

Packaging Cluster

The Packaging Cluster

2017 Annual Report

5

Anniversary



**PACKAGING
CLUSTER**

Welcome from the Board

the packaging sector's steady progress, where in Catalonia there are currently **753 companies** conducting business, with a turnover in their packaging areas of more than **€7.1 billion**, employing more than **40,000 workers** throughout the entire Principality.

Our entity collected this data, thanks to the "*Strategic Update*" study of the packaging sector in Catalonia that was carried out jointly with the administration, which is a document that, on the one hand, maps out the business sector in Catalonia and, on the other hand, shows global trends and challenges that must take place at a local level in order to continue strengthening the economy.

Despite the strength of the sector we represent, we need to be very vigilant with regards to all the identified challenges and address them as a whole, while also taking advantage of the cluster instrument, which will allow us to continue to be one of the **industrial driving forces of our economy**.

Thus, elements such as **increasing the critical mass of our companies**; continuing to **grow internationally**; tackling the challenges posed by **sustainability**; or **adapting packaging to new challenges and social demands**, are just a few of the elements that we will have to work hard on in the coming years.

And we won't be doing all of this alone. We have a Network of very healthy clusters, which also celebrated its 25th anniversary in 2017, positioning Catalonia as one of the European territories with the most extensive experience in this field, which now includes more than **2,200 companies** within the cluster initiative.

Finally, we invite you to read the report on all the work that was done in 2017, where you will find a summary of the featured activities, descriptions and the positioning of the **65 members** that make up the entity, with information such as the segmentation of the sector's value chain, as well as the areas and topics of the projects promoted by the entity. This is how we will be able to take advantage of the business opportunities stemming from the technological and social changes that we are currently experiencing in this new digital era.

Happy reading!

Artur Costa Barrés

President of the Packaging Cluster

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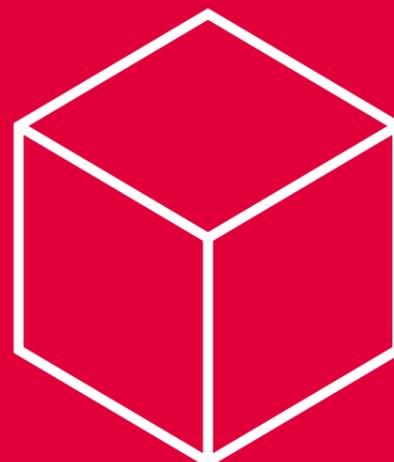
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PACKAGING CLUSTER



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1. THE PACKAGING SECTOR

Catalonia, a territory with a lot of industry experience, has a high concentration of manufacturing companies, a fact that can be seen in their elevated contribution to the economy, with industry representing 20.6% of the GDP, already exceeding the EU's target for 2020 (20%). And the packaging industry plays a vital role in all of this.

This impact is also reflected in the fact that the packaging sector is one of the ten areas with the greatest amount of growth in Europe (Advanced Packaging) and is one of the Catalan economy's six areas of specialisation (Paper & Packaging)*1.

Packaging is present in different

economic sectors, including the chemical, food or pharmaceutical, which primarily generate consumer goods for the food, pharmaceutical, beverages and cosmetics sectors.

Catalonia, the exemplar autonomous community when it comes to packaging, leads the number of machinery manufacturer and export companies.

Together with the autonomous communities of Valencia and Madrid, they account for around 70% of the companies, while Catalonia also accounts for 43% of turnover.

The existence of a **packaging cluster** is due to the location of many companies in the sector that are distributed throughout Catalonia.

753
COMPANIES

40K
EMPLOYEES

7.1B
EUROS

(without taking into account end users)

3,4%
GDP

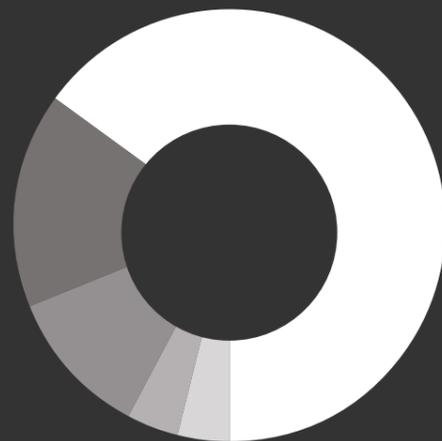
1. DISTRIBUTION ACCORDING TO THE NUMBER OF EMPLOYEES 2014



MORE THAN 50 (40%), FROM 20 TO 49 (40%), LESS THAN 20 (20%)

Graph 1: Envasgraf

2. GEOGRAPHICAL DISTRIBUTION OF COMPANIES 2014



CATALONIA (65%), BASQUE COUNTRY (16%), LEVANTE (11%), MADRID (4%), OTROS (4%)

Graph 2: Hispack

2. PACKAGING CLUSTER

Set up by Catalan companies in 2012, today the cluster consists of 65 active members*2 (including companies, knowledge centres and other entities that work in the packaging industry).

2A. TEAM



Àlex Brossa
Cluster Manager
Telecommunications
Engineer and MBA

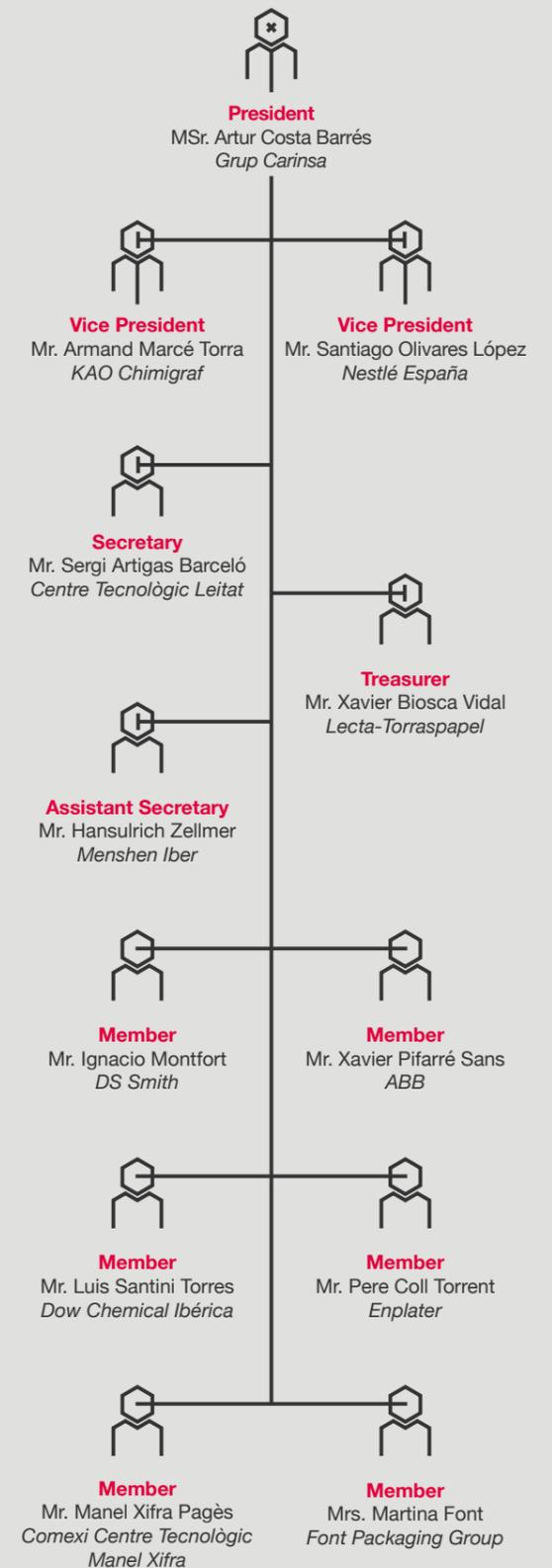
Entity's Chief Executive. Experience in innovation project management and competitive improvement for the industry. Promotor of cluster initiatives to improve the business network.

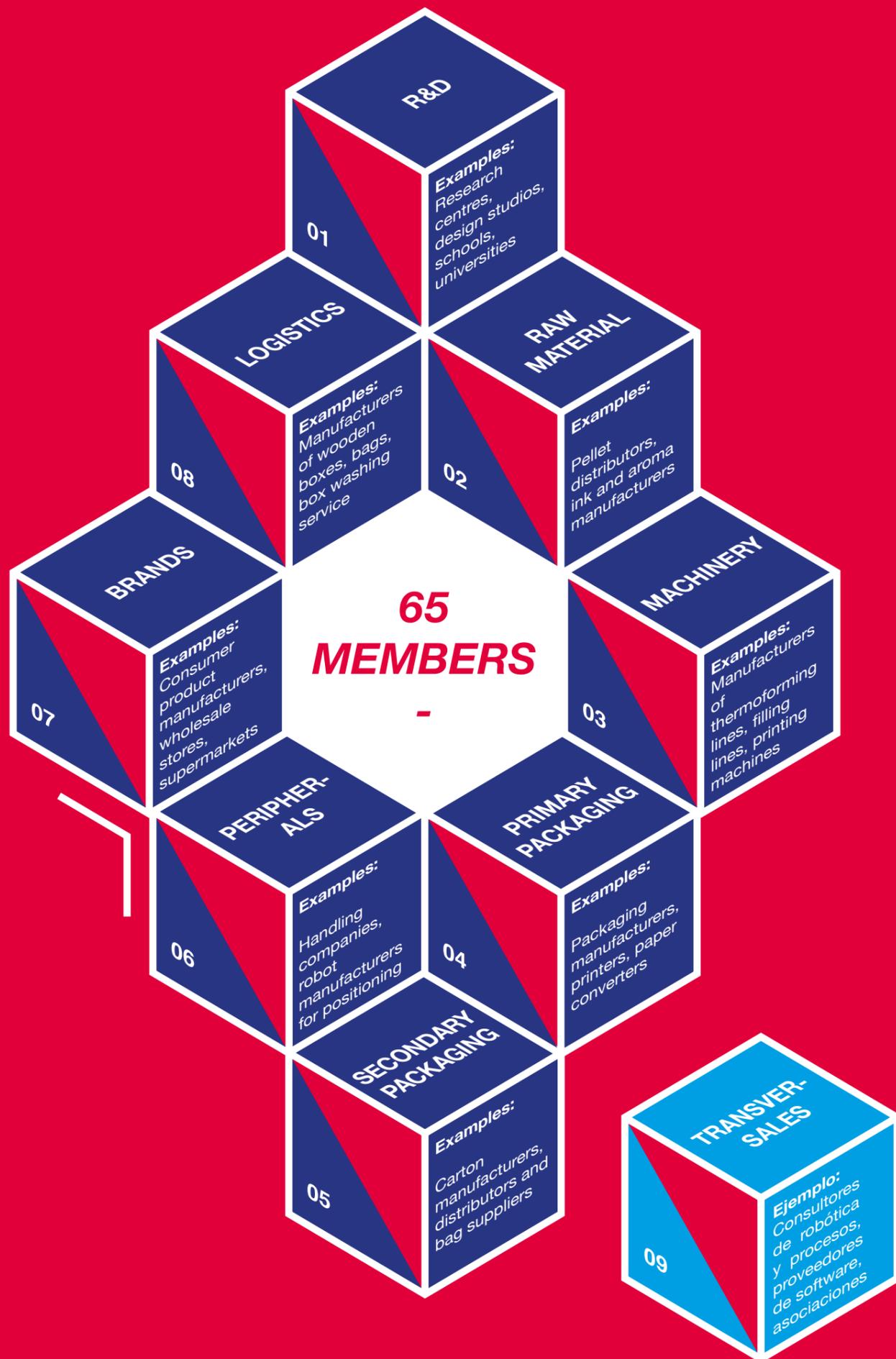
Mar Bonet
Project Manager
Industrial Design
Engineer,
Postgraduate:
Project
Management
and Packaging
Engineering

Head of national and European projects. Experience in packaging R&D developments. Developer of R&D initiatives to improve sector competitiveness.



2B. BOARD OF DIRECTORS





2C. VALUE CHAIN	
R&D	Entities that promote research, development and innovation. Generation of ideas to initiate projects, develop briefings for advanced proposals, selection of materials or development of a brand's conceptual design.
RAW MATERIAL	Manufacturers, suppliers and/or distributors of raw materials and intermediary products. Acquisition of the raw material to start a product-
MACHINERY	Manufacturers, suppliers and/or distributors of machines. Acquisition of machinery to convert the raw material or handle and package final containers.
PRIMARY PACKAGING	Manufacturers, suppliers and/or distributors of primary packaging, which is in contact with the product and taken home by the consumer: plastic containers, paper, cardboard, glass, aluminium, as well as lids, covers, labels, banderols or carton... This also includes the manufacturers of the material prior to its processing (cardboard plates, flexible film reels, plastic or glass bottles...). Acquisition of the primary packaging to protect, preserve, transport or communicate the product.
SECONDARY PACKAGING	Manufacturers, suppliers and/or distributors of secondary packaging, which is not in contact with the product and may or may not be taken home by the consumer. Acquisition of secondary packaging to group primary packaging into more manageable units.
PERIPHERAL	Manufacturers or suppliers of elements used to inspect the packaging, or packaging handlers and co-packers. Acquisition of secondary elements such as rays, vision, positioning, etc., to optimise processes. Outsourcing of external companies for the handling and assembly of packaging products.
BRANDS	Packers and/or developers of the final product for the consumer, or wholesalers and retailers of containers and packaging. Provision of the final product to the consumer.
LOGISTICS	Manufacturers, suppliers and/or distributors of material for product distribution. Tertiary packaging. Outsourcing of services to carry out the entity's logistics processes, or acquisition of tertiary packaging as the company's own direct cost.
TRANSVERSAL	Other entities. Consulting and outsourcing with companies whose "Core Business" is not necessarily the packaging sector, but whose activity complements the business.

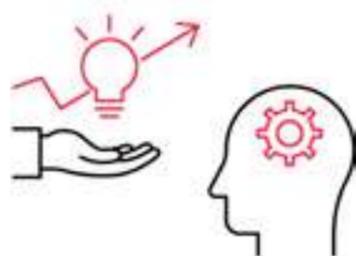
3. STRATEGIC AXES

To improve the sector's competitiveness, our work follows 6 courses of action, which combine areas such as business strategy, market intelligence, R&D, innovation, internationalisation and training.

R&D PROJECTS

Generation of R&D projects at a national and international level. Synergies and creation of consortiums with complementary companies and knowledge centres in order to improve companies' business.

The Packaging Cluster comprehensively manages the entire project. It is also an instrument that is used to disseminate projects with guarantees, making sure they reach the client sectors via its own dissemination channels, in addition to accessing general and specialised press with the goal of making the obtained solution scalable.



INTERCLUSTER WORKSHOPS

Interaction with other clusters to detect and solve specific packaging needs and demands in other client sectors. In Catalonia, the cluster entities, with more than 2,200 associated companies, are the leading business networks in terms of innovation and strategy.

The Intercluster Workshops are conducted by developing a

specific methodology in order to successfully achieve the objectives. These workshops can result in R&D projects or specific actions, with the goal of contributing even greater added value to the business of packaging companies, working with client companies that have real needs and challenges, and that are willing to adopt the solution.



TECHNICAL AND INNOVATION WORKSHOPS

The dissemination of cutting-edge knowledge, technological innovations and market trends is essential in terms of making cluster companies pioneers and thus ensuring they stay ahead of other leading solutions in the packaging world.

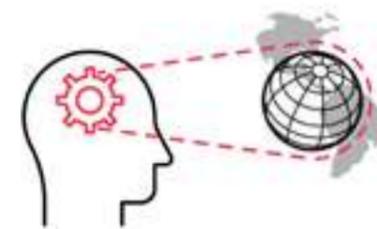
Thus, some of the sessions that take place include conferences on sustainability via the circular economy, Industry 4.0 with the automation of Big Data and the Internet of Things, the management of innovation with concrete solutions, or consumer trends and consumer behaviour with focus groups.



INTERNATIONALISATION AND GLOBAL POSITIONING

The fact that we are assembled as a key cluster allows us to interact with other homologous entities at the international level, jointly analyse future trends, and work together on concrete challenges that are in need of solutions.

Each year, different projects and missions are carried out, taking advantage of leading sector conventions or technological sessions by European clusters, with the aim of strengthening relationships in the medium and long term that will increase the economy's internationalisation and allow cluster members to be positioned as providers of advanced solutions.



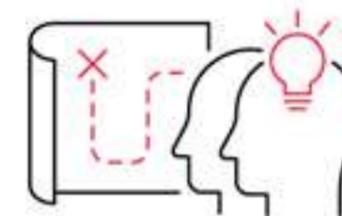
REFLECTION AND STRATEGIC CHANGE

Discussion and exchange of knowledge with the entire value chain in order to generate a strategic vision that will enable us to make progress in the generation of new and better business for the industry.

The entity is a catalyst of useful market intelligence information by commissioning and disseminating specific market studies, trends in the packaging sector, opportunities for new international markets, new technologies to apply in the sector, exchange of good practices, and new challenges that are demanded by both the consumer and brands.

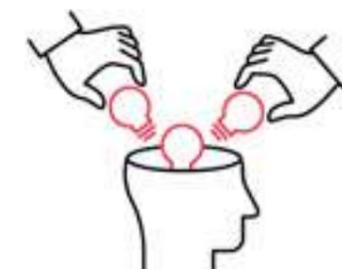
The cluster is the vehicle that allows us to align different members of the value chain in order to produce changes

in the strategy of companies, while simultaneously generating a multiplying effect for the entire industry.



TRAINING AND TALENT ACQUISITION

Ongoing professional training in the Packaging Industry and the acquisition of knowledge by new industry experts, as well as in transversal sectors, is something that enriches the entire value chain. From within the cluster, we want to encourage and promote this type of training through three different training courses: Postgraduate Degree in Packaging Engineering, in-classroom teaching at the UPC School; online training through the Packaging Expert Accreditation (PEA); Custom In-Company Courses.



WHAT WE DO

Learn more about the strategic axes in the "Services" section on our website



www.packagingcluster.com/en/services/

4. ACTIVITIES

During 2017, 25 activities were carried out for the associates along with another 22 where we participated as a cluster entity. Together, they add up to a total of 47, which allow the sector to position itself as a leading field.

The 6 strategic axes can help to generate new professional relationships (networking) and new projects and business, in addition to obtaining greater sectoral knowledge (market intelligence).

Therefore, all activities that are carried out with active participation, which can either be for the member or the cluster entity's strategic activities, fit into one or several strategic areas, many of which complement each other.

4A. FOR THE MEMBER

FEBRUARY (7-9, 17 and 23)

- ✦ 1 Pacgraf Cuba Trade Fair. International Mission
- ✦ 2 Intercluster of Medical Technologies and Packaging. HealthTech Cluster
- ✦ 3 Conference on Business Growth and Strategic Change

MARCH (6-7, 13, 15, 21-22, 30)

- ✦ 4 Course on the Main Food Packaging Certifications
- ✦ 5 2nd Intercluster of Medical Technologies and Packaging. HealthTech Cluster
- ✦ 6 III End User Market Viewpoint with Lékué and Teixidors. BCD Cluster
- ✦ 7 Intercluster with AINS (CAT) and FoodNetwork (DK). Graphispag Trade Fair. 1st session

- ✦ 8 Valles Circular Conference

APRIL (4 and 19)

- ✦ 9 X Intercluster Meeting with International Expert – Mr James Wilson
- ✦ 10 Smart Manufacturing. Digital disruption in industrial environments

MAY (8-12, 25)

- ✦ 11 Interpack Trade Fair. Germany
- ✦ 12 “Industry 4.0 Applied to Packaging” Conference

JUNE (7, 8, 12 and 14-17)

- ✦ 13 Quick Response Manufacturing & Agile training session. CEQUIP Cluster
- ✦ 14 Ceremony celebrating 25 years of Cluster Policies

- ✦ 15 V Annual Assembly. Strategic Update Presentation

- ✦ 16 Propack Thailand Trade Fair. International Mission

JULY (5, 10-14)

- ✦ 17 Intercluster Forum: Energy Efficiency and Self-Consumption Solutions. Solartys Cluster, CEEC, AEI Textiles and Packaging.

- ✦ 18 Propack China Trade Fair. International Mission

SEPTEMBER (19-20 and 25-27)

- ✦ 19 Intercluster with AINS (CAT) and FoodNetwork (DK). Top Packaging Summit – Malmö, Sweden. 2nd session

- ✦ 20 PackExpo Las Vegas Trade Fair. International Mission

OCTOBER (5 and 19-20)

- ✦ 21 Information Session Packaging Engineering Postgraduate

- ✦ 22 V Strategic Immersion Packaging Cluster. 5th Anniversary

NOVEMBER (14-17 and 28)

- ✦ 23 Institutional and Business Mission to Ghana
- ✦ 24 IV End User Market Viewpoint with Montana Colors and Educa Borrás. Cluster Kids

DECEMBER (14)

- ✦ 25 V Edition of Cases of Strategic Change IESE

4B. AS A CLUSTER

JANUARY (25 and 26)

- ✦ A Conference on Industrial Symbiosis. Cambra de Comerç
- ✦ B “Top Consumer Trends” by Packbridge. Malmö, Sweden

FEBRUARY (13)

- ✦ C Food Clusters Meeting

MARCH (6, 8, 9, 16, 18 and 30)

- ✦ D Funding Opportunities for European Projects
- ✦ E CEP Print 3D
- ✦ F Study Visit project “Towards Cluster Excellency”

- ✦ G Catalan Associationism Cibera

- ✦ H Ecoembes Conference. “Resource and Waste Management”

- ✦ I Funding Opportunities for European Projects II

APRIL (4 and 26)

- ✦ J Moderation at the Advanced Factories Trade Fair

- ✦ K Presentation of ARC Grants

MAY (5-11, 12 and 30)

- ✦ L Strategic Training Week Singapore
- ✦ M Agrofood & Packaging Synchrotron Industrial Applications

- ✦ N MeetingPack Conference Valencia

JULY (8 and 27)

- ✦ O Valencia Intercluster Conference – Catalonia

- ✦ P National Clusters Meeting AEI. Madrid

SEPTEMBER (20 and 21)

- ✦ Q Moderation at round table session Masca Innovation Packaging 4.0

- ✦ R V Clusters Matchmaking. Stuttgart, Germany

NOVEMBER (9, 13 and 15)

- ✦ S TCI Congress. Bogotá, Colombia

- ✦ T Prime Visit Shanghai

- ✦ U Technologies and Innovation Forum

DECEMBER (23)

- ✦ V Basque Country and Navarra Intercluster Clusters Meeting

AGENDA

For more information on these and other activities, see our «Agenda» section on the website



www.packagingcluster.com/en/agenda/

4D. FEATURED

The activities carried out, along with the large turnout and response of professionals in the sector, increasingly validates the work being done by the cluster and its impact. Below, we have highlighted both new and ongoing initiatives that manage to create meeting spaces for dialogue and discussion.

ACTIVITIES FOR THE MEMBER

MEDICAL TECHNOLOGIES AND PACKAGING INTERCLUSTER. HEALTHTECH CLUSTER



On Friday, February 17th, the project that was put into motion by the Cluster of Medical Technologies and Packaging was launched. The session, which took place at Masca's facilities, gathered more than 30 companies from both value chains.

The conference featured presentations on trends and opportunities that, with the two manager clusters, showed the current situation of each sector and identified possible work areas, such as new **labelling and identification systems**; improving **usability**; promoting **sustainability**; or the availability of information throughout the supply chain.

The session, which was led by the Ignite Innovation consulting firm, showed different ways of working on innovation, and used a judo session to demonstrate the similarities and characteristics of how

to prepare the organisation in order to pursue new business opportunities.

Finally, the session concluded with *speed meetings* involving participants, along with an activity where companies could identify opportunities with each other.

BUSINESS GROWTH AND STRATEGIC CHANGE CONFERENCE



The Packaging Cluster gathered different packaging companies at ACCIÓ as part of the Business Growth and Strategic Change Conference, with the aim of helping to diversify into new market segments.

The session began with a presentation by **Mr Xavier Bultó**, Director of Finkator, explaining the keys to the company's growth and renewal, who explained the methodology used to promote new business opportunities in combination with the company's current dynamics, who then separated a company's business into four horizons: consolidated business; emerging business; new business; and new opportunities.

Mrs Martina Font, Deputy Director of Font Packaging Group, explained how to create new products and services in a mature sector, showing specific examples of product innovations for new market segments, planning and adapting the strategy to be followed at all times: "we establish what we want to achieve, while also defining intermediate objectives." Together, all the innovations (many of which have received awards) have led them to be able to increase the company's turnover from €19M in 2009 to €30M in 2016.

Next, **Mr Hansulrich Zellmer**, Managing Director of Menshen Iber, also discussed how a multinational with a production plant and R&D department in Catalonia has been setting their sights on new products in order to satisfy new consumer demands, providing an example of how a company that specialises in tops and closures has developed new products such as baskets for the cleaning sector or coffee pods for the food industry.

Finally, **Mr Abel Paulet**, General Director of Industrial Sagarra, showed how they have gone from being manufacturers of cardboard tubes for the textile sector, to promoting a new range of packaging with smart applications, while also creating a new company brand, Packintube, to target a differentiated product market with high value added, specialising in short runs.

COURSE ON MAIN CERTIFICATIONS FOR FOOD PACKAGING



On March 6th-7th, the Packaging Cluster organised a specific course for companies in the packaging industry, related to the "Analysis of Hazards and Critical Control Points and the ISO 22000 Standard", which was taught by AENOR.

Knowing about the regulations on food safety and how to implement management systems is one of the demands by industrial companies that supply the food industry.

This session gives continuity to the training session that took place last year on "Main Certifications for Food

Packaging", which delved into the BRC-IOP protocol, the FSSC 22000 and the IFS PAC Secure, comparing the protocols and their respective certification processes. The course, which was attended by **16 company technicians**, had a very practical approach that was based on sharing the experiences and needs of different companies.

2nd INTERCLUSTER OF MEDICAL AND PACKAGING TECHNOLOGIES. HEALTHTECH CLUSTER



Within the framework of the Strategic Projects Programme that is promoted by the HT Cluster and Packaging Cluster, the second session was held with companies from both clusters, which served to define and select different business ideas to be developed by the two value chains.

The workshop identified different areas of business opportunity, which were summed up in a total of **27 different ideas** that were developed by the companies in attendance. Subsequently, a qualitative voting process selected the **9 most highly rated proposals**, prioritising the ability to easily develop the idea, as well as the market's potential.

The 3 best **business models** will be followed up on in the coming months, with the aim of reaching the marketing phase with guarantees, helping to position the idea, identify the potential market, help with the product design, and support the definition of the business model.

The conference was held at Avinent's facilities, and at the end of the session participants got to visit the innovative company that manufactures implants and personalised prostheses. The project, which is supported by ACCIÓ, is carried out in collaboration with the Ignite Innovation consulting firm, and **aims to market new business ideas** that have been co-created with both knowledge from the packaging industry and the medical technologies from Catalan companies.

III END USER MARKET VIEWPOINT WITH LÉKUÉ AND TEIXIDORS. BCD CLUSTER



On March 15th, the **Packaging Cluster** organised the III Market Viewpoint with companies from the design field, members of the Design Cluster from the Barcelona Centre de Disseny (BCD), which called on its members to work on packaging challenges, during which Lékue and Teixidors explained the current needs that require a solution.

More than **30 people** participated in the Viewpoint, where they had the chance to work together on specific challenges related to packaging in an innovation workshop that was led by E2S, in which demands arose such as applying interaction with the consumer, how to adequately explain the product, or how to differentiate the product, among other challenges.

Finally, Lékue and Teixidors explained the business strategy they are following as companies in order to better align their activity. The Market Viewpoints are aimed at promoting networking,

learning about and debating trends, and designing new products through open innovation.

INTERCLUSTER WITH AINS (CAT) AND FOODNETWORK (DK). GRAPHISPAG TRADE FAIR. 1st SESSION



The first session of the "Food & Packaging International Workshop" project, within the framework of the Innovation Express programme of the BSR (Baltic Sea Region) line, took place on the 21st and 22nd in Barcelona and was organised by the Catalan nutrition and health clusters (AINS), the Packaging Cluster, and the Danish food cluster (FoodNetwork).

The session, which took place over a day and a half, began at ACCIÓ with a presentation by **Mr Alberto Pezzi**, Director of the Clusters Unit, welcoming all participants with a total of more than fifteen members.

Next, **Mr Oriol Izquierdo**, from Cluster Development, painted a picture of the packaging situation at a local and global level, presenting the main identified trends. In the morning there was a presentation by the session's three participating clusters, which explained the actions related to the **areas that the project works on**, such as **Food Safety, Sustainability, Fresh Fish Packaging, and active and smart packaging**. At the end, participants presented their company to all members and explained what they do.

Finally, participants visited the members

of the Catalan clusters, including Casa Ametller, to learn about innovation in the field of food distribution; the Barcelona Science Park, which shared the operating model of the territory's technology transfer; as well as a visit to Hewlett-Packard, presenting the various printing technologies that are available for packaging as well as in the field of 3D printing.

On the second day, there was a visit to the Graphispag Trade Fair, where different innovations in available printing technologies were on display. Likewise, a visit was also made to the exhibitor packaging cluster companies in order to learn about innovations in flexographic printing, by Comexi, and smart packaging, by Packintube.

"INDUSTRY 4.0 APPLIED TO PACKAGING" CONFERENCE



The container and packaging industry met within the framework of the "Industry 4.0 Projects in the Packaging Sector" conference, which took place at Eurecat on May 25th, 2017.

The session was opened by **Mr Albert Riera**, Business Development Director at Eurecat, and **Mr David Centelles**, member of the Packaging Cluster's Board of Directors and Marketing Director at Comexi. **Riera** defended the idea that *"Industry 4.0 is business"*, and **Centelles** said that *"it will change the industry and the ways of working"*.

Public administrations participated in the first block of the conference, with **Ms Amelia Riestra**, Head of the Studies and Analysis Area for the SME

of the Ministry of Economy, Industry and Competitiveness, and **Mr Carles Miranda**, Industry 4.0 Coordinator at ACCIÓ.

The second block was occupied by **technology centres**, which provided specific examples and addressed the technology that is available to be implemented in companies and thus improve their competitiveness. **Mr Jordi Palmiola**, Head of Industry 4.0 at Eurecat, explained the concept of the paradigm shift in this new digital revolution and showed different implementation examples in the company. And **Mr Francesc Cortés**, Senior Robotics Researcher at Leitac, focused his explanation on collaborative robotics, providing cases in which their implementation may be the most useful.

And the third block was focused on sharing real case studies of **companies**, where the partners of the Font Packaging and Tai Smart Factory cluster presented the digitalisation and interconnection project that they implemented for the corrugated cardboard manufacturer's production plant. The recent partner, Delta Electronics, explained a case of remote management implementation for sustainable energy efficiency, with all of the associated technology.

The session had a **round table** for participants, where they shared various challenges in order to be able to work on future collaborative projects.

EVENT CELEBRATING 25 YEARS OF CLUSTER POLICIES



On June 8th, a commemorative ceremony

was held at the Palau de la Generalitat, celebrating the **25th anniversary of the cluster policies** promoted by the Government of Catalonia. The event was attended by the President of the Government, **Carles Puigdemont**, and the Minister of Enterprise and Knowledge, **Jordi Baiget**, who defended the “public/private partnership” in order to improve the country’s competitiveness.

The event was attended by parliamentary representatives from the clusters world. Specifically, the president of the Packaging Cluster, **Artur Costa**, defended the ecosystem of Catalan clusters and called on everyone to “open up to the world”. On behalf of the manager clusters, **Enric Pedros** from FEMAC explained from a practical perspective the ways in which cluster entities have contributed to improving the competitiveness of companies.

The clusters policy was born in Catalonia in 1992, a pioneering global initiative that has been consolidated over the years, and that helped turn **Barcelona into the global leader** that it is in 2017. It is also where the headquarters of the TCI Network are found, which is the network of leading global clusters. Currently, the Government of Catalonia is promoting cluster policies through the agency ACCIÓ, which has a specialised programme called Catalonia Clusters that provides services to the group.

V ANNUAL ASSEMBLY. PRESENTATION STRATEGIC UPDATE



The assembly began with **Mr Jordi**

William’s welcoming, President of the Lietat Technological Centre and member of the Board of Directors, and the entity that hosted the event, with **Mr Alberto Pezzi**, Director of Clusters at ACCIÓ, and **Mr Artur Costa**, President of the Packaging Cluster. They all agreed on the importance of working in a key cluster in order to promote competitiveness, while highlighting the people who are driving forces when it comes to facilitating the changes required by the industry.

Next, the activities and projects promoted by the cluster were presented, associating them with the strategic axes that are also being promoted, such as the R&D Projects; the interclusters with other value chains; the technical conferences; strategic change; internationalisation and training.

The Annual Meeting of Members was also used to approve the accounts for the 2016 financial year and the 2017 budget, which showed growth in all areas in response to the entity’s good performance in regards to its members and projects. Half of the Board of Directors were renewed, repeating all the current ones and replacing one member, which allowed **Mrs Martina Font** of Font Packaging Group to join.

Finally, the “Strategic Update of the Packaging Sector in Catalonia” was presented, which determines that the packaging sector has **753 companies, €7.1B in billing**, and employs more than **40,000 workers**, thus ranking among the country’s main industrial sectors.

To discuss all these challenges, the session featured a round table discussion, where company representatives participated from different points of the value chain, such as **Mr Santiago Olivares** (Nestlé), **Mr Álex San Miguel** (Quadpack) and **Mr Eduard Aguirre** (Volpack), who discussed some of the points mentioned in the Update, moderated by **Mr Manel Bertomeu** (BIP-Leitat).

INTERCLUSTER FORUM: ENERGY EFFICIENCY AND SELF-CONSUMPTION SOLUTIONS. SOLARTYS CLUSTER, CEEC, AEI TEXTIL AND PACKAGING



Companies and entities that work with energy, technical textiles and packaging held the Intercluster Forum of “*Energy Efficiency and Self-Consumption Solutions for the Industry*”, which was organised by the entities AEI Tèxtil, CEEC, Solartys and Packaging Cluster, and took place on July 5th at the Leitat Technological Centre (Terrassa).

The session’s programme included a welcome by **Mr Sergi Artigas**, Director of Strategy in Innovation at Leitat, who defended organising intercluster sessions as a way of generating new competitive improvement projects for companies. Next, **Mrs Mariona Coll**, Head of the Industry Unit at the Catalan Institute of Energy, showed different public instruments that are available for implementing actions and projects for companies, where she highlighted the importance of being energy efficient, where “*in certain intensive sectors, energy costs exceed those of raw material and personnel*”.

The **Intercluster Forum** was effective in presenting specific projects carried out by companies in the clusters, where **20 cases of participating companies** from the 4 clusters were selected through a **Marketplace** space.

Finally, a **Focus Group** dynamic was used to stimulate the debate among

all participants. Four simultaneous tables discussed everything from self-consumption to energetic efficiency in industrial processes, general services, as well as the contracting and purchase of energy.

INTERCLUSTER WITH AINS (CAT) AND FOODNETWORK (DK). TOP PACKAGING SUMMIT – MALMÖ,



The **Nutrition and Health Cluster (AINS)**, together with the **Packaging Cluster**, participated in the Top Packaging Summit (Malmö, Sweden), which was held on September 19th and 20th. The conference is the leading annual conference for companies in the packaging field in the Øresund region and northern Europe, and is organised by the Packbridge homologous cluster.

The Catalan clusters carried out the mission within the framework of the BSR (Baltic Sea Region) project with the support of ACCIÓ, where the SME Industrial Sagarra also travelled to, which served as a way of learning first-hand about **trends and innovations** in the packaging sector, and was also useful for **connecting with people and professionals in the packaging industry** at the international level.

This session was the second meeting after the one held in Barcelona in March, where a two-day agenda was also programmed using the Graphispag venue.

V STRATEGIC IMMERSION PACKAGING CLUSTER. 5th ANNIVERSARY



The Packaging Cluster brought together more than **90 professionals** from the packaging industry within the framework of the V Strategic Immersion, which took place on October 19th and 20th in Castelldefels (Barcelona). The meeting addressed three topics of strategic interest for the sector, such as **innovation and business models**; the **circular economy**; and **digitisation and Industry 4.0**, which had a total of **17 presentations, a round table** and a **dynamic of innovation**.

Mr Franc Ponti, professor at EADA, opened the immersion on Thursday talking about how innovation can transform organisations and generate social and economic benefits. Next, **Mr Ferran Latorre** explained his story as the first Catalan mountaineer to summit the **14 peaks more than 8,000 metres** above sea level, providing examples of how solidarity, teamwork, management of changes and emotions can help when it comes to facing enormous challenges.

Like every year, the Strategic Immersion also was attended by renowned international speakers, where **Mr Douglas Mulhall**, member of EPEA and expert in Cradle-to-Cradle design and the Circular Economy, spoke about the business opportunities that are present in this area, specifically in healthy printing.

Next, they showed success stories of opportunities, resulting from the participation of different members of the **Envase y Embalaje Cluster**

(Tecnicaartón, Irisem, Milestone Logistics and the cluster itself counting the awards), and the **Packaging Cluster** (3DClick, CCL, Hinojosa and IP Triana), highlighting areas such as the generation of new businesses and projects; the promotion of training; the search for R&D funding; or the availability of relevant sector information in order to face new business challenges.

In the afternoon, it was time to develop the strategic challenges defined by the study, *“Strategic Update of the Packaging Sector in Catalonia”*, through a Lego Serious Play dynamic of innovation.

On Friday, **Mr Xavi Martin** from Ilimit presented his vision of the future that awaits us, with the technological and social changes that we will experience as a society; **Ms Xiomara Domínguez** and **Ms Inma Barreiro** from Add Value Logistics talked further about logistics and how to optimise packaging in the world of e-commerce.

One of the topics of interest in the sector is the circular economy, which is why we took advantage of the recent publication titled *“Guide: The Circular Economy Applied to Packaging Systems”* to present several of the success stories that were included in the publication.

Thus, **Mr Jordi Oliver**, CEO of Inèdit, moderated a table with the cases of Ferrer, IRIS and Decapup, where **Ms Marta Anglada**, **Ms Elodie Bungicourt** and **Mr Ramon M Gendrau** gave their respective points of view on the situation, its evolution and the potentialities of sustainability in terms of business. Finally, the consulting firm Mintel explained the consumer trends that are currently transforming the packaging industry.

In the meeting, there were several collaborators such as the Envase y Embalaje Cluster, and the directors of the Hispack Exhibition, **Mr José Orbe** (President) and **Mr Xavier Pascual** (Director), who opened the conference by welcoming everyone, along with **Mr**

Artur Costa, President of the Packaging Cluster.

The V Strategic Immersion coincided with the celebration of the entity’s 5th anniversary, which is why the occasion was also used for the celebration, where **Mr Pere Coll** (Enplater, Founding Partner) and **Ms Estefania Parra** (Trading Films, most recent partner) blew out the candles as a way of commemorating the entity’s anniversary.

IV END USER MARKET VIEWPOINT WITH MONTANA COLORS AND EDUCA BORRAS. KID’S CLUSTER



Educa Borràs and Montana Colors, Kid’s Cluster partners, were the protagonists of the IV Market Viewpoint, which was held with industry professionals in the children’s and packaging sector. The session, which took place on November 28th at the Barcelona Moda Centre facilities, helped to **develop project ideas among the two value chains**.

Educa Borràs, a leading company in the categories of **magic, puzzles and educational games**, presented two packaging challenges for products they are developing. **Montana Colors**, a world leader in the manufacture of **paint sprays for the graffiti sector**, also presented two ideas for improving the packaging of their products.

The session featured the *“angels and demons” dynamic of innovation*, led by E2S, where different **multidisciplinary teams** formed by companies from the two value chains worked on the challenges, and at the same time they

shared their opinions by defending and criticising the different proposals.

Finally, the different proposals that were discussed with the participating companies were presented. The activity, which promotes both market intelligence and networking, is also **aimed at developing specific projects and businesses with companies in both sectors**, where cluster entities facilitate the start-up and search for financing of collaborative projects in the field of innovation.

ACTIVITIES AS A CLUSTER

“TOP CONSUMER TRENDS” BY PACKBRIDGE. MALMÖ, SWEDEN



As a result of the Packaging Cluster becoming a member of the Swedish Packbridge Cluster and the ongoing relationship between the two entities, on Friday, January 27th we attended the conference on packaging trends seen from a consumer point of view, which was held at the facilities of the multinational Orkla Foods in Malmö, Sweden.

The conference, organised by Packbridge and Orkla Foods, had a total of 6 presentations: **Agneta Påander**, **CSR Officer** of Orkla Foods; **New Trends**, by **Bo Wallteg**, **Senior Packaging** at Packbridge; **Trends for Millennials**, by **Sofia Erixson**, **Packaging Designer** at Orkla Foods; **Design Trends**, by **Kristina de Verdier**, **Senior Designer** at the Kristina de Verdier Design Studio; **Production Trends**, led by **Anders Källman**, **Managing Director** of

Multivac, and **Rowan Drury, Founder** of the Gram store.

Some of the trends seen during the day have been recurring trends for several years, such as “eco-friendly” or sustainable packaging, packaging that helps achieve zero waste, or the introduction of sensors and elements to manufacture active and smart packaging. However, other trends were also discussed, which will gain momentum this year. One of them has to do with integrating textures into packaging by using inks or adhesives to enhance the consumer’s experience, or using breakthrough elements in packaging that are also useful at the same time in order to add more value.

STUDY VISIT PROJECT “TOWARDS CLUSTER EXCELLENCY”



Within the framework of the European project, “Towards Cluster Excellency” (TCE), the Packaging Cluster presented its business model to the different heads of four European clusters: Oy Merinova Ab (Finland), Energy Cluster of the Basque Country (Euskadi), EnergyIn (Portugal), Paper Province (Sweden).

The objective of the TCE project is to improve and strengthen the management of the clusters, in order to have excellent instruments for providing business services with high value added, especially for SMEs participating in cluster associations.

The Packaging Cluster presented its model of management and good practices, highlighting the decision at the

management level to engage the sector’s key executives with the cluster, providing examples of how the **training** works, and also how they are encouraging **new companies to get involved** with the cluster, with two external profiles advising and being jointly responsible for these two areas.

Finally, the session pointed out the importance of the strategy in the management of the clusters, providing as an example the **Strategic Update of the packaging sector** that Cluster Development worked on with ACCIÓ, which outlines the scope of the sector in Catalonia, as well as its strategic challenges.

STRATEGIC TRAINING WEEK SINGAPORE



The Packaging Cluster participated in the strategic mission in Singapore, organised by the Government of Catalonia through ACCIÓ – the Agency for Business Competitiveness – for 22 Catalan clusters.

The objective of the trip was for Catalan clusters to learn, position themselves internationally and establish strategic alliances. To this end, all the clusters held more than 100 meetings with companies, representatives of the Singapore government, technology centres and economic agencies in the country.

The Packaging Cluster’s agenda first consisted of shared meetings with representatives of Singapore’s government, such as the Ministry of Commerce and Industry, the National

Research Foundation (responsible for the country’s cluster innovation programme) or the A* Star agency, which develops the government’s R&D policy. Meetings were also held with the Economic Development Board, responsible for attracting foreign investment in the country, or the Intellectual Property Intermediary. Likewise, the collective agenda for all the clusters also included training sessions to learn about business opportunities and the country’s business reality, paying visits to subsidiaries of Catalan companies in Singapore, as well as a networking session with the Catalan business community in the country.

Finally, on May 11th, the Packaging Cluster met with 4 entities associated with the packaging industry, two of which were shared with other clusters. Thus, visits were made to two departments of the A* Star technology centre, the IMRE: Institute of Material Research and Engineering, and SIMTech: Singapore Institute of Manufacturing Technology.

Other visits were also made to the FIRC, Food Innovation & Resource Centre, which was launched in 2007 as a joint initiative between the Polytechnic Institute of Singapore (school that comes before university or entering the labour market), and Spring Singapore (the company’s agency). Its objective is to provide food companies with technical experts in new products, ingredients and experts in the development of processes including packaging, analysis of food shelf life and market tests.

And finally, the National Environmental Agency (NEA), the public body responsible for improving and maintaining a clean and green environment in Singapore. The NEA develops and leads initiatives and environmental programmes through its association with people, and private and public sectors.

With an economic growth of 2% in 2016, according to international rankings, Singapore is considered to be one of the easiest countries in the world to do

business in. It has the second largest port in the world, with the highest amount of container traffic and its industry weighing in at around 20% of its GDP, with business opportunities in the water, electronic, biomedical and chemical sectors. In 2016 there were 1,683 Catalan companies that exported to Singapore, 6% more than in 2015.

MEETINGPACK CONFERENCE VALENCIA



2017 was the third year that the two technology centres, AINIA and AIMPLAS, organised MeetingPack. The focus was on materials, containers and barrier packaging, and brought together manufacturers, suppliers and distributors of raw materials, packaging, materials, equipment and machines, along with other entrepreneurs, technicians and professionals in the food packaging industry.

The two-day conference was divided into six blocks with specialised topics that covered the challenges in the current market, such as: “New Solutions for Raw Materials for Packaging Production”, “Packaging Manufacturing Equipment”, “Films, Sheets and Trays”, “Injection, ISBM and EBM”, “Latest Trends in Packaging Systems”, and “End User: Trends in Packaging Use”.

At this international meeting point, where the large influx of English speakers was evident, two Packaging Cluster members introduced their product or technology.

Thus, **Isabel Arroyo**, Senior Research Scientist at Dow Chemicals, presented four barrier materials that are suitable for

flexible packaging. On the other hand, in the block of packaging manufacturing equipment, **Albert Chicote**, Head of the Business Unit of Laminating Machines at Comexi, presented different machinery formats depending on the application of the final flexible packaging.

V MATCHMAKING CLUSTERS. STUTTGART, GERMANY



The Packaging Cluster attended the V Matchmaking Cluster, meeting of European clusters, which took place this year on September 21st and 22nd in Stuttgart, Germany. Just like in past editions, the objective of this conference was to encourage participating European entities to meet each other through 20-minute B2B meetings and other workshops and conferences held during the event. Thanks to these meetings, a closer and more trusting relationship was established between clusters, sharing experiences on how to manage the structure of the cluster as well as good and bad practices in both local and international projects.

The meeting also **encourages the collaboration** and creation of consortia in order to participate in the different European initiatives, making it possible to offer internationalisation services (commercial missions, market intelligence, research and development of new products...) to member companies of the groups. An example of this is the BSR Inter 2FoodPack project that is being carried out, which came into existence during the meeting last year in Warsaw.

This year, the meeting gathered more

than 175 European clusters and resulted in more than 600 B2B meetings. The Packaging Cluster met with the Latvian High Added Value and Healthy Food Cluster, the Lithuanian Printing Industries Association, the BalticNet-PlasmaTec Cluster of plasma technology, the Waitrose Supplier Partnership Group, the network of 5 Eastern European Food Clusters, the Techtera cluster of fibres and fabrics from France, the Kid's Cluster, the GAIA IT and Electronics Cluster from the Basque Country and Omnipack, the Packaging Cluster from Hungary.

TCI CONFERENCE. BOGOTA, COLOMBIA



The TCI organisation (global network of professionals in competitiveness, clusters and innovation), together with the Chamber of Commerce of Bogota, organised the 20th edition of the global conference on clusters, which took place this year on November 6th-9th in Bogota (Colombia).

The conference, which gathered more than **350 professionals** from all continents, was also marked by the presence of Catalan professionals, with the participation of directors of the ACCIÓ clusters, such as Professor Antoni Subirats of IESE, the Cluster Development consulting firm, as well as the **Packaging Cluster**. The meeting was structured so that on the one hand, participants could learn about the economic development and clusters policies that are being implemented in Colombia and other countries in Latin America, where the 16 clusters that are currently assembled in Bogota were

visited.

The conference also set the stage for the next city that will host the 21st edition in 2018, which will be held in the city of **Toronto** (Canada). It should be noted that the first edition of the TCI Global Conference took place in Barcelona in 1999, and currently the Catalan capital is also where the headquarters of the global clusters organisation resides.

PRIME SHANGHAI VISIT



On the 13th of last November, Prime Shanghai visited the **Packaging Cluster** and its headquarters, the **Leitat Technological Centre**, to look for synergies and partnerships. First, **Mr Sergi Artigas, Secretary of the Cluster and Director of Innovation** at Leitat, briefly visited the centre, presenting all the technologies and sectors they supply. Next, the **Packaging Cluster, Prime** and **BIP** (Barcelona Institute of Packaging) entities, along with the Leitat Packaging Department, explained the services they offer for the companies they collaborate with.

Prime Shanghai is a business consulting firm specialising in packaging that established the PPMA association (Processing and Packaging Machinery Association) in China. It is also the main representative in China of AIPIA (**Active and Intelligent Packaging Industry Association**). This relationship opens the door for the Packaging Cluster and all of its associated entities to the Chinese market, with a plan to venture into this market in 2018 within the framework of the Adpack 2.0 project.

INTERCLUSTER MEETING BASQUE COUNTRY AND NAVARRE CLUSTERS



On November 24th, a delegation of 20 people, representatives of clusters from the Basque Country and Navarre, met at the Leitat Technological Centre (Terrassa) to learn first-hand about the centre's activity, in addition to enhancing synergies among the activity that is being developed by the Packaging Cluster.

The morning featured a presentation by **Sergi Artigas**, Secretary of the Packaging Cluster and Director of Strategy in Innovation at Leitat, who discussed the **technology transfer** and **open innovation** model they work with. Participants could also visit the centre's R&D facilities. The Packaging Cluster team also explained their activity, putting an emphasis on the **projects** that the entity pursues for its associates.

Finally, a visit was made to the company Decopak Europ and their facilities, an example of an **industry with high value added** that works for high quality brands in the cosmetics sector.

5. PARTNERS

The cluster is made up of*1 65 members and 10 collaborating entities, representing the entire value chain. They generate opportunities and exchange knowledge, fostering a more innovative and also competitive ecosystem.

The following diagram shows the **MEMBERS PLAN**, in which you can see the type of company that each member belongs to, its position in the value chain and the industrial sector it belongs to.

PARTNERS

1-65: Associated companies

TYPE OF COMPANY

Association: 2, 22, 30

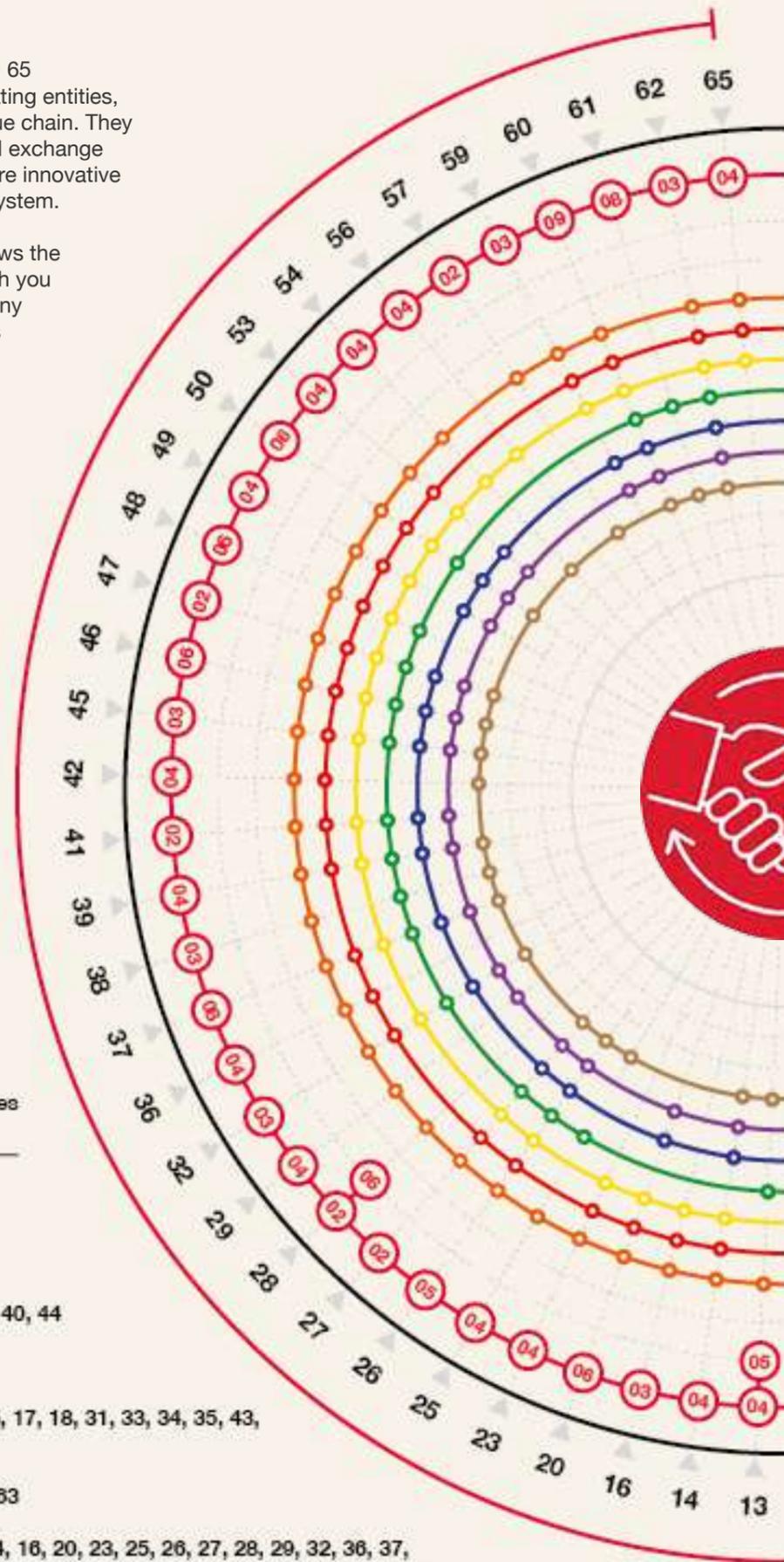
Knowledge centre: 12, 24, 40, 44

Consulting firm: 5, 21

Large company: 4, 6, 8, 15, 17, 18, 31, 33, 34, 35, 43, 52, 58, 64

Micro-SME: 1, 19, 51, 55, 63

SME: 3, 7, 9, 10, 11, 13, 14, 16, 20, 23, 25, 26, 27, 28, 29, 32, 36, 37, 38, 39, 41, 42, 45, 46, 47, 48, 49, 50, 53, 54, 56, 57, 59, 60, 61, 62, 65

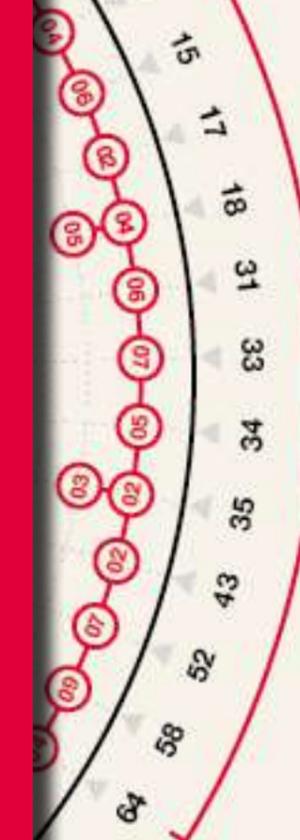


5A. SOCIOS

- 65 Witte y Solá, S.A.
- 62 TMI
- 61 TM2 S.L
- 60 TAI Smart Factory
- 59 SIDE
- 57 Samtack SL
- 56 Quadpack
- 54 Packintube
- 53 NG Plastics
- 50 Mettler Toledo
- 49 Menshen Iber, S.L.
- 48 Macsa ID
- 47 Lubrizol Advanced Materials
- 46 Lubritec
- 45 Limitronic SL
- 42 Klockner Pentaplast España
- 41 Kao Chimigraf
- 39 IPE
- 38 Intecma, S.A.
- 37 Inka Palet
- 36 Industrias Plásticas Triana
- 32 Hamer
- 29 Gráficas Varias
- 28 Go Fruselva
- 27 Galloplast
- 26 Font Packaging
- 25 Flexoplast SL
- 23 Enplater
- 20 E2M
- 16 Dosimaq, S.L.
- 14 Decopak Europ
- 13 Decapulp, S.L.

VALUE CHAIN

- R&D 01
- Raw Material and Intermediate Products 02
- Machinery Manufacturers 03
- Primary Packaging Manufacturers 04
- Secondary Packaging Manufacturers 05
- Peripherals and End of Line 06
- End User, Brands and Distributors 07
- Logistics 08
- Transversal 09



INDUSTRIAL SECTOR

- Food & Beverage
- Pharmaceutical
- Cosmetics
- Automotive
- Household Products
- Personal Care and Hygiene Products
- Other

5. PARTNERS

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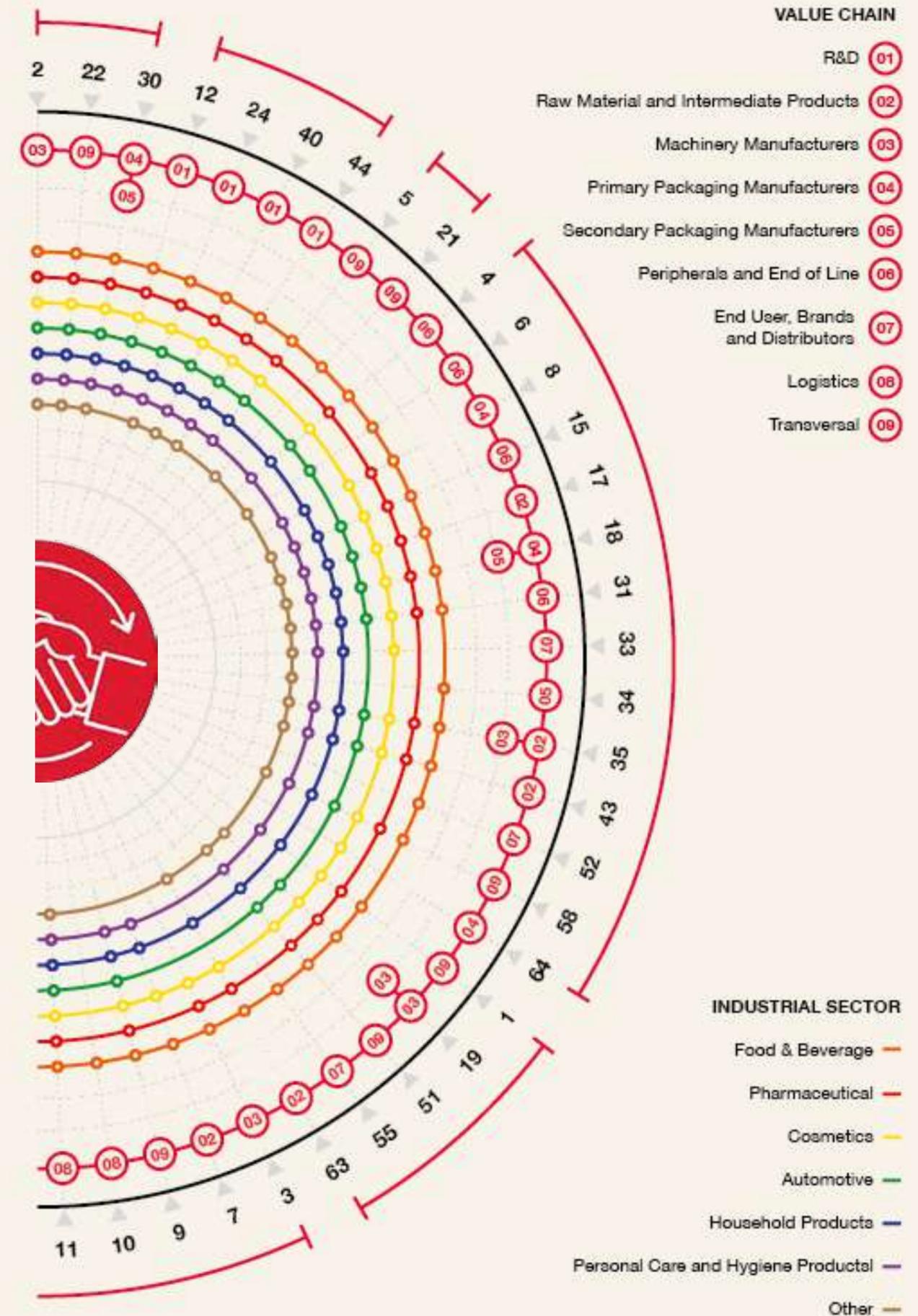
Consulting firm: 5, 21

Large company: 4, 6, 8, 15, 17, 18, 31, 33, 34, 35, 43, 52, 58, 64

Micro-SME: 1, 19, 51, 55, 63

SME: 3, 7, 9, 10, 11, 13, 14, 16, 20, 23, 25, 26, 27, 28, 38, 39, 41, 42, 45, 46, 47, 48, 49, 50, 53, 54, 56, 57, 59

- 2 Amec Envasgraf
- 22 Enginyers Industrials de Catalunya
- 30 Gremi d'Indústries Gràfiques
- 12 Ctec Manel Xifra Boada
- 24 Eurecat
- 40 IRTA
- 44 Leitat i BIP
- 5 ASIP
- 21 Eco Intelligent Growth, S.L.
- 4 Asea Brown Boveri, S.A.
- 6 Branson Ultrasonidos. Emerson
- 8 CCL Label
- 15 Delta Energy Systems
- 17 DOW Chemical Ibérica, S.L.
- 18 DS Smith
- 31 Grup Cooperatiu TEB
- 33 Henkel
- 34 Hinojosa
- 35 HP Indigo
- 43 Lecta Group
- 52 Nestlé
- 58 Schneider Electric
- 64 Virospack
- 1 3D Click
- 19 E21 Design Technologies S.L.
- 51 Milimetrica Producciones
- 55 Pick d Pack
- 63 Trading Films
- 3 Aranow Packaging Machinery
- 7 Carinsa
- 9 Cimworks
- 10 Climesa
- 11 Comepack Iberica SLU



6. PROJECTS

This section presents those projects that are promoted within the Packaging Cluster network that either ended in 2017, are in progress or were approved during the same year, and which have been the recipients of grant allocations.

Relationships of trust between the members are generated within the cluster environment and with the various activities, who carry out projects without any type of public support and with a clear focus on market and business.

R&D PROJECTS

Find out more about each project in the «R&D Projects» section of our website



www.packagingcluster.com/en/services/rdi-projects/

6A. ENDED during 2017

PACKHEALTH

Project: Pursuit of new strategic projects between the Packaging Cluster and the Health Tech Cluster.

Consortium: Cluster Health Tech / Packaging Cluster

Budget: 24.035 €

Call for Proposal: Iniciatives de reforç de la competitivitat. EMC/2268/2016. Agència per a la Competitivitat de l'Empresa, ACCIÓ.

6B. IN PROGRESS approved between 2015 and 2016

2FOODPACK

Project: BSR intercluster cooperation on packaging and food between 2+1 European cluster.

Consortium: Cluster AINS / Cluster FoodNetwork (DK) / Packaging Cluster

Budget: 24.500 €

Call for Proposal: Iniciatives de reforç de la competitivitat. EMC/2268/2016. Agència per a la Competitivitat de l'Empresa, ACCIÓ.

MONOPET

Project: Recyclable mono-material packaging for meat products.

Consortium: Cluster Innovacc / La Vola / Enplater / Noel / Packaging Cluster

Budget: 45.710 €

Call for Proposal: Projectes de foment de l'economia circular. TES/1275/2016. Agència de Residus de Catalunya.

PACTEX

Project: Establishment of synergies between the textile and packaging industries for the exchange of raw materials and resources.

Consortium: AEI Textils / Packaging Cluster

Budget: 21.510 €

Call for Proposal: Projectes de foment de l'economia circular. TES/1275/2016. Agència de Residus de Catalunya.

6C. APPROVED during 2017

3D CLICK

Project: Feasibility study of an online tool for the packaging sector.

Consortium: 3D Interactives Solutions (3D Click) / Industrial Sagarra (Packintube) / Packaging Cluster

Budget: 20.500 €

Call for Proposal: Iniciatives de reforç de la competitivitat. EMC/2263/2017. Agència per a la Competitivitat de l'Empresa, ACCIÓ.

ADPACK 2.0

Project: European Strategic Cluster Partnership for Advanced Smart Packaging.

Consortium: Cluster Nanoprogress (CZ) / Cluster BalticNet PlasmaTec (GE) / Cluster InovCluster (PT) / Cluster Solutions Communicantes Securisées (FR) / Cluster Plastiwin (BE) / Packaging Cluster

Budget: 598.175 €

Call for Proposal: Cluster Go International. COS-CLUSINT-2016-03-01. Competitiveness of Enterprises and SMEs Programme (COSME). European Commission.

CODIMmm

Project: Study of the digital consumer shared with food sector clusters.

Consortium: Clúster Innovati / Clúster de Nutrició i Salut / Clúster Gourmet Clúster Foodservice / Packaging Clúster

Budget: 54.035 €

Call for Proposal: Iniciatives de reforç de la competitivitat. EMC/2263/2017. Agència per a la Competitivitat de l'Empresa, ACCIÓ.

COFIPULP

Project: Compostable hard single serve coffee pods.

Consortium: Hamer Packaging / Eco Intelligent Growth (EIG) / Packaging Cluster

Budget: 40.045 €

Call for Proposal: Projectes de foment de l'economia circular. TES/859/2017. Agència de Residus de Catalunya.

DISTINTS

Project: Development and manufacture of an automatic ink dispenser for the label industry with 4.0 technology.

Consortium: Graficas Varias / E21 Design Technologies / Packaging Cluster

Budget: 84.360 €

Call for Proposal: Innovative Business Grouping. IET/1009/2016. Ministry of Industry, Energy and Tourism.

DOSIGEL 4.0

Project: Smart dispenser of gelatine capsules.

Consortium: IP Triana / Eurecat / Packaging Cluster

Budget: 126.580 €

Call for Proposal: Innovative Business Grouping. IET/1009/2016. Ministry of Industry, Energy and Tourism.

EMPREN

Project: Implementation of an entrepreneurial acceleration programme in the packaging field.

Consortium: Packaging Cluster / Start Ups

Budget: 40.240 €

Call for Proposal: Iniciatives de reforç de la competitivitat. EMC/2263/2017. Agència per a la Competitivitat de l'Empresa, ACCIÓ.

FOODPACKLAB

Project: Photonics-Packaging partnership for food innovation.

Consortium: Cluster Secpho (CAT) / Cluster FoodRegio (GE) / Cluster Optics Valley (FR) / Cluster Food Processing Initiative (GE) / Packaging Cluster.

Budget: 266.460 €

Call for Proposal: Cluster Go International. COS-CLUSINT-2016-03-01. Competitiveness of Enterprises and SMEs Programme (COSME). European Commission.

PALHAB

Project: Collaborative project on sustainability in logistics and packaging in the habitat.

Consortium: Clúster Logistic / Clúster Habitat / Packaging Clúster

Budget: 11.150 €

Call for Proposal: Iniciatives de reforç de la competitivitat. EMC/2263/2017. Agència per a la Competitivitat de l'Empresa, ACCIÓ.

QPLANT 4.0

Project: Production of integrated packaging in real time.

Consortium: FFont Packaging / Tecnologies Aplicadas a la Información (TAI) / Packaging Cluster

Budget: 72.865 €

Call for Proposal: Innovative Business Grouping. IET/1009/2016. Ministry of Industry, Energy and Tourism.

TVIST

Project: Development of an interactive industrial system in the production and manufacturing process used by personnel with disabilities.

Consortium: Grup Cooperatiu TEB / Carinsa / Packaging Cluster

Budget: 111.175 €

Call for Proposal: Innovative Business Grouping. IET/1009/2016. Ministry of Industry, Energy and Tourism.

UPCYCLING

Project: Development of multilayer plastic containers to be recirculated in a circular economy.

Consortium: Eco Intelligent Growth (EIG) / Hochland / Packaging Cluster

Budget: 40.240 €

Call for Proposal: Projectes de foment de l'economia circular. TES/859/2017. Agència de Residus de Catalunya.

6D. STRATEGIC CHANGE PROJECTS, SUB-CHALLENGES AND PROJECT IDEAS

Circular economy and sustainability	Ecodesign	Food Waste	Advanced Materials	Sustainable Growth	Creation of Shared Value
	Improved analysis of the container's Life Cycle Reduced carbon footprint and improved energy efficiency	Increased expiration date Improved welding (ultrasounds, adhesives) and coatings	Commitment to biomaterials Application of nanomaterials	Lighter and more flexible packaging Substitution of complex materials for mono-materials	Increased recycling rates Reuse of containers
Innovation in packaging and in the business model	Convenience	Active Packaging	Smart Packaging	Impulse of the New Economy	Design and Branding
	Improved usability for the elderly New single-dose formats	O ₂ Absorbers CO ₂ Control Moisture absorbers Removal and absorbers of taste and/or smell Antimicrobial packaging	Indicators of time and temperature, radio frequency and gas Biosensors	Creation of collaborative economy businesses Creation of B2C businesses to serve the consumer Collaboration with other value chains for new businesses	Impulse of branded packaging Consumer-packaging interaction (Augmented Reality)
Industry 4.0 and Smart Factory	Automation	Internet of Things	Collaborative Robotics	Digital and 3D Printing	E-Commerce
	Faster format changes Improved industrial processes	Production optimisation Joint procurement platforms	Improved productive efficiency and logistics HMI Interaction Software (Human Machine Interface)	Customised packaging Improved print quality	Mobile application development Standardisation of formats in secondary packaging Big data and personalised product offerings based on needs

7. TRAINING

Ongoing professional training in the packaging industry, as well as the acquisition of knowledge by new industry experts, enriches the entire value chain and all related transversal sectors such as the food, cosmetics, pharmaceuticals and cleaning products sectors.

From within the cluster, we promote and encourage training through three different modalities: face-to-face, online and custom programmes within companies.

POSTGRADUATE DEGREE IN PACKAGING ENGINEERING: PACKAGING TECHNOLOGY

2015 marked the launch of the first edition of the Postgraduate Degree called "Packaging Engineering: Packaging Technology". This face-to-face course, which during the second edition in 2016-2017 had 10 students from different professional sectors, both recent graduates and executives, is taught at the Tech Talent centre of the UPC.

The postgraduate training model integrates lecture classes, which take advantage of the experience and knowledge of the cluster members who teach many of them; and other practical classes at the facilities of different companies in the sector.

PEA COURSE: PACKAGING EXPERT ACCREDITATION

The push for non-classroom training given to students from different companies and entities, is now possible thanks to the Packaging Expert Accreditation course, which validates the student's knowledge from a professional career.

The PEA course covers topics such as materials, manufacturing processes, applications, and introduction to packaging processes and logistics through different case studies.

The course, which is aimed at active professionals who want to consolidate and certify their knowledge, intends to contextualise the knowledge gained through daily practice, acknowledge their professional career and update their knowledge with the latest trends and technologies in the sector.

IN-COMPANY COURSES

A third area that has been put into operation has been that of In-Company training courses at companies, which makes it easier to combine training with the daily tasks of their employees, thus fully optimising their resources. This type of training is very specific and often intermittent, and is carried out at the company itself.

This course provides the entire industry with the possibility of completing an "In Company" Packaging and Management training course, which is tailored to the needs of the company. In some cases, a hybrid model can even be made by personalising the online training course at the company, in order to educate the business world to the greatest extent possible.

TRAINING

If you want more information on continuing education, head to the «Training» section of our website



www.packagingcluster.com/en/services/training-and-talent-recruitment/

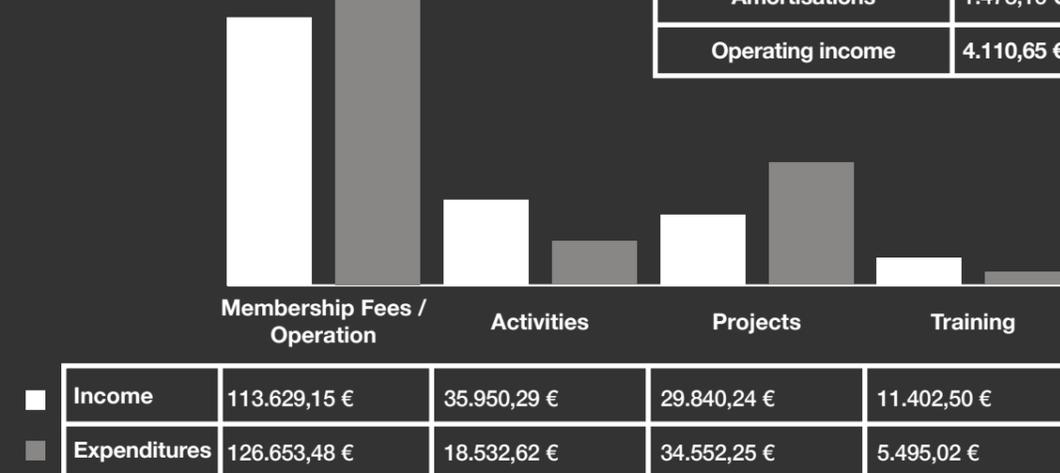
8. ECONOMIC EQUILIBRIUM

The economic performance of the Packaging Cluster reflects ongoing annual growth since its creation back in 2012. On the one hand, the purpose of the Board of Directors is to **invest practically all of the income**

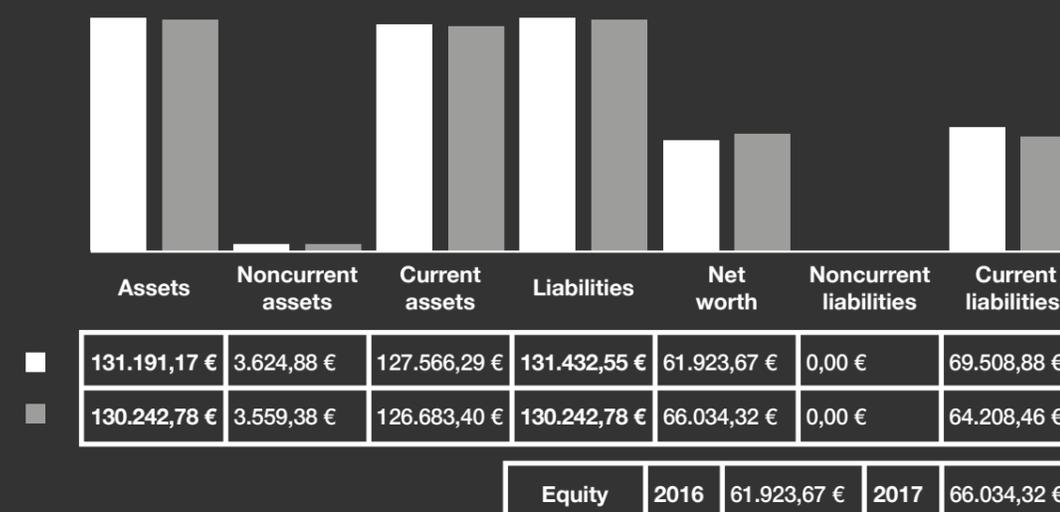
in services for members in order to continue promoting the sector's competitive environment, and on the other, to guarantee **economic equilibrium** in order to ensure future strength and viability. It should be noted that in 2017, member fees on their own covered 90% of operating expenses.

2017 PROFIT AND LOSS ACCOUNT

Gross margin operations	5.588,81 €
Amortisations	1.478,16 €
Operating income	4.110,65 €



2016 BALANCE (■) - 2017 (■)



ANNEX I & II: MEMBERS AND COLLABORATORS

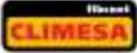
Members of the Packaging Cluster come together in order to increase their individual competitiveness and, at the same time, improve the quality of their environment. The cluster allows them to share a space where each one has all the tools they need to improve their competitive strategy; a challenge that often feeds on cooperation with the other members seeing how all together they represent the same value chain.

Below we offer a brief description of each of the 65 companies that made up the Packaging Cluster in 2017.

As well as the cluster's collaborating entities that support and strengthen the sector.



<p>3D CLICK</p> <p>3D Click is an online collaborative platform for packaging professionals, allowing them to directly personalise packaging in 3D and validate it at the point of sale through Augmented Reality without having to know anything about 3D, accelerating the time-to-market of new products, unlike the traditional processes that rely on 3D experts, expensive prototypes, renders and meetings.</p> 	<p>AMEC ENVASGRAF</p> <p>Amec Envasgraf is the Spanish Association of Machinery Manufacturers for Packing, Packaging, Bottling, Carton Articles and their Graphic Design. Their main objectives are: to promote the internationalisation of the sector, enhance sectoral representation and lobbying, generate networking, encourage innovation, offer training and manage the sector's communication and image.</p> 
<p>ARANOW PACKAGING MACHINERY</p> <p>Aranow is an international company specialising in the design and manufacture of packaging equipment for any type of product in stick pack packaging, which allows its customers in sectors such as pharmaceuticals, dairy, food and beverages, cosmetics and the chemical industry to reduce downtime, meet their increasingly high production demands and adapt their products to the latest distribution demands.</p> 	<p>ASEA BROWN BOVERI</p> <p>ABB is a leading provider of industrial robots, modular production systems and services. The focus on packaging solutions helps manufacturers to improve productivity, product quality and worker safety. ABB has installed more than 250,000 robots worldwide.</p> 
<p>ASIP</p> <p>ASIP is a consulting company with more than 20 years of experience. The work they do in companies favours efficiency based on improving and innovating their processes. Their work covers: the business culture, strategy, organisational structure, processes and the people: their skills and attitudes.</p> 	<p>BRANSON ULTRASONIDOS. EMERSON</p> <p>Branson is a supplier of products for the assembly of plastics, metal welding by ultrasound and precision process equipment, in addition to providing technical service and support services. Sectors such as the automotive, packaging, food, electronics and construction use ultrasonic cutting and welding systems.</p> 

<p>CARINSA</p> <p>Carinsa is a group of 3 companies whose business activity is centred around the creation, production and sale of aromas for human food and beverages, pet food and fragrances for detergents and cosmetics.</p> 	<p>CCL LABEL</p> <p>CCL Label is a converter of self-adhesive labels and extruded film materials for decorative, functional and informative labels, providing solutions for the home and personal care, premium foods and beverages, health, and automotive industries. It also produces sleeves and decorated plastic tubes for premium brands in the personal care, cosmetics and healthcare products markets.</p> 
<p>CIMWORKS</p> <p>CimWorks provides tools for improving the value chain of its customers. Based on the DASSAULT Systems SOLIDWORKS software for Mechanical/Electrical Design, Simulation, Product Documentation and Document Management, they contribute to improving the market position and reducing operating costs.</p> 	<p>CLIMESA</p> <p>Climesa are manufacturers of flexible containers for logistics and distribution. Fast-moving products for industries and agricultural, mining or construction companies.</p> 
<p>COMEPACK IBÉRICA</p> <p>Logistics company whose services include the rental, pooling and washing of boxes and pallets. They offer a global logistics solution for reusable packaging, making their packaging pool available to the customer and their suppliers with a wide variety of boxes and plastic pallets.</p> 	<p>COMEXI. CENTRE TECNOLÓGIC MANEL XIFRA BOADA</p> <p>Comexi offers services for the flexible packaging market in 4 main areas: training, consulting in plant processes, innovation, and technological development and testing in their industrial laboratory. In the centre you can find more than 13 machines that provide printing, lamination, cutting and peripheral equipment solutions, all dedicated to the industry of converted flexible packaging.</p> 

<p>DECAPULP</p> <p>Decapulp manufactures moulded cellulose products made from 100% recycled paper and organic additives. The final product is Recycled, Recyclable and Biodegradable. The company offers a comprehensive design service and the subsequent manufacture of the developed packaging items and paper fibre moulds, offering a wide variety of products with different shapes and sizes.</p> 	<p>DECOPAK EUROP</p> <p>Decopak Europ are specialists at efficiently producing both usual decorations as well as more complex challenges. Varnishing, UV lacquer, PU lacquer, water-based lacquer, metallisation, screen printing, pad printing... They decorate all kinds of plastic, metal or glass pieces.</p> 
<p>DELTA ENERGY SYSTEMS</p> <p>Supplier of a full range of highly efficient power systems, electronic and thermal management components, industrial automation, Cloud information systems, household and medical devices.</p> 	<p>DOSIMAQ</p> <p>Dosimaq's main activity is the construction of packaging and dosing machinery mainly for the food, chemical, cosmetics and pharmaceutical industries. They offer packaging automation solutions that range from small productions to projects that are adapted to the larger company.</p> 
<p>DOW CHEMICAL IBÉRICA</p> <p>Dow Chemicals, driven by the market, the portfolio of industry-leading speciality chemicals, advanced materials, agricultural sciences and plastics, offers a broad range of technology-based products and solutions to customers in approximately 180 countries and in high-growth sectors such as the packaging, electronics, water, coatings and agricultural sectors.</p> 	<p>DS SMITH</p> <p>DS Smith is a company that manufactures packaging and specialises in the design of advanced packaging. Its catalogue includes packaging for all types of applications, which allows DS Smith to respond to market and customer needs. In 2015, it acquired the activities of the corrugated cardboard division of the Lantero Group, which strengthened the company's productivity and operations in Spain.</p> 

<p>E21 DESIGN TECHNOLOGIES</p> <p>For more than 20 years, E21 has been specialised in the creation and design of processes that are focused on dosing and industrial automation. It develops dosing machines for the manufacture of special colours for the graphics industry, turnkey projects for the automation of industrial processes, in addition to offering a management software for graphic arts and printers.</p> 	<p>E2M</p> <p>E2M is a company that specialises in the design, manufacture and installation of equipment for quality control in production lines. Its main objective is constant innovation in inspection systems through Artificial Vision, Orientors and Rejection Systems for all types of packaging in the packaged foods and beverages sector, as well as in the pharmaceutical, chemical and cosmetics industry.</p> 
<p>ECO INTELLIGENT GROWTH</p> <p>Eco Intelligent Growth is the integral design and industrial ecology consulting firm in Spain that is leading the transformation towards the Circular Economy, using its direct experience with Cradle to Cradle® design. They help design products, processes and business models that do not generate waste, that are healthy in all aspects, and that generate a positive impact; based off of transversal, contextualised and referenced scientific knowledge.</p> 	<p>ENGINYERS INDUSTRIALS DE CATALUNYA</p> <p>The Packaging Commission of the College of Industrial Engineers of Catalonia brings together professionals who are involved in the sectors of packaging engineering, packaging, packing, packaging processes and product packaging.</p> 
<p>ENPLATER</p> <p>Enplater focuses its activity on the printing and manufacture of flexible film. 95% of its market is related to the food sector (prepared dishes, fourth range, fresh produce, bags of sliced bread, pet food, coffee...)</p> 	<p>EURECAT</p> <p>Eurecat is the Technology Centre of Catalonia, the result of the integration of Ascamm, Barcelona Media, Digital Barcelona, Cetemmsa and CTM. As a Technology Centre, it acts as a bridge between the world of knowledge and the economy, providing innovative and differential technology in order to respond to the needs of innovation and strengthen the competitiveness of its client companies.</p> 

<p>FLEXOPLAST</p> <p>Specialised in rigid and flexible profiles and tubes in all types of internal and external diameters up to a maximum of 60 mm. Multiple manufacturing materials: PVC, Polyurethane, Polyethylene, Polystyrene, Thermoplastic Rubbers, ABS, Polypropylene, PMMA. Extensive experience in sectors like the automotive sector, industrial machinery components, naval, electrical, electrical appliances, construction, architecture, medicine and furniture in general.</p> 	<p>FONT PACKAGING</p> <p>The company that manufactures corrugated carton, cardboard boxes and packaging. They have established themselves as specialists in next generation packaging, thanks to their philosophy of implementing the latest developments and trends in packaging in the following six lines of business: Consumer Pack, Industrial Pack, Plastic Pack, Insu Pack, Protective Pack and Olivé Corrugated.</p> 
<p>GALLOPLAST</p> <p>Galloplast is a company that develops and manufactures colour concentrates for plastic. Thanks to its professionals and top-level facilities, they can design colours for all sectors, one of which is the Packaging sector.</p> 	<p>GO FRUSELVA</p> <p>GO Fruselva's current activity is based on the development, production and management of products such as fruit purees, vegetables, dairy products, functional products, smoothies, juices, nectars and fruit drinks in both glass and pouch formats.</p> 
<p>GRAFICAS VARIAS</p> <p>Graficas Varias is a company that is almost 100 years old, specialising in the printing of labels and sleeves for mainly Cava, Wine and Liquor, along with Cosmetics and Food, among others.</p> 	<p>GREMI D'INDUSTRIES GRÀFIQUES</p> <p>The Graphic Industry and Communication Guild of Catalonia is the association that is born from the union between people in the graphics sector and those who manipulate paper and cardboard.</p> 

<p>GRUP COOPERATIU TEB</p> <p>TEB is a social company that specialises in packaging and handling, whose mission is to integrate people with disabilities both socially and in the labour market.</p> 	<p>HAMER</p> <p>Hamer Packaging Technology has been manufacturing equipment for the plastics industry for more than 30 years. The range of equipment manufactured by HAMER consists of moulders for the manufacture of disposable plastic containers, as well as automatic and semi-automatic lines for the manufacture of blister packs.</p> 
<p>HENKEL</p> <p>Henkel operates throughout the world with leading brands and technologies in three businesses: Laundry & Home Care, Beauty Care and Adhesive Technologies.</p> 	<p>HEWLETT PACKARD</p> <p>Hewlett-Packard joined the Packaging Cluster through its division of computers and printers, and more specifically through HP Indigo, its digital printers. The two types of presses (commercial and labels/packaging) have the capacity to perform tasks for different applications: commercial, packaging labels, photographic applications or editing applications are just a few of the many examples.</p> 
<p>HINOJOSA PACKAGING</p> <p>Grupo Hinojosa, leader in the corrugated carton packaging sector, is made up of thirteen companies that are spread all throughout Spain, and that have a large presence in Europe thanks to the European Blue Box Partners alliance.</p> 	<p>INDUSTRIAS PLÁSTICAS TRIANA</p> <p>Manufacturers of plastic parts by injection with two main specialisations: cylindrical containers for granules (salt, talc...) and medical products such as measuring elements (cups, spoons, syringes...), medication containers or vaginal cream applicators.</p> 

<p>INKA PALET</p> <p>Inka Palet was created with the goal of offering the full range of existing pallets in the market: plastic pallets, aluminium pallets, metal pallets, new and used wooden pallets, agglomerate and mdf pallets, cardboard pallets and expanded polystyrene (EPS) pallets. This is in addition to their entire range of containers and crates made of wood, plywood, plastic and aluminium, all of which come in both standard and special measures.</p> 	<p>INTECMA</p> <p>Intecma specialises in the manufacture of all types of tools for automatic FFS packaging machines, as well as their modification, repair and maintenance.</p> 
<p>IPE INNOVACIONES PARA ETIQUETAJES</p> <p>IPE Innovaciones Para Etiquetas has specialised in printing labels, sleeves and packaging since 1962. They work for different markets: Wine, Health, Food, Cleaning, Cosmetics, Pharmacy, Industrial and Chemical, Automotive and other technology markets.</p> 	<p>IRTA</p> <p>The Institute of Agrifood Research and Technology is a research centre owned by the Government of Catalonia, ascribed to the Department of Agriculture, Livestock, Fisheries, Food and Natural Environment. Innovation in the packaging sector with the aim of prolonging the useful life and safety of food are IRTA's main areas of work.</p> 
<p>KAO CHIMIGRAF</p> <p>Kao Chimigraf Ibérica has focused its activity on the Graphic Arts sector since 1970. They have continued to specialise in the production of water-based, solvent and UV inks for Flexography, Gravure, Digital Systems, Ink-Jet and Serigraphy. They offer pigment dispersions (Chips) and auxiliary products.</p> 	<p>KLOCKNER PENTAPLAST ESPAÑA</p> <p>They are world leaders in the production of rigid sheets of plastic, which are essential for the packaging of pharmaceuticals, food, electronics and medical products; as well as consumer goods, printing and specialised applications.</p> 

<p>LECTA GROUP</p> <p>Lecta is one of the leading manufacturers and distributors of specialty papers for labels and flexible packaging, coated paper for publishing and other printing media of high value-added. It offers a wide range of diverse, sustainable and innovative products.</p> 	<p>LEITAT Y BIP</p> <p>Leitat is a Technological Institute that specialises in improving the competitiveness of companies through the transfer of knowledge, technology and R+D+2i projects.</p> <p>The Barcelona Institute of Packaging (BIP), was born within the centre as a proposal to stimulate training, research, innovation and technology transfer in the field of packaging.</p> 
<p>LIMITRONIC</p> <p>Limitronic is a Spanish manufacturer of high resolution industrial ink printers with traceability and product identification solutions. Its range of Limitag printers apply identification marks such as linear barcodes, 2D codes such as QR-Code or ECC200 Datamatrix, preferred consumption dates, batches, complete information on ingredients or logos in full colour.</p> 	<p>LUBRITEC</p> <p>Company that specialises in industrial lubrication that knows everything about lubrication needs and trends, developing a set of high quality services in the field of lubrication, including everything from the audit of the lubrication plan, training, and the supply of well-known brands of lubricants with a high technical value.</p> 
<p>LUBRIZOL ADVANCED MATERIALS</p> <p>Lubrizol Performance Coatings are innovators in surface coatings (resins and adhesives). With decades of experience in dispersion, adhesion, surface protection and rheological viscosity control, Lubrizol has become a supplier for various industries, among which we can highlight the paints and coatings industry, printing inks, plastics, paper for specialised applications, textile and packaging.</p> 	<p>MACSA ID</p> <p>Masca ID provides solutions for coding, identification, traceability and marking needs, by putting together different technologies, both for hardware and software, services, consumables and other supplies for productive companies in sectors such as the food, cosmetics, pharmaceuticals, automotive or electronics sectors.</p> 

<p>MENSHEN IBER</p> <p>Menshen is a leader in priority tasks for the development, production and processing of plastic closures and packaging systems for closures on bags, bottles, sponge applicators and tubes. They collaborate with strategic partners in the cosmetics, chemical, pharmaceutical, home, food and beverage sectors.</p> 	<p>METTLER TOLEDO</p> <p>Mettler Toledo is a global manufacturer and supplier of precision equipment for use in laboratories and in industry.</p> 
<p>MILIMÉTRICA PRODUCCIONES</p> <p>Milimétrica Producciones has a proposal for its customers: to create packaging with the highest level of ecological efficiency. Under the brand “Encaja Bio” and “Huella de carbono CO2” (Carbon Footprint CO2), the design is replaced by an eco-design in order to develop the packaging of the future that is both efficient and environmentally friendly.</p> 	<p>NESTLÉ</p> <p>Agrifood company that offers a range of products, including everything from mineral water to pet food, as well as chocolate and dairy products.</p> 
<p>NG PLÁSTICS</p> <p>NG Plastics designs products, manufactures moulds, injects plastic pieces and decorates for sectors such as the pharmacy, food and consumer goods.</p> 	<p>PACKINTUBE</p> <p>They offer environmentally-friendly and sustainable cardboard cylindrical containers, with textures, fragrances and RFID tags. Innovative packaging that is ideal for wines, oils and gourmet food, packaging for cosmetics and perfumery, as well as packaging for beverages, jewellery and fashion.</p> 

<p>PICK D PACK</p> <p>Pick d Pack is a point of sale for packaging and accessories for the food world.</p> 	<p>QUADPACK</p> <p>Quadpackare specialises in the development of standard and customised packaging solutions for the beauty products sector. Their selection of products ranges from skincare, hair and nails to makeup, perfumery, sun protection and OTC products.</p> 
<p>SAMTACK</p> <p>Samtack is a manufacturer of sealants for the metal containers and adhesives industry, both hot melt (hot glue) and water-based adhesives (cold glue), specialising in the graphic arts and packaging sector, as well as in the production of custom adhesives.</p> 	<p>SCHNEIDER ELECTRIC</p> <p>Schneider Electric, as a global specialist in energy management and with operations in more than 100 countries, offers comprehensive solutions for different market segments, with leadership positions in energy and infrastructure, industry, buildings and data centres, in addition to having a large presence in the residential sector.</p> 
<p>SIDE</p> <p>SIDE has three business areas: Engineering: supply of engineering and electrical panels for industrial automation projects, specialising in machinery manufacturers and end customers; Distribution: supply of industrial electronic products for industrial automation solutions, and; Machinery: design, manufacture and sale of machines for bottle blowing, specialising in PET and technical bottles.</p> 	<p>TAI SMART FACTORY</p> <p>TAI Smart Factory is a company specialising in the development, sale, implementation and maintenance of software for collecting and managing industrial data, in addition to monitoring, analysing and exploiting said data.</p> 

<p>TM2</p> <p>TM2 is a company with more than 80,000 m2 of facilities dedicated to industrial packaging, lashing and logistics in Spain, Portugal and Mexico, with a team of more than 150 people at your service.</p> 	<p>TMI</p> <p>TMI is a company that designs and manufactures complete bagging, palletising and baling installations. The company has a wide range of automatic and semi-automatic industrial machinery to pack any product type, which is applicable to any industrial sector.</p> 
<p>TRADING FILMS</p> <p>Trading Films sells, distributes and handles thermoplastic polymers for 4 main business areas: flexible packaging, industrial, graphic arts and labels. It also offers services such as cutting, microperforation, macroperforation and reaming of some materials.</p> 	<p>VIROSPACK</p> <p>Virospack is a family owned company with more than 60 years of experience in the sector, a world leader in the manufacture of cosmetic droppers for skincare, hair, nails and liquid makeup.</p> 
<p>WITTE Y SOLÁ</p> <p>Witte y Solá is a strategic packaging collaborator specialising in aluminium tubes. With a family business structure that has a modern concept, it has maintained a line of action since 1968 based on customer service and support.</p> 	<p>BECOME A MEMBER</p> <p>Would you like to be part of the Packaging Cluster? Contact us through the form «Become a member» on our website</p>   <p>www.packagingcluster.com/en/members/become-a-member/</p>

<p>ANNEX II: COLLABORATORS</p>	<p>ALIANZA HEALTHY PRINTING</p> <p>EPEA launched a healthy printing initiative to expand the availability of healthier substances in printed publications and packaging, and invites everyone to join the alliance, which the Cluster already participates in, as a way of encouraging sustainable and healthy printing.</p> 
<p>CENTRO METALÚRGICO</p> <p>The Metallurgical Centre, among other things, focuses its activity on helping companies become global. Every year, the Metallurgical Centre and the Packaging Cluster organise trade missions to different emerging countries, which usually coincide with important trade fairs in the packaging sector.</p> 	<p>CLUSTER DE INNOVACIÓN DE ENVASE Y EMBALAJE DE VALENCIA</p> <p>The Cluster of Packaging Innovation is an association of companies that belong to the packaging value chain in the autonomous community of Valencia. They are grouped together with the objective of exploring business opportunities through innovation, internationalisation and networking.</p> 
<p>ECOEMBES</p> <p>ECOEMBES is a non-profit corporation that aims to design and manage a system that intends to selectively collect household packaging waste for its proper classification and recycling. In addition, it develops projects aimed at promoting innovation throughout the packaging value chain, in order to consolidate the system and protect the environment.</p> 	<p>ENTERPRISE EUROPE NETWORK</p> <p>The EEN Network offers small and medium-sized enterprises (SME) information and advice on business policies and opportunities in EU countries, in addition to assisting them in technology transfer processes and with gaining access to European funding, research, development and innovation programmes (R&D).</p> 

FIRA BARCELONA

Fira Barcelona was established in 1932, and since then it hosts exhibitions and conferences every year that encompass the main sectors of the economy, in addition to many other corporate, social and cultural events.



KOREAN PACKAGING ASSOCIATION

KOPA (Korea Packaging Association), founded in 1991, has 92 members representing the entire value chain and promotes the development of R&D activities within the context of the packaging industry, as well as the internationalisation of its members through strategic alliances with leading international partners.



NEWS PACKAGING

The specialised packaging magazine is aimed at manufacturing companies in the sectors of perfumery, cosmetics, food, beverages... In the magazine you can find a double page entitled "Packaging Cluster Space" with news on the cluster and interviews with its associates.



PACKBRIDGE

Packbridge is the Swedish packaging cluster, founded in 2010, which integrates members of the packaging industry, both nationally and internationally. Based in Malmö (Sweden), it promotes different activities and projects. It is also certified with the Bronze Label by the European Secretariat for Cluster Analysis (ESCA).



UNIVERSIDAD FUNDACIÓN POLITÉCNICA DE CATALUNYA – UPC SCHOOL

Since 2015, the Packaging Cluster has maintained a collaboration agreement with the Polytechnic Foundation of Catalonia, which offers the Postgraduate Course in "Packaging Engineering: Packaging Technology" in its portfolio of postgraduate degrees.



COLABORACIONES

Learn more about our collaborations by visiting the «Collaborations» section on our website



www.packagingcluster.com/en/packaging-cluster/collaborations/

ENVIRONMENTAL INFORMATION

The paper used in this publication is FSC® certified. This paper production certification guarantees a responsible environmental, economic and social management of the forests where the raw material comes from. Environmentally responsible forest management guarantees the fair use of forest resources and helps to maintain the biodiversity of the forests. Socially beneficial forest management helps local communities and society as a whole to enjoy the benefits of the forests while also conserving forest resources.

ENVIRONMENTAL RESPONSIBILITY OF THE PACKAGING CLUSTER

The Packaging Cluster is committed to sustainable and healthy printing and certifies that the inks used to print the "2017 Annual Report" comply with all regulations on the absence of harmful chemicals such as heavy metals, etc., and that the paper used also complies with the FSC certification.

Paper donated by Lecta. Printing done by Encaja Bio of Milimétrica Producciones





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