CELLULOSE FIBRES CONFERENCE 2023

Cologne (Germany) 8–9 March

Conference Journal

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Kelheim Fibres

Innovation Award Sponsor

GIG KARASEK
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Organiser

nova Institute
for Ecology and Innovation

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cellulose-fibres.eu

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Password

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#2023CFC

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Conference Program

Day 1

8 March 2023,
9:30–18:00 (CET)

P. 11

Session 1:
Strategies, Policy Framework of Textiles and Market Trends

Session 2:
Circular Economy and Recyclability of Fibres

Session 3:
Alternative Feedstocks and Supply Chains

Session 4:
Innovation Award “Cellulose Fibre Innovation of the Year 2023”

Day 2

9 March 2023,
9:00–16:00 (CET)

P. 24

Session 1:
Sustainability & Environmental Impacts

Session 2:
Ionic Liquids and New Technologies for Pulps, Fibres and Yarns

Session 3:
New Technologies and Applications beyond Textiles

CELLULOSE FIBRES CONFERENCE 2024

13–14 March 2024

Save the Date

Dear Participants of the Conference and Exhibition,

Welcome to the world's unique conference devoted exclusively to cellulose fibres – in textiles, hygiene products and packaging. In close cooperation with our sponsors and partners, we have managed to get practically all relevant players to Cologne ready for the fourth conference in the row. Learn and discuss the latest market information, technologies and applications. A very important topic is sustainability, as cellulose fibres can score many points here. They have a low ecological footprint, leave no microparticles and consist of 100 % renewable carbon.

Cellulose fibres show a steadily expanding range of applications. At the same time markets are driven by technological developments and political framework conditions, especially bans and restrictions on plastics and increasing sustainability requirements for textiles. The European Commission has made the thorough transition towards sustainability and circularity for different industries and especially the textile sector a main focus.

Cellulose fibres provide important solutions for the future and are already available today in large and growing quantities. Alternative sources for cellulose can further improve sustainability.

For the third time, nova-Institute awards the "Cellulose Fibre Innovation of the Year" award in the frame of the "Cellulose Fibres Conference 2023" (8–9 March 2023). The conference advisory board nominated six remarkable products, including cellulose fibres from textile waste, banana production waste and bacterial pulp, a novel technology for producing lyocell yarns and a hygiene product. The innovations will be put to the vote of the conference audience on the first day of the event, with the awards ceremony taking place in the evening.

Be curious! We wish you a lively exchange, many inspirations and comprehensive networking. And have fun in the lively city of Cologne, which was founded by the Romans about 2060 years ago.

Yours sincerely

Michael Carus
CEO

Asta Partanen
Content Manager of the Conference

Your Conference Team

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Registration

cellulose-fibres.eu/registration

Venue & Accommodation

Maternushaus
Kardinal-Frings-Str. 1–3
50668 Köln (Cologne)
Germany

Phone: +49 221 – 1631-0
frontoffice@maternushaus.de
maternushaus.de

Recommended Hotels
cellulose-fibres.eu/venue

Entrance Fee

Day 1 & 2
8–9 March 2023
Ticket for on site (and online) attendance
incl. dinner buffet
945 €

Day 1
8 March 2023
Ticket for on site (and online) attendance
incl. dinner buffet
640 €

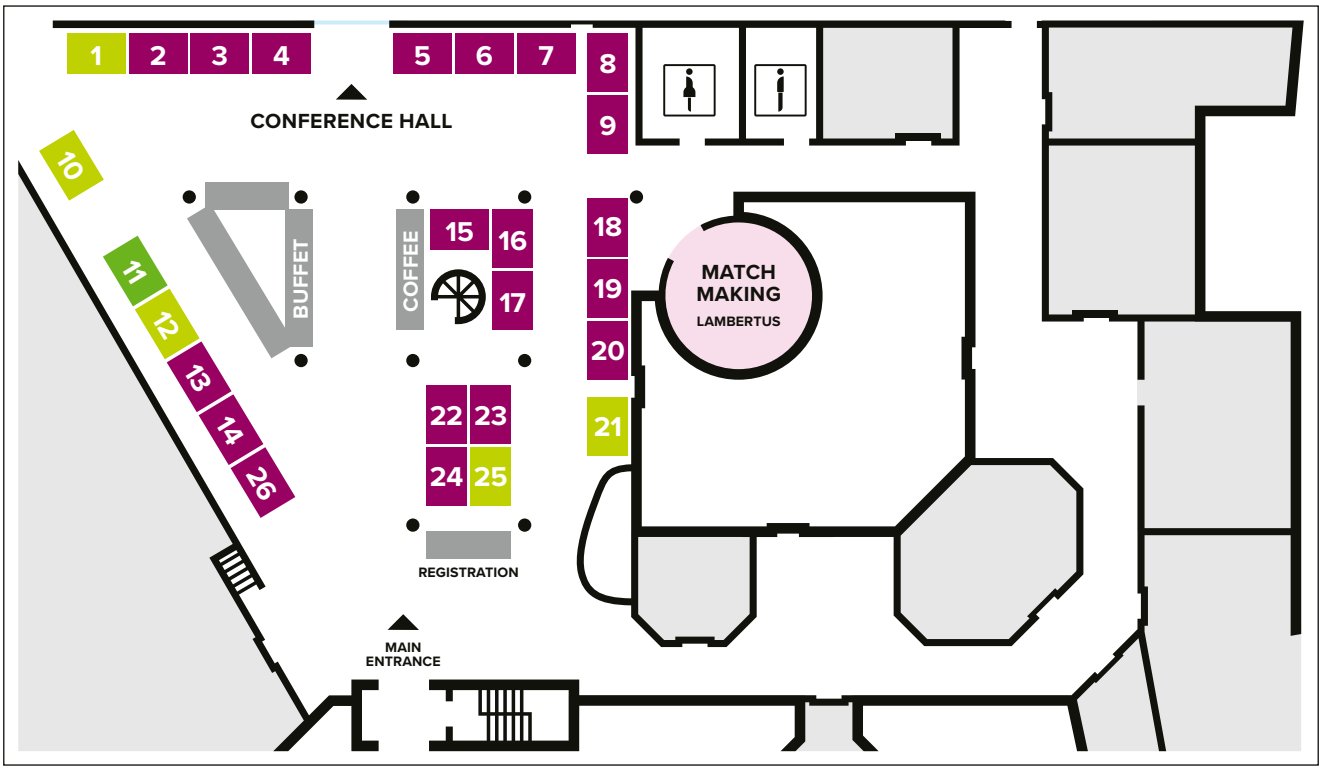
Day 2
9 March 2023
Ticket for on site (and online) attendance
580 €

Day 1 & 2 Online Ticket
8–9 March 2023
Ticket for virtual attendance
450 €

Day 1 & 2 Student Ticket
8–9 March 2023
Ticket for on site (and online) attendance
incl. dinner buffet
350 €

Exhibition

Free Reserved for Sponsors Booked



List of Exhibitors

Booth 02 Kemira (FI)
Booth 03 Kelheim Fibres (DE)
Booth 04 Lenzing (AT)
Booth 05 LIST Technology (CH)
Booth 06 nova-Institute (DE)
Booth 07 Infinited Fiber Company (FI)
Booth 08 Media Table
Booth 09 New Retex (DK)
Booth 13 Hochschule Niederrhein (DE)
Booth 14 Surface Measurement Systems (GB)
Booth 15 DIENES Apparatebau (DE)
Booth 16 Institut für Textiltechnik of RWTH Aachen University (ITA) (DE)
Booth 17 Poster Session
Booth 18 HIMSON (IN)
Booth 19 Poster Session
Booth 20 Poster Session
Booth 22 GRETE
Booth 23 Innovation Award “Cellulose Fibre Innovation of the Year 2023”
Booth 24 Black IP (DE)
Booth 26 Ebba Biotech (SE)

book your booth soon

Book your booth:
cellulose-fibres.eu/exhibition-booking

Status: **21 February 2023**
More exhibitors expected: cellulose-fibres.eu/exhibitors

Poster Session

The poster session will take place during the lunch break (12:45 – 13:45) of Day 2 (9 March) with a few minutes possibility to present it at a special poster area at booths number 17, 19 and 20 on the exhibition space.

Chalmers University of Technology (SE)
Joanna Wojtasz-Mucha
Oat husks dissolving pulp holistic approach

Doshisha University (JP)
Kohei Okuda
Hybridization of chemically modified cellulose and hydroxyapatite applicable to tough biomass materials by imitating bone

IBB Netzwerk (DE)
Annika Frank
The European Sustainable BIO-based nanoMAterials Community

Institut für Textiltechnik, RWTH Aachen University (DE)
Maximilian Mohr
Cellulose Aerogel nonwoven – Sustainable high performance insulation solutions

Lehrstuhl für Biotechnologie, RWTH Aachen University (DE)
Nicolas de la Vega Guerra
Engineering the Thermostability of a GH5 Endoglucanase for Biomass Degradation

LERMAB Université de Lorraine (FR)
Prabu Satria Sejati
Sustainable Plastic Alternative from Cellulose by Solvent Free Esterification

Minho University (PT)
Miguel Gama
Regenerated bacterial cellulose fibres

North Carolina State University (US)
Ryen Frazier
Can Agricultural Residues be the Future of Textiles?

Textile Engineering, RWTH Aachen University (DE)
Debolina Mukherjee-Kleiber
Jute, the Forgotten Fibre

Thüringisches Institut für Textil- und Kunststoff-Forschung Rudolstadt (DE)
Michael Sturm
Towards new solvents for Lyocell – A comparison of [MTBDH][AcO] and its successor [MTBNH][AcO]

TNO (NL)
Ilona van Zandvoort
Biorefinery of wheat straw to produce alternative cellulose sources for filament fibres

University of Natural Resources and Life Sciences, Vienna (BOKU) (AT)
David Budischowsky
Fluorescence labeling of C1-oxidized cellulose: Method development

University of Natural Resources and Life Sciences, Vienna (AT)
Irina Sulaeva
Divide et impera: Cross-section analysis of cellulose fibers

University of Natural Resources and Life Sciences, Vienna (AT)
Ivan Melikhov
Analysis of degradation products from superbase ionic liquids

University of Rhode Island (US)
Izabela Ciesielska-Wrobel
Can mechanical recycling of cotton be more popular?

Veterinary college, Shimoga (IN)
Dr Dhoolappa Melinamani
Biomanufacturing of cultured meat by using plant (cellulose) scaffolds

VTT Technical Research Centre of Finland (FI)
Simo Hannula
Cationization and spinning of fibres from paper grade pulps

VTT Technical Research Centre of Finland (FI)
Lotta Sorsamäki
Feasibility of traditional and novel lyocell fibre production concepts

VTT Technical Research Centre of Finland (FI)
Elisa Spönla
Effect of softwood kraft pulp pretreatments on regenerated fibre properties

Further information:
cellulose-fibres.eu/posters

nova-Institute for Ecology and Innovation

Technology & Markets

- Market Research
- Innovation & Technology Scouting
- Trend & Competitive Analysis
- Supply & Demand Analysis
- Feasibility & Potential Studies
- Customised Expert Workshops

Communication

- Comprehensive Communication & Dissemination in Research Projects
- Communication & Marketing Support
- Network of 60,000 Contacts to Companies, Associations & Institutes
- Targeted Newsletters for 19 Specialty Areas of the Industry
- Conferences, Workshops & nova Sessions
- In-depth B2C & Social Acceptance Research

Sustainability

- Life Cycle Assessments (ISO 14040/44, PEF Conform)
- Carbon Footprint Studies & Customised Tools
- Initial Sustainability Screenings & Strategy Consultation
- Holistic Sustainability Assessment (incl. Social and Economic Impacts)
- GHG Accounting Following Recognised Accounting Standards
- Critical Reviews for LCA or Carbon Footprint Reports

Economy & Policy

- Strategic Consulting for Industry, Policy & NGOs
- Political Framework, Measures & Instruments
- Standards, Certification & Labelling
- Micro- & Macroeconomics
- Techno-Economic Evaluation (TEE) for Low & High TRL
- Target Price Analysis for Feedstock & Products

nova-Institute is a private and independent research institute, founded in 1994. nova offers research and consultancy with a focus on the transition of the chemical and material industry to renewable carbon.

What are future challenges, environmental benefits and successful strategies to substitute fossil carbon with biomass, direct CO_2 utilisation and recycling? What are the most promising concepts and applications? We offer our unique understanding to support the transition of your business into a climate neutral future.

Our subjects include feedstock, technologies and markets, economy and policy, sustainability, communication and strategy development.
Multidisciplinary and international team of 45 scientists.

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www.nova-institute.eu
www.renewable-carbon.eu
F +49 2233 - 460 14 01

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Enabling Cellulosic Fiber Innovations for Tomorrow

The cellulosic fiber market will diversify and remain very dynamic. Lyocell's potential has not fully been reached yet - and this provides great opportunities for innovators: Pioneering fibers from 100% agro-waste, trendy fibers from 100% bacterial cellulose, high-tenacity fibers from 100% recycled cotton textiles, low-cost fibers from paper pulp, world scale fiber capacities from integrated pulp-fiber plants, fiber tenacities like polyester fibers, fully closed loops with textiles from 100% recycled textiles, etc. - Lyocell will drive many innovations required to survive in the fiber market of tomorrow.

Are you ready for Lyocell 2.0?

LIST provides the Proven Dissolving Technology Platform for any kind of fiber innovation:

- all cellulose sources
- all cellulose concentrations
- all water concentrations
- all solvents
- all process regimes
- all scales - lab to industrial

LIST Technology - preparing you for the future dynamics of the cellulosic fiber market.

LIST
Kneading - Mixing - Drying

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TENCEL™ LUXE

From Nature to Skin to Nature

Come visit us at booth 4

One Filament—Endless Possibilities,
LENZING™ Lyocell Filament.

Lenzing
Innovative by nature

What can end up in our environment should biodegrade…

Come see a sustainable future of nonwovens with LENZING™ Web Technology

Lenzing
Innovative by nature

Day 1

8 March 2023
9:30–18:00 (CET)

9:30

Michael Carus
nova-Institute (DE)
Conference Opening

Strategies, Policy Framework of Textiles and Market Trends

9:40

Andreas Engelhardt
The Fiber Year (CH)
Latest Market Trends in the Textile Industry

10:00

Asta Partanen & Michael Carus
nova-Institute (DE)
How can Cellulose Fibres Contribute to the EU's Goal of Transforming its Textile Industry?

10:20

Manuel Steiner
LIST Technology (CH)
Lyocell 2.0 – the Power of Circularity

10:40

Panel Discussion with all Speakers of the Session and Special Panelist: Jo-Ann Innerlohinger, Lenzing (AT)

10:55

Coffee Break & Networking

Circular Economy and Recyclability of Fibres

11:15

Alexander Deutschle
Metsä Tissue (DE/FI)
Comparative Life Cycle Assessment of a Modern Bioproduct Mill

11:35

Paula Sarsama
Infinited Fiber Company (FI)
Demonstration and Launch of High Performance, Biodegradable, Regenerated Cellulose Carbamate Textiles to Consumer Markets Through an Innovative, Circular Supply Chain

11:55

Maria Ström
The Loop Factory (SE)
TexChain – Using Residual Waste Streams to Create a Circular Business Strategy

12:15

Natalie Wunder
Kelheim Fibres (DE)
Luisa Kahlfeldt
Sumo Diapers (DE)
From Trend to Product – Open Innovation Approach Using the Example of High-performance Reusable Diaper

12:35

Sascha Schriever & Rosario Othen
Institut für Textiltechnik der RWTH Aachen University (DE)
Regional, Digital, Individual – Regional Cellulose Processed with Digital Technologies for Individual Textile and Paper Products

12:55

Panel Discussion with all Speakers of the Session and Special Panelist: Andreas Schnitzhofer, GIG Karasek (AT)

13:10

Lunch & Networking

Do you have textile or yarn waste?
How about your authentic
statement piece
for your sustainability?

The easy-going pen is made
from any textile waste and a bioresin,
with refill. Social. Circular. ♡

together.
turning textile waste into beauty.
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Alternative Feedstocks and Supply Chains

14:10

Katharina Gregorich
Lenzing (AT)
Replacing Plastics in Non-wovens with LENZING™ Web Technology a new Platform for Sustainable Innovative Non-woven

14:30

Birgit Kosan
Thüringisches Institut für Textil- und Kunststoff-Forschung (DE)
Specifics of Non-wood Dissolving Pulps on Dissolution and Spinning of Lyocell Fibres

14:50

Judith Günther
LIST Technlogy (CH)
Practical Insights into the Cellulosic Fiber Development

15:10

Ellen Bendt
Forschungsinstitute für Textil und Bekleidung (FTB) / Hochschule Niederrhein (DE)
Nature Meets Functionality – Development of a Sustainable Knitted Jacket in 100% Hemp

15:30

Antje Ota
German Institutes of Textile and Fiber Research Denkendorf (DITF) (DE)
Local, Circular and Sustainable: New Raw Materials for the Production of Cellulose Filaments

15:50

Panel Discussion with all Speakers of the Session and Special Panelist: Marina Crnoja-Cosic, Kelheim Fibres (DE)

16:05

Coffee Break & Networking

Innovation Award "Cellulose Fibre Innovation of the Year 2023"

16:35
Michael Carus & Asta Partanen
nova-Institute (DE)
Introduction for the Cellulose Fibre Innovation of the Year 2023

16:45

Wolfgang Aichhorn
GIG Karasek (AT)
Sponsor Award for the Cellulose Fibre Innovation of the Year 2023

16:55
Sandesh Saxena & Ravi Agarwal
Gencrest Bio Products (IN)
Vybrana – The New Generation Banana Fibre

17:05

Enrique Herrero Acero
HeiQ (AT)
HeiQ AeoniQ™ – Technology for More Sustainability of Textiles

17:15
Markus Pichler
Lenzing (AT)
TENCEL™ LUXE – Lyocell Filament Yarn

17:25

Wayne Best
Nanollose & Birla Cellulose (AU/IN)
Nullarbor™

17:35
Kristina Elg Christofferson
Re:NewCell (SE)
Circulose® – Makes Fashion Circular

17:45

Chirag Virani
Sparkle Innovations (US)
Sparkle Sustainable Sanitary Pads

17:55
Online Voting and Announcement of the Winners

18:00
Networking with Local Beer

20:00
Gala Dinner

AWARD SPONSOR

Concentrating the Essentials

GIG KARASEK
A Member of Dr. Aichhorn Group

GIG Karasek offers thermal separation technologies for recovering valuable liquids (solvents) and/or concentration of organic solutions in various industries (e.g. disolving fibre).

Our Portfolio includes individual and customized process technologies, from **pilot plants, skid units** up to **industrial plants**.

Recoveries for Pulp & Fibre Industry

- **Solvent Recoveries**
- **Distillations**
- **Concentration of Liquids**

Evaporation Technology

- Evaporator Types:
  - Plate Fallingfilm Evaporator
  - Tube Fallingfilm Evaporator
- Multistage Evaporation Plants
- MVR - Mechanical Vapor Recompression
- TVR - Thermal Vapor Recompression

Rectification / Distillation

Thinfilm-/Shortpath Technology

- Evaporator Types:
  - Thin Film Evaporator
  - Short Path Evaporator
- Thin Film Dryer:
  - horizontal
  - vertical
- Miniplant

Expertise on selected solvents

- DMAC / DMF
- Trichlorethylene
- and many more
- NMP
- Ionic Liquids

www.gigkarasek.com

Cellulose Fibre Innovation of the Year 2023

Six award nominees will present promising sustainable solutions for the industry in the field of cellulose fibres value chains. The full innovation potential of the cellulose fibre industry will be displayed to a wide audience in Cologne (Germany), and online.

For the third time, nova-Institute awards the “Cellulose Fibre Innovation of the Year” award in the frame of the “Cellulose Fibres Conference 2023” (8–9 March 2023). The conference advisory board nominated six remarkable products, including cellulose fibres from textile waste, banana production waste and bacterial pulp, a novel technology for producing lyocell yarns and a hygiene product. The innovations will be put to the vote of the conference audience on the first day of the event, with the awards ceremony taking place in the evening. The innovation award “Cellulose Fibre Innovation of the Year 2023” is sponsored by GIG Karasek (AT).

Cellulose fibres show a steadily expanding range of applications. At the same time, markets are driven by technological developments and political framework conditions, especially bans and restrictions on plastics and increasing sustainability requirements for textiles. The European Commission has made the thorough transition towards sustainability and circularity for different industries and especially the textile sector a main focus. All nominees will therefore introduce innovative pathways towards more sustainable technologies and products.

Conference Advisory Board

We would like to thank the experts of the conference advisory board for their great help in selecting the best submitted papers and innovations.

Marina Crnoja-Cosic
Kelheim Fibres (DE)

Ralf Nyhofen
Bozzetto Group (IT/DE)

Michael Trinkaus
Nitto Advanced Film Solutions (DE)

Andreas Engelhardt
The Fiber Year (CH)

Antje Potthast
University of Natural Resources and Life Sciences (AT)

Ali Harlin
VTT (FI)

Sascha Schriever
ITA-RWTH Aachen (DE)

Jo-Ann Innerlohinger
Lenzing (AT)

Roland Seidl
Textilplus (CH)

Nominees of the Innovation Award

Organiser

Award Sponsor

Innovation Award

1

Vybrana – The New Generation Banana Fibre

Gencrest Bio Products (IN)

Vybrana is a Gencrest's Sustainable Cellulosic Fibre upcycled from agrowaste. Raw fibres are extracted from the Banana Pseudo stem at end of plant lifecycle. The biomass waste is then treated by the Gencrest patented Fiberzyme technology. Here, cocktail enzyme formulations remove the high lignin content and other impurities and help fibre fibrillation. The company's proprietary cotonisation process provides fine, spinnable cellulose staple fibres suitable for blending with other staple fibres and can be spun on any conventional spinning systems giving yarns sustainable apparel. Vybrana is produced without any use of heavy chemicals and minimised water consumption and in a waste-free process where balance biomass is converted to bio stimulants Agrosatva and Bio Fertilizers & organic manure.

More information: www.gencrest.com

2

HeiQ AeoniQ™ Technology – For More Sustainability of Textiles

HeiQ (AT)

HeiQ AeoniQ™ is the disruptive technology and key initiative from HeiQ with the potential to change the sustainability of textiles. It is the first climate-positive continuous cellulose filament yarn, made in a proprietary manufacturing process and the first to reproduce the properties of polyester and nylon yarns in a cellulosic, biodegradable, and endlessly recyclable fiber. HeiQ AeoniQ™ can be manufactured from different cellulosic raw materials such as pre- and post-consumer textile waste, biotech cellulose, and non-valorized agricultural waste, such as ground coffee waste or banana peels. It naturally degrades after only 12 weeks in the soil. Each ton of HeiQ AeoniQ™ saves 5 tons of CO_2 emissions. The first garments made with this innovative cellulosic filament fiber were commercially launched in January 2023.

More information: www.heiq.com

3

TENCEL™ LUXE
Lyocell Filament Yarn
Lenzing (AT)

TENCEL™ LUXE is LENZING's new versatile lyocell yarn that offers an urgently needed sustainable filament solution for the textile and fashion industry. A possible botanical alternative for silk, long-staple cotton, and petrol-based synthetic filaments, is derived from wood grown in renewable, sustainably managed forests, and produced in an environmentally sound, closed-loop process that recycles water and reuses more than 99 % of organic solvent. Certified by The Vegan Society, it is suitable for a wide range of applications and fabric developments, from finer high fashion propositions to denim constructions, seamless and activewear innovations, and even agricultural and technical solutions.

More information: www.tencel-luxe.com

4

Nullarbor™ – From the Latin "Nulla Arbor", Meaning "No Trees"
Nanollose & Birla Cellulose (AU/IN)

In 2020, Nanollose & Birla Cellulose started a journey to develop and commercialize tree-free lyocell from bacterial cellulose, called Nullarbor™. The name derives from the Latin "nulla arbor" which means "no trees". Initial lab research at both ends led to a joint patent application with the patent "production of high-tenacity lyocell fibres made from bacterial cellulose". Nullarbor is significantly stronger than lyocell made from wood-based pulp; even adding small amounts of bacterial cellulose to wood pulp increases the fibre toughness. In 2022, the first pilot batch of 260 kg was produced with 20 % bacterial pulp share. Several high-quality fabrics and garments were produced with this fibre. The collaboration between Nanollose & Birla Cellulose now focuses on increasing the production scale and amount of bacterial pulp in the fibre.

More information: www.nanollose.com
www.birlacellulose.com

5

Circulose® Makes Fashion Circular

Renewcell (SE)

Circulose® made Renewcell is a branded dissolving pulp made from 100 % textile waste, like worn-out clothes and production scraps. It provides a unique material for fashion that is 100 % recycled, recyclable, biodegradable, and of virgin-equivalent quality. It is used by fibre producers to make staple fibre or filaments like viscose, lyocell, modal, acetate or other types of man-made cellulosic fibres. In 2022, Renewcell, opened the world's first textile-to-textile chemical recycling plant in Sundsvall, Sweden – Renewcell 1. The plant will eventually reach 120,000 tonnes of annual capacity.

More information: www.renewcell.com

6

Sparkle Sustainable Sanitary Pads

Sparkle Innovations (US)

Globally, around 300 billion period products are discarded every year, resulting in millions of tons of non-biodegradable waste. Since most conventional sanitary pads contain up to 90 % plastics, they do not biodegrade for around 600 years. Sparkle has designed sustainable, plastic-free, biodegradable and compostable Sparkle sanitary pads. From product to packaging, they are made up of around 90 % cellulose-based materials with top sheet, absorbent core, release paper, wrapping paper and packaging made of cellulose-based fibres. Whether Sparkle pads end up in a compost pit, are incinerated or end up in a landfill, they are a more sustainable alternative compared to conventional pads that contain large amounts of plastics, complex petro-chemical based ingredients and artificial fragrances. When tested according to ISO 14855-1 by a leading independent lab in Europe, Sparkle pads reached over 90 % absolute biodegradation within 90 days in commercial composting conditions.

More information: www.sparkle.life

Winners of the Innovation Award "Cellulose Fibre Innovation of the Year 2022"

SPONSORED BY GIG KARASEK
1
CELLULOSE FIBRE INNOVATION
OF THE YEAR
2022
BY NOVA-INSTITUTE
DITF

Carbon Fibres from Wood
German Institutes of Textile and Fiber Research Denkendorf (DE)

SPONSORED BY GIG KARASEK
2
CELLULOSE FIBRE INNOVATION
OF THE YEAR
2022
BY NOVA-INSTITUTE
Fibers365

Fibers365, Truly Carbon-Negative Virgin Fibres from Straw
Fibers365 (DE)

SPONSORED BY GIG KARASEK
3
CELLULOSE FIBRE INNOVATION
OF THE YEAR
2022
BY NOVA-INSTITUTE
Kelheim Fibres

Sustainable Menstruation Panties: Application-driven Fibre Functionalisation
Kelheim Fibres (DE)

GOLD SPONSOR

Chemistry with a purpose. Better every day.

Chemistry is the invisible enabler for safe, sustainable, and functional cellulose-based textiles.

With over 100 years of experience, Kemira provides chemicals, application expertise, and services that help the cellulose fiber value chain to ensure desired end-product properties and to run efficient production processes that save energy, water, and raw materials.

Kemira

Day 2

9 March 2023
9:00–16:00 (CET)

9:00

Michael Carus
nova-Institute (DE)
Conference Opening

Sustainability & Environmental Impacts

9:10

Prasad Thitame
Grasim Industries / Birla Cellulose (IN)
Replacing Plastics in Nonwovens with Cellulosic Fibre Innovations to Improve Sustainability in Product Designs

9:30

Ali Harlin
VTT Technical Research Centre of Finland (FI)
Energy Impact on Different Regenerated Fibre Processes

9:50

Rita Valério
CeNTI (PT)
Fiber4Fiber – Sustainable and Traceable Eucalyptus-based Cellulosic Fibres

10:10

Anna-Stiina Jääskeläinen
Kemira (FI)
Chemical Compliance and Hydrophobation Cellulosic Textiles

10:30

Joan Colón Jordà
BETA Tech Center, University of Vic-Central University of Catalonia (ES)
Sustainability of Novel Man-Made Cellulosic Fibre Production from Paper Grade Pulp

10:50

Panel Discussion with all Speakers of the Session and Special Panelist: Matthias Stratmann, nova-Institute (DE)

11:05

Coffee Break & Networking

Ionic Liquids and New Technologies for Pulps, Fibres and Yarns

11:30

Eva Gazagnaire
University of Helsinki (FI)
Versatile Suberbase ILs (SILs) for Biomass and Synthetic Materials Processing

11:50

Jenni Rahikainen
VTT Technical Research Centre of Finland (FI)
Paper-grade Pulp as Raw Material for Regenerated Cellulosic Fibres in an Ionic-liquid Based Process

12:10

Carla Vilela
CICECO – Aveiro Institute of Materials (PT)
Functional Regenerated Cellulose-based Fibers with Dye Absorption or Fire Retardancy Properties

12:30

Panel Discussion with all Speakers of the Session and Special Panelist: Antje Potthast, University of Natural Resources and Life Sciences (AT)

12:45

Lunch & Networking

New Technologies and Applications beyond Textiles

13:45

Wendy Rodriguez Castellanos
Centre d'Innovation des Produits Cellulosiques – Innofibre (CA)
Packaging from Recycled Textile Fibers – Opportunities and Challenges

14:05

Michael Hummel
Aalto University (FI)
Lyocell-filaments from Wood as Precursor for Carbon Fibres

14:25

Åsa Östlund
Tree to Textile (SE)
Alkaline Dissolution and Spinning of Cellulose to Textile Fibres

14:45

José Canga Rodríguez
Dienes Apparatebau (DE)
Research 4.0 – A Modular Approach for the Development of Cellulosic Fibres

15:05

Inge Schlapp-Hackl
Aalto University (FI)
Up-cycling of Textile Waste by Means of Ioncell(R)

15:25
Panel Discussion with all Speakers of the Session

15:45
Closing Remarks

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At

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Cologne (Germany) 8–9 March

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Valuable Quotes

Aalto University (FI)
Michael Hummel
"Direct dissolution of ligno-cellulose via novel solvent systems offers the possibility to valorize all wood constituents without prior fractionation."

Aalto University (FI)
Inge Schlapp-Hackl
"Inge Schlapp-Hackl will give an overview of the chemical recycling of cellulose-based materials consisting of cotton, hemp and viscose by means of the emerging Ioncell® technology."

CeNTI (PT)
Rita Valério
"The Fiber4Fiber project is a response to the European self-sustainability challenge, empowering the Portuguese textile industry and pulp sector to produce man-made cellulosic fibers using national dissolving wood pulp from certified and sustainable forests of Eucalyptus globulus."

CICECO – Aveiro Institute of Materials (PT)
Carla Vilela
"Heterogenous modification of regenerated wood pulp fibres with improved functional properties for textile applications."

Grasim Industries / Birla Cellulose (IN)
Prasad Thitame
"Innovative cellulosic fibres for sustainable plastic free AHP solutions."

Centre d'Innovation des Produits Cellulosiques – Innofibre (CA)
Wendy Rodriguez Castellanos
"Converting post-consumed clothing into packaging, a fashion trend towards circular economy."

DIENES Apparatebau (DE)
José Canga Rodríguez
"The presentation will explain the implementation of a Research 4.0 approach to the modular design of research lines for the development of innovative cellulosic fibres."

Deutsche Institute für Textil- und Faserforschung Denkendorf (DITF) (DE)
Antje Ota
"Spinning for the future."

Hochschule Niederrhein, University of Applied Sciences (DE)
Ellen Bendt
"The future potential of hemp is far from exhausted."

Kelheim Fibers (DE) & Sumo Diapers (DE)
Natalie Wunder & Luisa Kahlfeldt
"With a design + R&D centric approach, Kelheim Fibres and Sumo are setting new standards in aesthetics, sustainability and the performance of reusable baby hygiene products."

Kemira (FI)
Anna-Stiina Jääskeläinen
"Her presentation will give insights on hydrophobation of cellulosic textiles with bio-based chemistries and regulatory compliance of chemicals in textile products."

Lenzing (AT)
Katharina Gregorich
"Come see a sustainable future of nonwovens."

LIST Technology (CH)
Judith Günther
"Research is the base of the development but it also needs to target the goal – industrialization."

LIST Technology (CH)
Manuel Steiner
"The fiber and textile industry is currently passing the tipping point towards circularity – are you prepared?"

Metsä Tissue (DE/FI)
Alexander Deutschle
"Newest technologies in bio product mills as well as a local and cascadic wood use have potential to reduce emissions from fresh fiber production substantially."

RWTH Aachen (DE)
Rosario Othen & Sascha Schriever
"The INGRAIN alliance, along with the Modellfabrik Papier and the Digital Nonwovens Innovations Centre, is driving the transformation of the "Rheinisches Revier" region into a leader in sustainable and technologically advanced bio-based circular economy by turning residual materials into individually produced high-quality structural materials."

The Fiber Year (CH)
Andreas Engelhardt
"Latest developments in cellulosic fiber markets and measures for circularity."

The Loop Factory (SE)
Maria Ström
"We will show how industrial textile waste streams from furniture, vehicle and work wear companies can be used as secondary raw materials in pilot trials to explore different possibilities to contribute to a circular economy by using a cross-boundary approach."

Tree to Textile (SE)
Åsa Östlund
"How to succeed with the vision "Better Fibers to All", which requires sustainability at low cost to the broad market."

Thüringisches Institut für Textil- und Kunststoff-Forschung (DE)
Birgit Kosan
"The lecture will introduce actual results of basic and more applied studies on manufacturing of alternative kinds of dissolving pulps, their effects on pulp dissolution and spinning dope properties as well as on fibre spinning and resulting fibre properties."

University of Helsinki (FI)
Eva Gazagnaire
"Dissolution of natural and synthetic polymers into ionic liquids."

University of Catalonia (ES)
Joan Colón Jordà
"A novel Lyocell production concept against the commercial NMMO-Lyocell concept: Does the use of eucalyptus paper grade pulp pre-treated with enzymes and superbase-based ionic liquid solvents allows a more sustainable production?"

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THE RENEWABLE CARBON INITIATIVE

Shape the Future of the Chemical and Material Industry

RENEWABLE CARBON INITIATIVE

Bio-based | CO_2-based | Recycling

Circular Economy

Renewable Carbon Initiative (RCI) was founded in September 2020. RCI members are committed to create a sustainable, fossil-free future for the chemical and material industry.

Why join RCI?

RCI is an organisation for all companies working in and on sustainable chemicals and materials – renewable chemicals, plastics, composites, fibres and other products can be produced either from biomass, directly via CO_2 utilisation, or recycling.

RCI members profit from a unique network of pioneers in the sustainable chemical industry creating a common voice for the renewable carbon economy.

RCI offers its Members

- Advocacy
- Scientific background reports
- Position papers
- Networking
- Working groups

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JOIN NOW

Become a part of the Renewable Carbon Initiative (RCI) and shape the future of the chemical and material industry

www.renewable-carbon-initiative.com/membership/application

More Members, Partners and Information

www.renewable-carbon-initiative.com

Contact: **verena.roberts@nova-institut.de**

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Welcome to our Business Directory "Renewable Carbon Companies"

The Who's Who of Renewable Carbon – Find Sustainable Alternatives for Fossil Based Chemicals and Materials

The business directory "Renewable Carbon Companies (ReCaCo)" has established itself as the primary source of information on renewable and sustainable material solutions. Innovative companies in the field of renewable carbon present their products, intermediates and services. ReCaCo began as a directory for bio-based businesses in 2009, the service provided by nova-Institute has evolved to include CO_2-based and recycling enterprises as well. Today, more than 20,000 company profiles are downloaded every year. They represent large and small corporations, trade associations, agencies, engineering and research institutions as well as certification bodies.

Submit your 2-page company profile free of charge at:
renewable-carbon.eu/companies/join/registration

renewable-carbon.eu/companies

RENEWABLE CARBON COMPANIES

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- Advanced CCU Technologies, Artificial Photosynthesis
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- Green Hydrogen Production
- Mineralisation
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The brightest stars of Renewable Materials

Bio-based, CO_2-based and recycled – 500 participants expected on-site

First day

- Future of the Chemical Industry
- Renewable Refineries
- Carbon Flows and Carbon Management
- Circularity and Chemical Recycling
- PHAs: Deep Dive
- New Label, Product Environmental Footprint (PEF) and Mass Balance
- Biodegradable Plastics

Second day

- Renewable Chemicals and Building Blocks
- PLA, PBAT, PBS and PHA
- Renewable Polymers & Plastics
- Fine Chemicals
- PEF / FDCA / Furanics
- Innovation Award

Third day

- Latest nova Research
- New Technologies for Efficient Renewable Processes
- The Policy & Brands View
- Renewable Plastics and Composites
- Transition Pathways for the Chemical Industry
- Biodegradation

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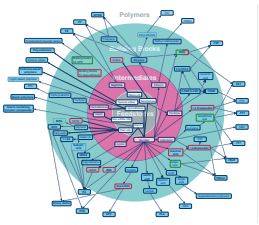
The Best Available on Bio- and CO_2-based Polymers & Building Blocks and Chemical Recycling

Bio-based Building Blocks and Polymers

Global Capacities, Production and Trends 2022–2027



Authors: Pia Skoczinski, Michael Carus, Gillian Tweddle, Pauline Ruiz, Doris de Guzman, Jan Ravenstijn, Harald Käb, Nicolas Hark, Lara Dammer and Achim Raschka

February 2023

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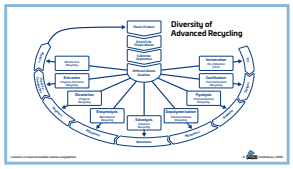
Mapping of advanced recycling technologies for plastics waste

Providers, technologies, and partnerships



Authors: Lars Krause, Michael Carus, Achim Raschka and Nico Plum (all nova-Institute)

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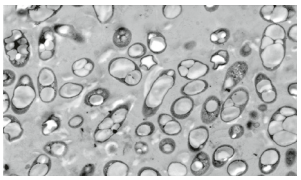
Mimicking Nature – The PHA Industry Landscape

Latest trends and 28 producer profiles



Author: Jan Ravenstijn

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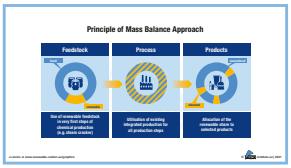
Bio-based Naphtha and Mass Balance Approach

Status & Outlook, Standards & Certification Schemes



Authors: Michael Carus, Doris de Guzman and Harald Käb

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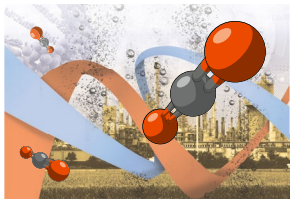
Carbon Dioxide (CO_2) as Chemical Feedstock for Polymers

Technologies, Polymers, Developers and Producers



Authors: Pauline Ruiz, Achim Raschka, Pia Skoczinski, Jan Ravenstijn and Michael Carus, nova-Institut GmbH, Germany

January 2021

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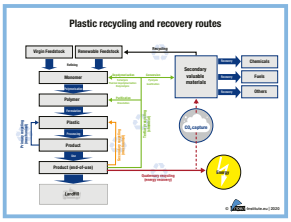
Chemical recycling – Status, Trends and Challenges

Technologies, Sustainability, Policy and Key Players



Author: Lars Krause, Florian Dietrich, Pia Skoczinski, Michael Carus, Pauline Ruiz, Lara Dammer, Achim Raschka, nova-Institut GmbH, Germany

November 2020

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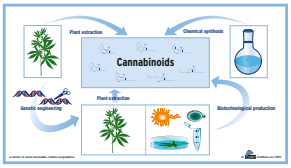
Production of Cannabinoids via Extraction, Chemical Synthesis and Especially Biotechnology

Current Technologies, Potential & Drawbacks and Future Development



Authors: Pia Skoczinski, Franjo Grotenhermen, Bernhard Beitzke, Michael Carus and Achim Raschka

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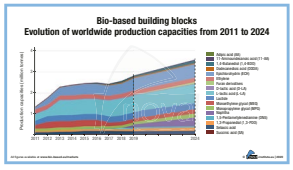
Commercialisation updates on bio-based building blocks



Author:
Doris de Guzman, Tecnon OrbiChem, United Kingdom

Updated Executive Summary and Market Review May 2020 – Originally published February 2020

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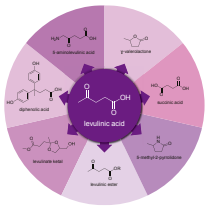
Levulinic acid – A versatile platform chemical for a variety of market applications

Global market dynamics, demand/supply, trends and market potential



Authors: Achim Raschka, Pia Skoczinski, Raj Chinthapalli, Ángel Puente and Michael Carus, nova-Institut GmbH, Germany

October 2019

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