

Circular Economy

We speed up the transition with
our Circular Economy program

21 DE SETEMBRO
16:00H

ECONOMIA CIRCULAR

TRANSIÇÃO PARA A ECONOMIA CIRCULAR:
UMA JORNADA REPLETA DE OPORTUNIDADES

LUCIANA MOREIRA

Gerente Sr de Projetos de Economia Circular na BASF e Doutoranda em Bioeconomia Circular

BASF
INSCREVA-SE AQUI

CONCEITOS CHAVE DE ECONOMIA CIRCULAR

APRESENTAÇÃO DO PROGRAMA GLOBAL DE ECONOMIA CIRCULAR DA BASF

CASOS REAIS DE CIRCULARIDADE NA BASF

FEIPLAR
COMPOSTES

FEIPUR
POLIURETANOS

BASF
We create chemistry

-
- Breve Introdução do Conceito
 - Economia Circular @ BASF
 - Q&A



- Biological and technical material flows
- Access versus ownership
- Economic benefits
- Environmental and system-wide benefits
- Opportunity for companies
- Opportunity for individuals
- Systems



Our purpose:

We create
chemistry for a
sustainable future



What we want to achieve

We want to be a thought and action leader in the area of sustainability.

We want to increase the role of sustainability in our business decisions.

We want to show how we add value to society along the value chain.

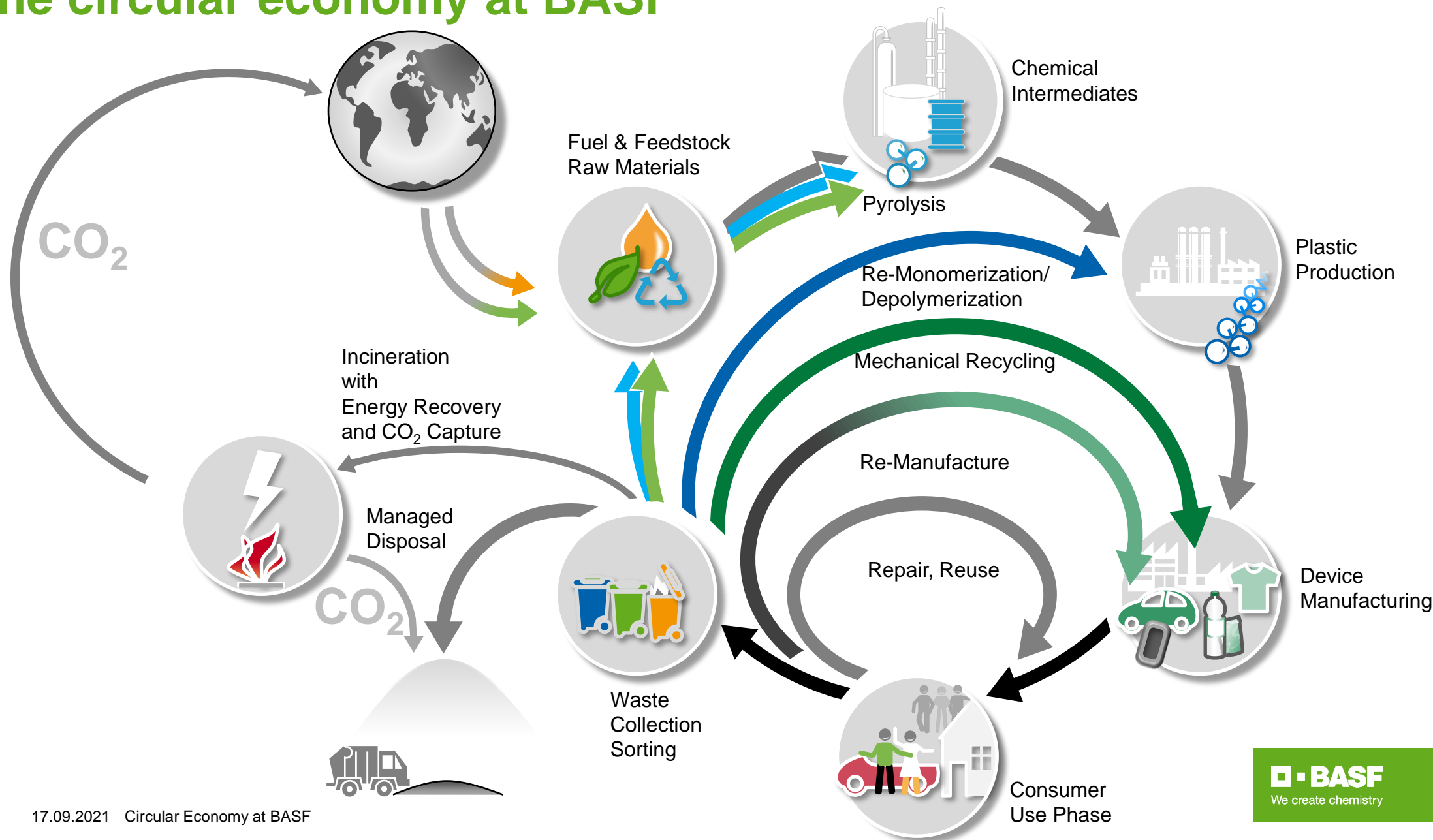
Key measures

Decouple our CO₂ emissions from organic growth through a Carbon Management program.

Speed up the transition to a circular economy through a Circular Economy program.

Further increase our sales from Accelerator products, which make a substantial sustainability contribution in the value chain.

The circular economy at BASF



On the way to a circular economy, we are tackling several challenges

Collaboration

Cross value chain collaboration for **new partnerships**



Mindset

Shift mindset from “take – make – dispose” to circular models



Technological

Development of **recycling techniques** and insuring **purity of materials** to be recycled



Certification / Regulations

Use of accepted claims, etc.



Waste as Raw Materials

Sourcing **waste with suitable quality, price** and **volume** and **overcoming regulatory challenges**



Infrastructure

Develop suitable **systems** for end-of-life waste streams



Stakeholders are already driving the transformation to a Circular Economy

Markets





Various players across **all markets** have set **ambitious Circular Economy targets**


Legislators






Incoming EU **levy effective** as of January 2021: **€800 per ton for non-recycled plastic packaging waste**

Investors

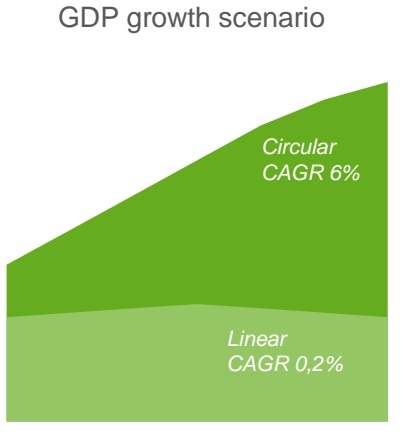




The BlackRock **Circular Economy Fund** has raised **€900 million** in its first year



GDP growth scenario

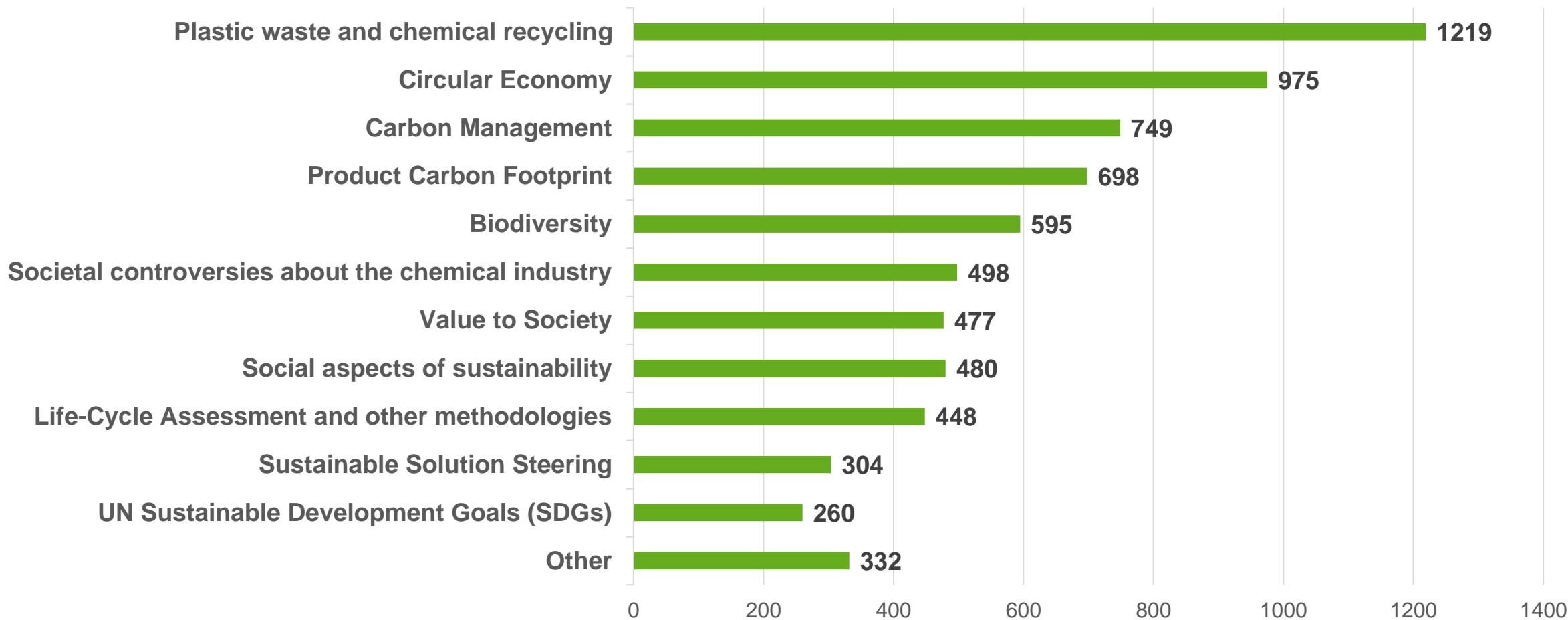


Circular Economy business models grow significantly stronger than linear ones

Image source: circulardelft.wixsite.com

Results of survey with customers and other stakeholders in Germany (2020)

Which sustainability topics are you most interested in?



BASF targets to drive Circular Economy

Promote circularity in sales, recycled feedstock consumption and innovative projects



We aim at **doubling** our **circular sales*** to reach **€17 billion** by 2030.

* sales of products which are based on renewable or recycled raw materials, close new material cycles or improve the resource efficiency or durability of products



We commit to use **250,000 metric tons of recycled feedstock** by **2025** globally.



We run a **Circular Economy Program** to accelerate the transition.

EUR 5 million funding annually for internal projects which foster circular initiatives

BASF Verbund: example of a circular model

Unique competitive advantage with reduction of environmental impact

Geismar



Antwerp



Ludwigshafen



Nanjing



Zhanjiang

Kuantan



Freeport



BASF “Verbund”
avoided
3.7 million t
of CO₂ emissions
in 2018

Synergies
in logistics and
infrastructure,
minimization
of waste

We aim to achieve our circular sales target based on **2 portfolio concepts:**

Close the loops

Products which enable the closing of the recycling loop and/or **are based on recycled or renewable feedstocks.**

- Renewable-based feedstocks
- Recycled-based feedstocks
- Enable recyclability and/or biodegradability

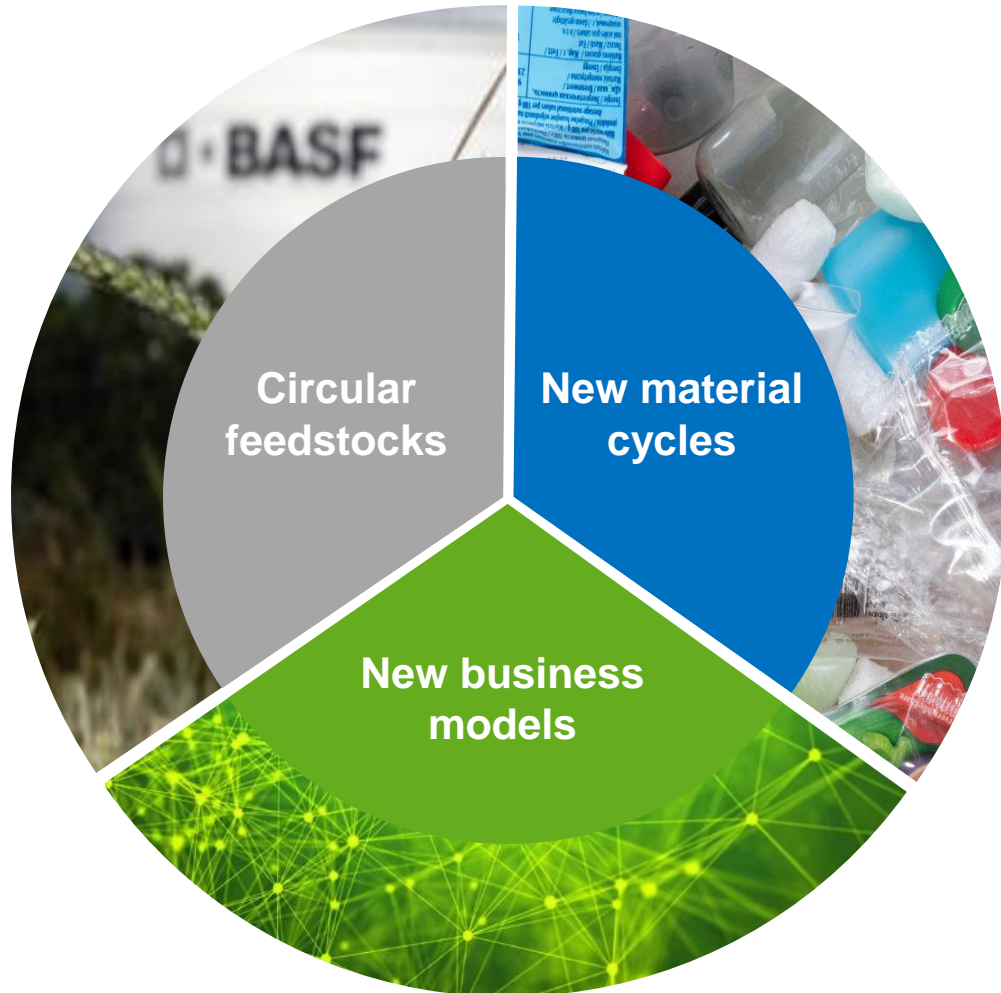


Extend the loops

Products that **perform best with less**, and thus help to decouple growth from material consumption

- **Save resources and reduce waste** along the value chain.
- **Higher durability** to enable product sharing and reduce maintenance.

We aim to achieve our circular sales target based on **3 areas of focus:**



Circular feedstocks

We will increase the volume of renewable and recycled feedstocks from sustainable sources, also via the certified mass balance approach.

New material cycles

We design materials for circularity, develop solutions which improve or enable recycling and establish product-specific recycling loops.

New business models

We enter new markets, create smart digital solutions and offer new services which allow a decoupling of growth from resource consumption.

By using alternative raw materials, we can manufacture the same products in a more sustainable way

Renewable feedstock

Biomass Balance portfolio



Derived from biomass waste of agricultural production, crop or food processing, or residues

Dedicated bio-based portfolio



Sustainably sourced resources, e.g. RSPO certified

Recycled feedstock

e.g. ChemCycling™



Derived from post-consumer plastic waste or tires

Caso de Sucesso

“Circular Feedstock” em calçados

Tornamos possível o calçado sustentável

ELASTOPAN® e ELASTOLLAN® Série N – Fonte biológica (Bio-Based)

Os plásticos de base biológica (bio-based) são parcial ou totalmente feitos de matérias-primas renováveis.



ELASTOPAN® Palmilha

- Espuma híbrida PU/EVA
- Processo de cura a frio
- PU contendo material bio-based

ELASTOPAN® Entressola

- PU contendo material bio-based
- Espuma de PU

ELASTOLLAN® Sola

- TPU contendo material bio-based
- Um calçado de material TPU







We create chemistry

Obrigada!

luciana.moreira@basf.com

We have three areas of focus: circular feedstocks, new material cycles and new business models



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Certified compostable plastics Biodegradable and bio-based polymers

ecovio® improves the collection and recovery of food waste, helps avoid microplastics in soil

ecoflex® is fossil-based and suited for the production of flexible film products in the packaging industry



Petra® Recycling-based PET

Petra® grades are based on 100% post-consumer PET bottles

Performance advantages through high-temperature performance, chemical resistance, good electrical properties and ease of processing



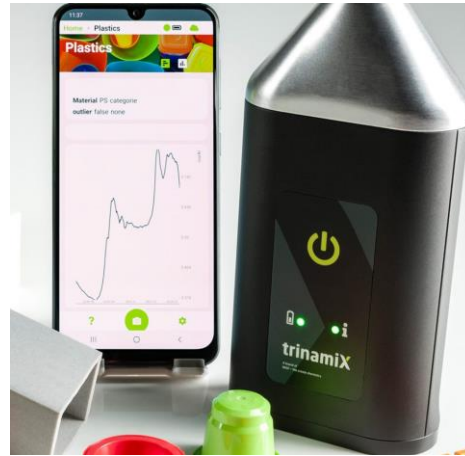
Polyol from old mattresses

BASF aims to **recover high quality polyols** from old mattresses, with a **chemical recycling process** that breaks down the flexible polyurethane foams and enables a closed loop

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New business models



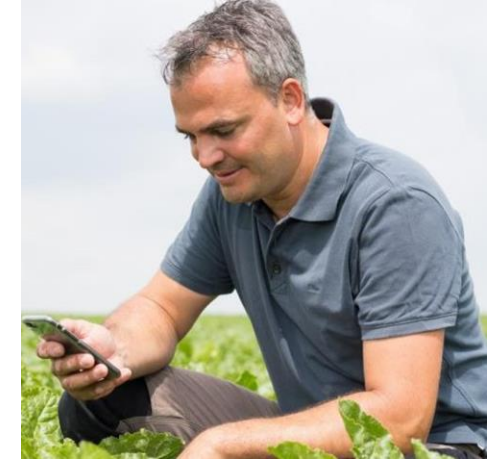
trinamiX GmbH was founded in 2015 as a wholly owned subsidiary of BASF SE

trinamiX has developed a mobile Near-Infrared (NIR) Spectroscopy Solution to identify plastics for easier sorting, which determine compositions of different plastics



BASF Plastic Additives and Security Matters Limited jointly develop solutions for plastics traceability and circularity

Security Matters contributes its technology to enable physical and digital tracking of closed loop recycling and to authenticate sustainability claims



xarvio™ – Digital Farming Solutions offers digital products that deliver independent field-zone specific agronomic advice, enabling farmers to produce their crops most efficiently.

Already being used by farmers in more than 100 countries worldwide

Putting the mattress waste problem to bed

- Every year in Europe, **30 million used mattresses** are thrown away
- BASF aims to **recover high quality polyols** from old mattresses
- How? With a **chemical recycling process** that breaks down the flexible polyurethane foams and enables a closed loop



ChemCycling™ is a complementary approach to existing recycling methods

- We contribute to the recycling of **plastic waste for which no high value recycling processes are established** yet
- Examples of waste plastics which are difficult to recycle mechanically or which are incinerated include:
 - ▶ Plastics with adhering food residues
 - ▶ Multi-layer food packaging
 - ▶ Tires

With ChemCycling™ overall recycling rates of plastic waste will be increased



Certified compostable plastics

Biodegradable and bio-based polymers

- **ecovio®** and **ecoflex®** brands
- Certified compostable polymers
- **ecovio®** is used for organic waste bags, fruit and vegetable bags, carrier bags with dual-use, packaging applications and agricultural films
- Improves the collection and recovery of food waste, helps avoid microplastics in soil
- **ecoflex®** is fossil-based and suited for the production of flexible film products in the packaging industry

