A Work Project, presented as part of the requirements for the
Award of a Master's degree in Finance from the Nova School of Business and Economics.

Private Equity Challenge: Gerhard Schubert Group – Leveraged Buyout of a German Packaging Machinery Manufacturer and the role of ESG within Private Equity

Vincent Falcke
(44077)

Work project carried out under the supervision of:
Luis Mota Duarte
Fábio Soares Santos

17-12-2021

Abstract

The following paper focuses on the development of an Investment Thesis for the potential LBO transaction of the Gerhard Schubert Group, a German Packaging Machinery manufacturer. This paper encloses an analysis of the companies products, historical financials, differentiation potential as well as an analysis of the global packaging machinery market. Following this outside in assessment an investment thesis and value creation strategies, in the areas of Top-Line growth, Carve-Out, Add-On and cost reduction were derived. Based on this business plan a Leverage Buyout assessment was conducted and returns, as well as exit options are presented. An analysis of ESG influencing the Private Equity industry concludes this paper.

Keywords

Private Equity Challenge, Leveraged Buyout, Packaging Machinery, Family Business, Valuation, Value Creation, Add-On, Carve-Out, Digitization, ESG

Disclaimer

This paper was developed in a group, the full group work was delivered under the name: “Private Equity Challenge: Gerhard Schubert Group”. It was developed with an academic purpose, using publicly available information and information made available directly by the company or external experts. The Experts / Interview partners are listed in the Appendix. All information from the Company website was retrieved before 20.09.2021.

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

SCHUBERT

Packaging Machinery

Private Equity Challenge 2021 / 22
Investment Committee Presentation – Group Part

17th of December 2021

NOVA SCHOOL OF BUSINESS & ECONOMICS

Tessa Bottenschein	44216	Steven Grossmann	46253
Vincent Falcke	44077	Martin Krull	44692

Disclaimer

SCHUBERT

- This paper was developed with an academic purpose, using publicly available information and information made available directly by the company or external experts.
- This paper evaluates Gerhard Schubert GmbH and its subsidiaries (following „Schubert“).
- The Experts / Interview partners are listed in the Appendix.
- Because, according to the German Publication Act, the filing deadline for accounting documents is no more than one year after the closing date of the financial year, Schubert did not have to file the documents for 2020 yet. These will probably not be published until January 2022.
- For this reason, a fictitious takeover date of the company of 01.01.2020 is assumed for the present work. All forecasts are based on the published reports for the 2019 financial year.
- The holding period of the company is assumed to be 5 years, which means that the company will be sold at the end of 2024. However, the business plan will be developed up to the end of 2027.
- The company takeover is to be assumed cash-and-debt-free. This means that apart from a certain amount of cash balance with the function of covering the liquidity requirements and strategic measures, the remaining cash will be distributed before the takeover.
- All information from the company website was retrieved before 20.09.2021.

SCHUBERT

Content Structure

Schubert, a German packaging machinery producer, is an exceptional investment opportunity yielding a Money Multiple of 2.9x at an IRR of 24% over a 5-year holding period

SCHUBERT

Company & Market

- Schubert is a **German-based producer** of top-loading **Pick & Place packaging machines** with c. 1,400 employees
- The company sells its machines mainly in the domestic **German** market (27% of Sales in 2019A), rest of **EMEA** (39% of Sales in 2019A) and **North America** (27% of Sales in 2019A); **total Sales of c. €272m in 2019A**[1]
- **The global packaging machinery market** is **growing strongly** (4.8% CAGR until 2028), as are Schubert's end markets (CAGRs of 3.1%-5.0%)
- **The average Cash Conversion Rate** (last 3 years) **amounts to 33%**

Investment Rationale & Value Creation

- A **defendable competitive positioning** in the **premium** segment of a growing **niche** market, a highly experienced management team as well as a **strong financial performance** make Schubert an attractive investment target
- Further value is to be generated through **organic strategies**: 1) International expansion in new and existing markets, 2) Expansion of service offerings, 3) Reduction in Material Expenses, and 4) Implementation of sustainability measures
- Inorganic measures include 1) **Carve-Out** of the low-margin and non-core subsidiary “Schubert System Elektronik” and 2) **Vertical Add-On** of packaging material producer “ETIMEX”

Business Plan

- The execution of strategic initiatives will continue to strengthen the Sales growth of the past years to a 2019A-2024E **CAGR of 10.35%**, reaching **€445m in 2024E** (coming from €272m in 2019A; total growth over 5-year holding period: 63.6%)
- Cost reduction measures and a larger share of high margin Aftermarket Sales **increase profitability** to an **EBITDA-Margin of 13.5%** in 2024E (+2.4pp on 11.1% in 2019A)
- Average Cash Conversion rate until **2024E amounts to 46%** translating into a **Free Cash Flow of €31m**

Valuation, Capital Structure & Returns

- Common valuation methods yield an **entry valuation of 12.7x on the €30m EBITDA of 2019A** leading to an **Enterprise Value** (EV) of **€355m**
- A substantial **family co-investment (€77m)** and **sweet equity (€10m)** will align interests of fund, family and management
- **Total acquisition debt amounts to 5.0x 2019A EBITDA** with a strong decrease in the following years up to exit in 2024E
- In the base case, a **Money Multiple of 2.9x** and an **IRR of 24%** are achieved after **5 years**

Due Diligence & Exit

- Several Due Diligence streams - Commercial, Financial, Legal, ESG, HR and Tax - assess key risks such as risks related to the **business, strategic measures** or **market developments** that hinder strategic expansions and need to be conclusively clarified
- A secondary sale to a PE fund or sale to a strategic buyer are the recommended exit options in 2024E
- The analysis of potential strategic buyers classifies the German machinery manufacturer **GEA AG** as best strategic acquirer fit

After comprehensively analysing the presented target, evaluating risks, considering different operating scenarios and financing cases, it is recommended to **proceed with the presented opportunity into the next stage of a thorough Due Diligence**

€272m
Sales 2019A

€30m
Adj. EBITDA 2019A

11.1%
Adj. EBITDA-Margin 2019A

€445m
Sales 2024E

€60m
EBITDA 2024E

13.5%
EBITDA-Margin 2024E

2.9x
Fund/Family MoM Multiple 2024E

24%
Fund/Family IRR 2024E

5 year Holding Period from 2019 to 2024

Source(s): Company Information, Own Analysis; Note(s): RoW = Rest of World; 1) RoW accounts for 7% of sales in 2019A

2. Company Overview

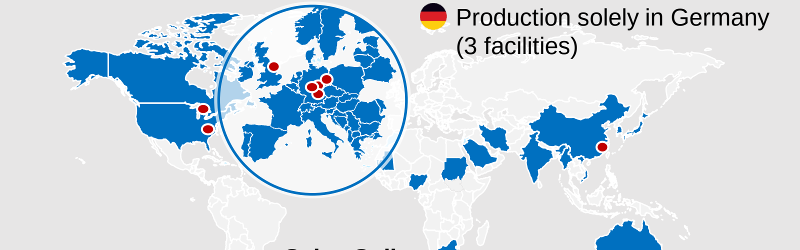
Since its foundation in 1966 Schubert is a pioneer in the development of modular packaging machines and custom-fit services with innovative digitization offerings for a wide range of industries

SCHUBERT

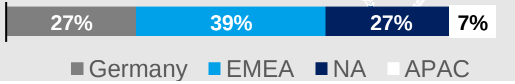
Key Facts

- **German-based packaging machinery** manufacturer („Schubert“) **headquartered in Crailsheim**, Germany
- The **100% family-owned** group is an innovative market leader for **top-loading Pick & Place[1] machines**
- With **~1,400 employees** the company reached Sales of **€272m in 2019A[2]**
- The group includes 6 German subsidiaries, 3 of them specialized in different key aspects such as **electronics-, additive-** and **CNC contract manufacturing**

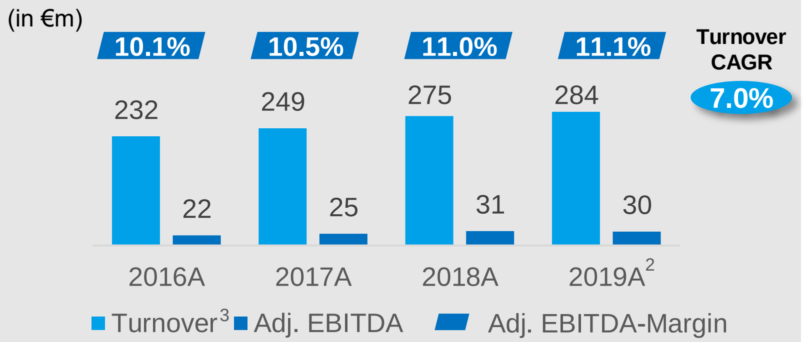
Geographic Footprint



Sales Split

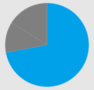


Historic Financials



Key Products

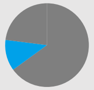
Modular products



72% of 2019A Sales

- Top-loading packaging **machinery**, **flow-wrapper**, CNC contract **manufacturing** and **electronics**

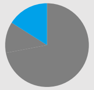
Turnkey solutions



12% of 2019A Sales

- Fully integrated **turnkey** packaging solutions

Aftersales services



16% of 2019A Sales

- **Spare parts**, modifications, remodeling

From an Idea to the World Market Leader in Digital Packaging Machines

1966: **Gerhard Schubert** founded the company; Development of **first carton erecting** and **gluing machine**

3 employees

1970-1990: Schubert modular **machine systems**, computer-controlled **robots** (ROBY) and own **packaging machine control** revolutionise the market

~250 employees

2013: Acquisition of the (now) **Schubert System Elektronik**

2015: Opening of the **new assembly hall** in Crailsheim (€16m investment)

> 1,300 employees

2016-2019: **Transformation to international growth through US** restructuring and opening of **China** subsidiary

End Markets and Customers

Food	Yakult, Kühne
Pharma	Abbott, CSL Behring
Beverages	Veuve Clicquot, Jägermeister, Schützengarten
Pet Food	Ospelt, Opticat
Confectionary	Ritter Sport, Bahlsen, Bonomi
Cosmetics	Alpecin, lavera Naturkosmetik, Henkel
Dairy	Edelweiss, Meggle, Jermi
Technical Articles	

Schubert Key Industries

See Appendix Slide 85 for detailed Group Structure

Source(s): Company Information; Note(s): 1) Robot based packaging of goods by picking goods up from a conveyor belt and placing them in the package, 2) Last audited results, 3) Turnover denotes the difference between Sales and Inventory produced

Directly downstream of production, the Schubert machinery fulfils packaging tasks on a one-stop-shop basis, from picking up to placing in the packaging all the way to palletising

SCHUBERT

Exemplary Value Chain[1]

Raw Materials → Development/ Production → Packaging → Distribution & Sales → Consumer

Packaging industry

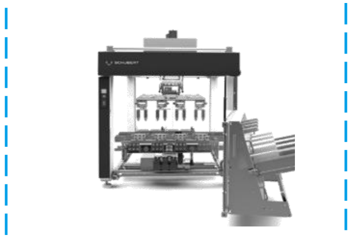
Packaging Machinery (machinery producer)[2]

Packaging Material

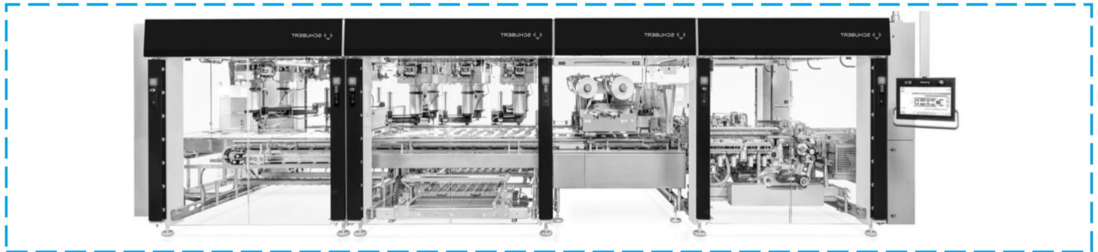
Phase

Primary Packaging	Secondary Packaging	Tertiary Packaging
Packaging for retail / consumer	Packaging for branding & display of product	Packaging for protection & shipping
Erect – Bottle – Place – Close	Thermo-form – Flow-wrap – Box pack	Wrap – Label – Palletise

Schubert Product



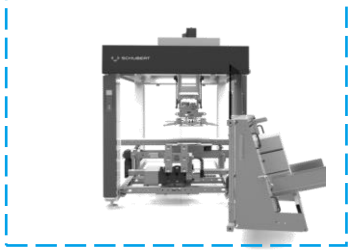
TLM Box Erector



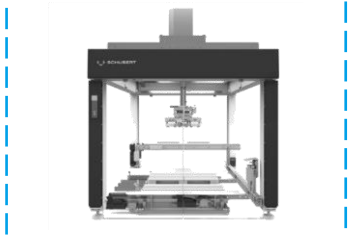
Vision System

TLM Grouping Machine

Flow Module



TLM Closing Machine



TLM Palletiser

Product Description

- Robot based machinery **picking up goods from a conveyor belt** and **placing them inside packaging / in boxes / on pallets**; Thus, enabling **faster**, more **precise,** and more **careful handling** of the product than other methods
- **Modularized sub-machines** based on the same frame construction are equipped with tailored tools and can be connected to form customized packaging lines (up to turnkey line as most sophisticated and tailored machine concatenation)

100% Automated machine handling

10 years Avg. Machine Life Cycle

€236k Avg. Price per Machine

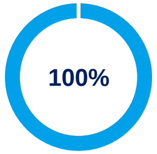
Source(s): Company Information, Own analysis; Note(s): 1) Exemplary for food production, 2) Schubert is only packaging machinery producer and no contract packager

The management team has long tenure, excellent industry experience and a strong track record in all defined key activities enabling it to drive further growth and capture new markets

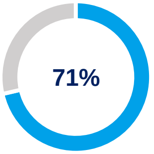
Management Team

CEO	CTO	CSO	CFO
			
Gerhard Schubert (83)	**Ralf Schubert** (60)	**Marcel Kiessling** (59)	**Peter Gabriel** (61)
Founder, Managing Director (MD) and **Shareholder**	**Son** of founder, MD, and **Shareholder;** joined Schubert in 1985; diploma computer scientist	**Joined in 2016**, prev: Radius 1 (Partner), Gerson Lehrman (Adv. Cncl), Heidelberg (MD)	Managing Director**, joined in 2000**, diploma economist
>60 ◑	36 ◕	32 ●	30 ●

Employee Insights



1st level mgmt. with >30yrs. industry experience



2nd level mgmt. with >20yrs. industry experience

7.1%
CAGR of total workforce 2012A-2019A (compared to 7.5% Sales CAGR)

- **Schubert** is a **family-run business** with the company founder and his son as MDs
- With Peter Gabriel Schubert built up a **strong CEO successor**
- A strong **second level management** team shows **long tenure** and high level of proficiency and management capabilities (see Appendix)
- Strong second level management team and internal training enable top level vacancies to be filled by "the next man up"
- **Blue collar workforce** historically grew less than sales (5.8% CAGR 2012A-2019A) and overall workforce leading to capacity issues

Business Model and Key Activities

Modularity and Flexibility of Machines

8 standardized system components allow individualized tailoring of machines

- Schubert machines have **interchangeable (Pick & Place) tools** leading to quick change-overs and short downtimes
- Justifying Schubert´s **premium positioning**, due to significant **advantages for customers** and **differentiation** towards competition

Digitization and Innovation

20% faster robots with optimum control through Schubert Motion technology

- **3D printing, streaming platform** for spare parts („Partbox") and self-developed customer communication interface („GRIPS.world") enable outstanding **customer experience**
- Digital Twin in prototype-phase

Service and Aftersales

16% share of services (in 2019A) far below industry average of >20% according to industry experts

- **Multi-level service approach** (global, regional, local)
- Full technical and digital service throughout the machine life cycle, generating **recurring revenues** and boost customer retention
- Increased service focus in recent years must be continued and strengthened

Purchasing Criteria and Sales Approach

75% of Sales with existing customers every year indicating high customer retention

- Schubert performs excellently in the three most important purchasing criteria "**machine reliability", "throughput"** and **"application know-how/ track record"**
- **Direct sales team** in Crailsheim and **dedicated sales offices** in e.g. UK, Canada, China and US

Sustainability and ESG

89% CO_2 savings by using Partbox with 3D printing through transport reduction

- Successfully working on six of the defined UN Sustainable Development Goals (7, 8, 9, 12, 13, 17)
- Since 2015 certified by Veritas in accordance with SMETA[1], adopting requirements of ethical action
- Five principles for waste prevention

○ Years Industry Experience ● High Managing Capabilities

See Appendix Slides 85-92 for details on Management, Employees and Business Model

Source(s): LinkedIn, Xing, Company Website, Orbis; Note(s): 1) Sedex Members Ethical Trade

Schubert's competitive advantage is based on 6 pillars: the pioneering spirit and its focus on innovation are significantly responsible for the company´s success

SCHUBERT

1 Pioneering Spirit and Focus on Innovation

- R&D ratio **above industry average;** pioneer in robotics and digital machines; 2019 expansion of research team for cooperative robots
- Proven **innovation leader** within Pick & Place packaging applications
- Continuous expansion of new, industry leading packaging applications

2 Customer Centricity

- High **flexibility** and modularity enables highly **individual** and **tailored** products
- **Premium pricing** amortizes through **enhanced offerings, speed** and **quality**
- **Strong and long-lasting customer relations** with 75% of Sales being generated with recurring customers enabling growth alongside existing customer base

3 Highly Flexible and Scalable Pick & Place Products

- **Precise** Pick & Place robots for fragile products due to superb engineering know-how
- High **flexibility** and **modularity** enable easy **scaling in production** and **flexible adaption of tools** to new products and designs increasing customer retention
- **Schubert Lightline** as standardized product appeals to cost-conscious customers

4 Coverage of the Entire Value Chain

- „**One-stop-shop**“ - starting from **consulting** ending with first-in-class **additive spare parts, 3D printers and innovative aftersales offerings** - driving future growth prospects
- **Coverage of the entire packaging value chain** (Primary, Secondary, Tertiary) for an above industry-standard amount of end markets

5 Strong Management and Company Culture

- Experienced management team with proven track record for **international expansion, company integration** and execution of **innovative strategies**
- Good **reputation** as **employer, performance-oriented winning culture** and pay
- Offer **training possibilities**, flexible time working concepts etc.

6 Sense of Trendsetting New Business Areas

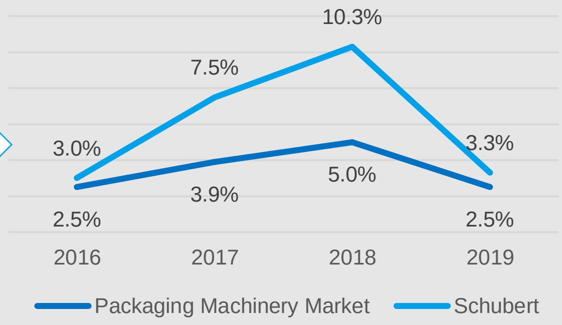
- Group includes subsidiaries in the fields of **IT, engineering and 3D printing**
- **High investments** in digital platform GRIPS.world, service offerings with Digital Twin and edge computing gateway Schubert.GATE as key investments for the future
- **Roll-out of service offering pipeline** into market imminent

#1 Market leader in Pick & Place applications

10% Investment of annual revenue in R&D

The health of the company and the success of the strategy are reflected in the steady growth in turnover, which has been above industry average for years

Turnover Growth



Source(s): Own Analysis

See Appendix Slides 85-92 for details on Group, Business Model and USPs

3. Historic Financials

The growth of the last years (2012A-2019A) was mainly driven by Sales in North America (CAGR: 21%) and Aftermarket Sales (CAGR: 12.7%)

SCHUBERT

Historic Sales Development

in €k	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	CAGR
Machinery (Germany)	35,115	38,214	24,777	54,628	47,139	42,694	51,365	40,394	2.0%
Machinery (EMEA)	89,159	101,536	129,777	88,272	99,891	113,288	103,275	86,017	(0.5%)
Machinery (NA)	15,452	9,795	14,156	22,496	12,062	21,071	51,887	59,604	21.3%
Machinery (China)	0	0	0	0	0	0	3,243	14,498	n.a.
Aftermarket Sales	19,044	24,170	28,119	26,642	33,420	36,800	39,627	43,933	12.7%
Electronics	0	19,999	22,475	20,753	20,145	21,962	25,245	22,460	n.a.
Other	5,779	6,978	9,122	11,703	6,730	7,358	8,525	5,412	(0.9%)
Total Sales	**164,550**	**200,691**	**228,426**	**224,495**	**219,387**	**243,173**	**283,167**	**272,319**	**7.5%**
Delta Inventory	1,988	2	(431)	484	12,419	6,021	(8,315)	11,736	n.a.
Turnover	**166,538**	**200,693**	**227,995**	**224,979**	**231,806**	**249,194**	**274,852**	**284,055**	**7.9%**
YoY Growth	*n.a.*	*20.5%*	*13.6%*	*(1.3%)*	*3.0%*	*7.5%*	*10.3%*	*3.3%*	n.a.

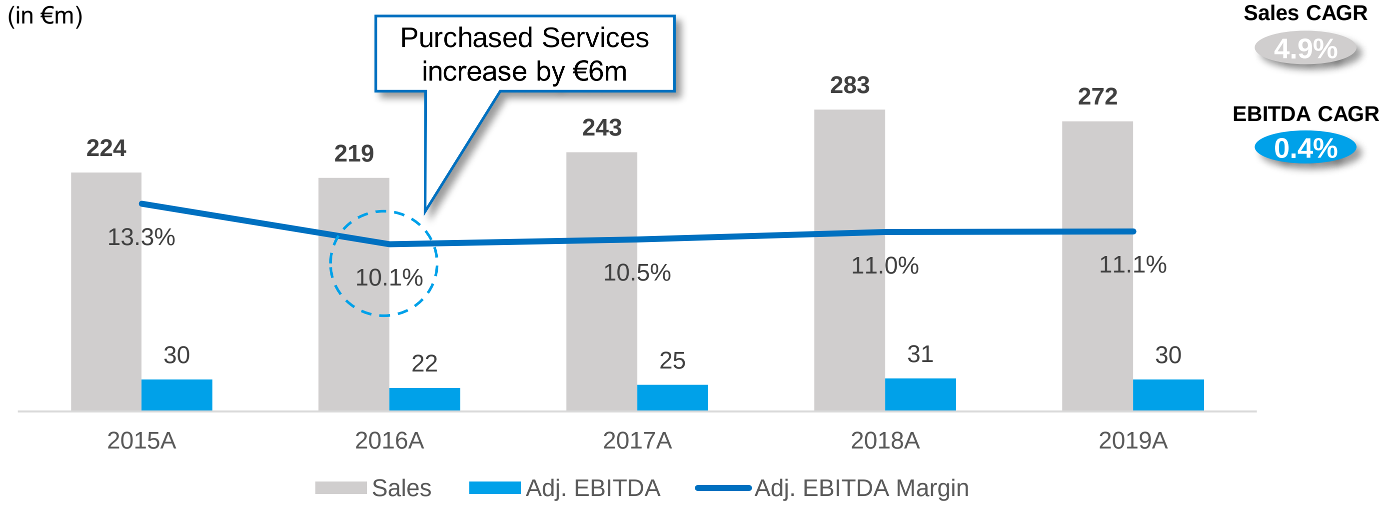
Key Takeaways

International Expansion: Most important sales driver; Restructuring of North America sales operations resulted in nearly tripling of Sales from €20m up to €60m between 2017A and 2019A

Aftermarket Sales: Strong CAGR (12.7%) as Schubert management is striving to increase Aftermarket / Service offerings with a focus on digitization to reach industry-standard level (>20% of sales)

Sales vs. Turnover: Turnover denotes the total output of the year (including Inventory changes), making it an important measure as it accounts for reporting date view shifts in large orders

Profitability Development



Source(s): Annual Report; Company Information

Profitability Assessment

- **Strong overall Sales growth;** Weak 2019A in Germany and EMEA caused by large orders shifting to 2020E (reflected in Inventory increase)
- Despite high Sales growth, **EBITDA remained flat in recent history with a CAGR of 0.4% since 2015A**
- **EBITDA-Margin** drop in 2016A following results from sales restructuring and aggressive growth in US and increase in Purchased Services due to capacity issues
- Despite that, Schubert shows an EBITDA margin recovery from 2016A onwards, **reaching 11.1% in 2019A**

The finalisation of the production hall in 2022E as well as the targeted higher revenue share through Aftermarket Sales will have a positive impact on profitability and will strongly increase the previously flat development of EBITDA

See Appendix Slides 93-97 for detailed Sales, P&L and Balance Sheet Analysis

Slight EBITDA margin pressure from 2016A to 2019A is explainable and manageable through future reduction in Purchased Services and Other OPEX

Profit & Loss Statement

in €k	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	CAGR
Sales	**164,550**	**200,691**	**228,426**	**224,495**	**219,387**	**243,173**	**283,167**	**272,319**	**7.5%**
Turnover	**166,538**	**200,692**	**227,995**	**224,979**	**231,806**	**249,194**	**274,852**	① **284,055**	**7.9%**
YoY Growth		20.5%	13.6%	(1.3%)	3.0%	7.5%	10.3%	3.3%	
Raw Materials	(51,085)	(68,935)	(77,387)	(74,190)	(72,922)	(76,466)	(77,819)	(76,873)	6.0%
% Sales	*(31.0%)*	② *(34.3%)*	*(33.9%)*	*(33.0%)*	*(33.2%)*	*(31.4%)*	*(27.5%)*	*(28.2%)*	
Purchased Services	(19,763)	(11,298)	(12,521)	(16,665)	(22,922)	(26,049)	(31,174)	(34,575)	8.3%
% Sales	*(12.0%)*	*(5.6%)*	③ *(5.5%)*	*(7.4%)*	*(10.4%)*	*(10.7%)*	*(11.0%)*	*(12.7%)*	
Material Expenses	**(70,848)**	**(80,233)**	**(89,908)**	**(90,856)**	**(95,844)**	**(102,515)**	**(108,993)**	**(111,447)**	**6.7%**
% Sales	*(43.1%)*	*(40.0%)*	*(39.4%)*	*(40.5%)*	*(43.7%)*	*(42.2%)*	*(38.5%)*	*(40.9%)*	
Gross Profit	**95,690**	**120,460**	**138,087**	**134,123**	**135,962**	**146,679**	**165,859**	**172,608**	**8.8%**
% Margin	*58.2%*	*60.0%*	*60.5%*	*59.7%*	*62.0%*	*60.3%*	*58.6%*	*63.4%*	
Personnel Expenses	**(56,782)**	**(66,911)**	**(74,211)**	**(76,121)**	**(80,723)**	④ **(87,382)**	**(94,442)**	**(100,354)**	**8.5%**
% Sales	*(34.5%)*	*(33.3%)*	*(32.5%)*	*(33.9%)*	*(36.8%)*	*(35.9%)*	*(33.4%)*	*(36.9%)*	
⑤ **Other Operating Expenses**	**(25,921)**	**(28,859)**	**(31,273)**	**(31,310)**	**(35,864)**	**(37,481)**	**(42,505)**	**(45,588)**	**8.4%**
% Sales	*(15.8%)*	*(14.4%)*	*(13.7%)*	*(13.9%)*	*(16.3%)*	*(15.4%)*	*(15.0%)*	*(16.7%)*	
OPEX	**(82,703)**	**(95,770)**	**(105,484)**	**(107,430)**	**(116,587)**	**(124,863)**	**(136,947)**	**(145,942)**	**8.5%**
% Sales	*(50.3%)*	*(47.7%)*	*(46.2%)*	*(47.9%)*	*(53.1%)*	*(51.3%)*	*(48.4%)*	*(53.6%)*	
Other Income	**1,447**	**1,618**	**891**	**1,743**	**1,518**	**2,066**	**984**	**2,059**	**5.2%**
⑥ **EBITDA Adjusted**	**15,653**	**27,654**	**34,974**	**29,777**	**22,126**	**25,467**	**31,259**	**30,227**	**9.9%**
YoY Growth		*76.7%*	*26.5%*	*(14.9%)*	*(25.7%)*	*15.1%*	*22.7%*	*(3.3%)*	
% Margin	*9.5%*	*13.8%*	*15.3%*	*13.3%*	*10.1%*	*10.5%*	*11.0%*	*11.1%*	

Profit & Loss Statement

① Shift of 1 major **turnkey** line order in amount of c. €11m from 2019A towards 2020E reduced Sales in 2019A; **Turnover depicts the Inventory increase** caused by the completed and not sold turnkey line

② Raw Materials ratio shows a decreasing trend due to **investments** in **production automation, internal process optimization** and **3D-printing of parts**

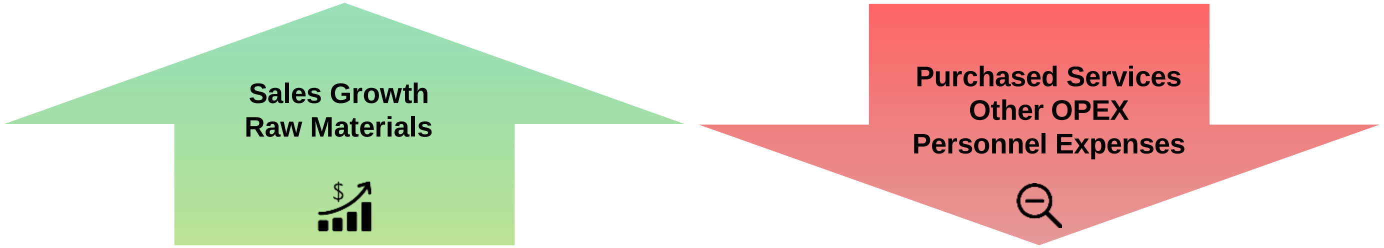
③ Strong **increase in Purchased Services caused by reaching 100% capacity**; Completion of new assembly hall in 2015A **shifts the bottleneck from assembly to production**; Missing infrastructure (production hall) and little personnel build up in 2014A to 2016A drive bottleneck

④ **Last three years show workforce capacity build up for production, R&D and service** as foundation for **future Sales growth**

⑤ Other OPEX constitutes **a high portion of Schubert's costs**, including cost positions as e.g.: Marketing, Rent & Leasing and Shipping & Logistics; strong increase is driven by **Marketing Expenses and build-up of infrastructure for growth and internationalisation** (increase in 2016A: restructuring of US Sales and 2019A: new China office)

⑥ Adjustments comprise normalisations for owners' salary of c. €1.2m p.a.

Key Profitability Drivers



Sales Growth
Raw Materials

Purchased Services
Other OPEX
Personnel Expenses

Manageability Assessment of Negative Drivers

🟢	**Purchased Services**	▪ Expected to decrease with ramp-up of new production facility in 2022E
🟢	**Other OPEX**	▪ Decreasing cost base after finalization of internationalisation strategies and economies of scale
🟡	**Personnel**	▪ Increase in service offerings requires more personnel ▪ High wage country Germany with strict labour laws

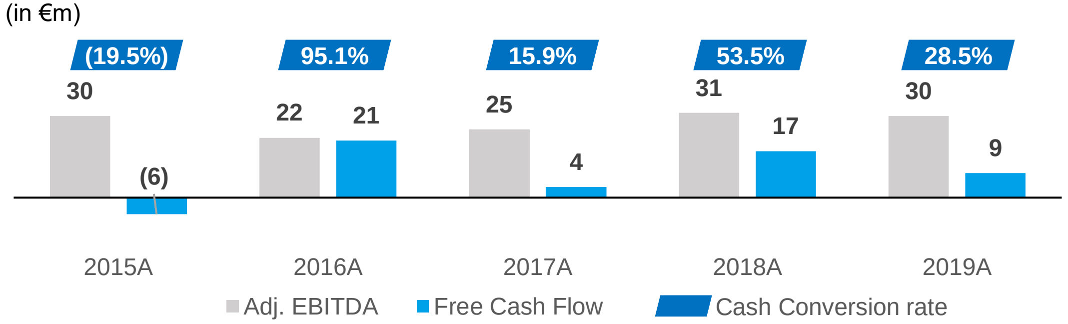
Source(s): Expert Interviews, Annual Reports

🟢 Good manageability going forward 🟡 Medium manageability going forward 🔴 Bad manageability going forward

See Appendix Slides 95-96 for detailed P&L Analysis

Cash Conversion volatility does not pose a problem as it is mitigatable through financial management; low Maintenance CAPEX suggest high future Cash generation potential

Free Cash Flow



33%

Avg. Cash Conversion last 3 years

in €k	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019E
Adj. EBITDA	**15,653**	**27,654**	**34,974**	**29,777**	**22,126**	**25,467**	**31,259**	**30,227**
(-) Changes in NWC	n.a.	(9,217)	(8,365)	(3,466)	8,908	(11,483)	(4,805)	913
(-) Changes other WC	n.a.	(5,751)	12,106	(7,116)	4,689	14	2,214	(2,260)
(-) CAPEX	(4,697)	(17,282)	(16,408)	(17,714)	(10,256)	(4,926)	(4,870)	(13,903)
(-) Taxes	(3,137)	(7,020)	(8,242)	(7,289)	(4,426)	(5,015)	(7,059)	(6,366)
Free Cash Flow	**7,819**	**(11,616)**	**14,064**	**(5,809)**	**21,041**	**4,056**	**16,739**	**8,611**
Cash Conversion	**50.0%**	**(42.0%)**	**40.2%**	**(19.5%)**	**95.1%**	**15.9%**	**53.5%**	**28.5%**

- **High Cash Conversion volatility** due to expansion CAPEX and volatile Working Capital development
- Volatile Working Capital is based on **low prioritization of management** focus due to low relevance for long-established **family business structures**
- **Working Capital shifts changes are** mainly driven by shifts in Inventory as invoicing of large orders are shifted to next fiscal period

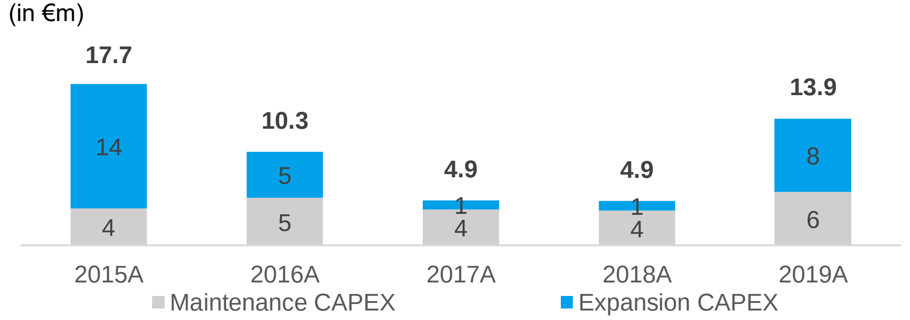
Cash Conversion volatility is explainable and mitigatable so that future Cash generation potential can be used for strategy implementation and deleveraging

Key Performance Indicators (2019A)

€236k Avg. Price per Machine	**62 Days** Cash Conversion Cycle
€136k Avg. Material Cost per Machine	**€50,278k** Working Capital

- Avg. of **€100k Gross Profit per machine**
- Relatively **low CCC** resulting from high amount of Advanced Payments received on orders
- **Working Capital** requirement of c. €50m in 2019A

CAPEX Development



- **Low levels of Maintenance CAPEX** as majority of equipment is leased
- **High Expansion CAPEX up to 2015A** to build new assembly hall reducing capacity bottleneck in assembly, shifting **focus towards production capacity constraints**

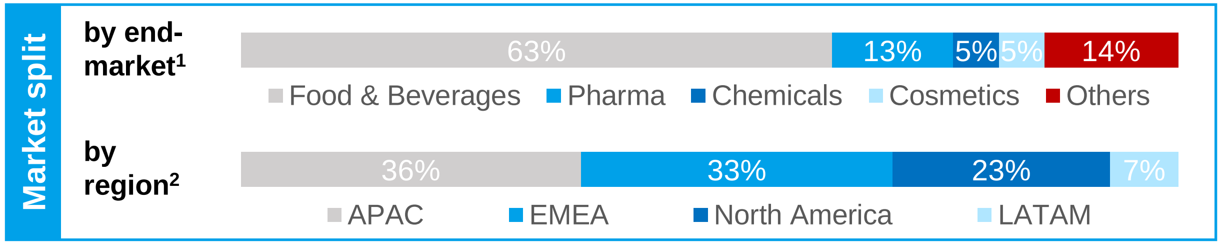
Source(s): Expert Interviews, Annual Reports, Company Information

4. Market Overview

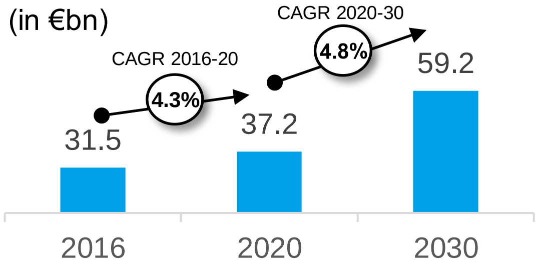
The global packaging machinery market is characterized by a high degree of fragmentation and continues a robust growth path of recent years with increasing automation demands from end markets

Global Packaging Machinery Market Overview

- The global packaging machinery market is estimated to be **€37.2bn** as of 2020 and is expected to grow at a **CAGR of 4.8%** through 2030
- **Impact of Covid-19** was moderate (-5% order intake) with quick recovery due to crisis-independent end markets like Food & Beverages (F&B) and Pharma (see Appendix)



Market Size Global



Market Entry Barriers

Entry Barrier	Relevance
Application Know-how	●
Customer Relationships	●
Track Record & Reputation	●
Manufacturer Qualification	◕
Local Customer Service	◕

Proxy

CAGR packaging machinery: **4.8%**

CAGR Schubert key end markets: **4.0%-5.0%**

→ **Schubert´s addressable market to grow ~4.5% CAGR for the next 5-8 years**

Market Characteristics

Fragmentation

- The global packaging machinery market is **highly fragmented** with only a few large and many small to mid-size players
- Top 5 players with c. 20% market share
- Schubert places with c. €270m among largest market players[3]

Market & Product Focus

- Many manufacturers focus on **specific niche end markets** and machine types due to strict **certification requirements** in highly regulated industries such as F&B and Pharma without covering the whole value chain
- Market player differentiate in generalists and specialists

Consolidation Pressure

- Increased **consolidation pressure** in recent years due to a growing demand for complete solutions and the fact that only a few companies can offer them (most are specialists)
- Increased **M&A activity** in small to mid-cap segment

Market Trends & Driver

Automation & Robotics

- Business needs for higher **efficiency** and **productivity** are driving demand for automated packaging lines with higher **production speed** and greater **flexibility**
- **Modularity, throughput** and **versatility of machines** gain in importance

Sustainability & Flexible Packaging

- Growing importance of **sustainability** drives replacement of old machines with new, **energy efficient** machines
- **Material reduction** and other sustainability initiatives increase need for **flexible packaging** machinery to run **different size** boxes and **packaging materials**

Food production

- **Growing population** requires higher food production to be packaged
- Regulatory changes towards **greater food safety**, especially in emerging markets

Source(s): Expert Interviews, PMMI, Statista, ARC Advisory Group, Allied Market Research; Note(s): 1) Based on 2016 figures; 2) Based on 2018 figures; 3) C. 1% market share

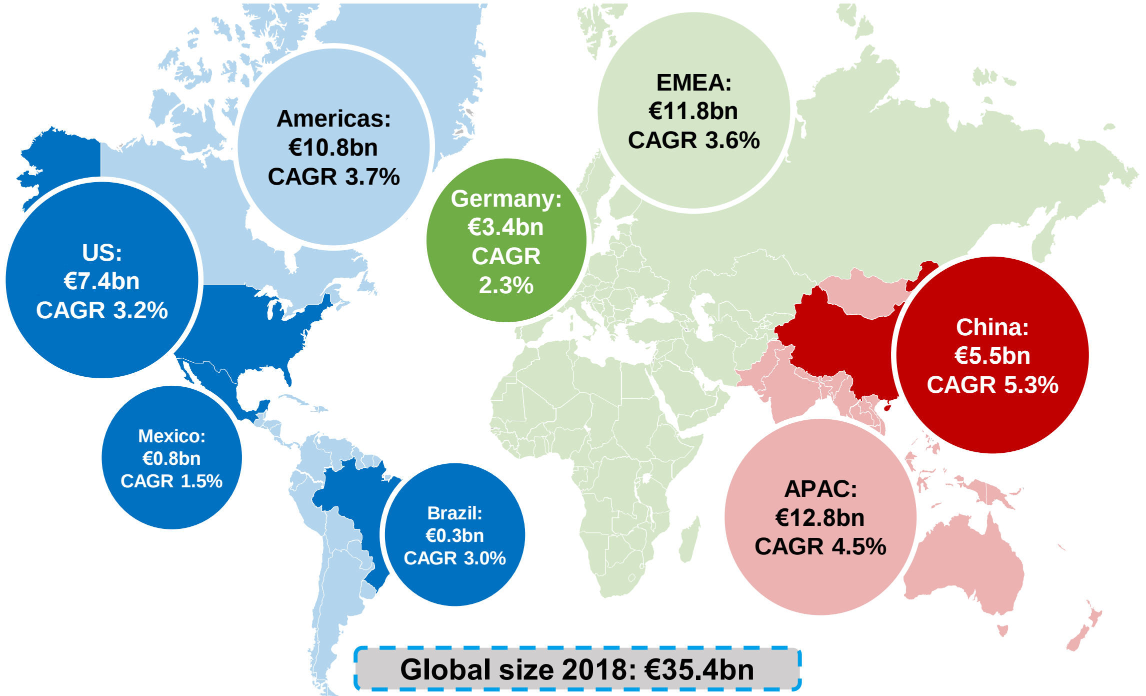
See Appendix Slides 98-101 for details on Market Driver, Entry Barriers and Covid Impact

High market volume and strong growth prospects in packaging machinery, evenly distributed across Americas, EMEA and APAC; Pick & Place application niche has a comfortable competitive environment

SCHUBERT

Global Packaging Machinery Market Size by Region

(As of 2018, CAGRs 2018-2024) 🟦🟥🟩 total region 🟦🟥🟩 subregion



Global size 2018: €35.4bn

- **Asia-Pacific** was the **largest market** for packaging machinery, accounting for 36.3% (€12.8bn) in 2018 and is expected to be the **fastest growing** region with a **CAGR of 4.5%** to **€16.8bn in 2024**
- **China** is expected to grow the fastest with a **CAGR of 5.3%** (2018-2024)
- With a combined share of over 36.4%, the **US** and **China** are crucial markets for Schubert with promising growth opportunities

Important (Sub)Regional Markets for Schubert

1 European Packaging Machinery Market 48%

- Germany is the world´s **largest manufacturer and exporter** of packaging machinery with €7.1bn and €5.9bn in 2018, respectively, while domestic market demand is €3.4bn in 2018
- **France, Italy, Poland** and **UK** are among Schubert's most important export markets
- Competition in Europe is limited, especially for Pick & Place applications
- **German manufacturers** are predominant alongside a few Italian manufacturers such as Coesia Group or Marchesini Group (no Pick & Place focus)

2 US Packaging Machinery Market 27%

- The **US** was the **largest sub-regional market** in 2018 at €7.4bn and the **most important** country for Schubert by making up for 27.2% of 2019 Sales
- The **US** is a **substantial importer** of packaging machinery with imports worth €2.2bn in 2019 of which **more than 30%** can be attributed to **German suppliers**
- **Key provider of Pick & Place packaging** solutions in the US are JLS and Douglas

3 Chinese Packaging Machinery Market 25%[1]

- China was the **second largest sub-regional market** in 2018 at €5.5bn and **the fastest growing** market
- Schubert opened its first distribution and service subsidiary in China in 2018
- **Rising labour costs** in China are key **growth driver** for automated packaging machinery
- China has currently **no provider of Pick & Place** solutions up to Western standards, displaying a favourable competitive environment
- German, Italian, Japanese, US and Swedish suppliers share the bulk of Chinese demand for high-quality packaging machinery displaying no sole Chinese player being able to compete with western machine standards

Source(s): PMMI, VDMA, Euromonitor International, Bundesanzeiger, Company Information, Italian Trade Agency; Note(s): German CAGR based on historical development; 1) RoW including China

○ Market Share 2019A

See Appendix Slide 102 for details on German Market

High degree of diversification and stability in key end markets hedge risk, while strong growth outlook creates significant upside potential with existing as well as new customers

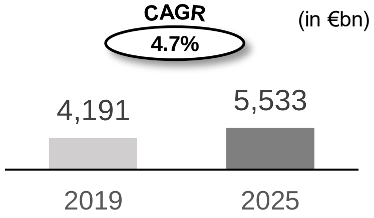
SCHUBERT

Industry	Growth Driver

Food

San Giorgio
Yakult
Kühne

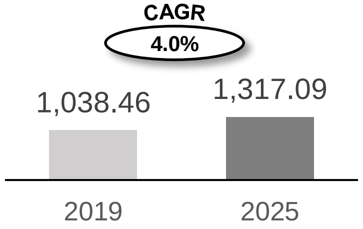
- Traditionally characterised by high volumes & low margins
- **Growth driver:** Out-of-home consumption, rising raw material prices, fair-trade and private label products, organic food



Confec-tionary & Snacks

Trolli
Bahlsen
Ritter Sport
Forno Bonomi

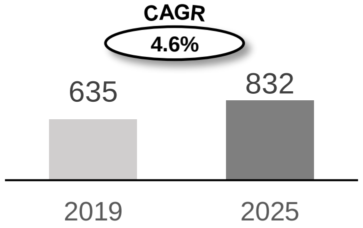
- Characterised by **price pressure** from raw material suppliers and consumers
- **Growth driver:** Out-of-home consumption, healthy living trends and fair trade / organic products



Dairy

Elle & Vire
Meggle
Jermi Käseria

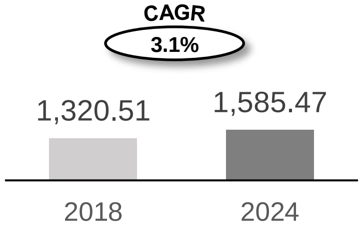
- **Fluctuating EBIT margins** (due to milk price) with average EBIT margin 2010-2016 being 3.6%
- **Growth driver:** Rising consumption in Emerging Markets, products and packaging innovation and infant nutrition



Bever-ages

Champagne Veuve Clicquot
Jägermeister
Schützengarten

- **30.7%** of beverages globally packed in **PET**, 23.4% in **glass bottles** and 18.4% in **cans**
- **Growth driver:** Rising consumption of alcoholic beverages, increasing wealth and population

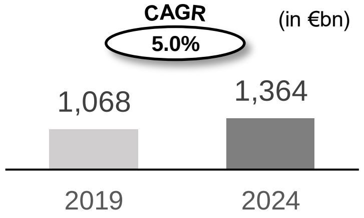


Industry	Growth Driver

Pharma

Abbott
CSL Behring Biotherapies for Life
nephron pharmaceuticals corporation

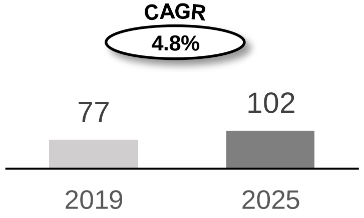
- Characterised through **high EBIT** margins with avg. **25%**
- **Growth driver:** Demographic change, technological advances, customization of products and health awareness, (Covid-19)



Cos-metics

Alpecin
lavera Naturkosmetik
Henkel

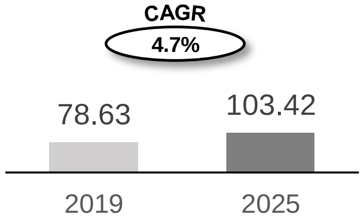
- Leading cosmetics companies EBITDA-Margin: **15.6%-23.3%** (2021)
- **Growth driver:** Rising beauty consciousness, demand for natural ingredients, lifestyle change, innovations in display



Pet Food

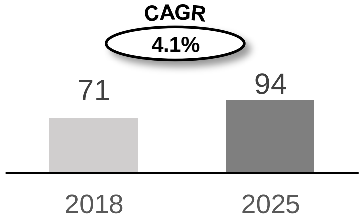
Opticat
Ospelt food · pet food

- **Growth driver:** Increased dog adoption as companion for families, lead by humanization of pets and urbanization as well as product innovation and focus on dry pet food



Technical Articles

- Different articles from different industries require a wide range of **individualised packaging solutions**
- **Growth driver:** Product innovation and rising commodity prices



Source(s): Own Analysis, Annual Reports, Statista, Imaa Institute, MarketsAndMarkets

⬚ Schubert Key Industries

Schubert is absolute market leader in its field of application without any significant market risks, as market entry barriers are high, and the power of suppliers and customers is limited

SCHUBERT

Porter´s Five Forces

Competition in the industry ◔
- Highly fragmented industry with **limited competition** as most manufacturers focus on specific applications
- Differentiation to competition mainly based on satisfaction of key purchasing criteria and niche focus

Threat of new entrants ◔
- Especially for the premium segment, there are **high market entry barriers**, which are **specific capabilities and know-how**, customer relationships, track record and customer service (see Appendix)

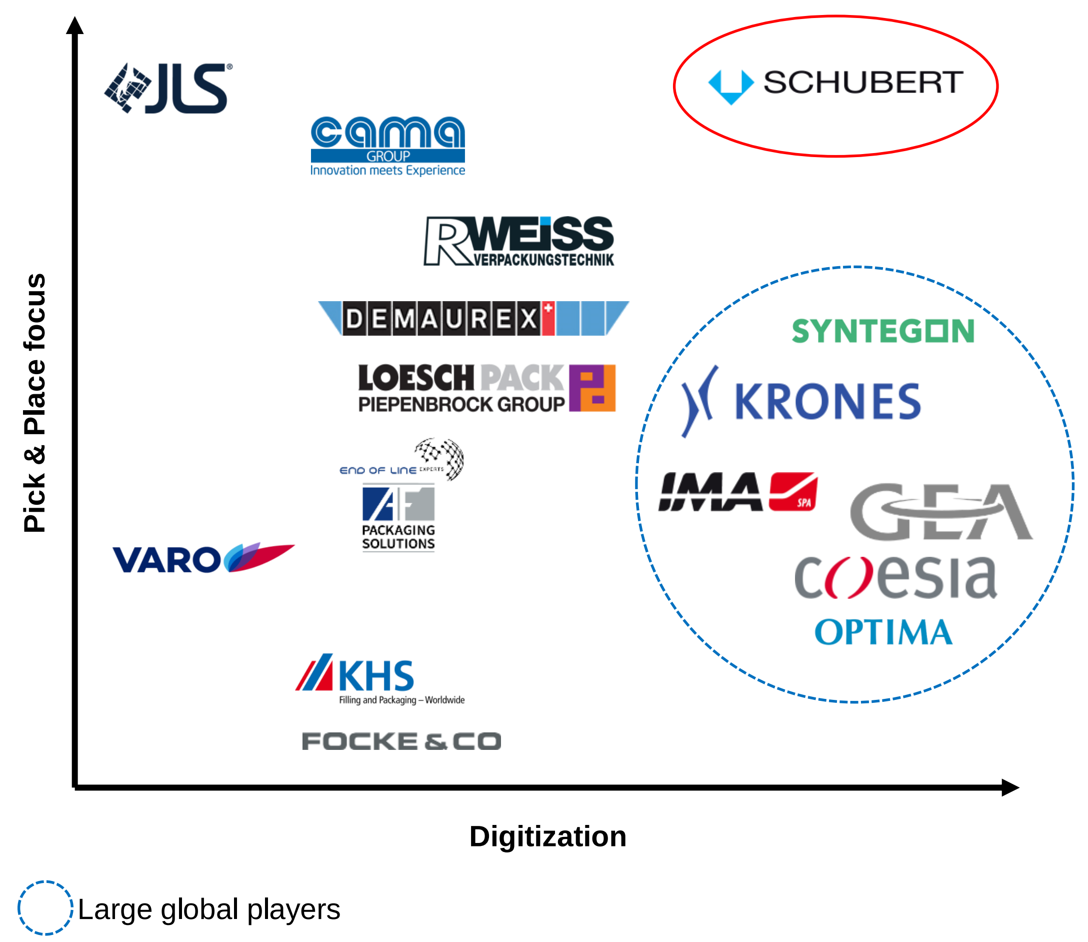
Power of suppliers ◔
- Limited power of suppliers due to increasing **insourcing activities,** e.g. CNC manufacturing
- Raw material costs linked to commodity prices but can be passed through to customers

Power of customers ◑
- **Medium power** of customers as main switching barriers are relationship with manufacturer, trust into machinery, effort to integrate machinery and established service network

Threat of substitutes ◔
- Low risk of substitution through new technologies
- Limited risk through substituting application technologies like **tray loaders** and **vertical loading machines** as these lack precision and speed

Source(s): Own Analysis

Competitive Positioning



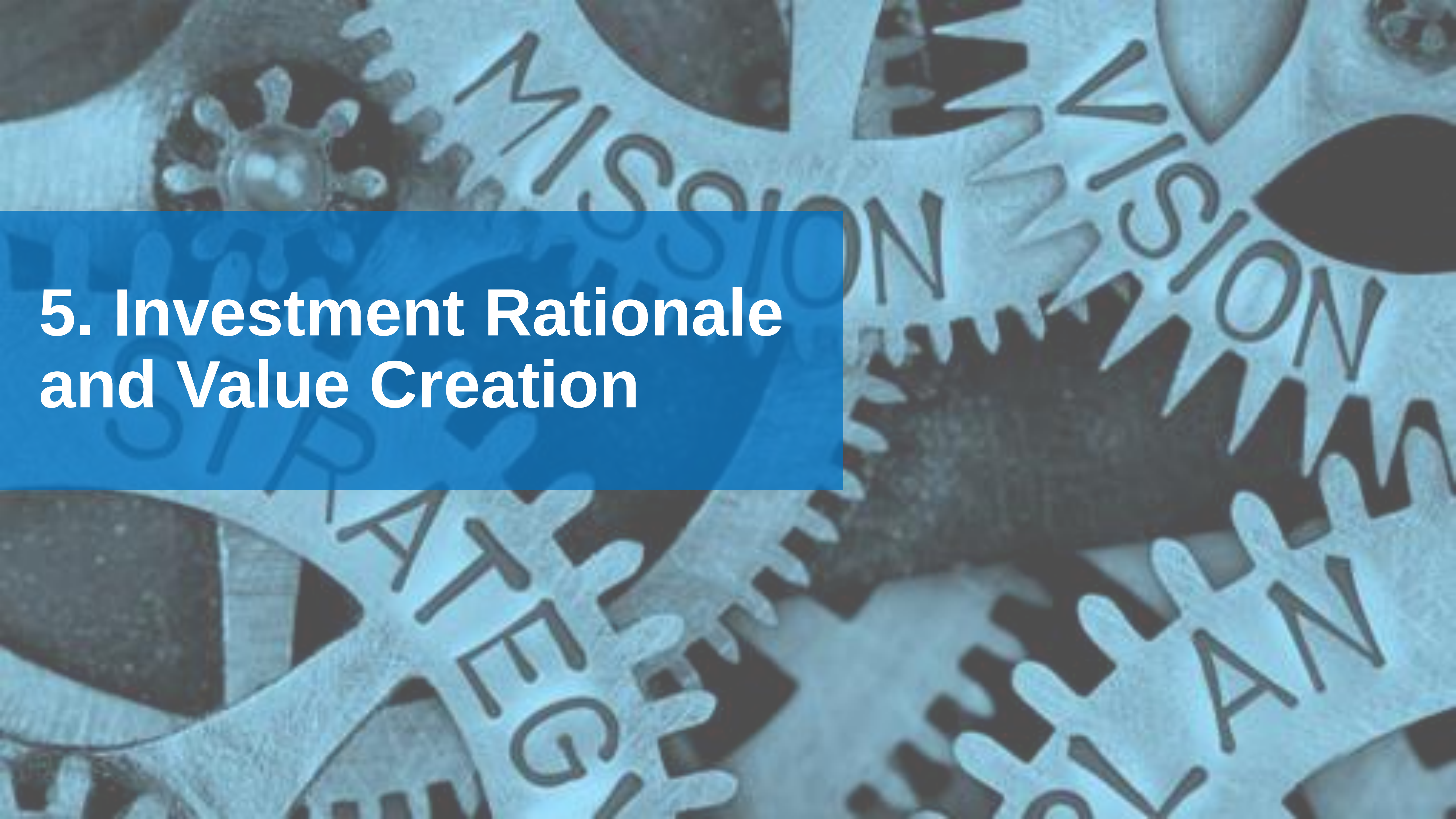
● High market threat / power

Comments

- According to Schubert's most important differentiation criteria "Pick & Place" and "Digitization", **Schubert clearly emerges as the sole market leader within its niche application focus**
- **Larger players showed less focus** on **Pick & Place** applications in the past and are now seeking to **become more generalist market players**
- Schubert can counter attempts by larger players to enter the Pick & Place market by virtue of its lead in precision technology and robotics, **as well as excellent customer relationships**
- Roll-out of service offering pipeline, as well as superior product offerings enables **Schubert to gain market share**

Schubert as sole, undisputed market leader in its application niche

See Appendix Slides 98 and 103-105 for Market Entry Barriers and detailed Competitor Analysis



5. Investment Rationale and Value Creation

The strong past of Schubert represented in the Deal Rationale, combined with strong Value Creation strategies, make Schubert a great target with high expected returns

SCHUBERT

Deal Rationale

Value Proposition in premium segment with best-in class product portfolio

- Huge potential **customer base** due to coverage of the whole value-chain for several end markets
- Superior product portfolio creating **defendable competitive advantage** through digital innovations, modularity, high quality and great reputation

Highly successful export business "made in Germany" with intl. market share gain potential

- High **export quota** of c. 70%, showcasing the perceived German machinery quality
- Low domestic market reliance
- Proven track record for successful **international expansion** (US)
- Fragmented global markets with **no dominant players**

Important assets: Experienced management team and precious human capital

- Longstanding management team with relevant track record (post acquisition integration, successful intl. expansion (US)) and **internal CEO succession option**
- **Highly trained engineers** & acquisition of young talent through the German dual system

Strong and robust financial profile

- **Strong historical CAGR** of Sales (7.5%) and of Gross Profit (8.8%) from 2012 to 2019
- **Cash Conversion** at 33% on avg. over the last three years despite high CAPEX (€23m) for new production facilities
- Leverageable Balance Sheet with strong asset positions

Megatrend driven (end-) market(s) bearing enormous growth potential

- **Application leader** in the Pick & Place niche: market expected to grow at a CAGR of 4.5% until 2030
- **Actionable** megatrend driven market environment and opportunities in several segments
- Solutions in place to tackle high demand for **sustainability**

Value Creation Strategies

Topline Growth / Sales increase

① International Expansion

- **Expand** operations into high potential growth market China
- **Further penetrate** entered markets US, France and Poland
- **Leverage** existing internationally operating customer base

② Expansion of Service Offerings

- **Strengthen** current focus on service through increased Aftersales to raise recurring revenues
- **Enhance** digital service offerings including predictive maintenance and "Software as a Service" modules
- **Push** long-term service contracts for Cash Flow stability

M&A

③ Structural Realignment through Carve-Out

- **Carve-Out** low margin and non-core in-house electronic manufacturing[1] business unit
- **Generate** Cash and raise long term profitability margin through divestment
- **Release** management capacities

④ Inorganic Growth through Add-On

- **Expand vertically** with acquisition of packaging material manufacturer ETIMEX to improve competitive position and double-digit growth
- **Exploit** synergies through holistic sales offering and R&D overlaps

Cost decrease

⑤ Reduction of Material Expenses

- **Increase** profitability margin through systematic cost management
- **Reduce** Purchased Services through efficient usage of newly won capacities

ESG

⑥ Sustainability and Impact

- **Set up** ESG task force to reach best in class practice
- **Carry out** materiality analysis to (over)perform regulations

Strategic Measures within Business Plan Base Case and Holding Period; Additional strategies such as Retrofit and market entries to LATAM and India optional in the case of free management capacity / ready for implementation after Exit for buyer

Source(s): Own Analysis; Note(s): 1) Schubert System Elektronik

See Appendix Slides 106-107 for Value Creation Timeline and Strategy Assessment

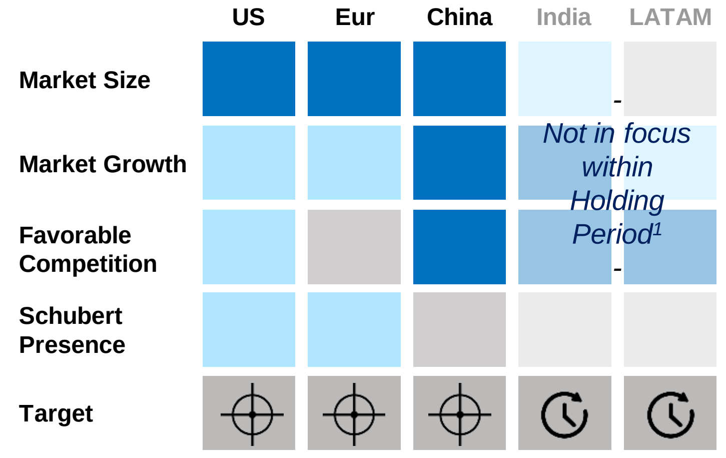
① International Expansion: High organic revenue growth potential of €60m through penetration of the Chinese market (€22m) and expansion in existing markets (€49m)

SCHUBERT

Status Quo

- Schubert´s core markets are in **Europe** and the **US**; production is exclusively in **Germany**, exporting all machines from single production location
- Sales in Europe come mainly from Germany, Italy, France, Poland and UK
- **Sales office in Shanghai** (China) since 2018 (started with hiring of business developer in 2014)
- Schubert's **customer base** includes numerous companies that are already active in these markets

Geographic Attractiveness (for details see Appendix)



	US	Eur	China	India	LATAM
Market Size	■	■	■	▨	□
Market Growth	▨	▨	■	■	▨
Favorable Competition	▨	□	■	■	■
Schubert Presence	▨	▨	□	□	□
Target	⌖	⌖	⌖	🕓	🕓

-
Not in focus within Holding Period[1]
-

● **Feasibility** ◔ **Management resources**

From Q1 2020
3 years

China

Megatrends offer significant growth opportunities for Schubert by expanding current operations in relevant markets

Rationale

- China is **the fastest growing** market with 5.3% CAGR until 2024
- **Leasing options** are increasingly popular in China to win cost-averse customers and decrease customer churn through re-selling

Objective

- **Gain knowledge market superiority** through innovations in the area of robots, patents, high-quality offerings and superior marketing spending
- Strengthen successful market entry through **leasing partnership**

Investment

Investment (€4m)
- Increased marketing spending
- Leasing provision fees
- Globally shared R&D investment

Outcome

2019A – 2024E:
APAC Revenue: **+€22m**

United States

Rationale

- US market was and remains **top** priority due to size (€7.4bn 2018)
- Schubert's **US expansion** largely responsible for past growth
- **Favourable competition**
- **German** positioning and tense relationship with China enable further **market share gains**

Objective

- Broaden geographic reach to achieve **stronger foothold** in US
- Increase local **brand awareness** and gain **market superiority** through German high-quality reputation
- Gain access to further big US companies (e.g. Pfizer) through **cooperations**

Investment

Investment (€2.5m)
- Invest in local Partnerships
- Expand sales team with 2 FTE for Business Development

Outcome

2019A – 2024E:
US Revenue: **+€20m**

France & Poland

Rationale

- France is **large importer** with a **strong** YoY-growth rate of **6.5%**
- Poland is the **largest market** for F&B in Central-/Eastern Europe
- Polish **Pharma** industry invests heavily in new production facilities with packaging machinery

Objective

- Increase market share at low level of effort (financially and regarding personnel) to realize **significant Sales increase** in (home-)markets
- **Exploit cross-selling** potential to existing intl. customers
- Expand and change **mindset** of sales team through trainings
- Enhance brand awareness

Investment

Investment (€3.5m)
- Expansion and training of sales teams for France and Poland (+3 FTE)

Outcome

2019A – 2024E:
FR & PL Revenue: **+€18m**[2]

Source(s): Own Analysis; Note(s): 1) Further Revenue potential from India: +€21m in mid-to long term; 2) Total EMEA Revenue +€29m

● / ● / ● High / Medium / Low Feasibility ● High managerial demand ■ High ▨ Medium □ Low

See Appendix Slides 108-111 for Assessment of Country Choice

② Expansion of service network: Primarily, digital and thus future-oriented service offerings are to be expanded to strongly increase high margin business of Aftermarket Sales by €50m

SCHUBERT

Status Quo

Schubert offers the following service packages:

- Up to **24/7 service center** availability via Expert center
- Regular **on-site maintenance**, **software updates** and replacement robots
- Customer **training** in training centers (GER, US)
- **Digital offerings** such as **warehouse** via streaming platform Partbox enabling 3D printing of spare parts on site and **maintenance dashboards**
- Predictive maintenance, Digital Twin and VR maintenance to ensure low downtime are in the **roll-out phase**

Room for improvement

- **Share of Aftersales Service** revenues at **16% far below** industry average (>20%)
- Currently **low geographical service** subsidiary **coverage**, which could **jeopardize positioning** as a **premium supplier** in the context of international expansion if not fully compensated through digital offerings

Objectives

- Increase share of service revenues above 20% of Sales to increase long term recurring revenues
- Ensure constant high level of service quality through well trained and highly educated workers
- Attract and retain customers through market superiority in digital service offerings
- Further leverage 3D printing and Partbox for Aftermarket Sales increase through e.g.: spare parts
- Build up on R&D and digital leadership to provide high quality service to ensure customer loyalty

Strategic Measures

- **Define and analyse installed base** to assess current Aftermarket Sales per machine
- Determine current service needs of customers and adapt service offering and sales strategy to address customer needs, providing **tailored service packages**
- **Enhance** digital service offerings including predictive maintenance and “Software as a Service” modules
- **Push long-term service contracts** for Cash Flow stability
- **Increase Software as a Service** (in addition to Updates) **offering** to increase recurring revenues and improve margins
- **Roll-out** of **predictive maintenance**, **Digital Twin** and **VR-maintenance** to increase digital service offering and improve customer loyalty

Projected Costs

- **No major CAPEX spending required**
- **Workforce:** High personnel intensity requires workforce build up -> Personnel Expenses for newly hired white collar worker account for approx. €16m p.a. by 2024E

● **Feasibility** ◔ **Management resources**

From Q2 2021

4 years

Projected Benefits

Aftermarket Sales: **+€50m**

Reaching €94m in 2024E

Share of Total Sales 2019A **16%**

Share of Total Sales 2024E **21%**

Source(s): Company Information, Own Analysis

🟢/ 🟡/ 🔴 High / Medium / Low Feasibility 🔵 High managerial demand

③ & ④ M&A Activity: Carve-Out of non-core business unit “Schubert System Elektronik GmbH” and vertical integration of packaging material manufacturer “ETIMEX” aiming to further increase profitability

Carve-Out of Schubert System Elektronik

Status Quo

- Schubert System Elektronik imposes **non-core business of Schubert group** while binding management capabilities
- External **Sales impact** top-line with **c.€22m** and **EBITDA-Margin 2019A of 3.9%**
- In-house electronic manufacturing is **considered unusual for packaging machinery manufacturers** according to industry experts

Rationale

- Win **management capacity,** reduce **Material Expenses,** cut **low-margin business**
- **Keep software lab** and part of the Schubert specific R&D personnel to retain key software development know-how (mainly robotics and software)
- **Maintain supplier relationships** with the carved-out business unit to **ensure smooth supply chain coverage** and **quality standard**

Valuation[1]

EBITDA: €3.2m[2] — **Multiple: 12.7x** → **EV: €41m**

- **Complete sale of business structured as share deal with date of economic transition as of 01.01.2020 preferably to a strategic buyer (e.g. ABB, Siemens, Rockwell Automation)**

Impact

Immediate Multiple Arbitrage: **+€3m**
as Schubert Group is bought at 11.7x and System Elektronik is sold at 12.7x

Cash Impact: **+€39m**
post transaction cost of €800k and Net Debt of c. €800k

● **Feasibility**

◑ **Management resources**

Start: Q1 2020
1 year
Implementation time

Acquisition of Add-On ETIMEX

Status Quo

- Schubert offers packaging machinery **without subscription-model** for **packaging material**
- **Recurring revenues** currently only come from Aftermarket Sales / Service
- Previous integration of Schubert System Electronics displays **M&A capabilities**

Rationale

- Financially attractive target **improves profitability** and enables Schubert to extend its product / service portfolio
- Key focus on **sustainability** fits well with Schubert ESG strategy and current megatrends
- Megatrend driven market with **attractive verticals**

Product portfolio

Menu Trays

Thermoforming Sheets

Flexible Sheets

Pharma Sheets

Valuation

EBITDA: c. €8.4m — **Multiple: 9.3x** — **EV: c. €77.8m** → **Total consideration: €53m**[3]

- **Hold majority of shares and retain extensive minority with management to sustain standalone business and ensure alignment of interest**

Impact

EBITDA-Margin uplift: **+1ppt.**
(from 9.5% in 2020E to 10.5% in 2020PF)

EBITDA contribution: **+€8m**
(from €21m in 2020E to €29m in 2020PF)

● **Feasibility**

◕ **Management resources**

Start: Q1 2021
2 years
Implementation time

Source(s): CapitalQ, Mergermarket, Own Analysis; Note(s): 1) Valuation based on comparable company and comparable transaction analysis; 2) Adjusted for employee transfer; 3) Includes Net Debt (€25m) mainly comprising Pension Provisions and transaction cost (€1m)

🟢 / 🟡 / 🔴 High / Medium / Low Feasibility 🔵 High managerial demand

See Appendix Slides 112-114 for details on Valuations

⑤ & ⑥ Profitability Measures: Exploiting newly created capacities leads to significant reduction of Material Expenses (€12m savings) while extensive ESG measures create a possible Multiple Arbitrage

SCHUBERT

Cost Reduction in Material Expenses

Measures

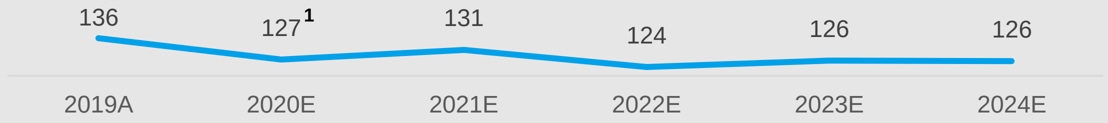
- Increased focus on inhouse manufacturing **leads to significant reduction in Purchased Services which were necessary to bridge capacity constraints**
- Production automation and modularity leverages **economies of scale** and will lead to **efficiency gains** and **reduce wasted material**
- **3D printing** of machine parts reduces material costs and enhances supply chain
- **Ensure management** alignment through sweet equity / co-investment

Execution

- Significant cost reduction by **minimising Purchased Services** through:
    - Investments in CAPEX, until completion of production building in 2022E, accumulating to €16m until 2022E
    - Hiring of c. 60 blue collar workers explicitly for insourcing of Purchased Services with an average wage of €65k until 2024E, translates into c. €4m p.a.
    - Purchased Services shift to in-house production upon factory completion in 2022E

Impact

Material Expenses per Machine built (in €k)



- Reduction of Material Expense per Machine from **€136k to €126k in 2024E**

Material Expense saving in 2024E: **€9.4m**

(Applying €126k per machine to 943 machines build in 2024E instead of €136k)

●	◔	*Start: Q1 2020* Ongoing
Feasibility	**Management resources**	**Implementation time**

Enhancement of Sustainability Measures

Status Quo

- Schubert **successfully works on six of the defined UN SDGs** (7, 8, 9, 12, 13 and 17)
- **Promoting sustainability through "5 R's"** (Reduce, Refuse, Reuse, Recycle, Rethink)
- **Already implemented several social responsibility** measures such as social support or equal payment of men and women across all levels
- **Untapped potential** still exists in terms of sustainability and ESG and needs to be assessed through materiality analysis

Fulfilment of duties
and of the sustainability goals to comply with the regulations that are mandatory in the markets in which Schubert operates

Enhanced brand awareness
and increasing marketing possibilities leading to more attractiveness for both, customers and potential employees

Possible Multiple Arbitrage
Setting up Schubert as ESG investment creates attractive exit scenarios through exit multiple improvement as ESG is continuously becoming more and more relevant for investors and shareholders

●	◔	*Start: Q1 2020* Ongoing
Feasibility	**Management resources**	**Implementation time**

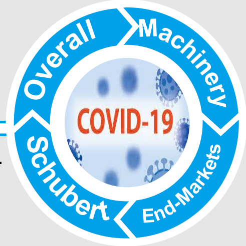
Source(s): Own Analysis Note(s): 1) Drop in 2020E because some production expenses were already incurred in 2019A and machines not sold (shift in large orders)

🟢 / 🟡 / 🔴 High / Medium / Low Feasibility   🔵 High managerial demand

Risks from various sources such as Covid-19, strategy and operations and from Private Equity ownership are identifiable and mitigable

SCHUBERT

Impacts of Covid-19 Pandemic



- **Global GDP declined by 6.7% in 2020** as a result of the coronavirus pandemic outbreak
- Many **supply chains** have been disrupted by lockdowns

- Worldwide, machinery manufactured in 2020: **-5% compared to pre-Covid level**
  - **China** was only country to **exceed its pre-crisis level**

- In the German packaging machinery sector, order intake in 2019 was **-5%** on the previous year
- Demand is expected to **increase** rapidly again as there is the **increasing global demand** for hygienically **packaged food** and **pharmaceutical products**
- Schubert established a **Covid-taskforce**[1] to assess developments and to respond appropriately

- Increased demand for consumer goods in the areas of **household cleaning supplies** and **food & drinks**
- Food, Beverages and Snacks: **significant increases** in Sales especially in Confectionary
- Pharma: **revenues grew steadily**
- Cosmetics: due to Covid, the new 2020 forecast is **7.2% lower** than before

Schubert Operational and Stategic Risks & Mitigants

		Relevance
Personnel structure must be adapted to future-needs and growth expansion plans; **CEO succession** necessary in short-term	Put **Peter Gabriel** as succeeding CEO in place; set up future-proof **personnel structure** already	◕
Sales volatility could increase with increasing order size of key customers	Increase **recurring Sales** through **long-term Aftersales Service** contracts	◑
Risk of over-ambitious plans so that existing structures are not properly set up; **risk of culture dilution** and **process difficulties**	**Introduce** necessary structural adjustments right after takeover so that processes and culture do not suffer from the company's growth	◔
Efforts for waste reduction in terms of sustainability could lead to a **disruption** & **overall lower demand for packaging** solutions	**Maintain R&D leadership** to capitalize trends and ensure to be an early adopter in sustainable packaging (ETIMEX)	◔

Risks of Private Equity Ownership

Since it is a **family business**, there are a lot of **emotions** and financial inefficiencies attached to it, which can initially be obstacles despite type of investor

The "locust" reputation of the PE industry, which is still partly anchored in the minds of entrepreneurs, could make takeover negotiations more difficult

The **prejudice** of PE funds collecting high management fees **without any improvemen**t of the company could make employees destructive

Governance and Organisation

- Competent, professional and friendly entry into the negotiations
- Alignment of incentives with stakeholders through sweet equity and family reinvestment, as well as direct expression of value alignment with family

Value Capture

- Clear investment thesis and strategy with prioritised key activities must be predefined
- Clear implementation plan needed, which executes low-hanging fruits immediately

Business Continuity

- Reassure staff, customers, suppliers and other potential stakeholders
- Create actionable implementation plans and a tool to track reporting, monitor progress and KPIs

Source(s): Statista, VDMA, PE class slides, Own Analysis; Note(s): 1) Consisting of the Schubert Group's management and leadership team

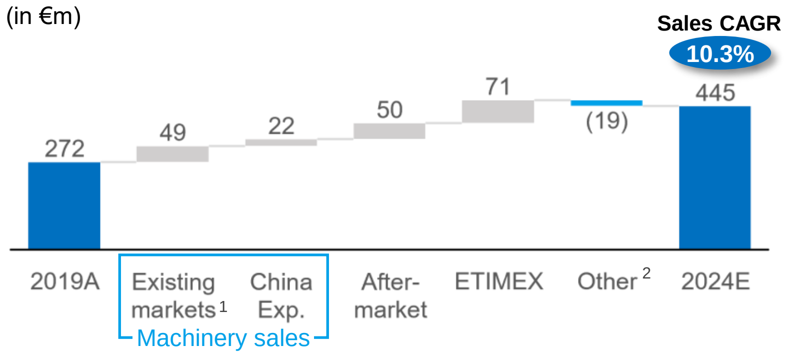
● High probability / relevance

See Appendix Slide 115 for SWOT Analysis

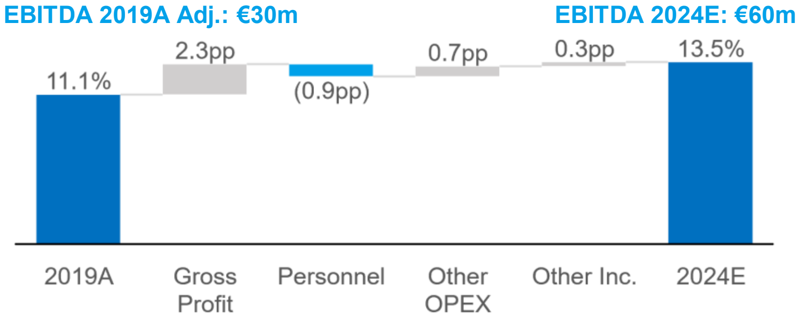
6. Business Plan

Implementation of Value Creation strategies will result in Revenue growth at a CAGR of 10.3% (2019A-2024E) and an EBITDA-Margin improvement to 13.5% in 2024E (+2.4pp vs. 2019A)

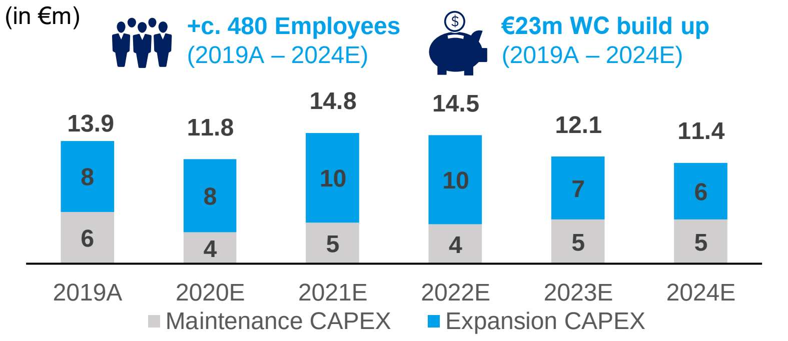
Top Line Sales Development



Bottom Line EBITDA-Margin Development



Investment Needs



Organic Growth

- ↗ Continuous performance in existing markets, North America and Europe, contributes **€49m until 2024E**
- ↗ Sales in China rise following the expansion **by €22m to €40m in 2024E**
- ↗ Expansion of service network and **offerings contribute €50m**

Inorganic Growth

- ↗ ETIMEX acquisition in 2021E **contributes €71m in 2024E**, driven by sales synergies and growth of packaging material market
- ↘ **€19m loss in Other Sales** mainly result from Carve-Out of Schubert System Elektronik

Gross Margin

- ↗ Reduction of Purchased Services following **capacity built up in 2022E** and continued increase in workforce
- ↗ Further reduction follows **increasing focus on less material heavy aftermarket business** and disposal of material heavy Schubert System Electronic business

OPEX

- ↗ Reduction in other **OPEX following increased economies of scale**
- ↘ Increased **Personnel Expenses** through built up of sales team for **international expansions**, service and shopfloor personnel to encounter capacity shortage and increase service coverage
- ↘ Transfer of R&D personnel of Schubert System Elektronik Carve-Out

CAPEX

- CAPEX spending 2019A to 2022E **driven through the construction** of new **production hall**
- Decline of maintenance CAPEX in **2020E results from Carve-Out** of **Schubert System Elektronik**
- Going forward business **relies more on personnel built up** than on CAPEX spending to fuel growth

Workforce & Working Capital

- Strong personnel built up in blue and white collar **departments to execute strategies**
- **Increase to c. 1,860 employees in** 2024 (incl. apprentices) split into 218 blue and 237 white collar
- Targeted recruitment of **15 sales people** p.a. to execute market penetration strategies
- Working Capital increases with Sales, while optimizing CCC to **50 days in 2024E** (2019A: 62 days)

Source(s): Own Analysis, Annual Reports; Note(s): 1) Sales driven by continuous US (+€20m) and EMEA expansion accounts for €29m; 2) Comprises Carve-Out, CNC contract manufacturing and other sales

Top-line growth is fuelled by strong increase in Aftermarket Sales (+€50m) and by inorganic growth (ETIMEX, +€71m); Bottom line improvement is mainly caused by a reduction in Material Expenses

SCHUBERT

Sales Development

In €k	2019A	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	12-'19	19-'27
Machinery (existing markets)	182,930	181,027	193,305	208,110	219,722	232,148	249,322	262,622	280,951	**3.9%**	**5.5%**
Machinery (China)	17,580	17,421	21,066	27,089	33,327	39,676	46,432	50,747	56,291	**n.a.**	**15.7%**
Aftermarket Sales	43,933	45,445	52,287	68,017	82,950	93,579	101,157	108,160	115,420	**12.7%**	**12.8%**
ETIMEX	0	0	60,258	63,572	67,069	71,428	76,428	81,396	86,279	**n.a.**	**n.a.**
Other	27,872	8,136	8,245	8,359	8,479	8,604	8,736	8,875	9,020	**n.a.**	**n.a.**
Total	**272,315**	**252,029**	**335,160**	**375,147**	**411,546**	**445,436**	**482,074**	**511,800**	**547,960**	**7.5%**	**9.1%**
YoY Growth	*-3.8%*	*-7.4%*	*33.0%*	*11.9%*	*9.7%*	*8.2%*	*8.2%*	*6.2%*	*7.1%*		

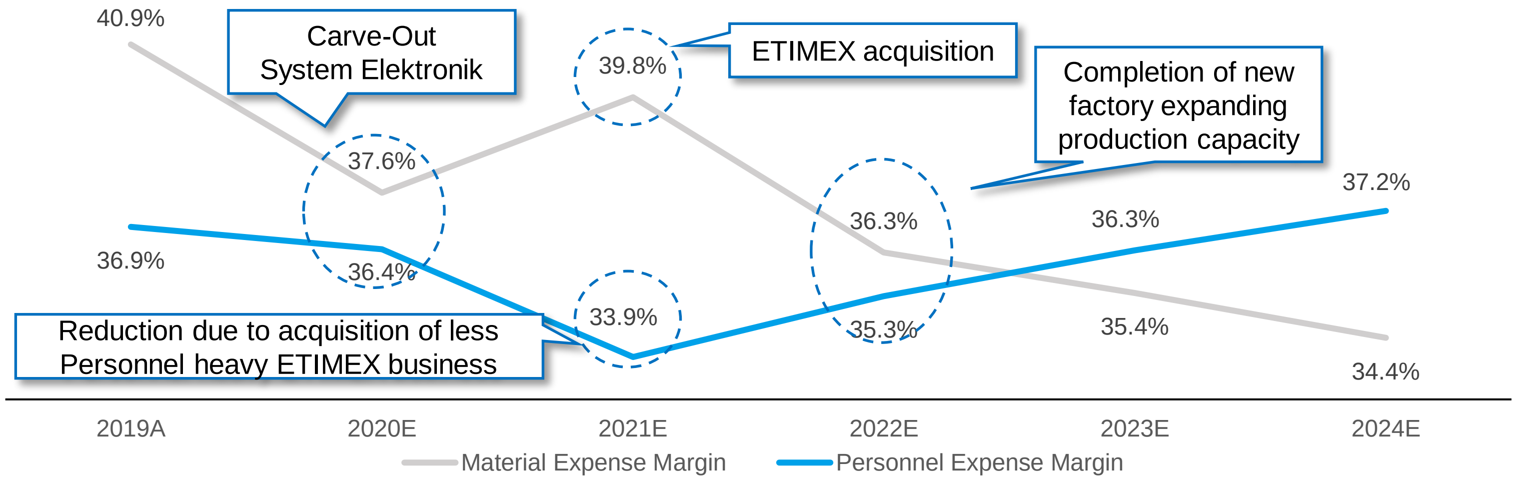
Key Sales Driver

International Expansion: Continued strong NA[1] performance and significant Sales increase in China enhanced increased market penetration focus

Aftermarket Sales: Increase in industry leading digital service offerings and increasing local service presence drives Sales

ETIMEX: Acquisition fuels growth and above market growth level through sales synergies with Schubert

Cost Margin Development



Carve-Out System Elektronik

ETIMEX acquisition

Completion of new factory expanding production capacity

Reduction due to acquisition of less Personnel heavy ETIMEX business

Key Cost Driver

Inhouse manufacturing: Purchased Services decrease and Raw Material Expenses reduction through increased focus on 3D manufacturing

Efficiency: Process optimization measures & increase CAPEX in production facilities to expand capacity and subsequent reduce Purchased Services

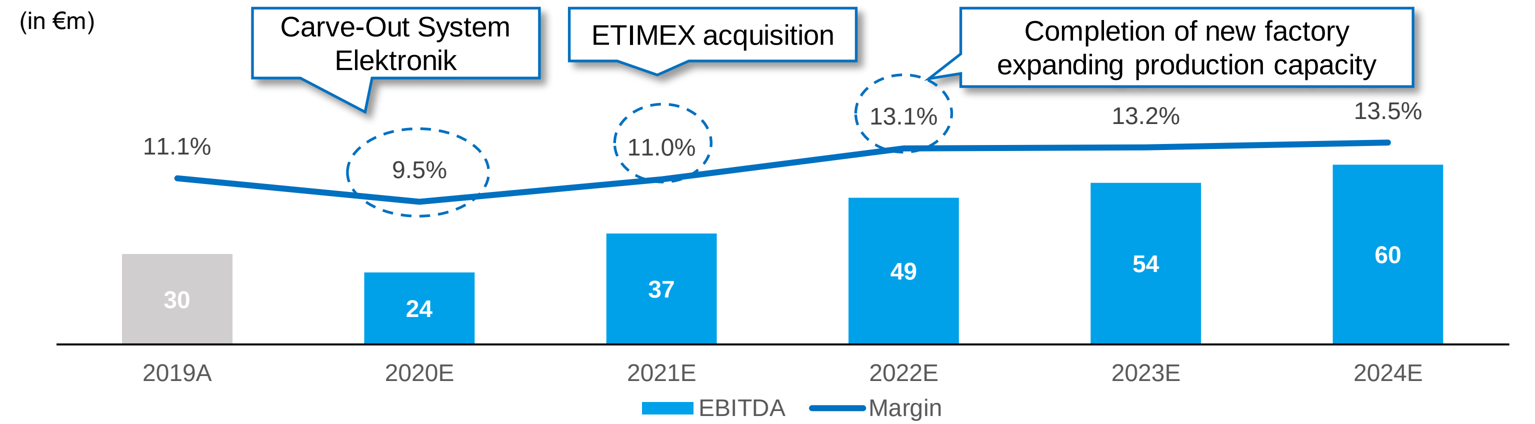
High Wage & High Education: Personnel built up of white collar and blue collar workers in high wage country leads to increasing Personnel Expenses

Source(s): Own Analysis, Annual Reports; Note(s): Shaded area of business plan denotes business plan beyond assumed investment horizon; 1) North America

Schubert´s strong Material Expense margin decrease translates to an EBITDA-Margin uplift, resulting in an EBITDA of €60m in 2024E, constituting a 2.4pp margin increase up to 13.5%

SCHUBERT

EBITDA Development



Key Results

	2019A	2024E
Avg. Gross Profit per Machine	€100k	€122k
Share of Aftermarket Sales	16%	21%

- Gross Profit increase driven by reduction in **Material Expenses per Machine following increased in-house manufacturing**
- Aftermarket Sales increase due to **strategy roll out**

Income Statement

in €k	2019A	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	12-'19	19-'27
Sales	**272,319**	**252,029**	**335,160**	**375,147**	**411,546**	**445,436**	482,074	511,800	547,960	**7.5%**	**9.1%**
YoY Growth	*(3.8%)*	① *(7.5%)*	*33.0%*	*11.9%*	*9.7%*	*8.2%*	*8.2%*	*6.2%*	*7.1%*		
Turnover	**284,055**	**250,574**	**333,096**	**375,056**	**411,310**	**445,494**	480,973	510,746	546,460	**7.9%**	**8.5%**
Material Expenses	② **(111,447)**	**(94,814)**	**(133,228)**	**(136,099)**	**(145,590)**	**(153,115)**	(163,460)	(170,846)	(180,572)	**6.7%**	**6.2%**
% Sales	*(40.9%)*	*(37.6%)*	③ *(39.8%)*	*(36.3%)*	*(35.4%)*	*(34.4%)*	*(33.9%)*	*(33.4%)*	*(33.0%)*		
Gross Profit	**172,608**	**155,760**	**199,868**	**238,957**	**265,721**	**292,380**	317,512	339,900	365,889	**8.8%**	**9.8%**
% Margin	*63.4%*	*61.8%*	*59.6%*	*63.7%*	*64.6%*	*65.6%*	*65.9%*	*66.4%*	*66.8%*		
Personnel Expenses	**(100,354)**	**(91,632)**	**(113,787)**	**(132,460)**	**(149,509)**	**(165,745)**	(181,419)	(196,399)	(210,348)	**8.5%**	**9.7%**
% Sales	*(36.9%)*	*(36.4%)*	*(33.9%)*	*(35.3%)*	*(36.3%)*	*(37.2%)*	*(37.6%)*	*(38.4%)*	*(38.4%)*		
Other OPEX	**(45,588)**	**(42,025)**	**(53,115)**	**(61,555)**	**(66,557)**	**(71,266)**	(74,645)	(77,428)	(83,306)	**8.4%**	**7.8%**
% Sales	*(16.7%)*	*(16.7%)*	*(15.8%)*	④ *(16.4%)*	*(16.2%)*	*(16.0%)*	*(15.5%)*	*(15.1%)*	*(15.2%)*		
OPEX	**(145,942)**	**(133,657)**	**(166,901)**	**(194,015)**	**(216,065)**	**(237,011)**	(256,065)	(273,826)	(293,654)	**8.5%**	**9.1%**
% Sales	*(53.6%)*	*(53.0%)*	*(49.8%)*	*(51.7%)*	*(52.5%)*	*(53.2%)*	*(53.1%)*	*(53.5%)*	*(53.6%)*		
Other Income	**2,059**	⑤ **1,906**	**3,960**	**4,237**	**4,483**	**4,724**	4,987	5,195	5,429	**5.2%**	**12.9%**
EBITDA Adjusted	**30,227**	**24,009**	**36,927**	**49,179**	**54,138**	⑦ **60,092**	66,435	71,269	77,664	**9.9%**	**12.5%**
% Margin	*11.1%*	⑥ *9.5%*	*11.0%*	*13.1%*	*13.2%*	*13.5%*	*13.8%*	*13.9%*	*14.2%*		

Source(s): Own Analysis, Annual Reports; Note(s): Shaded area of business plan denotes business plan beyond assumed investment horizon

Comment

① Decline in 2020E due to **Carve-Out**, followed by a strong increase in 2021E **largely attributable to ETIMEX acquisition**

② Reduction is mainly driven by **Carve-Out of business unit with significant Material Expenses**

③ ETIMEX acquisition **increases margin**; decrease in 2022E due to **factory ramp-up causing a decrease of Purchased Services**, starting a continuous downward trend

④ Decrease follows omission of **international expansion related costs** upon finalization and beginning **economies of scale**

⑤ Increase of c. €2m in 2021E due to the ETIMEX acquisition

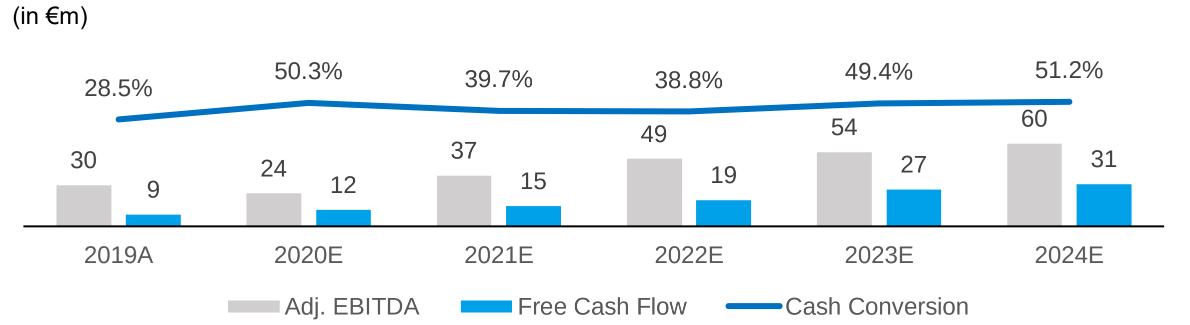
⑥ Margin decline in 2020E due to **one-off Covid-19 effects** and **Carve-Out dilution**; Uplift in 2021E following favorable ETIMEX acquisition

⑦ Value creation strategies for cost reduction measures increase **EBITDA-Margin to 13.5% in 2024E**

See Appendix Slides 116-117 for further details on Income Statement

Schubert shows significant Cash generation, especially after completion of the new assembly hall in 2022E, resulting in a Free Cash Flow of €41m in 2024E

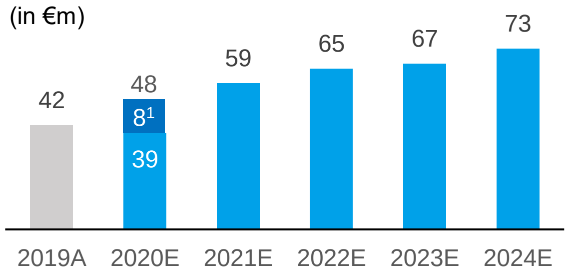
Cash Flow Analysis



in €k	2019A	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E
Adj. EBITDA	**30,227**	**24,009**	**36,927**	**49,179**	**54,138**	**60,092**	**66,435**	**71,269**	**77,664**
(-) Changes in NWC	913	(2,202)	(1,426)	(5,582)	(4,105)	(4,977)	(6,348)	(5,401)	(6,721)
(-) Changes other WC	(2,260)	5,822	1,367	855	1,266	1,201	514	295	1,523
(-) CAPEX	(13,903)	(11,823)	(14,813)	(14,542)	(12,137)	(11,429)	(11,492)	(10,910)	(10,801)
(-) Taxes	(6,366)	(3,731)	(7,390)	(10,841)	(12,422)	(14,125)	(15,740)	(16,916)	(19,788)
Free Cash Flow	**8,611**	**12,075**	**14,666**	**19,069**	**26,740**	**30,763**	**33,369**	**38,336**	**41,877**
Cash Conversion	**28.5%**	**50.3%**	**39.7%**	**38.8%**	**49.4%**	**51.2%**	**50.2%**	**53.8%**	**53.9%**

- High **CAPEX reduces Cash Conversion** until completion of **production facility in 2022E**
- Significant reduction in 2021E based on **first year post ETIMEX acquisition** and significant built up of Trade Receivables due to first time realization of sales synergies
- Significant improve of Cash Conversion from 2023E onwards as capacity constraints are lifted and ETIMEX is fully integrated into Schubert Group

Net Working Capital



- Net Working Capital build up is in line with Sales growth, **staying constant at 17% of Sales p.a.**
- **Swings in Working Capital will be reduced** through increased **management attention** going forward

Cash Conversion Cycle

2019A | **2024E**

62 Days | **50 Days**

Cash Conversion Cycle

- **12 day reduction in the Cash Conversion Cycle** is reached through increased management attention to optimize DIO and DSO
- **Biggest reduction is expected in DSO**, decreasing from 71 days in 2019A to 65 days in 2024E

Covid Impact on Business Plan

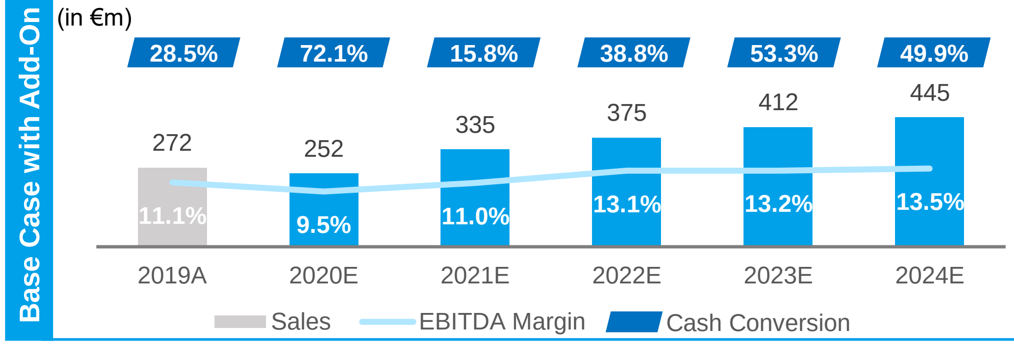
- Business plan accounts for a **conservative assessment of the pandemic** even though research indicates limited effects on the packaging machinery industry
- **No Sales growth expected** for **2020E**, while existing business can be sustained
- Little hires are planned for 2020E
- One-off cost effects driving up other OPEX in 2020E (e.g.: safety measures)

Source(s): Own Analysis, Annual Reports; Note(s): Shaded area of business plan denotes business plan beyond assumed investment horizon; 1) Effects of ETIMEX acquisition

Also, without realizing the ETIMEX Add-On initiative, Schubert remains an attractive target with appealing financial metrics; A downside case shows flat Sales and EBITDA development

SCHUBERT

Base Case with Add-On

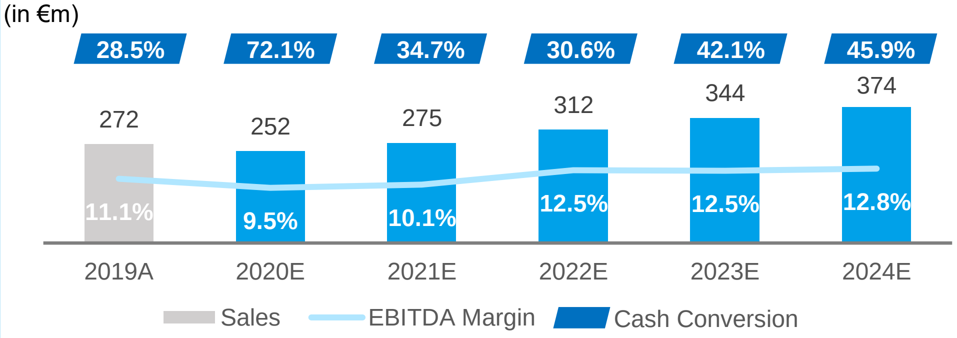


Sales CAGR	EBITDA CAGR
10.3%	14.7%

EBITDA 2024E	**€60,092k**
EBITDA 2019A	€30,227k
FCF 2024E	**€30,005k**
FCF 2019A	€8,611k

- Investment case shows **strong Sales and EBITDA growth** well above market growth of 4.5% within the same timeframe, driven by ETIMEX acquisition, contributing Sales of €60m in 2021E
- Implementation of Value Creation measures leads to an **EBITDA** of **€60,092k** in 2024E
- Schubert shows attractive Cash Conversion measures leading to a Free Cash Flow **of €30,005k in 2024E**, driven by **decreasing CAPEX needs** after finalization of production hall in 2022E

Base Case w/o Add-On

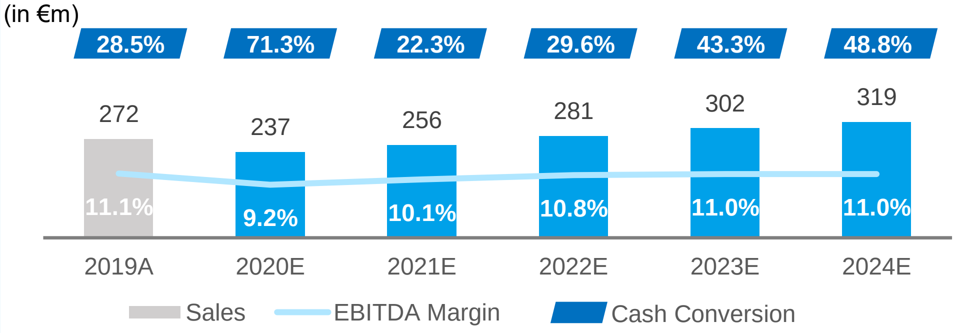


Sales CAGR	EBITDA CAGR
6.6%	9.6%

EBITDA 2024E	**€47,736k**
FCF 2024E	**€21,923k**

- Sales growth with a **CAGR of 6.6% without ETIMEX** acquisition is still above market level, driven by strategic **measures** such as service roll-out, international expansion etc.
- Despite lacking acquisition of ETIMEX business with high EBITDA-Margin, a significant **margin uplift can be realized leading to an EBITDA-Margin of 12.8% in 2024E**
- Case shows attractive Cash generation metrics, **lacking built up of Trade Receivables** due to synergy realization after vertical integration

Bank Case w/o Add-On



Sales CAGR	EBITDA CAGR
3.2%	3.0%

EBITDA 2024E	**€35,030k**
FCF 2024E	**€17,110k**

- Bank Case depicts a **strongly conservative** view on the future development without the acquisition of ETIMEX
- Sales growth is **below market expectations** of 4.5% growth p.a., indicating **failure** of **Value Creation strategies**
- EBITDA growth is lower than Sales growth as **cost reduction measures fail**; Instead, costs continuously increase as a result of previous investments in workforce
- Cash Conversion is higher as **CAPEX will be lowered** to **react to lack of Value Creation strategies success**

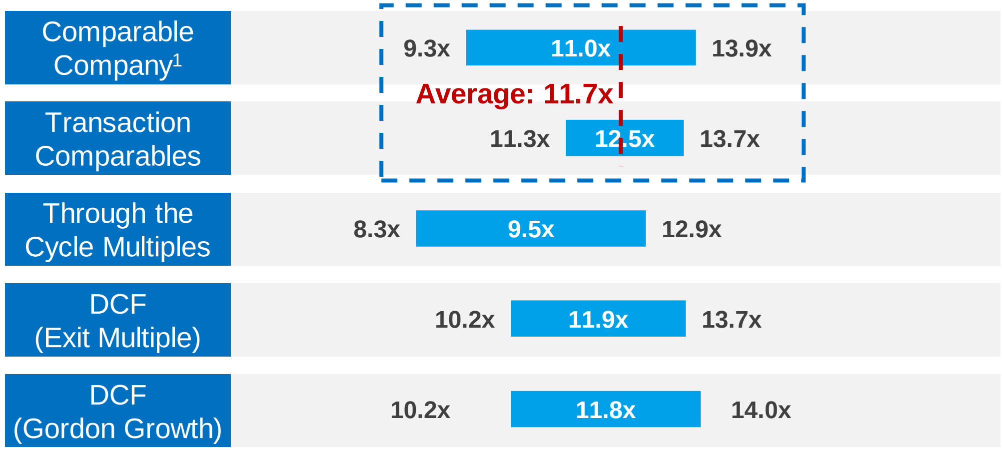
Source(s): Own Analysis, Annual Reports

See Appendix Slides 118-119 for details on Income Statement in Base Case w/o Add-On and Bank Case

7. Valuation, Capital Structure and Returns

Schubert is valued based on a multiple analysis at 11.7x EV/EBITDA 2019A, corresponding to an entry Enterprise Value of €355m

Valuation Summary (EV/EBITDA)



Entry Valuation **11.7x EBITDA (€30.2m)** yields an **EV of €355m**

- **Comparable Company Analysis** and **Comparable Transaction Analysis** were assessed to reflect the most **accurate result for valuing Schubert**
- **Comparable companies** are based on listed peers within the **packaging machinery market** with **significant industry and geographic overlap**
- **Precedent transactions** were selected from **packaging machinery sector** with announcement date **within the last 5 years**
- Averaging both multiple analyses results in an Entry **EV/EBITDA multiple of 11.7x**, yielding **an EV of €355m** with a **sensitivity bandwidth of €281m - €420m**
- Through the cycle multiples **depict a lower multiple** because of an upswing in comparable company valuations **in recent history** which is expected to be **persistent throughout the future**
- To **sense check** the valuation, **two DCF analyses (Exit Multiple and Gordon Growth)** were conducted; With an average **EV/EBITDA of 11.9x (Exit Multiple) and 11.8x (Gordon Growth)** the valuation level of the **relative valuation was confirmed**

Factors Influencing Cost of Acquisition Debt

Factor	Description	Impact
Firm Size	Mid-sized company upon entry with EV of €355m and EBITDA of €30m 2019A	↘
Leverage Level	Low current level of leverage changes post acquisition and increases default risk	↑
Governance	Proven track record and interest alignment with all parties due to equity participation	↓
Diversification	Geographical and end market diversification lowers risk of default	↘
Cash Flow Conversion/ Volatility	Volatile FCF in the past, as well as volatile Sales due to project business increases risk	↗

Types of Acquisition Debt

Debt Instrument	Interest p.a.[2]	Repayment	Debt Provider
Senior Term "A"	4.0%	8 years Amortising	Bank
Senior Term "B"	4.5%	8 years Bullet	Bank (Club Deal)
Senior Term "C"	6.0%	8 years Bullet	Bank / Debt Fund (Club Deal)
Subordinated Debt	10.0%	10 years Bullet	Debt Fund
Vendor Loan	12.0%	10 years Bullet	Vendor

RCF[3] to bridge liquidity gaps with interest of 7.0% p.a.

Source(s): Own Analysis; Expert interview; Note(s): 1) Incorporates illiquidity discount; 2) Interest assumed to be paid annually not semi-annually; 3) Revolving Credit Facility

⬆ Increasing cost of acquisition debt ⬚ Chosen valuation method to value Schubert

See Appendix Slides 120-122 for details on Valuation Metrics

Total Sources and Uses add up to 13.8x 2019E EBITDA, financed with a mixture of Senior Debt, Equity Like Instruments, Ordinary Equity and Existing Cash On Balance Sheet, granting the fund 58% ownership

SCHUBERT

Sources	in €k	% of total	EBITDAx
Senior Bank Term "A"	60,000	14.4%	2.0x
Senior Bank Term "B"	90,000	21.6%	3.0x
Total Debt	**150,000**	**36.1%**	**5.0x**
Shareholder Loan (Family)	46,813	11.3%	1.5x
Shareholder Loan (Fund)	85,874	20.7%	2.8x
Equity Like Instruments	**132,687**	**31.9%**	**4.4x**
Equity Fund	56,000	13.5%	1.9x
Equity Family	30,527	7.3%	1.0x
Sweet Equity	10,000	2.4%	0.3x
Total Equity	**96,527**	**23.2%**	**3.2x**
Cash On Balance Sheet	36,500	**8.8%**	**1.2x**
Total Sources	**415,714**	**100.0%**	**13.8x**

Uses	in €k	% of total
Enterprise Value	354,585	87.8%
Financial Debt	*(12,616)*	*(3.1%)*
Cash & Cash Equivalents	*36,500*	*9.0%*
Other Net Debt	*(25,317)*	*(6.3%)*
Net Debt	(1,434)	(0.4%)
Equity Purchase Price	**353,151**	**87.5%**
Repayment of Existing Debt	12,616	3.0%
Total consideration	**365,768**	**88.0%**
Due Diligence Cost	5,319	1.3%
Bank Fees	1,500	0.4%
M&A Buyside Advisory	886	0.2%
Total Transaction Costs	**7,705**	**1.9%**
Overfunding	1,500	0.4%
Future M&A Budget	35,000	8.4%
Locked Box Interest	5,742	1.4%
Total Uses	**415,714**	**100.0%**

Analysed financing options (€k)	Base Case	Bear Case	All Equity
Total Debt	150,000	130,000	0
Total Equity Like Instruments	132,687	152,487	281,187
Total Equity	96,527	96,527	96,527
Cash On Balance Sheet	36,500	36,500	36,500
Total sources	**415,714**	**415,514**	**414,214**
Leverage	5.0x	4.3x	0.0x
IRR	24%	22%	20%
Money Multiple	2.9x	2.7x	2.4x

Uses

- **Total Sources of c. €416m** are to be paid for an Equity Purchase Price of c. **€353m**, Repayment of Existing Debt of **c. €13m**, Transaction Costs of **c. €8m, c. €35m** Future M&A Budget to finance the ETIMEX acquisition, c. **€2m** Overfunding and Locked Box Interest[1] to bridge the gap of date of economic transition (01.01.2020) and closing (31.03.2020)
- Prior to the transaction the family will receive an extraordinary cash dividend of c. €30m to reduce outstanding Cash on Balance Sheet

Sources

- Debt funding with **Senior Loan A tranche of €60m from a singular lender** and one Senior Loan Tranche B of **€90m structured as club deal** brings leverage to 5.0x 2019A EBITDA
- To enable a succession opportunity for the founding family, retain key knowledge, as well as cultural fit, they are expected to **reinvest 30% after-tax returns**[2] in ratios into a Shareholder Loan and Equity as the fund. thus participating as co-investors alongside the fund, **with 32% ownership of the firm´s equity vs. 58% fund ownership**
- A Shareholder Loan, paying 12% PIK interest p.a., is used to enhance the equity contribution of the family and fund and to enable sweet equity
- To incentivize top-level management and second level management a Sweet Equity pool of €10m[3], will be established to ensure all participants have "skin in the game"[4]
- Remaining Cash on Balance Sheet will fund future M&A (ETIMEX acquisition) and an Overfunding to ensure liquidity
- Sweet equity will have an Envy Ratio of **2.5**; the family's investment **1.0**[5]
- Acquisition will be structured with **structural subordination** measures

Other

- **Bear Case** with 100% Subordinated debt funding (€130m) assumes sole debt fund financing as the only possibility
- All equity financing option shows downside protection with an equal sweet equity contribution as base case and same total family contribution
- No dividends will be paid out in course of the holding period[6]

Source(s): Own Analysis; Note(s): 1) 5% interest p.a.; 2) Tax structuring subject to Due Diligence; 3) 3 top level mgmt. with 4x ann. salary of c. €400k each (€4.8m) and €5.2m employee & second level mgmt. investment pool & interested family parties in mgmt. positions; 4) Drag-Along and Tag-Along clauses will be introduced in SPA; 5) Family invests with same conditions as fund; 6) Assumed to condition in acquisition finance doc.

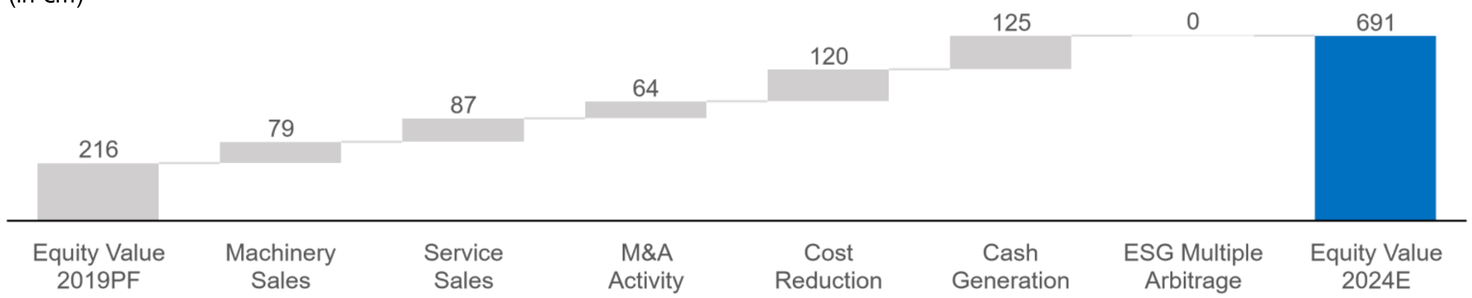
See Appendix Slide 123 for detailed Display of Legal Structuring

Value Creation measures and deleveraging increase the Equity Value from acquisition in 2019A (€216m) to €691m in 2024E, yielding a 2.9x overall MoM Multiple for the fund

SCHUBERT

Return Analysis

(in €m)



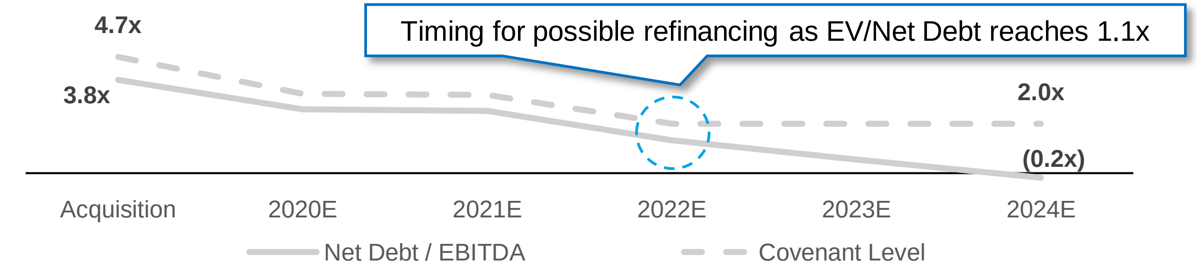
- Machinery Sales and Service Sales are the biggest EBITDA Value Creation levers aggregating to **€171m until 2024E**
- M&A Activity accounts for Add-On acquisition of ETIMEX amounting to **€102m EBITDA contribution** and Schubert System Elektronik **Carve-Out resulting in a negative EBITDA contribution of €38m; €41m upside of Carve-Out contribution is** accounted for in Cash generation **(Multiple Arbitrage)**
- Cost reduction measures mainly driven by Material Expense reduction contribute **€120m** to returns
- A **debt recapitalization and subsequent dividend payments** are **not taken into account**
- Even though a **Multiple Arbitrage on group level** could be argued through ESG measure implementation it is **neglected** to ensure conservative planning

Anticipated Exit Returns

	2024E
Sweet Equity Money Multiple	5.0x
Sweet Equity IRR	37.8%
Sweet Equity Total Proceeds	€49,643k
Fund / Family Money Multiple	2.9x
Fund / Family IRR	24.0%
Family Total Proceeds	€226,446k
Fund Total Proceeds	€425,399k

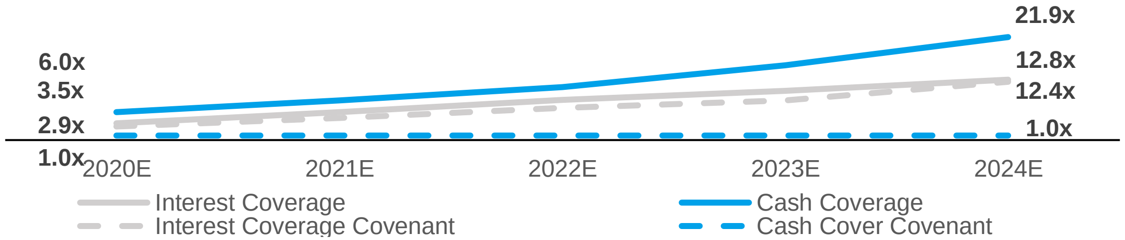
- The family and fund realise the same returns, a MoM Multiple of 2.9x and IRR of 24.0%, as they invest with the same conditions
- Sweet equity shows superior returns to other parties with MoM of 5.0x and IRR of 37.8%
- Although a later exit year would realize a **larger MoM return for all parties** an earlier exit is **desirable due to subsequent decline in IRR** with longer holding period
- Covenants are assumed to have **healthy headroom throughout the holding period**

Leverage Ratio



Timing for possible refinancing as EV/Net Debt reaches 1.1x

Interest Coverage Ratio & Cash Coverage



Source(s): Own Analysis

An investment in Gerhard Schubert will show attractive returns even without executing several Value Creation measures (Money Multiple of 2.0x without Add-On and weak cost reduction measures)

SCHUBERT

Fund Return Scenario Analysis

Base Case

MoM: 2.9x

IRR: 24%

- Returns based on planned base case and business plan which depicts **current investment case presented**
- All strategies are executed properly

Sales 9.1%

EBITDA 14.7%

Base Case w/o ETIMEX

MoM: 2.5x

IRR: 20%

- Omission of ETIMEX acquisition as a key driver
- Transaction uncertainty as the acquisition is dependent on other stakeholders and not only a company inherent decision

Sales 6.6%

EBITDA 9.6%

Base Case w/o ETIMEX & w/o cost reduction

MoM: 2.0x

IRR: 15%

- Additional omission of cost reduction measures are main EBITDA-Margin development driver
- Case includes omission of ETIMEX acquisition

Sales 6.6%

EBITDA 2.8%

Bank Case

MoM: 1.8x

IRR: 13%

- Case depicts a strong conservative company development
- Growth metrices far below historical rates

Sales 3.2%

EBITDA 2.5%

Exit Year Sensitivity Analysis (MoM Multiple / IRR)

		Exit Year				
		2022E	2023E	2024E	2025E	2026E
Exit Multiple	10.2x	1.8x / 21%	2.1x / 21%	2.6x / 21%	3.0x / 20%	3.4x / 19%
	11.0x	1.9x / 24%	2.3x / 23%	2.7x / 22%	3.2x / 22%	3.6x / 20%
	11.7x	2.1x / 27%	2.5x / 25%	2.9x / 24%	3.4x / 23%	3.9x / 21%
	12.5x	2.2x / 30%	2.6x / 27%	3.1x / 25%	3.6x / 24%	4.1x / 22%
	13.2x	2.4x / 33%	2.8x / 29%	3.3x / 27%	3.8x / 25%	4.3x / 23%

Exit/ Entry Multiple Sensitivity Analysis (MoM Multiple / IRR)

		Entry Multiple				
		10.2x	11.0x	11.7x	12.5x	13.2x
Exit Multiple	10.2x	2.7x / 22%	2.6x / 21%	2.6x / 21%	2.5x / 20%	2.5x / 20%
	11.0x	2.8x / 23%	2.8x / 23%	2.7x / 22%	2.7x / 22%	2.7x / 22%
	11.7x	3.0x / 25%	3.0x / 24%	2.9x / 24%	2.9x / 24%	2.8x / 23%
	12.5x	3.2x / 26%	3.2x / 26%	3.1x / 25%	3.1x / 25%	3.0x / 25%
	13.2x	3.4x / 28%	3.4x / 27%	3.3x / 27%	3.2x / 26%	3.2x / 26%

Source(s): Own Analysis; Note(s): 1) Shareholder Loan

⬚ Presented IC case ○ CAGR

See Appendix Slide 12x4 for detailed Sensitivity Analysis in selected cases

8. Due Diligence and Exit

Due Diligence: Validation of assumptions about market development, competitive positioning and Schubert's financial situation are crucial for a successful transaction

	Area	Description	Potential Red Flag	Strategic Impact
Commercial	**Market**	▪ Analysis of key regional markets, especially China, to validate growth projections and expansion strategy ▪ Verification of future market trends for packaging machinery and for Schubert´s end markets	🚩 Top loading machinery substitutes like vertical loaders might become more important ▪ Rising competition in China and high entry barriers ▪ Rising political instability in important markets	●●●●○
	Competitors	▪ Competitor analysis per product line and region to verify competitive positioning and stability of competitive advantage	▪ Close competitors have better pricing strategy and service offering or introduce advanced machinery products	●●●●○
	Customers	▪ Analysis of top customers by Sales (ABC analysis) ▪ Deep dive in possible changes of purchasing criteria	🚩 Dependency of expansion success might lie on few customers ▪ Price might become a more important purchasing criteria	●●●○○
	M&A Target	▪ In-depth analysis of M&A target ETIMEX	🚩 ETIMEX is under price pressure or has poor growth prospects	●●●○○
Financial	**Historic Financials**	▪ Analysis of financial statements, focussing on Working Capital, CAPEX, Current Trading and Cash Conversion Cycle	🚩 Verification of Working Capital needs, CAPEX assumptions and Current Trading, which are basis for future planning	●●●●●
	Business Plan[1]	▪ Validation of business plan with focus on top-line Sales growth, CAPEX and cost reduction assumptions including stress tests	🚩 Overestimation of Aftermarket Sales growth or attainable prices 🚩 Overestimation of reduction in Material Expenses	●●●●●
Legal	**Contracts**	▪ Analyse existing contracts with suppliers, customers and employees	🚩 Short notice periods for employment contracts of key personnel ▪ Contracts with major suppliers or customers expire	●●●○○
	IP	▪ Review of patent durations and enforceability of IP protection	🚩 Important patens expire or are not enforceable in some markets	●●○○○
	Insurance	▪ Review of insurance policy coverage	▪ High risks due to insufficient insurance policy coverage	●○○○○
ESG	**ESG**	▪ Carry out detailed materiality analysis to estimate carbon footprint and define optimization potential	▪ High emissions and rising carbon prices lead to excessive costs ▪ Large investments needed to achieve desired multiple arbitrage	●○○○○
HR	**Management**	▪ Examination of the succession options, especially Peter Gabriel	🚩 No suitable successor candidate at Schubert	●●●●○
	Personnel	▪ Analysis of existing headcount, especially blue collar workers, examine engineering expertise and identify key personnel	🚩 Key personnel about to leave the firm & key man risk (e.g. owners) ▪ Concentration of technical expertise among a few people	●●●●○
Tax	**Tax statements**	▪ Review of tax statements to identify tax risks and ensure tax-optimized structuring of transaction	▪ Non-compliance with tax law and resulting penalties ▪ High future tax obligations	●●○○○

Source(s): Own Analysis; Note(s): 1) In close connection with Commercial Due Diligence stream

Exit options: Due to the strong M&A activity of peers and PE firms in the packaging machinery market, Schubert is well suited for a Sale to a Strategic Buyer as well as a Secondary Sale

SCHUBERT

	Sale to Strategic Buyer	Secondary Sale	Sale in Parts	Initial Public Offering
Rationale for Buyer	- Potential strategic investors are **larger competitors** in the packaging machinery sector - Attractive opportunity from competitor perspective due to **exploitations of synergies**	- Further **upside potential** through **market growth / expansion** and additional **Value Creation strategies** such as Retrofit (de-prioritized in current investment period) - **High leveraging** or Buy- and-Build **potential**	- **Sale of company parts** (Packaging machinery and ETIMEX) to **strategic buyers** or **PE Fund** - **Carve-Out** of **ETIMEX** would be part of the sale process	- Possible **listing** on German stock exchange (SDAX)[1] - **Often preferred by management**
Pros +	- **Large players** in the industry with high **financial resources** and **M&A activity** - Synergies might lead buyer to pay **premium on price** - **Complete exit** possible	- Previous transactions **show high interest** in the sector - **Fast sales process** with immediate **full exit** - Aggressive financing structure can lead to higher price	- **Due to** the **size** of the company and its **specialisation**, companies might be more interested in **buying ETIMEX separately** from Schubert	- A listing gives the **management** more freedom, leading to **greater motivation** - Going public **attracts** a lot of **attention** and **increases credibility**
Cons –	- **Complex** and **long process** (high due diligence effort)	- **Strong negotiator** with a clear focus on price reduction	- Possibly **difficulties** to find **two** different **buyers** at one and the **same time** - **Valuation** could be **lower** for both companies individually **than as a group** - **Carve-Out** could consume many **resources**	- **Uncertainty** about future returns - High **dependency** on **market conditions** - High **transaction costs** - Money might be tied up - Full exit might not be possible
Potential Buyers	*Best fit* GEA IMA KHS Filling and Packaging – Worldwide KRONES SYNTEGON	Advent International Global Private Equity ARDIAN BainCapital Blackstone Cinven CVC Capital Partners EQT KKR PERMIRA Triton The Carlyle Group	amcor Constantia Flexibles Huhtamaki JLS OPTIMA SYNTEGON	SDAX

Preferred Exit

Source(s): Finanzen.net; Note(s): 1) Market capitalization from €403.99m to €7,899.63m as of 17.11.2021

Preferred buyer universe: Five peers are expected to show particularly strong interest in Schubert out of which the German GEA AG is analysed to be the best fit

SCHUBERT

Company	Country	Financials	Business Description	Rationale
Best fit GEA	🇩🇪	▪ Revenue 2020: €4,635m ▪ EBITDA 2020: €336m ▪ Net Debt 2020: (€284m) ▪ Firepower: €1,628m	▪ Global **automatic machinery** manufacturer for a wide range of industries including **Food, Beverages, Pharma and Chemicals** ▪ The company offers various **packaging machines** including filling, thermoforming, vertical form, fill & seal, palletizing and depalletizing machines	▪ **Strong overlap** in **end markets** ▪ **Expansion** of **product portfolio** by Pick & Place packaging machinery would complement offerings ▪ Follows **active M&A strategy** with 16 acquisitions in the last 10 years
IMA	🇮🇹	▪ Revenue 2019: €1,596m ▪ EBITDA 2019: €273m ▪ Net Debt 2019: €637m ▪ Firepower: €457m	▪ Global manufacturer of **packaging** and **processing machinery** for **Pharma**, **Cosmetics**, **Food**, Tea, Coffee and Tobacco ▪ The company has 45 manufacturing facilities worldwide and is backed by BC Partners and SOFIMA	▪ **Strong M&A appetite** with 12 acquisitions in the past 4 years and **strong overlap** in **end markets** ▪ **Strengthen product portfolio** through **modularity** and expertise in Pick & Place machines
KHS Filling and Packaging – Worldwide	🇩🇪	▪ Revenue 2019: €1,130m ▪ EBITDA 2019 : €354m1) ▪ Net Debt 2019: €140m1) ▪ Firepower: €1,416m1)	▪ Global manufacturer of **packaging machinery** for filling and packaging of **Beverages, liquid Food and Chemicals** ▪ The company has 11 manufacturing facilities worldwide and is a wholly owned subsidiary of Salzgitter AG	▪ **Existing partnership** with Schubert in the **development** of **filling / packaging systems** for beverage bottles ▪ **Expand** product portfolio and **industry coverage**
KRONES	🇩🇪	▪ Revenue 2020: €3,359m ▪ EBITDA 2020: €157m ▪ Net Debt 2020: (€241m) ▪ Firepower: €870m	▪ Global manufacturer of **machinery** for **production**, **filling** and **packaging** of **Beverages** and **liquid Food** ▪ The company has 20 manufacturing facilities worldwide	▪ **Expand** product offering by Pick & Place machinery and **coverage** of **packaging value chain** by tertiary packaging ▪ **Expand industry coverage** and improve margins
SYNTEGON CVC CAPITAL PARTNERS	🇩🇪	▪ Revenue 2019: €1,300m ▪ EBITDA : N/A ▪ Net Debt: N/A ▪ Firepower: N/A	▪ Global manufacturer of **packaging** and **processing machinery** for the **Food** and **Pharma** industries ▪ The company is PE-backed by CVC Capital Partners	▪ **Strong overlap** in **end markets** and product portfolio enables increasing market penetration ▪ **Expand capabilities** by **modularity** and **coverage** of **packaging value chain** by Tertiary Packaging

Source(s): Company Information, CapitalQ; Note(s): Firepower based on 4x EBITDA Leverage, 1) Finacial data of parent company Salzgitter AG

SCHUBERT

Packaging Machinery

Private Equity Challenge 2021 / 22
Investment Committee Presentation
17th of December 2021

Vincent Falcke 44077

NOVA SCHOOL OF BUSINESS & ECONOMICS

Disclaimer

- This paper was developed with an academic purpose, using publicly available information and information made available directly by the company or external experts.
- The Experts / Interview partners are listed in the Appendix.
- Because, according to the German Publication Act, the filing deadline for accounting documents is no more than one year after the closing date of the financial year, Schubert did not have to file the documents for 2020 yet. These will probably not be published until January 2022.
- For this reason, a fictitious takeover date of the company of 01.01.2020 is assumed for the present work. All forecasts are based on the published reports for the 2019 financial year.
- The holding period of the company is assumed to be 5 years, which means that the company will be sold at the end of 2024. However, the business plan will be developed up to the end of 2027.
- The company takeover is to be assumed cash-and-debt-free. This means that apart from a certain amount of cash balance with the function of covering the liquidity requirements and strategic measures, the remaining cash will be distributed before the takeover.
- All information from the Company website was retrieved before 20.09.2021.

Content Structure

Schubert, a German packaging machinery producer, is an exceptional investment opportunity yielding a Money Multiple of 2.9x at an IRR of 24% over a 5-year holding period

SCHUBERT

Company & Market

- Schubert is a **German-based producer** of top-loading **Pick & Place packaging machines** with c. 1,400 employees
- The company sells its machines mainly in domestic **German** market (27% of Sales in 2019A), rest of **EMEA** (39% of Sales in 2019A) and **North America** (27% of Sales in 2019A); **total Sales of c. €272m in 2019A**[1]
- **Global packaging machinery market** is **growing strongly** (4.8% CAGR until 2028), as are Schubert's end markets
- **Average Cash Conversion Rate** (Last 3 years) **amounts to 33%**

Investment Rationale & Value Creation

- **Defendable competitive positioning in** the **premium** segment of a growing **niche** market, a highly experienced management team as well as a strong financial performance make Schubert an attractive investment target
- Further value is to be generated through **organic strategies**: 1) international expansion in new and existing markets, 2) expansion of service offerings, 3) reduction in Material Expenses, and 4) the implementation of ESG measures
- As well as 1) **Carve-Out** non-core “Schubert System Elektronik” & 2) **vertical Add-On** of “ETIMEX”

Business Plan

- Execution of strategic initiatives will continue to strengthen the Sales growth of the past years to a 2019A-2024E **CAGR of 9.1%**, reaching **€445m in 2024E**
- Cost reduction measures and larger share of high margin Aftermarket Sales **increase profitability** to an **EBITDA-Margin of 13.5%** in 2024E
- Average Cash Conversion rate until **2024E amounts to 46%** translating into **Free Cash Flow of €31m**

Valuation, Capital Structure & Returns

- Valuation methods yield an **entry valuation of 12.7x on the €30m EBITDA of 2019A** leading to an **EV of €355m**
- **Substantial family co-investment (€77m)** and **sweet equity (€10m)** aligns interests of fund, family and mgmt.
- **Total debt amounts to 5.0 2019A EBITDA at acquisition decreases in the following years up to exit in 2024E**
- In the base case, a **Money Multiple of 2.9x** and an **IRR of 24%** are achieved after **5 years**

Due Diligence & Exit

- Several Due Diligence streams - Commercial, Financial, Legal, ESG, HR and Tax - assess key risks such as risks related to the **business, strategic measures** or **market developments** that hinder strategic expansions are conclusively clarified
- A secondary sale to a PE fund or sale to a strategic buyer are the recommended exit options in 2024E
- Analysing of potential strategic buyers classifies German manufacturer **GEA AG** as best strategic acquiror fit

After comprehensively analysing the presented target, evaluating risks, considering different operating scenarios and financing cases, it is recommended to **proceed with the presented opportunity into the next stage of a thorough Due Diligence**

€272m Sales 2019A

€30m Adj. EBITDA 2019A

11.1% Adj. EBITDA-Margin 2019A

€445m Sales 2024E

€60m EBITDA 2024E

13.5% EBITDA-Margin 2024E

2.9x Fund/Family MoM Multiple 2024E

24% Fund/Family IRR 2024E

5 year Holding Period from 2019 to 2024

Source(s): Company Information, Own Analyis; Note(s): RoW = Rest of World; 1) RoW accounts for 7% of sales in 2019A

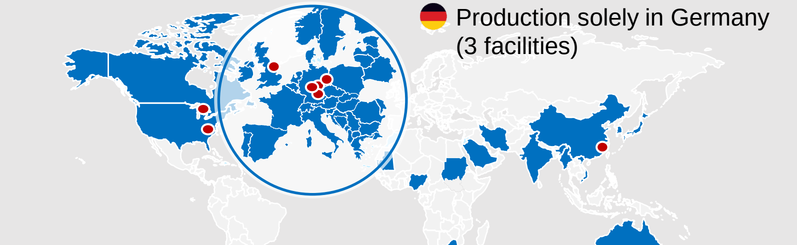
2. Company Overview

Since its foundation in 1966 Schubert is a pioneer in the development of modular packaging machines and custom-fit services with innovative digitalisation offerings for a wide range of industries

Key Facts

- **German-based packaging machinery** manufacturer („Schubert") **headquartered in Crailsheim**, Germany
- **The 100% family-owned** group is an innovative market leader for **top-loading Pick & Place machines**
- With **~1,400 employees** the company reached sales of **€272m in 2019A**[1]

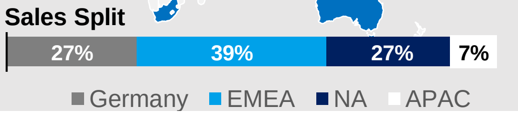
Geographic Footprint



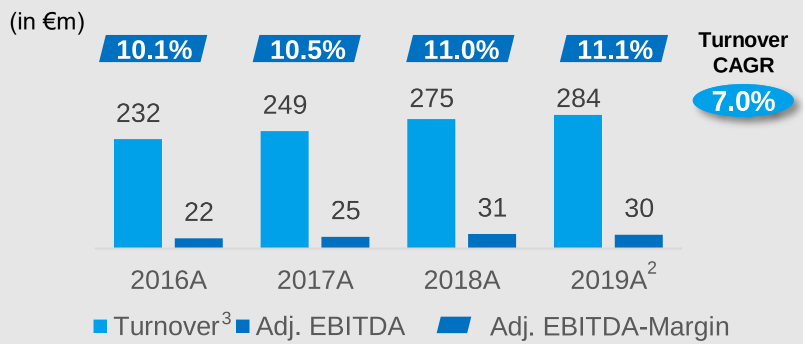
● Location

● Sales Presence

Sales Split

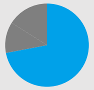


Historic Financials



Key Products

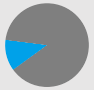
Modular products



72%
of 2019A Sales

- Top-loading packaging **machinery**, **flow-wrapper**, CNC contract **manufacturing** and **electronics**

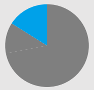
Turnkey solutions



12%
of 2019A Sales

- Fully integrated **turnkey** packaging solutions

Aftersales services



16%
of 2019A Sales

- **Spare parts**, modifications, remodeling

From an Idea to the World Market Leader in Digital Packaging Machines

1966: **Gerhard Schubert** founded the company; Development of **first carton erecting** and **gluing machine**

3 employees

1970-1990: Schubert modular **machine systems**, computer-controlled **robots** (ROBY) and own **packaging machine control** revolutionise the market

~250 employees

2013: Acquisition of the (now) **Schubert System Elektronik**

2015: Opening of the **new assembly hall** in Crailsheim (€16m investment)

> 1,300 employees

2016-2019: **Transformation to international growth through US restructuring** and opening of **China subsidiary**

End Markets and Customers

Food: Yakult, Kühne

Pharma: Abbott, CSL Behring Biotherapies for Life

Beverages: Champagne Veuve Clicquot, Jägermeister, Schützengarten

Pet Food: Ospelt food · pet food, Opticat

Confectionary: Ritter Sport, Bahlsen, Bonomi

Cosmetics: Alpecin, lavera Naturkosmetik, Henkel

Dairy: Ehrmann, Meggle, Jermi Käserei

Technical Articles

Source(s): Company Information; Note(s): 1) Robot based packaging of goods by picking goods up from a conveyor belt and placing them in the package, 2) Last audited results, 3) Turnover denotes the difference between Sales and Inventory produced

Schubert Key Industries

Directly downstream of production, the Schubert machinery fulfils packaging tasks on a one-stop basis, from picking up to placing in the packaging all the way to palletising

SCHUBERT

Exemplary Value Chain[1]

Raw Materials → Development/ Production → Packaging → Distribution & Sales → Consumer

Packaging industry

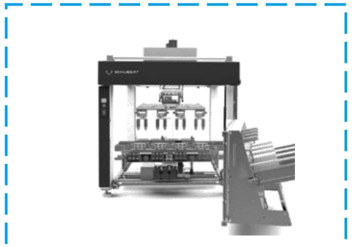
Packaging Machinery (machinery producer)[2]

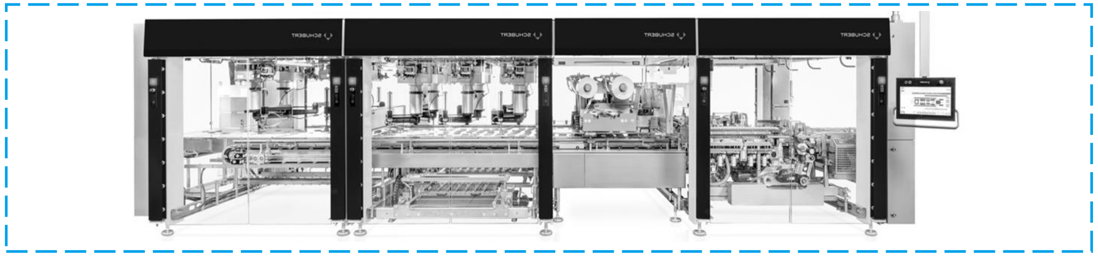
Packaging Material

Phase

Primary Packaging	Secondary Packaging	Tertiary Packaging
Packaging for retail / consumer	Packaging for Branding & display of product	Packaging for protection & shipping
Erect – Bottle – Place – Close	Thermo-form – Flow-wrap – Box pack	Wrap – Label – Palletise

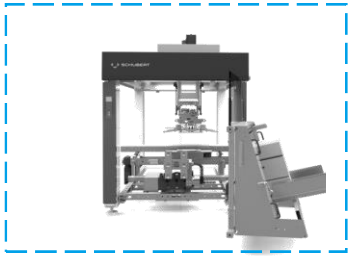
Schubert Product

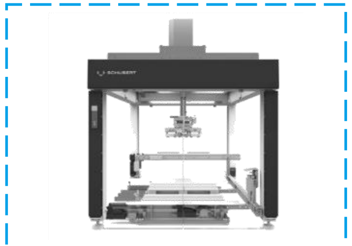

TLM box erector


Vision System

TLM Grouping Machine

Flow Module


TLM Closing machine


TLM Palletiser

Product Description

- Robot based machinery **picking up goods from a conveyor belt** and **placing them inside packaging / in boxes / on pallets**, enables customers **faster**, more **precise** and more **careful handling** of product than other methods
- **Modularized sub machines** based on the same frame construction are equipped with tailored tools and can be connected to form customized packaging lines

100%	10 years	€236k
Automated machine handling	Avg. Machine Life Cycle	Avg. Price per Machine

Source(s): Company Information, Own analysis; Note(s): 1) Exemplary for food production, 2) Schubert is only packaging machinery producer

3. Historic Financials

The growth of the last years was mainly driven by Sales in North America (CAGR: 21%) and Aftermarket Sales (CAGR: 12.7%)

SCHUBERT

Historic Sales Development

in €k	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	CAGR
Machinery (Germany)	35,115	38,214	24,777	54,628	47,139	42,694	51,365	40,394	2.0%
Machinery (EMEA)	89,159	101,536	129,777	88,272	99,891	113,288	103,275	86,017	(0.5%)
Machinery (NA)	15,452	9,795	14,156	22,496	12,062	21,071	51,887	59,604	21.3%
Machinery (China)	0	0	0	0	0	0	3,243	14,498	n.a.
Aftermarket Sales	19,044	24,170	28,119	26,642	33,420	36,800	39,627	43,933	12.7%
Electronics	0	19,999	22,475	20,753	20,145	21,962	25,245	22,460	n.a.
Other	5,779	6,978	9,122	11,703	6,730	7,358	8,525	5,412	(0.9%)
Total Sales	**164,550**	**200,691**	**228,426**	**224,495**	**219,387**	**243,173**	**283,167**	**272,319**	**7.5%**
Delta Inventory	1,988	2	(431)	484	12,419	6,021	(8,315)	11,736	n.a.
Turnover	**166,538**	**200,693**	**227,995**	**224,979**	**231,806**	**249,194**	**274,852**	**284,055**	**7.9%**
YoY Growth	*n.a.*	*20.5%*	*13.6%*	*(1.3%)*	*3.0%*	*7.5%*	*10.3%*	*3.3%*	n.a.

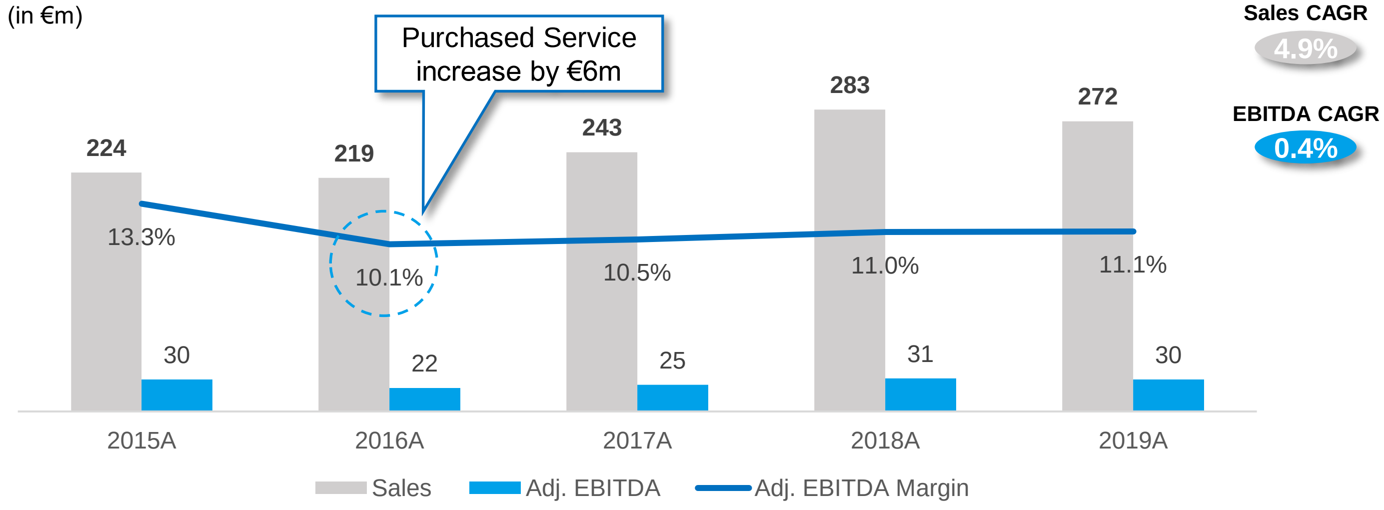
Key Takeaways

International Expansion: Important Sales driver; Restructuring of North America Sales operations resulted in nearly tripling of Sales to €60m from 2017A to 2019A

Aftermarket Sales: Strong CAGR (12.7%) as Schubert management is striving to increase Aftermarket / Service offerings with a focus on digitalisation

Sales vs. Turnover: Turnover denotes the total yearly output (including inventory changes), making it an important measure as it accounts for reporting date view shifts in large orders

Profitability Development



Profitability Assessment

- **Strong overall Sales growth;** Weak 2019A in Germany and EMEA caused by large orders shifting to 2020E
- Despite high Sales growth, **EBITDA remained flat in recent history with a CAGR of 0.4% since 2015A**
- **EBITDA-Margin** drop in 2016A following results from sales restructuring and aggressive growth in US and increase in Purchased Services due to capacity issues
- Despite that, Schubert shows an EBITDA margin recovery from 2016A onwards, reaching **11.1% in 2019A**

The finalisation of the production hall in 2022E as well as the targeted higher revenue share through Aftermarket Sales will have a positive impact on profitability and will strongly increase the previously flat development of EBITDA

Source(s): Annual Report; Company Information; Note(s):

After EBITDA-Margin declined in 2016A due to a steep increase of Purchased Services, from 2017A onward Schubert again has shown an upward Margin trend

Profit & Loss Statement

in €k	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	12-'19
Sales	**164,550**	**200,691**	**228,426**	**224,495**	**219,387**	**243,173**	**283,167**	**272,319**	**7.5%**
Turnover	**166,538**	**200,692**	**227,995**	**224,979**	**231,806**	**249,194**	**274,852**	① **284,055**	**7.9%**
YoY Growth		20.5%	13.6%	(1.3%)	3.0%	7.5%	10.3%	3.3%	
Raw Materials	(51,085)	(68,935)	(77,387)	(74,190)	(72,922)	(76,466)	(77,819)	(76,873)	6.0%
% Margin	*(31.0%)*	② *(34.3%)*	*(33.9%)*	*(33.0%)*	*(33.2%)*	*(31.4%)*	*(27.5%)*	*(28.2%)*	
Purchased Services	(19,763)	(11,298)	(12,521)	(16,665)	(22,922)	(26,049)	(31,174)	(34,575)	8.3%
% Margin	*(12.0%)*	*(5.6%)*	③ *(5.5%)*	*(7.4%)*	*(10.4%)*	*(10.7%)*	*(11.0%)*	*(12.7%)*	
Material Expenses	**(70,848)**	**(80,233)**	**(89,908)**	**(90,856)**	**(95,844)**	**(102,515)**	**(108,993)**	**(111,447)**	**6.7%**
% Margin	*(43.1%)*	*(40.0%)*	*(39.4%)*	*(40.5%)*	*(43.7%)*	*(42.2%)*	*(38.5%)*	*(40.9%)*	
Gross Profit	**95,690**	**120,460**	**138,087**	**134,123**	**135,962**	**146,679**	**165,859**	**172,608**	**8.8%**
% Margin	*58.2%*	*60.0%*	*60.5%*	*59.7%*	*62.0%*	*60.3%*	*58.6%*	*63.4%*	
Personnel Expenses	**(56,782)**	**(66,911)**	**(74,211)**	**(76,121)**	**(80,723)**	④ **(87,382)**	**(94,442)**	**(100,354)**	**8.5%**
% Margin	*(34.5%)*	*(33.3%)*	*(32.5%)*	*(33.9%)*	*(36.8%)*	*(35.9%)*	*(33.4%)*	*(36.9%)*	
⑤ **Other Operating Expenses**	**(25,921)**	**(28,859)**	**(31,273)**	**(31,310)**	**(35,864)**	**(37,481)**	**(42,505)**	**(45,588)**	**8.4%**
% Margin	*(15.8%)*	*(14.4%)*	*(13.7%)*	*(13.9%)*	*(16.3%)*	*(15.4%)*	*(15.0%)*	*(16.7%)*	
OPEX	**(82,703)**	**(95,770)**	**(105,484)**	**(107,430)**	**(116,587)**	**(124,863)**	**(136,947)**	**(145,942)**	**8.5%**
% Margin	*(50.3%)*	*(47.7%)*	*(46.2%)*	*(47.9%)*	*(53.1%)*	*(51.3%)*	*(48.4%)*	*(53.6%)*	
Other Income	**1,447**	**1,618**	**891**	**1,743**	**1,518**	**2,066**	**984**	**2,059**	**5.2%**
⑥ **EBITDA Adjusted**	**15,653**	**27,654**	**34,974**	**29,777**	**22,126**	**25,467**	**31,259**	**30,227**	**9.9%**
YoY Growth		*76.7%*	*26.5%*	*(14.9%)*	*(25.7%)*	*15.1%*	*22.7%*	*(3.3%)*	
% Margin	*9.5%*	*13.8%*	*15.3%*	*13.3%*	*10.1%*	*10.5%*	*11.0%*	*11.1%*	

Profit & Loss Statement

① Shift of 1 **Turnkey** line order of c. €11m from 2019A towards 2020E dampened Sales growth in 2019A; **Turnover depicts the inventory increase** caused by the completed and not sold Turnkey line

② Raw Materials margin shows a decreasing trend due to **investments** in **production automation, internal process optimization** and **3D-printing of parts**

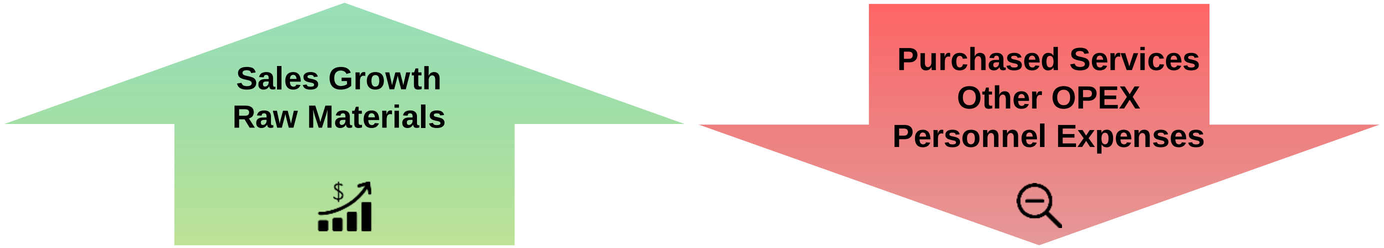
③ **Increase in Purchased Services caused by reaching 100% capacity**; completion of new assembly hall in 2015A **shifts the bottleneck from assembly to production**; missing infrastructure and little personnel build up in 2014A to 2016A drive bottleneck

④ **Workforce capacity build up for production, R&D and service** as foundation for **future sales growth**

⑤ Other OPEX constitutes **a high portion of Schubert's costs**, including cost positions as e.g.: Marketing, Rent & Leasing; strong increase is driven by **Marketing Expenses and build-up of infrastructure for growth and internationalisation**

⑥ Adjustments are normalisations for owners' salary of c. €1.2m p.a.

Key Profitability Drivers



Sales Growth
Raw Materials

Purchased Services
Other OPEX
Personnel Expenses

Manageability assessment of negative drivers

🟢	**Purchased Services**	- Decrease with ramp-up of production facility in 2022E
🟢	**Other OPEX**	- Decreasing cost base after finalization of internationalisation strategies
🟡	**Personnel**	- Increase in service requires more personnel - High wage country GER with strict labour laws

Source(s): Expert Interview; Annual Reports

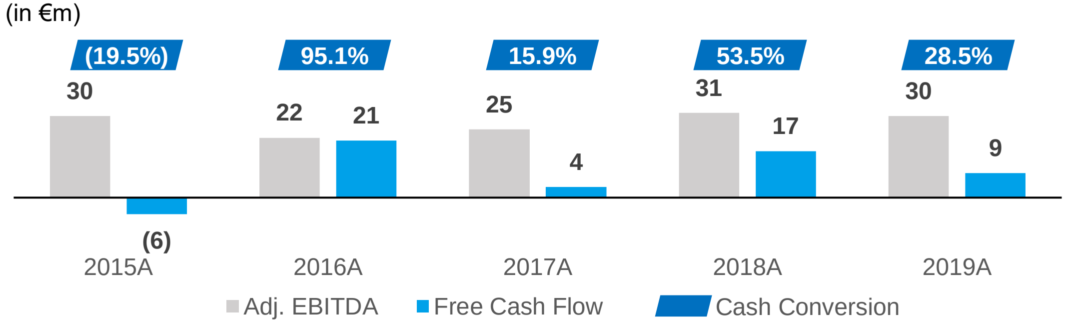
🟢 Good manageability going forward 🟡 Medium manageability going forward 🔴 Bad manageability going forward

See Appendix Slides 55-56

Cash Conversion volatility does not pose a problem as it is mitigatable; low Maintenance CAPEX suggest high future Cash generation potential

SCHUBERT

Free Cash Flow



33%

Avg. Cash Conversion last 3 years

in €k	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019E
Adj. EBITDA	**15,653**	**27,654**	**34,974**	**29,777**	**22,126**	**25,467**	**31,259**	**30,227**
(-) Changes in NWC	n.a.	(9,217)	(8,365)	(3,466)	8,908	(11,483)	(4,805)	913
(-) Changes other WC	n.a.	(5,751)	12,106	(7,116)	4,689	14	2,214	(2,260)
(-) CAPEX	(4,697)	(17,282)	(16,408)	(17,714)	(10,256)	(4,926)	(4,870)	(13,903)
(-) Taxes	(3,137)	(7,020)	(8,242)	(7,289)	(4,426)	(5,015)	(7,059)	(6,366)
Free Cash Flow	**7,819**	**(11,616)**	**14,064**	**(5,809)**	**21,041**	**4,056**	**16,739**	**8,611**
Cash Conversion	**50.0%**	**(42.0%)**	**40.2%**	**(19.5%)**	**95.1%**	**15.9%**	**53.5%**	**28.5%**

- **High Cash Conversion volatility** due to expansion CAPEX and working capital development
- Volatile Working Capital is based on **low prioritization of management** focus due to low relevance for long-established **family business structures**
- **Working Capital changes are** mainly driven by shifts in Inventory as invoicing of large orders are shifted to the next fiscal period

Cash Conversion volatility is explainable and mitigatable; So, future Cash generation potential can be used for strategy implementation and deleveraging

Key Performance Indicators (2019A)

€236k
Avg. Price per Machine

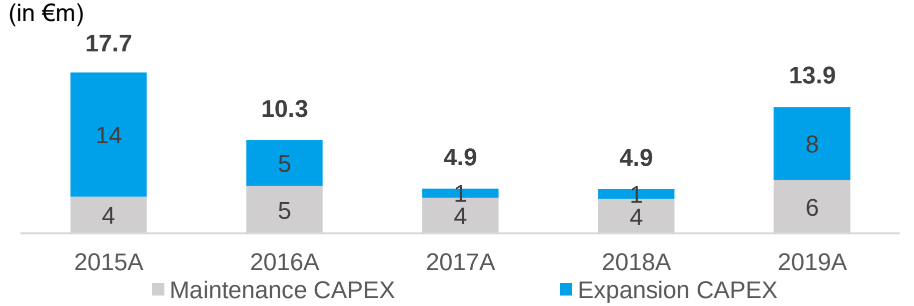
62 Days
Cash Conversion Cycle

€136k
Avg. Material cost per Machine

€50,278k
Working Capital

- Avg. of **€100k Gross Profit per machine**
- Relatively **low CCC** resulting from high amount of Advanced Payments received on orders
- **Working Capital** requirement of c. €50m in 2019A

CAPEX Development



- **Low levels of Maintenance CAPEX** as majority of equipment is leased
- **High Expansion CAPEX up to 2015A** to build new assembly hall reducing capacity bottleneck in assembly, shifting **focus towards production capacity constraints**

Source(s): Expert Interviews, Annual Reports, Company Information

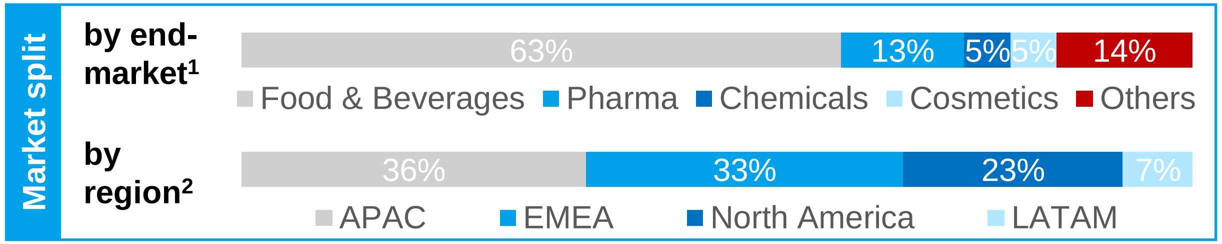
4. Market Overview

The global packaging machinery market is characterized by a high degree of fragmentation and continues a robust growth path of recent years with increasing automation demands from end markets

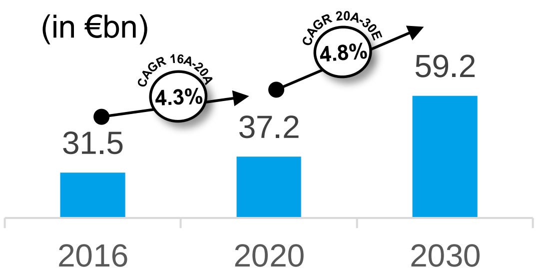
SCHUBERT

Global Packaging Machinery Market Overview

- The global packaging machinery market is estimated to be **€37.2bn** as of 2020 and is expected to grow at a **CAGR of 4.8%** through 2030
- The **impact of Covid** on the industry is **minor** (see Appendix)



Market Size Global



Market Entry Barriers

Entry Barrier	Relevance
Application Know-how	●
Customer Realtionships	●
Track Record & Reputation	●
Manufacturer Qualification	◕
Local Customer Service	◕

Proxy

CAGR packaging machinery: **4.8%**

CAGR key end markets: **4.0%-5.0%**

→ **Schubert´s addressable market to grow ~4.5% CAGR for the next 5-8 years**

Market Characteristics

Fragmentation	▪ The global packaging machinery market is **highly fragmented** with only a few large players ▪ Top 5 players with 20% market share and 5th largest player generating c. €490m Sales annually ▪ Schubert places among largest market players[3]
Market & Product Focus	▪ Many manufacturers focus on **specific niche end markets** and machine types due to strict **certification requirements** in highly regulated industries such as F&B and Pharma without covering the whole value chain
Consolidation Pressure	▪ Increased **consolidation pressure** in recent years due to a growing demand for complete solutions and the fact that only a few companies can offer them (most are specialists) ▪ Increased **M&A activity** in small to mid-cap segment

Market Driver

Automation & Robotics	▪ Business needs for higher **efficiency** and **productivity** drive demand for automated packaging lines with higher **production speed** and greater **flexibility** ▪ **Modularity** and **versatility** gain in importance
Sustainability & Flexible Packaging	▪ Growing importance of **sustainability** drives demand for more **energy-efficient** and **flexible packaging machines** that can handle **different sizes** and **packaging materials**
Food production	▪ **Growing population** requires higher food production to be packaged ▪ Regulatory changes towards **greater food safety**, especially in emerging markets

Source(s): Expert Interviews, PMMI, Statista, ARC Advisory Group, eMarketer, Allied Market Research; Note(s): 1) Based on 2016 figures; 2) Based on 2018 figures; 3) C. 1% market share with c. €270m Sales 2019A

Schubert acts in a megatrend driven market and shows significant growth potentials with little obstacles imposing growth threats

SCHUBERT

S

- High degree of **innovation** through own, well-funded research and development department (several patents etc.)
- Representative typical German mechanical engineering manufacturers characteristics such as **quality** and **precision**
- **Modular design** of the machines enables **coverage of the entire packaging line** as well as high **flexibility, in-house manufacturing**
- **High expertise & long track-record** in key industries
- **Strong employer brand** through good networks with educational institutions as well as social offers for employees
- **Large, addressable, fragmented, growing market**

W

- **Volatile sales development** due to dependencies on big orders
- **Upgradable service offering** & service proximity
- **Low share of aftersales services** in overall sales structure with only **16% of 2019A sales**
- **Multitude of group companies** tie up management attention; Especially System Elektronik seems not to be totally core business
- Weak investment management due to CAPEX backlog during 2016A as investments were made after **100% production capacity** was reached

O

- High **growth potential** in **China** as **fastest growing market**, in which German manufacturers lead the **premium segment**
- Schubert management already showed that they are capable of an **aggressive geographical expansion** (USA)
- Highly **fragmented market**, especially in China, offers great **potential for inorganic growth**
- Increased **demand** for **flexible and sustainable packaging machines**, e.g. with **interchangeable tools** to handle new materials and different sizes and to strengthen market position
- **Management change** could pose new opportunities due to rejuvenation of the current management age structure

T

- The so-called **'Made in China 2025' strategy**, which aims to strengthen domestic players and challenge the dominance of international players in its home market **inhibits import volumes**
- Current **fast-paced market** environment requires **steady innovation** to stay ahead of competition
- **Substitute technologies** such as vertical loading or tray loading machinery
- **Focus** of **larger players** towards **Pick & Place** technology with larger customer base

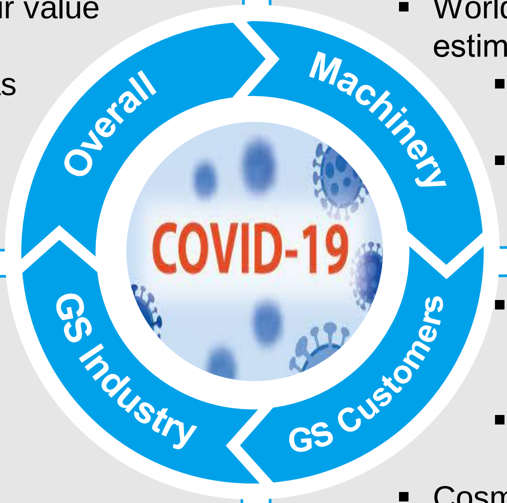
Source(s): Own Analysis

Covid - a crisis with far-reaching effects; however, the effect on Schubert and the packaging industry are manageable

SCHUBERT

- In 2020, global GDP declined by **6.7%** as a result of the covid-19 outbreak
- Out of the world's 7 largest economies, **UK** was the most negatively affected (-9.6%); **Germany: -4%;** only China experienced **positive GDP growth rate of 4.9%**
- Global stock indices posted **substantial losses;** March 6 to 18 was particularly dramatic, with several stock indices losing more than 20% of their value (NASDAQ: -12.4% Mar 6-18, 2020)
- Distortions caused by Corona were also weighing on **demand**, as potential investors were holding back on orders and **consumer expenditures shrank**
- Many **supply chains** have been disrupted by lockdowns

- European mechanical engineering fell into a **deep recession** in 2020
- Crisis led to **high export losses** (2020 exports -9.7%; imports -9.4% compared to 2019)
- Production in Mechanical Engineering dropped between **3% and 17%** in different EU countries (Germany: -8%; EU-27: -13% in real terms)
    - Worldwide, machinery and equipment were manufactured for an estimated €2,585 bn in 2020 (**-5% compared to pre-Covid level**)
        - **China** was only country among TOP 10 manufacturing countries to **exceed its pre-crisis level**
        - Germany reaffirmed its position as **third largest machinery producer** with estimated sales of €271 bn



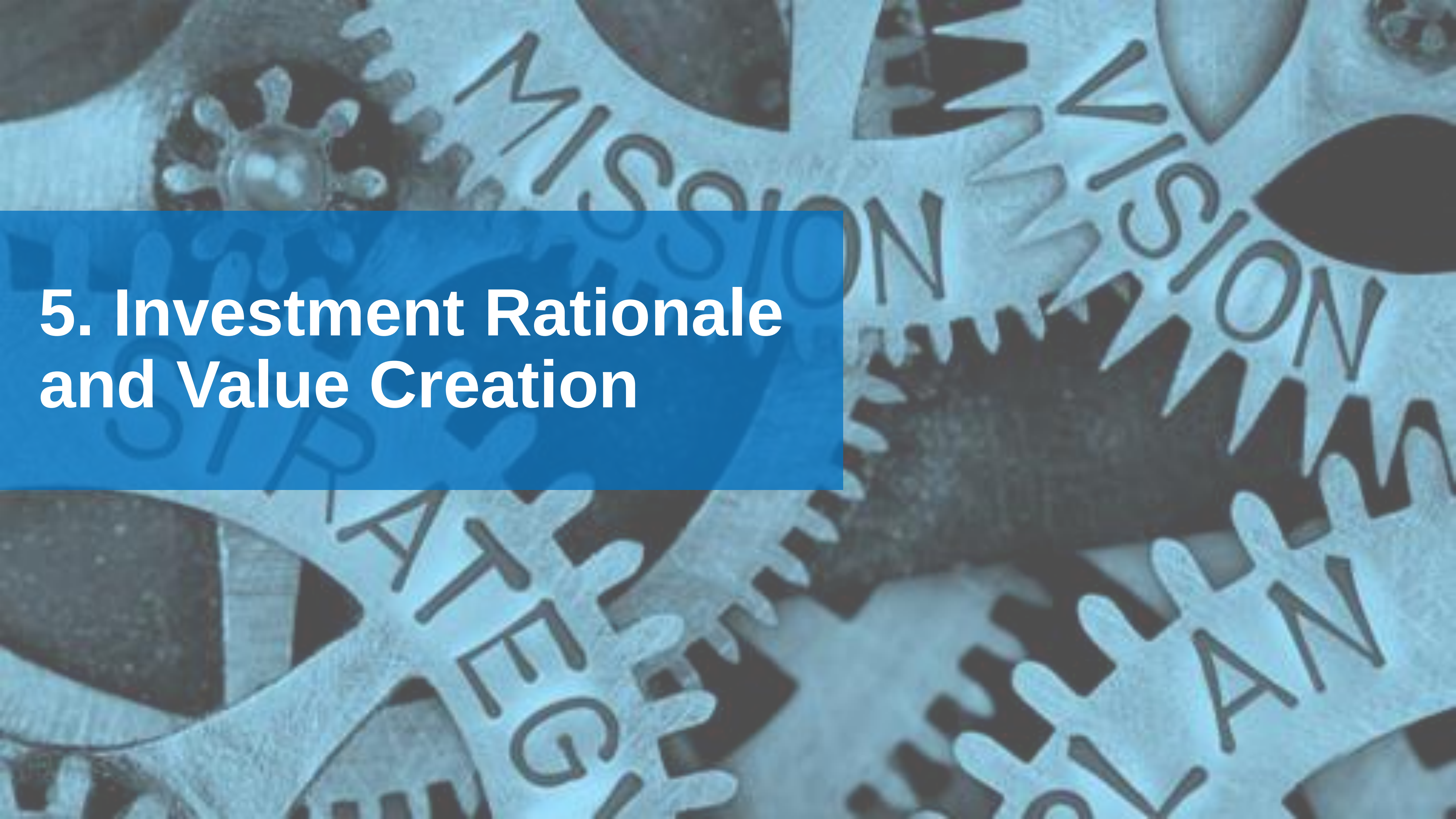
- In the German packaging machinery sector, order intake in 2019 was down **sharply by -5%** on the previous year
- **Optimism** is given by the fact that the packaging machinery sector is **not expected to decline** to the same extent as the entire machinery and plant sector and that demand will also increase **rapidly again**
- Schubert directly established a **task force** consisting of the Schubert Group's management and leadership team to **assess the current development and its impact** and to **respond appropriately**

- During the first half of 2020, most countries measured **negative business confidence indices;** only China and India positive had growth rates of 1.6% and 1.2%, respectively
- Pharma: **revenues grew steadily;** Market capitalization changed in key Covid firms
- Cosmetics: due to Covid, the new 2020 forecast for the Cosmetics segmentis **7.2% lower** than the original forecast
- Food, beverages and snacks: most categories have seen **significant increases** in sales (baking mixes were fastest growing with +106.5% in US)

- Overall, the **global economy was** or **is enormously affected** by the Covid pandemic
- The mechanical engineering industry had to cope with **severe downturns** in some cases (though less than other industries such as tourism)
- The **packaging industry was less affected**, as were **most of the industries in which Schubert customers** are operating

Source(s): Statista, VDMA

5. Investment Rationale and Value Creation



Schubert represents an extremely attractive and reliable investment with very positive development opportunities on many levels

Thesis	**Value Proposition in premium segment with best-in class product portfolio**	**Highly successful export business "made in Germany" with intl. market share gain potential**	**Important Assets: Experienced management team and precious human capital**	**Strong and robust financial profile with proven growth trajectory**	**Megatrend driven (end-) market(s) bearing enormous growth potential**
Status Quo Deal Rationale	▪ Covering the whole packaging machinery value-chain for several end markets ▪ Providing premium one-stop-shop solutions through flexible, modular, customizable and scalable product offerings ▪ Ability to retain loyal and attract new customers through positioning as quality and industry innovation leader for 55 years	▪ Schubert has a high export quota of c. 70%, showcasing the perceived German machinery quality ▪ Relatively low dependency on domestic market counteracts customer investment cyclicality ▪ Strong US expansion with sales growing from €15m in ´16A - €74m in ´19A (374%) ▪ Fragmented global markets with no dominant players	▪ Longstanding management team with relevant strategic track record (post acquisition integration, successful intl. expansion (US)) ▪ Historical built up of strong second level management allows smooth internal CEO transition ▪ Highly trained employees & acquisition of young talent through the German dual system	▪ Strong historical CAGR of Sales (7.5%) and of Gross Profit (8.8%) since 2012 evince high profitability & scalability ▪ Cash conversion despite significant CAPEX, at 32.8% on average over the last three years ▪ Healthy balance sheet structure makes Schubert an attractive LBO target	▪ Schubert is application leader in the pick-and-place niche of the packaging machinery market which is expected to grow at a CAGR of 4.5% until 2030 ▪ The packaging machinery and Schubert´s end markets are megatrend driven and continuously develop towards more sustainable solutions as well as increased service offerings
Base for Future	▪ High quality and great reputation creates defendable competitive advantage allowing for premium pricing and growth of market share ▪ Expanding deep technical know how and continuing high R&D spending secure market position	▪ The results of the US Sales restructuring in 2016A indicate that Schubert is capable of showing similar expansion in other not yet focused markets (e.g. Asia) ▪ Management lessons learned will support further intl. market share gains	▪ Experienced management team enables rapid and successful implementation of future strategies ▪ Ability to secure well-trained and motivated personnel with Schubert Academy becomes a competitive advantage	▪ Significant EBITDA upside potential, as Gross Profit increase does not translate to EBITDA yet as production and R&D capacity had to be built up ▪ Healthy balance sheet and cashflow allow for high leverage	▪ Non-cyclical focus end markets *food* and *confectionary* show significant growth potential at an expected CAGR of 4.0%-4.7% until 2025; combining to an addressable market growth of 4.5%

Source(s): Own Analysis

Overview of Strategic Measures (1/2): Prioritising the different value creation strategies results in 4 measures to increase Schubert's sales growth

SCHUBERT

Topline Growth / Sales increase

Strategic Measure	Description	Strategic Impact	Financial Impact	Feasibility	Management Resources	Implementation Time
International Expansion China	▪ Expansion to China ▪ Strengthen successful market entry through leasing partnership	▪ High organic sales growth ▪ Improved sales and service offering and cross-selling potential for existing clients in new markets ▪ Acquisition of new clients	▪ APAC Revenue +€22m thereof €15m attribute able to strategy	🟢	◔	*Start: Q1 2020* 3 years
International Expansion United States	▪ Market penetration United States ▪ Expansion of presence at key trade fairs ▪ Expansion of sales and service workforce	▪ Organic sales growth ▪ Increased brand awareness and service availability ▪ Broaden geographic reach to achieve stronger foothold in US	▪ United States Revenue +€20m thereof €8m attributable to strategy	🟢	◔	*Start: Q1 2020* 3 years
International Expansion France & Poland	▪ Increase market share at low level of effort (financially and regarding personnel) to realize significant sales increase in	▪ Strengthen (home) markets ▪ Expand and change mindset of sales team through trainings	▪ EMEA Revenue +€18m thereof €15m attributable to strategy	🟢	◔	*Start: Q2 2021* 4 years
Expansion of Service Network	▪ Enhance digital service offerings including predictive maintenance and software as a service modules	▪ Increase recurring service revenues ▪ Increased customer satisfaction through reduced downtimes	▪ Aftermarket Revenue +€49m ▪ Profitability increase	🟢	◔	*Start: Q2 2021* 4 years

Source(s): Own Analysis

🟢 / 🟡 / 🔴 High / Medium / Low Feasibility 🔵 High managerial demand

Overview of Strategic Measures (2/2): Prioritising the different value creation strategies results in 4 further measures targeting costs and efficiency, a buy-and-build initiative as well as ESG objectives

	Strategic Measure	Description	Strategic Impact	Financial Impact	Feasibility	Management Resources	Implementation Time
Cost decrease	**Reduction of Material Expenses**	▪ Expansion of production capacities to reduce purchased services ▪ Process optimization	▪ Lower direct cost per machinery and increase gross profit ▪ Reversal of capacity issues	▪ Margin improvement ▪ Cost reduction of c. €10k per machine	🟢	◔	*Start: Q1 2020* Ongoing
M&A	**Structural Realignment through Carve-Out**	▪ Carve-Out of non-core in-house electronic manufacturing business Schubert System Elektronik	▪ Cash generation and future margin improvement through divestment of low-margin business unit ▪ Release of management capacities	▪ Cash generation of c. €30m in 2020 ▪ Multiple arbitrage +€3m	🟢	◑	*Start: Q1 2020* 1 year
	Inorganic Growth through Add-On	▪ Vertical expansion through acquisition of packaging material manufacturer ETIMEX Primary Packaging	▪ Significant sales and EBITDA impact ▪ Sales synergies through holistic offering of packaging machinery and packaging material	▪ Cash outflow of c. €54m in 2021 ▪ EBITDA contribution +€8m	🟡	◕	*Start: Q1 2021* 2 years
ESG	**Sustainability and Impact**	▪ Set up of ESG task force to reach best in class practices ▪ Include impact and ESG measures in decision making	▪ Attractive exit scenarios through exit multiple improvements ▪ Improved brand awareness and perception for customers and employees	▪ Slight upfront cost ▪ Possibility of higher exit multiple	🟢	◔	*Start: Q1 2020* Ongoing

Source(s): Own Analysis

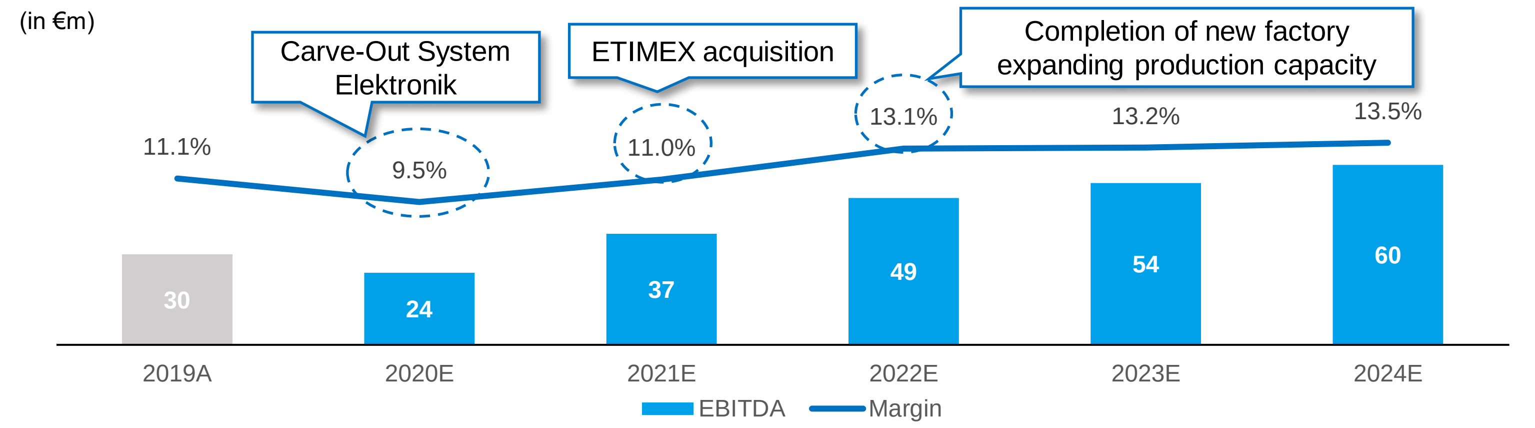
🟢 / 🟡 / 🔴 High / Medium / Low Feasibility 🔵 High managerial demand

6. Business Plan

Schubert´s strong Material Expense margin decrease translates to an EBITDA margin uplift, resulting in an EBITDA of €60m in 2024E, constituting a 2.4pp margin increase

SCHUBERT

EBITDA Development



Key Results

	2019A		2024E
Avg. Gross Profit per Machine	€100k	▶	€122k
Share of Aftermarket Sales	16%	▶	21%

- Gross profit increase driven by reduction in **material expenses per machine**
- Aftermarket sales increase due to **strategy**

Income Statement

in €k	2019A	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	12-'19	19-'27
Sales	272,319	252,029	335,160	375,147	411,546	445,436	482,074	511,800	547,960	7.5%	9.1%
YoY Growth	(3.8%)	① (7.5%)	33.0%	11.9%	9.7%	8.2%	8.2%	6.2%	7.1%		
Turnover	284,055	250,574	333,096	375,056	411,310	445,494	480,973	510,746	546,460	7.9%	8.5%
Material Expenses	② (111,447)	(94,814)	(133,228)	(136,099)	(145,590)	(153,115)	(163,460)	(170,846)	(180,572)	6.7%	6.2%
% Margin	(40.9%)	(37.6%)	③ (39.8%)	(36.3%)	(35.4%)	(34.4%)	(33.9%)	(33.4%)	(33.0%)		
Gross Profit	172,608	155,760	199,868	238,957	265,721	292,380	317,512	339,900	365,889	8.8%	9.8%
% Margin	63.4%	61.8%	59.6%	63.7%	64.6%	65.6%	65.9%	66.4%	66.8%		
Personnel Expenses	(100,354)	(91,632)	(113,787)	(132,460)	(149,509)	(165,745)	(181,419)	(196,399)	(210,348)	8.5%	9.7%
% Margin	(36.9%)	(36.4%)	(33.9%)	(35.3%)	(36.3%)	(37.2%)	(37.6%)	(38.4%)	(38.4%)		
Other OPEX	(45,588)	(42,025)	(53,115)	(61,555)	(66,557)	(71,266)	(74,645)	(77,428)	(83,306)	8.4%	7.8%
% Margin	(16.7%)	(16.7%)	(15.8%)	④ (16.4%)	(16.2%)	(16.0%)	(15.5%)	(15.1%)	(15.2%)		
OPEX	(145,942)	(133,657)	(166,901)	(194,015)	(216,065)	(237,011)	(256,065)	(273,826)	(293,654)	8.5%	9.1%
% Margin	(53.6%)	(53.0%)	(49.8%)	(51.7%)	(52.5%)	(53.2%)	(53.1%)	(53.5%)	(53.6%)		
Other Income	2,059	⑤ 1,906	3,960	4,237	4,483	4,724	4,987	5,195	5,429	5.2%	12.9%
EBITDA Adjusted	30,227	24,009	36,927	49,179	54,138	⑦ 60,092	66,435	71,269	77,664	9.9%	12.5%
% Margin	11.1%	⑥ 9.5%	11.0%	13.1%	13.2%	13.5%	13.8%	13.9%	14.2%		

Source(s): Own Analysis, Annual Reports; Note(s): Shaded area of business plan denotes business plan beyond assumed investment horizon

Comment

① Decline in 2020E due **to Carve-Out**, followed by strong increase in 2021E **largely attributable to ETIMEX**

② Reduction mainly driven by **Carve-Out of business unit with significant material expenses**

③ ETIMEX acquisition **increases margin**; decrease in 2022E due to **factory ramp-up**

④ Decrease follows omission of **international expansion related costs** upon finalisation

⑤ Increase of c. €2m in 2021E due to the ETIMEX acquisition

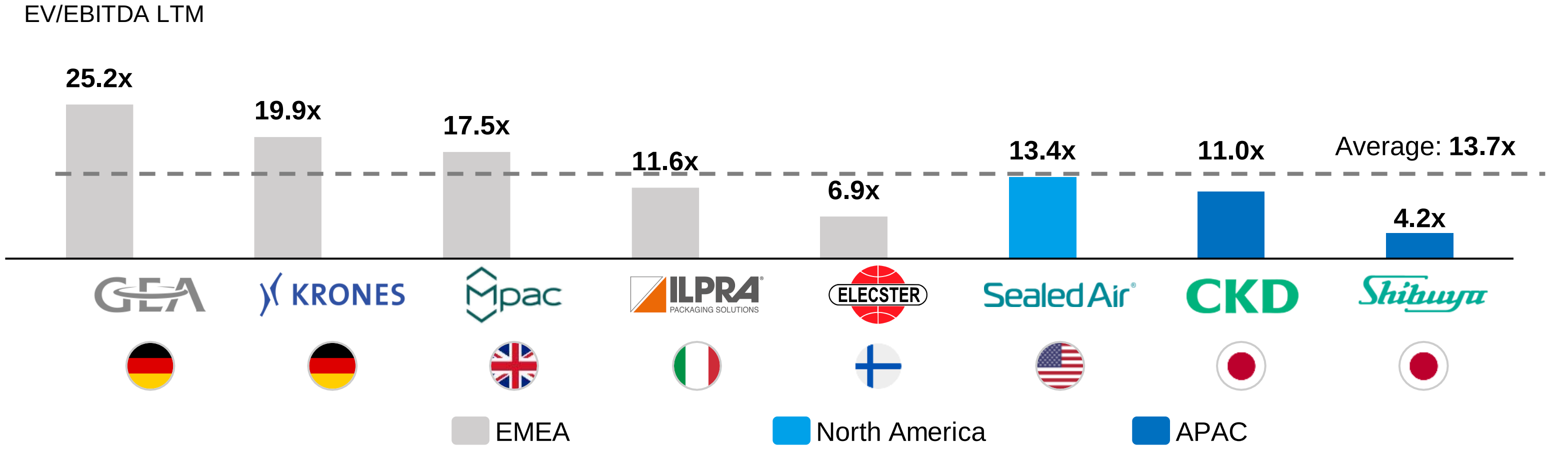
⑥ Margin decline in 2020E due to **one-off Covid-19 effects** and **Carve-Out dilution**

⑦ Value creation strategies for cost reduction measures increase **EBITDA margin to 13.5% in 2024E**

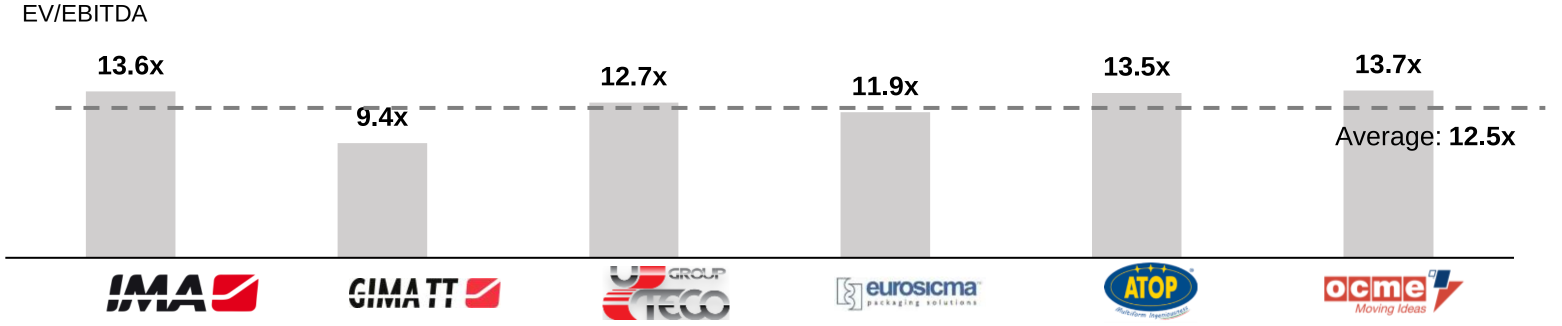
7. Valuation, Capital Structure and Returns

Relative valuation of Trading and Transaction Multiples within the industrial automation industry are showing average EBITDA Multiples of 11.0x and 12.5x, respectively

Trading Multiples



Transaction Multiples



EV (€m)	3,741	686	173	34	107	73
Year	2020	2019	2018	2017	2017	2017

Source(s): Mergermarket, Annual Report, Capital IQ; Note(s): 1) Includes illiquidity discount of 20%

Comment

- Comparable peers comprise international packaging machinery player with focus on pick & place top loading machinery
- An illiquidity discount of 20% was assumed leading to an **average valuation multiple of 11.0x**
- To evaluate past transactions in the sector, multiple transactions were analyzed based on their target business segments and geographical region
- Due to recent market upswings and **Trading Multiples are higher than historical Transaction Multiples** which gets encountered after applying the illiquidity discount

	Trading Multiples	**Transaction Multiples**
Average	**11.0x[1]**	**12.5x**
EBITDA 2019A	**€30,227k**	
Enterprise Value	**€331,905k**	**€377,265k**

WACC is mainly derived from public peers with an unlevered beta of 0.78, whereas cost of debt denotes an average between historical rates and market metrics

Weighted Average Cost of Capital (WACC)

Debt / Equity **0.31**

Debt / Equity	
D/V	23.90%
E/V	76.10%
Debt / Equity	**0.31**

Cost of Debt **1.62%**

Cost of Debt	
Tax Rate	**30.00%**
Historical After-tax Cost of Debt	**2.88%**
Coverage Ratio	46.72
Implied Credit Rating	AA
Implied Spread	0.78%
Implied After-tax Cost of Debt	**0.36%**
Average After-tax Cost of Debt	**1.62%**

Cost of Equity **11.17%**

Cost of Equity	
Risk free Rate	**(0.26%)**
Market rate of return	11.72%
Market Risk Premium	**11.98%**
Unlevered Beta	0.78
Levered Beta	0.95
Beta Premium	0.00
Adjusted Levered Beta	**0.95**
Cost of Equity	**11.17%**

WACC **8.89%**

Discounted Cash Flow Valuation

in €k	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	TV
EBITDA	**23,856**	**28,314**	**35,242**	**38,232**	**41,959**	**44,594**	**49,229**	**53,688**	
D&A	(5,280)	(6,116)	(6,901)	(7,547)	(8,263)	(9,022)	(9,746)	(10,423)	
EBIT	18,576	22,199	28,341	30,685	33,696	35,571	39,483	43,265	
Tax	(5,573)	(6,660)	(8,502)	(9,205)	(10,109)	(10,671)	(11,845)	(12,979)	
NOPAT	13,003	15,539	19,839	21,479	23,587	24,900	27,638	30,285	
FCFF Calculation									
NOPAT	13,003	15,539	19,839	21,479	23,587	24,900	27,638	30,285	
D&A	5,280	6,116	6,901	7,547	8,263	9,022	9,746	10,423	
Change in NWC	(1,310)	3,640	5,017	1,179	4,654	4,975	5,018	5,804	
CAPEX	11,730	10,703	9,581	7,368	8,072	7,825	7,548	7,213	
FCFF	**7,864**	**7,312**	**12,142**	**20,479**	**19,124**	**21,123**	**24,818**	**27,691**	**409,795**
Discounted CF	7,864	6,715	10,240	15,861	13,602	13,796	14,886	15,253	225,726
Discount Factor	1.00	0.92	0.84	0.77	0.71	0.65	0.60	0.55	0.55

	Gordon Growth	Exit Multiple
Sum of Discounted Cash Flows	98,217	98,217
Terminal Value	225,726	282,299
EV	**323,943**	**380,516**

Assumptions

- Cost of Debt is calculated based of average of **historical after-tax cost of debt and implied after-tax cost of debt based on debt ratios**
- Implied after-cost of debt is based on **NYU Stern rating grid of comparable companies**, being rated AA
- Assumed **tax rate** for all valuation measures **is 30%,** following KPMG German tax grid
- 5-year return of **German SDAX** suits as market return rate as being most comparable Perpetual growth is assumed to be 3.5%, following historic patterns of strong growth
- **Unlevered Beta was calculated based on listed peer group**
- Exit multiple for **DCF purposes denotes long term multiple average of 9.5x EBITDA**

Source(s): Bloomberg, Annual Report, CapitalQ, NYU Stern, KPMG

An analysis of the multiples through a 10-year cycle suggests an EV/EBITDA multiple of 9.5x

Sensitivity Analysis DCF (Gordon Growth Approach)

(In €k)		WACC				
		8.4%	8.6%	8.9%	9.1%	9.4%
G	2.5%	366,619	350,123	334,938	320,915	307,928
	2.8%	378,985	361,301	345,077	330,142	316,350
	3.0%	392,498	373,470	356,077	340,120	325,430
	3.3%	407,325	386,767	368,051	350,944	335,249
	3.5%	423,667	401,356	381,136	362,728	345,901

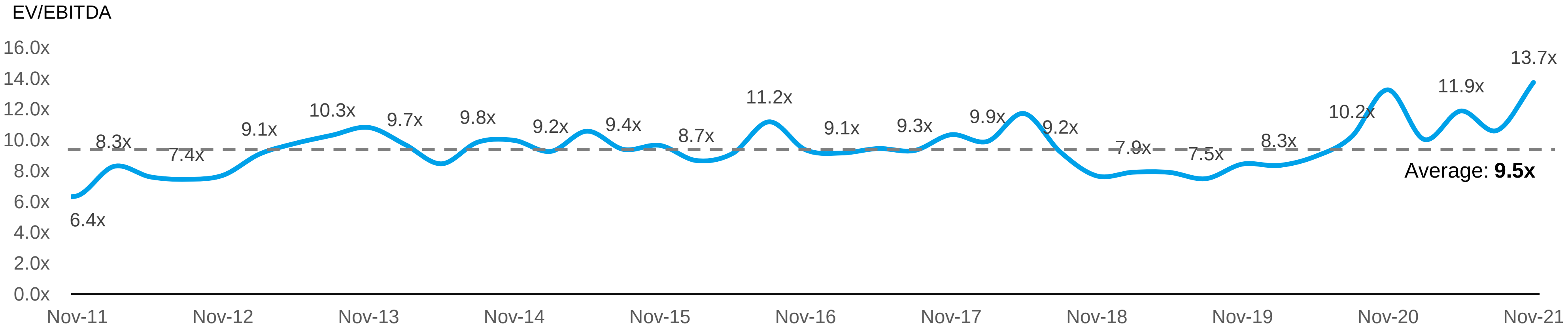
		WACC				
		8.4%	8.6%	8.9%	9.1%	9.4%
G	2.5%	12.1x	11.6x	11.1x	10.6x	10.2x
	2.8%	12.5x	12.0x	11.4x	10.9x	10.5x
	3.0%	13.0x	12.4x	11.8x	11.3x	10.8x
	3.3%	13.5x	12.8x	12.2x	11.6x	11.1x
	3.5%	14.0x	13.3x	12.6x	12.0x	11.4x

Sensitivity Analysis DCF (Exit Multiple Approach)

(In €k)		Exit Multiple				
		8.0x	8.8x	9.5x	10.3x	11.0x
WACC	8.4%	329,390	350,522	371,654	392,786	413,918
	8.6%	324,120	344,866	365,612	386,359	407,105
	8.9%	318,953	339,321	359,689	380,057	400,426
	9.1%	313,886	333,884	353,882	373,880	393,878
	9.4%	308,917	328,552	348,187	367,823	387,458

		WACC				
		8.0x	8.8x	9.5x	10.3x	11.0x
WACC	8.4%	10.9x	11.6x	12.3x	13.0x	13.7x
	8.6%	10.7x	11.4x	12.1x	12.8x	13.5x
	8.9%	10.6x	11.2x	11.9x	12.6x	13.2x
	9.1%	10.4x	11.0x	11.7x	12.4x	13.0x
	9.4%	10.2x	10.9x	11.5x	12.2x	12.8x

Through the Cycle Multiple Valuation



Peer Group

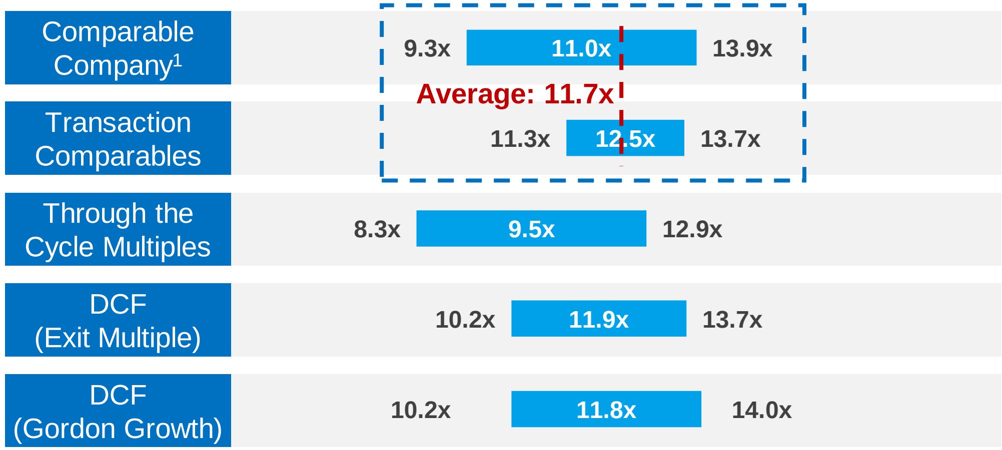
- GEA
- KRONES
- Mpac
- ILPRA PACKAGING SOLUTIONS
- ELECSTER
- Sealed Air
- CKD
- Shibuya

Source(s): CapitalIQ

Schubert is valued based on a multiple analysis at 11.7x EV/EBITDA 2019A, corresponding to an entry Enterprise Value of €355m

SCHUBERT

Valuation Summary (EV/EBITDA)



Entry Valuation **11.7x EBITDA (€30.2m)** yields an **EV of €355m**

- **Comparable Company Analysis** and **Comparable Transaction Analysis** were assessed to reflect the most **accurate result for valuing Schubert**
- **Comparable companies** are based on listed peers within the **packaging machinery market** with **significant industry and geographic overlap**
- **Precedent transactions** were selected from **packaging machinery sector** with announcement date **within the last 5 years**
- Averaging both multiple analyses results in an Entry **EV/EBITDA multiple of 11.7x**, yielding **an EV of €355m** with a **sensitivity bandwidth of €281m - €420m**
- Through the cycle multiples **depict a lower multiple** because of an upswing in comparable company valuations **in recent history,** which is expected to be **persistent in the future**
- To **sense check** the valuation, **two DCF analyses (Exit Multiple and Gordon Growth)** were conducted
- With average **EV/EBITDA of 11.9x (Exit Multiple) and 11.8x (Gordon Growth)** the valuation level of the **relative valuation was confirmed**

Factors Influencing Cost of Acquisition Debt

Factor	Description	Impact
Firm Size	Mid-sized company upon entry with EV of €341m and EBITDA of €30m 2019A	↘
Leverage Level	Currently low leverage changes post acquisition & increases default risk	⬆
Governance	Proven track record and interest alignment with all parties	⬇
Diversification	Geographical and end market diversification lowers risk of default	↘
Cash Flow Conversion/ Volatility	Volatile FCF in the past, as well as volatile sales	↗

Factors Influencing Cost of Acquisition Debt

Debt Instrument	Interest p.a.[2]	Repayment		Debt Provider
Senior Term "A"	4.0%	8 years Amortising	**RCF to bridge** liquidity gaps with interest of 7.0% p.a.	Bank
Senior Term "B"	4.5%	8 years Bullet		Bank (Club Deal)
Senior Term "C"	6.0%	8 years Bullet		Bank / Debt Fund (Club Deal)
Subordinated Debt	10.0%	10 years Bullet		Debt Fund
Vendor Loan	12.0%	10 years Bullet		Vendor

Source(s): Own Analysis; Expert interview; Note(s): 1) Incorporates illiquidity discount; 2) Interest assumed to be paid annually not semi-annually

⬆ Increasing cost of acquisition debt ⬚ Choosen valuation method to value Schubert

Total Sources and Uses add up to 13.8x 2019E EBITDA, financed with a mixture of Senior Debt, Equity Like Instruments, Ordinary Equity and Existing Cash On Balance Sheet, granting the fund 58% ownership

Sources	in €k	% of total	EBITDAx
Senior Bank Term "A"	60,000	14.4%	2.0x
Senior Bank Term "B"	90,000	21.6%	3.0x
Total Debt	**150,000**	**36.1%**	**5.0x**
Shareholder Loan (Family)	46,813	11.3%	1.5x
Shareholder Loan (Fund)	85,874	20.7%	2.8x
Equity Like Instruments	**132,687**	**31.9%**	**4.4x**
Equity Fund	56,000	13.5%	1.9x
Equity Family	30,527	7.3%	1.0x
Sweet Equity	10,000	2.4%	0.3x
Total Equity	**96,527**	**23.2%**	**3.2x**
Cash On Balance Sheet	36,500	**8.8%**	**1.2x**
Total Sources	**415,714**	**100.0%**	**13.8x**

Uses	in €k	% of total
Enterprise Value	354,585	87.8%
Financial Debt	*(12,616)*	*(3.1%)*
Cash & Cash Equivalents	*36,500*	*9.0%*
Other Net Debt	*(25,317)*	*(6.3%)*
Net Debt	(1,434)	(0.4%)
Equity Purchase Price	**353,151**	**87.5%**
Repayment of Existing Debt	12,616	3.0%
Total consideration	**365,768**	**88.0%**
Due Diligence Cost	5,319	1.3%
Bank Fees	1,500	0.4%
M&A Buyside Advisory	886	0.2%
Total Transaction Costs	**7,705**	**1.9%**
Overfunding	1,500	0.4%
M&A Costs	35,000	8.4%
Locked Box Interest	5,742	1.4%
Total Uses	**415,714**	**100.0%**

Analyzed financing options (€k)	Base Case	Bear Case	All Equity
Total Debt	150,000	130,000	0
Total Equity Like Instruments	132,687	152,487	281,187
Total Equity	96,527	96,527	96,527
Cash On Balance Sheet	36,500	36,500	36,500
Total sources	**415,714**	**415,514**	**414,214**
Leverage	5.0x	4.3x	0.0x
IRR	24%	22%	20%
Money Multiple	2.9x	2.7x	2.4x

Uses

- **Total Sources of c. €416m** are to be paid for an Equity Purchase Price of c. **€353m**, Repayment of Existing Debt of **c. €13m**, Transaction Costs of **c. €8m, c. €35m** M&A cost to finance the ETIMEX acquisition, c. **€2m** Overfunding and Locked Box Interest[1]
- Prior to the transaction the family will receive an extraordinary cash dividend of c. €30m

Sources

- Debt funding with **Senior Loan A tranche of €60m from a singular lender** and one Senior Loan Tranche B of **€90m structured as club deal** brings leverage to 5.0x 2019A EBITDA
- To enable a succession opportunity for the founding family, retain key knowledge, as well as cultural fit, they are expected to **reinvest 30% after-tax returns**[2] in ratios into a Shareholder Loan and Equity as the fund. thus participating as co-investors alongside the fund, **with 32% family vs. 58% fund ownership**
- A SHL, with 12% PIK interest p.a., is used to enhance the equity contribution of the family and fund and to enable sweet equity
- To incentivise top level management and second level management a Sweet Equity pool of €10m[3], will be established to ensure all participants have "skin in the game"[4]
- Remaining Cash on Balance Sheet will fund future M&A (ETIMEX acquisition) and an Overfunding to ensure liquidity
- Sweet equity will have an Envy Ratio of **2.5**, family **of 1.0**

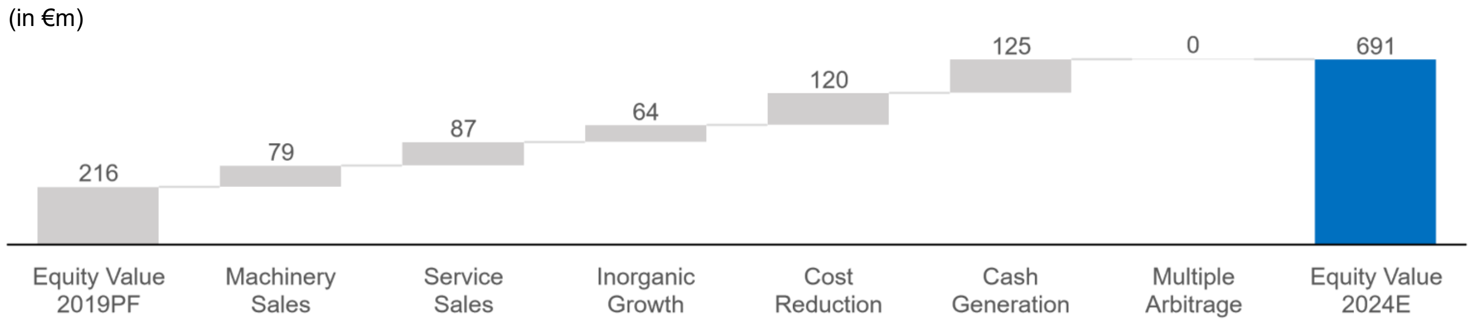
Other

- **Bear Case** with 100% Subordinated debt funding (€130m) assumes sole debt fund financing as only possibility
- All equity financing option shows downside protection; fund finances difference as only party paying different
- No dividends will be paid out in course of the holding period[6]

Source(s): Own Analysis; Note(s): 1) Based on 5% interest p.a.; 2) Tax structuring subject to Due Diligence; 3) Comprises 3 top level management with 4x annual salary of c. €400k each (€4.8m) and €5.2m employee & second level management investment pool as well as interested family parties in management positions; 4) Drag-Along and Tag-Along clauses will be introduced in SPA; 5) Family invests with same conditions as fund; 6) Assumed to condition in acquisition finance documentation

Value Creation measures and deleveraging increase the Equity Value from acquisition in 2019A (€216m) to €691m in 2024E, yielding a 2.9x overall MoM Multiple for the fund

Return Analysis



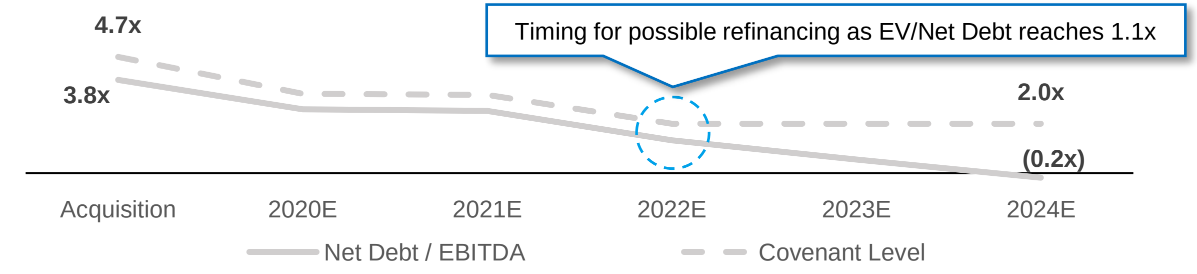
- Machinery Sales and Services Sales are the biggest EBITDA Value Creation levers
- Inorganic growth accounts for Add-On acquisition of ETIMEX amounting to **€102m EBITDA contribution** and Schubert System Elektronik **Carve-Out resulting in a negative EBITDA contribution of €38m; €41m upside of Carve-Out contribution is** accounted for in cash generation
- Cost reduction measures mainly driven by Material Expense reduction contribute **€120m** to returns
- Even though a **Multiple Arbitrage on group level** could be argued through ESG measure implementation it is **neglected** to ensure conservative planning
- Acquiring and selling Schubert for 11.7x EBITDA, disposing Schubert System Elektronik for 12.7x EBITDA and acquiring ETIMEX for 9.3x EBITDA leads to Multiple Arbitrage
- A **debt recapitalization and subsequent dividend payments** are **not taken into account**

Anticipated Exit Returns

	2024E
Sweet Equity Money Multiple	5.0x
Sweet Equity IRR	37.8%
Sweet Equity Total Proceeds	€49,643k
Fund / Family Money Multiple	2.9x
Fund / Family IRR	24.0%
Family Total Proceeds	€226,446k
Fund Total Proceeds	€425,399k

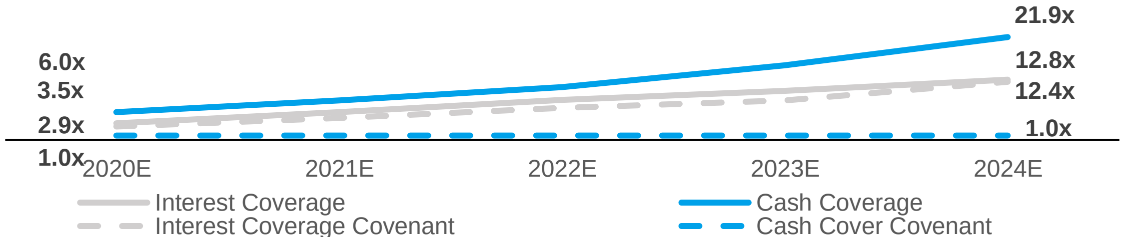
- Family and fund realise the same returns, a MoM Multiple of 2.9x and IRR of 24.0%, investing at same conditions
- Sweet equity shows superior returns to other parties with MoM of 5.0x and IRR of 37.8%
- Although a later exit year would realize a **larger MoM return for all parties** an earlier exit is **desirable due to subsequent decline in IRR** with longer holding period
- Covenants are assumed to have **healthy headroom throughout the holding period**

Leverage Ratio



Timing for possible refinancing as EV/Net Debt reaches 1.1x

Interest Coverage Ratio & Cash Coverage



Source(s): Own Analysis

Investment in Gerhard Schubert will show attractive returns even without executing several Value Creation measures – Money Multiple of 2.1x without Add-On and weak cost reduction measures

Fund Return Scenario Analysis

Base Case

MoM: 2.9x **IRR:** 24%

- Returns based on planned base case and business plan which depicts **current investment case presented**
- All strategies are executed properly

Sales 9.1%
EBITDA 14.7%

Base Case w/o ETIMEX

MoM: 2.5x **IRR:** 20%

- Omission of ETIMEX acquisition as key value driver
- Transaction uncertainty as acquisition is not company inherent decision

Sales 6.6%
EBITDA 9.6%

Base Case w/o ETIMEX & w/o cost reduction

MoM: 2.0x **IRR:** 15%

- Additional omission of cost reduction measures are main EBITDA-Margin development driver
- Case includes omission of ETIMEX acquisition

Sales 6.6%
EBITDA 2.8%

Bank Case

MoM: 1.8x **IRR:** 13%

- Case depicts a strong conservative company development
- Growth metrices far below historical rates

Sales 3.2%
EBITDA 2.5%

Source(s): Own Analysis; Note(s): 1) Shareholder Loan

Exit Year Sensitivity Analysis (MoM Multiple / IRR)

		Entry Multiple				
		2022E	2023E	2024E	2025E	2026E
Exit Multiple	10.2x	1.8x / 21%	2.1x / 21%	2.6x / 21%	3.0x / 20%	3.4x / 19%
	11.0x	1.9x / 24%	2.3x / 23%	2.7x / 22%	3.2x / 22%	3.6x / 20%
	11.7x	2.1x / 27%	2.5x / 25%	2.9x / 24%	3.4x / 23%	3.9x / 21%
	12.5x	2.2x / 30%	2.6x / 27%	3.1x / 25%	3.6x / 24%	4.1x / 22%
	13.2x	2.4x / 33%	2.8x / 29%	3.3x / 27%	3.8x / 25%	4.3x / 23%

Money Multiple Sensitivity Analysis (MoM Multiple / IRR)

		Entry Multiple				
		10.2x	11.0x	11.7x	12.5x	13.2x
Exit Multiple	10.2x	2.7x / 22%	2.6x / 21%	2.6x / 21%	2.5x / 20%	2.5x / 20%
	11.0x	2.8x / 23%	2.8x / 23%	2.7x / 22%	2.7x / 22%	2.7x / 22%
	11.7x	3.0x / 25%	3.0x / 24%	2.9x / 24%	2.9x / 24%	2.8x / 23%
	12.5x	3.2x / 26%	3.2x / 26%	3.1x / 25%	3.1x / 25%	3.0x / 25%
	13.2x	3.4x / 28%	3.4x / 27%	3.3x / 27%	3.2x / 26%	3.2x / 26%

⬚ Presented IC case ○ CAGR

8. Due Diligence and Exit

Due Diligence: Validation of assumptions about market development, competitive positioning and Schubert's financial situation are crucial for a successful transaction

SCHUBERT

	Area	Description	Potential Red Flag	Strategic Impact
Commercial	**Market**	▪ Analysis of key regional markets, especially China, to validate growth projections and expansion strategy ▪ Verification of future market trends for packaging machinery and for Schubert´s end markets	🚩Top loading machinery substitutes like vertical loaders might become more important ▪ Limited growth opportunities in China and high entry barriers ▪ Rising political instability in important markets	●●●●○
	Competitors	▪ Competitor analysis per product line and region to verify competitive positioning and stability of competitive advantage	▪ Close competitors have better pricing strategy and service offering or introduce advanced machinery products	●●●●○
	Customers	▪ Analysis of top customers by sales (ABC analysis) ▪ Deep dive in possible changes of purchasing criteria	🚩Dependency of expansion success might lie on few customers ▪ Price might become a more important purchasing criteria	●●●○○
	M&A Target	▪ In-depth analysis of M&A target ETIMEX	🚩ETIMEX is under price pressure or has poor growth prospects	●●●○○
Financial	**Historic Financials**	▪ Analysis of financial statements, focussing on Working Capital, CAPEX, Current Trading and Cash Conversion Cycle	🚩Misinterpretation of working capital needs, CAPEX assumptions and current trading, which are basis for future planning	●●●●●
	Business Plan	▪ Validation of business plan with focus on top-line sales growth, CAPEX and cost growth assumptions including stress tests	🚩Overestimation of Aftermarket Sales growth or attainable prices 🚩Overestimation of reduction in Material Expenses	●●●●●
Legal	**Contracts**	▪ Analyse existing contracts with suppliers, customers and employees	🚩Short notice periods for employment contracts of key personnel ▪ Contracts with major suppliers or customers expire	●●●○○
	IP	▪ Review of patent durations and enforceability of IP protection	🚩Important patens expire or are not enforceable in some markets	●●○○○
	Insurance	▪ Review of insurance policy coverage	▪ High risks due to insufficient insurance policy coverage	●○○○○
ESG	**ESG**	▪ Carry out detailed materiality analysis to estimate carbon footprint and define optimization potential	▪ High emissions and rising carbon prices lead to excessive costs ▪ Large investments needed to achieve desired multiple arbitrage	●○○○○
HR	**Management**	▪ Examination of the succession options, especially Peter Gabriel	🚩No suitable successor candidate at Schubert	●●●●○
	Personnel	▪ Analysis of existing headcount, especially blue collar workers, examine engineering expertise and identify key personnel	🚩Key personnel about to leave the firm & key man risk of owners ▪ Concentration of technical expertise among a few people	●●●●○
Tax	**Tax statements**	▪ Review of tax statements to identify tax risks and ensure tax-optimized structuring of transaction	▪ Non-compliance with tax law and resulting penalties ▪ High future tax obligations	●●○○○

Source(s): Own Analysis

Exit options: Due to the strong M&A activity of peers and PE firms in the packaging machinery market, Schubert is well suited for a Sale to a Strategic Buyer as well as a Secondary Sale

SCHUBERT

	Sale to strategic buyer	Secondary Sale	Sale in Parts	Initial Public Offering
Rationale for buyer	▪ Potential strategic investors are **larger competitors** in the packaging machinery sector ▪ Attractive opportunity from competitor perspective due to **exploitations of synergies**	▪ Further **upside potential** through **market growth / expansion** and additional **value creation strategies** such as Retrofit[1] ▪ **High leveraging** or Buy- and-Build **potential**	▪ **Sale of company parts** (Packaging machinery and ETIMEX) to **strategic buyers** or **PE Fund** ▪ **Carve-Out** of **ETIMEX** would be part of the sale process	▪ Possible **listing** on German stock exchange (SDAX)[2] ▪ **Often preferred by management**
Pros +	▪ **Large players** in the industry with high **financial resources** and **M&A activity** ▪ Synergies might lead buyer to pay **premium on price** ▪ **Complete exit** possible	▪ Previous transactions **show high interest** in the sector ▪ **Fast sales process** with immediate **full exit** ▪ Aggressive financing structure can lead to higher price	▪ **Due to** the **size** of the company and its **specialisation**, companies might be more interested in **buying ETIMEX separately** from Schubert	▪ A listing gives the **management** more freedom, leading to **greater motivation** ▪ Going public **attracts** a lot of **attention** and **increases credibility**
Cons −	▪ **Complex** and **long process** (high due diligence effort)	▪ **Strong negotiator** with a clear focus on price reduction	▪ Possibly **difficulties** to find **two** different **buyers** at one and the **same time** ▪ **Potential lower** individual valuation than group valuation ▪ **Carve-Out** could consume many **resources**	▪ **Uncertainty** about future returns ▪ High **dependency** on **market conditions** ▪ **High transaction costs** ▪ Money might be tied up ▪ Full exit might not be possible
Potential Buyers	*Best fit* GEA IMA KHS Filling and Packaging – Worldwide KRONES SYNTEGON	Advent International Global Private Equity ARDIAN BainCapital Blackstone Cinven CVC Capital Partners EQT KKR PERMIRA Triton The Carlyle Group	amcor Constantia Flexibles Huhtamaki JLS OPTIMA SYNTEGON	SDAX

Preferred Exit

Source(s): Finanzen.net; Note(s): 1) De-prioritized in current investment period; 2) Market capitalization from €403.99m to €7,899.63m as of 17.11.2021.

Preferred buyer universe: Five peers are expected to show particularly strong interest in Schubert out of which the German GEA AG is analysed to be the best fit

SCHUBERT

Company	Country	Financials	Business Description	Rationale
Best fit GEA	🇩🇪	▪ Revenue 2020: €4,635m ▪ EBITDA 2020: €336m ▪ Net Debt 2020: (€284m) ▪ Firepower: €1,628m	▪ Global **automatic packaging machinery** manufacturer for **food, beverages, pharma and chemicals** ▪ The company offers various **packaging machines** including filling, thermoforming, vertical form, fill & seal, palletizing and depalletizing machines	▪ **Strong overlap** in **end markets** ▪ **Expansion** of **product portfolio** by Pick & Place packaging machinery would complement offerings ▪ Follows **active M&A strategy** with 16 acquisitions in the last 10 years
IMA	🇮🇹	▪ Revenue 2019: €1,596m ▪ EBITDA 2019: €273m ▪ Net Debt 2019: €637m ▪ Firepower: €457m	▪ Global manufacturer of **packaging** and **processing machinery** for **pharma**, **cosmetics**, **food** ▪ The company has 45 manufacturing facilities worldwide and is backed by BC Partners and SOFIMA	▪ **Strong M&A appetite** with 12 acquisitions in the past 4 years and **strong overlap** in **end markets** ▪ **Strengthen product portfolio** through **modularity** and expertise in Pick & Place machines
KHS Filling and Packaging – Worldwide	🇩🇪	▪ Revenue 2019: €1,130m ▪ EBITDA 2019 : €354m[1] ▪ Net Debt 2019: €140m[1] ▪ Firepower: €1,416m[1]	▪ Global manufacturer of **packaging machinery** for **beverages, liquid food and chemicals** ▪ The company has 11 manufacturing facilities worldwide and is a wholly owned subsidiary of Salzgitter AG	▪ **Existing partnership** with Schubert in the **development** of **filling / packaging systems** for beverage bottles ▪ **Expand** product portfolio and **industry coverage**
KRONES	🇩🇪	▪ Revenue 2020: €3,359m ▪ EBITDA 2020: €157m ▪ Net Debt 2020: (€241m) ▪ Firepower: €870m	▪ Global manufacturer of **machinery** for **production**, **filling** and **packaging** of **beverages** and **liquid food** ▪ The company has 20 manufacturing facilities worldwide	▪ **Expand** product offering by Pick & Place machinery and **coverage** of **packaging value chain** by tertiary packaging ▪ **Expand industry coverage** and improve margins
SYNTEGON CVC CAPITAL PARTNERS	🇩🇪	▪ Revenue 2019: €1,300m ▪ EBITDA : N/A ▪ Net Debt: N/A ▪ Firepower: N/A	▪ Global manufacturer of **packaging** and **processing machinery** for the **food** and **pharma** industries ▪ The company is PE-backed by CVC Capital Partners	▪ **Strong overlap** in **end markets** and product portfolio enables increasing market penetration ▪ **Expand capabilities** by **modularity** and **coverage of packaging value chain**

Source(s): Company Information, CapitalIQ; Note(s): Firepower based on 4x EBITDA Leverage, 1) Finacial data of parent company Salzgitter AG

9. Role of ESG within Private Equity

Status Quo of ESG in Private Eqity and arising challenges for Private Equity funds in casae of non-compliance with ESG measures

Status Quo of ESG in Private Equity

Environmental, **S**ocial and **G**overnance (ESG) refers to the three main factors in measuring sustainability and ethical impact of an investment in a business or company, according to *BLG* (Archer et al. 2021). Environmental factors include a companies energy usage, waste, pollution, natural resource conservation, and treatment of animals. Also it can be measured how a company is facing environmental risk and how it is handling them. The social factor looks at the companies business relationships, how it works with suppliers and customers as well as community engagement and dealing with employees. Lastly, governance handles the companies internal business measures such as adherence of good and fair accounting principles, orderly voting mechanisms for shareholders and supervisory panels to monitor managers. (MSCI 2021)

ESG is continuing to gain importance within the global Private Equity industry as major funds like TPG follow ESG within their investing and adhere to the global standards issued by the United Nations following ESG conform investing, so called United Nations' **P**rinciples for **R**esponsible **I**nvestment (PRI). An increasing number of funds pledge to follow those guidelines, depict in a 28% jump in signatures in 2020, including now more than 3,000 institutional investors and PE firms, with a combined assets under management of $103 trillion. (Seemann et al. 2021)

Nevertheless, the number of PE firms following those guidelines closely are far lower than the 431 PE funds included in the PRI signature list. Half of these firms monitor ESG performance in over 90% of their portfolio companies and only 16 disclose an ESG impact on financial returns, according to *Institutional Investor.* Also there is a geographical gap visible, such as that only half of US top 20 funds declared adherence to an ESG alliance whereas in Europe 80% of the top 20 funds are following those principles. (Seemann et al. 2021)

Challenges

ESG can influence Private Equity transactions both in the fundraising, sourcing and portfolio management point of view, such that PE firms will face some significant challenges in the future: (PriceWaterhouseCoopers 2021)

- Potential and current limited partners seek for ESG conformity in their investments to meet their own investment rationales, which include ESG in many ways
- Lower pool of sourcing possibilities as ESG factors influence decision makers (37% of PEs turned down investment because of ESG concerns according to a PWC survey)
- Lower pool of funding for portfolio companies that are not meeting ESG requirements set by financiers
- Competitive disadvantages, for portfolio companies in ongoing investment cycles and exit efforts, against firms which have more mature ESG capabilities
- Satisfy all stakeholders in the future: Customers, employees, limited partners, bankers and regulators

Challenges can have substantial impact on PE portfolio companies as for companies with significant ESG challenges a suitable exit might not be possible, leading to different returns for limited partners, impacting a funds reputation also for future fundraising. On the other hand, a good coping strategy enables funds to not only differentiate themselves from competitors but also being able to realise quantifiable return up with an ESG multiple surcharge on their exit valuation, leading to an multiple arbitrage, supercharging fund returns. These surcharges need to be assessed with caution, as with increasing ESG importance that this ESG may become a must have instead of a surcharge. (Papadopulus 2021)

Source(s): Bain & Company, BCG, PWC, BLG, Bloomberg, United Nations, Edelman Trust Barometer

Steps to enhance ESG conformity, conclusion and future outlook of ESG on the Private Equity industry

Steps to ensure enhanced ESG conformity

Looking towards different steps to ensure ESG conformity it has to be distinguished which state of an investment is analysed. Looking at a future investment, an ESG due diligence is the obvious choice, not only to being able to show limited partners the efforts which are undertaken in this field but also to set up an implementation plan for future investment choices. Nevertheless, ESG conformity starts at the PE firm itself. An increasing amount of PE firms hire specific ESG analysts to be able to react fast and with strong supervision react to the changing environment and implement ESG measures in portfolio companies with a different drive than external consulting companies. Nevertheless, PWC recommended to assess every portfolio company according to their ESG fit, starting with the closest one to exit, followed by the one with most urgent implementation needs from industries with hot-button ESG concerns. Lastly, new acquired companies need to be analysed as they have the longest timeline to exit. (PriceWaterhouseCoopers 2021)

Every ESG analysis starts with a materiality analysis to determine the status quo of the individual company. (Buck et al. 2021) A materiality analysis is a tool which identifies and prioritises ESG concerns and issues which are the most crucial to the specific company. This analysis analyses specifically ESG concerns and subsequent potential impact on the organisation and all involved stakeholders. After finalising this analysis, specific goals for the company must be set, which unify the general and limited partners goals, as well as industry standards and other stakeholders ambitions (employees, regulators, etc.). Next step would be the focused execution of the strategies to avoid, in a best case, the loss of significant management resources or financial impact on the company altogether. After implementation it is crucial for funds to measure ESG results, continuous improve their score and analyse ways of capitalizing on those achievements.

Conclusion and Future Outlook

ESG became more important over the years, especially in developed countries, thus Private Equity funds face the challenge of, not only, communicating future ESG conformance, but implementing the measures relentlessly and in a timely manner. Funds which are not compliant face significant challenges which can influence their ability to easily raise funds in the future or undergo attractive exit transactions. Nevertheless, mitigating these challenges is possible with planned and structured processes, even with building up new fund internal resources, such as dedicated ESG teams. A the moment having a superior ESG strategy can distinguish PE funds from their competitors, portfolio companies from other market player and can translate in quantifiable returns for all parties with increasing exit valuations through ESG attractiveness. This might tend towards a new normal, such that having a sufficient ESG strategy is not enough to receive a surcharge. ESG focus would become the new normal and not having sufficient measures implemented within the portfolio would lead to a discount within exit valuations or increasing difficulties to raise new funds.

In the future, regulatory shifts which already happened, as described by Bain & Company in their 2021 Private Equity Report, with the EU will “force asset managers in the EU to disclose their share of taxonomy-aligned assets under management, inevitably creating an incentive to raise that share to remain competitive”[1], will increase and influence the financial landscape even more. (CMS Law 2021)

Thus, implementation of ESG measures in funds becomes more important in the near future to gain an advantage and in the future not having a disadvantage. The role of the earlier just smiled upon ESG measures and implementation will change drastically, to an extend where Private Equity funds ignoring the development will soon have issues competing on a global scale and meeting their set targets.

Source(s): Bain & Company, BCG, PWC, BLG, Bloomberg, United Nations, Edelman Trust Barometer, Expert Interviews, CMS; Note(s): 1) Bain & Company, Private Equity Report 20201, p.36

References & Appendix

References Group Part

- Chinchane, Amar. 2021. “Packaging Machinery Market 2021”. Allied Market Research. Retrieved from: https://www.alliedmarketresearch.com/packaging-machinery-market
- Gerhard Schubert Gesellschaft mit beschränkter Haftung. 2018. “Konzernabschluss zum Geschäftsjahr vom 01.01.2016 bis zum 31.12.2016“. Bundesanzeiger. Retrieved from: https://www.bundesanzeiger.de/
- Gerhard Schubert Gesellschaft mit beschränkter Haftung. 2019. “Konzernabschluss zum Geschäftsjahr vom 01.01.2017 bis zum 31.12.2017“. Bundesanzeiger. Retrieved from: https://www.bundesanzeiger.de/
- Gerhard Schubert Gesellschaft mit beschränkter Haftung. 2020. “Konzernabschluss zum Geschäftsjahr vom 01.01.2018 bis zum 31.12.2018“. Bundesanzeiger. Retrieved from: https://www.bundesanzeiger.de/
- Gerhard Schubert Gesellschaft mit beschränkter Haftung. 2021. “Konzernabschluss zum Geschäftsjahr vom 01.01.2019 bis zum 31.12.2019“. Bundesanzeiger. Retrieved from: https://www.bundesanzeiger.de/
- Gerhard Schubert Group. 2021. “Gerhard Schubert Group”. Gerhard Schubert GmbH. Retrieved from: https://www.schubert.group/en/
- Lebensmittelverarbeitung Online. 2020. “Ein Marktführer in Zahlen: Daten und Fakten über Gerhard Schubert“. Lebensmittelverarbeitung Online. Retrieved from: https://www.lebensmittelverarbeitung-online.de/branchennews/ein-marktfuehrer-in-zahlen-daten-und-fakten-ueber-gerhard-schubert
- PMMI. 2018. “A Look at Packaging Around the World”. PMMI. Retrieved from: https://pmmi.docsend.com/view/w3k3ntt
- PMMI. 2019. “2019 State of the Industry US Packaging Machinery Report”. PMMI. Retrieved from: https://www.pmmi.org/report/state-industry-2019
- PMMI. 2021. “2021 State of the Industry US Packaging Machinery Report”. PMMI. Retrieved from: https://www.pmmi.org/report/state-industry-2021
- PMMI. 2021. “World Packaging Machinery Report 2021”. PMMI. Retrieved from: https://www.pmmi.org/report/world-packaging-machinery-market-2021
- Statista. 2017. “Distribution of the global market for packaging machinery in 2016, by segment”. Statista. Retrieved from: https://www.statista.com/statistics/726441/global-packaging-machinery-market-segmentation/

SCHUBERT

References Individual Part

- Archer, Garcha. 2021. “Private equity: The rise of ESG considerations”. BLG. Retrieved from: https://www.blg.com/en/insights/2021/09/private-equity-the-rise-of-esg-considerations
- Buck, Brennann, Shandal et. Al.. 2021. “How Private Equity Can Converge on ESG Data”. Boston Consulting Group. Retrieved from: https://www.bcg.com/publications/2021/private-equity-convergence-on-esg-data
- CMS Law. 2021. “ESG regulation 2021 and beyond”. CMS Law. Retrieved from: https://cms.law/en/int/publication/esg-regulation-2021-and-beyond-how-investment-banks-can-advise-their-clients?utm_source=google&utm_medium=cpc&utm_campaign=esg
- Marsh. 2021. “What Private Equity Firms Need to Know About ESG”. Webcast. Retrieved from: https://www.marsh.com/us/services/private-equity-mergers-acquisitions/insights/private-equity-esg-webcast.html
- MSCI. 2021. “ESG 101: What is Environmental, Social and Governance?”. MSCI. Retrieved from: https://www.msci.com/esg-101-what-is-esg
- Papadopulus. 2021. “Why private equity has started taking ESG seriously”. Capital monitor. Retrieved from: https://capitalmonitor.ai/asset-class/equity/why-private-equity-is-finally-taking-esg-seriously/
- PriceWaterhouseCoopers. 2021. “How private equity funds can achieve their ESG goals”. PWC Publications. Retrieved from: https://www.pwc.com/us/en/industries/private-equity/library/achieving-esg-goals.html
- Seemann, Hardcastle, Diers et. Al.. 2021. “The Expanding Case for ESG in Private Equity”. Bain & Company. Retrieved from: https://www.bain.com/insights/esg-investing-global-private-equity-report-2021/
- Willmer. 2021. “Buyout Giants Rebrand as Forces for Good While Seeking Profits”. Bloomberg. Retrieved from: https://www.bloomberg.com/news/articles/2021-11-04/private-equity-funds-embrace-esg-for-good-while-seeking-profits

In order to better understand and validate important contexts, assumptions were challenged in expert interviews through which important insights into the company and the market could be gained (1/3)

SCHUBERT

Matthias Welge

Principal Consultant at INVENSITY

Matthias Welge is Principal Consultant at INVENSITY for more than 14 years. INVENSITY is an international technology and innovation consulting company. Prior to that Mr. Welge was working for Eurospace and in a Controlling / M&A position at ThyssenKrupp. He is an absolute expert in the field of machinery and knows the market and its drivers very well.

Johannes Paschmanns

Project Manager Finance IT at Aroundhome

Johannes Paschmanns is currently Project Manager Finance IT at Aroundhome for 2 years. Prior to that he was Senior Investment Analyst at Franz Haniel & Cie., specifically responsible for the development of packaging machinery manufacturer ROVEMA, as well as focussed on Franz Haniel´s efforts expanding within the packaging machinery sector, thus providing significant market and company specific insights.

Dr. Ludwig Erl

Manager at Bain&Company

Dr. Ludwig Erl is Manger at the strategy consulting company Bain&Company for which he works since 2016. His focus areas are Advanced Manufacturing & Services and Private Equity. Dr. Erl has relevant experience in the field of packaging machinery from several consulting projects at Bain&Company, mainly in the areas of procurement and machine manufacturing.

Violetta Sulzbach

ESG Analyst at Quadriga Capital

Violetta Sulzbach advises companies on the implementation of sustainability programmes with a focus on impact as well as environmental, social and governance (ESG) factors. Additionally, she is researching her PhD in Sustainable Finance at the Impact Institute of the European Business School in Oestrich-Winkel. She has relevant experience and insights in the field of ESG and Impact analysis and their strategic impact on private equity investments.

Source(s): LinkedIn

In order to better understand and validate important contexts, assumptions were challenged in expert interviews through which important insights into the company and the market could be gained (2/3)

Roland Kuhn

Head of Sales at Rovema

Roland Kuhn is head of Sales at Rovema, a mid-sized packaging machinery developer from Germany. Mr. Kuhn has more than 35 years of industry experience and knows a multitude of companies. He is an absolute expert in the field of machinery and knows the market and its drivers very well.

Leonie Hölbe

Head of Corporate Development at Rovema

Leonie Hölbe is Head of Corporate Development at Rovema, a mid-sized packaging machinery developer from Germany. Prior to that she was Senior Manager for Corporate Development/ M&A at Franz Haniel & Cie. Mrs. Hölbe is experienced within the packaging machinery sector, an investor perspective, also focussing on financial aspects of a packaging machinery producer.

Erkul Basaran

CFO FT Division at GEA Group

Erkul Basaran is Chief Financial Officer ot the Farm Technologies Division ot the GEA AG. GEA is one of the world’s largest systems suppliers for the food, beverage and pharmaceutical sectors also offering packaging technology. Prior to that he was Head of Group Finance and Head of M&A of the GEA AG as well as Manager for Transaction Services at KPMG.

Fritz Kipfer

Former CEO of Gerhard Schubert North America

Fritz Kipfer was at numerous positions within Schubert since 2001 and was heading its North America division until June 2018. He was responsible for the market entry in North America, the sales restructuring and the massive growth. He has a deep understanding of Schubert and its group constituents, as well as its geographical expansion procedures, sales structure and USPs.

Source(s): LinkedIn

In order to better understand and validate important contexts, assumptions were challenged in expert interviews through which important insights into the company and the market could be gained (3/3)

Thomas Krämer

Business Development Manager at R. Weiss

Thomas Krämer is a Business Development Manager at R. Weiss Verpackungstechnik. After completion of his studies in Management he started a career at R. Weiss in 2018. R. Weiss is a competitor to Gerhard Schubert as it also is a packaging machinery producer with a focus on Pick & Place applications with the headquarter in the same town as Gerhard Schubert.

Maximilian Vogel

Investment Director at Arcus Capital AG

Maximilian Vogel is Investment Director at the Arcus Capital AG, a German-based Family Equity investor. Prior to that, he gained relevant Private Equity experience in the PE practice of L.E.K. Consulting for more than three years. Since 2018 he is part of the investment team at Arcus Capital and has major experience in Deal Structuring and Sourcing.

Vera Fritsche

Advisor Packaging Machinery at VDMA

Vera Fritsche is an advisor for packaging machinery at the VDMA Food Processing and Packaging Machinery Association, which is one of 39 industry-specific associations within the Mechanical Engineering Industry Association (VDMA). With more than 3,300 members, VDMA is the largest network organization for mechanical engineering in Germany and Europe.

Philipp Heisig

Investment Director at Astorius Capital

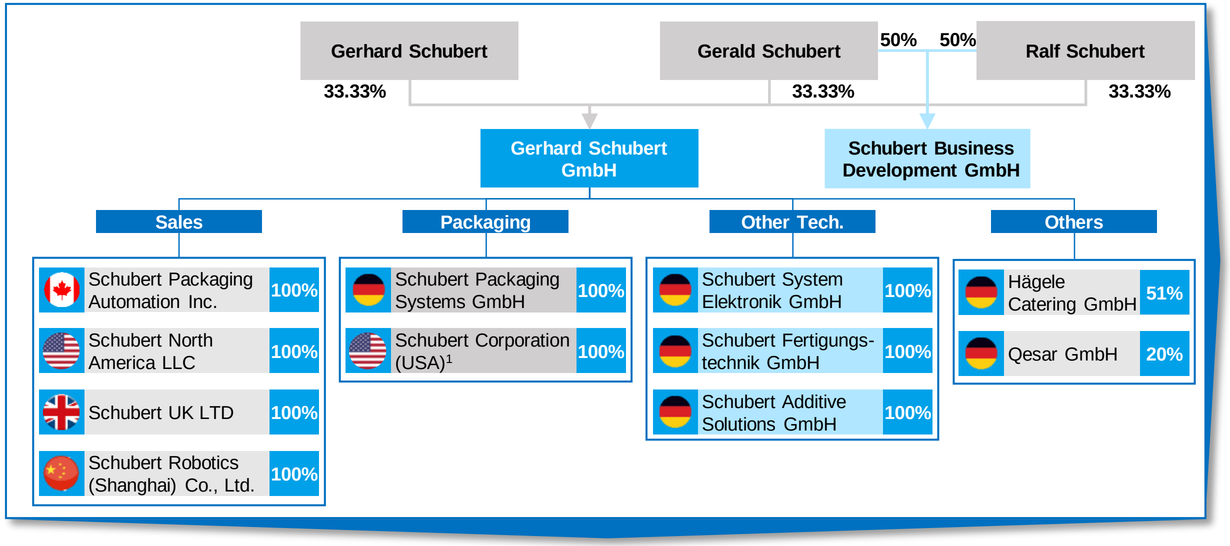
Philipp Heisig is Investment Director at Astorius Capital, a leading German small and mid cap fund of funds. Currently, he is also PhD Candidate at the chair of Management and Private Equity at the HHL with the topic of value creation of German small and mid cap Private Equity funds.

Source(s): LinkedIn

Appendix | Group Structure

The Schubert Group comprises 13 companies - 4 of them are wholly owned German operating subsidiaries, specialised in different key aspects to offer sophisticated packaging solutions

SCHUBERT



Gerhard Schubert 33.33%

Gerald Schubert 33.33% 50%

Ralf Schubert 33.33% 50%

Gerhard Schubert GmbH

Schubert Business Development GmbH

Sales		Packaging		Other Tech.		Others	
Schubert Packaging Automation Inc.	100%	Schubert Packaging Systems GmbH	100%	Schubert System Elektronik GmbH	100%	Hägele Catering GmbH	51%
Schubert North America LLC	100%	Schubert Corporation (USA)[1]	100%	Schubert Fertigungs-technik GmbH	100%	Qesar GmbH	20%
Schubert UK LTD	100%			Schubert Additive Solutions GmbH	100%		
Schubert Robotics (Shanghai) Co., Ltd.	100%						

€33.1M

51

Schubert Packaging Systems

- Competence center for **turnkey solutions**
- Packaging **Consulting** Services
- One business unit that is solely producing **Pharma & Cosmetics customised** packaging systems with focus on process integration and product safety

€30.6M

165

Schubert System Elektronik

- Supplies **Hardware and Software** for **monitoring** and controlling packaging machines
- **Data interface** between Schubert and client through IIot gateway
- Tool monitoring via sensors & predictive maintenance with 33% of Sales invested in R&D

€60.3k

Schubert Business Development

- Consulting entity **capturing market trends** and **consultancy services**
- Also offering **strategic partnerships, founding, investments, development services**
- Focus on **start-ups** and on **investments** in **existing companies**

€11.5M

80

Schubert Fertigungs-technik

- Manufacturing of **precision components within turning, drilling, grinding, milling, testing** areas
- Supplying mainly the **packaging machinery** industry (82% of Sales are intercompany)
- Other customers are **plant engineering, aircraft construction and optical industry**

27 part-ners

Qesar - Minority (20%)

- **Network** of **world-leading special machinery** and plant manufacturers and their main suppliers
- Pool of **27 partners with 29 subsidiaries** for the exchange of **knowledge** and **experience** from the packaging machinery industry and **131 suppliers** for the member companies from 86 countries

120k parts p.a.

Schubert Additive Solutions

- **3D printing solutions, including spare parts & tools** for packaging machinery
- **Offering PARTBOX** as a streaming platform acting as virtual **warehouse** for digitally stored spare parts, tools and equipment

Source(s): Company Information; Note(s): 1) Service entity covering North America and Holding company for country activities; 2) Includes group internal and external sales

Sales 2019A[2]   Employees

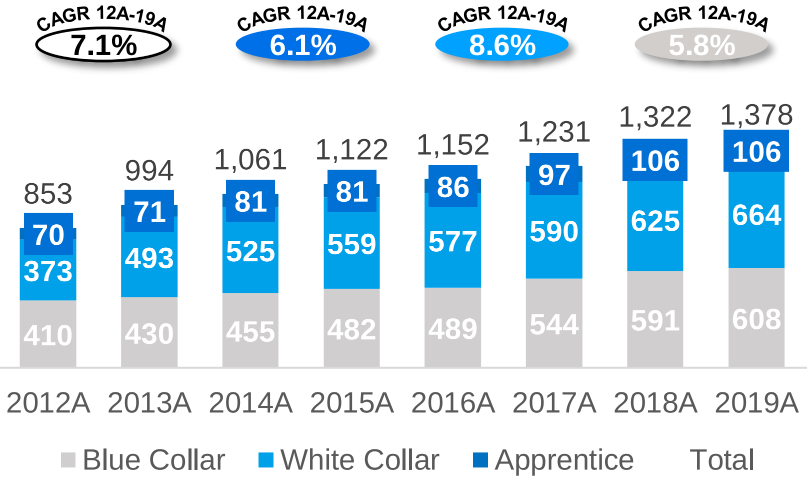
Schubert is a family-run company in the second generation with employee growth for 55 years; Senior management has profound industry experience and longstanding tenure

SCHUBERT

Management Team

CEO ★	CTO ★	CSO ★	CFO ★
			
Gerhard Schubert (83)	**Ralf Schubert** (60)	**Marcel Kiessling** (59)	**Peter Gabriel** (61)
Founder, Managing Director (MD) and **Shareholder**	**Son** of founder, MD, and **Shareholder;** joined Schubert in 1985; diploma computer scientist	**Joined in 2016**, prev: Radius 1 (Partner), Gerson Lehrman (Adv. Cncl), Heidelberg (MD)	Managing Director, **joined in 2000**, diploma economist
>60 ◐	36 ◕	32 ●	30 ◕

Employee Structure and Development



4.9 ★★★★★

65 open jobs in 7 locations underline the growth ambition of Schubert

Second Level Management Information

★ Jörg Brenner	Commercial Director (since 2000); previously with P&G	23	◕
Karl-Heinz Gaukler	Head of Assemblies	>20	◔
★ Martin Sautner	Manager Sales (since 2018); previously with OPTIMA	27	◐
Marcus Schindler	Manager Supply Chain (since 2014); previously Grässlin Präzisionstechnik	14	◔
Reiner Weidmann	Procurement & Facility Management (since 2014)	>20	◐
★ Jens Stoll	Manager Technical Organization (since 2014)	>15	◐
★ Uwe Galm	Manager Customer Service (since 2020); previously with Heidelberger Druck	>20	◕

Comment

- **Schubert** is a **family-run business** with the founder and his son as MDs
- Second level management team with averagely 20 years industry experience, thus showing **high level** of **proficiency and proven track record**
- **C. 1,380 employees** (CAGR of 7.1% since 2012A) are generating **c. €270m** of Sales (2019A) leading to Sales of €214k per employee[1]
- Strong increase in **blue collar working recruitment** beginning in 2016 to counteract full utilization of workforce
- **Overall medium happiness** with working conditions according to kununu assessment and Google reviews; training opportunities within Schubert Academy upskill workforce enhance **employer attractiveness** and decrease churn rates
- Recent hiring **focus on engineers** to foster growth within **robot technology**

Source(s): LinkedIn, Xing, Company Website, Orbis; Note(s): 1) Excluding apprentices

○ Years Industry Experience ● High Managing Capabilities ★ Identified Key Personnel (TBC in Due Diligence)

Modularity & Flexibility of Schubert´s machinery due to intelligent design leads to efficiency advantages in production and provides high degree of individualization for customers

Machine Modularity

- Offering of **modular system design** for the top loading machines
- This allows a **tailoring to customer needs** without changing the whole production in different sizes, accustomed to production space specifics
- **8 standardised system components** to be **combined into sub-machines**, which can be **combined with other sub-machines to a packaging line**

System components

- Robots, Vision System, Transmodul, Flowmodul, VMS machine control system

Sub-machines

- Self-contained, fully functional machines incorporating one function of a complex packaging plant

Packaging line

- Sub-machines connected electrically, pneumatically and mechanically
- Average machine consists of 5.5 submachines

Use cases

1. Allows customers **to combine machinery from different suppliers**; e.g., a cheaper flow module from competitor could be combined with Schubert Pick & Place solution if the customer cannot afford a whole (premium) Schubert line
2. Using **standardised components lowers Schubert´s production costs** and ensures Schubert´s competitiveness through economics of scale

Machine Flexibility

- Schubert machines allow for **interchangeable tools** for different applications
- **Quick changeover times** between tools to avoid downtime
- Often only tools need to be changed to pack a complete new product
- **Enhances customer convenience** as they can react to market changes easily
- Tools allow the robots to **fulfil different functions**

Tools

- Robots are equipped with specially constructed, or 3D printed, format specific tools

Functions

- Assemble, fill, seal, label, palletise, thermoform, box pack, wrap and perform other special functions

Use cases

1. Products are often **seasonal**; e.g., the same machine can pack different chocolate figures depending on the occasion (Christmas vs. Easter)
2. Bakery products might need **different product sizes depending on the market**; A Schubert machine can pack multiple sizes of the same product through changing the tool

Advantages: Flexibility & Modularity justify Schubert´s premium positioning and offer significant advantages for customers as well as differentiation towards competition

Source(s): Company Information; Own Analysis

Industry 4.0 and Digitization are more than buzzwords: with state-of-the-art tools, Schubert drives the development of the packaging industry worldwide and sets trend-setting standards

Internal

ERP System

- **Enterprise-Resource-Planning system "Saturn"** used throughout the company is a proprietary development
- Schubert specialists adapted it optimally to **internal** requirements and interfaces and continuously develop it further
- The system enables all data to be retrieved in **real time** from every workstation

GRIPS

- Internal **management system** which has been introduced in 2016
- **Defines processes** of all departments and continuously enhances and **optimises** them
- The abbreviation stands for "Together towards innovation, processes and standard" (in German language)

Schubert retrieves competitive advantages of the consequent digitization along the complete value chain through e.g., a high level of integration and short lead times

External

3D Print and Partbox Platform

- **3D printing** is revolutionizing not only machines but also warehousing reducing costs while increasing customer benefits
- With the new **part streaming platform** from Schubert Additive Solutions, digitally stored parts are available everywhere, eliminating long waiting and delivery times
- Wide variety of **3D format parts** for robot tools can be printed via same platform
- **GS.Gate** provides secure data connection between customer´s own printer and the platform

GRIPS.world

- Improved **communication** with customers through internal processes using a single user interface enabling virtual factory visits and remote service offerings
- In the future, measures for **preventive maintenance** can be derived from the status and performance data transmitted by the machine
- A **special service benefit**: separate spare part lists, will be superfluous in the future since the current machine status as well as its spare part requirements will be available directly via a browser

Pick & Place Vision System

- Customers primarily benefit from automated and highly efficient **quality control through 2D and 3D vision systems**: only products that meet the customer's programmed specifications are recognised and then packaged
- Leads to **fewer rejects, fewer complaints, lower costs** and a guarantee of consistently high **product quality**
- As image processing has limits, Schubert will rely on **neuronal networks** and **artificial intelligence** for its vision system in the future

Through digital innovations, customers can be served faster and more reliably; In the future, customers will be able to visualise any changes to the product to be packaged or adjustments to the formats via "Digital Twin"[1] of their packaging machine or already incorporate them directly into the production process of their machine as well as remote assembly through remote engineering

Source(s): Company Information; Note(s): 1) Representation of a tangible or intangible object from the real world in the digital world

Schubert increases customer loyalty and differentiation through comprehensive Service and Aftermarket offerings – Accounting for 16% of Sales – below industry average

Schubert Expert Center

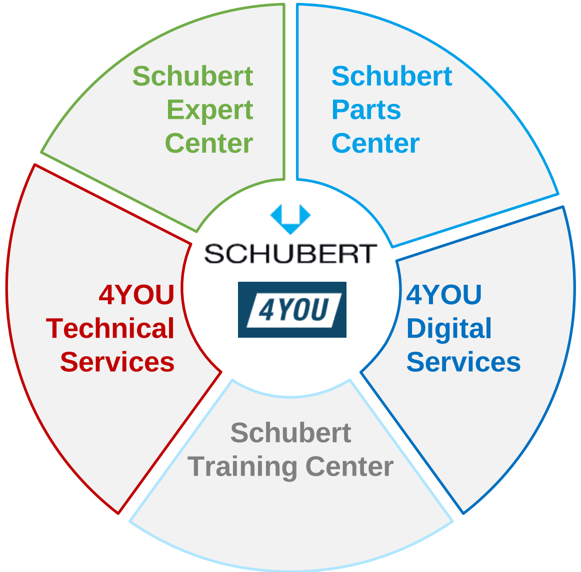
- Telephone Support Hotline

Schubert Parts Center

- Spare parts (also 3D printed)
- Consumables

4 YOU Technical Services

- Component refurbishment
- Inspection & maintenance
- Modifications & retrofits
- System troubleshooting



4YOU Digital Services

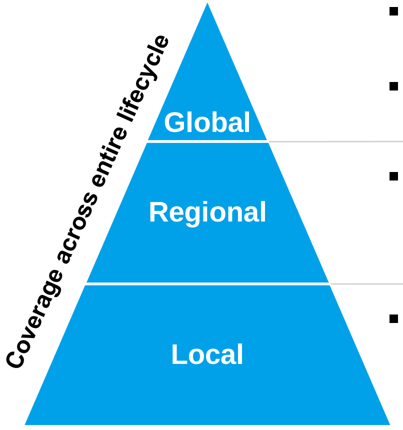
- CARE (**C**onnection for **A**nalytics, **R**eporting and **E**fficiency) product family has multiple service offerings
- Software maintenance
- Dashboard for machine data
- Data analysis
- Remote maintenance solves many inquires

Schubert Training Center

- At our training centers in Crailsheim (Germany) and Charlotte (USA), we offer our customers an opportunity to familiarise themselves with the Schubert TLM technology

- Comprehensive **service offering reduces downtime of machinery, increases ease of use** and **flexibility**
- Schubert **benefits from recurring revenues and increased customer retention**

Multi-Level Service Approach



- Spare part technicians, service engineers and service coordinators with **support hotline**
- **Design** and **development support** and **short reaction time** for spare time manufacturing

- Own **service technicians** and technical support (field service) available in native language through subsidiaries

- Service technicians **locally available** through **service partners** and local operating subsidiaries

% of 2019A Sales	16% Aftermarket Sales

Comment

- Schubert showed an **increased attention to Aftermarket Sales / Service in the last years**, increasing their offerings significantly
- Much **upside in potential for Aftermarket Sales / Service increase** in the future as Schubert is generating below **industry average levels of Sales**
- **4YOU Services**, offers support throughout the entire machine life cycle – during conversions, machine relocations and end-of-life management
- Comprehensive aftermarket offerings comprising **spare parts, aftermarket and assembly offerings**
- Integrated, fast inhouse **3D-parts manufacturing** through Schubert Additive solutions, enabling affordable and **fast replacement** of parts
- Technical capabilities enable **predictive maintenance** and **comprehensive machine layout** through future **Digital Twin "TITAN"** reducing down-times

Source(s): Annual Report; Company Information; Expert Interviews

Gerhard Schubert is a premium supplier of packaging machinery driven by a comprehensive sales structure

SCHUBERT

Key Purchasing Criteria

Importance	Selection Criteria	SCHUBERT
1	Machine reliability	↑
2	Throughput	↗
3	Application know-how/ Track record	↑
4	Service offering & service proximity	→
5	Machine flexibility	↑
6	Digital solutions	↗
7	Customization capabilities	↗
8	Price	↘
9	Brand	→

- **Gerhard Schubert classifies as premium supplier for machinery, fulfilling all important key purchasing criteria**
- **Comprehensive fulfilment of purchasing criteria and sales structure leads to generating c. 75% of Sales with new customers every year enabling low customer dependency**

Route to Market

Who?

Direct Sales

- **Direct sales team** from Crailsheim
- Direct **customer education** through web-seminars (Schubert4You)
- **Aftermarket offerings** are covered with dedicated aftermarket team
- Strong focus on **trade fairs**

Sales Subsidiaries

- **Dedicated sales subsidiaries** in UK, Canada, China and United States to increase local coverage
- **Aftermarket Sales** through **local offices lead** to ensure short lead times
- **Direct sales office for the specific region**

Sales Agents

- **Sales agents** in India, Japan, South Korea, Finland, Norway and Australia penetrate local markets
- Support of **local aftermarket** and service offerings to increase local presence and decrease lead-times

How?

Push by machine producer	**Pull by (potential) customer**
Direct order	**RFQ[1] process**

What?

Single machine	**Customised single machine**	**Turnkey systems**

Degree of customization / co-development

“Lightline“ System as un-customised turnkey solutions

Source(s): Company Information; Own Analysis; Expert Interviews; Note(s): 1) Request for Quote

↑ High performance

As a partner for sustainability, Schubert is able to optimise customers' processes throughout the entire chain from raw materials, packaging and logistics to recycling

Schubert has five principles for waste prevention: Reduce, Refuse, Reuse, Recycle, Rethink

Strong team effort at all levels

- Already successfully works on six of the defined **UN Sustainable Development Goals** (Goals 7, 8, 9, 12, 13 and 17)
- Use **geothermal energy** to air-condition offices and generate own electricity using photovoltaics
- Concept of **sustainability** is practised at all **hierarchical levels** and in all facets, from **purchasing** through the entire **production** process and **training** to **cooperation** with service providers and partners

Sustainability Consulting

- **Manufacturer-independent** consulting services help customers make the switch to **sustainable packaging materials**
- Pay attention to the **perfect interplay of materials**, **technology** and **know-how** - from cardboard trays to paper-based films
- Concepts convince with **flexibility, quality** and **efficiency** and thus **set standards** throughout the industry

Future-proof packaging technology

- **Recycling** of **waste material** produced during the machining of metal and raw materials
- Machine design as **simple and sustainable** as possible thus saving **resources** and **raw materials** in production
- **Materials** and **technology** have been harmonised in such a way that new **sustainable materials** can be used in an **automated packaging process**
- Schubert's modular system allows that packaging machines can be **tailored precisely** to the desired customer requirements **without redundant components**
- **New formats** can be implemented in the machines later

Social Responsibility

- Since 2015 certified by the **Veritas** office in accordance with **SMETA** (Sedex Members Ethical Trade), thus adopting the requirements of **ethical action** in production and infrastructure
- Offer many **training possibilities** as well as **social support** such as a **Kindergarden** for employee´s children
- Schubert promotes the **representation** of **women** at all **management levels** as well as **equal pay** for women and men

ⓘ **306 tonnes of plastic**
saves a Schubert customer per year
by replacing film with cardboard packaging

ⓘ **89% CO2 savings**
can be achieved by using the Partbox in combination with 3D printing, resulting in savings of
transport distances for delivered parts

ⓘ **25% packaging material**
are saved at a Schubert customer due to tightly dimensioned flat blanks for cardboard boxes

Source(s): Company Information

With constant investments to expand production capacities and into R&D, Schubert seeks to maintain an industry leading position

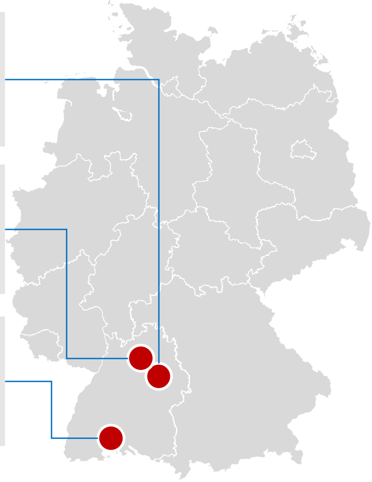
SCHUBERT

Production overview

Crailsheim, Germany
Headquarter of Schubert
50,000 sqm production area

Bartholomä, Germany
Headquarter of Schubert Fertigungstechnik
4,000 sqm production area

Neuhausen ob Eck, Germany
Headquarter of Schubert System Elektronik
7,200 sqm production area



Planned expansion of production capacities

Headquarter expansion in Crailsheim, Germany:
€30m expansion started in 2019 by relocating the nearby country road to expand the production facilities expected to be fully finalised in 2022 adding 9,900sqm

Certifi-cations

FDA

SMETA BUREAU VERITAS Certification

ISO 27001 Certified

GMP+

- Currently running on **100% capacity** thus **needing the expansion** of production facilities to reduce need of purchasing external services
- All relevant production processes **are manufactured in-house**

R&D and Sourcing strategy

Sourcing Strategy

10% of Sales invested in R&D

Averagely 1 patent every month

All main machines are pioneering achievements and secured by patents

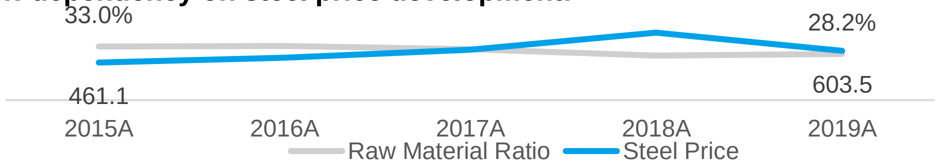
Develops own IOT, Cloud and AI-Solutions[1] for robots and cobots

Software Lab in Deggendorf

- Supported by “EDV-Schule Plattling”, the team focusses on development of LINUX-based automation and client applications
- **Aim to develop software solutions within AI-environment**

Sourcing Strategy

- **Continuous make-or-buy assessment** results in the in-house production and insourcing of certain products, also through subsidiaries
- Decisions are **dependant on price, quality and lead times for products**
- Increased **in-house manufacturing of parts through 3D-Printing to decrease Raw Material Expenses**
- **In-house CNC part and electronic component manufacturing** through subsidiaries
- In-house production strategy leads **to higher production utilization which increases need for purchase of external services**
- **Low dependency on steel price development:**



Source(s): Company Information; Pressebox; Expert Interviews; Note(s): 1) Dedicated research center Schubert Motion in Dresden, Germany

From 2016A onwards, Sales increase is mainly driven by expansion of North America Modular Machinery Sales, whereas the rest of the divisions moderately support the growth trend (1/2)

in €k	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	12-'19
Modular Machinery	84,802	101,945	111,844	114,448	③ 101,000	⑤ 116,331	⑥ 149,054	⑦ 150,083	**8.5%**
Turnkey Solutions	18,876	37,109	46,103	② 38,244	④ 42,830	42,609	42,200	31,900	**(5.0%)**
Assemblies	9,281	10,490	10,764	12,705	15,262	18,113	18,517	18,531	**10.4%**
Aftermarket Sales	19,044	24,170	28,119	26,642	33,420	36,800	39,627	43,933	**12.7%**
Electronics	0	19,999	22,475	20,753	20,145	21,962	25,245	22,460	**n.a.**
CNC Contract Manufacturing	1,283	1,277	1,686	1,615	1,620	1,994	2,337	2,067	**7.1%**
Other	4,496	5,701	7,436	10,088	5,110	5,364	6,188	3,345	**(4.1%)**
Sales	① **164,550**	**200,691**	**228,426**	**224,495**	**219,387**	**243,173**	**283,167**	**272,319**	**7.5%**
YoY Growth	n.a.	22.0%	13.8%	(1.7%)	(2.3%)	10.8%	16.4%	(3.8%)	
Delta Inventory	1,988	2	(431)	484	12,419	6,021	(8,315)	11,736	
Turnover	**166,538**	**200,692**	**227,995**	**224,979**	**231,806**	**249,194**	**274,852**	**284,055**	**7.9%**
YoY Growth	n.a.	20.5%	13.6%	(1.3%)	3.0%	7.5%	10.3%	3.3%	

Comment

① **Strong growth** fueled by acquisition of electronics production unit in 2013A and **increase of turnkey** offerings

② **Reduction in exports** were not fully offset by increase in domestic Sales, main driver was the **shortfall of 2 turnkey** systems (11 instead of 13) with an average value of c.€3m as well as **full production capacity** reached end of 2014A

③ **Decrease of modular machinery** due to ramp up of **production personnel** to be able to cope with order intake of €182.9m in 2016A whilst having **100% capacity** across all production processing and reduction in Sales in domestic revenues

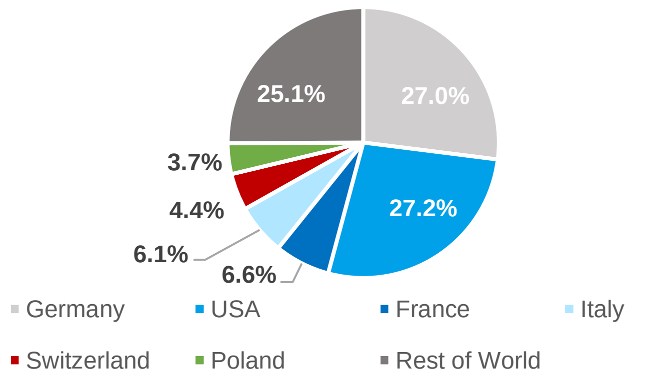
④ **Strong growth** mainly attributable to 2 turnkey solutions for coffee capsules with an average value of €2.3m, paired with general increase in **turnkey systems** from 11 in 2015A to 15 in 2016A

⑤ Increase mainly driven by **full-ramped up reorganization** of **North America** sales structure (47% YoY-growth) representing a growth of c.€10m paired with full roll-out of the **Flowmodul** as well as increasing digital offerings; mainly driven by increasing brand awareness and increased trade fair presence

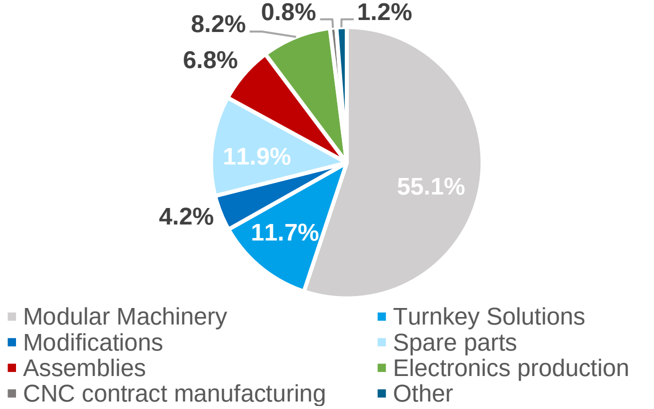
⑥ **North American restructuring** yields further results, more than doubling the revenue to €64m; **domestic revenue** increased by €13m; **France** and **Italy** showed strong Sales growth

⑦ Decrease in domestic demand following decreasing demand to **increased uncertainty** with political uncertainty[2] was offset by increase in exports, mainly in US (+€10m), Italy (€6.7m) and Italy (+€4.5m)

Sales by Geography (2019A)[1]



Sales by Product (2019A)

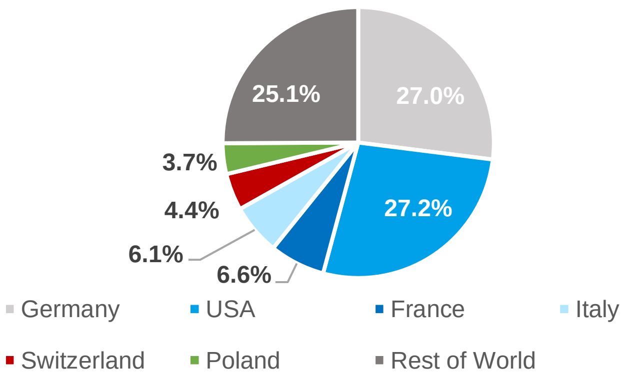


Source(s): Annual Reports; Note(s): 1) CAGR from 2013A-2019A; 2) Approximated through growth and absolute value information from annual reports; 2) Trackable by Index Of Economic Uncertainty (EPU)

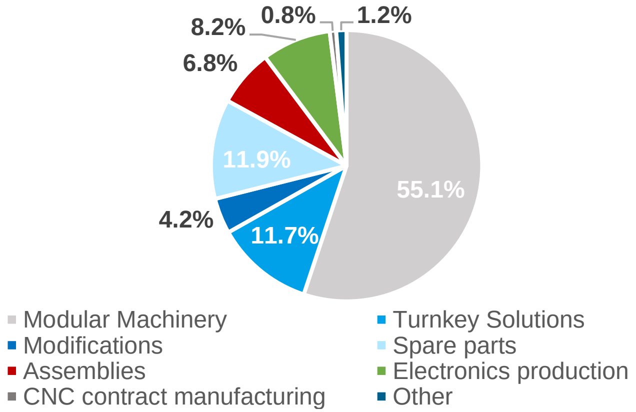
Despite overall Sales volatility inherited through project business, Turnover is continuously growing (2/2)

in €k	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	12-'19
Modular Machinery	84,802	101,945	111,844	114,448	101,000	116,331	149,054	150,083	8.5%
Turnkey Solutions	18,876	37,109	46,103	38,244	42,830	42,609	42,200	⑧ 31,900	(5.0%)
Assemblies	⑨ 9,281	10,490	10,764	12,705	15,262	18,113	18,517	18,531	10.4%
Aftermarket Sales	19,044	24,170	28,119	26,642	33,420	36,800	39,627	43,933	⑩ 12.7%
Electronics	0	⑪ 19,999	22,475	20,753	20,145	21,962	25,245	22,460	n.a.
CNC Contract Manufacturing	1,283	1,277	1,686	1,615	1,620	1,994	2,337	2,067	⑫ 7.1%
⑬ Other	4,496	5,701	7,436	10,088	5,110	5,364	6,188	3,345	(4.1%)
Sales	**164,550**	**200,691**	**228,426**	**224,495**	**219,387**	**243,173**	**283,167**	**272,319**	**7.5%**
YoY Growth	n.a.	22.0%	13.8%	(1.7%)	(2.3%)	10.8%	16.4%	(3.8%)	
Delta Inventory	1,988	2	(431)	484	12,419	6,021	(8,315)	11,736	
⑭ **Turnover**	**166,538**	**200,692**	**227,995**	**224,979**	**231,806**	**249,194**	**274,852**	**284,055**	**7.9%**
YoY Growth	n.a.	⑮ 20.5%	13.6%	(1.3%)	3.0%	7.5%	10.3%	3.3%	

Sales by Geography (2019A)[2]



Sales by Product (2019A)



Comment

⑧ Shift of 1 major **turnkey** in amount of c. €11m from 2019A towards 2020E dampened growth in 2019A

⑨ **Assembly services** for integration of modular machinery into connected lines (difference from complete turnkey lines) results in **constant growth** of assemblies even with declining machinery sales. Increase is due to continuous expansion of assembly personnel

⑩ Constant development of **customer base** and installed base drives growth of aftermarket services. Further expansion of service offering with applications such as 3D-printing solutions and digital offerings such as **predictive maintenance**

⑪ Acquired in 2013, the division focusses on **software development** and **grows moderately** with existing customers but is not focus of Schubert growth strategy at the moment, thus only showing a moderate **CAGR of 2.0%**

⑫ Focus is **in-house part manufacturing** (only 20% are external) but expansion of machine park and customer centered sales displays significant growth

⑬ Includes **non-core** elements like e.g., Hägele Catering (catering service)

⑭ Turnover denotes the total output of the year (including Inventory changes), making it an important measure as it accounts for reporting date view shifts in large orders

⑭ Even through the company imposes **volatile Sales growth**, the turnover is continuously growing throughout the historical period, driven by **shifts of orders** into the next financial period leading to Inventory build up

Source(s): Annual Reports; Note(s): 1) CAGR from 2013A-2019A; 2) Approximated through growth and absolute value information from annual reports

After EBITDA-Margin declined in 2016A due to a steep increase of Purchased Services, Schubert again shows an upward margin trend (1/2)

in €k	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	CAGR
Sales	**164,550**	**200,691**	**228,426**	**224,495**	**219,387**	**243,173**	**283,167**	**272,319**	**7.5%**
Turnover	**166,538**	**200,692**	**227,995**	**224,979**	**231,806**	**249,194**	**274,852**	**284,055**	**7.9%**
Raw Materials	(51,085)	① (68,935)	(77,387)	(74,190)	(72,922)	(76,466)	(77,819)	(76,873)	6.0%
Purchased Services	(19,763)	(11,298)	(12,521)	② (16,665)	(22,922)	(26,049)	(31,174)	(34,575)	8.3%
Material Expenses	**(70,848)**	**(80,233)**	**(89,908)**	**(90,856)**	**(95,844)**	**(102,516)**	**(108,993)**	**(111,447)**	**6.7%**
% Sales	*(43.1%)*	*(40.0%)*	③ *(39.4%)*	*(40.5%)*	*(43.7%)*	*(42.2%)*	*(38.5%)*	*(40.9%)*	
Gross Profit	**95,690**	**120,459**	**138,087**	**134,123**	**135,962**	**146,679**	**165,859**	**172,607**	**8.8%**
% Margin	*58.2%*	*60.0%*	*60.5%*	*59.7%*	*62.0%*	*60.3%*	*58.6%*	*63.4%*	
Personnel Expenses	**(56,782)**	**(66,911)**	**(74,211)**	**(76,121)**	**(80,723)**	**(87,382)**	**(94,442)**	**(100,354)**	**8.5%**
% Sales	*(34.5%)*	*(33.3%)*	④ *(32.5%)*	*(33.9%)*	⑤ *(36.8%)*	*(35.9%)*	*(33.4%)*	*(36.9%)*	
Rent & Leasing	(2,649)	(2,269)	(3,000)	(2,765)	(3,008)	(3,079)	(4,634)	(5,587)	11.2%
Shipping & Logistics	(6,192)	(5,652)	(6,709)	(6,242)	(6,295)	(7,634)	(10,143)	(10,817)	8.3%
Marketing Expenses	(2,174)	(2,309)	(2,815)	(3,757)	(5,304)	(4,123)	(4,676)	(6,243)	16.3%
Maintenance	(2,346)	(2,107)	(2,284)	(2,245)	(2,994)	(3,961)	(4,481)	(4,740)	10.6%
IT & Licenses	(1,296)	(1,443)	(1,564)	(1,565)	(1,793)	(1,874)	(2,125)	(2,279)	8.4%
Other	(11,264)	(15,080)	(14,901)	(14,735)	(16,470)	(16,810)	(16,446)	(15,922)	5.1%
⑥ **Other Expenses**	**(25,921)**	**(28,859)**	**(31,273)**	**(31,310)**	**(35,864)**	**(37,481)**	**(42,505)**	**(45,588)**	**8.4%**
% Sales	*(15.8%)*	*(14.4%)*	*(13.7%)*	*(13.9%)*	*(16.3%)*	*(15.4%)*	*(15.0%)*	*(16.7%)*	
OPEX	**(82,703)**	**(95,770)**	**(105,484)**	**(107,430)**	**(116,587)**	**(124,863)**	**(136,947)**	**(145,942)**	**8.5%**
% Sales	*(50.3%)*	*(47.7%)*	*(46.2%)*	*(47.9%)*	*(53.1%)*	*(51.3%)*	*(48.4%)*	*(53.6%)*	
Other Income	**1,447**	**1,618**	**891**	**1,743**	**1,518**	**2,066**	**984**	**2,059**	**5.2%**
% Sales	*0.9%*	*0.8%*	*0.4%*	*0.8%*	*0.7%*	*0.8%*	*0.3%*	*0.8%*	
EBITDA Reported	**14,434**	**26,307**	**33,494**	**28,436**	**20,893**	**23,882**	**29,896**	**28,724**	**10.3%**
YoY Growth		*82.3%*	*27.3%*	*(15.1%)*	*(26.5%)*	*14.3%*	*25.2%*	*(3.9%)*	
% Margin	*8.8%*	*13.1%*	*14.7%*	*12.7%*	*9.5%*	*9.8%*	*10.6%*	*10.5%*	
Normalisation	1,219	1,346	1,480	1,341	1,233	1,584	1,363	1,502	
EBITDA Adjusted	**15,652**	**27,653**	**34,974**	**29,777**	**22,126**	**25,466**	**31,259**	**30,226**	**9.9%**
YoY Growth		*76.7%*	*26.5%*	*(14.9%)*	*(25.7%)*	*15.1%*	*22.7%*	*(3.3%)*	
% Margin	*9.5%*	*13.8%*	*15.3%*	*13.3%*	*10.1%*	*10.5%*	*11.0%*	*11.1%*	
D&A	**(3,101)**	**(5,995)**	**(6,471)**	**(6,972)**	**(8,056)**	**(8,314)**	**(6,045)**	**(5,938)**	**9.7%**
EBIT Adjusted	**12,551**	**21,658**	**28,502**	**22,805**	**14,070**	**17,152**	**25,214**	**24,288**	**9.9%**
YoY Growth		*72.6%*	*31.6%*	*(20.0%)*	*(38.3%)*	*21.9%*	*47.0%*	*(3.7%)*	
% Margin	*7.6%*	*10.8%*	*12.5%*	*10.2%*	*6.4%*	*7.1%*	*8.9%*	*8.9%*	
Net Interest Expense	333	(447)	(383)	(408)	(476)	(557)	(498)	(325)	
Taxes	(3,137)	(7,020)	(8,242)	(7,290)	(4,426)	(5,016)	(7,059)	(6,367)	10.6%
Net Income Adjusted	**9,747**	**14,192**	**19,877**	**15,107**	**9,168**	**11,580**	**17,657**	**17,597**	**8.8%**
% Margin	*5.9%*	*7.1%*	*8.7%*	*6.7%*	*4.2%*	*4.8%*	*6.2%*	*6.5%*	

Source(s): Annual Reports

Comment

① Decreasing trend due to **investments in production automation, internal process optimization** and **3D-printing of parts**; slight increase in 2016A caused by adaption of new technologies within product portfolio and technical advanced projects

② Strong increase in demand for external services due to **100% capacity in assembly and manufacturing;** going forward an ease is expected as new production facility is ramping up in 2022; long lead time due to relocation issues of nearby road in order to start construction

③ **Implementation of standard modules** for sub-machines, as well as flow assembly decreased margin in 2014A; In 2015A the margin is driven up by Purchased Services while Raw Materials show a further decrease

④ **Higher automation and efficiency lead to stronger increase in Sales than in Personnel Expenses**, resulting in a higher per capita Sales and therefore a lower cost ratio

⑤ **Continuous increase in workforce**, both in white collar and blue collar workers drive the cost increase as Schubert builds up capacity in assembly, R&D and especially service as **foundation for future Sales growth**; A **decrease is expected in the near future** due to **accelerating Sales growth**

⑥ Constitutes **a high portion of Schubert's costs**, driven by high **Shipping Costs** due to the export nature of Schubert's business & the strong increase in **Marketing Expenses** that drive brand awareness; Further costs that are included in *Other* are for example **energy costs, legal expenses & general expenses** like office materials

After EBITDA-Margin declined in 2016A due to a steep increase of Purchased Services, Schubert again shows an upward margin trend (2/2)

in €k	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A	CAGR
Sales	**164,550**	**200,691**	**228,426**	**224,495**	**219,387**	**243,173**	**283,167**	**272,319**	**7.5%**
Turnover	**166,538**	**200,692**	**227,995**	**224,979**	**231,806**	**249,194**	**274,852**	**284,055**	**7.9%**
Raw Materials	(51,085)	(68,935)	(77,387)	(74,190)	(72,922)	(76,466)	(77,819)	(76,873)	6.0%
Purchased Services	(19,763)	(11,298)	(12,521)	(16,665)	(22,922)	(26,049)	(31,174)	(34,575)	8.3%
Material Expenses	**(70,848)**	**(80,233)**	**(89,908)**	**(90,856)**	**(95,844)**	**(102,516)**	**(108,993)**	**(111,447)**	**6.7%**
% Sales	*(43.1%)*	*(40.0%)*	*(39.4%)*	*(40.5%)*	*(43.7%)*	*(42.2%)*	*(38.5%)*	*(40.9%)*	
Gross Profit	**95,690**	**120,459**	**138,087**	**134,123**	**135,962**	**146,679**	**165,859**	**172,607**	**8.8%**
% Margin	*58.2%*	*60.0%*	*60.5%*	*59.7%*	*62.0%*	*60.3%*	*58.6%*	*63.4%*	
Personnel Expenses	**(56,782)**	**(66,911)**	**(74,211)**	**(76,121)**	**(80,723)**	**(87,382)**	**(94,442)**	**(100,354)**	**8.5%**
% Sales	*(34.5%)*	*(33.3%)*	*(32.5%)*	*(33.9%)*	*(36.8%)*	*(35.9%)*	*(33.4%)*	*(36.9%)*	
Rent & Leasing	(2,649)	(2,269)	(3,000)	(2,765)	(3,008)	(3,079)	(4,634)	(5,587)	11.2%
Shipping & Logistics	(6,192)	(5,652)	(6,709)	(6,242)	(6,295)	(7,634)	(10,143)	(10,817)	8.3%
Marketing Expenses	(2,174)	(2,309)	(2,815)	(3,757)	(5,304)	(4,123)	(4,676)	(6,243)	16.3%
Maintenance	(2,346)	(2,107)	(2,284)	(2,245)	(2,994)	(3,961)	(4,481)	(4,740)	10.6%
IT & Licenses	(1,296)	(1,443)	(1,564)	(1,565)	(1,793)	(1,874)	(2,125)	(2,279)	8.4%
Other	(11,264)	(15,080)	(14,901)	(14,735)	(16,470)	(16,810)	(16,446)	(15,922)	5.1%
Other Expenses	**(25,921)**	**(28,859)**	**(31,273)**	**(31,310)**	**(35,864)**	**(37,481)**	**(42,505)**	**(45,588)** ⑦	**8.4%**
% Sales	*(15.8%)*	*(14.4%)*	*(13.7%)*	*(13.9%)*	⑧ *(16.3%)*	*(15.4%)*	*(15.0%)*	*(16.7%)*	
OPEX	**(82,703)**	**(95,770)**	**(105,484)**	**(107,430)**	**(116,587)**	**(124,863)**	**(136,947)**	**(145,942)**	**8.5%**
% Sales	*(50.3%)*	*(47.7%)*	*(46.2%)*	*(47.9%)*	*(53.1%)*	*(51.3%)*	*(48.4%)*	*(53.6%)*	
Other Income	**1,447**	**1,618**	**891**	**1,743**	**1,518**	**2,066**	**984**	**2,059**	**5.2%**
% Sales	*0.9%*	*0.8%*	*0.4%*	*0.8%*	*0.7%*	*0.8%*	*0.3%*	*0.8%*	
EBITDA Reported	**14,434**	⑨ **26,307**	**33,494**	**28,436**	**20,893**	**23,882**	**29,896**	**28,724**	**10.3%**
YoY Growth		*82.3%*	*27.3%*	*(15.1%)*	*(26.5%)*	*14.3%*	*25.2%*	*(3.9%)*	
% Margin	*8.8%*	*13.1%*	*14.7%*	*12.7%*	*9.5%*	*9.8%*	*10.6%*	*10.5%*	
Normalisation	⑩ 1,219	1,346	1,480	1,341	1,233	1,584	1,363	1,502	
EBITDA Adjusted	**15,652**	**27,653**	**34,974**	**29,777**	**22,126**	**25,466**	**31,259**	**30,226**	**9.9%**
YoY Growth		*76.7%*	*26.5%*	*(14.9%)*	*(25.7%)*	*15.1%*	*22.7%*	*(3.3%)*	
% Margin	*9.5%*	*13.8%*	*15.3%*	*13.3%*	⑪ *10.1%*	*10.5%*	*11.0%*	*11.1%*	
D&A	**(3,101)**	**(5,995)**	**(6,471)**	**(6,972)**	**(8,056)**	**(8,314)**	**(6,045)**	**(5,938)**	**9.7%**
EBIT Adjusted	**12,551**	**21,658**	**28,502**	**22,805**	**14,070**	**17,152**	**25,214**	**24,288**	**9.9%**
YoY Growth		*72.6%*	*31.6%*	*(20.0%)*	*(38.3%)*	*21.9%*	*47.0%*	*(3.7%)*	
% Margin	*7.6%*	*10.8%*	*12.5%*	*10.2%*	*6.4%*	⑫ *7.1%*	*8.9%*	*8.9%*	
Net Interest Expense	333	(447)	(383)	(408)	(476)	(557)	(498)	(325)	
Taxes	(3,137)	(7,020)	(8,242)	(7,290)	(4,426)	(5,016)	(7,059)	(6,367)	10.6%
Net Income Adjusted	**9,747**	**14,192**	**19,877**	**15,107**	**9,168**	**11,580**	**17,657**	**17,597**	**8.8%**
% Margin	*5.9%*	*7.1%*	*8.7%*	*6.7%*	*4.2%*	*4.8%*	*6.2%*	*6.5%*	

Comment

⑦ Strong increase in Other Expenses mainly attributable to geographic expansions and **building up of infrastructure for growth**, strong increases can be seen in the Rent and Leasing of machinery as well as in Shipping costs which are both driven by Sales expansion

⑧ Increase in **2016A to 2019A are attributable to costs associated with an aggressive international growth strategy** and restructuring of sales subsidiary in the US in 2016A and opening a new local sales and service office in China in 2019A leading to an increase in Rent & Leasing and Marketing Expenses

⑨ **Despite strong Sales growth EBITDA just increased slightly since 2013A**, which is due to **prior outlined cost drivers** and especially due to a **margin drop in 2016A caused by NA Sales restructuring** and aggressive growth strategy; Volatility is due to customer investment cyclicality

⑩ Includes normalization of owner salaries which amounted to c. €2.7m across all years; so, a normalised salary for managing directors of €300k p.a. was assumed to reach an **adjusted salary for the managing directors of €1.2m**, leading to approx. €1,5m increase in adjusted EBITDA

⑪ Adjusted EBITDA-Margin steadily improves from 2016A onwards reaching 11.1% in 2019A, **showing that the continuous cost structure improvements of Schubert are paying off**, and this trend is expected to continue in the future

⑫ Tax rate of Schubert is around 30%; a **debt interest tax shield is not heavily used** as Schubert maintains low leverage (see next slide)

Source(s): Annual Reports; Own Analysis; Expert Interview

Balance Sheet expansion is mainly driven by investments into Land, Land rights and buildings in order to increase production capacity

in €k	2012A	2013A	2014A	2015A	2016A	2017A	2018A	2019A
Non-Current Assets	**38,540**	**48,221**	**57,129**	**67,772**	**69,767**	**66,245**	**64,412**	**71,874**
① Intangible Assets	399	② 10,223	8,042	5,698	3,233	567	416	400
Tangible Assets	36,131	37,998	49,087	62,074	66,373	65,518	63,835	71,192
Land, land rights and buildings	*25,054*	*25,351*	*26,363*	③ *39,536*	*52,316*	*50,602*	*48,617*	*50,164*
Technical equipment and machinery	④ *6,795*	*6,449*	*7,338*	*7,734*	*7,736*	*8,519*	*7,918*	*7,723*
Other equipment	*4,151*	*4,485*	*4,589*	*4,732*	*6,256*	*6,246*	*6,213*	*6,067*
⑤ *Assets under construction*	*131*	*1,713*	*10,795*	*10,071*	*66*	*150*	*1,087*	*7,238*
Financial Assets	2,010	0	0	0	⑥ 161	161	161	282
Current Assets	**75,729**	**76,035**	**108,525**	**99,584**	**102,821**	**109,205**	**127,204**	**130,348**
Inventory	⑦ 855	6,977	228	5,293	1	7,677	7,091	5,741
⑧ *Raw Materials and supplies*	*5,805*	*9,495*	*9,694*	*9,280*	*10,052*	*12,250*	*15,102*	*16,690*
Work in Progress (incompleted goods)	*24,324*	*25,462*	*25,181*	*25,177*	*37,971*	*43,806*	*34,781*	*47,011*
Work in Progress (completed goods)	*221*	*668*	*588*	*1,075*	*700*	*886*	*1,596*	*1,801*
Advance payments payed on orders	*4,578*	*700*	*673*	*389*	*2,971*	*4,688*	*1,309*	*1,529*
⑨ *Advance payments received on orders*	(34,073)	(29,348)	(35,908)	(30,629)	*(51,693)*	(53,953)	(45,697)	(61,290)
Receivables and other assets	28,188	32,675	46,499	46,160	43,414	44,686	51,760	53,033
Trade receivables	⑩ *26,598*	*31,208*	*45,053*	*45,746*	*43,414*	*44,684*	*51,757*	*52,980*
Receivables from affiliates	*534*	*0*	*0*	*0*	*0*	*0*	*0*	*8*
Receivables from shareholders	*1,056*	*1,467*	*1,445*	*414*	*0*	*2*	*3*	*44*
Other Assets	4,106	3,975	2,891	5,107	3,857	2,915	2,717	3,681
Cash and Cash Equivalents	41,831	31,930	57,966	42,275	54,738	52,847	65,328	66,946
Accruals	214	469	941	749	618	676	308	947
Deferred Tax	535	8	0	0	193	405	0	0
Assets	**114,269**	**124,256**	**165,654**	**167,356**	**172,588**	**175,450**	**191,616**	**202,222**
Equity	**71,041**	**83,518**	**97,926**	**101,838**	**106,918**	**116,608**	**132,038**	**148,333**
⑪ **Provisions**	**25,971**	**23,979**	**30,473**	**25,038**	**25,315**	**27,680**	**29,052**	**28,432**
Liabilities	**17,214**	**16,718**	**36,066**	**39,707**	**39,796**	**30,921**	**30,383**	**25,458**
Liabilities to Banks	*7,841*	*6,539*	⑫ *26,509*	*23,711*	*19,095*	*15,456*	*14,078*	*11,655*
Trade account payable	⑬ *4,690*	*6,205*	*4,936*	*7,228*	*8,512*	*5,975*	*7,657*	*8,444*
Liabilities to Shareholders	*0*	*3,573*	*397*	*4,818*	*5,214*	*5,219*	*4,406*	*962*
Other liabilities	⑭ *4,683*	*401*	*4,224*	*3,949*	*6,975*	*4,271*	*4,242*	*4,398*
Accruals	**44**	**42**	**1,189**	**774**	**559**	**241**	**143**	**0**
Equity & Liabilities	**114,269**	**124,256**	**165,654**	**167,356**	**172,588**	**175,450**	**191,616**	**202,222**

Source(s): Annual Reports

Comment

① No capitalization of **patents** at Schubert as annual reports are based on German GAAAP where this is optional

② Increase in **Goodwill** due to acquisition of Schubert System Elektronik GmbH in 2013A and subsequent amortization

③ Accounting booking from Assets Under Construction to Land & Buildings upon finalizing new assembly building

④ Despite company growth the position is barely increasing due to **operating leasing** (possible under German GAAP)

⑤ Displays PP&E **expansions** (see next slide)

⑥ Increase due to participation in **joint venture** Qesar in 2016

⑦ Low overall Inventory due to **high upfront payments**

⑧ Rise **according to company growth** as higher production results in higher materials & goods in Inventory; Completed Goods are sold fast, so the position is relatively small

⑨ Represent down payments on ordered machines via a **down payment structure typical for the machinery market**; **close correlation to Work in Progress goods** can be observed

⑩ Trade Receivables grow **alongside with Sales growth**

⑪ Includes Provisions for **tax, pensions and others**, which **mainly include warranties** for profit participations and employee benefits

⑫ Financing of **new assembly building** expansion in Crailsheim, Germany with subsequent repayment

⑬ Trade Payables grow **alongside with Sales growth**

⑭ Comprises **Liabilities** from **rent** and **leasing contracts**

The global packaging machinery market is mainly driven by increasing automation, Industry 4.0, health and food safety and demand for more sophisticated packaging

	Market Driver	Description	Importance	Trend
General driver	**Packaged food production**	Packaged food production positively influencing the demand for packaging machinery	●	↗
	Relevant applications	Influence of packaged food applications (e.g. E-commerce, baby food, ingredients) especially relevant for primary packaging applications	◑	↗
	Turnkey systems	Increasing importance of turnkey systems in the premium/ mid-range segment is influencing the addressable market	◑	↗
	Automation	Automation of machinery is a global megatrend also affecting the market for packaging machinery	◑	↑
	Prices	Price development by product segment is influencing the market value	●	↗
Machinery related	**Output speed**	Food producers increasingly ask for packaging machinery with high output speed to improve economic efficiency; Increasing demand for premium/ mid-range high-speed machinery	●	↗
	Versatile machines	Customers require versatility regarding package styles, dimensions and products to react to changing consumer preferences which packaging machinery needs to address	◕	↗
	Internet of things / Industry 4.0	Machines will be able to communicate with the operator, leading to quicker problem identification and solving; Increasing demand for services performed by machine suppliers	◕	↑
Packaging related	**Sophisticated packaging**	Product differentiation by packaging with rising demand for premium packaging and premium appearance (not only for premium products)	◕	↑
	Health/ food safety	Emerging markets are increasing their food supply chain's quality and standards, where packaging is an important lever for food safety and shell life extension	◑	↑
	Mobility/ convenience	Increasing demand for mobility as a result of social/ cultural, economical and technological changes with increased need for on-the-go packaged products and convenience food	◑	↗
	Increasing environmental awareness/ sustainability	Increasing environmental awareness leading to reduction in plastic packaging volumes and alternative materials, where premium products tend to be more energy efficient and versatile	◑	→

Source(s): Expert Interviews, PMMI, Statista, ARC Advisory Group, eMarketer, Allied Market Research, VDMA

● High importance ↑ Positive impact

Customer industry specific capabilities, customer relationships and supplier qualification are the strongest barriers for new entrants

SCHUBERT

High

Premium segment

- **Industry/ application-specific capabilities** (high output speed at premium quality)
- **Customer relationships**
- Track record and reputation
- Manufacturer qualification
- Local customer service

Medium

Mid-range segment

- **Industry/ application-specific capabilities** (medium output speed and packaging quality)
- Local **customer service** to a certain degree

Low

Low-end segment

- No significant entry barriers
- Differentiation largely by **price**

Entry Barrier	Relevance	Description	Schubert Assessment
Application Know-how	●	Premium customers prefer suppliers with proven strong application **know-how** for their specific industry High output speeds and ease of use are of particular importance for the premium segment	Schubert recognised as technology leader with significant **technological experience**
Customer Relationships	●	Customers prefer to rely on **well-known and trusted suppliers**: competitors need to be significantly cheaper at similar quality to trigger customer switching	Deep customer **entrenchment** based on long-term relationships
Track Record & Reputation	●	Manufacturers must show **proven capabilities** of premium machines to the relevant industry application **Track record** is preferred with a given customer itself (strong customer relationships) or with direct competitors (proven industry/ application specific capabilities)	More than **50 years** of industry experience
Manufacturer Qualification	◕	In particular large, multinational customers have a list of **preferred and qualified manufacturers** The process of getting listed takes several years and a proven track record is application-specific	**Blue chip customer** base with positive feedback
Local Customer Service	◕	**Premium** suppliers need to be able to provide **technical on-site support** within a short time frame Some players rely on external service contractors in certain regions	**Global sales and service coverage** via subsidiaries and network of sales agents

Source(s): Expert Interviews, Roland Berger

All influencing market environments are developing very positively showing strong growth paths – Schubert can benefit from different drivers through Innovation and Expertise

SCHUBERT

Packaging Machinery Market

Global

€37.2 billion
in 2020

CAGR of 4.8%
through 2030

Regional

APAC
CAGR 4.5%

Americas
CAGR 3.3%

Drivers

Industry 4.0

Automation

Health

End Markets

Global

Enormous market sizes

CAGR between 3.1% to 5.5%

Industry

Food

Cosmetics

Pharma

…show strongest growth rates

Drivers

Globalization

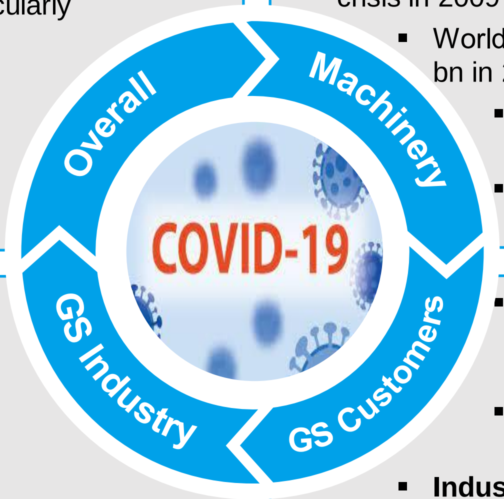
Sustainability

Demographic change

- **For Schubert, the packaging machinery market is as important as its customer industries (end markets)**
- **Overall, both, the packaging machinery market and the end markets are very big in size, well established and show very positive forecasted growth rates**
- **A combined market growth proxy can be defined around 4.5% CAGR for the next 5-8 years**
- **End Markets are dominated by megatrends such as globalization and digitization by which also the machinery market in general is influenced**

Source(s): Own Analysis

Covid - a crisis with far-reaching effects; however, the effect on Schubert and the packaging industry are manageable



- In 2020, global GDP declined by **6.7%** as a result of the coronavirus pandemic outbreak
- Out of the world's 7 largest economies, **UK** was the most negatively affected (-9.6%); **Germany: -4%;** only China experienced **positive GDP growth rate of 4.9%**
- All major economies **decreased their interest rates** in February or March 2020, the FED set an **interest rate of 0.125%**, which remained unchanged more than a year later
- Global stock indices posted **substantial losses;** March 6 to 18 was particularly dramatic, with several stock indices losing more than 20% of their value (NASDAQ: -12.4% Mar 6-18, 2020)
- Distortions caused by Corona were also weighing on **demand**, as potential investors were holding back on orders and **consumer expenditures shrank**
- Many **supply chains** have been disrupted by lockdowns

- European mechanical engineering fell into a **deep recession** in 2020
- Crisis led to **high export losses** (2020 exports -9.7%; imports -9.4% compared to 2019); machine tool manufacturers recorded sharpest decline in exports
- Production in Mechanical Engineering dropped between **3% and 17%** in different EU countries (Germany: -8%; EU-27: -13% in real terms) - sharpest decline since the financial crisis in 2009
  - Worldwide, machinery and equipment were manufactured for an estimated €2,585 bn in 2020 (**-5% compared to pre-Covid level**)
    - **China** was only country among TOP 10 manufacturing countries to **exceed its pre-crisis level**
    - Germany reaffirmed its position as **third largest machinery producer** with estimated Sales of €271 bn

- European companies have a **share of >50% of world trade** (including intra-EU trade) in 10 out of 31 sectors of the machinery industry; particularly high in the **food and packaging machinery** sector (65.7%)
- In the German packaging machinery sector, order intake in 2019 was down **sharply by -5%** on the previous year
- **Optimism** is given by the fact that the packaging machinery sector is **not expected to decline** to the same extent as the entire machinery and plant sector and that demand will also increase **rapidly again;** in addition, there is the **increasing global demand** for hygienically packaged food and pharmaceutical products
- Schubert directly established a **task force** consisting of the Schubert Group's management and leadership team to **assess the current development and its impact** and to **respond appropriately**

  - During the first half of 2020, most countries measured **negative business confidence indices;** only China and India positive with growth rates of 1.6% and 1.2%, respectively
  - Most consumers changed buying behaviour and bought more consumer goods in the areas of **household cleaning supplies** and **food & drinks**
- **Industries experienced different affection through Covid**
- Pharma: **revenues grew steadily;** Market capitalization changed in key Covid firms
- Cosmetics: due to Covid, the new 2020 forecast for the Cosmetics segments **7.2% lower** than the original forecast
- Food, beverages and snacks: most categories have seen **significant increases** in Sales (baking mixes were fastest growing with +106.5% in US)

- Overall, the **global economy was** or **is enormously affected** by the Covid pandemic
- The mechanical engineering industry had to cope with **severe downturns** in some cases (though less than other industries such as tourism)
- The **packaging industry was less affected**, as were **most of the industries in which Schubert customers** are operating

Source(s): Statista, VDMA

With a combined share of over 20%, the USA and China are the largest and most important export markets for German packaging machinery manufacturers

SCHUBERT

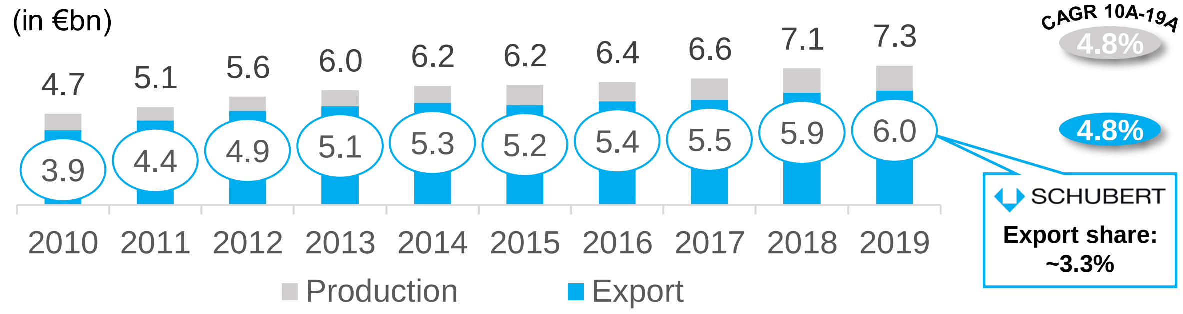
Market Description

- Germany's approx. **250 mainly medium-sized packaging machinery manufacturers** produced and sold packaging machinery worth **€7.3bn in 2019**, of which 82.0% was exported
- **Europe** remains the most important export region in 2019 with exports worth €3.0bn, followed by **Asia** €1.1bn and **North America** €0.9bn
- The highest export **growth** region was **Asia** with YoY-growth of **15.6%**, followed by North America with 7.8% and Europe 3.2%
- The two most important export markets for German packaging machinery manufacturers are **US** (export share 13.2%), followed by **China** (share 7.6%)
- In the US, German packaging machines are **highly renowned** and account for more than 30% of packaging machinery imports
- Among Chinese packaging machinery imports, Germany leads in the **premium segment** and is among the top three suppliers overall, along with Italy and Japan

Key Player

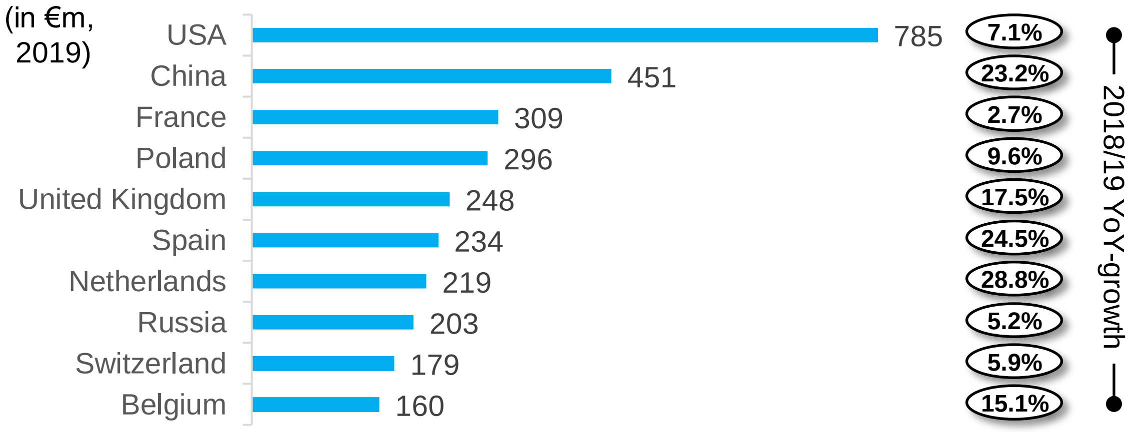
End of Line Experts AF Packaging Solutions
FOCKE & CO
GEA
IWK an ATS company
KHS
KRONES
LOESCH PACK PIEPENBROCK GROUP
MULTIVAC
OPTIMA
PCA Roboter- und Verpackungstechnik GmbH
ROVEMA
SCHUBERT
SYNTEGON 1)
transnova RUF Verpackungs-Palettier-Robottechnik
WOLF

German Packaging Machinery Production & Export



German Packaging Machinery Export Split 2019

Germany´s Top 10 Export Markets for Packaging Machinery



Source(s): VDMA, PMMI, Interpack, Italien Trade Agency; Note(s): 1) Formerly Bosch Packaging Technology

Schubert places among the largest packaging manufacturers with Pick & Place applications and is the only one who covers the entire packaging value chain with its specific application focus (1/3)

Competitor	Coun-try	Sales in €m	EBITDA in €m	Margin	Emplo-yees	Pick & Place focus	Own Robots	Coverage Packaging Value chain	Industry overlap with Schubert	Modularity	Turn-key	Applica-tion Range	Digitization
SCHUBERT	🇩🇪	272	29	10.5%	1,380	●	✓	1 2 3	Food, Confectionary, Beverages, Pharma, Cosmetics, Others	✓	✓	●	◕
KRONES	🇩🇪	3,387	182	5.4%	16,500	◔	✓	1 2 3	Food, Beverages, Confectionary, Dairy	✗	✓	◑	◑
Performance through Understanding Sidel	🇨🇭	1,445	16	1.1%	5,527	◑	✗	1 2 3	Beverages, Dairy	✗	✓	◔	◑
SYNTEGON	🇩🇪	1,300	n.a.	n.a.	6,000	◔	✓	1 2 3	Food, Pharma	✗	✓	◔	◕
KHS Filling and Packaging – Worldwide	🇩🇪	1,130	n.a.	n.a.	5,000	◔	✗	1 2 3	Beverages, Dairy, Food	✓	✓	◑	◑
MULTIVAC	🇩🇪	541	86	15.9%	6,700	◔	✗	1 2 3	Food, Pharma, Cosmetics	✓	✓	◑	◑
FOCKE & CO	🇩🇪	492	n.a.	n.a.	1,900	◔	✗	1 2 3	Food, Confectionary and Snacks	✓	✓	◑	◑

Source(s): Company Information, Company Webpages, Bundesanzeiger

⬚ Key competitor

1 2 3 Primary/Secondary/Tertiary Packaging

Schubert places among the largest packaging manufacturers with Pick & Place applications and is the only one who covers the entire packaging value chain with its specific application focus (2/3)

SCHUBERT

Competitor	Coun -try	Sales in €m	EBITDA in €m	Margin	Emplo- yees	Pick & Place focus	Own Robots	Coverage Packaging Value chain	Industry overlap with Schubert	Modularity	Turn- key	Applica- tion Range	Digitization
bpa blueprint automation	🇳🇱	94	9	9.6%	400	◕	✓	2 3	Food, Dairy, Pharma	✓	✓	◑	◔
IWK an ATS company	🇩🇪	86	8	9.2%	450	◔	✓	1 2	Food, Pharma, Cosmetics	✓	✓	◔	◔
cama GROUP Innovation meets Experience	🇮🇹	78	5.8	7.4%	200	◔	✓	1 2	Confectionary, Food	✓	✗	◔	◔
LOESCH PACK PIEPENBROCK GROUP	🇩🇪	44	n.a.	n.a.	250	◕	✓	2	Confectionary, Food	✓	✗	◔	◔
End of Line experts AF Packaging Solutions	🇩🇪	31	0	0.3%	170	◑	✗	1 2	Dairy, Food, Pharma, Dairy, Confectionary, Cosmetics, Other	✗	✓	◑	◑
transnova RUF Verpackungs-Palettier-Robottechnik	🇩🇪	27	n.a.	n.a.	250	◑	✗	2 3	Pharma, Confectionary, Food, Non-Food	✓	✓	◑	◔
MASSMAN Automation Designs, LLC	🇺🇸	16	n.a.	n.a.	100	◑	✗	2 3	Food, Dairy, Pharma	✓	✗	◑	◔

Source(s): Company Information, Company Webpages, Bundesanzeiger

⬚ Key competitor

1 2 3 Primary/Secondary/Tertiary Packaging

Schubert places among the largest packaging manufacturers with Pick & Place applications and is the only one who covers the entire packaging value chain with its specific application focus (3/3)

SCHUBERT

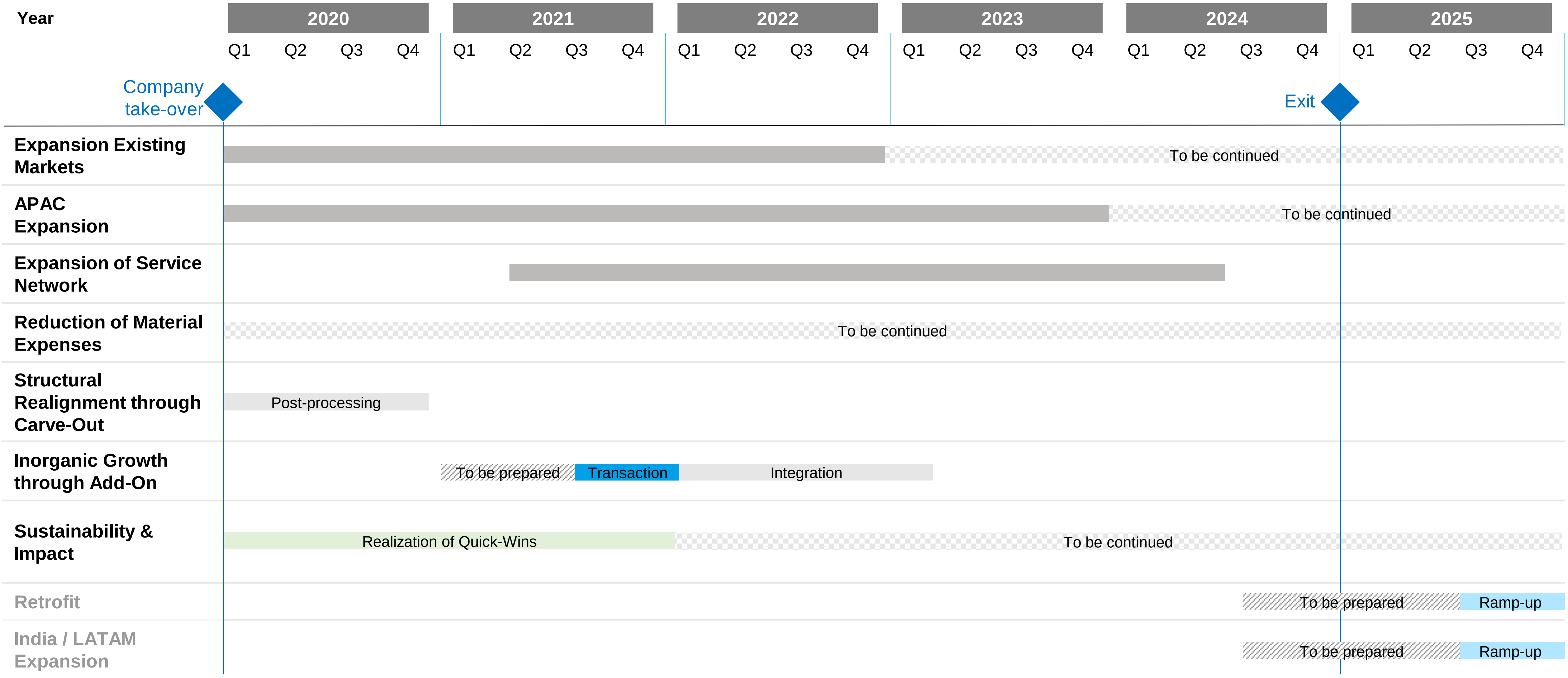
Competitor	Coun-try	Sales in €m	EBITDA in €m	Margin	Emplo-yees	Pick & Place focus	Own Robots	Coverage Packaging Value chain	Industry overlap with Schubert	Modularity	Turn-key	Applica-tion Range	Digitization
VARO	🇩🇰	13	n.a.	n.a.	100	◔	✓	1 2	Food, Pharma, Technical Articles	✗	✓	◑	○
DEMAUREX	🇨🇭	n.a.	n.a.	n.a.	70	●	✓	1 2	Food, Pharma, Cosmetics	✓	✗	◔	◔
R.WEISS Verpackungstechnik	🇩🇪	n.a.	n.a.	n.a.	1,000	◕	✓	1 2 3	Food, Pharma, Cosmetics, Confectionary, Beverages	✓	✓	◕	◑
NT Nortech Packaging	🇺🇸	n.a.	n.a.	n.a.	n.a.	◑	✗	2 3	Pharma, Confectionary	✓	✓	◕	◑
AFA Systems	🇨🇦	n.a.	n.a.	n.a.	50	◔	✗	2 3	Pharma, Confectionary, Food, Non-Food	✓	✗	◕	○
Douglas	🇺🇸	n.a.	n.a.	n.a.	600	◕	✓	2	Food, Beverages, Confectionary, Cosmetics	✓	✗	◑	◔
JLS	🇺🇸	n.a.	n.a.	n.a.	n.a.	●	✓	1 2	Food, Dairy	✓	✗	◔	○

Source(s): Company Information, Company Webpages, Bundesanzeiger

⬚ Key competitor

1 2 3 Primary/Secondary/Tertiary Packaging

The timeline shows the progress of the strategic initiatives and proves the feasibility of all measures during the investment period



Source(s): Own Analysis; Note(s): Retrofit and India/LATAM Expansion beyond base case business plan

Although changes in senior management are imminent, Schubert’s growth can be executed with clear personnel strategy which bases on recent developments

Workforce	Strategic Development
Management Team	▪ Due to Gerhard Schubert's high age (83) a succession is imminent and can be transferred to his son Ralf Schubert (60) and move Gerhard Schubert to the advisory board to retain key knowledge, as well as retain family identity within management ▪ Long term management a new CEO needs to be built up (possibly Peter Gabriel due to 21 company tenure and culture fit) ▪ Key personnel needs to be analysed during a HR due diligence and CEO capabilities need to be assessed ▪ Recruit outside CSO to complement management team or move up Jörg Brenner (commercial director)
Sales	▪ Continue built up of direct sales workforce to execute strategy ▪ Recruit 15 people p.a. With focus on Chinese, US and European markets ▪ Set up salesforce to prepare market entry in LATAM and India for 2023+
Business Development	▪ Leverage personnel business development subsidiary to include learnings of historic geographical expansions into new market penetrations ▪ Enhance operational realignment and implementation of strategic measures, as well as implementing new strategies ▪ Locate Carve-Out and post acquisition implementation responsibilities, as well as ESG strategy implementation ▪ Support M&A activity with PE fund resources to enhance knowledge transfer
Blue Collar and Service Workforce	▪ Continuous recruiting to expand production capacity to be able to execute product portfolio expansion ▪ Recruit service workers alongside enhancing connections to service partners to enhance service structure globally ▪ Enhance apprenticeship program to attract talent and retain them at young age, leading to advanced hiring
Winning Culture	▪ Implement programs to enhance working atmosphere and trust to be able to meet growth targets and create an agile culture enhancing passion for Schubert as well as increasing employee satisfaction ▪ Enhance further education offering for all types of employees as this is one of the major pain points of employee dissatisfaction

Source(s): Own Analysis

Schubert is well established in both the highly competitive Italian market, boosted by government tax incentives, and the moderately fragmented French market, which is heavily dependent on imports

SCHUBERT

Market Situation Italy

Developments

- The packaging machinery market in Italy is estimated to be **€2.9bn in 2020** and continuous a **positive trend** with Sales up 1.9% year-on-year
- Food (38.6%) remains the largest segment, followed by beverages (22.2%), Pharma (17.2%), Chemicals (4.4%), Cosmetics (4.3%) and Others (13.3%)
- The government's **Industry 4.0 incentive scheme** with large tax incentives, increasing adoption of **small pack sizes** and **new packaging materials** are key **growth drivers** for packaging machinery demand

Competitive Landscape

- The packaging machinery market in Italy is **fragmented** with **~635 domestic manufacturers**, of which ~79% are small companies with Sales below €10 million, accounting for 17% of total Sales and **8% of manufacturers** are larger companies with Sales above €25m, accounting for **68% of total turnover**
- The market is **highly competitive** as Italy is the second largest supplier of packaging machinery in the world with **strong domestic players**, such as Coesia Group or Marchesini Group, that are known for high quality machinery in the premium segment and compete for the global leadership with Germany
- **Schubert** generated **6.1% of 2019 Sales** in Italy and was able to strongly **increase** its **direct sales** activities by €6.7m

Market Situation France

Developments

- The packaging machinery market in France is estimated to be **€1.4bn in 2020**
- France is a **large importer** of packaging machinery with imports worth **€1.1bn in 2019** and a YoY-growth rate of 6.5%
- There is an **increased demand** on the French market for **flexible and agile** packaging machines and **sustainable** packaging solutions
- In the food industry, **smaller batch sizes** are playing an increasingly important role

Competitive Landscape

- The packaging machinery industry in France is **moderately fragmented**, with **~150 domestic manufacturers**
- **German manufacturers** are among the **top suppliers** for packaging machinery, accounting for **€0.3bn** of **French imports** in 2019
- **Schubert** opened a French sales and service location in 2008, generated **6.6% of 2019 Sales** in France and was able to strongly **increase direct sales** activities in **recent years**

Source(s): Ucima, All4Pack, Euromonitor, Italien Trade Agency, Company Information

Future focus

Expansion of production plants in Pharma and Cosmetics offers major growth opportunities in Poland while labour shortages due to Brexit drive demand for packaging machines in the UK

SCHUBERT

Market Situation Poland

Developments

- The packaging machinery market in Poland is estimated to be **€0.6bn in 2019**
- Poland is the **largest market** for **Food and Beverages** in Central and Eastern Europe with meat, dairy, beverages and confectionary baking as largest subsegments
- The **Pharma** and **Cosmetics sectors** are heavily investing in **new production plants** due to increased demand for over-the-counter medications and skin care products which **drives demand** for packaging machines

Competitive Landscape

- The Polish market is **consolidated** and **dominated by foreign players**, as domestic players are mainly perceived as lower quality
- As **large multinationals** with high quality standards including Coca Cola, Nestle or Unilever are the major customers for packaging machinery in Poland, there is **high demand** in the **premium segment**
- As a result, **German manufacturers** are among the **top suppliers** for packaging machinery, accounting for €0.3bn of Polish imports in 2019
- **Schubert** generated **3.7% of 2019 Sales** in Poland and was able to strongly **increase** its **direct sales** activities by €4.5m

Market Situation UK

Developments

- The packaging machinery market in the UK is estimated to **be €0.5bn in 2020** with Food and Beverages (60-70%) and Pharma (10%) as its largest segments
- Market **growth** is mainly driven by **rising e-commerce** sales with demand for more efficient logistics, **smaller pack sizes** and new and **greener packaging materials**
- **Brexit** further **drives market demand** for packaging machines as **labour shortages** pushes companies to automate
- However, Brexit has also caused **logistics issues** for many spheres of industry and a new complex **'rules of origin' system** between the UK and mainland Europe could lead customers to **more localised solutions**

Competitive Landscape

- The market is **moderately consolidated,** with the presence of a few major companies, including Adeplhi Group and Bradman Lake
- **German manufacturers** are among the **top suppliers** for packaging machinery, accounting for €0.2bn of UK imports in 2019
- **Schubert** opened its **UK subsidiary** in 2008 to serve the UK and Irish markets and has major customers in the Confectionery, Beverage and Pharma industries, including Coca Cola and Premier Foods
- However, **small to medium-sized** companies are its **largest growing** market segment in recent years

Source(s): Ucima, All4Pack, Euromonitor, Stirling Media, Mordor Intelligence, VDMA, Roland Berger, Company Information

▭ Future focus

Key: local companies are not represented in the premium segment; Germany is one of the largest exporters to China; rising wages squeeze local margins; customers demand high-quality solutions

SCHUBERT

Market Situation Asia (focus: China)

Developments

- The total market size of China's packaging machinery grew rapidly to Euro 5.0 billion in 2018, almost close to **tripling** the 2009 market size of Euro 2.2 billion
- From the perspective of the market demand, **forming/filling/sealing** machinery remains the most widely used product category in China, and it is forecasted to remain the top category in 2021
- Consumer products such as **F&B, Pharmaceutical, Tobacco accounts** for more than 70% of total packaging market demand; F&B downstream market is and will continue to pose the largest demand for packaging in China
- From 2019 onwards, packaging machinery **imports are expected to keep steady,** more in line with the overall global economic situations; **Germany among** the **top 3 exporters** to China

Competitive Landscape

- The China packaging machinery sector is fragmented with around 7,916 domestic enterprises in 2019; domestic production is mainly concentrated in the **low to mid-end packaging machinery segment**
- About 60 established domestic enterprises, such as Guangzhou Tech-Long, dominates the low and mid-end segments, catering to more **price sensitive domestic customers** and key export markets
- Most of the **high-end segments** in the forming/filling/sealing, wrapping/bundling/palletizing and labelling & coding machinery categories are dominated by **well-known foreign brands and corporations** including Krones (Germany), Bosch (Germany), KHS (Germany), Coesia Group (Italy) and Tetra Pak (Sweden)

Key Market Trends and Dynamics

- International players value more for the benefits of enterprise value in the long term while the domestic players highly rely on the government subsidies
- German, Italian, Japanese, U.S. and Swedish players **shared the majority of domestic demand for high-end packaging machinery** due to a **lack of viable alternatives from the domestic players**
- **Consolidation of small domestic manufacturers** is expected to be most evident from 2020 onwards because of a **technological gap**
- Automated **large-scale packaging machinery lines** will see robust growth as **rising labour costs** in China becomes one of the key impediments for manufacturing enterprises in boosting profit margins

Demand Analysis

- The largest market for packaging machinery will continue to be the **F&B packaging sector**; consumption for pre-packaged F&B products are expected to increase quickly
- Main **customers include OEM packaging service providers**, large integrated logistics companies, **large F&B enterprises like Wahaha, Yili**, household product manufacturers like **P&G, Unilever** etc.
- Large retailers with significant control over their private label/own-brand products production will also be customers **with the need for high quality packaging machinery**; these retailers usually developed **integrated supply chain and logistic networks** that involves the use of primary and secondary packaging in the process

Source(s): China Packaging Machinery Industry Report (ITA)

India is extremely strong in growth, LATAM shows an open competitive field with few suppliers of comparable machines like Schubert

SCHUBERT

Market Situation India

Developments

- The packaging industry in India is expected to register a CAGR of approximately **26.7% during the period (2021-2026)**
- Further, the demand for packaging is growing due to the **rising population**, increasing income levels, **changing lifestyles**, increased media penetration through the internet, television, and growing economy
- According to the Indian Institute of Packaging (IIP), the packaging consumption in India has **increased by 200% in the past decade**, rising from 4.3 kg per person p.a. to 8.6 kg p.a.

Competitive Landscape

- The packaging industry in India is **moderately fragmented** with several players competing for their market share
- Due to increasing demand for packaging applications and technological advancements in the Indian economy, **many companies are increasing their market presence** by expanding their business footprint in various end-user markets
- Major Players are WestRock India Pvt. Ltd., Kapco Packaging and OJI India Packaging Pvt. Ltd., all of them focusing on **tertiary packaging rather than primary packaging** as technological knowledge regarding robotics and precision is lacking

Market Situation LATAM

Developments

- The Latin America packaging machinery market is expected to register **a CAGR of 3.9% over the forecast period 2021 to 2026**
- Covid-19 outbreak has raised hygiene awareness among consumers, motivating them to increase their spending on **home care and hygiene**
- The overall packaging market is **significantly growing**
- **Plastic** still dominates the market, but due to the growing environmental **sustainability** concerns, the market is expected to shift to options like paper
- Due to the rising incomes, urban lifestyle changes, and modern retail trade, the food packaging market is expanding significantly in categories, such as **bakery products, canned, processed food, frozen processed foods**

Competitive Landscape

- The market is **moderately consolidated**, with the presence of a few major companies, which are continuously investing in making **strategic partnerships** and product developments to gain more market share
- Major players are Tetra Laval, MeadWestvaco Corporation and Ranpack Corp, focussing heavily on packaging of **less fragile products** or on tertiary packaging than Schubert
- Ranpak Holdings Corp. recently announced its investment in **Pickle Robot** Company, a leader in robots for automated sorting, loading, and unloading of packaged goods within logistical lines

Source(s): Mordor Intelligence

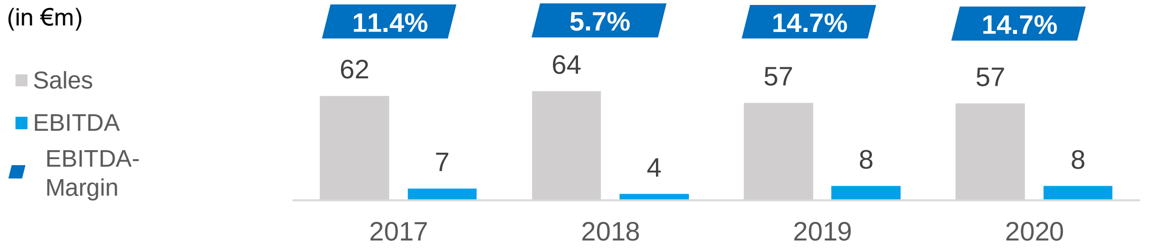
Add-On ETIMEX: Company Overview - ETIMEX shows robust financials, experienced management and products that fit Gerhard Schubert's profile

etimex | SCHUBERT

- ETIMEX Primary Packaging (Part of the ETIMEX Group) is a **German family owned producer of primary packaging solutions**
- The company **offers films and containers** made of various **plastics for applications in packaging solutions** for the Food and Pharmaceutical industries as well as films for technical applications

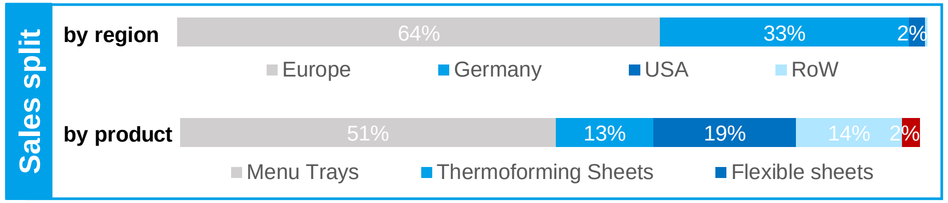
Management:
(since 2018)

- 50 years old
- CEO since January 2018
- Previously ETIMEX USA, Soultia, BP Chemicals Plastec



Business | Financials | Products | Location

ETIMEX Primary Packaging

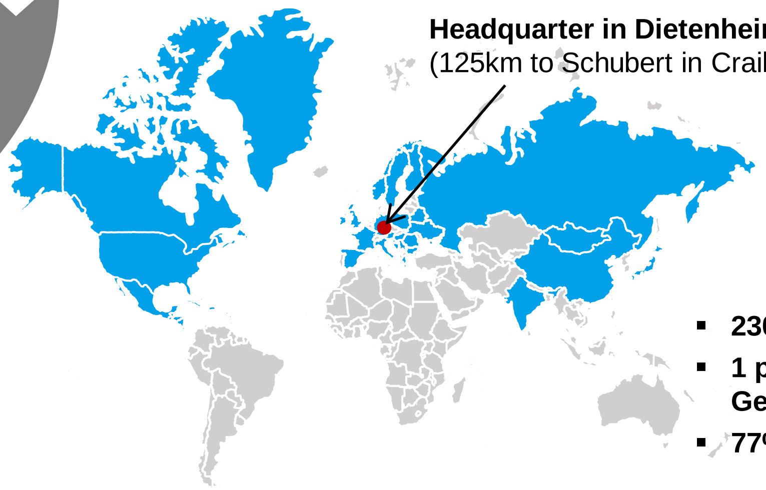


Valuation

Comparable Company Analysis	Comparable Transaction Analysis	Valuation Multiple: 9.3x leading to an EV of €77.8m
8.4x[1]	10.2x	

Margin Impact

in €k	Schubert 2020	ETIMEX 2020A	Combined 2020PF
Sales	**259,085**	**57,116**	**316,202**
Turnover	**255,713**	**57,421**	**313,134**
Gross Profit	**156,034**	**28,999**	**185,033**
% Margin	*60.2%*	*50.8%*	*58.5%*
EBITDA Reported	**21,324**	**8,375**	**26,699**
% Margin	*8.2%*	*14.7%*	*9.4%*



Headquarter in Dietenheim, Germany (125km to Schubert in Crailsheim)

- **230 employees**
- **1 plant** in Dietenheim, **Germany**
- **77%** export ratio

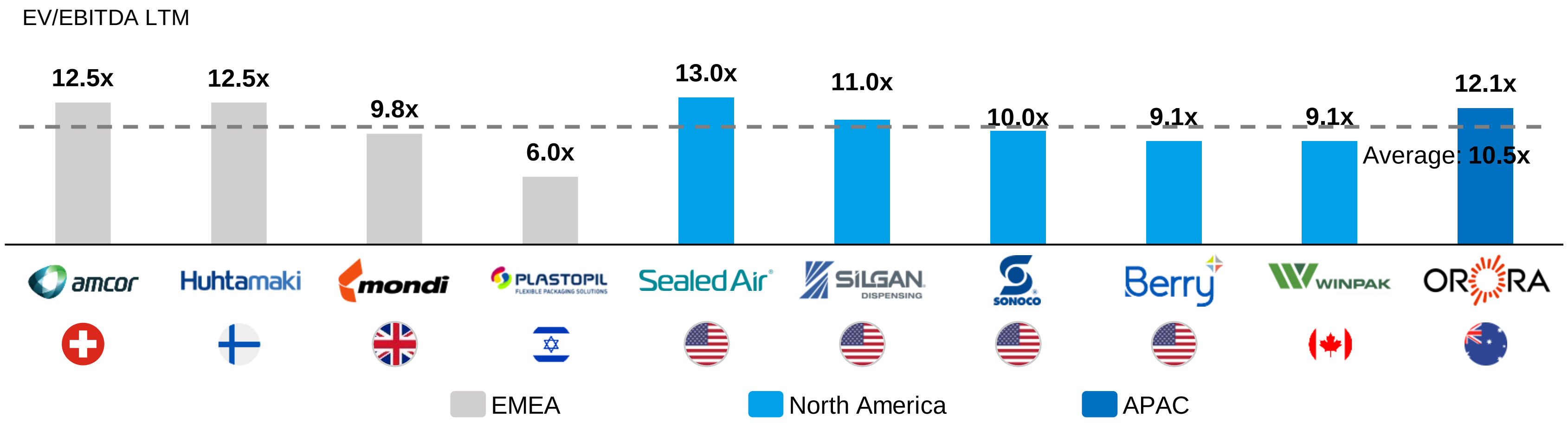
Source(s): Annual Report, Company Information

● Production Location ○ Years Industry Experience ● High Managing Capabilities

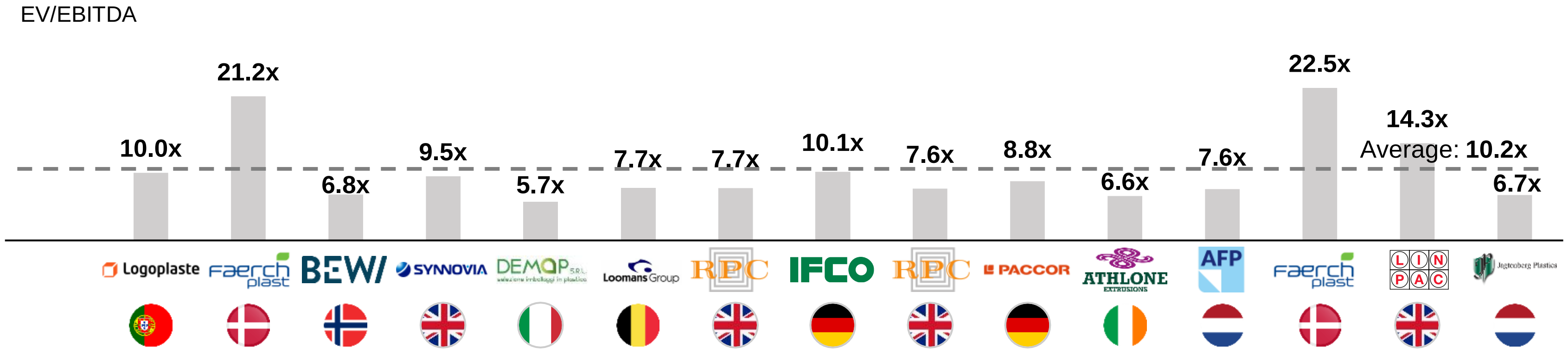
Relative valuation of Trading and Transaction Multiples within the packaging material industry leading to a blended valuation multiple of 9.3x

SCHUBERT

Trading Multiples



Transaction Multiples



EV (€m)	1,400	1,900	38	72	20	76	5,293	2,211	5,161	700	48	90	874	526	20
Year	2021	2020	2020	2019	2019	2019	2019	2019	2019	2018	2017	2017	2017	2017	2016

Comment

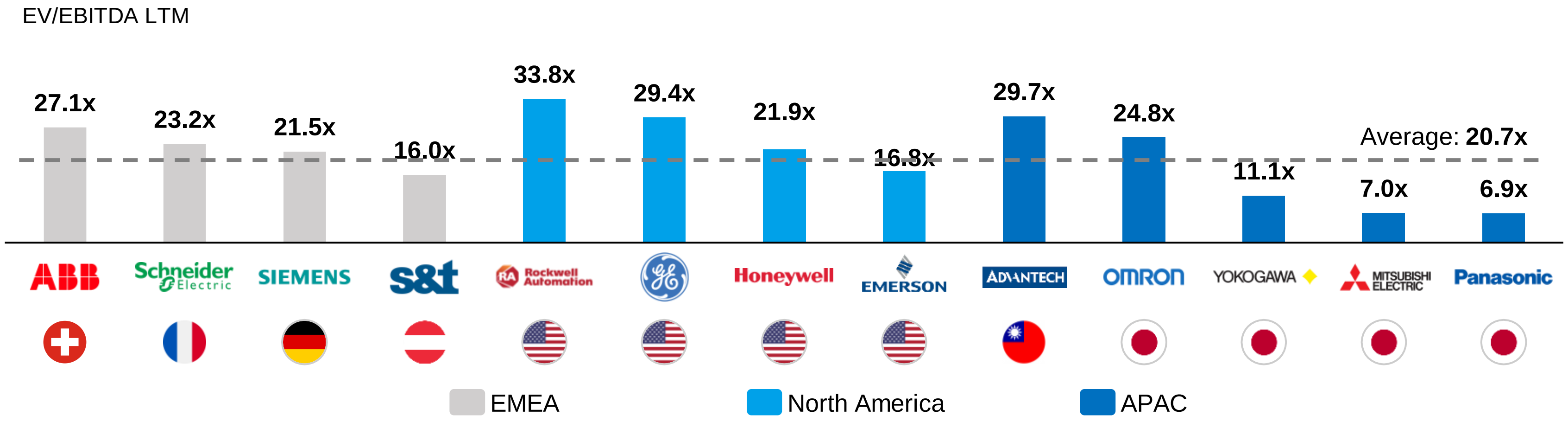
- Comparable peers comprise international packaging material manufacturers with a **focus on flexible packaging**
- To account for illiquidity of ETIMEX's business and smaller size than its **trading comparables** an **illiquidity discount** of 20% was assumed leading to an **average valuation multiple of 8.4x**
- To evaluate past transactions in the sector, multiple transactions were analyzed based on their target business segments and geographical region
- **Trading and Transaction Multiples are at similar levels with 10.5x and 10.2x respectively**

	Trading Multiples	Transaction Multiples
Average	**8.4x[1]**	**10.2x**
EBITDA 2020A	**€8,375k**	
Enterprise Value	**€70,463k**	**€85,289k**

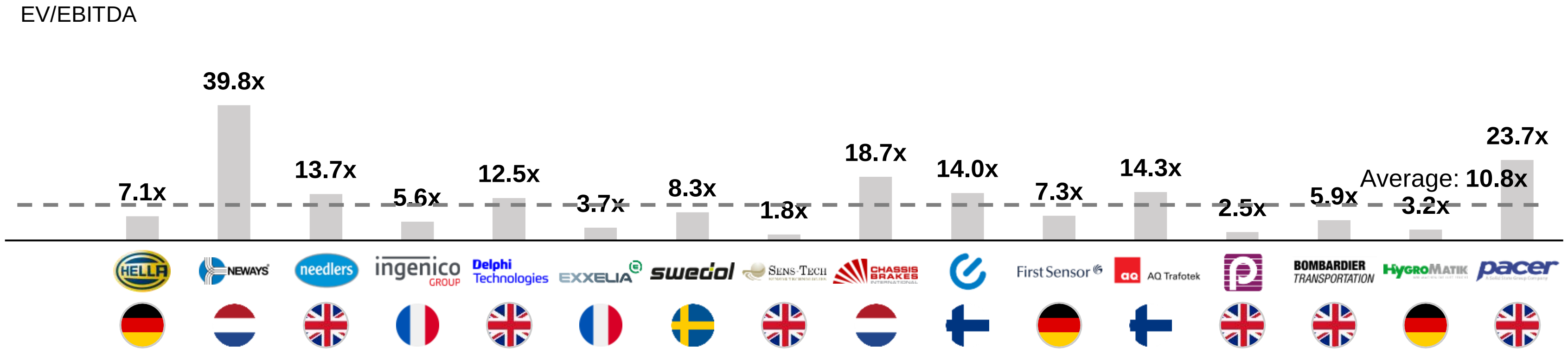
Source(s): Mergermarket, Annual Report, Capital IQ; Note(s): 1) Includes illiquidity discount of 20%

Relative valuation of Trading and Transaction Multiples within the industrial automation industry leading to a blended valuation multiple of 12.7x

Trading Multiples



Transaction Multiples



EV (€m)	7,112	211	44	9,151	2,565	500	312	67	588	19	308	28	5	13	59	6
Year	2021	2021	2020	2020	2020	2020	2019	2019	2019	2019	2019	2019	2019	2019	2018	2018

Comment

- Comparable peers comprise international industrial automation companies with a focus on industrial computers and system controls
- To account for illiquidity of Schubert System Elektronik's business and smaller size than its **comparables** an **illiquidity discount** of 20% and discount for semiconductor crisis of 10% was assumed leading **multiple of 14.5x**
- To evaluate past transactions in the sector, multiple transactions were analyzed based on their target business segments and geographical region
- Due to recent market upswings and increasing importance of safety automation **Trading Multiples are higher than historical Transaction Multiples**

	Trading Multiples	Transaction Multiples
Average	14.5x[1]	10.8x
EBITDA 2019PF	€3,218k	
Enterprise Value	€46,665k	€34,865k

Source(s): Mergermarket, Annual Report, Capital IQ; Note(s): 1) Includes illiquidity discount of 20% and semi conductor crisis adjustment of 10%

Schubert acts in a megatrend driven market and shows significant growth potentials with little obstacles imposing growth threats

S

- High degree of **innovation** through own, well-funded research and development department (several patents etc.)
- Representative typical German mechanical engineering manufacturers characteristics such as **quality** and **precision**
- **Modular design** of the machines enables **coverage of the entire packaging line** as well as high **flexibility, in-house manufacturing**
- **High expertise & long track-record** in key industries
- **Strong employer brand** through good networks with educational institutions as well as social offers for employees
- **Large, addressable, fragmented, growing market**

W

- **Volatile Sales development** due to dependencies on big orders
- Focus on niche market endangers expansion opportunities
- **Upgradable service offering** & service proximity
- **Low share of Aftersales Services** in overall sales structure with only **16% of 2019A Sales**
- **Multitude of group companies** tie up management attention and indicate distraction from focus on core business; Especially System Elektronik seems not to be totally core business
- Weak investment management due to CAPEX backlog during 2016A as investments were made after **100% production capacity** was reached

O

- High **growth potential** in **China**, as the second largest and **fastest growing market**, in which German manufacturers lead the **premium segment** with a great reputation
- Schubert management already showed that they are capable of an **aggressive geographical expansion** (USA)
- Highly **fragmented market**, especially in China, offers great **potential for inorganic growth**
- Increased **demand** for **flexible and sustainable packaging machines**, e.g. with **interchangeable tools** to handle new materials and different sizes and to strengthen market position
- **Management change** could pose new opportunities due to rejuvenation of the current management age structure

T

- The so-called **'Made in China 2025' strategy**, which aims to strengthen domestic players and challenge the dominance of international players in its home market **inhibits import volumes**
- Current **fast-paced market** environment requires **steady innovation** to stay ahead of competition
- **Substitute technologies** such as vertical loading or tray loading machinery
- **Focus** of **larger players** towards **Pick & Place** technology with larger customer base

Source(s): Own Analysis

EBITDA-Margin is expected to increase to 15.3% in 2027E after margin decline in 2020E, while showing strong Top-Line growth (1/2)

in €k	2019A	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	12-'19	19-'27
Sales	**272,319**	**252,029**	**335,160**	**375,147**	**411,546**	**445,436**	**482,074**	**511,800**	**547,960**	**7.5%**	**9.1%**
Turnover	**284,055**	**250,574**	**333,096**	**375,056**	**411,310**	**445,494**	**480,973**	**510,746**	**546,460**	**7.9%**	**8.5%**
YoY Growth	3.3%	(11.8%)	32.9%	12.6%	9.7%	8.3%	8.0%	6.2%	7.0%		
Raw Materials	① *(76,873)*	*(62,697)*	*(68,201)*	*(80,787)*	*(87,580)*	*(91,578)*	*(97,429)*	*(100,946)*	*(106,234)*	6.0%	4.1%
% Sales	*(28.2%)*	*(24.9%)*	② *(20.3%)*	*(21.5%)*	*(21.3%)*	*(20.6%)*	*(20.2%)*	*(19.7%)*	*(19.4%)*		
Purchased Services	*(34,575)*	*(32,117)*	*(35,342)*	*(24,307)*	*(25,627)*	*(27,394)*	*(29,864)*	*(31,767)*	*(34,321)*	8.3%	(0.1%)
% Sales	*(12.7%)*	*(12.7%)*	③ *(10.5%)*	*(6.5%)*	*(6.2%)*	*(6.1%)*	*(6.2%)*	*(6.2%)*	*(6.3%)*		
ETIMEX expenses	*0*	*0*	*(29,685)*	*(31,005)*	*(32,383)*	*(34,143)*	*(36,167)*	*(38,133)*	*(40,017)*	n.a.	n.a.
% Sales	*0.0%*	*0.0%*	④ *(8.9%)*	*(8.3%)*	*(7.9%)*	*(7.7%)*	*(7.5%)*	*(7.5%)*	*(7.3%)*		
Material Expenses	**(111,447)**	**(94,814)**	**(133,228)**	**(136,099)**	**(145,590)**	**(153,115)**	**(163,460)**	**(170,846)**	**(180,572)**	**6.7%**	**6.2%**
% Sales	*(40.9%)*	⑤ *(37.6%)*	*(39.8%)*	*(36.3%)*	*(35.4%)*	*(34.4%)*	*(33.9%)*	*(33.4%)*	*(33.0%)*		
Gross Profit	**172,608**	**155,760**	**199,868**	**238,957**	**265,721**	**292,380**	**317,512**	**339,900**	**365,889**	**8.8%**	**9.8%**
% Margin	*63.4%*	*61.8%*	*59.6%*	*63.7%*	*64.6%*	*65.6%*	*65.9%*	*66.4%*	*66.8%*		
Personnel Expenses	⑥ **(100,354)**	**(91,632)**	**(113,787)**	**(132,460)**	**(149,509)**	**(165,745)**	**(181,419)**	**(196,399)**	**(210,348)**	**8.5%**	**9.7%**
% Sales	*(36.9%)*	*(36.4%)*	*(33.9%)*	*(35.3%)*	*(36.3%)*	*(37.2%)*	*(37.6%)*	*(38.4%)*	*(38.4%)*		
Rent & Leasing	(5,587)	(5,587)	(6,034)	(6,999)	(8,049)	(9,257)	(10,368)	(11,612)	(13,005)	11.2%	11.1%
Shipping / Logistics	(10,817)	(10,081)	(10,144)	(12,072)	(13,747)	(14,627)	(15,236)	(15,681)	(16,649)	8.3%	5.5%
Marketing Expenses	(6,243)	(3,780)	(7,147)	(9,970)	(9,921)	(10,098)	(9,127)	(7,747)	(8,310)	16.3%	3.6%
Maintenance	(4,740)	(5,041)	(5,498)	(6,232)	(6,890)	(7,480)	(8,113)	(8,608)	(9,234)	10.6%	8.7%
IT & Licenses	(2,279)	(1,910)	(2,084)	(2,362)	(2,611)	(2,835)	(3,075)	(3,263)	(3,500)	8.4%	5.5%
Other Expenses	(15,922)	(15,626)	(14,845)	(16,152)	(17,143)	(18,241)	(19,388)	(20,571)	(22,066)	5.1%	4.2%
Other Expenses (ETIMEX)	*0*	*0*	*(7,363)*	*(7,768)*	*(8,195)*	*(8,728)*	*(9,339)*	*(9,946)*	*(10,542)*		
Other Operating Expenses	**(45,588)**	**(42,025)**	**(53,115)**	**(61,555)**	**(66,557)**	**(71,266)**	**(74,645)**	**(77,428)**	**(83,306)**	**8.4%**	**7.8%**
% Sales	*(16.7%)*	*(16.7%)*	*(15.8%)*	*(16.4%)*	*(16.2%)*	*(16.0%)*	*(15.5%)*	*(15.1%)*	*(15.2%)*		
Other Income	**2,059**	**1,906**	**3,960**	**4,237**	**4,483**	**4,724**	**4,987**	**5,195**	**5,429**	**5.2%**	**12.9%**
EBITDA Adjusted	**30,227**	**24,009**	**36,927**	**49,179**	**54,138**	**60,092**	**66,435**	**71,269**	**77,664**	**9.9%**	**12.5%**
YoY Growth	*(3.3%)*	*(20.6%)*	*53.8%*	*33.2%*	*10.1%*	*11.0%*	*10.6%*	*7.3%*	*9.0%*		
% Margin	*11.1%*	*9.5%*	*11.0%*	*13.1%*	*13.2%*	*13.5%*	*13.8%*	*13.9%*	*14.2%*		

Comment

① Reduction due to **Carve-Out of business unit with high Raw Materials Expenses**

② Margin drops due to higher Sales resulting from the **ETIMEX acquisition**, whose Material Expense impact can be seen in the ETIMEX expenses line

③ Strong decrease in Purchased Services due to **factory ramp-up; Purchased Services stay at a low margin**, which is ensured through **consistent capacity build up** reflected in CAPEX

④ **ETIMEX Material margin** stay in line with historical development

⑤ **Material Expense margin** is influenced by many factors but is expected to **sink** over the forecasted time to 33% in 2027E; **key drivers are the higher service share, more capacity and a more efficient production**; this leads to a steadily increasing Gross Profit margin starting in 2022E

⑥ **Personnel is steadily built up,** except the decrease through the Carve-Out in 2020E, with a spike in 2021E due to the acquisition which does not translate to the Personnel margin; Until 2027E a steady and slight increase in the margin can be seen as the business **focusses more on service**

Source(s): Own Analysis, Annual Report

EBITDA-Margin is expected to increase to 15.3% in 2027E after margin decline in 2020E, while showing strong Top-Line growth (2/2)

SCHUBERT

in €k	2019A	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	12-'19	19-'27
Sales	**272,319**	**252,029**	**335,160**	**375,147**	**411,546**	**445,436**	**482,074**	**511,800**	**547,960**	**7.5%**	**9.1%**
Turnover	**284,055**	**250,574**	**333,096**	**375,056**	**411,310**	**445,494**	**480,973**	**510,746**	**546,460**	**7.9%**	**8.5%**
YoY Growth	3.3%	(11.8%)	32.9%	12.6%	9.7%	8.3%	8.0%	6.2%	7.0%		
Raw Materials	(76,873)	(62,697)	(68,201)	(80,787)	(87,580)	(91,578)	(97,429)	(100,946)	(106,234)	6.0%	4.1%
% Sales	*(28.2%)*	*(24.9%)*	*(20.3%)*	*(21.5%)*	*(21.3%)*	*(20.6%)*	*(20.2%)*	*(19.7%)*	*(19.4%)*		
Purchased Services	(34,575)	(32,117)	(35,342)	(24,307)	(25,627)	(27,394)	(29,864)	(31,767)	(34,321)	8.3%	(0.1%)
% Sales	*(12.7%)*	*(12.7%)*	*(10.5%)*	*(6.5%)*	*(6.2%)*	*(6.1%)*	*(6.2%)*	*(6.2%)*	*(6.3%)*		
ETIMEX expenses	0	0	(29,685)	(31,005)	(32,383)	(34,143)	(36,167)	(38,133)	(40,017)	n.a.	n.a.
% Sales	*0.0%*	*0.0%*	*(8.9%)*	*(8.3%)*	*(7.9%)*	*(7.7%)*	*(7.5%)*	*(7.5%)*	*(7.3%)*		
Material Expenses	**(111,447)**	**(94,814)**	**(133,228)**	**(136,099)**	**(145,590)**	**(153,115)**	**(163,460)**	**(170,846)**	**(180,572)**	**6.7%**	**6.2%**
% Sales	*(40.9%)*	*(37.6%)*	*(39.8%)*	*(36.3%)*	*(35.4%)*	*(34.4%)*	*(33.9%)*	*(33.4%)*	*(33.0%)*		
Gross Profit	**172,608**	**155,760**	**199,868**	**238,957**	**265,721**	**292,380**	**317,512**	**339,900**	**365,889**	**8.8%**	**9.8%**
% Margin	*63.4%*	*61.8%*	*59.6%*	*63.7%*	*64.6%*	*65.6%*	*65.9%*	*66.4%*	*66.8%*		
Personnel Expenses	**(100,354)**	**(91,632)**	**(113,787)**	**(132,460)**	**(149,509)**	**(165,745)**	**(181,419)**	**(196,399)**	**(210,348)**	**8.5%**	**9.7%**
% Sales	*(36.9%)*	*(36.4%)*	⑧ *(33.9%)*	*(35.3%)*	*(36.3%)*	*(37.2%)*	*(37.6%)*	*(38.4%)*	*(38.4%)*		
Rent & Leasing	(5,587)	(5,587)	(6,034)	(6,999)	(8,049)	(9,257)	(10,368)	(11,612)	(13,005)	⑨ 11.2%	11.1%
Shipping / Logistics	(10,817)	(10,081)	(10,144)	(12,072)	(13,747)	(14,627)	⑩ (15,236)	(15,681)	(16,649)	8.3%	5.5%
Marketing Expenses	(6,243)	(3,780)	⑪ (7,147)	(9,970)	(9,921)	(10,098)	(9,127)	(7,747)	(8,310)	16.3%	3.6%
Maintenance	(4,740)	(5,041)	(5,498)	(6,232)	(6,890)	(7,480)	(8,113)	(8,608)	(9,234)	10.6%	8.7%
IT & Licenses	(2,279)	(1,910)	(2,084)	(2,362)	(2,611)	(2,835)	(3,075)	(3,263)	(3,500)	⑫ 8.4%	5.5%
Other Expenses	(15,922)	(15,626)	(14,845)	(16,152)	(17,143)	(18,241)	(19,388)	(20,571)	(22,066)	5.1%	4.2%
Other Expenses (ETIMEX)	0	0	(7,363)	(7,768)	(8,195)	(8,728)	(9,339)	(9,946)	(10,542)		
Other Operating Expenses	**(45,588)**	**(42,025)**	**(53,115)**	**(61,555)**	**(66,557)**	**(71,266)**	**(74,645)**	**(77,428)**	**(83,306)**	**8.4%**	**7.8%**
% Sales	*(16.7%)*	⑬ *(16.7%)*	*(15.8%)*	*(16.4%)*	*(16.2%)*	*(16.0%)*	*(15.5%)*	*(15.1%)*	*(15.2%)*		
Other Income	**2,059**	⑭ **1,906**	**3,960**	**4,237**	**4,483**	**4,724**	**4,987**	**5,195**	**5,429**	**5.2%**	**12.9%**
EBITDA Adjusted	**30,227**	**24,009**	**36,927**	**49,179**	**54,138**	**60,092**	**66,435**	**71,269**	**77,664**	**9.9%**	**12.5%**
YoY Growth	*(3.3%)*	*(20.6%)*	*53.8%*	*33.2%*	*10.1%*	*11.0%*	*10.6%*	*7.3%*	*9.0%*		
% Margin	*11.1%*	⑮ *9.5%*	*11.0%*	⑯ *13.1%*	*13.2%*	*13.5%*	*13.8%*	*13.9%*	*14.2%*		

Source(s): Own Analysis

Comment

⑧ **Personnel Expenses** is expected to show double digit growth from 2021E to 2025E, making it the biggest cost item in 2027E, which is in line with the plan of a more **service intensive strategy and international sales force build up**

⑨ Rent & Leasing is growing in historical rates driven by new **service and sales offices globally**

⑩ Shipping & Logistics is **driven by internationalisation** and is expected to reach €16m in 2027E

⑪ Increase in Marketing Expenses are based on **aggressive international growth strategy and increasing trade fair presence**

⑫ Maintenance, IT & Licenses and Other Expenses are expected to grow in line with **continuous growth of the company to reflect an increasing cost base**

⑬ In 2020E **Other Operating Expenses margin reaches 16.7% due to one-off effects for Covid**, thereafter decline driven through economies of scale

⑭ **Other Income rises by c. €2m in 2021E due to the ETIMEX acquisition** and follows moderately Sales growth thereafter

⑮ **Margin decline in 2020E due to one-off Covid effects and Carve-Out dilution**; Uplift in 2021E based on favourable ETIMEX acquisition

⑯ **Margin increase following 2021E** due to factory ramp-up and more cost effective production, as well as higher share of profitable service business

Without the ETIMEX acquisition Schubert still shows a strong EBITDA-Margin of 15.1% in 2027E but shows less strong Sales growth

SCHUBERT

in €k	2019A	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	12-'19	19-'27
Sales	**272,319**	**252,029**	**274,903**	**311,575**	**344,477**	**374,008**	**405,646**	**430,404**	**461,681** ①	**7.5%**	**6.8%**
Turnover	**284,055**	**250,574**	**272,604**	**311,031**	**343,615**	**373,263**	**404,746**	**429,511**	**460,610**	**7.9%**	**6.2%**
YoY Growth	3.3%	(11.8%)	8.8%	14.1%	10.5%	8.6%	8.4%	6.1%	7.2%		
Raw Materials	(76,873)	(62,697)	(68,201)	(80,787)	(87,580)	(91,578)	(97,429)	(100,946)	(106,234)	6.0%	4.1%
% Sales	*(28.2%)*	*(24.9%)*	*(24.8%)*	*(25.9%)*	*(25.4%)*	*(24.5%)*	*(24.0%)*	*(23.5%)*	*(23.0%)*		
Purchased Services	(34,575)	(32,117)	(35,342)	(24,307)	(25,627)	(27,394)	(29,864)	(31,767)	(34,321)	8.3%	(0.1%)
% Sales	*(12.7%)*	*(12.7%)*	*(12.9%)*	*(7.8%)*	*(7.4%)*	*(7.3%)*	*(7.4%)*	*(7.4%)*	*(7.4%)*		
ETIMEX expenses	0	0	0	0	0	0	0	0	0	n.a.	n.a.
% Sales	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*		
Material Expenses	**(111,447)**	**(94,814)**	**(103,543)**	**(105,095)**	**(113,207)**	**(118,972)**	**(127,293)**	**(132,712)**	**(140,555)**	**6.7%**	**2.9%**
% Sales	*(40.9%)*	*(37.6%)*	② *(37.7%)*	*(33.7%)*	*(32.9%)*	*(31.8%)*	*(31.4%)*	*(30.8%)*	*(30.4%)*		
Gross Profit	**172,608**	**155,760**	**169,061**	**205,936**	**230,408**	**254,291**	**277,453**	**296,798**	**320,055**	**8.8%**	**8.0%**
% Margin	*63.4%*	*61.8%*	*61.5%*	*66.1%*	*66.9%*	*68.0%*	*68.4%*	*69.0%*	*69.3%*		
Personnel Expenses	**(100,354)**	**(91,632)**	③ **(97,457)**	**(115,232)**	**(131,333)**	**(146,388)**	**(160,707)**	**(174,340)**	**(186,966)**	**8.5%**	**8.1%**
% Sales	*(36.9%)*	*(36.4%)*	*(35.5%)*	*(37.0%)*	*(38.1%)*	*(39.1%)*	*(39.6%)*	*(40.5%)*	*(40.5%)*		
Rent & Leasing	(5,587)	(5,587)	(6,034)	(6,999)	(8,049)	(9,257)	(10,368)	(11,612)	(13,005)	11.2%	11.1%
Shipping / Logistics	(10,817)	(10,081)	(10,144)	(12,072)	(13,747)	(14,627)	(15,236)	(15,681)	(16,649)	8.3%	5.5%
Marketing Expenses	(6,243)	(3,780)	(7,147)	(9,970)	(9,921)	(10,098)	(9,127)	(7,747)	(8,310)	16.3%	3.6%
Maintenance	(4,740)	(5,041)	(5,498)	(6,232)	(6,890)	(7,480)	(8,113)	(8,608)	(9,234)	10.6%	8.7%
IT & Licenses	(2,279)	(1,910)	(2,084)	(2,362)	(2,611)	(2,835)	(3,075)	(3,263)	(3,500)	8.4%	5.5%
Other Expenses	(15,922)	(15,626)	(14,845)	(16,152)	(17,143)	(18,241)	(19,388)	(20,571)	(22,066)	5.1%	4.2%
Other Expenses (ETIMEX)	0	0	0	0	0	0	0	0	0		
Other Operating Expenses	**(45,588)**	**(42,025)**	**(45,752)**	**(53,787)**	**(58,362)**	**(62,538)**	**(65,307)**	**(67,482)**	**(72,764)**	**8.4%**	**6.0%**
% Sales	*(16.7%)*	*(16.7%)*	*(16.6%)*	*(17.3%)*	*(16.9%)*	*(16.7%)*	*(16.1%)*	*(15.7%)*	*(15.8%)*		
Other Income	**2,059**	④ **1,906**	**1,851**	**2,056**	**2,228**	**2,371**	**2,520**	**2,620**	**2,754**	**5.2%**	**3.7%**
EBITDA Adjusted	**30,227**	⑤ **24,009**	**27,704**	**38,973**	**42,942**	**47,736**	**53,959**	**57,596**	**63,079**	**9.9%**	**9.6%**
YoY Growth	*(3.3%)*	*(20.6%)*	*15.4%*	*40.7%*	*10.2%*	*11.2%*	*13.0%*	*6.7%*	*9.5%*		
% Margin	*11.1%*	*9.5%*	*10.1%*	*12.5%*	*12.5%*	*12.8%*	*13.3%*	*13.4%*	⑥ *13.7%*		

Comment

① **Weaker Sales growth** with a **CAGR of 6.8% compared to the 9.1%** in the Add-On scenario

② **Lower Material Expense margin** compared to the Add-On case as the packaging material business has higher Raw Material Expenses than packaging machinery manufacturers, therefore this case shows a higher Gross Margin

③ **Personnel Expenses rise to c. €189m compared to c. €210m** showing a less moderate growth compared to ETIMEX acquisition as sudden personnel increase following personnel takeover[1]

④ Other Income is missing ETIMEX contributions and thus having a more moderate influence on EBITDA as with the ETIMEX transaction, but follows moderate Sales growth

⑤ Without the acquisition Schubert is **expected to reach an EBITDA of c. €63m in 2027E which lies c. €15m below the Add-On Case**

⑥ Schubert still manages to reach an **EBITDA-Margin uplift to 13.7%** without the acquiring profitable ETIMEX business, with a reasonable assumption that acquiring ETIMEX as standalone company, and assuming margin increases are realised within Schubert's packaging machinery business

Source(s): Annual Reports, Own Analysis; Note(s): 1) Following §613a German Civil Code

In the bank case Schubert realizes very small Sales growth and a flat EBITDA-Margin

in €k	2019A	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	12-'19	19-'27
Sales	**272,319**	**237,244**	**256,470**	**280,683**	**302,061**	**318,703**	**333,601**	**348,754**	**364,298**	① **7.5%**	**3.7%**
Turnover	**284,055**	**235,166**	**255,097**	**280,025**	**301,161**	**317,922**	**332,722**	**347,773**	**363,207**	**7.9%**	**3.1%**
YoY Growth	3.3%	(17.2%)	8.5%	9.8%	7.5%	5.6%	4.7%	4.5%	4.4%		
Raw Materials	(76,873)	(59,243)	(64,164)	(77,396)	(82,993)	(86,868)	(91,359)	(96,121)	(101,171)	6.0%	3.5%
% Sales	*(28.2%)*	*(25.0%)*	*(25.0%)*	*(27.6%)*	*(27.5%)*	*(27.3%)*	*(27.4%)*	*(27.6%)*	*(27.8%)*		
Purchased Services	(34,575)	(29,050)	(30,950)	(27,676)	(29,181)	(30,559)	(32,077)	(33,750)	(35,524)	8.3%	0.3%
% Sales	*(12.7%)*	*(12.2%)*	*(12.1%)*	*(9.9%)*	*(9.7%)*	*(9.6%)*	*(9.6%)*	*(9.7%)*	*(9.8%)*		
ETIMEX expenses	0	0	0	0	0	0	0	0	0	n.a.	n.a.
% Sales	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*		
Material Expenses	**(111,447)**	**(88,292)**	**(95,114)**	**(105,072)**	**(112,175)**	**(117,427)**	**(123,436)**	**(129,870)**	**(136,694)**	**6.7%**	**2.6%**
% Sales	*(40.9%)*	*(37.2%)*	② *(37.1%)*	*(37.4%)*	*(37.1%)*	*(36.8%)*	*(37.0%)*	*(37.2%)*	*(37.5%)*		
Gross Profit	**172,608**	**146,874**	**159,983**	**174,952**	**188,986**	**200,495**	**209,285**	**217,903**	**226,513**	**8.8%**	**3.5%**
% Margin	*63.4%*	*61.9%*	*62.4%*	*62.3%*	*62.6%*	*62.9%*	*62.7%*	*62.5%*	*62.2%*		
Personnel Expenses	**(100,354)**	**(88,229)**	**(92,244)**	**(99,855)**	**(109,268)**	**(116,662)**	**(122,538)**	**(125,437)**	**(129,963)**	**8.5%**	**3.3%**
% Sales	*(36.9%)*	*(37.2%)*	③ *(36.0%)*	*(35.6%)*	*(36.2%)*	*(36.6%)*	*(36.7%)*	*(36.0%)*	*(35.7%)*		
Rent & Leasing	(5,587)	(5,196)	(5,716)	(6,001)	(6,301)	(6,679)	(7,214)	(7,791)	(8,414)	11.2%	5.3%
Shipping / Logistics	(10,817)	(9,490)	(9,464)	(10,875)	(12,054)	(12,464)	(12,530)	(14,648)	(14,572)	8.3%	3.8%
Marketing Expenses	(6,243)	(3,203)	(6,001)	(8,084)	(8,264)	(8,175)	(7,131)	(8,021)	(8,015)	16.3%	3.2%
Maintenance	(4,740)	(4,130)	(4,464)	(4,886)	(5,258)	(6,374)	(6,672)	(6,975)	(7,286)	10.6%	5.5%
IT & Licenses	(2,279)	(1,798)	(1,944)	(2,128)	(2,290)	(2,416)	(2,529)	(2,644)	(2,761)	8.4%	2.4%
Other Expenses	(15,922)	(14,709)	(13,849)	(14,551)	(15,033)	(15,543)	(15,945)	(16,669)	(17,412)	5.1%	1.1%
Other Expenses (ETIMEX)	0	0	0	0	0	0	0	0	0		
Other Operating Expenses	**(45,588)**	**(38,526)**	**(41,438)**	**(46,524)**	**(49,200)**	**(51,652)**	**(52,020)**	**(56,748)**	**(58,460)**	**8.4%**	**3.2%**
% Sales	*(16.7%)*	*(16.2%)*	④ *(16.2%)*	*(16.6%)*	*(16.3%)*	*(16.2%)*	*(15.6%)*	*(16.3%)*	*(16.0%)*		
Other Income	**2,059**	**1,630**	**1,727**	**1,853**	**1,954**	**2,020**	**2,072**	**2,123**	**2,173**	**5.2%**	**0.7%**
EBITDA Adjusted	**30,227**	**21,750**	**28,028**	**30,426**	**32,472**	**34,201**	**36,799**	**37,842**	**40,264**	**9.9%**	**3.6%**
YoY Growth	*(3.3%)*	*(28.0%)*	⑤ *28.9%*	*8.6%*	*6.7%*	*5.3%*	*7.6%*	*2.8%*	*6.4%*		
% Margin	*11.1%*	*9.2%*	⑥ *10.9%*	*10.8%*	*10.8%*	*10.7%*	*11.0%*	*10.9%*	*11.1%*		

Source(s): Annual Reports, Own Analysis

Comment

① Sales are expected to grow lower than historically at a CAGR of 3.7% as it is expected that the planned international expansions, the acquisition and the Retrofit strategy will not be executed, therefore, Sales are expected to reach c. €364m by 2027E

② Material Expense reductions are expected to be less successful in the bank case and it is conservatively assumed to reach 37.5% in 2027E, therefore, this case also shows a significantly lower Gross Profit margin

③ Hiring is expected to be slower than assumed in the base case as Schubert is expected to quickly notice the missing demand and will react in lower hiring, however, this is subject to a time lag resulting in higher Personnel margins in 2020E and 2021E

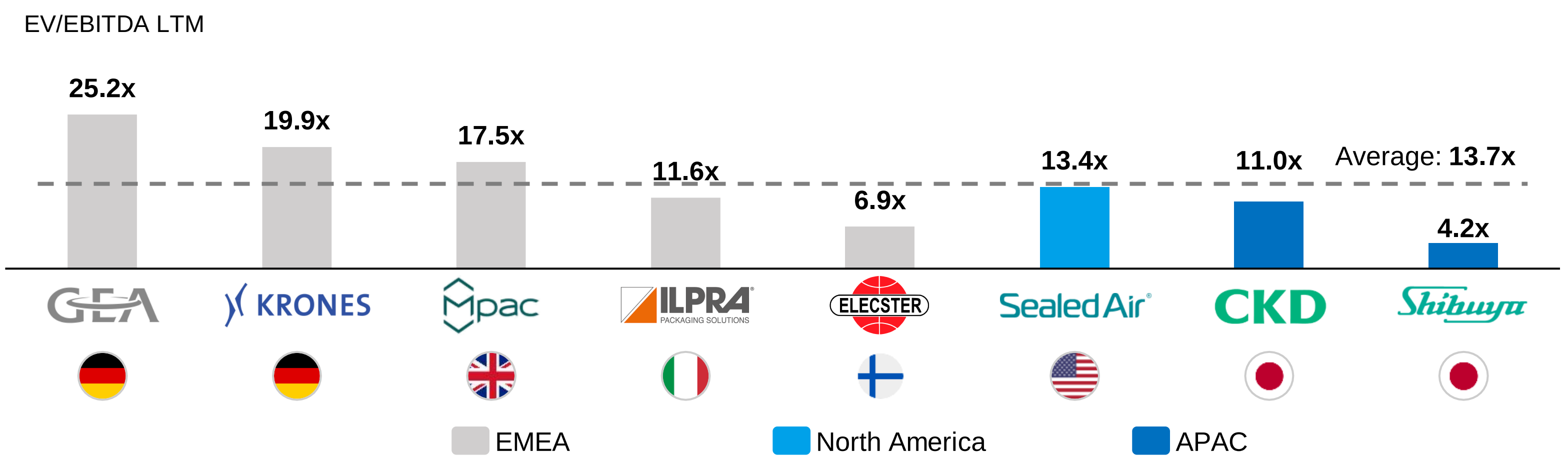
④ Other Operating Expenses are expected to develop accordingly with Sales and without significant improvement but still cash outflow from strategy anticipation

⑤ EBITDA is expected to grow with a CAGR of 4.9% to c. €42m in 2027E

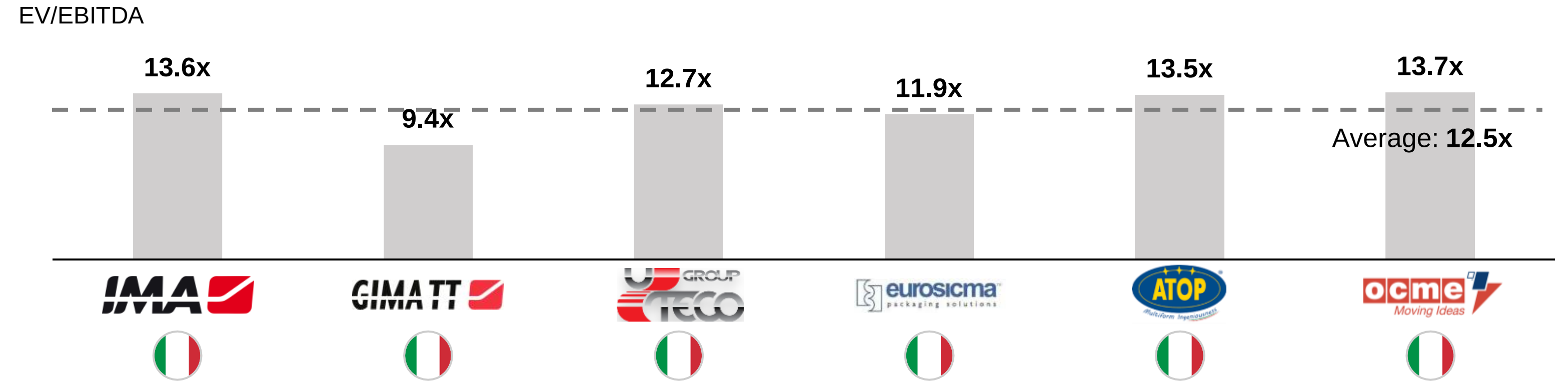
⑥ In 2020E and 2021E the margin drops below 10% due to the before mentioned Personnel Expenses but it recovers to a Level of c. 11% quickly where it remains flat

Relative valuation of Trading and Transaction Multiples within the packaging machinery manufacturer are showing average EBITDA Multiples of 11.0x and 12.5x, respectively

Trading Multiples



Transaction Multiples



EV (€m)	3,741	686	173	34	107	73
Year	2020	2019	2018	2017	2017	2017

Source(s): Mergermarket, Annual Report, Capital IQ; Note(s): 1) Includes illiquidity discount of 20%

Comment

- Comparable peers comprise listed international packaging machinery player with Pick & Place top loading machinery applications
- To account for illiquidity of Schubert's business and smaller size than its comparables an illiquidity discount of 20% was assumed leading to an **average valuation multiple of 11.0x**
- To evaluate past transactions in the sector, multiple transactions were analyzed based on their target business segments and geographical region
- Due to recent market upswings **Trading Multiples are higher than historical Transaction Multiples** which gets encountered after applying the illiquidity discount

	Trading Multiples	Transaction Multiples
Average	**11.0x[1]**	**12.5x**
EBITDA 2019A	**€30,227k**	
Enterprise Value	**€331,905k**	**€377,265k**

WACC is mainly derived from public peers with an unlevered beta of 0.78, whereas cost of debt denotes an average between historical rates and market metrics

Weighted Average Cost of Capital (WACC)

Debt / Equity	**0.31**

Debt / Equity	
D/V	23.90%
E/V	76.10%
Debt / Equity	**0.31**

Cost of Debt	**1.62%**

Cost of Debt	
Tax Rate	**30.00%**
Historical After-tax Cost of Debt	**2.88%**
Coverage Ratio	46.72
Implied Credit Rating	AA
Implied Spread	0.78%
Implied After-tax Cost of Debt	**0.36%**
Average After-tax Cost of Debt	**1.62%**

Cost of Equity	**11.17%**

Cost of Equity	
Risk free Rate	**(0.26%)**
Market rate of return	11.72%
Market Risk Premium	**11.98%**
Unlevered Beta	0.78
Levered Beta	0.95
Beta Premium	0.00
Adjusted Levered Beta	**0.95**
Cost of Equity	**11.17%**

WACC	**8.89%**

Discounted Cash Flow Valuation

in €k	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	TV
EBITDA	**28,512**	**28,314**	**35,242**	**38,232**	**41,959**	**44,594**	**49,229**	**53,688**	
D&A	(5,171)	(6,005)	(6,789)	(7,434)	(8,148)	(8,906)	(9,628)	(10,304)	
EBIT	23,341	22,309	28,453	30,798	33,811	35,688	39,601	43,383	
Tax	(7,002)	(6,693)	(8,536)	(9,239)	(10,143)	(10,706)	(11,880)	(13,015)	
NOPAT	16,338	15,616	19,917	21,559	23,667	24,981	27,720	30,368	
FCFF Calculation									
NOPAT	16,338	15,616	19,917	21,559	23,667	24,981	27,720	30,368	
D&A	5,171	6,005	6,789	7,434	8,148	8,906	9,628	10,304	
Change in NWC	(1,358)	1,410	(3,481)	(2,139)	(3,696)	(3,956)	(3,910)	(4,581)	
CAPEX	(9,012)	(10,663)	(9,543)	(7,331)	(8,036)	(7,790)	(7,515)	(7,181)	
FCFF	**11,140**	**12,368**	**13,682**	**19,522**	**20,083**	**22,142**	**25,924**	**28,911**	**505,358**
Discounted CF	10,230	10,430	10,596	13,885	13,117	13,281	14,279	14,624	255,633
Discount Factor	0.92	0.84	0.77	0.71	0.65	0.60	0.55	0.51	0.51

	Gordon Growth	Exit Multiple
Sum of Discounted Cash Flows	100,444	100,444
Terminal Value	255,633	259,245
EV	**356,077**	**359,689**

Assumptions

- Cost of Debt is calculated based of average of **historical after-tax cost of debt and implied after-tax cost of debt based on debt ratios**
- Implied after-cost of debt is based on **NYU Stern rating grid of comparable companies**, being rated AA
- Assumed **tax rate** for all valuation measures **is 30%,** following KPMG German tax grid
- 5-year return of **German SDAX** suits as market return rate as being most comparable in terms of size
- Perpetual growth is assumed to be 3.0%, following historic patterns of strong growth of Schubert
- **Unlevered Beta was calculated based on listed peer group**
- Assumed exit multiple for **DCF purposes denotes long term multiple average of 9.5x EBITDA**

Source(s): Bloomberg, Annual Report, CapitalIQ, NYU Stern, KPMG

An analysis of the multiples through a 10-year cycle suggests an EV/EBITDA multiple of 9.5x

Sensitivity Analysis DCF (Gordon Growth Approach)

(In €k)		WACC				
		8.4%	8.6%	8.9%	9.1%	9.4%
G	2.5%	366,619	350,123	334,938	320,915	307,928
	2.8%	378,985	361,301	345,077	330,142	316,350
	3.0%	392,498	373,470	356,077	340,120	325,430
	3.3%	407,325	386,767	368,051	350,944	335,249
	3.5%	423,667	401,356	381,136	362,728	345,901

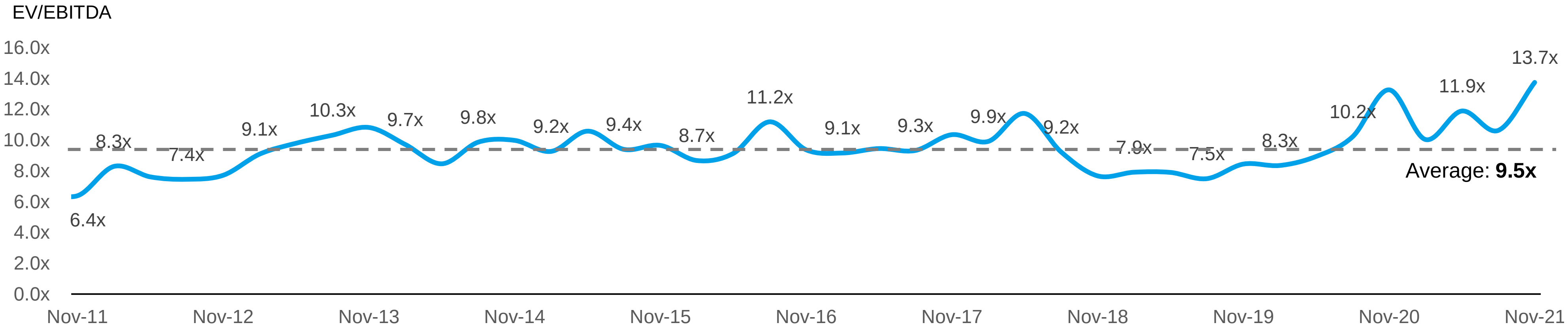
		WACC				
		8.4%	8.6%	8.9%	9.1%	9.4%
G	2.5%	12.1x	11.6x	11.1x	10.6x	10.2x
	2.8%	12.5x	12.0x	11.4x	10.9x	10.5x
	3.0%	13.0x	12.4x	11.8x	11.3x	10.8x
	3.3%	13.5x	12.8x	12.2x	11.6x	11.1x
	3.5%	14.0x	13.3x	12.6x	12.0x	11.4x

Sensitivity Analysis DCF (Exit Multiple Approach)

(In €k)		Exit Multiple				
		8.0x	8.8x	9.5x	10.3x	11.0x
WACC	8.4%	329,390	350,522	371,654	392,786	413,918
	8.6%	324,120	344,866	365,612	386,359	407,105
	8.9%	318,953	339,321	359,689	380,057	400,426
	9.1%	313,886	333,884	353,882	373,880	393,878
	9.4%	308,917	328,552	348,187	367,823	387,458

		WACC				
		8.0x	8.8x	9.5x	10.3x	11.0x
WACC	8.4%	10.9x	11.6x	12.3x	13.0x	13.7x
	8.6%	10.7x	11.4x	12.1x	12.8x	13.5x
	8.9%	10.6x	11.2x	11.9x	12.6x	13.2x
	9.1%	10.4x	11.0x	11.7x	12.4x	13.0x
	9.4%	10.2x	10.9x	11.5x	12.2x	12.8x

Through the Cycle Multiple Valuation



Peer Group

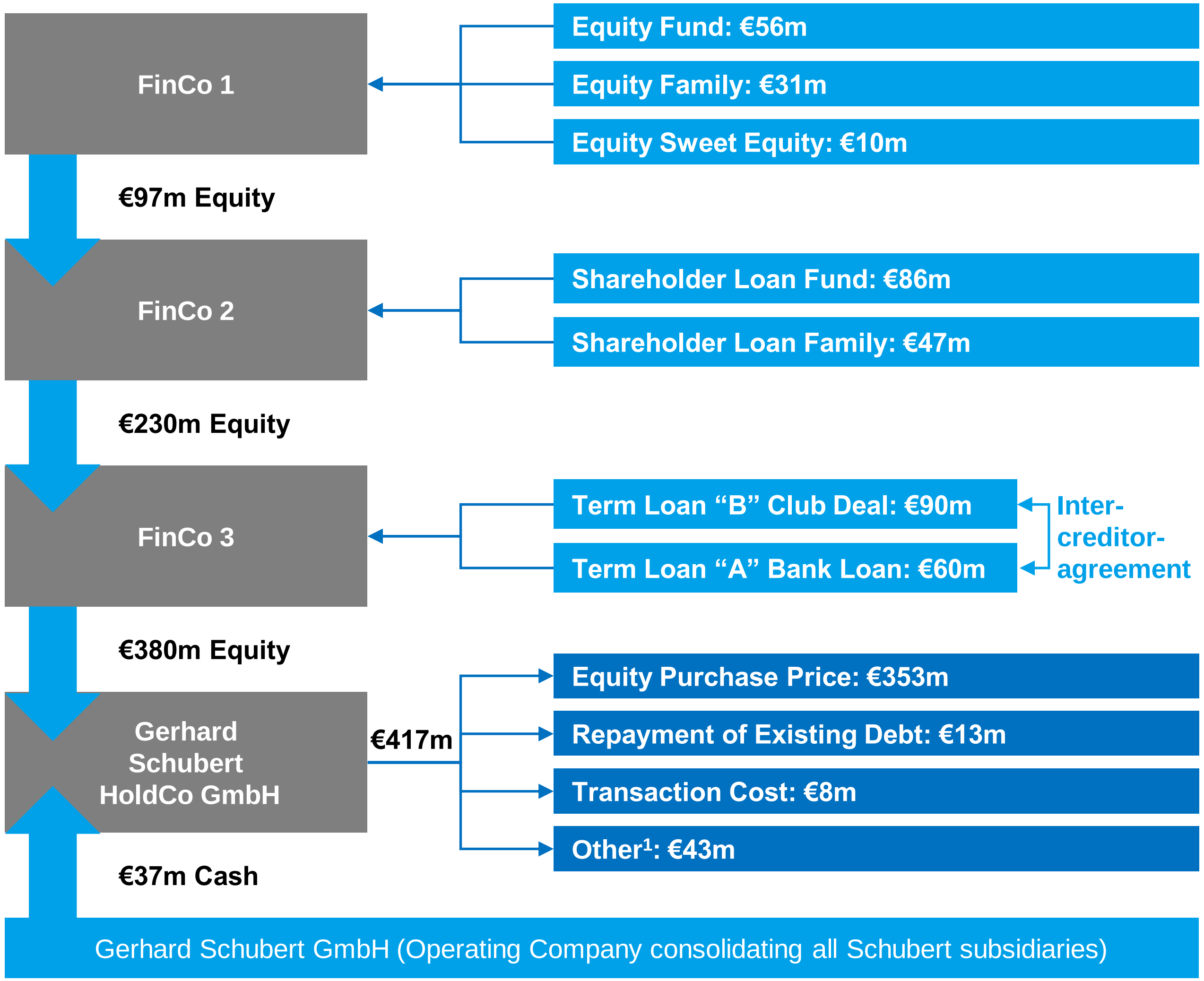
GEA
KRONES
Mpac
ILPRA PACKAGING SOLUTIONS
ELECSTER
SealedAir
CKD
Shibuya

Source(s): CapitalIQ

Gerhard Schubert transaction will be structured with structural subordination measures through multiple financing companies

SCHUBERT

Structural Subordination[1]



FinCo 1

- **Equity Fund: €56m**
- **Equity Family: €31m**
- **Equity Sweet Equity: €10m**

€97m Equity

FinCo 2

- **Shareholder Loan Fund: €86m**
- **Shareholder Loan Family: €47m**

€230m Equity

FinCo 3

- **Term Loan "B" Club Deal: €90m**
- **Term Loan "A" Bank Loan: €60m**

Inter-creditor-agreement

€380m Equity

Gerhard Schubert HoldCo GmbH

€417m

- **Equity Purchase Price: €353m**
- **Repayment of Existing Debt: €13m**
- **Transaction Cost: €8m**
- **Other[1]: €43m**

€37m Cash

Gerhard Schubert GmbH (Operating Company consolidating all Schubert subsidiaries)

Commentary

- To ensure structural subordination a legal structure **with multiple newly structured Financing Companies (FinCo's) and one new Holding Company was chosen**
- It is assumed that all companies founded are legally incorporated as **German limited liability companies "GmbH" ("Gesellschaft mit beschränkter Haftung")**
- Equity injections by the separate parties are also assumed to be made **through German limited liability companie**s to **ensure ringfencing**, especially important to the fund to secure other investments from bankruptcy of a singular portfolio company
- The family invests **€78m alongside the fund**, thus having the **same split between Shareholder Loan and Equity as the Fund**
- In terms of flow of funds, the most subordinate instrument is equity, where all parties are equally treated in terms of default, i.e., no contractual subordination
- FinCo 1 injects €97m of Equity in FinCo 2, in which the Shareholder Loans are injected with no contractual subordination but are structured more senior than Equity with the nature of Equity Like Instruments
- A cash injection of €230m is to be made by FinCo2 into FinCo 3, were €150m debt will be injected
- Between Term Loan "A" and Term Loan "B" will be an **inter-creditor agreement**, **determining a contractual subordination of Term Loan "B"**
- €380m of equity injection will be made by the financing parties and €37m of cash injection of Gerhard Schubert GmbH, utilizing Cash on Balance Sheet
- Complete equity injection into final acquisition company - Gerhard Schubert HoldCo GmbH - in amount of €417m will be distributed into uses of Equity Purchase Price, Repayment of Existing Debt, Transaction Cost, and Other
- The Uses item Other includes **Locked-Box Interest** (€6m), which will be distributed to the **former owners** and **Future M&A Budget and Overfunding** (aggregates to €37m), which will be included as **Cash On Balance Sheet for later usage**, thus directly repaying €36m to Gerhard Schubert GmbH
- Acquisitions will be **consolidated** within the target company Gerhard Schubert GmbH

Source(s): Own Analysis; Note(s): 1) Rounding errors might occur, leading to slight different numbers than on slide 34 (Sources & uses)

▨ Newly funded company in course of transaction

Throughout different scenarios, the transaction shows attractive return structures, which enables the case to be sensitive to external influences and to defer or pull forward the exit

Investment Case

		Entry Multiple				
		10.2x	11.0x	11.7x	12.5x	13.2x
Exit Multiple	10.2x	2.7x	2.6x	2.6x	2.5x	2.5x
	11.0x	2.8x	2.8x	2.7x	2.7x	2.7x
	11.7x	3.0x	3.0x	2.9x	2.9x	2.8x
	12.5x	3.2x	3.2x	3.1x	3.1x	3.0x
	13.2x	3.4x	3.4x	3.3x	3.2x	3.2x

		Entry Multiple				
		10.2x	11.0x	11.7x	12.5x	13.2x
Exit Multiple	10.2x	22%	21%	21%	20%	20%
	11.0x	23%	23%	22%	22%	22%
	11.7x	25%	24%	24%	24%	23%
	12.5x	26%	26%	25%	25%	25%
	13.2x	28%	27%	27%	26%	26%

		Exit Year				
		2022E	2023E	2024E	2025E	2026E
Exit Multiple	10.2x	1.8x	2.1x	2.6x	3.0x	3.4x
	11.0x	1.9x	2.3x	2.7x	3.2x	3.6x
	11.7x	2.1x	2.5x	2.9x	3.4x	3.9x
	12.5x	2.2x	2.6x	3.1x	3.6x	4.1x
	13.2x	2.4x	2.8x	3.3x	3.8x	4.3x

Bank Case

		Entry Multiple				
		10.2x	11.0x	11.7x	12.5x	13.2x
Exit Multiple	10.2x	1.7x	1.6x	1.6x	1.6x	1.6x
	11.0x	1.8x	1.7x	1.7x	1.7x	1.7x
	11.7x	1.9x	1.9x	1.8x	1.8x	1.8x
	12.5x	2.0x	2.0x	1.9x	1.9x	1.9x
	13.2x	2.1x	2.1x	2.0x	2.0x	2.0x

		Entry Multiple				
		10.2x	11.0x	11.7x	12.5x	13.2x
Exit Multiple	10.2x	11%	10%	10%	10%	9%
	11.0x	12%	12%	11%	11%	11%
	11.7x	14%	13%	13%	12%	12%
	12.5x	15%	15%	14%	14%	13%
	13.2x	16%	16%	15%	15%	15%

		Exit Year				
		2022E	2023E	2024E	2025E	2026E
Exit Multiple	10.2x	1.2x	1.4x	1.6x	1.8x	2.0x
	11.0x	1.3x	1.5x	1.7x	1.9x	2.1x
	11.7x	1.4x	1.6x	1.8x	2.0x	2.2x
	12.5x	1.5x	1.7x	1.9x	2.2x	2.4x
	13.2x	1.5x	1.8x	2.0x	2.3x	2.5x

Base Case Without ETIMEX Acquisition

		Entry Multiple				
		10.2x	11.0x	11.7x	12.5x	13.2x
Exit Multiple	10.2x	2.3x	2.3x	2.2x	2.2x	2.2x
	11.0x	2.5x	2.4x	2.4x	2.3x	2.3x
	11.7x	2.6x	2.6x	2.5x	2.5x	2.4x
	12.5x	2.8x	2.7x	2.7x	2.6x	2.6x
	13.2x	2.9x	2.9x	2.8x	2.8x	2.7x

		Entry Multiple				
		10.2x	11.0x	11.7x	12.5x	13.2x
Exit Multiple	10.2x	18%	18%	17%	17%	17%
	11.0x	20%	19%	19%	19%	18%
	11.7x	21%	21%	20%	20%	20%
	12.5x	23%	22%	22%	21%	21%
	13.2x	24%	23%	23%	23%	22%

		Exit Year				
		2022E	2023E	2024E	2025E	2026E
Exit Multiple	10.2x	1.6x	1.9x	2.2x	2.7x	3.0x
	11.0x	1.7x	2.0x	2.4x	2.8x	3.2x
	11.7x	1.8x	2.1x	2.5x	3.0x	3.3x
	12.5x	2.0x	2.3x	2.7x	3.2x	3.5x
	13.2x	2.1x	2.4x	2.8x	3.3x	3.7x

- Schubert offers attractive returns throughout all scenarios within the Base Case, even without the acquisition of ETIMEX as of 01.01.2021
- If Schubert develops according to the Bank Case, a longer holding period still offers an attractive return profile, thus providing downwards protection for an earlier assumed exit

Source(s): Own Analysis

References

- Chinchane, Amar. 2021. “Packaging Machinery Market 2021”. Allied Market Research. Retrieved from: https://www.alliedmarketresearch.com/packaging-machinery-market
- Gerhard Schubert Gesellschaft mit beschränkter Haftung. 2018. “Konzernabschluss zum Geschäftsjahr vom 01.01.2016 bis zum 31.12.2016“. Bundesanzeiger. Retrieved from: https://www.bundesanzeiger.de/
- Gerhard Schubert Gesellschaft mit beschränkter Haftung. 2019. “Konzernabschluss zum Geschäftsjahr vom 01.01.2017 bis zum 31.12.2017“. Bundesanzeiger. Retrieved from: https://www.bundesanzeiger.de/
- Gerhard Schubert Gesellschaft mit beschränkter Haftung. 2020. “Konzernabschluss zum Geschäftsjahr vom 01.01.2018 bis zum 31.12.2018“. Bundesanzeiger. Retrieved from: https://www.bundesanzeiger.de/
- Gerhard Schubert Gesellschaft mit beschränkter Haftung. 2021. “Konzernabschluss zum Geschäftsjahr vom 01.01.2019 bis zum 31.12.2019“. Bundesanzeiger. Retrieved from: https://www.bundesanzeiger.de/
- Gerhard Schubert Group. 2021. “Gerhard Schubert Group”. Gerhard Schubert GmbH. Retrieved from: https://www.schubert.group/en/
- Lebensmittelverarbeitung Online. 2020. “Ein Marktführer in Zahlen: Daten und Fakten über Gerhard Schubert“. Lebensmittelverarbeitung Online. Retrieved from: https://www.lebensmittelverarbeitung-online.de/branchennews/ein-marktfuehrer-in-zahlen-daten-und-fakten-ueber-gerhard-schubert
- PMMI. 2018. “A Look at Packaging Around the World”. PMMI. Retrieved from: https://pmmi.docsend.com/view/w3k3ntt
- PMMI. 2019. “2019 State of the Industry US Packaging Machinery Report”. PMMI. Retrieved from: https://www.pmmi.org/report/state-industry-2019
- PMMI. 2021. “2021 State of the Industry US Packaging Machinery Report”. PMMI. Retrieved from: https://www.pmmi.org/report/state-industry-2021
- PMMI. 2021. “World Packaging Machinery Report 2021”. PMMI. Retrieved from: https://www.pmmi.org/report/world-packaging-machinery-market-2021
- Statista. 2017. “Distribution of the global market for packaging machinery in 2016, by segment”. Statista. Retrieved from: https://www.statista.com/statistics/726441/global-packaging-machinery-market-segmentation/