



Pyrum Innovations AG

Deutsches Eigenkapitalforum 2025

November 25 - 26, 2025



Management

Pyrum Innovations AG



Pascal Klein
CEO / Founder
Since 2008



Kai Winkelmann
CFO
Since 2021



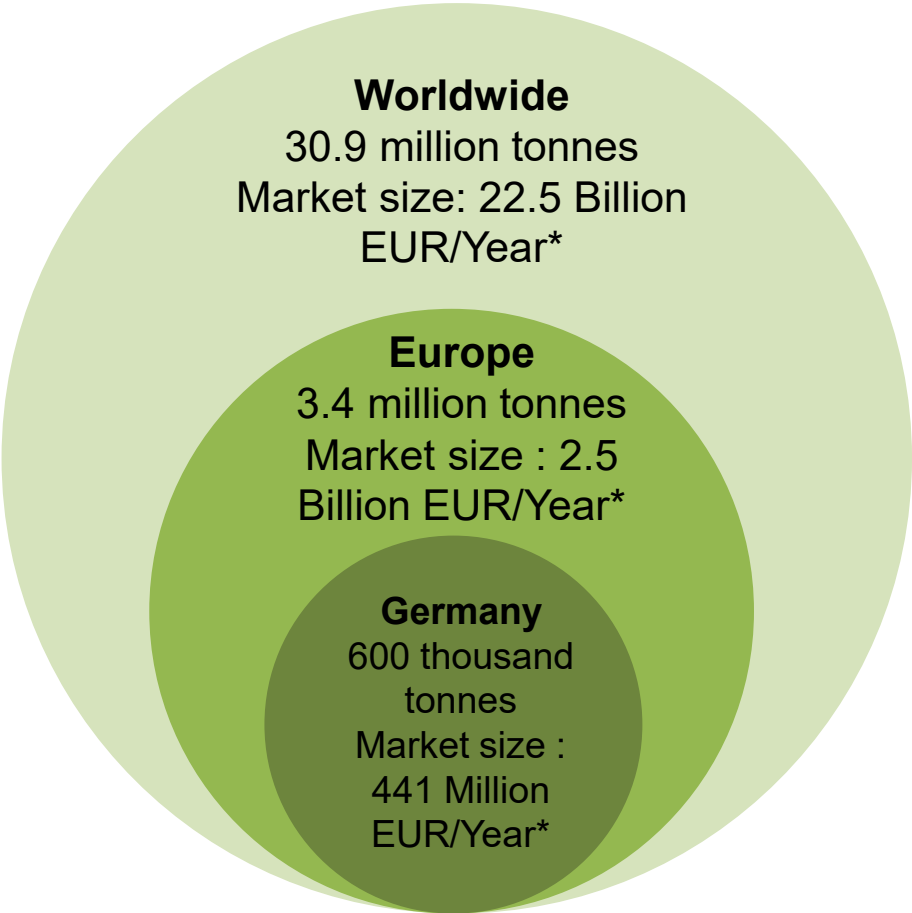
A

Company

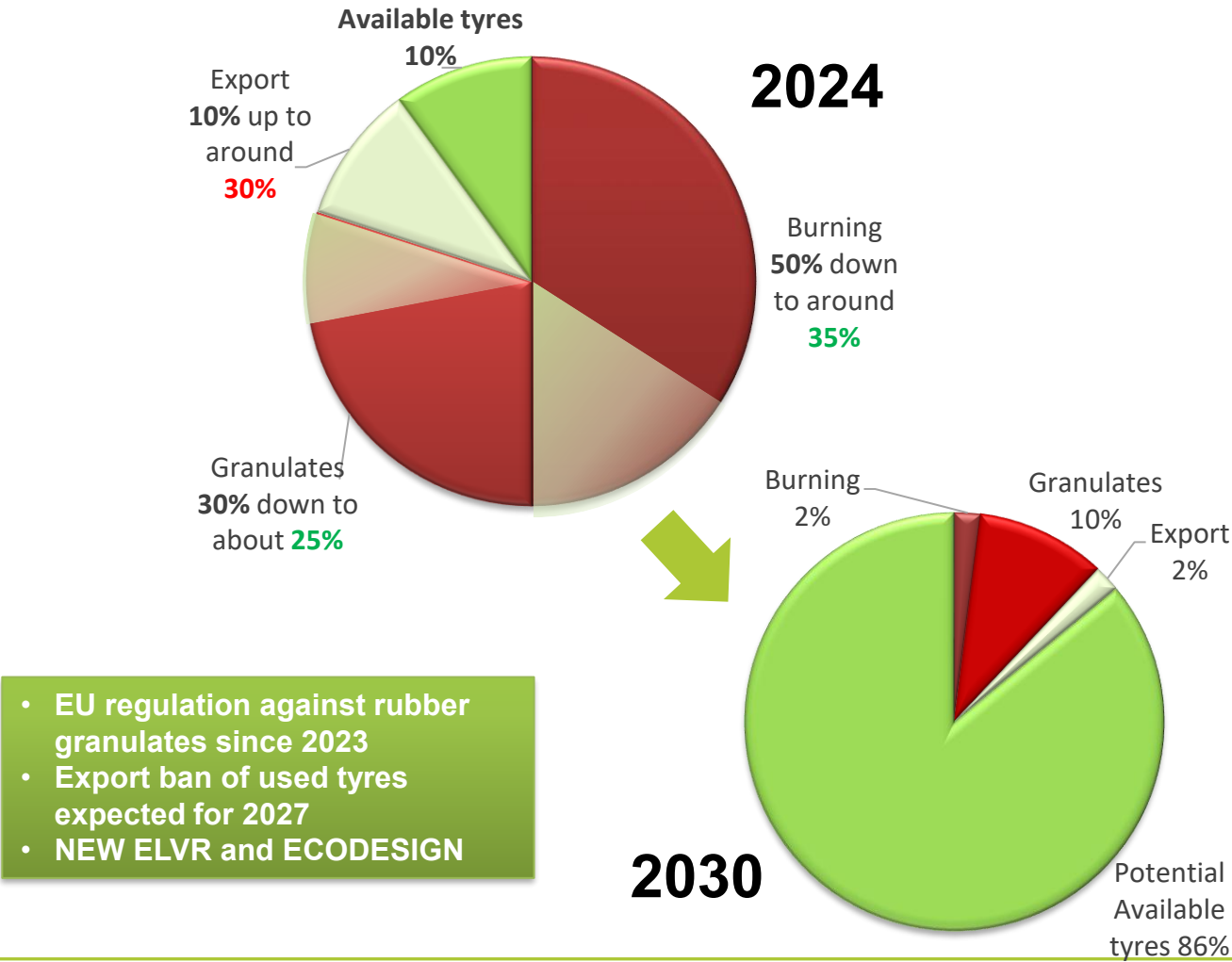
Global End-of-Life-Tyre (ELT) market accounts for approx. 30.9 mt p.a.

... 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)



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

... What is running smoothly, what is not yet

Shredder:

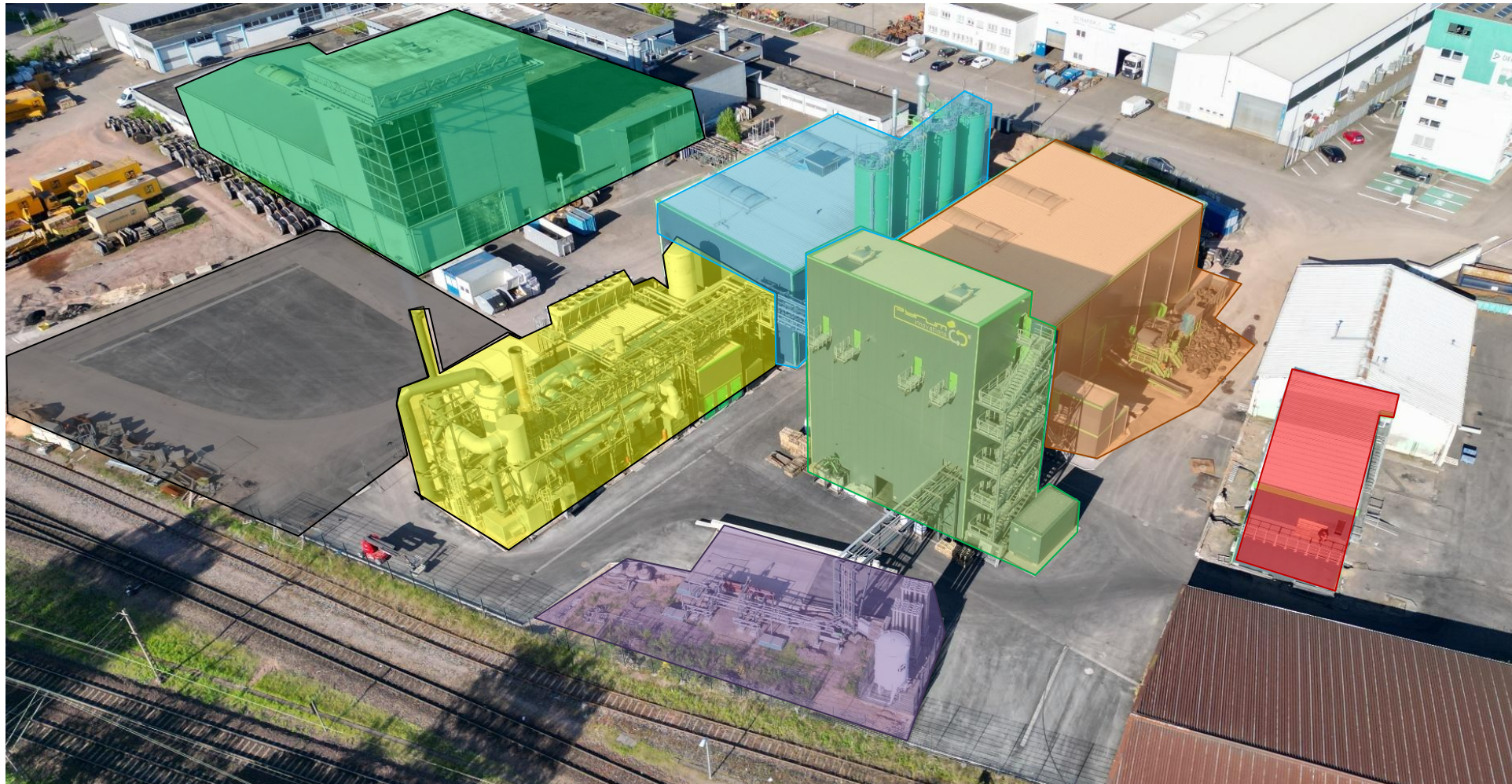
- ## Pyrum thermolysis:

-
- Shredder:**
- Since August 2025 at 65-75 tonnes per week = target value
 - Breakdowns due to foreign matter => purchase tumbler (EUR 150,000)
 - Bicycle tyres since October 2025
- Pyrum thermolysis:**
- 24/7 operation – very stable
- Shredder**
- Tires 1 t/h
- Textile fibers 0 – 100 kg Textile
- Rubber 650 – 750 kg
- Steel wire ≈ 150 – 250 kg Steel
- ≈ 700 kg/h Rubber
- Pyrum oil 250 kg/h
- Pieces of coke 1 – 6 mm 310 kg/h
- Carbon (< 10 µm)
- Micro turbines
- Gas washer
- Vaporized water
- Filter/Gas cleaning
- Gas
- combined heat and power plant
- Electricity
- VAUDE**
The Spirit of Mountain Sports
Mercedes-Benz
- BASF**
We create chemistry
- Power plant:**
- - Stable operation since June 2025
- Coke dosing system:**
- Carbon black cannot be dosed without at least 10 minutes of settling time. 2 solutions in implementation until the end of Q1 2026
- Milling and pelletising plant:**
- Operating independently since September 2025
- Pin mixer**
- Dryer**
- Pellets 1 – 2 mm**
- rCB recovered Carbon Black pellets**
- REMONDIS®**
- SCHWALBE**
- MICHELIN**
- Continental**
- Continental**
- SCHWALBE**
- Tire and rubber manufacturer**

News and Facts on TAD 2 & 3

Sky view April 2025

Status quo TAD 2 & 3



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



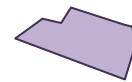
Pyrum Reactors 2&3
5,000 to/y per reactor



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



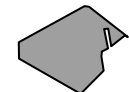
**NEW: Mill and
Pelletizer** with 1,650
kg/h input capacity



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**

Pyrum patents

Overview over the patents of Pyrum

Pyrum patents

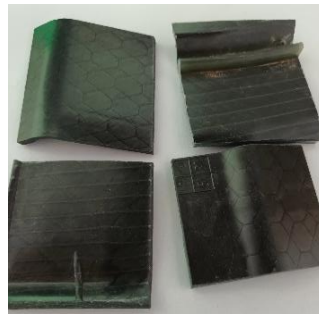


- **Global patent** for Pyrum reactor technology, adaptable for multiple applications (not limited to tyres)
- **European patent** for pyrolysis process specifically designed for tyres

For over
10 years

NEW

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



CFRP from car



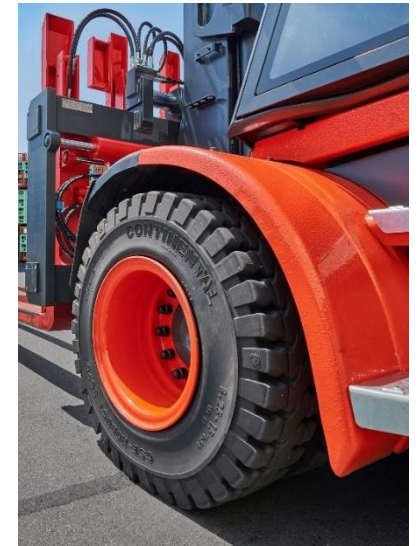
Pyrolysis



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



Summary of USPs and Highlight!

...Unique features and achievements

Headlines

1. First Plant of it's kind with TRL9 (Technical Readiness Level 9)
2. **Inventor of NEW and critical raw materials for the industry:**
 - Pyrum oil replaces crude oil in chemical industry
 - Pyrum oil contains 50% biogen content => Green Fuels, Green Jet Fuel
 - rCB replaces Carbon Black => 60-70% of EU markets depend on Russia
3. Fully energy self sustaining recycling system (Thermolysis part)
4. Certified with: REACH, ISO9001, ISO 14001, VDA 6.3, ISCC+, RCS, Ecovadis Silver
5. ESG Rating : „very Good“ => Fraunhofer confirms 965 kg/CO2 saving per ton.
6. **Long term offtake agreements for 10 years and at least the next 5 plants:**
 - **BASF :**
 - 10-year oil offtake (up to 15 years)
 - 300,000 tons per year = 150 Pyrum Reactors (3 in operation)
 - **Continental:**
 - 10-year rCB offtake contract => first of its kind in the automotive industry
 - Volume of 13,000 tons per years = 6 reactors
 - **Schwalbe:**
 - 10-year rCB offtake agreement
 - 10-year tire delivery agreement
7. **Grants received in Germany, Czech Republic and Greece! EIF (European Innovation Fund) Grant of 29.4 Mio. EUR received in November 2025**

Our Partners

The best known Tire Brands

SCHWALBE ➤

Continental 

The biggest recyclers in Europe

REMONDIS®

 **suez**

The biggest oil tanking and terminal operators

 **vtti**

 **UNITANK**

The biggest Chemical company on the globe

 **BASF**
We create chemistry





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Partners and Customers

Important Milestones in the Rollout Plan

New plants all around Europe!

Map of running projects



Key Facts

PROJECTS

In Pipeline	Started projects	New projects in 2024/25
> 20	10	6
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 (Just in Europe)
Oil volume:	45,000 tons/y (100% sold)
rCB volume:	55,000 tons/y (35% sold + 35% under negotiation)



Status of current pipeline projects

Despite the current economic situation, every project has gained considerable momentum in 2025.

Status

	Project no.	Country	Partner	Pyrum Participation	PRE-FEED Phase	FEED Phase	Funding secured	Permit procedure	Permits obtained	FID (Final investment discission)	
100%	1	Germany	Pyrum	100 %	✓	✓	✓	✓	✓	✓	
SPV	2	Greece	Thermo Lysi SA	Up to 10%	✓	✓	✓	✓	✓	✓	
SPV	3	Cech Republic	SUAS	49 %	✓	✓	✓	✓	✓	✓	
SPV	4	Germany	Remondis	33 %	✓	✓	✓	✓			
EXT	5	UK	SUEZ UK	0% Profit participation	✓	✓	✓	✓			
SPV	6	Germany	Unitank	Up to 49 %	✓	✓	✓	✓			
100%	7	Germany	Pyrum	100 %	✓						
EXT	8	Belgien	vtti	0 % Profit Participation	✓	✓	✓	✓	✓		
SPV	9	GER&Europe	Unitank 2-10	Up to 49 %	✓						
SPV	10	Sweden	GreenTech	pending	✓	✓		✓			
EXT	11	Global	Vtti 2-5	0 % Profit Participation	✓	✓					



In the last 12 months



Older than 12 months



In progress



Important milestones with partners

- ❖ Solid tyres from Continental's tyre plant in Korbach now contain recovered carbon black from end-of-life-tyres
- ❖ Existing **research cooperation** with Continental - Pyrum filed a **patent for the production of the Pyrum rCB** in 2024
- ❖ **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**

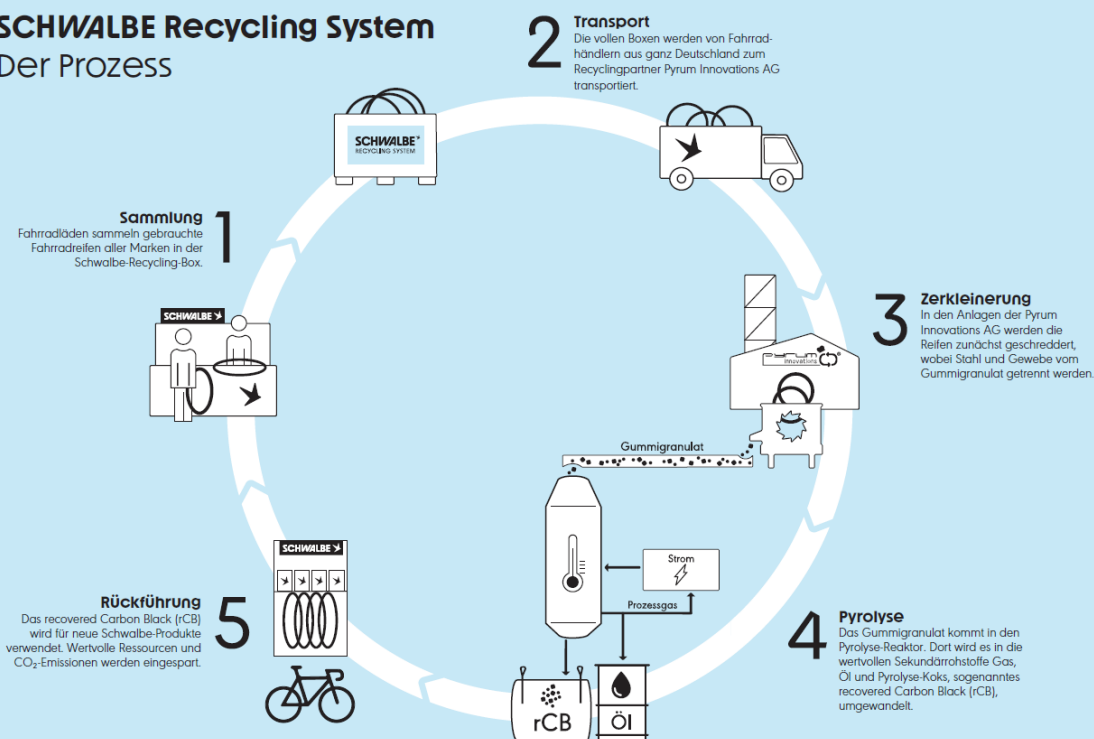


Important milestones with partners

- ❖ **2,000 bicycle retailers in Germany** are already taking part = almost 1/3 of the German market
- ❖ In 2024, Schwalbe announces that they have converted **70% of the entire Schwalbe product range** to Pyrum rCB
- ❖ **New framework agreement for the purchase of Pyrum rCB** signed in April 2025 → Guaranteed purchase for ten years
- ❖ **Shareholder in Pyrum** since 2024 (5,2% participation)



SCHWALBE Recycling System Der Prozess



Real applications of circularity

VAUDE and Mercedes

VAUDE Outdoor Equipment and Clothing

Altreifen-Recycling
Robuste Produkte - klimafreundlich durch Recycling von Altreifen

Massenbilanz Altreifen-Recycling – was ist das?
Reife(r) Leistung für dich und das Klima: Unsere Textilien unter Verwendung eines Massenbilanzverfahrens sind klimafreundlich, hoch funktionsell und tragen gleichzeitig zur Lösung eines großen Abfallproblems bei, das von Altreifen verursacht wird. VAUDE setzt hier ein Kunststoffrecyclingverfahren ein, das die Herstellung von Polyamid-Hosen aus Altreifen ermöglicht. Das Ergebnis ist ein nachhaltiges Produkt mit hohem CO₂-Einsparungspotenzial.

Chemical Recycling → **Raw material compound system** → **Mass balanced fabric**

TRAGE WENIGER ERREICHEN MEHR

Produkt	Preis
Compass Pro Fahrrad Regenjacke Herren	200,00 €
Regenjacke Helly Hansen Herren	220,00 €
Regenjacke Goretex Herren	230,00 €
Regenjacke Helly Hansen Herren	130,00 €
Stretchcord 9 Winterhose Herren	140,00 €
Fairley Stretch T-Zip II Hose Herren	120,00 €
Fairley Stretch Zip-off II Hose Herren	100,00 €
Fairley Stretch II Outdoor Hose Herren	100,00 €
Yarop Shorts Fahrrad Hose Herren	120,00 €
Yarop Zip-Off Fahrrad Hose Herren	130,00 €

Mercedes-Benz door handles

FROM CAR TYRE TO DOOR HANDLE
Mercedes-Benz is achieving a closed-loop material cycle with chemical recycling

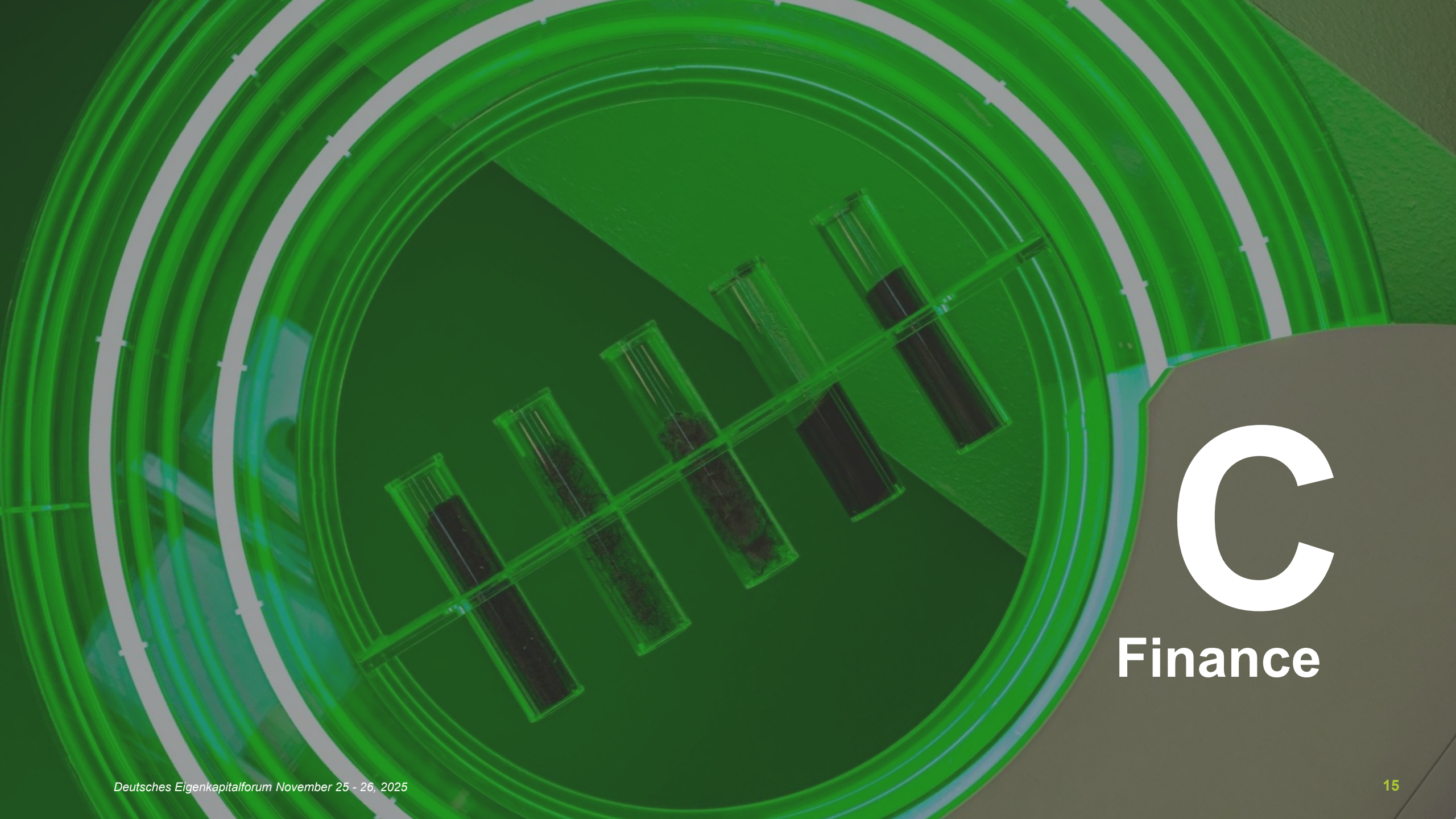
... to produce a virgin-quality high-performance plastic*
Combined with biomethane from agricultural waste ...

Door handle manufacturing
More components from chemical recycling to follow

Pyrolysis scrap

*Based on biomass balance approach

Best of Award Certificate
MATERIALICA Design & Technology Award 2023
CATEGORY: Material
PRODUCT: Turning Used Tyres into Door Handles: How to Close the Resource Loop
APPLICANT: Mercedes-Benz / Witte Automotive GmbH / BASF SE / Pyrum Innovations AG
ROBERT MEEGER
Head of Sustainability GmbH



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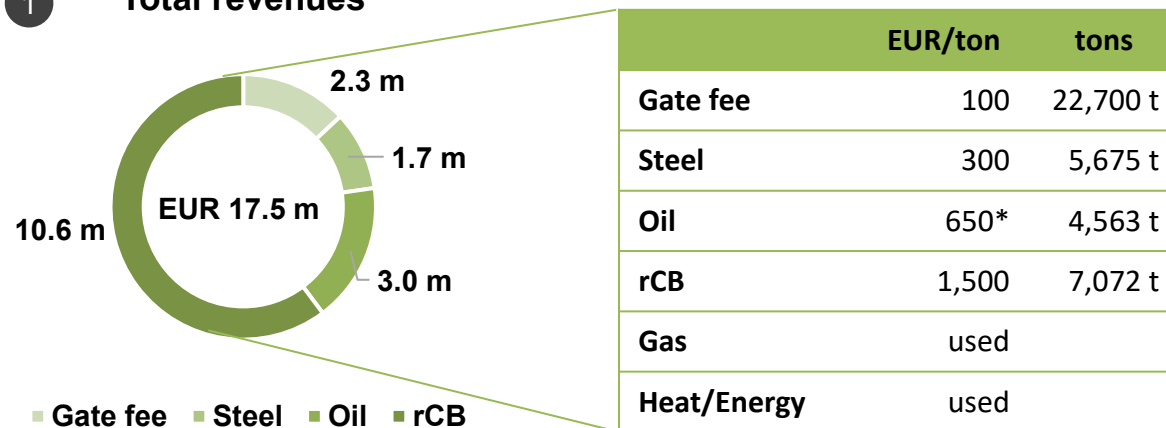
Finance

Attractive plant economics is the enabler for the rapid roll-out

Clear path forward

Estimated plant economics – operating at 22,700 tonnes p.a. capacity

1 Total revenues



Direct costs EUR ~ 2.6 m

2 OPEX EUR ~ 4.9 m

3 EBITDA EUR ~ 10.0 m

4 Investment** EUR ~ 50 m

4 Payback EBITDA basis ~ 5.0 years

3

Roll Out breakthrough:



- **Contract with BASF** for a loan of up to EUR 50 million
- **Oil offtake agreement** for 300.000 tons per year = >150 reactors



- **Framework agreement** for long-term bankable offtake guarantee of Pyrum rCB with Continental and Schwalbe



- Expansion of **rCB volumes** through commissioning of the **world's largest milling and pelletising plant**
- **Parallel operation** of all three production lines at the main plant in Dillingen/Saar
- **Term Sheet** for project finance with Big European Bank



* Expected price mix from existing BASF offtake agreements and future prices for biogenic share

** Contingency, Financing costs, land and OPEX during construction excluded



Consolidated income statement for the first half of 2025

Results overview

KPIs in kEUR	Jan. 1 - Sep. 30, 2025	Jan. 1 - Sep. 30, 2024	Δ kEUR PL	Δ % PL
Revenues	1,762	1,086	676	0.62
Increase of finished and unfinished goods	171	375	-204	
Operating output	1,933	1,461	472	0.32
Other own work capitalised	5,661	6,192	-531	
Total output	7,594	7,653	-59	-0.01
Other operating income	2,819	881	1,938	
Expenses for materials	6,268	6,444	-176	-0.03
Personnel expenses	5,313	4,824	489	0.10
Other operating expenses	3,546	2,690	856	0.32
Other taxes	19	21	-2	-0.10
EBITDA	-4,733	-5,445	712	-0.13
Depreciation and amortization	2,499	1,687	812	0.48
EBIT	-7,232	-7,132	-100	0.01
Other interest and similar income	21	13	8	
Interest and similar expenses	1,032	862	170	0.20
Net loss for the year	-8,243	-7,981	-262	0.03
Other taxes	19	21	-2	
Result after taxes	-8,224	-7,960	-264	0.03

Forecast 2025

Revenues: EUR 4.5 – 6.0 million

Total output: EUR 10 - 15 million

EBIT: EUR -8.5 to -10.5 million

Capital increase with subscription rights

Up to EUR 21 million

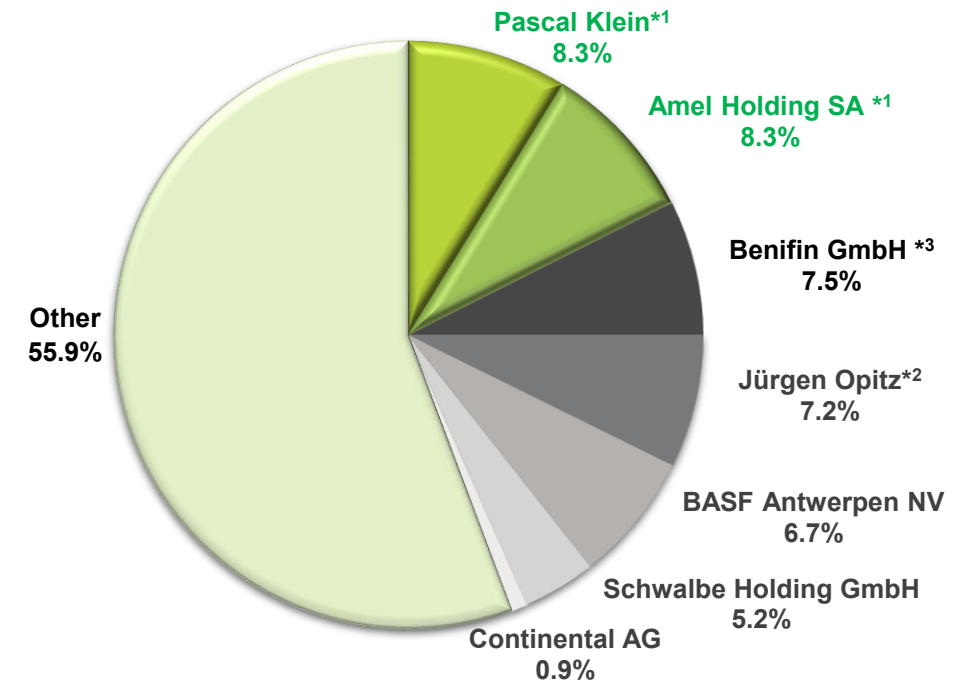
Meta data

Goal: Gross issue proceeds of up to EUR 21 million.

- Indirect subscription rights offered at a ratio of 5:1
- Subscription rights: **Preservation** of shareholder rights
- Share price: **EUR 27.50**
- Maximum number of new shares: **763,764**

→ Minimum of **EUR 5 million** is already indicated by major shareholder

Shareholder structure



*1 Significant founding shareholders

*2 including attributable shares

*3 including indirectly attributable shares

Capital increase with subscription rights

Up to EUR 21 million

What is the money needed for?



Cash burn rate until break even! => EBITDA positive in 2026, net positive in 2027

Investments in **joint ventures plants (ex. Greece)**. The more we raise, the higher our participation



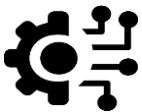
Investments in current research into **CFRP recycling**. = > Giant market opportunity!

- Planning of first industrial plan
- Business plan and permitting



Improvements and turnover increase in existing plant in Dillingen

- Replacement of TAD 1 (new generation reactor) => 150.000 EUR more turnover per month
- Sprinkler system to keep insurance package (fire insurance and business interruption insurance)
- Tire storage for > 3 months to increase annual gate fee average



More communication to increase liquidity of the share

- **Brand Ambassador Felix Magath** is the first step! Further joint communication will come
- New communications with other famous friends of Felix Magath



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Highlights and Outlook

What are the next steps and priorities?



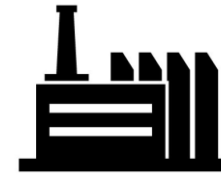
Secure **the roll out plan** of Pyrum

- **Complete actual capital increase**
- Infrastructure fund DD
- Strategic investor negotiations
- New expansion model



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**
- **Start building next line** in Perl/Besch



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

- **Ground preparation** done
- **Long lead items** ordered
- **Construction : Ground break ceremony** in November 25

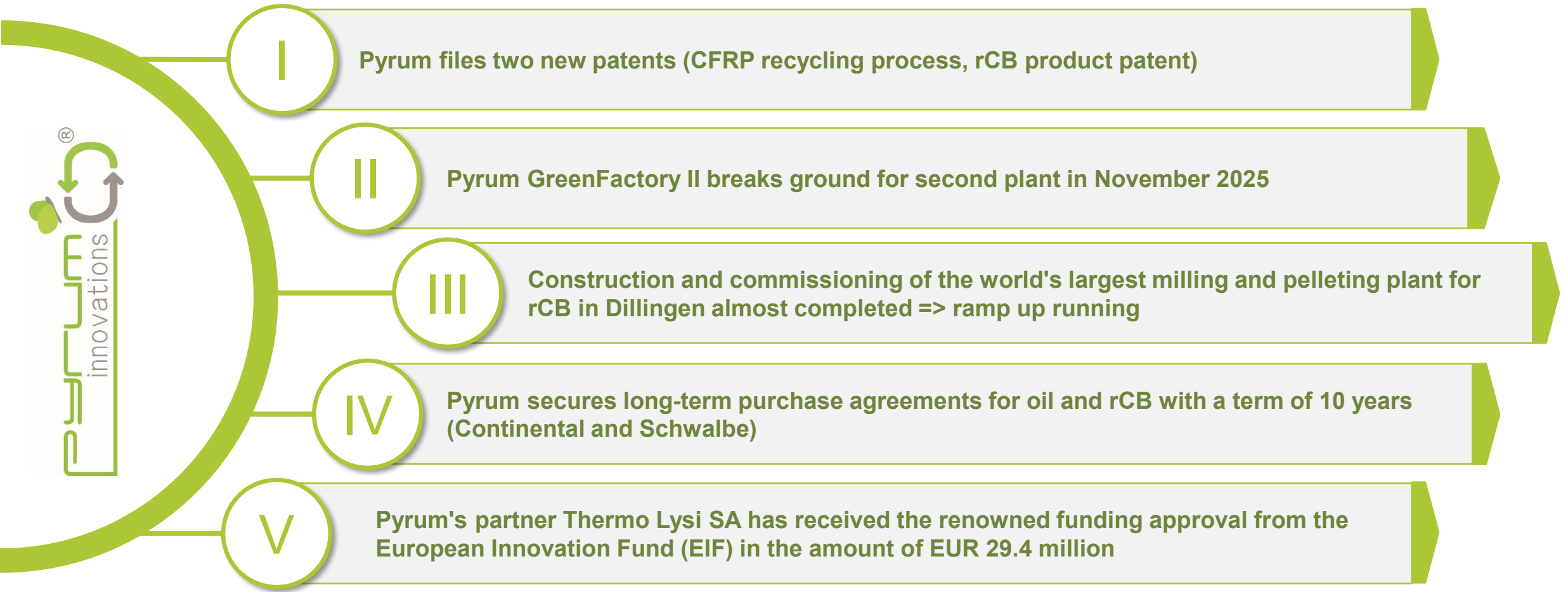


Legal Framework to come for the Industrie

- **Introduction of ELVR** (End-of-life Vehicle Regulation) in Q1 2026
- Increase **political awareness** of Pyrum
→ **Felix Magath**

Highlights of the last twelve months

The most important milestones for Pyrum at a glance



Keep in touch with us

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Thank you for your attention!