



IDAL
INVEST IN LEBANON

CHEMICAL INDUSTRY

FACT BOOK
2016



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SECTOR OVERVIEW

The chemicals sub-sector includes the manufacture of the following products:

- ▶ Basic chemicals (organic and inorganic chemicals)
- ▶ Fertilizers
- ▶ Plastics and articles thereof
- ▶ Rubber and articles thereof
- ▶ Paints, varnishes & similar coatings, printing ink and mastics
- ▶ Soap & detergents, cleaning & polishing preparations, waxes
- ▶ Perfumery, cosmetics and toilet preparations, essential oils and resinoids
- ▶ Albuminoidal substances; modified starches; glues
- ▶ Explosives; pyrotechnic products; matches
- ▶ Photographic or cinematographic goods
- ▶ Miscellaneous chemical products (pesticides, insecticides, nail polish remover, etc.).

This class excludes the:

- ▶ Manufacture of asphalt-based adhesives
- ▶ Manufacture of pharmaceuticals, medicinal chemicals and botanical products.

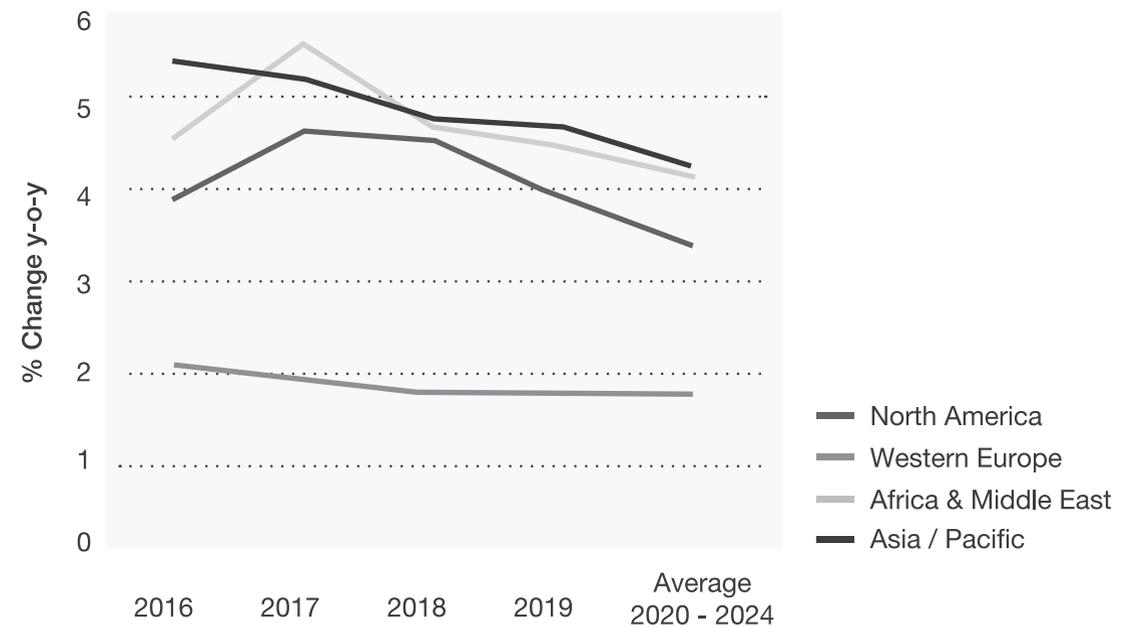
REGIONAL POSITIONING

Although the worldwide chemicals market is mainly dominated by the Asia-Pacific region, North America, and the EU, **the MENA region remains a significant emerging player in the field.**

In 2013, the Middle East chemical industry was valued at USD 160 billion.

It is projected to expand in the Middle East at a faster pace than in any other region between 2013 and 2020¹, and will be the fastest growing sector of the region until 2017². Petrochemicals and fertilizers would be the fastest growing segments, with a projected CAGR of 8.3% and 6.7% respectively, from 2013 to 2020³.

Figure 1: Evolution of Global Chemistry Production by Region (Projection)



Source: American Chemistry Council, 2014

More than USD 770 billion of foreign direct investments will be invested in the Middle East in the chemical industry between 2011 and 2020⁴, largely driven by the rising demand of construction products (paints, coatings, adhesives, sealants).

¹ Frost and Sullivan, 2014

² IHS, 2014

³ Frost and Sullivan, 2014

⁴ Business Review Middle East, 2014

DOMESTIC OVERVIEW

The Lebanese chemical industry is one of **the most diversified sectors** in the country. There are around 110 different items produced in this sector⁵, including basic chemicals, soaps and detergents, cosmetics, plastic, rubber, oil refining, and paints and varnishes.

The manufacturing of chemicals, rubber & plastics, is the seventh largest national industrial sector in terms of contribution to GDP, accounting for LBP 465 billion in 2013⁶, up from LBP 391 billion in 2011⁷ (Table 1).

Table 1: Contribution of the chemicals, rubber & plastics industry to Lebanon's GDP:

Year	2011	2012	2013
Contribution to GDP (LBP Billion)	391	417	465
National GDP (LBP Billion)	60,414	66,481	71,185

Source: Lebanese National Accounts, 2013

There are around 366 factories with 8 employees and above in Lebanon operating in this sector, accounting for around 9% of total industrial firms in the country⁸, with a total workforce of around 4,000 employees⁹. The industry contributes to an output of around USD 460 million, which corresponds to almost 7% of total manufacturing turnover¹⁰ (Table 2).

Table 2: Contribution of the Chemical Sector to National Economy (2007)

Contribution to the Economy	In ,000 USD (unless stated otherwise)	% of Total Industries
Workforce (Number)	4,066	4.9%
Wages & Salaries	30,693	5.6%
Value added	132,428	6.4%
G.F.C.F.*	33,698	11.4%
Value Added / Workforce	33	

Source: Industrial Survey 2007, Ministry of Industry

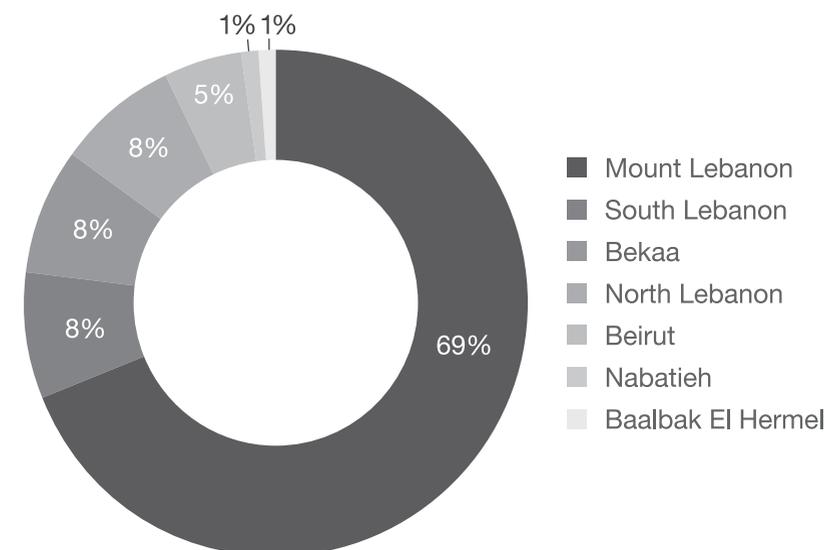
Note: these numbers include man-made fibers

* G.F.C.F: Gross Fixed Capital Formation

Note: Latest available figures

Approximately 70% of chemical companies are located in Mount Lebanon¹¹ (Figure 2).

Figure 2: Distribution of chemical companies by region (2015-2016)



Note: Companies with a minimum of 8 employees

Source: Directory of exports and industrial firms in Lebanon, 2015-2016

Lebanon's **central geographic position** in the MENA region provides a decisive advantage for chemical companies, giving them access to a market of more than 350 million consumers.

5 Directory of Exports and Industrial Firms in Lebanon, 2015-2016

6 Latest available figures

7 Lebanese National Accounts, 2013 (including pharmaceutical products)

8 Directory of exports and industrial firms in Lebanon, 2015-2016

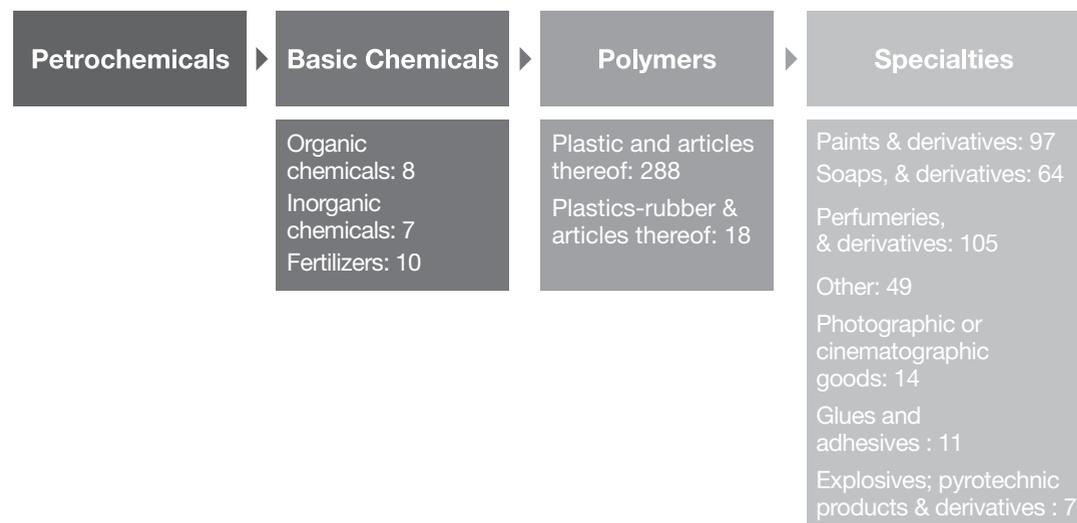
9 Including man-made fibers, Industrial survey 2007, Lebanese Ministry of Industry

10 Including man-made fibers, Industrial survey 2007, Lebanese Ministry of Industry

11 Directory of exports and industrial firms in Lebanon, 2015-2016

In terms of activities, Lebanese chemical companies have been focusing mainly on the manufacturing of polymers and specialty chemicals, as the sector's value chain below shows¹².

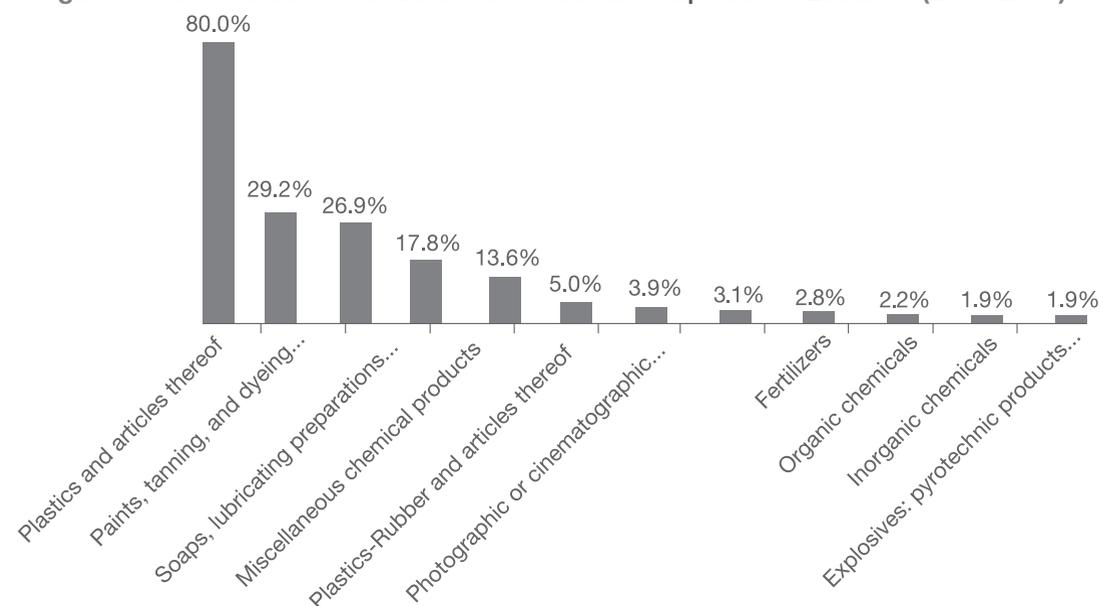
Figure 3: Value Chain of the Chemicals Sector & Number of Companies with activities in Each Division



Source: IDAL's calculations, 2016

80% of companies in the Chemical sector had activities in the plastics industry, 29% of them in the perfumery industry, and 26% in the paints industry¹³ (Figure 3). Few companies (less than 7%) focus on the production of basic chemicals, while there are no companies working in petrochemicals¹⁴, largely due to Lebanon's uncompetitive advantage in these fields.

Figure 4: Concentration of activities of chemical companies in Lebanon (2015-2016)



Note: Companies with a minimum of 8 employees
Source: IDAL's calculations, 2016

In terms of academics and research, there are about **ten universities** that offer graduate and undergraduate programs in Chemistry. A number of those have R&D facilities, exchanging knowledge with the private sector, and transferring vital skills.

	American University of Beirut (AUB) B.S. in Chemistry and M.Sc with specialization in one of four chemistry areas: Analytical, Inorganic, Organic and Physical R&D in 38 sub-segments of the chemical field
	Lebanese American University (LAU) B.S. in Chemistry R&D in Environmental protection and conservation, Polycyclic aromatic sulfur heterocycles & Optoelectronic device applications (OLED, OFET and OPV)
	Lebanese University B.S. in Chemistry and Masters in a number of different subjects including refining and hydrocarbon technology, chemical industry analysis; inorganic and organic molecular chemistry.
	Universite Saint Joseph (USJ) B.S. in Chemistry and Accelerated masters in Chemistry R&D in three large areas of the chemical industry: agro-food, environnement and materials science.
	University of Balamand B.S. in Chemistry and M.Sc. in Chemistry R&D in various sub-segments of chemistry among which food chemistry, nano-science, and environment.

Moreover, the **Industrial Research Institute (IRI)**, a publicly owned institution, conducts extensive research and testing across various fields in the industrial sector in an effort to enhance the latter's performance. The IRI offers a variety of different services including lab testing, certifications, techniques and equipment development (testing, measurement, analysis and calibration), industrial studies. It is also engaged in the organization of fairs, seminars and conferences for local professionals.

¹² This is calculated according to the activities undertaken by companies. Companies can undertake a number of different activities.

¹³ IDAL's calculations, 2016

¹⁴ IDAL's calculations, 2016

TRADE PERFORMANCE

In 2015, Lebanese total chemical exports reached **USD 411 million**, (corresponding to 390,000 tons). Exports of chemical products accounted for 14% of total Lebanese industrial exports in 2015, placing it in third place in terms of the most exported industrial products¹⁵.

Lebanon's trade performance in the chemical sector varies according to the different sub-sectors. Lebanon is a net exporter of inorganic chemicals and of fertilizers. In 2015, inorganic chemicals accounted for 2% of Lebanon's total exports, and fertilizers accounted for 3% of total exports, compared to import levels of 0% for both sub-sectors¹⁶. For other sub-sectors, the balance of trade is negative.

Lebanon's chemical exports are constituted primarily of essential oils, resinoids, cosmetics and toilet preparations, which account for 27% of total exports of chemical products¹⁷. These are followed by plastics and articles thereof, which account for 26% of total exports of chemical products¹⁸. Fertilizers come in third place and account for 17% of total exports of chemical products¹⁹.

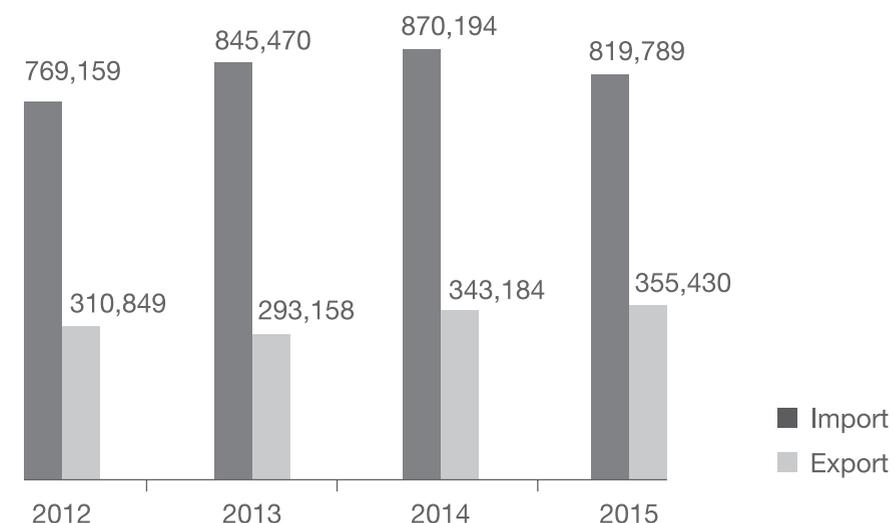
Lebanon's chemical imports are constituted primarily of plastics and articles thereof, which account for 40% of total imports of chemical products, followed by essential oils and resinoids, cosmetics and toilet preparations (14%), and by miscellaneous chemical products (10%)²⁰.

Table 3: Lebanon's main trade partners for each chemical sub-sector

Sub-sector	Main country of import, % of total import from this country	Main export destination, % of total export towards this country
Inorganic chemicals	Turkey, 22%	Spain, 37%
Organic chemicals	China, 27%	Syria, 22%
Fertilizers	Italy, 16%	Bangladesh, 49%
Paints & derivatives	Italy, 12%	KSA, 17%
Perfumery, & derivatives	France, 27%	Iraq, 25%
Soaps & derivatives	Egypt, 22%	KSA, 21%
Glues, adhesives, & derivatives	Germany, 15%	Iraq, 13%
Explosives, pyrotechnic products, & derivatives	France, 30%	Ethiopia, 84%
Photographic or cinematographic materials	China, 28%	Syria, 35%
Miscellaneous chemicals	Germany, 16%	KSA, 35%
Plastics & articles thereof	KSA, 21%	Syria, 20%
Rubber & articles thereof	China, 31%	KSA, 11%

Source: Lebanese customs, 2016

Figure 5: Evolution of Lebanese Chemical Exports & Imports (2012 – 2015) | USD,000



Source: Lebanese customs, 2016

¹⁵ (including pharmaceutical products), Lebanese customs, 2016

¹⁶ Lebanese customs, 2016

¹⁷⁻¹⁸⁻¹⁹⁻²⁰ According to the value of export in USD, IDAL's calculations, 2016

MAIN INVESTMENT OPPORTUNITIES

The Lebanese chemical industry has been mainly active in the provision of intermediate inputs to various industries. **The majority of plants in this sector are limited to mixing plants, and the manufacture of basic materials has been minimal** given the lack of raw material (imported mainly from Syria and the Maghreb), and regional competition.

PLASTICS

Packaging: The packaging industry in Lebanon is booming. There are currently 62 companies working in plastic food packaging²¹. With the recent decrease in oil prices, the plastic packaging industry is well positioned to capitalize on the situation since oil represents a large input cost to produce the materials used in the packaging industry.

The Lebanese market is witnessing a trend towards adopting plastic as raw material in the packaging industry, instead of metal and glass. This trend is also seen on a regional scale as packaging activities is projected to grow at a CAGR of 5.0% between 2014 and 2019 in the MENA region (compared to a global 4%), going from USD35.4 billion to USD 45.2 billion²².

Plastic Recycling: Plastic recycling activities are becoming attractive due to the potential environmental and economic benefits it can provide. Lebanon generates

Hence, **the chemical industry in Lebanon is expected to remain a light industry**, and to stay concentrated in the production of specialty chemicals. In this regard, investors might find opportunities in activities spanning the end of the chemicals sector value chain, those with high added-value.

around 2.55M tons of waste annually²³ a number which could considerably decrease with the development of recycling activities which aim to transform different kind of plastics including PET (Polyethylene Terephthalate) used in bottles, carpets and food packaging and HDPE mainly used in piping, automotive fuel tanks and toys.

Paints & Other Coating Products: The paints and coating industry in the MENA region was over 2.09 million tons in 2013 and is forecast to reach more than 2.5 million tons by 2018, with an annual growth rate of 3.6% The demand for paints and coating products is closely linked to the booming construction sector. Indeed, the fast-growing construction sector of MENA's high income countries will bring about an expansion of regional demand in paints and coating products in the years to come, providing ample export opportunities.

PROFILE OF TOP CHEMICAL COMPANIES IN LEBANON

Name	Subsector	Profile	Number of Employees
Lebanon Chemicals Company S.A.L	Basic Chemicals	Lebanon Chemicals Co. is one of the only companies in the country engaged in the manufacturing of basic chemicals directly from raw materials. The company produces sulfuric and phosphoric acids as well as fertilizers. It serves international markets in Europe and in the Middle-East primarily.	250
SODAMCO S.A.L 	Construction-oriented Chemicals	SODAMCO manufactures and markets quality construction chemicals products particularly suitable to the building standards and specific climate conditions in the Middle East and the Gulf, including adhesives, coatings, and other specialty materials.	280
Cosmaline S.A.L 	Soaps & Detergents	Cosmaline specialized in the manufacturing of personal care products, as well as household and aerosol products. The company's high-capacity plant includes extensive manufacturing facilities that offer a full suite of product formulation, concept innovation and marketing support services.	
Masterpak 	Plastics	Masterpak produces high-quality co-extruded polyethylene (PE) films and bags and supplies customers in Europe, the Arabian Gulf, Middle East, Africa, Asia, America and Australia. Masterpak is a member of INDEVCO Flexible Packaging, a division of INDEVCO Group.	280

²¹ The Directory of Exports and Industrial Firms in Lebanon 2015-2016

²² Smirthers Pira, 2014

²³ Sweep-Net, the Regional Solid Waste Exchange of Information and Expertise Network in Mashreq and Maghreb Countries

Name	Subsector	Profile	Number of Employees
Tamer Industries (SLEE) 	Perfumeries & cosmetics	SLEE is primarily involved in the research and development, manufacturing and marketing of cosmetics, perfumes, and personal care products. SLEE produces a variety of skin care, cosmetics, and fragrance products, that it provides under its own label, and that may be labeled for third parties.	
Sipes 	Paints & derivatives	SIPES International Paints Manufacturing Company is a major regional paint manufacturer that produces all types of paint and construction chemicals, including decorative, furniture, car refinishing, industrial and marine paints, protective coatings, resins, and lacquers.	500

Note: This list is based on the number of employees. It is non-exhaustive and is solely intended to provide a general overview of the industry

GLANCE AT INVESTMENT PROJECTS SUPPORTED BY IDAL IN THE SECTOR



Advanced Plastics Industry (API)

Advanced Plastic Industries (API) expanded its current capacity production due to high market demand for polypropylene pipelines through renovation and renewal of technical equipment.

Investment Size: USD 21,348,408

Jobs to be Created: 30



Cimenterie Nationale

This expansion project involved the upgrade of a kiln to almost double capacity while adding a crusher-dryer plant, extending a clinker cooler, and replacing the exhaust system. Storage capacity will be increased by 40,000 tons, and automatic bag loading machines will be installed. The design will also incorporate BAT to reduce negative environmental impacts and prepare for the use of alternative fuels.

Investment size: USD 108.5 million

Jobs created: 67

GOVERNMENT INITIATIVES



ELCIM

Euro Lebanese Center for Industrial Modernization is an EU established and co-funded non-profit organization, in place since 2001. Although independent, it is integrated with the Industrial Research Institute of Lebanon. ELCIM is a business advisory center providing technical assistance services to industrial SMEs, covering practically all subsectors of the Lebanese industry.

It has two main objectives:

- ▶ Upgrading the business performance of SMEs (business strategy, strategic management, technology transfers...),
- ▶ Supporting the access to long-term financing resources such as KAFALAT credit guaranty program.

www.elcim-lb.org

LIRA

Lebanese Industrial Research Achievements Program is a government initiative that aims at building effective cooperation between industry, academia, and research centers to address the research and development needs of the Lebanese industry.

LIRA's objectives are to:

- ▶ Encourage university-industry cooperation towards building a knowledge-based economy;
- ▶ Match university activities/research with industry needs/problems towards increasing productivity;
- ▶ Seek industrial sponsorship for proposed university projects;
- ▶ Offer a national platform for potential new products and services;
- ▶ Help engineering and science students in developing their research projects;
- ▶ Provide industrial training to fresh graduates and engineers.

www.liraprogram.com

MAIN CONTACT DETAILS

ELCIM – Euro Lebanese Center for Industrial Modernization
www.elcim-lb.org

LIRA – Lebanese Industrial Research Achievements Program
www.liraprogram.com

The Associations of Lebanese Industrialists (ALI)
www.ali.org.lb

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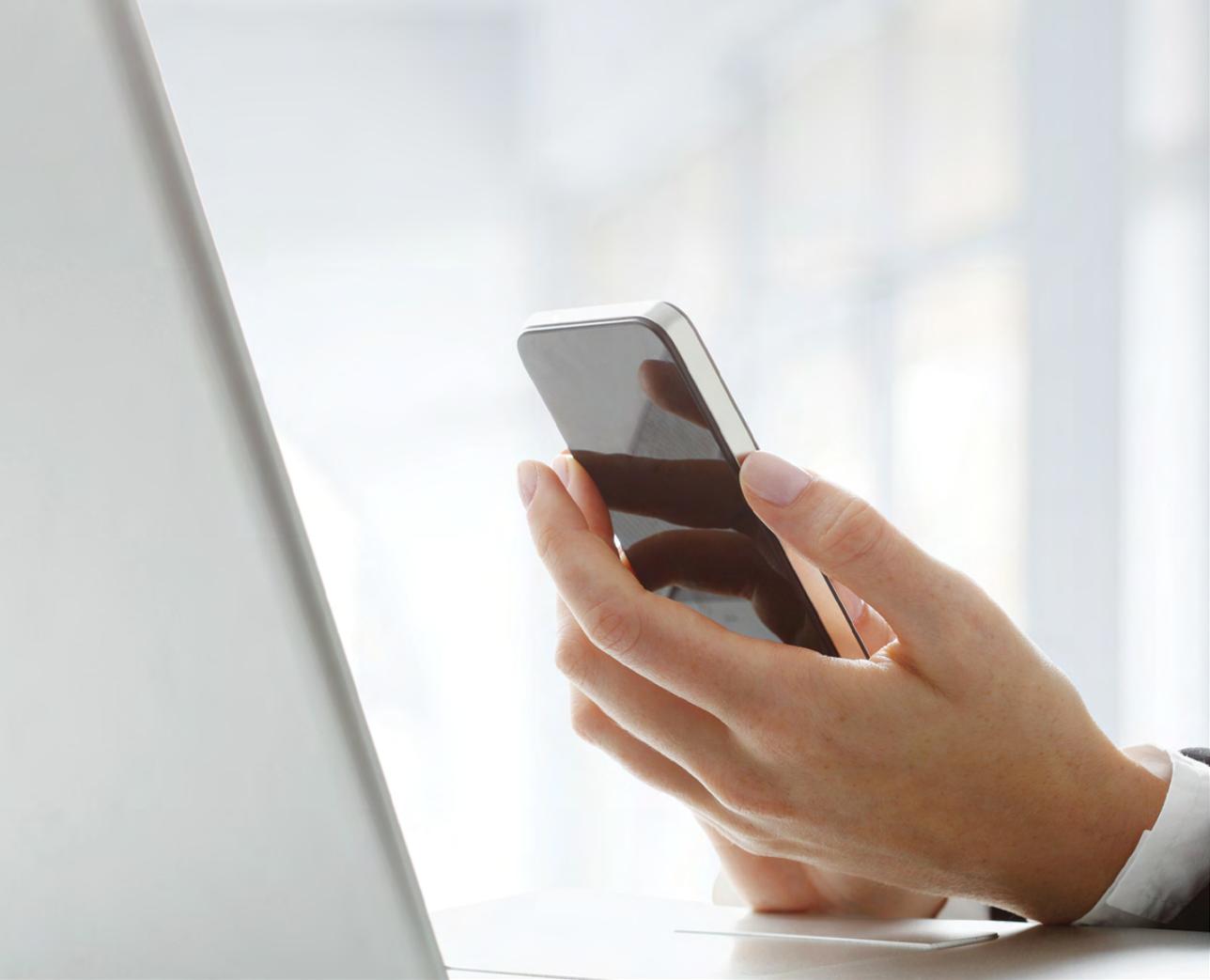
Industrial Research Institute
www.iri.org.lb/index.html

Ministry of Industry
www.industry.gov.lb

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

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





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