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IRI IN BRIEF

Established in 1953, IRI is a Lebanese institution for studies, industrial research and scientific testing and analysis.

It is a conformity assessment body; it delivers quality system certification, product certification and certification of persons.

IRI is a not-for-profit institution, declared of public utility by D/L n° 10059 dated 17 August 1955, linked to the Ministry of Industry by Law n° 642/1997, with administrative and financial autonomy.

The activities and services of the Institute are organized to realize the following aims:

- To conduct studies and research relevant to the establishment of new industries
- To investigate and disseminate information about available raw materials with a view to defining their use and establishing the best means for their exploitation
- To provide, on an international scientific level, reliable services in testing and analysis and to grant certificates of quality or conformity with standards and purchase specifications
- To provide specialized technological, management and economic consulting services to existing industries and industrial development schemes
- To maintain close co-operation with official institutions, industrial organizations, and development boards both on the national and international levels in matters relating to the industrial development of the country.

DUR ETHICAL STANDARDS

In carrying out its functions, the Institute adheres to ethical and professional standards whereby it safeguards the client's best interests and regards as the client's property any information, processes, patents or techniques developed during work for him and safeguards such matters in complete secrecy.

FOREWORD BY THE DIRECTOR GENERAL



A YEAR HAS PASSED,

AND THESE ARE THE FRUITS
OF OUR WORK

A year has passed,

Did we grow? Indeed, the Industrial Research Institute has grown. It now boasts of more activities, and a broader reach. It has accepted no limits to its potential, and it aspires to expand both its capacities and capabilities, to offer more comprehensive and quality services, and reach more beneficiaries.

A year has passed,

The Institute suffered no shortcomings in any of its tasks, and has instead now come ahead of its regional peers, following its accession to EUROLAB, the European Federation of National Associations of Measurement, Testing and Analytical Laboratories. In addition, the Institute was present at the Brussels Regional Workshop on Conformity Assessment

of Industrial Products, and in Valencia, for the International Conference for Standardization and Issuance of Certificates for Non-Destructive Testing. The Institute also participated in the First School of Nanotechnology in the Food Chain in Milan, in the Eco-Cities Forum in Marseille, and in the UNIDO Expert Group Meeting in Vienna.

A year has passed,

The Institute's domestic collaborations are ever widening, with the Ministries of Environment, Energy and Agriculture, and the Chambers of Commerce, Industry and Agriculture in Lebanon - through the Beirut Chamber of Commerce, Industry and Agriculture-, amid keenness on promoting the role of small and medium enterprises. The Institute

has also had extensive collaboration with ESCWA in technology transfer. Furthermore, the Ministry of Industry, the authority directly concerned with the Institute's affairs, was also involved in and briefed on the Institute's activities.

A year has passed,

A new laboratory was added to IRI, bringing the total number of its labs to 14, while their activities grew and expanded, becoming ever more comprehensive, with the number of daily tests and analyses undertaken by the Institute increasing from 800 to one thousand. The rate of growth of these operations remained at 200 per day annually, over the last three years, in conjunction with growth in the number of customs files processed by IRI, and which reached one hundred fifty per day as well. This is in addition to an increase in the number of external tests carried out by IRI and the training workshops it has held.

The Institute's external activities, outside its headquarters, were underscored through the quality control and cooperation with official departments it has carried out.

A year has passed,

Throughout which the activities of the Lebanese Cleaner Production Center (LCPC) and the Euro-Lebanese Centre for Industrial Modernization (ELCIM) had an outstanding growth, both domestically and abroad. Indeed, they participated in exhibitions, seminars and workshops, as well as field applications, fostering the role of the Institute, and offering Lebanese industry and enterprises both direct and indirect support, with a view to reduce production costs, and to render products more competitive and ecofriently.

A year has passed,

And the Institute demonstrated throughout it its ability to keep pace with international scientific developments and showcased its regional and international import and role. The Institute also procured a solar water heater laboratory, allowing Lebanon better access to renewable energy sources, and encouraging its bid to diversify such sources.

These activities and others, which are detailed in the annual report, have enabled the Institute to be among the few institutions and individuals in the Arab world to be honored by the Tatweej Academy for Excellence and Quality, in collaboration with the Arab League Organization for Administrative Development (at Armani hall, Burj Khalifa-Dubai). A year has passed,

In which our success, the success of the administration, personnel and techniques, has prompted us to press ahead with our activities, even in the most challenging and dire consequences.

BASSAM FRENN



Our resolve is unwavering, and our faith and determination are at the heart of the Industrial Research Institute's work. Owing to this, IRI has become a pioneering and distinguished institution, and one that is at once dynamic, vigorous and diligent, all on par with its counterparts in developed countries.

A Year has passed, And these are the fruits of our work.

Official Activities

SABOUNJIAN GRANTS SPECIAL ATTENTION TO IRI, WITH A VIEW TO ENHANCE ITS SCI-ENTIFIC AND INDUSTRIAL ROLE





In 2011, the Industrial Research Institute (IRI) was the focus of much official activity, including ceremonies and various special events, owing to its multiple scientific interests and their links to several ministries and departments, led by the industry, energy, environment and agriculture ministries.

The Minister of Industry Mr. Vreij Sabounjian granted special attention to IRI, whose activities are closely followed by the minister. Mr. Sabounjian has affirmed throughout many occasions his appreciation of the cadre employed by the Institute and its many achievements.

Mr. Sabounjian made a visit to the Institute shortly after assuming his responsibilities at the Ministry of Industry, and was briefed by the Director General of the Industrial Research Institute, Dr. Bassam Frenn and the senior staff there on the nature of the work, activi-





ties and services provided by IRI to industrialists. The Minister toured the various departments, laboratories and research units of the Institute, to gain an idea about the Institute's work and its methods.

Mr. Sabounjian expressed his admiration of the Institute's work and reaffirmed his support for further achievements and future plans, and for developing strategies aimed at highlighting the role of IRI as a national authority conducting industrial research, studies and laboratory analysis.

Dr. Frenn welcomed the interest shown by Mr. Sabounjian in the Institute, and gave him a presentation on the development of IRI laboratories that has followed an ascending trend unmatched by other national institutions. Dr. Frenn said that IRI is now accredited both at the Arab and European levels. According to the Director of IRI, the Institute is being selected by international organizations to carry out scientific training in laboratories in African nations, and is also participating in several advanced international scientific forums.

Dr. Frenn also told the Minister that IRI has come a long way in enhancing its role in the service of the Lebanese industry, offering many services such as economic feasibility studies and studies related to standards and specifications, which allow the protection of Lebanese products in local and international markets, and facilitates their movement without hindrance. This also helps protect Lebanese products from imported goods that compete with them in local markets, but which may not comply with standard specifications.

PROGRESS OVER TEN YEARS

In his first visit, Mr. Sabounjian thanked Dr. Frenn for organizing an inspection tour of IRI facilities for the minister. In a statement he made, Mr. Sabounjian said, "The visit has allowed me to see firsthand the work progress in the departments, laboratories and research units". "I also had the chance to listen to useful and valuable explanations about the remarkable and rapid progress achieved by the Institute in the past ten years at various levels, rendering it an accredited national institution for the verification of compliance with general standards and international specifications", Mr. Sabounjian added. "This contributes to building sound bases for the national economy and to bolstering its foundations in order to launch a true revival of the industrial sector".

Mr. Sabounjian pointed out that "These efforts call for praise and appreciation for the Institute's staff, from the top of the pyramid down to the dedicated teams of PhD holders, engineers, researchers, technicians and administrators". He then added, "We will not stop at this and content ourselves with the achievements made; we see the process of development and modernization as a continuous and demanding path that needs continuous planning, strategy-drafting and making future plans that meet the requirements of modernity, be this technological, research-related, industrial or supervisory in nature".

TWO FOCUSES FOR THE INSTITUTE'S WORK

Mr. Sabounjian spoke about the Institute's activities, and said that it has two main focuses: "First, there is

the supervisory role it assumes though its advanced and internationally accredited laboratories, in terms of granting certificates of conformity and enforcing mandatory specifications; conducting the necessary laboratory examinations to verify the safety of the products and their compliance with standards in order to protect consumers; and maintaining the quality and reputation of the national industry. The second focus is no less important, as it is based on improving the qualifications of industrial institutions and improving their competitive edge while developing their quality management assets with a view to allow them to develop and render them more competitive. This is done by the research units of IRI, which are affiliated to the European Union, such as the Euro-Lebanese Centre for Industrial Modernization (ELCIM), or those affiliated to the United Nations such as the Lebanese Cleaner Production Centre (LCPC). This is in addition to the network of relations established by IRI with international research institutes, by signing agreements and protocols for cooperation and mutual exchange. All this has allowed the Institute to expand the network of its consultative and research services into many neighboring countries, where IRI can now boast an enhanced presence in its capacity as an accredited authority."

Mr. Sabounjian also said that IRI's activities highlight the importance of strengthening the ties with the industrialists aspiring to develop and support their enterprises, by following the series of guidelines and training programs aimed at reducing high production costs. According to Mr. Sabounjian, this is done by adopting green industry policies and new technologies that open new markets for Lebanese products.

The Minister then noted that his ministry's policy is based on the compulsory application of standards and specifications with respect to imported and exported goods, to ensure their compliance with the standards and requirements of international markets.

THE EURO-LEBANESE CENTRE FOR INDUSTRIAL MODERNIZATION

During the tour, Mr. Sabounjian and Dr. Frenn also met with the staff of the Euro- Lebanese Centre for Industrial Modernization (ELCIM), chaired by Director Raja al-Haber; the minister was given a brief about the Center's activities. The minister encouraged the staff to step up their efforts to introduce the industrialists to the various



services of ELCIM to in consultation, finance, industry, administration, technology and training, given the importance of such services in developing small and medium industries.

Mr. Sabounjian also expressed his keenness on "Sending this message out, especially to small industries and industrial areas that the ELCIM personnel have not visited previously". He then called for "An action plan that focuses on the next phase, in conjunction with the Lebanon the Producer campaign, which he launched to promote productivity and enhance competitive and export-related capabilities". In the end, Mr. Sabounjian encouraged them to organize field trips "To communicate directly with the industrialists".

THE COMPETITIVENESS OF THE PRIVATE SECTOR

Mr. Sabounjian discussed with European Union Ambassador Angelina Eichhorst the joint projects between the EU and the Ministry of Industry, in particular those projects that are funded by the Union, and notably those involving IRI and ELCIM. They also discussed the Project to Support the Competitiveness of the Private Sector, being implemented by IRI in collaboration with ELCIM throughout 2012, and which has been given a grant of 1.7 million euros by the EU.

The project aims to encourage innovation in small and medium enterprises, and to conduct a revision of the current legislations on innovation, taking advantage of appropriate existing ones and proposing amendments to those that require it, as well as proposing new legislation in this regard. This is to be done through official channels, i.e. the Ministry of Industry, the cabinet and then Parliament, with a central role to be played by universities in Lebanon.

Eichhorst commended the proposal that Mr. Sabounjian put forward to boost the role of the Economic and Social Council, and for "adopting it as a permanent framework for social dialogue, and not just using it to solve specific problems like those pertaining to wages and so forth".

LEBANESE GOODS TO IRAQ

Mr. Sabounjian dedicated a session to discuss the issue of the flow of Lebanese goods to Iraq and the mutual recognition of certificates of conformity. The Minister discussed this issue with the Ambassador of Iraq in Lebanon Mr. Omar al-Barzanji, in a meeting that was also attended by the Director General of the Industrial Research Institute. Mr. Sabounjian stressed 'the depth of the historical relations between Lebanon and Iraq, and the importance of maintaining the agreements between the two countries, and implementing and enhancing them in a manner that serves the economic interests of both countries".

He called for "reviving the agreement on the mutual recognition of certificates of conformity", and said that "the Iraqi market is extremely important to Lebanese exporters". He also stressed "the need to facilitate the flow of industrial and commercial exchange, and implement joint projects between businessmen and industrialists in the two countries". Mr. Sabounjian then expressed his support for continuing and developing these ties, with IRI training senior Iraqi cadres in the fields of supervision, lab tests and quality systems, while Dr. Frenn expanded on the importance of reviving the agreement on the mutual recognition of certificates of conformity.

The Iraqi Ambassador then stated that his country is seeking to overcome any obstacles in this regard, as Lebanon and Iraq are twin countries, according to the minister.

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INSTALLATION OF 1.5 MILLION SQUARE METERS OF SOLAR PANELS IN 2020

MINISTER OF INDUSTRY AND MINISTER OF ENERGY INAUGURATE
A NEW LABORATORY FOR THE TESTING OF SOLAR WATER HEATERS
DONATED BY GREECE





The establishment of a new laboratory for the testing of solar water heaters at IRI took on a special significance, given the fact that the project was sponsored by European countries and international organizations, and also owing to the fact that it is a stepping stone in the process of promoting universal access to renewable energy in the country.

The project was launched after an inauguration ceremony attended by the Minister of Industry Mr. Vreij Sabounjian, and the Minister of Energy Mr. Gibran Bassil, as well as the Ambassador of Greece Ms. Catherine Bora. The laboratory was donated to Lebanon by Greece through the United Nations Development Program (UNDP). The project is the result of cooperation between IRI, the Lebanese Center for Energy Conservation (LCEC) and the UNDP.

THE OFFICIAL CEREMONY

The ceremony opened with the national anthem, followed by a speech by the Director General of IRI Dr. Bassam Frenn. Dr. Frenn said, "The industrial enterprises which have collaborated with the Institute have seen the quality of their products improve, and conse-

quently, so did their economic performance. This reinvigorates the national economy in general. Through supervision of the goods that are subject to the mandatory specifications, thousands of shipments were intercepted and prevented from entering the markets, because of their failure to comply with the necessary requirements of public safety specified in the Lebanese standards and specifications. We are keen in our work to safeguard Lebanese consumers, and to protect them from counterfeit or substandard goods." "The laboratory we are inaugurating today encourages the use of renewable energy sources", Dr. Frenn added.

Mr. Edgar Chehab, Assistant Resident Representative of the United Nations Development Program, spoke next about the fall of the psychological barrier and the growth of confidence in the use of solar energy, thanks to its benefits to the environment and the cost savings it achieves.

The Greek Ambassador also had a statement, and spoke about the close ties between Lebanon and her country. She said, "Despite all the problems faced by Greece, it did not reduce its commitments, especially in terms of supporting environmental programs and technological aid. We look forward for good neighborliness based on sustainable development".

SABOUNJIAN: INCREASING RESPONSIBILITY

In his speech, Mr. Sabounjian said, "Today, the number of laboratories including the new one becomes fourteen. This increases the size of the responsibility entrusted to the Industrial Research Institute. Indeed. we are keen to secure the broadest possible scope of services to the industrialists. On this occasion, I commend the efforts of the Director General of the Institute. Dr. Bassam Frenn and all the personnel working with him. The Institute has seen remarkable progress in the past decade, and has become an internationally trusted entity. Its internationally accredited laboratories have branched off, and so did the industrial consultations it offers. Perhaps the time is now opportune to reduce the burden on the industrialists arising from high energy costs. I will therefore take advantage of the presence of energy experts among us here in this industrial edifice, to urge them to help us in earnest in investing in new energy sources that are not conventional like fuel, diesel and gas. For example, Lebanon has an average of 300 sunny days per year. This is something that we must take advantage of in generating solar power. This is not to mention other alternative energy sources such as hydro and wind power, which are ecofriendly, cause less pollution, and are less costly. I thank once again Greece and its generous people for this grant, and I am confident that this laboratory will be to the benefit of all the Lebanese. Indeed, the tests carried out in this lab will verify the compliance of results with specifications, and this is additional proof of our keenness on maintaining quality.

BASSIL: THE PLAN FOR 2020

Bassil declared that "we have an ambitious program up until 2020 that would see the installation of a million and a half square meters of solar panels. This is not something difficult to achieve, given the exponential growth seen in this field. We certainly are capable of achieving high levels of penetration to promote the use of solar energy and technology in Lebanon, in particular as this is reliant upon the individual initiative that is known to have a major impact in our public life".

Bassil added, "We are able to implement the project with the incentives provided by the initiative launched by the (Energy) Ministry and the Lebanese Center for Energy Conservation, with the key contribution of the Central Bank of Lebanon. The state is giving \$ 200 to every individual who installs a solar water heater, with a view to implement this in all Lebanese households. This will cause the psychological barrier to fall and encourage people to use this renewable energy source. The motto of solar power in every house is not difficult to achieve, especially as many countries are already implementing it. We seek to achieve this by giving incentives, and amending the Building Code to include a mandatory clause for the installation of solar energy fixtures. The new lab helps to implement our projects, since it provides important and necessary tools to expose the extent of tampering in this area, and preventing harm from falling on the Lebanese".

Mr. Bassil also said, "In collaboration with IRI, we have managed to put in place the required specifications, and to help the companies that distribute the appropriate equipment obtain the required certificates from the Institute. These standards are essential for the development of sound business rules. The UNDP has helped us implement these fundamentals through its expert team and the technical support it has offered; we never felt that there was a conflict with the Ministry. Rather, we felt that there was mutual understanding, since we share the same goal. Achieving this objective requires follow-up and perseverance. In fact, what we are doing is less than what we owe our citizens. The country deserves much more giving, and it is possible to benefit from the many sources of energy we enjoy, such as solar, wind and hydro power. We have submitted a draft law to encourage the private sector to invest in this area, and hopefully it will be approved by the Parliament soon".

ENVIRONMENT MINISTER MOHAMMAD RAHHAL INAUGURATES THE REFRIGERANTS RECLAMATION CENTER

The (Former) Minister of Environment Mr. Mohammed Rahhal sponsored the inauguration of the Center for the Recycling of Refrigerants, which was built by IRI and funded by the Multilateral Fund and the French Development Agency (AFD), as well as the French Global Environment Facility FFEM.

The ceremony was attended by French Ambassador Denis Pieton, the Director General of IRI Dr. Bassam Frenn, and representatives from AFD, the Multilateral Fund and deans and professors from the Lebanese University.

Pieton said that the project allows the Ministry and the Institute to benefit from technical assistance and the appropriate equipment to collect and recycle ozone-depleting chlorofluorocarbons (CFCs).

For his part, Dr. Frenn stressed the commitment of the Institute to environmental matters, and highlighted the need to ensure that industries operate in a clean environment.

Mr. Rahhal said, "In the context of implementing the National Program for the Protection of the Ozone Layer adopted by the Ministry, the National Ozone Unit implemented important measures, for example convincing the majority of industries that operate on or use ozone-depleting substances (ODS) to adopt alternative technologies that are ozone friendly. The Ministry thus implemented this with around 100 plants in the sectors of aerosols, air-conditioning, refrigeration, and sponge and insulation [production]. The cost of this switch was about \$10 million, and it was provided by the Multilateral Fund to the Montreal Protocol.

Mr. Rahhal then highlighted "the importance of the Center for the Recycling of Refrigerants which covers the technical sectors of refrigeration and air conditioning, and enables technicians to recycle used refrigerants."











The activities of the Industrial Research Institute (IRI) in 2011 had both an internal focus and an external one. The first was translated by the Director-General of IRI Dr. Bassam Frenn through his active and productive participation in international and regional conferences, where he contributed world-class designs, discussed proposals and solutions in the economic, industrial and environmental fields - in addition to proposing standards and specifications, and pushing meetings and workshops to adopt tangible goals. All this has helped Lebanon qualify to become a member of some of the most important and major international organizations, allowing it to be a pioneer in the Arab world in this regard.

The external activities of the Institute's Director-General mainly involved participation in the following conferences and workshops:

- EUROLAB General Assembly & Annual Meetings
- Istanbul, 11 13 April, 2011
- Regional Workshop on Conformity Assessment of Industrial Products
- Brussels, 5 6 May, 2011
- The sixth International Conference for Standardization and Issuance of Certificates for Non-Destructive Testing:
- Valencia, 13-14 June, 2011
- First School of Nanotechnology in the Food Chain:
- Milan, 29-30 August, 2011
- Eco-Cities Forum 2011
- * Marseille, 11 12 October, 2011
- UNIDO Expert Group Meeting
- Vienna, 24-25 November, 2011
- Honoring at Tatweej Ceremony Dubai January
 4 2011

In order to share the benefits of these meetings and external activities, they are listed in detail below in chronological order.

LEBANON, THE FIRST ARAB MEMBER OF EUROLAB

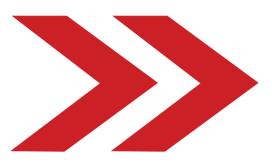
Dr. Frenn Participates in the EUROLAB General Assembly and Annual Meetings

The General Assembly and annual meetings of the European Federation of National Associations of Measurement, Testing and Analytical Laboratories (EU-ROLAB), held from April 11 until April 13th, in Istanbul, Turkey, has made Lebanon the first non-European





country to join EUROLAB. The Director-General of the Industrial Research Institute Dr. Bassam Frenn represented Lebanon in the meeting, accompanied by the head of the laboratories department at the Institute Dr. Joseph Matta.



The session began with a meeting of the Technical Committee, followed by the General Assembly, and was concluded with the EUROLAB seminar.

During the General Assembly meetings, the following topics were discussed:

- EUROLAB organization
- * EUROLAB technical secretariat
- * Technical committees and working groups
- Information from EUROLAB affiliates.

The EUROLAB seminar focused on these main points:

- The impact of EUROLAB in the definition of the accreditation requirements
- Accreditation as service in public interest, processes, rules, pricing and notification process
- Experiences of laboratories
- * The value of laboratory associations
- Quality progress in calibration, testing and process laboratories.

REGIONAL WORKSHOP ON CONFORMITY AS-SESSMENT OF INDUSTRIAL PRODUCTS

Between May 5th and May 6th, Dr. Frenn also participated in a regional workshop on the conformity assessment of industrial products, held by the European Commission's DG Enlargement within the framework of the Technical Assistance and Information Exchange (TAIEX) instrument

The objective of the regional workshop was to provide a detailed explanation of the EU legal framework for technical regulations and harmonization as well as procedures for conformity assessment. Detailed presentations were given in relation to horizontal legislation and EU Directives. Case studies on the safety of electrical equipment, toys and medical equipment were the main issues discussed.

GAINING EXPERTISE AND EXCHANGING INFORMATION

THE SIXTH INTERNATIONAL CONFERENCE FOR STANDARDIZATION AND ISSUANCE OF CERTIFI-CATES FOR NON-DESTRUCTIVE TESTING

Within the framework of the cooperation between IRI and international institutions, the Director General of the Industrial Research Institute, Dr. Bassam Frenn, attended the Sixth International Conference for Standardization and Issuance of Certificates for Non-Destructive Testing held in Valencia, Spain Between June 13 and 14. Accompanying the Director General during the conference was Eng. Tarek El-Hakim, Division Head of the Lebanese Welding Center. Dr. Frenn and Mr. Hakim participated in the technical sessions related to training and issuance of standards, certification and accreditation in the field of non-destructive testing.

In addition, the experiences of some developed countries in this area were presented at the conference, and the attendees were introduced to the latest developments and progress in international standards in the field of nondestructive testing.

FIRST SCHOOL OF NANOTECHNOLOGY IN THE FOOD CHAIN

Given the importance of nanotechnology applications in improving the quality of food, Dr. Bassam Frenn, Director General of IRI, attended the First School of Nanotechnology in the Food Chain, a conference organized by the ISEKI-Food Association in collaboration with the Interdepartmental Food Centre of the University of Milan and the Filarete Foundation, held in Milan – Italy, between August 29 and August 30.

Applications of nanotechnology will help to address some of the issues that will confront consumers in the near to the medium term future.

The intent of the School is to provide the most updated information on the field while promoting the exchange of experience among the participants of the conference.

The school covered the following topics:

- Nanosystems: Fundamental approaches for understanding
- Nanotechnology in the food chain
- Nanotechnology for food encapsulation and coatings
- Nanotechnology for sensor and biosensor
- Nano scale characterization techniques
- Nanotechnology for food packaging and labeling
- Nano delivery systems for food
- Nanostructures and food preservation by moisture control
- Hazards and safety of nanomaterials

THE INSTITUTE AT THE ECO-CITIES FORUM

The Industrial Research Institute, represented by the Director General of IRI, Dr. Bassam Frenn, and the West Asia Representative of the Resource Efficient and Cleaner Production project in the UNIDO-UNEP Global Network, Dr. Ali Yaacoub, attended the Eco-Cities Forum held in October 11-12, 2011, in Marseilles, France.

including Beirut, Tripoli, Byblos, Brital, and Zouk. The objective was to bring together municipalities of the region and the private sector, as well as non-governmental organizations and intergovernmental organizations, to discuss solutions to environmental challenges, which promote both economic growth and social responsibility.

During the two days of the Forum, the experience of some Arab States, the World Bank, the UN, and the European Investment Bank in how to develop cities for the preservation and management of water, waste, energy, transport, and air pollution, was discussed at length.

Concerning Lebanon, the Director of the Lebanese Cleaner Production Center, Dr. Ali Yaacoub, stressed the importance of cooperation to provide clean cities and preserve the environment, to strengthen the relationship between the relevant ministries, municipalities and the private sector, to strive for transparency and openness in order to solve environmental problems on sound footing.





The Forum was organized by the United Nations Industrial Development Organization (UNIDO), the Ministry of Environment of the Hashemite Kingdom of Jordan, the Municipality of Marseilles and the Union for the Mediterranean.

Dr. Frenn and Dr. Yaacoub attended the Forum alongside representatives from 23 Lebanese municipalities

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FRENN AND YAACOUB ATTEND:

THE UNIDO EXPERT GROUP MEETING IN VIENNA



The crucial role of the Industrial Research Institute was reflected in the contribution of its Director-General Dr. Bassam Frenn, who was one of 30 experts that discussed the recommendations for economic development in the Arab world, selected from amongst 140 UNIDO experts.

Dr. Bassam Frenn, and the director of the Lebanese Cleaner Production Centre, Dr. Ali Yaacoub, attended the annual UNIDO expert group meeting held in Vienna, Austria between November 24 and 25, alongside more than 140 countries and a number of international organizations and institutions. Dr. Frenn joined more than 30 experts taking part in the discussions on effective recommendations in the area of economic development in the Arab world.

The Expert Group Meeting's objectives were:

- Validating and refining past and ongoing efforts for job creation for youth in Arab countries on the macro, meso and micro-levels by stakeholders such as governments, the private sector, international organizations and development partners and civil society;
- Exchanging experiences and building partnerships between stakeholders such as governments, international organizations and development

partners, civil society organizations and the private sector to contribute to solutions and make recommendations:

- Exploring opportunities and best practices to enhance productive activities and improve the quality of labor to enhance the overall employability of youth in productive sectors (e.g. agro-industries, green industries and renewable energy, ICT sector, industry-related services, etc.);
- Discussing and improving the existing knowledge on youth-inclusive financial services and the most salient youth-specific points in relation to entrepreneurship and MSME development;
- Identify gaps and missing links for increasing economic opportunities for youth in rural areas.

Dr. Yaacoub, accompanied by Dr. Muhannad Al-Asaad, President of the Lebanese Belgian Business Council, attended the important annual conference held after the meeting. During the conference, Dr. Yaacoub presented a working paper on Lebanon's rich and pioneering experience in cleaner production and green economy, in addition to the hard work in reaching sustainable development.

Yaacoub also presented to the experts a roadmap for achieving economic development in the Arab world by creating bridges between economic and environmental sectors, linked closely with academic institutions, to create research, development and innovation and thus employment opportunities for youth development in the Arab world.

TATWEEJ AND THE ARAB ADMINISTRATIVE DEVELOPMENT ORGANIZATION HONOR THE INDUSTRIAL RESEARCH INSTITUTE AND LIBNOR



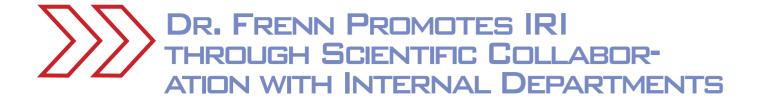
Sheikh Majid bin Mohammed bin Rachid Al Maktoum, Chairman of Dubai Culture and Arts Institute, honored leaders and personalities who have made considerable achievements and initiatives in their fields of work, as well as the elite companies in the Arab region. The ceremony was organized by the Tatweej Academy for Excellence and Quality in collaboration with the Arab Administrative Development Organization of the



League of Arab States, at Armani Hall, Burj Khalifa-Dubai.

The ceremony honored 14 Arab personalities and 31 companies, who have left a clear mark in the field of excellence and quality. The companies included the Industrial Research Institute and the Lebanese Standards Institute (LIBNOR).





IRI Director General, Dr. Bassam Frenn, continued his efforts in support of the role of the Institute at the internal level, promoting its culture among official departments, and explaining its role in order to communicate the benefits of its laboratories and underscore the significance of the tests and research it carries out; Dr. Frenn thus signed agreements, gave lectures and took part in promoting the Institute's activities, all to this end.

The most important local activities undertaken by the Institute outside its premises included:

- Signing a Memorandum of Understanding between the Ministry of Agriculture and IRI in the field of laboratories and examination of foodstuffs.
- Collaborating with ESCWA in technology transfer,
- Strengthening the role of the Institute in energy -Denmark,
- Launching the Medium and Small Enterprises Center at the Beirut Chamber,
- The Lebanese Franchise Federation,
- Honoring by the Lebanese ASHRAE Chapter

MINISTRY OF AGRICULTURE ADOPTS IRI'S LABORATORIES TO ENHANCE THE SUPERVISION AND THE SAFETY OF FOOD PRODUCTS

The Industrial Research Institute Laboratory for Foodstuffs was highly praised by the Minister of Agriculture Dr. Hussein Hajj Hassan. The laboratory is in fact internationally accredited, and is part of the efforts to support Lebanese industry and issue certificates of quality for Lebanese products, allowing them to flow to new markets and expand their share in current markets.

Dr. Hajj Hassan stressed the need to secure a safe and sound framework for food safety, in a statement made during his meeting with IRI Director General Dr. Bassam Frenn. After the meeting, the two men signed a Memorandum of Understanding for the laboratory examination of foodstuffs. The ceremony was attended by the Head of the Laboratories Department at IRI Dr. Joseph Matta, and Messrs. Mohammed Khansa and Hassan Atwi, who are advisors to the Minister of Agriculture.



Dr. Hajj Hassan said that the agreement centers on cooperation in the field of laboratories and laboratory tests of locally produced foodstuffs, with a view to market or export them, by verifying their quality, and to enhance exports and reduce the agricultural trade deficit.

He also highlighted other aspects of cooperation with IRI, particularly in the area of imported foodstuffs. This cooperation agreement is one of many similar agreements signed with public, private and joint laboratories, including those of IRI. They are part of the preparations of the Ministry of Agriculture to build a solid base for laboratories that would act as a framework for food safety.

FRENN CALLS FOR FOCUSING ON THE KNOWLEDGE INFRASTRUCTURE AND CAPACITY BUILDING FOR YOUTHS AND THE WORKFORCE TO REDUCE UNEMPLOYMENT - ESCWA DISCUSSES COOPERATION PROSPECTS IN TECHNOLOGY TRANSFER



The United Nations Economic and Social Commission for Western Asia (ESCWA) held a panel discussion on cooperation in technology transfer, in collaboration with the Beirut Chamber of Commerce, Industry and Agriculture. The speakers included the Executive Director of the ESCWA Technology Centre Mr. Fouad Mrad, and the Director General of IRI Dr. Bassam Frenn.

Mrad addressed the distinguished participation of the Lebanese private sector in the meeting, represented by technology suppliers and end users in the construction, education, manufacturing and scientific innovation sectors. He said that ESCWA, at the Arab Regional Preparatory Meeting for the UN Conference on Sustainable Development (Rio+20), held in collaboration with the League of Arab States in Cairo, has called for special care to be extended to the transfer of the appropriate technology for the conditions and environment of the Arab countries, and the priorities of development therein, especially in the field of Technology Transfer and the promotion of the national capacity to ensure sustainability and the effectiveness of the use and exploitation of technology. Mr. Mrad then expressed his hope that the meeting will translate these recommendations into reality.

For his part, Dr. Frenn said that the Arab Labor Organization reports describe unemployment levels in the Arab world as being among the worst in the world, having exceeded 14 percent. This means that the Arab region has

more than 17 million jobless people, of which educated youths represent a large proportion, according to Dr. Frenn.

IRI Director added that the solution to this problem lies in adopting an ambitious project for the development of a youth infrastructure, one that most importantly includes educational schemes and incubators that help them in achieving their legitimate aspirations. Dr. Frenn then called for strengthening confidence among the youths and for developing their abilities, while protecting them through plans for a productive future. IRI Director General said that the meeting is an important step towards changing our current situation to become producers, and not mere consumers, and that to achieve this, we must create a comprehensive and specific regional framework that meets our needs and concerns, by focusing on the knowledge infrastructure and capacitybuilding for youths and workers in various important sectors, especially those that figure highly in technology transfer. He also called for implementing best practices for cooperation by carrying out case studies in technology transfer in manufacturing, construction, technological innovation and education technology.

IRI DIRECTOR DISCUSSES ENHANCING THE INSTITUTE'S ROLE WITH THE AMBASSADOR OF DENMARK IN LEBANON, AND BENEFITING FROM DENMARK'S EXPERTISE IN THE FIELD OF ALTERNATIVE ENERGY

The Director-General of the Industrial Research Institute Dr. Bassam Frenn met with the Ambassador of Denmark in Lebanon H.E. Mr. Jan Top Christensen to discuss the prospects of cooperation between IRI and its counterparts in Denmark, especially that a large part of the equipment of IRI laboratories is manufactured in Denmark. Also discussed was the possibility of benefiting from Denmark's expertise in the exploitation of alternative energy sources.

Dr. Frenn received the Danish Ambassador in a meeting attended by the Head of the Trade Council at the Danish Embassy Mr. Ahmad El Loubani and the Director of the Lebanese Cleaner Production Center, Dr. Ali Yaacoub, as well as various senior managers at the institute. The issue of industrial and trade exchange between the two countries was also discussed, and the role of the Institute

in granting certificates of conformity which are recognized in more than 120 countries.

Given the fact that Denmark is the leading country globally in alternative energies (water, air and sun), Dr.



Frenn suggested to benefit from the Danish experiences in such projects by collaborating on similar projects in Lebanon. The Ambassador welcomed the idea for this project, which will be the basis for cooperation through follow-up with concerned officials at the Institute and in Denmark.

The participants in the meeting were then given a tour of the Institute, where they observed the workflow of testing, inspection, and sample preservation. The Ambassador of Denmark expressed his admiration for "the high, sophisticated and modern level that characterizes the work of the Institute, which is on par with European laboratories".

THE INSTITUTE LAUNCHES A MEDIUM AND SMALL ENTERPRISES CENTER AT THE BEIRUT CHAMBER

The Industrial Research Institute and the Federation of Chambers of Commerce and Industry in Lebanon inaugurated a Medium and Small Enterprises Centers at the Beirut Chamber of Commerce, Industry and Agriculture headquarters. In his statement to mark the occasion, Dr. Frenn said that "the inauguration of the Center is the result of constructive cooperation between the Industrial Research Institute and the Federation of Lebanese Chambers". Dr. Frenn stressed that "cooperation between the Federation and the Institute leads to double the amount of positive results, especially in what regards small and medium enterprises, which are the backbone of the Lebanese economy".

IRI Director then said, "Despite difficulties and obstacles, IRI managed to complete and implement its plans, even if after a while. Today, IRI is an exemplary and active institution in the industrial and commercial community". He also said, "Many a Lebanese, Arab or foreign visitor becomes impressed with the level of competencies and equipment they observe when visiting the Institute".

Finally, Dr. Frenn expressed his hope that "the spirit of cooperation will be fostered", and wished upon all economic bodies to support the Medium and Small Enterprises Center because "it serves everyone without exception".



For his part, the head of the Federation of Chambers of Commerce, Industry and Agriculture in Lebanon, and President of the Beirut and Mount Lebanon Chamber Mr. Mohammad Choucair, said that "the Federation believes that the establishment of this Center is an important step that will help Medium and Small Enterprise and Business owners develop, grow and reach a new level of success, which requires a qualitative leap and concerted efforts by these entities." "This also highlights the need to train local cadres and help them keep up with economic challenges".

TECHNICAL BARRIERS TO TRADE (TBT) ENQUIRY POINT

Dr. Frenn attended the ceremony for the launch of the Technical Barriers to Trade (TBT) Enquiry Point at the Lebanese Standards Institute (LIBNOR), and which was established with the technical assistance of USAID. The Enquiry Point provides information on specifications, technical regulations and conformity assessment procedures.

The Enquiry Point was launched by the Minister of Industry Vreij Sabounjian, in a ceremony held at the Metropolitan Hotel, which was attended by the Director of USAID Mission in Lebanon Jim Barnhart, the Chairman of LIBNOR Habib Ghaziri, in addition to its Director General Lana Dergham and several other personalities.

MECHANICAL WEEK

The Director General of the Industrial Research Institute Dr. Bassam Frenn represented the Minister of Industry Mr. Vreij Sabounjian at the '11th Mechanical Week' event organized by the Order of Engineers, in collabora-



tion with the Association of Lebanese Industrialists at the headquarters of the Order, under the auspices of Mr. Sabounjian. The event was attended by the President of the Order of Engineers in Beirut Elie Bassis, the Chairman of the Industrialists Association Nehme Afram, in addition to the President of the Lebanese University Section IV School of Mechanical Engineering Rabi Khairallah, in addition to a host of other personalities.

Dr. Frenn affirmed that the Lebanese industry has proven its worth and its quality, noting that "The open markets system, the consequent abolition of customs restrictions and the facilities in administrative procedures to imports and exports, have all put industrial enterprises up to the test of proving their worth in local consumer markets".

FRANCHISE FEDERATION AND IRI

A delegation from the Lebanese Franchise Federation, headed by the chairman Mr. Charles Arbid, held a meeting with the Director-General of IRI Dr. Bassam Frenn, who gave a detailed explanation of the pioneering role of the Institute in various fields that support the national economy with extensive technical expertise, especially in relation to the quality control of imported goods with a view to protect Lebanese consumers. Dr. Frenn also noted that IRI grants certificates of conformity to international standards to Lebanese exports, further enhanc-



ing their chances to enter markets without any hurdles.

After a field visit to IRI laboratories, Mr. Arbid and the accompanying delegation expressed their admiration for the modern equipment, highly specialized personnel, and the international accreditation systems of the Institute.



ored Guest at the Lebanese ASHRAE Chapter (LAC) Honorary dinner at Phoenicia Intercontinental Hotel, in Downtown Beirut.

Dr. Frenn was chosen to receive the symbolic award for his efforts and leading role at IRI. In his acceptance speech, Dr. Bassam elaborated on the services IRI provides, including energy audits, environmental assessment, certification, technical inspection and control.

In addition, he discussed IRI's achievements, which include national quality infrastructure, technical assistance (LIBNOR), Welding Law, COLIBAC, and mandatory standards for steel. He also mentioned IRI's future projects CEDRE - for establishing a national rating system for green building certification, reinforcement of laboratories, and Innovation Year.



Frenn talks to the broadcast and print media about the Institute's development, activities and workflow of the laboratories and certification

Introducing to the public the tasks that the Industrial Research Institute (IRI) undertakes is a vital endeavor for the promotion of the Institute's role and objectives. In this context, it is only natural when IRI communicates with the consumers through the media outlets that are close to them, such as newspapers and television networks. For one thing, consumers are not aware of the existence of institutions of great importance and that play a crucial role in their patterns of consumption, institutions like IRI. To this end, the Director-General of the Institute Dr. Bassam Frenn has engaged the media, allowing for a closer look at the Institute's role.

The most notable of the interviews with the media were published by the Beirut-based newspaper Al-Nahar, or carried by MTV and Télé Liban. Below are summaries of each interview.

The Director-General of the Industrial Research Institute has placed emphasis on IRI's role in the issue of spoiled and fraudulent goods. Dr. Frenn said (October 25, 2011) that the Institute is "not the weakest link [in this regard]. It may be away from the limelight, but what matters is that the consumer should be protected. Every control regime is built on decisions and decrees that determine the specifications for foodstuffs in accordance with international agreements, including joint agreements. In this regard, Lebanon is represented by the Institute. Our work covers goods that are subject to specifications and others that are not, and goods that are subject to inspection and control upon their arrival so that their risk on public health is assessed, in addi-

tion to other goods that are partially controlled according to decisions issued by ministries concerned with said goods".

Regarding the presence of control procedures on demand, he said, "In the case of canned goods, we have specifications for the products, but not the packaging. For this reason, we are sometimes called on to control some, in particular when the goods' shelf life and storage conditions are crucial to their safety.

IRI is also responsible for inspecting goods upon their entry to or exit from Lebanon. But during the cycle the goods go through before reaching the consumer, there are responsibilities entrusted to certain agencies such as the Tourist Police (for restaurants and hotels), the Consumer Protection Agency and the ministries of health and environment. The Institute has no jurisdiction or authority to track the goods and control them in the markets".

Dr. Frenn also spoke about the products that are subject to control by the Institute. He said, "In fulfillment of the requirements of the European Union, we work in 4 sectors pertaining to health and safety, namely: building materials (aluminum, glass and light bulbs), children's toys, electrical appliances (washing machines, refrigerators, etc.) and medical devices. The focus of our work is to ensure the safety of plastic materials that react with water, or material in children's toys that could be toxic or dangerous". However, this process is secret, and when any violations are established, "the competent authorities, such as ministries (health, agriculture, economy, industry and the customs, etc.) are notified, and the goods in question are subsequently barred from entering".

As regards when "spoiled goods are caught in the markets, then other causes must be examined, such as storage conditions or shelf life, because those goods would have been approved by IRI for entry, except that they were stored in unsuitable storage or remained undistributed for a long time that exceeded their shelf life before they reached the consumer".

* What about the relationship between the Institute and the industrialists?

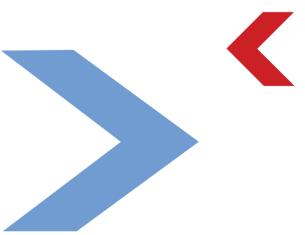
Dr. Frenn stressed the need "to give particular care to industry as long as Lebanon has no natural resources, having instead an industrial sector that has a high added value. If we fail to develop and foster this industry, then we will not be able to compete in manufacturing. The Lebanese youths are also an added value, owing to the fact that they able to deal easily with technology and with new industries."

He then said that the Institute is working "with the Europeans to build a Centre for Innovation and Technology." Dr. Frenn also added, "We will start developing a legal framework to support all initiatives and innovations to incentivize those working in research and inventions in Lebanon, and whose work is unpatented in Lebanon because the Ministry of Economy and Trade is not a member of the international community and, consequently, applying for patents abroad is an extremely costly process".

The scheme provides "financial assistance to members with inventions, up to 10 thousand Euros for each new idea." Dr. Frenn said. "Our young university graduates have unique ideas, but we do not have the means to protect them. For this reason, the scheme provides both copyrightprotection and assistance, at the value of 1.6 million euros".

PLASTIC PRODUCTS AND THE ROLE OF IRI IN THEIR CONTROL

In its issue number 24109 published on January 28, 2011, the Lebanese daily Al-Nahar raised the issue of the safety of water bottles, plastic cups and other plastic products, and their safe use and health risk. The report included an interview with the Director-General of the Industrial Research Institute, in relation to "educating the consumer on the proper use of these containers and the application of Lebanese standards". Dr. Frenn explained the role of IRI in consumer protection, and denied that the Institute had any "supervisory authority" because "its role is limited to consumer protection, national industry and essentially decent traders". With regard to the issue of plastics, Dr. Frenn emphasized two key issues, and said, "I am against comparing the national industry with imported goods whatever they are. There is a good foreign industry and an even better local industry, and the opposite may be true [with other goods]. Any container holding liquid or foodstuff has



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to comply with minimum requirements determined by Lebanese specifications".

Dr. Frenn then regretted that "the problem lies with the consumers who go to the supermarkets and are not aware of what plastic products they are purchasing, and stressed the need for "raising consumer awareness by institutions, agencies, ministries and associations involved in the education of citizens and guiding them about the types of plastic and the proper ways of using plastic products."

What about the conditions that factor into the disintegration of plastics? Dr. Frenn said that there are two factors that lead to the diffusion of plastic substances to liquids or foodstuffs: High temperature and time. If temperature is high for a short timeframe, then that is insufficient to disintegrate plastic material. There are plastics that disintegrate at 100 degrees in ten minutes, while others disintegrate at 40 degrees in ten days, depending on their type".

When asked about the role of regulatory authorities in this regard, he indicated that "despite the fact that Lebanese standards have been in place since 2002, pertaining to packaging, especially plastic materials, they are as of yet not mandatory". Dr. Frenn expressed his surprise by the fact that "neither the Ministry of Industry, nor the Ministry of Economy and the Consumer Protection Agency or even the Industrial Research Institute

and any other authority has the power to control plastic products imported through customs to Lebanon, or the power to inspect them to verify their conformity with Lebanese standards". He believes that "the process beings with the state's responsibility in compelling the manufacturer, importer, and producer to manufacture plastics in accordance with Lebanese standards, which in the end are international standards." According to the Director-General of IRI, "This is followed by raising awareness among the consumers with regard to using containers or cups, and providing the consumers with information about their exposure to heat and sunlight".

There is no doubt that local industry constitutes a large volume of our consumption. However, Dr. Frenn said that "some imported plastic products are manufactured using recycled materials, and this is where the danger lies in using them"; he then recommended that "recycled plastics not be used in the packaging of foodstuffs".

Regarding the 20 liter water bottles that are used in households for a long time, Dr. Frenn highlighted the fact that "they were manufactured with a view to economize plastic materials in the country and spare the citizens high costs. For this reason, they should be withdrawn from the market carefully and transported to factories for cleaning and sterilization, before being returned to the consumers after treatment".

But do water companies apply these recommendations, and is there anyone monitoring and overseeing their operations? Dr. Frenn said that he "does not know whether there are certain authorities bearing responsibility for this." On the other hand, however, he said that "the issue needs to be reviewed" and wondered, "How can a road truck be allowed to carry on their exposed beds water bottles that come under sunlight, rain or other natural contaminants, during their distributions to the consumers?"

MTV

On the other hand, MTV's show "We Have the Solution", hosted by Rebecca Abu Nader, hosted the Director-General of the Industrial Research Institute Dr. Bassam Frenn, to discuss IRI's activities in general, as well as the needs of Lebanese industry and consumers the Institute addresses – for instance with consumer goods, including foodstuffs, building materials, petroleum products, and other manufactured consumer items that may pose a threat to public safety such as liquid gas bottles, plastic containers for water bottling or metallic containers for beverages, as well as durable electrical equipment, batteries and so forth.

The show focused on the quality of drinking water, on which issue Dr. Frenn highlighted the fact that Lebanese water is "distinct in composition compared to the rest of the world" but that "an unacceptable problem may happen from time to time which the company concerned must address".

IRI Director-General also talked about the quality control of grains, and said that there is a mill in the flour lab in the Institute as well as a bakery, "not only to conduct tests but also to provide expertise to bakeries in terms of the types of wheat and flour and how to best tweak mixtures". He also emphasized that various major mills collaborate with the Institute and that one of the major bakeries has conducted research on certain mixtures".

Dr. Frenn then discussed how the Institute deals with customs files and how it monitors imported goods that are subject to mandatory specifications such as food-stuffs, building materials, consumer items, electrical appliances, children's toys and other goods, etc.

He also spoke about the process used in the Institute in granting IRI seal and mark, and underscored the prominence of the internationally accredited laboratories of the Institute.

TÉLÉ LIBAN

The Show "Problems and Solutions" carried by Télé Liban also hosted Dr. Bassam Frenn, to discuss the work of the Institute, its progress, laboratories and activities. Dr. Frenn said that "the Institute is now one of most successful institutions in Lebanon, in terms of quality, quality structure or qualitative infrastructure, involved not only in one domain but in many, including control of internal markets, control of imported goods, local production, and how consumers deal with locally produced or imported goods".

The Director-General of the Institute also said, "There are 14 laboratories in the Institute, not just one, including six labs that have been internationally accredited since 2004. We have no issue with whomever claims that his institute's laboratories are accredited, because the authority of the Institute and its laboratories are in the end unmatched by anyone".

Dr. Frenn then discussed the process of inspecting liquid gas bottles, their conditions and their problems.



LABORATORY ACTIVITY

IRILABORATORIES INCREASE THEIR ACTIVITY BY 21% A THOUSAND TESTS CONDUCTED DAILY + 200 EXTERNAL INSPECTIONS

The laboratories of the Industrial Research Institute (IRI) have recorded exceptional levels of activity. IRI labs have continued their upward growth, which exceeded the average annual rate of 17.9 % calculated since 2007, recording in 2011 an increase of about 50 thousand operations, which translates into a 21 % increase. The total number of internal operations alone rose to 286,006, compared to 236,527 in 2010. This underlies the fact that the work of the laboratories of IRI has known no saturation, instead exceeding the expected ceilings as evidenced by the increase of the rate of tests and analyses conducted daily during annual working days, from about 600 to 800 tests in 2010, and then to almost one thousand operations per day (970) in 2011, throughout all laboratories.

Thus, the average annual rate over a 5-year period has risen from 12.5 percent to 17.2 percent between 2007 and 2010, and then to 17.9 percent. Last year, these labs achieved a growth rate of 21 percent.

TESTS AND ANALYSES

The overall number of lab analyses was 286,000 in 2011, compared to 236,727 in 2010. The number of tests and analyses has therefore increased by 49,479.

There are different levels of this increase, for instance as it did not include all the laboratories. For example, testing and analysis in the Textile, Leather and Rubber labs decreased in light of the decline seen in this sector locally, and also in the Laboratory for Bread and Wheat. Second, the increase levels ranged between 6 and 38 %, in accordance with the type of the laboratories, broken down as follows:

TEXTILE, RUBBER AND LEATHER

Despite the fact that the laboratories have seen a marked increase in their activity since 2007, with an average annual growth rate of 4.7 %, they declined in 2011 compared to the previous year. The number of analyses and tests recorded was 3,807 in 2011, compared to 3,844 in 2010, or 37 tests and analyses less which translates to a decline of 0.96 %. This is a negligible percentage given the nature of and the need for these operations.

NUMBER OF TESTS FOR EACH LAB 2008 - 2011

NUMBER OF TESTS FOR EACH LAD		2006 - 2011		
Laboratories	2008	2009	2010	2011
Wet & Physical Chemistry	21,176	27,205	50,855	61,345
Microbiology	12,316	14,339	30,232	39,227
Textile & Leather	3,232	3,999	3,844	3,807
Paint & Petroleum	1,470	1,933	2,079	2,570
Civil Engineering & Soil	41,444	50,814	55,486	59,133
Electrical	58,886	65,061	66,266	90,829
Bread (CLBW)	11,100	11,241	12,957	12,375
Welding	17,660	14,335	14,808	16,720
Total	167,284	188,927	236,527	286,006

CHEMICAL AND PHYSICAL CHEMISTRY

The activity of the Chemical and Physical Chemistry labs continued to climb, achieving impressive growth over a five-year period with an average rate of 38 % annually. These labs now account for 21.5 % of the overall activities of IRI labs. Their activities last year included 61,345 tests and analyses, compared to 50,885 tests and analyses in 2010, i.e. an increase of 10,490 tests, which translate into an increase of 20.6 %.

MICROBIOLOGY

Nine thousand analyses and tests was the increase seen in the activity of the Microbiology laboratories over the year 2011, wherein the labs conducted 39,227 tests and analyses compared to 30,232 tests and analyses in 2010, or an increase of 29.7 %. This makes the average annual growth rate 41.8 percent since 2007.

PAINT

The number of tests and analyses of oil and paint achieved an increase of 23.8 % in 2011, which is higher than the average annual growth rate of 20.4 percent calculated since 2007. The number of tests and analyses rose to 2,570 compared to 2,079 in 2010.

CENTRAL LABORATORY FOR BREAD AND WHEAT

Despite the fact that these laboratories have seen a marked increase in their activity since 2007, they de-

clined in 2011 compared to the previous year with 12,375 tests and analyses in 2011 compared to 12,957 in 2010. This is a negligible decrease given the nature of these operations.

SOIL MECHANICS AND CIVIL ENGINEERING

The total number of 59,133 tests and analyses in 2011 compared to 55,486 tests and analyses in 2010, i.e. an increase of 3,647 or a growth of 6.6 % compared to the previous year. This is while the average annual growth rate since 2007 was 13 percent.

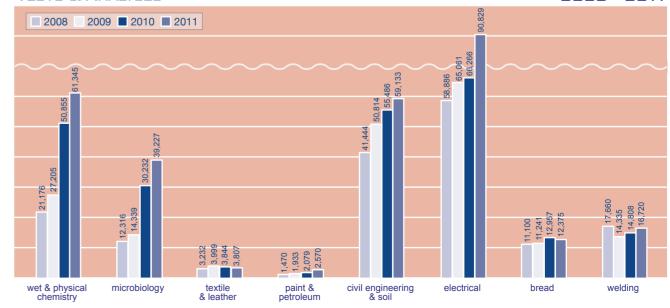
ELECTRICITY

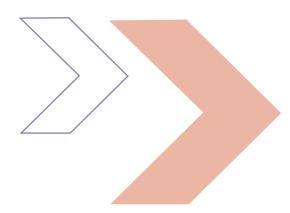
Their overall share of the total number of tests and analyses rose to 32 % from 28 percent, numbering 90,829 tests and analyses compared to 66,266 in 2010, or an increase of 24,563 which represents an increase of 37 percent from the previous year. This has increased the average annual growth rate from 4.4 percent to 11.7 %, calculated since 2007.

WELDING

16,720 tests and analyses were conducted in the welding laboratories, compared to 14,808 tests and analyses, an increase of 1,912 tests which translates into 12.9 %. This has increased the average annual growth rate from 9.6 to 10.4 % calculated since 2007.

TESTS & ANALYSES 2008 - 2011

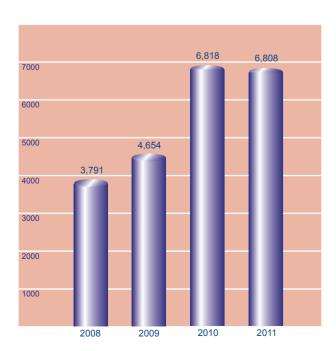


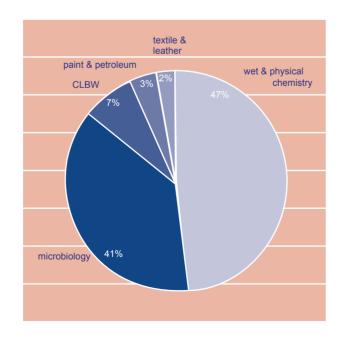


WORK AUTHORITY REPORTS

2008 - 2011

Laboratory	2008	2009	2010	2011
Wet and Physical Chemistry	1,956	2,337	3,546	3,237
Microbiology	1,005	1,409	2,492	2,788
Bread (CLBW)	560	464	535	490
Paint and Petroleum	170	329	172	175
Textile	100	115	73	118
Total	3,791	4,654	6,818	6,808





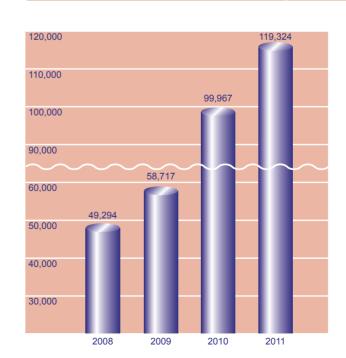
NUMBER OF TESTS

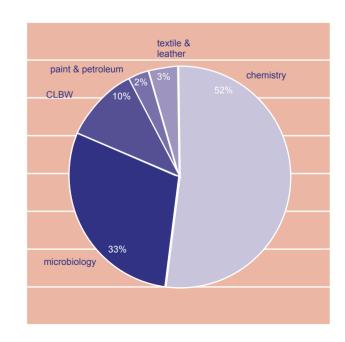
Laboratory	Regular	Customs	Total
Bread (CLBW)	12,369	6	12,375
Chemistry	57,273	4,072	61,345
Microbiology	38,316	911	39,227
Paint and Petroleum	1,412	1,158	2,570
Textile	1,524	2,283	3,807
Total	110,894	8,430	119,324

COMPARISON:

2008-2011

Laboratory	2008	2009	2010	2011
Bread (CLBW)	11,100	11,241	12,957	12,375
Chemistry	21,176	27,205	50,855	61,345
Microbiology	12,316	14,339	30,232	39,227
Paint and Petroleum	1,470	1,933	2,079	2,570
Textile	3,232	3,999	3,844	3,807
Total	49,294	58,717	99,967	119,324

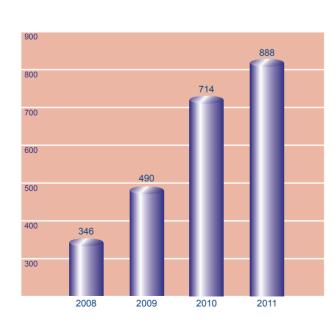






EXPORT TO ARAB COUNTRIES, EUROPE AND THE UNITED STATES

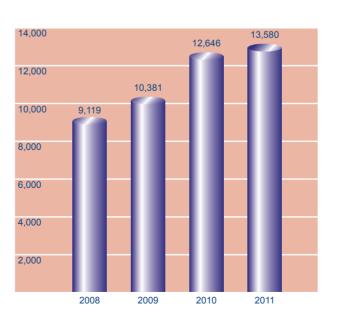
Product	Number of reports
Beer including sealing	20
Non alcoholic beverages	98
Water	6
Honey	5
Flour	6
Dairy Products	4
Meat	7
Nuts and nuts products	10
Vegetables	6
Chocolate, candies and sweets	104
Ready to eat food	4
Breakfast cereals	4
Tahineh, Halawa and olive oil	102
Liquid dressings, rose waters, etc	11
Cosmetics	391
Food Supplements	2
Napkins, Toilet paper and facial tissues	92
Detergents	16
Total	888





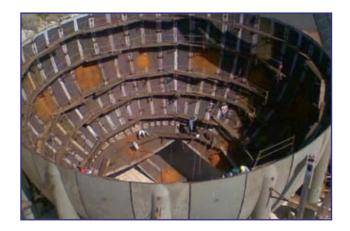
REPORTS AND ATTESTATION FOR IMPORTS (CUSTOMS DECLARATION)

Field		Number of Files
Cosmetics	Forbidden components 430 Provisionally allowed 65	4,600
Food/Food products	Preservatives 67 Emulsifier, thickener, stabilizers 252 Antioxidants 180 Artificial Sweeteners 25 Colors 90	4,600
Detergents	Full Analysis: Powdered detergent, liquid dishwashing, olive oil soap	1,049
Baby Diapers	Full Analysis	610
Hydraulic oils	Full Analysis	747
Glass	Analysis and Inspection	458
Dairy products	Full Analysis	454
Paint/Paint products	Full Analysis	222
Soy and Corn oil	Full Analysis	110
Miscellaneous	-	730



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EXTERNAL INSPECTION



The Industrial Research Institute conducted 35739 external control operations in 2011, compared to 30566, with an increase of 5173 operations compared to 2010 which translates to a percentage of 16.9%. Making the average annual growth rate 31.9 %, calculated since 2007.

These operations include control and inspection of natural gas storage tanks (395 operations), the control and calibration of oil storage tanks (199 operations), control of boilers (145 operations), in addition to 35,000 pressure vessel control operations.

In addition, 25 thousand locally manufactured gas bottles were controlled and inspected.

EXTERNAL INSPECTION

Activitiy	2008	2009	2010	2011
LPG Storage Tanks Inspection	328	405	400	395
Fuel Tanks Inspection & calibration	188	144	126	199
Boiler Inspection	165	170	140	145
Other Pressure Vessels	24,925	34,872	29,900	35,000
Total	25,606	35,591	30,566	35,739
LPG Cylinders - Locally Manufactured	3		65,000	25,000
LPG Cylinders - Imported		20,000	30,000	0

METROLOGY LABORATORY

The Metrology and Calibration Laboratories received 1,194 devices in 2011, on which the labs carried out 10,934 tests, with a rate of 9.15 tests per each device. The increase in the number of equipment delivered to these laboratories was 300, or a 33.6 percent increase, with an increase of 2,730 test processes or a 33.2 percent increase, compared to 2010. The development of the activities of these laboratories is broken down as follows:

TEMPERATURE

Temperature labs received 241 devices, on which the labs carried out 2,410 tests, at a rate of 10 tests per device. The number of devices grew at an average annual

rate of 25.3 percent since 2007, compared to 30.7 % for the number of tests. Compared to 2010, the both the number of devices and the number of tests grew by 22.9 %.

WEIGHTS

There were 618 units and 5,844 tests were carried out on them at a rate of 9.5 tests per each sample. Compared to 2010, the number of units rose by 33.5 percent, while the number of tests rose by 34 percent. The units delivered grew at an average annual rate of 19.6 percent calculated since 2007, while the number of tests carried out on them grew by 21.5 %.



PRESSURE

The number of pressure machines delivered was 103. 824 tests were carried out on the machines, at a rate of 8 tests per device. The number of machines increased by 33.7 percent compared to 2010, while the number of tests increased by 33.7 percent.

FORCE

The Force Measurement Laboratories received 15 machines for measurement. 120 tests were carried on them at a rate of 8 tests per machine.

DIMENSIONS

The number of units rose from 36 to 51, and the number of tests rose from 288 to 464, at rate of 61% each.



ELECTRICITY

Tests on electrical devices witnessed a remarkable growth between 2010 and 2011, rising in number from 79 to 131 at a rate of 66%, while the number of tests grew from 632 to 1048 at a rate of 66% as well. Each device underwent 8 tests. The number of equipment and the number of tests grew at an average annual rate of 19.1 percent, calculated since 2007.

DIFFERENT TESTS

The number of units dropped from 40 to 28 and the tests from 324 to 224 between 2010 and 2011, at a rate of 30 percent for the units and 31 percent for the tests, with an average of 8 tests per unit.

METROLOGY (CALIBRATION)

2008		20	2009 20		010		2011	
Technical Subjects	Item	Test	Item	Test	Item	Test	Item	Test
Temperature	132	1,263	164	1,560	196	19,60	241	2,410
Pressure	55	678	65	536	77	616	103	824
Force	15	120	7	56	3	24	15	120
Mass	283	2,504	491	4,492	463	4,360	618	5,844
Length	21	336	38	304	36	288	58	464
Electricity	136	1,032	49	392	79	632	131	1,048
Other (Acoustic, Flow etc)	22	184	18	144	40	324	28	224
Total	664	6,117	832	7,484	894	8,204	1,194	10,934

CERTIFICATION

In fulfillment of its policy to promote Lebanese Industry, the Industrial Research Institute has granted 23 establishments ISO 9001 certification, granted two establishments ISO 14000 certification for environmental systems, granted another

two establishments the ISO EN 13485 certification for the quality system of medical devices manufacturers, and also granted two establishments the ISO 22000 certification in food safety management systems.

QUALITY SYSTEM CERTIFICATION

ISO 9001 - Quality Management System	23 Certified Companies	
Château Kefraya, since 2006	Nasri Karam & Sons, since 2003	Château KSARA, since 2003
TUV Hellas, since 2008	MIRODEC 2011	Produits & Solutions Informatiques- PSI, since 2002
Medical Distributing & Manufacturing (MDM), since 2003	Holcim (Liban) SAL, since 2003	El Youssef Medical Center, since 2005
LECICO, since 2008	Holcim Béton, since 2008	Harfouche Trading & Industring EST. (Pastel Paints), since 2004
Integrated Digital Systems, since 2004	Nakhlé Zgheib & Co., since 2008	Bel Labtronic, since 2004
Lebanese International Technologies since 1999	Dora Flour Mills since 2004	Building Chemicals Company since 2008
Chirak Printing Press, since 2008	Betomix, since 2009	Clinserv International, since 2009
Aclinic, since 2010	Mondi Lebanon, since 2010	

ISO 14000 - Environmental Management S	stem 2 Certified Companies	
Holcim Liban SAL since 2004	Société Libanaise des Ciments Blancs (SLCB) since 2009	

ISO 13485 - Medical Devices: Quality Mana	gement System 2 Certified Comp	oanies
MDM, since 2010	Steritech, since 2010	

ISO 22000 - Food Safety Management Sys	tem 1 Certified Company	
Chateau KSARA, since 2009	DAHER INTERNATIONAL FOOD 2011	

PRODUCT CERTIFICATION

24 products earned certificates of product quality from IRI in 2011. The products are produced by 9 industrial enterprises.

IRI Product Certification 24 Certified Products by 9 Companies								
Almaza -Almaza Beer alcoholic -Almaza non-alcoholic -Laziza non-alcoholic	Cimenterie Nationale -P 52.5 BTNA RMS -P 42.5 BTNA RMS -P 42.5 -PAL 42.5	Ciment of Sibline -P42.5 RMS (par lot) -PAL 42.5 -P 42.5						
Sannine -Bottled mineral water 0.5L, 1.5L, 2L	Holcim -P 42.5 BTNA RMS -PAL 42.5 Mer -PAL 42.5 Montagne -PAZ 42.5 -P 42.5	Poppins -Corn flakes, choco flakes, honey flakes, frosted flakes -Cereal bars -Frooty pops, honey roundies -choco bits, choco pops, choco bumps - Daily bran						
LECICO -Floor and wall tiles BIIb	Haykal Plast -HDPE pipes	Lematic -Refrigerators, freezers and bottle cool-						

CERTIFICATION OF PERSONNEL

The Industrial Research Institute grants certificates to individuals that entitle them to audit the quality of systems and products, in association with MOODY Certification France. The certifications granted in 2010 can be broken down as follows:

- 92 Internal Auditors
- 95 Quality Management Auditors
- 3 Environment Management Auditors
- 3 Food Safety Management Auditors
- GAP Analysis for CCIA
- 43 Iraqis in laboratory training: Chemical and Microbiological Analyses
- 6 Measurement and Calibration Auditors (from Iraq)

Certification of Personnel	
« Internal » Auditors	92
« IRCA » Auditors for auditing quality systems	95
« IEMA » Auditors for auditing environmental systems	3
« IRCA » Auditors for auditing alimentary systems	3
Analytical Training: Chemical & Microbiological examination (persons from Iraq)	43
GAP Analysis for CCIA-Zahle & Saida and LAPI-Fanar	
Mass & scale calibration method (persons from Iraq)	6

LEBANESE WELDING CENTER

Under Law Number 423 of 2002, which designated the Industrial Research Institute "as the Accreditation Body and the only organization authorized to issue certificates of conformity related to all types of welding in Lebanon", the Institute granted 55 welding certificates through the Lebanese Welding Center (CLS), and a certificate of inspection in destructive tests.



Lebanese Welding Center	2008	2009	2010	2011
Welders certified by IRI	127	82	91	55
Inspectors in non-destructive testing	1	1	1	1

CUSTOMS FILES

The Industrial Research Institute continues to process and study customs files, as part of the tasks the Institute was entrusted with since 2005, whereby IRI verifies the conformity of imported products with the mandatory Lebanese specifications.

The number of files received by the Institute for verification rose from 18,532 in 2007 to 31,928 in 2011, which represents a remarkable growth of 14.5 % since 2007. The increase in 2011 was 13.5 % from 28,141 files in 2010. The size of the increase compared to 2010 was thus 3,787 files.

As a result of the verification process, 1,138 files were found to be noncompliant with the mandatory specifications. These files constituted 3.8 percent of the total number of files being checked, and 1,094 were rectified as a result.

The customs files studies were distributed as such:

FILES NOT SUBJECT TO VERIFICATION

These are files received by the Industrial Research Institute, but are not subject to the verification process because they do not fall within the scope of mandatory specifications. The number of such files rose from 4,594 in 2007 to 9,104 in 2011, with an average annual growth rate of 18.6 percent, compared to an increase of 17.4 percent relative to 2010.

IN 2011 THE INSTITUTE CHECKED AN AVERAGE OF 150 FILES PER DAY

This is while noting that these files are processed in the Institute, and on the same day they are received, they are given a 'Not-Subject To Specifications' stamp, without any fees being charged.

PRE-SHIPMENT

The number of files pertaining to goods subject to preshipment verification in the country of origin decreased from 2788 to 2201, at a rate of 21 percent relative to 2010.

HORIZONTAL STANDARDS

These are files that are studied and returned to the applicants on the same day. Their number has grown at an average annual rate of 17.6 percent, rising from 4300 files to 8246 files.

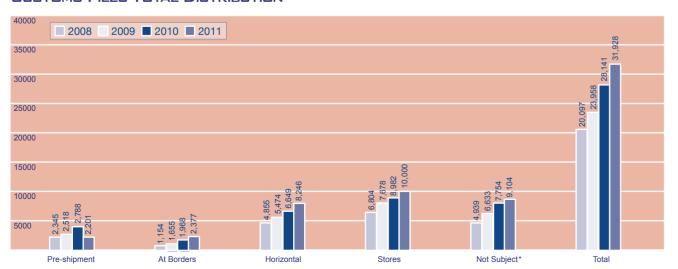
The growth rate was 24 percent in 2011 compared to 2010.

VERIFICATION OF STORED GOODS

The files pertaining to goods that are verified after being stored rose at an annual average rate of 18.5 percent calculated since 2007, up from 5,063 - to 10,000 files. The increase involved 1,018 files compared to 2010, representing 11.3 percent.

VERIFICATION AT BORDER CROSSINGS

CUSTOMS FILES TOTAL DISTRIBUTION



The number of files that were verified at border crossings was 2,377, up from 1,968 in 2010 or an increase of 409 files/20.8 percent.

DISTRIBUTION OF FILES (TYPE AND CROSSING)

Customs files were broken down to goods and electric appliance files – 37.7 percent, 12,050 files; soil (clay or ceramic) – 11 percent, 3,500 files; chemical products – 36.9 percent, 11789 files; mechanical machines – 485 files; general files- 1,749; Rebars- 356 files; medical files – 1,719 and pressure devices – 141 files.

The Port of Beirut accounted for 17,727 files or 55.5 % of the total number of files, Beirut International Airport accounted for 8,129 files or 25.5 %, and Al-Masna' border crossing accounted for 3,770 files or 11.8 %.

The average rate for processing files during working days was more than one hundred files per day.

CUSTOMS FILES TOTAL DISTRIBUTION (%)



2011

CUSTOMS FILES BY TYPE

Туре	Electrical	Soil	Chemical	Mechanical	Common Files	Rebars	Medical	Energy	Pressure	Total
Number	12,050	3,500	11,789	458	1,749	356	1,719	141	166	31,928
Without preship	10,371	2,978	11,789	458	1,749	356	1,719	141	166	29,727
Not Subject *	3,925	134	3,578	81	620	50	611	14	91	9,104
Subject	8,125	3,366	8,211	377	1,129	306	1,108	127	75	22,824
Non-conformity	631 9.78%	407 14.31%	31 0.38%		in E, C & S		0	122 86.5%	3 4%	1,198 5.80%
Corrective Action **	607	407	13		in E, C & S		0	126	1	1,154
Rejected	24	0	18	0	in E, C & S	0	0	0	2	44

^{*} the goods were found not subject to the requirements of the mandatory technical Lebanese standards

CUSTOMS FILES BY ENTRY POINT

Location	Electrical	Soil	Chemical	Mechanical	Common Files	Rebars	Medical	Energy	Pressure	Total
Masnaa	385	142	2,783	313	90	22	2	19	14	3,770
Port	6,129	2,806	6,670	103	1,276	268	239	118	118	17,727
Airport	3,843	29	2,316	42	382	1	1,478	4	34	8,129
Tripoli	13	0	19	0	1	59	0	0	0	92
Tyr	1	0	1	0	0	0	0	0	0	2
Saida	0	1	0	0	0	6	0	0	0	7
Pre-shipment (port)	1,679	522	0	0	0	0	0	0	0	2,201
TOTAL	12,050	3,500	11789	458	1,749	356	17,719	141	166	31,928
Average/Day	41.3	12		1.56	6	1.2	5.9	.48	.56	109.4

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^{**} guidance provided by IRI to rectify non-conformity when possible

ELECTRICAL LAB





CA6160 DOMESTIC MA-CHINES CONTROLLER & SOFT-WARE (CHAUVIN ARNOUX)

Powerful portable instrument for complete certification testing of a broad range of electrical appliances and equipment, meet the requirement of International Standards.

SWITCHING LIFE TESTER (EVERFINE - CHINA)

Can aging the CFL and the other appliance automatically, we can set the ON-OFF times according to its needs, and Alert automatically after finishing the work and also can monitor the current and voltage.





TEMPERATURE TEST APPAR-ATUS WITH THERMOCOUPLE (EVERFINE – CHINA)

Temperature recorder system provided by 8-chanels, can display the temperature variation curve and data of every channel.



Is the process of measuring an electrical or physical phenomenon such as: voltage, temperature.

The DAQ system consists of 64 sensors can be installed on a PC with programmable software; can be display the temperature or voltage variations of several products.





SPECTRA & COLORIMETRIC & ELECTRIC TEST SYSTEM (EVERFINE – CHINA)

This equipment is capable to test the performance characteristics of CFL and fluorescent Lamps with very high measuring accuracy.



TEST INSTRUMENTS FOR ELECTRONIC BALLAST (EVERFINE CHINA)

It is professionally used to analyze the electrical characteristics of electronic ballast of fluorescent lamp, meet the requirement of international standard, and it can show the specification and the wave form in high resolution.





PACKAGING LAB



TEARING APPARATUS ON PAPER (UNIDO-MACLE-INTERTECH BATINORM)

Determination of tearing resistance for plastic film and paper.





TEARING APPARATUS ON PLASTIC FILMS & FOILS (UNIDO-MAGLE -INTERTECH BATINORM)

Determination of tearing resistance for plastic film and paper

OXYGEN PERMEABILITY APPARATUS TOY-C1 (UNIDO-MAGLE-INTERTECH BATINORM)

Determination of Oxygen gaz transmission rate through plastic film and sheeting.





MICROPROCESSOR ROUGHNESS TESTER K513 (UNIDO-MACLE -INTERTECH BATINORM)

Determination of roughness/smoothness and air permeance for carton and paper.



IGT EQUIPMENT FOR PICK TEST (ISO 3783)(UNIDO-MAGLE -INTERTECH BATINORM)

Determination of resistance to picking for paper and board



DIGESTION SYSTEM KJEDAHL DK20 (LABOTECH ENGINEERING)

digital block digester, that allows accurate protein digestion for further quantification





FALC - HEATING/COOLING CIRCULATOR BATH

The study of the rheological properties of dough requires constant environmental parameters. This unit allows complete control of water circulation temperature.



Determination of ash content is crucial for the grading process of flour. This furnace has a high heating capacity and quick response.





OVEN 8100 100ML (RAINBOW)

For the determination of moisture content of grains and flour in a fast and precise manner

SOIL MECHANICS



AUTOMATIC BLAINE
APPARATUS LOD49
For determination of fineness of

For determination of fineness of portland cement



AUTOMATIC MULTI-STATIONS VICAT LO720/A

For determination of setting times of portland cement

AUTOCLAVE GTO150

Determination for crazing test for ceramic tiles and sanitary ware





BAR TRACING MACHINE FD55/S Marking of steel bars for the determination of elongation (%)



ISOVACUUM 800

Determination of water absorption by vacuum method for ceramic tiles and sanitary ware

BEND AND REBEND TESTING MACHINE FO13

For the determination of bend and rebend of steel bars at 90° and 180°





ELECTRIC SIEVE SHAKER SS207/B09

For the determination of seive analysis of sand, soil, and aggregate



SAND EQUIVALENT T64

Determination of sand equivalent (%)



Load test for sanitary ware





SINK EFFICIENCY TEST SYSTEM: RGB MODULE (CNE)

Flushing test for sanitary ware



SOLAR WATER HEATER LAB



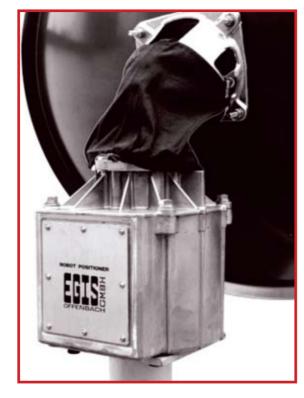
TRACKER EPR-203 /IRI TR 01 & RELATIVE CONTROL UNIT EPS-103 /IRI TR 02 (Tzsb-izes)

Exceptionally simple and fast installation, but highly accurate alignment due to separate motors for elevation and horizontal rotation (azimuth), plus a highspeed positioning computer

Completely equipped: the system consists of an external unit (Rotor) and an internal control unit (operating panel with power supply)

No additionally parts between mast top and reflector needed for antenna diameters up to 1.2 m. For exceeding diameters we recommend an individual solution or our special antenna mount.

diately in all parts of the world, no matter if you are

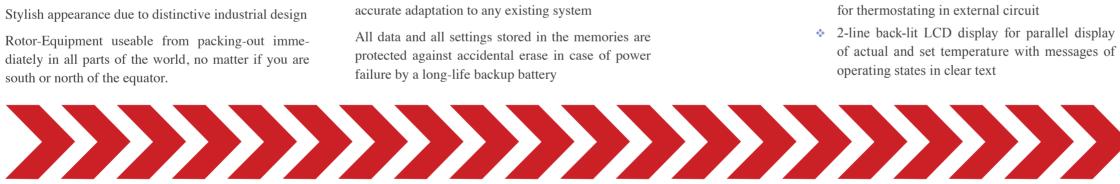


Sophisticated electronics allow optimum and most



LAUDA INTEGRAL T4600 (Tzsb-Izes)

- Process thermostat with integrated cooling system for thermostating in external circuit
- 2-line back-lit LCD display for parallel display of actual and set temperature with messages of operating states in clear text
- Extremely powerful pressure pump
- * RS 232 and RS 485 interfaces and analogue inputs and outputs
- Adjustable bypass for pressure limiting
- Additional pump for internal circulation
- Programmer max. 150 segment, divided in to 5 programs
- Digital pump pressure display, available at the analogue and digital interfaces
- Stand-by circuit
- * Remote fault indication through floating contact
- Filler opening at the front, drain tap
- Small stainless steel bath with high expansion
- Automatic proportional cooling with compressor on/off control
- Air-cooled version
- Used in almost all tests in the solar water heaters Lab



Comprehensive information readout during the programming process and every-day operation provided by a 40-symbol alpha-numerical display

All programming and adjustment operations can be remote-controlled from the location of the receiver set and the control unit! No align rent-works out at the rotor.

Important data and settings accessible only after entering a password

Auto-focus, auto-tracking and super-search makes live much easier. Don't forget all the other helping Functions (see advanced program listing)

Used for exposure test of solar water heaters collectors.

- User-friendly menu guidance with simplest 3-key operation
- Fully electronic continuous controller with PID action for internal and external control
- Low-level and adjustable over-temperature protection with acoustic alarm for use with flammable and non-flammable liquid

MICROBIOLOGY LAB



TEMPO

The Tempo instrument is the food industry's first automated quality indicator testing system for the enumeration of quality indicator organisms in food and environmental samples. Tempo automates food safety testing for total viable counts, coliform counts, E. coli, Enterobacteriaceae, lactic acid bacteria, Staphylococcus aureus, and yeasts/molds.





VIDAS

Vidas is an enzyme-linked fluorescent immunoassay (ELFA), it is a rapid screening alternative to time consuming classical identification of qualitative microorganisms such as Salmonella spp, Listeria monocytogenes and E. coli O157...

This assay can be used for the direct screening in food products and environmental specimens.





RECLAIM UNIT - SERIES JV (1 TON PER DAY)(UNDP)

- Ideal for In-Shop work
- Manufactured to customers specifications with options to handle R12, R134a, R22, R502 & R500 and most alternates in the same range with one machine utilizing a unique multiple expansion valve design
- Two Horsepower Hermetic Compressor
- Pumps to required vacuum levels with no harm to the compressor
- Patented Liquid Injection
- Measurable oil out facilitating the servicing process
- Performance results exceed the requirements for Maximum Allowable Levels of Contaminants as outlined in ARI Standard 1999
- Refrigerants which have been cleaned will pass the purity testing process required for resale
- UL listed
- Available with self-clearing option facilitating rapid and multiple changing of refrigerants while retaining speed and the on board storage feature



IRI ATTENDS A WORKSHOP ON EURO-MEDITERRANEAN STRATEGIC PROJECTS

AND PROPOSES A GREEN BUILD-ING CERTIFICATION PROGRAM

Dr. Imad Hajj Chehadeh, Technology & Development Director at the Industrial Research Institute, attended a workshop on strategic projects in the Mediterranean region. The workshop was held in the city of Valencia (Spain), in May 2011.

IRI proposed a project for the establishment of a comprehensive infrastructure for green building certification programs. This was met with a great deal of attention by members of the delegations of Spain, Italy, Greece and Tunisia.

The talks between Dr. Hajj Chehadeh and several delegations resulted in a framework bringing together European entities, for solar power projects on the one hand, and research on green building materials on the other

These projects are being evaluated by specialized committees.

FIFTH MEETING OF THE ADVISORY COMMITTEE OF METROLOGY

RABAT

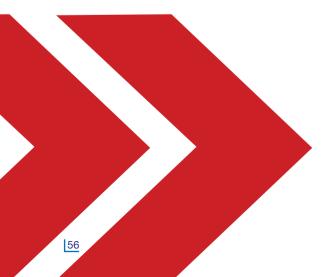
Between December 19 and 20, the Arab Organization for Industrial Development and Mining (AIDMO) held the fifth meeting of the Advisory Committee for Metrology in Rabat, Morocco.

The meeting was attended by the head of Metrology Research at the Industrial Research Institute, Engineer Elias Maalouf, along with members of the Committee representing the various Arab States.

At the meeting, the achievements of the member states and organizations involved in the field of metrology in the Arab countries, seen between the fourth and fifth meetings of the Committee, were showcased. The meeting also agreed to adopt the Arab Program for Legal Metrology (ARAMEL) and the Arab Program for Scientific and Industrial Metrology (ARAMET).







IRI PARTICIPATES IN A REGIONAL WORKSHOP ON

"ENERGY EFFICIENCY LABELS AND STANDARDS FOR HOME APPLIANCES."

As part of the collaborative work between IRI and the Lebanese Center for Energy Conservation, and given IRI's record of regular participation in regional and Arab conferences, IRI, representing Lebanon, participated in the regional workshop on "Energy Efficiency Labels and Standards for Home Appliances", held by the Regional Center for Renewable Energy and Energy Efficiency (RCREEE), in Cairo between December 27 and December 28, 2011. IRI was represented in the event by Eng. Mohamed El-Hajjar.

Eng. Hajjar presented the Lebanese national paper during a session of the workshop, and highlighted the stages accomplished by Lebanon in terms of energy efficiency standards and labeling for home appliances, and related studies, decrees, testing and experimentation, carried out by IRI. He also discussed during his presentation the implementation mechanism for the decrees in question, and the exchange of expertise among Arab countries, with a view to improve Arab industries and their productivity.

WITH THE AIM OF DEVELOPING & STANDARDIZING SPECIFICATIONS & PROMOTING DIRECT COMMUNICATION



THE SYRIAN-LEBANESE COMMITTEE FOR STANDARDIZATION AND METROLOGY CONVENES

In coordination with the Secretariat of the Syrian-Lebanese Higher Council, the Syrian-Lebanese Committee for Standardization and Metrology convened at the headquarters of the Syrian Arab Standards and Metrology Organization (SASMO) in Damascus. The meeting was attended by representatives of IRI, in turn represented by Ms. Nadia Khoury, Applied Research & Testing Director, the Ministry of Industry and the Lebanese Standards Institution (LIBNOR), as well as representatives from the Syrian side from the various departments of SASMO. A representative of the Secretariat of the Syrian-Lebanese Higher Council also attended the meeting.

At the end of the meeting, the following measures were agreed:

- Reviewing procedures for the development and standardization of specifications, with emphasis on the need to fully adhere to the requirements of granting certificates of conformity to goods traded between the two countries while the need for these goods to conform to the conditions and specifications of the market they are entering was underscored.
- Working to find a common standard for industrial chemicals, most notably detergents and cosmetics.
- The Committee requested the Secretariat to coordinate with it in order to hold a meeting of the committee working on developing the process

- of issuing certificates of conformity, with a view to exchange expertise, and develop and simplify this process as much as possible, to encourage exporters to adopt it.
- Agreement on the need for direct communication between SASMO and LIBNOR through the available channels, to facilitate cooperation between the two countries.
- Requesting the Secretariat of the Syrian-Lebanese Higher Council to provide a list of the goods that are most frequently traded between the two countries from their respective customs authorities, to be forwarded to both sides as soon as it is obtained.
- Agreement on holding a follow-up meeting of this committee within a month, with the date and venue to be determined carefully in coordination with the Secretariat of the Syrian-Lebanese Higher Council.
- Agreement on the need for each side to notify the other of the certificates of conformity issued by each respective party, to be dated and expediently dispatched by fax.
- The Committee urged each side to inform the other side of the technical and training workshops it holds to allow participants from both sides to participate in these events; this is to be done in advance to allow necessary administrative procedures to be taken ahead of participation.

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The UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) Regional project Team Meeting was held at the regional office for the Eastern Mediterranean Centre for Environmental Health Activities / World Health Organization (WHO) in Amman, Jordan on July 19 - 21 and December 05 – 07, 2011.

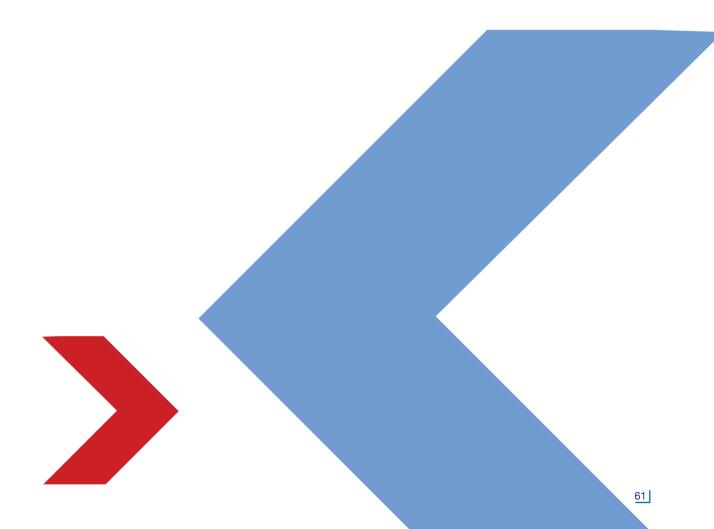
Eighteen participants from the Middle East Region (EMR) attended the workshop. Members were from Afghanistan, Egypt, Jordan, Iran, Lebanon, Morocco, Oman and Yemen. Dr Farid Karam (Ministry of Health) and Eng. Christiane Jbeily (Industrial Research Institute) were the National Focal Point and the Key Members of the National Focal Team from Lebanon.

The objectives of the meeting focused on the introduction and familiarization of the Regional GLAAS Team and the implementation strategy in the EMR during 2011-2012, with special reference to:

- The GLAAS 2011 survey structure and sections
- The Processes and requirements for completing the survey
- The survey implementation in the region and links with existing national processes
- The modalities for finalizing the completed survey
- The introduction of the Country Sector Profile and the implementation process in EMR.

The World Health Organization is emphasizing water sanitation and giving special attention to the schools' hygiene.

Currently the project is in its beginning phases. After completing and studying the nation profile surveys, WHO will select countries through budgeting and follow-up phases.





IRI, ESCWA & LSES ORGANIZED

TRAINING COURSES FOR THE MANUFACTURE OF WA-TER HEATERS ON SOLAR ENERGY









INTERPRETATION AND APPLICATION OF INCOTERMS 2010



In partnership with the Arab Atomic Energy Agency, IRI held a pan-Arab workshop on Welds and Weld Defect Detection Methods at IRI headquarters, between October 10 and October 14, 2011.

The workshop was attended by engineers from Egypt, Syria, Yemen, Iraq, Sudan, Tunisia and Lebanon, which was represented by engineers from the Ministries of Defense - army command-, Energy, Water and Industry.

The workshop's objective was to explain welding and welding defect detection methods in certain metal structures, as well as their risk to public safety and the methods used internationally to detect such defects.

Lectures were delivered by both Dr. Imad Hajj Shehadeh, Technology & Development Director at the Industrial Research Institute, and the Head of Nuclear Technologies at the Arab Atomic Energy Agency, Dr. Salah al-Din al-Tikriti. Both men focused on the role of close collaboration among all Arab countries and

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institutions, particularly between IRI and the Arab Atomic Energy Agency.

The regular meeting of the Standing Technical Committee for Nondestructive Testing was held on the sidelines of the workshop, and was attended by the representative for Lebanon in this Committee, the head of the Lebanese Welding Center Eng. Tarek El-Hakim and other Committee members; a future work plan for nondestructive testing in the Arab countries was discussed.

The session concluded with the distribution of certificates under the auspices of the Director General of IRI Dr. Bassam Frenn, and the attendance of the representative for the Arab Atomic Energy Agency Dr. Salah al-Din al-Tikriti.

WELDING TECHNOLOGY DAY

event was entitled Modern Techniques in Welding Technology, and was held on 30/06/2011 at the Lebanese Welding Center, at the headquarters of IRI.

Eng. Tarek El-Hakim, Chairman of the Lebanese Welding Center, showcased the activities of IRI, especially in the field of welding. He brought to mind Law No. 423 dated 6/6/2002, which designated the Industrial Research Institute as the Accreditation

Body and the only organization authorized to issue certificates of conformity related to all types of welding in Lebanon.

After that, experts from Fronius made a presentation on the latest welding techniques, with emphasis on cutting-edge technology in the manufacturing of welding machines.

This event was attended by engineers and technicians

In the framework of its continuous support to the Lebanese industrial community, the Industrial Research Institute, in collaboration with ProDev and the International Company for Export Development (ExpoFront) organized a training on the 7th and 8th of December 2011 entitled "EXPO sales, Interpretation and Application of Incoterms 2010". The training program was designed to provide comprehensive knowledge in the fields of "EXPO sales", global logistics and supply chain management. "EXPO sales" is one of several short -term professional training programs tailored to meet the needs of the Arab businesses wishing to develop their export potential or expand their export activity.

MANUFACTURING AND INSTALLATION:

IRI HOLDS TWO OUT OF THREE COURSES ON SOLAR WATER HEATERS



IRI held a joint agreement with the Economic and Social Commission for Western Asia (ESCWA) and the Lebanese Association for Solar Energy, for holding six training courses on the manufacturing and installation of solar water heaters. The contract duration is three years.

In implementation of the agreement, IRI held two types of courses: The first lasted three days and focused on the manufacturing and installation of the heaters, including both theory and application, and was held by the Lebanese Association for Solar Energy. The second lasted five days, and included the content of the first course in addition to hands-on training on copper welding by IRI's Lebanese Welding Center.

IRI held a course from November 6 to November 16, 2011, comprising both theoretical and applied training. On the first day, the head of the training unit at the Lebanese Welding Center Mr. Taher Wehbi held a theoretical training session that covered welding techniques in general, with particular focus on welding and defects that may result from poor welding.



On the second day, Wehbi prepared special copper welding samples, and gave a hands-on training to the participants on solar heater welding techniques.

On the third day, Eng. Nader El-Hajj Shehadeh explained the theory behind solar heater calculations and manufacturing.

On the fourth and fifth days, Eng. Jean-Paul Sfeir brought a sample of the solar heater mirrors and explained their assembly and installation to the participants, as well as all the stages of their manufacturing until ready-to-use mirrors are obtained, and how they should be tested.

With the completion of the courses, IRI would have held two sessions in 2011 pursuant to the agreement, where the extended session comprised 14 participants and the short session comprised 17 participants, who came from the following sectors: The industrial sector and the educational and private sectors; there was also a notable participation by the internal security forces, which delegated a lieutenant colonel to participate in the courses, as part of the ongoing collaboration between IRI and the ISF. One more session remains to be held in 2012.

INTERNAL AUDITOR TRAINING COURSES

In 2011, the Industrial Research Institute organized two training sessions: Internal Quality Auditor - ISO 9001:2008 and Food Safety Management System Internal auditor-ISO 22000:2005, in collaboration with FREA-Formation.

INTERNAL QUALITY AUDITOR ISO 9001:2008

14TH & 15TH OF JUNE AT IRI

The objective of this training was to get a better understanding of the 9001:2008 standard ISO, to know how to plan and conduct internal audits against ISO 9001 requirements and to prepare audit reports.

The training sessions focused on the importance of integrating an internal audit plan inside an organization to determine whether the quality management system is effectively implemented and maintained. Many of the exercises that were done focused on team work.

FOOD SAFETY MANAGEMENT SYSTEM INTERNAL AUDITOR-ISO 22000:2005

3RD, 4TH & 5TH OF OCTOBER AT IRI

The aim was to train auditors on Food Safety Management System audits in order to interpret the ISO 22000 requirements, identify and assess FSMS risks through the HACCP plan, and to conduct audits against those requirements.

The training focused on team work and for that purpose many practical exercises were done; such as how to establish a FSMS inside an organization, identify food hazards, and raise non conformities during an internal audit.









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IRI SEEKS TO BROADEN THE SCOPE OF INTERNATIONAL ACCREDITATION

Assessors from the German Accreditation Body (DAkkS) carried out a surveillance visit at the Institute in December 2010 & January 2011 in order to assess the accreditation status granted to the Institute since 2004 according to the International Standard (ISO 17025).

During the surveillance visit, the accreditation status was confirmed and ten new testing methods were covered in the electrical and chemical testing fields as listed below:

ISO 5983 (1997)	Animal Feeding stuff- Determina- tion of nitrogen content and cal- culation of crude protein content – Kjeldahl method
ISO 7888 (1985)	Water quality – Determination of electrical conductivity
IT-me/CHI/02 (2009)	Analysis of saturated, unsaturated fatty acids and trans fatty acids
IEC 60095-1 (2006)	Lead acid starter batteries: Cranking performance for dry charged batteries after activation
IEC 60529: 1992	Degrees of protection provided by enclosures (IP code): - Test means - Test conditions for first charac- teristic numerals 1, 2, 3 & 4 - Acceptance conditions
IEC 60065: 1998 (NL 167: 2000)	Audio video appliances: Resistance to external forces
IEC 60335-1: 1991 (NL 101-1: 2000)	Safety of household and similar electrical appliances: - Power input and current



As of the end of 2011, the accreditation scope covers 307 testing methods in the microbiological, chemical and physico-chemical, wheat and grain as well as electrical fields.



FLEXIBLE ACCREDITATION

It is important to note that the DAkkS confirms that IRI laboratories are competent under the terms of DIN EN ISO/IEC 17025:2005 to carry out accredited test methods in a flexible manner. Flexible accreditation is the highest level of the accreditation. It gives IRI the possibility to use standard test methods on test methods equivalent to them, which are not included in the certificate without prior information to and approval by DAkkS.

ACCREDITATION PROJECTS

The Institute seeks on the short and long terms to expand the current scope of accreditation and obtain an international accreditation in other fields as detailed in the following table:

Activity / Field	Item / Test	Standard
Electrical tests	-Compact Fluorescent Lamp -Home Appliances -Audio-Video devices	ISO 17025
Civil Engineering test	-Cement -Tiles	ISO 17025
Metrology	-Mass & Scales	ISO 17025

Other management system under preparation:

Activity / Field	Item / Test	Standard
Inspection and Auditing	-Gas cylinders -Oil and Fuel tanks -Steam Boilers	ISO 17020
Product Certification	-All products	ISO Guide 65
Personnel Certification	-Welding and non-destructive testing	ISO 17024

INTERACTION WITH ANALYTICAL ORGANIZATIONS

Our laboratories interact with various scientific institutes around the world in an interlaboratory or proficiency testing activities as follows:

 Bread laboratory proficiency testing with Bipea Cofrac / France in flour

- Chemical proficiency testing with FAPAS Central Science Laboratory (CSL) / UK and Swedac / Sweden - Food products
- Microbiology proficiency testing with Norsk Matanalyse / Norway in water and food.

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IRI ATTENDS ENERGY FORUM AND SPECIAL-FOCUS EXHIBITIONS













THE TENTH ANNUAL JOB FAIR AT AUST



IRI attended the Second Beirut Energy Conference, an important regional and international event. IRI was a key sponsor of the conference for two days in a row, on September 29 and 30, 2011. The event was held at the Habtoor Hotel.

IRI was represented at the conference by:

Dr. Imad Hajj Shehadeh, Eng. Tony Faisal, Eng. Mohamed El-Hajjar, Eng. Siham Yousef, Eng. Monica Feghali, Sheikh Talal Zaki, Ms. Nancy Maalouf and Ms. Carole Maroun.

Dr. Imad Hajj Shehadeh discussed green buildings, and spoke about the CEDRES certificate that would be announced by IRI later.

Important companies interested in energy conservation, alternative energy and energy saving devices also attended the conference, in addition to banks interested in providing loans for energy and environmental conservation schemes.

PROJECT LEBANON 2011

The event was held in Biel, Beirut, between May 31 and June 3. IRI, in its own pavilion, distributed its various literatures and screened a film on the stages IRI underwent since its inception, and its relocation to the Lebanese University Campus in Al-Hadath since 2004.

IRI's pavilion was frequented by the laboratory technicians and administrators, who briefed the visitors on the services offered by the Institute.

THE REGIONAL AGRO-INDUSTRIES FORUM FOR THE MIDDLE EAST AND NORTH AFRICA REGION

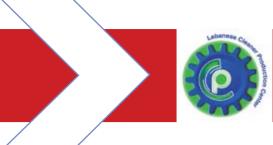
Within the framework of cooperation with the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Industrial Development Organization (UNIDO), IRI attended the Regional Agro-Industries Forum for the Middle East and North Africa Region, as part of an exhibition aimed at serving the development of ago-industries and promoting investment in this sector, held at the Le Royal Hotel, Dbayeh, from November 15 until November 18, 2011. IRI's pavilion was frequented by IRI's employees, who briefed the participants in the forum on the services offered by the Institute, especially the tests it conducts in the area of foodstuffs and agro-industries.

As part of IRI's efforts to introduce the private and public sectors to its activities, participated in the tenth annual job fair held on the campus of the American University of Science and Technology (AUST), on 16/05/2011. The fair saw the participation of 108 Lebanese and foreign companies, which came to offer job opportunities to graduating students.

IRI was in turn represented by its Administrative and Financial Director Mr. Sélim Kfoury, Eng. Siham Youssef, and Mr. Ziad Moukarzel, who showcased the services, activities and achievements of IRI, and presented possible job opportunities to be studied according to the needs of the Institute.

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Lebanese Center for Cleaner Production LCPC





LEBANESE CLEANER PRODUCTION CENTRE





The Lebanese Cleaner Production Centre (LCPC) was established in 2002 at the Ministry of Environment (MoE) by the United Nations Industrial Development Organization (UNIDO),

LCPC moved in February 2004 to the Industrial Research Institute (IRI) in Hadath-Baabda.

LCPC is part of UNIDO-UNEP Global Network which comprises National Cleaner Production Centers (NCPC) in 45 countries.

Membership of RECPnet – Arab Region:

- Algeria: National Centre of Cleaner Technologies Production
- Egypt: Egypt National Cleaner Production Centre
- Jordan: Cleaner Production Unit
- **Lebanon:** Lebanese Cleaner Production Centre
- Morocco: Centre Maroccaine de Production Propre
- Tunisia: Centre des Technologies de l'Environment

ACTIVITIES

LCPC concluded 2011 very successfully in a challenging global environment; it was another remarkable year for LCPC. The basis of this success was our sustainability-focused strategy, coupled with the outstanding achievements and commitment of the LCPC team.

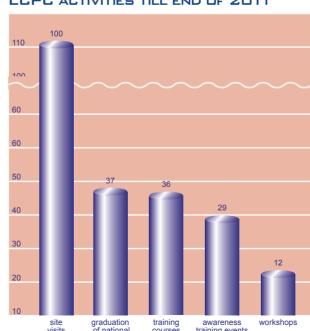
Up till the end of 2011, more than 160 events were organized and implemented by LCPC and targeted more than 2791 persons.

With the help and continuous support of our partners and stakeholders, LCPC have reached and achieved its targets and continued to undertake its 3 core activities:

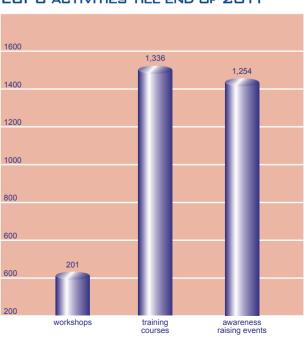
- In Plant Demonstration
- Awareness Raising
- Training and Capacity Building

The cumulative activities achieved and the total numbers of participants are shown in the 2 followings graphs:

NUMBER OF PARTICIPANTS IN LCPC ACTIVITIES TILL END OF 2011



LCPC ACTIVITIES TILL END OF 2011



1. IN-PLANT DEMONSTRATIONS



Through In-plant demonstration projects, the LCPC explain in a practical way the concept of cleaner industrial production and its applications to industrial sector.

LCPC has collaborated with 32 Company in Lebanon distributed among several industrial sub-sectors. These sectors are:

- Dairy sector
- Agro- food canning sector
- Paper and cardboard sector
- Aluminum production sector
- Ceramic production sector
- Plastic production and recycling sector
- Textile sector
- Olive oil sector

The CP options implemented in SME's that participated in the LCPC programmes have led to a total yearly savings of more than One Million One Hundred Thousand US Dollars.







WORKSHOP ON "FEASIBILITY ANALYSIS", OLIVE OIL SECTOR

The Feasibility Analysis workshop is the fourth step in the In-plant Demonstration phase for the Olive Oil sector, which targeted the managers and owners of SME's under this sector. The workshop took place on the 2nd of February 2011 at IRI premises.

The decision-makers from the six-selected Olive Oil SME's and from UNIPAK, in addition to the CP experts and to representatives from IRI attended the Workshop.

During the seminar an overview and evaluation was made on how to fulfill the CP reports and how to deal with the data collected at the site visits to the factories.

DISSEMINATION SEMINAR FOR OLIVE OIL SECTOR AND OTHERS – JUNE 2011

After one year of intensive work with the Olive Oil sector in Lebanon, LCPC has succeeded in applying Cleaner Production in the latter sector.

Under the patronage and presence of the Austrian Ambassador in Lebanon, H.E Dr. Eva Maria Ziegler, the LCPC had organised a ceremony to disseminate the successful results. It was organized with IRI, MoE and ALI.



The dissemination seminar for the Olive Oil sector and others was held at IRI premises on the 28th of June 2011.

During the ceremony, In-plant demonstrations and results were presented and relative manuals were distributed to the participants, and certificates to 6 SME's from the Olive Oil sector and 1 SME's from the Paper and Cardboard that applied the CP concept in their industries as well as to 7 CP experts that have participated in the In-plant demonstration organized by the LCPC.

These companies are:

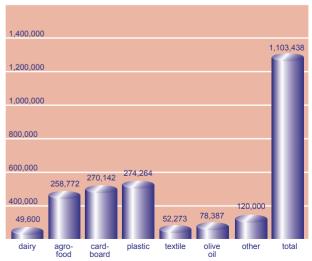
- Boulos for Industry and Commerce
- Said Saifan Est.
- Pressoire Cheikh Sleiman et Maged El Daher
- Agricultural Cooperative in Rashaya El Foukhar
- Olive Oil Badawee
- Presses Modern El Rashid
- UNIPAK s.a.1



Major CP options implemented in the olive oil companies are:

- Rehabilitation of the collection tank of vegetable water with specifications that prevent leakage into the soil.
- Separation of olive washing water from the vegetable water and secure the delivery of water into the sewage network.
- * Room to store the pomace equipped with ventilation channels to drain the vegetal water.
- Water filtration during processing.
- Production of Olive Logs from the husk.
- Isolation of the generator.
- Rehabilitation of the pool drying for the wet pomace.

YEARLY SAVINGS IN US DOLLARS



2. AWARENESS RAISING









As part of the awareness campaign raised by the LCPC to spread the word about the CP concept and its application in Lebanon, the educational sector constitutes an essential and important sector to spread the word among all students, and for the purpose of disseminating the CP Book: "Half if Enough: An Introduction to Cleaner Production" in the Universities for introducing CP Curricula.

MULTI SESSIONS TO ISLAMIC UNIVERSITY MASTER STUDENTS IN TECHNOLOGIES JANUARY – MARCH 2011

The LCPC Director, Dr. Yaacoub, held a series of training sessions on CP concepts and methodology to the IUL students mastering in Industrial Technology during January – March 2011.

IRAQI'S DELEGATION VISIT TO LCPC IN COLLABORATION OF THE ISLAMIC UNIVERSITY OF LEBANON FEBRUARY 2011

The Iraqi's Delegation from the University of Karbala in collaboration with the Islamic University of Lebanon, visited IRI & LCPC premises on the 10th of February 2011.

They were introduced to Cleaner Production concept and methodology.

Their visit also included a guided visit to the laboratories available at IRI.

At the end of the visit, attendance certificates were distributed to the participants.

COLLABORATION AGREEMENT BETWEEN LCPC & IES OCTOBER 2011

LCPC and the Industrial Environment and Sustainability (IES) agreed on setting up a strong cooperation framework and signed a Memorandum of Understanding in order to promote Green Innovative Methods, Renewable Energy, Eco-city Projects, Cleaner Production and Technology Transfer in Lebanon

IES is an international operational and strategical consulting firm specialized in the field of environment, economic development and human development in the Mediterranean.

IES assist businesses and organizations to expand and promote them in the Euro-Mediterranean space through their proven innovative expertise.

IES help companies in Mediterranean countries, investors, public agencies and provide them with smart and innovative solutions regarding their environmental issues. IES help them to define sustainable strategies and create partnerships with innovative companies, providing solutions adaptable to their local environment.

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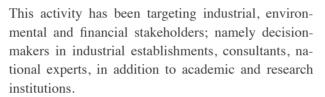
3. TRAINING AND CAPACITY BUILDING











The purpose is to build up skills not only in cleaner production but also in allied fields.

LCPC has succeeded in conducting 36 training courses which targeted participants mainly students from the academical sector, managers and technical experts from the industrial sector and employees from the public sector and non profit organizations.







TRAINING COURSE ON CP METHODOLOGY AND CONCEPT AND A FIELD VISIT TO LCPC & IRI LABORATORIES, BALAMAND UNIVERSITY STUDENTS, MARCH 2011

Balamand University Students, Faculty of Public Health Sciences, taking a course on Clean Technology and Pollution Control, accompanied by Dr. Berj Hatjian, DG of MoE, visit IRI & LCPC on the 20th of March 2010.

Students from both IUL and Balamand University were introduced to the LCPC, environmental protection and familiarized with the concept and methodology of CP.

In addition, the students discussed and evaluated with LCPC team the role they could play in the dissemination and application of CP in Lebanon.

Their visit also included a guided visit to the laboratories available at IRI to introduce the students to the sampling techniques and metrology.

SEMINAR ON: "PROMOTING SUSTAINABLE PRODUCTION AND CONSUMPTION PRACTICES – SUSTAINABILITY WORLD TOUR, MAY 2011

LCPC and green2bee, organized a seminar on "Promoting Sustainable Production and Consumption Practices - Sustainability World Tour", on the 11th of May 2011 at IRI premises.

During the seminar, green2bee offered an overview of international water management tools and helps to understand the extent of direct and indirect water use (in operations, buildings and throughout the supply chain). Challenges and opportunities are identified. The Global Water footprint Standard (released in 2011) was specifically addressed.

They also discussed and shared knowledge with Lebanese companies, which talked about their experiences in environmental management and its applications.

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FIRST CONFERENCE ON FIGHT-ING AGAINST DESERTIFICATION IN LEBANON, JUNE 2011

Under the patronage of H.E Dr. Hussein Hajj Hassan, Minister of Agriculture, the conference was organized by the Ministry of Agriculture, the Association of Jihad Al Binaa for Development, Faculty of Agriculture, AUB, USJ, Saint Esprit - Kaslik, Order of Engineers, Federation of Arab Agricultural Engineers, UNDP, ACSAD, FAO Lebanon, and LCPC.

The objectives of the conference were to carry out all necessary measures to put plans and strategies to combat desertification and find alternatives to the scarcity of water and to propose alternative crops to suit with the new situation, in addition to finding new ways to re-greening to Lebanon, which was characterized by green spaces exceeded 30% of the total area.

The conference tackled three main subjects:

- Desertification and its impacts on agriculture and the environment
- Society's role in combating desertification
- Desertification and its impacts on the economy and the environment

CONFERENCE ON THE ROLE OF GREEN INDUSTRIES IN PROMOTING SOCIO-ECONOMIC DEVELOPMENT IN ARAB COUNTRIES, SEPTEMBER 2011

Within the context of regional preparation for Rio+20, ESCWA and AIDMO organized in cooperation with UNIDO,UNEP,GTZ and League of Arab States a conference on "the Role of Green Industries in Promoting Socio-Economic development in the Arab Countries", which was held on the 28-29 of September 2011.

The conference aims at encouraging Arab Countries to adopt the concept of green industries and develop a common understanding & position regarding the outcomes of Rio+20 objectives and themes.

The Lebanese Minster of Industry, Vrej Sabounjian, recognised the importance of promoting sustainable development and green industry in order to combat pollution, poverty and industrial waste and the role of green industries in economic and social development, especially in its ability to foster job creation. The minister highlighted on the establishment of LCPC since

2002 and on its importance and aims to improve the performance of industrial enterprises at the environmental level, and reduce the cost of production through the adoption of cleaner production policies.

LCPC was actively participating in the forum and Dr. Yaacoub was the moderator of Session 6: Country Papers; were representative from 9 Arab Countries presented and highlighted their experiences in green economy while the LCPC Deputy Director Eng. Hanan Khanafer presented the Lebanese Country Paper on the CP Activities in Lebanon was presented.

CLEANER PRODUCTION AND RE-SOURCE EFFICIENCY IN THE PRIVATE SECTOR – TEHRAN, IRAN, NOVEMBER 2011

Due its role in being the leading center of Cleaner Production in the region, LCPC in collaboration with the UNIDO office in Tehran, Iran and the Novin Daneshmand Research and Development Institute organized a workshop on "Cleaner Production and Resource Efficiency in the Private Sector".

It was an introductory workshop about the cleaner production, its concepts and methodologies.

It was dedicated to engineers and researchers, and focused on the Building Material sector.

The workshop took place on the 10th of November 2011 at the Sharif University of Technology, Tehran premises.

Event	Date	Location
Eco Construction at the Service of the Social Housing	11 – 12 January	Beirut, Lebanon
3rd Roundtable Meeting on Sustainable Consumption and Production in the Arab Region "Paving the Path to Green Economy in the Arab Region	26 – 27 January	Cairo, Egypt
Executive Committee of the global network for Resource Efficient and Cleaner Production (RECP-Net)	14 – 15 March	Vienna, Austria
Award Ceremony of Student Star pack 2011 & The Exhibition of participants projects	22 March	Beirut, Lebanon
Conference: Green Economy and Business Opportunities "the Belgian "know –how" in reducing Health impact of Environmental Stressors	30 March	Beirut, Lebanon
Training on the Solar Water Heaters and Testing for Solar Collectors in Lebanon	31 March	Beirut, Lebanon
Challenges of Rural Poverty in the Middle East and North Africa	18 April	Beirut, Lebanon
Seminar on the EU Support to the LCEC: Upcoming Legal Challenges and the Update of the NEEAP	3 May	Beirut, Lebanon
Research Trends in Food Safety & Security	3 – 5 May	Beirut, Lebanon
Third International Scientific Conference	10-11 May	Karbala, Iraq
Creating a Sustainable Construction Sectors in Lebanon: Thermal Standards, Buildings code, and Green Buildings	20 May	Beirut, Lebanon
3rd Lebanon Sustainability Week	1 – 3 June	Beirut, Lebanon
Green Business Conference: "How to go green Profitably"	14 – 15 June	Beirut, Lebanon
Launching SME'S Centers	17 June	Beirut, Lebanon
Launching event of the LSQ Quality presentation" Series	17 June	Beirut, Lebanon
Workshop on Launching Focus Project of the Regional Network of the National Cleaner Production Centers in the Middle East and North Africa	21 – 23 June	Tunis
Renewable Energy "Think Tank Workshop"	8 July	Beirut, Lebanon
Regional Preparatory Meeting Series for Rio+20: Meeting on "Economic Policies Supporting the Transition to a Green Economy in the Arab Region"	20 – 21 July	Beirut, UN House

Event	Date	Location
Mediterranean City Economic Forum 2011	12 – 13 September	Beirut, Lebanon
EUROMED INVEST Summit 2011	21-22 September	Alexandria, Egypt
Conference on the Role of Green Industries in Promoting Socio-Economic Development in the Arab Countries	28 – 29 September	Beirut, UN House
The 2nd Beirut Energy Forum 2011	29 – 30 September	Beirut, Lebanon
Invest in med – The Mediterranean: your opportunity	1 October	Alexandria, Egypt
Food Safety Management systems, Internal Auditing Course ISO 22000	3-4-5 October	Beirut, Lebanon
Regional Review of Institutions for Sustainable Development in the Arab Region	3 – 5 October	Jeddah, Kingdom of Saudi Region
National Conference on Sustainable Packaging	5 October	Beirut, Lebanon
2nd Eco-cities of the Mediterranean Forum	11 – 12 Oct	Marseille, France
La Journée d'ouverture de la première année du Master 2 IDTE/ Ingénieure de Développement des Territoires et Environnement	18 October	Beirut, Lebanon
Arab Regional Preparatory Meeting for the United Nations Conference on Sustainable Development (Rio+20)	16-17 October	League of Arab States- Cairo,
Lebanese-German Environmental Forum	22 October	Beirut, Lebanon
Arab Environment 2011– Green Economy in a Changing Arab World	27 – 28 October	Beirut, Lebanon
Preparatory Experts Meeting for the Regional Agro-Industries Forum for the Middle East and North Africa	14 November	Beirut, Lebanon
Expert Group Meeting on "Youth Participation in the Inclusive Economic Development of the Arab Region"	24 – 25 November	Vienna, Austria
UNIDO GENERAL Conference 14th Session	28 Nov – 2 Dec	Vienna, Austria
Round Table: Youth participation in the inclusive economic development of the Arab Region	28 Nov – 2 Dec	Vienna, Austria
Electricity Policy: "Think Tank Workshop"	2 December	Beirut, Lebanon
Scientific day on solar technologies	17 December	Beirut, Lebanon

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Euro-Lebanese Centre for Industrial Modernization ELCIM



INITIATIVES FOR 2011

HORECA 2011

HORECA features the largest exhibition for the hospitality industry in Lebanon and the Middle East. It has been the annual business-meeting place for the hospitality & foodservice industries in the region since 1994. As is the habit every year, ELCIM took part in HORECA 2011 which took place from April 26th to 30th. ELCIM team received and met clients from the



Agro food industry and proposed to them the services of its Food Advisory Unit and its training program planned the coming year.

A workshop was also organized on "Food Safety for the Food- Service Industry: Awareness, Compliance and Training" in cooperation with the Federation of Chambers of Commerce, Industry and Agriculture in Lebanon and the Syndicate of Restaurant Owners in Lebanon

LAUNCHING OF THE SME CENTER JUNE 2011

Under the umbrella of the Federation of Chambers of Commerce, Industry and Agriculture in Lebanon (FC-CIAL), and in cooperation with ELCIM, the SME Center was launched on June 17, 2011 in the presence of the Director General of the Industrial Research Institute, Dr. Bassam Frenn, and the Chairman of the Federation and Chamber of Beirut and Mount Lebanon (CCIAB), Mr. Mohamed Choucair and many other economic actors, businessmen and media figures. The Center is the result of the ever-growing demand of Lebanese SMEs for affordable and specialized business services.

The Center will act as a one-stop-shop for dynamic growth oriented SMEs, helping them achieve their growth plans through informing and advising customers about the services of the Center's partners. These partners are the 4 regional Chambers of Commerce, Industry and Agriculture (CCIAs), Industrial Research Institute, (IRI) Euro- Lebanese Centre for Industrial Modernization (ELCIM), and the Lebanese Center for Packaging (LibanPack).

The Center will help SMEs improve their capabilities to reach new customers, increase their competitiveness, and build up their innovation capacities. This will be achieved through creating synergies among the partners, thereby saving resources and optimizing the delivery of services.

BEIRUT COOKING FESTIVAL 17-18-19 NOVEMBER 2011

ELCIM participated in the first edition of "Beirut Cooking Festival" launched by the Minister of Industry Mr. Vreij Sabounjian at the Pavilion Royal in Biel which hosted the top chefs and industry experts in the region. The festival was held for three consecutive days, with more than 50 exhibitors presenting the accessories and the latest innovations in the industry of cutlery and kitchen equipment.

The festival witnessed more than 64 workshops including the presentations of the top chefs, food and beverage professionals, experts in etiquette, wine tasting and olive oil.

ELCIM organized in cooperation with the Federation of Lebanese Chambers an awareness session on "Food Safety at Home" to a wide audience of women. This seminar was offered by the Food Expert, Mrs. Reem Azoury who discussed the proper handling of food items at home, which is a serious matter for our safety.

ELCIM FUTURE ACTIVITIES

A meeting was held with H.E the Minister of Industry Mr. Vreij Sabounjian with ELCIM team on Wednesday 21/12/2011 during which the Minister overviewed the ELCIM's achievements as a step in preparing the next phase's activities.

Ways of further promoting and introducing ELCIM's various activities, ranging from consultancy, marketing, production, and training services, were discussed in order to reach the largest amount of possible of SMEs in Lebanon. Several field visits to different regions in Lebanon were planned for this purpose, in order to be able to keep up the motto "Lebanon the Producer" which the Minister has announced in order to increase the efficiency of the industry, the competitiveness of the market players and their ability to compete locally and internationally.

ELCIM TRAINING

These training workshops were held to achieve EL-CIM's objectives of raising awareness and providing local SMEs with the Know-how necessary for expanding their businesses locally and internationally.

FRANCHISOR SUCCESS STRATEGIES:

This workshop was held on December 8-9 2011, presented by Dr. Salim Hajje who explained the way to understand the secrets of a successful franchisor.

Franchising is a way of doing business; it has become the business phenomenon of the 20th century. Franchising may be the best hope for growth and expansion of any business system in the world today.

Participants were able to successfully cover the workshop's Learning objectives being to Learn how to be professional, understand the franchisee, learn how to prepare a franchisor feasibility study, how to develop franchise growth, how franchising will impact finance and to understand the franchise contact.

NEGOTIATION TECHNIQUES:

ELCIM organized a workshop under the topic of "Negotiation techniques" on September 7-9 2011. This training was presented by Dr. Naji Bejjani.

The workshop aimed at proving that, even though it is extremely difficult to be a super-negotiator when you do not have some talent to start with, it is actually rather easy to be able to negotiate effectively on many issues of every day's private life and of every day's professional life. Those issues can either be related to selling or to solving conflicts.

Participants from various SMEs were able to learn the do's and don'ts of a negotiation so easily and remember them instinctively, i.e. with minimum effort, when they need to negotiate about something with somebody. They mainly learned how to think WIN-WIN, and how to think long term whenever they are negotiating something, and always be in negotiating mood.







PRESENTATION SKILLS WITH CHARISMA:

Presentation Skills with Charisma is a very well-liked topic today, due to the increased demand for not only preparing but as well delivering presentation.

ELCIM held a training workshop on this topic on June 23-24, 2011. This workshop was presented by Ms. Adessa Tawk.

Ms. Tawk covered the Learning objectives which allowed participants to learn how to structure powerful presentations that deliver effective mess through communicating effectively with each participant and noting on key listening and questioning skills; they also learned about preparing slides, handouts and notes that catch the attention of the listeners, presenting with confidence by getting over the 'nervous feeling', engaging an audience by getting them interested in the delivered message, answering difficult questions in a calm and collected manner, dealing with difficult questions during and after the presentation, motivating the audience and building a desire to move forward, and finally inventing win/win objectives even if they sounds impossible.

CONFLICT RESOLUTION:

This Workshop was held on May 11-12, 2011, presented by Dr. Naji Bejjani.

From seemingly slight irritations to more serious issues, the topics covered in this workshop showed participants that small problems left unaddressed can escalate quickly into full-scale hostility or worse. In addition to identifying some of the causes, they were also able to consider the potential consequences - individual and organisational - that are possible when problems are not resolved.

The Learning Objectives that were covered allowed participants to understand four basic behavioral styles and know how to adjust to each for conflict prevention, appreciate how cultural and background diversity affect interpretations of situations, exercise listening skills taught in the program to improve the chances for open communication, evaluate conflicts to determine if they can be resolved, and finally how to implement a procedure to resolve problems that have viable solutions.

LEAN SIGMA:

Lean Sigma workshop provides an overview of Lean Manufacturing, important trouble shooting tools, Theory of Constraints, and an introduction to Six Sigma.

This training workshop was held on March 10-11 2011, presented by Dr. Nasser Lama.

The course objective was to introduce employees of manufacturing companies to systems used by successful international manufacturing companies in order for them to help their companies produce higher quality products at lower cost while maximizing resource utilization.

At the conclusion of the course each attendee was able to understand the terms, terminology, and benefits of Lean Manufacturing, identify manufacturing system waste, deal with production bottlenecks using Theory of Constraints (TOC) principles in order to meet market demand without extensive investment in additional capacity. Moreover, participants received an overview of Six Sigma concept and the methodology it uses and learned how to use some key trouble shooting tools that are essential in improving manufacturing processes.

IRI Relations with Ministries & Public Institutions

IRI^IS RELATIONSHIP WITH MINISTRIES AND PUBLIC INSTITUTIONS

THE INSTITUTE'S ROLE IN SUPPORTING THE NATIONAL ECONOMY IN GENERAL

The Institute today represents the Lebanese State in the negotiations and conclusion of agreements of mutual recognition of conformity assessment, certificates and markings in what relates to trade between Lebanon and other countries. The Institute was tasked with the issuing of certificates of conformity in the importation of industrial goods, pursuant to the Lebanese decrees of mandatory specifications, and also in exportation operations in accordance with the specifications of the destination countries.

It should be mentioned here that since 2004, IRI has been the only internationally accredited body in Lebanon by the German Accreditation Body (Deutsches Akkreditierungssystem Prüfwesen (DAP)), as per the international accreditation certificate DIN EN ISO/IEC 17025. Consequently, the Institute is the only window available for the flow of Lebanese goods, which need laboratory tests and certificates of conformity, to the European and international markets.

PARLIAMENT

IRI regularly accepts the invitations of parliamentary committees in the Lebanese parliament, and attends meetings held by them. IRI offers its technical and scientific expertise related to the Institute's scope of work to these committees during the drafting and discussion of bills.

Last year, IRI actively participated in the drafting and discussion of the bill on technical regulations and pertinent procedures for conformity assessment, in all stages of the process, with the subcommittee of the joint parliamentary committees, until the bill was approved by this committee at the end of September, 2011.

IRI participated in the drafting of the bill regulating drinking water processing, treatment and packaging, with the Committee on Public Health, Labor and Social Affairs.

The bill aims to limit the unregulated and exploding number of drinking water distribution companies in Lebanon, as a result of the growing need of the citizens for water that is otherwise unavailable through public drinking water grids. The bill seeks to subject most unlicensed bottling companies to the laws and regulations in force, in order to ensure the safety of water, that it is uncontaminated, and that it complies with the required specifications to preserve public health.

IRI also participated in the activities of the Public Works and Energy Committee in several areas, including:

- Following up the process of replacing domestic gas bottles, especially the control of the production and exportation of gas bottles before they are used in local markets.
- Providing the necessary expertise and technical analysis related to fuels allowed in private cars.
- Offering opinion and technical analysis related to bills concerning public safety in the use of fuel tanks, with a view to prevent explosions.

MINISTRY OF INDUSTRY

IRI is considered to be the quintessential technical arm of the Lebanese Ministry of Industry, especially as IRI is a subsidiary body of the ministry, and that its Board of Directors is headed by his Excellency the Minister of Industry. IRI is continuously conducting the necessary industrial inspections and studies, as well as feasibility studies aimed at developing existing industries or establishing new ones. This is in addition to conducting studies on the added value of national industrial products and the need for certificates of origin for export clearance. Also, the Institute worked in parallel with the ministry in granting industrial licences, pursuant to decree No. 8018 dated 20/6/2002, which assigned the required role for IRI in this regard, and is still working in parallel with the ministry whenever it is required to do so.

MINISTRY OF AGRICULTURE

The Ministry of Agriculture requests IRI to analyze samples from agricultural products or material on a frequent basis. These are usually sent to IRI by the ministry for testing, whether upon importing them, exporting them or their usage. IRI is also tasked with the analysis of fertilizers and pesticide residues in vegetables, fruits and other crops.

MINISTRY OF ECONOMY AND TRADE

Since its inception, IRI has been cooperating with the Ministry of Economy and Trade, especially the Consumer Protection Directorate and the General Directorate of Cereals and Sugar beets.

A - CONSUMER PROTECTION DIRECTORATE

This directorate is tasked with taking samples from lo-

cal markets on a regular and ongoing basis, and handing them over to IRI for laboratory testing and issuance of the necessary reports, across various sectors. IRI comprises 12 accredited laboratories that cover different sectors, in addition to a control and inspection unit, the meteorological calibration unit and the Lebanese Welding Centre.

B - GENERAL DIRECTORATE OF CE-REALS AND SUGAR BEETS

The Industrial Research Institute manages and operates the work of the central laboratory for grains, flour and bread research on behalf of the Ministry of Economy and Trade. The laboratory is equipped in accordance with highly specialized international cereal laboratories. The laboratory meets all the needs of this directorate by controlling the quality of the imported and the locally produced wheat and wheat products (briefly, monitoring the ingredients that make up the Lebanese bread loaf).

MINISTRY OF PUBLIC HEALTH

IRI laboratories are used by the Ministry of Public Health in conducting special tests on bottled water, as a fundamental step in the process of obtaining a licence for the water bottling companies, in addition to other tests conducted by the instituted which include, for example, baby formula, cosmetics, medicine and other items as needed.

MINISTRY OF NATIONAL DEFENSE

The cooperation with the Lebanese army, including its various interests and divisions, has been firmly established since IRI's inception.

IRI meets the requests of the committee tasked with the receipt of the analyzed materials and the central

reserve committee for foodstuff analyses, the stewardship for uniforms and equipment, in addition to the requests of the corps of engineers, the logistical corps and the military police and other corps as needed.

IRI also holds training courses on welding works, solar energy and other scientific topics which IRI proudly provides to this institution.

MINISTRY OF INTERIOR AND MUNICIPALITIES

The Textile, Leather and Rubber Laboratory at IRI is continuously cooperating with the security in analyzing the uniforms of the Internal Security Forces, as well as shoes and equipment, in accordance with their requirements and in order to certify the conformity of these specimens with the specifications established by them, prior to purchasing uniforms and gear.

IRI meets the various requests by the Internal Security Forces in different unmentioned sectors, including for example chemical analyses to identify contraband and other security-related analyses.

MINISTRY OF JUSTICE

The judicial authorities continuously refer legal issues to IRI for technical advice, as IRI is the reference point for these authorities in what pertains to scientific issues.

MINISTRY OF ENERGY AND WATER

IRI works with the Ministry of Energy and Water in different areas, most importantly overseeing the manufacturing of gas bottles and certifying that they conform to the mandatory Lebanese standards. IRI also inspects gasoline tanks in petrol stations, whether for licensing purposes or for maintenance when requested.

In addition, IRI inspects the nominal load of fuel tankers, in addition to other inspections that are conducted at the behest of the ministry.

IRI also conducts studies and offers technical consultation in national issues when requested, issues that fall under the scope of both the ministry's work and IRI's fields of expertise.

MINISTRY OF ENVIRONMENT

IRI continually cooperates with the requests of the Ministry of Environment, whether by analysing samples to assess their negative environmental impact, or whether by providing the Ministry of Environment with its services in the field of the inspection and auditing of factories, before suggesting the optimal approach in the production process in order to mitigate the latter's negative environmental impact.

IRI also hosts the Lebanese Cleaner Production Centre (LCPC), which was established as a result of the cooperation among the Ministry of Industry, the Ministry of Environment, UNIDO and Austria.

This centre's main objectives include ensuring compliance with environmental standards during the different stages of production, something that is beneficial in terms of reducing costs by keeping waste in check on the one hand, and improving the environment by recycling wherever possible during the production process on the other hand.

CUSTOMS

Collaboration with the Lebanese customs is mainly done in the fields of enforcing and verification of conformity with the mandatory specifications required for goods imported to Lebanon, and which are subject to customs restrictions. This is done according to a specific and known mechanism. The Customs authorities, according to the customary procedure, can send samples to IRI for analysis and for identification of their components, prior to clearing them for entry into the local markets.

LEBANESE STANDARDS INSTITUTION (LIBNOR)

IRI worked diligently to establish the Lebanese Standards Institution (LIBNOR), which is tasked with issuing the Lebanese standards. In the beginning, this institution was established in the campus of IRI, which incubated its operations until it was reactivated in 1998. Since then, IRI published approximately one thousand national standards for the institution, as per annual contracts that were in force from 1998 until 2004.

IRI is currently represented in the institution's Board of Directors, while IRI is permanently represented in the technical committees tasked with issuing and updating the national standards.

THE LEBANESE COUNCIL FOR ACCREDITATION (COLIBAC)

Some time ago, IRI realized that the infrastructure of a world-class quality process must include the following items:

Bodies for conformity assessment that implement these specifications. This role is primarily assumed by IRI in Lebanon, not only in the application of national standards, but also in the application of international standards in export operations as IRI is internationally accredited according to Certificate No. 17025

- A national institution for the issuance of national standards, which in Lebanon is the Lebanese Standards Institution (LIBNOR), a body that is ever striving to improve its role.
- Oversight of the local market. This function is tasked to the Consumer Protection Directorate at the Ministry of Economy and Commerce
- A national council for accreditation, whose tasks include accrediting laboratories, monitoring commissions, conformity assessment for products and processes in the country. This national institution was not yet established in Lebanon, and IRI sought hard to establish it in order to complete the quality infrastructure at the level of national institutions, until the decree of its establishment was issued in 2004, while the decree to establish its Board of Directors was issued in 2006. IRI is represented in the Board of Directors of the Lebanese Council for Accreditation (Colibac).

This council is still in the process of drafting its bylaws, which are nearing completion. Work is also underway to speed up the passing of the necessary legislations that will enable the council to start its operations and serve the purpose it was created for.



IRI^IS RELATIONSHIP WITH THE PRIVATE SECTOR

INDUSTRIALISTS

IRI allots great importance to industrialists and industry in Lebanon. Four years ago, IRI concluded an agreement with the Association of Lebanese Industrialists whereby it granted industrialists a fifty percent discount on the costs of all laboratory analyses, in accordance with the list adopted by IRI more than ten years ago. The services provided by IRI to the industrialists are as follows:

A – Analysis requests with the aim of improving the quality of production or finding solutions to production problems

Any industrialist can head to IRI to request an analysis of a product produced in his factory with the aim of improving its quality, or as a result of a particular problem he is facing during production. At that point, cooperation and follow-up begin with the industrialist. In most instances, his request becomes a process of applied research with which these analyses either end up in improving the quality of the product or determining the underlying cause of the production problem and subsequently, working on solving this problem.

B – Pre-export Analysis

There are many products that cannot be exported to foreign markets without first being analyzed. As IRI is internationally accredited pursuant to certificate No. 17025, its accreditation is recognized by more than 120 countries, rendering it virtually the sole window through which Lebanese goods that comply with technical specifications can flow into the European and global markets, owing to the certificate of conformity issued by IRI.

Therefore, industrialists head to IRI to conduct the analyses required by the destination countries, in order to obtain certificates of conformity for their products which would give them access to international markets

C – Product Certification

This is an optional program that any factory that meets the conditions can request, for implementation in its facilities according to a contract with IRI and a specific mechanism at the latter; this would enable the factory to obtain IRI's conformity mark for its products, in an ongoing and continuous manner. IRI would oversee production through periodical analyses and inspections, before granting the factory certificates of conformity whether for export purposes or for ensuring the conformity of its products to national standards. This takes place in a routine manner, and also on demand, and its cost is factored in into that of the program.

MERCHANTS

There are goods that are subject to mandatory national standards. For this reason, importing such goods is subject to customs restrictions that stipulate their conformity to the mandatory national standards. This is verified by IRI prior to allowing these goods into domestic consumer markets.

Hence, the relation between the importers and merchants on one hand, and IRI on the other hand is constantly evolving. Efforts are underway, on a continuous basis, to facilitate trade exchange on one hand, and to verify the conformity of imported goods following a scientific method on the other hand.

Many merchants voluntarily head to IRI to request tests and analyses of their merchandise and products, in order to determine their conformity with international standards in the case of export, or national standards in case of import, prior to shipping it from the country of origin.

FARMERS

IRI's laboratories continuously cooperate with farmers. In truth, many farms voluntarily head to IRI and request their products to be analysed.

IRI provides analysis for farmers for the following products:

- Olive oil
- Honey
- Vegetables and fruits (pesticide residue)
- Irrigation water
- Meat and fish
- Other agro-food products.

RESEARCHERS AND SCIENTISTS

Many researchers and scientists head to IRI to conduct tests and analyses necessary for their scientific research. Most of the time, their requests become applied research projects, as they are aware of IRI's capabilities in this area. This is not to mention the fact that IRI houses twelve laboratories that span many complementary disciplines, in addition to the meteorology laboratory, the Lebanese Welding Centre, the Euro-Lebanese Centre for Industrial Modernisation, and the Lebanese Cleaner Production Centre (LCPC).

CONSUMERS

The relationship between consumers and IRI is either direct or indirect, through the civil organizations and associations concerned with consumer protection, the environment and other fields.

DIRECT RELATIONSHIP

Any citizen can go in person to IRI in order to test any product, substance or other items, which is what is often done by citizens to ascertain the safety of what they consume, be it drink, food, supplies, household electric appliances, building materials, petroleum products and other daily items.

INDIRECT RELATIONSHIP

Consumer protection associations and other civil organizations often head to IRI and request analyses and tests of an environmental or health safety nature.

Cooperation with these organizations is done on a continuous basis by IRI, which meets all the former's requests in return for special fees that take into account their conditions in most cases. If these requests were not complimentary, then they would be symbolic, in a bid by IRI to support and encourage these groups to work for the public good.

Development of Human Resources

IRI STAFF

The IRI staff members amount to 135 at the end of 2011; 70% are males, while 30% are females. The age average is around 34 years.

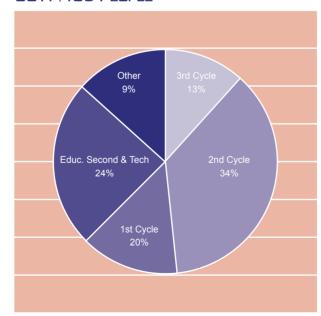
They can be categorized according to the level of their education:

18 hold a 3rd Cycle, 45 hold a 2nd Cycle, 28 hold a 1st Cycle, 33 are in their secondary and technical studies, and 11 are in other categories.

Education Level	No.	%
3rd Cycle	18 pers.	13%
2nd Cycle	45 pers	34%
1st Cycle	28 pers	20%
Educ. Second & Tech.	33 pers	24%
Other	11 pers	9%

Average Age	Gender		
34 years	70% Male	30% Female	

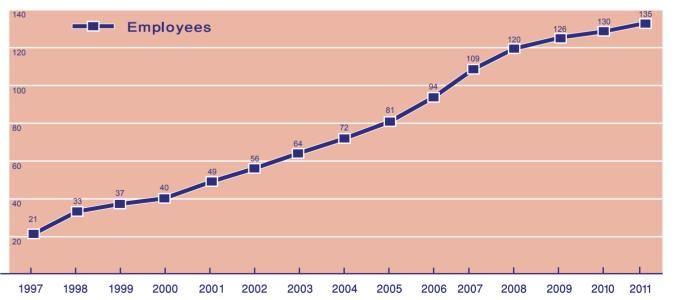
2011 /135 PEOPLE





IRI EMPLOYEES

JOB CREATION 1997-2011





COMMISSIONS, TRAINING, WORKSHOPS AND SEMINARS

MISSIONS, TRAINING, WORKSHOPS, & SEMINARS

	2	2008	2	2009	2	2010	2	2011
	days	participations	days	participations	days	participations	days	participations
Seminars & workshops	287	149	170	96	220	113	230	147
International missions & training	182	31	59	17	66	26	6614	7

LOCAL TRAINING, SEMINARS & WORKSHOPS (1)

Participant	Organizer	Object/Title	Date	Location
Mohammad Hajjar Naji Abi Zeid Antoine Fayçal	CCIABML / ALMEE	L'Eco-Construction au service du logement social ()	11-12/01/2011	CCIABML premises, Beirut
Joseph Matta	FAO / Ministry of Agri- culture	Implementation of the Regional Plat- form on GMOs Detection	1/24/11	Crown Plaza Hotel, Beirut
Mohammad Hajjar	Apave	The New economics of Energy Efficiency	27/01/2011	Hotel Sofitel Le Gabriel, Beirut
Mohammad Hajjar Antoine Fayçal Mark Tahchy Bilal Hussein	LGBC / IFC	LGBC's Green Building Rating system for Existing Commercial Buildings	22-23/02/2011	Rotana Gefinor Hotel, Beirut
Hanine Abdel Rahman	E.L.L.F	Quality Educational Outcomes Project	2/23/11	UNESCO Palace, Beirut
Thomas Sabbagh	Institut des Finances	الشراء المركزي: التجربة الفرنسية	3/2/11	Institut des Finances, Beirut
Nadia Khoury	وزارة الاقتصاد والتجارة	حماية المستهلك وسلامة الغذاء	3/15/11	كلية الزراعة والعلوم الغذائية. الجامعة الأميركية في بيروت

LOCAL TRAINING, SEMINARS & WORKSHOPS (2)

	Omenican Ohioat/Fills				
Participant	Organizer	Object/Title	Date	Location	
Robert Haddad Mark Tahchy Andre Kahale	IRI / ELCIM	Essential Lean Manufacturing and Six Sigma Tools	10-11/03/2011	Holiday Inn Hotel, Verdun	
Naji Abi Zeid	The Belgian Business Council in Lebanon BBC-lb	Green Economy and Business Opportunities	3/30/11	Gefinor Rotana Hotel, Beirut	
Maya Majdalani	Syndicate of Lebanese Food Industries	Lebanese Food Industry Awareness Day	3/31/11	Biel, Horeca	
Mohammad Hajjar	ALMEE	Scientific day in the frame of the RESSOL project	4/2/11	NDU, Zouk Mosbeh, old campus	
Amine Jbeily	Ministry of Agriculture	التصنيع الزراعي وخديات سلامة الغذاء	4/20/11	مبنى نقابة المهندسين. بيروت	
Mohammad Hajjar	L.C.E.C	Support to the L.C.E.C	5/3/11	Crown Plaza Hotel, Beirut	
Siham Youssef	USEK	الخطة الاستراتيجية والقرارات الجديدة لوزارة الزراعة	5/5/11	USEK University	
Ziad Moukarzel Jihad Hage Chehade	Institut des Finances	اقتصاديات وخديات العولمة	9-13/05/2011	Institut des Finances, Beirut	
Siham Youssef Wissam Abi Abboud	ELCIM	Conflict Resolution	11-12/05/2001	Holiday Inn Hotel, Verdun	
Christiane Jbeily	Scientific & Technical Supplies / Lebanese University	REMEL Microbiology lecture day	5/17/11	Azm centre for research in biotechnology and its applications, Tripoli	
Antoine Fayçal	LCECP	Creating a sustainable construc- tion sector in Lebanon: Thermal Standards, building code and green buildings	5/20/11	Crown Plaza Hotel, Beirut	
Antoine Fayçal Naji Abi Zeid Imad Hage Chehade Mohammad Hajjar	LGBC / IFC	The Official Launch of ARZ Building Rating System	5/23/11	Biel, Beirut	
Sélim Kfoury	Institut des Finances	خسين أطر وضع مشاريع الموازنات العامة في لبنان	5/26/11	Institut des Finances, Beirut	
Camelia Kanaan	وزارة الزراعة / المرأة العربية	خديات الأمن الغذائي وسلامة المواطن	6/1/11	نقابة المهندسين. بيروت	
Naji Abi Zeid Antoine Fayçal Imad Hage Chehade Mohammad Hajjar	ifp group	3rd Lebanon sustainability week	01-03/06/2011	Biel, Beirut	
Joseph Matta	L.C.E.C	Clean Development Mechanism (CDM), Carbon Trading and Climate Change seminar	6/6/11	Rotana Gefinor Hotel, Beirut	
Hanine Abdel Rahman	LIBNOR	LIBNOR-ISO National workshop on ISO/IEC 27001	07-09/06/2011	Crown Plaza Hotel, Beirut	
Naji Abi Zeid	CNRS	Observatory workshop on Indicators of Science and Cooperation	13-14/06/2011	CNRS, Jnah - Beirut	
Antoine Fayçal	Infopro	Green Business opportunities in Lebanon	14-15/06/2011	Movenpick Hotel - Beirut	

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LOCAL TRAINING, SEMINARS & WORKSHOPS (3)

Participant	Organizer	Object/Title	Date	Location
Maya Majdalani	RHCO	Food safety - The Role of Public and Private Sectors in Lebanon	6/16/11	Chamber of Commerce - Beirut
Ahmad Habli	ASHRAE	The Lebanese ASHRAE Chapter	The Lebanese ASHRAE Chapter 6/22/11	
Hasan Raad Carole Maroun	ELCIM	Presentation Skills with Charisma	23-24/06/2011	Holiday Inn Hotel, Verdun
Antoine Fayçal Naji Abi Zeid Mohammad Hajjar	The World Bank	Lebanon Energy Efficiency studies	6/28/11	World Bank Office - Beirut
Bassam Kabalan	LFA	The role of Intellectual Property Rightsin enhancing competitiveness of business and industries	28-29/06/2011	مبنى الجلس الاقتصادي والاجتماعي . بيروت
Antoine Fayçal	USAID / LIBNOR	WTO agreement on technical barriers to trade (TBT) "TBT enquiry point working procedures"	7/7/11	Monroe Hotel, Beirut
Mohammad Hajjar	ALMEE / WWF	Renewable Energy "Think Tank Workshop"	7/8/11	Hotel Gefinor Rotana, Beirut
Naji Abi Zeid	LIBNOR	ISO 26000 - Guidance on social responsibility	7/13/11	Radisson Blue Martinez Hotel, Beirut
Eliane Sawma	المعهد الثالي	ورشة عمل مع المسؤولين الماليين في المؤسسات العامة حول فانون الاجراءات الضريبية	7/19/11	Institut des Finances, Beirut
Elias Maalouf Andre Kahale	LIBNOR	ورشة عمل لاستعراض نشاطات التقييس في لبنان والتحديات التي تواجه هيئات التقييس في الدول النامية	7/27/11	Crown Plaza Hotel, Beirut
Bassam Kabalan	WTO / USAID	Regulatory Impact Analysis	7/27/11	CCIABML premises, Beirut
Bassam Kabalan	وزارة الاقتصاد والتجارة	اجراءات الوقاية من الزيادة في الواردات التي تسبّب ضرراً للصناعة الحليّة	9/13/11	مقرّ غرفة التجارة والصناعة والزراعة - بيروت
Bassam kabalan	General Union of Chambers of Commerce, Industry & Agriculture for Arab countries	المؤتمر العربي للاستثمار المصرفي. الصناعيي. السياحي والعقاري	15-16/09/2011	مقر الاتحاد. مبنى عدنان القصّار للاقتصاد العربي
Bilal Hussein Ahmad Hassan	MATLEC	Mpowering Energy	15-16/09/2011	Matlec - Amchit, Ghorfine
Antoine Fayçal	USAID	Regulatory Impact Analysis	19-22/09/2011	CCIABML - Beirut / Le Bristol Hotel - Beirut
Elias Maalouf	Al Diyar Intermational	Superpave and asphalt technology	6/10/11	Rotana Gefinor Hotel, Beirut
Naji Abi Zeid	ANND / ESCWA	Regional Multi-Stakeholder Consultation for Civil Society Organizations in the Arab Region in preparation for the Rio+20 Summit	12-13/10/2011	Holiday Inn Hotel, Verdun
Monica Feghali	Order of Engineers & Architects of Beirut	3 conferences: Law 444, Natural waste water treatment & Oil spelling	19/10/2011	Order of Engineers & Architects - Beirut
Bassam Kabalan	CCIABML	Meeting on Promotion f South-South Cooperation in Technology Transfer	25-26/10/2011	CCIAB - Beirut

LOCAL TRAINING, SEMINARS & WORKSHOPS (4)

Participant	Organizer	Object/Title	Date	Location
Naji Abi Zeid	Ministry of Environment / World Bank / UNDP	Consultations on adaptation to a changing climate	26/10/2011	AUB
Naji Abi Zeid	AFED	Arab Environment 2011: Green Economy in a changing Arab World	27-28/10/2011	Habtoor Grand Hotel, Beirut
Antoine Fayçal Monica Feghali Mohammad Hajjar Tarek Hakim Siham Youssef	Ministry of Industry /		11/15/11	Order of Engineers &
Bilal Hussein Elias Maalouf Mark Tahchy	IRI / LIA	The 11th Annual Mechanical Week	11/16/11	Architects - Beirut
Elias Dib Siham Youssef			11/17/2011	
Tarek Hakim Elias Maalouf	LIBNOR	Training workshop on adopting and referencing standards in technical regulations	21/11/2011	Libnor - Sin El Fil
Robert Haddad Wissam Abi Abboud	LIBNOR	Chairing Technical Committee meetings and achieving consensus	23-24/11/2011	Monroe Hotel, Beirut
Sahar Estephan	Numelab	Metrohm Seminar	25/11/2011	AUB - Medical Center, Beirut
Mohammad Hajjar	LCEC	All you need to know about solar water heaters	29/11/2011	Park Hotrel Chtaura
Imad kahil Hanine Abdel Rahman	Ministry of Industry / LIBNOR	Standards contributing to a better health	29/11/2011	Radisson Blue Martinez Hotel, Beirut
Mohammad Hajjar Bilal Hussein	Italian Embassy / ANIE	Electromechanical technologies: the italian supply system for energy infrastructures	13/12/2011	Riviera hotel, Beirut
Ahmad Habli	Lebanese Atomic Energy Commission (LAEC)	Radiation Safety in Industrial Applications	21-25/11/2011	LAEC - Beirut
Naji Abi Zeid	ESA	Pour une gestion durable de notre territoire	28-29/11/2011	ESA - Beyrouth
Naji Abi Zeid Fadi Melhem	EU / COSV / ALMEE	Electricity Policy " Think Tank Workshop"	12/2/11	Hotel Commodore - Hamra
Mohammad Hajjar Fadi Melhem	LCE	Workshop on national Road-Map for harmonized legal and regulatory framework for renewable energy and energy efficiency and on Project financing	14/12/2011	Radisson Blue Martinez Hotel, Beirut
Talal Zaki	ALMEE	Scientific day on solar technologies	12/17/11	ALMEE-WEREC office - NDU old campus, Zouk Mosbeh
Nancy Maalouf	ELCIM	Franchisor Succes Strategies	Franchisor Succes Strategies 8-9/12/2011	
Bassam Kabalan Hanna Francis	ALSI / Ministry of Economy & Trade / WIPO	WIPO National Seminar on the protection of software & databases	21-22/12/2011	GUCCIAAC - Beirut

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LOCAL MEETINGS & INAUGURATIONS

Participant	Organizer	Object/Title	Date	Location
Imad Hage Chehade Mohammad Hajjar Antoine Fayçal	UNDP CEDRO	Launching ceremony of the National Wind Atlas for Lebanon	1/25/11	Metropolitan Palace Hotel
Khaled El Ghoul	Ministry of Economy and Trade / EU	Launching of the new EU Support to BIAT - Business Development Center	4/13/11	Chamber of Commerce, Tripoli
Sélim Kfoury	UNIDO	حفل اطلاق دليل اليونيدة "كيفية الاستفادة من المعايير "الخاصة	6/15/11	غرفة التجارة والصناعة والزراعة . بيروت
Sélim Kfoury	Mazen Abboud	حفل توفيع كتاب ذكربات صبي الحلة	6/27/11	قصر المؤتمرات - الضبية
Bassam kabalan	معهد باسل فليحان المالي والاقتصادي	حفل اطلاق مجلة السادسة	7/19/11	مبنى للعهد للالي
Imad Hage Chehade Mohammad Hajjar	LCEC	Closing Ceremony of the "Support to the Lebanese Center for Energy Conservation Project"	26/10/2011	Crowne Plaza Hotel, Hamra
Naji Abi Zeid	Faculté des Sciences Agronomiques - USEK	Cérémonie de signatures des accords de coopération avec le Ministère de l'Environnement et plusieurs réserves naturelles au Liban	24/11/2011	Salles des congrès - USEK

MISSIONS (TRAINERS, EXPERTS & SPEAKERS)

Name	Organizer	Object/Title	Date	Location
Elias Dib	AUST	Jury in the 7th annual engineering & computer science exhibition	5/27/11	AUST campus, Ashrafieh
Tarek Hakim	Materials Technology Institute in Valencia	6th International Conference on Certification and Standardization in Non-Destructive Testing	13-14/06/2011	Valencia, Spain
Antoine Fayçal	Infopro	Green Business opportunities in Lebanon	14-15/06/2011	Movenpick Hotel - Beirut
Mohammad Hajjar	L.C.E.C	A solar water heater for every house: components for a successful implementation	7/20/11	Crown Plaza Hotel, Beirut
Sélim Kfoury	مجلس النواب	مناقشة لاقرار مشروع قانون القواعد الفنية واجراءات تقييم للطابقة الخاصة بها	18/08/2011 13,29/09/2011	مجلس النواب
Imad hage Chehade Mohammad Hajjar Talal Zaki Antoine Fayçal Siham Youssef	L.C.E.C & MCE	Beirut Energy Forum - 2nd Edition	29-30/09/2011	Habtoor Grand Hotel, Beirut
Amine Jbeily Raymonde Khazzaka Camelia Kanaan	Ministry of Agriculture	Agricultural Industries Show	15/10/2011 16/10/2011 17/10/2011	Hotel le Royal, Dbayeh
Nadia Khoury	Syrian Ministry of Industry	اجتماع تجنة توحيد المواصفات والمقاييس السورية اللبنانية المشتركة	26/10/2011	Damascus, Syria
Imad hage Chehade	Ministry of Industry / IRI / LIA	The 11th Annual Mechanical Week	15&17/11/2011	Order of Engineers & Architects - Beirut
Elias Maalouf	AIDMO	الاجتماع الخامس للجنة الاستشارية للمترولوجيا	19-20/12/2011	Rabat - Morocco

INTERNATIONAL TRAINING, SEMINARS & WORKSHOPS

Participant	Organizer	Object/Title	Date	Location
Imad Hage Chehade	ENPI/CBCMED (EU)	Séminaire d'Information Appel à projets stratégiques	5/18/11	Valence, Espagne
Christiane Jbeily	World Health Organization	GLAAS regional project team meeting	19-21/07/2011	Amman, Jordan
Christiane Jbeily	World Health Organization	GLAAS regional workshop	5-7/12/2011	Amman, Jordan
Mohammad Hajjar	RCREEE	Labeling and standardization of home appliances workshop	27-28/12/2011	Cairo, Egypt

IRI SEMINARS/CONFERENCES

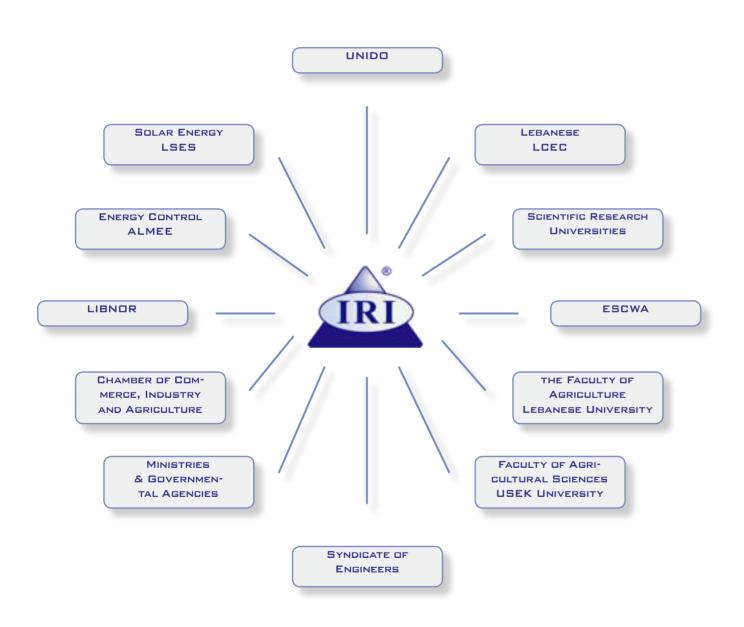
Participant	Organizer	Object/Title	Date
Danielle Gemayel Joelle Saikaly	LCPC / IRI	Feasibility Analysis Workshop	2/2/11
Thomas Sabbagh Siham Youssef Bassam Kabalan	IRI / LCEC	Training on the solar heaters and testing for solar collectors in Lebanon	3/31/11
Mahmoud Amhaz		Audit: Produit et solution informatique	4/4/11
Thomas Sabbagh	Ministry of Industry / UNIDO	The Lebanese Industrial Sector: Facts and findings	5/10/11
Sélim Kfoury Mahmoud Amhaz	LCPC / IRI / Green2be	Seminar on Promoting sustainable production and consumption practices - sustainability world tour	5/11/11
Mahmoud Amhaz		Audit: Integrated digital system	6/5/11
Eliane Sawma		Audit: Mirodec	12-13/05/2011
Hanine Abdel Rahman		Audit: Daher International foods	13/06/2011
Nancy Maalouf Hanna Francis Joelle Saikaly Hiba Yaacoub	IRI / FREA	Formation d'Auditeur Qualité Interne	13-14/06/2011
Maya Majdalany		Audit: Bel labtronic	13/07/2011
Bilal Hussein		Audit: Mondi	20/07/2011
Maya Majdalany		Audit: Sannine	28/07/2011
Maya Majdalany Elie Melki Hovig Kouyoumjian Halim El Bayeh Hanine Abdel Rahman	IRI / FREA	Food Safety Management Systems Internal Auditing Course - ISO 22000	3-5/10/2011
Hanine Abdel Rahman		Audit: Steritech	7/10/11
Ahmad Habli	IRI	Solar Water Heaters training sessions	10-16/11/2011
Maya Majdalany		Audit: TUV Hellas	18/11/2011
Hanine Abdel Rahman		Audit: MDM	29/11/2011

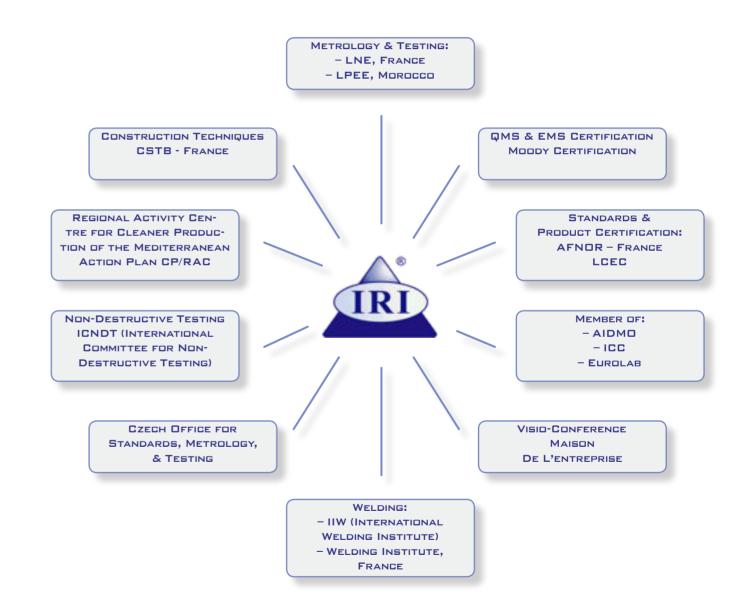
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International & Local Partnerships



INTERNATIONAL PARTNERS







DECREES

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	Decree	Official Newspaper		Subject	
No.	date	issue	date	330,000	
6090	11/8/2011	38	18/8/2011	Forming the Organizing Committee of Second Meeting of States Parties to the Convention on Cluster Munitions	
6490	8/10/2011	48	20/10/2011	Accepting a grant from the IRI to the Ministry of Industry	
6791	3/10/2011	54	17/11/2011	Signing a memorandum of understanding on cooperation in the mutual recognition of certificates of conformity between the IRI in the Republic of Lebanon and the Egyptian Organization for Standardization and Quality in the Arab Republic of Egypt.	

LAWS 2011

	Law	Official Newspaper		Subject	
No.	date	issue	date		
158	17/8/2011	39	25/8/2011	Measurement system in Lebanon	
178	29/8/2011	41	3/9/2011	Addition of potassium iodate and potassium floride to kitchen and table salt	

DECISIONS

	Decision	Official Newspaper		Subject	
No.	date	issue	date	Cubject	
2/1 136/1	26/1/2011	7	10/2/2011	The mechanism of implementation of Resolution 136/1/AC, dated 12/6/2009, related to the ban on re-shipment of Lebanese goods	





افتتاح مركز تدوير غازات التبريد

افتتع وزير البيئة في حكومة تصريف الأعمال محمد رحال «مركز تدوير غازات التبريد» في معهد البحرث المتالية في معهد رفيق المريري الجامعية المندوق متعدد الاطراف والوكالة الغرنسية للتنمية والوكالة الغرنسية للتنمية

ببيتون دعن سروره في تحقيق هذا المشروع والذي سمح لمنادة السلة ممعهد البحوث

عن تضرر

بادجهود

المبذولة

ليرة لوضع

الفرن : معهد البحوث الصناعية اصبح معتمدا اوروبيا وعربيا

زار وزير الصناعة فريج مباويتجيان قبل ظهر اسي مقر معهد الجيون الصناعية في النيئة الجيامية في المدت حيث عال في استقيادة الديرة الجيامية وسيام القرار عال في استقيادة الديرة المجادة المجيدة الجيامية وسيام القرار ويجيدار الوظائن الذي اللي المدت فرسميسية بالوزير ويجيدار الوظائن الذي اللي المدت فرسميسية بالوزير تصاحبون مشيرة أن مؤارية مؤسسات والذية المزيرة

مراسط مراسط من المسلم و المسلم عمري. واوضح أن العمد بات ، معهد معهد الطريب أو مربياً ويتر اخذتهاره من متلفات عالم ليفارك في منتديات متلامة علمياً مشترات دول الويقية كما يشارك في منتديات متلامة علمياً على الصعيد الدولي.

هي اصمهم تدولي... وانسانه د عنز المعهد دوره في خدمت الاستافة الليانانية. فقد لها خدمات جلّي علي صحيد دراسات الجيمون الاستصادات إداوالشات التي نؤهل الإلتاج اللياناني لتبحين ذاته في الرسواق المقادة والعالمة معين يسئل السيامة من دون عقيدات كما يحمي ذاك من مسادرات تقاصم في الأسواق المقادة قد لا نتوطر فيها الواصفات القياسية.

من المساعدة لتجهيزات

وزارة البيثة والوزير رحال وفريق عمل معهد البحوث الصناعية من لجل تنفيذ هذا المشروع،

Zi.dis بعد ذلك قال رحال «لو أعطي لوزارة البيئة كل الصلاحيات موراره البيحة حل الصححيات لإقامة المشاريع التي تعنى بحماية البيكة. لألغيت وزارات أخرى، مشدداً على أن «البيئة هي مسؤولية كل وزارات الدولة ومؤسساتهاء، ولفت إلى أن مما حققته الوزارة هو جزء مما ذكر

شهاب ونحمت نقب المعلق الطيم ليرتامج الام المحمدة الطار شهاب من سطوط المايز القبي وتوليد اللاة باستنمام الطال

القون بيداية تعدن الديو العالم الديو المودون الصحابها بيداية قون الذات المراح المساحة بالمرافق الذات المراح مع المديد اللياء المساحة أمر الحجاج الاقتصالي، ما بالمحلق أقراف المواجعة المحافظة عام المحافظة المحافظة المواجعة المحافظة عام المواجعة المحافظة المح

متورد والملة والله.
إلى السيل
قر عاشت خاط اليساسيان الذي
لقراع المثال المشاسيان الدين
لقراع المثال المشاسيان المثال
مسامات الإسطاعات المثال المساسيات
مسامات الإسطاعات المشاسيات المثانا المشاسيات المشاسيات المثانا المثانا
إلا لمنها إلى المطال المشاسيات المؤسسات المؤ

والمالية والصناعية والادارية والت والفنية والتدريبية، لأهمية هذه الخدمات لتطوير الصناعات.

وأبدى صابونجيان حرصه على وبعث هذه الرسالة التي صغار الصناعيين بشكل خاص وفي المناطق الصناعية التي لم يزرهاً فريق عمل ELCIM سابقاء وطالب بـإعداد خطة عمل للمرحلة المقبلة تواكب شعار البنان المُنتجِّ الذي أطلُقه من اجلُ تفعيل الانتأجية وتوسيع القدرات التنافسية والتصديريةء

مؤكدأ التزام المعهد بالشؤون البيثية، ومشددا على ضرورة تأمين صناعة تعمل في بيلة من السندون المستعافريج المستعافريج المستعافريج المستعافرية والمساعد والمستعافرية والمستعافرية والمستعافرية المستعافرية المستعافرية والمستعافرية المستعافرية والمستعافرية والم

في البيان الوزاري في موضوع البيئة». أضاف مفي إطار تنفيذ البرنامج

دشنا مختبر فحص المرايا الشمسية في معهد البحوث الصناعية

صابونجيان: نسعى إلى تقديم أفضل الخدمات للصناعيين باسيل: 1.5 مليون متر مكعب من اللوحات سنة 2020



(بالاتي ونهدا)

مسابو نجيان وباسيل يقشان شريط الافتتاح اسى وتشعيت مغنيرات العقرق بيان وزيد، ووسعت استشارت بين الإنهاء واليست استشارت المستقيا رسا القران السائرات المستقيا واليست القران المستقيا المستقيا واليست المستقيا والمستقيات المستقيا مسائر والمستقيات المستقيات ا

قل من واجبلتنا حيال الموطنين، فقيد يستمق الكثير من المحتاد، ولي الاملاز المستقدة من المختلف المنسبة التي شعو بها، المختلف القسية والمهولانية والمناقبة القسام المنافزية المنافزة المنافزة المنافزة المنافزة المنافزة المنافزة المنافزة في المنتشر في المنافزة على الرياز في المجتسر المنافرة إليان يتو في المجتسر المنافرة إليان.

المجيل قانون الهيئة المسلم ال

كلام اقتصادي

بدایا، اقلام مستشرات بداد المکومان تدور معاق قشی".
واردی الداد بن مدا تصویرات بداد تحدید بن مدا تصویرات واقعید از بن مدا تصویرات واقعید از مدا مصاعدا الدرج زائدات الدرم این مدارد تحدیرات الدران واقعیدات الدران الدران واقعیدات الدران الدران واقعیدات الدران الدران واقعیدات الدران ال في "حزينة" أعوام، انتقل شماع معهد البدوث الصناعية من لينان الى دول الشرق. ﴿ وَالْدِعَ فَي لِينَانِ سِأَمُ الأوسط فأفريقيا شمالاً ووسطاً وجنوباً، وفي القارة المجور، تفاعل مع ابرز المؤسسات الأوروبية والبيئات العلمية والبطية، وعقد الفاقات حتى بالت فحوصه معتمدة في ندو 128 دولة. المدير العام للمعود بشام القرّن يوجز الدداء.

بسام الفرن معهد البحوث أهم مرجع رقابي

من المراحة التي المستخدة التي المراحة التي

من من دوراهستنده . تقامر على الخالفات مددنا قد العبدر الغلاق الاقتصاد الليطن . أم قدمت المستشراة لدى تتحد الماقاف مرطاعة . ولا أمل في أي تنعم ورحية المركز روا سليطن عرضا باهما ندوة عن تعزيز ممارسات الانتاج والاستهلاك المستدام في معهد البحوث

شقير: ثقة الشعب والهيئات هي التحدّي الأهم إطلاق مركز المؤسسات الصغيرة والمتوسطة

قطلق وليس الدداد فرف الدعارة والمساعة والزرافة محمد شغير، مركز المؤسسات المستهية مركز المؤسسات المستهية المؤسسات الاستهية المؤسسات المستهية المراحدة المؤسسات المستهية المراحدة المؤسسات المستهية وبدائرة المراحدة المؤسسات المستهية وبدائرة المراحدة المراحدة المؤسسات المستهية وبدائرة المراحدة المراحدة المؤسسات المستهية وبدائرة

نطل واطاعيين. هو التحدي الأميد قا أولدت هذه بدفية، القي مستشار التحاد الحكومة أن تقدم مساح النفي". وإذ أكد أن "طي هذه الحكومة بغرف وما العبر كلمة ترديب.

منظم الركز اللبناني الانتاج الانتشاء ومؤسسة هذا العمل وجعلت مؤسسة green bee

هي مناسبات الانتاج الانتشاء ومؤسسة

هي خالا المثال المثانية والاستهلاك المناسبة المناسبة المثانية ومناسبة المناسبة المناسبة المثانية والمثانية المناسبة ومناسبة المناسبة ومناسبة المناسبة ومناسبة المناسبة والمناسبة المناسبة المناسبة المناسبة والمناسبة والمنا

كر والخدمات التي الشابة من هذه

صابونجیان یطّلع علی نشاطات ELCIM ورزر نقط الله



صدى البلد

اجتمع وزيــر الصناعة فريج صابونجیان مع مدیر عام معهد البحوث الصناعية بسام الفرن وفريق عمل المركز الاوروبي- اللبناني للتحديث الصناعي (ELCIM)، واطلع على نشاطات المركز. وحض فريق العمل على مضاعفة النشاط لتعريف الصناعيين بخدمات (ELCIM)

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المتنوعة في المجالات الاستشارية

Notes

NOTES





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