

A vibrant, high-speed photograph of a paint splash. The splash is composed of several distinct colors: a large, flowing blue stream on the right, a bright yellow stream on the left, and a central, more turbulent pink and magenta stream. The paint is captured in mid-air, creating a sense of motion and energy. The background is a plain, light gray, which makes the colors of the paint stand out. The overall composition is dynamic and visually striking.

ANNUAL REPORT 2024

EuPIA



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It is our pleasure to offer you this unique insight into EuPIA's activities.

2024 has been a busy year for our industry association. Regulatory pace and pressure on chemicals continue whilst societal and economic challenges are not becoming less demanding. Therefore, EuPIA has been one of the first sectors to sign the Antwerp declaration, a call to revitalize Europe's industrial landscape, strengthening basic industry sectors, ensuring their competitiveness, sustainability, and resilience amid shifting geopolitics.

Next to European wide topics also national topics are of interest to the printing inks, especially with respect to food contact materials.

Organisationally we have become stronger with Operating Rules and working group remits revised, several new task forces set up to better address regulatory needs and the employment of a full time Director.

Throughout 2025 we will need to tackle the opportunities and challenges ahead. Particularly recycling and recyclability will remain a key priority. To successfully navigate the changes ahead and serve our industry sector most effectively, we rely on the engagement of all EuPIA members in our activities and initiatives.

We wish you an excellent year ahead.


Cornelia Tietz


Mehran Yazdani

What is EuPIA?

EuPIA, the European Printing Ink Association, working under the umbrella of CEPE (the European Council of the Paint, Printing Ink and Artists' Colours Industry), represents the interests of the European printing ink business and promotes the image of the industry to the public. EuPIA provides a forum for discussion and decision-making regarding issues of specific interest to the printing ink industry. We proactively develop industry positions, give best practice advice, maintain the Exclusion Policy, and engage in research projects.

In 2024 we have revised our mission and vision statement to better express our goals.

In our more than 15 working groups and taskforces, chaired by EuPIA member company representatives, we address technical, regulatory, but also administrative and communication issues that relate to the printing ink industry.

Vision

Advocate the needs of the printing ink industry and champion its progress

Mission

EuPIA supports its member companies by:

- promoting the development of safe, sustainable, and colourful printed products,
- providing regulatory and scientific advice to all stakeholders to encourage innovation.

What have we achieved?

Early in 2024, EuPIA signed the so-called Antwerp declaration that calls for a European Industrial Deal to complement the EU Green Deal and safeguard quality jobs in Europe - which is even more needed at a time when the industry in Europe is facing an economic downturn, whilst investments are needed to achieve Europe's transition to climate neutrality. EuPIA's communication team has taken from the 10 points of the declaration those with the utmost relevance to our sector and formulated our own key asks.

Simplification of the regulatory framework

linked to raw material supply and innovation potential

Our asks

A streamlined and coherent regulatory environment is critical.

- Current regulations often impede innovation and create competitive imbalances across Europe.
- Simplified compliance and reduced administrative burden are necessary to support the Green Deal and foster industrial growth.

How could this be achieved?

1. Reducing bureaucracy by avoiding unnecessary new regulatory requirements and by reviewing existing regulatory requirements to determine whether they are sensible and necessary, including considering the viability of new concepts (e.g., scientific necessity and effects of the "Mixture Allocation Factor").
2. Timely collaboration between authorities and affected stakeholders (manufacturers, downstream users, end users, and their associations) to discuss and reflect on concerns and potentials prior to the initiating and adopting of new regulations.

Circular economy/Sustainable products

Our asks

Circular economy is looking at the entire product life cycle, and therefore it needs to be ensured that all stakeholders play their parts. This applies to the design phase, but also to the optimization of recycling processes and efficient collection and sorting. In particular, the interaction between printing and the recycling process must be considered holistically.

How could this be achieved?

1. EU incentives should encourage the use of circular and sustainable products, such as bio-based and recyclable inks. This will support the industry's sustainability goals and align with market demands for greener products.
2. Recognize and establish deinking as an important part of the recycling process in the field of plastics recycling.
3. Define Design-4-Recycling criteria that are practical, realistic, and adaptable to technological advancements in order to further promote circular economy. They should be grounded in scientifically sound findings and developed together with the industry.
4. Ensure the expansion and development of comprehensive, cross-border recycling infrastructures in Europe for a functioning European secondary raw materials market.



Occupational Health and Safety

Exclusion Policy

For more than 25 years, the EuPIA Exclusion Policy (EP) has been THE product stewardship initiative of the ink industry in Europe, and as such, it is well-respected across the value chain, meaning not only by EuPIA members, but also by printers, converters, brand owners and retailers. It ensures the safety of inks across Europe.

How does the EuPIA EP work in a nutshell?

The policy is about excluding hazardous chemical raw materials that have a serious adverse effect on human health from the manufacture of and the use in printing inks, protecting workers along the whole supply chain as well as customers.

When a raw material used in printing inks receives a new severe human health classification, EuPIA members that signed the EP have 6 months to substitute it. Only where this is technically not possible, an exemption that is closely monitored can be requested.

To keep track of new hazard classes and the changing regulatory scope, the EP has been updated twice over the last months. The 6th edition added to the group B substances of the new hazard class "Endocrine Disruptors Category 1 for human health (EUH380)" and removed the differentiation for "Toxic to Reproduction Category 1A & 1B (H360)". The latest 7th edition from autumn 2024 looks even further ahead with a new annex on substances with occupational concerns when it comes to inhalation exposure and poorly soluble particles.

Guidance & Safety Alerts

Via the Occupational Safety and Risk Assessment (OSRA) Task Force, EuPIA members have a platform to share knowledge, expertise and experiences relating to occupational safety and accidents in a confidential manner.

Internal Safety Alerts for all members provide specific details of incidents where lessons can be learned.

Four new guidance documents were published throughout the last year: work permits, safe use of IBCs and laboratory safety, as well as storage and handling of solvent-borne aluminum-based inks.



Sustainability/Circular Economy

Recycling

EuPIA's has two task forces looking after recycling of printed paper and plastic. For both materials, deinking is a key premise for recyclability.

For paper processes, deinking techniques integrated in paper mills are already in place. The recycling rate is above 75%, which demonstrates that paper is already part of a very well-functioning circular economy. EuPIA engages in the so-called European Paper Recycling Council (EPRC), an industry initiative that monitors the progress towards meeting the paper recycling targets. EuPIA's task force is also involved in activities related to the different eco-labelling schemes and contributed to the German Na-

tional Association's (VdL) input to the Blue Angel for printing inks. More recently, we provided comments to assessment of the EU Ecolabel criteria for printed paper, stationery paper, and paper carrier bag product the EU Ecolabel criteria for paper products.

With respect to plastic recycling, it is above all the revised Packaging and Packaging Waste Re-gulation (PPWR) that sets new challenges, especially on the recycling of post-consumer plastic packaging waste: it needs to be ensured that recyclates are of good quality and can be used for the purposes outlined in the PPWR.

The Plastic Recycling Task Force issued a position paper on the deinking of plastic packaging waste. Design for Recyclability (D4R) guidelines and standards on deinking still need to be established, but their development is in full swing. Therefore, EuPIA is engaging in several research and standardisation projects. Several of our member companies are active in a number of initiatives, and the task force is their platform to exchange and prepare inputs together. Those include:

- CEN Technical Committee (CEN TC 261) to develop standard for recyclability
- the Circular Economy for Flexible Packaging (CEFLEX) network, engaging over 180 European companies, associations and organisations representing the entire value chain of flexible packaging to make all flexible packaging in Europe circular.
- RecyClass, an initiative organised by the Plastics Recyclers Europe to produce fact-based guidelines on plastics recyclability and the uptake of recycled plastics.

Another initiative is our project with the Worldwide Nitrocellulose Producers Association (WONIPA) to determine the maximum recyclable threshold of nitrocellulose (NC) dry binder (wt%) related to the total packaging weight of packaging films printed with NC

based printing inks. Both CEFLEX and Recyclass set a recyclable threshold to 0.8 wt%, but this is an arbitrary number, which is lacking a scientific base.

Next to this, EuPIA has signed up to financially support ColourCycle, a CORNET-project to increase the safety of polyolefin and polystyrene (PS) packaging with decorative and coloured components in recycling – this is a follow-up of two previous projects: SafeCycle and PolyCycle.

Special national issue: Mineral Oils in packaging and prints

In France, the intentional use of mineral oils in packaging and prints for the general public is banned as of 1st January 2025. Limit values should ensure that any ink formulations containing intentionally added mineral oils can be considered to not meet the French law thresholds and should therefore not be used.

However, the limits in the French order are so low that unintentionally added trace mineral oils could result in findings above the limit values. Also, they are hardly enforceable due to the lack of analytical methods.

EuPIA has published an information note highlighting that in the absence of a harmonised and reliable analytical method for the accurate quantification of MOSH/MOAH, general declarations of "mineral oil-free" inks down to ppm levels should be considered with caution.

EuPIA strongly recommends that for the time being compliance work should rely only on a best practice approach: open discussion with printing ink manufacturers, regulatory statements based on known composition data and statements of composition for food packaging applications. EuPIA also supports its



French National Association AFEI in any step that could lead to tabling amendments to achieve a realistic approach and remove the complete ban via the parliamentary agenda.



Environmental Footprint

To allow all its members to improve their environmental and sustainability performances, EuPIA has developed a guidance and a tool that enable every member of EuPIA, including small or medium-sized companies, to calculate their Product Environmental Footprint, allowing them to better respond to market and customer requests.

Actual data is not included in the Guidance, as this will depend on individual suppliers, so each company will need to draw upon their own database to feed this tool.

The EuPIA Environmental Footprint of Printing Inks (EFPI) Working Group strongly encourages the gathering of effective data for each single raw material, as raw materials may differ from one supplier to the other.

One important conclusion drawn from the information exchange completed during its activity is the confirmation of former qualitative assessments: the weight of printing inks in final finished printed products on the market is minor.

Spot on: Polychlorinated biphenyls (PCB) in pigments

Persistent Organic Pollutants (POPs) are organic chemical substances that persist in the environment, bioaccumulate through the food chain, and hence pose a risk of causing adverse effects

to human health and the environment. The Stockholm Convention on Persistent Organic Pollutants aims to regulate them worldwide and the Regulation (EU) No. 2019/1021 of the European Parliament and of the Council on persistent organic pollutants - or in short: the EU POPs regulation - implements bans or restrictions regarding the manufacturing, marketing and use of POPs in the EU.

The EU POPs regulation underwent a recast in 2019, aligning definitions and terminologies with those in the REACH regulation and the EU Waste Framework Directive. Substances listed in Annex I were updated. Also, PCBs are part of this annex, but without a limit value for the presence as an Unintentional Trace Contaminant (UTC) in substances, mixtures and articles. The absence of a UTC limit provided room for interpretation from a "zero" limit to a limit up to 50 ppm for PCBs in organic pigments as set by pigment suppliers. In this situation, the establishment of a UTC limit value seemed plausible. This should be done via a delegated act and was discussed over the last years in the POPs Expert Group by the Commission, Member States and stakeholders. At one point, the Commission went on to propose a 0.1ppm UTC limit. Pigment suppliers estimate that none of the 35 chlorinated organic pigments under consideration will be able to meet the 0.1 ppm PCB content, and hence such a low threshold would have eliminated 40% of the colour spectrum (all blue and green).

EuPIA raised the issue first at CEPE level and further sought support from trade associations from the value chain that were thought to be equally affected.

Together the situation was analysed, arguments were collected, and a discussion was undertaken with the supplier associations and common positions were prepared.

Last but not least, a meeting of the industry downstream



cross-sector group and the Commission was set up, and examples were prepared to show the real impacts of the loss in the colour spectrum, which would be much more than just a minor shift in colour tones.

With success: the Commission presented a proposal maintaining the generic UTC limit value for final products at 0.1 ppm, with a derogation for organic pigments and mixtures and articles containing organic pigments at 25 ppm upon entry into force and 10 ppm 3 years after entry into force. There were no major objections raised to the tabled Commission's proposal for the delegated act during the 31st Meeting of the POP Expert Group on 29 November 2024. Now the Parliament and Council have two months to formulate any objections. If they do not, the delegated act enters into force.

EuPIA also published an article on this in the Coatings Journal and Farbe und Lacke.

Food Contact Materials

Situation in the EU

Also in the last year, the EU Commission undertook no major step towards a unionwide regulation for printed food contact materials (FCM) and only a few actions with respect to the framework regulation as such. Instead, further delays have been communicated, with now only 2027 as a date for a legislative proposal. As a next step, the Commission's Directorate General (DG) Sante wanted to publish a scoping paper, but this has not yet happened either.

On several occasions, the Commission only confirmed its intention of a paradigm change into the framework by shifting the focus from intermediate materials (such as inks, coatings or plas-

tics) to the final article. In a new grouping approach, inks would fall into the category of "synthetic organic type materials", together with adhesives, coatings, plastics and other "synthetic" materials. The risk management of substances is still planned to be based on a tiered approach, depending on the hazard of the substances: some will be banned, others will still be subject to an official evaluation, while a third class should be open for industry self-assessment.

The Commission engaged with stakeholders at only one point last year: to discuss the policy options from a study concerning information exchange, compliance and enforcement, and collected views on supporting and hosting an IT structure for this information exchange and verification of compliance. A EuPIA delegation took part in the event and provided the viewpoint of the industry.

A study on sustainability in the context of food contact materials is still ongoing.

In addition, the Commission worked on amending the existing regulations, such as the so-called plastics regulation (regulation (EU) 10/2011). The so-called 18th amendment provided some significant changes to the purity requirements. Comments from EuPIA and other industry associations were issued during the public consultation and partly taken into account by the Commission.

EuPIA's PIFOOD working group continues to engage by analysing even the tiniest developments and their consequences. Also, via the Packaging Ink Joint Industry Task Force (PIJITF), we have continued the work in the value chain. Supported and led by EuPIA, the revision of the PIJITF position on the Commission's plans and ideas is still ongoing in a PIJITF subgroup. Since the information flow in the supply chain will, according to the Commission's plans, become even more important in the future, the PIJITF



Guidance on Supply Chain Communication, which provides the understanding of the value chain and what kind of information needs to be transferred along the chain, was sent to the Commission with a request for a meeting. This guidance was also presented at the Smithers Pira Plastics & Paper in Contact with Foodstuffs conference.

The Council of Europe published a guideline on the documentation supporting compliance in the supply chain which shows a good alignment with the PIJITF guidance.

Apart from the PIJITF, EuPIA also engaged bilaterally with several associations upstream and downstream of the FCM supply chain, such as Flexible Packaging Europe, the European Carton Makers Association and Cefic's Sector group for Food Contact Additives.

EuPIA presented its concepts and ideas regarding the FCM revision at different conferences (e.g., Chemical Watch's Food Contact Regulations Europe, in Brussels, in April 2024 or Chem-Academy's Food Contact Materials Regulation, in Cologne, in February 2024).

German Printing Ink Ordinance and success for the acknowledgment of a toxicological approach

With the Commission not moving, the so-called German Ink Ordinance is most likely to become fully effective on 1st January 2026. The raw material suppliers are continuing to work on completing the list and are supported by our industry in this task. Although some additional substances have meanwhile been evaluated and several more are in the process, the progress is very slow, and it is hence becoming apparent that the ink industry will have to work with an incomplete positive list from 2026 on.

In order to provide clarity on the requirements of the German authorities and hence to help the suppliers in still getting substances on the list the VdL has been heavily engaged in a "regulatory sandbox" project organized by the ministry in charge (Federal Ministry of Food and Agriculture, BMEL) in conjunction with the German BfR (Federal Institute for Risk Assessment) in which concepts of cost and data sharing, which are missing in the legal text, are discussed. The aim was to lower the barrier for raw material suppliers to submit dossiers and to increase the predictability of the involved costs.

After ten meetings, the project is now completed, and the final report was issued in January. As another result, the BMEL published a proposal on cost sharing for dossier preparation: raw materials suppliers that share an interest in a substance can inform the ministry, which will then bring the relevant companies in contact. This already led to some expression of interest on the BMEL website.

One of the main obstacles for the dossier submission is the question of how impurities or breakdown products should be assessed, since the corresponding guidance is not very specific on this point and the number of necessary assessments or tests has a high impact on the costs. Thus, the predictability of the involved

costs is low, and it is hence difficult for suppliers to calculate a business case. Here, an important breakthrough could be achieved. The experts of the BfR and the EuPIA toxicologists agreed on an approach to deal with certain false-positive alerts in the in silico assessment of these impurities or byproducts. What may seem a very specific detail has in fact a high impact on the dossiers. This approach will also be described in the final report from the BMEL.

Swiss Ink Ordinance

The revision, which removed the so-called part B and introduced a mandatory declaration of conformity, was published in February 2024 with a two-year transition period. The process has been closely followed by EuPIA's Swiss National Association, VSLF. Accompanying FAQs, to which a small VSLF/EuPIA expert group contributed, were published on 29 October. Meanwhile, a Joint Industry Group was set up together with the packaging industry to work on the declaration of conformity, again, VSLF and EuPIA support this Swiss initiative financially and with experts.

Analytical & research work

For several years, EuPIA has been working on migration tests with simulants and real foods for selected printing ink surrogates. The internal summary of a study conducted at Fraunhofer IVV was published.



It provides evidence that the accelerated migration tests' conditions foreseen in the plastics regulation can lead to severe overestimations.

To support this first study, internal follow-up "swelling studies" using permanent markers were undertaken to demonstrate a physical change of plastic films. A scientific paper containing some of the results related to the swelling of the film is about to be published on the EuPIA web page. A second paper, covering additional experiments, will follow. A poster at ILSI (8th International Symposium on Food Packaging) is planned to illustrate those results.

Good Manufacturing Practice

Since 2009, the EuPIA Good Manufacturing Practice (GMP) assists in controlling food safety hazards in the design and manufacture of inks, varnishes and coatings designed to be printed onto Food Contact Materials (FCM inks). This document has been broadly updated to reflect the current state of the art and was aligned to ISO 9001. It is undergoing a last approval round and is expected to enter into force in 2025, after a six-month transition period.



What are the next steps and projects?

Several big projects are awaiting the EUPIA members in 2025.

Paper on Inks & Recycling

Strangely enough, we see more and more references to the Exclusion Policy contained into recyclability criteria throughout the value chains but also at regulatory levels. The EP is focusing on human health and, above all, occupational health and safety. It is hence not per se suitable to declare recyclability of inks, nor does it list any inks but refers to raw materials.

Our experts will provide a proper explanation on how to address the recyclability criteria of inks.

Improved Exclusion Policy

In a workshop, we will investigate the fitness for purpose of the EP. With more and more substances crucial for our industry being reclassified, we will strive to make the EP sustainable and maintainable.

Photoinitiator Suitability List

A new PI proposed by a supplier is currently being checked for eligibility to be included in the List. This is the first time EuPIA is testing such an approach.

Functional Coatings

Company delegates will discuss if and how functional coatings that are part of some companies' portfolios can be better represented within EuPIA.

Communication

EuPIA will contribute twice per year to the regulatory section of the Coatings Journal. The first article will shed some light on the Mineral Oil law in France.

We will be present as co-exhibitor together with CEPE at the European Coatings Show.

We plan to update the EuPIA chair presentations with films of each chair introducing their group and its work for the interested public.

A completely new format - a digizine - but also a printed brochure will be developed to present the printing ink industry, its facts and figures and regulatory challenges.

EuPIA Statistics

Last but not least, EuPIA continues to publish market statistics on an annual basis.

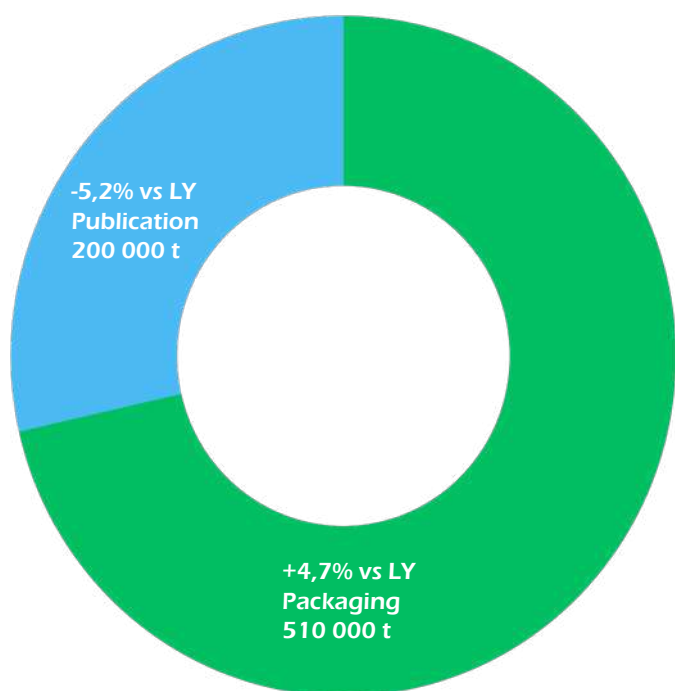
The following statistics show a summary of printing ink sales from EuPIA's more detailed Quarterly Market Sales Statistics. The findings are based on the consolidated results of data supplied by many EuPIA member companies, who have all submitted data on a standard basis to our independent trustee who compiles the data for EuPIA. It is estimated that the sample group accounts for about 90% of total industry sales in Europe. The results show sales volume in tonnes and value in €m for the latest year, 2024.

Key sectors shown

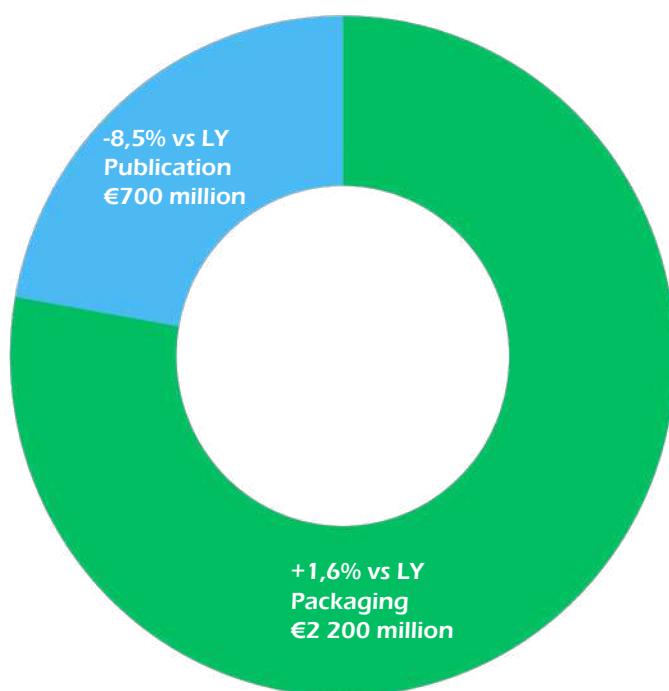
Publication Inks comprise web offset inks (coldset and heatset), sheetfed offset inks, publication gravure inks and related overprint varnishes. Examples of publications are newspapers, magazines, books, and commercial prints such as brochures and flyers.

Packaging Inks comprise flexographic inks, specialty gravure inks, energy curing inks and related varnishes. Examples of packaging are flexible film packaging, rigid plastics, folding cartons and corrugated boxes (see figures below).

Sales volume for 2024



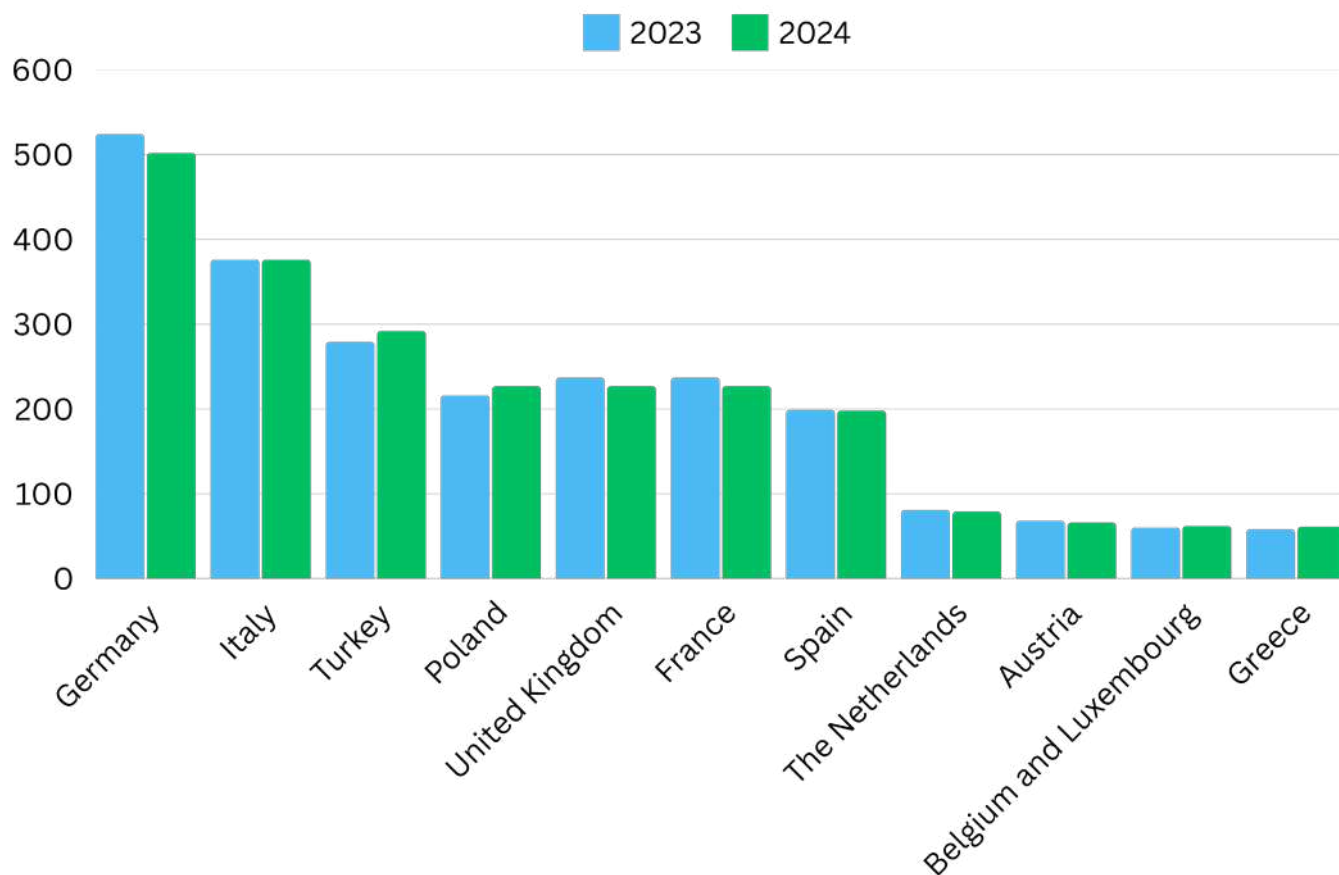
Sales value for 2024



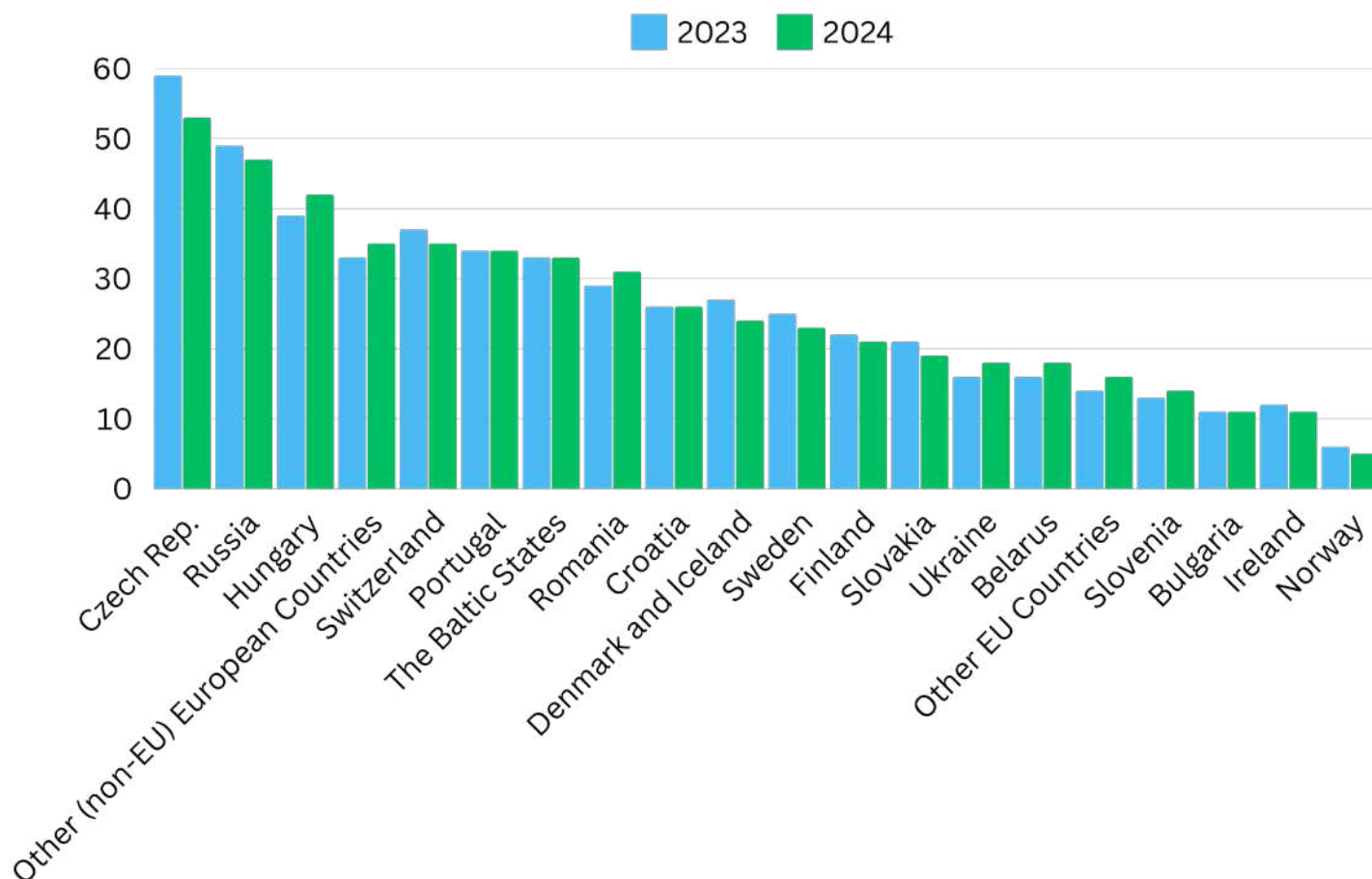
Source: shutterstock.com - Lyudmila Shabalovskaya



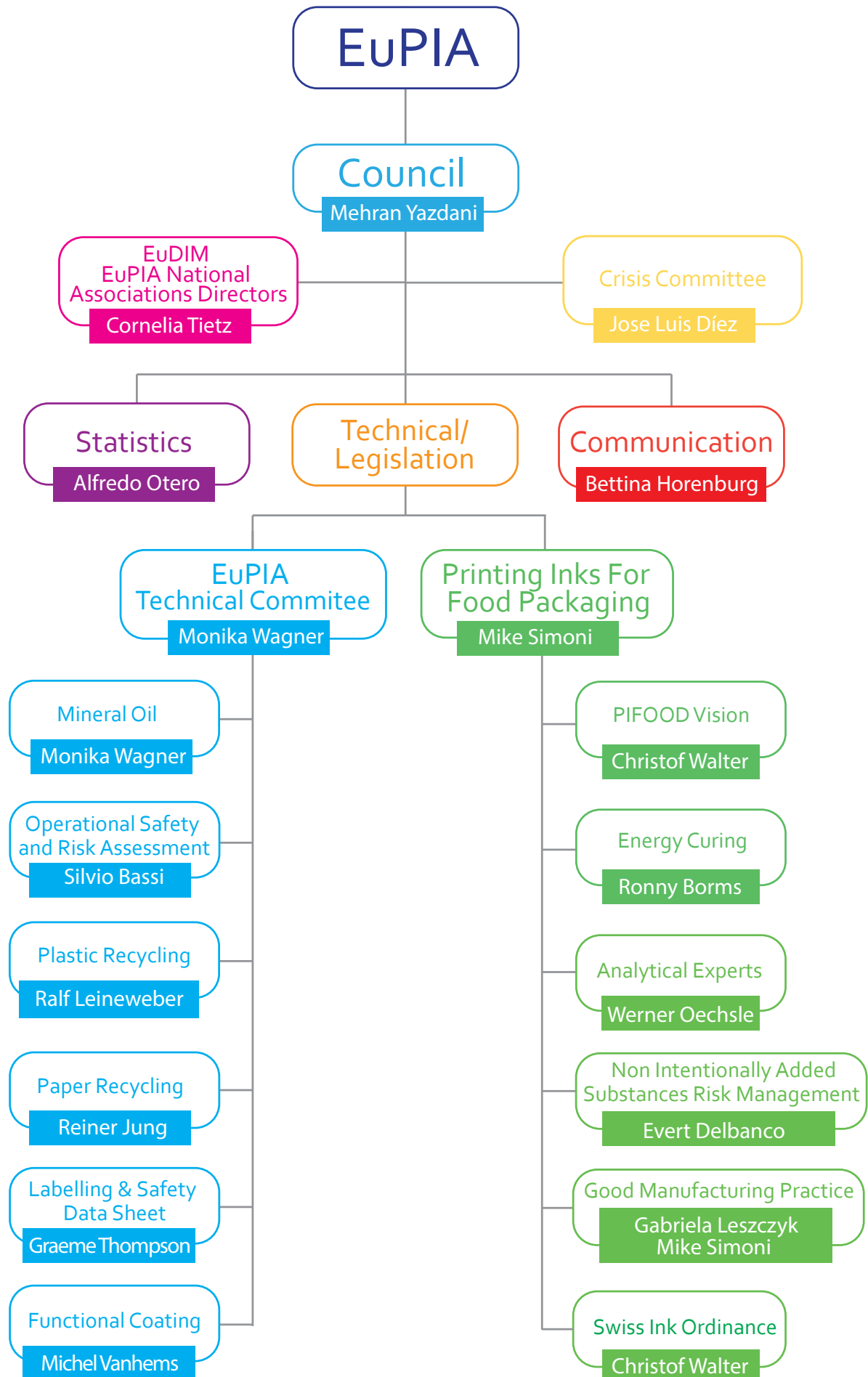
Sales value by country 2023 to 2024 in €M



Sales value by country 2023 to 2024 in €M



What are our activities?



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