# Investor presentation

Pyrum Innovations AG

**26 September 2025**

# Management

*Pyrum Innovations AG*

**Pascal Klein**
**CEO / Founder**
**Since 2008**

**Kai Winkelmann**
**CFO**
**Since 2021**

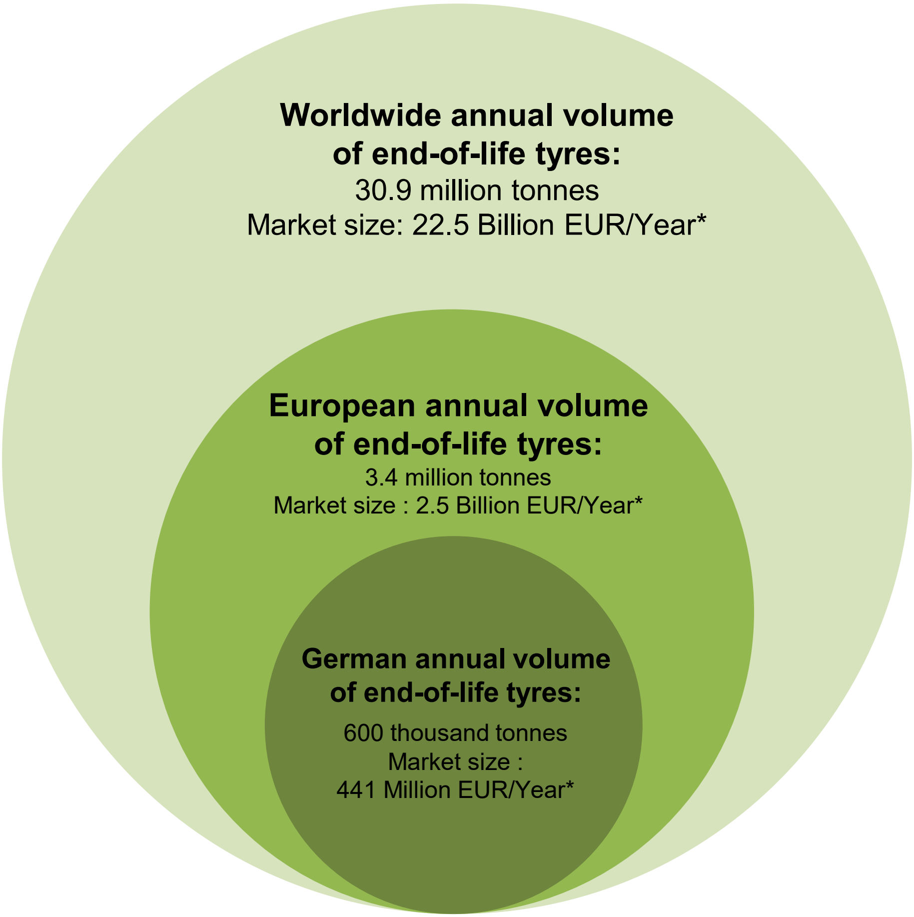

# A

## Company + Market

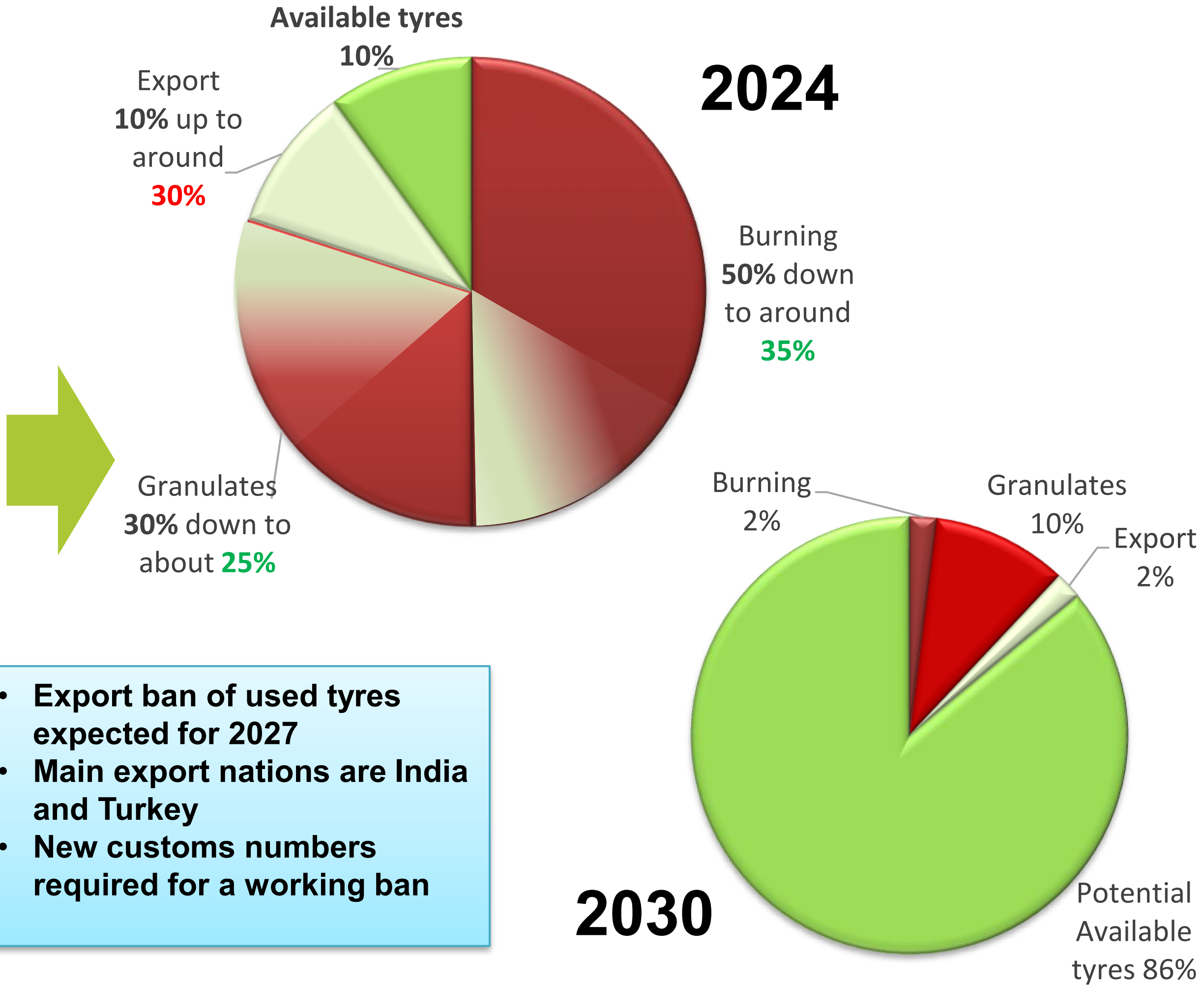
# Global End-of-Life-Tyre (ELT) market accounts for approx. 30.9 mt p.a.

*… as tightening regulatory environment forces countries and corporates to take action*

## Market size of end-of-life tyres




## Global ELTs Market comparison 2024 to 2030 (estimations Pyrum)




- **Export ban of used tyres expected for 2027**
- **Main export nations are India and Turkey**
- **New customs numbers required for a working ban**

* Based on 100 EUR/ton Gatefee, 250 EUR/ton Steel, 550 EUR/ton Pyrum Oil and 1.200 EUR/ton rCB

# Tightening regulatory environment

*… favours Pyrum's growth*

NEW

**ELVR (End-of-life-vehicle regulation to come**

Obligation to have recycling ratios in new products

NEW

**Increased Tire Export in 2024 => Export ban is discussed at EU Level**

Burning of tires starts to **slow down in 2024**, the new alternative is export to Turkey and India => illegal!

NEW

**OEM Audits are requiring circularity grades**

The market is pushing for new raw materials, **Official Continental goal 100% Circular until 2050**


**Landfill Ban**

The landfill of End-of-Life-Tires and shredded tires is prohibited

**Ban on incineration**

Prohibition of burning rubber products

Prohibited the use of shredded tire granulate outdoors

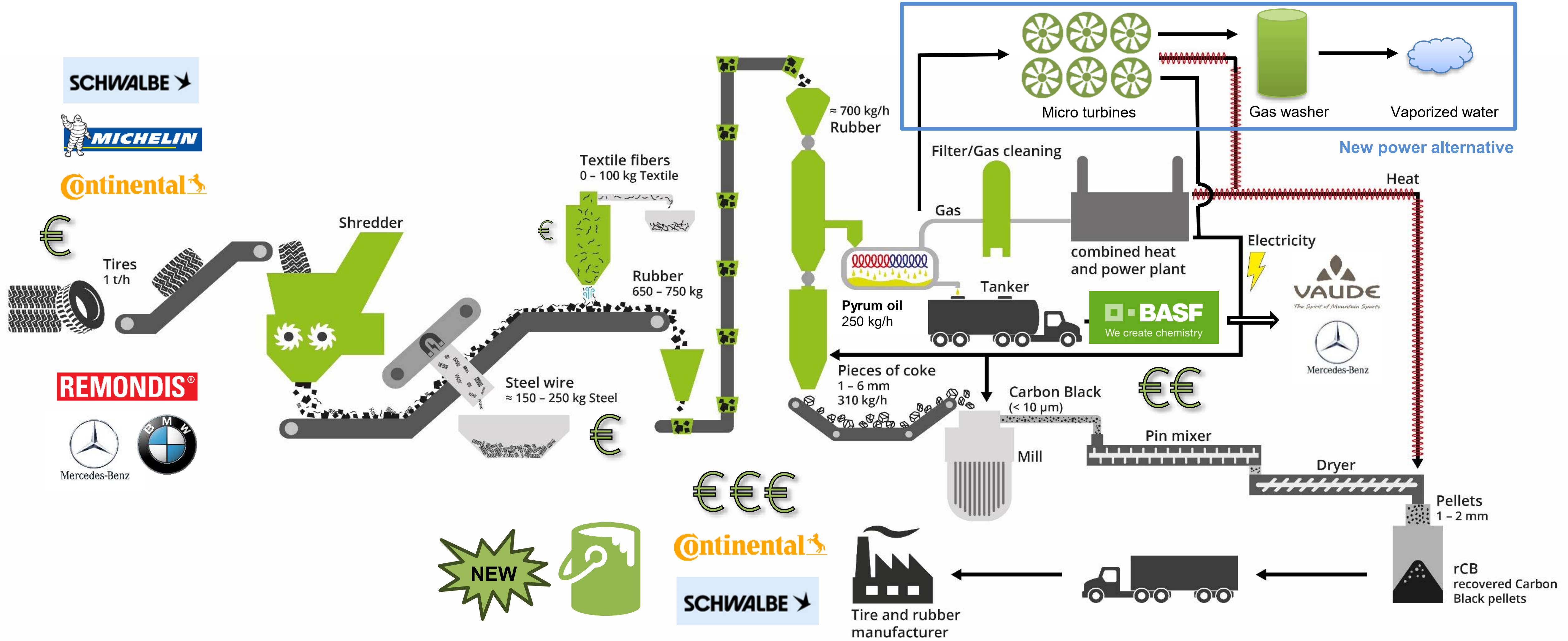
**Ban of Rubber granulates**

**Summer 2023:** EU has decided to forbid the use of rubber granulates for certain uses (microplastics) => 30 % of used tires are used for this purpose

# Pyrum offers patented technology with strong value proposition…

*… converting rubber into several high value chemical products – thermolysis oil, carbon and gas*

## How Pyrum creates value



# Pyrum History Highlights

2008 / 2013 / 2019 2020 2021 2022 2023 VDA 6.3 2024 2025

- **2008** – Foundation of Pyrum Innovations
- **2013** – Building permission and start of construction
- **2019** – BASF: Oil purchasing agreement and Investment in Pyrum
- **2020** – Continental: rCB MoU/Hot agreement Continental and Pirelli
- **2021** – Pareto Securities: IPO EUR 40 million raised
- **2022** – Börse Frankfurt: Listing Frankfurt Stock Exchange
- **2023** – BASF: New cooperation agreement and loan agreement
- **VDA 6.3** – Schwalbe: First 100 % rCB bike tyre "The Green Marathon"
- **2024** – Successful Commissioning Line 2+3
- **2024/2025** – TDD passed confirming TRL 9 (technical readiness 9/9)
- **2025** – SUAS Group: First SPV to reach FID
- **2025** – vtti: Biggest Pyrum Plant with vtti in Antwerp
- **2025** – Commissioning of biggest rCB plant on earth

TRL 1 - 4 | TRL 5 - 7 | TRL 8 | TRL 9

# Life Cycle Assessment (LCA)

*Results better than expected*

imug NACHHALTIGKEITSRATING RATING 2023 SEHR GUT

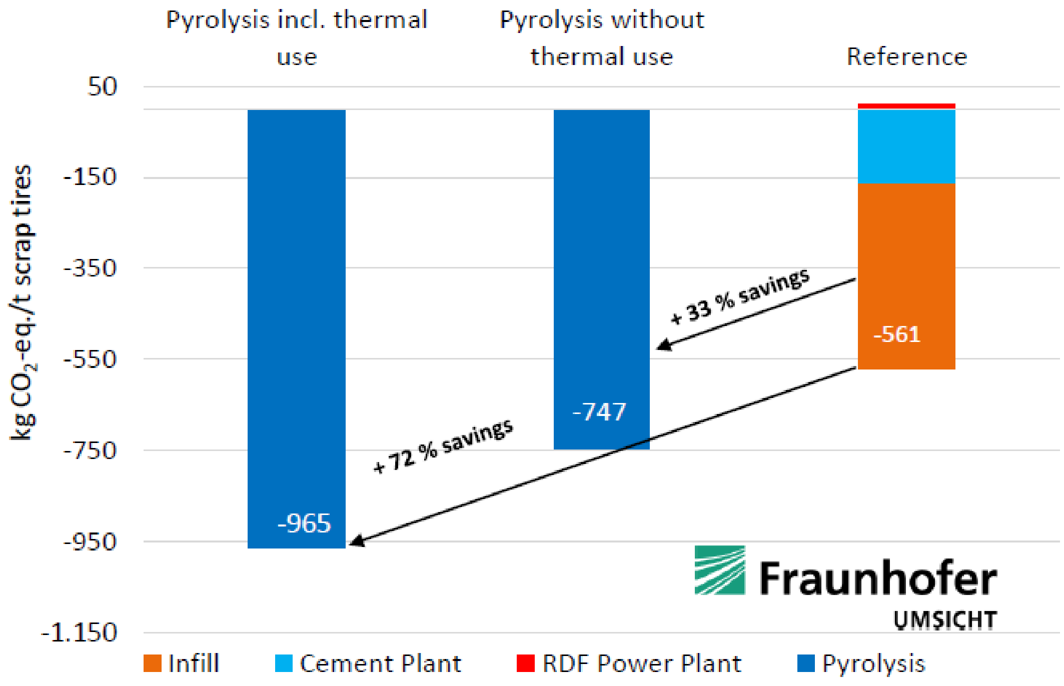
## Explanations

- The LCA was conducted indepently by **Fraunhofer Umsicht** in the Year 2022 and 2023
- **Exclusively** sourced from the **Pyrum Thermolysis** technologie
  → can **not be compared** to **other** Pyrolysis technologies
- Comparison of CO² savings between different recycling methodes used today:
  - **Plant**: + 164 kg / per ton of used tyres
  - **Cement Plant:** - 395 kg / per ton
  - **Material recovery:** - 778 kg / per ton
  - **Pyrum:** - 965 kg / per ton

244% $CO_2$ Savings

→ Only **material recovery** is approaching the savings of the Pyrum technology and represents a **good combination** for some waste streams.

## LCA-Graph Fraunhofer




**Source:** Maga, D.; Aryan, V.; Blömer, J. (2022): Comparative Life Cycle Assessment of End-of-Life Options for Used Tires; Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT

# Pyrum patents

*Overview over the patents of Pyrum*

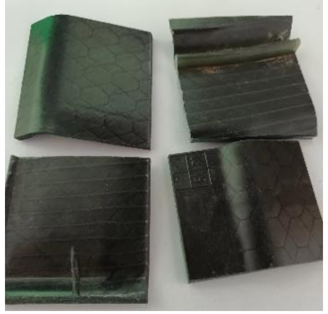
## Pyrum patents

- **Global patent** for Pyrum reactor technology, adaptable for multiple applications (not limited to tyres)
- **European patent** for pyrolysis process specifically designed for tyres

**For over 10 years**

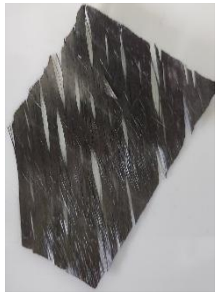
NEW

- **European patent** declaration for pyrolysis process designed for CFK in 2024



CFRP from car

Pyrolysis



recycled carbon fiber (rCF)

## Joint patent declaration

- **JDA with Continental** for “Golden rCB”
- Over 100 test runs concluded since 2022
- **Objective**: Increase the rCB content in tyres for enhanced performance and sustainability
- **Two new rCB grades** have already been developed

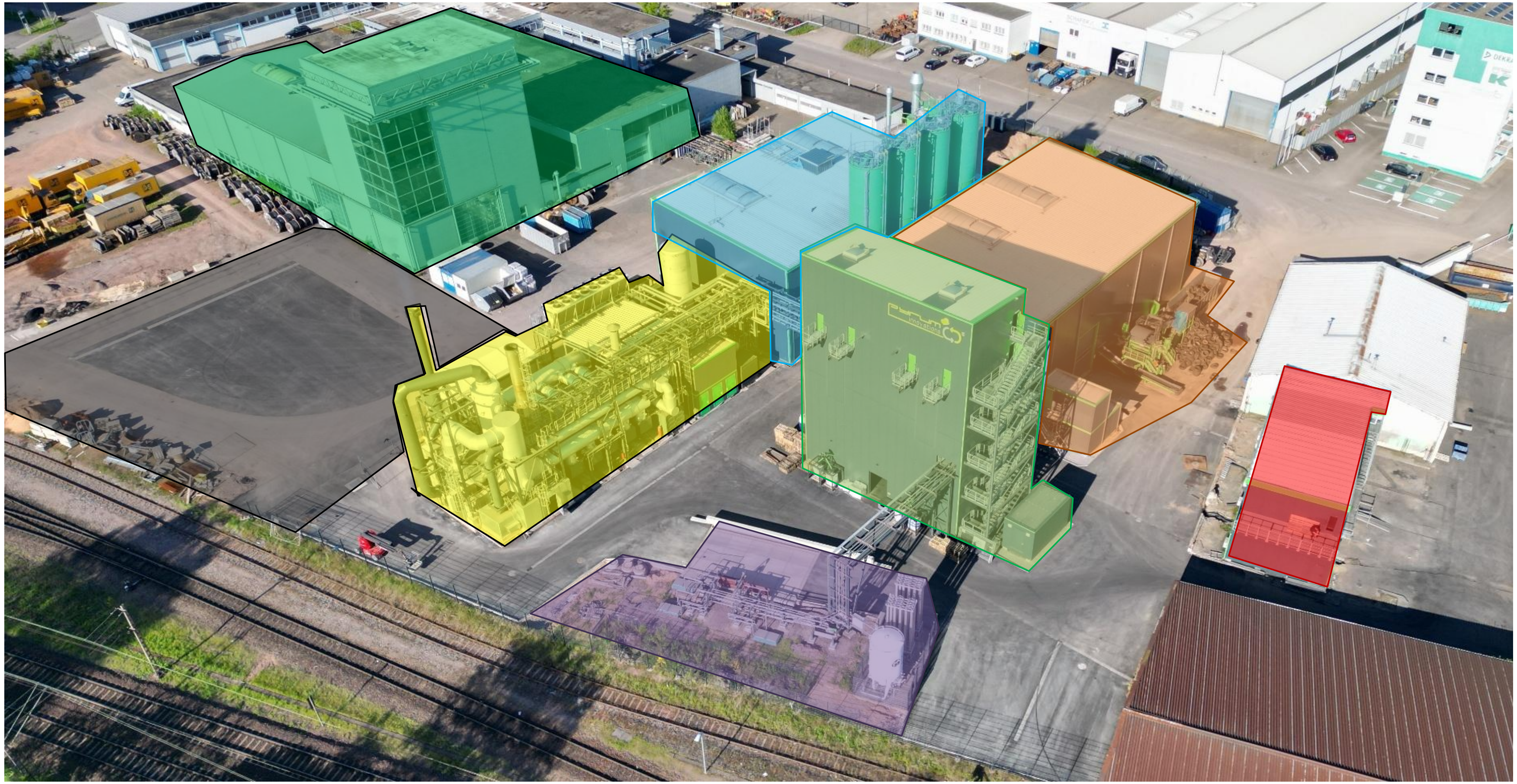
**NEW**

**European patent declaration** for "Golden rCB" in 2024

# News and Facts on Dillingen Plant

*Sky view April 2025*

**Status quo TAD 2 & 3**



**Eldan Shredder:** 6 to/h tyre input = 600 car tyres/h

**Pyrum Reactors 2&3** 5,000 to/y per reactor

**Gas Turbines + Exhaust gas cleaning:** 5 turbines with 150 kW/e each

NEW: **Mill and Pelletizer** with 1,650 kg/h input capacity

**Oil Storage:** 2 x 60,000 litres underground

**Pyrum Control Room:** for 3 parallel operators

NEW: **Tyre Storage Area**

NEW: **Maintenance and Spare Parts Workshop**

# News and Facts on Dillingen plant

*Status quo of the new Pyrum Plant in Dillingen*

**TAD 2 and 3, Shredding unit**

WAS NOW

**TAD 2 +3 :**

- **TAD 2 + 3 run stable at up to 600 kg/h serial production on daily basis**
- **TAD 2 + 3** have both longer maintenance intervals, meaning the time between two cleaning stops → **~8 weeks**
- Annual maintenance was successfully accomplished in August
- Emergency stops of TAD 2 in which the plant shuts down automatically through the safety system

→ **Firmware error**

→ The problem **has been fixed.**

**Shredding unit :**

- Additional nightshift to reduce downtime on production shift (**knives change, reduce lack of rubber granules)**

→ Newly weekly average about **300 tons** (since August 2025)

→ **600kg/h production 24/7** on the Pyrum units require a minimum of **350 to/tires per week**

⇒ **70 tons/day** (5 days)

➢ Plan to add additional saturday shifts => 35 – 70 tons more per week => 100% capacity secured

# News and Facts on Dillingen plant

*Status quo of the new Pyrum Plant in Dillingen*

**Power plant, MAD 2**


**<u>Power plant</u>**

- Last software issues **have been solved** as well as overheating of the burning chamber
- Power plant runs **stable 24/7**

**<u>MAD 2 – Mill- and Pelletizer 2 = The world's largest fully automated unit of its kind :</u>**

- Construction fully accomplished
- Mill and pelletizer produced, each for itself, „in spec“ rCB at high throughputs
- Remaining bottleneck is the transport between the mill and the pelletizer

- **Our initial ramp up plan was:**
  - September to December 2025: slowly from 0% to 80%
  - Full Year 2026 : 80% capacity
  - From 2027 : 100% capacity
- **New plan due to newest results:**
  - September to December 2025: around 50% capacity
  - First half of 2026 : 80% capacity
  - Second half 2026: **100% capacity**
- **Solution for existing bottleneck (transport between Mill and Pelletizer) is known and needs just to be realized**

# News and Facts on Dillingen plant

## Status quo of the new Pyrum Plant in Dillingen

**MAD 2 – Mill- and Pelletizer 2 = largest fully automated unit of its kind :**

**NEWS:**

- Site preparation accomplished => Site clearing
- Zoning Plan (Bebauungsplan) adapted exclusively to the building project of Pyrum
- Building permit according to §8a received. Building works can start
- Land Servicing (Geländeerschliessung) solved with notarial act on the 11th of September 2025 several participants like the catholic church and the municipality of Perl. This procedure took almost 1 year and was strongly supported by SHS and Perl
- With the land servicing solved we could start the first ground drilling works for ground analysation
- Architectural detail planning of roads, fundations and building has been started

- **Size of building site:** 25,000 m²
- **Max. building hight:** 25 meter
- **Annual capacity:** 20,000 tons

- **Plant components:**
  - Tyre shredder
  - Pyrum reactors (3 units)
  - Gas power plant
  - Mill and pelletizer

- **Investment volume:** **62** Mio. EUR
- **New jobs:** 45 employees
- **Annual turnover:** 16.5 – 17.5 Mio. EUR
- **Worktime:**
  - Pyrum reactors: 24/7 operation
  - Shredder: 24/7 operation
  - Mill and pelletizer: 24/7 operation

- **Owner:** Pyrum GreenFactory II (100% daughter of Pyrum AG)

**Including:**
- 12.5% contingency
- Financing costs during building
- Opex costs for ramp up and start up

planung u. bauleitung: **PlanDesign Michael Heckel**
visualisierung u. planbearbeitung: **max schäfer** | architekt aks

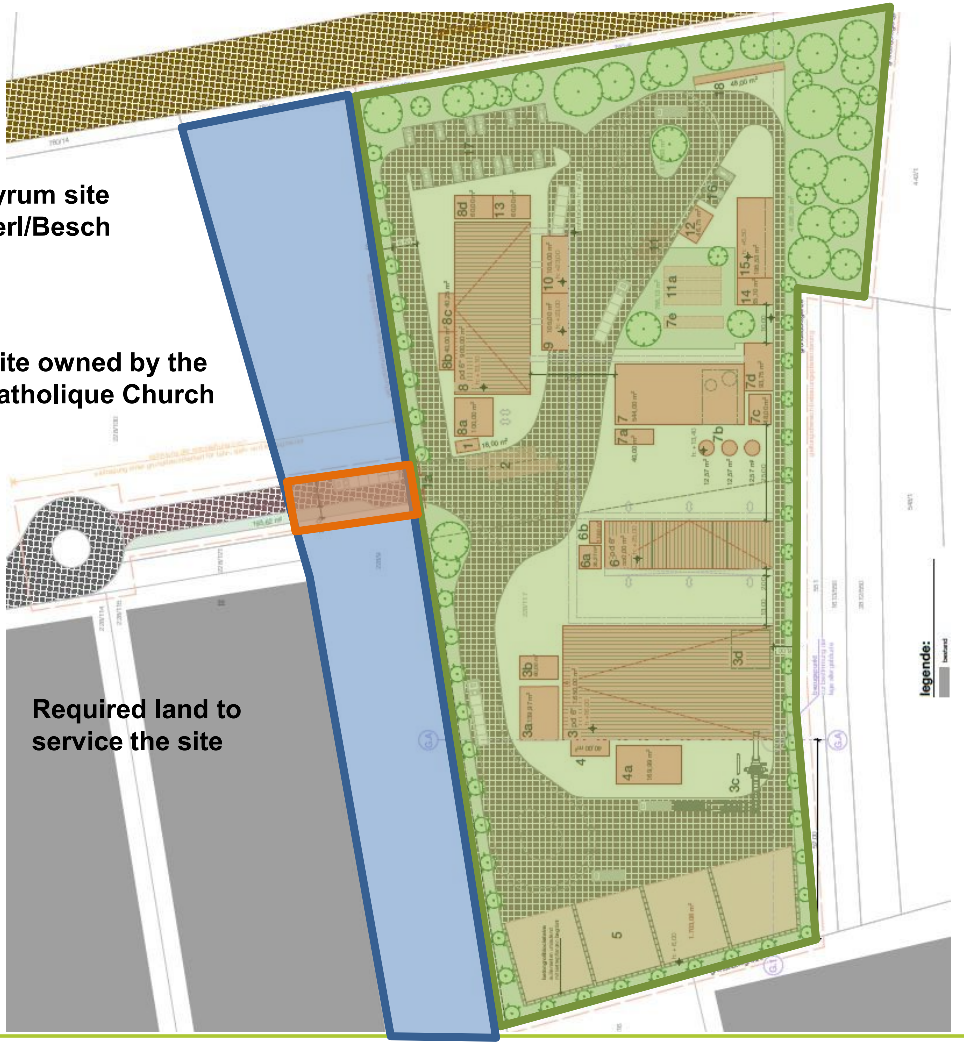
# Pyrum GreenFactory II

## Site Plan

Pyrum site Perl/Besch

Site owned by the catholique Church

Required land to service the site



## Pictures


# B

## Partners and Customers

# Important Milestones in the Rollout Plan

*New plants all arround Europe!*

## Map of running projects


## Key Facts

### PROJECTS

| In Pipeline | Started projects | New projects in 2024 |
|---|---|---|
| > 20 | 10 | 5 |

| Number of countries | Permitting in progress | Permits granted |
|---|---|---|
| 6 | 4 | 3 |

### Business numbers of started projects

| | |
|---|---|
| **Recycling volume:** | 220,000 tons/y |
| **% of EU ELT market:** | 6.4 |
| **Investment volume:** | > EUR 600 million |
| **Oil volume:** | 45,000 tons/y (100% sold) |
| **rCB volume:** | 55,000 tons/y (25% sold) |

# Extensive project pipeline due to attractive framework conditions

*Demand is higher than capacity; projects are partly far advanced or have been started procedurally*

## Project status

| | Project Nr. | Country | Partner | Pre-contract | Pre- engineering contract signed | Building site secured | Capital partly secured | Permit procedure started | Permit granted | FID (Final investment discission) |
|---|---|---|---|---|---|---|---|---|---|---|
| 100 % | 1 | Germany | Pyrum | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| SPV | 2 | Greece | Thermo Lysi SA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| SPV | 3 | Cech Republic | SUAS | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| SPV | 4 | Germany | Remondis | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| EXT | 5 | UK | SUEZ UK | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| SPV | 6 | Germany | Unitank | ✓ | ✓ | ✓ | ✓ | | | |
| 100 % | 7 | Germany | Pyrum | ✓ | | | | | | |
| EXT | 8 | Belgium | vtti | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| SPV | 9 | GER & Europe | Unitank 2-10 | ✓ | | | | | | |
| SPV | 10 | Sweden | GreenTech | ✓ | ✓ | ✓ | | ✓ | | |

✓ New, in the last 12 months ✓ Older than 12 months ✓ In progress

# New important milestones with partners

*Cooperation, partners and customers*

**Financial year 2024 and first half of 2025**

**Engineering contract with VTTI**

**VTTI** (largest LNG terminal operator in the world) signs **engineering contract** for the planning of a **45,000 tonnes** plant in Antwerp

**New milestones in the Czech Republic**

**FID** completed

**Building permit** submitted

**Investment agreement** and **financing** expected to be finalised shortly

**New milestones in Greece**

**Planning permission** was granted in January 2025

**Engineering contract** worth around **EUR 2,15 million** signed

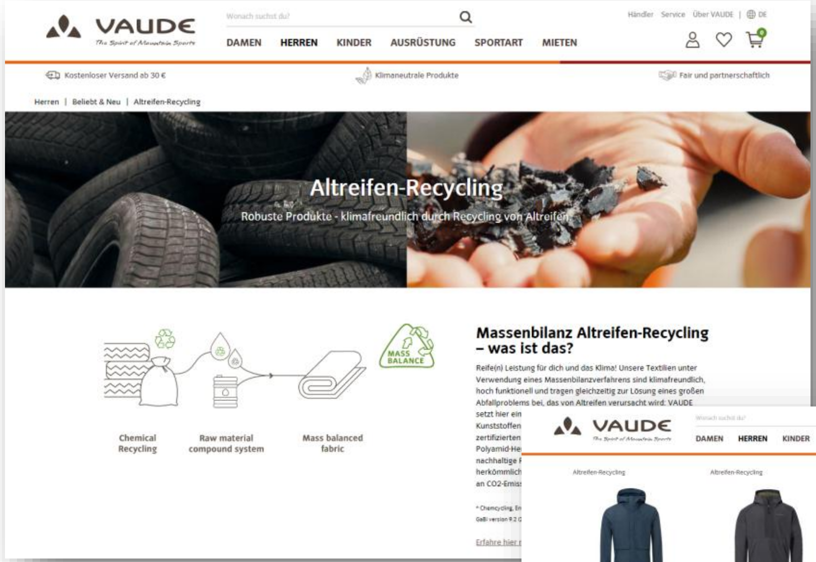
**SIEMENS PCS NEO**

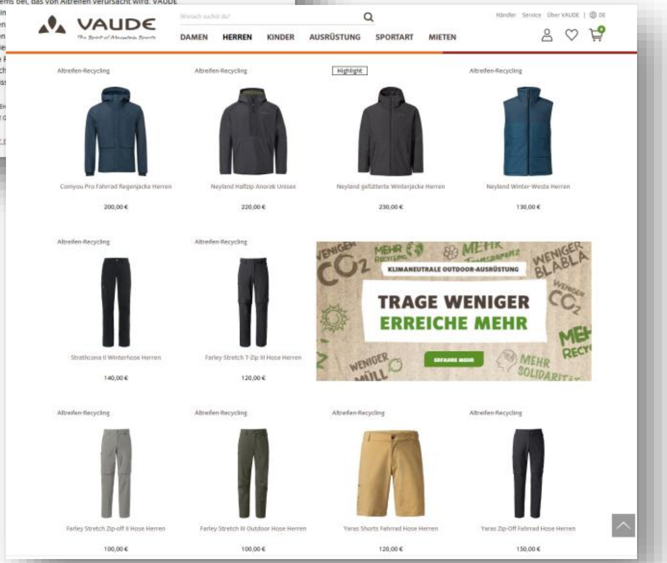
The new **SIEMENS PCS NEO** operating system was installed for the first time in TAD 2&3 in Dillingen

# Real applications of circularity

*VAUDE and Mercedes*

## VAUDE Outdoor Equipment and Clothing



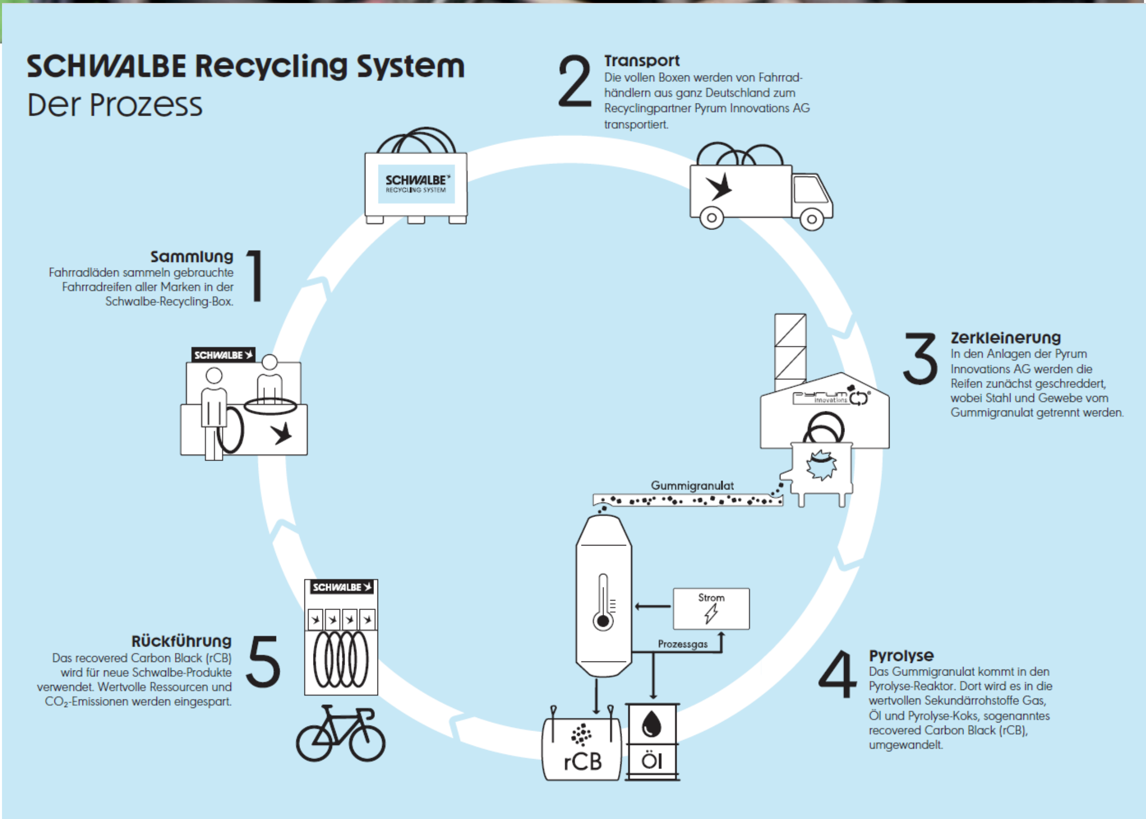

## Mercedes-Benz door handles




Continental

# New important milestones with partners

- Solid tyres from Continental's tyre plant in Korbach now contain recovered carbon black from end-of-life-tyres
- Solid tyres produced since calendar week 23 2023 contain Pyrum rCB
- By 2050 at the latest, Continental aims to use **100 percent sustainable materials** in its tyre products
- Existing **research cooperation** with Continental - Pyrum filed a **patent for the production of the Pyrum rCB** in 2024
- In November 2024, Pyrum **received delivery approval** for its rCB to Continental from the two new thermolysis reactors TAD2 and TAD3
- **New offtake agreement** for rCB signed in July 2024
- Guaranteed off-take of rCB for **ten years with a base price for more than double the price at Pyrum IPO**




# New important milestones with partners

- **2,000 bicycle retailers in Germany** are already taking part = almost 1/3 of the German market
- More than **1,600,000 bicycle tyres** recycled
- In 2024, Schwalbe announces that they have converted **70% of the entire Schwalbe product range** to Pyrum rCB
- Schwalbe becomes a **shareholder** in Pyrum in **October 2024** and increases its stake again in July 2025
- **New framework agreement for the purchase of Pyrum rCB** signed in April 2025 → Guaranteed purchase for ten years
- Planned **expansion of the recycling system** by **building the largest bicycle tyre shredder in Europe** at the Dillingen site (planning completed and ordered)

# C

## Finance

# Consolidated income statement for the first half of 2025

*Results overview*

| KPIs in kEUR | 1 Jan. - 30 Jun. 2025 | 1 Jan. - 30 Jun. 2024 | Δ kEUR PL | Δ % PL |
|---|---|---|---|---|
| **Revenues** | **1,267** | **708** | **559** | ***78.95%*** |
| Increase of finished and unfinished goods | 232 | 215 | 17 | |
| **Operating output** | **1,499** | **923** | **576** | ***62.41%*** |
| Other own work capitalised | 5,214 | 3,614 | 1,600 | |
| **Total output** | **6,713** | **4,537** | **2,176** | ***47.96%*** |
| Other operating income | 2,303 | 800 | 1,503 | |
| Expenses for materials | 5,625 | 3,728 | 1,897 | *50.89%* |
| Personnel expenses | 3,558 | 3,176 | 382 | *12.03%* |
| Other operating expenses | 2,176 | 1,600 | 576 | 36.00% |
| Other taxes | 14 | 15 | -1 | *-6.67%* |
| **EBITDA** | **-2,357** | **-3,182** | **825** | ***-25.93%*** |
| Depreciation and amortization | 1,584 | 1,106 | 478 | *43.22%* |
| **EBIT** | **-3,941** | **-4,288** | **347** | ***-8.09%*** |
| Other interest and similar income | 20 | 12 | 8 | |
| Interest and similar expenses | 660 | 510 | 150 | *29.41%* |
| **Net loss for the year** | **-4,581** | **-4,786** | **205** | ***-4.28%*** |
| Other taxes | 14 | 15 | -1 | |
| **Result after taxes** | **-4,567** | **-4,771** | **204** | ***-4.28%*** |

## Forecast 2025

**Revenues:** **EUR 4.5 – 6.0 million**

**NEW: Total output:** **EUR 10 - 15 million (was EUR 20 – 25 million)**

**EBIT:** **EUR -8.5 to -10.5 million**

# Successful capital increase

*Two capital increases in the past 12 months*

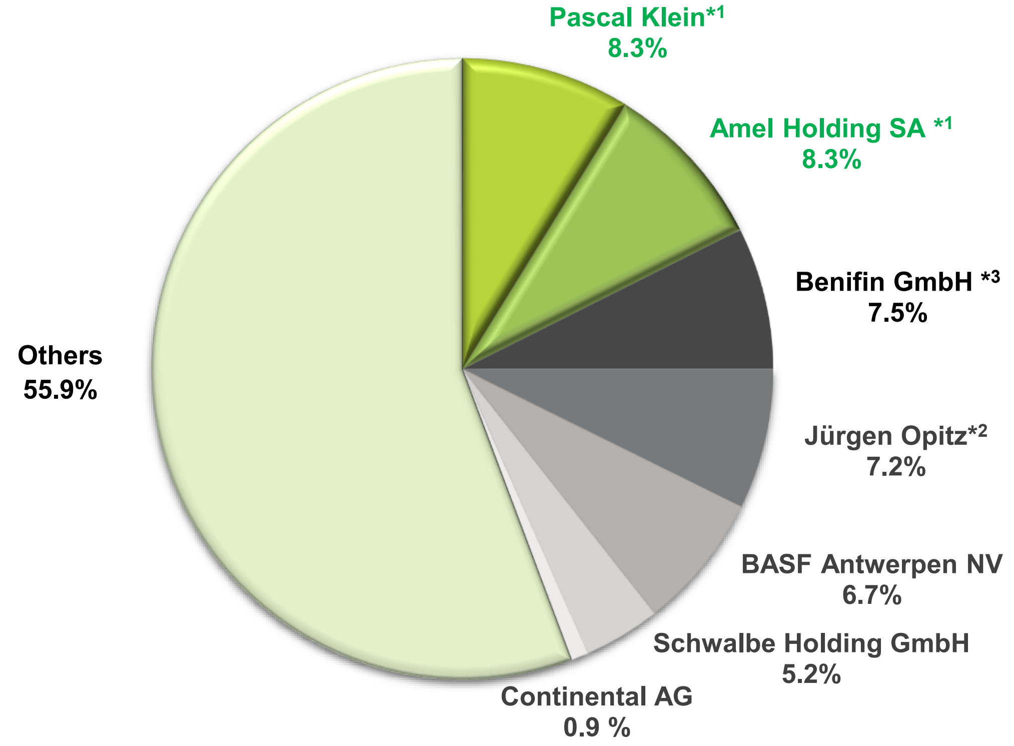
## Capital increase 22 October 2024

- Capital increase by **363,637** new shares to 3,617,372 shares
- Gross issue proceeds: **EUR 10 million**
- Issue price: **EUR 27.50**

## Capital increase 10 July 2025

- Capital increase by **201,446** new shares to 3,818,818 shares
- Gross issue proceeds: **EUR 5.6 million**
- Issue price: **EUR 28.00**

## Current shareholder structure after capital increase




* 1 significant founding shareholders
* 2 including attributable shares
* 3 including indirectly attributable shares

# D

## Highlights and Outlook

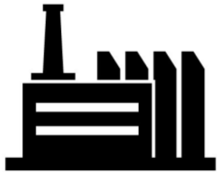
# What are the next steps and priorities?

Get access to funds to **finance the second half of the roll out plan** and Pyrum

- Completion of Bank **Due Diligence**
- Infrastructure fund DD
- Strategic investor negociations

**Increase rCB production volumes** to increase revenues as quick as possible

- Ongoing modification in **line 1 = +/- 10%**
- **Line 2** to start in august 25 = **8 times todays capacity**



Install as soon as possible **Pyrum Plant 2** in Perl-Besch

- **Ground preparation** done
- **Long lead items** ordered
- **Construction** starting soon

- **Introduction of ELVR** (End-of-life Vehicle Regulation) before the end of 2025
- **ECO Design** Guideline
- Increase **political awareness** of Pyrum
  → **Felix Magath**

# Highlights of the last twelve months

*The most important milestones for Pyrum at a glance*

I. **Pyrum files two new patents (CFRP recycling process, rCB product patent)**

II. **Pyrum GreenFactory II receives approval for early start of construction**

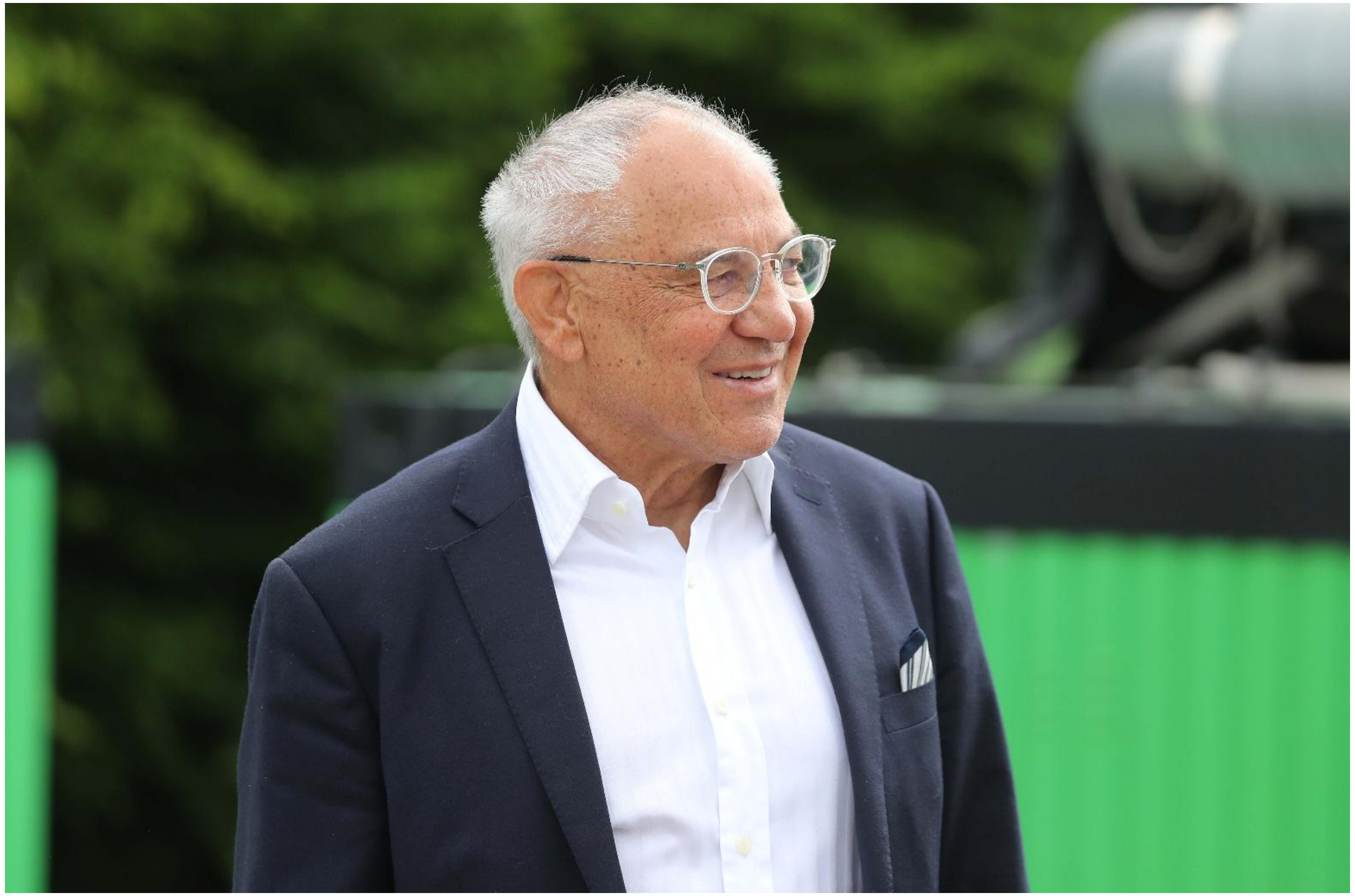
III. **Construction and commissioning of the world's largest milling and pelleting plant for rCB in Dillingen**

IV. **Pyrum secures long-term purchase agreements for oil and rCB with a term of 10 years (Continental and Schwalbe)**

V. **Final Investment Decision (FID) taken for first customer plant in the Czech Republic (SUAS)**

# Felix Magath

*Brand ambassador and investor of Pyrum*



*"I am convinced by the combination of technological pioneering spirit, entrepreneurial consistency and social relevance. We need companies like this to get back to the top of the world."*

# Thank you for your attention!