PITT STREET RESEARCH

De.mem Ltd

At a strong inflection point

Share Price: A$0.20

ASX: DEM

Sector: Utilities

8 September 2020

De.mem Ltd (ASX: DEM) is an Australian-Singaporean provider of decentralised water and wastewater treatment systems. It provides proprietary membrane-based water treatment solutions for mainly industrial use cases. DEM acts as a one-stop shop for water treatment needs, providing entire modules, equipment and consumables, as well as services such as operations and maintenance of treatment plants.

Investment case

We believe DEM is at a strategic turning point given its focus and success in growing its recurring revenue base in the form of sale of services and consumables. Its top line is expected to significantly benefit from the two key acquisitions in 2019, strong client pipeline and sector tailwinds. Moreover, the company enjoys the advantages of a blue-chip client base, diversification across end markets and geographies, and R&D collaboration with Nanyang Technological University. These positives have assisted DEM's resilience during the COVID-19 crisis and these should also help unlock its profitability and cash flow potential in the short–medium term.

Valuation of A$0.62 per share

Our blended valuation, equally weighted between DCF and EV/Sales, returns a value of A$0.62 per share base case and A$0.72 per share in a bullish scenario. We are attracted to DEM's high-margin and elevated recurring revenue growth profile (+29% CY20-25 CAGR). Key risks we see are: (1) competitors coming up with superior or cheaper products; (2) ability to convert customer pipeline; (3) ability to scale the business profitably and (4) execution across product innovation and implementation.

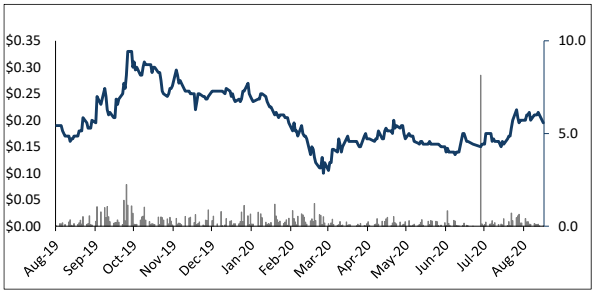
Year to Dec (AUD)	2019A	2020F	2021F	2022F	2023F
Revenue (m)	10.1	16.6	25.7	31.1	36.5
EBITDA (m)	(3.2)	(1.3)	1.1	3.1	5.0
Net Profit (m)	(3.5)	(1.6)	0.8	2.6	4.3
EBITDA Margin (%)	NM	NM	4.4%	10.0%	13.6%
ROA (%)	NM	NM	5.3%	15.3%	19.9%
EPS	(2.6)	(0.9)	0.4	1.5	2.5
DPS	NM	NM	NM	NM	NM
EV/Sales	2.8x	1.9x	1.3x	1.0x	0.8x
EV/EBITDA	NM	NM	28.7x	10.1x	5.9x
P/E	NM	NM	44.5x	13.0x	7.9x

Source: Company, Pitt Street Research

Market Cap. (A$ m)	34.2
# shares outstanding (m)	175.6
# shares fully diluted (m)	181.8
Market Cap Ful. Dil. (A$ m)	35.5
Free Float	61.8%
52-week high/low (A$)	0.36 / 0.10
Avg. 12M daily volume ('1000)	315.9
Website	www.demembranes.com

Source: Company, Pitt Street Research

Share price (A$) and avg. daily volume (M, r.h.s.)



Source: CommSec, Pitt Street Research

Valuation metrics	
DCF fair valuation range (A$)	0.62 – 0.72
WACC	11.2%
Assumed terminal growth rate	2%

Source: Pitt Street Research

Analysts: Marc Kennis, Cheng Ge

Tel: +61 (0)4 3483 8134

marc.kennis@pittstreetresearch.com

cheng.ge@pittstreetresearch.com

Disclosure: Pitt Street Research directors own shares in De.mem Ltd.

De.mem Ltd

Profit & Loss (A$M)	2017a	2018a	2019a	2020e	2021e	2022e	2023e	2024e
Sales Revenue	**2.9**	**10.5**	**10.1**	**16.6**	**25.7**	**31.1**	**36.5**	**42.0**
Operating expenses	(9.2)	(12.3)	(13.4)	(17.9)	(24.6)	(28.0)	(31.6)	(35.4)
EBITDA	**(6.3)**	**(1.7)**	**(3.3)**	**(1.3)**	**1.1**	**3.1**	**5.0**	**6.6**
Depn & Amort	(0.1)	(0.2)	(0.3)	(0.2)	(0.3)	(0.4)	(0.6)	(0.7)
EBIT	**(6.4)**	**(1.9)**	**(3.6)**	**(1.5)**	**0.8**	**2.7**	**4.4**	**5.9**
Net Interest	(0.0)	(0.0)	(0.1)	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)
Profit before tax	**(6.4)**	**(1.9)**	**(3.5)**	**(1.6)**	**0.8**	**2.6**	**4.3**	**5.9**
Tax expense	0.0	-	(0.0)	-	-	-	-	(0.8)
NPAT	**(6.3)**	**(1.9)**	**(3.5)**	**(1.6)**	**0.8**	**2.6**	**4.3**	**5.0**

Cash Flow (A$M)	2017a	2018a	2019a	2020e	2021e	2022e	2023e	2024e
Profit after tax	(6.3)	(1.9)	(3.5)	(1.6)	0.8	2.6	4.3	5.0
Depreciation	0.1	0.2	0.3	0.2	0.3	0.4	0.6	0.7
Change in trade and other receivables	0.2	(0.4)	0.4	(1.1)	(1.4)	(0.7)	(0.7)	(0.7)
Change in trade payables	(0.4)	0.2	1.5	0.6	0.6	(0.1)	(0.1)	0.0
Other operating activities	4.1	0.4	(0.4)	0.0	0.1	0.2	0.2	0.3
Operating cashflow	**(2.4)**	**(1.5)**	**(1.7)**	**(1.8)**	**0.4**	**2.5**	**4.4**	**5.3**
Capex	0.1	(0.5)	(0.2)	(0.5)	(0.8)	(0.9)	(1.1)	(1.3)
Other investing activities	(0.8)	(0.2)	(2.0)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Investing cashflow	**(0.6)**	**(0.7)**	**(2.2)**	**(0.6)**	**(0.9)**	**(1.0)**	**(1.2)**	**(1.4)**
Dividends	-	-	-	-	-	-	-	-
Equity raised	6.3	0.6	10.2	-	-	-	-	-
Debt drawdown (repaid)	(0.2)	0.1	(0.0)	(0.7)	-	-	-	-
Other financing activities	-	-	(0.2)	-	-	-	-	-
Financing cashflow	**6.1**	**0.7**	**10.0**	**(0.7)**	**-**	**-**	**-**	**-**
Net change in cash	**3.1**	**(1.5)**	**6.1**	**(3.2)**	**(0.5)**	**1.5**	**3.2**	**3.9**
Cash at End Period	3.3	1.8	7.9	4.7	4.2	5.7	8.9	12.8
Net Debt (Cash)	(2.8)	(1.2)	(6.3)	(4.0)	(3.5)	(5.0)	(8.2)	(12.1)

Balance Sheet (A$M)	2017a	2018a	2019a	2020e	2021e	2022e	2023e	2024e
Cash	3.3	1.7	7.8	4.7	4.2	5.7	8.9	12.8
Total Assets	6.3	5.3	14.6	12.9	14.5	17.3	21.8	27.1
Total Debt	0.5	0.5	1.4	0.7	0.7	0.7	0.7	0.7
Total Liabilities	3.1	3.4	5.1	4.9	5.6	5.5	5.4	5.4
Shareholders' Funds	3.2	1.9	9.5	8.0	8.9	11.8	16.3	21.7

Ratios	2017a	2018a	2019a	2020e	2021e	2022e	2023e	2024e
Net Debt/Equity (%)	-87.3%	-63.0%	-66.3%	-50.1%	-39.1%	-42.2%	-49.9%	-55.9%
Return on Equity (%)	nm	nm	nm	nm	8.6%	22.4%	26.5%	23.3%

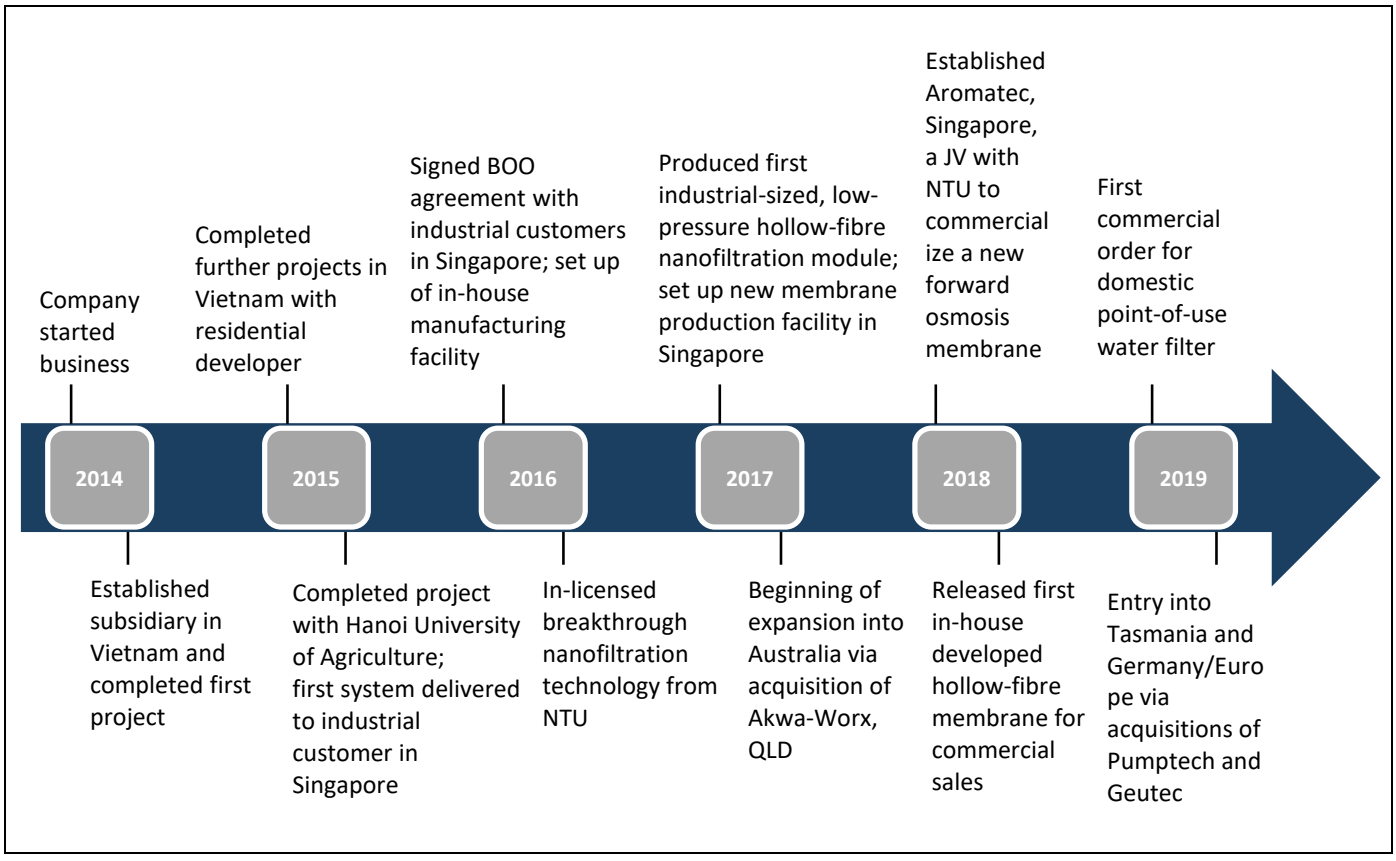
Table of Contents

Introducing De.mem

De.mem (ASX: DEM) is a Australian-Singaporean company that provides decentralised industrial water treatment solutions based on proprietary membrane technologies. It commenced operations in 2014 (Figure 1) and currently provides a bouquet of solutions, wherein it designs, builds, owns and operates wastewater treatment systems for industrial clients. DEM serves a broad range of end markets including mining, infrastructure, oil and gas, electronics, food and beverage (F&B), and chemicals industries. It also serves other markets including municipalities, hotels/resorts and residential complexes. The company's products are mostly installed at factory sites and in mining fields and industrial parks.

DEM's decentralised systems are sustainable alternatives to large treatment plants that require miles of supply and delivery infrastructure. In contrast, decentralised treatment systems are installed at the site of water supply and/or demand. The company's decentralised solutions can be easily integrated into recycling and reclamation processes. Its core competency lies in customising solutions for widely varying client requirements. Through the use of decentralised solutions, DEM supports its clients in retaining complete operational and quality management control across different production sites. These systems drive efficiency and help minimise operating expenses for clients.

Figure 1: Key milestones since inception



Source: Company

DEM has blue-chip clients that often provide repeat business across their global operations

DEM's business model is scalable, as the company's systems regularly require proprietary membranes, chemical solutions and other consumables, to operate. This provides DEM with a recurring revenue base from existing clients. In addition, it offers a wide gamut of services including equipment leasing and operations, and maintenance. As DEM offers a mix of products and services, it is in a unique position to benefit from the rapid growth expected in the global industrial wastewater treatment market.

Ten reasons to look at DEM

1. DEM is a unique proposition for customised wastewater treatment solutions, as it offers a comprehensive portfolio of integrated products and services. This positions it as a one-stop provider of wastewater treatment solutions providing it a distinct competitive edge.
2. It has a long-standing technical collaboration with Nanyang Technological University (NTU), Singapore, one of the pioneers in water research globally. DEM has an exclusive licence to commercially operate NTU-developed patented and proprietary technologies in water treatment, and this gives the company a significant advantage over industry peers.
3. DEM's business model is based on generating revenue through (a) sale of equipment and consumables and (b) long-term service contracts. Both these arrangements have wide scope for recurring revenue generation. As DEM's management enhances focus on securing more long-term contracts and expanding the recurring revenue base, the scalability of its business operations will grow.
4. It has made systematic alterations to its underlying industry exposure. DEM now caters to a wide variety of blue-chip clients across industries including mining, infrastructure, F&B, utilities and municipalities. Its association with big clients results in a stable order book, repeat business and opportunity to serve global operations.
5. Growing concern around climate change and the ensuing environmental legislations are constantly putting pressure on corporations to incorporate wastewater management systems. This is expected to continue to drive the demand for DEM's products and services.
6. As global water scarcity is becoming more evident, the importance of water treatment solutions is growing exponentially. As a result, industrial wastewater treatment has become a key focus area and its market is likely to grow at a 5.8% CAGR till 2024. This will result in higher demand for related equipment and consumables, benefitting DEM.
7. DEM has embarked on an inorganic growth journey, seeking entities with an established client base that can be upgraded through its technologically superior products. DEM also has enough cash balance for further bolt-on acquisitions to curb any technological gaps.
8. DEM has an experienced team that has been at the forefront of managing well-structured and well-priced acquisitions. The management has extensive experience in managing portfolio companies across industries. This is expected to significantly benefit DEM as it continues with its inorganic growth strategy.
9. The group enjoys relatively high operating margins: 40% in Build-Own-Operate projects, 30–40% in the sale of chemicals, 20–30% in service operations and 20–25% in the sale of pumps. Further margin expansion is possible through upselling of services, emphasis on high-margin projects and expansion of recurring revenue base.

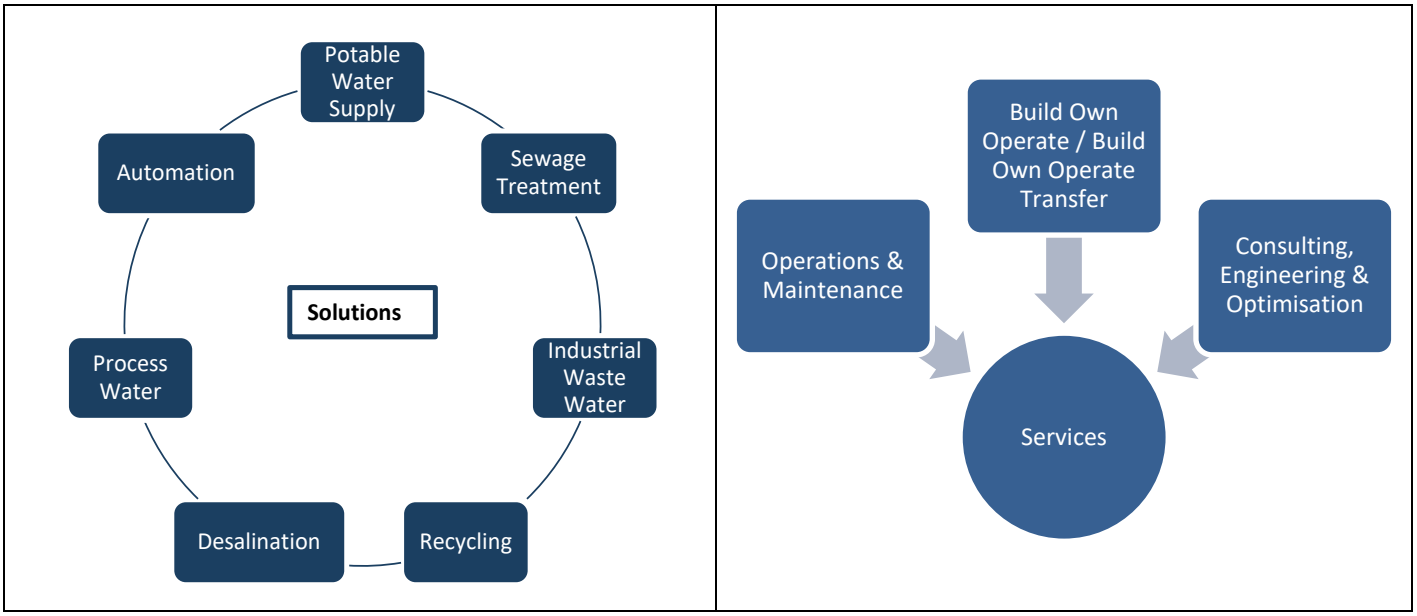
10. We believe DEM should be valued higher than its current market value. Our valuation using a blended (DCF, EV/Revenue) methodology yields A$0.62 per share base case and A$0.72 bullish case. We believe re-rating will be driven by success in integrating the recent acquisitions, increase in recurring revenue base and attainment of cash breakeven.

One-stop shop for water treatment solutions

DEM covers the entire value chain of the wastewater treatment industry

The company operates a scalable business model, wherein it provides a comprehensive range of solutions for industrial wastewater treatment. Its independent and portable systems convey, treat, and dispose or reuse wastewater from industrial units. DEM's solutions cover all major water treatment applications, i.e., potable, sewage, industrial waste and process water (Figure 2). Further, these solutions span across the value chain covering pre-treatment, treatment and post-treatment phases.

Figure 2: Diverse portfolio of offerings



Source: Company

DEM also provides consumables such as chemicals, membranes, filters and pumps

DEM offers a product portfolio of patented and/or protected membrane-based water treatment systems, such as microfiltration, ultrafiltration, hollow-fibre nanofiltration and forward osmosis. Even within one category of membranes, the company offers different pore sizes, which allows it to provide customised products to clients based on standard formulations. DEM also offers water-treatment chemicals such as coagulants, flocculants, membrane cleaners and anti-scalants.

Additionally, DEM provides various services including operations and maintenance, consulting and engineering, as well as financing through a Build-Own-Operate model or equipment leasing.

We believe DEM has an edge in providing customised solutions (Figure 3 and Figure 4) to different industrial segments. For instance, for many applications within the food & beverage or the oil and gas market, the company can provide specialised solutions for removing oil and grease, i.e. by combining its membrane technology with pre-treatment processes such as Dissolved Air Floatation (DAF)[1], cyclone separators or centrifuges. Similarly, for the mining market, DEM's low-pressure hollow-fibre nanofiltration technology is pivotal. This solution allows mine operators to meet the extremely stringent water discharge regulations that govern this industry. Further, this technology's

[1] DAF is based on a physico-chemical process which separates solid and liquid particles by the addition of very small air bubbles. These bubbles stick on solid particles and give them a high rate of ascent. Once in the surface, the solids or sludge are pulled mechanically to the hopper.

low-pressure feature uses less energy – an additional incentive for mining companies.

Figure 3: Simple filtration system

Figure 4: Complex, customized wastewater treatment system using different membranes

Source: Company

Well-placed to serve a range of client needs

Flexibility in product offerings incentivises clients and enhances stickiness

In our view, DEM's full-service model (Figure 5) involving a multitude of client solutions, ensures it is well-positioned to have a balanced mix of stable and high-margin business segments. The company provides its water treatment systems on both Build-Own-Operate (BOO) and Build-Own/Operate-Transfer (BOOT) models. This provides its clients the option of either buying the entire decentralised system after build-up, or leasing it from DEM for a monthly fee. The BOO/BOOT contracts are typically ~5–10 years long, while the service contracts are inked for 1–2 years.

DEM, aided by its licensed proprietary products, incentivises clients by providing them greater control over their operations. We believe this flexibility in product offerings provides DEM the opportunity for greater market penetration in its focus area of industrial/multinational clients. Only a few of DEM's clients are government agencies or municipalities. Larger municipal or government projects often go through a general contractor, which is not a focus area for the company.

Figure 5: DEM's breadth of client solutions

Source: Company

Established and diversified client base supports DEM's market standing

Enjoys a client base of blue-chip firms

The company has shown incredible traction in gaining business from a large number of blue-chip clients (Figure 6). Its client base includes global mining companies, large infrastructure contractors, municipalities, water utilities and multinational corporations. DEM has a strong client base in the mining industry, including global and domestic market leaders such as Rio Tinto and Metro Mining. It has also succeeded in creating a presence in the infrastructure industry through collaborations with project or development firms and general contractors such as Mulpha, Acciona, John R. Keith, Civeo and Ausco. Further, in 2019, DEM signed a key contract with a large player from the F&B industry through a A$1.7m deal with Givaudan, one of the world's largest manufacturers of flavours, fragrances and active cosmetic ingredients. In addition, through the acquisition of Pumptech Tasmania Pty Ltd, which has an established client base in the F&B industry, DEM can further expand in this end market. A reputed client base across different end markets not only bodes well for the company's reputation and growth but also provides opportunities to cross-sell and increase the share of recurring business from existing clients.

Figure 6: DEM's enviable client portfolio

Source: Company

DEM's client base is well-diversified in terms of revenue contribution. The largest service contract is with Rio Tinto for a large mining site in Australia, for ~A$1m per year. In total, DEM makes about A$4m from service contracts, from 8–10 clients. This excludes the well-diversified client base for pumps and chemicals. We believe this is one of the advantages of decentralised systems – business operations do not have to depend on large, individual project

awards, which are usually difficult to predict given that they go through a competitive bidding process.

R&D partnership with NTU provides technological edge

In June 2016, DEM entered into an exclusive licence agreement with Singapore-based NTU which is one of the leading institutions in water research globally. DEM has benefitted significantly from the R&D collaboration with NTU through access to patented and proprietary technologies. It has an exclusive license to commercially operate the novel low-pressure hollow-fibre nanofiltration membrane, as well as a new forward osmosis membrane, both of which were originally developed by NTU.

Overall, DEM has access to a range of proven, disruptive and easy-to-scale membrane technologies with a part of the intellectual property being owned by DEM and the other part being licensed exclusively from NTU. This partnership plays a vital role in DEM's positioning as a provider of innovative membrane-based water-treatment solutions.

Solid footing for growing recurring revenues

A key strategic focus area for DEM's management is to grow its recurring revenues or repeat business. This is essential to not only increase the scale of the business but to also expand its margins. In our view, DEM's business model has certain inherent advantages which position the company suitably to achieve this strategic goal.

Strong balance sheet to grow recurring BOO segment

The company is benefitting from recurring revenues through its BOO segment as well as its operations and maintenance services. DEM's recurring revenue has been growing steadily – A$4m in 2018, A$6m in 2019, A$2.2m in Q1 2020 and A$2.3m in Q2 2020 (Figure 7). The company is enjoying success across industries through this model of growth, as evidenced by the A$1.7m BOO agreement with Givaudan in November 2019 which will include use of both DEM's wastewater treatment chemicals and innovative membrane technology, potentially resulting in higher recurring revenue.

Strong balance sheet to support growth in the BOO segment

On the operational front, the capital expenditure required for a BOO project is typically about one-third of the guaranteed revenues under the contract. DEM funds BOO projects using existing cash resources, and going forward, it can also potentially tap into loans. The scalability of this operating model will remain non-dilutive for shareholders.

With a strong balance sheet (cash balance of A$7.3m as of 31 March 2020), DEM is well placed to grow its recurring revenue through the BOO segment. The management expects recurring revenues of ~A$9m in 2020, with some potential upside from new equipment leasing contracts. Recurring revenues offer better visibility into a company's earning potential and provide a clear path to sustainable operating cash flow. We believe that growth in this income stream is a strong value proposition for DEM.

Figure 7: Shift towards recurring revenues

(In A$ millions)	FY 2018A	FY 2019A	Q1 2020(1)	Q2 2020(1)
Subtotal -Recurring revenue	4.0	6.0	2.2	2.3
as a % of total revenue	*38%*	*56%*	*67%*	*68%*
Subtotal -Equipment sales	6.6	4.8	1.1	1.1
as a % of total revenue	*62%*	*44%*	*33%*	*32%*
Total Sales	10.6	10.8	3.3	3.4

Note (1): Q1 and Q2 2020 quarter data denotes cash receipts from clients
Source: Company

The company has been showing positive results in gaining recurring revenue business. In August 2020, DEM signed a two-year service agreement worth A$200,000 per annum with an Australian real estate and infrastructure company. The agreement requires DEM to operate a water treatment plant for the client and potentially also to sell pumps, chemicals and other consumables on an ongoing basis. While the deal size is not material to the company's top-line forecasts, it adds to the recurring revenues through operations and maintenance, as well as potential sales of consumables. We believe that such contracts are a testimonial to the management's successful strategies to grow the share of recurring business.

Consumables offer a lucrative route to recurring revenues

In addition to BOO projects, repeat sales of consumables will also provide recurring revenue streams for DEM. Driven by growing sales in the consumables and service divisions, recurring revenue as a percent of total revenue increased from 38% in 2018 to 56% in 2019 (Figure 7). Moreover, this trend, underpinned by the addition of two newly acquired companies (Pumptech and Geutec), continued in Q1 and Q2 2020, with recurring revenue now accounting for 67% and 68% of total revenues, respectively. Consumables sales stood at 26% of total revenue in 2019, up from a mere 5% in 2018.

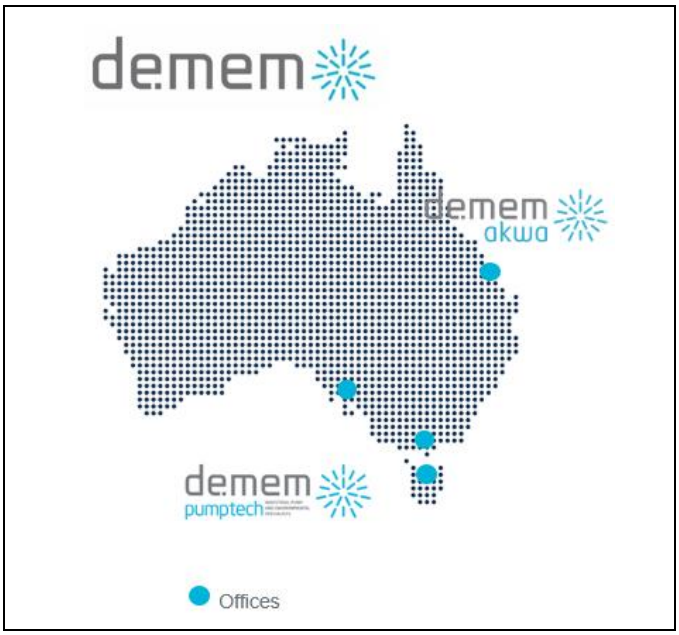
Strong sector tailwinds support growth prospects

There are several macroeconomic or sector-specific factors that we believe bolster DEM's investment case in the medium term.

DEM is an Australian champion

DEM's water treatment equipment is made in Australia, at its manufacturing base located in Queensland, and most of its revenue (~92% in FY 2019) is generated in Australia (Figure 8). The company's strong and long-standing position in the domestic market augurs well for future growth opportunities particularly once the economy gets back on track post the effects of COVID-19. Moreover, should travel open up in Australia and New Zealand, it is expected to benefit the demand potential of DEM's solutions.

Figure 8: DEM has strong Australian presence



Source: Company

Stringent environmental regulations will drive demand for DEM's solutions

The growing concern around climate change and the ensuing environmental legislation constantly pressurise corporations and industries to reduce their carbon footprint. As a result, an increasing number of businesses are now required to incorporate wastewater management systems in their facilities or risk getting penalised. Additionally, failing to meet these requirements results in other costs for businesses, such as damage to brand value. In our view, as more businesses come under the purview of these laws, the demand for wastewater treatment solutions is set to increase. DEM is particularly well positioned to benefit from these trends through its low-energy consumption membrane technologies.

DEM serves defensive client industries

DEM enjoys a relatively defensive business model

DEM, as a part of the water treatment industry, enjoys certain defensive qualities because it provides solutions that are considered essential. With the general scarcity of freshwater resources, coupled with rapid growth in population and urbanisation (especially in Asia Pacific), the need for water treatment solutions is critical. Further, DEM's target F&B market is more defensive than other end markets. This helps balance out the cyclicality which is experienced in the mining and infrastructure industries.

Stressed competitive environment works in DEM's favour

The onset of the COVID-19 pandemic and the subsequent lockdowns have put a lot of pressure on the mom-and-pop water treatment services operators. However, this has worked to the benefit of stronger players such as DEM, which have substantial cash reserves and alternative technologies to survive such crises.

The company's main workshop in Caboolture, Queensland, continues to remain fully operational. Moreover, the strength of DEM's business model has been witnessed during the COVID-19 crisis wherein the company successfully retained all its material service contracts signed in FY 2019 or earlier. As per the announcement in March 2020, DEM is on track to deliver on these contracts as per schedule.

Further, despite the pandemic, the company is continuing with its plans for expansion in the F&B segment and has received an order worth A$140,000 from a leading Australian food product manufacturer. Moreover, its Tasmanian subsidiary – Pumptech – remains unaffected by the crisis as evidenced for example by two new orders received earlier this year, each worth more than A$100,000, plus another ~A$250,000 order from a large multinational F&B corporation with multiple operations in Australia. In our view, these developments clearly demonstrate the resilience of DEM's business model in a stressed competitive environment.

COVID-19 provides new short-term opportunities

The management has also adopted a proactive approach to leverage opportunities arising from the COVID-19 crisis. For instance, it has expanded its product range to offer hand sanitisers and surface disinfectants in response to the high demand, particularly from Singapore. DEM, since early February 2020, has sold over A$10,000 worth of such products. Moreover, these products will be added to the company's chemicals and consumables range and sold through direct sales channels to business clients.

Competitively placed in serving industrial clients

The industrial end market forms a large portion of the company's existing client portfolio. DEM is in a comfortable position to cater to all the water treatment requirements of industrial clients through its full-service model. The combination of services and BOO model that is offered by DEM is highly valued by industrial companies and thus serves as a competitive advantage for the company.

Strong track record of inorganic growth

DEM has relied on inorganic growth means to expand into new geographies as well as end markets. The management looks out for a "roll-out" model when evaluating acquisition prospects, i.e., it seeks entities with an established client base which have a less innovative product or a distribution-only model which can be upgraded with DEM's superior technology and products. DEM focusses on leveraging an acquired company's established client base for cross-selling and upselling opportunities, thereby creating top-line synergies.

Acquisitions set to provide strong top-line growth in 2020 and beyond

The management has a track record of well-structured and well-priced acquisitions. In September 2017, DEM entered the Australian market through the acquisition of Akwa-Worx which had long-term relationships with key mining companies and municipalities, among others. The company paid ~A$2m for this acquisition and it was able to realise revenue worth A$2.1m within a year, much of it being recurring in nature.

Similarly, the company executed two other key transactions in 2019 that will add value in 2020 itself. Firstly, DEM acquired Pumptech Tasmania Pty Ltd, a water and waste treatment solution provider in Tasmania with clients including TasWater, municipalities and large F&B corporations in Tasmania and Victoria. The deal allows DEM to further penetrate the market with opportunities to cross-sell and scale up, leading to revenue and earnings accretion. Subsequently, the company purchased a majority stake (75%) in Geutec GmbH in October 2019. Geutec supplies water treatment chemicals and related dosing equipment to industrial clients in Germany. It earns revenues though smaller and recurring sales of water treatment chemicals to a long-term heavy industrial client base. The deal provides DEM a ready client base and platform in Germany and Europe, and also adds to its product portfolio of water treatment chemicals. Both these transactions cost DEM less than A$2m (<5% of its market capitalisation) and the Pumptech acquisition has already contributed ~A$1.6m in revenue till Q2 2020 with an annual target of A$2.8m, up 28% vs. A$2.2m in 2019.

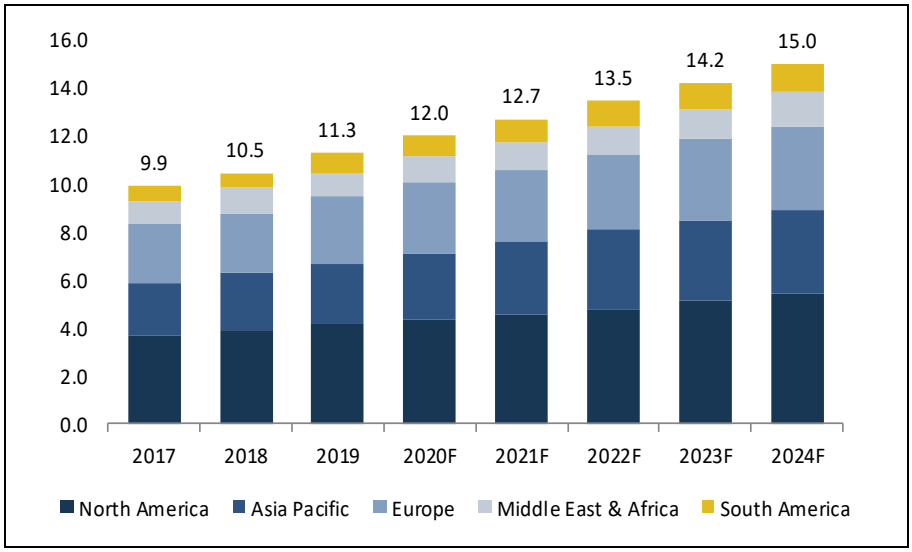
Swiftly growing end-markets offer significant scaling opportunity

With signals of global water scarcity becoming crystal clear, water treatment solutions are gaining importance now more than ever. As water treatment solutions become mainstream, demand for related equipment will also increase. According to Grandview Research, stringent regulations and increasing adoption of water treatment solutions will propel the global wastewater treatment equipment market, valued at US$30bn in 2019, to grow at a steady rate of 3.7% p.a. until 2025. It is highly likely that the steady growth in the equipment market will be accompanied by strong demand in the related services market. According to Reportlinker, the global wastewater treatment service market is expected to grow at an even higher CAGR of 6.1% across 2019–2024 (US$20.8bn in 2019).

The industrial water treatment market is valued at US$11.3bn in 2019 and is forecast to grow at 5.8% till 2024

The industrial wastewater treatment market commands a significant share in the overall water treatment market and was valued at US$11.3bn in 2019. It is expected to reach US$15bn in 2024, registering 5.8% growth annually (Figure 9) as per MarketsandMarkets.

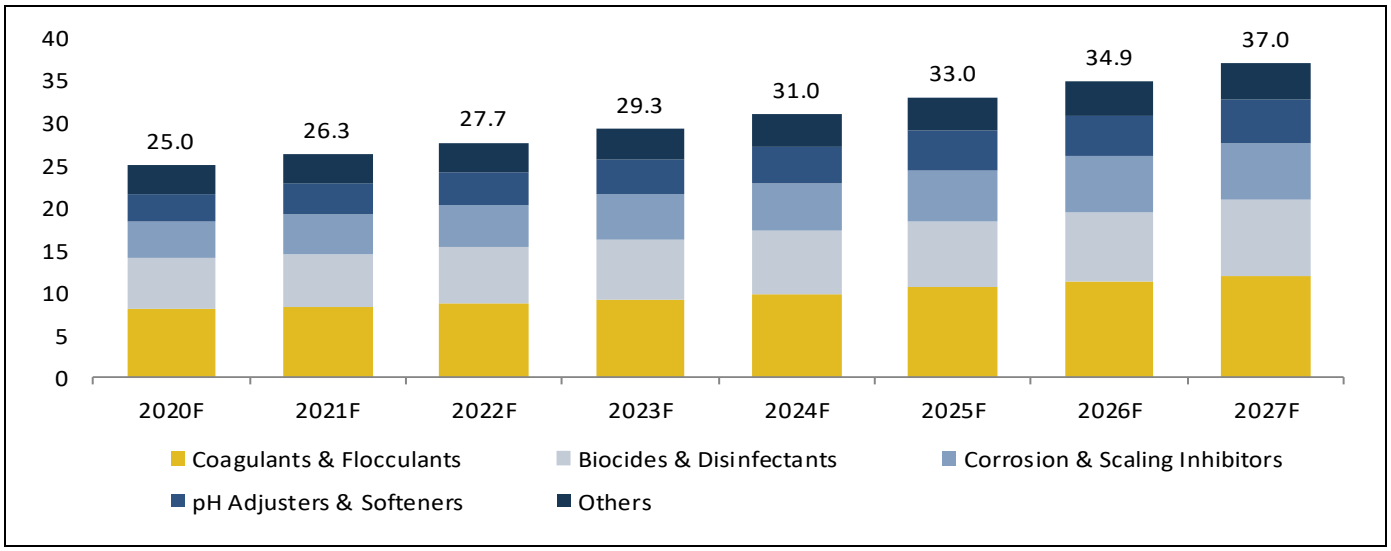
Figure 9: Industrial water treatment market forecast – by region (US$bn)



Source: MarketsandMarkets

An important component of wastewater treatment systems is the chemicals that are used to treat the feed. Since there is a limited availability of water for industrial applications, the demand for water treatment chemicals used in manufacturing industries, especially in the oil and gas, power and mining sectors is expected to grow in the medium term. As per TechSci Research, the global market for water and wastewater treatment chemicals market is expected to reach US$37bn by 2027 (Figure 10). As per the report, coagulants and flocculants, which are a part of DEM's offerings, are expected to witness the fastest growth trajectory.

Figure 10: Global wastewater treatment chemical market forecast – by product (US$bn)

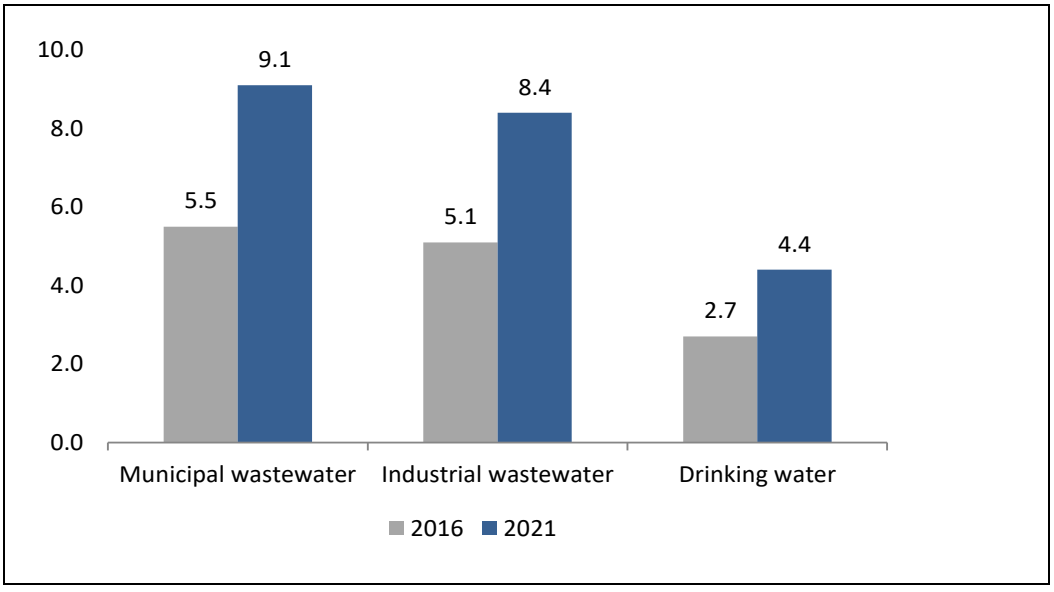


Source: TechSci Research

Decentralised municipal and industrial wastewater treatment market will be a ~US$18bn opportunity by 2021

The global decentralised water treatment market, which offers modular solutions that are faster and less expensive to deploy, is one of the fastest growing sub-segment within the global wastewater treatment industry. Decentralised plants require limited in-ground infrastructure, saving ~25% capital expenditure and ~40% operating expenditure for new installation and upgrades, as compared with centralised plants. According to MarketsandMarkets (Figure 11), the decentralised municipal and industrial wastewater treatment market will be a ~US$18bn opportunity by 2021. Of this, the Australian decentralised water market is estimated to be A$200–300m per annum.

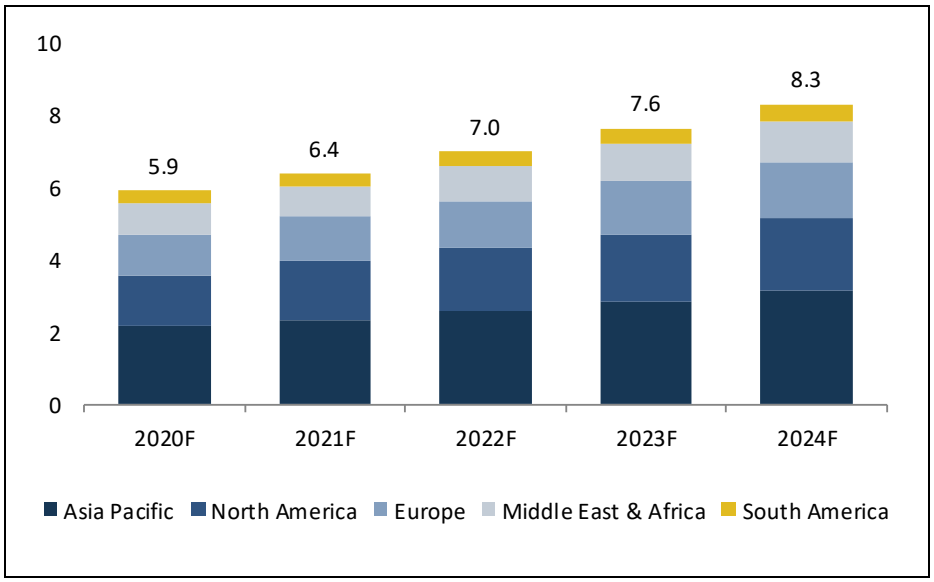
Figure 11: Smart packaged plants/decentralised water treatment market growth (US$bn)



Source: MarketsandMarkets, Global Water Intelligence, Company estimates

Membranes form an integral part of DEM's wastewater treatment systems. Driven by the growing awareness about wastewater reuse, as well as the shift from chemical to physical treatment of water, demand for membranes is expected to grow rapidly in the medium term. As per MarketsandMarkets, the global market for membranes is expected grow at a 9% p.a. CAGR for five years starting 2019, reaching US$8.3bn in 2024 (Figure 12). Interestingly, the Asia Pacific region is expected to witness the most rapid growth in the market, driven primarily by the changing reforms regarding water regulations in existing systems.

Figure 12: Membranes market forecast – by region (US$bn)



Source: MarketsandMarkets

Some major Australian industries require substantial support for wastewater treatment. According to a Research & Markets report, healthy growth in mining activity sector has expanded the global wastewater treatment in this sector, which was valued at US$4.7bn in 2018 and is expected to reach US$7.9bn by 2023. Demand from this segment should grow as Australia has a significant share in the global export of several mining commodities. The global F&B industry, a key market for DEM, is projected to reach US$20–25 trillion in 2030 and is expected to incur capital expenditure of US$6bn on water technology just in this year alone (6.7% CAGR since 2011).

Across major economies, driving force of growth for wastewater treatment will be the lead by the rapidly developing economies of China and India, along with the more industrialised economies of Germany and Singapore.

- **Germany**. Germany faces a major crisis regarding the pollution of surface and ground water. This is primarily due to nitrates and phosphorous from fertilizers used in the agricultural sector that seep into the ground water. Driven by this growing concern, the government has introduced several regulations for the disposal of wastewater and the levels of various compounds present in wastewater. These regulations are expected to drive the demand for water treatment systems in Germany and lead to substantial growth in this market.
- **Asia Pacific.** The past couple of decades have been characterised with rapid expansion in industrialisation, population and urbanisation. This has put a strain on the availability of fresh water resources, as well as increased the pollution in existing water bodies. Consequently, the governments in

the region have been forced to introduce regulations for reuse and recycling of municipal and industrial wastewater. Further, the growth in pharmaceuticals, F&B and oil and gas sectors, has led to a greater need for water filtration equipment in the region.

- **China.** With increasing industrial activity, the pressure on industries to improve water efficiency has grown. Moreover, under its 13th five-year-plan on Urban Sewage Treatment and Water Recycling Facilities Planning, the Chinese government plans to spend ~US$87.5bn on the water treatment industry. This represents a substantial growth opportunity.
- **India.** Against the backdrop of increasing urbanisation, coupled with implementation of strict government regulations (such as zero liquid discharge), the demand for wastewater treatment plants is growing in India. As per a report by ResearchAndMarkets, the market for wastewater treatment plants in India is set to grow substantially, from ~US$2.4bn in 2019 to US$4.3bn in 2025.

To conclude, we think DEM is well-positioned to ride the sector tailwind and benefit from these industry trends within a high value-add product segment. Our reasons are due to:

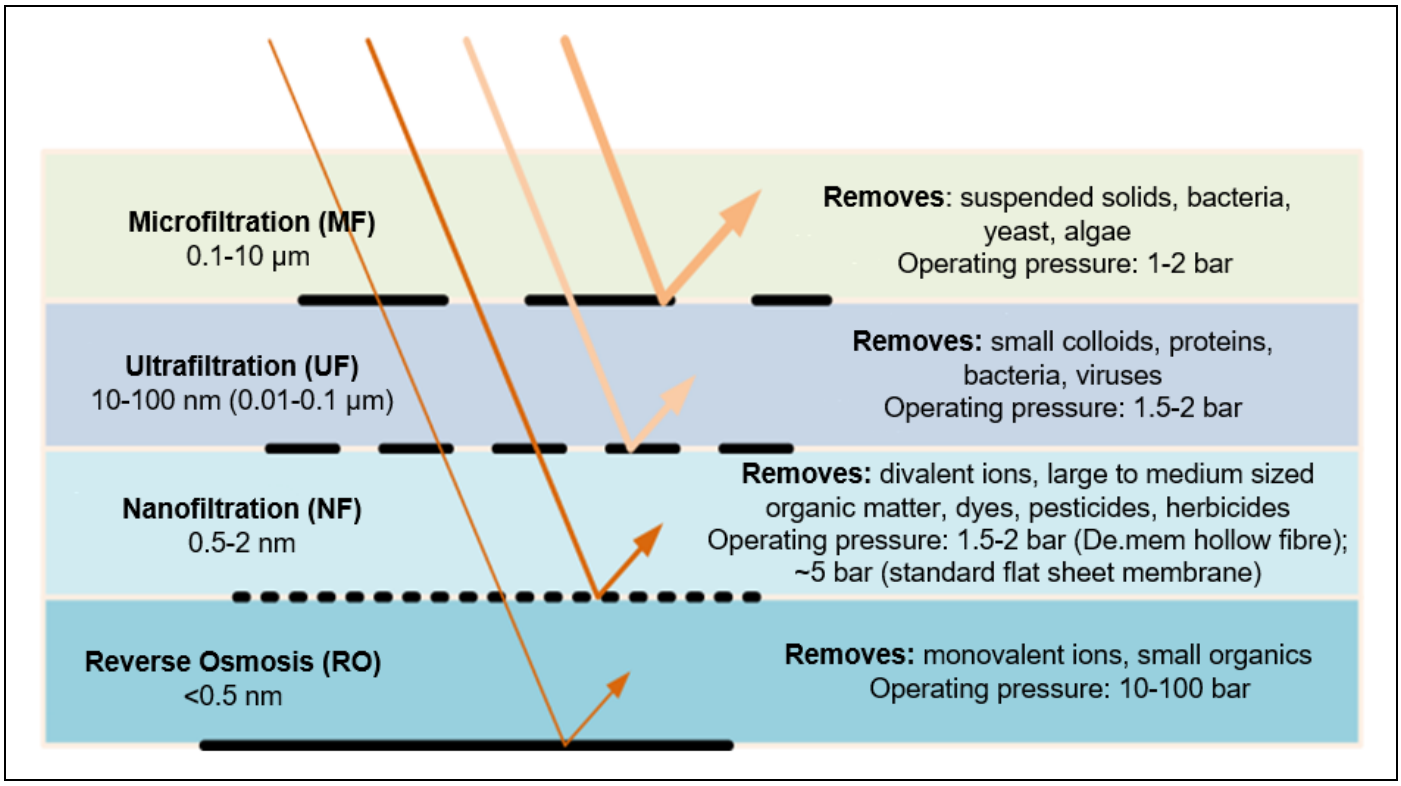
- DEM's membranes are high value add products within a fragment water treatment market, that are needed when high quality treated water is required;
- Deployment of membranes for removal of nitrates (see Germany); and
- In response to growing industrialisation in Asia Pacific region where companies are looking at reuse and recycling of water, high end water treatment technologies are required, which often comes back to membranes that DEM provides.

DEM's flagship membrane technology

Ever since its partnership with NTU in 2016, DEM has built an impressive portfolio of proprietary membrane-based water treatment technologies. These technologies include both those that are exclusively licensed from NTU as well as the ones that DEM has developed in-house.

DEM's flagship product, MEMBRANE, is a thin layer made of a semi-permeable material through which a driving force is applied to segregate substances. These membranes are the actual filter in DEM's water treatment systems. The size of the pores on the membrane determines which elements are to be separated from the feed. Based on the pore size, membrane filtration is divided in four levels: microfiltration, ultrafiltration, nanofiltration, and reverse osmosis (Figure 13). DEM's current portfolio of membranes includes all of the above stated technologies, as well as forward osmosis.

Figure 13: Levels of membrane filtration



Source: Company

Microfiltration membranes

DEM's microfiltration system is well-suited for the F&B industry

DEM provides a hollow-fibre microfiltration membrane, with a pore size of ~500 kDa MWCO[2] (molecular weight cut-off). This type of membrane is well suited for general filtration, as well as food & beverage industry applications. DEM provides the customisation to vary the pore size depending on the needs of the end client, such as winemakers. We believe this provides DEM a competitive advantage in serving the F&B industry.

The microfiltration membrane has the capability to remove suspended solids, colloidal particles, enzymes and yeast. This helps F&B companies for example

[2] MWCO is defined as the molecular weight at which 90% of the macromolecular solute is rejected by the membrane. 1 kDa MWCO corresponds to about 1.3 nm in membrane pore size.

by giving a clearer appearance to their beverages, improving microbiological profile and extending shelf life.

Ultrafiltration membranes

DEM has developed its own ultrafiltration technology offering, which is a hollow fibre membrane, based on variations of a standard polymer formulation – polyethersulphone (PES). When it comes to the type of ultrafiltration membranes, polymer-based membranes are the predominant technology within the market, compared with niche products such as ceramic membranes. The pore size of DEM's ultrafiltration membrane can be varied around ~100 kDa MWCO or ~130 nm, which gives DEM the opportunity to customize the product offering according to the specific application of the client. One application of ultrafiltration is to remove particles that cause turbidity[3] (Figure 14).

Figure 14: DEM ultrafiltration technology's capability of removing turbidity

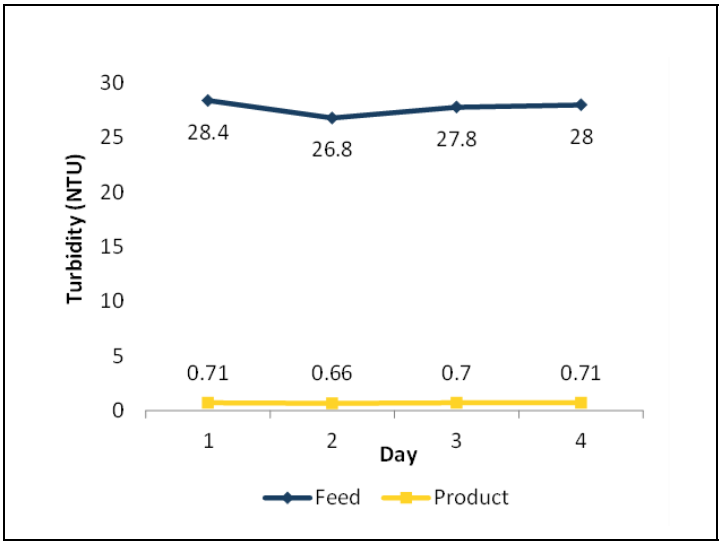


Figure 15: Ultrafiltration membrane-based residential filter cartridges for domestic point of use

Source: Company

Market for ultrafiltration membranes is an established one with substantial upside potential for DEM

Applications of ultrafiltration membranes

- Industrial and municipality sectors: Ultrafiltration membranes have a multitude of applications in both industrial and municipality segments. The ultrafiltration process is one of the most widely used solutions in the global membrane technology market. As per MarketsandMarkets, the ultrafiltration market is expected to reach US$2.1bn by 2023, growing at a 15% CAGR during 2018–2023. We believe this provides a substantial upside potential to DEM. The company has already shown great progress in commercialising this product since its launch in November 2018. The membrane has been deployed at several sites in Singapore for treating industrial wastewater from different sectors such as F&B, oil and gas, electronics and car washing, as well as in Australia and Vietnam.
- Domestic point of use: The DEM ultrafiltration membrane is also used to produce 2.5-inch residential filter cartridges for domestic point-of-use filtration (Figure 15). The cartridge is designed for quick-connect fitting with the filter, opening up the potential to be used for both new and

[3] Refers to the haziness of a fluid caused by large numbers of individual particles that are generally invisible to the naked eye.

replacement applications. In our view, this provides another lucrative growth opportunity to DEM through residential property developers.

Nanofiltration membranes

DEM owns two variations of a hollow fibre nanofiltration technology. The company holds an exclusive, worldwide license for the hollow-fibre nanofiltration membrane developed by NTU. This nanofiltration membrane is polymer based, uniquely characterised by a positively charged selective layer that rejects particles of the same charge such as hardness (calcium and magnesium ions). More recently, De.mem has introduced its own, self-developed hollow fibre nanofiltration membrane, which works without charge, but through a minimized pore size measured by a ~400 da MWCO. The small pore size allows for the rejection of tiny particles in the feed water stream.

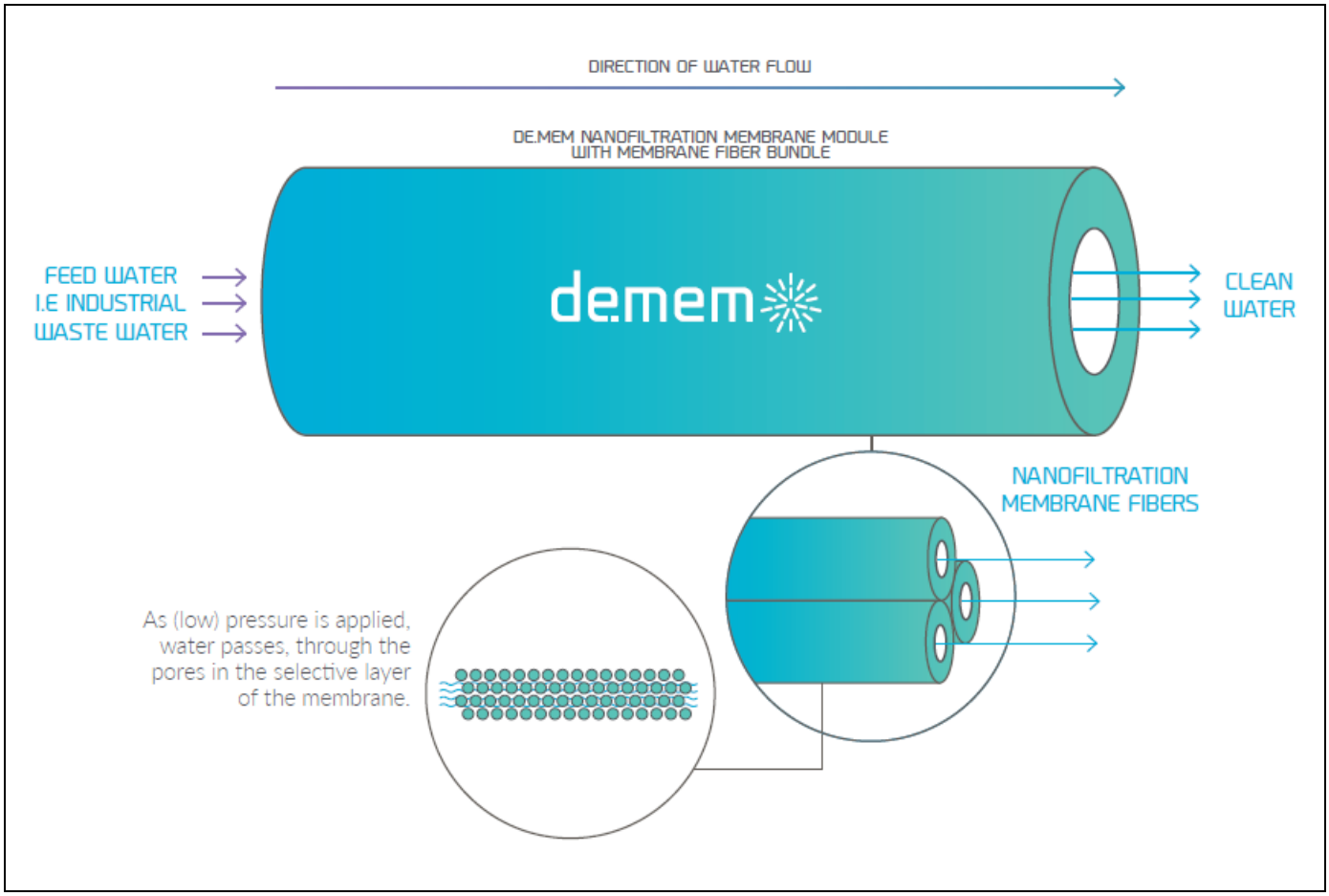
DEM's nanofiltration technology is competitively placed in the market

While the flat sheet nanofiltration technology is already available in the market, DEM's hollow-fibre nanofiltration technology is uniquely placed in the industry. The hollow fibre allows the module to operate at a low pressure (Figure 16), resulting in substantial cost savings in energy consumption (up to 70%) for clients. In our view, this provides a substantial competitive advantage to DEM's offerings. Moreover, since these membranes can be easily cleaned (through forward flushing and air scouring), their service life is elongated.

Nanofiltration technology has applications in potable and wastewater as well as in the F&B industry

DEM's nanofiltration technology can be used to remove smallest particles such as dyes as well as filter out pesticides, herbicides and small organics. The technology has applications in both potable and wastewater treatment requirements. The nanofiltration technology is also used in the F&B industry to support the natural concentration of food and beverages, without compromising the product quality. Due to the numerous applications of this technology, the demand for nanofiltration membranes is expected to grow exponentially in the medium term. As per a report by BCC Research, the global market for nanofiltration membranes is expected to reach US$1.2bn in 2024, growing at an 18.2% CAGR over 2019–2024.

Figure 16: Water treatment process using hollow-fibre nanofiltration membrane



Source: Company

Forward osmosis membrane

In March 2018, DEM licensed a forward osmosis membrane technology, originally developed at NTU, for de-watering applications in industrial wastewater treatment. The technology uses an osmotic process that leverages a semi-permeable membrane to separate water from dissolved solutes. The technology is easily manufactured and can be used for both industrial wastewater treatment as well as the F&B industry.

The use of forward osmosis technologies in 'zero liquid discharge'[4] systems and applications is fast gaining traction. This is primarily driven by the substantial cost savings that result from eliminating the need to transport the feed (concentrated industrial waste water) to a central evaporation facility, which can cost up to US$400 per ton, but treating and reducing the waste water on site.

In the F&B industry, the forward osmosis technology finds application in product concentration, and this is where DEM has gained the most ground. It has already deployed the product on coffee and tea concentration, where it provides superior results when compared with traditional thermal evaporators. DEM is now planning to expand its footprint in the F&B segment by targeting forward osmosis applications in fruit juices, dairy products, beer

[4] Zero liquid discharge refers to a treatment process in which the plant discharges no liquid effluent into surface waters, in effect completely eliminating the environmental pollution associated with treatment.

and wine. This will be achieved via its strategic partnership with Aromatec Pte Ltd, a Joint Venture company with NTU in which De.mem owns a 32% stake. In addition, after the recent acquisition of Pumptech Tasmania, DEM has the opportunity to upsell its forward osmosis offering to Pumptech's existing client base in the F&B industry.

Competitive advantages of DEM's technology

DEM's nanofiltration technology enjoys a competitive edge over other nanofiltration technologies and could replace combined ultrafiltration and reverse osmosis systems in certain applications. DEM has access to variations of the technology using either polyethyleneimine (PEI) material or polyether sulfone (PES). Using PEI positively charges the membrane surface, under normal operating conditions, which further assists in the separation of certain dissolved ionic substances.

DEM's nanofiltration technology operates at lower pressure which reduces energy consumption

Also, typical nanofiltration filters have a spiral membrane configuration, which significantly increases the surface area for absorption. DEM's hollow-filter configuration has clusters of hollow fibres within closed cylinders, which is a unique design. This has not been used extensively in commercial applications till now, making this solution distinct. Thanks to the hollow fibre format, DEM's nanofiltration technology operates at a significantly lower pressure, which reduces energy consumption as compared with competing flat sheet nanofiltration and reverses osmosis systems. It also greatly simplifies cleaning routines. Even though most nanofiltration and reverse osmosis systems can employ an energy recovery mechanism, which can save 40–50% energy for larger water treatment plants, DEM's technology is superior and can yield greater cost advantage.

Valuation

Using a blended (DCF, EV/Revenue) methodology, we value DEM at A$0.62 per share base case and A$0.72 per share bullish case.

Revenue model

DEM's revenue model is based on a revenue mix that comprises recurring revenues as well as non-recurring equipment sales revenues (Figure 17).

We model DEM's group revenues by analysing the key product lines within its recurring and non-recurring revenue streams (Figure 18).

Organic recurring revenues

Organically, DEM's recurring revenues include BOO, O&M and Consumables Sales, all combined constituting approximately 59% of CY19 group revenues.

BOO and O&M

For the BOO and O&M product lines, our forward revenues are driven by an estimated number of new contract wins and an expected annualised contract revenue (ACR).

On product pricings, our base case for BOO is guided by an ACR of A$0.5M[5]. For O&M, we calculate an average of initial values of O&M contracts won to date and use that as a proxy for our base case ACR. Our bullish cases for both product lines attract a 10% premium to reflect DEM's pricing power arisen from its competitive positioning in the market which involves a unique one-stop shop offering as discussed earlier in the report.

We expect recurring BOO and O&M revenues to drive organic growth

Given DEM's robust customer pipeline and sector tailwinds, our modelling assumes the company can secure on average five new contracts per annum from CY21 to CY30. Near term, we conservatively assume one additional contract win between now and end of CY20 to reflect the resumption of project negotiations previously paused due to COVID. Furthermore, we assume both previous and upcoming customer contracts will be rolled forward via renewals.

Consumable sales

Our revenue forecasts for consumable sales are correlated to our forecasts for equipment sales. Our reason is that following the delivery of systems and equipment, it is likely that spares and parts including filters, membrane modules and pumps will wear out over time. The replacement of these spare parts should translate to a stable and recurring consumable sales revenue stream for DEM, in our view.

Acquisitive recurring revenues

Subsequent to DEM's acquisitions of Pumptech and Geutec in CY19, we expect synergies to flow through in CY20 and beyond. This is evident in the growth of Pumptech's quarterly cash receipts post acquisitions (A$815K for CY20 vs. A$600K for CY19).

Cross-sell synergies from recent acquisitions

In terms of forecasting revenues for Pumptech and Geutec, we consider both organic and acquisitive growth. We assume a 5% organic growth in revenues to price in the robust demand from the companies' core food & beverage and heavy industrials customers base. We also factor in revenue synergies due to DEM's ability to cross-sell to the acquired entities. Rolling forward, we expect Pumptech and Geutec to achieve CY23 revenues of A$3.8M and A$3.3M

[5] Provided in company prospectus.

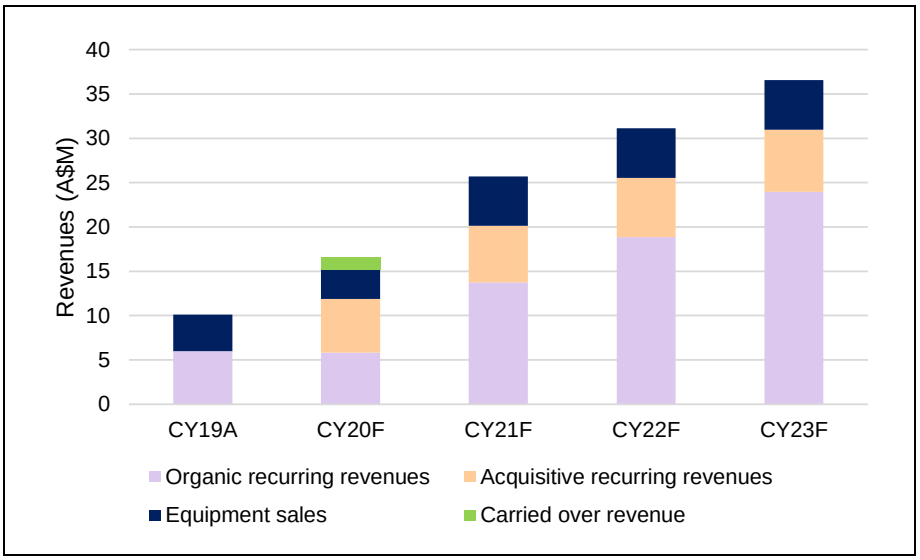
respectively, which represents respective CAGRs of +12% and +10% over the CY19 to CY23 period.

Non-recurring revenues (equipment sales)

Driven by the structural shift to recurring revenues, our modelling assumes the composition of equipment sales as part of group revenues to descend gradually over our 11-year forecast horizon. Our revenue model for this segment is driven by new project wins and an assumed pricing per project. Overall, we expect equipment sales to contribute an average annual revenue of A$5.4M to the group over the CY20 to CY30 horizon.

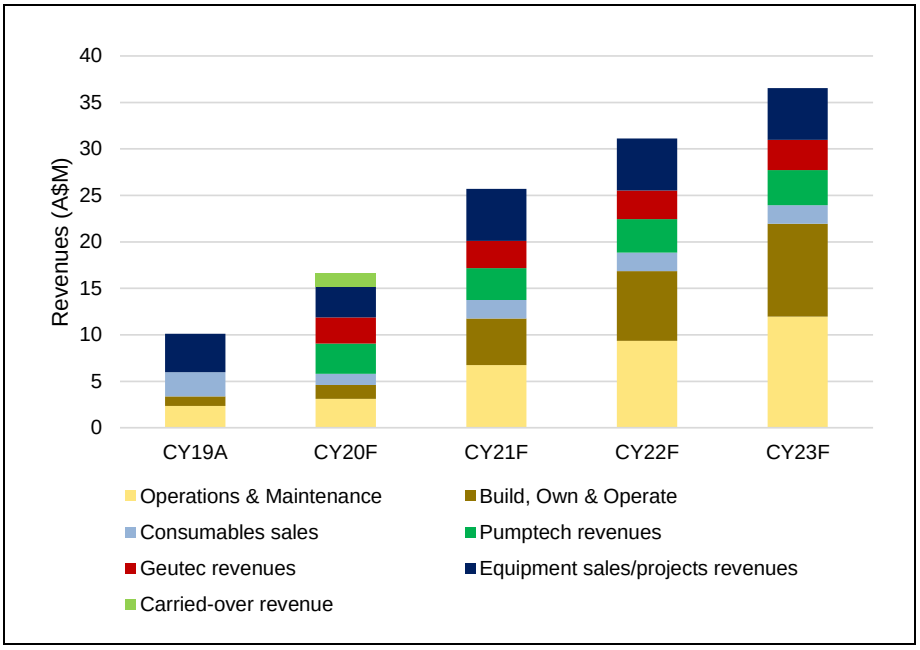
Recurring revenue CAGR of 29% over CY20-25

Figure 17: Recurring vs. Non-recurring revenues, actual and forecasts



Source: Company Reports, Pitt Street Research

Figure 18: Group revenues split, actual and forecasts



Source: Company Reports, Pitt Street Research

Cashflows & margin drivers

Gross margin expansion is expected to be driven by increased contributions from high-margin BOO and synergies from acquisitions. Our model expects a substantial uplift in group's gross margin from 32.4% for 1H20 to 34.4% for CY21, driven by expected growth in BOO revenue as DEM tilts its revenue mix towards high-margin recurring revenue-based products. Post CY21, we expect group's gross margin will continue to grow as the business scales up its operations through organic and acquisitive growth initiatives (Figure 19).

As DEM achieves greater scale and operational efficiency, its overhead cost as a percentage of revenue is expected to decline gradually. We apply 12.5%[6] for corporate overheads as the company approaches maturity stage. On fixed staff cost, we price in wage inflation. Overall, we expect the company to break even at the EBITDA and NPAT levels in CY21 (Figure 20).

Figure 19: Gross profits and margins, actual and forecasts

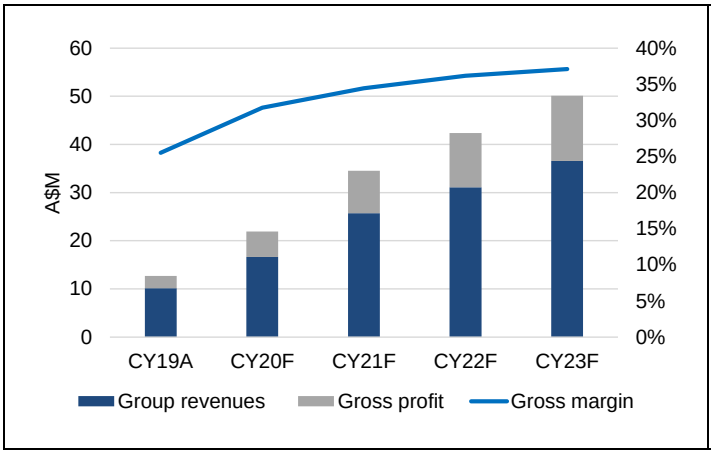
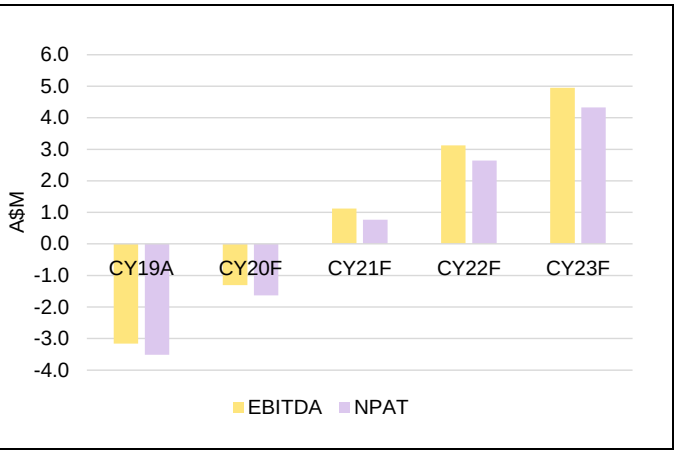


Figure 20: EBITDA and NPAT, actual and forecasts



Source: Company Reports, Pitt Street Research

Our modelling demonstrates that DEM's cash reserve of A$6.3M as at 30 June 2020 is sufficient to fund ongoing operations, capex and R&D (Figure 21). Hence, we don't think any dilutive equity raisings are required over our 11-year forecast horizon. Further, we believe DEM can maintain a healthy solvency position, evident in its forward net cash profile (Figure 22).

Figure 21: Cashflows movement, actual and forecasts

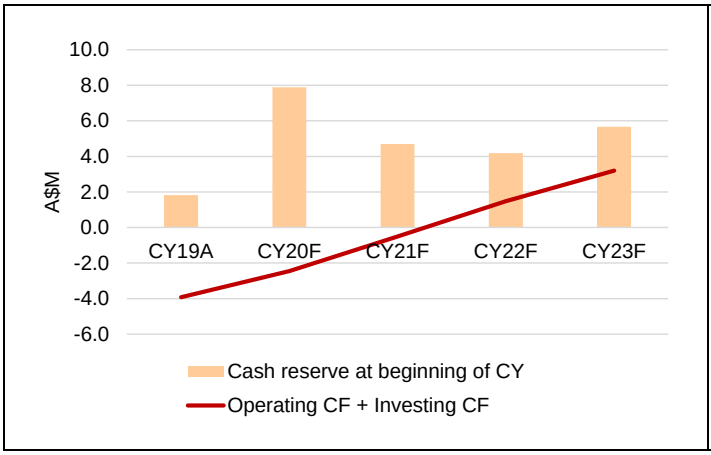
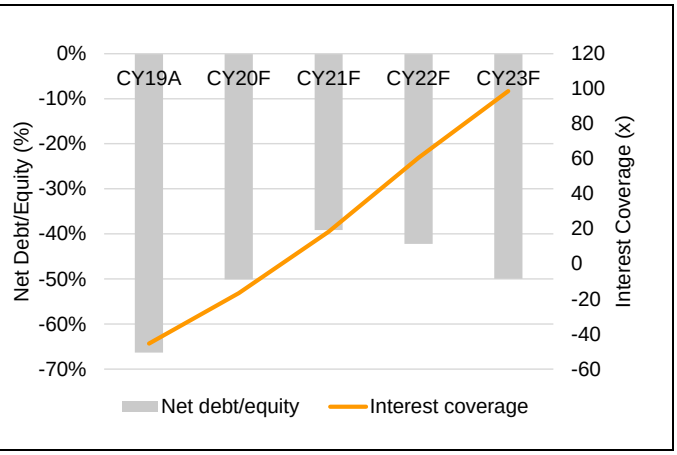


Figure 22: Solvency analysis, actual and forecasts



Source: Company Reports, Pitt Street Research

[6] Industry average for SG&A/Sales for Environmental and Waste Services companies according to Damodaran.

DCF valuation range of A$0.55 – A$0.67 per share

Our key DCF modelling assumptions are:

i. Our DCF model is predominantly driven by forward revenues coming from DEM's major product lines within its recurring and non-recurring revenue streams. Most of these expected revenues are dependent on DEM's ability to convert its existing robust customer pipeline into new contract wins, as well as its ability to retain existing customers.

ii. **Forecast Horizon.** We apply an 11-year forecast horizon as DEM is still in the early stage of its life cycle and is experiencing high revenue growth. This is followed by a terminal growth rate of 2%.

iii. **Discount Rate.** We assume a discount rate of 11.2%[7] due to the infancy of the business. Further, due to the timing uncertainty related to the conversion of projects pipeline, we think the company's revenue cycles may be long and unpredictable, which can cause cashflow volatility over the short to medium term. We believe the equity risk premium should be elevated to price in earnings risks including potential delays in the implementation of customer contracts as well as a risk that the acquired businesses do not perform to expectations. As DEM secures more contract wins and continues to deliver growth in recurring revenues, we will look to reduce our discount rate accordingly.

iv. **Funding.** As discussed earlier in the cashflow section, we expect DEM will have adequate cash reserves to ride out any cash expenditures for CY20. In CY21, we expect DEM will generate positive operating cashflows and thereby self-fund its operations on a sustainable basis. Accordingly, we do not anticipate the company to tap into the equity or debt capital markets for additional funding.

v. **Corporate tax.** We assume a corporate tax rate of 27%. As DEM has a significant amount of tax losses to carry forward, our base case modelling expects the company to pay its first cash tax in CY26.

Figure 23 shows our DCF valuation summary for DEM.

Figure 23: DCF valuation summary

Base Case DCF	
Present value of FCF (m)	36.1
Present value of Terminal FCF	60.8
Enterprise Value (m)	**96.9**
Net debt (cash)	(4.0)
Minority interest	0.7
Equity value (m)	**100.2**
Diluted shares	181.8
Implied price (A$)	**0.55**
Current price	0.20
Upside (%)	183%

Bull Case DCF	
Present value of FCF (m)	49.5
Present value of Terminal FCF	69.0
Enterprise Value (m)	**118.6**
Net debt (cash)	(4.0)
Minority interest	0.7
Equity value (m)	**121.9**
Diluted shares	181.8
Implied price (A$)	**0.67**
Current price	0.20
Upside (%)	244%

Source: Pitt Street Research

[7] Risk-free rate: 0.9%, Equity risk premium: 5.23%, Beta: 1.3, Company-specific risk premium: 3%.

Relative Valuation: A$0.70 per share

Comparable analysis of ASX-listed water treatment players

Figure 24 below shows summary metrics for DEM's peer group.

We note DEM currently trades at a large discount to its ASX water treatment peer set on forward EV/Revenue which we think represents deep value given:

i. an expected top-line CAGR of 30% for CY20-23;
ii. its competitive market positioning due to its one-stop-shop offering;
iii. its structural shift to high-margin recurring revenue products;
iv. synergies from acquisitions; and
v. a robust customer pipeline.

Given DEM is still early in its growth phrase, we re-emphasise our expectation that DEM can grow its core recurring revenue for CY21 by approximately 69%, with >45% being organic. Should DEM be able to convert its strong pipeline of contract opportunities, we expect its trading multiples will re-rate towards its peer group median.

Figure 24: DEM's peer group analysis

Company	Ticker	Mkt Cap (A$M)	EV (A$M)	EV/Revenue			EV/EBITDA		
				CY20	CY21	CY22	CY20	CY21	CY22
Domestic peers									
Phoslock Water Solutions	ASX:PET	218.8	204.5	nm	nm	nm	nm	nm	nm
Duxton Water	ASX:D2O	163.5	257.0	5.4x	7.9x	8.2x	18.3x	16.2x	16.6x
Calix	ASX:CXL	118.2	113.8	6.6x	4.9x	nm	34.4x	22.7x	nm
Clean Teq Holdings	ASX:CLQ	115.7	58.6	29.9x	29.3x	nm	nm	nm	nm
Fluence	ASX:FLC	112.5	91.2	0.7x	0.5x	0.4x	67.1x	11.2x	6.1x
Scidev	ASX:SDV	110.4	107.4	4.9x	3.9x	nm	174.1x	nm	nm
Purifloh	ASX:PO3	63.4	58.9	nm	nm	nm	nm	nm	nm
Carbonxt Group	ASX:CG1	22.9	28.5	nm	nm	nm	nm	nm	nm
De.mem	ASX:DEM	38.6	28.8	2.1x	1.4x	1.1x	nm	nm	9.8x
Peer Median				**5.4x**	**4.9x**	**4.3x**	**50.8x**	**16.2x**	**11.3x**
Peer Average				**9.5x**	**9.3x**	**4.3x**	**73.5x**	**16.7x**	**11.3x**

Source: Capital IQ, Pitt Street Research

If revenues can rise to A$25.7M in CY21 as per our base case forecast and assuming an EV/Revenue multiple equivalent to the peer group median of 4.9x, that would imply an enterprise value of A$124.9M, which adjusted for A$3.5M of net cash and A$1.5M of minority interest points to an equity value of A$126.9M. Applying a diluted share base of 181.8M, we arrive a value of A$0.70 per DEM share (Figure 25).

Figure 25: EV/Revenue multiple valuation summary

Peer Group Valuation	
Revenue Multiple	4.9
Discount/Premium	0.0%
CY21 Revenue	25.7
Implied EV	124.9
Net debt (cash)	(3.5)
Minority interest	1.5
Equity value	**126.9**
Diluted Shares	181.8
Implied price (AUD)	**0.70**
Current price (AUD)	0.20
Upside (%)	*258%*

Source: Pitt Street Research

Blended valuation range of A$0.62 – A$0.72 per share

Our blended valuation, equally weighted between DCF and EV/Revenue, returns a value of A$0.62 per share base case and A$0.72 per share in a bullish scenario (Figure 26).

Figure 26: Blended valuation summary

Base Case	Weights (%)	Share price (AUD)
DCF	50.0%	0.55
Relative valuation	50.0%	0.70
Composite Value (AUD)		**0.62**
Current Price (AUD)		0.20
Upside/ Downside (%)		**220.3%**

Bull Case	Weights (%)	Share price (AUD)
DCF	50.0%	0.67
Relative valuation	50.0%	0.77
Composite Value (AUD)		**0.72**
Current Price (AUD)		0.20
Upside/ Downside (%)		**268.5%**

Source: Pitt Street Research

Experienced leadership with diverse expertise

DEM's leadership team possesses diverse experience ranging from venture capital financing to mining. We believe this expertise will be an asset to the company in its quest to grow through acquisitions across different end markets. The company's current board composition is as below (Figure 27).

Figure 27: DEM's board members

Name	Designation	Affiliations (Current and Past)
Cosimo Trimigliozzi	Non-Executive Chairman	Wild Flavors International, Givaudan
Andreas Kroell	CEO and Director	New Asia Investments Pte Ltd, Nanostart AG, Deloitte & Touche LLP, Deutsche Bank AG
Bernd Dautel	Non-Executive Director	New Asia Investments Pte Ltd, Wieland Metals
Stuart Carmichael	Non-Executive Director	Ventnor Capital Pty Ltd, Ventnor Securities Pty Ltd, Schrole Group Ltd, ClearVue Technologies Ltd, Osteopore Ltd, Swick Mining Services Ltd
Michael Edwards	Non-Executive Director	Barclays Australia, Gold Mines of Australia, Eagle Mining and International Mineral Resources, K-TIG Ltd, Digital Wine Ventures

Source: Company

Cosimo Trimigliozzi has a 30-year long career in feed and food ingredients, and flavours and fragrances industry. He was previously with Wild Flavors International, Germany, as the COO, and was responsible for its expansion into Asia and South America. Later, he was part of the key management team when Wild Flavours was sold to private equity investor KKR.

Andreas Kroell was appointed CEO of DEM in 2016 after serving as the director and CFO of De.mem Singapore since its inception in 2013. Mr. Kroell has worked in various venture capital and finance roles in Germany and Singapore since 2000. He has also worked with several portfolio companies in board, management and financial roles.

Bernd Dautel has ~30 years of experience across various industries. He managed investments in companies ranging from chemicals to electronics sector for New Asia Investment Pte Ltd in Singapore since 2012. He also served as the Asia Pacific Managing Director for Wieland Metals where he built up the early stage business to reach ~US$400m in annual revenue over 20 years.

Stuart Carmichael has over 20 years of experience in corporate advisory services. He serves as the director of corporate and financial advisory firms along with holding board positions in other ASX-listed companies.

Michael Edwards is a geologist and economist with over 20 years of experience in senior management roles in private as well as public sector. His varied experience ranges from corporate finance departments to exploration and evaluation of mines.

Appendix I – Major Shareholders

New Asia Investments Pte Ltd is currently the largest shareholder in DEM with a stake of ~31.2%, followed by Perennial Value Management Ltd (14.2%). No other shareholder has more than 5% stake in the company.

Appendix II – Analyst Qualifications

Marc Kennis has been covering a range of sectors as an analyst since 1997.

- Marc obtained an MSc in Economics from Tilburg University, Netherlands, in 1996 and a post graduate degree in investment analysis in 2001.
- Since 1996, he has worked for a variety of brokers and banks in the Netherlands, including ING and Rabobank, where his main focus has been on the Technology and Industrials sectors, including the Semiconductor sector.
- After moving to Sydney in 2014, he worked for several Sydney-based brokers before setting up TMT Analytics Pty Ltd, an issuer-sponsored equities research firm.
- In July 2016, with Stuart Roberts, Marc co-founded Pitt Street Research Pty Ltd, which provides issuer-sponsored research on ASX-listed companies across the entire market, including Technology companies.

Cheng Ge is an equities research analyst at Pitt Street Research.

- Cheng obtained a B.Com in Finance and LL.B from University of New South Wales, in 2013, and has passed all three levels of the CFA Program.
- Prior to joining Pitt Street Research, he has worked for several financial services firms in Sydney, where his focus was on financial advice.
- He joined Pitt Street Research in January 2020.

General advice warning, Disclaimer & Disclosures

Terms & Conditions

The information contained herein ("Content") has been prepared and issued by Pitt Street Research Pty Ltd ACN 626365615 ("Pitt Street Research"), an Authorised Representative (no: 1265112) of BR Securities Australia Pty Ltd. ABN 92 168 734 530, AFSL 456663. All intellectual property relating to the Content vests with Pitt Street Research unless otherwise noted.

Disclaimer

Pitt Street Research provides this financial advice as an honest and reasonable opinion held at a point in time about an investment's risk profile and merit and the information is provided by the Pitt Street Research in good faith. The views of the adviser(s) do not necessarily reflect the views of the AFS Licensee. Pitt Street Research has no obligation to update the opinion unless Pitt Street Research is currently contracted to provide such an updated opinion. Pitt Street Research does not warrant the accuracy of any information it sources from others. All statements as to future matters are not guaranteed to be accurate and any statements as to past performance do not represent future performance.

Assessment of risk can be subjective. Portfolios of equity investments need to be well diversified and the risk appropriate for the investor. Equity investments in a listed or unlisted company yet to achieve a profit or with an equity value less than $50 million should collectively be a small component of an individual investor's equity portfolio, with smaller individual investment sizes than otherwise. Investors are responsible for their own investment decisions, unless a contract stipulates otherwise.

Pitt Street Research does not stand behind the capital value or performance of any investment. Subject to any terms implied by law and which cannot be excluded, Pitt Street Research shall not be liable for any errors, omissions, defects or misrepresentations in the information (including by reasons of negligence, negligent misstatement or otherwise) or for any loss or damage (whether direct or indirect) suffered by persons who use or rely on the information. If any law prohibits the exclusion of such liability, Pitt Street Research limits its liability to the re-supply of the Information, provided that such limitation is permitted by law and is fair and reasonable.

General advice warning

The Content has been prepared for general information purposes only and is not (and cannot be construed or relied upon as) personal advice nor as an offer to buy/sell/subscribe to any of the financial products mentioned herein. No investment objectives, financial circumstances or needs of any individual have been taken into consideration in the preparation of the Content.

Financial products are complex, entail risk of loss, may rise and fall, and are impacted by a range of market and economic factors, and you should always obtain professional advice to ensure trading or investing in such products is suitable for your circumstances, and ensure you obtain, read and understand any applicable offer document.

Disclosures

Pitt Street Research has been commissioned to prepare the Content. From time to time, Pitt Street Research representatives or associates may hold interests, transact or hold directorships in, or perform paid services for, companies mentioned herein. Pitt Street Research and its associates, officers, directors and employees, may, from time to time hold securities in the companies referred to herein and may trade in those securities as principal, and in a manner which may be contrary to recommendations mentioned in this document.

Pitt Street Research receives fees from the company referred to in this document, for research services and other financial services or advice we may provide to that company. The analyst has received assistance from the company in preparing this document. The company has provided the analyst with communication with senior management and information on the company and industry. As part of due diligence, the analyst has independently and critically reviewed the assistance and information provided by the company to form the opinions expressed in the report. Diligent care has been taken by the analyst to maintain an honest and fair objectivity in writing this report and making the recommendation. Where Pitt Street Research has been commissioned to prepare Content and receives fees for its preparation, please note that NO part of the fee, compensation or employee remuneration paid will either directly or indirectly impact the Content provided.