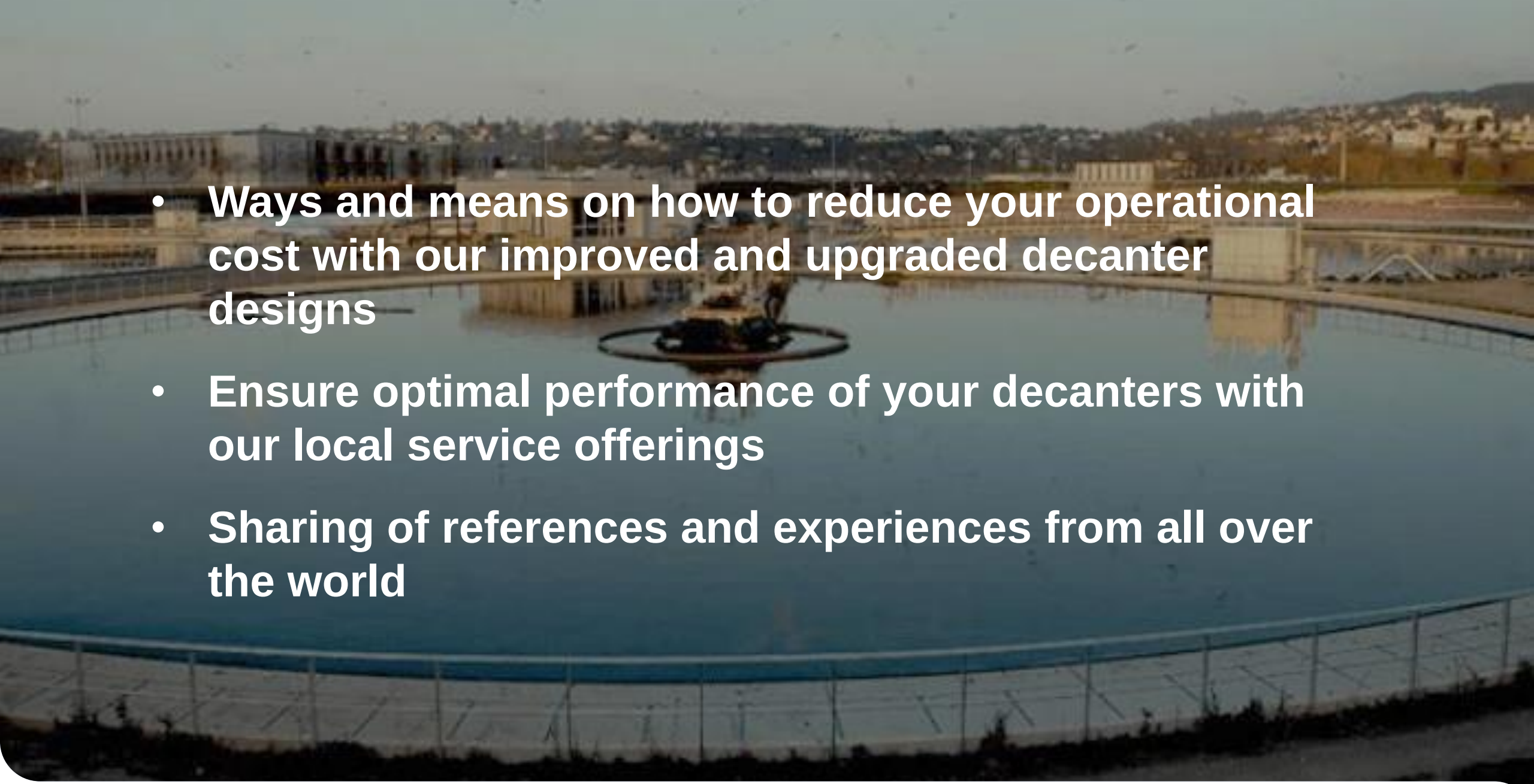
Discover how to reduce OPEX in your wastewater plants with Alfa Laval’s decanter innovations and service offerings

4 February 2021



- **Ways and means on how to reduce your operational cost with our improved and upgraded decanter designs**
- **Ensure optimal performance of your decanters with our local service offerings**
- **Sharing of references and experiences from all over the world**

Our speakers

John Joyce is a Global Technology Business Development Manager in Alfa Laval who focuses on water and waste elements in South East Asia and Oceania. He holds an Instrumentation and Mechatronics Degree from The Open University, United Kingdom and has been with Alfa Laval for 31 years with massive experience and knowledge in decanter business and technology under his belt.

Ray Tan received his Degree in Mechanical and Manufacturing Engineering from Liverpool John Moores University. He is responsible for water and wastewater business in South East Asia and has been with Alfa Laval for 7 years. With more than a decade of experience in the water and wastewater industry, he is actively developing solutions to cater to the industry's everchanging needs on water processes.

Housekeeping rules

Please mute your microphones

Type questions into the chat function

Session will be recorded

Ways and means on how to reduce your operational cost with our improved and upgraded decanter designs

John Joyce
Global Technology Business Development, Decanter Water & Waste

Cost saving is the key to success

− Every wastewater treatment plant is unique

- More and more wastewater treatment plants are discovering the benefits of a circular, holistic approach to wastewater treatment.

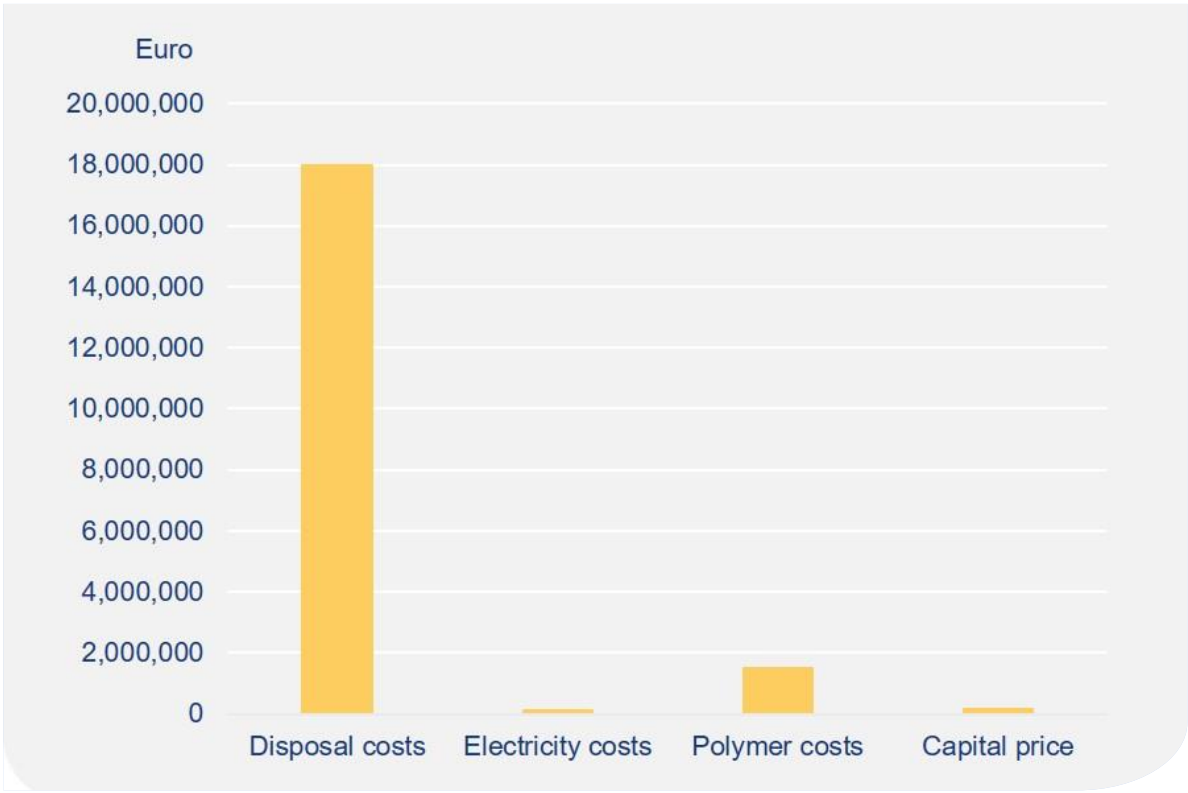
- Cost savings, reduced environmental impact and new income streams from recovered resources are but a few.

Why operating cost of decanter matters

Largest drivers of operating expenses

- **Sludge transport**
- **Polymers**
- **Electricity**

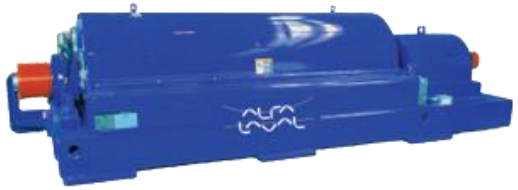
Over a 7-year period, polymer costs can be 9 times higher than the capital price!



New challenges in decanter selection

- Bidding specifications often include:
  - Limits for operating expenses
  - Guarantees for actual values
- Typically, a minimum bowl diameter is specified as an assumed prerequisite to reach the performance requested

Continuous innovations throughout the years

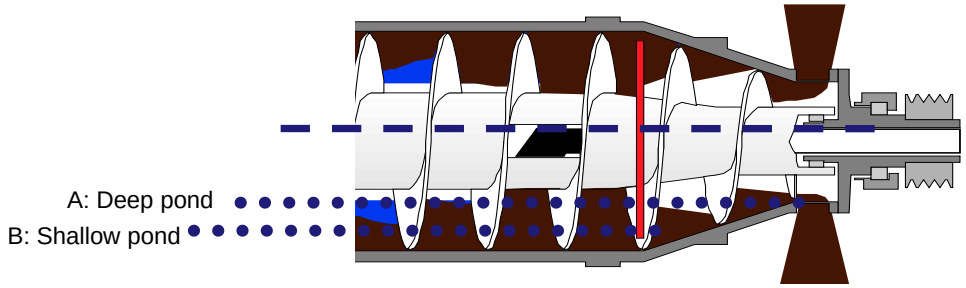


ALDEC	ALDEC G2	ALDEC G3	ALDEC G3 VecFlow™
Launched in 2000	Launched in 2003	Launched in 2009	Launched in 2019

Introducing SlimLine for capacity & polymer savings

Alfa Laval ALDEC G3 Decanter

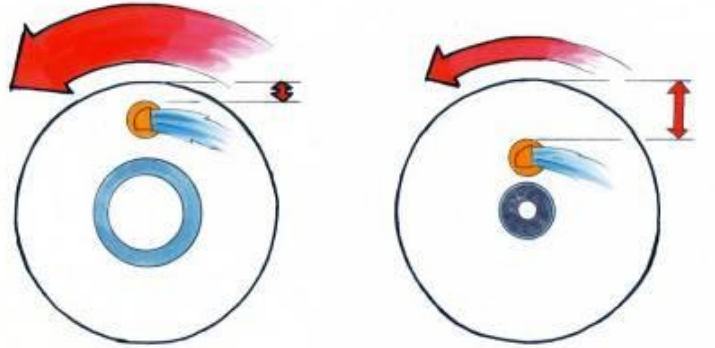
- Lower discharge radius increases process volume and bowl wall pressure leading to higher capacity and separation performance
- Smaller discharge radius of SlimLine combined with the full flights allow the decanter to run with deep ponds



Save power with SlimLine design

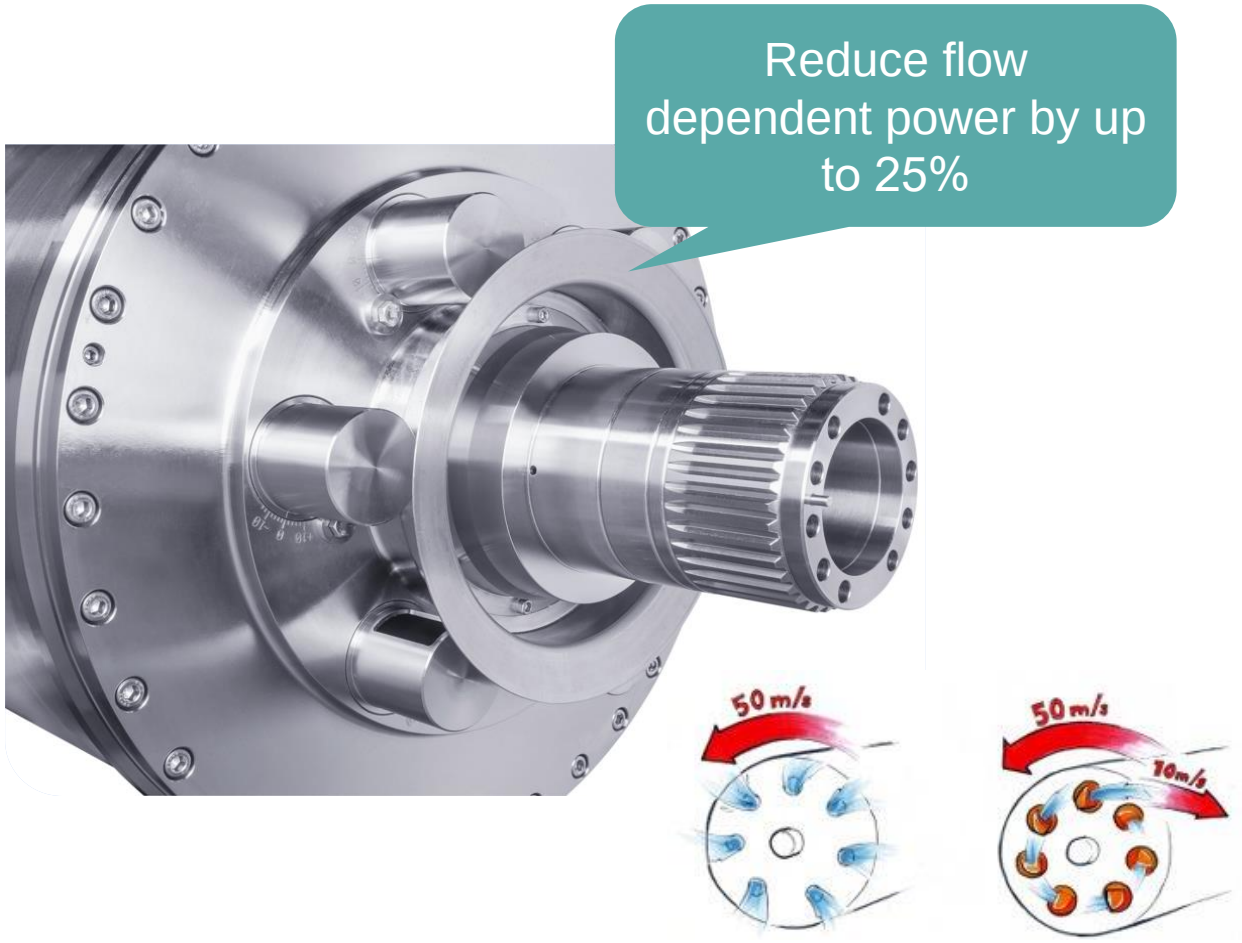
Ensures increased capacity and separation performance with reduced power consumption

- **Power saving**: SlimLine reduced power consumption
- **Deep pond operation:** smaller discharge radius of centrate provides lower tangential velocity and kinetic energy is lowered by the square of this reduction



Save power and time with Power Tubes

- Energy to accelerate liquid is wasted in classical design
- Reduced discharged velocity provides lower power consumption
- Significant power savings
- Adjustable tubes for easy adjustment of the liquid level in the decanter

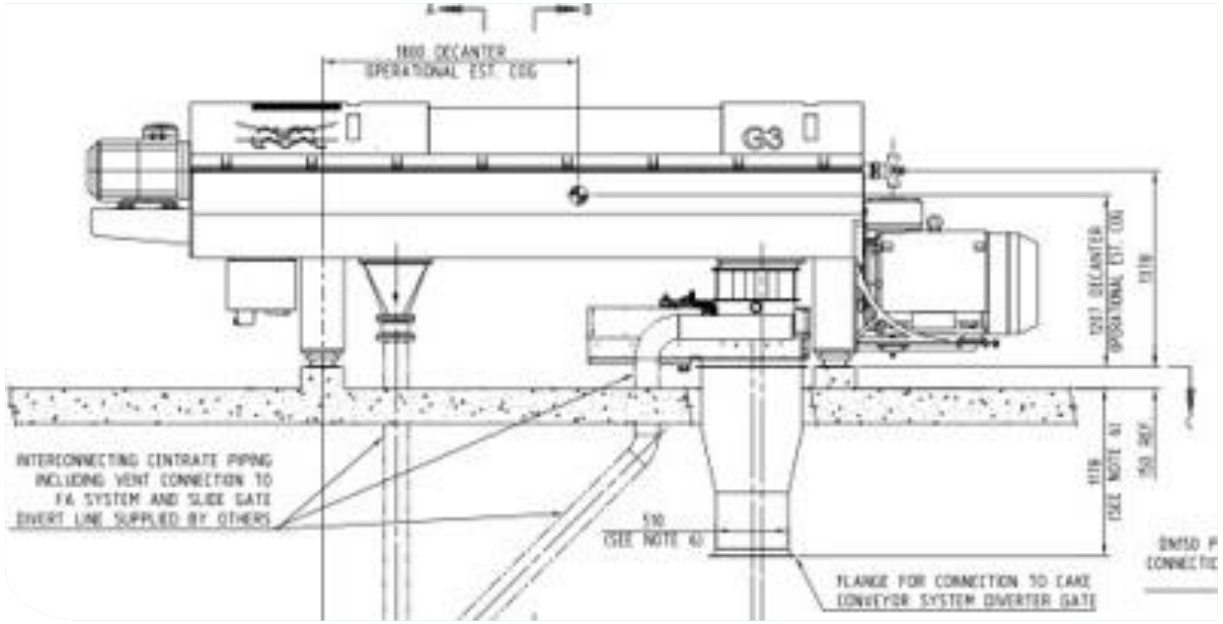


Reducing need for elevating pillars by frame design

ALDEC G3 Decanter features an elevated frame to reduce need for elevating pillars

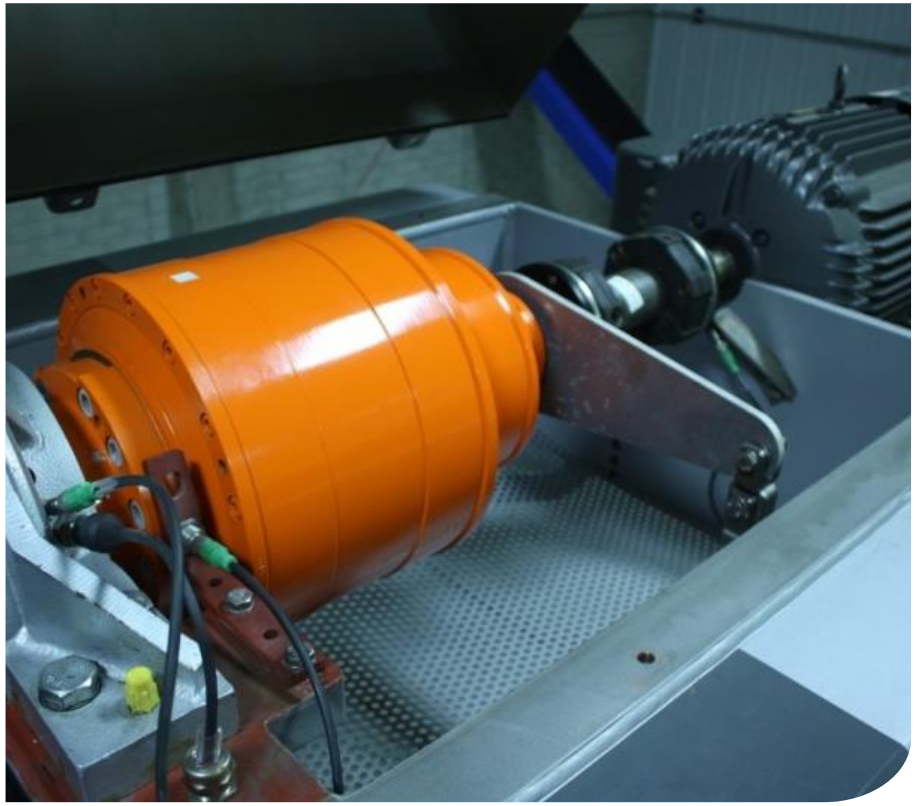
→ Slide gate accommodated directly below the decanter.

→ Easier access for maintenance and trouble shooting.



More with less power by DD Gearbox

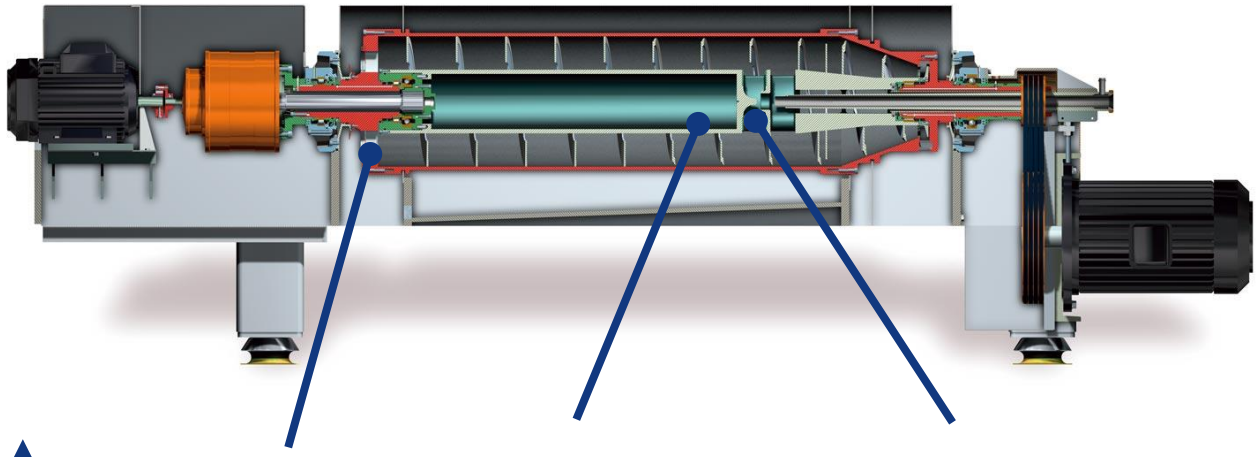
- Not a brake on the main drive motor!
- Higher efficiency and lowest installed power
- No more calculated torque from VFD
  but true torque from load cell
- Accurate control of differential speed
  give better process performance
- “Power Loss Ride Through” capabilities
  scroll out solids in case of power loss



Minimizing operating cost and total cost of ownership with VecFlow feedzone

- New, feedzone feature available
- Gentle acceleration of the feed
- Approximately 20% lower power consumption

Minimizing energy consumption



PowerTubes

Recovered energy

Slimline conveyor

Smaller radius

Lower power consumption

VecFlow™

Less turbulence

Lower power consumption

Flow handling power

Combined energy savings (PowerTubes + Slimline + VecFlow)

Flow handling power

Idle power

ALDEC decanter

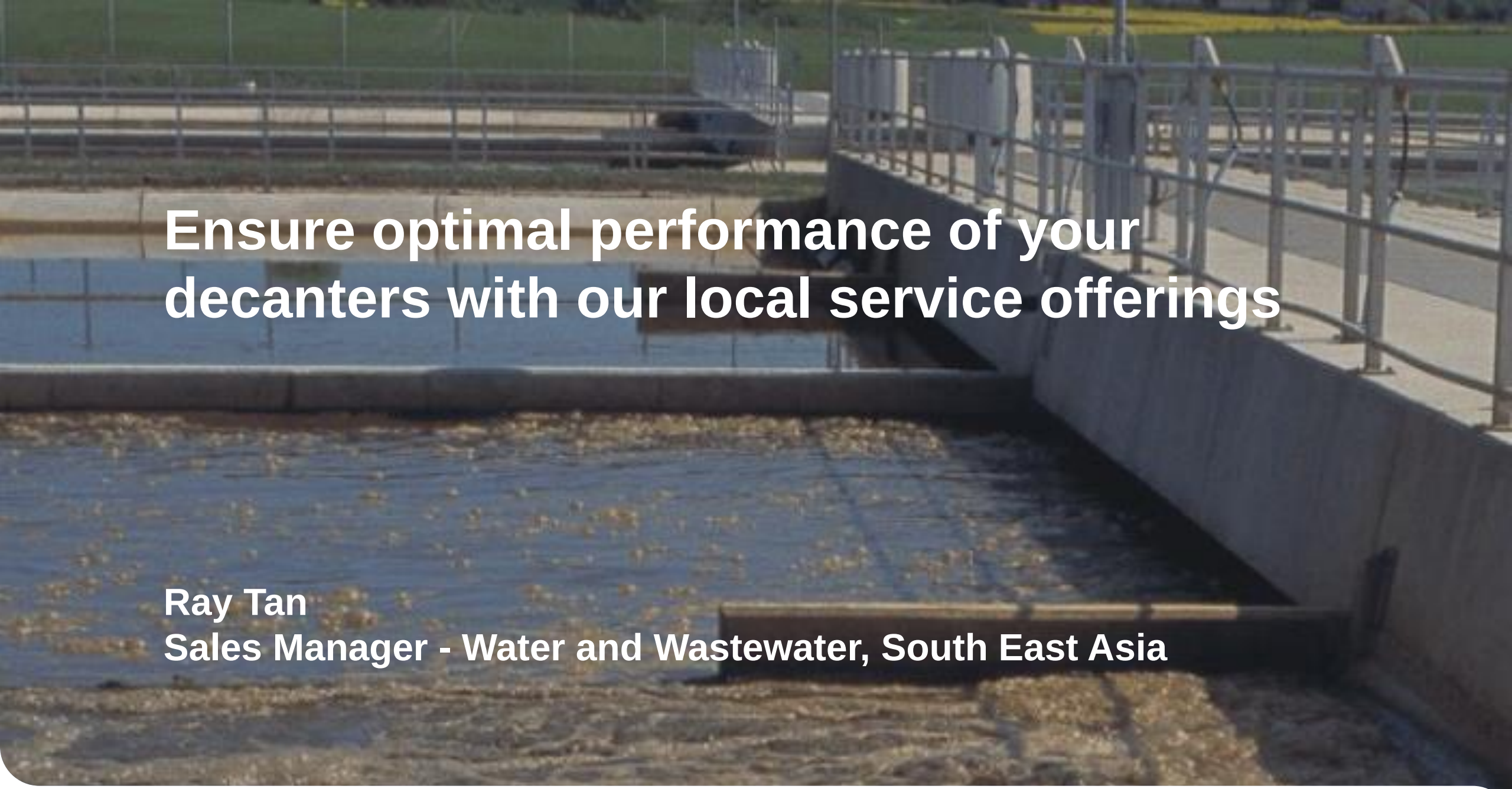
ALDEC G3 VecFlow

Energy savings

Summary of benefits

1. PowerTube reduces energy consumption
2. Vecflow: Reduce polymer consumption
3. Improve productivity with Slimline
4. Reducing installation cost

Comments & Questions



Ensure optimal performance of your decanters with our local service offerings

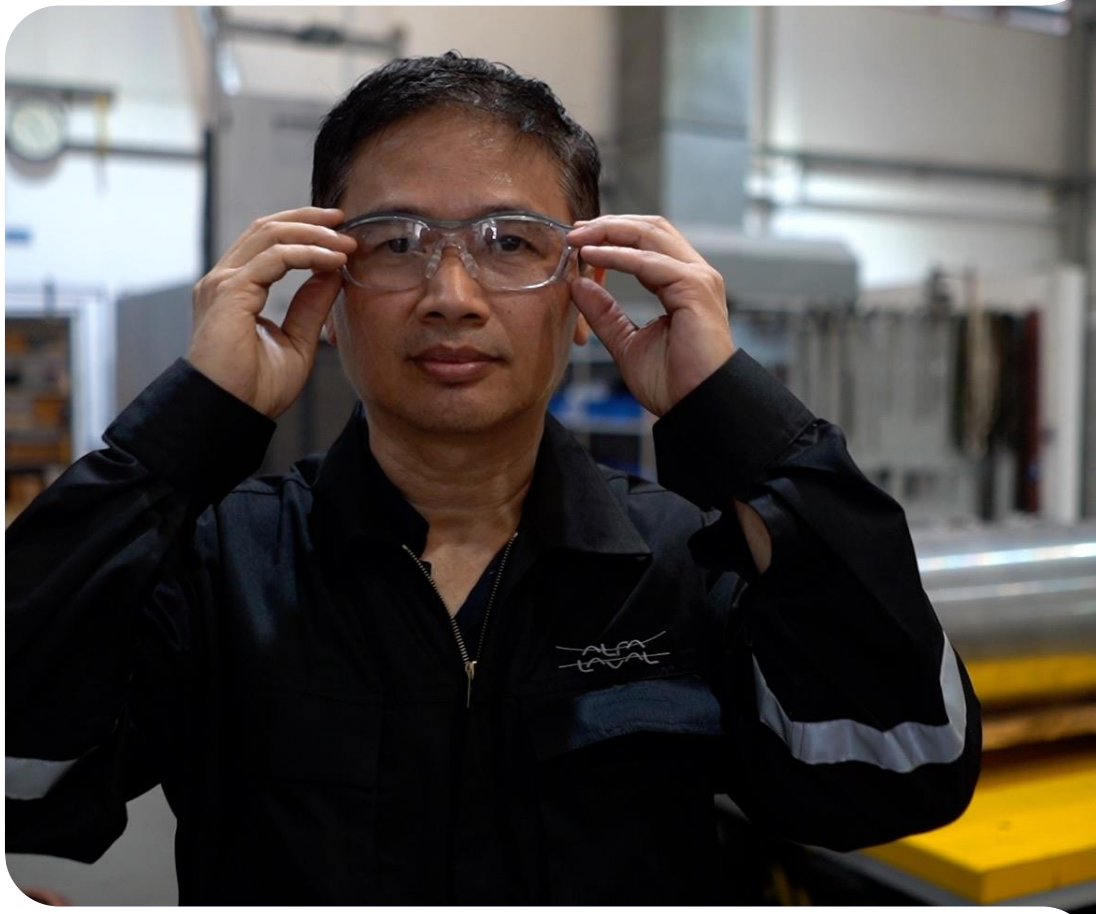
Ray Tan
Sales Manager - Water and Wastewater, South East Asia

Demanding centrifugal separation processes requires regular maintenance for optimal performance

- Sludge Dewatering is a demanding process including recovery rate, cake dryness.
- Regular centrifuge maintenance restores optimal performance while minimizing maintenance cost
- Rapid troubleshooting for times of emergency to minimise downtime
- Fast major repair services needed for decanter emergency breakdown

Your experts in centrifuge maintenance

- Extensive know-how and expertise of centrifuge performance ensure high uptime of your rotating equipment
- Globally certified service procedures and state-of-the-art service equipment
- Highly experienced technicians for welding and balancing of rotating equipment secure overall separation performance
- High quality genuine spare parts



Field service engineers & Service Centres close to you

- More than 50 years of presence in South East Asia
- 100 + experiences fields service engineers
- 11 Service Centres across South East Asia
- Distribution Centre in Singapore for spare parts

Well equipped service center ensures quality of repair and services

Services available –

1. Inspection and measurement
2. Cleaning
3. Assembly and dismantling
4. Repair
5. Hard facing
6. Metal Spray
7. Balancing
8. Welding
9. Lathe machines
10. Videoscope inspection
11. Parts replacement
12. Overhaul services

Summary of our services

1. Established local service center setup to ensure the optimal performance of decanter at each customer site

2. Well equipped service facility and certified service engineers and welders - ensure quality of service and repair.

Comments & Questions

Our references from all over the world

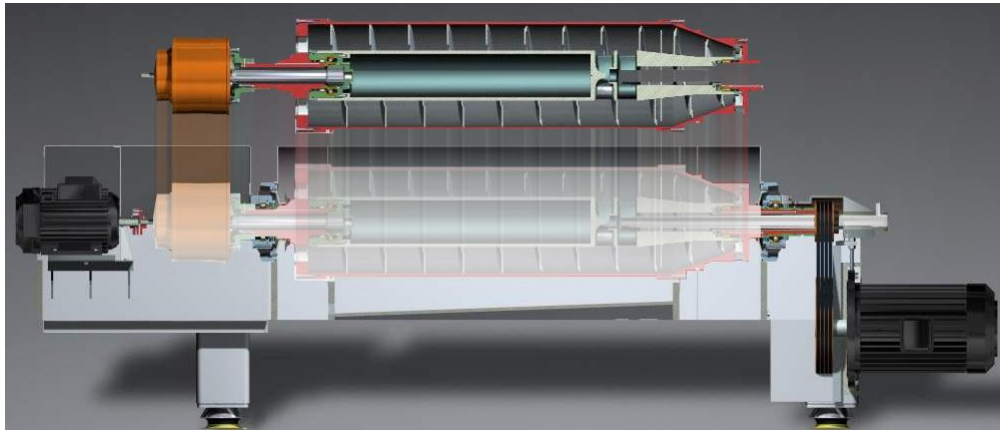
John Joyce
Global Technology Business Development, Decanter Water & Waste

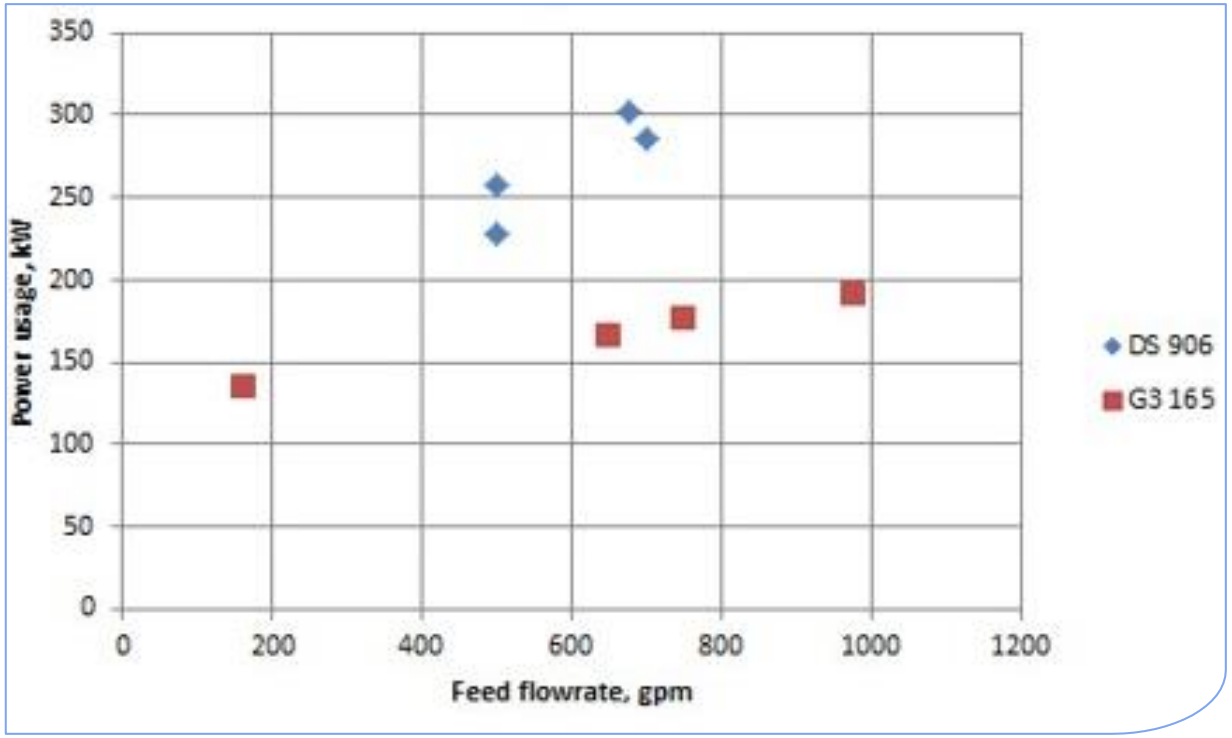
1. Vecflow™ reduced power consumption in Mid West USA Wastewater Plant

DS 706	G3-125
Feed 52 m3/h	Feed 91 m3/h
Main motor: 300 Hp (225 kW)	Main motor: 100 Hp (75 kW)
Power: 93 kWh (at specified feed rate)	Power: 55 kWh (at specified feed rate)

2. Enhanced power saving and wear protection in Western USA Wastewater Treatment Plant

- Substitution of an older installed DS 906 decanter centrifuges by 1 G3 165
- Power savings & enhanced wear protection
- Now 6 dewatering 1,000 mm (G3-165) machines in operation

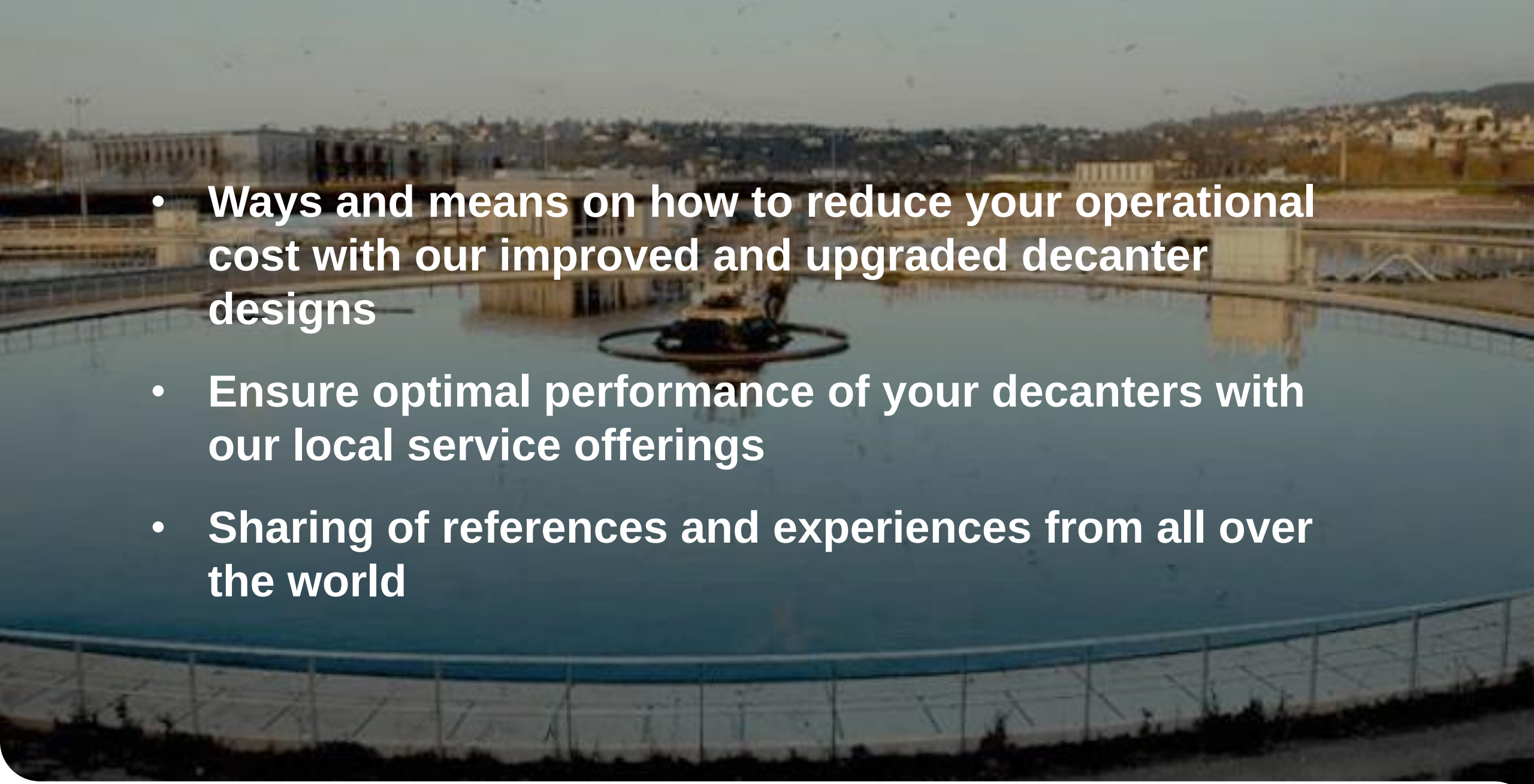




3. Higher dewatering performance in Wastewater Treatment Plant

Parameter	RFQ	Competitor decanter	ALDEC G3 125
Feed Flow (m3/h)	90		
Feed DS (%)	2%		
Centrate SS (ppm)	< 1000	> 1000 - 2000 ppm	**< 500 ppm**
Cake DS (%)	>=30%	30% at less than 90 m3/h	**>=30%**
Result:		Failed in 6 Month testing	**Succesful test in 2018**

Comments & Questions



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