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100+ SPEAKERS

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Europe's Leading Event For Environmental and Sustainable Manufacturing Solutions

The Greener Manufacturing Show is a completely unique trade fair that focuses on environmental technologies and solutions to help manufacturing organisations create eco-friendly products, move away from non-renewable fossil-based resources, reduce carbon emissions, eliminate production waste, and create processes throughout their entire operations that reduce negative impacts on the environment.

PRELIMINARY CONFERENCE PROGRAMME

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TRACK 01

The Greener
Manufacturing
Show Conference

THE GREENER
MANUFACTURING
SHOW CONFERENCE

TRACK 02

Eliminating
Plastic Waste



TRACK 03

Retail & Consumer
Goods Packaging



10-11 November 2021



Cologne, Germany



greener-manufacturing.com

TRACK 01

The Greener Manufacturing Show Conference

DAY1: NOVEMBER 10, 2021

9:00 AM - 12:30 PM (CET)
OPENING PLENARY AND
KEYNOTE SESSION



09:00am (CET)
**THE EUROPEAN BIOECONOMY:
STATE OF PLAY**

Christian Patermann

"Father of European bioeconomy",

Former Director EU Commission and Advisor to the German Government on bioeconomy matters,



9:25am (CET)
**THE GLOBAL SUSTAINABLE
MATERIALS STRATEGY OF AN
AUTOMOTIVE OEM**

Susanne Marczian

Supervisor Sustainable Mobility & Strategies - Ford Motor Company



9:50am (CET)
**HOW CLIMATE TARGETS CAN
DRIVE INNOVATION**

Bettina Siggelkow

Program Manager EcoCircle - Clariant



TRACK 02

Eliminating Plastic Waste

DAY1: NOVEMBER 10, 2021

9:00 AM - 12:30 PM (CET)
OPENING PLENARY AND
KEYNOTE SESSION



9:00 am (CET)
**PLASTICS, CIRCULAR ECONOMY
AND EUROPE'S ENVIRONMENT –
A PRIORITY FOR ACTION**

Lars Mortensen

EEA Expert - Circular Economy, Consumption and Production, EUROPEAN ENVIRONMENT AGENCY



Plastics play an essential role in modern society, but also lead to significant impacts on the environment and climate. Reducing such impacts while retaining the usefulness of plastics requires a shift towards a more circular and sustainable plastics system. This talk tells the story of plastics, and their effect on the environment and climate, and looks at their place in a European circular economy. It is based on the report of the European Environment Agency (EEA): Plastics, the circular economy and Europe's environment – European Environment Agency (europa.eu). The talk also tells the story about how COVID19 has changed amounts of single use plastics in Europe, in particular face masks and gloves, as well as plastic packaging for take-away and online shopping, based on an EEA briefing: Impacts of COVID-19 on single-use plastic in Europe's environment – European Environment Agency (europa.eu).

TRACK 03

Retail & Consumer Goods Packaging

DAY1: NOVEMBER 10, 2021

9:00 AM - 12:30 PM (CET)
KEYNOTE SESSION



9:00am (CET)
**EXTENDED PRODUCER
RESPONSIBILITY, CIRCULAR
ECONOMY, MARKET ACCESS
SERVICE IN EUROPE, WASTE
COMPLIANCE, RECYCLING**

Thomas Fischer

Head of Market Intelligence & Governmental Affairs, LANDBELL AG



9:25am (CET)
**EXTENDED PRODUCERS
RESPONSIBILITY FOR
PACKAGING - A PLASTIC
PERSPECTIVE ON MODULATED
FEES**

Robbie Staniforth

Head of Policy, ECOSURETY



TRACK 01

Achieving climate targets requires the full value chain to change the product portfolio toward more sustainable and circular products. Value-chain collaboration and extended product design criteria, focusing beyond application properties, also to their ability in improving the CO2 footprint, can drive innovation significantly. But what are the requirements to achieve a transition in the portfolio? What does it take internally, and which competencies need to be leveraged? Based on examples, I will show potential drivers and innovations, supporting customers in reducing their Scope 3 emissions.

10:15 AM - 10:45 AM (CET) NETWORKING SESSION



10:15am (CET)
THE CASE FOR VALUE IN SUSTAINABLE MANUFACTURING

Gary Bearden
Senior Consultant - Deloitte

Deloitte.

Sustainable manufacturing or supply chain operations are often siloed as low-value or profit generators when compared to traditional value drivers in process or efficiency optimization. Yet, this should not be the case. A sustainable operating model can do more than improve a company's image. The right initiative and sustainability concept can create real value for an organization that goes beyond cost benefit, alone. This presentation will feature industry insights from across manufacturing, as well as a recent use case highlighting the cost and efficiency benefits of a Circular Economy program for a global electronics manufacturer.

TRACK 02



9:25 am (CET)
IT'S 2021 AND WHAT'S REALLY GOING ON? JOINING THE PLASTIC DOTS TO ACCELERATE REAL CHANGE



Siân Sutherland
Co-Founder, A PLASTIC PLANET

This presentation will explore the connection of plastic to the climate crisis with a snapshot of plastic progress, innovations, health science, corporate risk and smokescreens.



9:50am (CET)
**PANEL DISCUSSION:
ACCELERATING A CIRCULAR PLASTICS ECONOMY THROUGH PARTNERSHIPS**



Kristin Hughes
Director of the Global Plastic Action Partnership and Member of the Executive Committee, WORLD ECONOMIC FORUM

The dramatic increase in global plastic waste and pollution has become one of the greatest environmental crises of our time, with around eight million tons of plastic waste leaking into the ocean every year. By assembling a diverse and influential coalition of allies dedicated to addressing this challenge, the Global Plastic Action Partnership (GPAP) has forged a powerful multi-stakeholder platform to accelerate impact at both the global and national levels. Kristin will reveal more about how GPAP is harnessing the convening power of the World Economic Forum to form impactful partnerships, create alignment among diverse initiatives, and guide an inclusive transition towards a circular economy for plastics.

TRACK 03



9:50am (CET)
USING DATA TO ACCELERATE SUCCESS IN A WORLD BECOMING LESS RELIANT ON PLASTICS



David Harding-Brown
CEO, ECOVERITAS

The world today has a heightened focus on the impact of packaging, particularly plastic packaging, and the need to reduce ocean pollution and promote a circular economy. Our presentation will look at the current legislative landscape, the constantly evolving requirement to meet global legislative obligations across markets and the mitigation of the impact of packaging from a legal, value chain and supply chain perspective. ecoVeritas has provided businesses with effective solutions along their entire supply chain. This presentation will demonstrate the commercial benefits that collecting and analysing accurate packaging and sustainability data, in line with future legislative requirements, brings to businesses, along with exploring the value of data transparency and optimisation solutions upstream to reduce cost and environmental impact

10:15 AM - 10:45 AM (CET) NETWORKING SESSION



10:45am (CET)
DISRUPTING THE PUBLISHING INDUSTRY WITH SUSTAINABILITY AND TECHNOLOGY



Martina Bonnier
Editor in Chief, VOGUE SCANDINAVIA

Vogue Scandinavia is disrupting the publishing industry in many ways and aim to become the most modern magazine and a sustainability leader in the industry. To achieve these goals, Vogue Scandinavia formed a strategic partnership with Stora Enso. In Plastic

TRACK 01



11:10am (CET) **CHEMICALS STRATEGY FOR SUSTAINABILITY AND CIRCULAR ECONOMY: TOWARDS NON-TOXIC MATERIAL CYCLES**



Luis Carretero Sanchez
Legal officer - European Commission

In a clean circular economy, it is essential to boost the production and uptake of recycled materials and ensure that both virgin and recycled materials and products are always safe. This will require a combination of actions upstream to ensure that products are safe and sustainable-by-design, and downstream to increase the safety of and trust in recycled materials and products. The creation of a well-functioning market for secondary raw materials and the transition to safer materials and products will also require solutions for a number of issues, in particular the lack of adequate information on the chemical content of products. The presentation will focus on the actions that the European Commission is implementing (or will implement in the future) with the aim of ensuring that information on chemicals is always available and that substances of concern in products and recycled materials are minimized.



11:35am (CET) **GREENING VALUE CHAINS THROUGH CIRCULAR BUSINESS MODELS**



Lars Mortensen
EEA Expert - Circular Economy, Consumption and Production
EUROPEAN ENVIRONMENT AGENCY

This talk looks at green manufacturing focusing on how to ensure more circular and sustainable manufacturing for consumption in Europe. Plastic and textiles are explored as examples of sectors with high environmental and climate impacts from manufacturing. The talk explores

TRACK 02

10:15 AM - 10:45 AM (CET) **NETWORKING SESSION**



10:45am (CET) **EUROPEAN PLASTIC POLICIES: STATE-OF-PLAY**



Werner Bosmans
Directorate General Environment,
EUROPEAN COMMISSION

Challenges linked to the production, consumption and end-of-life of plastics can be turned into an opportunity for the European Union and the competitiveness of the European industry. Tackling them through an ambitious strategic vision, covering the entire value chain, can spur growth, jobs and innovation. It can also reaffirm European leadership in global solutions and help us make the transition towards a low-carbon and circular economy, while providing citizens with a cleaner, safer environment.



11:10am (CET) **THE BASEL CONVENTION AMENDMENT ON PLASTIC WASTE AND ITS RELEVANCE TO INDUSTRY**



Rolph Payet
Secretariat, BASEL, ROTTERDAM AND STOCKHOLM

CONVENTIONS

During the Basel Conference of the Parties in April/May 2019, governments amended the Basel Convention to include plastic waste in a legally binding framework to make global trade in plastic waste more transparent and better regulated, while also ensuring that its management is safer for human health and the environment. At the same time, a new Partnership on Plastic Waste was established to mobilize business, government, academic and civil society resources, interests and expertise to assist in implementing the new measures, to provide a

TRACK 03

Free World Conference, Vogue Scandinavia and Stora Enso will share how they are creating eco-friendly fashion media together.



11:10am (CET) **MOVING FORWARD WITH NEW, SCALABLE SOLUTIONS**



Jürgen Dornheim
Director Corporate Packaging
Sustainability & Innovation, PROCTER & GAMBLE

Major global brand owners are facing a variety of challenges in the context of sustainability and their individual environmental footprints. Procter & Gamble is developing products according to the latest findings regarding environmental compatibility, taking into account the changing expectations of customers, and ultimately also meeting the various legal requirements worldwide. Procter & Gamble will give an insight into areas in which the future for today's customers and future generations is being shaped.



11:35am (CET) **THE BEAUTY OF CIRCULARITY- COTY'S CLOSED-LOOP CRADLE-TO-CRADLE TRANSPORT PACKAGING SYSTEM**



Volker Maier
Global Luxury Engineering Leader and
Engineering Director, COTY

A global beauty company and member of the Ellen MacArthur "Circular Economy 100 Network", COTY will share their experience with a circular innovation project at their bottling plant in Cologne (Germany), which combines the use of secondary organic feedstock and digital technology within a closed-loop system. Their highly scalable pilot project substantiates the business case for a cradle-to-cradle (C2C) approach for industrial transport packaging. It turned out to be an engine for innovation, collaboration, and growth for all partners in the C2C value cycle. In addition to listed benefits backed-up by production data, COTY will illustrate the scaling potential across different supply chains, industries and regions.

TRACK 01

the role of circular business models as a means to enable technical, social and business model innovation in manufacturing. It looks at enablers for innovation and circular business models, including policy enablers, education and consumption. It builds on a recent briefing by the European Agency (EEA) on circular business models A framework for enabling circular business models in Europe – European Environment Agency (europa.eu) and recent EEA studies on plastic: Plastics, the circular economy and Europe's environment – European Environment Agency (europa.eu) and on textiles: Textiles in Europe's circular economy – European Environment Agency (europa.eu) and Plastic in textiles: towards a circular economy for synthetic textiles in Europe – European Environment Agency (europa.eu).



12:00 pm (CET)
PANEL DISCUSSION: CARBON CAPTURE AND UTILIZATION AS A CLIMATE MITIGATION SOLUTION – STATUS AND PERSPECTIVES



Anastasios Perimenis
Secretary General, CO2 VALUE EUROPE



Petri Laakso
CEO, SOLETAIR POWER



12:30 PM - 1:30 PM (CET)
NETWORKING SESSION

TRACK 02

set of practical supports – including tools, best practices, technical and financial assistance. Dr Payet will reveal the latest in regard to the Basel Convention Plastic Waste Amendments.



11:35am (CET)
THE CURRENT STATE AND FUTURE OF PLASTIC TAXES

Victor Bell
US Managing Director, LORAX EPI



There is a growing movement around the world to tax plastic packaging, whether it be to fill budget gaps left by COVID-19 or to bolster infrastructure for recycling. Plastic taxes have already been passed in many places, including the UK, Italy and the EU, and are being proposed around the globe at national and regional levels. Taxes are based on different policies in each country, such as recycled content or amounts recycled, and can have a major impact on cost of goods for many packaging systems. As part of our presentation, Lorax EPI will give examples of what these taxes may cost brand owners and provide a global update on current statuses of various plastic taxes under development.



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12:00pm (CET)
**PANEL DISCUSSION:
COLLABORATION WITHIN
SUPPLY CHAINS**



Graeme Smith
Head of Product Sustainability for
Flexible Packaging and Engineered
Materials, MONDI

10:15 AM - 10:45 AM (CET)
NETWORKING SESSION

1:30 AM - 5:00 PM (CET)
**ELIMINATION OF PROBLEMATIC
OR UNNECESSARY PLASTIC
PACKAGING**



1:30pm (CET)
**HOW DOES PACKAGING
SUSTAINABILITY INFLUENCE
CONSUMERS' PERCEPTION OF
A PRODUCT, AND HOW CAN
THIS BE POSITIVELY SHAPED
BY INVOLVING PACKAGING
DESIGNERS AT AN EARLY STAGE?**



Claudia Rivinius
Marketing Director, STI GROUP

Packaging is the first touchpoint for a product and therefore significantly impacts product perception. This presentation will explain which aspects of packaging development to take into account, how packaging can be made more sustainable, and what the supply chain considerations are, from cradle to cradle. It will also explain how to sustainably inspire shoppers at the POS, how to make your POS presence more sustainable, how to credibly communicate your ecological

TRACK 01

1:30 PM - 2:55 PM (CET) PRODUCTION OF SUSTAINABLE CHEMICALS AND LOW-CARBON CHEMICALS



1:30 pm (CET)
**CATALYST FOR INNOVATION -
ETHANOL-BASED 1,3 BUTADIENE
FOR SYNTHETIC RUBBER**

Dr Sandra Hofmann

Technology & Innovation Director,
Synthetic Rubber, TRINSEO



Vladimir Trembovolsky
CEO, ETB CATALYTIC
TECHNOLOGIES

The supply of raw materials is about
to be revolutionized in the pursuit of
sustainable feedstocks that support a
circular bioeconomy. The development

of new generation materials will only take place through
collaboration within the existing value chain and with
new technology providers, considering the principles of
green chemistry. To this end, Trinseo - a global materials
company, and ETB - a start-up developing unique
catalysts for new, sustainable and bio-based processes,
have partnered to understand what is required for the
production of bio-based, high-purity 1,3-Butadiene,
derived from ethanol as a ubiquitous, safe chemical.



1:55 pm (CET)
**ARTIFICIAL PHOTOSYNTHESIS –
SPECIALTY CHEMICALS FROM
CO2**

Martin Demler

Project Manager, Defossilation -
Evonik Creavis GmbH



TRACK 02



12:00pm (CET)
**PANEL DISCUSSION: TAXES,
BANS AND PRODUCER
RESPONSIBILITY - WHAT IS
THE RIGHT POLICY MEASURE
FOR IMPROVING PLASTIC
OUTCOMES?**

David Newman

Managing Director, BBIA



Robbie Staniforth

Head of Policy, ECOSURETY



Victor Bell

US Managing Director, LORAX EPI

Berry Wiersum

Head of Regulatory Affairs, SAPPI
EUROPE



Werner Bosmans

Directorate General Environment,
EUROPEAN COMMISSION



TRACK 03

commitment at the POS, how to set up a display in just a few
seconds and save not only time but also CO2, and how Alpro
convinces retailers with its climate-neutral display.



1:55pm (CET)
**BUILDING SUSTAINABLE
PLASTIC-FREE BRANDS**

Lorenz von Seherr

Geschäftsführer, PLANTBASE GMBH



(Almost) anyone can sell natural
cosmetics. Being truly sustainable
and still developing innovative and helpful products,
on the other hand, is not so easy. PlantBase has turned
the cosmetics world upside down. The combination
of innovative, plastic-free products and packaging and
dealing with new digital challenges at the same time
was the decisive success factor for PlantBase. Why it is
becoming increasingly important to combine sustainable
ideas with thoughtful strategic thinking?



2:20pm (CET)
**GET ONBOARD: REDUCE. REUSE.
RETHINK**

Jo Rowan

Associate Director - Strategy,
PRIESTMANGOODE



2:45 PM - 3:15 PM (CET)
NETWORKING SESSION

TRACK 01



2:20 pm (CET)
**PANEL DISCUSSION:
LOW-CARBON CHEMICAL
PRODUCTION DRIVEN BY
CONSUMER DEMAND**



Michael Carus
Managing Director - Nova Institute



Arne Kätelhön
Arne Kätelhön, Managing Director
- Carbon minds



Friedrich Fries-Henrich
Founder & CEO - Circulania



Nicola Noponen
Sector Lead - Chemicals and
Polymers - Roundtable on
Sustainable Biomaterials



2:45 PM - 3:05 PM (CET)
NETWORKING SESSION

TRACK 02

12:30 PM - 1:30 PM (CET)
NETWORKING SESSION

1:30 PM - 5:00 PM (CET)
**TECHNOLOGIES &
SOLUTIONS DIRECTLY
ELIMINATING PLASTIC**



1:30pm (CET)
**GROWING CONSUMER DEMAND
FOR PLASTIC REDUCTION**

Jeremy Schwartz
Chairman of The Board, KANTAR

KANTAR



1:55pm (CET)
**SMART DESIGN FOR
SUSTAINABLE AND CIRCULAR
SOLUTIONS**

Jonathan Demierre
Team Section Lead - Circular and
Sustainable Product Engineering,
HELBLING

helbling

How products and systems are designed is key to address sustainability challenges, such as climate change, plastic waste, loss of biodiversity, or resource depletion. Using life cycle thinking and a holistic approach is key to minimize the environmental impact of the products that we use every day. The design of sustainable products is a multi-criteria and multi-parameter optimization in which many aspects needs to be considered such as the targeted markets and consumers, the manufacturing process, and the product end-of-life. A few practical examples will illustrate how a sustainable and circular design approach can make the difference.

TRACK 03



3:15pm (CET)
**THE RISE OF REUSABLES:
UNDERSTANDING THE IMPACT
AND MAPPING THE PATH TO
SCALE**



Kathleen Rademan
Director Innovation Platform, FASHION
FOR GOOD

This session will give an overview of the different reusable systems and their potential within the fashion e-commerce sector. It will then dive into a nuanced impact analysis of reusable packaging versus single-use packaging, accounting for key variables that may influence its impact, such as the return rate, type of single-use packaging used and distance traveled. The discussion will be capped off by key recommendations and considerations for implementation, shaped by industry-specific case-study examples.



3:40pm (CET)
**ELIMINATING PLASTIC FROM
CONSUMER PACKAGING**

Thomas Marinelli
Head of Sustainable Design & Products,
SIGNIFY



Signify actively strives for a reduction of the environmental impact of its products and has now started eliminating all plastics from packaging for consumer-related products with the aim to be plastic-free in 2021. In Q3 2020 the new plastic-free packaging for LED lamps launched in Europe, removing over 500 metric tonnes of plastic waste per year. In total, the move to plastic-free consumer packaging will avoid the use of over 2.5 million kilos of plastic annually. In this presentation, we will share our approach, successes and struggles to find alternative materials and packaging redesign.

TRACK 01

3:05 PM - 4:20 PM (CET) DECARBONISING AND CREATING LOW CARBON PRODUCTS



3:05 pm (CET)
**DECARBONIZING PRODUCTS BY
UNDERSTANDING HOW YOUR
PRODUCTION IMPACTS YOUR
CARBON FOOTPRINT**



Alexandra Karnig
Business Operation Lead -
Doconomy

To capture the essence of the 2030 calculator,
which provides oversight to what in your
production affects the carbon footprint the most.



3:30 pm (CET)
**ALUMINIUM – MATERIAL OF
CHOICE FOR SUSTAINABLE
PRODUCT SOLUTIONS**

Novelis

Andy Doran
Senior Manager, Sustainability and
Recycling Development - Novelis
Europe



3:55 pm (CET)
TO BE ANNOUNCED

An Damen
Port of Antwerp

Port of
Antwerp

TRACK 02



2:20pm (CET)
TO BE ANNOUNCED

Yoni Shiran
Partner, SYSTEMIQ



2:45 PM - 3:15 PM (CET) NETWORKING SESSION



3:15pm (CET)
**REPLACING SYNTHETIC FIBRES
THROUGH OPEN INNOVATION
AND FLEXIBLE TECHNOLOGY:
HOW WE DEVELOP FUNCTIONAL
CELLULOSE FIBRE SOLUTIONS
FOR HIGH-PERFORMANCE
APPLICATIONS**



Ilka Kaczmarek
Innovation Manager, KELHEIM FIBRES GMBH

Our vision is to use our cellulosic fibres to enable
the production of fully biodegradable solutions with
performance comparable to products containing
synthetic fibres. Fields of applications where the
replacement of synthetic fibres can be achieved thanks
to our innovative solutions include disposable Hygiene
products (Femcare, Adultcare, Babycare, (flushable)
wipes), functionalized textiles, reusable Hygiene Products
(e.g. period panties).

TRACK 03



4:05 pm (CET)
**ADAPTING THE SUPPLY
AND DEMAND ON rPET BY
RETHINKING AND WEIGHT
LIGHTING OF PLASTIC
BOTTLES USING AN ARTIFICIAL
INTELLIGENCE PLATFORM**



Dr Katharina Eissing
CEO, DIGIMIND

With the commitment of major companies to a circular
plastic economy, the demand for rPET has doubled to
1.1 billion pounds in 2021 while the actual production
is just 333 million pounds. There is a huge opportunity
to redesign and reduce the weight of the packaging
without affecting the performance, thus addressing
the rPET supply shortage. New technologies such as
digital twin and AI are capable of solving this challenge.



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ENDS 15TH OCTOBER**



TRACK 01

4:20 PM - 6:00 PM (CET) DESIGNING AND MANUFACTURING WITH SUSTAINABLE MATERIALS



4:20 pm (CET) NAVIGATING YOUR WAY TO MAKING YOUR PRODUCTS CIRCULAR

Efrat Friedland
Founder - Materialscout

materialscout

You have probably heard about the few successful case studies of brands that proved circular economy can indeed lead to business growth. However, transferring their strategies to your own products can be overwhelming. How to create a truly circular product? Where to begin? Is sourcing sustainable materials enough? What exactly are sustainable materials? What about the supply chain? Packaging? Maintenance, repair and recycling? So many things to consider, and what story could you eventually communicate? Materialscout will draft a roadmap, seasoned with some case studies, to help you better plan your route to circularity.



4:45 pm (CET) HOW CAN A COMPANY PRODUCE SAFE AND SUSTAINABLE PRODUCTS USING NO HAZARDOUS CHEMICALS?

Jonatan Kleimark
Senior Chemicals and Business
Advisor - ChemSec

chemsec

Moving away from hazardous chemicals is an important step toward a more sustainable business, and substitution of problematic substances is the best way to reduce the use. Two tools for a more progressive chemicals management are presented here. The SIN list is a scientifically based list of substances that fulfill the SVHC criteria, and therefore points out the future regulated

TRACK 02



3:40pm (CET) TECHNOLOGICAL OPTIONS TO MAKE PLASTICS CIRCULAR

Dr Christian Haessler
SVP & Head of Circular Economy
Program, COVESTRO



Christian will give a presentation on technological Options to make plastics circular. In this respect, the well established way of chemical Recycling plays an important role and the Technology Needs to be further developed, including the collecting, sorting and separating of plastic waste so that the amount of mechanical recycled plastic can be increased.



4:05pm (CET) SUSTAINABLE MASTERBATCH SOLUTIONS FOR PLASTIC CONVERTERS

Omri Mazar
Product Manager, TOSAF GROUP



Tosaf has made it a priority to find more sustainable practices in Plastics Manufacturing. I would like to elaborate on four different segments and present solutions in each of the segments: • Recycle enablers – solutions that ease processing of recycled raw materials and improve its properties and performance. • Recyclable solutions – various high-performance additive and color solutions that do not compromise full recyclability. • Solutions for the biodegradable and bio-compostable polymer systems • Efficiency boosters – indirect solution to reduce overall raw material, energy, time, and labor demand.

TRACK 03



4:30pm (CET) PANEL DISCUSSION: FIBRETECH2.0 - EMULATION OF FOOD-GRADE PLASTIC PACKAGING FORMATS AT SCALE

Michael Laermann
Managing Director, REASON & RHYME



Volker Maier
Global Luxury Engineering Leader and
Engineering Director, COTY



Tahsin Dag
CEO, PAPAACKS



Timo Porsch
CEO, PERIPLAST



Panelists from three different industries (food, beauty, packaging) discuss their experience with fibre-based materials from secondary feedstock combined with organic barrier coatings and modern injection molding techniques to replace conventional plastic packaging by new formats that are recyclable, compostable, and certified food-safe. Their showcase will feature the emulation of plastic transport trays, cosmetic cream jars, and coffee capsules made from aluminium.

END OF DAY 1

TRACK 01

chemicals. It is used by businesses and organizations all over the world in the chemicals management system as the (M)RSL or similar list. In addition to knowing what to not use, it is important to identify the alternatives to use instead. ChemSec Marketplace is a global online platform for safer alternatives to hazardous chemicals, where suppliers can submit advertisements for safe and sustainable products.



5:10 pm (CET)
EXPLORING THE USE OF SMART MATERIALS IN ENABLING MORE SUSTAINABLE SOLUTIONS

Angela Smits
Technology Development
Manager - Croda Europe Ltd

CRODA



5:35 pm (CET)
WHY THE WORLD NEEDS SHREDDING

Martin Friz
Managing Director - Weima



END OF DAY 1

TRACK 02



4:30pm (CET)
PANEL DISCUSSION: FROM "PLASTIC OCEANS" TO "PLASTIC WASTE FREE OCEANS" BY 2050! HOW CAN WE GET FROM THE OLD CRIME STORY TO A NEW REALITY?



Henrik Langholf
Zukunftsmoderator/
Future Facilitator,
ZUKUNFTSMODERATION

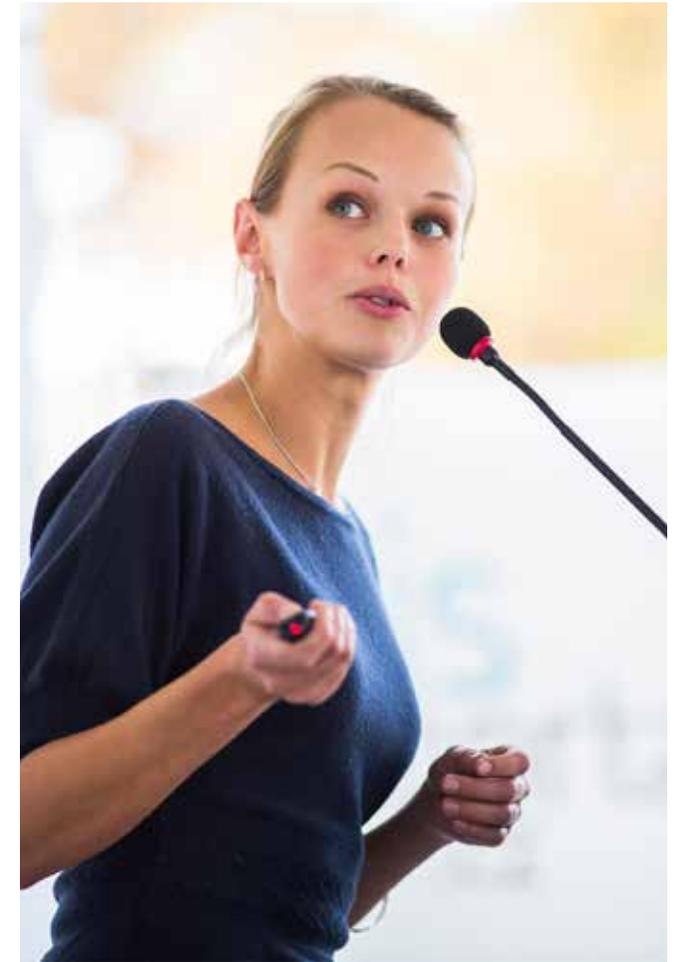


Marko Kärkkäinen
Chief Commercial Officer -
Global, CLEWAT INC.

The global movement for a smart use of (no) plastic is one of the most fascinating and successful happenings towards more sustainability. Where ever you go, consumers are reducing their plastic foot print, companies are developing material innovations, communities are optimizing their recycling systems, national and international networks are researching on new standards for the circular economy, governments are setting new frames through objectives and laws.



END OF DAY 1



TRACK 01

DAY2: NOVEMBER 11, 2021

9:00 AM - 10:15 AM (CET) TECHNOLOGIES ENABLING EFFICIENT ENERGY MANAGEMENT



9:00 am (CET)
**CERTIFICATION AND THE
IMPORTANCE OF VERIFIABLY
GREEN MANUFACTURING**

Jared Braslawsky

Director - The International REC Standard



The use of renewable energy sources is becoming a relevant aspect of any manufacturing process. Whether it is renewably produced products such as cars or commodities like aluminum that create them, the importance of renewable energy verification and certification is undoubtedly a valuable step for the future of any manufacturing process. The importance of standardization in energy verification systems is significant to ensure processes and expectations in one country are the same as in another. For this reason, the International REC Standard has worked with governments, stakeholders, market parties, end users and their supply chains to standardize the methodology, usage and claims related to energy procurement from renewable sources. In this presentation you will learn about the background, process and implementation of renewable energy sources for your operations and in your broader industries.

TRACK 02

DAY2: NOVEMBER 11, 2021

9:00 AM - 12:30 PM (CET) MULTI-FACETED TOOLS FOR ESTABLISHING PLASTIC'S FOOTPRINT AND TRANSPARENCY OF THE SUPPLY CHAIN



9:00am (CET)
TO BE ANNOUNCED

Alexander Dilnot-Smith
COO, ELLIPSIS EARTH



9:25am (CET)
**TOOLBOX TO EVALUATE THE
BIODEGRADATION OF PLASTIC
MATERIALS IN THE OPEN
ENVIRONMENT**



Dr Miriam Weber
Managing director, HYDRA
MARINE SCIENCES GMBH

Biodegradable plastic materials are increasingly being discussed as an alternative for conventional non-biodegradable plastic and as a mitigation strategy against plastic pollution, especially for items with an intentional input (e.g. seed coating, etc.), with a high potential of loss (e.g. mulch film, etc.) and where loss is intrinsic to use (e.g. abrasion of aquaculture nets, textiles, tiers, etc.). The question for society is how to deal with biodegradable plastic known to end up in the open environment. We present options for biodegradation testing schemes showing several scenarios. They are based on the delicate balance of either high informative value and decreased costs.

TRACK 03

DAY2: NOVEMBER 11, 2021

9:00 AM - 12:30 PM (CET) ACHIEVING 100% OF PLASTIC PACKAGING REUSABLE, RECYCLABLE, OR COMPOSTABLE



9:30am (CET)
**NEW SUSTAINABLE FOOD
CONTACT MATERIALS & GLOBAL
REGULATORY & COMPLIANCE
CHALLENGES**

Marco Scialpi



Food Contact Material Global Business
Development Manager & FCM Senior
Expert, TÜV INTERNATIONAL GMBH

The presentation will provide an overview of international FCM legislation, TUVR product testing and DINCERTCO certification scheme requirements for sustainable products (biobased, biodegradable, compostable and recyclable materials) and related migration safety challenges.



9:25am (CET)
**SUSTAINABLE PACKAGING AS
A MATTER OF WILLPOWER,
NOT OF LEGISLATION - BEST
PRACTICE OF SUCCESSFUL
EUROPEAN RETAILERS**



Georg Raffael Spindler

Manager Speciality Applications &
Analytics, LENZING AG

The presentation will explain how Lenzing and PACKNATUR joined forces to shake up the way we pack fresh fruits and vegetables, and how retailers have benefited from showing the will to change. LENZING for Packaging surrounds food and other goods in naturally durable and biodegradable fibers that are of botanic origin

TRACK 01



9:25 am (CET) **AI-POWERED DIGITAL TWINS IN MANUFACTURING PLANTS TO OPTIMIZE ENERGY CONSUMPTION**



Ralf Haller

Executive Vice President Sales & Marketing - Nnaisense

Self-optimizing/learning third-generation AI-powered digital twins will enable us to save energy. In data centers, up to 40% energy savings in the cooling systems could be achieved. This talk will describe how these AI-powered digital twins work in manufacturing facilities.



9:50 am (CET) **A NEW PARTNERSHIP OF GREENER ENERGY AND SMARTER INDUSTRY**



Thomas Walter

Managing Director - Easy Smart Grid

As renewables take over the role of fossils, more energy storage is needed. Fortunately, energy flexibility can substitute electricity storage to a large degree and at a much lower cost. However, converting temporal flexibility into 'virtual' batteries and those into financial benefit also requires a fresh approach to energy management. The presentation will cover the innovative energy management by local energy markets as well as likely impacts on future production and products.

**10:15 AM - 10:35 AM (CET)
NETWORKING SESSION**

TRACK 02



9:50am (CET) **GIVING NEW LIFE TO OLD MATTRESSES**



Marie Buy

EMEA Sustainability Leader,
DOW POLYURETHANES

In Europe each year around 30 million mattresses are discarded and currently most of this bulky waste-stream (~60%) ends up in landfills, the remainder being incinerated to produce heat and electricity. At present, waste-to-energy is the preferred technology for the treatment of end-of-life polyurethane (PU) foam. However, incineration is a source of CO2 and a waste of valuable resources. Recycling PU foams and building a recycling supply chain poses unique challenges. Today, markets for products from mechanical recycling have been developed but are of low-value, while the market size is small and in decline. Therefore, alternative solutions for discarded mattresses, such as, chemical recycling and consequently creating a market for recovered raw materials (polyols) with recycled content, needed to be developed. To address this challenge, the award-winning RENUVA™ Mattress Recycling Program aims to reduce this mountain of waste by giving polyurethane (PU) foam from end-of-life mattresses a new life. The program will take discarded mattress foam and turn it back into raw material (polyols) through chemical recycling, the process of converting waste into feedstock. The new raw material will then be used in flexible or rigid foam products to go into applications such as building insulation boards and even new mattresses. While converting PU foams to polyols is not new, it has never been implemented for post-consumer waste bringing new technology challenges and complexity of collection and dismantling. At Dow, we believe our materials need to be as valuable at the end of their life as they are at the start—and we're addressing the challenge of discarded mattresses head-on. To tackle the problems of mattress waste, we needed to create a way to close the loop on the polyurethane foams they're made with. While converting PU foams to polyols is not new, it has never been implemented for post-consumer waste bringing new technology challenges and complexity of collection and dismantling. For example, in most countries, there is an absence of adequate waste collection facilities that

TRACK 03

and certified safe for food contact. Sustainably produced and fully compostable after use, LENZING cellulosic fibers are suitable for a varied range of packaging applications, from single-use botanic nets to reusable bags. In close cooperation with producers, Lenzing AG has developed environmentally sustainable single-use nets and reusable bags for fruits and vegetables made from LENZING Modal fibers of botanic origin and certified as compliant with recognized safety standards for food contact. Responsibly produced in line with Lenzing's commitment to sustainability, these vibrantly colored nets are becoming increasingly popular as a compostable substitute for plastic bags and nets that are derived from non-renewable sources and contribute to the pollution of the environment.



9:50am (CET) **THE FUTURE FOR FLEXIBLE PACKAGING / ELIMINATING PLASTIC PACKAGING WASTE WITH CIRCULAR SOLUTIONS**



Betül Türel Erbay

Sustainability & Business Development
Director, ELIF PACKAGING

Our packaging is part of the solution to future challenges. However, one of the biggest challenges for sustainability so far is the various processes of collecting and sorting the packaging waste and how to include them in the cycle in order to create a real circular economy. The appreciated model for the global economy is changing and developing from a linear to a circular economy. Therefore, the whole supply chain should be aligned with the standardization of recycling processes both nationally and internationally.

**10:15 AM - 10:45 AM (CET)
NETWORKING SESSION**

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10:35 AM - 12:20 PM (CET) USING NOVEL MATERIALS TO IMPLEMENT A TRULY CIRCULAR ECONOMY



10:35 am (CET)
**INTRODUCING ADVANCED
TECHNOLOGICAL TOOLS TO THE
INDUSTRY**

Thor Sverre Minnesjord
CEO - Cycled



11:00 am (CET)
**FROM CITRUS PEEL TO PEF
PLASTICS – SUGAR-ACID-BASED
HIGH-YIELD FDCA**

Jouni Lattu
Customer Account Lead - VTT



The shift from fossil-based to renewable plastics requires novel ways of producing monomers. New technologies developed at VTT enable the use of pectin-containing agricultural waste, such as citrus peel and sugar beet pulp, as raw material for renewable monomers like FDCA. Aldaric acids obtained from the waste streams are stable intermediates for the production of FDCA (2,5-furandicarboxylic acid), one of the monomers of PEF, offering significant advantages compared with common routes. The stable aldaric acids bring high process yields and thereby enable an overall cost-efficient manufacturing platform. PEF is a renewable alternative to fossil-based PET with superior barrier properties. Utilizing pectin-containing waste streams opens up new possibilities for the circular economy of plastics.

TRACK 02

prevents any stable sourcing for chemical recycling. And, the downstream market for such polyols is limited. In order to drive significant market impact, Dow adopted a 'collaboration approach' with industry partners across the value chain. From the cooperation in 2017 with equipment producer and processing specialist H&S Anlagentechnik, to selecting the plant operator – Orrion Chemicals Orgaform in May 2020 in France, Dow has been actively seeking out key partnerships to pioneer a model of true circularity for recycled polyols. These efforts were further strengthened by Dow joining forces with French EPR (Extended Producer Responsibility) firm, Eco-mobilier, for supply of polyurethane foam from post-consumer mattresses to the recycling unit. In October 2020, Dow took one step further in this journey by announcing a collaboration with the Vita Group, Europe's leading flexible polyurethane foam solutions provider, to produce flexible polyurethane (PU) foams made with RENUVA™ polyols. And it is expected that before the Plastic Free World Conference, more collaborations will be announced. We would like to discuss during the next Plastic Free World Conference about HOW Dow and its partners are making mattress recycling a reality. This is not a concept, idea or lab-scale operation. This is a reality. During the talk, we would offer to have a unique look into the plant construction in Semoy, France, which at capacity, will recycle PU foam of up to 200,000 mattresses annually. Unlike the incineration process currently used, the RENUVA™ polyols produced from waste mattresses will have approximately 30% lower carbon footprint compare to a virgin polyol produced, according to a preliminary internal Life Cycle Assessment. As such, landfills are reduced, incineration avoided, the carbon footprint of the industry is improved, and business value is generated. The plant construction is currently underway and is expected to be operational during 2nd half of 2021. And, we consider the RENUVA™ Mattress Recycling Program to just be the beginning. By demonstrating that polyurethanes can be recycled when the right eco-system exists, we hope to stimulate the entire PU industry and create more demand for a process that could then be extended to other markets.

**10:15 AM - 10:45 AM (CET)
NETWORKING SESSION**

TRACK 03



10:45am (CET)
**FROM PLASTIC TO PURPOSE
– A MOVEMENT BEYOND
TRADITIONAL SUSTAINABILITY**

Robin Guillaud
Executive Vice President,
AHLSTROM-MUNKSJO



The world has moved forward with the sustainability initiative known as the "War on Plastic Pollution." The team at Ahlstrom-Munksjö is taking it a step further – by implementing our "from Plastic to Purpose" movement. "from Plastic to Purpose" goes beyond traditional sustainability.



11:10am (CET)
**THERE'S NO SINGLE ROUTE TO
SUSTAINABILITY, IT'S ABOUT
FINDING THE BEST ONE FOR
OUR CUSTOMERS AND THE
ENVIRONMENT**

Graeme Smith
Head of Product Sustainability for
Flexible Packaging and Engineered Materials, MONDI



Mondi's customer-centric approach, EcoSolutions, supports customers to achieve their sustainability goals and commitments in a fact-based manner that benefits end consumers and the planet. Mondi is uniquely positioned to provide customers with paper and packaging that is fit for purpose using paper where possible, plastic when useful. To ensure our products are sustainable by design, all our activities are based around three actions: replace, reduce, recycle. 1) Replacing packaging and materials with solutions that take product requirements and sustainability into account. 2) Reducing overall environmental footprint and the volume of raw material used through design, operational efficiency and raw material choices. 3) Designing packaging and materials that are optimized for recycling. How do we identify the most sustainable solution for our customers? We follow the five-steps process. 1) Challenge: How

TRACK 01



11:25 am (CET)
AUTOMATIC BIODEGRADATION ANALYSERS

Andrej Holobar
General manager - Echo Instruments



Bioplastics can be naturally biodegradable in various ecological environments such as compost, sewage wastewater, sea or algae environments of sweet or salt waters. For this reason, it is very important to have suitable laboratory methods and equipment to simulate different degradation conditions. It is also desirable that the experiments can be performed in one instrument with different setups. In algae simulating sea or natural water environments it is very important to have good conditions that simulate natural environments. Algae are aquatic, photosynthetic organisms that occupy a broad range of habitats across all latitudes; they are widespread in freshwater, marine and terrestrial ecosystems. Algae are the most important group of organisms participating in the circulation of matter and energy in ecosystems. For the biodegradation experiments, green microalgae *Chlorella vulgaris* (CCAP 211/11S) are often used. *C. vulgaris* is selected as a test organism because of its easy cultivation, its common presence in the environment, fast growth and short generation time as well as good performance in different types of wastewater. The synergy between bacteria, typically heterotrophic species, that use organic matter and O₂ for growth while releasing CO₂, and photosynthetic autotrophic microalgae, which use CO₂ and sunlight for growth, incorporating nutrients (nitrogen, phosphorous), allows for better efficiencies in water pollutants removal. The question of how this system works in biodegradation of bioplastic is very important for ecologists, researchers and producers of bioplastics. With the help of a modular respirometer, environmental conditions can be changed to simulate natural environmental conditions during biodegradation. With such a design it is possible to make a test of degradation process in the solid (compost) and the liquid phase (sea water, wastewater or algae). The tests are run in real time, whereas the production or consumption of gases (oxygen, carbon dioxide or others, CH₄, NH₃, H₂S) are being monitored. It is an illusion to expect that the

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10:45am (CET)
DIGIMARC BARCODE ON PLASTIC PACKAGING SOLUTION CREATES SOCIETAL VALUE - WE HAVE CALCULATED IT

Caterina Camerani
Vice President Sustainability, PACCOR GROUP



The Digimarc Barcode innovation, introduced on the surface of plastic packaging by PACCOR, enables the correct identification of each package throughout the value chain to consumers and disposal companies, allowing for a proper recover of the material.



11:10am (CET)
UNDERPINNING ESG CLAIMS WITH TRACEABILITY

Douglas Johnson-Poensgen
Founder & CEO, CIRCULOR



11:35am (CET)
MOVING TOWARDS SUSTAINABLE AND TRANSPARENT SUPPLY CHAINS THROUGH CERTIFICATION

Hanna Buck
Program Manager & Sustainability Expert, CONTROL UNION



Is your business taking responsibility for its plastics impact? Do you have a robust process in place to back up your claims around plastics? With pressure to reduce plastic usage coming from both consumers and governments, a certification against a trusted plastics

TRACK 03

can we become more sustainable? Make packaging reusable, recyclable, biodegradable? Reduce total carbon footprint? Optimize the supply chain? We challenge and identify the objectives with our customers. 2) Analyze: All touchpoints in a product lifecycle can have an impact, such as technical requirements, supply chain, end-consumer expectations, legislation, geography, waste management and recycling. 3) Identify: We identify the areas where the packaging can have an impact and design solutions according to our sustainable product criteria. 4) Demonstrate: We join forces with internal and external application centers and certification bodies to verify that sustainable impacts have been achieved. 5) Review: A product currently reviewed as sustainable may be viewed differently tomorrow. Legislation changes, technological breakthroughs happen – we review our solutions and create packaging that is sustainable by design today and tomorrow. With our ever-changing marketplace, customer demands, health and hygiene risks, the need for an agile, sustainable business that works with stakeholders to be fully sustainable is no longer an ask, it is a must. In this presentation we will talk about how our sustainability approach successfully transitions to a new norm of sustainable products in a global environment where the demands are the new standard that needs to be achieved. We will tell our story, backed up with collaborations with major FMCGs, retailers, NGOs (EMF), recyclers and other knowledge partners. There is no single route to sustainability, the silver bullet doesn't exist – we believe in a collaborative approach supported by facts and figures.



11:35am (CET)
CONCERTED EFFORTS IN UNLOCKING CIRCULARITY

Dr Julien Renvoise
Global Circularity Manager, Plastics, TRINSEO



The presentation will discuss proven closed-loop recycling technologies for food packaging. Plastic packaging materials and waste face increasingly stringent sustainability targets on a global basis. To realize the vision of a circular economy, chemical recycling plays a vital role in decreasing fossil resource depletion and plastic waste as a whole. The presentation will cover chemical recycling technology, among others, to illustrate the infinite recyclability of polystyrene. It is a technology

TRACK 01

waste bioplastic will appear only at the designated places. Bioplastics, which decompose in the compost, can also be found in rivers or seas, therefore it is important to understand what impact this plastic has on our environment. For this reason, it is necessary to determine the degree of biodegradation of bioplastics in various environments, where the bioplastic waste can be found in nature. With such an approach, we can determine the influence of bioplastics on the environment and thus prevent the pollution of our natural world.



11:50 am (CET)
PANEL DISCUSSION: HOW TO SCALE UP FAST, DO'S AND DON'TS

Errit Bekkering
Communications advisor,
CHEMPORT EUROPE



12:20 PM - 1:15 PM (CET)
NETWORKING SESSION



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standard is of great value to businesses. Now more than ever companies need to prove the ways in which they are recycling, cutting the use of plastic and adopting alternative, compostable, materials through a credible certification process. This presentation will give an insight into which plastic-related certifications are available, the benefits of having a certification and basic procedures of certifications to move towards more sustainable and transparent supply chains.



12:00pm (CET)
PANEL DISCUSSION: SEALIVE (STRATEGIES OF CIRCULAR ECONOMY AND ADVANCED BIO-BASED SOLUTIONS TO KEEP OUR LANDS AND SEAS ALIVE FROM PLASTICS CONTAMINATION)



Miriam Gallur

Materials and Packaging Area Manager, ITENE

Decoupling plastic production from fossil feed-stock and creating a circular plastics economy are essential to achieving European Union climate, energy and sustainability goals. Approximately 12 million tons of plastic waste ends up in our oceans and contaminates our land every year. While there has been a recent shift toward the use of bio-based plastics, these materials have limitations and are not easy to recycle using current technologies. SEALIVE will address all these challenges with a vision to reduce plastic waste and contamination on land and in seas by boosting the use of biomaterials and contributing to the circular economy with cohesive bio-plastic strategies.

12:30 PM - 1:30 PM (CET)
NETWORKING SESSION

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that unlocks circularity and helps create a truly sustainable future for food contact applications. The transition to a circular economy requires the concerted efforts of the whole value chain. The styrenics value chain has a particularly large role because of such technology and polystyrene's unique properties.



12:00pm (CET)
PANEL DISCUSSION: EPR AS SUSTAINABLE MODEL TO ENSURE PROPER TREATMENT OF PLASTIC PACKAGING (PANELLISTS TO BE ANNOUNCED)



Joachim Quoden

Managing Director / Lawyer,
EXPRA - EXTENDED PRODUCER
RESPONSIBILITY ALLIANCE



Nicole Bendtsen

Secretariat of the PREVENT Waste
Alliance, GIZ



Gunilla Carlsson

Board Member, ISWA
INTERNATIONAL SOLID WASTE
ASSOCIATION

This session will explain the principles of extended producer responsible and respective EPR systems that can ensure the proper treatment of (plastic) packaging so that only a few plastics leak into the environment. This is achieved by establishing and running sustainable and efficient collection, sorting and recycling systems with accompanying communication and awareness campaigns backed up by anti-litter initiatives and support for companies to design their packaging in a sustainable way, leading to drastically less landfill and litter. The principles will be demonstrated by best practices from the field, meaning the work of various EPR systems in Europe and abroad.

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1:15 PM - 2:55 PM (CET) REDUCING AND AVOIDING WASTE IN THE PRODUCTION PROCESS



1:15 pm (CET)
**SCOPE 3 FOR LARGE SUPPLY
CHAINS USING AI: HOW TO
START, AND WHAT GOOD LOOKS
LIKE**



Ed Maclean
Co-founder - Econscia

All serious sustainability and ESG strategies need to include Scope 3 emissions, but it is one of the most difficult areas to tackle. Complex supply chains are often faced with huge data complexities and can take years to build up the reporting process. Most companies just need to get started, somewhere. Fortunately, machine learning / AI technologies can help companies to move much faster on this data challenge, and gain much deeper insight into their impact. Scope 3 is often described as a journey, and laying a strong data foundation is key for any company to get started, as well as companies maturing in their space. Ed Maclean, CEO and founder of econscia, will present an overview of modern technology approaches to emissions and sustainability strategy, and how companies can set up for success at any point in their Scope 3 journey.



1:40 pm (CET)
**MANUFACTURING TEXTILES
WITHOUT CHEMICAL WASTE**



Mattia Trovato
Head Of Marketing
Communications presso
MANTECO SPA

INTERREG RETEX, a Franco-Belgian textile circular economy project, focused on the recycling of used textiles and production offcuts in cotton, polyester or

TRACK 02

1:30 PM - 5:00 PM (CET) END-OF-LIFE OPTIONS FOR PLASTIC AND VALORISING WASTE



1:30pm (CET)
**INNOVATIVE FINANCING
MECHANISMS: PLASTIC CREDITS
FOR INCLUSIVE & TRANSPARENT
CIRCULARITY**



Christina Jäger
Co-founder & Managing Director,
YUNUS ENVIRONMENT HUB



Daniela Albuquerque
Marketing Coordinator, BVRIO



There is a growing movement towards increasing plastic recycling rates, in particular by consumer goods companies who are facing intense pressure to reduce the environmental impact of their waste packaging. A variety of measures are being explored, including reduction of packaging, increasing recycled and recyclable content of packaging, the use of biodegradable material, packaging returning schemes, etc.



1:55pm (CET)
**THE CIRCULARITY ENTIRE
CIRCULARITY SOLUTION OF PET**



Christian Crépet
Executive Director, PETCORE EUROPE

Presentation Description: 1- PET is safe and sound 2- Refill at home, on the go and through bottle crates recognition within a RDS. 3- Re-use through compaction with RVM (reverse vending machines) through a RDS. 4- Mechanical Recycling 5- Chemical recycling by depolymerization. 6- CO2 performances.

TRACK 03

12:30 PM - 1:30 PM (CET)
NETWORKING SESSION

1:30 AM - 2:45 PM (CET)
**REUSE 'REFILL' MODEL - REUSE
'RETURN' MODEL**



1:30pm (CET)
**PACKAGING & CIRCULAR
ECONOMY. THE IFCO RPCS CASE**



Michael Pooley
CEO, IFCO SYSTEMS GMBH

There are examples of packaging that are made to be shared and reuse. IFCO is the leading company of Reusable Plastic Containers (RPCs) for fresh produce. We manage a pool of 314 mio RPCs for about 1,7 billion trips a year, since 1992. Our crates are made of one only material (PP5), and used between 30 and 120 times before repaired or granulated to create new IFCO RPCs so that nothing is wasted.



1:55pm (CET)
**THE POWER OF COOPERATION
TO ACHIEVE CLIMATE-NEUTRAL
GLASS PACKAGING**



Vanessa Chesnot
Senior Product Policy Manager,
FEVE

By 2050 the container glass industry aims to achieve a major revolution in the way glass is produced that is fit for a circular and climate neutral economy. We are proud to produce healthy, reusable and infinitely recyclable closed

TRACK 01

cotton/polyester blends. The project ran from October 2016 to March 2021 with a budget of €1,610,780 and ERDF assistance of €885,929. After numerous workshops, INTERREG RETEX finalized three value chains with an analysis on the technical, economic and environmental levels: recycled hospital clothes to make new fabric for the same market; recycled cotton production scraps for the knitwear industry; polyester scraps transformed by a thermomechanical process (plastics process) to make granules. The presentation will outline the results of the project as well as the locks and research perspectives to be anticipated in the future.



2:05 pm (CET)
**RESULTS OF INSPIREWATER –
HOW TO REACH CIRCULARITY
IN THE WATER MANAGEMENT OF
THE INDUSTRY**



Staffan Filipsson
Research Lead, SWEDISH
ENVIRONMENTAL RESEARCH INSTITUTE
(IVL)

Industries that manufacture things like steel, pulp and paper, chemicals and oil and gas are some of the world's biggest users of water. These companies use water for everything from fabricating to processing, washing, diluting, cooling, and transporting. For example, steel manufacturers often take water from nearby waterways to cool down their equipment. However, with increasing concerns about water availability and quality, many processing-based companies are looking for new, sustainable solutions for more efficient water use. The EU-funded INSPIREWater project might have an answer. The goal of INSPIREWATER was to help companies in the process industry achieve sustainable water treatment solutions. By bringing together technology providers, globally leading steel and chemical manufacturing companies, research organizations, and subject matter experts, the project developed new technologies for reducing water and energy consumption, the use of chemicals, and the amount of waste. Behind INSPIREWATER's success is its use of a holistic approach to water management – one that includes life cycle thinking, resource efficiency, key performance indicators, and new technologies. For example, the project developed a generic water management framework that the

TRACK 02



2:20pm (CET)
**PLASTIC BANK RECYCLING
ECOSYSTEMS, POWERED BY
BLOCKCHAIN**



Shaun Frankson
Co-Founder and Chief Technology
Officer, PLASTIC BANK

Plastic Bank® empowers the regenerative society. We are helping the world stop ocean plastic while improving the lives of collector communities. Plastic Bank builds ethical recycling ecosystems in coastal communities and reprocesses the materials for reintroduction into the global manufacturing supply chain. Collectors receive a premium for the materials they collect which helps them provide basic family necessities such as groceries, cooking fuel, school tuition, and health insurance. Plastic Bank's certified blockchain platform secures the entire transaction and provides real-time data visualization – allowing for transparency, traceability, and rapid scalability. The collected material is reborn as Social Plastic® which can be easily reintegrated into products and packaging as part of a closed-loop supply chain. Plastic Bank currently operates in Haiti, Brazil, Indonesia, the Philippines, and Egypt. The Plastic Bank blockchain platform ensures a complete audit trail of every transaction and exchange - from the initial point of collection through to the reintroduction of Social Plastic® product on the retail shelf. Our proprietary platform secures transactions and provides real-time data visualization - allowing for transparency, traceability, and rapid scalability at every step of the closed-loop supply chain. The Plastic Bank App maintains all operations from a global standpoint. Developed with IBM, the Plastic Bank App utilizes blockchain technology to ensure all plastic is ethically collected, reprocessed by partner processors, and sold to Plastic Bank partner clients. For the collector, the App provides a fair, reliable and transparent payment system while validating the identity of all members. For our partners, the App ensures a complete audit trail of every transaction and exchange - from the initial point of collection through to the reintroduction of Social Plastic® product on the retail shelf. Using the blockchain technology, Plastic Bank offers real-time data visualization and dashboards. With over 100,000 transactions processed, the Plastic Bank App offers access to a secure supply chain of recycled Social Plastic® feedstock, while storing authentic impact data and demonstrating environmental, social, and economic impact for brand partners. Plastic Bank's breakthrough, closed-loop recycling model allows the company to rapidly scale and enter new

TRACK 03

loop packaging. It is inert and always remains healthy and safe for food grade packaging no matter how many times it is recycled. But the container glass industry needs to address carbon emissions. The presentation will provide an opportunity to learn about concrete initiatives such as the Close the Glass Loop, The Furnace for the Future and the Glass Hallmark that the European Glass Packaging industry is putting in place to address sustainability and climate change, achieve a Circular Economy and discuss how partnerships across industrial value chains can help industry innovate and decarbonise.



2:20pm (CET)
**PANEL DISCUSSION: REUSE
'REFILL' MODEL AND REUSE
'RETURN' MODEL**



Siân Sutherland
Senior Product Policy Manager,
FEVE

**2:45 PM - 3:15 PM (CET)
NETWORKING SESSION**



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process industry can integrate into existing corporate management structures. The water management model is a simple and flexible method that industry can use to find efficient ways to reduce water and chemical use, along with the production of wastewater. The project also developed new technological solutions, many of which were demonstrated in real-world settings. For example, in the steel industry, the project demonstrated a simple yet robust technology for removing metal particles. In addition, INSPIREWATER demonstrated a more complex solution for recovering both water and chemicals in the stainless-steel manufacturing process. Here, the team had to overcome the challenge of recovering chemicals from the water in the industry's heavily oxidized environment. The collaboration between the companies and the researchers was the driving force behind the project's success. The smooth collaboration between all the project's partners developed practical tools that the process companies can use to improve their water usage. The water management model is currently available for use by the processing industry, although researchers are exploring its potential application in other industries.



2:30 pm (CET)
PANEL DISCUSSION: EXPLORING HOW DIGITAL TECHNOLOGIES CAN BE USED TO TRACK MANUFACTURING SUPPLY CHAINS AND SECOND LIFE OF MATERIALS TO EASE THE GLOBAL CLIMATE CRISIS



Douglas Johnson-Poensgen
Founder & CEO, CIRCULOR

The spotlight on materials traceability and circular economy solutions is growing. The panel will discuss how manufacturers can track the first and second life of materials to ease the global climate crisis, and the importance of calculating the embedded carbon at each production, recycling and end-of-life stage. They will also explore how the digitalization of supply chains, which has never existed before, can provide regulatory compliance and resource security in the EU. They will talk about use cases in the EV battery space and also the evolution in plastics recycling, green steel and beyond.

TRACK 02

geographies. Recycling ecosystems are vertically integrated, ensuring that all stakeholders benefit at every step in the supply value chain. By working with local collection branches and processing partners, Plastic Bank is able to quickly gain the trust of communities and seamlessly establish operations that directly impact the lives of collectors and their families. Plastic Bank collectors receive premiums for the materials they collect. When collectors deposit plastic waste, their digital ID is scanned, Plastic is sorted and weighed by material and colour, and then collectors receive market price for plastic and premiums that are automatically deposited into their digital bank account. This helps over 22,000 collectors worldwide provide basic family necessities such as groceries, cooking fuel, school tuition, and health insurance. The material collected in Plastic Bank's closed-loop recycling ecosystems are reprocessed and reborn as Social Plastic® to be reintroduced into the supply chain for the creation of new products and packaging materials. Global brand partners including Henkel, SC Johnson, Advansa, Carton Pack, and Hugo Boss. By integrating Social Plastic® back into the supply chain, these brands are building a regenerative plastic economy that is stopping ocean plastic and improving the lives of collector communities. Social Plastic® is regenerating ocean-bound plastic into environmental, social, and economic impact.

2:45 PM - 3:15 PM (CET) NETWORKING SESSION



3:15pm (CET)
PLASTIC WASTE INTO PURE PRODUCTS - THE NEXT GENERATION OF CHEMICAL RECYCLING



Daria Fraćzak
R&D Manager, CLARITER

Awareness of the global plastic waste issue has grown in recent years resulting in many regulatory and voluntary initiatives. The COVID-19 pandemic showed the importance of polymers as valuable materials that are very hard to substitute. Chemical recycling is a plastic waste treatment process complementary to mechanical recycling. Clariter offers this next generation, unique and

TRACK 03

3:15 PM - 5:00 PM (CET) PLASTIC PACKAGING FOOTPRINT AND SUPPLY CHAIN TRANSPARENCY



3:15pm (CET)
TO BE ANNOUNCED



Willemijn Peeters
Founder, SEARIOUS BUSINESS



3:40pm (CET)
REVISITING PLASTICS RECYCLABILITY - DEVELOPING STANDARD TESTING PROTOCOLS TO CHECK THE QUALITY OF RECYCLATE



Fabrizio Di Gregorio
Technical Director, RECYCLASS & PLASTIC RECYCLERS EUROPE



4:05pm (CET)
APK'S NEWCYCLING: AN UPDATE ON PCR, PURIFICATION POTENTIAL & EMISSIONS REDUCTION



Kristy-Barbara Lange
Head of Public Affairs, APK AG

APK AG is an innovative plastics recycler whose Newcycling process enables the plastics and packaging value chains to meet two major challenges of today's plastics economy: increase quality of plastic recyclates and keep emissions low. In the first half of 2021 APK

TRACK 01

2:55 PM - 3:15 PM (CET)
NETWORKING SESSION

3:20 PM - 4:40 PM (CET)
CHEMICALS IN A CIRCULAR
ECONOMY



3:20 pm (CET)
**CHEMISTRY IS GOING CYCLIC
– CLOSING THE LOOP FOR A
SUSTAINABLE FUTURE**

SIEMENS

Miguel-Angel Fernandez
Vice President & Head of Verticals
Chemicals, Glass, Oil & Gas,
SIEMENS



3:45 pm (CET)
**TRANSITIONING TOWARD A
CIRCULAR ECONOMY WITH
ADVANCED RECYCLING
TECHNOLOGIES**

EASTMAN

Inari Seppä
Technology innovation director
and EU circular economy
advocacy leader - Eastman

The limitations of traditional recycling technologies and the economic challenges facing the planet currently present significant roadblocks in tackling the global plastic waste crisis. To truly transform into a global circular economy for plastics, the acceptance and implementation of advanced recycling technologies are critical. While there is no single solution to solve this growing crisis, there are innovations and technologies from the industry

TRACK 02

complex technology that transforms plastic waste into high-quality, pure and ready-to-market products that are not blended with petrochemical streams, so come 100% from recycling. Clariter's aliphatic solvents, white oils and paraffin waxes fulfil the highest industry standards and can be used directly in many applications.



3:40pm (CET)
**INCREASING THE UPTAKE
OF RECYCLED MATERIALS BY
BUSINESSES - A REVIEW OF
BARRIERS, ENABLERS AND
CIRCULAR BUSINESS MODELS**



Malou van der Vegt

Researcher and lecturer circular
economy, UNIVERSITY OF APPLIED SCIENCES
UTRECHT

The presentation will cover the various barriers and enablers for recycling (for the total plastic industry and all types of products). The aim is to provide practical insights into the current situation in industry and to provide an overview of the barriers and enablers for the uptake of recycled plastics by businesses and other actors along the value chain. Findings are based on the outcomes from several workshops done in the Netherlands, Germany, of the United Kingdom and Belgium, as part of the Interreg project TRANSFORM-CE. Throughout the presentation, practical examples of circular business models will be given, with lots of inspiration to stimulate the uptake of recycling by businesses. Such examples will have a direct link to the outlined barriers and enablers. In summary, the barriers and enablers for recycling and the practical examples from industry will allow others to determine the steps that are needed to increase the uptake of recycled materials by businesses.

TRACK 03

plans to realise a major campaign at its industrial-scale Newcycling plant in Merseburg (8,000 t/a) using post-consumer waste from flexible plastic film streams as input material. The presentation will share news on insights gained on quality of recycle, purification potential and emissions reduction potential. Furthermore, the presentation will map the potential contribution of advanced physical Recycling Technologies to the European Commission's 2025 and 2030 targets.



4:30pm (CET)
**PANEL DISCUSSION:
TECHNOLOGIES IN THE
RECYCLING LANDSCAPE**



Kristy-Barbara Lange
Head of Public Affairs, APK AG



Carlos Monreal
CEO, PLASTIC ENERGY



Luis Hoffmann
Technologist Polymer Recycling,
SULZER CHEMTECH LTD

The presentation will outline the different contributions of different technologies and clarify what is chemical and what is physical recycling and which processes can achieve specific aspects of a circular plastics economy, and by when.



END OF CONFERENCE

TRACK 01

to help. The presentation will explain the ins and outs of advanced recycling – a technology 101, the pros and cons, which advanced technologies work best for which materials, the infrastructure challenges that need to be overcome to get more chemical recycling technologies operating at scale, and what you can do to be part of the solution.



4:10 pm (CET)

PANEL DISCUSSION: CHEMICAL WASTES – HOW TO CLOSE THE LOOP?

End-of-life chemical materials such as plastics and mixed municipal solids waste have been traditionally regarded as valueless rubbish to be disposed of at minimum cost. This perception is rapidly changing, and these wastes are increasingly seen as a low-cost resource for chemical synthesis or energy generation. This leaves the question about the best use of these materials. Should we seek full closure of the loop for new chemical production or prioritize lower-cost alternatives that can be implemented immediately?



Jonathan Wagner

Programme Lead, Centre for Circular Chemical Economy - Loughborough University



Carlos Monreal

CEO - Plastic Energy



Babette Pettersen

VP, Europe, LANZATECH



Pieter Imhof

Senior Business Developer Circular Economy & Environment - TNO

TRACK 02



4:05pm (CET)

CONNECTING THE DOTS: HOW CIRCULARITY OF PLASTICS WILL GET US TO CLIMATE NEUTRALITY

Tara Nitz

Global Positioning & Advocacy Circular Economy, COVESTRO



The aim to become Fully Circular at Covestro is closely interlinked with the Goal set also by the Paris Agreement, the European Union and in many more jurisdictions to become climate neutral. Circularity is playing an indispensable role to reach this Goal. The more we circulate carbon in products through a Circular Economy, mechanical and chemical Recycling and the use of alternative raw materials instead of fossil raw materials, the more emissions we avoid and by closing the carbon Loop are getting closer to climate neutrality. Making plastics circular reduces not only the Plastics footprint but also the scope 3 footprint of end and consumer products, thereby contributing to climate neutrality throughout the value cycle. I will aim to contribute to the discussion by highlighting those connections and the preferred policy options to build a climate-neutral CE for Plastics.



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EARLY BIRD DISCOUNT
ENDS 15TH OCTOBER



TRACK 01

4:40 PM - 6:00 PM (CET) WASTE RECOVERY AND VALORIZATION



4:40 pm (CET)
**CARBON CAPTURE, UTILISATION
AND STORAGE (CCUS) NET-
ZERO FOR INDUSTRY –
USING COMPLIANCE AS A
SPRINGBOARD**



Paul Wilkinson

Head of Emerging Business
(Europe) - SLR Consulting



Bob Robinson

Principal Consultant, energy and
resource efficiency and carbon
management - SLR Consulting



5:05 pm (CET)
**HOW TO TRANSFORM LANDFILL
WASTE INTO A BRIGHTER
FUTURE FOR MANUFACTURING**



Jack Bigio

Co-founder and CEO, UBQ
MATERIALS

Jack Bigio, co-founder and CEO of UBQ Materials shares how UBQ has converted waste – a gross environmental liability - into the most climate positive thermoplastic on the market. The company is closing the loop between production, consumption, and waste with a singular solution – the UBQ™ material. A universal, drop-in material that substitutes oil-based resins, wood or minerals in everything from car parts, furniture, supply chain logistics and even 3D printing - the potential for UBQ™ is ubiquitous. Sustainability has never been

TRACK 02



4:30pm (CET)
**PANEL DISCUSSION: INNOVATIVE
FINANCING MECHANISMS:
PLASTIC CREDITS FOR
INCLUSIVE & TRANSPARENT
CIRCULARITY**



Christina Jäger

Co-founder & Managing Director,
YUNUS ENVIRONMENT HUB



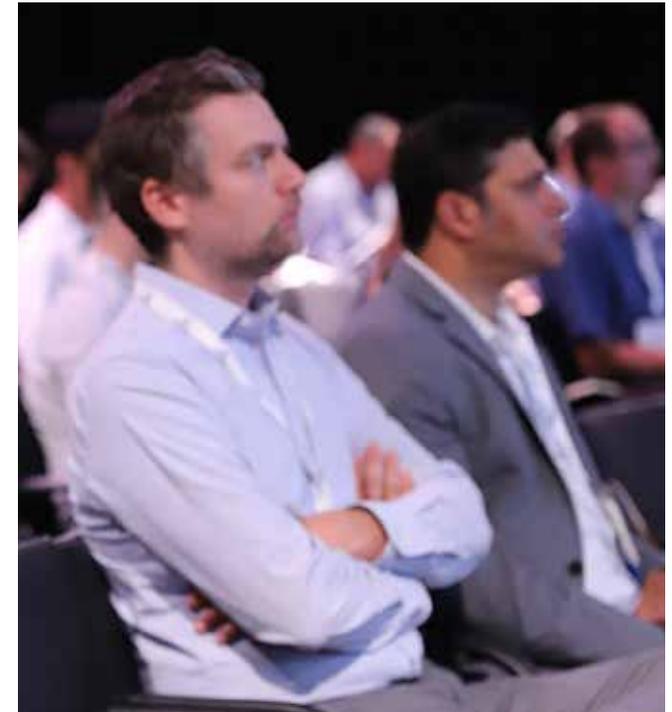
Daniela Albuquerque

Marketing Coordinator, BVRIO



There is a growing movement towards increasing plastic recycling rates, in particular by consumer goods companies who are facing intense pressure to reduce the environmental impact of their waste packaging. A variety of measures are being explored, including reduction of packaging, increasing recycled and recyclable content of packaging, the use of biodegradable material, packaging returning schemes, etc.

END OF CONFERENCE



TRACK 01

so simple or economically viable. The same price, same process, same products have a revolutionary environmental impact when made with UBQ™. Manufacturers now have the power to divert waste, protect finite natural resources, offset greenhouse gas emissions, and advance clients' environmental goals at no additional cost. This is the dawn of a new era - one where industry is leading the change and pioneering initiatives for a cleaner future.



5:30 pm (CET)
**PANEL DISCUSSION: TRACING
SUSTAINABLE MANUFACTURING
USING BLOCKCHAIN**

Mesbah Sabur
Founder, CIRCULARISE



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For further information and general enquiries please contact us via email or phone:

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10-11 November 2021



Cologne, Germany