March 10th, 2025
Research comment

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Pyrum Innovations AG

Accolade for Pyrum technology

Rating: Speculative Buy (unchanged) | **Price:** 31.00 € | **Price target:** 55.00 € (unchanged)

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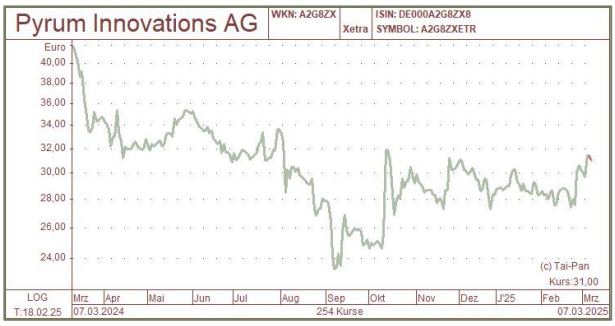
Current business development



Basic data

Based in:	Dillingen / Saar
Sector:	Recycling
Headcount:	85
Accounting:	HGB
Ticker:	PYR:GR
ISIN:	DE000A2G8ZX8
Price:	31.00 Euro
Market segment:	Scale
Number of shares:	3.62 m
Market Cap:	112.2 m Euro
Enterprise Value:	131.9 m Euro
Free Float:	54.6 %
Price high/low (12 M):	43.00 / 23.00 Euro
Øturnover (12 M Xetra):	35,400 Euro

FY ends: 31.12.	2024e	2025e	2026e
Sales (m Euro)	2.0	6.0	14.3
EBIT (m Euro)	-10.3	-13.4	-13.5
Net profit	-11.6	-14.7	-15.8
EpS	-2.66	-3.40	-3.65
Dividend per share	0.00	0.00	0.00
Sales growth	77.9%	195.3%	137.9%
Profit growth	-	-	-
PSR	55.00	18.63	7.83
PER	-	-	-
PCR	-	30.0	5.3
EV / EBIT	-	-	-
Dividend yield	0.0%	0.0%	0.0%

VTTI chooses Pyrum as partner

VTTI, the world's largest operator of LNG terminals, is planning to enter the pyrolysis-based recycling of used tyres. The group has selected Pyrum as its partner, which was recently formalised in a contractual agreement. The first goal of the cooperation is to build a new plant in Antwerp with a processing capacity of up to 90,000 tonnes of used tyres p.a., which is to be built in two phases of 45,000 tonnes each. As part of the engineering process that has been launched, Pyrum is adapting the existing plant concept so that the plant capacity, which is around 23,000 tonnes p.a. for a "standard plant", is correspondingly higher. However, the "standard reactor" developed for a production line (with a capacity of just under 7,700 tonnes) will remain unchanged, so that only the number of reactors, the dimensions of the upstream and downstream processing elements and the configuration of the plant will be redesigned. The preparatory work for the approval process has already begun.

Further plants planned

These could lead to VTTI's Final Investment Decision (FID), which is not expected before next year. Unlike the previously known partner projects, Pyrum will not hold a stake in the plant, but will act as technology partner and EPCM (Engineering, Procurement & Construction Management). However, the collaboration also offers potential for revenue beyond construction, for example from maintenance contracts. In addition, VTTI is already planning further plants to be built at other group locations around the world. Following a successful pilot project, Pyrum could be awarded the contract for this as well.

First FID from project partner

Pyrum has thus further expanded its pipeline – and was also recently able to report very important progress on an existing project. The partners, the Czech groups SUAS GROUP and Sokolovská uhelná, have now agreed on the FID for the plant with a capacity

of around 23,000 tonnes that has been planned in the Czech Republic for some time. Construction is therefore expected to start in the second quarter, which is scheduled to lead to commissioning in 2027 after a construction period of 24 months. Pyrum will take a 49 percent stake in the project, with the necessary investment sum already secured by loan agreements.

Very important milestones

We consider the latest progress to be very important milestones in business development. On the one hand, the first FID of a project partner shows that the plants with third parties are finally entering the realisation phase after a long period of preparation; on the other hand, VTTI's decision in favour of Pyrum technology demonstrates Pyrum's technological leadership in this high-potential market. With this partner and the existing projects, capacities will be fully utilised for years to come. We believe this confirms our estimation model, which envisages the first income from the sale of plants to third parties in 2027 – this is consistent with the schedule for the Czech project. In addition, we had already allowed for a sale of a plant to third parties from 2028, in which Pyrum is not involved as an equity investor. This in turn fits in with the collaboration with VTTI. However, there is a large upside potential here, as we have only planned one standard plant per year (with 23,000 tonnes), but 90,000 tonnes are now actually planned – but this is likely to be accompanied by a longer construction period. We are refraining from adjusting our estimate here for the time being.

Strong growth

We thus continue to assume that Pyrum will increase sales to EUR 6.0 m in the current year through an increase in production at the main plant and income from consulting contracts and achieve EBITDA of EUR -8.4 m on this basis. By 2027, we expect the construction of Pyrum's next own plant in Perl-Besch and the first realisation of partner projects to increase revenue to EUR 39.3 m and EBITDA to EUR 16.8 m. The table on the next page shows the development of the key cash flow indicators resulting from our estimates; further details are provided in the Annex.

Price target unchanged: EUR 55.00

Discounting our estimates with unchanged basic parameters (WACC: 6.1 percent, perpetual growth 1.0 percent) leads to a fair value of EUR 55.07 per share, which means that our target price remains at EUR 55.00 (a sensitivity analysis for determining the target price can be found in the Annex). On a scale of 1 (very low) to 6 (very high), we rate the forecast risk of our estimates as clearly above average at five points, since the data on the operation of the industrial plant in its final design is still limited and, in addition, the marketing of the plant to third parties is still in its early stages.

Conclusion

Pyrum has reported two very important steps forward. Firstly, they include the partners' final investment decision (FID) for the construction of a plant in the Czech Republic, which is the first time that a project planned with third parties has passed this hurdle – an

Revenue model (m Euro)	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
Revenue plant Dillingen	1.7	5.5	13.3	13.3	13.3	13.3	13.3	13.3
Further own plants (total number)			*1*	*2*	*3*	*4*	*5*	*6*
Revenue further plants				5.5	23.5	42.4	62.8	82.4
SPVs (total number)	*2*	*5*	*8*	*11*	*13*	*15*	*17*	*19*
Revenue sale of plants /Consulting	0.3	0.5	1.0	19.0	19.0	19.0	13.0	13.0
Other revenue SPVs (maintenance etc.)				1.5	2.4	3.3	3.9	4.5
Plants without SPV (total number)				*1*	*2*	*3*	*4*	*5*
Revenue plants without SPV					6.0	6.0	6.0	6.0
Total revenue	**2.0**	**6.0**	**14.3**	**39.3**	**64.3**	**84.0**	**99.0**	**119.2**

Estimates SMC-Research

m Euro	12 2024	12 2025	12 2026	12 2027	12 2028	12 2029	12 2030	12 2031
Sales	2.0	6.0	14.3	39.3	64.3	84.0	99.0	119.2
Sales growth		195.3%	137.9%	174.3%	63.4%	30.7%	17.9%	20.4%
EBIT margin	-502.9%	-221.8%	-94.2%	1.1%	27.5%	36.1%	39.0%	44.2%
EBIT	**-10.3**	**-13.4**	**-13.5**	**0.5**	**17.7**	**30.3**	**38.7**	**52.7**
Tax rate	0.0%	0.0%	5.0%	5.0%	10.0%	33.0%	33.0%	33.0%
Adjusted tax payments	0.0	0.0	-0.7	0.0	1.8	10.0	12.8	17.4
NOPAT	**-10.3**	**-13.4**	**-12.8**	**0.4**	**15.9**	**20.3**	**25.9**	**35.3**
+ Depreciation & Amortisation	2.4	4.9	9.3	16.4	20.8	25.2	29.6	34.0
+ Increase long-term accruals	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5
+ Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross operating cash flows	-7.7	-8.2	-3.2	17.1	37.0	45.8	55.9	69.8
- Increase Net Working Capital	1.1	12.0	24.0	11.3	-1.3	-13.8	-14.1	-2.4
- Investments in fixed assets	-8.9	-44.1	-62.1	-62.1	-60.1	-52.1	-52.1	-52.1
Free cash flow	**-15.4**	**-40.3**	**-41.3**	**-33.7**	**-24.3**	**-20.0**	**-10.3**	**15.3**

SMC estimation model

important proof of concept that could also influence other partners with whom such projects are planned. Construction in the Czech Republic is due to start in the second quarter, with commissioning potentially following in 2027.

Perhaps even more important, however, is the reported cooperation with VTTI, which could lead to the realisation of a very large plant in Antwerp – with four times the capacity of the usual standard plant. Assuming success in the pilot project, Pyrum could subsequently build further plants of this size for VTTI worldwide, which represents enormous growth potential.

Overall, we see our growth model for Pyrum confirmed by this progress, and our assumptions could even significantly underestimate the global marketing potential in view of the large plant dimensions in the VTTI project. Nevertheless, we have left our estimates unchanged for the time being and continue to see the target price at EUR 55.00.

Although the share has reacted positively to the positive news, in our view this was still clearly inadequate. Based on an attractive upside potential of more than 70 percent, our rating remains “Speculative Buy”.

Annex I: SWOT analysis

Strengths

- Patent-protected, innovative solution for scrap tyre recycling and the production of high-quality raw materials (thermolysis oil, rCB, gas).
- The first production line has been in regular operation since 2020; capacity was tripled in 2024 with the completion of two further lines.
- Strong focus on R&D and process engineering.
- Renowned partners: BASF, Continental and Ralf Bohle (“Schwalbe”) are shareholders and close cooperation partners.
- The founder runs the company.
- Large pipeline of potential projects with well-known partners. An agreement with enormous potential was recently concluded with VTTI.

Weaknesses

- Experience with full-load operation of the new lines in the final design is still limited due to the short operating phase.
- Revenue has been low so far and was below plan in 2023 and the first nine months of 2024, as the throughput of the pelletising machine is still too low. At the moment, the company is still operating at a clear loss.
- The construction of Pyrum's own second and third production lines has been somewhat delayed and projects with third parties as well, significantly so. No construction of a plant for third parties has yet been started.
- Long lead times for projects.
- Small team, dependent on key people.

Opportunities

- The expansion of the company's own plant in Dillingen will ensure increasing revenue with high margins in the current year.
- Some of the partner projects are well advanced. The first FID was recently taken and more could follow soon, which would enable Pyrum to generate high revenue in the future.
- Due to the great need for efficient scrap tyre recycling, the demand could increase strongly after first successful projects.
- The situation on the sales markets addressed by Pyrum is currently very comfortable. Especially in the case of carbon black, the need for a sustainable supply from European sources is very great.
- Policy makers are pushing for the development of a circular economy in the tyre industry. By banning the use of scrap tyre granulate for various purposes, the EU is increasing the pressure for recycling. In some countries, thermal recycling is already prohibited as well.

Threats

- The start of projects with third parties could be further delayed and postpone the break-even point.
- Financing for the major expansion plans has not yet been secured. Especially the bank financing of new plants is a challenging task due to the still limited database and is also becoming more expensive due to interest rate developments.
- A significant fall in raw material prices could reduce income (however, minimum prices have been agreed for the most important products).
- Competing solutions in pyrolysis or alternative recycling technologies could prove to be more efficient.
- With advances in recycling, the raw material “used tyres” could become a scarce resource.

Annex II: Balance sheet and P&L estimation

Balance sheet estimation

m Euro	2023 act.	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e
ASSETS									
I. Total non-current	45.1	51.6	90.7	143.4	189.1	228.4	255.2	277.7	295.8
1. Intangible assets	5.6	5.0	4.3	3.7	3.0	2.4	1.7	1.1	0.4
2. Tangible assets	39.5	46.6	74.3	115.7	150.0	173.9	193.5	208.6	219.3
II. Total current assets	5.7	14.7	27.1	36.2	40.2	42.3	39.3	35.8	48.0
LIABILITIES									
I. Equity	22.4	22.2	18.2	14.4	10.1	19.9	34.7	54.4	83.0
II. Accruals	3.2	3.4	3.6	3.8	4.1	4.4	4.8	5.2	5.7
III. Liabilities									
1. Long-term liabilities	18.0	32.0	85.5	148.8	199.5	228.7	236.0	233.6	233.6
2. Short-term liabilities	7.3	9.0	10.7	12.8	15.8	17.9	19.3	20.5	21.7
TOTAL	**50.9**	**66.6**	**118.0**	**179.9**	**229.6**	**270.9**	**294.8**	**313.8**	**344.1**

P&L estimation

m Euro	2023 act.	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e
Sales	1.1	2.0	6.0	14.3	39.3	64.3	84.0	99.0	119.2
Total output	12.8	10.2	19.2	49.5	74.5	99.5	119.2	134.2	154.4
Gross profit	1.4	1.3	3.4	9.1	31.5	53.9	71.0	83.4	101.0
EBITDA	-7.0	-7.9	-8.4	-4.2	16.8	37.9	53.8	65.0	81.6
EBIT	-9.1	-10.3	-13.4	-13.5	0.5	17.7	30.3	38.7	52.7
EBT	-9.5	-11.5	-14.7	-16.6	-4.5	10.9	22.2	29.5	42.9
EAT (before minorities)	-9.5	-11.6	-14.7	-15.8	-4.3	9.8	14.8	19.7	28.6
EAT	-9.5	-11.6	-14.7	-15.8	-4.3	9.8	14.8	19.7	28.6
EPS	-2.93	-2.66	-3.40	-3.65	-0.99	2.25	3.42	4.53	6.60

Annex III: Cash flows estimation and key figures

Cash flows estimation

m Euro	2023 act.	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e
CF operating	-6.2	-6.6	3.7	21.0	28.9	36.8	35.3	45.3	71.0
CF from investments	-11.7	-8.9	-44.1	-62.1	-62.1	-60.1	-52.1	-52.1	-52.1
CF financing	9.7	24.1	51.5	48.8	34.8	22.8	11.3	0.3	-10.2
Liquidity beginning of year	12.5	4.3	13.0	24.1	31.8	33.5	33.0	27.5	21.0
Liquidity end of year	4.3	13.0	24.1	31.8	33.5	33.0	27.5	21.0	29.7

Key figures

percent	2023 act.	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e
Sales growth	16.8%	77.9%	195.3%	137.9%	174.3%	63.4%	30.7%	17.9%	20.4%
EBITDA margin	-614.5%	-385.2%	-139.8%	-29.0%	42.8%	58.9%	64.0%	65.7%	68.5%
EBIT margin	-796.4%	-502.9%	-221.8%	-94.2%	1.1%	27.5%	36.1%	39.0%	44.2%
EBT margin	-825.8%	-564.7%	-244.1%	-115.8%	-11.3%	17.0%	26.5%	29.8%	36.0%
Net margin (after minorities)	-829.3%	-566.7%	-244.7%	-110.3%	-10.9%	15.2%	17.6%	19.9%	24.0%

Annex IV: Sensitivity analysis

	Perpetual cash flows growth				
WACC	**2.0%**	**1.5%**	**1.0%**	**0.5%**	**0.0%**
5.1%	121.69	99.96	83.50	70.60	60.22
5.6%	95.96	80.03	67.54	57.49	49.23
6.1%	76.69	64.60	**55.07**	46.86	40.17
6.6%	61.76	52.34	44.59	38.11	32.61
7.1%	49.91	42.41	36.13	30.80	26.22

Disclaimer

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Charts
The charts were made with Tai-Pan (www.lp-software.de).

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II) Preparation and updating

The present financial analysis was prepared by: Dipl.-Kfm. Holger Steffen

Participants in the preparation of the present financial analysis: -

The present analysis was finished on 09.03.2025 at 10:20 am and published on 10.03.2025 at 8:15 am.

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Buy	We expect an increase in price for the analysed financial instrument by at least 10 percent. We assess the estimation risk as average (3 to 4 points).
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The price targets published within the assessment are calculated with common methods of financial mathematics, especially with the DCF (discounted cash flow) method, the sum of the parts valuation and a peer group analysis. The valuation methods are affected by economic framework conditions, especially by the development of the interest rates.

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In the past 24 months, sc-consult GmbH has published the following financial analyses for the company:

Date	Investment recomm.	Target price	Conflict of interests
18.02.2025	Speculative Buy	55.00 Euro	1), 3), 4)
05.12.2024	Speculative Buy	56.50 Euro	1), 3), 4)
08.10.2024	Speculative Buy	58.00 Euro	1), 3), 4)
08.07.2024	Speculative Buy	59.60 Euro	1), 3)
29.05.2024	Speculative Buy	59.00 Euro	1), 3), 4)
09.04.2024	Speculative Buy	59.50 Euro	1), 3), 4)
14.03.2024	Speculative Buy	62.40 Euro	1), 3), 4)
07.12.2023	Speculative Buy	64.40 Euro	1), 3)
26.09.2023	Speculative Buy	77.00 Euro	1), 3), 4)
27.06.2023	Speculative Buy	77.00 Euro	1), 3)
06.06.2023	Speculative Buy	77.00 Euro	1), 3)
05.04.2023	Speculative Buy	80.00 Euro	1), 3)

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The publishing dates for the financial analyses are not yet fixed at the present moment.

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