Smart and sustainable solutions showcased at FEFCO Technical Seminar
Editorial

We made it! Thanks to the combination of a Covid slowdown, a positive response from FEFCO members and the wish to meet again in person, along with the willingness of the FEFCO Board and tireless work of the Operations and Innovation Committee and Secretariat, the Technical Seminar 2021 was a great success. 816 participants from 34 countries, 80 exhibitors with 117 stands and 61 spotlight presentations set the scene for digital innovations, some of them developed during the confinement period of last year and confirmed that the digital transformation, as announced by the Green Deal is an important topic for our industry.

Facing the challenge of a digital and green economy, FEFCO members are confronted with plans to define their respective climate neutrality pathway by 2050 and to ensure all packaging is reusable or recyclable in an economically viable manner by 2030. Some countries, such as Germany and Austria, set even more ambitious decarbonisation targets as per the timescale. Independent of the recent COP26 results for an ambitious international agreement on climate change that would guarantee a level playing field, the European Union will also utilise the Green Deal as part of its growth strategy. There are many policy challenges for corrugated packaging, notably the revision of the Packaging and Packaging Waste Directive which favors reuse over single use.

FEFCO is monitoring the climate law and the German Mineral Oil Ordinance, which will impact food applications and we are concentrating our efforts next year on defending single use packaging and promoting reuse of fibre, and focusing on a "Climate Neutrality Roadmap for Corrugated Board". Recently, to make our voice louder, FEFCO joined forces with five paper and board value chain associations, to create the ‘Fibre Packaging Europe Coalition’, giving EU policy makers at the highest level a common voice.

The Operations and Innovation Committee brought together its know-how and worked tirelessly with suppliers, and experts to identify the most relevant strategic issues and to share its vision on how the corrugated industry could move towards intelligent manufacturing.

FEFCO would like to thank the committee and its Chairman Marc Van Damme, who dedicated much of his time to guiding and steering this group to create value to all participants.

FEFCO Technical Seminar in Copenhagen hails innovation and sustainability

There was a sense of resilience and recovery in Copenhagen on October 20-22 as some 816 representatives from the corrugated board industry and their suppliers gathered for the FEFCO Technical Seminar to debate the latest ideas and innovations. The event took place almost two years after the coronavirus pandemic hit, and although the sector had to adjust to the changes, it has bounced back.

At Copenhagen’s Bella Centre, the industry showed it was still making advances in technology, machinery and processes, becoming more efficient and more sustainable. The sector is moving towards climate neutrality as the European Union enacts its Green Deal policies. Meanwhile, the latest digital printing systems and other smart technologies were showcased at the event which included 22 speakers, 61 separate spotlight presentations and a panel discussion with high-level Industry representatives. On the exhibition floor, there were 117 stands and 80 exhibitors from 34 countries showing off their products and services.

FEFCO brought together buyers and suppliers from Europe and beyond to debate innovations, industry trends...
and how the corrugated sector can adapt to the EU’s ongoing overhaul of sustainability regulations. They presented ideas and solutions aimed at producing boxes more efficiently, more sustainably and with a reduced CO2 footprint.

In his welcome address, FEFCO President Fady Gemayel noted that corrugated boards were first developed in the 19th century yet were still proving themselves as indispensable packaging options. “We are socially responsible. We recycle, and we reuse the fibre,” he said. “And we have proven during this pandemic how essential corrugated is. We are a real value to society. The corrugated board industry doesn’t sit back but is preparing proactively. As industry 4.0 unfolds, we want to lead the way.”

FEFCO organised the Technical Seminar around the theme of ‘Towards Intelligent manufacturing - the Digitalisation on the Corrugated Industry’.

The participants discussed how factories can adopt integrated planning, build an automated storage system, control temperature and moisture, as well as how to use predictive maintenance to resolve problems before they happen. Other essential topics were related to whether and when to switch to digital printing and how to better understand digital to improve workflows.

FEFCO’s new Director General Eleni Despotou said the event showed how the corrugated sector continued to innovate and adapt to challenges. Despite the pandemic, the strong presence in Copenhagen demonstrated the resilience of the corrugated community. “Our world is changing faster than ever, but we are committed to ensuring that our smart and sustainable board packaging solutions are adapting,” she said. “Europe’s packaging companies today operate in a very complex industry, with new environmental regulations, global competition, intelligent packages and high-tech technologies. But the sector is still thinking big, thinking green, thinking smart and thinking sustainable.”

“At FEFCO we are constantly working for the entire corrugated industry as an integral part of the paper packaging value chain, caring about societal matters and future generations.”

Fady Gemayel - FEFCO President
The first session on ‘Intelligent plant design’ began with a presentation by Grean’s Tobias Heinen on integrative planning for an innovative factory. “Factories of the future must be more resource efficient and greener,” he said. “The factory of the future will be more automated and more digital!” Heinen said the overall aim should be economic efficiency throughout the lifecycle: changing the process speed, being more adaptable, and ensuring a real purpose in work to inspire young people. “There needs to be a coherent concept. What is the site aiming to do? Not just production, but offices, research, access to and within, social areas and green spaces, and all coherently integrated.”

FEFCO Director General Eleni Despotou’s presentation looked at the climate and energy challenges in a very complex environment. She listed the challenges as ensuring the security of raw material supply, ensuring affordable energy prices, finding skilled people and preparing the decarbonization pathway. “This is a wake-up call to those who have not yet thought about thinking big, thinking green, thinking sustainable,” she said. Despotou said the EU’s targets have become more stringent, notably in energy efficiency, even at a time when energy prices are skyrocketing. “FEFCO cannot do much on energy or CO₂ prices. But we can help the industry find pathways to sustainable production and processes,” she said. “Please start to work not tomorrow or today but yesterday. Start from the low hanging fruit – and we are here to help you.”

Mikko Talonen from Valmet, who spoke about using data to improve paper quality, said there were multiple data points in the papermaking process, from the start of production to the recycling and reusing. “We can learn from the data to improve our processes, for example, on how less weight means lower manufacturing costs,” he said. He explained how the pulp-to-paper optimiser predicted strength in real time and visualised the situation for operators in the control room. Other sensors measured moisture, porosity, temperature and warping. “We should change the mentality of the papermaker: it should be not about making the perfect box, but the perfect processes,” he said, pointing out that the factory should aim to maximise corrugator performance: minimise waste, improve quality, improve speed.

Benjamin Findlay from Machine Compare explained how manufacturing can raise the bar on global climate goals, emphasising that the corrugated sector is the touchpoint of every industry. “Everything comes in a box – so you connect to everyone. If you don’t change, this costs money – and reputation.” This is backed by surveys, and quoted statistics that show 84% of consumers are more likely to base a purchase on a brand’s sustainability practices. One key, he said, is deadstock spare parts: European plants with corrugated have an estimated €183m worth of deadstock spare parts. “We want to create a marketplace where these spare parts can circulate,” he said, adding that this would help stop spare parts from ending up in landfills, end wasted resources, and elevate business reputations.

In the second ‘Intelligent plant design’ session presented in the Tech Talk panel, Helmut Kraus from BHS underlined the importance of adaptability and flexibility in digital printing. “The challenge is that you have bar codes, QR codes and RFIDs, and they are not always at the same place. So, you have different solutions and different costs,” he said. “Automatic inventories can overcome some tedious manual...
processes.” Autonomous corrugated processes that take account of temperature and moisture could also save time and money. “The big driver for digital printing is saving on paper consumption,” he said.

Robert Falch from Minda Industrieanlagen said that as floor space becomes more expensive, one of the main focuses in the coming years will be automatic racks. “The challenge is that automatic racks do not have so much flexibility – but it will give you the storage capacity you need,” he said. “Digital service and support will also be critical, with alarms and IP cameras, smart troubleshooting, statistics and KPIs,” he said.

Kornelius Thimm from Thimm Group explained that four topics were driving the corrugated business: sustainability, supply chains, digital workflows and technology. He said digital print was the keystone of our factory of the future. “It is not rocket science: the information that the corrugator gets should be received automatically, not manually,” he said.

Hartmut Breunig of Koenig & Bauer mentioned that using data in the converting process would improve workflow coding data and process optimisation. “The QR code can be an enabler – and we can add extra data to it. But we must consider what the customer really needs. Not every customer needs everything,” he said. “We have to see what makes sense and what doesn’t – regardless of whether it is technically possible.”

In the high-level panel discussion, ‘Corrugated – sustainable and smart solution today and tomorrow’, Göpfert’s Managing Director Ralf Schifffmann said the climate crisis was an issue that everyone had to take seriously. “We need to listen to young people like Greta Thunberg,” he said when asked about the Swedish schoolgirl climate activist. “We need to ask them how they think we should do it. The world needs to go on, but we have to figure out the answer together. We have to figure out the answer together and build a sustainable future for younger generations.

Klingele’s COO Carolyn Wagner agreed that the climate crisis was a global responsibility. “We can’t run away from it. It’s a big topic not because it is fashionable or right on, but because it is a vital issue,” she said. “We are doing a lot in our corners, and we should look at the data to see where we can save resources and energy. How can we find waste in all these steps and remove it? It is about us and the planet. We should not just think about the consumer perspective.”

Hinojosa’s CEO Eric Bacourt said the entire industry needed to do better when it came to sustainability. “We have to work harder,” he said. “We have to cut energy use, putting solar panels on the roof and building biomass boilers.” He also warned that despite the advent of smart solutions, the human touch should always be available, especially when it comes to service. “We have to help the customer, but not everything can be resolved through digitalisation,” he said.

International Paper Vice President & General Manager Eric Chartrain said becoming more sustainable was about adapting to the changing situation. “We have to think of all our stakeholders, including customers,” he said. “There are not enough resources on the planet, so we have to make better use of what we have.” Chartrain said that there is an important nuance in the corrugated industry’s recycling system: while the sector reuses the fibre, it is not reusing the box. “We still have to tell the story about how we are part of the circular economy,” he said. “We are aiming for 100% recyclable or reusable paper. There are a lot of new technologies today to help meet our climate targets, in both systems and processes.”
Andreas Goldbach from Kunert Wellpappe explained his experience in building an automated storage system with a high bay warehouse and storage capacity for 18,000 pallets. He admitted that having a high bay warehouse was not as critical as he originally thought, as it is currently filled from 65 to 80%. “I guess we will never have enough storage capacity!” he said. “Without discipline, you will fill every warehouse.” He said building the high bay warehouse was still the right decision, but he learned that it was important to instruct the system so it could adapt to the new situation.

On the second day, FEFCO Technical Director Krassimira Kazashka explained the EU policies and their impact on corrugated. “We know corrugated is sustainable today, and we are proud of this. Can we call corrugated sustainable tomorrow?” She said the current European Commission has two main priorities, a green transition and a digital transformation. The strategy affects many aspects of the corrugated sector. For example, the Farm to Fork strategy that are part of the European Green Deal will impact all corrugated boxes that transport food, which applies to direct and indirect contact. The Chemical Strategy, the New Circular Economy Action Plan will also have an impact. “EU ambition brings more challenges than opportunities,” she said. “Paper and board is the most recycled packaging material in Europe. Corrugated is circular by nature – we just have to convince the Commission and everyone else.”

Stefan Uebelacker from openpack explained how intelligent data and a digital platform can help everyone in the corrugated sector. He began by insisting that data is not intelligent. “When you work with data, you have to accept this. Numbers don’t give you instructions,” he said. The key, he said, is first, to get the right data together, and then understand it and apply it to situations. “Data can’t tell you to do your job, but it can help you get better,” he said, urging people to create systems that talk to each other, and give simple answers to complicated questions.

Carl-Magnus Everitt from RISE described how DigitCorr creates digital processes and digital features in corrugated production. The system uses physical modelling of corrugated board production, looking at moisture differences, warp models, energy supply, electronic components and anti-tampering mechanisms.

Bart Verbruggen from OMP looked at how intelligent usage of data can lead to smarter corrugating and planning. “How can we use intelligent data to improve supply chain productivity?” he asked. He said OMP devised a self-tuning, self-adjusting system to take account of high variability through what was described as the ‘Command Centre approach’ that looks at how supply issues can be automated. “This detects issues, diagnoses, responds and learns,” he said.

Nikolaas Verhelst from VPK presented the new FEFCO Code book, which he described as “like a holy book for designers”. It has been revised recently because of new technologies and communications tools, “and because we were extremely critical of ourselves.” The new book has a new structure, new contents, and more than 70 new design codes, with numerous small changes, like the switching from straight glue flap to an angled one.
The afternoon session began with Mondi’s Sabine Nellen explaining the new tools from FEFCO’s Health and Safety Committee. She released the FEFCO accident statistics showing the general rate fell from 2011 to 2020. “Our industry is still suffering machinery-related accidents!” she said, urging companies to share experiences so that the entire sector can learn. “Machine safety is a partnership between the machinery suppliers and the corrugated industry. Sharing information on accidents and safety problems with technical equipment is paramount. Let’s communicate openly and dive together into a safe corrugated future. Communication is critical.”

Steve Parr from SKG explained the principles of predictive maintenance. “That means asking what happened? Why did it happen? What will happen? And how can we prevent it from happening?” he said, outlining how up to 450 sensors can record vibrations, electric current and other data from a single corrugating machine. He warned that users had to understand the data. “Remember what you’re trying to do: don’t get carried away, be clear who owns the day, think about how and who will use the system. Digitalization is a tool, not the answer, and you need to change engineering practices to use the system.”

Allan Dickner from IKEA told the audience what the Swedish furniture giant was doing, producing four billion packages a year and 920,000 tonnes of material. “We have four strategic packaging movements: customer-centric approach; design for total lower costs; sustainability; and packaging as identity and information carrier,” he said, adding that the role of packaging will change due to digital development. “The digital development will enable circularity,” he stated.

In the ‘Intelligent digital machines’ session, DigitPack’s Pawel Rogalka reported how he started up a digital printing house in 2020, in the middle of the pandemic, which he admitted was not the best moment. He describes his system as “a revolution, it is an evolution,” as he noted that people generally don’t like big changes. He had no regrets about the venture. “We are actively contributing to the evolutionary change of the corrugated market. There is no return,” he said.
Michael Weber from THIMM Group spoke about the Internet of packs. He urged the sector to develop supply chains that are faster, more agile, transparent and cheaper. “Imagine a world where every package has its unique code – effectively, a digital fingerprint,” he said. “Our vision is that each package has a code so it is trackable at all times.”

Tomasz Garbowski, Poznan University of Life Sciences outlined the differences between digital and analogue printing from the perspective of corrugated board strength parameters. He said analogue printing damages corrugated board, this can be partially controlled, precisely measured and partially prevented through optimal corrugated board selection. “Can we avoid crushing in flexo? No!” he said. “Can we produce a corrugated board optimal to flexo and/or digital printing? Yes!”

Tomasz Garbowski

Eric Bacourt from Hinojosa Group described the challenges of introducing digital print in a corrugated plant. The strengths are that there are no stereo costs, there is a shorter time to market, it is more versatile, and there is no physical contact with the sheet. The weaknesses are the limitation of up to six colour printing and ink consumption as a critical cost calculation.

And Thomas Gude from Swiss Quality Testing Services presented the new testing methodology for printed corrugated for food contact using infant food powder. “Migration results are always based on worst-case simulations and infant food is the best alternative,” he said. The tests showed results from different situations with a range of temperatures and duration (up to 10 days and 60°C). “Migration from printed, glued and recycled cardboard always takes place, there is no 100% barrier, but functional barriers can be an option.”

From left to right: Fady Gemayel, Julian Pachniewski, Semih Çelebi, Saskia Runte, Klaus Lüke, Marc Van Damme (Chairman OIC), Astrid Glasenapp, Łukasz Nęcki, Mihnea Baldea, Krassimira Kazashka, Eleni Despotou

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FEFCO crowns corrugated industry supplier champions in Copenhagen

Eleni Despotou, FEFCO’s new Director General said the awards reflected the vibrant innovation in the corrugated sector. She added that the coronavirus pandemic had triggered people and companies’ new perspectives, helping them to think differently about their products, processes and systems. “Thus, every big challenge brings opportunities,” she concluded.

FEFCO, the European Federation of Corrugated Board Manufacturers, issued seven awards at the end of the three-day event in Copenhagen.

The most prestigious FEFCO prize was for **Best Innovation**, and this year the Gold Award went to Ilmay Karamanlar from Dücker Conveyor Systems for a research and development pilot project on customed and automated loading of finished product pallets on trucks.

The **Silver Award** went to Javier Quesada from Kento for a project integrating two printing technologies (flexo analogue and digital) in one hybrid machine, combining flexibility in printing technologies and reducing print costs.

The **Bronze Award** went to Constantin Ritter from BHS Intralogistics (represented on the left by Helmut Kraus) for flexible paper roll handling on the corrugator, reducing manning and limiting unsafe clamp truck movements.

The **Health and Safety Award** was given to Tristany Serra from SERRA for the use of electronic sensors for forklifts, making them dummy-proof and rendering plants safer.

The **Sustainability Award** went to Elizabeth Staab from H.B.Fuller for their efforts to make adhesives, starch additives and adhesive coated tapes more sustainable.

The **Best Presentation Award**, out of some 62 six-minute spotlights delivered during the Copenhagen seminar, was won by Bernhard Mueller and Christin Haubner, from BHS Corrugated, for their inspiring interactive presentation. Their solution simplifies the interlinked connection between BHS material and corrugated processes.

And the most Inspiring **New FEFCO Member Award** went to Openpack’s CEO and Managing Director Stefan Uebelacker and Head of Innovation and Business Development Kurt Salman for creating a dedicated corrugated app connecting all the players in the corrugated industry.

**Lifetime Achievement Award**

FEFCO honoured **Peter Dücker from the Dücker Group**, with a Lifetime Achievement Award. This award rewards him for his dedication to the corrugated industry and for his valuable input in developing, introducing, and supporting high level and innovative material handling technology.
The European Commission presented the Green Deal in 2019, a multifaceted policy package designed to help the EU become green, digital and competitive. The policies set ambitious targets, many of which will directly and indirectly impact the corrugated industry.

Within the Green Deal, the EU Climate Law proposes a binding objective on climate neutrality by 2050. It is the first law of its kind to be adopted. An agreement was reached to set an objective of 55% reduction of greenhouse gas emissions by 2030. These targets will be a point of reference for all upcoming and revised EU legislation and will therefore impact all industry, including packaging.

In 2020, the Commission also published its Circular Economy Action Plan (CEAP) as part of the Green Deal. The plan introduced a number of initiatives and revisions that aim to make the Union more sustainable.

Key policies within the CEAP include the Sustainable Product Policy, which strives to make products fit for a climate neutral economy and defines criteria for sustainable products. It will introduce a requirement for a Digital Product Passport. Additionally, the revision of the Packaging and Packaging Waste Directive is ongoing and will set new targets for the prevention of packaging, reuse, recycled content and will change the essential requirements. A proposal of the revised Directive is expected in Q2/2022. These will have the most direct impact on corrugated of all the Commission’s current workstreams. Reuse and waste prevention are key priorities for the Commission, which will require the industry to make significant changes in the coming years.

The review of the Food Contact Materials Regulation has been delayed again and a public consultation is expected in Q1/2022. FEFCO is prepared to engage with the Commission on this issue.

Another of the Green Deal’s largest proposals is the Fit for 55 Package, published in 2021, which includes a number of proposals to help the EU achieve a 55% net emissions reduction by 2030 and climate neutrality by 2050. It includes initiatives related to renewable energy, energy taxes, forests and others, which will indirectly influence the corrugated industry.

The Commission has also set their focus on forests, publishing the New Forest Strategy, revised LULUCF and the Deforestation Regulation in 2021. Forestry and forest preservation have also taken center stage on a global level, with leaders at COP 26 making ambitious commitments to tackle deforestation.

Over the course of 2021, FEFCO has monitored the relevant legislative developments and engaged directly with policymakers on key files that could affect the corrugated industry. As part of our advocacy, we responded to public consultations, participated in relevant workshops and published position papers, both independently and in cooperation with partner associations.

Throughout this year, Germany presented a new draft of the Mineral Oil Ordinance which sets strict limits for mineral oil in recycled paper used in food applications. The Ordinance has been notified to both the EU and the World Trade Organization and FEFCO has reacted to both. It is expected that Germany will proceed with the Mineral Oil Ordinance following the anticipated adoption of the Printing Inks Ordinance.

In 2022, FEFCO will continue to follow and engage with relevant policies and revisions, advocating for the best interest of the corrugated industry.
FEFCO launches Corrugated Packaging Recyclability Guidelines design for circularity

FEFCO has issued these guidelines with the aim to contribute to the sustainability of packaging. They provide the industry with a practical set of tools to implement in the recycling of paper and board to ensure the optimal use of natural resources and minimise their environmental impact.

The circular economy needs recycling, waste prevention and re-use to keep materials in the loop and minimise the use of resources. Paper and board are a sustainable, renewable and ecologically sound choice for packaging. In practice, the recyclability of packaging products will be determined by composition. This all starts with their design, followed by the way they are collected, sorted, and presented for reprocessing.

Paper and board recycling in the EU is a success story, with over 83% being effectively recycled. Corrugated packaging is a champion of using recycled paper for new packaging, having 89% recycled content on average.

Eleni Despotou, (FEFCO Director General) underlined that the corrugated industry already provides sustainable and circular packaging that support the Green Deal ambition of the European Union. Recovering, recycling, and reusing raw materials can help achieve this furthermore. The Recyclability Guidelines provide the industry with a well-defined outline to reach our sustainability goals.

At EU level there is no specific regulation for paper and board. The general requirements for all food contact materials set out in the Framework Regulation (EC) 1935/2004, and in Regulation (EC) 2023/2006 on good manufacturing practice for materials and articles intended to come into contact with food are applied to paper and board, including corrugated board. To close this gap FEFCO developed a methodology for compliance testing of printed corrugated board used in food applications. The methodology proposes a two-step approach combining an officially approved simulant for paper and board in food contact and testing with real food as a confirmation. The purpose of the document is to give a usable methodology tool to the corrugated producers and their suppliers when evaluating compliance with the EU legislation.

Eleni Despotou, FEFCO Director General said “FEFCO has developed the testing methodology to support its members and to create a common basis for communication between corrugated manufacturers and suppliers to ensure the safety of packed food products.”.

For more information, please contact

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FEFCO activities

New Sympathiser members
A big welcome to the new members who have joined FEFCO in 2021!

- ADM Razgrad EAD
  - www.adm.com
  - Bulgaria
- CIPA GmbH
  - www.openpack.net
  - Germany
- CTI Systems S.à r.l.
  - www.ctisystems.com
  - Luxembourg
- Dücker International GmbH
  - www.duecker.com
  - Germany
- Essentra Tapes
  - www.esSENTRA.com
  - United Kingdom
- Highcon Systems Ltd.
  - www.highcon.net
  - Israel
- Holmen Paper AB
  - www.holmen.com
  - Sweden
- Kemind S.r.l.
  - www.kemind.it
  - Italy
- Kento Digital Printing S.L.
  - www.kentodigitalprinting.com
  - Spain
- Koenig & Bauer | Durst GmbH
  - www.koenig-bauer-durst.com
  - Germany
- KOLBUS GmbH & Co. KG
  - www.kolbus.de
  - Germany
- Quantum Corrugated Srl
  - www.quantumcorrugated.com
  - Italy

New Corresponding Member
Grigeo Packaging UAB (awaiting ratification by the GA)
www.grigeo.lt
Lithuania

FEFCO Board
Welcome to Anastassios Panayotopoulos as the new Managing Director of the FEFCO Cluster which includes the Hungarian (HFCBM) and Romanian (ARFCO) National Associations.
Anastassios replaced Miklos Rasovszky whom we thank for the many years in this position.

Fibre Packaging Europe coalition
FEFCO together with leading trade associations representing industries involved in forestry, pulp, paper, board and carton production and recycling have launched ‘Fibre Packaging Europe’, an informal coalition. The members joint mission is to provide renewable, circular and sustainable paper and board packaging solutions to help achieve the objectives of the European Green Deal.

FEFCO Events
Thematic Webinar on Single Use (members only)
19 January 2022
This online event will present the key findings of the FEFCO Single-Use project.

FEFCO Health & Safety Workshop
Forklift Safety
20th June 2022
Frankfurt, Germany

FEFCO Summit
Fit for the Future
18-20 May 2022
NH Hotel Collection Barbizon Palace Amsterdam, The Netherlands

Save the date