IDAL

INVEST IN LEBANON

INFORMATION TECHNOLOGY

FACTSHEET

CONTENT

SECTOR OVERVIEW

SECTOR PERFORMANCE

The Lebanese Information and Communication Technology (ICT) sector is a fast growing sector with an estimated market size of USD 436.2 million in 2016, and projected to reach USD 543.5 million by 2019[1] **(Table 1).** The market has been growing 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 2019[2].In 2013, the ICT sector contributed to 3% of Lebanon's GDP[3] and its impact on GDP, whether direct or indirect, is forecasted to be greater than USD 6 Billion by 2017 [4]. Some elements contributing to the market's expansion include rising income, declining device prices and modernization initiatives taken by enterprises and the public sector, as well as improvements in the telecom infrastructure and business sentiment.

ICT sector is a fast growing sector with an estimated market size of

436.2 million USD

in 2016

is expected to grow at a CAGR

9.7%

from 2016 to 2019

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 are estimated to have 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[5]. 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[6].

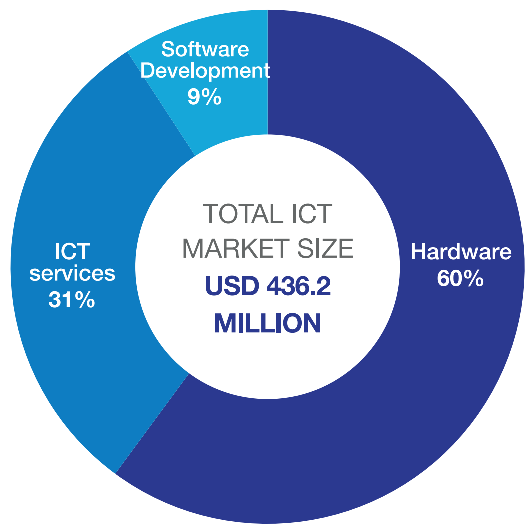
SOFTWARE DEVELOPMENT

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[7]. 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.

ICT SERVICES

The size of the Lebanese ICT services market reached a value of around USD 134,2 million in 2016, accounting for 9.1% of total ICT spending[8]. The pickup in ICT services is forecasted to continue with a CAGR of 12.3% during 2016-2019[9], 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 increase[10].

Figure 1: ICT Market Size in Lebanon by Subsector **USD Million | 2016 (est)**



Source: Business Monitor International, 2016

1, 2 Business Monitor International, 2016
3 Lebanese Central Administration of Statistics (CAS), 2014
4 Booz & Company analysis, Ministry of Telecommunications, Progress Report 2013
5 Business Monitor International, 2016

6, 7, 8, 9, 10 Business Monitor International, 2016

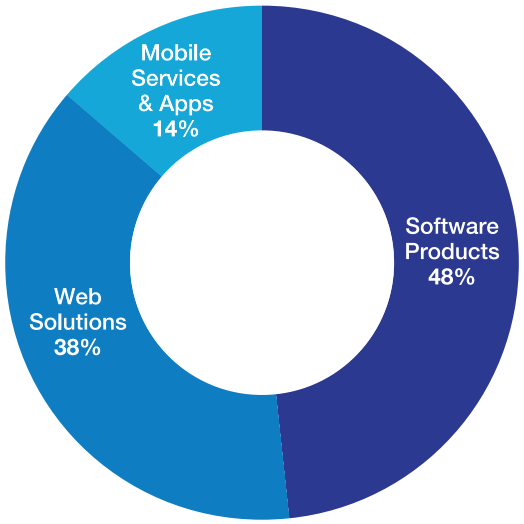
COMPANIES PROFILING

The local ICT sector comprises around 800 companies; 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 30% of total enterprises.

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

Figure 2: Distribution of ICT Companies by Activity **% | 2016**



Source: IDAL, ICT Directory, 2016

- SOFTWARE PRODUCTS for vertical industries, mainly for the healthcare, education & banking sectors. These account for around 48% of software companies.

- WEB SOLUTIONS companies mainly involved in web hosting, web design and development as well as e-services. They account for around 38% of total software development and services companies.

- MOBILE SERVICES AND APPLICATIONS account for around 14% of total software development and services companies.

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 23.2% of total services exports in 2015[11].

- Around 80%[12] of firms engaged in ICT 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.

- 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.

Exports of ICT related activities accounted for

23.2%

of total of service exports in 2015

More than

80%

of firms engaged in ICT software development and services

11 World Bank, 2016

12 IDAL's Calculations

COMPETITIVE ADVANTAGES

STRONG HUMAN CAPITAL BASE

- Lebanon's solid educational system is at the basis of the country's highly qualified labor force. Lebanon ranks 19th worldwide for the Quality of its Higher Educational System, while it occupies the 6th place globally for the Quality of its Math and Science Education[13].

- Lebanon ranked 8th in the MENA region in 2015 on the ICT Development Skills Index (IDI), which measures ICT capabilities and skills[14]. Lebanon was also ranked as the 3rd most dynamic countries as it upped 21 ranks between 2010 and 2015[15].

- More than 30% of the country's workforce is employed in knowledge intensive activities[16] **(Figure 3)**.

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

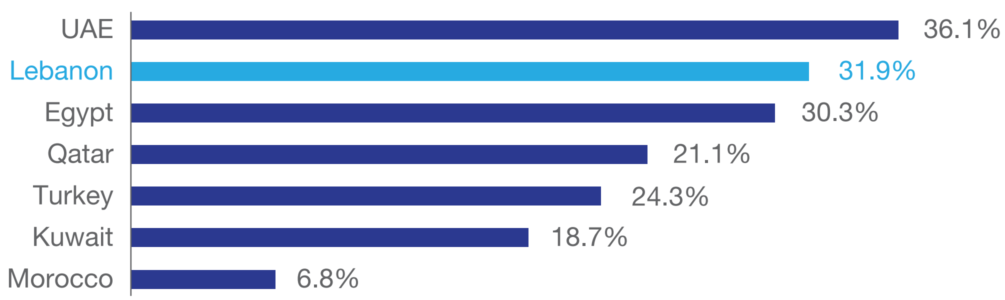
- The American University of Beirut (AUB) was ranked 2nd best university in the MENA region in 2016[17].

Lebanon ranks **19th** worldwide for the Quality of its High Educational System

It occupies the **6th** place worldwide for the Quality of its Maths & Sciences Education

The average wage of software engineer is nearly **37%** lower than in the GCC

Figure 3: Share of Workforce Employed in Knowledge Intensive Activities
% | 2013



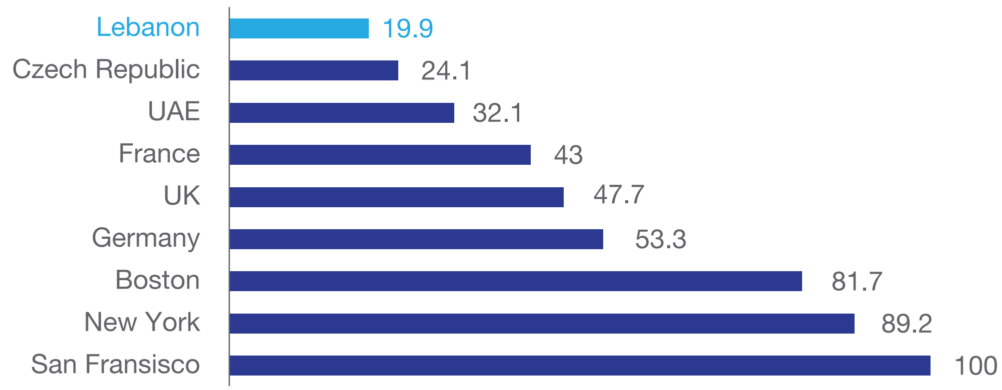
Source: International Telecommunication Union, 2013

13 Global Competitiveness Report, 2015-2016
14-15-16 ITU, 2013
17 QS University Ranking MENA, 2016

COMPETITIVE LABOR COST

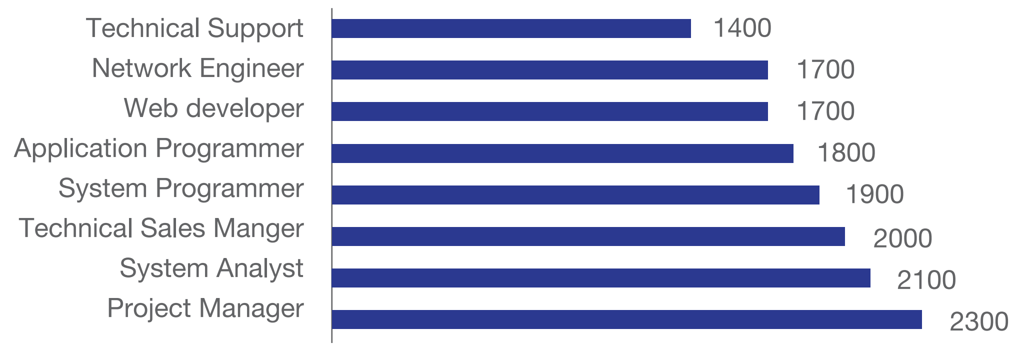
The Lebanese workforce is not only adequately skilled, but highly cost competitive as well. The labor base is relatively cheaper than the US, Europe and GCC countries, with the average wage of a software engineer nearly 37% lower than in the GCC and 60% lower than in selected developed economies **(Figures 4 and 5)**.

Figure 4: Median Annual Wages of Software Engineers in Selected Countries
USD Thousands | 2016



Source: Payscale, 2016

Figure 5: Average Salaries for Selected Positions in IT with 5 Years of Experience
USD | 2013*



Note: Latest available figures.

Source: INFOPRO, 2013

ACCESS TO GROWING REGIONAL MARKETS

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

- The ICT market in the Middle East is rapidly growing. The region's ICT spending reached a total USD 212.9 billion in 2016[18] accounting for 6.1% of worldwide ICT spending[19]. This value is expected to reach USD 242 billion by 2019, with a CAGR of 4.36% over the period 2016-2019[20].
  - The number of Internet users in the Arab world is expected to reach 226 million by 2018[21].
  - The mobile industry of Arab states is expected to reach USD 164 billion by 2020[22].
  - The digital Arabic content market is estimated to have reached USD 28 billion in 2015[23].
- The African market equally presents promising potential especially for software developers and mobile applications, with SIM connection penetration rates (excluding M2M) in sub-Saharan Africa estimated at 77% in 2015[24]. Between 2015-2020, this number should grow at a CAGR of 6.3% reaching a penetration rate of 93%[25].
- Various advantages allow businesses to capture these regional opportunities from Lebanon, including 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.

18-19-20 Gartner, 2016
21 Arab Knowledge Economy Report, 2015-2016
22 GSMA Intelligence, 2015
23 Arabnet, 2013
24-25 GSMA Intelligence, 2015

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 2011[26]. The average speed of mobile broadband has increased 18 times and prices have declined by 40% during the same period [27].

- New business parks are being developed to host companies in the digital industry, and include large-scale developments such as 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.
- A new ICT incubator has been developed in Akkar that includes an in-house job training unit as well as back-offices facilities. The project is part of a 400 meter knowledge center that will be constructed by Netways in collaboration with LARD which focuses on the economic development of Akkar region.

Selected list of Infrastructure upgrades in Lebanon during 2011-2016

- In 2017 Ogero reduced monthly internet subscription prices and fees, and introduced a new "open speed" plans providing faster connections.
- **4th 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.
- A new fiber optic platform installed to upgrade the digital transport infrastructure for telecom services.
- 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.

For more information on Lebanon's internet and mobile landscape you can check out our telecom fact sheet on www.investinlebanon.gov.lb

26-27 Lebanese Ministry of Telecommunications, Progress Report, 2013

INVESTMENT OPPORTUNITIES IN THE SECTOR

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.

FISCAL INCENTIVES

The country has one of the lowest tax rates globally. **The Investment Development Authority of Lebanon** offers **tax breaks** for up to 10 years, as well as other incentives to local and foreign companies operating in the ICT sector and meeting specific requirements. You can check out IDAL's full range of incentives on www.investinlebanon.gov.lb

FINANCING

Today, 6 **venture capital firms** have operations in Lebanon in addition to various regional VCs which have backed a number of local pioneering companies. These include the Berytech Fund, Cedrus Ventures, MEVP and LEAP. VC funds in Lebanon account for around 10% of VC transactions in the region and Lebanon is currently among the top 3 most active VC markets in the Arab World[28].

The Central Bank of Lebanon has issued Circular No. 331 in 2013, through which an amount of up to USD 400 million will be dedicated for Lebanese banks' equity investments into startups, incubators, accelerators, and funds operating in Lebanon. These investments will be 75% guaranteed by the Central Bank.

Other financing options include the Kafalat loan guarantee scheme. **Kafalat** provides financial guarantees for loans of up to USD 400,000 granted by commercial banks to SMEs.

For more information on available financing schemes for ICT companies, please check out our "Financing your Business" fact sheet on www.investinlebanon.gov.lb

INCUBATION AND ACCELERATION

Today, there are 8 **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 and Flat6labs. Other programs offer a wealth of **mentorship and networking opportunities** including Bader, Endeavour, and the MIT Business Plan Competition.

CLUSTERING

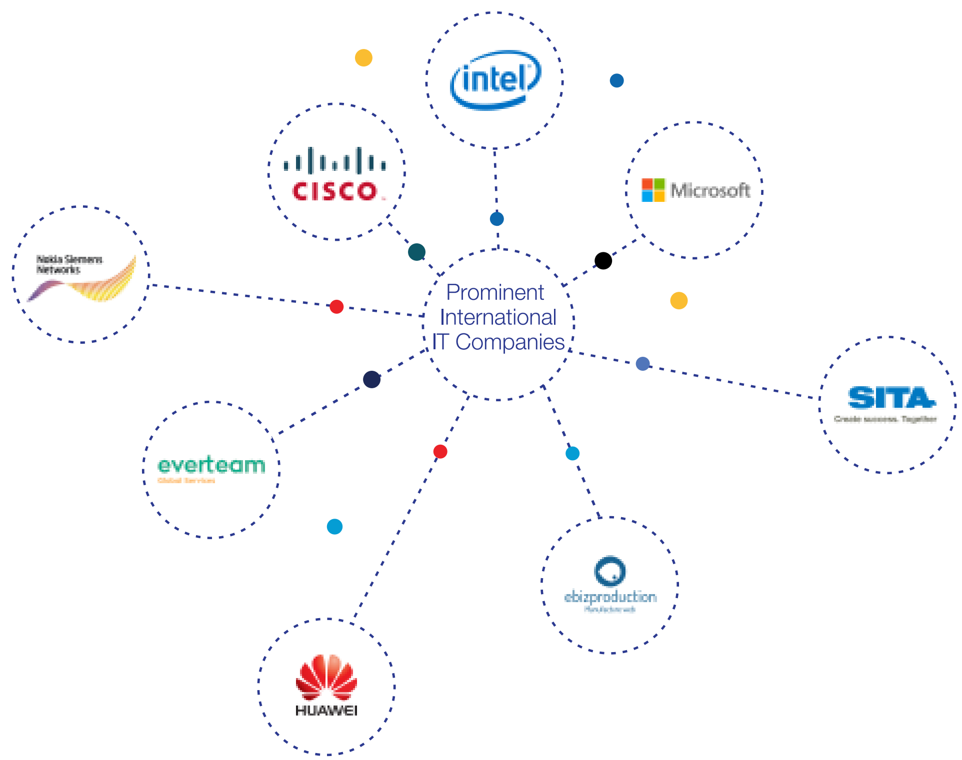
Physical and virtual clusters equally seek to capitalize and expand on the vibrant digital community. These include the Beirut Creative Cluster and the Lebanon Softshore Cluster. Together with industry associations like the Association for Lebanese Software Industries, these associations help companies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

28 Lebanese Ministry of Telecommunications, Progress Report, 2013

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



INVESTMENT OPPORTUNITIES

CURRENT MARKET DYNAMICS PARTICULARLY SIGNAL OPPORTUNITIES IN THE FOLLOWING AREAS OF ACTIVITY:

GAMING

- Digital game sales reached a market size of USD 3.2 billion in 2016[29], owing to the young population of the Arab world that makes up about 60% of the total population. There are increased opportunities for gaming on tablets and smartphones.

ADTECH

- In 2013, online advertising spending amounted to USD 300 million in the MENA and is currently expanding by 37% per year to reach USD 1 billion in 2017 [31]. Lebanon presents a competitive advantage for the development of Adtech products, especially in Mobile, Search and Video.

E-HEALTH

- The healthcare market in the MENA region is expected to grow at a CAGR of 6.6% to reach USD 144 billion by 2020, up from USD 81.1 billion in 2011[30].

ENTERPRISE SOFTWARE AS A SERVICE (SAAS)

- SaaS 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

- Business Process as a Service (BPaaS): USD 1.3 billion are expected to be spent globally on BPaaS from 2014 to 2018[32].
- Government: Public cloud offerings will account for more than 25% of government business services in 2017.
- Advertising: Cloud advertising is expected to grow from USD 56.6 billion in 2012 to USD 192 billion in 2016[34].

MEDIA STREAMING

- Online music and video revenues in the MENA grew at a CAGR of 60% from 2011 to 2014[35], providing opportunities for developers in Lebanon.

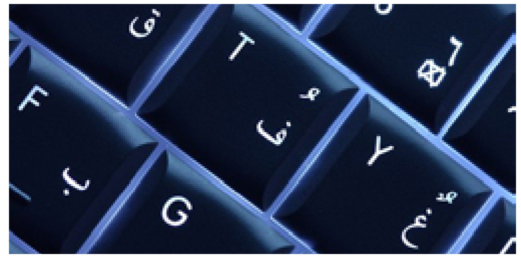
CONSUMER INTERNET

- 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; with the number of active Arab Internet users set to rise to 226 million by 2018[36].

Facts About The Arab Digital Generation

- 60% of Arabs prefer Arabic Content.
- 48% of youth are not satisfied with the quality of local websites.
- Only 1.5% of Global Content is in Arabic.
- 6.5 million users from the Middle East are on Twitter, and 94% of the social media users are on Facebook.

Source: Wamda Research Lab 2015



FINANCIAL & E-PAYMENT SOLUTIONS

- Worldwide, the mobile payments market is forecast to grow at a CAGR of 18% from 2012 to 2017[37]. In the MENA region, mobile payments are gaining popularity, and the number of mobile banking users is expected to jump from 19.8 million in 2013 to 82.1 million users by 2017[38].

29 The National, 2011.
30 Nuviun Digital Health, 2014
31 TradeArabia, 2014
32 Gartner, 2014

33-34 Gartner, 2013
35 SAMENA Telecommunications Council, 2014
36 Madar Research & Development, Orient Planet. Arab Knowledge Economy Report, 2015-2016
37-38 Gartner, 2013

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 BASKET OF LAWS

The Ministry of Economy and Trade has drafted and presented to the Parliament a basket of laws in support of the ICT sector. This basket 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 - ASLI
www.alsionline.org

Berytech
www.berytech.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 Minster of State for Administrative Reform
www.omsar.gov.lb

OGERO
www.ogero.gov.lb

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

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

Smart ESA
www.esa.edu.lb

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

Telecommunications regulatory authority
www.tra.gov.lb

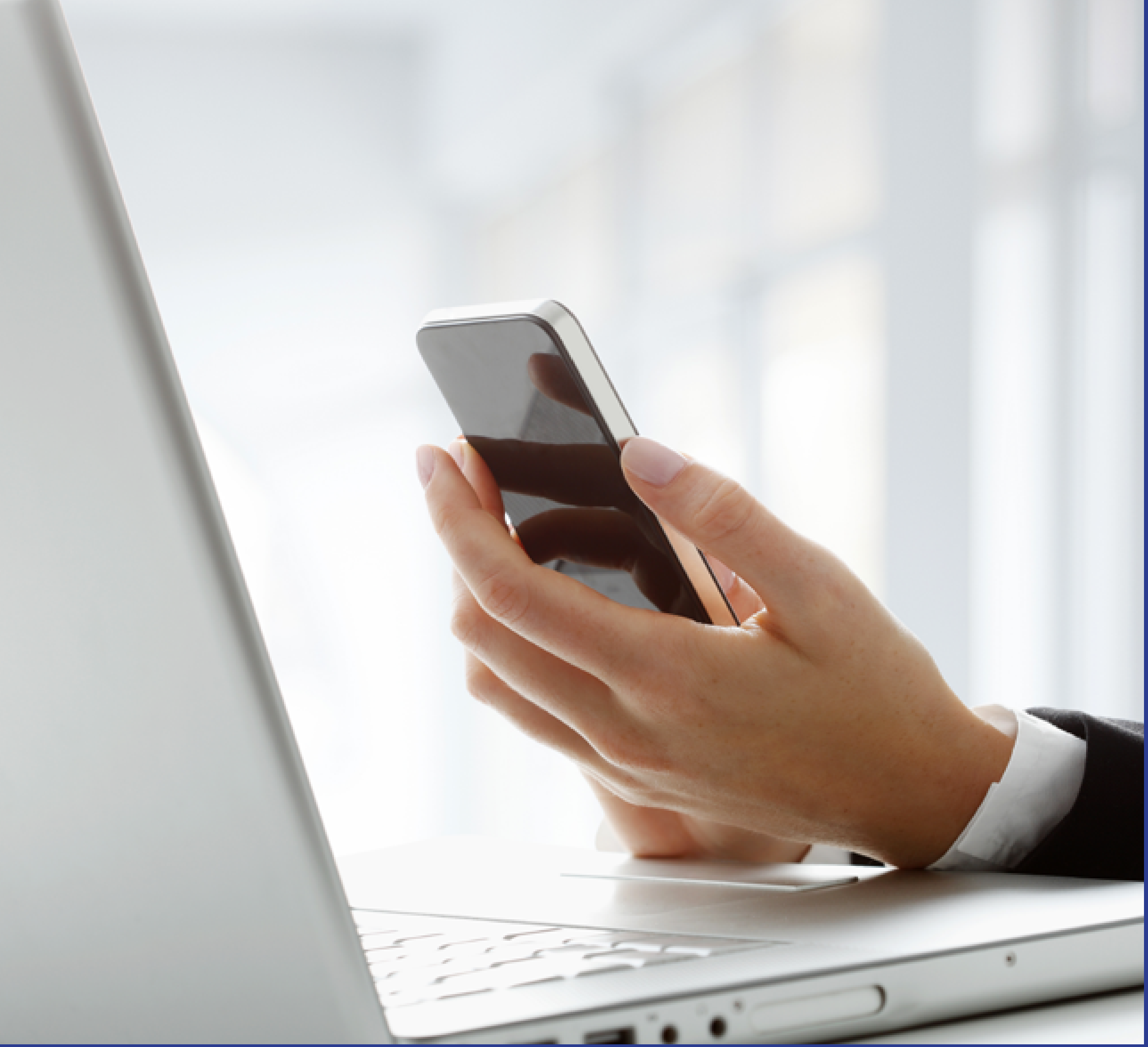
UK Lebanon Tech Hub
www.uklebhub.com

Speed@BDD
www.speedlebanon.com

Flat6Labs
www.flat6labs.com

MEVP
www.mevp.com

Cedrus Venture
www.entrepreneurslebanon.com



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