SME Rating Methodology

This rating methodology applies to small and medium-sized non-financial corporates (SMEs) in Germany.

This methodology does not cover large corporates or corporates structured as project financings and is solely used for assigning issuer credit ratings[1].
In addition, this methodology may also not apply to companies defined here as SMEs where EHR considers their key risk characteristics to lend themselves to other credit considerations. We consider an SME to typically have total revenues below €500 million or financial debt of less than €150 million. SMEs typically exhibit a stronger focus on regional markets, a lower level of product diversification or higher dependencies on customers than we would generally expect for large corporates.

This methodology is based on our analysis of the German SME market and a comprehensive experience of assessing the risk of SMEs. Material elements of this methodology are built on data and statistics of approximately 39,000 companies with financials over the 2002-15 period and revenues typically between €10 million and €500 million with a median/mean of approximately €30 million/€75 million, respectively. The large sample of corporate data and statistics excludes companies in the financial sector, public institutions and start-up companies with less than two years of financial data.

For more details on how we assign ratings, please see our publication "Basic Principles for Assigning Ratings" on our website. For details on how we assign instrument credit ratings, please also refer to our "Issue Rating Methodology", also on our website.

SME Ratings (Germany)

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Analyst Contact

Kai Gerdes
Director
Tel.: +49 (0) 40/88 34-6464
kai.gerdes
@eulerhermes-rating.com

Dr. Sascha Heller
Senior Rating Analyst
Tel.: +49 (0) 40/88 34-6464
sascha.heller
@eulerhermes-rating.com

TRIB RATING
For SMEs & MidCaps

Euler Hermes Rating GmbH
Friedensallee 254
22763 HAMBURG
Tel : +49(0) 40/88 34 6464
Fax : +49(0) 40/88 34 6413
info@tribrating.com
www.tribrating.com

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Summary

This document provides general guidance intended to help the reader understand how qualitative and quantitative risk characteristics are likely to affect rating outcomes for issuers. This document does not include an exhaustive treatment of all factors that may be considered by our analysts and reflected in our ratings. However, this methodology should enable the reader to understand the qualitative and quantitative considerations, including financial information and metrics, that are usually most important for assigning ratings.

This report includes a scorecard, which is a reference tool that can be used to approximate credit profiles in most cases and to explain, in summary form, the factors that are generally most important in assigning ratings to companies. The scorecard used for this methodology reflects a decision to use a relatively simple and transparent presentation rather than a more complex scorecard. The scorecard is a summary that does not include every rating consideration, and other quantitative or qualitative considerations that may not lend themselves to a transparent presentation in a scorecard format can also affect assigned ratings.

Furthermore, the weights shown for each factor in the scorecard represent an approximation of their importance for rating decisions, but actual importance may vary substantially. In addition, ratings are based on our forward-looking expectations, which may vary from historical financial statements.

1. Issuer ratings are typically oriented towards the senior unsecured rating. In cases where an issuer debt structure is solely or heavily oriented towards a different class of debt (e.g., senior secured), we may use the outcome of the scorecard as preliminary anchor for the issuer rating and deviate to take into account the capital structure of the company. The extent of the deviation would likely be limited to a few notches, up or down, typically by applying the same principles as outlined in our Issue Rating Methodology.

We seek to incorporate all relevant risks into our ratings, whether long term or short term, with the most appropriate forward-looking view that visibility into these risks permits. In most cases, near-term risks are more meaningful to issuer credit profiles and thus have a more direct impact on ratings. However, in some cases, our views of long-term trends may have an impact on ratings. The scorecard-indicated outcome is not expected to match the actual rating of each company.

The grid contains three broad factors that drive our ratings for German SMEs:
1. Sector Profile
2. Business Profile
3. Financial Profile

The three broad factors are complemented by four notching adjustment factors, which together with the three broad factors constitute the scorecard.

Highlights of this report include:
- An overview of the rating methodology
- A description of factors that primarily drive rating assignments
- Comments on the rating methodology assumptions and limitations, including a discussion of rating considerations that are not included in the scorecard

Appendix 1 shows the full scorecard. Appendix 2 provides further information on the definition of metrics. Appendix 3 provides links to other related publications.

Overview of the Rating Methodology

1. IDENTIFICATION OF THE SCORECARD FACTORS

The scorecard in this rating methodology is comprised of three factors (i.e., the grid) and four notching adjustments. Some of the three factors are comprised of sub-factors.

SME Scorecard

Broad Factors	Factors Weighting	Sub-Factors	Sub-Factors Weighting	Metrics	Weight
Sector Profile	**12.5 %**	Sector Volatility	7.5 %		
		Sector Outlook	5 %		
Business Profile	**17.5 %**	Competitive Position	10 %		
		Concentration Risk	7.5 %		
Financial Profile	**70 %**	Size	5 %	Revenues	5%
		Profitability	10 %	ROCE	10%
		Leverage	27.5 %	Liabilities/ EBITDA	15%
				FFO/Liabilities	12.5%
		Capitalization	22.5 %	Equity Ratio	12.5%
				Leverage Ratio	10%
		Coverage	5 %	EBIT/Interest Expense	5%
TOTAL	**100 %**	**TOTAL**	**100 %**		
Notching Adjustments*		Liquidity	+1 to -3		
		Debt Structure	+1 to -2		
		Strategic and Operational Management	+1 to -2		
		Governance and Financial Policy	+1 to -2		

* Positive notching adjustments improve the score associated with the scorecard-indicated outcome (i.e., lower it), while negative notching adjustments worsen this score (i.e., increase it).

2. MEASUREMENT OR ESTIMATION OF FACTORS IN THE SCORECARD

We explain our general approach for scoring each scorecard factor and show the weights used in the scorecard. We also provide a rationale for why each of these scorecard components is meaningful as a credit indicator (see Discussion of the Scorecard Factors).

Our ratings are forward-looking and reflect our expectations for future financial and operating performance. However, historical results are helpful in understanding patterns and trends of a company's performance as well as for peer comparisons. Financial ratios, unless otherwise indicated, are typically calculated based on an annual or 12-month period. However, the factors in the scorecard can be assessed using various time periods. For example, rating committees may find it analytically useful to examine both historical and expected future performance for periods of several years or more.

Quantitative credit metrics may incorporate some accounting adjustments to the income statement, cash flow statement and balance sheet amounts. Typical adjustments reflect credit analysts' considerations on the usefulness of inclusion or exclusion of accounting items (such as, but not limited to, restructuring, impairment, off-balance sheet accounts, goodwill, shareholder loans, underfunded pension obligations, and recurring operating leases) for capturing the most comparable financial reality of a given SME.

3. MAPPING SCORECARD FACTORS TO A NUMERICAL SCORE

After the estimation or calculation of each sub-factor, the outcomes for each of the sub-factors are mapped to a broad rating category (AA or higher, A, BBB, BB, B, CCC or lower, also called "alpha" categories) and to a numerical score.

Qualitative factors are scored based on the description by broad rating category in the grid. The numeric value of each alpha score is based upon the scale below. For example, a qualitative factor, which was scored as "BBB" would be assigned the numerical value "9".

AA or higher	A	BBB	BB	B	CCC or lower
3	6	9	12	15	18

Quantitative factors are scored on a linear continuum. For each metric, the grid below shows the range by alpha category. We use the scale below and linear interpolation to convert the metric, based on its placement within the grid range, to a numeric score, which may be a fraction. We also indicate for each metric the end points of the line (i.e., the value of the metric that constitutes the lowest possible numeric score, and the value that constitutes the highest possible numeric score). For example, a quantitative factor with a value that falls within its "BB" range (a range, which is specific to each factor) would be assigned a numerical value between "10.5" and "13.5" depending on where its value was located within its "BB" range.

AA or higher	A	BBB	BB	B	CCC or lower
0.5-4.5	4.5-7.5	7.5-10.5	10.5-13.5	13.5-16.5	16.5-20.5

As the tables in this section show, the grid-indicated outcome ranges between "AA or higher" and "CCC or lower", which is consistent with the historical data of German companies used to develop the quantitative part of the scorecard – the financial profile – a key component of the grid. However, the additional qualitative considerations in the notching factors and other considerations may allow analysts to support further discrimination in credit quality for companies above "AA" or below "CCC", if and as applicable.

4. DETERMINING THE OVERALL SCORECARD-INDICATED OUTCOME

The numeric score for each sub-factor is multiplied by the weight for that sub-factor, with the results then summed to produce an aggregate weighted factor score. This score is mapped back to a grid-indicated outcome based on the ranges in the table below.

Grid-Indicated Outcome	Aggregate Weighted Total Factor Score
AA or higher	$x \leq 4.5$
A+	$4.5 < x \leq 5.5$
A	$5.5 < x \leq 6.5$
A-	$6.5 < x \leq 7.5$
BBB+	$7.5 < x \leq 8.5$
BBB	$8.5 < x \leq 9.5$
BBB-	$9.5 < x \leq 10.5$
BB+	$10.5 < x \leq 11.5$
BB	$11.5 < x \leq 12.5$
BB-	$12.5 < x \leq 13.5$
B+	$13.5 < x \leq 14.5$
B	$14.5 < x \leq 15.5$
B-	$15.5 < x \leq 16.5$
CCC or lower	$x > 16.5$

For example, an SME with an adjusted composite weighted factor score of “10.6” would have a “BB+” grid-indicated outcome.

Notching adjustments are then added to the aggregate weighted factor score with the result being mapped back to a scorecard-indicated outcome based on the ranges in the table below.

Scorecard-Indicated Outcome	Adjusted Aggregate Weighted Total Factor Score
AAA	$x \leq 1.5$
AA+	$1.5 < x \leq 2.5$
AA	$2.5 < x \leq 3.5$
AA-	$3.5 < x \leq 4.5$
A+	$4.5 < x \leq 5.5$
A	$5.5 < x \leq 6.5$
A-	$6.5 < x \leq 7.5$
BBB+	$7.5 < x \leq 8.5$
BBB	$8.5 < x \leq 9.5$
BBB-	$9.5 < x \leq 10.5$
BB+	$10.5 < x \leq 11.5$
BB	$11.5 < x \leq 12.5$
BB-	$12.5 < x \leq 13.5$
B+	$13.5 < x \leq 14.5$
B	$14.5 < x \leq 15.5$
B-	$15.5 < x \leq 16.5$
CCC+	$16.5 < x \leq 17.5$
CCC	$17.5 < x \leq 18.5$
CCC-	$18.5 < x \leq 19.5$
CC	$19.5 < x \leq 20.5$
C	$x > 20.5$

5. ASSUMPTIONS AND LIMITATIONS, AND RATING CONSIDERATIONS NOT COVERED IN THE SCORECARD

This section discusses limitations in the use of the scorecard to assign actual ratings, some of the additional factors that are not included in the scorecard but can be important in determining ratings, and limitations and assumptions that pertain to the overall rating methodology.

Discussion of the Scorecard Factors

The scorecard for the SMEs focuses on three broad factors:

- Sector Profile
- Business Profile
- Financial Profile

Although the factors shown below and discussed thereafter are the most commonly used, we may in specific instances use other considerations depending on the industry and the business model considered. Also, the factors presented below may sometimes not be relevant for a specific issuer.

FACTOR 1: SECTOR PROFILE (12.5% WEIGHT)

Why it matters

Empirical evidence suggests that belonging to a specific industry is a core determinant of a firm's default probability as it drives its susceptibility to cyclical shifts or volatility and capacity to take advantage of its competitive position. Industries react differently to fluctuations in economic, market or innovation cycles. The timing and degree to which an industry is impacted by these forces ultimately depend on its distinguishing features such as the type of product sold (e.g., vital versus replaceable) and the frequency of changes in a market. For instance, manufacturing of non-durable goods such as hygiene products tends to better weather economic downturns than manufacturing of durable goods, as economic agents may reduce overall spending and adjust it towards necessary products. Volatility is also influenced by the level of competition within a given sector. Some sectors such as pharmaceuticals or aero-defence have strong barriers to entry, which include high customer switching costs and unique assets or proprietary technologies that reduce the threat of new entrants. Concentrated industries such as those with oligopolies also tend to exhibit higher stability than more fragmented ones. Combining the two dimensions, and all else being equal, an entity operating in a highly volatile and fragmented sector such as construction is more susceptible to adverse developments and thus more prone to default than a company in a highly concentrated and non-cyclical sector such as regulated utilities.

Industry outlook may also drive a company's overall creditworthiness as changing business conditions in an industry would likely feed through a company's credit metrics and influence its credit standing relative to companies operating in other sectors. Changes in fundamental business conditions may stem from regulatory changes, disruptive technologies, consumer behaviour or commodity price trends, etc.

How we assess it for the Scorecard

This factor captures major sector-specific attributes related to volatility and outlook. Companies operating within multiple sectors are typically scored based on each sector score weighted by the respective proportion of total sales they derive therefrom. In the event that a company's profit margins differ significantly across its different sectors of operations, analysts may instead consider weighting according to the respective profit levels (e.g., based on EBIT).

An industry risk classification, built based on experience (see exhibit below), is used as a starting point to help inform the assessment. When assessing sector volatility, analysts typically consider whether the assessment shall be industry- or sector-centric depending on the degree of assessed correlation between a specific sector in which the company operates and its industry family.

As volatility for SMEs is generally considered a function of demand, analysts may opt for assessing volatility at a more granular level than the industry family to account for the varying segments in which an SME operates. However, in cases where companies belong to an industry family where supply forces are the main or essential driver of market gyrations (e.g., unregulated crude energy, some capital intensive industries), analysts may view the industry family risk as representative of the company's exposure to the cycle.

Indicative German Industry Volatility Risk Scores

Industry	Indicative Risk Score
Regulated energy/utilities	A
Public & community services	BBB
Specialized chemicals (pharmaceuticals, etc.)	BBB
Business & consumer services	BBB-BB
Wholesale & retail trade	BBB-BB
Automotive & aeronautics (incl. suppliers) manufacturing	BB
Construction	B

Industry	Indicative Risk Score
Manufacturing of raw material (excl. mining)	B
Other chemicals	B
Other manufacturing of machinery & equipment	B
Real estate & rental	B
Transportation	B
Agriculture & mining	B-CCC
Unregulated energy/utilities	B-CCC

To account for trends in a given sector, we complement the industry risk score by our assessment of sector outlook. Sector outlooks represent our forward-looking view of the direction of fundamental business conditions. Similarly to volatility, the outlook for fundamental business conditions may be assessed at the industry family level or at a more granular sector level.

Sector Profile (12.5%)

Sub-Factor	Weight	AA or higher	A	BBB	BB	B	CCC or lower
Sector Volatility	7.5%	Very low historical volatility and stable pattern expected over time. Impact of any deterioration expected to be extremely small with full quick rebound.	Low historical volatility in sector and expectation of limited risk of deterioration. Impact of any deterioration expected to be very small with full quick rebound.	Low to moderate historical volatility in sector and some risk of deterioration can be expected with short-term recovery prospects and small impact.	Historical or expected moderate volatility in sector with medium-term recovery prospects or moderate impact.	Historical or expected moderate to high volatility in sector with lengthy recovery prospects or high impact.	Historical or expected very high volatility in sector with protracted recovery or very high impact.
Sector Outlook	5%	Fundamental business conditions in the sector are expected to significantly and continuously improve over the medium term.	Fundamental business conditions in the sector are expected to materially improve over the medium term.	Fundamental business conditions in the sector are expected to slightly improve over the medium term.	Fundamental business conditions in the sector are expected to be overall stable over the medium term.	Fundamental business conditions in the sector are expected to be slightly negative over the medium term.	Fundamental business conditions in the sector are expected to be very negative over the medium term.

FACTOR 2: BUSINESS PROFILE (17.5% WEIGHT)

Why it matters

Business profile captures a firm's key characteristics that influence its capacity to generate revenue and profitability over the medium term and to withstand any crystallization of the risks associated with its operating environment. The business profile considers both internal and external factors. A company's business profile is one important determinant of its credit quality over time. Because of their smaller size and customer base, SMEs are generally less resilient to adverse market effects than larger corporates and thus rely more extensively on their business profile. While scoring highly in business profile speaks to a company's potential for sustainability, it does not necessarily translate into strong financial metrics or operating results. Our assessment is forward-looking in the sense that we incorporate our expectations of future market dynamics and companies' strategies when assigning scores to the different sub-factors.

We typically consider two layers of analysis: competitive position and concentration risk, which, in our opinion, are the most relevant determinants for capturing an SME's business profile. These two layers are assessed relatively to the industries/sectors in which an entity operates because we consider that a company's positioning relative to its peers is a core driver of a company's long-term viability and susceptibility to business risks.

While we consider industry to be an important discriminating factor for credit risk between two entities, we view its importance as of second order of magnitude and thus have assigned a higher weight to business profile.

How we assess it for the Scorecard

COMPETITIVE POSITION

The analysis of competitive risk is based on a qualitative assessment of how a company's intrinsic business characteristics position it within an industry and vis-à-vis its competitors. Given the SMEs' wide array of business models, the understanding of underlying demand drivers and product offerings is core to assessing the likelihood of seeing a business expand, hold steady or contract.

Because the assessment is relative to the market(s) in which a SME operates, we typically assign a competitive position score – weighted by the relative shares of turnover or, as the case may be, profits – that reflects our view of the competitive position of the entity in the most critical business segment it operates in.

The factors considered include: (1) the firm's scale relative to competitors, (2) its current and projected market shares, (3) the depth of services/products offering as well as (4) its cost position and/or ability to control costs.

1) Within a given industry, larger companies may be able to achieve greater economies of scale and be better positioned to leverage fixed costs and reach out to consumers to promote awareness of services and products. Size may also provide a company with greater resiliency to changes in consumer habits or overall demand as well as anchor longer-standing relationships with suppliers and customers, thereby limiting disruption risks.

2) Companies that have established a long history of large market shares generally exhibit higher capacity to sustain stable revenue generation and resist changes in demand, disruptive product innovations or entry of new players into the market. This is particularly important as some markets may be prone to higher volatility due to the importance of variable consumer preferences, developing regulation, or technological innovations. When considering market shares, we may not only focus on the historical and current shape of the market but form an opinion on the future state of affairs.

3) Because most markets are dynamic by nature, companies endeavour to keep their existing customer bases captive and/or to grow them. To achieve this, companies typically build on the uniqueness of their product offerings. The strongest form of differentiation is often attributable to unique or hard-to-replicate assets, know-how or reputation, which can provide the firm with pricing power and margin preservation. Solid differentiation could result in high revenue visibility, strong margins, and stable cash flows. Uniqueness of products also offers companies protection against market cyclicality. Conversely, companies whose product lines are not differentiated or more susceptible to substitution risk are not expected to have the same capacity to protect their revenue base.

4) Capacity to adapt to changing demand patterns helps smooth variations in earnings and cash flows. In particular, companies with a flexible and low cost structure are typically better placed to withstand gyrations in demand patterns than similar companies with a higher fixed cost structure. For instance, a manufacturing company with lean assembly lines may be better positioned to match its production capacity and mix to seasonal, cyclical or extraordinary business needs than a similar company exhibiting rigid assembly structures. The latter may experience some difficulty in handling demand peaks and reducing costs during downturns, ultimately constraining or impairing its financial profile. Flexibility can be achieved through many ways and at all stages of the business process (i.e., from supply (procurement, back-up solutions) to production (adaptive lines of production, outsourcing) and distribution (flexible pricing structures)).

CONCENTRATION RISK

Companies with multiple business segments and a wide range of product offerings tend to exhibit more sustainable streams of profits when compared to competitors with a narrower business focus. Conversely, companies that serve only one market may be more vulnerable to competitive pressures or shifts in demand and experience greater volatility in earnings and cash flows. This is also true for entities operating in niche markets whereby a reliance on a single product, albeit unique, poses a higher risk to business viability (although we acknowledge that this can be partly mitigated by the presence of long-term contracts, as are typically found in the defence industry).

As the score we assign is forward looking, we may incorporate into our assessment of customer diversification any new outstanding order book if we consider the volume of orders to be significant and likely enough to materialize. We note that analysts may adjust a company's definition of the business segments in which it operates to account for lower or higher perceived degree of correlation. For example, analysts may decide to consolidate two business segments as reported by a company due to the perceived high degree of correlation. Conversely, analysts may focus on more granular segments than reported, to account for low correlation levels within some sub-segments.

The assessment of a company's concentration risk also focuses on determining the potential for having its supply chain disrupted. Indeed, a company relying on multiple suppliers, themselves exhibiting uncorrelated patterns, has greater chance to contend with the failure of one of them and lessen the impact on its earnings.

Because SMEs tend to operate within a narrower geographic focus than larger corporates, it is also crucial to assess the extent to which a company may be affected negatively by both regional economic trends and local demand characteristics. The assessment of concentration risk typically considers: (1) regional macro-indicators, to gauge the spending capacity of local customers and their sensitivity (or resilience) to macro-dynamics (average disposable income, changes in unemployment levels); and (2) micro-indicators (market segmentation, historical anchoring of the product, appetite for technology disruptions, etc.), to gauge the propensity and durability of the demand.

The final concentration risk score assigned is the result of the cross-dimensional assessment of the three risks described above (customer, supplier, geographic).

Business Profile (17.5%)

Sub-Factor	Weight	AA or higher	A	BBB	BB	B	CCC or lower
Competitive Position	10%	Market share reflects small number of strong players. Company's size among the largest in its business segment(s); and the company offers difficult to replicate products/services and benefits from strong reputation/know-how that create a very low risk, if any, of market losses due to existing competitors; and possibility of competing new entrants is very limited; and high pricing power; and very strong capacity to adapt to changing demand patterns.	Leading market share in business segment(s) characterized by limited existing competition. Company's size is larger than competitors' average in respective business segment(s); and company's product/service offering exhibits strong competitive advantage compared to competitors' offering, thereby creating a low risk of future market losses, which we would expect to be limited; and above average pricing power; and strong capacity to adapt to changing demand patterns.	Among market share leaders in respective segment(s) and slightly above competitors' average size; and company's product/service offering exhibits moderate competitive advantages compared to competitors', thereby creating a moderate risk of future market losses, which we would expect to be limited; and pricing power exists but is constrained by moderate product/service differentiation; and above average capacity to adapt to changing demand patterns.	Average market share in key markets or average company size; or product/service offering exhibits low competitive advantages compared to competitors' or absence of product/service differentiation and low switching costs encourage new entrants and create moderate future competition risk with potential loss of some market shares; or moderate capacity to adapt to changing demand patterns; or company is a strong niche player in key markets or segment(s).	Below average market shares or average market shares that tend to be vulnerable to new entrants or existing competitors as product/service offering is to some extent easily replaceable and there is an absence or very low switching costs; or company size is smaller than average with weak capacity to adapt to changing demand patterns; or company is a small local or niche player in key markets or segment(s).	Well below average market shares or average market shares with very high susceptibility to decline or declining market shares; or product/service offering already (or is expected to be) replaced by competitors' offering; or very small player compared to key competitors; or extremely limited capacity to re-shuffle product offering; or company is a very small niche player in key markets or segment(s).
Concentration Risk	7.5%	Multiple business segments and a wide range of products in most segments; and end market is well diversified with very limited customer concentration; and contracts are largely long-term with very high likelihood of short-term contract renewal; and geographic exposure brings wide international diversification; and no material supplier concentration.	Several business segments with broad product offerings in many segments; and end market is fairly well diversified with minimal customer concentration; and contracts are largely long-term or very high likelihood of short-term contract renewal; and moderate international diversification; and supplier concentration is limited.	Several business segments with broad product offerings in at least one key segment; and well diversified in its major market with some potential customer concentration; and long-term contracts can be limited in volume with short-term contract generally expected to be renewed; and geographic exposure is mainly domestic with some international diversification; and moderate supplier concentration.	Operates in a few business segments, with a broad portfolio in at least one segment or in one very broad business segment. Somewhat diversified in its major market with moderate customer concentration; or long-term contracts are limited in volume with most short-term contracts expected to be renewed; or geographic exposure is mainly national with some continental exposure; or moderate supplier concentration.	Operates in a few business segments although heavily reliant on one or two segments with high degree of customer concentration or in one broad business segment with limited customer risk; or long-term contracts are very limited in volume with a majority of short-term contracts likely to be renewed; or high supplier concentration with some risk of disruption.	Operates in only one narrow business segment with high customer concentration; or few long-term contracts with uncertainty on renewal of more than half of short-term contracts; or very high supplier concentration with material risk of disruption.

FACTOR 3: FINANCIAL PROFILE (70% WEIGHT)

Why it matters

Even when considering the universe of SMEs, absolute size continues to play an important role when comparing the creditworthiness of two companies. Independent from its size positioning in a given industry or segment, absolute size is reflective of several aspects that drive a company's business profile (e.g., higher degree of financial flexibility) and ultimately its resiliency to risks.

Profitability is an indicator of a company's capacity to maintain a business's competitive position, including sufficient reinvestment to support operations and business growth. Leverage and coverage measures provide insight into a company's financial flexibility and long-term viability. The relative level of capitalization of a company gives an indication on its appetite for financing its investments or day-to-day operations with debt rather than equity. Hence, high debt levels in comparison to capitalization can indicate higher interest obligations, limit the ability to raise additional financing if needed, and lead to covenant violations in bank credit facilities or other financing agreements.

How we assess it for the Scorecard

SIZE

Revenues: Total revenues in millions of euros.

PROFITABILITY

Return on Capital Employed (ROCE = Earnings Before Interest and Tax (EBIT) / Net Financial Debt + Equity): Return on capital employed provides an indication of how well a company generates earnings relative to the capital it has invested in its business.

LEVERAGE

Liabilities / Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA): This metric is an indicator of the degree to which a company has borrowed against earnings.

Funds From Operations (FFO) / Liabilities is an indicator of a company's ability to repay principal on its outstanding liabilities. It is an estimate for cash flow generation excluding any gain (or loss) on the sale of fixed assets as these are not considered as recurring earnings.

CAPITALIZATION

Equity Ratio is a traditional indicator of balance sheet leverage. The numerator is equity and the denominator is total capitalization.

Leverage Ratio: The numerator is financial debt and the denominator is the sum of financial debt and equity.

COVERAGE

EBIT / Interest Expense is a coverage ratio that provides some indication of the amount of "headroom" afforded by the issuer's earnings in servicing its debt burden.

Financial Profile (70%)

Sub-Factor	Metric	Weight	AA or higher	A	BBB	BB	B	CCC or lower
Size	Revenues (EUR Mn)*	5%	> 155	155 - 120	120 - 50	50 - 20	20 - 10	≤ 10
Profitability	ROCE (%)*	10%	> 55	55- 18	18 - 14	14 - 10	10 - 5	≤ 5
Leverage	Liabilities/EBITDA (x)**	15%	< 0.75	0.75 - 2	2 - 4	4 - 10	10 - 125	≥ 125
	FFO/Liabilities (%)*	12.5%	> 110	110 - 35	35 - 20	20 - 10	10 - 0	≤ 0
Capitalization	Equity Ratio (%)*	12.5%	> 70	70 - 45	45 - 30	30 - 15	15 - 2.5	≤ 2.5
	Leverage Ratio (%)*	10%	< 10	10 - 20	20 - 40	40 - 65	65 - 97.5	≥ 97.5
Coverage	EBIT/Interest Expense (x)*	5%	> 35	35 - 6.5	6.5 - 4	4 - 2	2 - 1	≤ 1

* For the linear scoring scale, the AA or higher end point values are: turnover = 200, ROCE = 100, FFO/Liabilities = 210, Equity Ratio = 100, Leverage Ratio = 0 and EBIT/Interest Expense = 75. A value equal or better to the higher end point equates to a numerical score of 0.5. The CCC or lower end point values are: turnover = 0, ROCE = -100, FFO/Liabilities = -30, Equity Ratio = -10, Leverage Ratio = 120 and EBIT/Interest Expense = -15. A value equal or worse than the lower end point equates to a numerical score of 20.5.

** To simplify the scoring at the lower end of the scale, we operate with the inverse ratio, EBITDA/Liabilities. This operation simplifies the conversion of the metric value to a numeric score, which is done by linear interpolation based on placement within the scorecard range. For example, the B-equivalent range (i.e., in terms of EBITDA to Liabilities and in percentage values) is 0.8% - 10% (i.e., 1/125*100 = 0.8% and 1/10*100 = 10%); the CCC or lower threshold is <=0.8%. For the linear scoring scale, the CCC or lower end point is -40. A value for EBITDA/Liabilities of -40 or worse equates to a numerical score of 20.5. For the linear scoring scale, the AA or higher end point value is 245. A value of 245 or better equates to a numerical score of 0.5.

Liquidity

Liquidity can be extremely critical to ratings, particularly for SMEs, whose normal operations are more susceptible to adverse events than those of larger corporates while their access to financing sources remains more limited. Conversely, liquidity may not have substantial value in discriminating between two entities with a strong and similar credit profile. Hence it is more appropriate to account for liquidity strength in notching adjustments.

However, regardless of access to funding sources, a weak liquidity position, whether the result of a company's financial policy or an unexpected event, magnifies default risk. For instance, some sectors such as retail may face large swings in trade receivables and trade payables related to seasonal items. This can create some liquidity pressures with second-round effects spanning from restricted access to credit or disruptions in the supply chain as vendors may be concerned about payment prospects. Ultimately, liquidity pressure alone may contribute to negative rating migrations.

An important step in the analysis of a company's liquidity position typically consists of assessing a company's current ability to pay back its short-term liabilities with its short-term assets. Ratios such as the current ratio (Unrestricted cash and marketable securities / Short-term debt) can be useful indicators. We also consider future treasury cycles (incorporating our forecast for operational and capital cash flows) to gauge the existence and magnitude of any intra-annual funding gap that could emerge over time and weigh on our assessment of a company's liquidity risk.

Because ratios such as the current ratio or interest coverage do not give the full picture of a company's liquidity position, we supplement our analysis with a review of other internal and external financing sources a company can secure if need be. We consider sources such as unused committed bank facilities or unencumbered assets that could be liquidated in times of distress.

Our analysis also focuses on a company's relationship with its bank(s). SMEs and their credit providers typically tend to engage in a relationship that goes beyond the simple creditor/debtor relationship. The lower degree of sophistication and perceived higher riskiness of SME businesses by credit institutions leads to an underwriting and monitoring process that usually requires the confidence of an established, strong relationship.

The existence of such a relationship may support a company's creditworthiness as we would expect the banking institution to prevent any financial deterioration that would lead to higher risk of missed payments by providing adequate advisory services and, in case of need, to provide bridge financing to overcome downward cycles. When assessing a company's access to external liquidity, we may also consider leverage measures, as high leverage can in some cases constrain a company's capacity to renew credit arrangements or to raise new capital.

2. A ratio higher than one tends to indicate a good liquidity position while a ratio lower than one would signal a weak liquidity cushion and a need for drawing on revenue cash flows or external funding.

Notching Adjustment for Liquidity

	Credit Positive Liquidity	Credit Neutral Liquidity	Credit Negative Liquidity	Strong Credit Negative Liquidity	Very Strong Credit Negative Liquidity
Notching Adjustment	+1*	0	-1	-2	-3
Guidelines	Reserves and internally generated cash cover business (including CAPEX) and debt obligation needs over 12 months or more. External liquidity facilities may be drawn to fund CAPEX. Liquidity facilities are mostly untapped; and access to further external funding appears very likely during periods of turbulence for capital markets or of operational difficulty for the company; and capacity to raise alternative cash in a timely manner through assets or business lines sales exists but is moderate; and compliance with covenants is almost assured and the company is expected to easily withstand impact of any breach with expected small impact on its liquidity position.	Reserves and internally generated cash generally cover business (excluding CAPEX) and debt obligation needs over 12 months. External liquidity facilities are typically drawn to fund all or part of capital investment and a small share of working capital; and a moderate untapped buffer on liquidity facilities is available; and access to further external funding appears likely and sufficient during periods of turbulences for capital markets or of operational difficulty for the company; and capacity to raise alternative cash in a timely manner through assets or business lines sales exists but is limited; and compliance with covenants is very likely and the company would be able to withstand any impact of breach with expected moderate impact on its liquidity position.	Reserves and internally generated cash cover the majority but not all of business (excluding CAPEX) and debt obligation needs over 12 months. External liquidity facilities are needed to fund all or the majority of capital investment, a moderate share of working capital and potentially some basic operations and only a small untapped buffer on liquidity facilities is available on an ongoing basis; or access to further external funding appears likely but would be limited in volume. Capacity to raise alternative cash in a timely manner exists but is very limited; or compliance with covenants is less certain with potential need for re-negotiation, and any breach is likely to have large impact on liquidity.	Reserves and internally generated cash hardly cover the majority of business (excluding CAPEX) and debt obligation needs over 12 months. External liquidity facilities are needed to fund capital investment, a large share of working capital and a moderate share of basic operations; or liquidity facilities are largely tapped on an ongoing basis; or access to further external funding appears less likely and would be very limited in volume. Capacity to raise alternative cash in a timely manner is negligible, being constrained by asset encumbrance, distressed value of transaction or short-term net negative impact of business line sale; or material risk of covenant breach with expected need for re-negotiation, and any breach is likely to have large impact on liquidity.	Reserves and internally generated cash do not cover the majority of business (excluding CAPEX) and debt obligation needs over 12 months. External liquidity facilities are needed to fund all capital investment, a very large share of working capital and a large share of basic operations. Liquidity facilities are almost fully tapped; or access to further external funding appears unlikely and would be very limited. There is typically no capacity to raise alternative cash in a timely manner; or breach of covenants is very likely with limited room for renegotiation, with any breach likely to have very large impact on liquidity.

* Positive notching adjustments improve the score associated with the scorecard-indicated outcome (i.e., lower it), while negative notching adjustments worsen this score (i.e., increase it).

Debt Structure

Debt structure has a significant influence on a company's susceptibility to event risks such as currency volatility, interest rate volatility or refinancing risk. The impact of our assessment may be negative, neutral or – in rare instances – positive for the final rating. In particular, should an entity's debt exhibit large unhedged positions (both in terms of currency and fixed rates versus floating rates) or an uneven maturity profile with large and front-ended redemption schedules, we may adjust the rating down by a couple of notches.

Notching Adjustment for Debt Structure[3]

	Credit Positive Debt Structure	Credit Neutral Debt Structure	Credit Negative Debt Structure	Strong Credit Negative Debt Structure
Notching Adjustment	+1*	0	-1	-2
Guidelines	Debt composition is distinctively diversified and there is no or very limited refinancing risk with typically amortizing debt structure and no unhedged exposure to foreign currency, variable rate debt or derivatives.	Debt composition is generally concentrated on a few sources; and there is limited refinancing risk with typically amortizing debt structure; and no or very limited unhedged exposure to foreign currency, variable rate debt or derivatives.	Debt is concentrated on a single source and/or there is moderate refinancing risk due with bullet repayments; or there is moderate unhedged exposure to foreign currency, variable rate debt or derivatives.	Debt is concentrated on a single source and/or there is high refinancing risk with front-ended bullet repayments; or the company has material unhedged exposure to foreign currency, variable rate debt or derivatives.

* Positive notching adjustments improve the score associated with the scorecard-indicated outcome (i.e., lower it), while negative notching adjustments worsen this score (i.e., increase it).

3. Unhedged currency exposure typically poses larger risk than unhedged exposure to variable rate debt as currency movements usually show, all else equal, swifter and relatively larger fluctuations.

Strategic and Operational Management

The quality of strategic and operational management is an important factor supporting an SME's credit strength. Management policies in SMEs tend to be subject to lower controls/scrutiny than for larger companies with independent shareholder influence. Assessing the execution of business plans over time can be helpful in assessing management's business strategies, policies, and philosophies and evaluating management performance relative to competitors and our projections. A record of consistency provides the credit analyst with insight into management's likely future performance in stressed situations and can be an indicator of management's tendency to depart significantly from its stated plans and guidelines.

Strategic and financial decisions have a significant impact on future credit quality. We believe that pre-empting or adapting to changing business or financial conditions is supportive of a company's business profile strength and ultimately of its financial soundness. For example, a reluctance or inability to invest in either growth or replacement assets, which has the positive effect of conserving cash in the short term, may cause a company to become competitively disadvantaged in the long term. However, simply having credit-friendly financial and strategic plans is not enough; there always remains the risk that when implemented they do not bring about the desired results. Our assessment thus focuses on the capacity and propensity of management to draw policies that are supportive of its future business operations, which we measure against the risks associated.

Elements considered when assessing a company's strategic and operational management capacities include: the management's history in responding to key events (such as changes in credit markets and the liquidity environment), legal actions, competitive challenges, and regulatory pressures.

Beyond a company's strategic vision, operating efficiency remains critical as it underlies its capacity to turn the strategy into a reality. Generally speaking, we view it as an important driver of a company's operating performance and quantitative credit profile. All else being equal, a company with strong operating efficiency may be better positioned to leverage its competitive position and execute strategic plans to seize business opportunities or secure market positions without compromising its financial health. Ultimately, this may also result in an improved financial profile compared to peers with a lower execution capacity. Because of their size, SMEs are usually constrained in their capacity to achieve very strong operating efficiency.

When assessing operating efficiency, we consider both qualitative information that provides insight into a company's capacity to execute basic operational tasks or business plans in swift fashion as well as quantitative data that relates to the efficiency of its working capital management.

We principally base our assessment of the execution capacity of SMEs on an historical review of their ability, both in terms of timeliness and comprehensiveness, to implement operational or strategic plans as decided by management. For example, the operational success achieved when launching new products or strategic initiatives (such as a change in a production platform) would give insight into a company's execution capacity.

We also consider working capital management to be a relevant indicator for assessing operating efficiency as it demonstrates the ability to keep a business running by balancing the cash needed for its day-to-day operations with its obligations. We typically capture the quality of working capital management through a quantitative review of payables, receivables and inventories. Typically, the shorter the cash conversion cycle and the narrower the gap between days payable and days receivables outstanding, the better the working capital management.

Notching Adjustment for Strategic and Operational Management

	Credit Positive Strategic and Operational Management	Credit Neutral Strategic and Operational Management	Credit Negative Strategic and Operational Management	Strong Credit Negative Strategic and Operational Management
Notching Adjustment	+1*	0	-1	-2
Guidelines	Strategic vision and planning are of very high standards and supported by a very strong operationalization capacity. The company has a very clear, holistic and articulated vision of the opportunities and risks the business may face as well as of the actions needed for maintaining and/or improving the business sustainability; and planning is very conservative; and day-to-day operationalization and strategic plan execution are very strong, supported by a robust monitoring and reporting framework and well-defined responsive operational policies in case of deviation from the plan.	The company has clear strategic plans and operationalization is of adequate quality. The company has a clear and articulated vision of the main opportunities and risks the business may face as well as of some of the actions needed for maintaining the business sustainability; and planning is conservative; and day-to-day operationalization and strategic plan execution are adequate; and deviations from the plan may occur but the impact is typically relatively limited and are generally corrected thanks to an adequate monitoring and reporting framework.	The company has weak strategic vision or operationalization, which ultimately put at risk the company's capacity to maintain its competitive position. The strategy relies on a relatively limited assessment of the business risks and opportunities; or the company has a weak capacity to implement in an ordered and controlled manner the changes necessary to adapt the company's business; or planning is generally optimistic with day-to-day operationalization and strategic plan execution often deviating from self-imposed targets as a result of substantial gaps in the monitoring and reporting framework; or corrective action are generally not sufficient to offset the deviation.	The company has very weak or is lacking strategic vision and operationalization, which ultimately put at risk the company's capacity to maintain its competitive position. The strategy, if any, relies on a very narrow or no assessment of the business risks and opportunities; or a very weak capacity to implement in an ordered and controlled manner the changes necessary to adapt accordingly the company's business; or planning tends to be over-optimistic and the company rarely meets its targets; or deviations from the plan are not, or almost not corrected due to the very weak monitoring and reporting framework.

* Positive notching adjustments improve the score associated with the scorecard-indicated outcome (i.e., lower it), while negative notching adjustments worsen this score (i.e., increase it).

Governance and Financial Policy

An alignment of interests between shareholders/owners (in the case of entrepreneurial companies) and the SME management tends to benefit a company's creditworthiness. In the spectrum of shareholding structures, an entrepreneurial or family-owned company would likely be where financial interests are the most aligned and where the shareholder's propensity to support the SME interests are the highest, all else equal. For these companies, we would generally expect timely decision-making in order to sustain the business operations in the event of adverse events. Public shareholding or a strong local footprint of the business (e.g., preeminent employment provider) would also positively support a company's creditworthiness because we would expect a higher propensity of local stakeholders to take accommodative decisions if need be.

On the other hand, we generally consider less favourably those policies that favour debt-financed distributions to shareholders (even if less likely in the case of SMEs); distributions of excess cash that impair liquidity; or distributions of franchise value in such a way that they effectively subordinate creditors' interests to those of shareholders, or lead us to expect a higher tolerance for financial risk.

Our assessment typically includes the type of legal structure of the entity to gauge the degree to which shareholders or owners are directly financially liable for it. Shareholders or owners whose balance sheet is directly exposed to creditors' claims in the event of a liquidation would be more likely to shield themselves by taking the necessary decision to keep the business afloat.

To capture the risk of managerial disruption, we may gauge succession risks, in particular in the case of family-owned or entrepreneurial businesses whereby business continuity may be threatened by a loss or any alteration to the know-how of the company's management. Indeed, managerial dependence on key individuals carries risk for company's business in cases in which the risk of departure of those individuals is material and the capacity to swiftly implement adequate replacement solutions is uncertain.

Management's appetite for merger & acquisition activity is also assessed with a focus on the type of transactions (i.e., core competency or new business) and funding decisions. Frequency and materiality of acquisitions and previous financing choices are important considerations. A history of debt-financed or credit-transforming acquisitions would generally result in a lower score for this sub-factor.

Notching Adjustment for Governance and Financial Policy

	Credit Positive Governance and FInancial Policy	Credit Neutral Governance and FInancial Policy	Credit Negative Governance and FInancial Policy	Strong Credit Negative Governance and FInancial Policy
Notching Adjustment	+1*	0	-1	-2
Guidelines	Shareholding structure indicates very positive alignment of interests. Shareholders' attention is geared towards long-term business viability; and risk of disruption in governance structure and strategy is non-existent or almost non-existent.	Shareholding structure does not support nor weighs on long-term viability of the business; and risk of disruption in governance structure is unlikely.	Shareholding structure indicates poor alignment of interests. Shareholders' attention is geared towards short-term financial benefits rather than long-term business viability; or risk of disruption in governance structure and strategy is likely.	Shareholding structure indicates very poor alignment of interests. Shareholders' attention is heavily geared towards short-term financial benefits rather than long-term business viability; or risk of disruption in governance structure and strategy is highly likely.

* Positive notching adjustments improve the score associated with the scorecard-indicated outcome (i.e., lower it), while negative notching adjustments worsen this score (i.e., increase it).

Assumptions and Limitations, and Rating Considerations Not Covered in the Scorecard

The scorecard in this rating methodology represents a decision to favour simplicity and enhance transparency. Accordingly, the three broad rating factors and the four notching adjustments in the scorecard do not constitute an exhaustive treatment of all of the considerations that are important for assigning ratings to SMEs.

In addition, our ratings incorporate expectations for future performance. In some cases, our expectations for future performance may be informed by confidential information that we cannot disclose. In other cases, we estimate future results based upon past performance, industry trends, competitor actions or other factors. In any case, there is always the risk that actual performance will end up deviating significantly from our expectations. Factors, which might cause such deviations include unanticipated changes in any of the following factors: the macroeconomic environment and general financial market conditions, industry competition, disruptive technology, regulatory and legal actions.

The credit quality of domestic issuers is also strongly correlated with that of the sovereign in which they operate, which may become a constraint under some circumstances.

In choosing metrics for this rating methodology scorecard, we did not explicitly include certain factors such as external influence or event risks, for which a ranking by rating category in a scorecard framework would suggest too much precision in the relative ranking of particular issuers against all other rated issuers. Furthermore, there are factors that are difficult to quantify or that have a meaningful impact on credit quality only in some cases, which are also not explicitly reflected in the scorecard. Nevertheless, such additional factors may be considered qualitatively by analysts and may contribute to final credit ratings that differ significantly from the scorecard-implied outcome.

Ratings may also reflect circumstances in which the weighting of a particular factor will be substantially different from the weighting suggested by the scorecard. For example, interest coverage is an example of a consideration that is included in the scorecard in fixed weighting, but in some cases may become critical to a rating and has a higher effective weight when assigning the rating. For example, extremely weak interest coverage, in conjunction with weak liquidity, magnifies default risk.

OTHER RATING CONSIDERATIONS

Our ratings may encompass a number of additional considerations. These include but are not limited to: legal structure/external influence, reporting and transparency, event risk, and limiting factors.

Legal Structure / External Influence

Ownership can provide rating lift for a particular company if it is owned by owners rated higher (or expected to exhibit a stronger creditworthiness) and if it is viewed to be of strategic importance to those owners. The extent to which we would factor in the credit benefit a company may derive from its ownership would ultimately depend on the capacity and willingness (e.g., based on the strategic value this company carries for the group) of its parent company to support it in times of financial stress. Conversely, a parent company with a lower rating (or expected to exhibit a weaker creditworthiness) may result in a downward adjustment of the subsidiary's rating.

In some instances, due to either partial/full public ownership or the public importance of a business (e.g., essential services), we may consider that a government would likely extend some financial support to it, outside of normal business conditions, to address exacerbated financial stress. In those cases, we would likely provide a rating uplift to account for this expected support.

Other forms of external influence include, but are not limited to, partial or full guarantees.

Reporting and Transparency

Financial statements and related disclosures form the basis of credit analysis. The most complete picture of an entity's financial strength thus relies on an accurate and comprehensive presentation of financial accounts (including off-balance sheet items). The occurrence of delays in the publication of financial accounts or the reporting of incorrect information may lead to an inaccurate estimation of the underlying credit risks a company may face. This situation may also suggest a break-down in internal controls. Ultimately, it would lead us to adjust negatively our assessment of a company's creditworthiness.

Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in an issuer's fundamental creditworthiness. Special events typically include mergers and acquisitions, asset sales, spin-offs, capital restructuring programmes, litigation and shareholder distributions.

Event risks also include casualty events. Owing to the generally smaller size and more concentrated profile of their production units, SMEs tend to be more exposed than larger corporates to casualty events such as environmental disasters, social movements (e.g., strikes) or other events that may severely impact the normal course of business (machine breakdown, construction risk, etc.). While a large part of these risks and the capacity of a company to cope with those is captured in our assessment of business profile, we recognize the possibility that such events may unexpectedly crystallize in such a magnitude that it would cause large and sometimes lengthy disruptions to a company's business and severely impact its credit profile.

Limiting Factors

We consider that in some instances, some factors may override the score given by the rating scorecard and impose a limit to the rating an entity could achieve. These factors encompass, but are not limited to, a very short operational history, an upcoming bullet repayment together with a limited liquidity and a weak creditworthiness or a severe lack of internal controls.

Appendix 1: Scorecard

	Sub-Factors Weighting	AA or higher	A	BBB	BB	B	CCC or lower
Factor 1: Sector Profile (12.5%)							
Sector Volatility	7.5%	Very low historical volatility and stable pattern expected over time. Impact of any deterioration expected to be extremely small with full quick rebound.	Low historical volatility in sector and expectation of limited risk of deterioration. Impact of any deterioration expected to be very small with full quick rebound.	Low to moderate historical volatility in sector and some risk of deterioration can be expected with short-term recovery prospects and small impact.	Historical or expected moderate volatility in sector with medium-term recovery prospects or moderate impact.	Historical or expected moderate to high volatility in sector with lengthy recovery prospects or high impact.	Historical or expected very high volatility in sector with protracted recovery or very high impact.
Sector Outlook	5%	Fundamental business conditions in the sector are expected to significantly and continuously improve over the medium term.	Fundamental business conditions in the sector are expected to materially improve over the medium term.	Fundamental business conditions in the sector are expected to slightly improve over the medium term.	Fundamental business conditions in the sector are expected to be overall stable over the medium term.	Fundamental business conditions in the sector are expected to be slightly negative over the medium term.	Fundamental business conditions in the sector are expected to be very negative over the medium term.
Factor 2: Business Profile (17.5%)							
Competitive Position	10%	Market share reflects small number of strong players. Company's size among the largest in its business segment(s); and the company offers difficult to replicate products/services and benefits from strong reputation/know-how that create a very low risk, if any, of market losses due to existing competitors; and possibility of competing new entrants is very limited; and high pricing power; and very strong capacity to adapt to changing demand patterns.	Leading market share in business segment(s) characterized by limited existing competition. Company's size is larger than competitors' average in respective business segment(s); and company's product/service offering exhibits strong competitive advantage compared to competitors' offering, thereby creating a low risk of future market losses, which we would expect to be limited; and above average pricing power; and strong capacity to adapt to changing demand patterns.	Among market share leaders in respective segment(s) and slightly above competitors' average size; and company's product/service offering exhibits moderate competitive advantages compared to competitors', thereby creating a moderate risk of future market losses, which we would expect to be limited; and pricing power exists but is constrained by moderate product/service differentiation; and above average capacity to adapt to changing demand patterns.	Average market share in key markets or average company size; or product/service offering exhibits low competitive advantages compared to competitors' or absence of product/service differentiation and low switching costs encourage new entrants and create moderate future competition risk with potential loss of some market shares; or moderate capacity to adapt to changing demand patterns; or company is a strong niche player in key markets or segment(s).	Below average market shares or average market shares that tend to be vulnerable to new entrants or existing competitors as product/service offering is to some extent easily replaceable and there is an absence or very low switching costs; or company size is smaller than average with weak capacity to adapt to changing demand patterns; or company is a small local or niche player in key markets or segment(s).	Well below average market shares or average market shares with very high susceptibility to decline or declining market shares; or product/service offering already (or is expected to be) replaced by competitors' offering; or very small player compared to key competitors; or extremely limited capacity to re-shuffle product offering; or company is a very small niche player in key markets or segment(s).
Concentration Risk	7.5%	Multiple business segments and a wide range of products in most segments; and end market is well diversified with very limited customer concentration; and contracts are largely long-term with very high likelihood of short-term contract renewal; and geographic exposure brings wide international diversification; and no material supplier concentration.	Several business segments with broad product offerings in many segments; and end market is fairly well diversified with minimal customer concentration; and contracts are largely long-term or very high likelihood of short-term contract renewal; and moderate international diversification; and supplier concentration is limited.	Several business segments with broad product offerings in at least one key segment; and well diversified in its major market with some potential customer concentration; and long-term contracts can be limited in volume with short-term contract generally expected to be renewed; and geographic exposure is mainly domestic with some international diversification; and moderate supplier concentration.	Operates in a few business segments, with a broad portfolio in at least one segment or in one very broad business segment. Somewhat diversified in its major market with moderate customer concentration; or long-term contracts are limited in volume with most short-term contracts expected to be renewed; or geographic exposure is mainly national with some continental exposure; or moderate supplier concentration.	Operates in a few business segments although heavily reliant on one or two segments with high degree of customer concentration or in one broad business segment with limited customer risk; or long-term contracts are very limited in volume with a majority of short-term contracts likely to be renewed; or high supplier concentration with some risk of disruption.	Operates in only one narrow business segment with high customer concentration; or few long-term contracts with uncertainty on renewal of more than half of short-term contracts; or very high supplier concentration with material risk of disruption.

	Sub-Factors Weighting	AA or higher	A	BBB	BB	B	CCC or lower
Factor 3: Financial Profile (70%)							
Revenues (EUR Mn)*	5%	> 155	155 - 120	120 - 50	50 - 20	20 - 10	≤ 10
ROCE (%)*	10%	> 55	55- 18	18 - 14	14 - 10	10 - 5	≤ 5
Liabilities/EBITDA (x)**	15%	< 0.75	0.75 - 2	2 - 4	4 - 10	10 - 125	≥ 125
FFO/Liabilities (%)*	12.5%	> 110	110 - 35	35 - 20	20 - 10	10 - 0	≤ 0
Equity Ratio (%)*	12.5%	> 70	70 - 45	45 - 30	30 - 15	15 - 2.5	≤ 2.5
Leverage Ratio (%)*	10%	< 10	10 - 20	20 - 40	40 - 65	65 - 97.5	≥ 97.5
EBIT/Interest Expense (x)*	5%	> 35	35 - 6.5	6.5 - 4	4 - 2	2 - 1	≤ 1

* For the linear scoring scale, the AA or higher end point values are: turnover = 200, ROCE = 100, FFO/Liabilities = 210, Equity Ratio = 100, Leverage Ratio = 0 and EBIT/Interest Expense = 75. A value equal or better to the higher end point equates to a numerical score of 0.5. The CCC or lower end point values are: turnover = 0, ROCE = -100, FFO/Liabilities = -30, Equity Ratio = -10, Leverage Ratio = 120 and EBIT/Interest Expense = -15. A value equal or worse than the lower end point equates to a numerical score of 20.5.

** To simplify the scoring at the lower end of the scale, we operate with the inverse ratio, EBITDA/Liabilities. This operation simplifies the conversion of the metric value to a numeric score, which is done by linear interpolation based on placement within the scorecard range. For example, the B-equivalent range (i.e., in terms of EBITDA to Liabilities and in percentage values) is 0.8% - 10% (i.e., 1/125*100 = 0.8% and 1/10*100 = 10%); the CCC or lower threshold is <=0.8%. For the linear scoring scale, the CCC or lower end point is -40. A value for EBITDA/Liabilities of -40 or worse equates to a numerical score of 20.5. For the linear scoring scale, the AA or higher end point value is 245. A value of 245 or better equates to a numerical score of 0.5.

Notching Adjustments					
	+1	0	-1	-2	-3
Liquidity	Reserves and internally generated cash cover business (including CAPEX) and debt obligation needs over 12 months or more. External liquidity facilities may be drawn to fund CAPEX. Liquidity facilities are mostly untapped; and access to further external funding appears very likely during periods of turbulence for capital markets or of operational difficulty for the company; and capacity to raise alternative cash in a timely manner through assets or business lines sales exists but is moderate; and compliance with covenants is almost assured and the company is expected to easily withstand impact of any breach with expected small impact on its liquidity position.	Reserves and internally generated cash generally cover business (excluding CAPEX) and debt obligation needs over 12 months. External liquidity facilities are typically drawn to fund all or part of capital investment and a small share of working capital; and a moderate untapped buffer on liquidity facilities is available; and access to further external funding appears likely and sufficient during periods of turbulences for capital markets or of operational difficulty for the company; and capacity to raise alternative cash in a timely manner through assets or business lines sales exists but is limited; and compliance with covenants is very likely and the company would be able to withstand any impact of breach with expected moderate impact on its liquidity position.	Reserves and internally generated cash cover the majority but not all of business (excluding CAPEX) and debt obligation needs over 12 months. External liquidity facilities are needed to fund all or the majority of capital investment, a moderate share of working capital and potentially some basic operations and only a small untapped buffer on liquidity facilities is available on an ongoing basis; or access to further external funding appears likely but would be limited in volume. Capacity to raise alternative cash in a timely manner exists but is very limited; or compliance with covenants is less certain with potential need for re-negotiation, and any breach is likely to have large impact on liquidity.	Reserves and internally generated cash hardly cover the majority of business (excluding CAPEX) and debt obligation needs over 12 months. External liquidity facilities are needed to fund capital investment, a large share of working capital and a moderate share of basic operations; or liquidity facilities are largely tapped on an ongoing basis; or access to further external funding appears less likely and would be very limited in volume. Capacity to raise alternative cash in a timely manner is negligible, being constrained by asset encumbrance, distressed value of transaction or short-term net negative impact of business line sale; or material risk of covenant breach with expected need for re-negotiation, and any breach is likely to have large impact on liquidity.	Reserves and internally generated cash do not cover the majority of business (excluding CAPEX) and debt obligation needs over 12 months. External liquidity facilities are needed to fund all capital investment, a very large share of working capital and a large share of basic operations. Liquidity facilities are almost fully tapped; or access to further external funding appears unlikely and would be very limited. There is typically no capacity to raise alternative cash in a timely manner; or breach of covenants is very likely with limited room for renegotiation, with any breach likely to have very large impact on liquidity.
	+1	0	-1	-2	
Debt Structure	Debt composition is distinctively diversified and there is no or very limited refinancing risk with typically amortizing debt structure and no unhedged exposure to foreign currency, variable rate debt or derivatives.	Debt composition is generally concentrated on a few sources; and there is limited refinancing risk with typically amortizing debt structure; and no or very limited unhedged exposure to foreign currency, variable rate debt or derivatives.	Debt is concentrated on a single source and/ or there is moderate refinancing risk due with bullet repayments; or there is moderate unhedged exposure to foreign currency, variable rate debt or derivatives.	Debt is concentrated on a single source and/or there is high refinancing risk with front-ended bullet repayments; or the company has material unhedged exposure to foreign currency, variable rate debt or derivatives.	

Notching Adjustments				
	+1	0	-1	-2
Strategic and Operational Management	Strategic vision and planning are of very high standards and supported by a very strong operationalization capacity. The company has a very clear, holistic and articulated vision of the opportunities and risks the business may face as well as of the actions needed for maintaining and/or improving the business sustainability; and planning is very conservative; and day-to-day operationalization and strategic plan execution are very strong, supported by a robust monitoring and reporting framework and well-defined responsive operational policies in case of deviation from the plan.	The company has clear strategic plans and operationalization is of adequate quality. The company has a clear and articulated vision of the main opportunities and risks the business may face as well as of some of the actions needed for maintaining the business sustainability; and planning is conservative; and day-to-day operationalization and strategic plan execution are adequate; and deviations from the plan may occur but the impact is typically relatively limited and are generally corrected thanks to an adequate monitoring and reporting framework.	The company has weak strategic vision or operationalization, which ultimately put at risk the company's capacity to maintain its competitive position. The strategy relies on a relatively limited assessment of the business risks and opportunities; or the company has a weak capacity to implement in an ordered and controlled manner the changes necessary to adapt the company's business; or planning is generally optimistic with day-to-day operationalization and strategic plan execution often deviating from self-imposed targets as a result of substantial gaps in the monitoring and reporting framework; or corrective action are generally not sufficient to offset the deviation.	The company has very weak or is lacking strategic vision and operationalization, which ultimately put at risk the company's capacity to maintain its competitive position. The strategy, if any, relies on a very narrow or no assessment of the business risks and opportunities; or a very weak capacity to implement in an ordered and controlled manner the changes necessary to adapt accordingly the company's business; or planning tends to be over-optimistic and the company rarely meets its targets; or deviations from the plan are not, or almost not corrected due to the very weak monitoring and reporting framework.
	+1	0	-1	-2
Governance and Financial Policy	Shareholding structure indicates very positive alignment of interests. Shareholders' attention is geared towards long-term business viability; and risk of disruption in governance structure and strategy is non-existent or almost non-existent.	Shareholding structure does not support nor weighs on long-term viability of the business; and risk of disruption in governance structure is unlikely.	Shareholding structure indicates poor alignment of interests. Shareholders' attention is geared towards short-term financial benefits rather than long-term business viability; or risk of disruption in governance structure and strategy is likely.	Shareholding structure indicates very poor alignment of interests. Shareholders' attention is heavily geared towards short-term financial benefits rather than long-term business viability; or risk of disruption in governance structure and strategy is highly likely.

Appendix 2: Metrics Definitions

Quantitative credit metrics may incorporate some accounting adjustments to the income statement, cash flow statement and balance sheet amounts. Analysts may perform some analytical adjustments to account for specificities of a SME.

Size

Revenues
Total revenues (EUR Mn)

Profitability

ROCE
Numerator
Operating result (=EBIT)
Denominator
Net financial debt + equity (=capital employed)

Financial Debt
Bonds
+ Liabilities to banks
+ Other interest-bearing liabilities
+ Operating lease liabilities
+ Adjustments for ABS / factoring transactions

Leverage

Liabilities / EBITDA
Numerator
Total assets - equity
Denominator
EBITDA

FFO / Liabilities
Numerator
Funds from operations
Denominator
Total assets - equity

Funds From Operations
Net income
+ Depreciation and amortization
+ Deferred income taxes
+ Minority interest
+ Other non-cash items

Capitalization

Equity Ratio
Numerator
Equity
Denominator
Total assets

Leverage Ratio
Numerator
Financial debt
Denominator
Financial debt + equity

Coverage

EBIT / Interest Expense
Numerator
Operating result (=EBIT)
Denominator
Interest Expense

Appendix 3: Related Publications

The issuer ratings assigned to German SMEs are primarily determined by this rating methodology. Certain broad methodological considerations may also be relevant to the determination of credit ratings of issuers and instruments.

Related publications, including methodologies referenced in this report, can be accessed on our website.

Please refer to Basic Principles for Assigning Ratings, which is also available on our website, for further information.

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