IDAL
INVEST IN LEBANON

INFORMATION TECHNOLOGY

FACT BOOK 2016

CONTENT

SECTOR OVERVIEW

1. SECTOR PERFORMANCE

The Lebanese Information 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]. The Lebanese IT market underperformed its potential during the 2013-2015 period, however the market is expected to start growing considerably from 2017[5]. Some elements contributing to the market's expansion include rising income, declining device prices and modernization initiatives takes 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

CAGR is expected to grow at
9.7%
over the next 3 years

Table 1: Lebanese ICT market value **(2016-2019) | USD million**

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

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

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

HARDWARE

Hardware sales will reach USD 262.2 million in 2016 (accounting for 60% of total market size) and are expected to grow at a CAGR of 8.3% over the 2016-2019 period[6]. The market is still far from saturated, demand for computers, as well as 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[7].

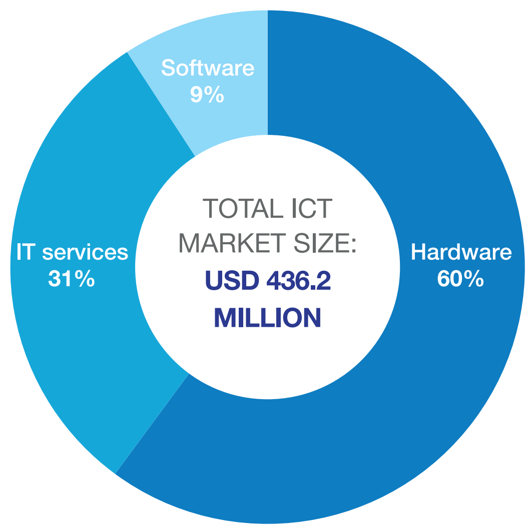
SOFTWARE DEVELOPMENT

The software market value will reach 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[8]. Software development activities have grown steadily in Lebanon in 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 is expected to reach a value of USD 134,2 million in 2016, accounting for 31% of total ICT spending[9]. The pickup in ICT services is forecasted to continue with a CAGR of 12.3% during 2016-2019[10], 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[11].

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



Source: Business Monitor International, 2016

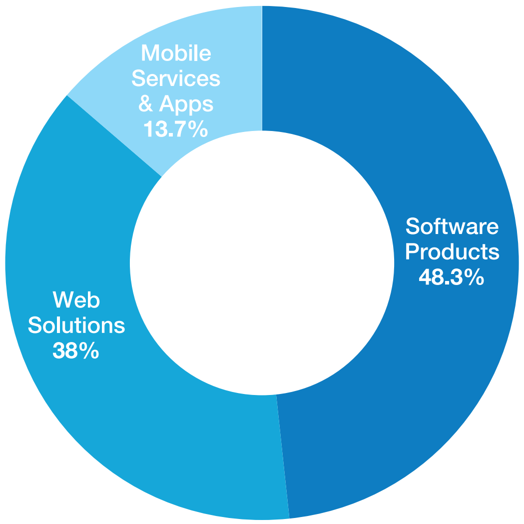
6, 7, 8, 9, 10, 11 BMI 2016

2. 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.

The sector has, however, been progressively moving from retail and wholesale activities into innovation and content generation with the share of companies involved in software development currently standing at around 40% of total enterprises (Figure 2).

Figure 2: Distribution of ICT Companies by Type of Activity **% | 2015**



Source: IDAL, ICT Directory, 2015

Companies within the software development subsector employ around 5000 individuals and operate across three major activities (Figure 3):

- **Software Products** for vertical industries, mainly for the healthcare, education and banking sectors. These constitute for around 48% of software companies.
- **Web Solutions** companies mainly involved in web hosting, web design and development as well as e-services and account for 38% of total software companies.
- **Mobile Services and Applications** account for around 14% of total software companies.

3. EXPORT ACTIVITY

- Lebanon is emerging as a leading exporter of software products and services in the region. Exports of ICT services related activities account for an estimated 26.5% of total service exports in 2014[12].
- More than 60% of firms engaged in ICT activities are export oriented[13], with the majority of their revenues stemming from their activities outside Lebanon. Key exported products include vertical software applications and mobile applications[14].
- The Gulf region is the primary export destination for Lebanese products while other Middle Eastern countries rank second[15]. European markets rank third, with France at the top of the list[16]. African countries are currently emerging as a new important export destination, being increasingly targeted by Lebanese firms.

Exports of ICT related activities constitute an estimated **26.5%** of total of service exports in 2013

More than **60%** of firms engaged in ICT activities are export oriented

12 World Bank, 2016
13-14-15-16 IDAL's Calculation - IDAL ICT DB, 2015

COMPETITIVE ADVANTAGES

1. STRONG HUMAN CAPITAL BASE

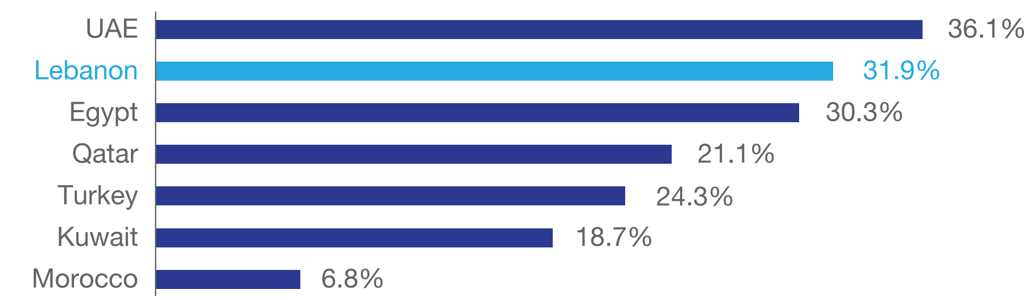
- Lebanon's solid educational system is at the basis of the country's highly qualified labor force. Lebanon ranks 19th worldwide for the Quality of its Higher Educational System, while it occupies 6th place globally for the Quality of its Math and Science Education[17].
- Lebanon also occupies the 8th position in the MENA region in 2015 on the ICT Development Skills Index (IDI), which measures ICT capabilities and skills[18]. Lebanon was also ranked as the 3rd most dynamic countries as it upped 21 ranks between 2010 and 2015[19].
- More than 30% of the country's workforce is employed in knowledge intensive activities[20]. Around 2000 university graduates specialized in ICT related activities join the sector every year. These are spread over the fields of engineering, computer science, applied informatics and media (Figure 3).
- The majority of the labor force is tri-lingual, and possesses one of the most competitive technical skills in the region.

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

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

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

Figure 3: Share of workforce employed in knowledge intensive activities **% | 2013**



Source: International Telecommunication Union, 2013

17 Global Competitiveness Report, 2015-2016.
18-19 ITU, 2015
20 ITU, 2013

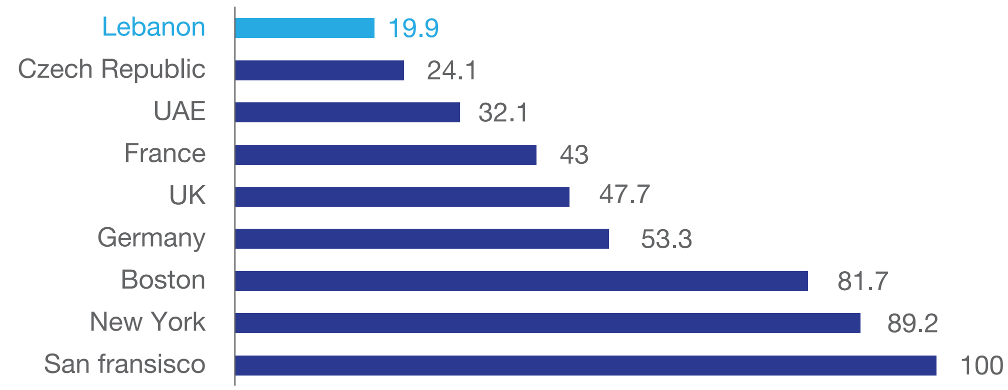
The number of internet users in the Arab world is expected to reach **197 million** by 2017

The Arabic language to be ranked as the **4th** most used language on the net

2. COMPETITIVE LABOR COST

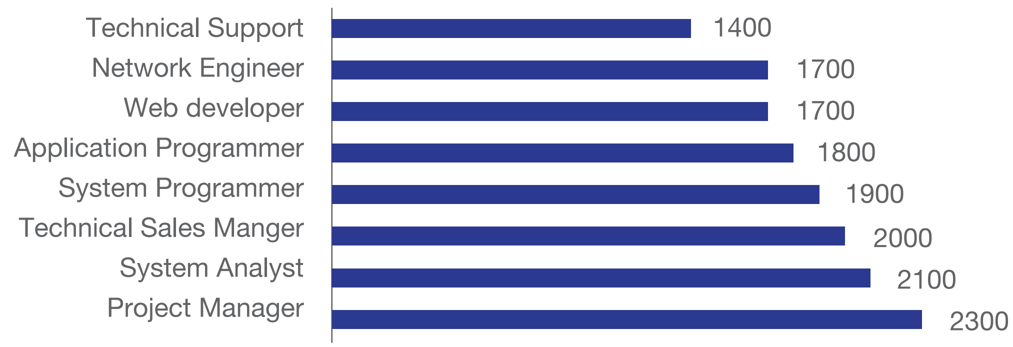
The Lebanese workforce is not only adequately skilled, but highly cost competitive as well. The labor base is relatively cheaper than the US, Europe and GCC countries, with the average wage of a software engineer nearly 37% lower than in the GCC and 60% lower than in selected developed economies (Figures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



Source: INFOPRO, 2013

3. 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 is projected to total USD 212.9 billion in 2016[21] accounting for 6.1% of worldwide ICT spending[22]. This value is expected to reach USD 242 billion by 2019, with a CAGR of 4.36% over the period 2016-2019[23].
  - The number of Internet users in the Arab world is expected to reach 226 million by 2018[24].
  - The mobile industry of Arab states is expected to reach USD 164 billion by 2020[25].
  - The digital Arabic content market is predicted to hit USD 28 Billion in 2015[26].
  - In addition, a wave of e-government initiatives will result in a significant increase in regional ICT spending.
- The African market equally presents promising potential especially for software developers and mobile applications, with a SIM connections penetration rates (excluding M2M) in sub-Saharan Africa estimated at 77% in 2015[27]. Between 2015-2020, this number should grow at a CAGR of 6.3% reaching a penetration rate of 93%[28].
- 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.

4. 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[29]. The average speed of mobile broadband has increased 18 times and prices have declined by 40% during the same period[30].

21-22-23 Gartner, 2016
24 Arab Knowledge Economy Report, 2015-2016
25 GSMA Intelligence, 2015
26 Arabnet, 2013
27-28 GSMA Intelligence, 2015
29-30 Lebanese Ministry of Telecommunications, Progress Report, 2013

Selected list of Infrastructure upgrades in Lebanon during 2011-2013

- 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.
- A new fiber optic platform installed in Lebanon 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 here.

- New business parks and clusters are being developed to host companies in the digital industry. These include large-scale developments like the Beirut Digital District (BDD) as well as smaller spaces like Solidere's Cloud Five. These projects provide state of the art facilities and services at reduced rates, in addition to clustering opportunities within a friendly business environment.

5. 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. Services and programs include fiscal incentives, financing options, as well as incubation and acceleration.

- **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 here.

- **Financing:** Today around 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 and MEVP. 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[31].

31 Lebanese Ministry of Telecommunications, Progress Report, 2013

The Central Bank of Lebanon has issued Circular No. 331 in 2013, through which an amount of up to 400 Million USD will be dedicated for Lebanese banks' equity investment 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 here.

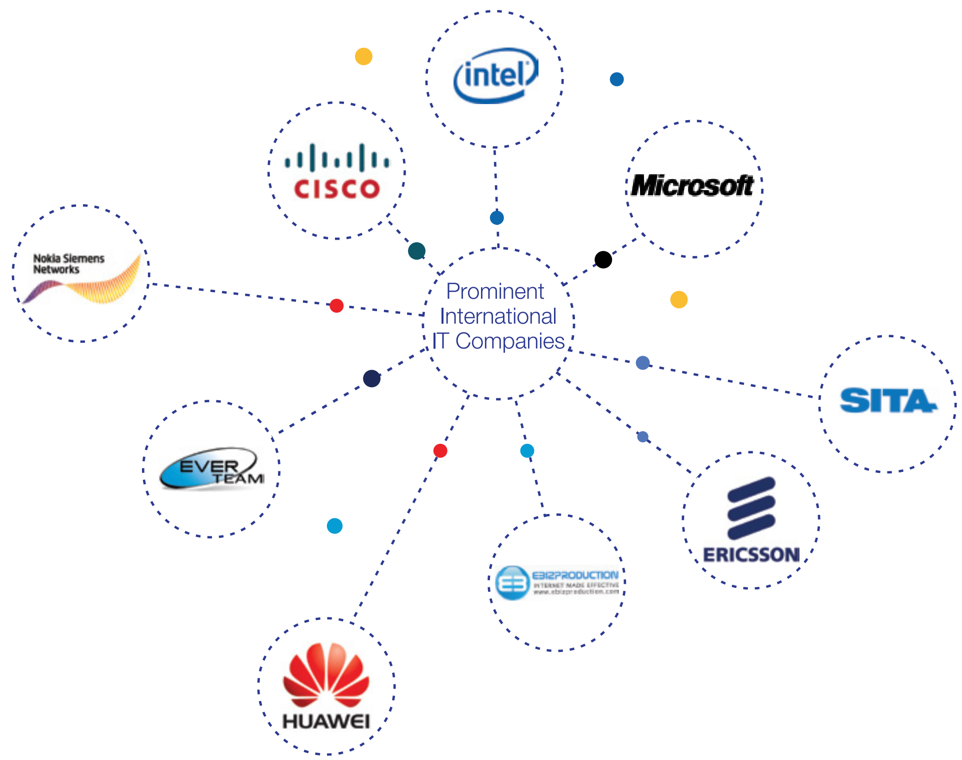
- **Incubation and Acceleration:** Today, there are 6 incubators that provide training, technical & financial assistance to new and existing businesses across Lebanon. They include Berytech, South Business Innovation Center (SOUTHBIC), Business Incubation Association in Tripoli (BIAT), Alt City, UK Lebanon Tech Hub and speed@bdd, and Smart-ESA. Flat6labs is another ICT-focused incubator established in Lebanon in 2016. 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. A full list of these stakeholders is provided at the end of this factsheet.

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 the US markets. In addition to these well-established enterprises, innovative startups have also been emerging in the fields of gaming, e-services, and mobile apps 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, Ericsson, Cisco, and Intel, among others.



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

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

GAMING
Digital game sales are set to rise at a CAGR of 29 % to reach USD 3.2 billion in 2016[32], 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 tables and smartphones.

E-HEALTH
The global Healthcare IT market is forecast to grow at a CAGR of 5.7% for the period 2013-2018. 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[33].

ADTECH
In 2013, online advertising spending amounted to USD 300 million in MENA and is currently expanding by 37% per year to reach USD 1 billion in 2017[34]. Lebanon presents a competitive advantage for the development of Adtech products, especially in Mobile, Search and Video.

ENTERPRISE SOFTWARE AS A SERVICE (SAAS)
SaaS should be viewed as a new business model for the delivery of services, and it 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 growth of SaaS in the region can be attributed mostly to CRM sales, which were forecast to grow by 49% in 2014, and to contribute 30% of all spending on SaaS in the region through 2018[35]. Cloud-based office suites and ERP solutions will also grow rapidly in the SaaS market, with USD 1.3 billion spent on business process as a service (BPaaS) from 2014 to 2018[36].
- Government - According to Gartner's 2014 predictions, public cloud offerings will grow through2017 to account for more than 25% of government business services in areas other than national defense and security[37]. Cloud computing allows uniform, countrywide reach of e-government solutions, independently of the divergence of local administrative units.
- Advertising - Cloud advertising is expected to remain the largest source of spending within the cloud services marketplace in MENA. The market is expected to grow from USD 56.6 billion in 2012 to USD 192 billion in 2016[38].

32 The National, 2011.
33 Nuviun Digital Health, 2014
34 TradeArabia, 2014
35-36 Gartner, 2014
37-38 Gartner, 2013

MEDIA STREAMING
Online music and video revenues in MENA were estimated to grow at a CAGR of 60% from 2011 to 2014[39], 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 an especially high demand for Arabic content creation along those key markets; equally presenting competitive advantages for local content developers with the number of active Arab Internet users is set to rise to 226 million by 2018[40].

Facts About The Arab Digital Generation

- 60% of Arabs prefer Arabic Digital 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 Middle East's social media users are on Facebook.

Source: Wamda Research Lab 2015

FINANCIAL & E-PAYMENT SOLUTIONS
Worldwide, the mobile payments market is forecast to top 450 million users in 2017, with a CAGR of 18% for the period 2012-2017[41]. 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[42].

39 SAMENA Telecommunications Council, 2014
40 Madar Research & Development, Orient Planet. Arab Knowledge Economy Report, 2015-2016
41-42 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, or the Telecommunications Law as it is often referred to, 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.

MAIN STAKEHOLDERS

Altcity
www.altcity.me

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

Bader
www.baderlebanon.com

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

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

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