow at a CAGR of 9.7% from 2016 to 2019².

The sector's value-added reached USD 2.2 Billion in 2017, up from USD 1.9 Billion in 2013, contributing 3% to Lebanon's

GDP³. Its impact on GDP whether direct or indirect, is forecasted to be greater than USD 7 Billion by 2025⁴. This growth will be fueled by improvements in the telecommunications infrastructure, improvements in the business sentiment and modernization initiatives by both the public and private sector, resulting in greater demand for ICT services. Moreover, Central Bank of Lebanon Circular 331 injected up to USD 650 million in the digital sector which has created a further boost to the ICT sector.



Table 1: Lebanese ICT Market Value USD Million | 2016-2019

	2016	2019 (f)
ICT market size (USD Million)	436.2	543.5

Source: Business Monitor International, 2016

The ICT market can be analyzed across three main subsectors: Hardware, Software Development, and ICT Services (Figure 1).

HARDWARE

Hardware sales reached USD 262.2 million in 2016 (accounting for 60.2% of total market size) and are expected to grow at

a CAGR of 8.3% over the 2016-2019 period to reach approximately USD 318.8 million in 2019⁵.

ICT SERVICES

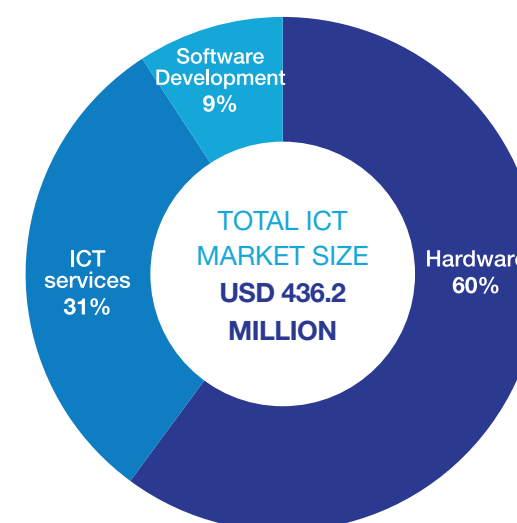
The size of the Lebanese ICT services market was estimated at USD 134.2 million in 2016, accounting for 30.7% of total market size⁷. The pickup in ICT services is forecasted to continue with a CAGR of 12.3% during 2016-2019 to reach USD 175.6 million in 2019⁸, as spending on e-services by governments, businesses and telecom companies is continuously increasing. At present, support and maintenance constitute the largest share of spending on ICT services, however, demand for more complex services such as managed services, value added services, local outsourcing activities and cloud services are expected to increase⁹.

The market is still far from saturated as demand for computers, notebooks, and hybrids remain on a steady rise among the various industries. As the economy is prospected to strengthen in 2017, spending is expected to rise in the hardware sector.

SOFTWARE DEVELOPMENT

The software market value reached USD 40 million in 2016 (accounting for only 9% of total market size) and is expected to grow at a CAGR of 10.1% over the 2016 -2019 period to reach USD 49.6 million in 2019⁶. Software development activities have grown steadily in Lebanon over the past few years with the enforcement of intellectual property rights, the reduction of software piracy, and the upgrade of the ICT infrastructure.

Figure 1: ICT Market Size in Lebanon by Subsector % | 2017



Source: Business Monitor International, 2017

1, 2 Business Monitor International, 2017

3 CAS, National Accounts Estimated

4 Progress Report Telecommunications of Ministry of Telecommunications 2013; Booz & Analysis 20

5 Business Monitor International, 2017

6, 7, 8, 9 Business Monitor International, 2017

02. COMPANIES PROFILING

The local ICT sector comprises mostly small and medium-sized businesses. The majority of these companies remain distributors and sellers, given that the market is still dominated by major international ICT hardware manufacturers, represented in the country through local

agents and distributors. However, the sector has been progressively moving from retail and wholesale activities into innovation and content generation with the share of companies involved in software development and services currently standing at around 200 total enterprises.

Software development and services companies employ around 5000 individuals and operate across three major activities (Figure 2):

SOFTWARE PRODUCTS

89 companies operating in this field generating software development for vertical industries, mainly for the healthcare, education and banking sectors. These account for 52% of software development and services companies.

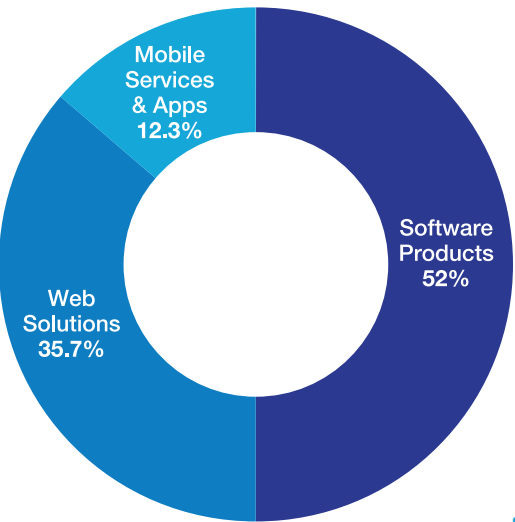
WEB SOLUTIONS

61 companies mainly involved in web hosting, web design and development, as well as e-services. They account for around 36% of total software development and services companies.

MOBILE SERVICES AND APPLICATIONS

Around 21 companies that account for 12% of total software development and services companies.

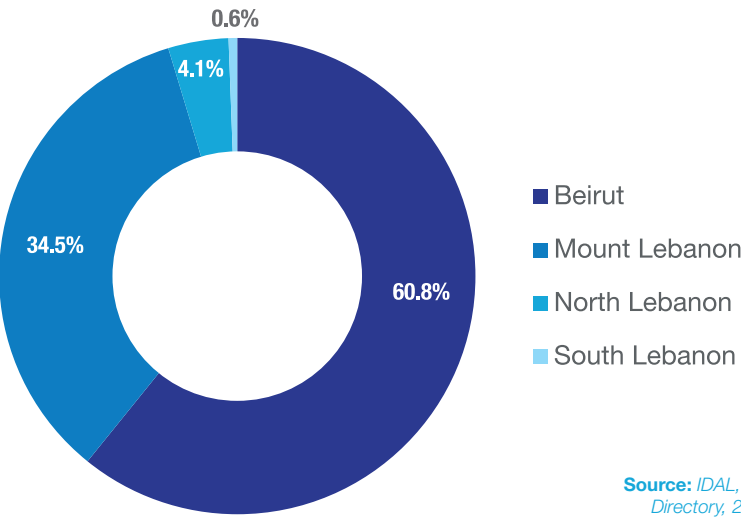
Figure 2: Distribution of ICT Companies by Activity % | 2017



Source: IDAL, ICT Directory, 2017

Around 61% of these companies are located in Beirut, due to the wide investment opportunities available (Figure 3).

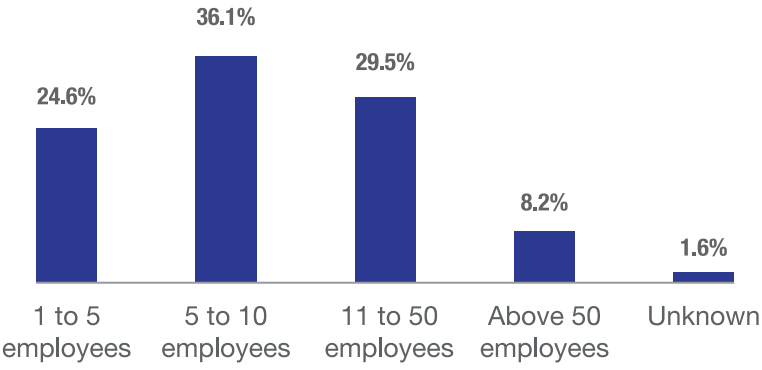
Figure 3: Distribution of ICT Software Development and Devices Companies by Governorate % | 2017



Source: IDAL, ICT Directory, 2017

The majority of software development and services companies are small and medium enterprises employing 5 to 50 employees (Figure 4).

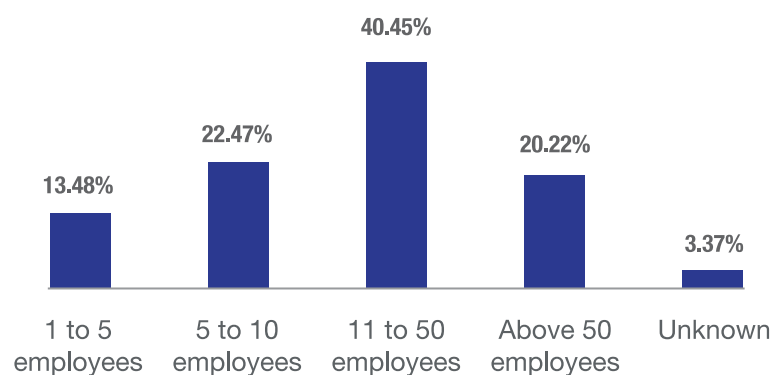
Figure 4: Distribution of Web Development Companies by Number of Employees % | 2017



Source: IDAL, ICT Directory, 2017

► Software Development companies are the largest in size, with around 40% employing 11 to 50 employees and more than 20% employing more than 50 workers (Figure 5).

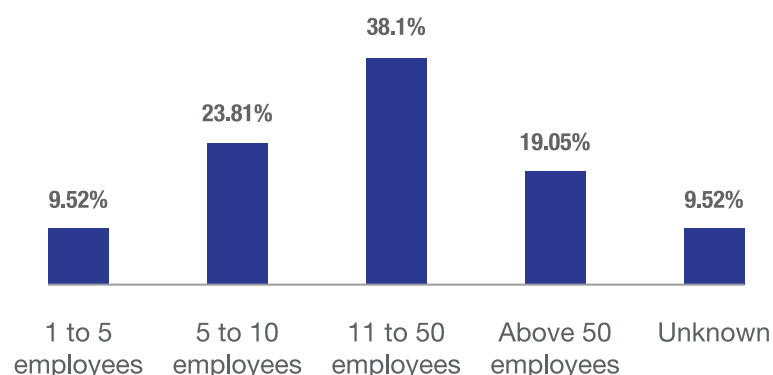
Figure 5: Distribution of Software Development Companies by Number of Employees % | 2017



Source: IDAL, ICT Directory, 2017

► Mobile app development companies mainly employ 11 to 50 workers (Figure 6).

Figure 6: Distribution of Mobile App Development Companies by Number of Employees % | 2017



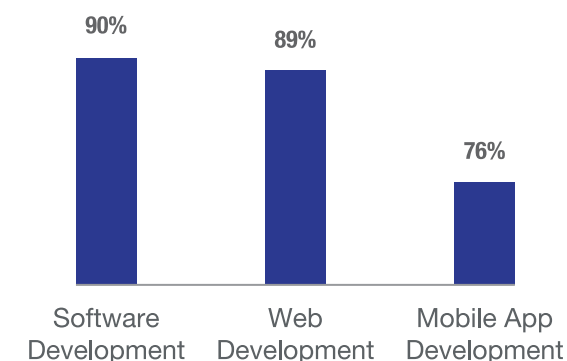
Source: IDAL, ICT Directory, 2017

03. EXPORT ACTIVITY

► Lebanon is emerging as a leading exporter of software development and services in the region. Exports of ICT services related activities accounted for an estimated 22.03% of total services exports in 2016¹⁰.

► Around 85% of firms engaged in software development and services activities are export oriented, with the majority of their revenues stemming from their activities outside Lebanon. Key exported products include vertical software applications and mobile applications (Figure 7).

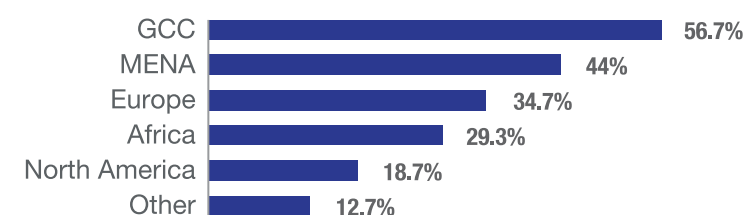
Figure 7: Exporters of Software Development and Services Companies per Sector of Activity % | 2017*



*Includes a sample of companies
Source: IDAL, ICT Directory, 2017

► The Gulf region is the primary export destination for Lebanese products while other Middle Eastern countries rank second. African countries rank third, and European markets rank fourth (Figure 8).

Figure 8: Top export markets for Lebanese ICT companies % | 2017*



*Includes a sample of companies
Source: IDAL, ICT Directory, 2017

¹⁰ World Bank, 2016

LEBANON'S COMPETITIVE ADVANTAGES

01. STRONG HUMAN CAPITAL BASE

Lebanon's solid educational system is at the basis of the country's highly qualified labor force. Lebanon ranks 18th worldwide for the Quality of its Higher Educational System, while it occupies the 4th place globally for the Quality of its Math and Science Education¹¹.

Lebanon ranked 8th in the MENA region in 2015 on the ICT Development Skills Index (IDI), which measures ICT capabilities and skills¹². Lebanon was also ranked as the 3rd most dynamic countries as it upped 21 ranks between 2010 and 2015¹³.

More than 30% of the country's workforce is employed in knowledge intensive activities¹⁴.

The majority of the labor force is tri-lingual, and possesses one of the most competitive technical skills in the region.

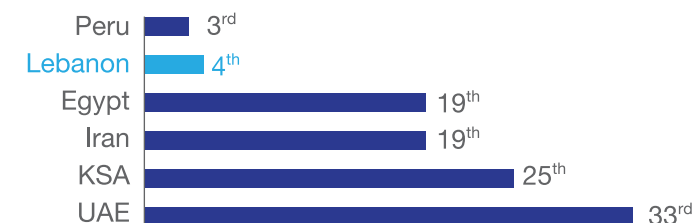
Lebanon's start-up scene is booming with the presence of a dynamic entrepreneurial ecosystem. The country was ranked 4th on the Global Ranking for Total Early Stage Entrepreneurial Activity and (Figure 9) and 3rd worldwide for New Business Ownership Rate (Figure 10).

Lebanon ranks
18th
worldwide for the Quality of its
High Educational System

It occupies the
4th
place worldwide for the Quality of
its Maths & Sciences Education

The average wage of a software
engineer is nearly
27%
lower than in the GCC

Figure 9: Global Ranking of Selected Countries for Early Stage Entrepreneurial* Activity | 2017-2018

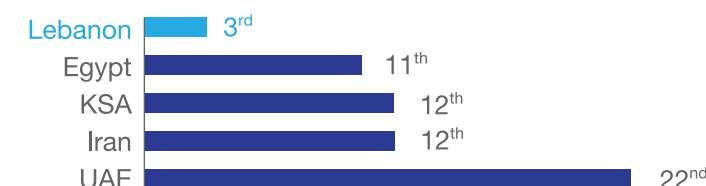


Note: Study based on 54 economies from all regions

*TEA: Percentage of adults who started or are running a business up to 3.5 years

Source: GEM Global Report 2017-2018

Figure 10: Global Ranking of Selected Countries for a New Firm Entrepreneurs* | 2017-2018



Note: Study based on 54 economies from all regions

*New Business Ownership Rate: Percentage of the adult population aged between 18 and 64 years that have started a business that is between 4 and 42 months old and is paying salaries or wages.

Source: GEM Global Report 2017-2018

11 Global Competitiveness Report, 2017-2018

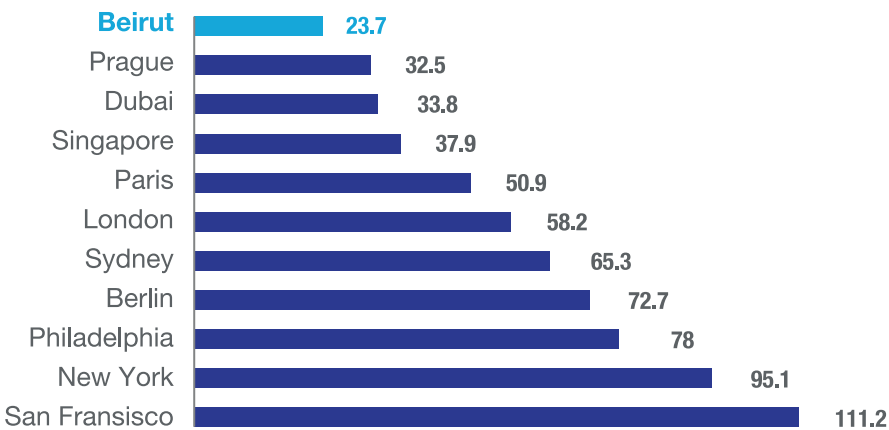
12-13 ITU, 2015

14 ITU, 2013

02. HIGHLY SKILLED AND COST COMPETITIVE LABOR FORCE

► The Lebanese workforce is not only adequately skilled, but highly cost competitive as well. The labor base is relatively cheaper than the US, European and GCC countries, with the average wage of a software engineer nearly 27% lower than in the GCC and 55% lower than in selected developed economies (Figures 10).

Figure 10: Median Annual Wages of Software Engineers in Selected Countries
USD Thousands | 2018



Source: Payscale 2018

03. ACCESS TO GROWING REGIONAL MARKETS

► Lebanon's access to expanding emerging markets presents significant opportunities for ICT companies to serve the region.

► The MENA region's ICT spending is expected to reach USD 242 billion by 2019, growing at a CAGR of 4.36% over the 2016-2019 period¹⁵.

► Total internet users in the Middle East region are amounted to 164 million, which represents 3.9% of the world internet users with a penetration rate of 64.5%¹⁶.

► The African market equally presents promising potential especially for software developers and mobile applications. Sub-Saharan Africa will have the largest increase of mobile penetration (8% points) over the 2017-2025 period¹⁷.

► The European market is the third top ICT exports destination for Lebanon with 35% of total ICT companies exporting to Europe¹⁸.

► Various advantages allow businesses to capture these opportunities from Lebanon, especially given the Lebanese international business culture and wide exposure to the Arab region, Africa, and Europe as well as the wide diaspora network which provides worldwide investment and business linkages opportunities.

¹⁵ Gartner

¹⁶ Internet World Stats

¹⁷ GSMA Intelligence, The Mobile Economy 2018

¹⁸ IDAL's studies

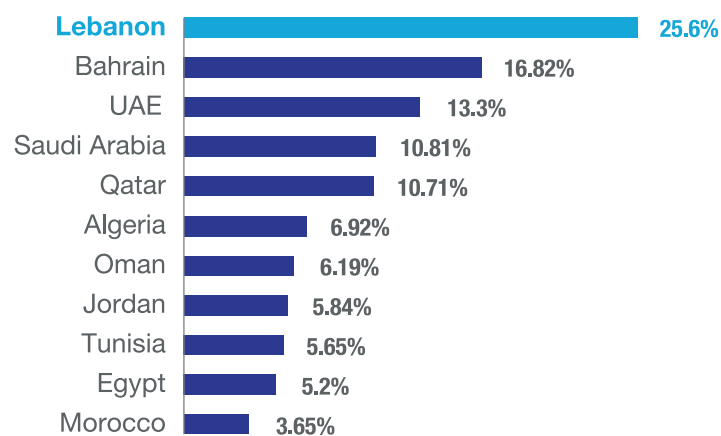
04. ENABLING INFRASTRUCTURE

Companies operating out of Lebanon can also benefit from an adequate infrastructure and an enabling business environment. The growth of the ICT sector is among the government top priorities leading to increased investments in upgrading the existing telecom infrastructure. Lebanon's bandwidth has increased 10 folds since 2011¹⁹. The average speed of mobile broadband has increased 18 times and prices have declined by 40% during the same period²⁰.

➤ Fixed broadband penetration rate reached 25.6% in 2016, a considerable increase from 9.95% in 2013. This penetration rate is the highest amongst Levant countries and other MENA economies (Figure 10).

➤ Mobile broadband penetration rate has also been on the rise, reaching 53.5% in 2016, up from 43% in 2013. In 2015, there was an estimated 2.8 million subscribers using mobile data services, recording a 768% increase from 280,000 subscribers in 2011²¹.

Figure 4: Fixed Broadband Penetration Rates in Selected Arab Countries % | 2016



Source: World Bank, 2016

19-20-21 Lebanese Ministry of Telecommunications, Progress Report, 2013

Selected list of Infrastructure upgrades in Lebanon during 2011-2018

➤ In 2018, OGERO launched a roadmap for better internet infrastructure. OGERO announced that it started deploying the public fiber optic network and 15% of the plan is completed.

➤ Fourth generation mobile networks launched in Beirut and some parts of Greater Beirut during 2013 and are expected to expand to other areas in the near future.

➤ The “Lebanon 2020 Digital Telecom Vision” project, launched in 2015, is a 5 year plan that aims to revamp the telecommunications infrastructure in the country, estimated to amount to USD 600 million in investment making fiber-optic connectivity as well as 5 G connections available through the country by 2020.

➤ The Mitsubishi Electric's new India-Middle East-Western Europe (IMEWE) cable activated in 2011 resulting in an increase in international capacity and the reduction in prices of the internet and the international leased lines.

05. SUPPORTIVE ECOSYSTEM

Established companies and startups in the sector can benefit from a wide range of public and private initiatives aimed at the development of the country's digital ecosystem. These include fiscal incentives, financing options, as well as incubation and acceleration programs.

FINANCIAL INCENTIVES

The Investment Development Authority of Lebanon offers tax breaks on corporate income tax for up to 10 years, as well as other incentives to local and foreign companies operating in the ICT sector and meeting specific investments requirements.

www.investinlebanon.gov.lb

► **Circular No. 331 by the Central Bank of Lebanon** in 2013 provides an amount of up to 650 million USD for Lebanese banks' equity investment into startups, incubators, accelerators, and funds operating in Lebanon. These investments will be 75% guaranteed by the Central Bank.

EQUITY FINANCING

► **8 venture capital** firms have operations in Lebanon in addition to various regional VCs which have backed a number of local pioneering companies. These private equities provide fund for early stage seed, pre-seed and emerging forms to reach high growth potential.

► New **Telco** Fund of USD 48 million initiated by MIC that supports startup operating in the ICT sector with the two telecom operators in Lebanon MTC and Touch providing USD 12 million annually. Investments in startups start with a value of USD 100,000 and could reach up to USD 2 million.

► FINANCIAL GUARANTEES

Kafalat provides financial guarantees for loans of up to USD 400,000 granted by commercial banks to the SME operating in the ICT sector.

www.kafalat.com.lb

► INCUBATION AND ACCELERATION

Today, there are 9 incubators and accelerators that provide training, technical & financial assistance to new and existing businesses across Lebanon. They include Berytech, the South Business Innovation Center (SouthBIC), the Business Incubation Association in Tripoli (BIAT), Alt City, the UK Lebanon Tech Hub, speed@BDD, Smart-ESA...

► CO-WORKING SPACES

A number of co-working spaces in Lebanon can serve as a cost-effective alternative to traditional offices (ALKindy, Beirut Digital District, FoundersBei...)

► MENTORSHIP PROGRAMS

Provide startups with access to mentors both locally and internationally (LebNet, Endeavor, Lebanon for entrepreneurs, Tripoli Entrepreneurs Club, Enterprise Forum Pan-Arab Region, LLWB, Beirut Creative Cluster).

► CLUSTERING

Physical and virtual clusters equally seek to capitalize and expand on the vibrant digital community. These include the Beirut Creative Cluster and the Lebanon Softshore Cluster. Together with industry associations like the Association for Lebanese Software Industries, these associations help companies expand their market reach and develop their businesses.

► BUSINESS PARKS

New business parks are being developed to host companies in the digital industry, and include large-scale developments like the Beirut Digital District (BDD) which provides state of the art facilities and services at reduced rates, in addition to clustering opportunities within a friendly business environment.

www.beirutdigitaldistrict.com

► THE BUSINESS SUPPORT UNIT (BSU)

Founded in 2018, BSU is a new unit by the Investment Development Authority of Lebanon (IDAL), providing startups operating in productive sectors with market information, free legal and tax/accounting advice as well as licensing support in order to help them establish and grow their company in Lebanon.

www.investinlebanon.gov.lb

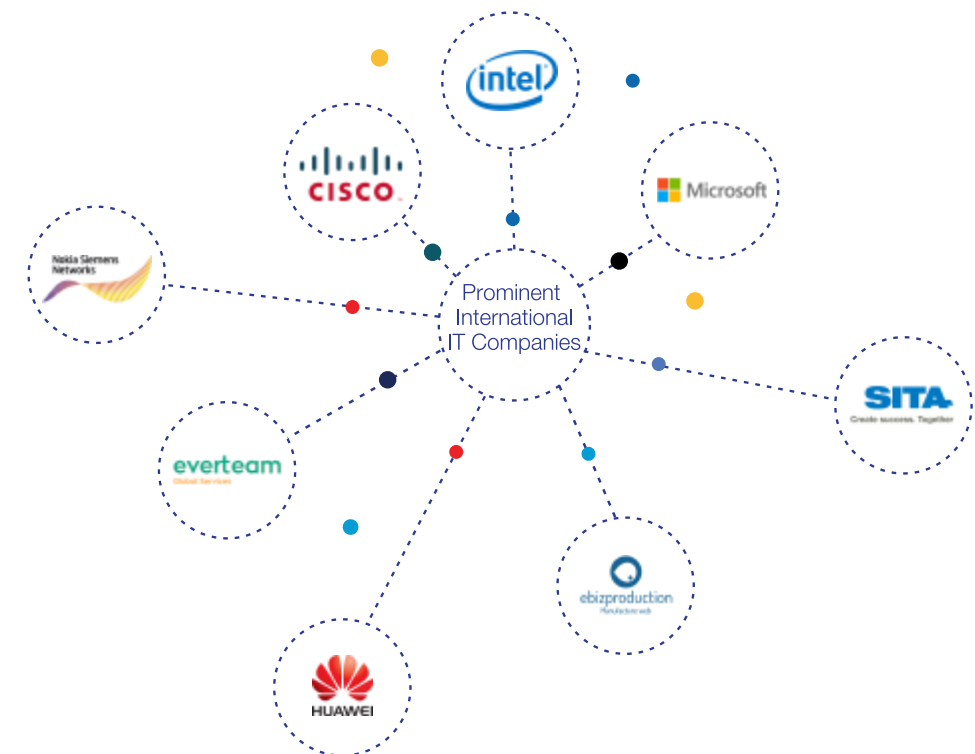
INVESTMENT OPPORTUNITIES IN THE SECTOR

01. INVESTMENT TRENDS

Lebanon already boasts a track record of successful local and international companies operating out of Beirut. Lebanese ICT companies have established themselves as important players in the communication and software markets, particularly in the Middle East but also in the African, European and US markets. In addition to these well-established enterprises, innovative startups have also been emerging in the fields of

software development and mobile applications among others. Multinational corporations also form a significant part of Lebanon's high-tech environment. Prominent international ICT companies have established themselves within the Lebanese market and are operating through their subsidiaries in Beirut. These include the likes of Microsoft, Cisco, and Intel, among others.

Examples of foreign companies in Lebanon engaged in ICT activities



In fact, the trends of the ICT market, coupled with Lebanon's competitive advantages, present an array of promising business opportunities for ICT companies.

02. INVESTMENT OPPORTUNITIES

GAMING

In 2017, the mobile gaming industry in the Middle East generated around USD 2.7 billion with Lebanon revenues amounted to USD 49.9 million²².

Close to **60% of the MENA online population are gamers**, playing PC, console, or mobile games; recording **25% year-on-year growth** and making the region with the highest rate globally²³. There are increased opportunities for gaming on tablets and smartphones.



E-HEALTH

The global digital health market is expected to **reach USD 206 billion by 2020**, driven mainly by the mobile and wireless health market²⁴. The Middle East and North Africa (**MENA**) **healthcare market will be valued at USD 144 billion by 2020**, with a third of the market controlled by the private sector²⁵.



ADTECH

In the **MENA region, spending on advertising** is on the rise, **reaching a value of USD 27.5 billion by 2020**²⁶. In 2017, digital advertising accounted for the biggest share of ad expenditures amounted to USD 752 million followed by ad on television (USD 740 million)²⁷. Lebanon presents a competitive advantage for the development of adtech products, especially in mobile and search.



ENTERPRISE SOFTWARE AS A SERVICE (SAAS)

The **SaaS market in the MENA region** is expected to **reach USD 411.7 Million by 2019**, accounting for the biggest share of public cloud services market size. Locally, the market gives Lebanese companies the possibility to overcome political instability and work around time-consuming export procedures by selling products over the cloud.

Biggest markets for enterprise SaaS

► **CRM/ERP/BPM:** The global CRM market will be worth **USD 81.9 billion by 2025** due to its ability to manage business easily²⁸.

► **Government:** The public cloud services market in the MENA region is gaining traction, **growing at a CAGR of 18.9% over the 2016-2019 period** with the largest growth coming from cloud application services²⁹.

► **Cloud Advertising:** Public cloud advertising will reach a market value of **USD 319 million by 2020**³⁰.



MEDIA STREAMING

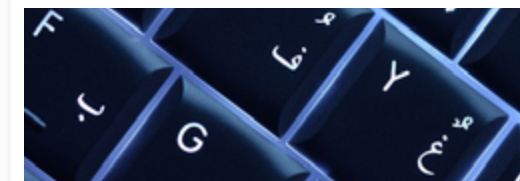
Global revenues in the "Music Streaming" segment **amount to USD 9.15 billion in 2018** and is expected to grow at a CAGR of 8% over the period 2018-2020 and providing opportunities in music and video streaming for developers in the MENA region.



CONSUMER INTERNET

► More specifically in Web and Mobile Portals, Content Websites and Applications, News, Internet Publishing, Social Networks and Applications, and Search. There is a high demand for Arabic content creation along those key markets, equally presenting competitive advantages for local content developers.

In 2017, **4.8% of the world internet users are Arabic speakers** with a penetration rate of 43.8% with Egypt and Saudi Arabia as top Arabic speaking countries³¹.



FINANCIAL & E-PAYMENT SOLUTIONS

Worldwide, the mobile payments market was forecasted to grow at a CAGR of 32% from 2017 to 2022³².

A recent survey from MasterCard found that **more than 70% of respondents in the Middle East and Africa were ready to use their smartphone to make payments** compared with only 38% in Europe³³. In Lebanon, the e-payment market is comprised of **12 payment providers** offering fast and innovative payment methods³⁴.

22 Statista, 2017

23 An-Nahar, 2017

24 Statista, 2015-2020

25 Innovatemedtec, 2014

26 Statista, 2015-2020

27 Statista, 2017

28 Grand View Research, 2017

29-30 Gartner, 2016

31 Internet World Stats

32 Zion Market Research, 2017

33 Digital Middle East: Transforming the region into a leading digital economy October 2016, McKinsey

34 MoET, 2018

REGULATORY FRAMEWORK

In recognition of the impact of the legal environment on the performance of the ICT sector, the government has placed a special focus on the reform and modernization of ICT related laws. The main regulations governing the sector are mentioned below.

TELECOMMUNICATIONS LAW

Law 431 (the Telecommunications Law) was issued in 2002 to provide the governance framework needed to organize the telecommunications services sector and set the rules for its transfer to the private sector. The Telecommunications Regulatory Authority (TRA) was subsequently formed to regulate the liberalization of the sector, and ensure the creation of a competitive environment.

INTELLECTUAL PROPERTY LAW

The Intellectual Property Law (IP) was drafted by the Ministry of Economy and Trade (MoET), and passed as a law in 1999. Provisions under the law cover patents, industrial designs, trademarks, copyrights, unfair competition, & penalties for infringement.

INVESTMENT LAW No. 360

IDAL offers companies, engaged in the ICT sector, a set of incentives and facilitation services as per the Investment Law No.360. Companies can benefit from up to 100% exemption on corporate income tax over a period of 10 years in addition to other fiscal incentives, provided that they meet certain requirements in terms of investment size and employment generation.

COMPETITION LAW

The new competition law - drafted by The Ministry of Economy and Trade - prevents all forms of anti-competitive agreements and abuses of dominance. These provisions ensure competition and easier market access, and therefore allow for greater consumer welfare, economic efficiency, increased output and rapid technical advancement.

E-COMMERCE SET OF LAWS

The Ministry of Economy and Trade has drafted and presented to the Parliament a set of laws in support of the ICT sector. This set includes amendments as well as new laws destined to enable e-commerce in the country. Laws cover the fields of E-signature, E-payment, E-transactions, consumer protection, privacy, copyright, and cyber-crimes.

LAW ON ANTI-DUMPING, SUBSIDIES & SAFEGUARDS

The law was issued with the aim of protecting national production as well as legitimate original products from dumped and subsidized imports.

USEFUL ADDRESSES & CONTACTS

Altcity
www.altcity.me

Association of the Lebanese Software Industry - ALSI
www.alsionline.org

Bader
www.baderlebanon.com

Berytech
www.berytch.org

Beirut Creative Cluster
www.beirutcreativecluster.org

Beirut Digital District (BDD)
www.beirutdigitaldistrict.com

Business Incubation Association in Tripoli (BIAT)
www.biatcenter.org

Endeavor
www.endeavor.org

Investment Development Authority of Lebanon - IDAL
www.investinlebanon.gov.lb

Kafalat
www.kafalat.com.lb

Ministry of Economy and Trade
www.economy.gov.lb

Ministry of Telecommunications
www.mpt.gov.lb

MIT Enterprise Forum Pan Arab Region
www.mitefarab.org

Office of the Minister of State for Administrative Reform
www.omsar.gov.lb

OGERO
www.ogero.gov.lb

Presidency of the Council of Ministers, National ICT coordinating office
www.ict.pcm.gov.lb

Professional Computer Association of Lebanon - PCA
www.pca.org.lb

South Business Innovation Center (SOUTH BIC)
www.southbic.org

Telecommunications regulatory authority
www.tra.gov.lb

UK Lebanon Tech Hub
www.uklehub.com

Smart ESA
www.esa.edu.lb

Speed@BDD
www.speedlebanon.com



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