DECEMBER 2012 nº 17

WPO
WORLD PACKAGING ORGANISATION

Better quality of life through better packaging for more people.

INSIDE WPO
The Packaging Community Around the World

President´s word

Productive meeting in Singapore

During the last week of November 2012, the Board of Directors of the World Packaging Organisation gathered in Singapore for our second and last meeting of the year. The members agreed that the meeting was a great success. There were a lot of good decisions made that are driving WPO forward.

To begin with, WPO welcomed two new members including the African Packaging Organisation (APO) and Indonesian Packaging Federation. Another important highlight included a larger than usual financial commitment to education programs and support of members institutes.

For 2013, the board approved, upon recommendation by the Education Committee, support for a Southeast Asian program in Bangladesh (with help from AIP), support for Tanzania Packaging Association and the new African Packaging Organisation (with great help from South Africa), a further commitment to IIP's excellent programs to be conducted in cooperation with IOM3 (UK), AIP (Australia) and IoPP (USA). In addition there will likely be further commitment in 2014 to an on-line program with the Kenyan Institute along with support from IoPP.

The bad news is that we had requests for support in the amount of €70,000 and we only have funds of €45,000, so we have a challenge in front of WPO to raise more funds for these worthy projects. New financial supporters are always welcome and appreciated.

But there is more good news! Note all the collaboration among members on these projects. Members helping members! By April of 2013 we will have a new website thanks to the efforts of Pierre Pienaar (Australia), Luciana Pellegrino (Brazil) and Pat Farrey of Kellen Company. The new website will be more robust, more informative, and easier to navigate. Look for it soon!

During the week the Board also judged the WorldStar Award entries. There were 318 entries from 33 different countries and 51% of entries won WorldStar Awards. Winners will be announced in the next few weeks and the recipients will be given recognition during the WorldStar Award ceremony in Sydney, hosted by the Australian Institute of Packaging. Mark your calendars for May 7-10, 2013. WPO Marketing Committee has also launched a new special prize, the WPO Marketing Award. The award for 2012, again presented in Sydney, will be given in honor of our dear friend and colleague, Doğan Erberk.

On the student side, the WorldStar Student entries were judged in Chicago during PackExpo. There were 234 entries this year, a 50% increase over last year, from 19 different countries. Winners will be honored at the **Packaging Student Jamboree, at Michigan State University's School of Packaging (U.S.A.) in March 2013.**

Several board members spoke at the World Packaging Conference on November 29, co-organized by the Packaging Council of Singapore and the Singapore Manufacturing Federation. The full-day conference was well tended and you will be pleased to know that WPO is developing a stable of excellent speakers including Keith Pearson, Gordon Stewart, Luciana Pellegrino, Soha Atallah, Pierre Pienaar, and Jin Kie Shim.

As far as meetings are concerned, as mentioned earlier, we will be hosted in May 2013 by Australian Institute of Packaging. Our second meeting will be in Barcelona, Spain, hosted by Asociación Graphispack in the early/mid November timeframe.

Finally, we want to thank Albert Lim and his very able team from Packaging Council of Singapore for organizing a wonderful and productive week for WPO members while we were in Singapore. It is delightful city/state, full of wonderful, friendly people, and excellent food. Thanks Albert!

And a great 2013 for all members and for the packaging community!

Thomas L. Schneider
President of WPO (World Packaging Organisation)

Events

Lebanon discusses packaging for food

LibanPack (The Lebanese Packaging Center), a WPO member, organized the Food Packaging Conference in November that joined more than 260 representatives of the private sector such as food and packaging industries as well as SMEs and international organizations, local NGOs and universities.

It is an annual event with different main topics every year. The focus on food packaging this year had the intention of offering the audience knowledge about innovations in food packaging materials and solutions, insights in properties and different applications of packaging materials, understand the impact of packaging on ensuring food safety and develop of knowledge on legislative aspects for food packaging.

"It was also a great opportunity for networking with professionals from the whole productivity chain. Packaging is gaining increased attention among industrialists as its role, not only from the functional aspect (protection from contaminants both physical and chemical, increase of shelf life….) but also increasingly from the marketing aspect, is growing exponentially", states Soha Attalah, Director of LibanPack.

The welcome address included words by Atallah; Fadi Gemayel, LibanPack President; Munir Bsat, representing Georges Nasraoui, President of the Syndicate of Lebanese Food Industries; Nemat Frem, President of the Association of Lebanese Industrialists; Ruth Flint, Swiss Ambassador to Lebanon; Khaled el Mekwad, UNIDO Regional representative and Elias Hanna, representing Vrej Sabounjian, Minister of Industry.

On the ocasion, Atallah highlighted how LibanPack is expanding its mission beyond the borders of Lebanon to include SMEs in Arab countries - Iraq, Sudan, Jordan, Sultanate of Oman and Palestine. She also underlined the expansion of the Lebanese Student Star Pack contest, a packaging contest and event organized by LibanPack to countries such as Jordan and Egypt, and announced that LibanPack is now an accredited body from the CIEH (Chartered Institute of Environmental Health) to provide courses on Food Safety.

Fady Gemayel noted that packaging can add up to 65% of product price depending on the product, underlining the "silent salesman" role of packaging nowadays. Mounir Bsat stressed on the role of packaging as a differentiation tool for food products on national and international markets. Frem highlighted the fact that packaging opened new markets for Lebanese industrial production. Khaled el Mekwad underlined the role of LibanPack as a link between the new generation of designers and the industrial world. Flint expressed her happiness at witnessing the expanding role of LibanPack in the region and at the increasing competitiveness of Lebanese products on international markets.

The speakers included representatives of the private sector who dealt with topics such as in-mold labeling, vacuum packaging and paper packaging; representatives of the Industrial Research Institute and of the Lebanese American University covered the issue of packaging testing, both chemical and physical, two important considerations to minimize losses during storage, handling and transport, whereas a representative of the American University of Beirut dealt with the microbiological angle of the role of packaging in food safety issues.

LibanPack covered the topic of food packaging and labeling for export markets. The Director of the Center addressed the topic of contamination of food products by packaging materials whereas Fady Fayyad tackled the issue of the importance of GMPs in Food packaging. The legislative framework of food grade packaging materials was addressed by a Libnor representative , whereas the issue of brand loyalty was addressed by a speaker from Impact BBDO. More information visit www.libanpack.org.

Success of Hispack

The 15th edition of Hispack - International Packaging Show, held in May in Fira de Barcelona's Gran Via Exhibition Centre, counted with the participation of the Minister of Economy of the Generalitat de Catalunya, Andreu Mas-Colell. Another presence was the President of the Organising Committee, Javier Riera Marsá, that in his introduction explained to the Minister the good expectations for the packaging industry in 2012, especially due to exports. He referred to figures from the trends presented at the show, according to which 39% of business owners in the sector forecast to end the year with an increase in turnover. Marsá also mentioned the problems of small and micro companies to finance new projects.

A research made with exhibitors and visitors - 35,123 trade visitors from 85 countries – showed a "high level of satisfaction" for the development of the show. According to the study, 64% of exhibitors stated they met their participation goals and highlighted the quality and quantity of trade contacts as well as the increase in internationalism. This figure is almost 17% higher than the results from the 2009 show. Also 81% of the companies confirmed their participation in Hispack 2015.

Regarding visitors, 35% of Hispack attendance looked for new products and services; 24% for alternative suppliers; 17% went to meet up with regular suppliers; and 9% to attend side events. The show was attended by 74% of the country's main food companies; 70% of the leading pharmaceutical firms; 64% of the large chemical companies; and over half of perfumery and cosmetics firms. 97% of visitors stated they would attend the 2015 edition.

Hispack also hosted over 600 business meetings between exhibitors and companies from Angola, China, Iran, Peru, Russia, South Africa, Ukraine and Uruguay, as well as 250 programmed meetings between buyers from 16 countries and another 114 exhibitors.

Among the side events, I.E.E.E., a WPO member, organized the 2nd Course of Specialization in Packaging in collaboration with Escola Antoni Algueró. Next Hispack edition is scheduled to April 21-24 2015 in Barcelona.

IoPP to develop packaging conference

The Institute of Packaging Professionals (IoPP), a WPO member, and UBM Live announce a partnership through which IoPP will develop and promote a one-day packaging education conference at HBA Global Expo & Conference 2013. UBM Live is the producer of the trade show and conference, which will be in its 21st year.

The IoPP conference will take place on June 19, 2013, at the Jacob K. Javits Convention Center in New York City, during the HBA Global Expo & Conference. As the leading product development event for the cosmetics, fragrance, personal care and skin industry, the international show draws more than 15,000 industry professionals, and will run June 18-20, 2013.

IoPP plans five, 75-minute presentations that will be developed through its Packaging Learning Center. The sessions will explore branding, materials and other trends involving packaging. The presentation topics will be developed for health and beauty industry audiences, but will also include information that is valuable in general in elevating packaging's role as part of business strategies at consumer product companies.

"This mutually beneficial partnership with UBM Live is a significant development for IoPP," says Patrick Farrey, IoPP Executive Director. "These presentations will enable our packaging experts to get suitable, on-trend information about packaging in front of health and beauty industry professionals. The health and beauty industry has a strong representation within IoPP's membership, but some of them might not attend more general packaging trade shows. Our participation also will help strengthen IoPP's brand in front of HBA Global Expo & Conference attendees who may not be familiar with IoPP.

"In addition, with our recent opening of an office in London, IoPP will be able to help HBA Global expand targeted marketing efforts internationally for the event."

Adds Jim George, IoPP's Director of Education: "Our agreement gives IoPP another new opportunity to serve its educational mission within the packaging community. We are pleased to have this opportunity at HBA Global Expo & Conference, which has been a vital event for the health and beauty community for two decades."

"The latest in packaging innovations and trends is one of the top areas of interest for the HBA Global audience. We are thrilled to partner with IoPP and offer our attendees these sessions that will enhance their brand and professional success," says Jill Birkett, Brand Director, Beauty & Wellness, UBM Live.

Speakers and topics for the IoPP sessions will be announced soon. Watch for details, and registration information, atwww.iopp.org and www.hbaexpo.com.

Around the world

Turkey's best packaging are announced

On June 29, the Selection Committee (Jury) of Crescent and Stars of Packaging Competition, organized by ASD Turkey, a member of WPO, determined Turkey's best packaging among 170 different entries evaluated in 12 different categories. Thee main target with the Competition is to recognize packages that will be set apart in both Turkey and in export markets; also to show the importance of packaging design and its uniqueness understood.

Packaging sector professionals, all related to non governmental organizations and academicians formed the Selection Committee. Due to the specifications of the Competition, the jury first evaluated 127 packaging that were deemed worthy of Competence 2012 award and secondly re-evaluated between packaging that were deemed this award and determined the products that would receive Gold, Silver and Bronze Awards.

Golden Packaging Competition, organized by Turkish Standards Institution (TSE) for 24 years and Crescent and Stars of Packaging Competition organized by ASD were combined in 2012. Among the Gold Awards given at Crescent and Stars of Packaging 2012 Competition, Gold Packaging Awards were also given in cooperation with TSE. Among the Gold Awards given by Selection Committee in competition categories it sees fit, 2 Gold Packaging Awards were also chosen.

The Gold, Silver and Bronze Awards were announced at Four Seasons Hotel Istanbul at the Award Ceremony on September 3. For more detailed information on Crescent and Stars of Packaging Competition contact asd@ambalaj.org.tr.

Approval of World Packaging Center

Last July, APC, a WPO member, has been approved by Chinese SAIC (State Administration of Industry andCommerce) to establish World Packaging Center Group CO., Ltd (WPC). The main purpose is to implement the construction of worldwide packaging industrial center. WPC's objective is to establish a great platform of worldwide packaging industrial center, as well as to share resources and create a mutual benefit relation with with global packaging professionals. More information contact Ruby Chen by ruby@apc-wpo.com or visit www.APC.org.cn.

Spain represented at PackExpo 2012

I.E.E.E., WPO member in Spain, was represented at the PackExpo International (Chicago October 28-31) by its President, Carlos Aguilar; Vice President, Javier Riera-Marsá; and General Secretary, Ignasi Cusí. The General Secretary also participated as a jury member of the WPO Students Award. During the show, the team also participated in other events such as PMMI international reception and the gala dinner with honorary members of IOPP (Institute of Packaging Professionals – US).

China discusses green packaging and standardization

The 14th China International Industrial Fair, Science and Technology Forum, held in Shanghai on November, was also the place for the International Seminar on Green Packaging and Standardization as part of the 14th China International Industrial Fair. This event was organized by Shanghai Association of Standardization (SAS) and World Packaging Center (WPC, also known as APC), a WPO member. The evetn was also supported by China Association of Standardization, American National Standardization Institution (ANSI) and British Standards Institution (BSI) . It aimed to promote more Chinese companies to participant the international standardization, boost the innovation of packaging technology and the sustainability of the packaging industry, offering more reasonable and scientific suggestions and strategies. There were more than 230 attendees.

According to the event´s conclusion: "green packaging is a popular issue concerned by many countries and international organizations, and it also meets the Chinese governing philosophy of adhering to the Scientific Outlook on Development". For gthese reasons, many domestic and abroad experts and the society focus their attention on how Chinese packaging community gear to international standards and how to build the green packaging and standardization of worldwide packaging industrial center with Chinese features.

In 2011, the gross output of Chinese packaging industry was 1,300 billion RMB which account for 2.67% of the national GDP. This makes China ranked to the second country of packaging in the world. However, there also exist lots of problems in Chinese packaging community. "The overall level of industrialization is still in low, the capacity of innovation and R&D is still weak, there are still a far way to go compare to the developed countries", explained Yangweimin, Vice President of CPF. And added, "the usage of international standards of the industry was only 50%, the content of the standards are not very reasonable, different standards are not quite coherence and systematic, and the manipuility of the standards is really need to improve."

According to Jin Xiangzuo, Vice President of China Packaging Federation (CPF), President of Asia Packaging Center (APC) and of World Packaging Center (WPC), "China should enhance the right to speak and draw up the regulation in the global packaging community, so as to build China as the real worldwide packaging industrial center, promote the packaging industry with cluster development and technical innovation." He also stated that, "According to the 12th 5-year plan of the construction of worldwide packaging industrial center, APC will focus to promote the regulations and standardization of green packaging, actively establish the international platform of green packaging and standardization. APC will openly to the global packaging community, attract packaging companies and professionals at home and abroad to work together in order to collect the strong superior green packaging resources from all over the world, to make the packaging bigger and stronger ."

Packaging design from Turkish students

VThe results of the 8th National Packaging Design Student Competition 2012, organized by ASD, WPO member in Turkey, in cooperation with Packaging Fair organizer TÜYAP attracted 46 entries projects. The judging committee deemed 31 packaging designs rankings, honorable mentions and certificates. The first place received 2.500TL; second, 1.500TL and third, 1.000TL; the eight honorable mention awards received 300 TL. 20 projects were indicated to participate in the WorldStar Student Award, organized by WPO.

The award ceremony was held during 18th International Packaging Industry Fair – Eurasia Packaging 2012, in İstanbul, in September. It is interesting to note that all the three winners of WPO WorldStar Student Award are Turkish students. They will be invited to participate in the Award Ceremony that will happen in conjunction with **the Packaging Student Jamboree, at Michigan State University´s School of Packaging, in the USA in March 2013.** For more information about the 8th National Packaging Design Student Competition 2012 contact asd@ambalaj.org.tr.

Brazilian packages at PackExpo International

The winners of Brazilian Packaging Award, promoted by ABRE, were displayed at PackExpo International (Chicago, 28-31 October) in The Showcase of Packaging Innovation, sponsored by Dow Chemical. The area, located in the Brand Zone, featured award-winning packaging designs from around the world and best-in-class consumer packaging nominated by show exhibitors. The Brazilian winners can be also seen in the new website of the Association www.abre.org.br.

ABRE also had an institutional booth at PackExpo to promote the Brazilian packaging industry as well as all its members, listed in the new Sector´s Guide 2011. The recently published booklet was distributed during the show and contains market and companies´ information.

Country Report

Association of the Greek Manufactures of Packaging and Materials (AGMPM)

The Greek packaging industry in 2011

Alexis Stassinopoulos (*)

(*) Dr. Alexis Stassinopoulos is the president of the AGMPM.

The use of information and data in this report is permitted provided that the proper reference is quoted: *Alexis Stassinopoulos, The Greek Packaging Industry During 2011 (AGMPM Edition, 2012).* Correspondence regarding the contents of this study should be addressed directly to the author. stas@otenet.gr

The study conducted by the Greek Manufacturers of Packaging and Materials (AGMPM), a WPO member, provides quantitative data for the Greek packaging material manufacturing industry for the year 2011. It is based on the annual reports of the manufacturing industries and the data collected and compiled by AGMPM and the author. The data are grouped in material categories and sub-categories as follows:

Plastic

- Flexible packaging materials: Mono-materials, mainly from PE and PP(films, bags, mega bags etc)
- Rigid packaging materials (Products made by injection molding, blow molding, thermoforming etc.)
- Converted film materials (Printed multilayer film, labels, coated films etc)

Paper and Board

- Corrugated board and boxes
- Products from solid board (folding cartons etc) and paper (labels, paper packaging products, bags etc)

Metal

- Aluminum Flexible and rigid packaging and precursors (film, sheet, preforms, cans, caps, converted film and products etc)
- Tinplate and steel packaging (Cans, caps, drums etc)

Glass

- Bottles, jars etc

Wood

- Mainly pallets

Basic precursors in the packaging materials production chain.

- Paper/ Board packaging
- Metal packaging
- Plastic packaging

In 2011, the total turnover of the 150 Greek packaging industries (SA and Ltd), reporting results, was € 1,805 million. It is estimated that another € 80 million corresponds to the turnover of 200 small packaging manufacturers and the in-house packaging production of packaging end-users.

More information contact Miklós Nagy, Secretary General of HAPMH by e-mail nagym@csaosz.hu or visit www.csaosz.hu.

TABLE1. The overall picture of the Greek packaging industry in 2011

Materials category	Number of companies		Turnover in million €		Net results million €		Exports million €	
	2011	2010	2011	2010	2011	2010	2011	2010
Plastic	78	98	748	660	13,3	5,3	250	184
Metal	19	23	552	533	3,8	18,6	256,5	235
Paper/board	52	67	448	465	-10,0	-0,2	33,8	42
Glass	1	1	57	64	-9,0	2,1	5,8	2
Total	150	189	1805	1722	-1,9	25,8	546	463

It is worth to remind that:

1. The total turnover in 2011 was 5% higher than 2010, although shared by fewer companies. The 26% of the 2010 companies didn't report financial data for year 2011. This indicates that a restructuring of packaging industry is taking place.

2. On the other hand, 2011 profits were nonexistent, as expected, due to the severe macroeconomic crisis in Greece. However, there are examples of individual companies with good performance in both turnover and profit before taxes. These were mostly companies with strong export profile.

3. A very promising sign for the Greek packaging industry and the Greek economy as a whole is the impressive increase of exports.

4. There are signs of recovery of the Greek packaging industry in 2012. This is the conclusion of AGMPM by observing the performance of the top companies in its database during the three quarters of 2012.

The 11 tables that follow summarize the 2011 results per packaging category/ sub-category. There are also short notes on the major players in each category/sub-category.

PAPER AND BOARD PACKAGING

Paper and board packaging is grouped into three subcategories (**TABLES 2, 3 and 4**):

- Corrugated board and boxes from corrugated board, containing also industrial paper packaging.
- Packaging materials from paper and solid board: Cartons, labels, bags etc
- Paper and board for the packaging industry

TABLE2.Corrugated board and boxes/ Industrial paper packaging (in million €)

COMPANY	Turnover		Profits/losses		Exports		website
	2011	2010	2011	2010	2011	2010	
Corrugated board and boxes							
SCA PACKAGING A.E.	54,65	50,10	-0,25	2,00	0,00	1,00	www.sca.com
HARTEL SA	42,44	44,20	-2,64	0,80			www.hartel.gr
ELPACK SA	36,41	33,50	0,26	0,31	0,36	1,00	www.elpack.gr
VIS SA.	26,25	27,60	-0,06	0,25			www.vis.gr
PACO SA		17,84		-1,60			www.pako.gr
VIOKYT SA	12,37	11,50	0,29	-0,49			www.viokyt.gr
CRETAN PAPERMIL SA	10,45	10,40	0,05	0,45			In the SCA group
N.G.P. SA	9,71	13,80	-2,48	-0,49			www.ngppack.gr
Industrial paper packaging							
SONOCO HELLAS SA	28,74	24,93	0,10	-0,28			
MONDI PACKAGING SA	12,87	12,00	-0,12	-0,39	7,07	3,60	www.mondigroup.com
AGIS SA	8,65	7,70	-1,20	-1,30		1,00	www.aigis.gr
IRAKLIS PACKAGING	2,01	2,30	-0,03	0,02			
Total	244,55	261,47	-0,67	-0,67	7,43	6,60	

The 80% of the corrugated board and box production is shared among the first four manufacturing companies. The export potential of corrugated boxes is limited. However, a large amount of corrugated boxes is indirectly exported as part of the packaging of exported final products (especially food products). The major companies are certified according to ISO 9001, 14001, and 2200.

SCA Packaging Hellas belongs to the SCA Packaging group. Has three production units in Corinth, in Thessaloniki, and recently in Crete (By acquiring the Cretan Paper-mill SA).

HARTEL belongs to Haitoglou food packaging group and has two production units in Thessaloniki. In addition to corrugated production, the company has a graphic arts production unit (labels and folding cartons)

EL PACK has two production units in Attica and Patra. To El Pack group belong Sigma Pack (corrugated board) Fthiotis Paper-mill (paper and solid board) and Belpack Ltd in Bulgaria.

VIS AE belongs to Philippou group of companies and has two production units in Volos.

In the list of corrugated board players we should add VIOKIT SA specialized in shelf ready packaging, and other niche applications of corrugated board. MONDI PACKAGING (affiliate of MONDI) and AGIS SA (affiliate of Gascogne Sac) produce industrial paper bags. SONOCO Hellas produces paper cylinders and Iraklis Packaging produces egg-crates from paper pulp.

TABLE3. Paper and solid board packaging/graphic arts (in million €)

COMPANY	Turnover		Net results		Exports		website
	2011	2010	2011	2010	2011	2010	
FIMI SA	14,53	26,50	0,19	-0,68			www.fimi.gr
PAPERPACK TSOUKARIDIS SA	11,71	11,64	-0,44	-0,04	0,40	2,00	www.paperpack.gr
KOSKINIDIS SA	10,03	12,10	0,10	0,14		1,00	www.koskinidis.gr
CHATZIIOANNOU SA	9,27	8,00	-0,12	0,31			www.luxuriouspackaging.com
ANTOPACK SA	7,69	7,30	0,64	0,01	0,80	1,00	http://antopack.dreamlab.gr/
MARTANKOS SA.	6,85	1,55	0,72	0,26			www.martankos.com
SIGMAPACK SA	5,3	5,10	-0,51	-0,46			elpack@elpack.gr
ROI Bros SA	5,17	5,60	-0,08	0,15			www.roisbros.gr
METRON SA	5,12	6,80	-0,38	0,08	0,50	1,00	www.metronpack.gr
WEIDENHAMMER SA	5,01	4,60	-0,70	0,30			www.weidenhammer.de/
UNIPAK Hellas A.E.	4,81	5,50	-0,20	-0,18			www.indevcogroup.com/
GIATSIS PACK A.B.E.E.	4,27	3,70	0,10	0,18			www.giatsis.gr
FOKA Bros SA	4,00	4,60	-0,39	-0,38			www.fokaspackaging.gr
SOULAKOS SA	3,96	4,20	-0,03	0,01			www.artiongraphic.gr/
XENOS PACKAGING SA	3,21	4,00	0,01	0,05			www.xenospack.gr
ORFANOS SA	3,18	3,80	-0,04	0,21			www.orfanosm.gr
KARAKOUSIS SA.	2,72	3,10	0,09	0,18			www.gkarakousis.gr
PAPERLAND SA	2,1	2,30	0,06	0,02			www.paperland.gr
BILIOURIS SA	1,92	1,70	0,00	0,01			www.mpack.gr
M-PACK SA	1,91	1,70	0,02	0,04			www.mpack.gr
IOANIDIS ALDI	1,84	2,18	0,40	0,58			
LITHOGRAFIKI SA.	1,83	2,00	0,10	-0,25			www.lithografiki.com.gr
KALOGIANNIS SA	1,69	1,70	0,03	0,07			
MAVROGIANNIS SA	1,66	1,56	-0,09	-0,07			www.mavrogiannisboxes.gr
PRINTOPACK SA	1,62	1,67	-0,45	0,00			
TYPOPACK SA	1,55	1,50	0,03	0,01			
TECHNOKYT SA.	1,51	1,98	0,10	0,22			
HARTOPACK SA	1,35	1,31	0,03	0,01			www.hartopack.gr
MANDALOVAS SA	1,12	0,86	1,14	0,03			
KITSIOU SA	1,08	1,20	0,03	0,05			www.xartoplastiki-kitsiou.gr
MICHAILOVITS SA	0,96	1,00	0,12	0,08			www.michailovits.com
CHIMIOXART SA	0,93	1,08	-0,09	0,01			
ROMVOS PACK SA	0,55	0,05	0,02	0			
CRETA HART SA	0,41	0,35	0,00	0,00			
TAMBAKI Bros SA	0,15	0,17	0,02	0,02			
KYTIOHART SA.	0,08	0,50	0,01	0,00			www.giazitzoglou.net
TOTAL	131,09	181,15	0,44	-0,26	1,70	12,17	

The production of labels, folded cartons, paper bags, sacs, etc is dispersed among a very large number of medium, small and very small companies. Many of these companies are equipped with modern production facilities (including pre- and post- production) and are certified according to one or more quality standards.

The four major producers of labels, cartons and other packaging materials from paper and board are old well established companies:

FIMI 1892 PANAYOTOPOULOS Bros SA., established in1892 has two factories located in Attica.

PAPERPACK – TSOUKARIDIS, established in 1891, is located in Kifisia (Attica).

KOSKINIDIS SA. established in1922 is located in Attica.

ANTOPACK SA, established in 1898, is located in Volos

TABLE4: Paper and solid carton board for packaging (in million €)

Company	Turnover		Net results		Exports		webpage
	2011	**2010**	**2011**	**2010**	**2011**	**2010**	
MEL SA	55,09	52,00	-9,44	0,70	24,75	23,40	www.melpaper.com
FTHIOTIS PAPAR MILL	12,29	11,60	-0,36	0,62			www.elpack.gr
TECHNOCART SA (*)		9,20		-0,01		0,00	www.technocart.gr
Total	67,38	72,80	-10,30	1,31	24,75	23,40	

MEL SA (Macedonian paper-mill) is the most important carton board producing industry in Greece with a capacity of more than 100.000 t/y. MEL was acquired in 2011 by the Turkish group PAK Holdings. (www.pakmaya.com.tr/) The factory in Thessaloniki is certified on ISO 9001, 14001, 22000.

FTHIOTIS PAPER MILL SA belongs to ELPAK Group. Έχει εγκαταστάσεις στη Λαμία και τον Πειραιά. In its plants in Piraeus and Lamia produces corrugated and solid board with a total capacity of 50.000 t/y.

TECHNOCART SA produces Kraft liner and other types of paper.

METAL PACKAGING

In this category are listed companies producing tinplate packaging, rigid and flexible aluminum packaging, metal closures and steel drums (**TABLE 5**), and companies producing precursor materials for the metal packaging industry (**TABLE 6**). In this last subcategory belong two very strong companies exporting all over the world.

TABLE5: Metal packaging materials (in million €)

COMPANY	Turnover		Net results		Exports		**website**
	2011	**2010**	**2011**	**2010**	**2011**	**2010**	
CROWN HELLAS CAN	140,17	134,00	-0,90	11,10	49,20	47,00	www.crownhellascan.gr
ELSA.SILGAN AE	47,07	47,60	-0,32	0,25	8,46	2,00	www.silganmp.com/
ARDAGH ΕΛΛΑΣ Α.Ε.	25,73	25,20	-1,40	1,00		2,00	www.natcan.gr
ASTIR VITIGIANNIS SA	14,57	12,80	0,90	0,08	12,38	11,00	www.vitogiannis.gr
ΛΕΥΚΟ/ΓΙΑ ΚΑΒΑΛΑΣ ΑΕ	13,75	13,10	0,99	0,85	1,00	1,00	www.lefka.gr
TECHNOCAN SA	13,19	16,70	0,99	0,07			www.technocan.com
GREIF HELLAS SA	6,74	7,80	0,08	0,13			www.greif.com
COROPOULIS SA	4,09	3,80	0,15	0,02			www.coropoulis.gr
ARAPOS SA.	3,81	3,52	0,11	0,12			www.arapos.gr
KAPANIKIS SA	3,32	2,90	0,07	0,05			
CRETANCAN SA	2,37	2,16	0,00	0,00			www.cretacan.gr
REVAN SA	2,06	2,30	0,12	0,25			
THESSALIKI SA	1,48	1,70	-0,01	0,04			www.anthopoulos-ae.gr
GIANNIKIS METAL - CAN SA	0,93	1,10	0,08	0,01			
ILIOPOULOS SA	0,28	0,40	-0,99	0,89			

UNICAN SA	0,19	0,22	-0,04	0,05			
Σύνολο	278,82	288,20	-0,18	15,03	71,04	63,00	

CROWN HELLAS CAN belongs to Crown Inc., and produces aluminum containers in its two plants in Corinth and Patras and tinplate containers in its third plant in Sindos.

Most of other metal companies are producers of tin plate packaging.

ELSA.SILGAN is the largest Greek industry in tinplate packaging, with two factories in Attica and Thessaloniki. It belongs to the Silgan Packaging Group.

ARDAGH Hellas belongs to Ardagh Group. The factory is located in Pieria (Northern Greece).

TECHNOCAN is located in Attica and is specialized in containers for paints and technical applications.

LEFKOSIDIROURGIA KAVALLAS is located in Kavalla and is specialized in 20 l containers for feta, oils and lubricants.

The only other two non tinplate companies in the list are:

ASTIR-VITOGIANNIS specialized in metal cap production. and GREIF Hellas producing steel drums.

TABLE 6: Metal packaging material precursors (in million €)

COMPANY	Turnover		Net results		Exports		website
	2011	**2010**	**2011**	**2010**	**2011**	**2010**	
SYMETAL SA.	161,91	151,80	2,74	0,89	129,50	121,00	www.symetal.gr
ALOYMAN SA	68,16	57,60	-0,13	0,11	56,00	51,00	www.aluman.gr
PROMETALSA	37,28	32,60	1,86	2,80			www.prometal.gr
LEFCOMETAL SA	5,69	7,00	-0,29	-0,11			www.lefcometal.gr
Total	273,04	249,00	4,18	3,69	185,50	172,00	

SYMETAL is member of ELVAL-VIOHALCO Group. The company is a major European producer of aluminum foil. Its two production plants in Attica and Viotia are producing aluminum film (6-180μ) as well as packaging material from Alu film. Turnover is estimated to 50.000t/y.

ALOUMAN is a major European producer of performs (discs), precursors to the production of aluminum tubes, aerosol cans and bottles. Its factory is located in Viotia.

To these three companies, one should add ELVAL SA (www.elval.gr) (VIOHALCO Group) whose sheet in roles is the precursor to the production of aluminum cans (bodies and caps).

PROMETAL and LEFCOMETAL are converters of tin plate from rolls into sheets, precursors of tinplate packaging.

PLASTIC PACKAGING

In this category are grouped four subcategories:

- Rigid plastic packaging (**TABLE 7**)
- Flexible plastic packaging: Producers of polyolefin packaging film and products (**TABLE 8**)
- Flexible packaging-Converters (**TABLE 9**)
- Precursors in plastic packaging materials manufacturing (TABLE 10)

TABLE 7: Rigid plastic packaging (in million €)

COMPANY	Turnover		Net result		Exports		website
	2011	2010	2011	2010	2011	2010	
MORNOS SA	58,68	66,20	-3,65	-2,14	5,90	3,00	www.mo.gr
THRACE PLASTICS PACK SA	32,73	32,75	-2,62	-4,41	6,50	8,30	www.thraceplastics.gr
ARGO SA	23,23	19,68	2,61	1,59	8,05	6,00	www.argo-sa.gr
PAIRIS SA.	14,53	14,16	-0,47	-0,46			www.pairis.gr
I.B.S. SA	12,54	11,94	0,54	0,91			www.ibs.com.gr
KOTRONIS SA	9,54	8,30	0,80	0,82			www.kotronis-plastics.gr
BONAPLAST SA	7,81	7,20	0,01	0,01	0,50	0,50	www.bonaplast.gr
N.G.P. PLASTIC SA	8,03	7,22	-3,01	-1,54			www.ngpplastic.gr
B&B PACKAGING SA	7,80	7,50	0,19	0,30			www.bbpackaging.gr
ELOPAK PLASTIC SA	7,36	6,82	0,00	-0,64			www.pairis.gr
HARMBIS SA	5,59	5,50	0,42	0,80			
METALLOPLASTIKI SA	5,02	5,80	-0,09	0,05			www.metalloplastiki.gr
NEOPLAST SA..	4,52	4,70	0,66	0,68			www.neoplast.gr
FIALOPLASTIKH SA	4,43	3,40	0,30	0,01			www.fialoplastiki.gr
PABIPLAST SA	4,31	3,70	0,03	0,02			www.paviplast.gr
KIWOPLAST SA	3,65	3,40	0,08	0,08			www.kiwoplast.gr
FIALPET SA	3,18	3,90	-0,60	0,00			www.fialpet.gr
ROTOSAL SA	2,58	3,30	-0,15	0,06			www.rotosal.gr
FONTANA DI PLASTICA	2,55	2,50	0,04	0,06			
BLOW PLAST LTD	1,60	1,70	-0,15	-0,22			www.blowplast.gr
LEON PLAST SA	1,50	1,65	0,00	0,02			
MARCOPOULOS SA	1,38	1,50	-0,25	-0,27			
TRICALA PLASTICS A.E.	1,28	1,85	0,04	0,06			
ACTUS SA	0,85	0,62	0,02	-0,18			www.actus-sa.gr
FARMAPLAST SA	0,81	1,30	-0,24	0,08			
IKOPLAST SA	0,69	0,82	0,00	0,00			www.ikoplast.gr
CAPSNAP Hellas SA	0,60	1,19	-0,26	0,00			www.capsnap.gr
KRYSTAL KRITI SA	0,59	1,60	0,00	0,03			www.krystal.gr/
Expanded Polystyrene							
TIKTAS SA	11,90	13,67	-1,07	-1,52			www.tiktas.gr
POLYFORMA SA	8,85	8,70	-0,07	-0,34			www.polyforma.gr
RIZAKOS SA	6,83	7,30	-0,47	-0,30			www.rizakos.gr
PROKOS SA	4,14	3,80	-0,24	-0,53			www.iso-pack.com
MONOSI SA	3,18	2,70	0,19	0,13			www.monosi-syskevasia.com
THRACE PLASTICS EPS SA	1,82	1,37	- 0,70	-0,81	0,81	0,47	www.thraceplastics.gr
Σύνολο	257,85	290,56	-7,71	-6,13	20,95	17,80	

The three leading companies in the category of rigid packaging are Mornos, Thrace Plastics and Argo. All three are certified according to ISO quality system standards.

MORNOS is the largest food plastic packaging industry in SE Europe, producing almost every type of plastic packaging. Its turnover is shared among rigid packaging (45%) and flexible packaging (40%). The other 15% is paper and printed paper and board packaging. The main production unit is in Thebes. The company is operating according to ISO 9001, ISO 14001, ISO 22000, BRC IoP, FDA IMS, and OHSAS.

THRACE PLASTICS PACK belongs to the Thrace Plastics Group of companies. In two factories in Xanthi and Ioannina the company produces rigid including cups, tubs and lids, larger open containers, PC bottles etc. Two other packaging companies belong to the same group. They are THRACE PLASTICS SA (See Flexible packaging) and THRACE PLASTIC Expanded PS SA producing food packaging from expanded polystyrene. There are also production units in Turkey, Bulgaria and Romania.

ARGO is an innovative company, fully committed in the production of rigid plastics (bottles, caps, tubes, medical devices etc.). It is the largest Greek exporter of rigid plastic packaging materials. The Greek production plant is in Koropi (Attica), which is certified according to ISO 15378 (primary packaging materials for medicinal products). All its factories in Greece and abroad (Bucharest, Cairo) are certified according to ISO 9001 and 14001.

In the group of rigid plastic packaging is included the subgroup of companies producing packaging materials from expanded polystyrene.

TABLE8. Flexible plastic packaging: Producers of polyolefin films and film products (in million €).

COMPANY	Turnover		Net result		Exports		website
	2011	**2010**	**2011**	**2010**	**2011**	**2010**	
KARATZIS SA	52,68	43,60	5,81	4,44	45,00	36,50	www.karatzis.gr
FLEXOPACK SA	47,47	44,80	3,89	3,67	34,20	31,50	www.flexopack.gr
EUROFILM SA	15,01	12,00	0,46	0,40			www.eurofilm.gr
THRACE PLASTICS SA	13,45	15,21	1,01	0,01	7,53	7,61	www.thraceplastics.gr
MEGA PLAST SA	12,89	14,40	1,02	1,61	12,0	14,00	www.megaplast.gr
PANCHART SA	11,69	10,48	0,17	0,15			www.panchart.gr
ACHAIKA PLASTIKA SA	10,81	10,70	0,09	0,15			www.achaika.gr
STRAPTECH SA	10,04	9,42	-0,97	-1,19			www.maillis.gr
PLASTIMAK SA	5,31	3,80	0,04	0,01			www.plastimak.com.gr
EVISAK SA	4,55	4,41	0,05	0,32			
SEALED AIR HELLAS SA	3,76	3,60	0,39	0,44			www.sealedair.com
CIVIL LTD	3,38	3,34	0,01	0,12			www.civilplastics.gr
PROSY SA	3,07	3,30	0,17	0,20			www.prosi.gr/
LEPTIDIS SA	2,99	3,90	0,03	0,01			www.leptidis.gr
TIMIPLAST SA	2,91	2,70	0,17	0,28			www.timiplast.gr
ELVIPLAS SA	2,69	3,32	0,03	0,09			
KATSAOUNIS SA	2,41	2,30	0,01	0,01			www.katsaounisbros.gr
GEORGIOU SA	2,37	2,70	0,00	0,11			www.georgioubags.gr
ALPHAPACK SA	1,7	1,43	0,02	0,01			alphapack@a-pack.gr
PIRAIKA PLASTIKA SA	1,68	1,59	0,02	0,02			
STOURBAS SA	1,66	3,20	0,06	0,19			www.stroubas.gr
SAKOULAS SA	1,52	1,00	0,04	0,00			
GARAGOU SA	1,42	1,30	0,00	0,02			
EVROPAK SA	1,47	1,80	-0,01	0,04			www.europack.com.gr/
EX-PLUS SA	1,18	1,57	0,02	0,02			
EUROPACK SA	1,09	1,28	0,01	0,03			

GARAGOS SA	0,77	0,75	-0,03	0,00			
KARDITSA PLASTIC	0,74	1,30	-0,19	-0,07			
CHEM PLAST SA	0,17	0,16	0,02	0,01			
TOTAL	202,58	203,95	11,37	11,47	91,20	82,00	

The products in this category start from simple PE film and bags and end-up to sophisticate products and innovative applications. In the production of simple PE film and bags are involved more than 40 small producers, not included in this table (no reliable data available). The main companies in the flexible packaging category are:

FLEXOPACK is producing coextruded film (up-to-nine layers), high shrink-high barrier films, palletizing films etc. Its two production sites are located at Koropi (Attica).

KARATZIS is a major European net producer. The company offers netting solutions for fresh produce and fruits, ham, palletizing, and other consumer, agricultural and industrial applications. There are two Greek production sites (in Crete and in Larissa) and one in Germany.

MEGA PLAST produces the innovative ventilated stretch film for palletizing (Air-o-Film). Its production site is in Crete, and has an extensive sales network all over the world.

THRACE PLASTICS SA is the flexible plastic packaging sector of the THRACE PLASICS Group. Production in its factory in Xanthi includes pelletizing films, big bags, heavy duty bags etc. The largest part of its exports comes from flexible packaging.

DIAXON belongs to the Hellenic Petroleum Group. In its plant in Komotini the company produces bi-oriented PP film (BOPP) with a capacity of 25.000t/y.

In this category are included three important companies producing high quality traditional flexible PE products:

ACHAIKA PLASTIKA has three production sites in Patra, and Komotini producing shrink and stretch film, mega sacs, sacs with valve etc. Are ISO 14001 and ISO 9001 certified.

PANCHART produces PE film and bags in its factory in Athens area (certified according to ISO 9001).

EUROFILM produces PE film, sacs and bags in its factory in Korinthos.

TABLE9. Flexible packaging-Converters (in million €)

COMPANY	Turnover		Net result		Export		website
	2011	**2010**	**2011**	**2010**	**2011**	**2010**	
ATLAS TAPES SA	53,08	40,00	1,63	-0,77	42,40	21,70	www.atlas-tapes.gr
A. HATZOPOULOS SA	48,81	45,00	0,72	0,47	29,77	23,00	www.hatzopoulos.gr
ALFA BETA ROTO SA	41,45	33,00	0,83	0,81	30,90	23,00	www.alfabetaroto.com
TSIMIS SA	30,01	25,17	0,77	-0,75	12,00	7,00	www.tsimis.gr
VLACHOU Bros SA	13,68	11,75	-0,57	-0,07		0,00	www.vlachosbrossa.gr
ADAMS ECO PACK SA	6,14	3,50	0,40	0,10			www.adams.gr
FORLABELS SA	4,90	4,77	0,39	0,36	0,09	0,06	www.forlabels.gr/
FLEXO SA	4,09	4,80	0,35	0,50		0,00	
SINOPOULOU SA	3,8	3,30	0,10	0,13			www.sino.gr
TECSIR SA	2,99	3,10	0,37	0,10	1,50	3,00	www.tecsir.gr
PLUSPACK SA.	2,81	2,60	0,29	0,08		0,00	www.pluspack.gr
TYPOPLASTIKH SERON	0,74	0,90	0,03	-0,01		0,00	
SELCO SA	0,63	0,76	0,02	0,04			www.selko.gr
KARADIMOGLOU SA.	0,60	0,86	-0,02	0,02		0,00	www.fokion.gr/
TOTAL	213,73	189,15	5,31	1,44	116,66	77,76	

In this category belong three converting companies with high level expertise, innovative, and export oriented. They update their manufacturing facilities and are fully certified:

A. HATZOPOULOS SA operates in two production sites in Thessaloniki, and sales offices across Europe. The company is continuously investing in manufacturing and control equipment and in quality systems. It is certified according to ISO 9001, 22000, 14001, BRC/IoP, American Institute of Bakery.

ALFA BETA ROTO has three production sites in Komotini, Attica, and Khalkidhiki (after the acquisition of Adams Eco Pack). It is a flexible, export oriented company. Is certified according to ISO 9001, 22000, 14001 and BRC.

TSIMIS operates in a modern production site located in Lamia and is certified according to ISO 9001 and HACCP. It is capable of fulfilling any customers' requirements in flexible packaging, and is exporting in many countries.

In the same category are also included two important converters with targeted, high level production.

ATLAS TAPES is a vertical producer of self adhesive tapes (packaging, masking, stationary etc), and one of the most important European companies in its field. The company makes a comprehensive range of self adhesive tapes in all existing technologies. The factory is in Atalanti and is certified according to ISO 9001.

FORLABELS is a fast growing innovating company focused on labels and labeling. Its factory in Schimitari (Viotia) is equipped with every modern technology in label printing and converting.

Table10. Precursors in plastic material manufacturing

COMPANY	Turnover		Net result		Export		website
DFH DRUCKFARBEN	34,71	36,85	0,16	0,84	6,93	8,12	www.druckfarben.gr
RESILUX ΕΛΛΑΣ ABEE	19,83	13,65	-0,46	-0,31	5,95	2,70	www.resilux.gr
DIAXON ABEE	14,95	15,00	3,67	3,81	9,00	9,00	www.hellenic-petroleum.gr
HATZOPOULOS G, SA	2,27	2,30	3,67	-0,03			
Total							

DFH DRUCKFARBEN is a major producer, export oriented, of printing inks for all graphic arts and flexible packaging applications.

In this subcategory are mentioned several producers of colored master batches and other additives for the plastics industry.

GLASS PACKAGING

Table11. Glass packaging

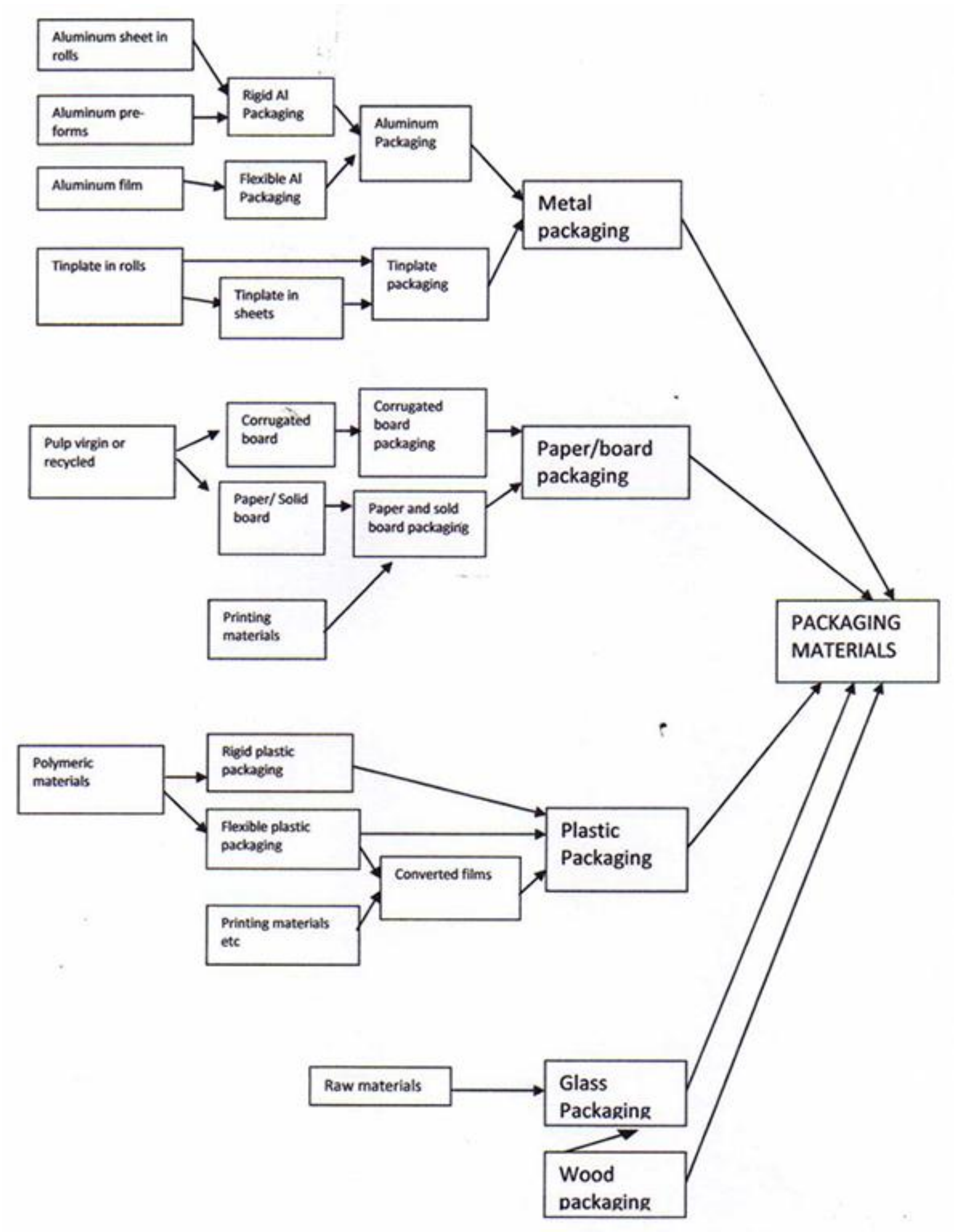
COMPANY	Turnover		Net result		Exports		webpage
	2011	2010	2011	2010	2011	2010	
YOULA SA	57,25	63,60	-8,98	2,08	5,80	2,00	www.yioula.gr

There is only one producer of glass packaging in Greece, Yioula SA, which has consolidated all small glass factories existing in the past. YIOULA SA (www.yioula.gr) produces bottles and jars in its factory in Aegaleo (Attica).

In the YIOULA Group belong six more glass packaging manufacturing companies in Bulgaria, Ukraine, and Romania.

A more detailed analysis on categories/subcategories and individual companies exists in the Greek version of the present report (Alexis Stassinopoulos, Mapping of the Greek Packaging Industry During 2011 (AGMPM Edition, November 2012) which can be downloaded from the website of the AGMPM www.pac.gr.

ANEX1. Packaging materials' production chain



WorldStar 2013

Registers increase in number of entries

WorldStar Packaging Awards 2013, the global packaging competition organized by WPO, registered a significant increase in the number of entries: 318 compared to the 242 in the 2012 edition. The entries came from 33 different countries, including India, Sri Lanka, Ukraine, Switzerland, Austria, Japan, Korea, Slovakia, Serbia, Hungary, France and many more.
The judging process was held in the end of November, in Singapore, and considered the following criteria: protection and preservation contents; easy of handling, filling, opening and closing; adequacy information; sales appeal; graphic design; quality of production; economy of material and cost reduction; environment; ingenuity of construction; adaption to local conditions and sustainability. There are also three special categories: Sustainability, President´s Award and Marketing.

The judges were WPO members from all over the world including Brazil, Nigeria, UK, India, Turkey, USA, Australia, China, Indonesia and others; The Packaging Society UK, another WPO member, was in charge of receiving all entries.

The announcement of winners of WorldStar Packaging Awards 2013 **will be in December 2012 and the Award Ceremony will be held in Sydney, Australia, in May 9th 2013. After the winning entries are announced in December, all winners can be seen in www.worldstar.org. During the Board Meeting in Singapore, WPO signed a new** agreement with IOM3 – The Packaging Society UK to manage WorldStar for three more years (2013 until 2015).

WorldStar Student 2012

Competition establishes new record number of entries and international judges

The judging panel of the **2012 WorldStar Student Awards, hosted by IoPP (Institute of Packaging Professionals) U.S.A. during PackExpo (Chicago October 30), was the most international one in terms of judges and entries. The award, organized annually by WPO** (World Packaging Organization), registered 234 entries (50% more compared to 2011 edition) from 19 different countries - Brazil, China, Croatia, Germany, Hungary, India, Japan, Korea, Lebanon, Poland, Russia, Singapore, South Africa, Spain, Sri Lanka, Thailand, Turkey, United Kingdom and U.S.A.

The judging panel was also very international: 8 judges from 6 different countries - Africa, Brazil, Germany, Spain, UK and U.S.A. Another significant aspect of the judging panel was the profile of the professionals that participated. There were specialists from Reckitt Benckiser, Clorox, Ecolab and PepsiCo (Gatorade). There were also important institution judges as Joseph Nyongesa, President of APO (African Packaging Organization) and Secretary General/CEO of Institute of Packaging Professionals Kenya; Ignasi Cusí, Director and General Secretary of Graphispack Asociación Spain and Kevin Vyse, Managing Director of IoPP UK.

The winners of **2012 WorldStar Student Awardswill be presented with their awards at the Packaging**

Student Jamboree, at Michigan State University´s School of Packaging (U.S.A.) in March 2013. The top three scoring will be named WorldStar Student Winners, with the next 10 highest scoring receiving WorldStar Student Certificates of Merit.

Transport Packaging & Distribution

Ista develops Responsible Packaging by Design Guide

The International Safe Transit Association (ista™) is a technical trade association, focused entirely on issues related to transport packaging and distribution. It exists for over 60 years to help the members control costs, damage and resources during the distribution of packaged-products. As one of the operating divisions of ista, the Sustainability Solutions Division (ista SSD) decided two years ago that there was an important component missing from the discussion revolving around sustainable packaging.

Most people understand the importance of packaging – it is a vital part of the standard of living in developed countries and insures the safe delivery of numerous products including pharmaceuticals, food, medical devices and consumer goods. Packaging enables the manufacture of goods to take place far away from the end user of those goods. Indeed, one of the first steps in going from a "lesser developed" status for a country to a "developed" status is the availability of a packaging industry to enable the safe distribution of goods within the country as well as externally.

Sustainability in general and sustainable packaging in particular are often-heard subjects of discussion around the world today. Sustainable packaging discussions usually revolve around topics such as weight reduction of packaging materials, more renewably sourced packaging materials, recyclable packaging materials and reusable packages. The SSD perceived a lack of discussion on the effects of product damage on sustainability as well as a general lack of guidance for the practicing packaging professional as to how to actually go about evaluating this relationship.

Many resources are wasted in dealing with product damage which has a negative impact on sustainability. Indeed, for certain products like medical devices, package damage that results in a loss of sterility is as serious a problem as is product damage. In addition, several Life Cycle Analyses have looked at the environmental impact of damaged goods (i.e. as a result of packaging that has been reduced or light weighted) and discovered negative sustainability impacts resulting from packaging changes made in the quest for enhanced packaging sustainability. For these reasons, the ista SSD has developed theResponsible Packaging by Design Guide (RPbD) which has recently been released to ista members. The term "responsible packaging" was chosen rather than "sustainable packaging" thinking that "responsible" is a more inclusive and appropriate concept.

The Responsible Packaging by Design Guide is a step by step guide for the practicing packaging professional on the journey of evaluating the sustainability of a package as well as its ability to protect the product through the distribution system. This guideline describes a process by which (in this resource-constrained world) the sustainability of packaging can be enhanced without sacrificing any of the functionality. It should be noted that this document is a process guide and describes a recommended process for evaluating packaging. It is not currently a quantitative rating system that will provide a numerical rating for the sustainability of a package. Also, this document is not intended to be a detailed tutorial on project management, life cycle assessment or packaging testing methodologies (all of which are critical steps in the process of developing responsible packaging).

The ista Sustainability Solutions Division formed a core development team that worked for two years on the RPbD guide. The guide has been vetted by governmental organizations, non-governmental organizations, industry representatives and thought leaders in the sustainability arena. It consists of three main sections: a basic introduction to responsible packaging; an overview of the responsible packaging by design process; and the detailed process steps consisting of:

- establish project scope
- define boundaries and metrics
- assess environmental impact for existing package
- assess environmental impact for proposed package
- select best package design option
- prototype and validate proposed design
- assess, recommend and document final design
- implement final design

The guide also includes templates of standardized forms to organize projects, test plans and test reports as well as discussions of recommended tools to aid in the various steps of the process. Regarding environmental impact, the guideline discusses three different approaches (and tools) – full life cycle analysis (LCA); LCA "lite"; and life cycle thinking (including a checklist of questions to guide this process).

This initial guide is not intended to be the last word on responsible packaging development. Rather ista intends to continue to update and revise this document as new methodologies, techniques and information become available. In addition, the intention is to offer training opportunities for the packaging engineer to become more conversant in the recommended eight step process for designing, developing and testing responsible packaging. A certification program will be available for those successfully completing the training course.

This report was provided by Larry Dull, Vice President Sustainability of International Safe Transit Association. To contact him larry.dull@packagingknowledgegroup.com.

Food Waste

Study analyses food waste in Norway

The ForMat Project, conducted by the Institute of Packaging in Norway, a WPO member (LILIAM CONFIRMAR SE É ESTE O NOME), is the first to chart wasted food in Norway. The focus of this report is data from 2010 (data from retail, wholesale, and production) and 2011 (poll data). Data collection and analyses are conducted according to standard methodology and will be followed over a period of years to track the changes in food waste volume and frequency.

The ForMat project began in 2009 through a cooperative effort between the coordinator NHO Mat og Drikke (NHO Food and Beverage), NHO Mat og Landbruk (NHO Food and Agriculture), Dagligvareleverandørenes Forening (DLF/Suppliers organisation), Dagligvarehandelens Miljøforum AS (DMF/Retailers organization) and Norges Colonialgrossisters Forbund (NCF). It is is financed by the Ministry of the Environment and the Ministry of Agriculture, both also represented in the project's steering committee. Additionally, in 2011 the project received support from the Ministries of Fisheries and Coastal Affairs, of Trade and Industry and of Children, Equality and Social Inclusion.

The project has four sub-projects, with a budget of approximately 8.2 million NOK over its four-year lifespan.

I. **Charting and analysing** the volume of food waste in Norway from 2009 to 2013.

II. **Networking** along the value chain to reduce the volume of wasted food.

III. **Communication** and knowledge transfer of results, ideas and experience relevant to avoiding waste of food in Norway.

IV. **Prevention strategies and tools** like packaging, size of packaging, shelf life, etc.

This report is primarily aimed at highlighting the results from sub-project 1 (charting), but a short review of sub-project 2 (Networking) is also included. Charting and preventing the incidence of food waste has received a significant increase in focus from companies within the food industry in Norway in 2011.

The charting consists of 21 product groups within 9 different main groups of food products. Data from the producers consists of 8 companies producing 7 of the 9 food groups for 2010, utilizing data from a large number of production facilities for several of those companies. For 2009 and 2010, 11 companies have contributed with data for 8 of the 9 food groups. The basis for the data is the companies' own measurements of their waste of food.

The analyses of food waste from retail stores consists of detailed data from 30 stores spread across Norway, where all products not sold in the traditional way are scanned and registered either per unit thrown away (for prepackaged goods) or as net weight (for non-prepackaged goods). Analyses of waste of food by the consumer cohort are based on polls, where 1,000 consumers were interviewed in week 18 and 1,000 in week 34. The questions revolved around whether they had thrown away foods in the 21 product groups within the last week and for what reason.

Another poll was conducted in week 24 where the interviewees were questioned about their behavior, their attitudes and their knowledge about food and wasting food.

The results from this data collection in 2010/11 show relatively small variations year on year. It is difficult to arrive at any conclusions about the developments for the producers, as it appears that changes are due to business-level choices rather than a definite reduction in the level of waste of food.

For the retailers, the data show a significant reduction in the level of waste for many product groups between 2009 -10, resulting in a total waste reduction of 40%. From a macro perspective, however, this large reduction has little impact, as the retailers had a very low waste-to-revenue percentage to begin with.

Total waste of food in the 30 grocery stores decreased from 3.39% to 3.35% of revenue for stores with a fresh produce/large product selection, whilst stores without a fresh produce section saw a decrease from 3.65% to 3.54%. For the entire group of 30 stores, the average reduction in waste was from 3.49% to 3.43%, or a decline of 1.7%. There is a large variation in waste-to-revenue percentage and change in amount (in percent) of waste amongst the 30 stores in the time period 2009-10. The range of waste percentage was from 1.79 % to 7.26% in 2009, compared to a range from 1.76% - 5.93% in 2010.

Amongst the retailers, there are little to no change for most product groups from 2009-10. Data indicates a significant decline in waste for fresh vegetables (7.4% to 4.9%) and fresh potatoes (43% to 3.3%), but an increase in waste of baked goods (6.3% to 7.9%) and fresh fruit (4.2% to 4.5%). The increase in waste of baked goods can be explained by increased product presence due to intra-industry competition. Reduction in waste of vegetables is mostly explained by 2 product groups experiencing a large increase in sales from 2009-10, without adding to the total level of waste. Similarly, an important fruit product group experienced a dip in sales, increasing the level of waste, explaining the increase in waste of fruits.

The four products with most turnover out of the various product groups from the 30 retail stores, all demonstrate an increase in tons of waste from 2009-10. Baked goods, fresh fruit and dairy products can largely account for these increases. Fresh meat and fresh fruit also show an increase in waste from 2009-10, but to a much lesser extent.

The results from the consumers show that there is consistency between the four polls that were conducted in 2010 and 2011, with little variation in percentage of respondents that say they've thrown away each food group. Milk and cream are the products among the 21 that are most often reported to be thrown away (21-26% of respondents in 2011), followed by fresh fruit, fresh vegetables, fresh baked goods and fresh readymade food. All of these product groups vary from 16% to 22% of respondents reporting to having thrown them away throughout the polls. Snacks, yoghurt/sour cream and cheese are mentioned by 15% of respondents.

In 2011 the respondents were also asked if they had thrown away casserole-type dishes either from the fridge or directly from cooking. 30% and 23-24%, respectively, of the respondents reported having done this. The time series is relatively short, so interpreting trends or patterns is difficult, but for some groups there are clear differences between percentages of respondents who have thrown away food in week 18 and week 34. This applies especially to fresh vegetables, milk/cream, and yoghurt/sour cream, where we see a lower percentage of respondents who report having thrown away these foods in week 34 than week 18 in both years.

Milk/cream is also the only group that seems to demonstrate a clear trend in being thrown away less, whereas fresh fruit, snacks and cheese show indications of being increasingly thrown away. This can be due to either a real change in food wasting behavior, or there have been changes in purchasing and consumption of the different food groups, which in turn can have been due to changes in diet, for example. The time series is so short, however, that no conclusions should be drawn about developing trends until after at least four years.

In 2011, in collaboration with the ForMat project and the research project Food Waste Prevention, extensive sampling analysis of household food waste was conducted in the towns Fredrikstad and Hallingdal. The purpose was to uncover the quantities and composition of wasted food from the households, with detailed enough information to be able to calculate mean values and statistical variation for the different food groups. Grouping into food groups was done in accordance with the 9 main groups used in ForMat's charting effort.

An average citizen, according to the calculations performed, throws away 51.1 kg of food per year. This is based on the total waste recouped per household, normalized to a year's worth, then divided by the average occupancy of a Norwegian household (2.22 people, according to SSB Databank). The most significant food groups by weight per capita and per year were fresh fruit and vegetables (12.5 kg), casserole and dish leftovers (11.3kg), and fresh bread (10.1 kg). This corresponds well with the polling data, as the same food groups dominate as the most wasted. The exception is milk/cream, as these products are generally not thrown away in bins, but poured out in the sink before the carton is thrown away. Noteworthy is the high frequency with which wasted food is still in the original packaging when thrown away. For example, 31% of baked goods and 40% of the meat and fish products were packaged.

Data has been collected in various ways for the ForMat project and the research project, including polls, questionnaires connected with sampling and from the sampling itself. This allows for a comparison between the different data sets. In general, the trends that arise in wasting food, and which food products are thrown away most, are reflected similarly in all data sets. Casserole and dish leftovers were reported to be most often thrown in both the polls and questionnaires, but ended up in third place when actual sampling was done. Fresh baked goods and fresh fruit and vegetables were found most in the sampling effort, but placed second in the polls and questionnaires.

According to the results of the charting efforts, there have not been large changes since 2009/10 for most of the agents along the value chain, from producer to consumer. The exception is the wholesale sector where, between 2009 and 2010, a decrease in waste of approximately 30% has been documented. This is a relatively large percentage of the waste from wholesalers in Norway, but the effect on total national food waste is minor, as the wholesale sector represents a very small portion of the total waste. Furthermore, there is little reason to expect large changes from year to year. Besides, it is the long-term time series that are interesting, as they will highlight the effects of the strategies that are being carried out to reduce the incidence of food waste. In this respect, it would be advantageous to include even more participants to contribute with data, both on the producer side and the retail side. Similarly, it would be interesting to recruit more counties in Norway to join in conducting sampling analyses, so that a more detailed view of food waste at the household level can be achieved and incorporated into the existing statistics.

The raw data at our disposal is currently much more extensive than in 2008, so there has been a reevaluation of the total amount of wasted food at the various links in the food value chain in Norway, using data from 2010-11. The new calculations indicate that, compared to 2008, households waste somewhat less food (from 278,000 tons to 254,500 tons), whereas the opposite is true for the retailers (from 43,000 tons to 68,000 tons).

Better data for fresh baked goods and fruits/vegetables, being the most wasted, are the main reason for the change in the retailer statistic. The wholesaler link has also been included since the previous charting effort, but constitutes a very small portion of the total waste compared to other links in the food value chain. A new evaluation of total waste from the industrial producers has also been made, due to better and more complete information on waste percentages and production data. The total waste of food for the Norwegian industrial producers is approximately 52,000 tons per year.

The projects have also assembled data from Sweden and Denmark to compare to the Norwegian data. There is large variation between the countries, which can be attributed to differences in experimental and statistical methodology, as well as real differences in the amounts of food waste that occur in these countries.

****The information above was reported by Kari Bunes, from Norway Institute of Packaging, a WPO member. Contact by e-mail kari@dne.no.***

Special activities in Singapore

Besides the Board Meeting and the WorldStar judging, the participants of WPO meeting in Singapore had the opportunity of visiting **SIMTech (Singapore Institute of Manufacturing Technology)** which mission is to develop high value manufacturing technology and human capital to enhance competitiveness of local manufacturing industry. The Institute works closely with multinational and local companies in the areas of electronics, semiconductor, precision engineering, medtech, aerospace, automotive, marine, logistics and other sector.

For the packaging area, they have two areas: the National RFID Center and the SMC (Sustainable Manufacturing Center). The first one focus on RFID adoption projects in both key industry verticals and public institutions strategic to the competitive advantage of Singapore. They also aims to inspire innovation of RFID technologies and applications.

The Sustainable Center´s mission is to push the industry to develop and implement technologies for eco-performance improvement in products and manufacturing processes. All to minimize emission, waste and toxicity in manufacturing and strengthen the global competitiveness of Singapore´s manufacturing industry.

Some WPO members also presented speeches in the **World Packaging Conference**, which main subject was "Innovative packaging for business sustainability". Speakers from WPO were Thomas Schneider (President), Keith Pearson (General Secretary), Gordon Stewart (Vice President Education), Luciana Pellegrino (Vice President Marketing & Communication), Pierre Pienaar (member) and Soha Atallah (member). To complete the program, there was a visit to **Tiger brewery** plant.

New members at WPO

WPO had its 89th and second Board Meeting of 2012 in Singapore from November 25th - 29th, hosted by the Packaging Council of Singapore, one of its 62 members. At the meeting two new members were approved: APO (African Packaging Organization) and Indonesian Packaging Federation (IPF).

Website reformulation

The Marketing & Communication Committee, coordinated by the Vice President, Luciana Pellegrino, from ABRE Brazil, announced that by May 2013 the new website will be presented in the first Board Meeting of the year, in Australia. The project is being conducted by Kellen Company that is also responsible for the Secretariat tasks of WPO.

Special category for WorldStar 2013

By suggestion of Luciana Pellegrino, Vice President of Marketing & Communication, WPO is launching a new special category in WorldStar Award, the Marketing one. This first year the category will give the Memorial Trophy Dogan Erberk in memory of its active member that passed away in the beginning of 2012.

According to Pellegrino, the importance of this new category is justified by the fact that the packaging that delivers the essence of the brand. "It is estimated that 70% of all packaging produced today in the world target consumer good industry - food, beverage, cosmetic etc. The idea is to recognize companies that really invested in packaging that demonstrates and understand brand value and that interacts with consumer."

Statistics in global packaging

WPO is evaluating the possibility of hiring a well recognized research institute of make a packaging market report on global statistics. The other possibility is to update the study produced by Pira six years ago. This work will be coordinated by Johannes Bergmair, WPO member from Austria.

Cooperation agreement with Ipack-Ima

By the end of November 2012, **WPO**signed a cooperation agreement with Ipack-Ima Spa. to support and promote the exhibitions East Africapack (9-12 September 2014 – Kenya) and Ipack-Ima (19-23 May 2015 – Italy). "The agreement focus basically in formulating common programs and concrete actions to promote both shows globally", explains Thomas Schneider, WPO President.

According to Schneider, this support means authorizing the use of WPO logo in all promotional materials and promoting both shows in all WPO media (press releases, webpage and newsletters).

WPO will also indicate qualified speakers to four conferences programs on food safety and security to be held from 2013 until 2015 – June 2013 in Tanzania, June 2013 India, September 2014 at East Africapack Kenya and May 2015 at Ipack-Ima in Italy.

In return, WPO will have an institutional booth in both shows and will indicate a representative in the Steering Committee of East Africapack 2014. For the occasion of Ipack-Ima 2015, they will host WorldStar Ceremony during the show in May, as well as WPO first annual Board Meeting.

Next WPO meetings

From May 6 to 10 WPO will have its first meeting of 2013 in Sidney (Australia), hosted by Australian Institute of Packaging (AIP) that will be completing its 50th anniversary. The Worldstar Award Ceremony is scheduled to May 9th.

The second meeting of 2013 will be in Barcelona (Spain) and will be hosted by the Graphispack Association, the local member. Dates to be announced. The first meeting of 2014 is scheduled to Düsseldorf (Germany) for the occasion of Interpack; the second meeting of the year will be held in Sri Lanka. 2015 will begin with the first meeting in Milano (Italy), for the occasion of Ipack-Ima, and the second in India.

Education projects support

Also during Singapore meeting, WPO Board received three applications to support education programs in packaging. The applications were from Indian Institute of Packaging (IIP), African Packaging Organization (APO) and Australian Institute of Packaging (AIP).

The Executive Committee and the Education Committee are studying the proposals to define the budget for education for 2013.

Education

Options in packaging education in Australia

Over the past 49 years, the Australian Institute of Packaging (AIP), an active WPO member, has played a significant role as the educational arm of the packaging industry. Through training courses, seminars, national conferences, technical dinners and its flagship Diploma in Packaging Technology and Certificate in Packaging, the AIP continues to provide professional and personal development to everyone in the packaging industry.

The institute offers a range of education opportunities to individuals and corporate companies seeking to expand their knowledge and commercial opportunities across the breadth of the packaging industry. These courses are internationally accredited by the PIABC in the UK and are the benchmark for training worldwide. Graduates of AIP courses are recognised internationally expanding their global employment opportunities.

The Diploma in Packaging Technology and Certificate in Packaging are both internationally recognised qualifications for those wishing to pursue a career in the packaging industry, or for those who are already in the industry and who wish to extend their knowledge and expertise.

As a member of WPO, AIP has a unique opportunity of keeping abreast of packaging trends worldwide as well as educational opportunities and standards on a global scale. One project is that once students have qualified having successfully completing the Certificate in Packaging (Level 3) or the Diploma in Packaging Technology (Level 5), their qualification will be recognised not only in the current 27 countries studying similar courses but also in all 52 member countries within the WPO.

2012 is the 31st continuous year in which the AIP has offered these internationally recognised education programs. The aim is to continually meet the educational and training needs of industry now so as to plan for the future.

AIP believes that if professionals are not educate now, the result will be a void in relation to suitable and practical knowledge in the industry in about 5 - 7 years hence. Australia´s industry counts with a substantial level of very experience packaging engineers and technologists who will be retiring within 10 years. So it is mandatory to plan now for the future to be qualified in a dynamic, ever changing industry.

The 2012 updated course is now in line with the National Occupational Standards. Also in the assessment there is greater focus on the subject material and relating the questions directly to the content. In addition whereas previously an examination question would be focused on simply recovering data the future approach is to strengthen the justification of a choice of material or a comparison of performance between materials or to explain a theory. All in the subject material and the approach will challenge the reasoning and there is a focus on the management of operations.

The primary objective has been to bring a level of uniformity across all Diploma level courses as well as the level of knowledge required, effort and the assessment objectives. The final Unit is focused directly on a piece of research, ideally where the student has been involved in at their workplace. It does improve the students' prospects in terms of what will be an EU recognised qualification in due course i.e. it will have greater transportability

The AIP also offers a Corporate Partnering Program where businesses opt for a tailored training program that focuses on their specific requirements and provides a learning experience for a specific group of employees or an entire workforce. Training programs can be designed to lead into a qualification if required or to provide a set of information specific to a business or market area.

AIP is also leading the way in establishing formal educational training in developing countries in South East Asia. The first course was accomplished in Vietnam, Cambodia and Laos in October 2012. This is to be followed by training in Bangladesh in January 2013 and then later next year in Thailand, Indonesia and Malaysia.

More information contact Pierre Pienaar, AIP Education Coordinator by PPIENAAR@sunrice.com.au.

Packaging education in Africa

One of missions of the new member of WPO, APO (African Packaging Organization) is to drive Packaging Education in the region. According to its President, Joseph Nyongesa that is also the Secretary General/CEO of Institute of Packaging Professionals Kenya, the intention is to use classroom, distance and e-learning making through other WPO members (IPSA – Institute of Packaging South Africa and IoPP – Institute of Packaging Professionals USA).

APO also intends to develop an African Residential Packaging Training Program that would rotate amongst member states. "All based in the concept "Train the Trainer"", explains the President. The first residential program is scheduled for 2013, with one week duration and intends to achieve between 20 to 25 students.

Argentina offers packaging courses

The Argentine Packaging Institute (IAE), a WPO member, offers different levels of packaging education. The Packaging Technician course aims to train people with a high-school diploma, with or without proven experience in the packaging industry. It is lectured by professionals with sound experience in the industry and in teaching and the duration is two four-month terms, April-July and August-November, 9 weekly hours.

The Institute issues a certificate at the end of the course to those students who have attended at least 80% of the classes, passed the assessments as well as the annual practicum with a minimum score of 6 (out of 10) . The assessments are individual. The Packaging Technician certificate meets the admission requirements for the Master of Science in Packaging course at Michigan State University.

Another option is the distance learning packaging course, focused on people with a high-school diploma, with proven experience in the Packaging industry, who live more than 100km away from the city of Buenos Aires. In this case, the student receives the Certificate for the "Distance-learning Packaging Course" if passes the questionnaires sent, the practicum and the final exam.

The most advanced course is the Packaging Technology Graduate one that was designed with a two-year duration, structured on modules, allowing access to professionals throughout the country and even in neighboring countries. Students successfully finishing the Graduate course will receive the degree of "Packaging Technology Specialists".

The degree obtained may be credited to the career of "Packaging Technology Specialization", organized by the Graduate and Continuing Education of the School of Exact Sciences, Engineering and Surveying of the University of Rosario, Argentina.

Marketing

An strategic plan for next 10 years

The Marketing & Communication Committee, coordinated by the Vice President, Luciana Pellegrino, from ABRE Brazil, presented in Board Meeting in Singapore, a complex study that analyses the vision of WPO for the next 10 years. The main conclusion is that the Organization needs to update its strategic plan that is being already putting in place.

"We need to put all efforts and actions in making WPO a reference in packaging around the world in terms of shows, magazines, institutes, education projects, packaging intelligence companies (studies and researches), packaging regulation around the world and sustainability initiatives, etc", explains Pellegrino.

To accomplish this mission it is necessary key information in all areas. These information will be joined in the new website, to be launched in May 2013.

In terms of communication, WPO will focus in two products: press releases (PR) and Meet the Press (encounter with the local media for the occasion of participation in trade show and Board Meetings).

Legislation

Food safety: recycling and risk

We are all advocates for recycling rates and using recycled content but the issue of Mineral Oil Hydrocarbons (MOH) migration into foods continues to grow. Not all news on this issue is consistent and it is another challenge to Packaging Technologists.

But what are Mineral Oil Hydrocarbons and where do they come from? MOHs are by-products of crude oil refinement and they have a number of packaging applications including inks, adhesives, lubricants, plasticizers and protective coatings. In inks, the mineral oils carry the pigments. When the ink is applied to a surface like newspaper; the oils absorb and attach to the paper fibre. When the newspaper is introduced to the recycle stream where most of the oil attached to the fibre is likely to remain.

Mineral oils can accumulate in several organs over a long period and endanger human health. Swiss research results from a 2010 survey of German supermarket products indicated 75% exceeded EU safe limits.

The problem of migrating mineral oils had been known for many years but previous work had highlighted fatty foods. This work made a connection to grains and puddings. As a result, major food manufacturers changed their packaging amid concerns over the long-term health hazards posed by mineral oils leaching from recycled cardboard into foods. Breakfast cereal producers in the UK - Kelloggs, Weetabix and Jordans - all took steps to change their packaging, according to a BBC report.

In December 2011, the Confederation of European Paper Industries (CEPI) and the International Federation of Paper and Board Converters in Europe (CITPA) announced a commitment to phase out the use of printing inks with mineral oils for printing paper and board packaging. In March 2012, the UK Food Standards Agency (FSA) published a survey with a conclusion that there was no need for consumers to be concerned.

To add to the cloudiness, in June 2012 the European Food Safety Authority (EFSA) published its scientific report on human exposure to mineral oils. Their experts on the Contaminants in the Food Chain panel identified some potential concerns in relation to exposure to MOH through food. However, they stressed there are several uncertainties regarding the chemical composition of MOH mixtures and a lack of toxicological studies. The EFSA called for an overhaul of Acceptable Daily Intake (ADI) levels and suggested new measures to assess and monitor the risk from the substances.

Packaging companies in Europe have been promoting that they have products that have effective barriers against MOHs. Consumer product companies have started demanding that packaging suppliers provide certification that any recycled paper they are using has at least low levels of mineral oil, if not are free of it.

This is not the end of this issue. This is an issue for packaging technologists to grasp quickly. The solution is to gain the knowledge, work closely with your packaging suppliers and understand all steps of your packaging supply chain.

More information contact Ralph Moyle, National President of Australian Institute of Packaging (AIP), a WPO member by info@aipack.com.au.

Special Article

Shelf friendly packaging: is there a problem here?

By Ralph Moyle*

Whilst Shelf Friendly Packaging (SFP) or Retail Ready Packaging (RRP), as it is also referred, has been part of the Australian retail landscape for nearly 10 years, there is still a process and a function that few understand. The core of retail ready is waste and cost reduction; two familiar topics to many of us. The Australian supply chain for FMCG goods is long and aggressive and has many hands touching the carton or pack.

One of the key targets of SFP is minimising labour at each work station. For the secondary package, the accepted task of safe transport has not changed. It is just more challenging when it has to look good on shelf, attract a buyer and complement the primary pack.

There are three retailers driving SFP. Aldi, with extensive European experience, has a prescriptive approach. A presentation at the AIP National Conference by Rod Evenden (Woolworths) and Matt Swindells (Coles) clearly demonstrated common goals.

These goals are summarised in the mantra of 'five easies of SFP':

1. Easy to Identify.
2. Easy to Open.
3. Easy to Replenish.
4. Easy to Shop.
5. Easy to Dispose

There are three elements to find the optimal solution to SFP.

1. **The right size, shape and format of the secondary packaging**. This is a question directed at brand managers and packaging professionals. The question is "what is the rate of sale of the item?" If you sell 24 items in each store, each week, then a carton of 24 can be adapted. However if the weekly rate of sale is 6, an analysis of the value of continuing with a slow moving product is needed.

1. **Structural**. With the example above, the weight, size and shape of secondary shippers are becoming smaller. Corrugated board, C flute is out-dated with E and the newly developed R as alternatives. Folded board once only used for primary packs is finding a niche with its exceptional printing qualities. Regular-slotted and wrap around carton formats are no longer the only choice. Tray and hood or bridge is common Europe. Tray and shrink are generally the choice for rigid cans and glass. Choice is important, as one type does not fit all circumstances.

1. **Communication**. The shipper having transported the primary packs successfully to shelf must now be point of sale material and communicate directly to the shopper. The choice of message and how it is printed is core to success.

As was the case with introduction of barcodes on shippers many years ago at the direction of the retailers, SFP is a part of doing business today and it is not going away. No one would consider removing barcodes and in time SFP will be as important as bar coding.
Shelf Friendly Packaging, like many changes to our distribution cycle, requires a thorough understanding of the supply chain. The concept is not going away and it requires innovative thinking and honest decisions to succeed. If you look you will find problems, but if you are committed you will find solutions.

Ralph Moyle is National President of Australian Institute of Packaging (AIP), a WPO member. He is an experienced food-packaging consultant and has been involved in many Shelf Ready Packaging transition projects since 2004 with large and small FMCG food companies. For more information visit www.aipack.com.au.

The road ahead for the packaging industry. Where to from here?

*By Pierre Pienaar**

Any packaging consultant would love the gift of prophesying but, sans that, there are some clear trends that have emerged in the packaging industry which warrant serious attention if participants in this very important sector of the market were to keep up with change.

Food Safety

Food safety remains the number one issue for the public and will continue to affect packaging materials. Companies are under increasing pressure to develop new packaging which ensures healthy, safe, yet quick-to-consume products. Companies need to remain mindful that product recalls or liability cases and the resultant loss of customers can be an immeasurable cost compared with the expense of improving packaging which prevents mislabelling, spoilage, product-tampering or contamination. Consumers' demand for smaller, healthy portions will increase the demand for new packaging of existing products.

Sustainability

Sustainability is a major trend affecting operations in packaging. Considerations in this area are now a fact of life with bioplastics and renewable resources such as sugar cane being serious participants in the event. But consumers still require greater clarity around what is really sustainable. They are increasingly interested in their personal impact on the environment and are demanding more from manufacturers. There is a need for ongoing discussions about codes and standards. Australia's packaging industry needs to participate seriously in coordinated and cooperative efforts around global packaging sustainability and develop honest measurement tools for the manufacturing industry to consider.

Private Labels

The growing private label industry now represents a threat to the branded product. Ever encroaching shelf space by private labels which do not carry the burden of the branded product's large advertising-marketing budget is an indication that this sector of the packaging industry can no longer be ignored. In 2009 private labels were responsible for 45% of products sold in Europe and 25% in the USA. The packaging industry needs to accept that consumers have matured in this area of purchase. Whereas retailers and consumers were once loathe to experiment with non-brand items, the private label market has been intent on improving the quality of its product. In Australia, this has been most evident as private label sales have continued to grow. Our challenge now is to capture and expand into the less saturated, emerging markets of Asia. Manufacturers and marketers, however, would be wise to remember that a product with no brand history to depend on will heavily rely on its quality to do all the advertising promotion. Never can one assume that a third world, emerging nation would be prepared to spend its hard earned, meagre income on an inferior product just because the label offers the discount.

Packaging Enhances Product Value

Internationally and nationally branded consumer product companies and their partners subsequently need to respond by offering their customers enhanced value in the packaging. Some companies have commenced by redesigning packaging to more strongly differentiate their brands. If the pack is all you have in a quality, price-competitive market, innovation becomes a priority. Packaging uniqueness is forecast to be a major differentiator for successful products with colour coding on packaging within a product line being a preferred trend. Busy consumers have identified that colour coded products help them distinguish between products.

Economy and Education

As we recover from the worst economic slump in decades, trends from this recession include an increased demand for refurbished or upgraded packaging machinery and surges in the demand for co-packing and contract packaging operations. The lean experience has resulted in cutting costs throughout the industry in order to survive. Reduced labour costs, introduction of automation and technology, rigorous evaluation of all expenditures in order to maintain productivity and the elimination of poorly performing business lines and products has meant only the best can stay.

Are you among the best? Have you ensured that you can compete with the best? Management consultants for retailers, wholesalers and manufacturers suggest that the packaging industry will suffer if it does not take itself seriously enough and ensure that its participants are continually being educated to improve packaging knowledge and skills. I'd like to suggest that back-to-strong-basics, consolidation of business, a cooperative, consultative approach within the industry underpinned by ongoing education will ensure you reach the future in a vibrant industry.

Pierre Pienaar, is Education Coordinator of Australian Institute of Packaging (AIP), a WPO member. More information info@aipack.com.au or visit www.aipack.com.au.

Special Article

Packaging economics

By Pierre Pienaar*

Packaging plays a vital part in product distribution. It is the major factor in ensuring that the quality that is obtained at the end of the production line finishes up in the hands of the ultimate customer. Packaging which is designed and constructed solely for this purpose adds little or nothing to the value of the product. It merely prevents physical damage and/or preserves the product.

Cost effectiveness is the sole criterion for success in today's competitive business environment. Therefore efficient and cost effective packaging is an essential element in the marketing mix of a product.

Material economics

The name of the game has become one of intense competition, of finding the growth niches within the overall packaging market to make sure that you grow faster than your opposition. The overall packaging market in developed countries may therefore seem to be rather mature and static but internally it certainly is very dynamic.

Each packaging material – paper, glass, metal and plastics – and each form of packaging within these segments, continuously struggles for its share of this enormous market. But because the total is growing slowly, the industry has come to resemble a zero game where one material's gain is another's loss.

This accelerating competition between the different materials has forced a greater emphasis on new technology, new packaging systems and new distribution systems, and these developments are increasingly occurring on a worldwide basis.

Two issues have become apparent when we refer to competitive packaging materials. Firstly, materials must have certain characteristics to perform the functions which are required in their use as a packaging material. Some materials are better placed than others and there is normally a comparison of these properties to decide which will perform best under any given circumstances. No one material is perfect and in most cases there is a trade-off of properties to reach a final decision. It is interesting to note that most packaging materials can, through highly scientific means and advanced technological developments, overcome some of their inherent weaknesses to place them in a better competitive position, i.e. their toughest opposition.

This invariably costs money, which leads to the second point, namely that of the economics of packaging material. Upgrading the product technologically may be a technically feasible proposition but the strong question remains is it commercially feasible. And in this respect the commercial realities of a product carry more weight than anything else. The crux of the matter is that customers will only convert to an alternative packaging medium if the conversion results in better bottom line performance.

This is a very stable industry, which has grown steadily over many years. It is far less prone to violent swings in the economic cycle, mainly because the major off-take is pitched at the non-durable segment of the market with a heavy emphasis on beverages – alcoholic and non-alcoholic as well as food.

Packaging, in product distribution is a techno-economic function aimed at maximising sales, while minimising the total overall cost of distribution. It can be regarded as a benefit to be optimised rather than merely a cost to be minimised. Packaging must be considered in relation to four major factors in industry today: materials utilisation; machinery and line efficiency; movement in distribution and management of people.

Elements of total cost

In *Packaging Economics*, Leonard identifies seven elements of packaging costs:

- Development costs
- One-time costs
- Material costs

- Packaging Machinery costs
- Packing Process costs
- Distribution costs
- Write-off inventories

In computing economics, the packaging professional should address direct costs such as materials, labour and utilities associated with the packaging. Allocation of indirect costs such as administration, sales, plant over-heads or return on investment are better left to the financial professionals, since each organisation has its specific set of rules for accounting.

Development costs
These are all costs that are involved in the development of a package and normally carry through issuance of the final specification. Examples would include concept research, design, models, tooling, samples, sample evaluation, testing, test marketing, specifications, preparation, quality control, start-up, etc. There will be occasions when the development costs of a package are so expensive that it might require several years to amortise the initial costs, although 1 to 2 years is a normal payback period.

One-time costs
These are generally regarded as costs that are paid "one-time" and are not repeated during the life of a packaging specification. They include both the above development costs as well as costs for tooling, dies, special moulds, and gravure cylinders.

Material costs
We usually think of this when packaging economics is discussed. It is really only part of the costs, and even material costs have their own factors, some of which are frequently ignored, with later embarrassment.

Material costs would include:

- Basic unit price
- Special packing
- Freight
- Packaging materials storage and handling
- Shrinkage of packaging materials
- Sampling and inspection costs

An effective materials pricing policy would include knowledge of:

- how the material is produced
- where it is produced
- alternate methods of price quotation
- production losses
- specification / quality assurance control

Packaging Machinery costs (other than one time)

A packer need not own all the equipment in his packing lines since lease and rental arrangements are available on many kinds of machines, such as can closers, cluster packers, vacuum cappers, and in general machines which are part of packaging systems. Supplier service and maintenance contracts are available to go with the machinery. The allocation of rental and service charges to total packaging costs is quite easy.

Packing process costs

All labour costs (direct and indirect), overhead and incidental materials must be calculated in devising a truly valid process. Plant overhead, floor space, energy and inspection costs must be calculated. In order to save utility charges, some companies elect to install their own energy plants. Fixed overhead should be known and computed into the cost of every package produced. The total monthly costs, divided by units packed, will identify a cost per unit for such materials. With a couple of months' records on such items the packaging technologist can readily estimate the cost impact on any proposed new package.

Distribution costs

All expenses concerned with physical moving finished packaged goods from the packaging plant to the customer are distribution costs. These costs include packing materials, palletising, warehousing, loading and shipment. Certain products need special warehousing conditions. Medical and pharmaceutical packaging material storage demands more controlled conditions than beer bottle label storage. Frozen foods require warehousing at -180C or below.

Write-off inventories

No packaging is immortal. To replace it with a new specification or even with nothing more than new graphics involves not only the cost of developing the new container, but a consideration of how to run out the old most economically. At any stage when a changeover is decided on from one package to another, there will be packed goods in the channels of distribution, packaging materials in the packer's plant, raw to finished packaging materials in the suppliers' plants and warehouses. The changeover must be arranged with a view to minimising the value of old materials in this chain of supply and distribution which will have to be discarded, without allowing customers to run out of stock while the new packages begin to flow in.

Will advertising break on the new package while old packages are still in distribution? Can old packages remain in the market place or will they have to be picked up, returned for salvage or destroyed.

These are sometimes difficult questions to answer but they have to be faced. Thus we have to itemise in some brief way all of the cost elements which are part of packaging and the development of new packages.

Packaging empowers the future

Pressures on packaging are intensifying in the global marketplace. Too often, packaging is forced into a commodity status, at the mercy of the decisions and strategies of other sectors. But packaging will strengthen its role as a strategic partner in the marketplace.

There is probably no single scenario of the future for which we would have difficulty finding support in a school of economic theory or with a few specific practitioners. Armed with the knowledge that prediction is possible and lacking biasness based on significant knowledge or background in the area of packaging economics, the following is probable.

If the packaging professional keeps an alert eye on these items he need never be surprised by unexpected costs.

* Pierre Pienaar is Education Coordinator of Australian Institute of Packaging, a WPO member. More information contactinfo@aipack.com.au or visit www.aipack.com.au.

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