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Thyssenkrupp AG

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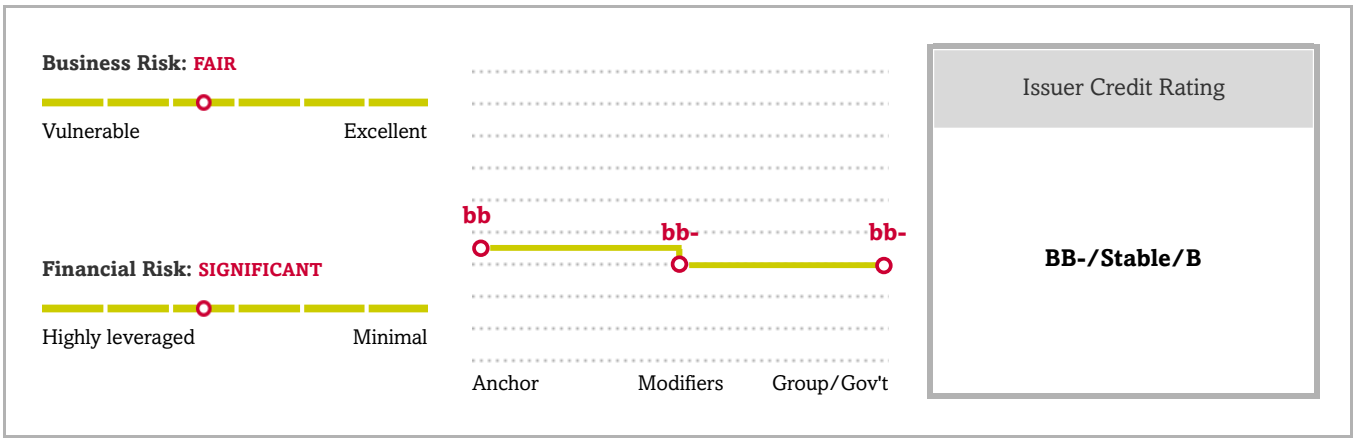
Thyssenkrupp AG



Credit Highlights

Overview

Key strengths	Key risks
Strong technological capabilities, with market-leading positions in multiple industrial segments.	High exposure to cyclical steel (which is sensitive to macroeconomic conditions, global overcapacity, and imports), auto, and large-scale industrial engineering markets.
Sizable scale, with more than €34 billion revenue in the financial year (FY) ended Sept. 30, 2021, and good product and end-market diversification with its six operating segments.	Below-average profitability compared with industry peers, demonstrated by S&P Global Ratings-adjusted EBITDA margins of 4.4% in FY2021. We predict this ratio will improve to 5.0% to 8% in FY2022 and FY2023.
No net financial debt and low leverage, with debt to EBITDA of around 1x, including high share of pension provisions (about €5 billion as of June 30, 2022) with no bullet maturities or cash interest expenses.	Ongoing restructuring and high investment needs in its steel operations to improve its competitiveness, operational flexibility, and profitability.
Strong liquidity, with about €6.0 billion in cash and €1.5 billion in credit lines at the end of June 30, 2022, to cover upcoming debt maturities and negative free operating cash flow (FOCF) generation.	Comparably high exposure to energy scarcity recession scenario, in case of a gas supply cut.
	Limited view of the future shape of the group because the group's strategy leaves many options open, especially relating to its steel operations.
	Weak FOCF generation in the past decade, most years being negative; we expect this to continue for at least the next 12 months, also burdened by annual pension-related outflows of about €0.4 billion.

Strong operating performance thanks to the cyclical recovery in steel and materials business in the nine months to June 30, 2022, despite macroeconomic and geopolitical headwinds. During this period, Thyssenkrupp AG's order intake went up by 34% year-on-year to €33.9 billion, and revenue increased by 24% year-on-year to €30.6 billion. We consider that this significant increase in orders and revenue was caused by higher market prices for many materials, including steel, at Thyssenkrupp's Materials Services and Steel Europe segment, and a major order in the Marine business. The group's reported EBIT margins improved to 4.6% in the first nine months of FY2022 from 1.2.% in the first nine months of FY2021. The increase in earnings was mainly attributable to higher revenue and improved margins in the steel and materials business. Efficiency measures had a positive impact on margins, and growth was supported by the company's progress on its restructuring plan. This helped to more than offset the adverse effect of the increasing cost of raw materials, logistics and energy, and the worsening supply-chain problems, which mainly affected

the group's automotive and components-related businesses.

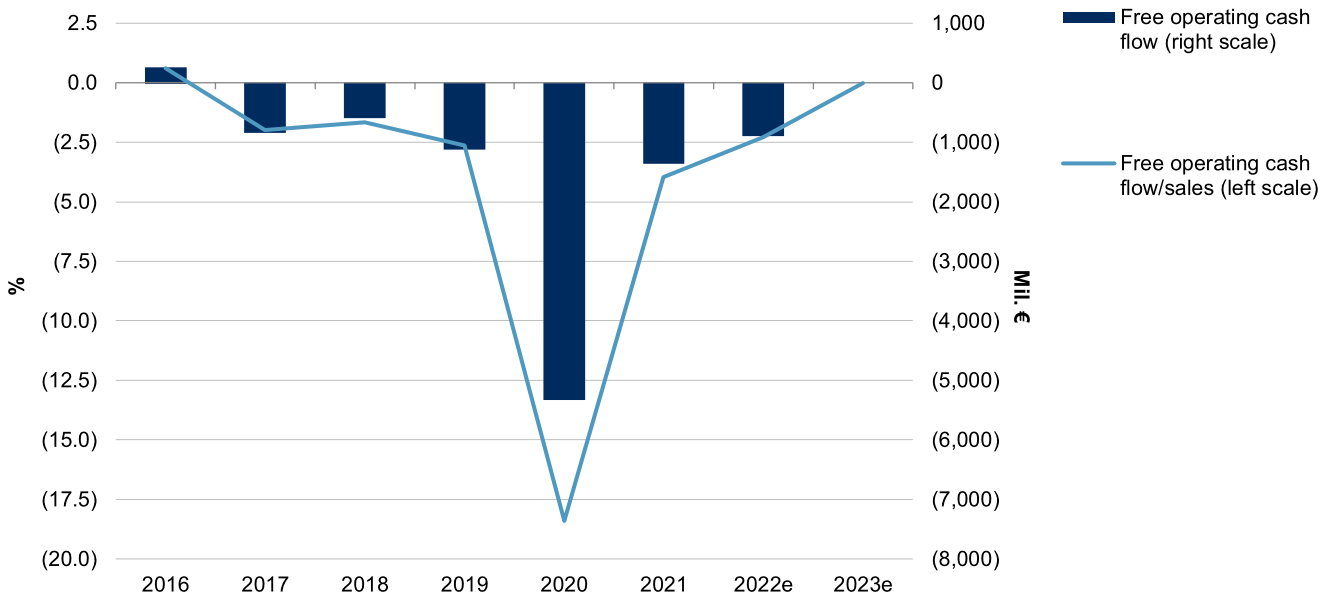
We estimate revenue for full-year FY2022 will show solid growth of 15%-17% before moderating in FY2023. Steel Europe and the Materials Services segment will make a strong contribution given the considerable increase in market prices for materials. Thyssenkrupp's low spot exposure should enable it to benefit from the cyclical recovery in steel for longer than its peers as well as earnings improvement at its materials businesses. It should also see reduced losses in the Multi Tracks segment after the sale of certain portfolio companies and the closure of Heavy Plate. Therefore, we expect adjusted EBITDA margins to improve to about 8% in FY2022 from 4.4% in FY2021. For FY2023, we expect revenue to fall by 10%-15%, owing to normalization of materials prices following the 2022 peaks and further wind downs in multi-tracks.

Growth in EBITDA margins is partially offset by lower earnings from the automotive and components-related businesses. We expect the company to see a regional slowdown in the wind energy sector, as well as supply-chain shortages of semiconductors and other components to remain at least over the next six months. The effect will be intensified by the Russia-Ukraine war and reinstated lockdown measures in Asia, particularly in China. Furthermore, the rising cost of raw materials and freight cannot be passed through completely, which may also weigh on margins. Overall, improved earnings in FY2022 should help increase funds from operations (FFO) to debt to about 100% in FY2022 from 31.4% in FY2021.

Despite improving earnings, FOCF is overshadowed by higher price effects on net working capital and further cash outflows for restructuring will keep FOCF negative for FY2022. Reported FOCF weakened to negative €2.1 billion in the first nine months of FY2022 from negative €1 billion in the first nine months of FY2021, due to an increase in net working capital outflow (to €2.8 billion from €0.7 billion). We attribute the increase in working capital to increasing inventory and receivables, reflecting sharply higher commodity and material prices. Supply-chain bottlenecks also caused delayed customer call-offs. For FY2022, we anticipate a working capital buildup in total of about €2 billion, leading to a working capital release in the last quarter of about €1 billion. For FY2023 we estimate a less volatile working capital pattern, as we assume lower and less volatile commodity prices. FOCF generation at least over the next 24 months will be negatively affected by the pressure from the cash outflows on restructuring, which are expected to remain at the previous year's level of about €250 million. In addition, payments to pensioners (about €0.4 billion) and higher investments than depreciation also weigh on the group's FOCF. To an extent, these aspects will be offset by the improved earnings position. Nevertheless, we now anticipate the group will report negative FOCF of up to €1 billion in FY2022. Although this is an improvement on the negative FOCF of €1.3 billion in FY2021, we had previously estimated that FOCF would break even in FY2022. For FY2023 we forecast FOCF to turn neutral. This reflects a further improvement in earnings and the absence of huge outflows of net working capital triggered by the normalization of prices. It will be partially offset by continued cash-out for restructuring.

Chart 1

Thyssenkrupp AG--Free Operating Cash Flow



e--Estimate. Source: S&P Global Ratings.

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The restructuring measures and disposals are progressing. More than 70% of planned headcount reductions have already been achieved and about €900 million in expenses have been booked over the past two years. However, the release of the provisions will weigh on cash flows in FY2022 and FY2023. The full benefits will only take effect from FY2023. At the same time, the company is making good progress in the disposal of various activities from its multi-tracks segment. The group has sold or closed five out of its 11 non-core assets (multi-tracks). This should reduce losses in its multi-tracks activities and support profitability improvements. For FY2022, we expect a significant decline in revenue in this segment because the sale of the infrastructure and stainless steel business units closed in the first nine months of the year and the sale of the mining business is upcoming. The segment's EBITDA should also improve considerably following the closure of the heavy plate mill, improved project execution, and ongoing restructuring measures.

Although the future shape and scope of Thyssenkrupp's portfolio remains unclear, the group's streamlining efforts have gained momentum. Thyssenkrupp still has a wide range of strategic options on the table. In particular, the strategy for its steel operations, which face challenges and need high capital expenditure (capex), has yet to be finalized. Given the steel operations' weight within the group, its elevated restructuring needs, high fixed cost base, sizable pension obligations, and pronounced sensitivity to the economy, a change in strategy could materially affect the group's profile as steel operations make cash flow and profitability more volatile. That said, Thyssenkrupp announced in FY2021 that it planned to prepare Steel Europe to operate on a stand-alone basis. However, we do not expect any decisions on this

in the short term due to the current economic conditions.

A potential separation of the steel business would reduce the size and diversification of Thyssenkrupp's product portfolio. However, this disadvantage would be offset by the unit's high capital-intensity and the likely reduction in margin and cash flow volatility. We anticipate that we would still assess business risk as fair, following a separation. The group is also considering an initial public offering (IPO) of its hydrogen electrolysis business, Nucera, given the favorable market valuations. Even though we expect Thyssenkrupp to retain a significant stake in the company, the transaction would strengthen the company's already-sound balance sheet. At this time, we use a going-concern approach in our analysis and have not included any material sale of operations, except for the announced and completed disposals.

Thyssenkrupp has limited revenue exposure to Russia or Ukraine (less than 1%), but its sourcing of raw material has been affected. On the revenue side, Thyssenkrupp's only exposure to Russia or Ukraine is via its plant engineering activities for mining; these are in the process of being sold. On the supply side, Thyssenkrupp had been sourcing coal and iron pellets from the region. The group has since been able to find other sources but at a higher cost.

A gas shortage would be rough on operating performance, end markets, and the supply chain. In such a scenario, supply chains for industrial companies would face unprecedented challenges because gas is widely used in processing and production of components. It would also likely lead to intense pressure on margins because of even higher energy costs, weaker demand, and under-absorption of fixed costs.

Thyssenkrupp's main energy source is coal, which is a feedstock for its steel operations. However, it also needs a meaningful amount of natural gas (7TWh per year) in its steel operations and for heat treatments in other business areas. A minimum supply level is indispensable for maintaining production operations. Otherwise, shutdowns and technical damage to production facilities cannot be ruled out. Resuming production would then carry heavy ramp up costs. Currently, we view it as unlikely to see a cut in gas supply to the industry of this magnitude.

If gas supply were rationed, but the necessary minimum supply level were maintained, production capacity would be reduced, leading to lower output and margin pressure. The company's production could also be constrained if there were a limited supply of components, creating a meaningful deviation from our current base case. However, as long as the gas supply reduction is only temporary and elevated energy costs do not alter Thyssenkrupp's competitive position compared with non-European competitors, we see no imminent rating pressure. The group is protected by its high financial flexibility, strong credit metrics, and the likely release of working capital in such a scenario (which should limit cash outflows).

Outlook: Stable

The stable outlook signifies that we consider that Thyssenkrupp's operating performance has improved markedly over the past 12 months and will further improve over the next 12 months. This includes our expectation that FOCF will turn neutral in FY2023, thanks to the cyclical recovery of Thyssenkrupp's commodity-driven business, combined with the first benefits of its cost-saving measures. We estimate the group will post EBITDA margins of more than 7% in FY2022 and around 6% in FY2023, and that FFO to debt will stay comfortably above 60% over the next 24 months.

Downside scenario

We could lower the ratings if the group:

- Cannot further improve its FOCF toward at least breakeven over the next 12-18 months;
- Fails to post EBITDA margins of about 6% (in the current scope).
- Cannot sustain FFO to debt above 20% during a cyclical downturn; or
- Faces depressed end-markets, in particular automotive, or weaker-than-expected outcomes from its restructuring efforts.

Upside scenario

We could raise our ratings if the group further strengthened its profitability and was able to keep improving EBITDA margins to above 7% through the cycle. This would enable the group to generate and sustain meaningful FOCF. Such a development could occur if the group successfully completes its restructuring program, including the sale or closure of all its non-core activities. We could also raise the rating if we believed that its cash flow was becoming less volatile.

Our Base-Case Scenario

Assumptions

- Eurozone GDP growth contracting to 2.7% in 2022 and to 2.2% in 2023, from 5.2% in 2021. For the U.S. market, GDP growth to contract to 2.4% in 2022 and 2.0% in 2023, from 5.7% in 2021. Asia-Pacific GDP growth to contract to 4.6% in 2022 and 5.0% in 2023, from 6.5% in 2021.
- Significant increase in revenue by about 15%-17% in FY2022, supported by the positive momentum in the Materials Services and Steel Europe operations, led by increasing prices for materials such as steel. However, this will be partially offset by a decline in sales in the multi-tracks segment, following the sale of two of its portfolio companies, and given that supply-chain issues are depressing the automotive and components-related business.
- We expect revenue to decline by 10%-15% in FY2023, underpinned by normalization of prices of materials trailing the peaks of 2022 and further wind downs in multi-tracks.
- S&P Global Ratings-adjusted EBITDA margin should improve towards 8% in FY2022 up from 4.4% in FY2021, supported by higher spreads in its materials business and steel operations, lower restructuring costs, and reduced losses from its multi-tracks segment. This could be partially offset by the ongoing supply-chain issues and higher input costs.
- EBITDA margin to moderate to about 5.0%-6.0% in FY2023, as we expect the steel environment to normalize. Margins in the group's remaining segments should expand on the back of restructuring benefits and normalization of supply chains.
- Reduced annual capex of about €1.2 billion-€1.3 billion in FY2022, in light of heightening uncertainties in the economy, increasing to about €1.4 billion-€1.5 billion in FY2023, assuming gradual economic normalization.
- Temporary increase in net working capital outflow of about €2.0 billion in FY2022, fueled by supply-chain challenges and increasing inventory. This reflects higher commodity and material prices. For FY2023, we anticipate a net working capital inflow of about €300 million, reflecting expected raw material price normalization and supply chain ease.
- Bolt-on acquisitions of around €60 million per year over FY2022-FY2023.
- No dividend payments expected in FY2022-FY2023.

Key Metrics

Thyssenkrupp AG--Key Metrics*

	--Fiscal year ended Sept. 30--			
Mil. €	**2020a**	**2021a**	**2022e**	**2023f**
Revenue	28,899	34,015	39,100-39,800	33,500-35,500
Revenue growth (%)	(31.2)	17.7	15.0-17.0	(10)-(15)
EBITDA	(315.0)	1,485.0	3,000-3,300	1,800-2,100
EBITDA margin (%)	(1.1)	4.4	~8.0	5.0-6.0
Free operating cash flow	(5,318.0)	(1,348)	~(1,000)	~Neutral
Debt to EBITDA (x)	(8.4)	2.5	0.6-1.0	1.0-1.4
Funds from operations to debt (%)	(25.2)	31.4	~110	70-80

*All figures adjusted by S&P Global Ratings. a--Actual. e--Estimate. f--Forecast.

Company Description

Thyssenkrupp is a Germany-based diversified industrial conglomerate that has active operations in 56 countries. The group structure comprises six operating segments:

- Automotive Technology: Development and production of high-tech components and systems for the auto industry, and development of automated production systems for the auto industry.
- Industrial Components: Production of crankshafts, slewing bearings and seamless rings, and undercarriage components.
- Marine Systems: System supplier for submarines and surface vessels, as well as for maritime electronics and security technology.
- Materials Services: Global materials distribution.
- Steel Europe: Production of flat-rolled carbon steel for the auto industry and other sectors.
- Multi Tracks: A portfolio of companies, which Thyssenkrupp will either sell, form partnerships, or close. The portfolio includes a company that produces stabilizers and springs, as well as one that constructs plants for the chemical and cement industries, among others.

Thyssenkrupp generated about €34 billion in revenue and about €1.5 billion in adjusted EBITDA in FY2021. Thyssenkrupp is a listed company, with about 79% of its capital stock in free float (about 64% owned by international mutual funds, and about 15% owned by private investors); the remaining part (about 21%) is held by the Alfried Krupp von Bohlen und Halbach(AKBH)Foundation.

Peer Comparison

Table 1

Thyssenkrupp AG--Peer Comparison

Industry sector: Capital goods/Diversified

	Thyssenkrupp AG	**Sandvik AB**	**Alfa Laval AB**	**ArcelorMittal**	**ZF Friedrichshafen AG**
Ratings as of May 20, 2022	BB-/Stable/B	A-/Stable/A-2	BBB+/Stable/--	BBB-/Stable/A-3	BB+/Stable/--
	--Fiscal year ended Sep. 30, 2021--				
(Mil. €)					
Revenue	34,015.0	9,637.3	3,978.3	69,439.5	38,313.0
EBITDA	1,485.0	2,324.3	781.4	17,547.5	3,346.0
Funds from operations (FFO)	1,149.0	1,826.6	605.5	15,241.6	2,538.0
Interest expense	205.0	103.7	24.1	396.6	457.0
Cash interest paid	159.0	93.7	20.4	434.8	352.0
Cash flow from operations	100.0	1,308.1	499.6	7,513.7	2,067.0
Capital expenditure	1,448.0	374.7	119.5	2,750.6	1,522.0
Free operating cash flow (FOCF)	(1,348.0)	933.4	380.1	4,763.1	545.0
Discretionary cash flow (DCF)	(1,348.0)	141.9	25.4	(1,337.2)	486.0

Table 1

Thyssenkrupp AG--Peer Comparison (cont.)

Industry sector: Capital goods/Diversified					
	Thyssenkrupp AG	**Sandvik AB**	**Alfa Laval AB**	**ArcelorMittal**	**ZF Friedrichshafen AG**
Cash and short-term investments	8,974.0	1,321.0	354.6	3,706.1	2,395.0
Debt	3,663.3	2,359.1	981.0	13,524.2	14,252.7
Equity	10,845.0	7,491.3	3,145.2	45,171.4	7,123.0
Adjusted ratios					
EBITDA margin (%)	4.4	24.1	19.6	25.3	8.7
Return on capital (%)	2.2	22.4	15.7	30.3	5.9
EBITDA interest coverage (x)	7.2	22.4	32.4	44.2	7.3
FFO cash interest coverage (x)	8.2	20.5	30.7	36.1	8.2
Debt/EBITDA (x)	2.5	1.0	1.3	0.8	4.3
FFO/debt (%)	31.4	77.4	61.7	112.7	17.8
Cash flow from operations/debt (%)	2.7	55.4	50.9	55.6	14.5
FOCF/debt (%)	(36.8)	39.6	38.7	35.2	3.8
DCF/debt (%)	(36.8)	6.0	2.6	(9.9)	3.4

Business Risk: Fair

Thyssenkrupp's fair business risk profile is supported by the diversification of its business across several industrial end-markets, product lines, and geographies, and its leading market position as a steel distributor, and as a Tier 1 supplier of high-tech components for most of its automotive and capital goods operations. The group's business risk profile is constrained by the volatile nature of its steel operations; exposure to cyclical end-markets; and profitability margins that are improving, but still below the peer average.

The group's operating performance is heavily dependent on its steel operations (€8.9 billion of revenue). By nature, steel production and steel distribution operations are more volatile and have only a limited service share, leading to more-volatile cash flow generation. Thyssenkrupp is a large-scale producer that has a strong presence in more-resilient markets and industries. Its product mix skews toward premium flat carbon steels, especially for the auto industry and other steel-using sectors that have demanding quality and service requirements. This results in somewhat less volatility in price and volume compared with that of pure commodity peers. However, according to the WorldSteel Association, Thyssenkrupp ranked 39th among global steel producers in 2021, down from being in the Top 15 in 2017. Cheaper steel imports from China have resulted in oversupply and capacity under-usage in the European steel market; we do not expect this to change in the medium term. Given the steel industry's cyclical nature, we also expect earnings volatility to persist. However, market conditions for the steel industry are favorable at present as steel prices are high. We anticipate that Steel Europe will be the dominant driver of revenue and margin expansion in FY2022.

Steel producers are under pressure to reduce their carbon dioxide emissions and transform their operations to produce "green" steel, which will require significant investment. We expect this to weigh on the industry's free cash flow generation and profitability.

A potential separation of the steel business would reduce the size and diversification of Thyssenkrupp's product portfolio. However, this negative impact would be offset by the lower capital intensity and reduced margin and cash flow volatility. Overall, we do not expect that a potential separation of the steel business would change our assessment of Thyssenkrupp's business risk as fair.

The Materials Services segment is one of the leading steel distributors in Europe (the other being ArcelorMittal). It contributed €12 billion in revenue to the group's total revenue of more than €34 billion. The company is the market leader in Germany and holds Top 4 positions in Europe, Eastern Europe, and North America. Reflecting its exposure to commodity prices, earnings are significantly affected when markets are volatile, while cash flow volatility is moderated by offsetting working capital movements.

Thyssenkrupp's automotive technology segment (which contributes about €4.5 billion in revenue) produces high-tech components for the industry. The product spectrum in the powertrain area includes integrated camshafts and cylinder head modules. In the chassis area, the range incorporates manufactured steering and damper systems and axis module assembly. We view as positive Thyssenkrupp's position as a Tier 1 supplier for most global auto original equipment manufacturers; that its product range contains technologically advanced components such as steering systems; and our view that the expected increase in electric vehicle volumes will likely benefit the business. The electrification of automobiles will have a lower impact on Thyssenkrupp than on its peers because a significant portion of the company's product portfolio is already based on technology that is not related to internal combustion engines. Credit negatives include the limited scale and scope of the business compared with large global auto suppliers, the segment's lower profitability compares to other Tier 1 suppliers, and high investment needs.

The Industrial Components segment (bearings and forged technologies) produces low-tech, but high-precision, components for heavy-duty vehicles, industrial applications and the wind-turbine industry. The product offer includes bearings, crankshafts, and connecting tools. The group ranks No. 1 worldwide for large slewing bearings for wind turbines. We view this operation as mid-scale and well-positioned in its markets. It is supported by solid segment profit margins, compared with peers in the capital goods sector.

The Marine Systems segment, as a manufacturer of surface vessels and submarines, is exposed to project risks, which has in the past led to cash flow volatility, or negative or low earnings contributions. We anticipate that restructuring will bring notable benefits from FY2023, including improved EBITDA. Given that this segment contributes little revenue and EBITDA to the group, its impact on the business risk profile is limited.

The multi-tracks business includes a portfolio of companies, which Thyssenkrupp will either sell, form partnerships, or close. For example, it includes Nucera, its hydrogen technologies business for which Thyssenkrupp plans an IPO. It also includes Thyssenkrupp's plant technology business, which engages in large-scale turn-key engineering projects for the process industry. In the past, project charges caused a negative impact on operating results. Over the past 12 months, Thyssenkrupp has made good progress on restructuring its operations, selling or closing five of the 11 businesses in this division. As a result, the group saw a notable reduction in losses in the first nine months of FY2022.

Financial Risk: Significant

Thyssenkrupp's financial risk profile was enhanced by its improved key credit metrics, chiefly because cash inflows from the sale of its elevator technology segment in FY2020 led to a reduction in net debt and a considerable improvement of the group's liquidity. However, we view Thyssenkrupp's inability to generate positive FOCF and its cash flow volatility as key constraining factors. We estimate that these issues will persist over the next 12 months, although we predict FOCF to turn neutral from FY2023.

Thyssenkrupp's adjusted debt stood at €3.7 billion at the end of FY2021, including financial debt of about €4.8 billion, €618 million of lease obligations, about €200 million for asset retirement obligations, and €6.5 billion for pensions. We expect the increase in interest rates to result in higher discount rates which should reduce the group's pension obligations to less than €5 billion for FY2022 and onward. We exclude €500 million from the cash balance of approximately €9 billion as of FY2021 because we assume it will be used for operating purposes or restricted.

We understand that management remains committed to reducing debt on the balance sheet, restructuring the business, and improving the credit rating. We expect the group to use the cash held on its balance sheet to pay back its financial debt at maturity.

Management has stated that resuming reliable payment of a dividend is a clear objective for the future. That said, we do not expect Thyssenkrupp to pay a regular dividend, or implement any other shareholder-friendly measures, until its restructuring program is complete and FOCF generation capacity significantly improves.

Financial summary

Table 2

Thyssenkrupp AG--Financial Summary

Industry sector: Capital goods/Diversified

	--Fiscal year ended Sep. 30--				
	2021	**2020**	**2019**	**2018**	**2017**
(Mil. €)					
Revenue	34,015.0	28,899.0	41,996.0	34,777.0	41,447.0
EBITDA	1,485.0	(315.0)	1,784.5	1,408.0	2,510.5
Funds from operations (FFO)	1,149.0	(667.0)	1,242.5	770.6	1,787.4
Interest expense	205.0	264.0	346.0	396.4	460.1
Cash interest paid	159.0	222.0	274.0	283.4	382.1
Cash flow from operations	100.0	(3,984.0)	283.5	346.6	694.4
Capital expenditure	1,448.0	1,334.0	1,391.0	925.0	1,520.0
Free operating cash flow (FOCF)	(1,348.0)	(5,318.0)	(1,107.5)	(578.4)	(825.6)
Discretionary cash flow (DCF)	(1,348.0)	(5,318.0)	(1,200.5)	(671.4)	(910.6)
Cash and short-term investments	8,974.0	11,547.0	3,706.0	2,993.0	5,292.0
Gross available cash	8,974.0	11,547.0	3,706.0	2,993.0	5,292.0
Debt	3,663.3	2,644.0	13,022.2	7,258.8	10,246.8
Equity	10,845.0	10,174.0	2,220.0	3,275.0	3,405.0

Table 2

Thyssenkrupp AG--Financial Summary (cont.)

Industry sector: Capital goods/Diversified

	--Fiscal year ended Sep. 30--				
	2021	**2020**	**2019**	**2018**	**2017**
Adjusted ratios					
EBITDA margin (%)	4.4	(1.1)	4.2	4.0	6.1
Return on capital (%)	2.2	(32.0)	2.7	4.4	8.6
EBITDA interest coverage (x)	7.2	(1.2)	5.2	3.6	5.5
FFO cash interest coverage (x)	8.2	(2.0)	5.5	3.7	5.7
Debt/EBITDA (x)	2.5	(8.4)	7.3	5.2	4.1
FFO/debt (%)	31.4	(25.2)	9.5	10.6	17.4
Cash flow from operations/debt (%)	2.7	(150.7)	2.2	4.8	6.8
FOCF/debt (%)	(36.8)	(201.1)	(8.5)	(8.0)	(8.1)
DCF/debt (%)	(36.8)	(201.1)	(9.2)	(9.2)	(8.9)

Reconciliation

Table 3

Thyssenkrupp AG--Reconciliation Of Reported Amounts With S&P Global Ratings' Adjusted Amounts

	--Fiscal year ended Sept. 30, 2021--						
Thyssenkrupp AG reported amounts (mil. €)							
	Debt	**Shareholders' equity**	**EBITDA**	**Operating income**	**Interest expense**	**S&P Global Ratings' adjusted EBITDA**	**Cash flow from operations**
	4,806.0	10,400.0	1,510.0	443.0	137.0	1,485.0	94.0
S&P Global Ratings' adjustments							
Cash taxes paid	--	--	--	--	--	(177.0)	--
Cash interest paid	--	--	--	--	--	(159.0)	--
Trade receivables securitizations	--	--	--	--	--	--	6.0
Reported lease liabilities	618.0	--	--	--	--	--	--
Postretirement benefit obligations/deferred compensation	6,485.0	--	(1.0)	(1.0)	55.0	--	--
Accessible cash and liquid investments	(8,474.0)	--	--	--	--	--	--
Dividends received from equity investments	--	--	17.0	--	--	--	--
Asset-retirement obligations	195.3	--	--	--	13.0	--	--
Nonoperating income (expense)	--	--	--	(94.0)	--	--	--
Noncontrolling interest/minority interest	--	445.0	--	--	--	--	--
Debt: Put options on minority stakes	33.0	--	--	--	--	--	--

Table 3

Thyssenkrupp AG--Reconciliation Of Reported Amounts With S&P Global Ratings' Adjusted Amounts (cont.)							
EBITDA: Gain/(loss) on disposals of PP&E	--	--	(54.0)	(54.0)	--	--	--
EBITDA: Other	--	--	13.0	13.0	--	--	--
Total adjustments	(1,142.7)	445.0	(25.0)	(136.0)	68.0	(336.0)	6.0
S&P Global Ratings' adjusted amounts							
	Debt	**Equity**	**EBITDA**	**EBIT**	**Interest expense**	**Funds from operations**	**Cash flow from operations**
	3,663.3	10,845.0	1,485.0	307.0	205.0	1,149.0	100.0

Liquidity: Strong

Our short-term rating on Thyssenkrupp is 'B', reflecting the long-term issuer credit rating. We project that liquidity sources will exceed potential uses by more than 2.0x over the 12 months from March 31, 2022, and remain above 1.5x for the 12 months thereafter. We also anticipate that Thyssenkrupp's net sources will remain positive, even if forecast EBITDA declines by more than 30%. Our liquidity assessment is also supported by Thyssenkrupp's prudent financial risk management and well-established relationship with banks.

Principal liquidity sources	Principal liquidity uses
Principal liquidity sources for the 24 months from June 30, 2022: • Cash and cash equivalents of about €5.5 billion (after deduction of €0.5 billion assumed to be used for operating purposes or restricted); • Access to undrawn bank lines in the form of revolving credit facilities of about €1.5 billion, which we assume to remain in place over the next 24 months; and • About €2 billion-€2.2 billion in operating cash flows over the next 12 months, followed by €1.5 billion-€1.8 billion over the following 12 months.	Principal liquidity uses over the same period: • Short-term debt maturities of about €1.1 billion, and €1.5 billion in the following 12 months. • About €1 billion in intrayear working capital swings; • Capex of about €1.2 billion-€1.5 billion a year in the next 24 months; and • No dividends.

Debt maturities

- Q4 FY2022: €36 million
- FY2023: €1,031 million
- FY2024: €1,521 million
- Thereafter: €761 million

Covenant Analysis

There is no covenant for the committed credit lines of about €1.5 billion, or for the bonds outstanding.

Environmental, Social, And Governance

ESG Credit Indicators

E-1	E-2	E-3	**E-4**	E-5	S-1	**S-2**	S-3	S-4	S-5	G-1	G-2	**G-3**	G-4	G-5

- Climate transition risks	- N/A	- Other governance factors

N/A—Not applicable. ESG credit indicators provide additional disclosure and transparency at the entity level and reflect S&P Global Ratings' opinion of the influence that environmental, social, and governance factors have on our credit rating analysis. They are not a sustainability rating or an S&P Global Ratings ESG Evaluation. The extent of the influence of these factors is reflected on an alphanumerical 1-5 scale where 1 = positive, 2 = neutral, 3 = moderately negative, 4 = negative, and 5 = very negative. For more information, see our commentary "ESG Credit Indicator Definitions And Applications," published Oct. 13, 2021.

Environmental factors are a negative consideration in our credit rating analysis of Thyssenkrupp. As a steel producer (more than 25% of group revenue in FY2021), it is exposed to a high risk of changing environmental regulation and more stringent requirements for carbon dioxide emissions, which could force the group to make high investments to produce green steel and potentially erode its cost position compared with less regulated producers. Despite ongoing measures to improve its energy efficiency gains (325 gigawatt hours in FY2021), the group still consumed about 74 terawatt hours. We recognize Thyssenkrupp's strong technological capabilities in providing hydrogen technologies. A potential partial sale via an IPO would support the balance sheet further.

Governance factors are a moderately negative consideration. The company adheres to high standards of disclosure, in line with international publicly listed groups. However, we view as negative the group's lengthy and significant restructuring to restore its profitability, which has been pending for multiple years, as well as multiple unexpected changes in senior management.

Issue Ratings - Recovery Analysis

Key analytical factors

- We rate Thyssenkrupp's various senior unsecured notes at 'BB-'; the recovery rating on these debt instruments is '3'.
- Our recovery expectations are in the 50%-70% range (rounded estimate: 65%).
- Under our hypothetical scenario, a default would follow the persistent weakness in the industries in which Thyssenkrupp operates. We would also expect operating setbacks to lead to deteriorating financial performance, permanent negative free cash flow, and an inability to refinance key obligations.
- We value Thyssenkrupp as a going concern, given the solid market positions of several of its core divisions.

- Nevertheless, we believe many parts of the group could be broken up, sold separately, and provide significant value to creditors in a default scenario.

Simulated default assumptions

Year of default: 2026

- EBITDA at emergence: €1.3 billion (we assume maintenance capex at 2.5% of revenue; cyclical adjustment of 5% and operational adjustment of 10%, which is standard for the sector and €150 million annual pension amortization)
- Implied enterprise value multiple: 5.0x
- Jurisdiction: Germany

Simplified waterfall

- Gross recovery value: €6.9 billion
- Net recovery value for waterfall after administrative expenses (5%) and pension consideration: €3.2 billion
- First priority claims: €0.1 billion
- Value available for senior unsecured claims: €3.1 billion
- Senior unsecured claims: €4.7 billion
- Recovery range: 50%-70% (rounded estimate: 65%)

All debt amounts include six months of prepetition interest.

Ratings Score Snapshot

Issuer Credit Rating

BB-/Stable/B

Business risk: Fair

- **Country risk:** Low
- **Industry risk:** Moderately high
- **Competitive position:** Fair

Financial risk: Significant

- **Cash flow/leverage:** Significant

Anchor: bb

Modifiers

- **Diversification/portfolio effect:** Neutral (no impact)
- **Capital structure:** Neutral (no impact)
- **Financial policy:** Neutral (no impact)

- **Liquidity:** Strong (no impact)
- **Management and governance:** Fair (no impact)
- **Comparable rating analysis:** Negative (-1 notch)

Related Criteria

- General Criteria: Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- General Criteria: Group Rating Methodology, July 1, 2019
- Criteria | Corporates | General: Corporate Methodology: Ratios And Adjustments, April 1, 2019
- General Criteria: Methodology For Linking Long-Term And Short-Term Ratings, April 7, 2017
- Criteria | Corporates | General: Recovery Rating Criteria For Speculative-Grade Corporate Issuers, Dec. 7, 2016
- Criteria | Corporates | Recovery: Methodology: Jurisdiction Ranking Assessments, Jan. 20, 2016
- Criteria | Corporates | General: Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Dec. 16, 2014
- General Criteria: Methodology: Industry Risk, Nov. 19, 2013
- General Criteria: Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- Criteria | Corporates | General: Corporate Methodology, Nov. 19, 2013
- General Criteria: Methodology: Management And Governance Credit Factors For Corporate Entities, Nov. 13, 2012
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011

Business And Financial Risk Matrix

	Financial Risk Profile					
Business Risk Profile	Minimal	Modest	Intermediate	**Significant**	Aggressive	Highly leveraged
Excellent	aaa/aa+	aa	a+/a	a-	bbb	bbb-/bb+
Strong	aa/aa-	a+/a	a-/bbb+	bbb	bb+	bb
Satisfactory	a/a-	bbb+	bbb/bbb-	bbb-/bb+	bb	b+
Fair	bbb/bbb-	bbb-	bb+	**bb**	bb-	b
Weak	bb+	bb+	bb	bb-	b+	b/b-
Vulnerable	bb-	bb-	bb-/b+	b+	b	b-

Ratings Detail (As Of August 19, 2022)*

Thyssenkrupp AG	
Issuer Credit Rating	BB-/Stable/B
Senior Unsecured	BB-
Issuer Credit Ratings History	
13-Dec-2021	BB-/Stable/B
20-Jan-2021	BB-/Negative/B
06-Oct-2020	BB-/Stable/B

Ratings Detail (As Of August 19, 2022)*(cont.)	
04-Mar-2020	BB-/Positive/B
19-Aug-2019	BB-/Developing/B
08-Oct-2018	BB/Developing/B
22-Sep-2017	BB/Watch Pos/B

*Unless otherwise noted, all ratings in this report are global scale ratings. S&P Global Ratings' credit ratings on the global scale are comparable across countries. S&P Global Ratings' credit ratings on a national scale are relative to obligors or obligations within that specific country. Issue and debt ratings could include debt guaranteed by another entity, and rated debt that an entity guarantees.

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