

# Impact Coatings AB (publ)

## Interim Report January-March 2025

SEK million	2025 Q1	2024 Q1	2024 Jan-Dec
Net sales	9.5	4.0	109.9
Net sales, excluding metals for electrolysis <sup>1)</sup>	9.5	4.0	109.6
Total revenue	19.7	7.5	102.4
Operating profit	-14.2	-15.9	-31.3
Operating profit after financial items	-14.2	-15.9	-30.1
Cash flow	-5.6	-22.5	-89.7
Net cash, end of period	26.3	97.2	32.5
Liquidity ratio	70%	151%	95%
Liquidity ratio, adjusted <sup>2)</sup>	132%	218%	155%
Order backlog coating systems at period end	0.0 <sup>3)</sup>	4.8	0.0 <sup>3)</sup>
Order backlog Coating Services at period end	2.6 <sup>3)</sup>	2.0	4.2 <sup>3)</sup>

### Business highlights during the first quarter 2025

- Selected as preferred supplier of coating technology by Feintool + SITEC (Switzerland, Germany), manufacturing partners for fuel cell and electrolyzer components

### Business highlights after the period

- Letter of Intent from FTXT (China) about continued fuel cell Coating Service volume supply from Coating Service Center China

1) Metals for electrolysis are for certain customers invoiced in a cost-neutral manner not affecting operating profit.

2) Includes the part of the inventory that has been financed by customer pre-payments.

3) Future agreed leasing revenue of SEK 9.0 million over 48 months for a production line in Coating Service Center China is not included in the backlog figures.

## CEO's Commentary

### *Securing technology leadership while the hydrogen market remains cautious*

The first quarter of 2025 was characterized by a continued wait-and-see market situation in the hydrogen sector, with postponed investment decisions. At the same time, our underlying growth continued. Net sales for the rolling 12-month period increased to SEK 115 million in the quarter, which demonstrates continued strength in the business over time. Our strategy remains stable, and we have taken important operational steps to scale the business, strengthen customer relationships and broaden our technical relevance. We are well-positioned as the market turns and see growing demand for solutions that combine technical innovation with industrial scalability.

#### **Advancing the business despite subdued investment appetite**

As expected, the start of the year saw lower business activity. The quarter was affected, among other things, by seasonal effects such as the Chinese New Year, but also by the cautious investment environment we expected for 2025. We continue to expect that the investment appetite in the hydrogen sector will be characterized by some caution during the year, while our long-term market outlook remains positive.

Net sales for the quarter amounted to SEK 9.5 million (4.0), which represents continued growth compared to the previous year. The fact that no system deliveries were completed during the quarter is disappointing, but similar to the comparable quarter last year. We have



Jonas Nilsson, CEO

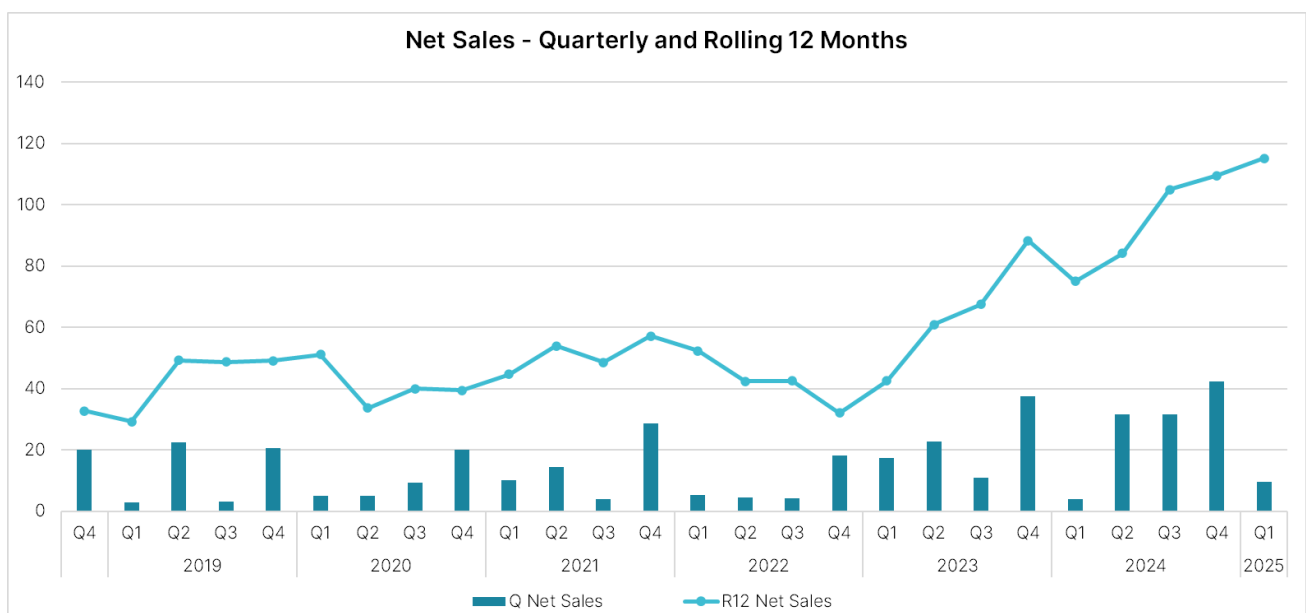
systems in stock prepared for customizations and have created the right conditions to meet customer needs for systems with short delivery times once customers finalize purchase decisions.

Coating Services continues to show good development despite lower activity during the beginning of the year. Increased volumes of customer samples indicate that more customers are approaching commercial decisions, confirming that our technical solution is gaining ground.

#### **Steps toward stronger cash flow**

As previously communicated, our top priority is increasing sales, which is the key to profitable growth. At the same time, our cash flow has improved significantly compared to the previous quarter, although we are not yet where we want to be. We maintain the tight cost control that was initiated in the second half of 2024 and are focusing on both margin improvements and capital efficiency.

One example is that we will reduce customer-specific inventory of precious metals and gradually move towards customer-independent inventory. This shift has



been initiated and shows a temporary positive cash flow effect in the quarter. We expect to see improved operating flexibility and efficiency from the new approach, which will take a few quarters to become fully customer-independent.

Overall, we have measures in place and continue to work actively to improve cash flow, where sales remain the most significant tool. Cash flow from operating activities amounted to SEK -3.2 million (-12.1) for the quarter.

### **Technical development to expand our market**

Impact Coatings has a strong position in coatings for PEM fuel cells and PEM electrolyzers. In particular in fuel cells, we have unique advanced multi-layer coatings that fully exploit the potential of our INLINECOATER™ systems. Our technology has the potential to address more steps in the hydrogen value chain and we have therefore initiated two new technical initiatives that have great strategic importance for our future business and our position as a technology leader.

During the quarter, we have taken important steps towards broadening our offering in electrolysis with a particular focus on iridium oxide, a costly catalytic material that is crucial in PEM electrolyzer systems. Our INLINECOATER™ systems are well-suited to apply iridium oxide with high precision, which minimizes material consumption without compromising performance. By expanding our offering to more performance-critical functions in electrolysis stacks, we broaden our addressable market and create value for both component manufacturers and system integrators, in the form of more comprehensive solutions and reduced system costs.

To accelerate development, after quarter-end we entered into two new partnerships with technology companies: Ionautics and Smoltek Hydrogen. The purpose is to evaluate how their technologies – HiPIMS (high power impulse magnetron sputtering) and carbon nanofibers (CNF), respectively – can be integrated into our systems to enable next-generation high-performance coatings. The collaboration with Ionautics focuses especially on applications with iridium oxide, where HiPIMS technology can create coatings with very high technical performance. By acting as an integration platform for technologies with a high level of innovation, our systems are evolving from conventional coating equipment to enablers of higher performance in customer applications.

### **Encouraging results in SOFC/SOEC**

For some time, we have together with multiple potential customers also evaluated our coating technology for use in solid oxide technologies, both solid oxide fuel cells (SOFC) and solid oxide electrolyzer cells (SOEC). These

technologies share many similarities and are driven by the need for high performance in demanding applications, such as stationary power generation plants.

Our technology shows very good results in tests and is designed to be integrated into existing SOFC/SOEC architectures, which enables faster technology adaptation and provides clear commercial value. By also addressing solid oxide technologies, we can expand our reach and strengthen our competitiveness in a segment with high growth potential. Adapting the INLINECOATER™ platform to volume capacity will entail further development efforts, but our ambition is to become a qualified supplier in this area and thereby further broaden our market presence.

### **Outlook**

After several years of investments in technology, capacity and market presence, we have built a strong platform for continued growth. At the same time, we find ourselves in a market situation where business decisions tend to take longer, and where customers place higher demands on technically verified solutions and clear business value. We see this as a natural part of the maturation process and as an opportunity to further sharpen our offering. In parallel, we continue to have a clear focus on sales and work methodically with cost control and margin improvements.

With global unrest, we feel relatively secure in having built up a robust structure for a long time to meet changes in the global trade landscape. With facilities in Europe and China and preparations for establishment in the USA, we have built a strong global presence. This makes us well-positioned to handle regional regulations, tariffs, trade barriers and other market challenges in an increasingly complex trade landscape. At the same time, we maintain secure delivery capacity to our most important markets.

2025 will be a challenging year. Customer investments are delayed across industries. With a clear strategy, a competitive offering and a committed team, we are adapting and well-prepared to create long-term value for our customers, partners and shareholders.

*Jonas Nilsson, CEO*

## Financial Result

### FIRST QUARTER 2025

Group net sales for the quarter amounted to SEK 9.5 million (4.0), including revenues from Coating Services of SEK 5.6 million (1.6) and aftermarket sales of SEK 3.9 million (2.4). No Coating System revenue was recognized during the period (0).

During the quarter, we have not had any Coating Services revenues where metals for electrolysis are invoiced on a cost-neutral basis (0).

The subsidiary in China generated SEK 2.8 million (1.5) of aftermarket sales and SEK 1.1 million (0.3) of Coating Services revenue.

Total revenue amounted to SEK 19.7 million (7.5). The difference between net sales and total revenue is mainly explained by capitalized work for own account of SEK 1.9 million (0.4) and changes in work in progress, amounting to SEK 8.1 million (2.8).

Operating costs excluding raw materials and supplies amounted to SEK -23.6 million (-20.9) with higher facility leasing costs as well as higher personnel costs compared to Q1 2024. The increased personnel costs include an increased number of FTEs mainly in China after Q1 2024, a slightly higher portion of hired consultants in the parent company, and certain initiated cost reduction measures that have not yet had an impact during Q1 2025. The work on efficiency improvements and cost savings that began in Q4 2024 has continued.

The foreign exchange loss was SEK -0.8 million (2.2), a result of exchange rate changes in SEK against EUR and USD, as well as CNY against EUR and USD. The financial net was SEK 0.0 million (0).

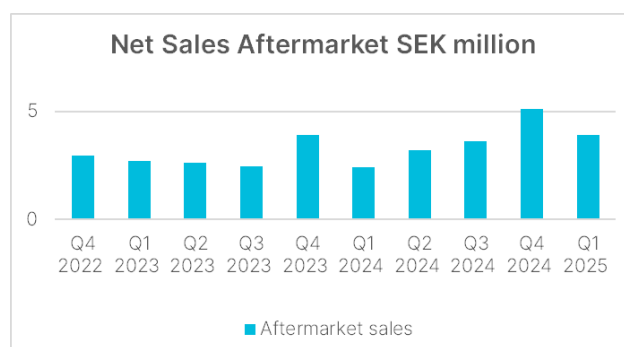
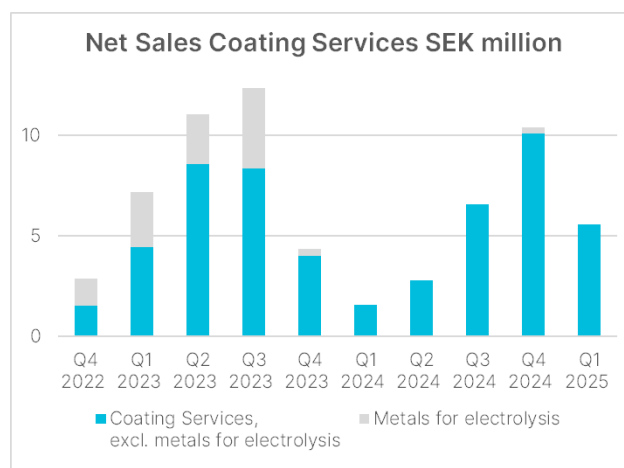
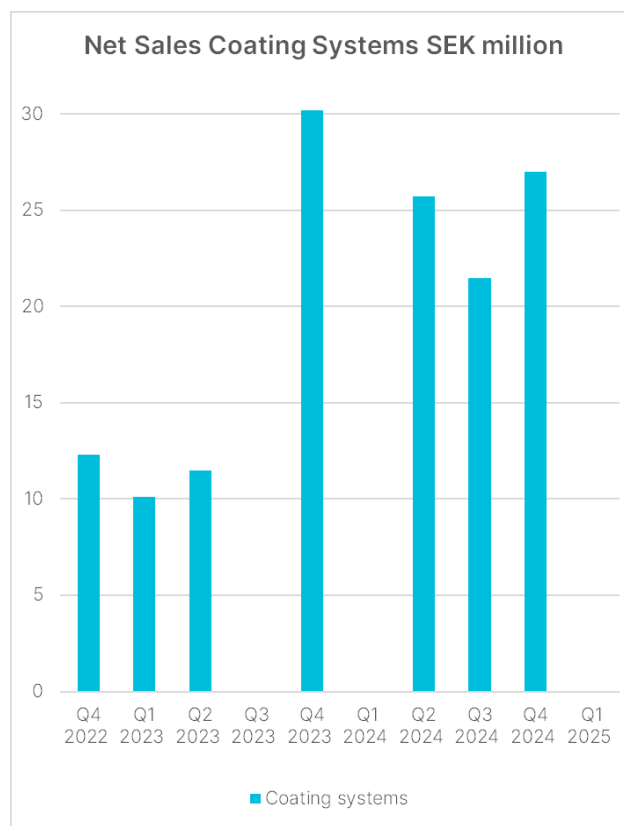
Net income after financial items was SEK -14.2 million (-15.9).

Net income for the quarter was positively affected by the capitalization of development costs amounting to SEK 1.7 million (0).

### Financial position and liquidity

Cash and liquid assets at the end of the period amounted to SEK 26.3 million (97.2). The liquidity ratio that is adjusted to include the part of inventory that has been financed by customer pre-payments was 132% (218%). The company has no interest-bearing liabilities.

Cash flow from operations for the period amounted to SEK -3.2 million (-12.1). The inventory was decreased in raw material and supplies, including sales of parts of the



noble metal inventory, but increased in work in progress. Short term receivables decreased by SEK 24.6 million.

Cash flow from investing activities amounted to SEK -2.4 million (-10.4). There were capitalized development costs in Sweden of SEK 1.7 million (0) and installations and other investments of SEK 0.7 million.

Cash flow from financing activities amounted to SEK 0 million (0). The total cash flow for the period was SEK -5.6 million (-22.5).

Based on the management's business plan, approved by the Board of Directors, the company estimates that it has the liquidity needed for at least the next 12 months.

#### **Order backlog for coating systems and Coating Services**

The order backlog for coating systems was at the end of the period EUR 0 million (0.5), corresponding til SEK 0 million (4.8) based on the period-end exchange rate.

The order backlog for Coating Services was at the end of the period SEK 2.6 million (2.0) based on the period-end exchange rate.

The order backlog for aftermarket sales is not reported.

In China there is a leasing agreement for a coating machine with a customer that covers 60 months starting from April 2024. The remaining contract period amounts to 48 months and has a total value of SEK 9.0 million calculated with the exchange rate at the end of the period. This amount is not included in the above order backlogs.

#### **Personnel**

The average number of employees during the period was 63 (57).

#### **Transactions with related parties**

Of the parent company's total purchases and sales, SEK 0 million (0) of the purchases and SEK 0.6 million (1.0) of the sales refer to the subsidiary in China for the period. There are no interest-bearing receivables or liabilities between the parent company and the subsidiary. Transactions with related parties are priced according to market terms.



## Business Highlights During the First Quarter

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In a press release on January 22, the company announced that Feintool + SITEC had chosen Impact Coatings as preferred supplier of PVD coating technology. The collaboration between Feintool (Switzerland) and SITEC (Germany) is a well-established production partnership in the hydrogen industry for the

manufacture of ready-to-install bipolar plates and related components for fuel cells and electrolyzers. At the end of January, the three companies also exhibited with a joint booth at the hydrogen industry trade fair Hyvolution 2025 in Paris.

## Business Highlights After the Period

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In a press release on April 24, the company announced that it had received a Letter of Intent from FTXT Energy Technology Co., Ltd, regarding the customer's intention to continue purchasing coating services for bipolar plates for fuel cells. Subject to coming purchase orders, Impact Coatings will for the remainder of 2025 provide production capacity from its Coating Service Center in Shanghai, for a volume corresponding to at least CNY 4.5 million in revenue. Coating service production for FTXT was ramped up at the Coating Service Center in Shanghai during 2024 following an official approval from

the customer in April 2024 of Impact Coatings' Premium FC coating for heavy duty fuel cell applications. The companies in September 2024, by signing a Letter of Intent, also initiated a development collaboration concerning fuel cell coating technology. FTXT Energy Technology Co., Ltd. was established in 2019 by Great Wall Holding Group. Relying on global R&D centers in four countries, the company develops core products such as fuel cell engines and hydrogen storage cylinders.



*Coating of fuel cell plates for FTXT started at Coating Service Center China during 2024.*

## Other Information

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### AUDIT AND ACCOUNTING POLICIES

The report has been prepared in accordance with the Annual Accounts Act and with the application of the Swedish Accounting Standards Board's general advice BFNAR 2012: 1 Annual Report and consolidated accounts (K3).

This interim report has not been subject to auditor review.

#### Principles for consolidated accounting

The accounting principles are unchanged from those mentioned in the annual report for 2024.

### UPCOMING FINANCIAL EVENTS

Interim report for the second quarter 2025	August 22, 2025
Interim report for the third quarter 2025	October 17, 2025
Year-end report for 2025	February 13, 2026

### ANNUAL GENERAL MEETING OF SHAREHOLDERS

The Annual General Meeting will be held in Linköping on Wednesday, May 21, 2025.

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This and other Interim reports and Annual reports are available on the company's website at [www.impactcoatings.com/investors/financial-reporting/](http://www.impactcoatings.com/investors/financial-reporting/).

## Consolidated Income Statement - Impact Coatings Group

<i>(All amounts in SEK million)</i>	Jan-Mar 2025	Jan-Mar 2024	Jan-Dec 2024
Net sales	9.5	4.0	109.9
Capitalized work for own account	1.9	0.4	10.7
Change of work in progress	8.1	2.8	-18.5
Other operating income	0.2	0.3	0.4
<b>Total revenue</b>	<b>19.7</b>	<b>7.5</b>	<b>102.4</b>
Raw materials	-9.5	-4.7	-39.4
Gross profit	10.2	2.9	63.0
Gross margin %	52%	38%	62%
Other external costs	-6.0	-5.5	-27.1
Personnel costs	-15.8	-13.7	-61.7
Write off and depreciation of tangible and intangible assets	-1.8	-1.7	-6.4
Exchange rate gain / loss	-0.8	2.2	1.0
Other operating expenses	0.0	0.0	-0.2
<b>Operating profit</b>	<b>-14.2</b>	<b>-15.9</b>	<b>-31.3</b>
Interest income and similar items	0.0	0.0	1.2
Operating profit after financial items	-14.2	-15.9	-30.1
Taxes	0.0	0.0	0.5
<b>Net income for the period</b>	<b>-14.2</b>	<b>-15.9</b>	<b>-29.6</b>
Earnings per share (kr)	-0.16	-0.18	-0.34
Average shares outstanding during the period	87 486 713	87 486 713	87 486 713
Shares outstanding at period end	87 486 713	87 486 713	87 486 713



## Consolidated Balance Sheet - Impact Coatings Group

<i>(All amounts in SEK million)</i>	2025-03-31	2024-03-31	2024-12-31
<b>Assets</b>			
<b>Long term assets</b>			
Intangible assets	5.7	2.0	4.2
Machines and technical equipment	40.4	42.0	43.4
Assets under construction	16.2	21.0	18.1
Deferred tax assets	0.5		0.5
Long-term receivables	16.3		16.3
<b>Total fixed assets</b>	<b>79.0</b>	<b>65.0</b>	<b>82.5</b>
<b>Short term assets</b>			
Raw materials	85.4	86.3	94.5
Work in progress	18.8	1.3	7.7
Short term receivables	27.4	23.8	52.0
Cash and liquid assets			
Unrestricted cash	23.6	97.2	29.8
Restricted cash	2.7		2.7
<b>Total short term assets</b>	<b>157.8</b>	<b>208.6</b>	<b>186.7</b>
<b>Total assets</b>	<b>236.9</b>	<b>273.7</b>	<b>269.2</b>
<b>Shareholder equity and liabilities</b>			
Shareholder equity	164.6	193.6	182.7
Pre-payment from customers			
Paid	47.8	55.2	57.2
Short-term liabilities	24.5	24.9	29.3
<b>Total shareholder equity and liabilities</b>	<b>236.9</b>	<b>273.7</b>	<b>269.2</b>

## Consolidated Changes in Shareholder Equity - Impact Coatings Group

<i>(All amounts in SEK million)</i>	2025-03-31	2024-03-31	2024-12-31
Opening balance	182.7	209.5	209.5
Share issuance / warrants (after emission costs)	0.0	0.0	0.4
Period result	-14.2	-15.9	-29.6
Translation difference	-3.9	-0.1	2.4
<b>Closing balance</b>	<b>164.6</b>	<b>193.6</b>	<b>182.7</b>

## Consolidated Statement of Cash Flows - Impact Coatings Group

<i>(All amounts in SEK million)</i>	Jan-Mar 2025	Jan-Mar 2024	Jan-Dec 2024
Operating profit after depreciation	-14.2	-15.9	-31.3
Financial items (net)	0.0	0.0	1.2
Adjustments for non cash items	2.5	1.7	7.9
<b>Cash flow operations before change in working capital</b>	<b>-11.7</b>	<b>-14.2</b>	<b>-22.2</b>
Change in working capital	8.5	2.1	-50.7
<b>Cash flow from operations</b>	<b>-3.2</b>	<b>-12.1</b>	<b>-72.9</b>
Cash flow from investments	-2.4	-10.4	-16.7
Cash flow from financing activities	0.0	0.0	0.0
<b>Cash flow for the period</b>	<b>-5.6</b>	<b>-22.5</b>	<b>-89.7</b>
Liquid assets, opening balance	32.5	119.8	119.8
Translations differences	-0.6	-0.1	2.4
<b>Liquid assets, ending balance</b>	<b>26.3</b>	<b>97.2</b>	<b>32.5</b>
<b>Liquidity ratio, %</b>	<b>70%</b>	<b>151%</b>	<b>95%</b>
<b>Liquidity ratio, adjusted, % <sup>1)</sup></b>	<b>132%</b>	<b>218%</b>	<b>155%</b>

<sup>1)</sup> Includes the part of the inventory that has been financed by customer pre-payments.

## Income Statement - Parent Company

<i>(All amounts in SEK million)</i>	Jan-Mar 2025	Jan-Mar 2024	Jan-Dec 2024
Net sales	6.2	3.2	112.8
Capitalized work for own account	1.7	0.0	10.7
Change of work in progress	8.3	2.8	-17.6
Other operating income	0.2	0.2	0.2
<b>Total revenue</b>	<b>16.4</b>	<b>6.3</b>	<b>106.2</b>
Raw materials	-8.8	-3.9	-43.4
Gross profit	7.5	2.4	62.8
Gross margin %	46%	38%	59%
Other external costs	-4.6	-4.4	-23.2
Personnel costs	-13.2	-11.7	-52.1
Write off and depreciation of tangible and intangible assets	-1.2	-1.2	-4.1
Exchange rate gain / loss	0.4	2.3	0.4
Other operating expenses	0.0	0.0	-0.2
<b>Operating profit</b>	<b>-11.1</b>	<b>-12.7</b>	<b>-16.4</b>
Impairment of shares in group companies	0.0	-2.8	-5.0
Interest income and similar items	0.0	0.0	1.2
Operating profit after financial items	-11.1	-15.5	-20.1
Taxes	0.0	0.0	0.0
<b>Net income for the period</b>	<b>-11.1</b>	<b>-15.5</b>	<b>-20.1</b>

## Balance Sheet - Parent Company

<i>(All amounts in SEK million)</i>	2025-03-31	2024-03-31	2024-12-31
<b>Assets</b>			
<b>Long term assets</b>			
Intangible assets	5.1	1.3	3.5
Machines and technical equipment	23.2	24.0	23.5
Assets under construction	0.3	0.0	0.9
<b>Financial assets</b>			
Shares in subsidiary	41.6	31.2	41.6
<b>Total long term assets</b>	<b>70.2</b>	<b>56.4</b>	<b>69.4</b>
<b>Short term assets</b>			
Raw materials	75.7	81.4	83.6
Work in progress	27.2	22.2	16.0
Other short term receivables	62.9	23.1	81.3
Cash and liquid assets			
Unrestricted cash	17.4	97.1	25.2
Restricted cash	2.7	0.0	2.7
<b>Total short term assets</b>	<b>186.0</b>	<b>223.7</b>	<b>208.9</b>
<b>Total assets</b>	<b>256.2</b>	<b>280.1</b>	<b>278.3</b>
<b>Shareholder equity and liabilities</b>			
Shareholder equity	186.4	201.7	197.5
Pre-payment from customers			
Paid	47.8	55.7	57.2
Short-term liabilities	21.9	22.8	23.6
<b>Total shareholder equity and liabilities</b>	<b>256.2</b>	<b>280.1</b>	<b>278.3</b>

## Summary of Financial Development

The financial development of Impact Coatings AB (publ) for the full years 2021-2024 and the group's consolidated financial development for the period January-March 2025 are summarized below.

All figures related to the operating years 2021-2024 are based on material from previously published annual reports.

<i>(All amounts in SEK million)</i>		2025 Jan-Mar	2024 Jan-Dec	2023 Jan-Dec	2022 Jan-Dec	2021 Jan-Dec
Net sales		9.5	109.9	98.4	32.0	57.2
Revenue		19.7	102.4	89.0	57.0	54.5
Operating profit		-14.2	-31.3	-33.9	-47.0	-32.1
Result after financial items (net)		-14.2	-30.1	-32.0	-47.0	-32.1
Operating margin	%	Neg	Neg	Neg	Neg	Neg
Intangible assets		5.7	4.2	2.1	0.4	1.4
Tangible assets		56.5	61.5	54.3	33.5	9.5
Long term assets		16.8	16.8	0	0	0
Inventory		104.2	102.3	80.5	41.0	18.5
Pre payment from customers		47.8	57.2	52.4	20.1	0
Short term assets		27.4	52.0	25.8	16.2	14.6
Cash and liquid assets		26.3	32.5	119.8	61.4	129.5
Shareholder equity		164.6	182.7	209.5	113.9	160.6
Long term liabilities		0	0	0	0	0
Short term liabilities		24.5	29.3	20.5	18.6	12.8
Total assets		236.9	269.2	282.5	152.6	173.4
Return on assets	%	Neg	Neg	Neg	Neg	Neg
Return on equity		Neg	Neg	Neg	Neg	Neg
Equity/asset ratio	%	69	68	74	75	93
Debt ratio	times	0	0	0	0	0
Interest coverage ratio		Neg	Neg	Neg	Neg	Neg
Liquidity ratio	%	70	95	200	201	1 124
Liquidity ratio, adjusted	%	132	155	275		
Employees		63	61	56	45	37
Investments						
Intangible assets		1.7	2.4	1.8	0	0.4 <sup>1)</sup>
Tangible assets		0.7	14.5	25.4	25.9	1.7
Earnings per share	SEK	-0.16	-0.34	-0.41	-0.83	-0.57
Average shares outstanding during the period		87 486 713	87 486 713	78 857 887 <sup>2)</sup>	56 609 051	55 809 051 <sup>3)</sup>
Shares outstanding at period end		87 486 713	87 486 713	87 486 713	56 609 051	56 609 051

<sup>1)</sup> Investment of SEK 424 thousand represents a re-classification from development expenses to intangible assets.

<sup>2)</sup> Share issuance of 30,877,662 shares, subscribed March 23, 2023, and registered April 12, 2023.

<sup>3)</sup> Share issuance of 4,800,000 shares, subscribed February 24, 2021, and registered February 26, 2021.



#### Definition of terms:

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Operating margin	Operating profit after financial items divided by revenue
Shareholder equity	Sum total of shareholder equity, restricted reserves and non-restricted equity
Return on assets	Operating profit before interest divided by average capital employed
Return on equity	Net income after tax divided by average shareholder equity
Equity / assets ratio	Shareholder equity divided by balance sheet total
Debt ratio	Interest bearing debts divided by shareholder equity
Interest coverage ratio	Operating profit before interest expenses divided by interest expenses
Earnings per share	Net income after tax divided by average number of shares
Liquidity ratio	Cash and short-term assets excl. inventory divided by short term liabilities
Liquidity ratio, adjusted	Liquidity ratio adjusted by the part of inventory that has been financed by customer pre-payments

## Impact Coatings in brief

### *At the forefront globally in PVD coating for hydrogen and metallization on plastic*

**With almost three decades of experience in general PVD technology for thin film coating, and many years of strategic focus, Impact Coatings is today at the forefront globally in two growing market segments. The company supplies coating solutions for critical components to the hydrogen industry – both for fuel cells and electrolyzers – and for the metallization of advanced plastic parts, especially in automotive applications.**

Impact Coatings is a high-tech industrial company that manufactures and sells systems for PVD coating (physical vapor deposition), offers coating as a service ("Coating Services"), and provides aftermarket services and other customer services.

Headquarters are located in Linköping, Sweden, including development, production of PVD systems and the company's European Coating Service Center. The group has a subsidiary in China, where a second Coating Service Center was put into operation in 2023, as well as a subsidiary in the USA, where another Coating Service Center is planned. The company also has sales personnel in Germany and South Korea.

#### EFFICIENT PVD TECHNOLOGY FOR INDUSTRIAL APPLICATIONS

Impact Coatings' PVD system INLINECOATER™ is based on a modular machine platform that can be equipped for many applications. It features a unique circular architecture with object loading hatch and multiple coating chambers positioned around a common vacuum pump. It is a design that provides short cycle times, while multiple coating chambers enable advanced multi-layer coatings.

One INLINECOATER system provides, given price and floor space, a significant production capacity that is easily scaled up through multiple systems. It gives customers the opportunity to develop and scale up their production without changing technology solution. Competing PVD suppliers usually offer so-called batch systems with only one chamber for development and trial series and large multi-chamber PVD lines with accompanying large capital investments for volume production.

The PVD systems are equipped for different types of coatings, especially metals, metal alloys and ceramic coatings. Depending on the application and customer needs, both standard materials and coatings developed by Impact Coatings are used. Examples of the latter are cost-effective ceramic coatings used for metal plates for fuel cells.

For metal electrolyzer plates, today's industry demands noble metal coatings. The INLINECOATER design with relatively small coating chambers and coating sources



*The INLINECOATER™ PVD system is available in three variants: IC500, IC500+ and IC2000, with different coating chamber sizes. The largest coating chamber is 650x550 mm.*

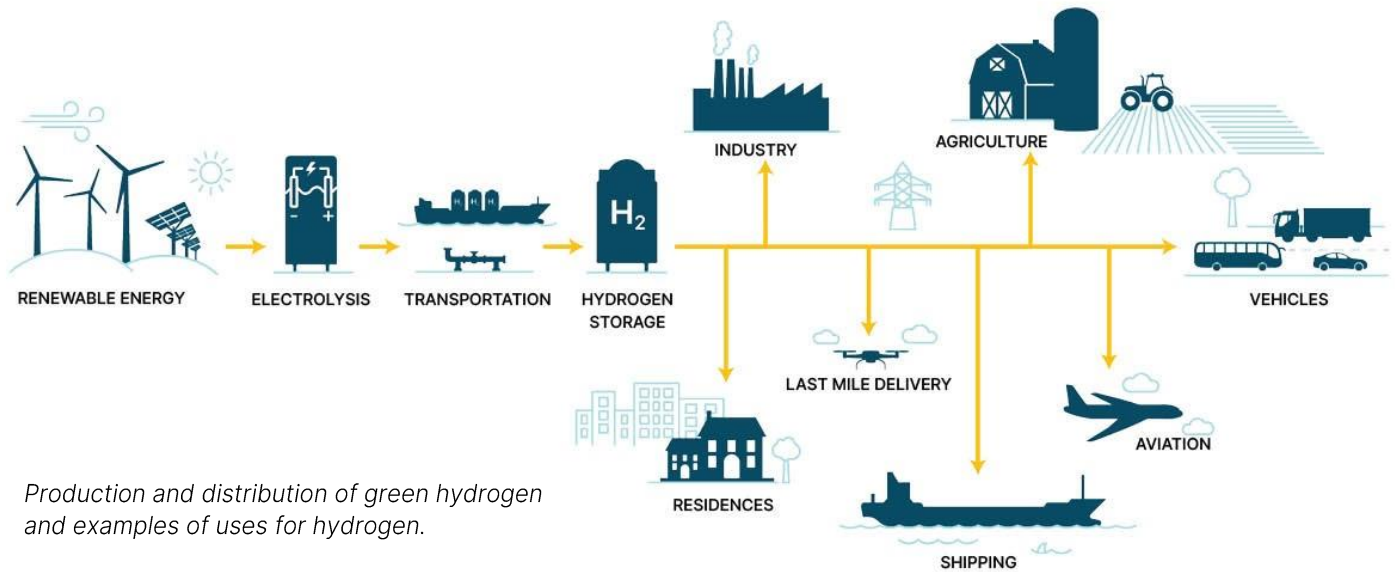
close to the objects provides more efficient utilization of noble metals than many other PVD systems.

Short cycle times and compact size also allow the systems to be integrated with other production steps, for example with plastic injection molding and an industrial robot in efficient automated production cells for metallized plastic components.

#### FLEXIBLE BUSINESS MODEL WITH THE CUSTOMER AT THE CENTER

The starting point in Impact Coatings' business is the customer. Placing the customer at the center gives Impact Coatings competitive advantages – especially in developing markets. The company's offerings enable a close interaction already in the development stage. Impact Coatings meets customers with high flexibility, which means they can choose freely between using Coating Services, buying or renting PVD systems, and using an Impact Coatings team on site to manage initial production.

The expansion of Coating Service Centers generates several advantages for customers and for the company. Coating Services offers a low entry barrier, shortens time-to-market, and reduces technical and financial risk. The same technical solution can be used for testing, verification, and volume production, first in Coating Services and later at the customers' facilities, when they choose to invest in their own production. In addition,



*Production and distribution of green hydrogen and examples of uses for hydrogen.*

Coating Service Centers can act as a second source for future volume peaks.

Through Coating Services, the company's coating solutions are also qualified in the early stages, which gives a favorable position in the sale of PVD systems.

## VERSATILE COATING TECHNOLOGY – FOCUS ON TWO GROWTH MARKETS

PVD is widely used in large industrial segments and the pursuit of a more sustainable industry means that the technology is constantly finding new areas of use. Unlike traditional wet chemical plating, PVD is a dry and clean surface coating technology, without hazardous chemicals and emissions.

For almost three decades, Impact Coatings been active in general PVD technology and various application areas, such as consumer products, electrical contacts and medical technology, and the company continues to sell Coating Services and PVD systems in these areas. The many years of experience are also the basis for the strategic focus that Impact Coatings has adopted in two growth markets: Hydrogen and Metallization on plastic.

### Hydrogen

Hydrogen is a cornerstone in the development of a fossil-free energy system and society. Major investments are being made in all the world's leading regions to scale up the production and use of hydrogen, above all so-called green hydrogen from renewable energy sources.

Impact Coatings' technology is directly involved in the manufacture of critical components for both production and use of hydrogen. The company provides solutions

for electrically conductive and protective PVD coatings on metal plates that are found in both fuel cells and electrolyzers.

### Fuel cells

In a fuel cell, hydrogen and oxygen (from the air) are converted into electricity, with water vapor as the only emission. There are different types, with PEM (proton-exchange membrane) fuel cells being the most suitable for applications with many starts and stops, for example for vehicle applications.

Impact Coatings started developing coating solutions for PEM fuel cells in 2007 and has since supplied both Coating Services and coating machines to the fuel cell industry. Much of the development today focuses on fuel cells for heavy vehicles and Impact Coatings therefore, in 2023, launched a newly developed coating for PEM fuel cells for heavy vehicle applications – Premium FC. The company also has a coating for PEM fuel cells for mid-end applications – Ceramic MAXPHASE™.

### Electrolyzers

In an electrolyzer, hydrogen is produced by splitting water using electricity. PEM electrolyzers are particularly effective for small and medium-sized installations and where the electrical power varies, for example from solar and wind farms. Other techniques, such as alkaline and solid oxide electrolysis, are mainly used for industrial applications.

Put simply, a PEM electrolyzer is a PEM fuel cell that runs backwards and contains corresponding components. The electrolyzer is normally larger, which means larger metal plates to be coated. Unlike most fuel cells, noble

metals are required for electrolysis plates to achieve the expected high performance and lifetime.

Much of Impact Coatings' machine technology and fuel cell application know-how can be applied to PEM electrolyzers, which has given the company a technology and market edge for the new application. This applies to the ability to cost-effectively handle noble metal coatings.

The company has been producing electrolysis coatings within Coating Services since the end of 2022 and the type of system used, INLINECOATER™ IC2000, is available for electrolysis and fuel cell customers.

### ***The hydrogen market and customers***

The hydrogen market is growing with many commercial players and through government incentives in North America, Europe and Asia. In Asia, Japan and South Korea were early adopters and are still at the forefront of hydrogen development, but today they are partly overtaken by China, which is investing heavily in hydrogen in its energy transition.

Simplified, there are three levels in the value chain within the hydrogen industries. At the top are end users, such as vehicle manufacturers for fuel cells and energy companies for electrolyzers. Below these are manufacturers of stacks and systems, sometimes with their own component manufacturing, and at the bottom pure component manufacturers.

Impact Coatings' sales at this early market stage are mainly to the stack and system manufacturers, who own the design, and who dare to make larger investments. However, the Chinese market is one step ahead, where component manufacturers are increasingly ready to build their own production capacity, which is also reflected in Impact Coatings' system sales for fuel cell applications to China.

### **Metallization on plastic**

The most common method of giving plastic components a metal layer is through chrome plating, a highly problematic technique that usually involves health-hazardous hexavalent chromium. Where it is possible to replace plating, or where materials other than chrome are required, other coating methods are used, including PVD technology from Impact Coatings.

Automated production cells with plastic injection molding and INLINECOATER metallization enable quality control of finished metallized plastic parts only minutes after injection molding, hence the possibility of rapid process adjustments that maximize the customer's production yields. An example where this is used is the manufacture of radomes for vehicle radars, where Impact Coatings' technology is used by leading manufacturers in the European automotive industry. Metallized plastic waveguide antennas are another critical component under development for automotive radar, where the company's technology has the potential to become a solution for volume production.

Radar is used for autonomous vehicle and traffic solutions, a market that is expected to grow as more functions are integrated into vehicle and the more connected traffic becomes. Thus, the need for metallization solutions in applications where the company currently has a strong position is expected to increase. PVD metallization in other areas is also expected to grow when health-hazardous chrome plating on plastics is to be phased out of the industry.

Metallization is a competitive market with many suppliers of PVD equipment. Impact Coatings' strength lies primarily in applications and for customers who need integrated production solutions.