

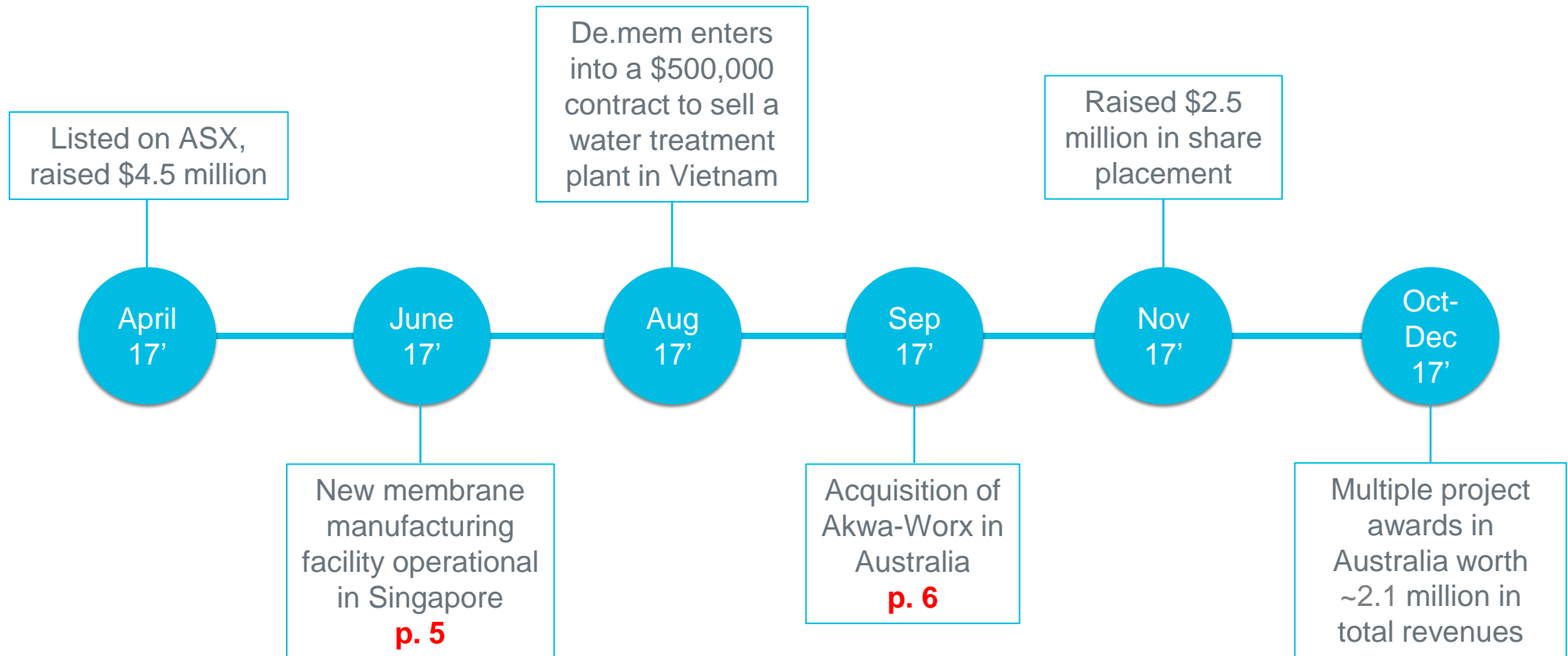
# demem

De.mem Limited (ASX:DEM)

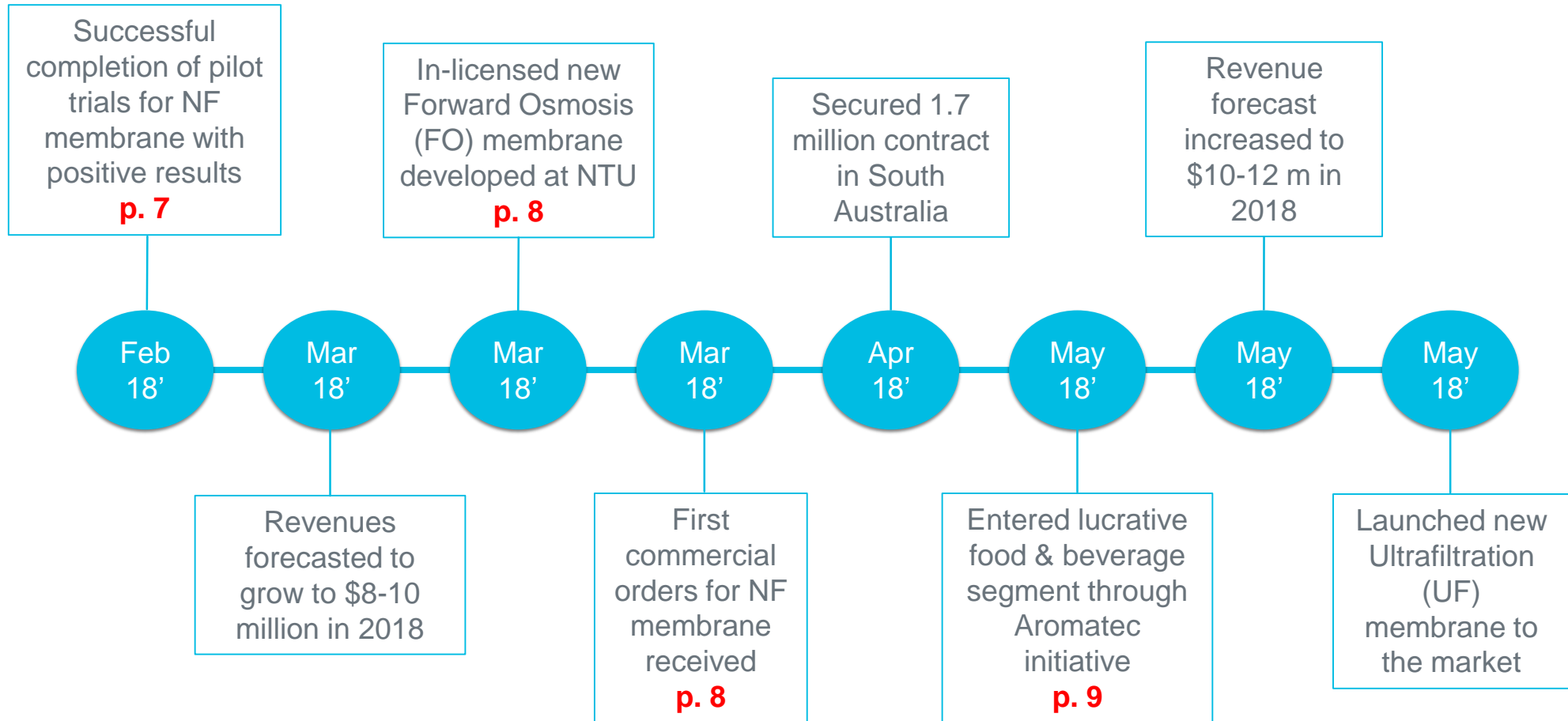


# Focus on Execution: Key Achievements

# Key Milestones Achieved since IPO (2017)



# Key Milestones Achieved since IPO (2018)



# New Membrane Manufacturing Facility Operational in Singapore

- With the proceeds from the IPO, De.mem has started its own membrane manufacturing facility in Singapore
- At the De.mem factory, different types of hollow fiber membranes and modules can be produced
- The factory has been fully operational since mid-2017 and manufactures industry standard membrane modules (4-inch and 8-inch diameter)



# Acquisition of Akwa-Worx in Australia



Revenue approximately

**\$7 million (AUD)**

in the 12 months to 30 June 2017

Recurring annualised revenue

**\$2.2+ million (AUD)**

Based on stable, long term service agreements

Normalised EBITDA approximately

**\$800,000 (AUD)**

in the 12 months to 30 June 2017

Long-term customer relationships  
with leading corporations from the  
Australian mining sector

De.mem acquired Akwa-Worx for A\$1.5m in cash and A\$460k in shares, plus three milestone tranches of A\$125k in cash and A\$125k in shares each

Akwa-Worx is a leading provider of water and waste-water treatment systems in Queensland and Australia

Product lines include Ultra-Filtration (UF) - Reverse Osmosis (RO) based systems, Membrane Bioreactors (MBRs), bioreactors and chemical dosing systems

The acquisition aimed to generate accelerated growth in particular by

- Providing a strong platform for the roll out of De.mem membrane products
- Cross selling opportunities
- Regional/geographical synergies
- Creating economies of scale

# Development of Nanofiltration Membrane to Commercial Stage

- De.mem holds a worldwide, exclusive license from Nanyang Technological University (“NTU”), Singapore, for a novel low pressure hollow fiber nanofiltration (NF) membrane
- Enables significant reduction in operating cost (less power consumption due to lower pressure required) and investment relative to traditional technologies, while providing high quality treated water
- De.mem successfully completed commercial scale trials in Singapore and Vietnam (announced 20 February 2018)
- Received first commercial orders for projects using the new technology in Singapore and Vietnam (announced 3 April 2018)

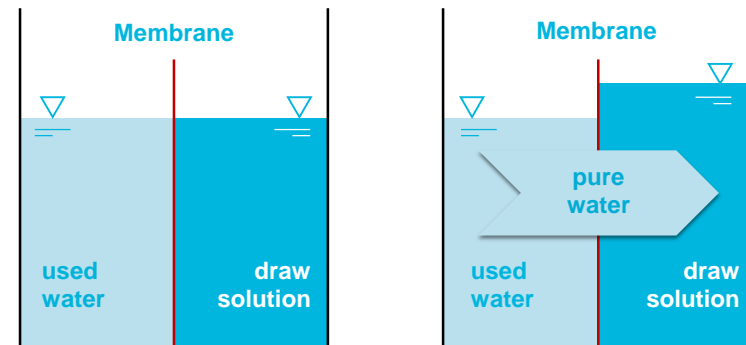


# In-licensed New Forward Osmosis Membrane for Industrial Waste Water Treatment

- On 8 March 2018, De.mem signed an exclusive license for a novel hollow fiber Forward Osmosis membrane (FO) for applications in industrial waste water (de-watering of concentrate / waste from membrane based water treatment plants)
- Working principle of FO is based on osmotic pressure differences, without the use of external mechanical pressure
- Helps to reduce the waste from membrane based water treatment plants and leads to substantial cost savings for customers
- Large addressable market of \$400m p.a.\*
- Mature technology with first commercial projects expected from 2019 onwards

\*Source: ForwardOsmosisTech (projection for market for “Zero Liquid Discharge” applications of FO)

## Working Principle of Forward Osmosis Membrane



FO

**Inventors Prof. Wang Rong and Prof. Anthony Fane  
Awarded with the Alternative Water Resources Prize  
by UN Secretary-General Ban Ki Moon**





# Entry Into Lucrative Food & Beverage Segment Through Aromatec Initiative

- As announced on 8 May 2018, De.mem took strategic stake (32%) in Aromatec, a Singaporean company targeting the food & beverage industry
- Aromatec offers innovative membrane based products for the de-watering of flavours, fruit juice, dairy and other products – based on the innovative hollow fiber Forward Osmosis membrane technology developed at NTU, Singapore
- Significant opportunity – the use of membrane technologies in the food and beverage industry is estimated to be a market worth ~US\$5.8 billion per year by 2020\*
- De.mem to provide systems as manufacturing partner – strong pipeline of opportunities building

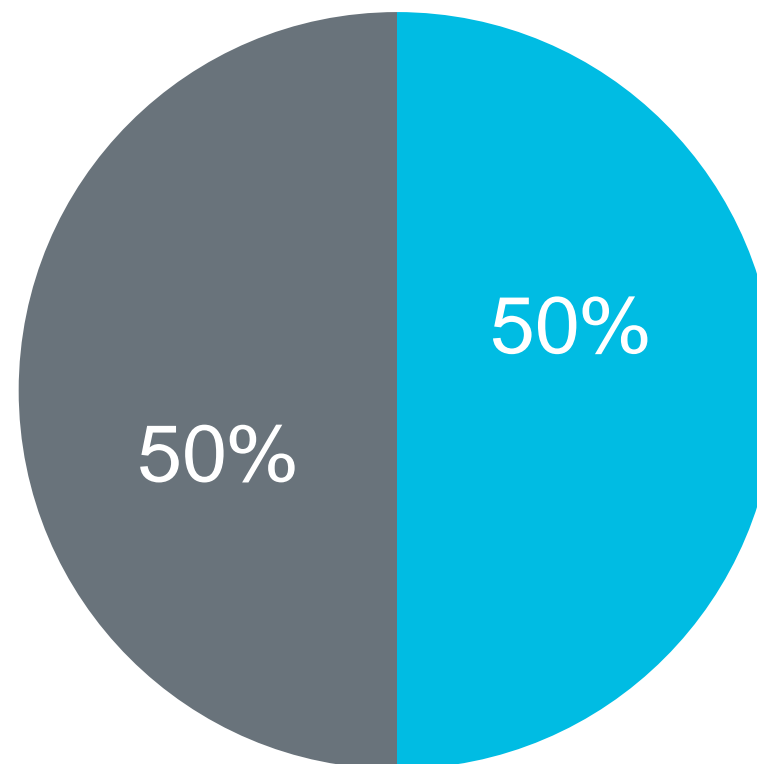
\*Source: BCC Research



# Corporate Overview

# Corporate Snapshot

ASX code	DEM
Ordinary shares	107.7m
Market capitalisation	\$17m
Cash on hand (31 March 2018)	\$2.5m
Listed on ASX	7 April 2017
Issue price	\$0.20
Last price (24 May 2018)	\$0.16
52 week high	\$0.38
52 week low	\$0.14
Average daily trading volume	~90,000
GICS classification	Utilities



■ New Asia Investments (two funds) ■ Other

# Overview

## Introduction

De.mem Group (DEM) is a Singaporean-Australian company which builds decentralized water treatment systems for customers in the Asia Pacific region

## Key Target Markets

Potable water  
Sewage treatment  
Industrial waste water

## Key Product Lines

Membrane based water treatment systems  
MBRs  
Bioreactors  
Chemical dosing systems  
Hollow fibre membranes

## Key Investment Proposition

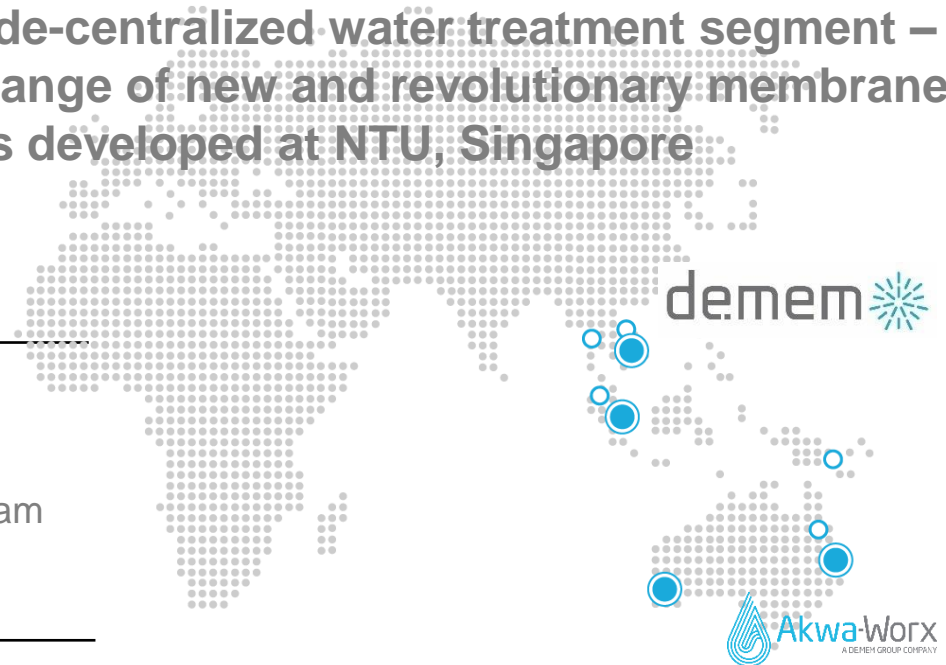
**DEM strives to become the market leader in the fragmented de-centralized water treatment segment – based on a range of new and revolutionary membrane technologies developed at NTU, Singapore**

## Locations

Perth  
Brisbane  
Singapore  
Ho Chi Minh City, Vietnam

## Employees

**45**  
25 Australia  
12 Singapore  
8 Vietnam



# Leading Expertise in Engineering & Design of Water & Wastewater Treatment Systems

- De.mem builds, owns, operates and sells a wide range of water and waste water treatment systems turn-key to the customer
- Systems use membranes as their key component (filter)
- Customers include mining companies, global EPC contractors, municipalities and water utilities

Potable Water



Industrial waste water



Sewage



Process Water & Recycling



# Underpinned by the Best Water & Waste Water Treatment Technologies

- Collaboration with Nanyang Technological University (NTU), Singapore – one of the world's leading institutions for water technology research & development
- NTU ranked no. 2 in membrane research worldwide by Lux Research (2013)
- De.mem owns the exclusive rights to a range of membrane technologies developed by NTU
- Technology portfolio includes breakthrough innovations such as
  - low pressure hollow fibre Nanofiltration (NF) membrane and
  - hollow fiber Forward Osmosis (FO) membrane



# Board with Strong Industrial Background



**Cosimo Trimigliozzi**  
Chairman

- COO of Wild Flavors International
- Managing Director Givaudan Asia
- MBA, University of Basel, Switzerland



**Andreas Kroell**  
CEO and Director

- Director New Asia Investments
- Deutsche Bank Corporate Finance
- Deloitte Audit & Advisory
- MBA, University of Frankfurt, Germany



**Bernd Dautel**  
Non-Executive Director

- Director New Asia Investments
- Managing Director Wieland Metals Asia Pacific
- Master of Chemical Engineering, Karlsruhe University of Technology, Germany



**Stuart Carmichael**  
Non-Executive Director

- Partner & Director Ventnor Capital
- Executive Vice President UGL Limited (ASX:UGL) KPMG Corporate Finance
- Bcom, CA



**Michael Edwards**  
Non-Executive Director

- Non-Executive Director Norwood Systems Limited (ASX:NOR) & Dawine Limited (ASX:DW8)
- BBus (Economics / Finance), BSc (Geology), Grad Dip (Oen)

# Experienced Management Team



**Shane Ayre**  
Managing Director,  
Akwa-Worx

- Founder of Akwa-Worx
- 20 years industry experience



**Kian Lip Teo**  
Chief Operating Officer

- Lien Aid
- Bachelor/Master, Nanyang Technological University, Singapore



**David Chua**  
Director, Membrane  
Manufacturing

- Mann+Hummel
- Hyflux
- 10+ years experience in membrane production
- Bachelor/Master, Nanyang Technological University, Singapore



**Nicanor Suarin**  
Chief Engineer

- Hyflux
- Doosan Hydro
- 30+ years experience in process and system design
- Bachelor of Engineering, MBA, Philippines



# Financials and Outlook

# Financials

A\$m	2016	2017	2018 Forecast
Revenues	<b>0.3</b>	<b>2.9</b>	<b>10.0 – 12.0</b>
COGS	<b>0.4</b>	<b>2.4</b>	<b>n/a</b>
Gross Margin	<b>(-0.1)</b>	<b>0.5</b>	<b>n/a</b>
Gross Profit (%)	<b>Neg.</b>	<b>18%</b>	<b>n/a</b>
Net Operating Cash Flows	<b>(-1.2)</b>	<b>(-2.4)</b>	<b>n/a</b>

- Revenue growth in CY17 from \$0.3 to \$2.9m
- Revenue forecast to grow further to \$10m-12m in CY18 based on strong sales pipeline in Australia and Asia
- Forecast includes approx. \$3m in recurring revenue from BOO & O&M projects
- Gross margins of approx. 18% in CY 2017
- Cash balance of \$2.5m as of 31 Mar '18 – well funded for growth in 2018
- Reasonable cost structure: -\$2.4 million operating cash outflows in CY17

# Near Term Growth Drivers

- CY 2018 revenue forecast  
\$10-12 million
- Award of customer contracts
- Expansion into key growth markets
- M&A / Partnerships / JV's
- Access to new technology /  
expansion of intellectual property  
portfolio

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**De.mem Limited (ASX:DEM)**

Andreas Kroell

CEO

De.mem Limited

[investor@demem.com.sg](mailto:investor@demem.com.sg)

**Media & Investor Enquires**

Henry Jordan

Six Degrees Investor Relations

[henry.jordan@sdir.com.au](mailto:henry.jordan@sdir.com.au)

+61 431 271 538

