



Mesa Laboratories Inc.
Private Equity Investment Committee Proposal

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AGENDA

- **Executive Summary**
- **Company Overview**
- **Market Overview**
- **Value Creation**
- **Forecast & Business Plan**
- **Valuation | Capital Structure | Returns**
- **Exit | Due Diligence**
- **Appendix | Sources**

DISCLAIMER: The following paper was created with an academic purpose and by using publicly available information and/ or information made available directly by the company.



EXECUTIVE SUMMARY

 MesaLabs

NOVA
NOVA SCHOOL OF
BUSINESS & ECONOMICS

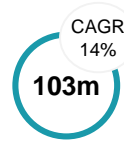
Mesa's unique niche positioning is the perfect basis for a combination strategy



Proposed transaction

- Mesa Laboratories Inc. ("Mesa"), valued at an EV of \$352.8m or 12.5x 2020E EBITDA represents an attractive buy-out opportunity
- The purchase price will be structured into a base price of (i) \$332.8m equaling 11.7x EBITDA and (ii) an additional earn out in the amount of \$20.0m or 0.7x EBITDA
- The overall multiple is justified in light of current market prospects, stable cash flows and an exceptional growth pattern (14% sales CAGR 2015-2019)
- The total uses of \$341.3m will be financed with \$143.2m private debt through a stretched senior loan, \$188.3m of committed sponsor equity and \$9.8m Management Investment for 15% of equity share
- Mesa can be used as a platform for combinations. In this scenario the combined entity with a total of three add-ons (2021-2023) is expected to generate a 5y MM/IRR of 3.4x/29.4% mainly driven by consistent organic and inorganic growth with a strong EBITDA-Margin expansion
- In a stand-alone case the firm is expected to generate a slightly lower 5y MM/IRR of 2.8x/23.2%

OVERVIEW



Sales



Gross margin



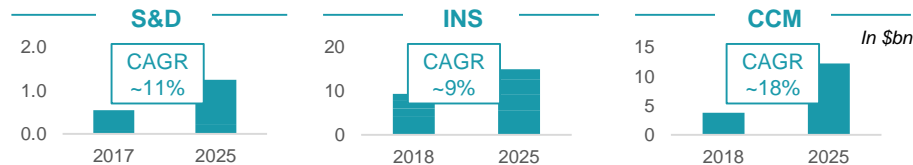
EBITDA margin

Mesa is an US-based manufacturer of quality assurance tools, operating **worldwide** through **3 business units** with 7 manufacturing and 2 administration sites (63% of sales made in the US).

The company is **quality leader** in selected applications which help its customers to maintain business critical quality standards.

- Sterilization & Disinfection (S&D):** Manufacturing and distribution of Biological and Chemical Indicators to detect residual debris in the **medical sector** (45% of sales)
- Instruments (INS):** Production of various lines of Validation & Calibration Instruments mainly for the **medical sector** (35% of sales)
- Cold Chain Monitoring (CCM):** Design and manufacturing of sensors and software to monitor aggregates (temperature, humidity a.o.) for facilities and transportation singularly in US mainly for the **medical sector & food processors** (13% of sales)

The company serves diverse markets which are small in size but have high potential in growth, further enhanced by strongly growing end-user markets mainly in the Medical sector. 37% of Mesa's sales are made in the Pharmaceutical industry, 13% with Medical Device manufacturers and 35% with Healthcare services as of 2019.



Mesa has a consistent history of M&A with ~2 acquisition p.a., which since 2017 is equally continued by a **new CEO**, who himself has a **strong M&A track-record** coming from his previous senior position at a medical conglomerate.

With moderate capex (c.6% of sales) and low working capital requirements Mesa shows an attractive financial profile at high operative cash conversion (c.65%).

INVESTMENT RATIONALE



Riding the growth wave: Mesa's main markets are predicted to grow close to or above double-digits mid-term, further fueled by strong end-market user growth, more stringent quality control regulations and growth in emerging countries. Therefore, it is strongly believed that the firm can realize an exceptional organic growth of 10.5% Core Sales CAGR over the investment horizon.



Building on a strong foundation: Mesa is market and quality leader within its S&D and INS segment, having positioned itself uniquely in a high-margin niche. From this, Mesa has built a sticky customer base, leading to reliable revenues that can be expanded at a CAGR of 16.7% (organic & inorganic). Moreover, this positioning can be utilized upon positioning Mesa equally strong in the CCM market, hence realizing cost saving potential of ~900 bps.



Consolidating the market: Mesa's markets are partly fragmented with few big players and many small companies with different geographical focus. Especially small players can be acquired at lower multiples, representing attractive multiple arbitrage opportunities. Mesa can serve as the right consolidation platform due to the fact that the management is experienced in M&A in the medical sector. Actionable combinations with Germany-based Gke GmbH (\$19m Sales/\$11m EBITDA) & US-based Tisch Environmental (\$13m Sales/\$5m EBITDA) have been identified. Due to a partly overlapping footprint and diverging customers these companies are considered to be a perfect fit for Mesa.



Internationalizing the footprint: Currently, Mesa makes the majority of its sales in the US. Especially rising awareness for sterility assurance products in emerging countries and intensifying governmental regulations in Asia-Pacific are an untapped opportunity for the firm. Therefore, international expansion will lead to strong value creation at average 16.3% p.a. sales growth for S&D in APAC over near-term.



Diversify product offering: Mesa has the potential to expand along the value chain of Dialysate Control by adding Water testing instruments to its portfolio, hence increasing the share of wallet with their customers. An actionable target to add respective capabilities with high synergy potential has been identified with US-based Myron L (\$25m Sales/\$9m EBITDA).



COMPANY OVERVIEW

Mesa targets regulated, high-margin niche markets with its Quality Control products

THE MesaWAY

- 1982 Incorporated as Mesa Medical Inc. by Luke Schmieder
- 1995 Relocation to new Headquarter in Lakewood, Colorado
- 2010 Acquisition of SGM Biotech, positioning Mesa as a market leader in the Biological Indicator industry
- 2014 Mesa Labs. #68 on Forbes Best Small Companies in US
- 2017 Appointment of Gary Owens as new CEO
- 2018 Announcement Divestiture Cold Chain Packaging Business Unit

BUSINESS MODEL



Quality Control Tools

Mesa manufactures and markets Indicators for Sterility Testing, Calibration & Validation Instruments (Temperature, Pressure, Gas Flow) and Cold Chain Monitoring Software and Sensors. Products are used in everyday sterilization and operations in **Hospitals** or during manufacturing of new **Pharmaceuticals & Medical Devices**. Total Product Portfolio consists of **7 different product lines** after 27 strategic acquisitions.

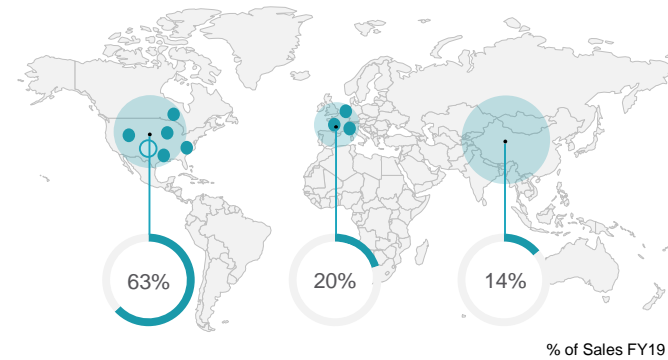
Markets

Total global addressable market size of all product lines is ~\$13bn. Relevant sub-markets per product are ~\$0.5-4bn total market size where its main End-Users consist of Hospitals, Pharma & Medical Device Manufacturers and Environmental agencies.

Regulations

Quality Control measures such as **testing, calibration and validation** are mandatory in many medical applications and **regulated by the FDA** among others (e.g. weekly spore testing for dental offices, calibration after each dialysate treatment).

FOOTPRINT & KEY FIGURES



- Headquarter in Lakewood, Colorado (US)
- 7 Manufacturing & 2 Marketing Sites in the United States and Europe

- **Sales of \$103m** in FY2019 ending EoM March 2019
- **CAGR of 14%** between 2015-2019
- **Gross Margin of ~59%** in FY2019
- **Normalized EBITDA margin of 26%** in FY2019
- **347 Employees**, in 9 Locations
- **New Management** since 2017

COMPETITIVE ADVANTAGES

Superior product portfolio of Quality Control tools

- Low cyclicity of operations
- Quality Leader in dialysate calibration meters and biological indicators

Products increasingly required by regulations

- Very sticky customer base
- No investment focus by bigger players due to minor market size

New management with strong M&A track record

- Top Management with high industry expertise
- Gary M. Owens Buy & Build success at Danaher Corp. created high shareholder value

Applications of Quality Control products drive market penetration opportunities

7 Key Product Lines across 3 major Business Units

For more detailed information see Appendix s. 47-49

Sterility Indicators
Biological, Chemical, Cleaning (since 2017)



STERILIZATION & DISINFECTION (S&D)

Detection of residual debris after sterilization which is signalled through colour coding.

DataTrace
Validation Data Loggers



DryCal
Gas Flow Calibrator



BGI
Ambient Particulate Sampling



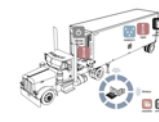
DialyGuard
Dialysate Meters



SureCap
Torque Testing systems



ViewPoint
Monitoring Sensors and Software



VALIDATION & CALIBRATION INSTRUMENTS (INS)

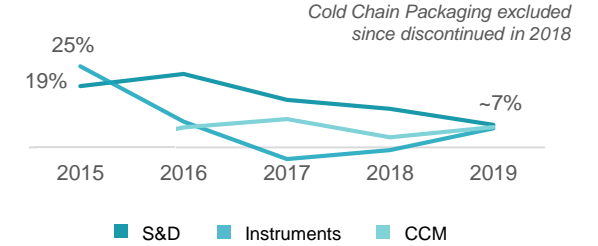
Self-contained, wireless, high precision instruments that are used in critical manufacturing, quality control and validation applications of sterilization, e.g. electronic device to record data over time at pre-determined intervals (includes individual instrument, a personal computer ("PC") interface, software and various accessories).

COLD CHAIN MONITORING (CCM)

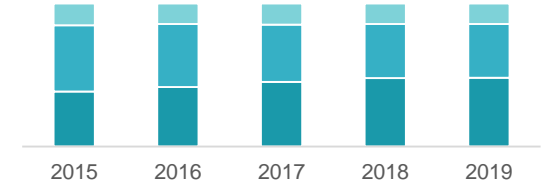
Stationary or transport control of various parameters to comply to regulations.

Business Units Breakdown

YoY Growth

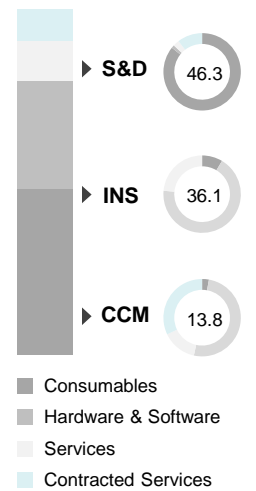


Sales by BU



Sales by Source

- Consumables are used on a **standalone basis**
- Routine usage and long-term contracted Services lead to a **very low cyclicality**
- Calibration solutions are also critical to the ongoing use of instruments (perpetual/annual software licenses)
- Hardware and Software sales** are driven by acquisition of new or replacement of existing equipment



Production

R&D

R&D program with 29 employees & third-party consultants

Manufacturing

Sourcing from several different suppliers (no significant dependency)

S&D products are manufactured in Montana (CA) and Munich (DE)

INS products in Lakewood (Hq.), Hanover (DE) and Butler (US)

CCM products in Lakewood (Hq.) and outsourced to third parties

Distribution

Promotions via trade shows, mail campaigns, Internet & others

S&D

110 Countries covered by distribution network | Direct sales model in US/EU

INS

67 Countries covered by entire distribution network | Direct sales model only in North America

CCM

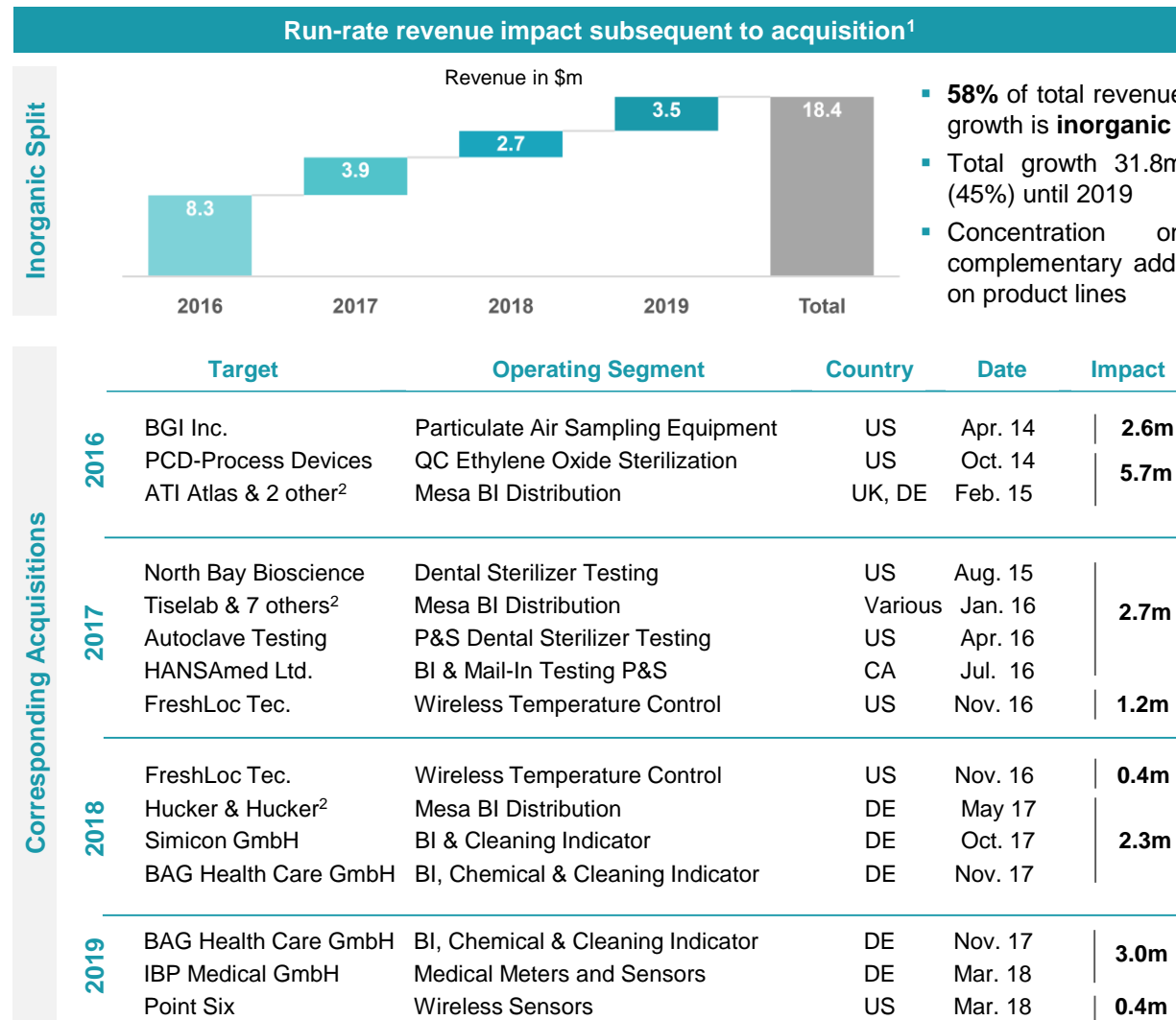
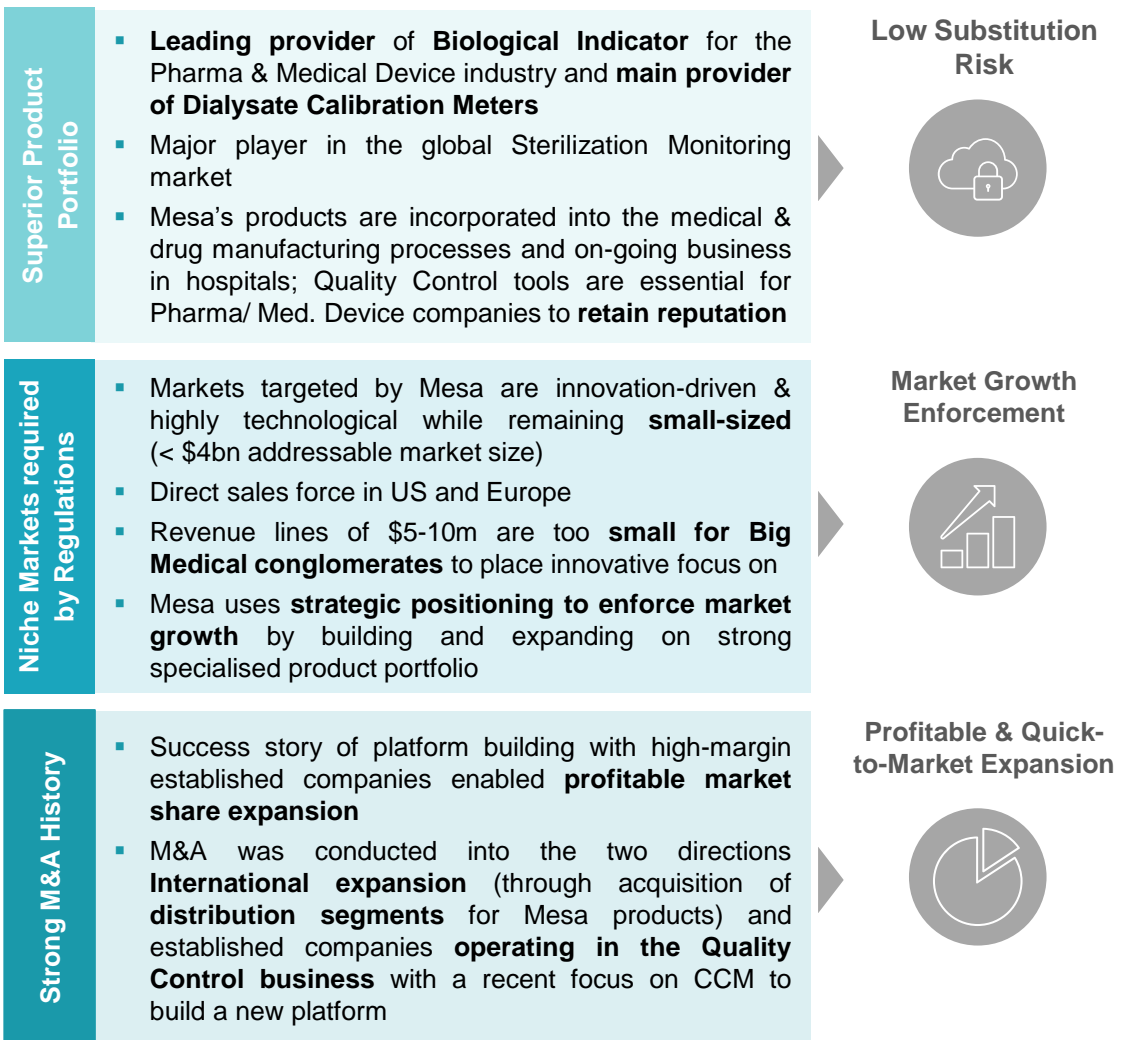
Only US/CA covered by distribution network | Direct sales model US/CA

Customers

- No customer >10% of sales
- Certain products have **annual service contracts** (unearned revenue \$4.4m as of 2019)
- Substantially most contracts are 12 months or less in duration (Backlog \$8.3m), nevertheless relationships are sticky in nature due to the fact that Mesa's products are used on a routine basis
- Various **Partnerings** e.g. with purchasing organizations of the dental industry

Mesa excels through platform building to extend innovative product portfolio

Competitive Advantages



Source: Expert interview Janney Montgomery Scott, Company filings

Note: (1) For comprehensive over of Acquisitions see Appendix s. 52 (2) Only distribution segment of named entity acquired

Mesa has a management team experienced at running billion-dollar businesses

Executive Committee

"Gary left as an executive in charge of a multi-billion dollar line of business to become CEO of a company with less than \$100 million in sales. It's not hard to imagine that (1) Gary has something to prove to his former Danaher colleagues and (2) he saw Mesa as the ideal company that would allow him to build a track record that could rival Danaher's." –

Andvari Associates



Gary Owens,
President and
Chief Executive
Officer (CEO),
since
September
2017



John V. Sakys Chief
Financial
Officer
(CFO) since
October
2012



Brian Archbold
Senior Vice
President,
since
January 2018



Greg DiNoia
Senior Vice
President,
since
November
2017



Bryan T. Leo,
Vice
President for
Instruments
since April
2012



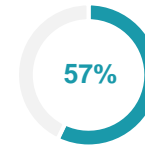
Boden Larson, Vice
President of
Information
Services,
since 2010



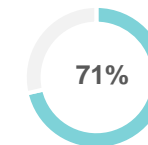
Peter Jung,
Vice President
of Corporate
Development
and Strategy
since February
2016

Management Insights

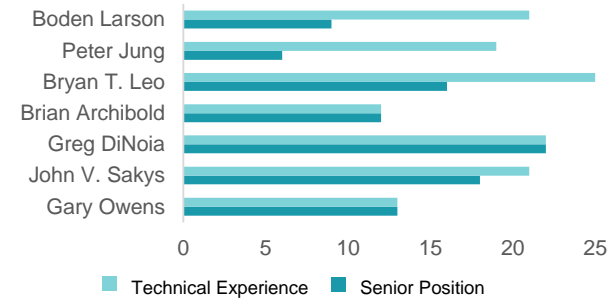
Experience



More than 15 yrs.
Executive Experience



More than 20 yrs.
Technical Experience



- Mesa's management has **substantial experience** in their relevant field
- In 2017 replacement of former CEO by **Gary Owens, former executive of Danaher**, a multi-national medical player with an outstanding track record of success
- Core management successfully proved capabilities of **identifying key markets, acquiring a platform, and building on it** and is now repeating it at Mesa

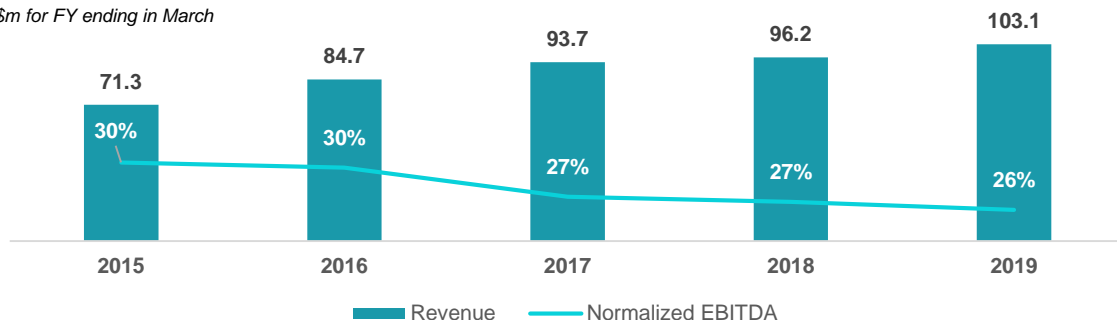
Achievements

Exit non-profitable BU	Exit Cold Chain Packaging (2019) Profit margins for the Cold Chain Packaging division continued to lag behind other segments	EBITDA ↓
M&A Expansion	Purchase of BAG Health's hygiene business (Germany) <i>"This move is anticipated to give competitive edge to the company."</i>	SALES ↑
Operational Improvement	Substantial Reduction of Debt and Working Capital Consolidation of Production Facilities	COGS ↓

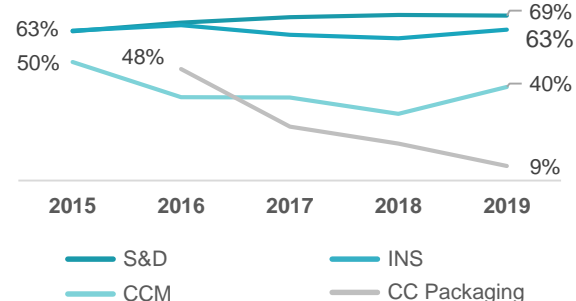
Skyrocketing revenues came with a drop in EBITDA margin due to higher G&A Cost

Revenues

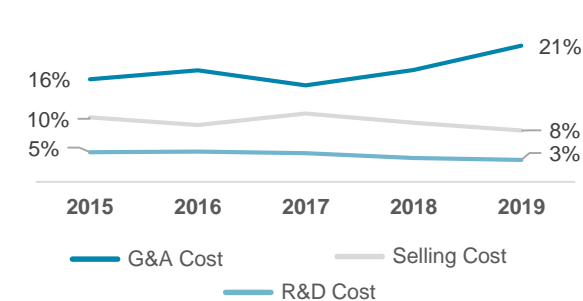
In \$m for FY ending in March



Gross Margins



Overhead Cost

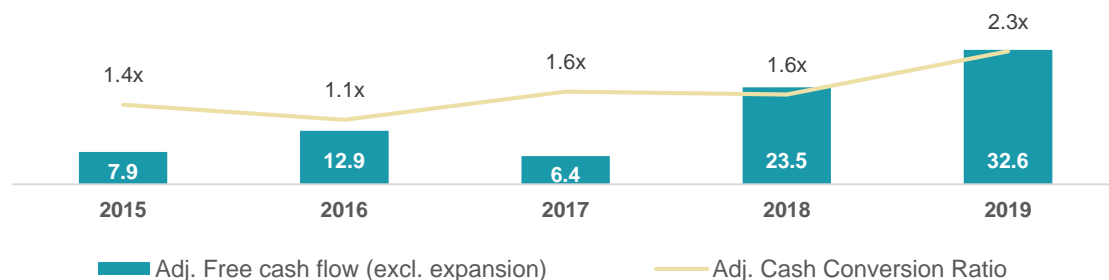


Income Statement	2015	2016	2017	2018	2019
Sterilization and Disinfection Control	27.4	33.6	38.6	43.3	46.3
Instruments	33.1	35.7	34.4	34.1	36.1
Cold Chain Monitoring	10.9	11.6	12.6	13.0	13.8
Cold Chain Packaging	-	3.8	8.0	5.8	6.9
1 Total Revenue	71.3	84.7	93.7	96.2	103.1
Cost Of Goods Sold	(27.9)	(33.2)	(39.7)	(41.0)	(42.2)
2 Gross Profit	43.4	51.4	53.9	55.2	60.9
<i>Gross Margin</i>	61%	61%	58%	57%	59%
3 Selling	(7.2)	(7.5)	(10.0)	(8.8)	(8.3)
General & Admin Exp.	(11.4)	(14.7)	(14.1)	(16.8)	(21.9)
4 R & D Exp.	(3.3)	(4.0)	(4.2)	(3.5)	(3.5)
Normalized EBITDA	21.5	25.2	25.7	26.0	27.3
5 EBITDA Margin	30%	30%	27%	27%	26%

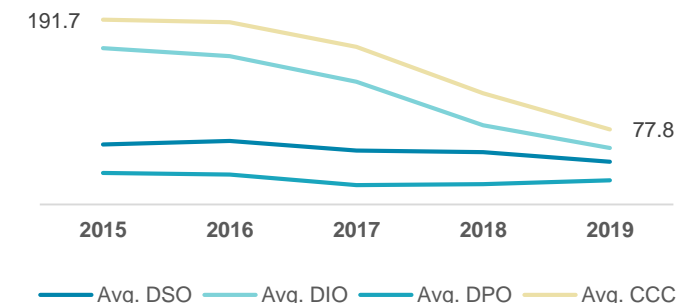
- **Increase of revenues by 45% since 2015**, of which S&D grew by 69%, Instruments by 9%, CCM by 27% and CC Packaging Segment was entered in 2016
 - **Inorganic growth** with 27 M&A transactions accounted for **58% of growth**
- **Overall Gross Margin decreased** from 61% to 59% of sales between 2015-2019
 - Whereas the gross margins increased for the S&D segment due to insourcing of biological indicator supplies, the **gross margins dropped for the CCM** due to internal restructuring **and especially CC Packaging** due to fierce pricing and fix cost progression in relation to shrinking revenues
- **Selling expenses** consist of salaries and commissions for 94 sales employees (2019), cost related to distribution as well as marketing; **Streamlined from 10% to 8% of sales**
 - **General and administrative expenses increased from 16% to 21%**; Largest increment of \$5m during 2019 primarily due to increased stock-based/ short term incentive compensation and higher salary expenses for more admin employees preparing for future growth
- **R&D Cost** comprise mainly salaries of 27 employees; **decreasing figures due to streamlining** of necessary engineers and supplies required to support existing businesses
 - Extensive knowhow is acquired externally through strategic acquisitions
- **EBITDA Margin decreased** mainly due to drop in gross margins (CCM and Cold Chain Packaging) and increasing G&A cost

Strong Cash flow generation based on stable business and NWC optimization

Cash flow Statement (in \$m for FY ending in March)		2015	2016	2017	2018	2019
Normalized EBITDA		21.5	25.2	25.7	26.0	27.3
Interest Expenses		(0.6)	(0.8)	(2.0)	(1.7)	(1.5)
Income Tax Expense		(5.8)	(4.4)	(3.1)	(3.3)	(1.1)
1 Other non-cash operations		1.3	0.9	1.1	1.1	1.3
Change in Acc. Receivable		(2.3)	(2.0)	1.0	0.7	1.6
Change In Inventories		(3.2)	(1.5)	0.1	2.3	2.6
Change in Acc. Payable		0.4	(0.2)	(0.7)	0.2	1.1
Change in Unearned Rev.		(0.6)	0.1	(0.2)	(0.2)	0.1
Prepaid Expenses		0.8	0.4	(0.8)	0.8	(2.9)
Accrued Liabilities and Taxes Payable		(0.9)	2.9	(3.1)	0.4	5.5
2 Change in NWC		(5.7)	(0.3)	(3.7)	4.1	7.9
Adj. Cash flow from Operations		10.7	20.7	18.0	26.3	33.9
Maintenance Capex		(2.8)	(7.7)	(11.6)	(2.8)	(1.3)
Expansion Capex (Cash Acquisitions)		(20.5)	(24.1)	(6.8)	(15.5)	(4.8)
Sale of Property, Plant, and Equipment		-	-	-	1.1	2.2
Divestitures		-	-	-	-	-
3 Cash from Investing		(23.4)	(31.8)	(18.4)	(17.2)	(3.9)
4 Adj. Free Cash flow (excl. Expansion Capex, Sale PPE)		7.9	12.9	6.4	23.5	32.6
Unlevered Free Cash flow Margin		11%	16%	8%	25%	32%



- 1 Other Non-cash expenses** are mainly comprised of **Stock-based compensation, deferred taxes and foreign currency adjustments**
 - In order to incentivize new management for long-term growth strategy **stock-based compensation** more than **doubled** from \$1.7m to \$4.2m in the last two fiscal years
- 2 NWC Management** has been identified as **one of the top issues** within the fast growing company, consequently **Mesa decreased the CCC by the factor 2.5**, now averaging at 78 days
 - Meanwhile maintaining a satisfactory **Quick ratio at avg. 1.1x**



Receivables

- In the last 5 years DSO have been decreased by 18 days from 62 to 44 days

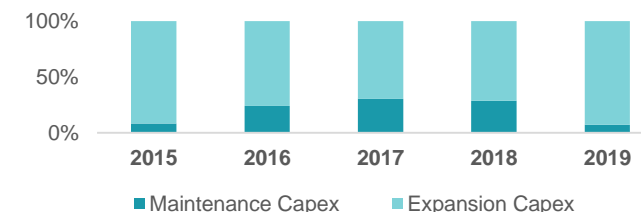
Inventories

- Inventories have been decreased radically, hence DIO shrank by 104 days

Payables

- DPO increased by 7 days in the last 5 years (offering the same conditions as all competitors)

- 3 Maintenance capex at 6% on average**, mainly driven up due to an investment into a factory built up in Bozeman, MO (finished 2018)
- Expansion capex** is driven by frequent M&A activity and **mostly covered by cash flows**



- 4 Free cash flow grew by 413% since 2015** supported by a strong cash conversion ratio at avg. of 1.6x and a **high cash generating power ratio** at avg. 47%, peaking in **2019 at 78%**
- Cash flows have consistently been stable, positive and predictable**



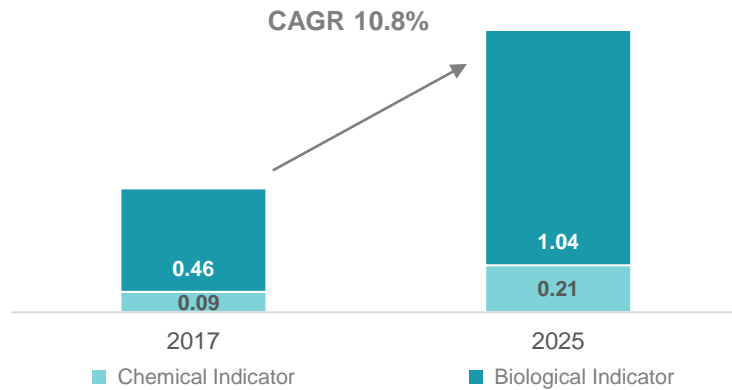
MARKET OVERVIEW

Quality Control Tools increasingly penetrate environmental & medical markets

	Sterilization & Disinfection (S&D)	Validation & Calibration Instruments (INS)	Cold Chain Monitoring (CCM)
Relevance	<p><i>"Materials processed in a sterilizer, dating from the sterilization cycle having the last negative biologic indicator, must be considered nonsterile and retrieved"</i></p> <p>- CDC</p>	<p><i>"In the same way that you wouldn't trust going past a speed camera in a car that has a dodgy speedometer, you shouldn't conduct medical diagnosis on patients or clients using equipment that has not been calibrated."</i></p> <p>- MHRA</p>	<p><i>"In 2017, a shipment from a single lot of Intralipid 20% IV fat emulsion (Baxter International, Inc.), was improperly exposed to subfreezing temperatures upon transportation. When frozen, the product can obstruct pulmonary circulation, leading to possible death. The company recalled this parenteral-nutrition product."</i></p> <p>- PMCIB</p>
Segmentation	<p>Biological Indicators (BI)</p> <p>Spore Ampules, Spore Suspensions are placed on/ into representative unit of product to be sterilized</p> <p>Viable Spores (Strips) are added to a carrier</p> <p>Self-contained Vials are intended for incubation following the sterilization process</p> <p>Chemical Indicators (CI) Class 1 - 5 Indicator</p> <p>Cleaning Indicators (CI.I)</p>	<p>Medical Equipment Calibration & Laboratory Equipment Services</p> <p>Pressure & Temperature Sensors Market</p> <p>High precision instruments that are used in critical calibration, manufacturing and validation</p> <p>Air Quality Monitoring Systems</p> <p>Particulate concentrations in air as a measure of urban/ industrial air pollution, industrial hygiene</p>	<p>Wireless Sensors (Data Logger)</p> <p>Battery-operated digital temperature sensor with programmable log rates and onboard memory</p> <p>Cloud-based Software</p> <p>Monitors temperature parameters, humidity, differential Pressure, O₂, CO₂, Leak Detection, DC Voltage among others</p> <p>Accessible from anywhere with internet capability with customizable automated reports and alarming systems</p>
Application	<p>Sterilization Cycle</p> <p>Biological & Chemical Indicators are exposed to a sterilization process (e.g. placed inside autoclave) and tested to detect residual debris.</p> <p>Cleaning Indicators are processed together with e.g. surgical instruments to verify the cleaning efficacy of e.g. washer-disinfectors.</p>	<p>Dialysis Cycle</p> <p>Dialysis: As blood flows past one side, dialysate flows by the other side filtering larger substances, mimicking the filtering process that takes place in the kidneys by removing waste from circulating blood through a dialyzer.</p> <p>Calibration: Instant reading from sample port on dialysis machine</p> <p>Testing for e.g. Pressure</p> <p>Testing for e.g. pH, conductivity ...before each treatment</p>	<p>Cold Chain Process Flow</p> <p>Wireless Sensors, with integrated geolocation & geofencing</p> <p>Real-time alerts sending temperature, humidity, oxygen level, location a.o.</p> <p>Customized, automated delivery reporting to proof safe transport</p>

Adverse healthcare trends and increasing gov. regulations foster steady growth

Total addressable Market Size (in \$bn)¹



Opportunities

- High growth opportunities in emerging countries

Restraints

- Lack of awareness of Sterilization Monitoring

Challenges

- End user non-compliance to sterilization standards
- Influx of low-quality products

Market Trends

Current

- Recent product launches, **expansions in manufacturing/ R&D facilities**
- Hospital segment accounts for largest share of the market

Mid-term

- Pharmaceutical, biotechnology, and medical device segment are expected to grow at the highest CAGR**

Long-term

- Asia-Pacific** market expected to experience highest CAGR of 11.3% (2.4bn USD) due to increasing number of hospitals, incidence of HAI and growth in geriatric population
- Emerging markets** (India and China) have become attractive destinations, **Pharma sector India** is expected to grow at the highest CAGR due to local production

Market Drivers Analysis

Driver	Description	Impact
Rising incidence of Hospital-acquired Infection (HAI)	<ul style="list-style-type: none"> 7/100 in developed, 10/100 in developing countries hospitalized patients acquire HAI (~90k deaths annually) HAIs are rising across all relevant types of infection (CLABSI, CAUTI, MRSA) 	
Increasing number of drug launches	<ul style="list-style-type: none"> Frequent advancements in complex technologies Pharma companies significantly reducing prices of older versions of drugs drive their adoption in developing countries 	
Increase in R&D activities	<ul style="list-style-type: none"> Advent of complex equipment with rising intricacy of medical devices drive demand for effective sterilization Frequent product launches in the field of healthcare driving demand (110 Novel Device Approvals in 2018) 	
Stringent governmental regulations	<ul style="list-style-type: none"> Stringent regulatory guidelines for sterilization of class III medical devices, biologics and drugs drive growth 	
Rising geriatric population and chronic diseases	<ul style="list-style-type: none"> >65 year-old to rise to 33% of population by 2050 (2.8x) Aging is strong risk factor for many chronic diseases Average number of laboratory and diagnostic tests and diabetes increased by 27%; 55% (2010-2014) 	
Increasing number of surgical procedures	<ul style="list-style-type: none"> Volume of surgical procedures is expected to grow at a CAGR of 5.6% until 2023 due to tech. advancements Use of non-disposable medical devices and increasing cost savings drive sterile practices 	

Key Takeaway

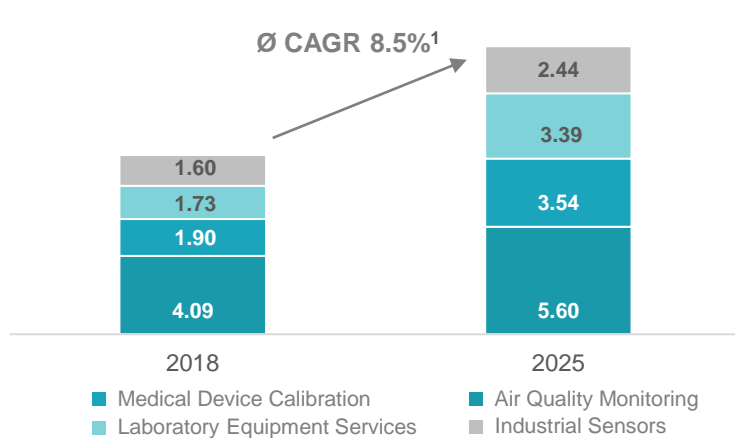
- APAC** most promising international target
- Pharma sector** to grow at the highest rate therefore attractive to uphold leading market position

Source: Evercore, MarketsandMarkets, GrandViewResearch

Note: (1) Cleaning Indicator no addressable market identifiable due to minor relevance

High growth and increased QC necessity cause higher market penetration

Total addressable Market Size (in \$bn)



- Opportunities**
- Laboratory automation
 - Technologic advancement
- Restraints**
- High Cost of service contracts
 - Technologies are premium-priced
- Challenges**
- Shift to home-based/POC testing

Market Trends

- | Time Period | Market Trends |
|-------------|--|
| Current | <ul style="list-style-type: none"> ▪ Europe largest market for Medical Equipment Calibration services, US 33% market share ▪ Companies enter into collaboration with hospitals for providing reagents pertaining to QC ▪ North America largest market for Air sampling & Laboratory Equipment Services ▪ Expansion of service portfolio is major focus area of market players |
| Mid-term | <ul style="list-style-type: none"> ▪ Third-party calibration services are expected to grow at the highest CAGR ▪ More stringent government regulations are expected to drive the Asia Pacific and Europe medical equipment calibration services market ▪ Pharmaceutical & Biotech segment is expected to dominate the market |
| Long-term | <ul style="list-style-type: none"> ▪ Emerging countries: Companies focus on M&A for expanding their businesses in developing regions, expansion of pollution monitoring ▪ Asia-Pacific: fastest progressing regional market due to rising number of Contract Research Organizations & growing number of life science R&D activities |

Market Drivers Analysis

Driver	Description	Impact
Governmental regulations	<ul style="list-style-type: none"> ▪ Strict rules enforced by governments related to medical equipment calibration and pollution control policies that require regulatory compliance for air pollution monitoring as well as data collection 	
Increasing research activities in pharma & biotech	<ul style="list-style-type: none"> ▪ Rising investments and government research funding to support biomedical research activities ▪ Rising import of laboratory equipment ▪ Growing need of timely diagnosis of diseases 	
Rising pollution levels	<ul style="list-style-type: none"> ▪ Increasing public awareness related to the environmental and healthcare implications ▪ Degradation of ambient and indoor air quality result in a higher risk of contracting respiratory infections 	
Demand external quality assessment support	<ul style="list-style-type: none"> ▪ Fragile and expensive analytical equipment is requiring frequent servicing ▪ Timely servicing & maintenance is crucial for accurate research outcomes to uphold quality 	
Enhanced accuracy, ease of use requirement	<ul style="list-style-type: none"> ▪ Medical devices are needed to undergo extensive testing and examinations thus delivering competitive advantages to manufacturers 	
Rising frequency of product recalls	<ul style="list-style-type: none"> ▪ Product recalls have increased by 56% 2009-2012 ▪ To avoid recalls and subsequent reputation impacts, companies are laying strong emphasis on calibration of their machinery 	

Key Takeaway

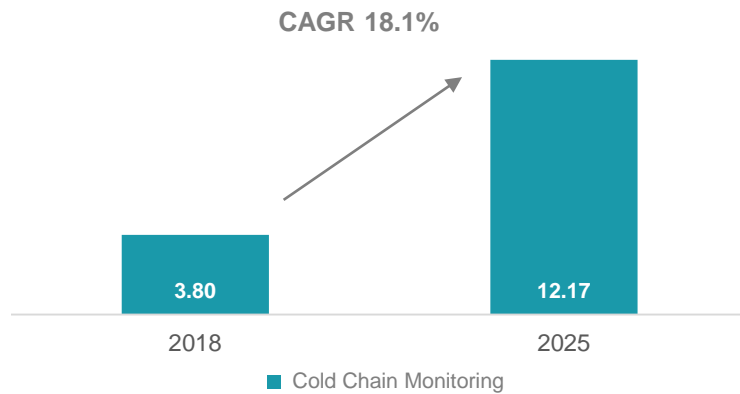
- **Emerging countries/ APAC** most promising international market to expand into
- **Laboratory Equipment Services** (Maintenance, Calibration & Validation) highest growing market

Source: Evercore, MarketsandMarkets, GrandViewResearch

Note: (1) Sub-Markets with different CAGR projections, see Appendix s. 56-60 for extensive overview

Double-digit growth offers opportunities for market players

Total addressable Market Size (in \$bn)



Opportunities

- Cold Chain Logistics in developing countries

Restraints

- High cost of installation (deploy sensors & connectivity network)

Challenges

- Complexity involved in installation and monitoring
- Companies remain sceptical due to high investment

Market Trends

Current

- More than 25 **Product Launches** in 2017-2019 & significant product development
- More than 10 substantial **M&A Deals** over the last 2 years
- **Partnerships, collaborations and expansion**
- **North America** as the largest regional market with facility CCM holding largest share

Mid-term

- CCM **Transportation sector** is expected to **grow** at the highest rate between 2018-2023
- **Software Segment** to grow at high CAGR due to adoption of cloud-based software
- **U.S. and Canada** are also expected to drive the growth of the market due to already well-developed transportation and distribution network

Long-term

- **Emerging countries:** Companies focus on M&A for expanding their businesses in developing regions due to expansion of infrastructure (**India** fastest growing market over forecast period)
- **APAC** fastest progressing regional market for Pharma & Healthcare

Market Drivers Analysis

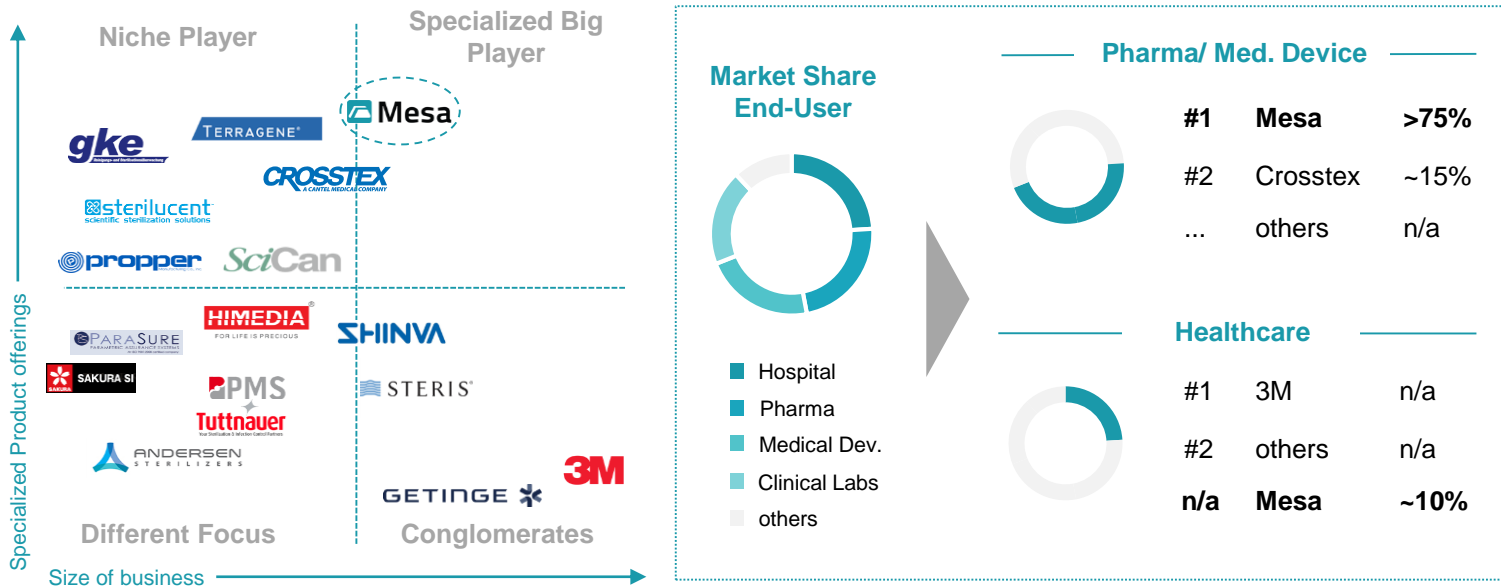
Driver	Description	Impact
Growing governmental focus	<ul style="list-style-type: none"> ▪ High governmental efforts to extend healthcare coverage & vaccinations across emerging countries (higher accessibility of vaccines and biologics) ▪ Stricter regulations in Europe 	
Increasing demand for temperature-sensitive drugs	<ul style="list-style-type: none"> ▪ R&D evolve to more complex large-molecule biologics that are highly sensitive to temperature, humidity, light ▪ More than half of the top 32 counterfeited drugs have strict temperature-control logistical requirements ▪ Global delivery of products in the traditional supply chain have increased the risk for counterfeit products 	
Increasing demand for generic drugs	<ul style="list-style-type: none"> ▪ Owing to higher accessibility as infrastructure enhancement in more remote areas is accelerating ▪ Growing distribution networks enable more market coverage for Pharma requiring CCM to retain conditions 	
Rising demand for better food quality & reduce of wastage	<ul style="list-style-type: none"> ▪ Dependence of Food & Beverage industry on CCM is gradually increasing ▪ CCM vital for modern supply chain transporting larger volumes over greater distances ▪ Food wastage adversely increases cost for producer 	
Digital transformation	<ul style="list-style-type: none"> ▪ Increasing penetration of wireless sensors due to enhanced efficiency of Cold Chain Management in terms of high precision & control and fast execution covering reception, storage, release, transportation and distribution 	

Key Takeaway

- CCM is highest growing market due to **technological advancements**
- **US/ Canada** strong growth driver due to mature distribution network
- **Transportation sector** to grow highest due to increasing distribution network of established food & pharma companies

Mesa serves main portion of market establishing strong selling position

COMPETITIVE BREAKDOWN



Mesa Market Share



S&D

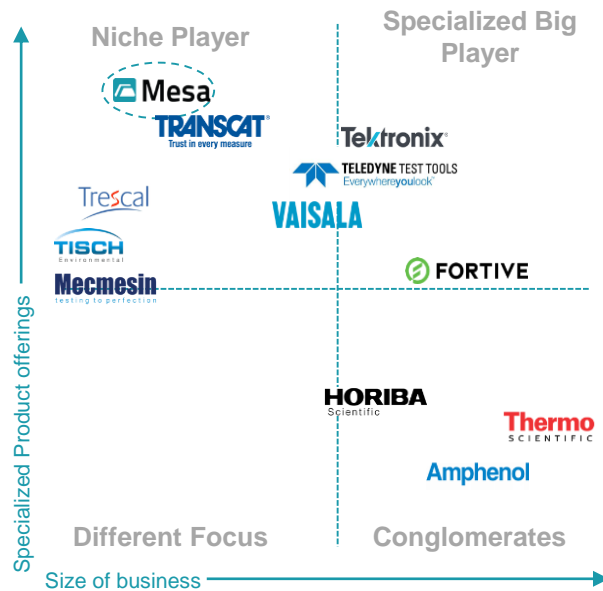
- **Dominant player** of Sterilization Indicator worldwide in the **Pharma & Medical Device** Segment by 3x/4x of sales to the next biggest competitor Crosstex (subsidiary of Cantel Medical)
- In healthcare segment Mesa holds **medium market share internationally**, targeting countries with more rigorous testing standards in Hospitals (e.g. certain European countries); little coverage in US
- Mesa's offers **most comprehensive portfolios of sterility monitoring products** compared to its competitors
- Mesa's products offer 99.999% accuracy on sterilization testing, consequently longer readout time of 24 hours up to 2/3 days in some cases (*3M rapid readout 98-99% accuracy*)
- The positioning as a **specialized quality player helps Mesa to maintain and attract market share**; thus establishing Mesa as one of the **major players** in the Biological Indicator industry in the US

- Market separated into **large medical conglomerates** with Indicators as **secondary product portfolio** due to small market size and **small dedicated manufacturers**
- High historical consolidation efforts undertaken leave **moderate market fragmentation** and **partly mature market**
- **Two-sided Market** separated into End-users:
 - **Pharma/Medical Device** which require tests with highest reliability due to rigorous regulatory standards, non-changing loads and sensitivity of and extensive capital investment in new drugs – 100% assurance quality control mechanisms
 - **Healthcare** rapid readouts matter more due to higher application frequency, changing loads and lower regulatory standards

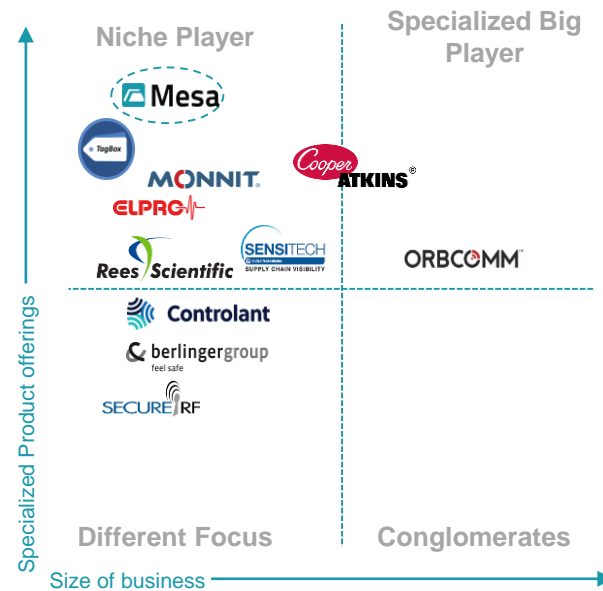
Fragmented markets leave much room for consolidation & portfolio expansion

COMPETITIVE BREAKDOWN

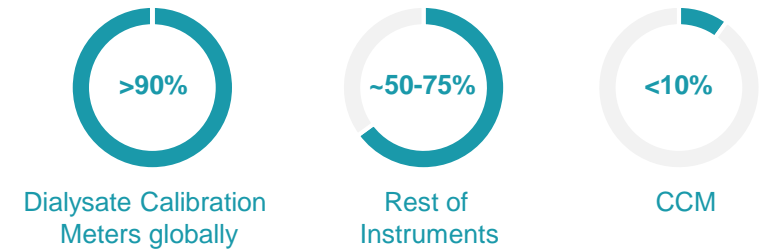
Instruments



Cold Chain Monitoring



Mesa Market Share



INSTRUMENTS

- Largest competitor in dialysate Calibration was acquired in March 2018 (IBP Medical)
- As **major provider** of Dialysate Calibration Tools Mesa can harvest growth in the market & expand its position as quality provider of quality control instruments through its more profound product portfolio
- **Strong market position** with >50% up to 75% share in other instrument segments (estimated as not covered by market studies due to small niche market)

CCM

- Mesa only covers US/ Canada – single division not operating internationally yet
- Locally bound business gives strong position in base location with high consolidation opportunities

- **Very mature markets** with majority of players in the US
- Market players have very **diverting focus areas** in which they operate
- Large **conglomerates** do not place focus on QC instead offering respective products as **side-line business**
- Majority are **specialised on single area** of sub-markets
- Still **highly fragmented market** with consolidation possibilities for portfolio expansion & consolidation

- **Highly fragmented & strongly growing market**
- Top **3 players consolidate around 25-35%** of total Revenues
- Around **~40-50 provider** make up entire market
- Small players locally bound around single operating location within US & internationally
- Disruptive market trend through **innovative technology**

Low substitution threat stands against competitive pricing among players

Porter's Five Forces

HIGH	COMPETITION	Players engage in competitive pricing	Price pressure from domestic players can be strategically tackled through M&A
	BUYER POWER	Large number of suppliers Differentiated products available	Highly recurring customer base in most segments
MODERATE	SUPPLIER POWER	Large number of suppliers High switching cost	More than one supplier for all supplies available or is expected to be found in a short timeframe
	NEW ENTRANTS	High initial capital investment Strong brand identity established	S&D, Instruments products require compliance with ISO 13485, ISO 17025, ISO 9001 and federal laws
LOW	SUBSTITUTION THREAT	High capital investment Highly differentiated products	Complex technology requires high capital investment to create possible substitution

Regulatory Bodies & Guidelines

AAMI	Sterilization Control	Medical Devices Pharma Labs Dental Offices are required to spore test on every load at least weekly , Hospitals spore test daily
(ST79)		AAMI ST79 recommends monitoring with a BI process challenge device weekly, preferably daily (10.5.3.2)
FDA		Sterility conditions to be monitored using a combination of mechanical, chemical, and biological indicators (<i>Mechanical monitors include daily assessment of cycle time and temperature and an assessment of pressure</i>)
CDC		
1976 Medical Device Amendment to the FD&C Act	Quality Control	Customers' quality control and regulatory environments require periodic repair and recalibration or certification of instrument products and cold chain monitoring systems.
		Storage area should constantly be controlled for temperature (max. 75°F) and relative humidity (30-60%)

- Risks**
- Dependence on continuation of short-term contracts needs strong customer relations
 - Adverse dynamics within industries such as accelerated changes in medical reimbursements or **strategic collaboration among bigger players**
 - Unexpected **decrease in regulations** on quality control testing requirements within Medical device, Pharmaceutical manufacturing and Healthcare services
 - Decline in legacy business and dependency on success of add-on acquisition targets
 - Growth depends in part on the growth of the markets served with **limited visibility**

- MESA**
- Increased regulatory application necessity and high market entry barriers give **strong selling position** to established player Mesa
 - High sensitivity of reputational consequences upon issues with quality control increase **pricing power** for Mesa (towards customers) leading to 2.0-3.0% annual price increase in S&D, 0.5-1.5% in Instruments and less in CCM due to lower maturity of business division
 - Through high historical & forecasted M&A efforts Mesa increases ability to **tackle competitive pricing** amongst well established players



 MesaLabs

VALUE CREATION

NOVA
NOVA SCHOOL OF
BUSINESS & ECONOMICS

Diverse competitive advantages lead to multiple value creation levers per segment

Deal Rationale

Niche market leader in highly regulated environment

- Market leader in Dialysate Calibration Meters and Biological Indicators in the US with very **sticky customer base**
- Unique competitive positioning, as niche is **not in investment focus of bigger players**

Market tailwinds accelerate growth

- High predicted growth rates in core markets fuel organic company growth
- Main markets served are above or near **double-digits growth projections** over 5 year horizon

Solid and strong financials support future growth

- Stable, positive and predictable cash flows lead to **high cash generating power**
- Investments in the past strengthened balance sheet and asset base (new manufacturing, ERP system and technologies)

Experienced management team

- Mesa's Management has **substantial experience** in their relevant field
- Proven leadership & industry knowledge
- Experienced in M&A platform building in the medical sector

Value Creation

	S&D	INS	CCM	Comments	
Status Quo	Market Fragmentation	●	●	●	Large number of CCM players with single local focus (many start-ups with new technologies)
	Competitive Advantage	●	●	○	S&D has an outstanding competitive advantage through quality leadership
	Cost Efficiency	●	●	○	CCM platform currently under development, hence segment suffers from cost inefficiencies
1	Internationalization	●	●	○	Strong competitive advantage of S&D segment is expandable and matched by demand from foreign markets (APAC)
2	Buy & Build	●	●	○	US Market for environmental instruments leaves potential for consolidation Established platform of S&D segment well suited to increase market penetration in Europe
3	Portfolio Expansion	○	●	○	Quality Control instruments to be complemented by other testing services (e.g. Water testing)
4	Operational Enhancement	●	●	●	Although comprehensive measures identified, CCM still lacks behind most operational performance benchmarks

Status Quo¹

■ Direct sales model
 ■ Distributor based
 70% Revenue split

- Currently 110 Countries are covered by the entire distribution network
- S&D is mainly focused on North America and Europe (~82% of total segment sales) due to direct sales model (Africa partly covered from European Sales force as well)
- Mesa can tap higher portion of sales/ margins in all countries with established direct sales team
- Minor part of Sales from Asia

Key Takeaways

- Direct sales force and comprehensive distribution network in key markets
- After reaching certain maturity Mesa tackled markets with direct sales force to take advantage from growth and revenue potential

Geographical Pick

	United States	Europe	APAC	South America	Africa
Market Size	High	Medium	Medium	Low	Low
Market Growth	Medium	Medium	High	Low	Low
Regulations	High	Medium	Low	Low	Low
Favorable Competition	Low	Low	Medium	Medium	High
Presence	High	High	Target	Low	Low

■ Low
 ■ Medium
 ■ High
 ⊙ Target

Deep dive: Asia Pacific

- Asia Pacific** projected to grow at the **highest CAGR** over a 5 year horizon, with China, India, Philippines representing largest market shares in Asia Pacific
- High degree of HAIs as well as growth in the pharma and medical devices industry fuel demand for S&D
- Indian Pharma sector** to reach USD ~55bn. (10% of global volume) by 2020 with a **CAGR of 15.9%**

Growth Measures

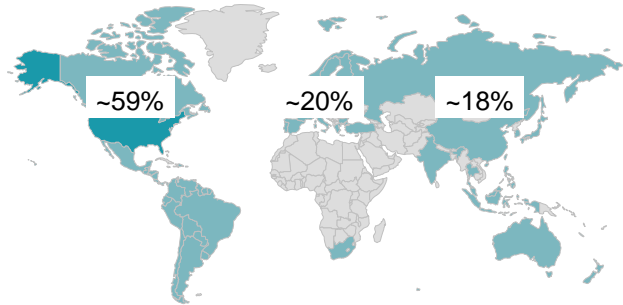
- Establish **direct sales force in Asia Pacific** in order to react to accelerating growth in the region
- Special focus on China, India and Philippines** due to significantly accelerated growth projections
- Especially **India qualifies as initial entry market** due to a fast-growing Pharma sector which as well perfectly suits Mesa's end-user focus
- Market entry strategy via primary investment or M&A** in combination with production capacity built-up possible (for further information on acquisition targets see next slides)
- Improve existing sales presence with focus on Europe** by realigning performance-based compensation for own employees as well as distributors

Main Goals

- Top line growth** in the APAC region
- Improving the margin profiles for all Asian sales due to **cut out of intermediaries**
- Reducing dependence** on the US market

Europe and APAC leave room for further growth of the Instruments segment

Status Quo¹



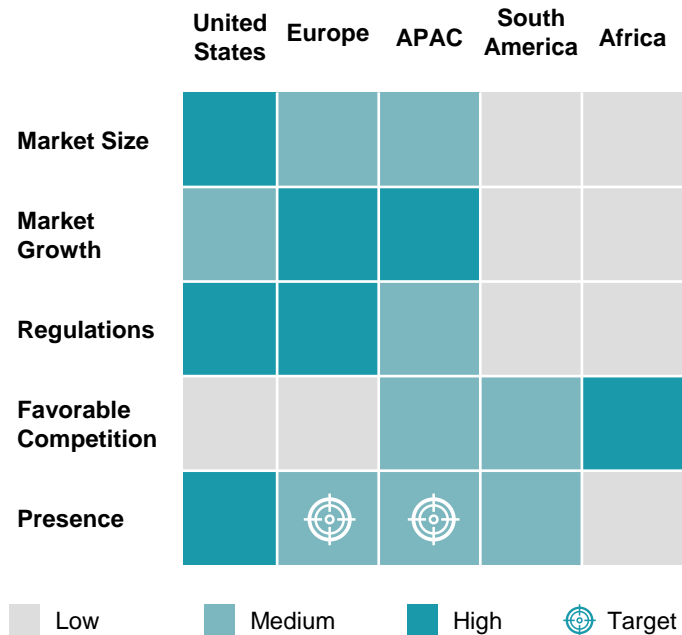
■ Direct sales model
 ■ Distributor based
 70% Revenue split

- Direct sales model in the United States for all instrument types offered
- Mesa acquired IBP GmbH in 2018 which was the first step to establish direct footprint in Europe
- Other areas covered by deviating distributors for different types of quality control instruments
- Countries covered by type: Gas flow meter: 67, Torque testing: 54, Environmental instruments: 50 and Dialysate meters: 4 (+38 through IBP GmbH)

Key Takeaways

- **Sales efforts are US-centric** relying on distributors of varying coverage
- **Sales channels not yet synchronized** for core offerings and those of Add-on acquisitions

Geographical Pick



Deep Dive: Europe, APAC

- Extensive research activities, **strict rules enforced by governments** and increased awareness among people related to medical equipment calibration is fuelling the markets growth in Europe and APAC
- Laboratory Equipment Services predicted to grow with highest CAGR of 13.4% in APAC

Growth Measures

Europe

- **Align and consolidate Sales Channels** between Mesa's Calibration Offerings and the acquired company IBP GmbH (One-face-to-the-customer), especially for Dialysate Calibration in Germany (Europe)
- Extend **distribution network in peripheral countries in Europe** for air particulate sampling equipment as for competitive advantage of Mesa's products combined with Tisch Environmental brand recognition & market coverage as leading player in the market (see Buy & Build on next slides)

APAC

- **Extend distribution coverage for Dialysate calibration meters and Validation data logger** with a strong focus on APAC as for highest growth region and existing established distributor network

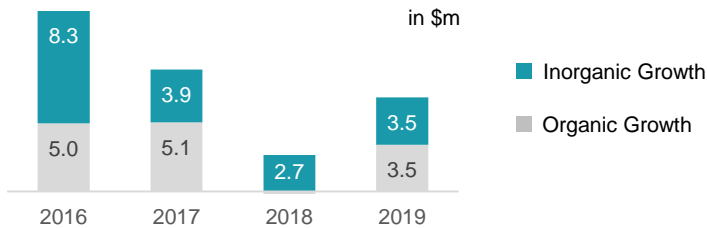
Main Goals

- Increase Top line in Europe and APAC
- Consolidate and extend sales network for air quality monitoring, dialysate instruments and data logger

Historic M&A success will be continued by building on existing platforms

Status Quo

- Inorganic growth has contributed to **58% of total sales growth** until 2019 thus playing major strategic role
- Historical Buy & Build strategy was focused on acquiring **complementary QC product lines** to extend platforms
- Focus mainly on BI and international distribution for BI – recent completion of **CCM M&A to set up new platform**
- Targets were either companies with **mature technology** to **sustain high margin** levels or distribution segments of established companies to **expand sales force** internationally
- Consistent M&A** Strategy with 2-4 acquisitions p.a.



Strategy

Mesa's current Product Portfolio will be consistently expanded by functions **along the value chain of current products** to strengthen competitive advantage in niche markets by means of M&A instead of organic growth to sustain high margins

Gke GmbH will be first to be acquired BoP 2021 with **first sales impact in 2021**, as for **easiest post-merger integration** and short-term realizable cost synergies in European market

Buy & Build

Expand market share

- Targeting product lines through M&A equal to Mesa's business enables significant sales growth & respective increase of relative market share
- Expansion of geographic reach with direct sales force enables **revenue growth at higher margins**

Synergies

- Instruments market partly fragmented creating the opportunity for **consolidation with vast synergy potential** (Tisch Environmental)

Portfolio Expansion

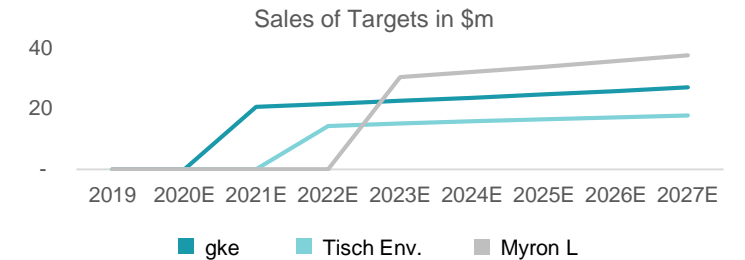
New revenue stream

- Creating high **sales growth opportunities by adding complementary water testing instruments** while remaining within key knowledge area of Mesa
- Water testing seen as perfect addition to portfolio as it is used routinely in connection with the dialysate calibration process

Levers

Growth Potential

- Targets Sales growth over investment period with an average **CAGR of 5%**
- Synergies up to a maximum of 20% of EBITDA (23E-25E)** in relation to gke GmbH acquisition as target market complementing Mesa's Europe strategy with uniform production requirements
- High **EBITDA margins** at an average of 44% that can be slightly increased and further Mesa's profit margin through economies of scale once operations are consolidated
- Very **low CAPEX requirements** of targets at 0.6%-3.9% of sales p.a.








Key Takeaways

- Focus on adjacent products enables **leveraging of industry expertise** and significant **synergy potential**
- Focus on **single specific complementary product lines** as opposed to entire product portfolios

Main Goals

- Revenue growth & synergies** as main driver for strategic acquisitions
- Focus on **sustaining high margins** through well established M&A targets (Tisch leading player in air monitoring market)

Complementary M&A drives sales growth, market share & cost synergies

	US		Europe		APAC																				
Description	Tisch Environmental	Myron L Company	Gke GmbH	Trescal SA	S&D Segment of HiMedia																				
	<ul style="list-style-type: none"> Located in Cleves, OH Founded in 1998 INS: Air sampling equipment & Calibration Instrumentation Major market player (US EPA Federal Reference Method Sampler) Global distributor coverage 	<ul style="list-style-type: none"> Located in Carlsbad, CA Founded in 1957 INS: Process control water testing instruments Operates national & international through distributors Global distributor coverage 	<ul style="list-style-type: none"> Located in Germany Founded in 1954 S&D: Biological, Chemical & Cleaning Indicator Operates through distributors in EU, LA, APAC Operates through OEM partners in US and CA 	<ul style="list-style-type: none"> Located in France Founded in 2006 INS: Calibration Services & Instruments for Test Measuring Equipment Offers calibration training and consulting Operates worldwide 	<ul style="list-style-type: none"> Located in Mumbai, India Founded in 1973 S&D: Sterility Indicator & microbial identification systems, quality control organisms and diagnostic test kits 																				
Details	Buy'n'Build	Portfolio Expansion	Buy'n'Build	Portfolio Expansion	Internationalization																				
																									
	<table border="1"> <tr><td>Sales</td><td>\$ 12.5m</td></tr> <tr><td>EBITDA</td><td>\$ 5.3m</td></tr> </table>	Sales	\$ 12.5m	EBITDA	\$ 5.3m	<table border="1"> <tr><td>Sales</td><td>\$ 24.5m</td></tr> <tr><td>EBITDA</td><td>\$ 8.6m</td></tr> </table>	Sales	\$ 24.5m	EBITDA	\$ 8.6m	<table border="1"> <tr><td>Sales</td><td>\$ 19m</td></tr> <tr><td>EBITDA</td><td>\$ 11m</td></tr> </table>	Sales	\$ 19m	EBITDA	\$ 11m	<table border="1"> <tr><td>Sales</td><td>\$ 68m</td></tr> <tr><td>EBITDA</td><td>\$ 9.4m</td></tr> </table>	Sales	\$ 68m	EBITDA	\$ 9.4m	<table border="1"> <tr><td>Sales</td><td>\$ 62m</td></tr> <tr><td>Profit Margin</td><td>26%</td></tr> </table>	Sales	\$ 62m	Profit Margin	26%
Sales	\$ 12.5m																								
EBITDA	\$ 5.3m																								
Sales	\$ 24.5m																								
EBITDA	\$ 8.6m																								
Sales	\$ 19m																								
EBITDA	\$ 11m																								
Sales	\$ 68m																								
EBITDA	\$ 9.4m																								
Sales	\$ 62m																								
Profit Margin	26%																								
Rationale	<ul style="list-style-type: none"> Revenue growth High synergy potential with Mesa's existing BGI business line Expansion of market share 	<ul style="list-style-type: none"> Expansion along the value chain of Dialysate Control with high synergy potential New revenue stream with Water Testing Instruments 	<ul style="list-style-type: none"> EBITDA growth due to exceptionally high margins Expansion of market share Opportunities to consolidate S&D functions in Germany 	<ul style="list-style-type: none"> Revenue growth & expansion of Contracted Services revenue share Synergy potential due to complementary services 	<ul style="list-style-type: none"> Internationalization & expansion of product lines Set-up of strategic selling point in highest growing market (option direct sales) 																				
	Sales Growth & Cost Synergies	New Sales Stream & Synergies	EBITDA Margin Expansion	Increase Contracted Services	Direct Sales Force Point Asia																				

Source: Company Filings, Target Websites, Business Model

Strong historic operational levers pave way for future profitability enhancement

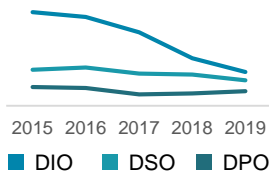
Status Quo

Since the introduction of **new CEO Gary Owens in 2017** significant restructuring measures have been undertaken, mainly regarding working capital, debt outstanding, facility centralization and divestiture of unprofitable Business Units.

Improvements 2017-2019

NWC

Reduction of excessive Inventory reserves leading to 62.5% **DIO** reduction and decrease of **DSO** by 20 days drops **Cash Conversion Cycle** from 192 to 78 (below industry/peer average)



Costs

Management efforts steadily decreased COGS as percent of sales in S&D division by insourcing of biological indicator supplies



Operations

Complete shut down of Omaha and Traverse City facilities, sale of old **Bozeman manufacturing facility** at 288 USDk gain and relocation of operations into the new Bozeman building

Continued rollout of **phase 3** of **ERP implementation** project

Portfolio

Exit of **Cold Chain Packaging Business Unit** due to **decreasing gross margins** by 30% as a result of timing of orders and unfavorable product and service mix

Discontinued products in S&D, INS, CCM Divisions due to the recent introduction of new or modified products

Strategy

Increase efficiency by **reducing overhead costs** and COGS

Improve cash flow by **optimizing net working capital** levers

Enhance operation efficiency by consolidating M&A to operations

NWC

DPO remain significantly **below industry (peer) average** by ~20 days surveying high upside potential to be targeted during investment period
DSO/ DIO outperform peers by ~20 days

Costs

COGS in CCM segment increased heavily between 2015-2018 mainly due to consolidation efforts of acquired CCM targets which will be lowered to previous or lower level of cost over the short to mid-term

Operations

Consolidation of SG&A functions from offices in Markham, CA to Lakewood, US over the mid-term

Fully integrate and **synchronize sales efforts** of Add-ons e.g. IBP GmbH

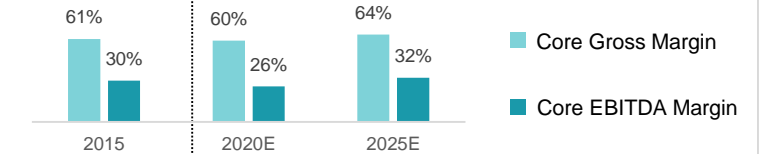
Portfolio

Point Six Wireless® sensors are to date manufactured by third party suppliers and assembled in Lakewood - with acquisition of Point Six EoP 2018 both can be consolidated into one production site

Measures

Increase Core EBITDA-Margins

- Mesa is already largely **outperforming its peer group regarding EBITDA-Margins** prior to entry, nonetheless showing significant upside potential
- Consolidation of administrative and manufacturing facilities** in US & Germany to permanently decrease operating costs
- R&D do not scale** with revenues due to specifications of Mesa's operating model enabling even higher margins



Increase Cash Flow Derivation

- Steady decrease in **reserve for slow moving inventory** associated with specific model of CCM sensors
- Increase of DPO will further **optimize working capital** needs, hence boosting operating cash flow

Main Goals

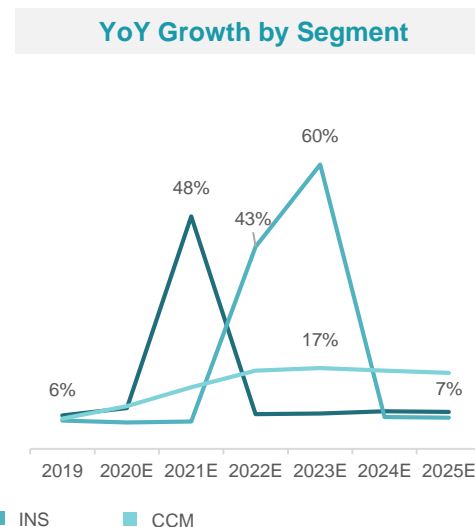
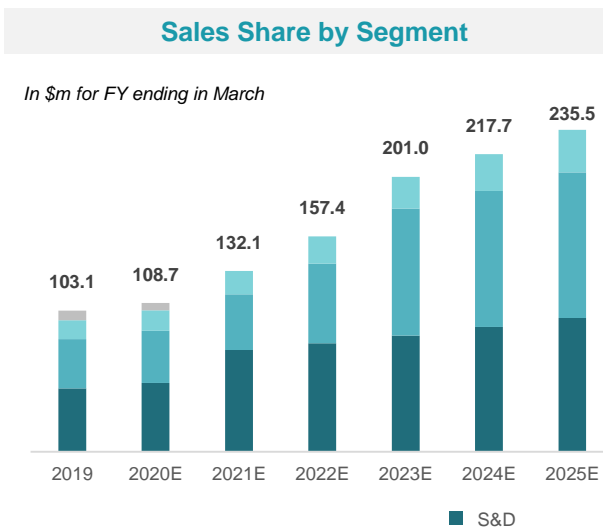
- Increase in **DPO** at an **average of 10-20%** every second year
- Decrease in **COGS of CCM segment by 3%** per annum after 2022E
- Decrease in **G&A** from 21.2% to 18.6%



FORECAST & BUSINESS PLAN

Selective acquisitions and market tailwinds drive growth of all segments

In \$m	2019	2020E	2021E	2022E	2023E	2024E	2025E	CAGR ('20-'25)
S&D	46.3	50.3	74.5	79.5	84.9	91.2	97.8	14.2%
% growth	7%	9%	48%	7%	7%	7%	7%	
1 Core	46.3	50.3	53.9	58.0	62.4	67.7	73.2	7.8%
2 Add-on gke GmbH	0.0	0.0	20.6	21.5	22.5	23.5	24.6	4.6%
INS	36.1	38.1	40.6	58.1	92.9	99.5	106.4	22.8%
% growth	6%	6%	6%	43%	60%	7%	7%	
3 Core	36.1	38.1	40.6	43.9	47.5	51.7	56.2	8.1%
Add-on Tisch Env.	0.0	0.0	0.0	14.2	15.1	15.8	16.5	4.9%
4 Add-on Myron L	0.0	0.0	0.0	0.0	30.3	32.0	33.7	5.5%
5 CCM Core	13.8	15.0	17.0	19.8	23.2	27.0	31.3	15.8%
% growth	6%	9%	13%	17%	17%	17%	16%	
CCP	6.9	5.3	0.0	0.0	0.0	0.0	0.0	
Total Revenue	103.1	108.7	132.1	157.4	201.0	217.7	235.5	16.7%



Growth Drivers

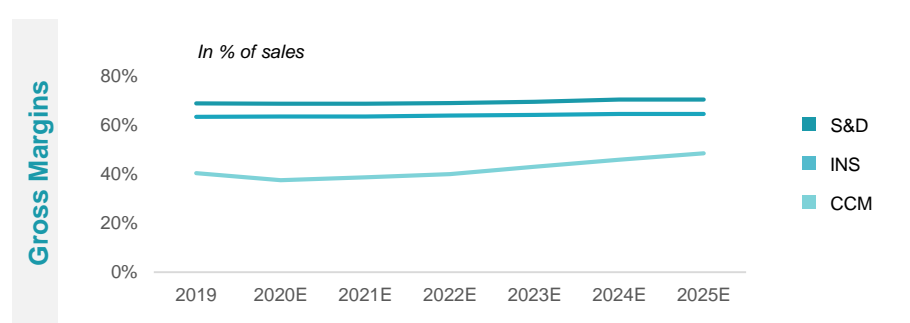
- 1 S&D CORE**
 - Expansion towards APAC region drives core sales with double-digit growth **CAGR 7.8%**
 - Sales growth driver in **APAC regional market** through **direct sales point** in India (potentially S&D distribution segment of HiMedia) **India (APAC)**
 - Other geographic regions continue to grow at between 5-7% due to promising market forecasts for US and Europe, especially with regards to the **pharma sector**
- 2 ADD-ON**
 - Acquisition of Gke GmbH (DE) improves** Mesa's positioning in Europe S&D market with exceptionally high **EBITDA margin of 58%** **2021 +\$20m**

- 3 INS CORE**
 - High market growth projection in Europe & APAC **CAGR 8.1%**
 - Synchronization of IBP and Mesa distribution fuels growth in Europe** near-term with 13.3% (2023-2025). **Improvement of distributor coverage** in APAC leads to mid-term growth of up to 12.5% (2025-2027) **DE & APAC**
- 4 ADD-ON**
 - Tisch Environmental (US)** as leading provider in its industry will establish Mesa among leading players in air particulate sampling market, driving sales growth and international market share **2022 +\$14m**
 - Myron L (US)** will strengthen Mesa's position as leading player in Dialysate Quality Control **2023 +\$30m**

- 5 CCM CORE**
 - Completion** of low-cost platform for Food CCM and high-cost product for Pharma sector due to stricter regulations drives growth in US market **CAGR 15.8%**
 - Assumed **completion by EoY 2020** and first growth results in 2021 **US & CA**
 - As US/ Canada single operated market of Mesa strong focus point with no intention of international expansion near- to mid-term
 - 18.1% projected market CAGR over mid-term due to **mature distribution network** in US and **transportation segment** with highest growth
 - New Model leads to high p.a. growth ranging from 15-17% (reported growth 20% Q2 in 2020)

CCM cost reductions & add-on acquisitions are leading drivers of EBITDA margin

In \$m	2019	2020E	2021E	2022E	2023E	2024E	2025E	CAGR ('20-'25)
S&D	(14.4)	(15.7)	(16.9)	(18.0)	(19.1)	(20.0)	(21.7)	
1 COGS in % of sales	29%	31%	31%	31%	31%	30%	30%	(1.1)%
INS	(13.3)	(13.9)	(14.8)	(15.9)	(17.0)	(18.3)	(19.9)	
2 COGS in % of sales	35%	37%	37%	36%	36%	35%	35%	(0.6)%
CCM	(8.2)	(9.4)	(10.4)	(11.9)	(13.2)	(14.6)	(16.1)	
3 COGS in % of sales	60%	62%	61%	60%	57%	54%	51%	(3.8)%
CC Packaging	(6.3)	(4.8)	-	-	-	-	-	
Core Gross Profit	60.9	64.9	69.4	75.9	83.8	93.4	103.0	9.7%
% Gross Margin	59%	60%	62%	62%	63%	64%	64%	
4 Selling	(8.3)	(9.1)	(10.3)	(11.3)	(12.3)	(13.6)	(14.9)	
5 G&A	(21.9)	(23.1)	(23.2)	(24.8)	(26.6)	(28.6)	(29.9)	
SG&A	(30.1)	(32.2)	(33.5)	(36.0)	(38.9)	(42.2)	(44.8)	
6 R & D Exp.	(3.5)	(4.2)	(4.3)	(4.7)	(5.2)	(5.7)	(6.2)	
Core EBITDA adj.	27.3	28.3	31.6	35.1	39.8	45.5	52.0	12.9%
Add-on Costs gke GmbH	-	-	(8.0)	(7.5)	(6.2)	(6.5)	(6.8)	
Add-on Costs Tisch Env.	-	-	-	(8.1)	(8.1)	(8.3)	(8.7)	
Add-on Costs Myron L	-	-	-	-	(19.6)	(19.9)	(20.0)	
Add-on EBITDA	-	-	12.5	20.2	33.9	36.6	39.3	33.1%
Total EBITDA	27.3	28.3	44.1	55.3	73.7	82.1	91.3	26.4%



4 Selling

- Historic decrease from 1100 to 800 bps reverted in order to **scale sales force to growth** keeping constant 930bps of core sales
- Increase is driven by **hired sales staff and campaigns** to increase international brand recognition for existing & acquired product lines
- Special focus on strong marketing efforts for **newly build CCM platform in US** from 2021 onwards increasing selling by 100 bps

5 General & Administration

- Historic increase by 600 bps mainly driven by increased stock-based compensation & Back-Office Activity in relation with new Management
- Once centralized **back-office activity can be decreased** leading to G&A reduction by 300 bps over forecast period
- Decrease driven by **centralization of operations** from offices in Markham, CA to Lakewood, US & consolidation of acquired companies in Europe

6 R&D

- Business model not dependent on R&D, **single purpose to improve existing products** (historic decrease in % of sales by 150 bps)
- To ensure high quality standards R&D will be kept little above last annuals levels at 3.9% of sales

COGS Drivers

1 S&D: Operational integration

- Reduction driven by operational leverage achieved with M&A targets
- Align manufacturing process in Germany to BAG GmbH and expand Europe supply through higher coverage at direct sales point tapping higher margin

2 INS: Centralization

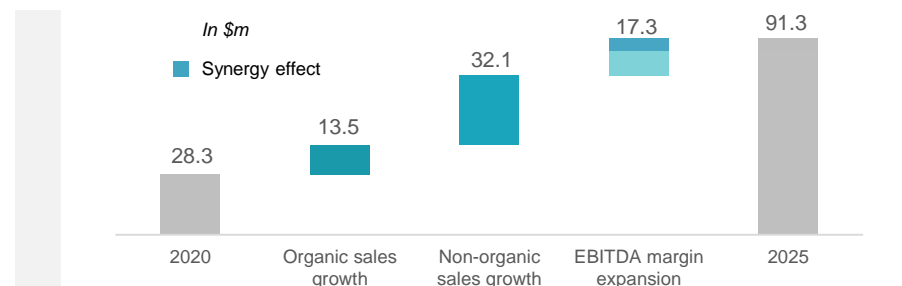
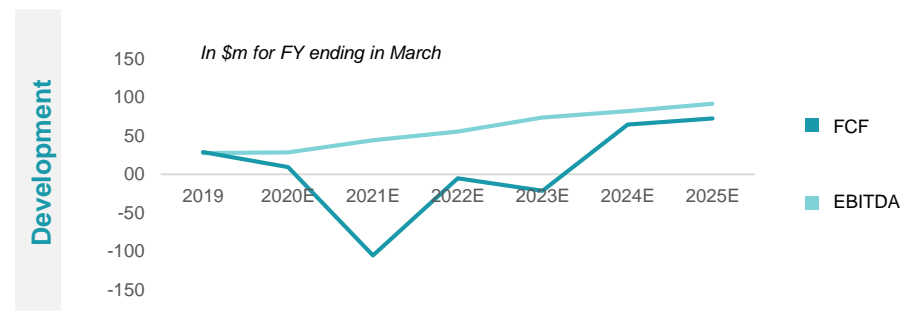
- Limited room for improvement gives way to steady decrease of COGS at a CAGR of (0.6)%
- Historic trend determined by spike upon strategic acquisitions which can be decreased through **higher consolidation efforts**

3 CCM: New Core Platform

- Main segment to drive core operating profit margin**
- Driven by new platform built out of acquisition targets (short-term increase costs) and subsequent significant reduction as of 2022 at 3% p.a.

Low CAPEX and NWC requirements over forecast period increase available cash

	2019	2020E	2021E	2022E	2023E	2024E	2025E	CAGR ('20-'25)
4 Total EBITDA	27.3	28.3	44.1	55.3	73.7	82.1	91.3	22.3%
% EBITDA Margin	26%	26%	33%	35%	37%	38%	39%	
other adjustments to cash	1.0	-	-	-	-	-	-	
Taxes	(1.1)	(4.5)	(5.1)	(6.4)	(9.3)	(10.7)	(12.2)	
1 Core NWC	7.9	(5.4)	(0.5)	(0.5)	(0.2)	(0.4)	0.3	
3 Add-on NWC			(0.2)	(0.2)	(0.4)	(0.4)	(0.4)	
Cash from Operations	35.0	18.5	38.3	48.2	63.9	70.6	79.0	
% of sales	34%	17%	29%	31%	32%	33%	34%	
2 Maintenance Capex	(1.3)	(9.2)	(0.9)	(3.2)	(3.7)	(4.3)	(4.6)	
3 Add-on CAPEX			(0.8)	(0.9)	(1.9)	(2.0)	(2.1)	
Expansion Capex	(4.8)	-	(142.4)	(49.3)	(80.0)	-	-	
Cash from Investing	(6.1)	(9.2)	(144.1)	(53.4)	(85.5)	(6.2)	(6.6)	
% of sales	(6%)	(8%)	(109%)	(34%)	(43%)	(3%)	(3%)	
Free Cash Flow to Firm	28.9	9.2	(105.8)	(5.2)	(21.6)	64.4	72.4	16.5%
% of sales	28%	9%	(80%)	(3%)	(11%)	30%	31%	



Drivers

1 NWC: Decrease of DPO

- Trend will mainly be driven by DPO increase of **total 8 days** (12 Days below peer average)
- 10% DPO increase in 2023E and 20% DPO increase in 2025E due to accelerated supplier power with higher market share
- Slight reduction also by continuous observation of inventory reserves at international distributors

2 CAPEX: Innovation through M&A

- Recent **completion of new production facility** leaves few necessity for future capital investment enabling consistently low CAPEX thus driving Cash Flow
- As new **technologies & scaling** are **realized through M&A** no extraordinary machinery investments necessary to scale growth

3 Add-on: DIO efficiency levers

- NWC of M&A targets mainly responsible for high NWC requirements around 4-5%
- Upon acquisition **inventory efficiency levers** can be implemented to optimize NWC
- All targets relatively **low CAPEX** requirements ranging from **1-4%** driving cash generation

4 EBITDA Growth

- EBITDA is projected to **increase by \$63m** from 2020 to 2025
- Growth mainly driven by **high margin M&A targets** accounting for 51% of total growth, adding an average EBITDA-Margin of 44%
- Core revenues grow at a total CAGR of 10% (2020E-25E)

EBITDA Margin Expansion

- Core EBITDA margin will **increase from 26% to 32%** over forecast period mainly driven by various operational enhancements
- Facility consolidation and optimization of CCM segment** leads to significant cost savings
- Complementary M&A targets** drag EBITDA margin to higher level of 39% while leveraging **economies of scale**



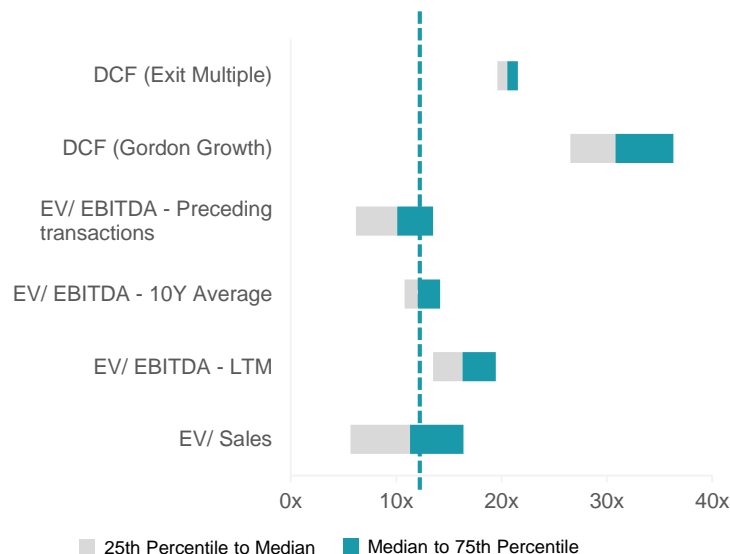
VALUATION | CAPITAL STRUCTURE | RETURNS

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Mesa is valued at an EBITDA multiple of 12.5x, yet only 11.7x are paid upfront

Valuation

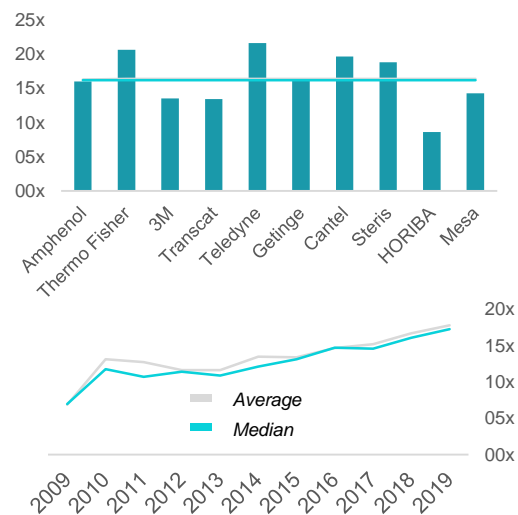


Valuation at an EV/EBITDA Multiple of 12.5x leading to an Enterprise Value of \$353m

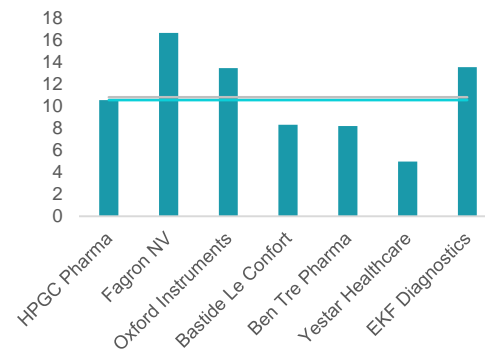
- Derived **entry multiple is based on equally weighted average** of Precedent Transactions between 2016-2019, peer group EV/EBITDA LTM and a 10 year average as well as a converted EV/Sales of respective peer group
- Mesa has a corresponding **EV/Sales** multiple of **3.6x**
- Significantly **higher EV/EBITDA multiple over LTM** than over a 10-year horizon indicating a **current boom in Mesa's industry** (therefore upper range multiple more applicable upon entry)
- DCF** uses a 6.1% WACC, 0.76 beta and a 1.5% Terminal Value growth rate

Breakdown of Valuation

Peer EV/EBITDA LTM¹



Precedent Transactions¹



Methodology

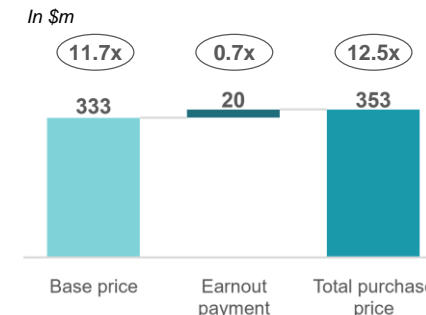
Representative Average 16.1x & Median 16.2x EV/EBITDA

- Overall peer group was determined based on **trading Competitors & Comparables** as shown by various Financial Platforms as well as **direct Competitors** derived through extensive market analysis
- Historical EV/EBITDA **trendline** clear **upward trajectory** from 6.9x in 2009 up to 17.8x in 2019
- Although the 10yr-average is aligning with 10yr-median indicating **few outlier**, the spread between peers regarding EV/EBITDA multiple is much higher in **recent years** at 6.6x min. up to 40.8x max. compared to 2009 (4.4x to 9.9x)

Representative Average 10.8x & Median 10.5x EV/EBITDA

- Precedent transactions were selected as qualified if closed **within last three years (2016-2019)** of entry date & respective industry matching Mesa's
- Identification Industry **Medical Testing, Analyzing, and Diagnostic Equipment & Healthcare Equipment**
- Significantly lower than average multiple based on other valuation methods indicating **lower entry multiple upon strategic acquisition in the industry**

Purchase Price Structuring



- The purchase price is split into a **base price of \$333m** or 11.7x of EBITDA and an **earnout payment of \$20m** or 0.7x adj. EBITDA
- Earn-out amount determined based on a linear sliding scale depending on EBITDA 2021E targets between \$27m (lender case) and \$37m (mgmt. case). If threshold is met the earnout is paid out of the company's cashflows
- An earnout payment pushes down equity contribution in the first place, aligns incentives of former owners and further limits the downside for the investor
- Capital case currently reflects a cash outflow of \$10m²
- Common practice in MedTech industry; Management already familiar through Mesa's past M&A

Source: Business Model, CapitalIQ, Bloomberg

Note: (1) Representative selection; For more detailed information see Appendix s. 75 (2) For impact of earn out on Cash Flow see Appendix s. 76

Small deal size enables access to specialized lenders at higher leverage and cost

Debt Market Analysis

Specialized Direct Lending

Higher Interest Rates

- Higher costs of leverage due to higher risk inherent to higher leverage from single lender
- US base rate higher than in Europe at 1.5% LIBOR

Higher Flexibility

- Higher leverage of up to 5-6.75x EBITDA as lenders not constrained by regulations
- Option of add-on lending
- Covenant light loans

Specialized Lenders

- Blackrock
- ICG
- Barings
- Ares Management
- Cheyne Capital Mgmt.
- Midcap Financial

Available for small sized companies

- Specialized lenders fill void for potential high-yield debt small to mid sized companies with no access to public debt markets
- Single tranche of private debt (Unitranche)

Fundamentals

Mesa's Spread Influencing Factors

Driver

Mesa's Status Quo

Impact

Firm size

Small sized company with TEV of around \$353m EBITDA upon entry of \$28.3m at \$108m sales



Leverage level

High level of total leverage increases risk of default



Governance

Strong management team with proven track record of steering comparable companies
Alignment of incentives due to sweet equity and skin in the game



Diversification

Mesa shows medium geographical diversification due to the US-centric operations whereas the company is fully diversified in terms of its three product segments



Cash flow conversion / volatility

Strong cash flow conversion combined with a low volatility



Direct Lending

Criteria	EBITDA \$ 5-75m; EV \$25-500m
Principal	Stretched Senior, Senior secured loan, Second lien, Unitranche
Interest	6.4-8% p.a.
Leverage	Debt/EBITDA of up to 6x or more on sponsor-backed deals



Refinancing Option

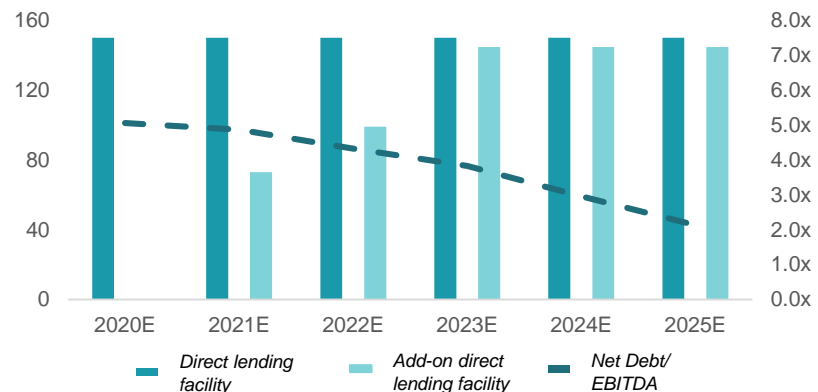
- Refinancing in 2023E on leverage loan markets after \$50m EBITDA threshold with leverage below 5x EBITDA to accelerate growth at lower cost
- Public debt markets 180-400 bps + LIBOR for 100+2% of principal repayment in year 2022E

Key Takeaway

- Due to small size of Mesa, leverage likely to be obtained from **private specialized lenders** through stretched senior direct lending facility
- Enables more flexibility and higher leverage (although at higher interest rates)
- Possibility to finance add-on acquisition during holding period by extending stretched senior loan at equal conditions
- As debt markets offer **credit spreads at historic lows** paired with **Mesa's favorable attributes** the lower range of direct lending costs can be achieved in a leveraged buyout arriving at ~700 bps + 1.5% LIBOR (base rate)

Leverage of 5.1x EBITDA delivers a promising risk & return profile

In \$m for FY ending in March



Sources	xEBITDA	in \$m	Uses	xEBITDA	in \$m
Net acquisition debt	5.1x	143.2	Base price	11.7x	332.8
Stretched senior Loan	5.1x	143.2	Financial Net Debt		(1.2)
			Debt-like items		(1.2)
			Equity Purchase Price		330.5
				% of EV	
Equity Contribution	7.0x	198.1	Total fees		8.5
Ord. shares sponsor	2.0x	55.4	Financing Fees	1.3%	4.3
Ord. shares Mgmt.	0.3x	9.8	Arrangement fee	1.0%	3.3
FRI/ SHL	4.7x	132.9	DD fee	0.2%	0.9
Sources of Funds		341.3	Uses of Funds		341.3

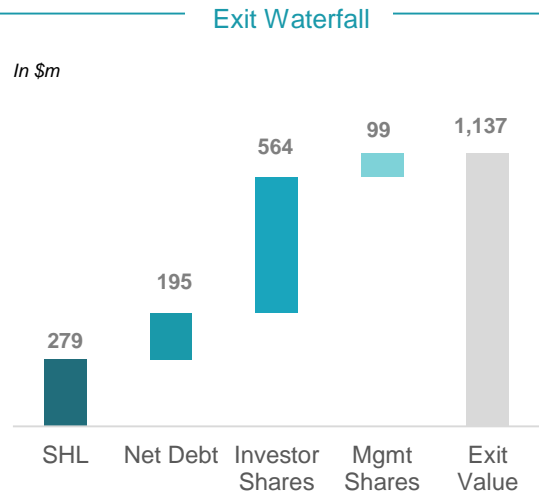
Sources	Rates	Details
DEBT		
Direct Lending Facility Stretched Senior Loan	Stretched senior 5.1x EBITDA Interest 700bps + LIBOR (USD)	<ul style="list-style-type: none"> Stretched senior loan provided through specialized lenders (e.g. Blackrock) 7 year maturity at 8.50% Cash interest rate (1.50% base rate) No amortization – 100% Bullet repayment at end of maturity No restrictive covenants required
Direct Lending Add-on Facility	Stretched senior Interest 700bps+ LIBOR (USD)	<ul style="list-style-type: none"> Additional drawdown through direct lender at a maximum of current leverage ratio 100% Bullet repayment at maturity of 7 years
Revolving Credit Facility	Interest 375 bps + LIBOR (USD)	<ul style="list-style-type: none"> Maximum drawdown of \$35m at necessity over life of investment 6 year Maturity (1 year less than senior debt) – roll-over assumed
EQUITY		
Shareholder Loan (FRI)	Junior, unsecured debt-like item 4.7x EBITDA	<ul style="list-style-type: none"> Accruing deferred interest at 8.0% p.a. (PIK element) No fix maturity Fixed return Instruments as senior to all claims after debt servicing at 5.1x EBITDA
Ordinary Shares Sponsor	PE Equity Instrument 2.0x EBITDA	<ul style="list-style-type: none"> Equity claim after debt fulfilment Not secured
Ordinary Shares Management	Management Equity Instrument 3.40 Envy Ratio 0.3x EBITDA	<ul style="list-style-type: none"> Initial Management Investment of \$9.8m based on 2x management compensation of \$4.9m for 15% of shares Insignificant pre-deal management ownership of 0.5% (no rollover)

Source: Invesco (Nuno Caetano)

Note: For comprehensive Cash Flow Statement see Appendix s. 76

Capital Case yields MM of 3.4x and IRR of 29.4% after a holding period of 5 years

Return Breakdown



- Breakdown**
- Total EV generation of \$ 804.2m
 - \$100.2m total available Cash in 2025E
 - \$295m remaining debt in company at year of exit, thereof \$150m from Direct lending facility and \$145m for add-on Acquisitions
 - Management holds 15% of equity yielding a total return of \$99.5m
 - Institutional investment totals \$245.4m, thereof 188.3m equity upon entry and \$57.1m in 2021 for M&A purposes through SHL
 - Thereof \$132.9m initial SHL with \$89.2m worth PIK notes totalling \$279m Fixed Return Instrument in 2025

Sensitivity Analysis

		Exit Year				
		3/31/2023	3/31/2024	3/31/2025	3/31/2026	3/31/2027
Exit Multiple	11.5x	2.1x	2.6x	3.1x	3.6x	4.2x
	12.0x	2.2x	2.7x	3.3x	3.8x	4.4x
	12.5x	2.3x	2.9x	3.4x	4.0x	4.6x
	13.0x	2.5x	3.0x	3.6x	4.1x	4.8x
	13.5x	2.6x	3.2x	3.8x	4.3x	4.9x

		Exit Multiple				
		11.5x	12.0x	12.5x	13.0x	13.5x
Entry Multiple	10.7x	3.5x	3.7x	3.8x	4.0x	4.2x
	11.2x	3.3x	3.5x	3.6x	3.8x	4.0x
	11.7x	3.1x	3.3x	3.4x	3.6x	3.8x
	12.2x	3.0x	3.1x	3.3x	3.4x	3.6x
	12.7x	2.9x	3.0x	3.1x	3.3x	3.4x

Investor Proceeds		Management Proceeds	
Total Inv.*	\$245.4m	Entry Inv.	\$9.8m
IRR	29.4%	IRR	59.0%
MM	3.4x	MM	10.2x
Proceeds	\$843.2m	Proceeds	\$99.5m

Case Analysis (Sponsor)

MM	IRR	
4.3x	36.2%	
Revenue	19.4% CAGR	\$263.5m
EBITDA	30.7% CAGR	\$108m
Exit Equity Value		\$1,035.3m

- Capture higher share of growth in air sampling industry through Tisch acquisition especially US & Europe (INS)
- Accelerated EBITDA margin increase through faster cost reductions in CCM & economies of scale with add-on acquisitions

MM	IRR		
3.4x	29.4%		
Revenue	16.7% CAGR		\$235.5m
EBITDA	26.4% CAGR		\$91.3m
Exit Equity Value			\$843.2m

MM	IRR	
2.5x	21.5%	
Revenue	13.8% CAGR	\$207.7m
EBITDA	20.9% CAGR	\$73.3m
Exit Equity Value		\$664.5m

- Less cost reductions than anticipated in CCM due to nature of business
- Slower adoption of S&D in India due to regulatory restrictions
- Fewer synergy potential through M&A than anticipated dropping EBITDA margin

Source: Business Model, Invesco (Nuno Caetano)

*complete equity contribution over life of investment; split in Breakdown

Add-ons significantly affect returns and equity value creation

M&A Risk Analysis

		Target IRR Analysis		
		w/o gke GmbH	w/o Tisch Env.	w/o Myron L
Exit Year 2025	w/o gke GmbH	29%		
	w/o Tisch Env.	27%	28%	
	w/o Myron L	25%	24%	26%
	All			29%
	None			23%

Strategic Add-on Acquisitions

- **M&A Targets** increase overall IRR by total of **600bps** with exit after 5-year holding period
- **Biggest value driver is Myron L** without which the IRR would decrease by 300 bps
- In **combination** not acquiring **Tisch Env. and Myron L** would have most severe adverse effect on returns
- 3 consecutive Add-on acquisitions in 2021 (gke GmbH), 2022 (Tisch Env.), 2023 (Myron L) for total purchase price sum of \$272m
 - **Entry multiples** of 11.4x; 8.0x; 7.5x EBITDA
 - **Acquisition Values** of \$142m; \$49m; \$80m
 - **Equity injections** of \$57m (gke GmbH)

i IRR more accurate measure to account for equity injections; Assumes all targets are acquired in the same year for comparison purposes due to distortion inherent to debt/equity financing mix & available cash

Metrics

Cash & Cash Flow					
	2021E	2022E	2023E	2024E	2025E
Cash	8.3	9.9	12.6	52.0	100.2
Cash Flow	(105.8)	(5.2)	(21.6)	64.4	72.4

▪ Normalized FCF 2021-2023 \$ 27.5m; 27.8m; 31.7m

Net Debt/ EBITDA					
	2021E	2022E	2023E	2024E	2025E
Net Debt/EBITDA	4.9x	4.3x	3.8x	3.0x	2.1x
FCF/Debt	(47)%	(2)%	(7)%	22%	25%

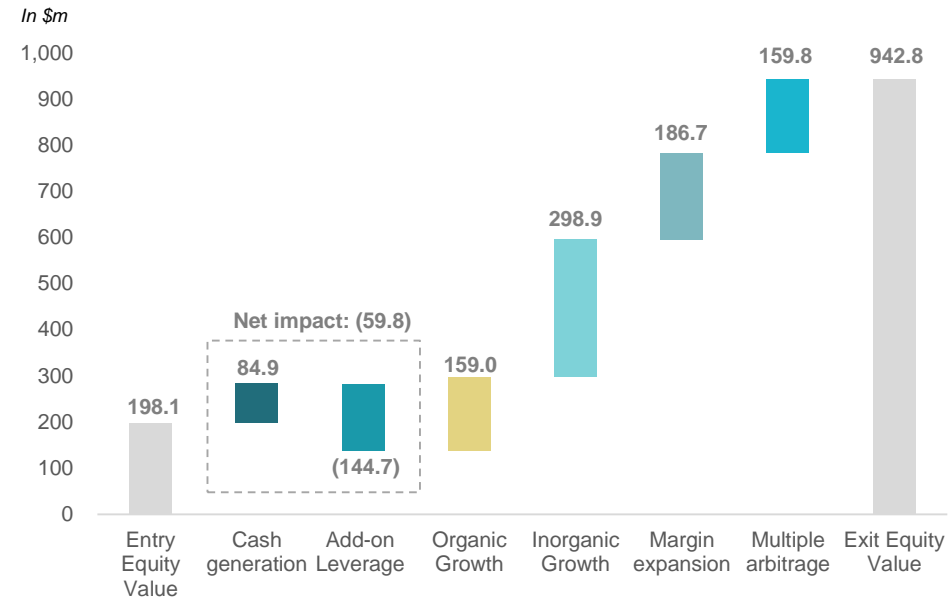
▪ 2021-23 negative FCF/Debt due to M&A Acquisition CAPEX

Cash & Interest Coverage					
	2021E	2022E	2023E	2024E	2025E
Cash Coverage	0.5	0.5	0.6	2.2	3.8
Interest Coverage	2.7	2.3	2.9	2.8	3.1

▪ Minimal Cash Balance of 6.3% of sales for operational purposes (2021-2023) in line with historical average of the company

▪ Excess used for M&A purposes upon need

Equity Value Creation (Overall)



Equity Value Generation

- **Total Equity Value Generation** of \$ 744.7m for 5-year holding period from 2020 to 2025
- **Negative deleverage effect of (8)%** caused by absolute higher debt due to combination strategy
- **Organic & Inorganic growth** generate Value surplus of 21% and 40% respectively, of total equity value creation
- **EBITDA margin extension** of 13% (including synergy effects) leads to 25% of Equity Value Creation
- Further **taking advantage of lower multiples of combination targets** leads to another 21% of equity value generation. **Exit multiple** for the whole entity is **set conservatively at entry valuation**



EXIT | DUE DILIGENCE

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Trade sale, secondary buyout or hybrid combination to yield highest returns

Trade Sale

Idea

- High-margin, high growth markets that set Mesa's growth path will put it **in focus of large conglomerates** who can further leverage margins by incorporating Mesa to achieve cost synergies & use their stronger competitive positioning (buying power)

Advantages

- Higher returns** as for large **realizable synergies** the closer the target buyer is to Mesa's field of operations
- Access to new markets for target buyers (CCM segment)
- Strong **historic M&A trend** towards consolidation in the medical industry positively impacted by relatively small size of Mesa business
- Immediate exit** without regulatory requirements and costs inherent to other exit options (IPO)

Red flags

- As for **three diverting business segments** it might be unattractive to certain strategic buyers in its entirety increasing attractiveness of partial trade sale (however, relatively small sized including it as an attractive add-on business line to target buyers)



Secondary Buyout

Idea

- After holding period of 5 years Mesa which is still rather small in size and with high potential for added growth strategies will be sold to another Private Equity Fund

Advantages

- PE seller has to offer **little securities** to secondary PE fund
- Limited number of attractive targets paired with large amounts of committed capital and attractive lending terms with low interest rates **raises competitive pricing** of potential secondary buyers
- Accelerated process as for more accustomed to deal terms and risk allocation models and immediate entire exit
- Due to size attractive for follow-on LBO
- Potentially **able to pay higher prices** than strategic buyers as for promising return scenarios and access to larger amounts of funds

Red Flags

- Success of investment thesis & cash generation crucial for attractiveness as follow-on LBO
- Potential saturation of leverage and platform building for PE purposes

Trade Sale

Cantel | Steris

- Potential target buyers as operating in the same industry
- Both 2/3 business lines complementary to Mesa (high synergies)
- CCM valid extension as established product in highly growing market and small portion of revenues ~13%

Partial Trade Sale

Cantel | Steris & Orbcomm

- S&D, INS can be acquired from Cantel | Steris as in Trade Sale
- 3rd business segment CCM can be split off as independent from the rest and be sold to large direct competitor e.g. Orbcomm (~\$ 300m sales)

Secondary Buyout

Bain Capital | Blackrock | LLR Partners | Pamlico Capital

- Investment focus of named PE funds is likely to make Mesa an attractive target
- Invest in small to mid-sized companies in the healthcare, Biotech and Medical sector

Promising return outlook through trade sale to large medical player in peer group

	Target Buyer ¹	Target Buyer ¹	Partial Target Buyer	
Overview	<ul style="list-style-type: none"> Cantel Medical Corp. is a global provider of infection prevention and control products and services for the healthcare market. Medical segment manufactures sterilant Instruments. Life Sciences segment provides dialysis water purification and bicarbonate mixing systems. Dental segment offers sterility indicator. Latest Market Capitalization of \$ 2.8bn with \$830m sales LTM 	<ul style="list-style-type: none"> STERIS plc provides infection prevention and other procedural products and services worldwide. It operates in four segments: Healthcare Products, Healthcare Specialty Services, Life Sciences, and Applied Sterilization Technologies. Provides cleaning chemistries and sterility assurance products mainly to the Healthcare sector. Latest Market Capitalization of \$11.7bn with \$2.6bn sales 	<ul style="list-style-type: none"> Orbcomm Inc. offers network connectivity, devices, device management, and Web reporting applications to track, monitor, control, and enhance security for various assets, such as trailers and trucks. Latest Market Capitalization of \$276.6m 	
Comparable M&A	<p>2019</p> <p>Size: \$775m</p> <p>Was a former direct competitor to Mesa offering instruments and product solutions for infection prevention for the dental industry.</p>	<p>2015</p> <p>Size: \$94m</p> <p>Was a former Direct competitor to Mesa as second largest provider in the Biological Indicator Pharmaceutical market.</p>	<p>2017</p> <p>Size: \$2.2bn</p> <p>Segment of Steris that is related to Mesa's. Provides specialist outsourced services to the healthcare and related markets around the world, including sterilization services for medical device and other manufacturers, decontamination of surgical instruments for Hospitals.</p>	<p>2017</p> <p>Size: \$60m</p> <p>No competitor of Mesa. Develops telematics solutions to impact driver behavior, reduce crashes, increase fleet productivity, improve fuel mileage, and reduce emissions worldwide</p>
Driver	<ul style="list-style-type: none"> High achievable Synergies with Mesa's S&D, INS segment Very M&A experienced buyer Leveraging of high margins in mature niche market 	<ul style="list-style-type: none"> High achievable Synergies with Mesa's S&D, INS segment Stronger competitive positioning of Mesa in S&D Leveraging of strong position in high margin pharmaceutical sector 	<ul style="list-style-type: none"> High achievable Synergies (w/ Mesa's CCM) Increase competitive positioning Revenue growth with mature product 	

Source: Business Model, CapitalIQ, Bloomberg
 Note: (1) For comprehensive overview see Appendix s. 78-79

Profound analysis of various areas imperative for success of investment

	Topic	Details	Red Flags	Relevance
Commercial	New Management	Senior management team is relatively new and may face challenges working together as a unit	Challenges inherent in assimilating a new management team, aligning strategic priorities, possibility of turnover among executive officers	
	Customer Relationships	As majority of sales depends on strong relationships rather than contracts; certain products sell significant amount to key distributors that have valuable relationships with customers and end-users	If orders are made by exchangeable decision parties consistency of sales might be endangered once parties are replaced / low cost substitution / favourites Changing levels of inventory maintained by distributors may adversely effect costs	
	Subsequent markets	Growth depends in part on the growth of subsequent markets with limited visibility (particularly for markets sold through distributors)	If highly dependent on macroeconomic conditions downward trends could adversely impact forecasted market growth	
	Entry barriers international markets	Regulatory environment for product approval In-depth Competitive Screening in respective countries	Obtaining and maintaining required regulatory approvals is lengthy, expensive and uncertain and may deviate in-between countries	
	Supplier and Pricing Power	Manufacture of most products is a highly exacting, complex process; businesses partly purchases from sole or limited source suppliers for reasons of quality assurance, regulatory requirements	Suppliers may extend lead times, limit supplies or increase prices during a market upturn if reliance upon sole or limited sources of supply for certain materials	
	Healthcare cost reduction efforts (reimbursement)	Many of the end-users to whom products are supplied, rely on government funding of and reimbursement for health care products and research activities	May cause participants in the health care industry reduce the prices they are willing to pay for products or services adversely impact sales	
Technical/ Financial/ Legal	Success add-on acquisitions & Fit	Growth predictions depends on ability to successfully acquire and integrate businesses at appropriate prices and realize anticipated synergies	Operational fit imperative to realize cost synergies Limited availability of information on M&A targets therefore extensive DD required in all manners	
	Regulatory FDA clearance	If compliances with regulations changes unexpectedly it may require to incur significant expenses	Lost compliance could result in loss of product lines Increased Cost to comply decreases profit margins	
	Unexpected liabilities	Former owners required to indemnify against certain liabilities related to the company; contingent consideration requires payments based on defined growth metrics over a earn-out period	Liability of the former owners is limited or former may be unable to meet the indemnification responsibilities; Possibility to pay more than the amount initially recorded which is recorded as operating expense	
	Intellectual Property	In-depth schedule of all patents, trademarks, copyrights, trade secrets and other intellectual property and licenses to intellectual property owned by others	Expiry dates of intellectual property and Potential leakage through nondisclosure and noncompetition agreements with employees	

APPENDIX



APPENDIX – COMPANY OVERVIEW

Mesa provides services to mainly US customers in the Pharma & Med Device industry

Primary Activities

Sourcing

- Sourcing from a number of different suppliers
- Wherever items depends on a single source, it is believed that in most cases, alternative sources could be developed
- Mesa Labs hold an adequate level of working capital to support our business needs

Manufacturing & Services

7 Locations with 167 Employees are dedicated to manufacturing & quality assurance

Sterilization & Disinfection (4 Sites)

- Growing microbiological spores, forming and testing the finished biological indicators
- Manufacturing of chemical indicators
- Testing and laboratory services to US and CA

Instruments (3 Sites)

- Assembling with purchased components and calibrating the final products prior to release

Cold Chain Monitoring (3 Sites)

- Assembling with purchased components and calibrating the final products prior to release or at the customer's facility
- Manufacturing of Point Six brand outsourced

Marketing & Sales

Region	FY19	FY18
United States	648	570
Foreign	383	392

Most of sales (67%) are done in the United states

Sales Model

- 94 Employees dedicated to marketing & sales
- US-sales are generated via a direct sales-model by own staff as well as distributors
- ~220 distributors throughout Europe, Africa, Asia, South America, Australia, Canada and Central America for international sales and distribution (For details see next slides)

Sales promotions

- Trade shows
- Direct mail campaigns
- Internet, Other digital forms

After Sales

Sterilization & Disinfection

- Biological Indicator Services
- Temperature Mapping

Instruments

- DataTrace Technical Support
- Data Logger Calibration & Repair Services

Cold Chain Monitoring

- Tech Support available

Other

- FDA Compliance Consulting

R&D

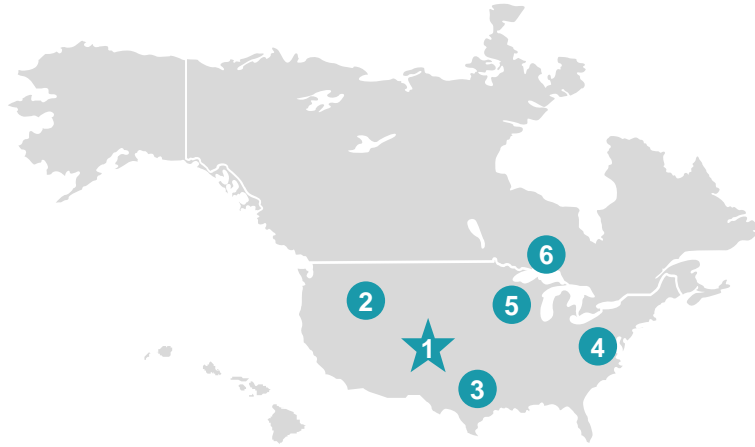
R&D program with 29 Employees complemented by third party consultants dedicated to innovate new and improve the quality and performance of existing products

BA

Global Headquarters in Lakewood & in total 57 Employees support the business with their business administration knowledge

Nine locations provide high quality services within three segments

United States & Canada



Europe



No	Location	Segments	Functional focus
★ 1	Lakewood		<ul style="list-style-type: none"> Manufacture of the Instruments Division products which include the DataTrace, DiallyGuard, DryCal, Torqo, SureTorque, IBP Medical, and BGI brands Production of Cold Chain Monitoring Division products which include CheckPoint, AmegaView, ViewPoint, FreshLoc Outsourcing of the manufacture of our Point Six brand
2	Bozeman		<ul style="list-style-type: none"> Manufacturing of Biological Indicators EZTest, ProSpore, Process-Challenging-Devices, Apex Sterility assurance testing services to dental offices in the US and CA
3	Addison		<ul style="list-style-type: none"> Marketing and administration
4	Butler		<ul style="list-style-type: none"> Manufacture of the Instruments Division products which include the DataTrace, DiallyGuard, DryCal, Torqo, SureTorque, IBP Medical, and BGI brands
5	Traverse City		<ul style="list-style-type: none"> Marketing and administration
6	Markham		<ul style="list-style-type: none"> Manufactures real time monitoring solutions
7	Munich		<ul style="list-style-type: none"> Manufacturing of EZTest, ProSpore, Process-Challenging-Devices, Apex
8	Hanover		<ul style="list-style-type: none"> Manufacture of the Instruments Division products which include the DataTrace, DiallyGuard, DryCal, Torqo, SureTorque, IBP Medical, and BGI brands
9	Chassieu		<ul style="list-style-type: none"> Marketing and administration

★ Global Headquarters

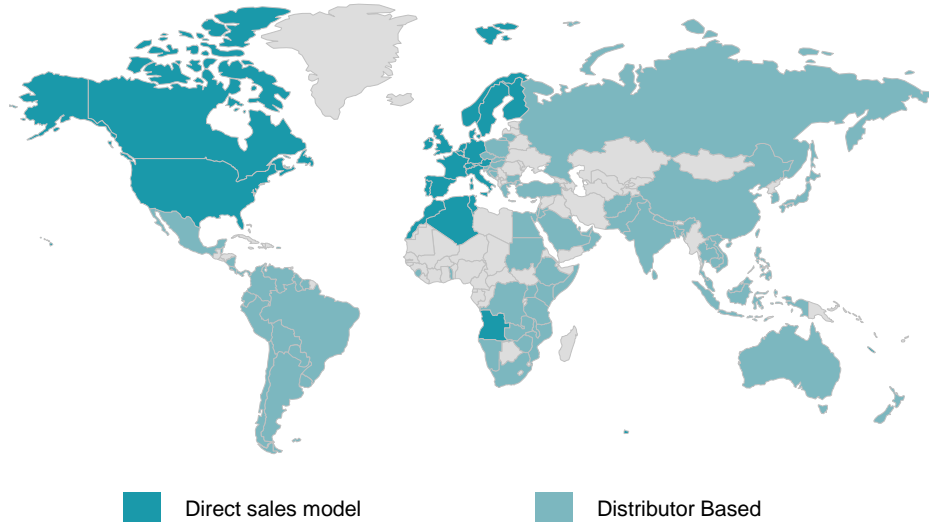
Sterilization & Disinfection Control

Instruments

Cold Chain Monitoring

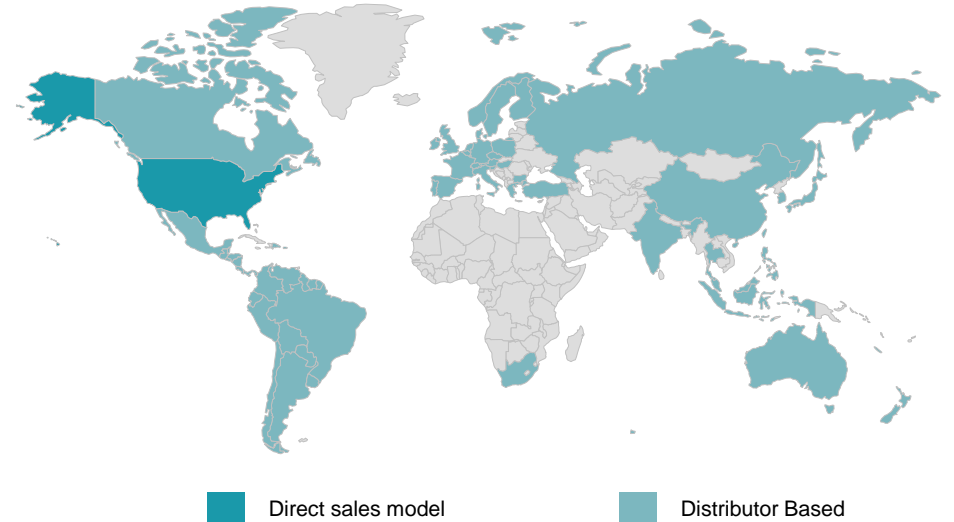
Even though Mesa covers 110 countries foreign sales lack behind domestic ones

Sterilization & Disinfection



- 110 Countries covered by entire distribution network
- Direct sales model in North America & Europe
- Africa partly covered from Mesa France as well
- Main distributors are: Giglio, M&M Equipos Medicos SAS (South America), SOPEX d.o.o. (Eastern Europe), Rauserv C.C. (Africa)

Instruments



- 67 Countries covered by entire distribution network
- Direct sales model only in North America
- Offerings vary among different distributors; especially environmental instruments offered in less countries than Gas Flow Calibrators
- Main distributors are: Intecon Inc. (South America), Brooks Instrument GmbH (Central Europe), Chromservis (Eastern Europe)

Mesa's strengths and opportunities outweigh its weaknesses and threats

S

- **High entrance barriers for new entrants** due to necessary FDA approval for products
- Sticky customer base due to sensitive quality control products
- **Market Leader** in the **Biological Indicator Market** in the United States
- **Only provider of dialysis calibration tools**
- Product offerings made up of high degree of consumables used in medical sector, hence **low cyclicality of business model**
- Reliable and **high cash generation power**
- **Established brand**
- **Effective sales team and distribution network**

W

- **Less capital and resources than larger MedTech conglomerates**
- By nature totally differing business segments may be **difficult to steer for management**




O

- All **market niches** Mesa operates in are predicted to grow with an **extraordinary high CAGR**; High growth markets in Asia still untapped
- Stable and high cash generation provides liquidity for **add-on acquisitions to accelerate growth**
- **EBITDA Margins may be increased** back to last 5 year highs
- **New management proven successful** in steering and growing MedTech companies





T

- Changing industry trends may affect results of operations: 1.) **mergers within industries served, making Mesa more dependent** upon fewer, larger **customers**, 2.) Changes in dialysis reimbursements, 3.) **Price competition** for key products
- **Acquisitions of businesses could negatively impact results** due to resource deployment in any way (capital, management, etc.)
- A substantial portion of **senior management team is new**, which may pose challenges in terms of team work or company knowledge
- **Lack of FDA Approval** for new products and modifications might affect business activity adversely
- Superior products may be developed by larger competitors
- Mesa may be required to **recognize additional impairment charges**

Indicators used to assess the effectiveness of sterilization and disinfection processes

	Product	Description	Product types	Application areas	Vertical Markets	Main Competitors
Sterilization & Disinfection	<p>Biological indicators</p>  <p><i>Incl. Culture Media Incubators</i></p>	<ul style="list-style-type: none"> Biological indicators consist of resistant spores of certain microorganisms that are applied on a convenient substrate. The spores are well characterized in terms of purity, numbers and resistance to sterilization. In use, the biological indicator is exposed to a sterilization process and then tested to determine the presence of surviving organisms. 	<ul style="list-style-type: none"> Spore Discs/ Ribbons Spore strips Spore Ampules Self-contained products Culture media Process challenge devices 	<ul style="list-style-type: none"> Steam indicators Gas/ Ethylene Oxide Indicators Dry Heat Indicators Specialty Indicators 	<ul style="list-style-type: none"> Pharmaceutical Medical Device Healthcare Services 	<ul style="list-style-type: none"> 3M Crosstex Terragene Getinge Group STERIS plc Cardinal Health, Inc. Propper Manufacturing PMS Healthcare Technologies gke-GmbH Andersen Products Inc. Clinichem Oy Ltd. E.C.S. S.R.L. Etigam Bv Excelsior Scientific Ltd Medisafe Uk Limited Getinge Group Healthmark Industries Company Inc. Himedia Laboratories Indilab Inc. Matachana Group Nigk Corporation Parasure Limited Scican Inc.
	<p>Chemical Indicators</p> 	<ul style="list-style-type: none"> Chemical indicators use a chemical change (generally determined by color) to assess the exposure to sterilization conditions Chemical indicators may fail to detect sterilization failures, hence they are used alongside the biological indicators 	<ul style="list-style-type: none"> Process Indicators Air Removal Tests (Bowie Dick test) Multivariable Indicators 	<ul style="list-style-type: none"> Steam EO Gamma Plasma Dry Heat 	<ul style="list-style-type: none"> Healthcare services Industrials 	<ul style="list-style-type: none"> Clinichem Oy Ltd. Healthmark Industries Company Inc. Matachana Group Parasure Limited
	<p>Cleaning indicators</p>  <p><i>offered by Simicon GmbH</i></p>	<ul style="list-style-type: none"> Cleaning indicators are used to assess the effectiveness of cleaning processes, including washer-disinfectors and ultrasonic cleaners in healthcare settings. Cleaning is the critical first step performed prior to disinfection and sterilization. complement sterilization and disinfection processes within central sterile supply departments 	<p>Cleaning indicators for:</p> <ul style="list-style-type: none"> Surgical instruments MIS-instruments Flexible endoscopes 	<p>Test of cleaning efficacy of washer disinfectors and ultrasonic cleaners</p>	<ul style="list-style-type: none"> Healthcare Services 	<ul style="list-style-type: none"> Clinichem Oy Ltd. Healthmark Industries Company Inc. Matachana Group Parasure Limited

Design and manufacture of quality control instruments

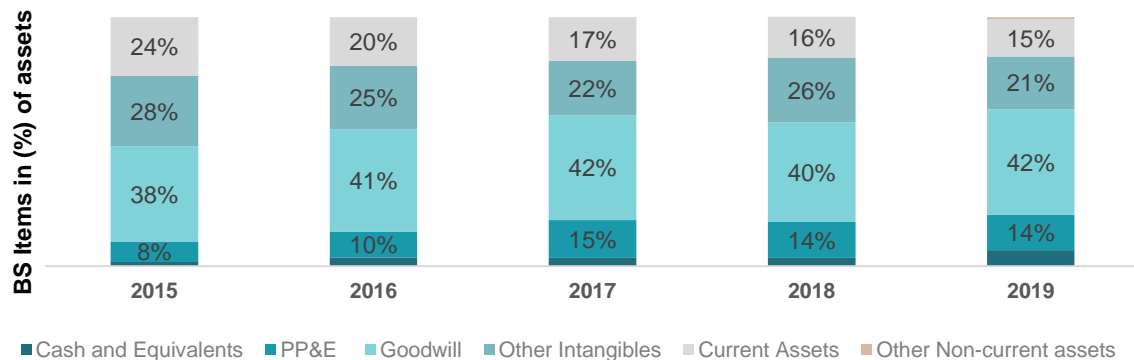
	Product	Description	Product types	Application areas	Vertical Markets	Main Competitors
Instruments	Data Loggers (DataTrace) 	<ul style="list-style-type: none"> Self-contained, wireless, high precision instruments that are used in critical manufacturing, quality control and validation applications of sterilization Electronic device to record data over time at pre-determined intervals Individual data loggers, a personal computer (“PC”) interface, software and various accessories 	3 Types <ul style="list-style-type: none"> Temperature Pressure Humidity 	<ul style="list-style-type: none"> Autoclaves Retorts Ovens – Sterilization, Plastic Curing, Industrial Drying EtO Sterilization Lyophilization 	<ul style="list-style-type: none"> Pharmaceutical Medical device Industry Food & Beverage 	<ul style="list-style-type: none"> Myron L Company Amphenol Corporation, Ellab
	Medical Meters (DialyGuard) 	<ul style="list-style-type: none"> Digital dialysate meter is a hand-held, syringe-style meter for quick and accurate measurement of conductivity, temperature, pressure and pH final quality control check on the dialysate just prior to starting a treatment Two sets of calibration coefficients (one exposed to the customer and one exposed only to Mesa in-house) 	<ul style="list-style-type: none"> Phoenix XL Meter Technician Meters NIST-Traceable Solutions 	<ul style="list-style-type: none"> Dialysis Haemodialysis Dialysate Solutions Digital Dialysate Meters Calibration 	<ul style="list-style-type: none"> Clinical 	<ul style="list-style-type: none"> TMI Orion Fortive Corporation
	Gas Flow Calibrator Air Sampling Equipment 	<ul style="list-style-type: none"> air samplers, particle separators and pumps (BGI) and supportive gas flow calibration equipment (Drycal) particulate concentrations in air as a measure of urban/ industrial air pollution, industrial hygiene some of the first on the market “reference samplers” by the U.S. Environmental Protection Agency 	<ul style="list-style-type: none"> DryCal - 3 Series Defender, FlexCal, Metrology BGI - Air Samplers, Air Flow Calibrators, Cyclones 	<ul style="list-style-type: none"> Metrology Labs BioPharma Instrumentation Manufacturing Industrial Hygiene Aerosol Science 	<ul style="list-style-type: none"> Pharmaceutical Healthcare Services Safety & Environmental 	<ul style="list-style-type: none"> Thermo Fisher Scientific, Inc. Mecmesin, Steinfurth Met One Instruments, Inc.
	Torque Testing Systems 	<ul style="list-style-type: none"> Quality control devices to test or calibrate torque controlled tools Cap and closure torque analyzers including injury prevention, quick change overs and automated controls uses Industry-standard tests and customized testing 	<ul style="list-style-type: none"> Manual Torque Testers Torqo 1600 ST120S/NEMA 	<ul style="list-style-type: none"> Closure Application/ Removal, Container/Closure Thread, Release and Re-apply Torque Tamper Evident Band 	<ul style="list-style-type: none"> Chemical Industry Medical Device Industry Food & Beverage Safety & Environmental 	<ul style="list-style-type: none"> Tisch Environmental

Systems to monitor various parameters such as temperature, humidity and pressure

	Product	Description	Product types	Application areas	Vertical Markets	Main Competitors
Cold Chain Monitoring	<p>Facility</p>	<ul style="list-style-type: none"> Sensors and software for stationary control of various parameters to comply to cold chain standards System supports: Temperature (TMP), Humidity, Differential Pressure, CO2, O2, Open/close Alarm, Contacts, Air Velocity, Power Line, Monitoring, Door Switches, Flow, Particle counters, Light 	<ul style="list-style-type: none"> View Point (for demanding pharmaceutical application areas) FreshLoc (less-demanding and lower priced hospital market) 	<ul style="list-style-type: none"> Continuous Monitoring Safeguarding Assets Compliance/ Quality Assurance Real-time Alerts Mapping/Validation 	<ul style="list-style-type: none"> Healthcare Services Education Food & Beverage 	<ul style="list-style-type: none"> Rees Scientific Corporation, Amphenol Corporation and Cooper-Atkins/Emmerson Sensitech (US), ORBCOMM (US), Berlinger & Co. (Switzerland), Monnit Corporation (US), Elpro – Buchs (Switzerland), Controlant (Iceland), SecureRF Corporation (US), Savi Technology (US), Zest Labs (US), and Infratab (US)
	<p>Transport</p>	<ul style="list-style-type: none"> Sensors and software to mirror, monitor and control various conditions of the cold chain during transport Sensors are wireless and easy to install, hence perfect for trucks or the entire fleet of a cold chain transportation provider 	<ul style="list-style-type: none"> Infitrak 	<ul style="list-style-type: none"> Hospital Storage Monitoring Clean Rooms Laboratories Transport Trucks 	<ul style="list-style-type: none"> Healthcare Services Education Food & Beverage 	

Increased cash and PP&E position leave room for further growth

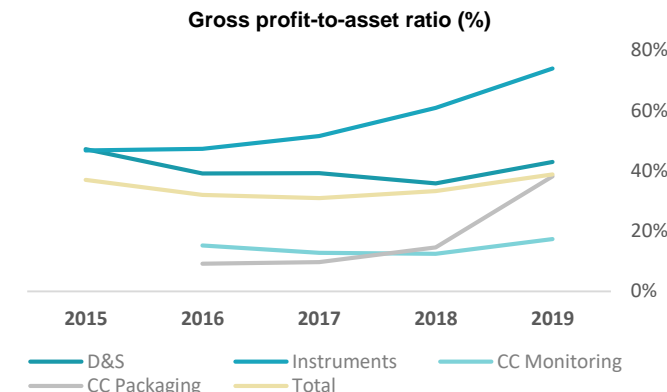
In \$m for FY ending in March



Balance Sheet – Short		2015	2016	2017	2018	2019
	Cash and Equivalents	2.0	5.7	5.8	5.5	10.2
	Current Assets	27.6	31.5	30.0	26.5	23.4
	PP&E	9.6	16.6	26.0	23.6	22.2
	Goodwill	44.9	66.1	72.2	65.5	66.4
	Other Intangibles	33.2	40.8	37.8	42.9	33.2
	Other Long-term Assets	-	-	-	0.1	1.3
1	Total Assets	117.3	160.7	171.7	164.1	156.8
	Return on Assets	9%	9%	7%	7%	10%
2	<i>Sterilization and Disinfection Control</i>	36.3	56.7	67.2	83.5	74.2
	<i>Instruments</i>	44.4	49.1	40.8	33.5	30.9
	<i>Cold Chain Monitoring</i>	-	27.6	35.8	30.8	32.2
	<i>Cold Chain Packaging</i>	-	19.5	20.3	7.1	1.6
	<i>Corporate and Administrative</i>	5.1	7.9	7.6	9.3	17.9
3	Net Debt	27.2	46.4	51.5	42.0	11.6
	Capital Employed	102.7	136.8	155.2	146.8	133.1
4	Return on Capital employed (ROCE) %	17%	15%	12%	11%	13%

- Cash and Equivalents increased by the factor 4, leaving room for further M&A activity
 - Current assets decreasing mainly due to a more efficient inventory management
 - PP&E in terms of Assets increased from 8% to 14% due to capitalization of the Bozeman Manufacturing in 2016 and 2017
 - High level of Goodwill (42% of assets), resulting from M&A transactions exposes Mesa to impairment risks in case of value destroying deals
 - Other intangibles are mainly consisting of IP rights, trade names, customer relationships and non-compete agreements

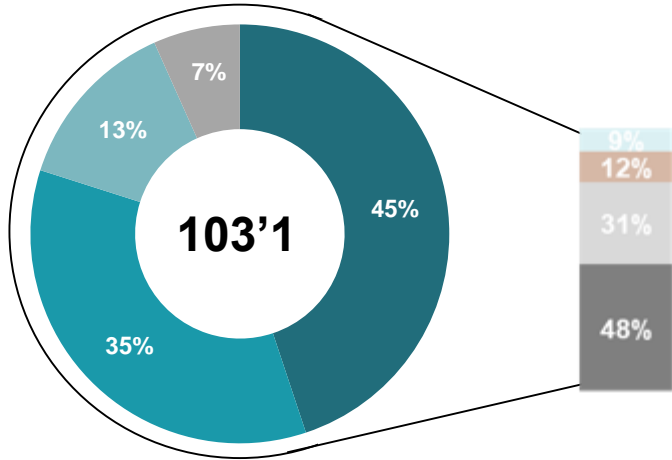
- Gross profit-to-asset ratio per segment reveals that the Instruments segment has the highest gross profit-to-assets ratio (74% in 2019), making capital allocation to this segment most beneficial
 - Even with a higher gross margin profile, the S&D segment is more capital intense (gross profit-to-asset ratio at around 43% in 2019)
 - CC Monitoring and CC Packaging are characterized by a lower gross profit-to-asset ratio



- Net debt increased from 2015 to 2016 due to major acquisition financing
 - Mesa was able to deleverage nearly completely in the following years
- Return on Capital employed decreased from 17% to 11% in 2015 and 2018, respectively, mainly due to Expansion Capex in S&D, CCM but more especially into the CC Packaging Segment
 - This misallocation of capital ended in 2019 with the beginning divesture of the CC Packaging unit and ultimately increased Return on Capital employed in 2019 to 13%

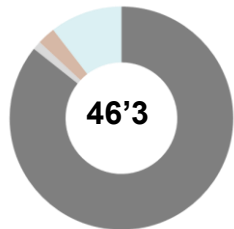
Revenue made up of non-cyclical consumables and services provided in the US

Revenues per Type

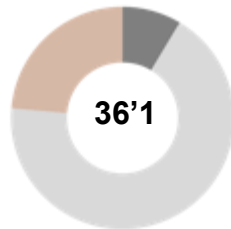


- Sterilization & Disinfection accounts for major part of revenue in the high of 45%
- Routine usage of Consumables and nature of long-term contracted services lead to a very low cyclicity for 57% of revenue

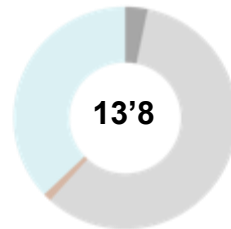
- Sterilization & Disinfection
- Instruments
- Consumables
- Hardware & Software
- Cold Chain Monitoring
- Cold Chain Packaging
- Services
- Contracted Services



Sterilisation & Disinfection

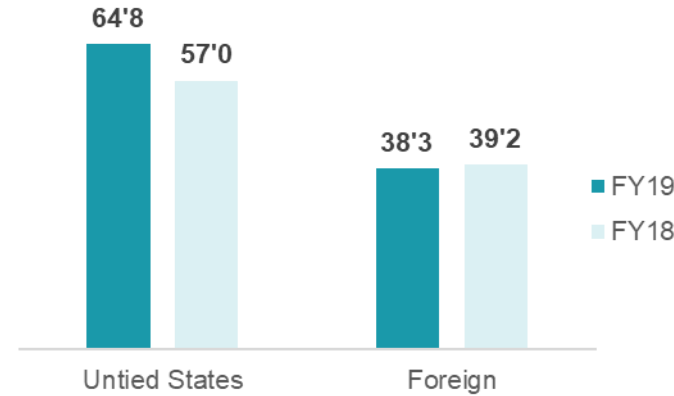


Instruments



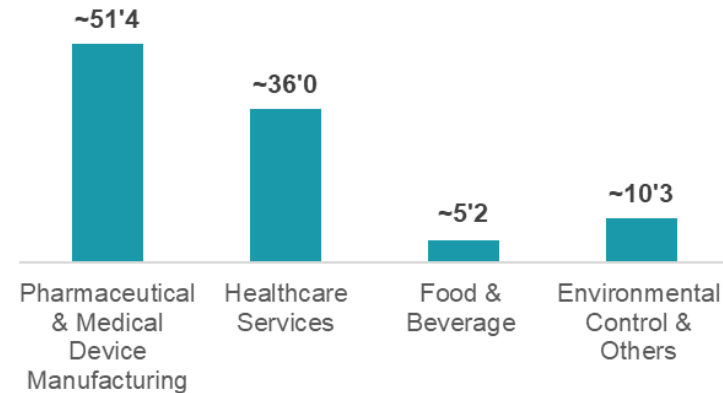
Cold Chain Monitoring

Revenues per Region



- The United States account for 63% of total revenue
- Revenues in the United states are up by ~14% from FY18 to FY19
- Revenues in Foreign Countries decreased slightly by ~2% in the same time period
- Within foreign countries, no country exceeds 10% of total revenues

Revenues per Vertical



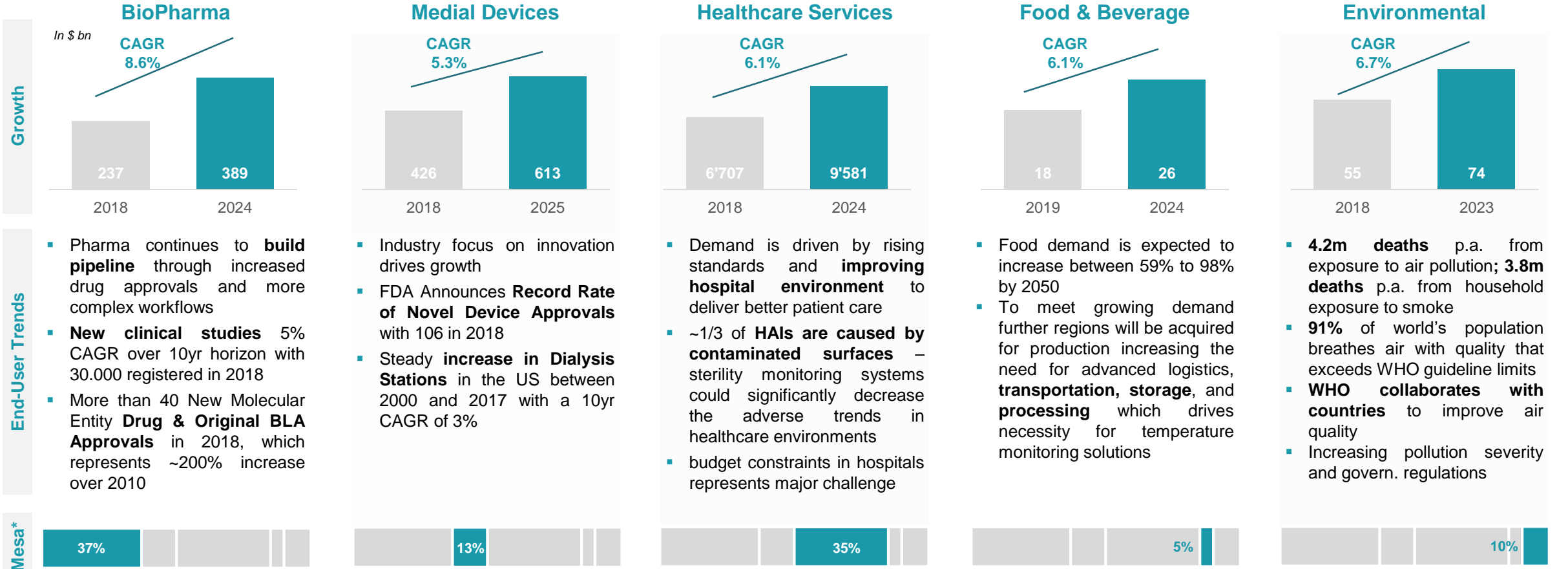
- Pharmaceutical & Medical Device Manufacturing accounts for ~50% of revenue
- All addressed verticals show low degree of cyclicity with defensible recurring revenues
- No individual customer represented more than 10% of accounts receivable or revenues

Strategic acquisitions caused significant inorganic growth from 2015 to 2019

Seller	Target	Location	Functional Area	Date	Revenue Impact				
					2015	2016	2017	2018	2019
Point Six	Point Six Wireless Business Segment	United States	Wireless sensors	Mar-18					0.4
IBP Medical GmbH	IBP Medical GmbH	Germany	Medical meters	Mar-18					3.0
BAG Health Care GmbH	BAG Health Care GmbH	Germany	Biological, chemical and cleaning indicator products	Nov-17					
Simicon GmbH	Simicon GmbH	Germany	Biological and cleaning indicators	Oct-17				2.3	
Hucker & Hucker GmbH	Hucker & Hucker GmbH	Germany	Distribution of Mesa's biological indicators	May-17					
Mydent International Corp	Mydent International Corp	United States	Biological indicator mail-in testing services	Nov-16					n/a
FreshLoc Technologies, Inc	FreshLoc Technologies, Inc	United States	Wireless temperature control	Nov-16			1.2	0.4	
Rapid Aid Corp	Cold Chain Packaging Gel Business	Canada	Packaging Gel Products	Aug-16					n/a
HANSAmEd Limited	Biological Indicator Business Unit	Canada	Biological indicator products and mail-in testing service	Jul-16					
Autoclave Testing Services, Inc	Autoclave Testing Services, Inc	United States	Products and services for dental sterilizer testing	Apr-16					
Pulse Scientific, Inc - Biological Distribution Segment	Biological Distribution Segment	United States	Distribution of Mesa's biological indicator products	Apr-16					
CoaChrom Diagnostica GmbH	Distribution Segment	Austria	Distribution of Mesa's biological indicator products	Jan-16					
bioTRADING Benelux B.V	Distribution Segment	Netherlands	Distribution of Mesa's biological indicator products	Jan-16					
BIOLOGIK S.R.L	Distribution Segment	Italy	Distribution of Mesa's biological indicator products	Oct-15			2.7		
VWR International PBI S.R.L	Distribution Segment	Italy	Distribution of Mesa's biological indicator products	Oct-15					
Cruinn Diagnostics Ltd.	Distribution Segment	Ireland	Distribution of Mesa's biological indicator products	Oct-15					
Mecolab AG	Distribution Segment	Switzerland	Distribution of Mesa's biological indicator products	Oct-15					
Miclev Medical Products AB	Distribution Segment	Sweden	Distribution of Mesa's biological indicator products	Oct-15					
Tiselab S.L.	Distribution Segment	Spain	Distribution of Mesa's biological indicator products	Oct-15					
North Bay Bioscience LLC	Dental sterilizer testing segment	United States	Dental sterilizer testing	Aug-15					
Infrak Inc	Infrak	Canada	Consulting, packaging and measuring solutions for cold chain applications	Jul-15		n/a			
Dr. Früh Control GmbH	Distribution Segment	Germany	Distribution of Mesa's biological indicator products	Mar-15					
Cherwell Laboratories Limited	Distribution Segment	United Kingdom	Distribution of Mesa's biological indicator products	Feb-15					
ATI Atlas Limited	ATI Atlas Limited	United Kingdom	Distribution of Mesa's biological indicator products	Oct-14			5.7		
PCD-Process Challenge Devices, LLC	PCD-Process Challenge Devices, LLC	United States	PCD's for Quality control purposes in the field of ethylene oxide sterilization of medical devices	Oct-14					
BGI, Incorporated and BGI Instruments, Inc.	BGI, Incorporated and BGI Instruments, Inc.	United States	Sale of equipment used primarily for particulate air sampling	Apr-14			2.6		
Amilabo SAS	Amilabo SAS	France	Distribution of Mesa's biological indicator products	Apr-14	n/a				

APPENDIX – MARKET OVERVIEW

End-Markets mid-single digit growth supports Mesa's business plan



Growth

End-User Trends

Mesa*

- Pharma continues to **build pipeline** through increased drug approvals and more complex workflows
- New clinical studies** 5% CAGR over 10yr horizon with 30,000 registered in 2018
- More than 40 New Molecular Entity **Drug & Original BLA Approvals** in 2018, which represents ~200% increase over 2010

- Industry focus on innovation drives growth
- FDA Announces **Record Rate of Novel Device Approvals** with 106 in 2018
- Steady **increase in Dialysis Stations** in the US between 2000 and 2017 with a 10yr CAGR of 3%

- Demand is driven by rising standards and **improving hospital environment** to deliver better patient care
- ~1/3 of **HAIs are caused by contaminated surfaces** – sterility monitoring systems could significantly decrease the adverse trends in healthcare environments
- budget constraints in hospitals represents major challenge

- Food demand is expected to increase between 59% to 98% by 2050
- To meet growing demand further regions will be acquired for production increasing the need for advanced logistics, **transportation, storage, and processing** which drives necessity for temperature monitoring solutions

- 4.2m deaths** p.a. from exposure to air pollution; **3.8m deaths** p.a. from household exposure to smoke
- 91%** of world's population breathes air with quality that exceeds WHO guideline limits
- WHO collaborates with countries** to improve air quality
- Increasing pollution severity and govern. regulations

Standardized manufacturing protocols, introduction of novel products, and adoption of new technologies has led to **harmonization of quality and sterility testing standards in the healthcare industry**. This has created a need for not only **aseptic manufacturing techniques** but also for **efficient and reliable sterilization monitoring processes**. Organizations such as the Agency for Healthcare Research and Quality and Centers for Medicare and Medicaid Services are **increasingly raising awareness** about the **need for stringent regulations for safety and quality testing services** of healthcare products.

Source: Evercore, Clinicaltrials.gov, FDA.gov, Bloomberg

Sterilization Control Tools Market

Sterilization Monitoring Market

Biological Monitoring

- Spore Ampules
- Spore Suspensions
- Self-contained Vials
- Spore Strips

Chemical Monitoring

Mechanical Monitoring

End-User

- Hospitals
- Pharmaceutical, Biotechnology & Medical Device Manufacturing
- Research and Academic Institutions
- Food & Beverage
- others

Sterility Indicator Market

Biological Indicators

- Spore Ampules
- Spore Suspensions
- Self-contained Vials
- Spore Strips



Chemical Indicators

- Class 1 Indicator
- Class 2 Indicator
- Class 3 Indicator
- Class 4 Indicator
- Class 5 Indicator
- Class 6 Indicator

- Tapes
- Strips

End-User

- Hospitals
- Pharmaceutical & Medical Device Manufacturing
- Clinical Laboratories/ Research centers
- others

Quality Control Tools Market

Validation & Calibration Tools Market

Laboratory Equipment Services Market

Air Quality Monitoring

- ...

Cold Chain Monitoring Market

Storage

Transportation

CCM Pharma & Healthcare

- Vaccines
- Biobanks
- Medicines & Drugs

CCM Food & Beverages

Chemicals

▪ **Hardware**

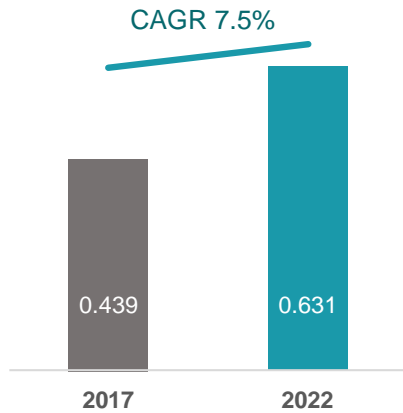
- Sensors & Data Loggers
- RFID Devices
- Telematics & Telemetry Devices
- Networking Devices

▪ **Software**

Mesa profits from its position as a major player in the fast growing sterilization market

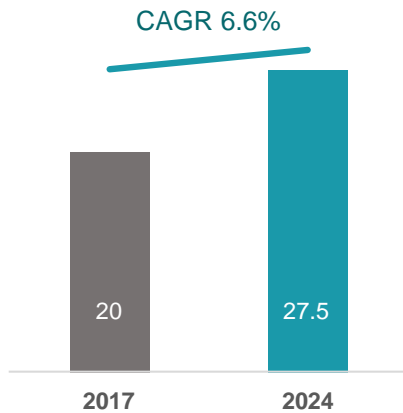
Sterilization & Disinfection

Sterilisation Monitoring Market



- #### Growth Drivers
- rising incidence of **hospital-acquired infections (HAI)**
 - increasing **number of surgical procedures**
 - rising geriatric population and chronic disease incidence
 - technological advancements in sterilization monitoring products
 - rising focus on **food sterilization**

Infection Control Market



- #### Growth Drivers
- Supportive **Government Investment** In The Healthcare Industry
 - Increasing **R & D Activities**
 - Increasing **Number Of Drug Launches**
 - Increasing Focus On Quality And Sterility
 - Rising Burden Of HAI
 - Increasing Application** of Sterilization In Pharmaceutical And Biotechnology Industry

- #### Market trends
- North America to command the largest share in 2017, followed by Europe/ Asia-Pacific
 - Biological: self-contained vials segment expected to grow at the highest CAGR
 - product launches and expansions as key business strategies - **advances in sterilization methods**
 - pharmaceutical, biotechnology, and medical device** segment is expected to grow at the highest CAGR
 - Hospital** segment accounts for largest share of the market

- #### Market trends
- Hospitals hold a dominant share of the end-user segments – anticipated to attain high CAGR
 - North America is expected to dominate the infection control market during the forecast period
 - leading players are focusing on technological innovations and marketing collaborations
 - Mesa holds no significant market share

- #### Strategic Expansion
- Asia-Pacific** market expected to experience highest CAGR during forecast period
- Main drivers
- growth in per capita income
 - increasing number of hospitals
 - growth in geriatric population
 - increase of surgical procedures
- Emerging markets** (India and China) have become attractive destinations
- Pharma sector India** is expected to reach USD ~55bn. by 2020 (20bn. in 2015) with a CAGR of 15.9%

- Main drivers
- rising incidence of hospital-acquired infection
 - increasing number of hospitals
 - growing medical tourism industry

* Values in bn. USD

Global Sterility Indicator Market is oligopolistic with a few international players

Sterilization & Disinfection

Sterility Indicator Market

Size

Year	Size (bn. USD)
2017	0.55
2025	1.13

* Values in bn. USD

Growth Drivers

- Increase in R&D activities** drive demand for various sterilization processes in pharmaceutical and biotech relevant ology industries
- stringent **government regulations** for sterilization of class III medical devices, biologics and drugs
- rising demand for medicines and medical devices due to **high prevalence of chronic diseases** such as asthma, diabetes, arthritis and cancer
- Growing efforts to reduce burden of Hospital Acquired Infections (HAIs)
- use of expensive, complex, and delicate medical instruments that are difficult to sterilize are driving the demand for low temperature sterilization techniques
- increasing usage of sterility indicators
- rising target patient population owing to aging is fueling the regional demand for medical products

Market trends

- Biological Indicators** major market share - considered a gold standard for assessment of sterilization
 - Spore ampoules are used most extensively
- Introduction of advanced indicators significantly **reduces the prices for their older versions** which drives their adoption in developing countries from Asia Pacific and Middle East and Africa, where cost constraint is a major factor
- heat sterilization** segment captured the largest market share in 2017 (most commonly used method)
- low temperature sterilization** segment is expected to witness the highest growth during the forecast period
- hospital segment captured the largest market share in 2017
- frequent product launches in drug, medical devices and biologics and reimbursement coverage
- focus on continuous product development at competitive prices, especially in developing countries due to competition from local manufacturers

Strategic Expansion

Asia Pacific is expected to exhibit the fastest CAGR during the forecast period

- significant presence of local manufacturers, providing cost effective alternatives and intensifying the competition
- concept of hospital sterile processing units is being adopted in developing regions such as China, India, and Middle Eastern countries
- booming medical tourism industry in the region owing to the availability of advanced healthcare treatments at a cost-efficient rate is expected to attract the target patient population

Players

- Getinge Group
- Cantel Medical Corp.
- 3M Company
- Cardinal Health, Inc.
- Matachana Group
- Mesa Laboratories, Inc.**
- Andersen Products, Inc.

Extensive growth projections in diverse medical and non-medical niche sectors

	Size	Growth Drivers	Market trends	Strategic Expansion						
Instruments	Medical Device Calibration Services <table border="1"> <tr><th>Year</th><th>Size</th></tr> <tr><td>2014</td><td>1.18</td></tr> <tr><td>2020</td><td>2.10</td></tr> </table>	Year	Size	2014	1.18	2020	2.10	<ul style="list-style-type: none"> rising number of hospitals increasing environmental regulations rising customer focus towards quality and precision rising penetration of companies in this market rising frequency product recall Laboratories are the major contributor for growth as subscription for annual or periodical service plans which covers the validation of all the instruments available in the labs 	<ul style="list-style-type: none"> highly fragmented market cardiovascular monitors calibration services market is expected to grow at the highest growth rate during the forecast period rising demand for third party and in-house calibration services North America is the leading region which is contributing in growth due to strong educational and healthcare infrastructure 	Key Player RS Calibration, Tektronix, Industrial Calibration and Service Company, Inc., Helix, Fluke, Hospicare Equipment Services Corporation, Biomed Technologies, Inc., NS Medical Systems and Transcat, Inc
	Year	Size								
2014	1.18									
2020	2.10									
Laboratory Equipment Services Market <table border="1"> <tr><th>Year</th><th>Size</th></tr> <tr><td>2017</td><td>0.632</td></tr> <tr><td>2023</td><td>1.44</td></tr> </table>	Year	Size	2017	0.632	2023	1.44	<ul style="list-style-type: none"> evolving technology-oriented changes in the diagnostics field growing need to ensure patient safety Hospitals: rising number of admissions and better reliability of healthcare professionals on clinical diagnosis Rising number of accredited clinical laboratories Increasing third-party quality control services Presence of favorable regulatory bodies 	<ul style="list-style-type: none"> Quality Control (QC) was the largest segment in 2018 and anticipated to be the fastest-growing implementation of quality assurance programs in various medical disciplines Hospitals largest end use segment in 2018 and to retain the position; have a separate department for diagnostic services. Tests and instruments in this department need to be monitored regularly 		
Year	Size									
2017	0.632									
2023	1.44									

Extensive growth projections in diverse medical and non-medical niche sectors

Size

Year	Size (bn. USD)
2017	3.92
2027	6.69

CAGR 4.6%

Growth Drivers

- **supportive government environmental & safety regulations** for effective air pollution control
- ongoing initiatives towards the development of environment-friendly industries
- increasing public-private funding for effective air pollution monitoring, rising levels of air pollution
- increasing public awareness related to the environmental and healthcare implications of air pollution
- environmental technology market has developed rapidly

Market trends

- large share attributed to the presence of stringent environmental regulations and rising government investments for effective AQM
- North America largest market share
- fast adoption of advanced technologies
- gas analyzers and detectors segment is anticipated to expand at a significant CAGR of 8.84%
- **Comps.:** Aeroqual, Ecotech, Vaisala, Teledyne Technologies Incorporated, TSI Inc., Horiba Ltd., CEM Corporation, and Kaiterra

Strategic Expansion

- **Europe** is expected to hold highest market share
- increasing demand in the wake of rising air pollution and adverse health effects
- Rising popularity across the **Asia Pacific** region (India, China)
- MPCB: daily tests in various cities for long term assessment of air pollutant levels
- China's environmental quality can also be improved with the help of foreign companies

Players

- Aeroqual
- Vaisala
- Horiba Ltd
- Servomex
- Teledyne Technologies
- Thermo Fisher Scientific
- CEM Corp
- Fortive Corp
- Siemens AG
- Kusam
- Meco

* Values in bn. USD

Instruments

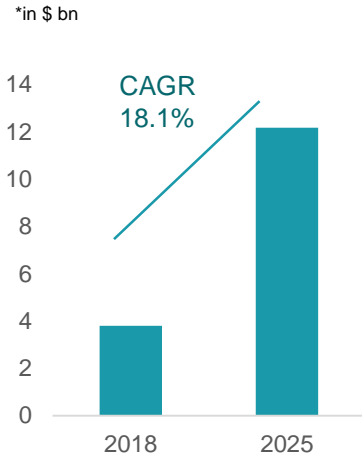
Air Quality Monitoring Market

Emerging cold chain monitoring tech fuels growth of the segment

Instruments (Data Loggers)

Cold Chain Monitoring

Cold Chain Monitoring Market



Players

- Orbcomm
- Sensitech
- Berlinger & Co.
- Monnit
- Controlant
- Elpro-Buchs
- Savi Technology
- Zest Labs
- Infratab
- Nimble Wireless
- Tagbox Solutions

Growth Drivers

- Growing **governmental focus on policies** impacting supply chain efficiency of growing pharmaceuticals sector
- Increasing **temperature-sensitivity**
- Rising **demand for better food quality** and need to reduce food wastage
- Growing demand for generic drugs owing to **higher accessibility**
- Recurring revenue from Software as a Service (SaaS) and new equipment
- Due to the economic boom within the emerging countries in APAC, vaccines and biologics have become more accessible for the local markets
- Consumers are looking for fast food and convenient food items, which has fueled the growth of supermarkets and quick-service restaurants. This has led to the growth in the sales of consumer-ready frozen foods, such as ice-creams and frozen desserts, frozen fruits and vegetables, seafood, and meat

Market trends

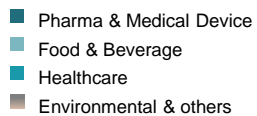
- Software segment is expected to grow at a higher CAGR due to increasing adoption of cloud-based software across different verticals and deployment of on-premises software solutions at storage facilities
- Transportation Segment to Exhibit Higher CAGR in Cold Chain Monitoring Market During Forecast Period
- India Fastest-Growing Market for Cold Chain Monitoring Solutions During Forecast Period
- Market for the food & beverages application is expected to grow at the highest CAGR between 2018 and 2023
- Installation cost of cold chain monitoring systems is significantly high
- Americas held the largest market for cold chain monitoring in 2017
- Hardware Segment to Hold Larger Size of Cold Chain Monitoring Market From 2018 to 2023
- Pharmaceuticals & Healthcare Application to Hold Largest Size of Cold Chain Monitoring Market By 2023
- Food & Beverages Application to Grow at Highest CAGR in Cold Chain Monitoring Market

Strategic Expansion

- **APAC** is expected to grow at the highest CAGR between 2018 and 2023
 - high demand for quality food in urban areas, extensive government vaccination (China and India), and major investments in the cold chain industry in India and China
- **India** fastest growing market for CCM Solutions
- **Pharmaceuticals & Healthcare** expected to continue to account for the largest size of CCM market in the Americas
 - Regulatory environment for pharmaceuticals industry
 - Increasing demand for generic drugs

QC Tools are integral part of the manufacture process in numerous verticals

End-User Market	End-User Mesa	Regulatory Body	Guidelines	
CCM	Environmental	Environmental Testing Labs	<p>Guideline for Disinfection and Sterilization in Healthcare Facilities</p> <ul style="list-style-type: none"> quality control program for sterilized items: a sterilizer maintenance contract with records of service a system of process monitoring; air-removal testing for pre-vacuum steam sterilizers Use mechanical, chemical, and biologic monitors to ensure the effectiveness of the sterilization process. <i>Category IB</i> - Monitor each load with mechanical (e.g., time, temperature, pressure) and chemical (internal and external) indicators Do not use processed items if the mechanical (e.g., time, temperature, pressure) or chemical (internal and/or external) indicators suggest inadequate processing <p>Reuse of single-use devices increased as a cost-saving measure. Approximately 20 to 30% of U.S. hospitals reported that they reuse at least one type of single-use device</p> <ul style="list-style-type: none"> guidance document, FDA states that hospitals or third-party re-processors will be considered “manufacturers” and regulated in the same manner. A reused single-use device will have to comply with the same quality systems regulatory requirements of the device when it was originally manufactured 	
Air Sampling		Food & Beverage		Governmental Agencies
				Food Processor
Sterilization Monitoring	Healthcare Services	Beverage Processor		
		Pharmacies		FDA
		Blood Banks		AAMI
		Dental Offices		CDC
Sterility Indicator	Pharma & Medical Device	Hospitals		<p>1976 Medical Device Amendments to the FD&C Act</p> <ul style="list-style-type: none"> Hospitals spore test daily Spore test to be used on each sterilizer and every load with an implantable device at least weekly AAMI ST79 recommends monitoring with a BI PCD (process challenge device) weekly, preferably daily, plus all loads containing implants. (10.5.3.2) sterilization procedure should be monitored routinely by using a combination of mechanical, chemical, and biological indicators to evaluate the sterilizing conditions mechanical monitors for steam sterilization include the daily assessment of cycle time and temperature by examining the temperature record chart (or computer printout) and an assessment of pressure via the pressure gauge storage area should have a controlled temperature (max. 75°F) and relative humidity (30-60% in all works areas except sterile storage, where the relative humidity should not exceed 70%)
		Medical Device Manufacturing		
		Pharmaceutical Manufacturing		
		Chemical Manufacturing		
		Industrial Engineering		
Laboratories/ Research Facility				



Quality Control Tools market is highly regulated by governmental bodies

General Regulations & Regulatory Bodies

Biological Indicators

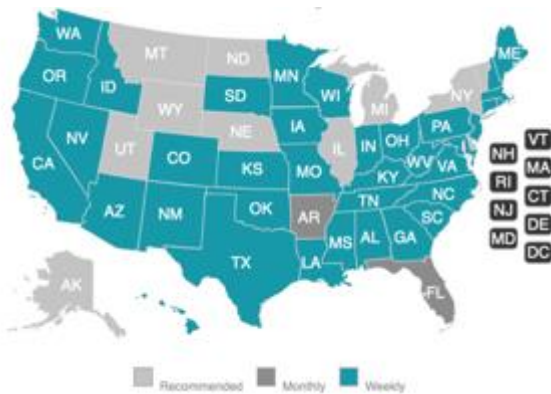
- International Standards Organization (“ISO”) 11138 (Sterilization of health care products) under a quality system that complies with ISO 13485 (Medical devices) and 21 CFR 820 (Quality System Regulation)
- STERILISATION PROCESSES FOR MEDICAL DEVICES - development, validation and routine control of sterilization processes for medical devices and other healthcare products are described in ISO 11135 (for ethylene oxide), ISO 11137 (for radiation) and ISO 17665 (for moist heat)
- Federal Food, Drug and Cosmetic Act, as amended by the Medical Device Amendments of 1976 (hereinafter referred to as the “Act”)

Instruments

- compliant under ISO 13485, ISO 17025, ISO 9001 and certain U.S. Federal regulations
- Federal Food, Drug and Cosmetic Act, as amended by the Medical Device Amendments of 1976 (hereinafter referred to as the “Act”)

Biological Testing Dental

State Dental Regulations



- All sterilization processes must be controlled** and independently validated to ensure the effectiveness of the sterilization process
- Regulatory bodies monitoring quality control** and regular quality check of IVD devices and service providers include FDA for U.S.; Medicines and Healthcare Products Regulatory Agency (MHRA) for U.K.; Therapeutic Goods Administration (TGA) for Australia; Central Drug Standard Control Organization (CDSCO) for India; Health Canada for Canada; European Medicines Agency (EMA) for Europe; Ministry of Health, Labor & Welfare (MHLW) for Japan; Ministry of Health, Labor & Welfare (MHLW) for Brazil; and Ministry of Health for South Africa.
- Authorities that regulate quality of these IVDs (medical devices)** include the European Communities Confederation of Clinical Chemistry and Laboratory Medicine (EC4). American Association for Laboratory Accreditation (A2LA) and Clinical Laboratory Improvement Amendments (CLIA) have enhanced the demand for IVD quality control

Example “California

It is required to spore test **Weekly** in California.
 1005. Minimum Standards for Infection Control (17) Proper functioning of the sterilization cycle of all sterilization devices shall be verified at least weekly **through the use of a biological indicator** (such as a spore test). Test results shall be documented and maintained for 12 months.” - <https://goo.gl/dhv9lu>

Example “Texas

It is required to spore test **Weekly** in Texas.
 (b) All instruments subject to sterilization must undergo at least one of the following procedures: (1) Steam autoclave (2) Chemical vapor (3) Dry-heat oven (4) Ethylene oxide (5) Chemical sterilant (used in dilution amounts and time periods according to manufacturers recommendations or accepted OSHA standards). Sterilization equipment and its adequacy shall be tested and verified in accord with American Dental Association (ADA) recommendations.” - <http://goo.gl/KD2O2Q>

Product offerings by sterilization method by market player

By sterilization method		Mesa Labs	3M	Terragene	Crosstex	Getinge	Steris	Cardinal Health	Propper Manufact.	PMS	Gke GmbH
Biological	Steam	X	X	X	X	X	X		X		X
	Hydrogen peroxide (H2O2)	X	X	X	X		X		X		X
	Ethylene oxide (EO)	X	X	X	X	X	X		X		X
	Dry Heat	X		X	X						X
	Chlorine dioxide (ClO)	X			X						
	Formaldehyde	X		X	X						X
	Gamma Sterilization	X		X	X						
Chemical	Steam	X	X	X	X		X	X	X	X	X
	Hydrogen peroxide (H2O2)		X	X						X	
	Ethylene oxide (EO)		X	X			X		X	X	
	Dry Heat	X		X					X		
	Formaldehyde		X	X							

Product offerings per category by market player (1/4)

Products/ Services	Mesa Labs	3M	Terragene	Crosstex	Getinge
Stainless steel carrier	<ul style="list-style-type: none"> APEX Discs/ Ribbons Steel Coupon (Industrial use) Steel Disc (Industrial use) 		<ul style="list-style-type: none"> Spore coupons 	<ul style="list-style-type: none"> Spore wires 	
Spore Threads			<ul style="list-style-type: none"> Polyester Sutures 	<ul style="list-style-type: none"> Cell Line (Cotton) 	
Paper carrier	<ul style="list-style-type: none"> Paper discs (Industrial use) 		<ul style="list-style-type: none"> Paper discs 	<ul style="list-style-type: none"> Cell line discs 	
Spore Ampules	<ul style="list-style-type: none"> DryAmp 				
Self-Contained Ampules	<ul style="list-style-type: none"> MagnaAmp ProSpore SterilAmp II (Industrial use) 		<ul style="list-style-type: none"> 0.25 mL-2mL Spore Ampules 	<ul style="list-style-type: none"> 0.4 mL Mini Spore Ampules 1 mL Spore Ampules 	
Self-contained BIs	<ul style="list-style-type: none"> EZTest SmartRead EZTest ExpoSure STERRAD 	<ul style="list-style-type: none"> Attest (Different read-out times) 	<ul style="list-style-type: none"> Conventional Rapid Fluorescence BT202 STEAM 	<ul style="list-style-type: none"> SporView 	<ul style="list-style-type: none"> EZTest SmartRead EZTest
Spore Strips	<ul style="list-style-type: none"> MESAStrip Combined Strips Mircostrips 		<ul style="list-style-type: none"> Spore Strips (Various for all Application) Spore mini Strips (Various for all Applications) 	<ul style="list-style-type: none"> Trad. Spore Strips Dual Species Strips Mini Spore Strips 	
Culture Media	<ul style="list-style-type: none"> Releasat Media Tryptic Soy Broth 		<ul style="list-style-type: none"> Three different types for different applications 	<ul style="list-style-type: none"> Trypticase® Soy Broth 	
Spore Suspensions	<ul style="list-style-type: none"> Spore Suspension (no brand) 		<ul style="list-style-type: none"> Spore Suspension (various for different applications) 	<ul style="list-style-type: none"> Spore Suspension (no brand) 	
Process Challenge Devices	<ul style="list-style-type: none"> Bare BI (3M) Process Challenge Device (EtO) EZTest Process Challenge Device ProLine PCD (Tube Validation for Industrial Use) 	<ul style="list-style-type: none"> Challenge Packs 	<ul style="list-style-type: none"> PCD200-224 (For different applications) 		

Biological

Product offerings per category by market player (2/4)

Products/ Services		Steris	Cardinal Health	Proper Manufact.	PMS	Gke GmbH
Biological	Stainless steel carrier					
	Spore Ampules					
	Self-Contained Ampules					<ul style="list-style-type: none"> • 1.5 or 0.2 ml Ampules
	Self-contained BIs	<ul style="list-style-type: none"> • Celerity 20 • Verify Assert • Verify Dual Species • Celerity Xtend 10 		<ul style="list-style-type: none"> • BI-O.K. (for various Applications) 		<ul style="list-style-type: none"> • Standard SCBI • Instant SCBI
	Spore Strips			<ul style="list-style-type: none"> • Duo Spore Test Strip 		<ul style="list-style-type: none"> • Spore Strips (Various for all Application)
	Culture Media					
	Spore Suspensions					<ul style="list-style-type: none"> • Spore Suspension (various for different applications)
	Process Challenge Devices	<ul style="list-style-type: none"> • Celerity 20 PCD • Verify PCD 		<ul style="list-style-type: none"> • Bio-Challenge Test Pack 		<ul style="list-style-type: none"> • Compact-PCD Testset • Bio-Compact-PCDs

Product offerings per category by market player (3/4)

Products/ Services <small>(as defined by ISO 11140-1:2015// AAMI ST-60, see Appendix)</small>		Mesa Labs	3M	Terragene	Crosstex	Getinge
Chemical	Class 1 Indicator (Process Indicators)			<ul style="list-style-type: none"> Chemical strips Self-adhesive labels Self-adhesive indicator tapes Documentation system labels Markers 	<ul style="list-style-type: none"> Labels Indicator tapes Indicator Marker 	<ul style="list-style-type: none"> Self-adhesive indicator tapes
	Class 2 Indicator (Indicators for Use in specific Tests)	<ul style="list-style-type: none"> Bowie-Dick AutoCheck Kit II Bowie-Dick Green Card 	<ul style="list-style-type: none"> Comply - Bowie-Dick Test Pack 	<ul style="list-style-type: none"> Bowie Dick Test HelixTest Systems 	<ul style="list-style-type: none"> AirView-Bowie Dick Test Pack Bowie Dick Test Sheet Lantor Cube Reuseable Bowie Dick Test 	<ul style="list-style-type: none"> HeliCheck
	Class 3 Indicator (Single-parameter Indicators)					
	Class 4 Indicator (Multi-parameter Indicators)	<ul style="list-style-type: none"> Blackcheck Multicritical Process Variable Indicator DryChecks Indicator Strips ProChem Dry Heat Indicator Labels ProChem SSI Multi-Variable Process Indicator 	<ul style="list-style-type: none"> Steam Chemical Indicators Strips 1250 	<ul style="list-style-type: none"> Chemical strips Chemical tubes 	<ul style="list-style-type: none"> Chemical strips 	<ul style="list-style-type: none"> Chemical strips Labels
	Class 5 Indicator (Integrating Indicators)	<ul style="list-style-type: none"> Integrgraph Integrating Chemical Indicator ProChem SSW Integrator 	<ul style="list-style-type: none"> Comply – SteriGage Comply - Thermalog Steam Chemical Integrator 	<ul style="list-style-type: none"> Integron Integrating indicator 	<ul style="list-style-type: none"> STEAMPlus 	<ul style="list-style-type: none"> Integrgraph
	Class 6 Indicator (Emulating Indicators)	<ul style="list-style-type: none"> Emulating ChemoStrip 		<ul style="list-style-type: none"> Integron Emulating Integrator 	<ul style="list-style-type: none"> EmPlus 	<ul style="list-style-type: none"> Emu-Graph
	Process Challenging Devices			<ul style="list-style-type: none"> Various 		

Product offerings per category by market player (4/4)

Products/ Services <small>(as defined by ISO 11140-1:2015// AAMI ST-60, see Appendix)</small>		Steris	Cardinal Health	Proper Manufact.	PMS	Gke GmbH
Chemical	Class 1 Indicator (Process Indicators)	<ul style="list-style-type: none"> Process indicators for Steam and H2O2 Sterilization Self-adhesive indicator tapes 	<ul style="list-style-type: none"> Self-adhesive indicator tapes 	<ul style="list-style-type: none"> Duo Record Cards Self-adhesive indicator tapes 	<ul style="list-style-type: none"> Self-adhesive indicator tapes 	<ul style="list-style-type: none"> Seals Labels Self-adhesive indicator tapes
	Class 2 Indicator (Indicators for Use in specific Tests)			<ul style="list-style-type: none"> HT Helix Bowie-Dick Test Onix Helix 	<ul style="list-style-type: none"> Bowie-Dick Test Sheet Helix PCD 	Bowie-Dick Test Strips
	Class 3 Indicator (Single-parameter Indicators)					
	Class 4 Indicator (Multi-parameter Indicators)			<ul style="list-style-type: none"> OK Chem Indicator Strip Propper HiDri Strip SmalStrip 	<ul style="list-style-type: none"> Chemical Indicator Strips 	<ul style="list-style-type: none"> Chemical Indicator strips
	Class 5 Indicator (Integrating Indicators)	<ul style="list-style-type: none"> Verify Integrating Indicator 	<ul style="list-style-type: none"> Chemical strips 	<ul style="list-style-type: none"> Vapor Line Integrators DuoFlash Gas-Chex 	<ul style="list-style-type: none"> Chemical Indicator Strips 	<ul style="list-style-type: none"> Chemical Indicator strips
	Class 6 Indicator (Emulating Indicators)	<ul style="list-style-type: none"> Celerity 10 Emulating indicator VERIFY SixCess 		<ul style="list-style-type: none"> Emu-Chex Strips Emu-Check Adhesive Indicators 	<ul style="list-style-type: none"> Chemical Indicator Strips 	<ul style="list-style-type: none"> Chemical Indicator strips
	Process Challenging Devices	<ul style="list-style-type: none"> VERIFY SixCess Challenge Packs 		<ul style="list-style-type: none"> PASS/FAIL Challenge Pack 		

APPENDIX – INDUSTRY KNOWLEDGE

Steam and EO sterilization are the most used methods

Sterilization methods	Description	Sterilization time	Advantages	Disadvantages	Application areas	Usage
Steam	Heated steam in an autoclave under the absence of air lead to the desired sterilization of respective goods	3-15 min	<ul style="list-style-type: none"> High degree of penetrative capacity Usable for organic waste Toxicologically safe 	<ul style="list-style-type: none"> High abrasion of material Only for non heat-sensitive instruments 	Always preferred over chemical methods	High
Ethylene oxide (EO)	Ethylene oxide gas treatment can be used to sterilize, pasteurize, or disinfect items	10 to 15 hours	<ul style="list-style-type: none"> High degree of penetrative capacity, even through plastics Applicable to heat-sensitive instruments 	<ul style="list-style-type: none"> Very toxic (Special equipment necessary) Very long ventilation times Not effective for organic waste 	<ul style="list-style-type: none"> Medical device manufacturers Lately less application in Healthcare services 	High
Hydrogen peroxide (H₂O₂)	Hydrogen peroxide is a strong oxidant, which allows it to destroy a wide range of pathogens	28 min	<ul style="list-style-type: none"> Applicable to heat-sensitive instruments Toxicologically safe 	<ul style="list-style-type: none"> Not effective at all for organic and crystalline waste Not effective for instruments with cavities 	For all sensitive instruments e.g. endoscopes	Low
Dry Heat	The destruction of microorganisms through the use of high levels of dry heat	2 hours	<ul style="list-style-type: none"> Low invest needed Toxicologically safe 	<ul style="list-style-type: none"> Long sterilization cycles Only for non heat-sensitive instruments Not effective for organic waste 	<ul style="list-style-type: none"> Sterilization of Powders 	Low
Chlorine dioxide (ClO)	Sterilization of materials which have been in contact with prion proteins	n/a	<ul style="list-style-type: none"> Fast cycle and destruction times 	<ul style="list-style-type: none"> Corrosive to use on certain objects 	Materials which have been in contact with prion proteins	Low
Formaldehyde	Formaldehyde solutions are accepted liquid sterilizing agents	Up to 22 hours	<ul style="list-style-type: none"> Applicable to heat-sensitive instruments Shorter cycle times in comparison to EO 	<ul style="list-style-type: none"> Very toxic Not effective for organic waste 		Low
Ionizing radiation (UV, X-rays, Gamma)	Sterilization can be achieved using electromagnetic radiation, such as electron beams, X-rays, gamma rays, or irradiation by subatomic particles.	Minutes to hours depending on material	<ul style="list-style-type: none"> High degree of penetrative capacity 	<ul style="list-style-type: none"> Requires shielding for the safety of the operators while in use and in storage Gamma rays may affect material properties 	<ul style="list-style-type: none"> Sterilization of disposable medical equipment 	Low

Categorization of chemical indicators

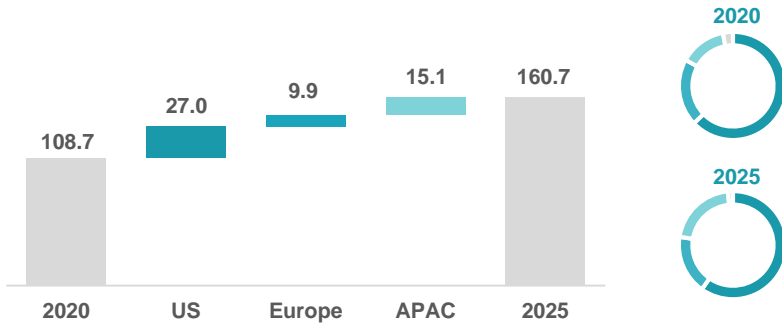
Chemical Indicator Classes (as defined by ISO 11140-1:2015// AAMI ST-60)		Short-description	Description	Examples
Chemical indicators	Class 1 Indicator	Process Indicators	Most basic of chemical indicators, they are also known as throughput indicators. These CIs are intended for use with individual items to be sterilized. They are designed to demonstrate that the item has been exposed to a sterilization process and to distinguish between processed and non-processed items.	<ul style="list-style-type: none"> • Tape indicators • Paper or plastic markers
	Class 2 Indicator	Indicators for Use in specific Tests	Also known as specialty indicators, Class 2 indicators are designed for use in specific test procedures as defined by relevant sterilization standards.	<ul style="list-style-type: none"> • Bowie-Dick Test • Dart Test
	Class 3 Indicator	Single-parameter Indicators	Indicators react to one of the critical process parameters of sterilization and indicate exposure to a sterilization cycle at stated values of the chosen parameter.	<ul style="list-style-type: none"> • Time indicators • Temperature test
	Class 4 Indicator	Multi-parameter Indicators	Indicators are more accurate by design than Class 3 indicators. They react to two or more critical parameters of the sterilization process and indicate exposure to the sterilization cycle at stated values of the chosen parameters.	<ul style="list-style-type: none"> • Time & Temperature Test (Steam) • Time & Concentration (EtO)
	Class 5 Indicator	Integrating Indicators	Indicators, known as integrators, are designed to react to all critical parameters over a specified range of sterilization cycles. Their performance has been correlated to the performance of a biological indicator (BI) under its labeled conditions for use. This class of indicator can be used in place of the BI in many applications, thereby reducing the overall cost of sterile processing.	<ul style="list-style-type: none"> • Moving front indicators
	Class 6 Indicator	Emulating Indicators	Indicators designed to react to all critical parameters over a specified range of sterilization cycles. Stated values (SVs) are generated from the critical variables of the specified sterilization process. Meaning the test is not correlated to a BI, but it is suited to specific conditions being tested (long-time sterilization processes, etc.)	<ul style="list-style-type: none"> • Cycle-specific indicators

APPENDIX – BUSINESS PLAN

High cash generation enables strong growth through M&A and operational levers

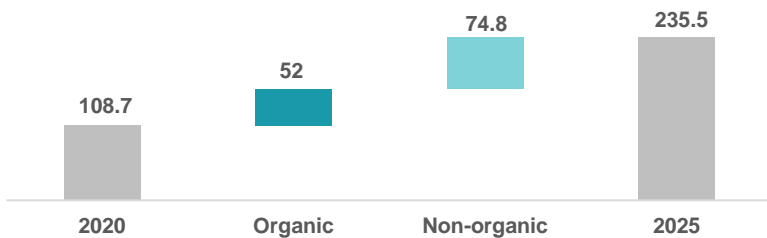
Key Revenue Development 2020-2025

Core Organic Geographic Split



- Internationalization mainly driven by **APAC expansion** (direct sales entry potentially through S&D segment of HiMedia in India)
- Instruments driven by **Europe** operational consolidation
- US high growth driven by new **CCM platform** (single sales point)

Total Growth Split



- Core organic growth mainly driven by **CCM segment** at CAGR of 14.6%
- Non-organic growth driven by acquisitions of **gke GmbH (DE), Myron L (US) & Tisch Environmental (US)** with complementary product lines and high margins at 46% avg. EBITDA of sales

Main Drivers

S&D: M&A raise EBITDA Margin & Top line growth

- M&A target **gke GmbH** raises **top line and EBITDA margin**
- Cost reduction** by consolidation & centralization
- Internationalization strategies lead to double-digit growth in **APAC countries** (entry point in India through S&D segment of HiMedia)

INS: Expansion in Europe & APAC

- Various drivers as for diversity of product lines and markets served
- Core focus on expansion in Europe & APAC driven by product lines **Dialysate Calibration, Air particulate Monitoring**
- Acquisition of **Tisch Env. & Myron L** will drive market positioning of Mesa in particulate sampling and dialysate meter to facilitate growth and expand market coverage through established players

CCM: Organic Sales Volume in US

- Organic growth mainly driven by **strong double digit market growth** in US (key focus area)
- Segment main **driver of EBITDA margin expansion** (total of 800 bps) as significant cost reductions can be realized short- to mid-term

Key Risks to alleviate

Low Share Contracted Services

- Revenues are not secured in the long-run; **discontinuation of customer-relationships** can have severe adverse effects on sales **mainly in S&D segment** as for large share of consumables



KEY

Leverage sticky customer base by building on customer relationships to secure long-term orders

Consolidation Follow-on Acquisitions

- If **consolidation/ integration of acquired companies** into Mesa's operations is **unsuccessful**, profit margins are at risk in the mid-term



KEY

Conduct comprehensive M&A integration programmes to ensure uncomplimented alignment of businesses

High growth at high Margins may bring Mesa's Business Model in focus of bigger players

- By facilitating market growth that fuels Mesa's financials it may attract large medical conglomerates to focus on high margin market with stronger competitive advantages



KEY

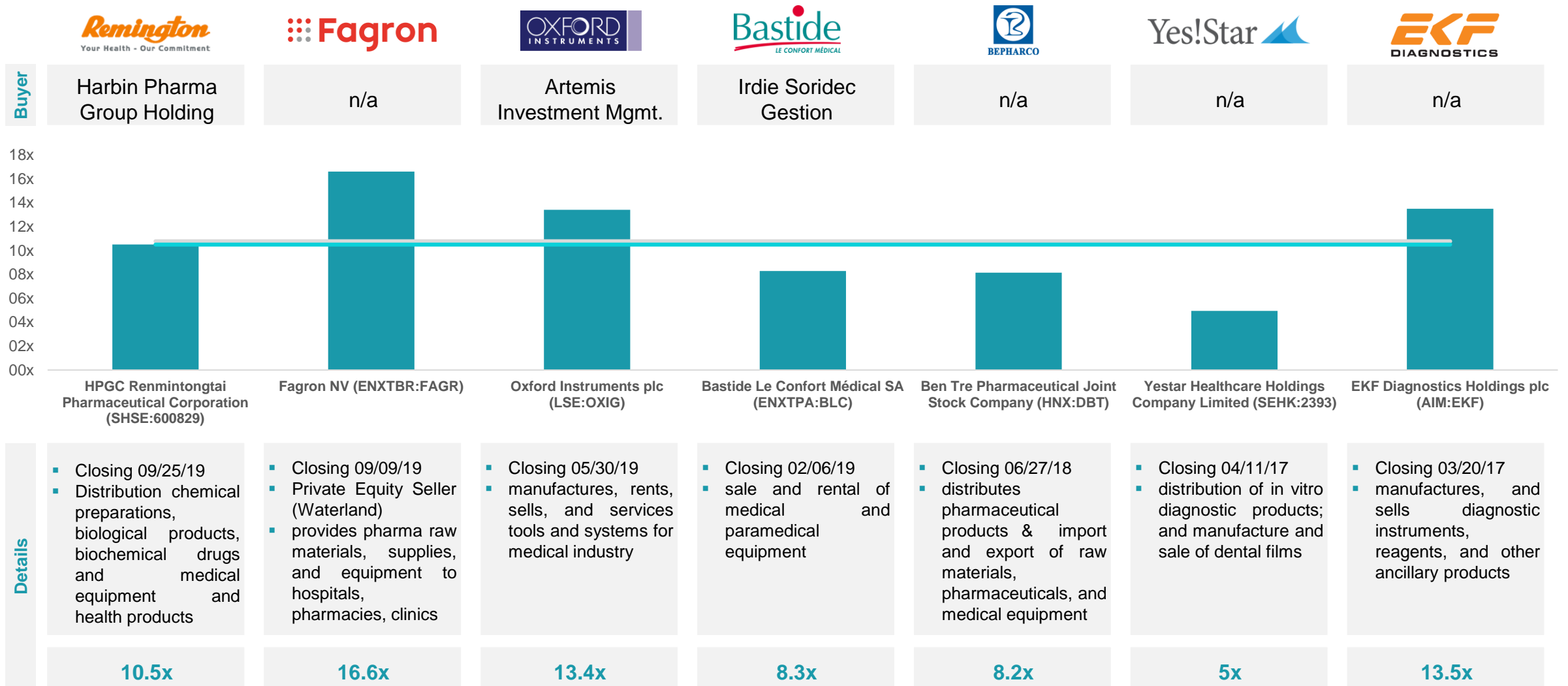
Mesa's standing in high precision products relevant in Pharma (not focus area for big players due to higher investment) can be leveraged to establish Mesa as superior quality provider

Revenue Forecast Split by Geography & Segment

Extended FCFF Derivation	2014	2015	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
Sterilization and Disinfection Control	23,0	27,4	33,6	38,6	43,3	46,3	50,3	53,9	58,0	62,4	67,7	73,2	78,6	84,2	89,2
% growth		19,1%	22,9%	14,8%	12,0%	7,0%	8,6%	7,3%	7,5%	7,7%	8,4%	8,2%	7,4%	7,1%	6,0%
Of Which															
United States						22,8	24,9	26,4	27,9	29,4	30,8	32,0	33,2	34,3	35,2
% growth							9,2%	6,2%	5,7%	5,2%	4,7%	4,2%	3,7%	3,2%	2,7%
Europe						13,7	14,3	15,0	15,7	16,7	18,0	19,3	20,4	21,5	22,1
% growth							4,6%	4,6%	5,2%	6,2%	7,7%	7,2%	5,7%	5,0%	3,0%
APAC						8,1	9,4	10,8	12,6	14,6	17,2	20,1	23,2	26,7	30,1
% growth							15,5%	15,5%	16,1%	16,1%	17,6%	17,1%	15,6%	14,9%	12,9%
RoW						1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7
% growth							4,6%	4,6%	5,2%	5,2%	6,7%	6,2%	4,7%	4,0%	2,0%
Instruments	26,4	33,1	35,7	34,4	34,1	36,1	38,1	40,6	43,9	47,5	51,7	56,2	60,6	65,0	69,0
% growth		25,3%	8,0%	-3,6%	-0,9%	5,9%	5,6%	6,5%	8,0%	8,3%	8,9%	8,6%	7,8%	7,3%	6,2%
Of Which															
United States						21,3	22,6	24,2	26,0	27,8	29,6	31,4	33,1	34,7	36,3
% growth							5,8%	7,0%	7,5%	7,0%	6,5%	6,0%	5,5%	5,0%	4,5%
Europe						7,1	7,5	8,0	8,7	9,7	11,0	12,4	13,8	15,3	16,6
% growth							5,8%	6,3%	9,5%	11,0%	13,3%	12,8%	11,3%	10,6%	8,6%
APAC						6,3	6,7	7,1	7,8	8,6	9,8	11,1	12,3	13,6	14,8
% growth							5,8%	6,3%	9,5%	11,0%	13,3%	12,8%	11,3%	10,6%	8,6%
RoW						1,4	1,4	1,4	1,4	1,4	1,4	1,4	1,4	1,4	1,4
% growth							5,8%	5,3%	5,9%	5,9%	7,4%	6,9%	5,4%	4,7%	2,7%
Cold Chain Monitoring	0,0	10,9	11,6	12,6	13,0	13,8	15,0	17,0	19,8	23,2	27,0	31,3	36,2	41,6	47,6
% growth		-	6,2%	8,8%	3,1%	6,4%	9,0%	13,0%	16,5%	17,0%	16,5%	16,0%	15,5%	15,0%	14,5%
Of Which															
United States						13,8	15,0	17,0	19,8	23,2	27,0	31,3	36,2	41,6	47,6
% growth							9,0%	13,0%	16,5%	17,0%	16,5%	16,0%	15,5%	15,0%	14,5%
Europe						0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
% growth							0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
APAC						0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
% growth							0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
RoW						0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
% growth							0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%

APPENDIX – CAPITAL STRUCTURE & RETURNS

Representative Selection yields median 10.5x EV/EBITDA multiple



Strong cash flow supports M&A activity

Cash Flow Summary	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
EBITDA				28.3	44.1	55.3	73.7	82.1	91.3	98.8	107.3	116.1
Other non cash movements above EBITDA				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Taxes				(4.5)	(5.1)	(6.4)	(9.3)	(10.7)	(12.2)	(13.3)	(14.7)	(16.8)
Net Interest Expenses					(13.0)	(19.2)	(21.4)	(24.9)	(24.3)	(23.5)	(23.8)	(11.6)
Earnout payment				0.0	(9.9)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change in NWC				(5.4)	(0.7)	(0.7)	(0.5)	(0.8)	(0.1)	(1.0)	(0.4)	(1.0)
Net CAPEX				(9.2)	(144.1)	(53.4)	(85.5)	(6.2)	(6.6)	(6.9)	(7.2)	(7.2)
CAFDS				9.2	(128.6)	(24.4)	(43.0)	39.4	48.1	54.1	61.4	79.5
Scheduled Amortization					-	-	-	-	-	-	(150.0)	(73.0)
Cash flow available for Cash Sweep/ Draw down					(128.6)	(24.4)	(43.0)	39.4	48.1	54.1	(88.6)	6.5
Revolver pay/ draw down					-	-	-	-	-	-	-	-
Cash sweep					-	-	-	-	-	-	-	-
Cash flow available for Cash Sweep/ Draw down					(128.6)	(24.4)	(43.0)	39.4	48.1	54.1	(88.6)	6.5
Debt issuance (Stretched Senior)					73.0	26.0	45.7	-	-	-	-	-
Equity injection					57.1	-	-	-	-	-	-	-
Net change in Cash					1.5	1.6	2.7	39.4	48.1	54.1	(88.6)	6.5

Debt overview/ Leverage Overview	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
Revolving Credit Facility				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stretched Senior				150.0	150.0	150.0	150.0	150.0	150.0	150.0	0.0	0.0
Term Loan B				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Term Loan C				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mezzanine Debt				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stretched Senior - Add-ons				0.0	73.0	99.0	144.7	144.7	144.7	144.7	144.7	71.7
Gross debt (EoP)				150.0	223.0	249.0	294.7	294.7	294.7	294.7	144.7	71.7
Cash				6.8	8.3	9.9	12.6	52.0	100.2	154.3	65.7	72.2
Net debt (EoP)				143.2	214.7	239.1	282.1	242.6	194.5	140.4	79.0	(0.5)
Leverage ratio				5.1x	4.9x	4.3x	3.8x	3.0x	2.1x	1.4x	0.7x	0.0x
Shareholder loan				132.9	205.2	221.6	239.3	258.4	279.1	301.4	325.6	351.6

30% of EBITDA as maximum tax-deductible interest reflected

Earnout payment according to achievement of EBITDA 2021E objectives

Total CAPEX mainly driven by acquisitions in 2021-23E

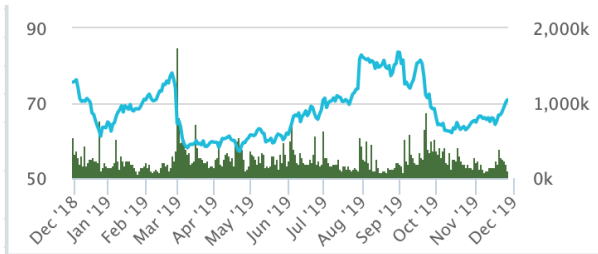
Bullet repayments after 7 years of maturity. (i) Acquisition stretched senior (ii) Add-on stretched senior

Debt issuance to finance add-on acquisitions up to respective current leverage level (Net debt/ EBITDA threshold)

Equity injection to cover shortfall of cash and additional debt in add-on acquisitions

APPENDIX – EXIT

Cantel Medical



- **Total EV \$ 2.826m**
- **Revenues LTM of \$ 827m**
- **EBITDA Margin of 18% LTM**
- **Net Income Margin of 6% LTM**
- **2.775 Employees**
- Debt/ Capital ratio 26%
- **Founded in 1963** and Headquartered in New Jersey, US

Cantel Medical Corp. **provides infection prevention and control products and services for the healthcare market.**

The company's **Medical segment** offers automated endoscope reprocessing systems; disinfectants and sterilants; detergents; leak testing and manual cleaning products; storage cabinets and transport systems; manual cleaning products; endoscope process tracking products; other consumables, accessories, and supplies for use in disinfect rigid endoscopes, flexible endoscopes, and other instrumentation; and technical maintenance services.

Its **Life Sciences segment** provides dialysis water purification and bicarbonate mixing systems; hollow fiber filters, and other filtration and separation products; liquid disinfectants and cold sterilization products; dry fog products; room temperature sterilization equipment and services; and clean-room certification and decontamination services for the dialysis and other healthcare, research laboratories, food and beverage, and commercial industrial customers.

The company's **Dental segment** offers biological indicators, chemical integrators, sterilization pouches. It also provides hand sanitizers, germicidal wipes, disinfectants, surface disinfectants, waterline treatment products, amalgam separators, saliva ejectors, evacuator tips, plastic cups, proph angles, and proph paste.

The company sells its products through its **direct distribution network in the United States; and directly or under various third-party distribution agreements internationally.** Cantel Medical Corp. was founded in 1963 and is headquartered in Little Falls, New Jersey.

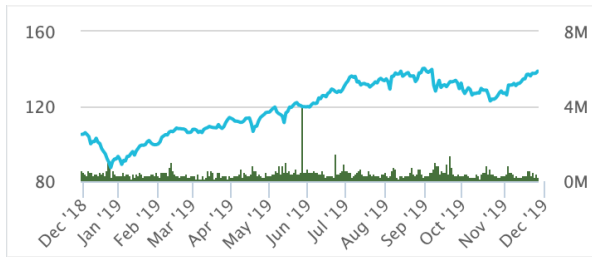
Crosstex

- **Latest Revenues \$ 47.3m**
- **Acquired Apr. 2005 for \$ 93.5m**
- Crosstex International, Inc. designs, manufactures **infection prevention and control products.** Its product portfolio includes Biological and Chemical Indicator. The company provides its products through a network of distribution partners worldwide

Hu-friedy

- **Latest Revenues \$ 135.7m**
- **Closing date Oct. 2019 for \$ 775m**
- Hu-Friedy Mfg. Co., LLC designs, manufactures, and distributes **dental instruments and product solutions.** The company offers diagnostic, endodontic, infection prevention, instrument management, instrument sharpening, orthodontic, periodontal, restorative, surgical, and ultrasonic scaling solutions. Headquartered in Chicago, US.

Steris plc



- **Ticker: NYSE:STE**
- **Market Cap. \$ 11.7bn**
- **Revenues LTM of \$ 2.6bn**
- **EBITDA Margin of 25.2% in FY 2019**
- **Net Income Margin of 11.6% in FY 2019**
- **~12,000 Employees**
- The company was founded in 1985 and is based in Dublin, Ireland.

STERIS plc provides infection prevention and other procedural products and services worldwide.

It operates in four segments:

Healthcare Products, Healthcare Specialty Services, Life Sciences, and Applied Sterilization Technologies.

The Healthcare Products segment offers cleaning chemistries and sterility assurance products; accessories for gastrointestinal (GI) procedures, washers, sterilizers, and other pieces of capital equipment for the operation of a sterile processing department; and equipment used directly in the operating room, including surgical tables, lights, equipment management services, and connectivity solutions. It also provides capital equipment installation, maintenance, upgradation, repair, and troubleshooting services. This segment offers its products and services to acute care hospitals, ambulatory surgery centers, and GI clinics. The Healthcare Specialty Services segment provides solutions and managed services, such as instrument and endoscope repair and maintenance solutions; custom process improvement consulting services; and outsourced instrument sterile processing services to acute care hospitals and other healthcare settings. The Life Sciences segment offers formulated cleaning chemistries, barrier products, sterility assurance products, steam and vaporized hydrogen peroxide sterilizers, and washer disinfectors. The Applied Sterilization Technologies segment provides contract sterilization services through a network of approximately 50 contract sterilization and laboratory facilities.

Synergy Health plc.

- **Latest Revenues \$ 490m**
- **Acquired Oct 2015 (Closing Date) for \$ 2.2bn (Market Cap. \$ 1.6bn)**
- **~25.5% EBITDA margin**
- Founded in 1991 with 5,670 employees
- Based in United Kingdom
- Synergy Health Limited provides outsourced sterilization services for medical device manufacturers, hospitals, and other industries worldwide. The company offers hospital sterilization services for the reusable medical and surgical equipment used in operating theatres

SOURCES

Company Filings

- SEC Edgar: https://www.sec.gov/Archives/edgar/data/724004/000143774919011234/mlab20190331_10k.htm#item12
- Investor Presentation 2018, <https://mesalabs.com/wordpress/wp-content/uploads/2018/11/20181203-Mesa-Investor-Presentation-November-27-2018.pdf>
- Regulations Map: <https://sterilizermonitoring.mesalabs.com/mtc/Regulation/Index?layout=true>

Market Studies

- Markets and Markets, <https://www.marketsandmarkets.com/search.asp?search=mesa+laboratories&offset=80>
 - Sterilization Monitoring Market, <https://www.marketsandmarkets.com/Market-Reports/sterilization-monitoring-market-195505474.html>
 - Cold Chain Monitoring: <https://www.marketsandmarkets.com/Market-Reports/cold-chain-monitoring-market-161738480.html>
 - Laboratory Equipment Services Market, <https://www.marketsandmarkets.com/PressReleases/laboratory-equipment-service.asp>
 - Air Quality Monitoring Systems Market: https://www.marketsandmarkets.com/Market-Reports/air-quality-monitoring-equipment-market-183784537.html?gclid=EAlaIqobChMIqpKuqlfs5QIVUtreCh112QLmEAAYASAAEgJTjfD_BwE
 - Industrial Sensors Market: <https://www.marketsandmarkets.com/Market-Reports/industrial-sensor-market-108042398.html>
 - Environmental Monitoring Market: https://www.marketsandmarkets.com/Market-Reports/environmental-monitoring-market-216846315.html?gclid=EAlaIqobChMI9vnhkfvz5AIVQ7TtCh07DQWjEAAYASAAEgJPZvD_BwE
 - Sterility Testing Market: https://www.marketsandmarkets.com/Market-Reports/sterility-testing-market-208866931.html?gclid=EAlaIqobChMI9Zjl4rfa5AIVENHeCh3DVwNXEAYASAAEgLL4_D_BwE
 - Medical Device Testing Market: https://www.marketsandmarkets.com/Market-Reports/medical-device-testing-market-254474064.html?gclid=EAlaIqobChMIhLaAmNHk5gIVFs93Ch0BCwiOEAYASAAEgliZ_D_BwE

Market ctd. & Market Driver

- Ameco Research, Global Sterilization Monitoring Market Sample
- Grand View Research
 - Sterility Indicators Market: <https://www.grandviewresearch.com/industry-analysis/sterility-indicators-market>
 - Infection Control Market Analysis Sample
 - Cold Chain Monitoring: <https://www.grandviewresearch.com/industry-analysis/cold-chain-monitoring-market>
- Market Insights, Air Quality Monitoring: <http://marketinsights.biz/22187/global-air-quality-monitoring-equipment-market-2018-2025-industry-research-report-key-players-analysis-segmentation-and-forecast/>
- Market watch, Biological Indicator: <https://www.marketwatch.com/press-release/at-60-cagr-biological-indicators-market-size-set-to-register-410-million-usd-by-2024-2019-02-21>
- The Market Plan, Medical Equipment Calibration: <https://themarketplan.com/medical-equipment-calibration-services-market-estimated-to-reach-us2-1-billion-by-2020-detailed-in-new-research-report/152370/>

Market Driver

- <https://www.healthcarefinancenews.com/news/hospital-acquired-infections-keep-rising-wasting-billions-finds-leapfrog>
- <https://www.beckersspine.com/orthopedic-spine-practices-improving-profits/item/38059-global-surgical-procedures-volume-to-increase-to-2-2b-procedures-annually-by-2023-5-points.html>
- https://www.who.int/ageing/publications/global_health.pdf
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6351821/>
- <https://cvshealth.com/thought-leadership/by-the-numbers-the-impact-of-chronic-disease-on-aging-americans>
- <https://www.marketwatch.com/press-release/food-beverage-sterilizing-agent-market-comprehensive-analysis-growth-forecast-from-2019-to-2025-2019-09-16>

Regulations, Direct Lending & Others

Regulations

- <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?fr=610.12>
- <https://www.cdc.gov/infectioncontrol/guidelines/disinfection/sterilization/sterilizing-practices.html>
- <https://www.cdc.gov/infectioncontrol/pdf/guidelines/disinfection-guidelines-H.pdf>
- <https://www.fda.gov/media/124809/download>
- <https://www.who.int/airpollution/en/>
- Steris, Chemical Indicators: <https://www.sterislifesciences.com/resources/documents/article-reprints/chemical-indicators-for-steam-sterilization>

Direct Lending

- Reuters: <https://www.reuters.com/article/direct-lending/direct-lenders-ready-for-bonanza-as-us-economy-cools-idUSL2N27U179>
- Hogan Lovells: <https://www.hoganlovells.com/en/pdfdownload?page={2A3AC6E5-4A6A-4784-AA46-98B21AB43566}&p=1>
- Barings: <https://www.barings.com/no/guest/strategies/private-credit/global-private-finance>
- Finance Magazine: <https://www.finance-magazin.de/deals/private-equity-private-debt/so-kommen-debt-fonds-bald-ganz-ohne-banken-aus-2044421/>

Others

- Infection Control Today, Chemical Indicators: <https://www.infectioncontrolday.com/environmental-hygiene/chemical-indicators-101-applications-use>
- Semantic Scholar, Chemical Indicators: <https://pdfs.semanticscholar.org/6279/26a890f5024b735ede8e495a879f3bdd0531.pdf>
- CCM market trends: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5821242>
- AAMI ST79 Dental, Best Practice: http://saiddent.org/admin/images/74168500_1478724385.pdf

- **Kremmel, M. (2007):** Aufbereitung von Medizinprodukten: Handbuch