

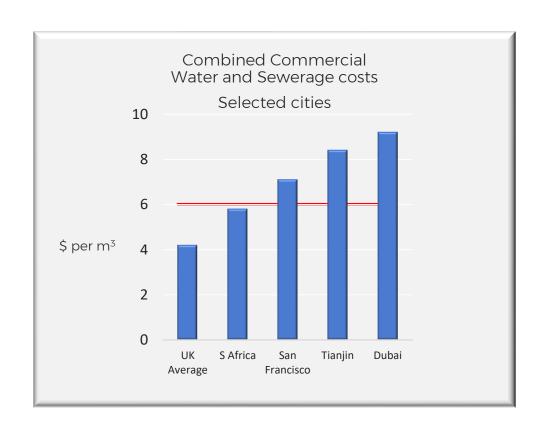
# XEROS TECHNOLOGY GROUP plc

Without limits.
For a world with them.

INTERIM RESULTS PRESENTATION FOR THE SIX MONTHS ENDING 30<sup>TH</sup> JUNE 2018

13<sup>TH</sup> SEPTEMBER 2018

## MACRO ENVIRONMENT - GLOBAL WATER STRESS AND PRICING NOW INCREASING



Up to 600 litres saved per cycle in Xeros 25 kg washing machine equating to \$12,000 savings per machine per annum in water alone



Central Californian Valley
Subsidence continues due to groundwater extraction.

NASA JPL Study

## COMMERCIAL PROGRESS

2018 objective to accelerate commercialisation of applications under IP-rich, capital-light models:

## Cleaning Technologies

Marken (High Performance Workwear) - 3 sites added and validated cleaning efficacy and demonstrated garment life extension.

Hydrofinity (Commercial Laundry) - good progress on implementing low cost indirect, first Symphony Project partner. Orders picking up.

Domestic - formal process/discussions ongoing with OEMs.

### **Tanning Technologies**

Heads of Terms with 2 tanneries for Retanning and Dyeing process. Previous economic assumptions validated.

Tanning process proven out in our labs for commercialisation end 2019 (upstream of Retanning and Dyeing - current scope).

#### Textile Technologies

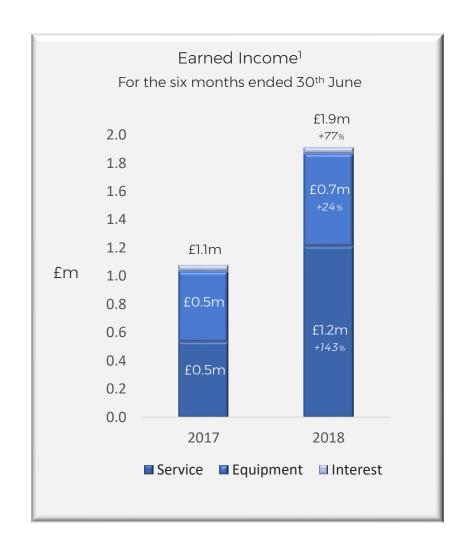
Successful production level scale trials in Xeros UK Technology Centre. World leading manufacturers with their garments now under test by Xeros.

### China - All Applications

Company presence established. First Hydrofinity licensing agreement. Major OEMs in domestic machine discussions. Engagement with major garment manufacturers.

#### Financials

Investment run rate is reducing as move to low asset intensity model, particularly Hydrofinity, and reducing development spend.



## RECAP - SCOPE AND STRATEGY FOR COMMERCIALISING PLATFORM TECHNOLOGY

#### **XEROS STRATEGY**

Develop and commercialise our XOrb ™ technologies to radically improve the sustainability, performance and economics of water intensive processes.

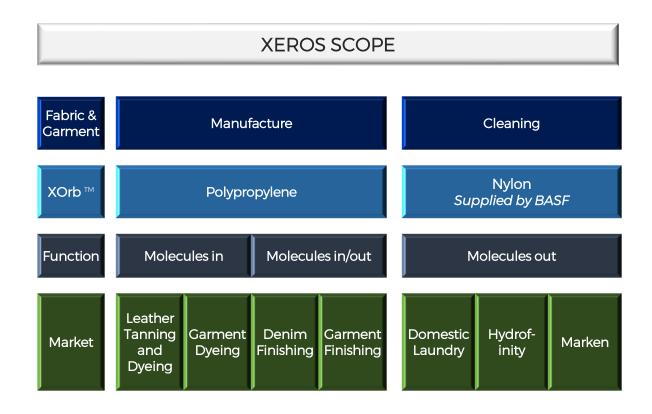
Processes in scope - manufacture and cleaning of soft substrates - garments and fabrics.

When necessary, enter markets initially to prove and de-risk applications ahead of moving to IP rich and asset light model.

Monetisation of applications via licensing, trade sale or capital markets options.

#### CONVENTIONAL HYPOTHESIS

Water is the only effective medium to affix and/or remove molecules in fabric and garment dyeing and finishing and its subsequent laundering.



#### XEROS PROVEN HYPOTHESIS

The effectiveness of water to affix and/or remove molecules in these processes is drastically improved when used with Xeros' proprietary XOrb technologies.

## **CLEANING TECHNOLOGIES - HIGH PERFORMANCE WORKWEAR**



## Commercial Progress

Four sites operational with addressable market of c. 1,400 fire stations housing 30,000 professional firefighters.

Independent verification of cleaning efficacy and garment life extension.

Version 2.0 of MTrack<sup>™</sup> asset tracking and management system being launched.

## Next milestones/deliverables

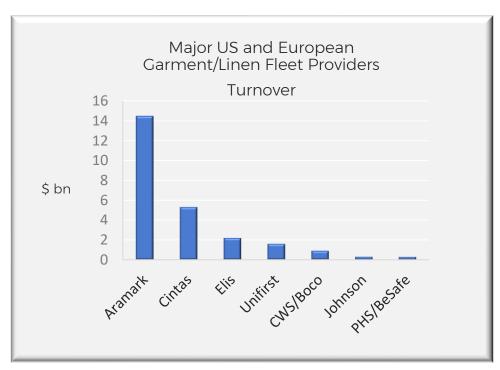
Targeting additional site(s) in NE US with addressable market fire of c. 500 fire stations housing 21,000 professional firefighters.

Increase sites' scope to include other high value PPE

Target >40% gross margins.

Target EBITDA break even in 2019.

Strategic options - asset with value in its own right, licensing potential to garment/linen fleet providers.



US & European PPE Garment Market: \$6bn annual sales - 4-5% growth per annum

## **CLEANING TECHNOLOGIES - HIGH PERFORMANCE WORKWEAR**



#### Garment Life Extension<sup>1</sup>

Significant improvement in tear resistance and shrinking resistance of the outer-shell fabrics.

Noticeable improvement observed in water absorption resistance and breaking force of the outer-shell fabrics.

Xeros Cleaning Technology keeps the "Perforated Diamond Triple Trim" bright and effective regardless of the number of washes

Conventional cleaning technology degrades reflective trim starting with the first wash, making it less effective in protecting the fire fighter

Cleaning technology does not negatively impact flame resistance or liquid penetration resistance of the fabrics tested



Samples of outer shell firefighter uniform fabric after 10, 30 and 50 washes Xeros process top and conventional process bottom

## **CLEANING TECHNOLOGIES - COMMERCIAL**



#### Commercial Progress

XDrum technology scaled up for use in large machines.

First OEM licensing contract signed with SeaLion for exclusive rights in mainland China.

As previously announced, testing and validation continues with two global brands. Likely to add a third.

EMEA transitioned to asset light model with first major orders with substantial, full service Forward Channel Partners (FCPs) in South Africa and UAE.

Xeros receives margin and ongoing royalties.

Quality of US customer portfolio improved ahead of planned sale to selected regional FCPs.

Headcount reduced from 59 to 28 since June 2017.

## Next milestones/deliverables

Complete migration of US and Latin America to asset light model with FCPs.

Conclude licensing with OEMs outside of China with contingency plan for FCP's to procure machines directly from SeaLion.

EMEA, China, Latin America target breakeven in 2019 and US 2020.

#### "Water is more important than oil for the UAE"

His Highness General Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces



Leading Mechanical, Electrical and Infrastructure projects supplier.

Active in Residential, Industrial, Power, Commercial, Hotel & Resort markets.

Order book >AFD 1bn

Encom Trading is established channel partner for multiple multinationals including Siemens.

## **UAE** Water Dynamic

550 litre per day per capita water consumption - 82%, above the global average.

5 days water reserve in UAE.

Desalination in UAE and other Gulf oil producers accounts for 41% of worlds total desalinated water output.

Desalination has a carbon footprint of 25kg per cubic metre of water excluding plant build impacts.

By 2030 fuel requirements for desalination will reach 20% of the country's primary energy demand..

## **CLEANING TECHNOLOGIES - COMMERCIAL**



## China Market and SeaLion Agreement

Initial target market - 4\* and 5\* hotels.

Number of properties ~ 1,650.

Market valued at ~ \$110m per annum.

10% CAGR in China commercial laundry market last 5 years.

SeaLion c. 10-12% share.

10 year exclusive contract.

Minimum machine sales with increases year on year.

Percentage royalty on machines sales and monthly XOrb fees.

SeaLion capacity to supply XDrum machines outside China.

SeaLion capacity to support Xeros Textiles business.



SeaLion production facility in Zhangjiagang

## CLEANING TECHNOLOGIES - DOMESTIC

#### **Commercial Progress**

Launched low cost solution for simply incorporating Xeros Technologies into Domestic Machines in January at CES in Las Vegas.

Major time extension to core IP coverage with XDrum.

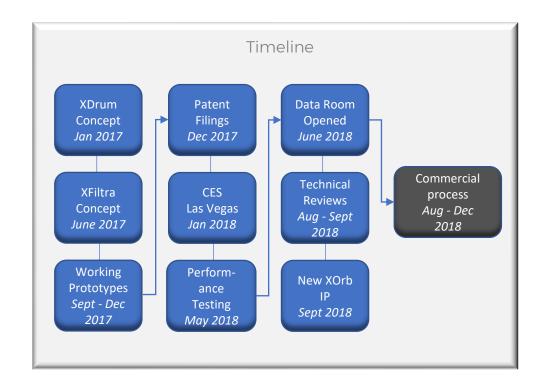
Formal commercialisation process ongoing with OEMs.

#### Next milestones/deliverables

Complete negotiation of Commercialisation and Development agreement. Targeting up front exclusivity payment(s) and royalty per machine sold.

Parallel process for XFiltra.

Target break even 2018 or 2019.



#### Process:

7 OEMs in process
Includes globally recognised brands
3 Chinese OEMs with ~60% local market share (30m machines)
License areas on offer: APAC excluding China, India, EMEA,
Americas, China, India

## TANNING TECHNOLOGIES



#### Commercial Progress

Detailed engineering solutions configured

2 Heads of Terms with major, modern tanneries. Previous financial assumptions affirmed.

Potential upside in upstream tanning process - water, chemistry and cycle time reductions.

Established that Xeros technology reduces total volume of polymer microparticles in effluent.

### Next milestones/deliverables

Sign multiple contracts in 2018.

Successfully execute first contracts in H1 2019.

Validate technology works in upstream tanning process in H2 2019.

Build significant order book to enable monetisation options.

Target break-even 2021.



Increased molecule penetration by Xeros technology using lower percentages of chemistry

## TANNING TECHNOLOGIES



### Tanning target contract terms for Retanning and Dyeing Process

Term - 10 year target

Gain share arrangements - 50:50 for water and chemistry with other value gains to be determined e.g. effluent

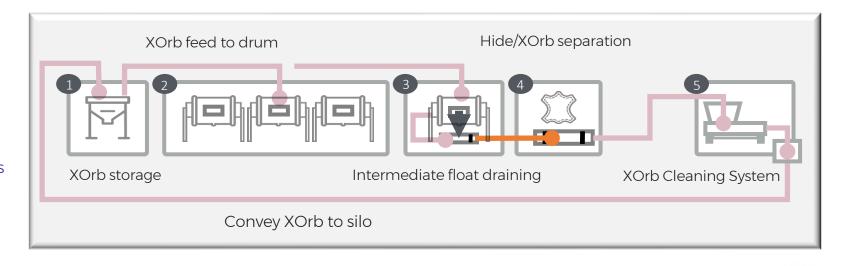
Scope to increase to include Tanning Phase in addition to Retanning and Dyeing - end 2019

Four out of five system unit operations supplied by customer. Fifth element, XOrb Cleaning Station supplied under peppercorn lease arrangement with cost covered by up front fees.

XOrbs owned and supplied by Xeros.

Total chemistry and water benefits evaluated in a range of £0.56 to £1.05 per hide produced or £0.08 to £0.15 per kilo.

XOrb Management System:
Modular, scalable, configurable
3<sup>rd</sup> party supply
Unit 5 supply via sub-contractor by Xeros
Units 1 to 4 tannery to supply and install



## **TEXTILE TECHNOLOGIES**

## **Commercial Progress**

XDrum technology applied to textiles applications.

Successful scale up of denim and garment finishing in Xeros Technology Centre.

World leading manufacturers with their garments now under test by Xeros.

## Next milestones/deliverables

Commercialisation and development agreement with at least one Chinese manufacturer by end 2018.

Target model of commission on machine sales and monthly royalties.



Xeros Garment Finishing savings:
Water up to 70% - 80%
Chemistry up to 50% to 67%
Energy up to 30% to 33%
Enzyme wash time up to 50% to 67%

## **CHINA - ALL APPLICATIONS**

## **Commercial Progress**

China office established and Executive Chairman appointed.

Hydrofinity ("Symphony Project") license agreement signed with China's largest OEM in July.

3 major brands in Domestic licensing process.

World leading manufacturers with their garments now under test by Xeros.

### Next Milestones/Deliverables

Conclude domestic licensing process. - target 2018

Sign at least one Textiles development and commercialisation agreement - target 2018.

Evaluate High Performance Workwear market/entry

#### China Market Dimensions

390,000 Professional Firefighters

57 million Domestic washing machine sales per annum

27,000 Commercial laundry machine sales per annum

75 million finished hides produced

7 million tonnes of natural fibres processed

480 million pairs of jeans produced

## **CHINA - ALL APPLICATIONS**

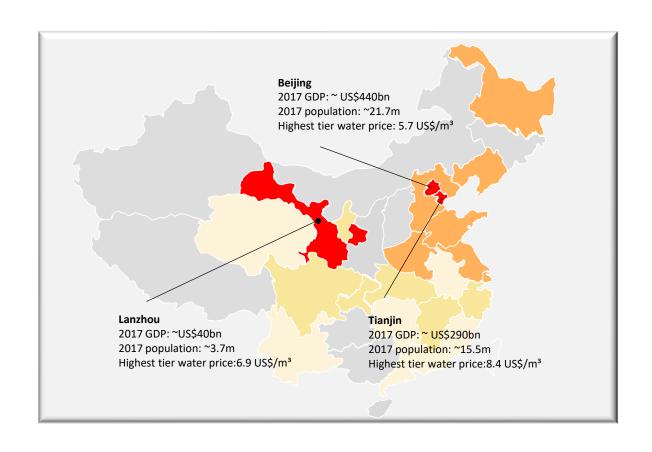
## China water pricing reform <sup>1</sup>

2017 - NDRC (National Development and Reform Commission) and MOHURD (Ministry of Housing and Urban-Rural Development) dictates nationwide implementation of tiered pricing for non-residential water

By June 2018 - provinces (autonomous regions and municipalities) should enact measures for non-resident water tiered pricing

Before 2020 - local authorities should report the implementation progress to NDRC and MOHURD in June and December annually

By end 2020 - non-resident water differential pricing should be adopted nationwide



## **XFiltra**

## Commercial Progress

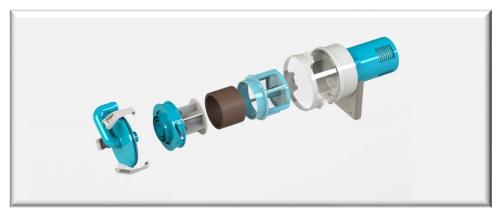
Alpha prototype completed

Parallel but separate licensing process to domestic washing machine OEMs.

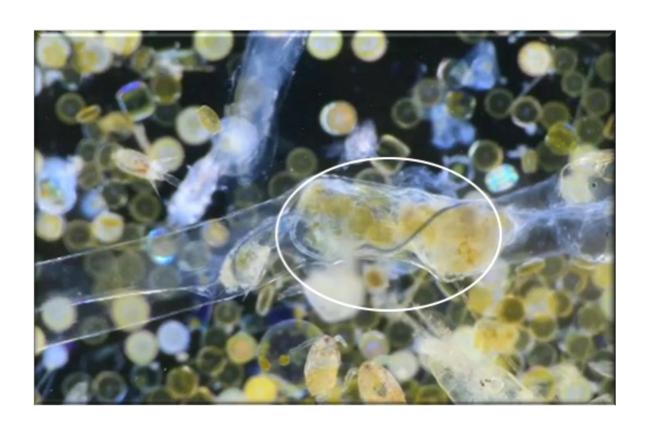
## Next milestones/deliverables

Complete negotiation of Commercialisation and Development agreement by end of 2018.

Targeting up front payments for exclusivity and subsequent royalty per unit sold.



Xeros patented XFiltra
Integrated pump, filter and de-waterer



Plankton ingesting microfibre

## FINANCIALS - CASH POSITION

At end December 2017 - £25.1m At end June 2018 - £10.4m At end August 2018 - £6.1m

Guidance from earlier in the year was cash burn expected to be average of £2.2m per month through 2018.

Average to date is £2.37m per month

Exceptional items in H1 2018 related to Gloves Inc acquisition (£0.6m) and US offices/lab consolidation move and fit-out (£0.7m).

Current run-rate is between £2.0m - £2.2m per month.

Raising funds in short term to deliver commercial milestones



## FINANCIALS - PROFIT AND LOSS ACCOUNT

	Six months	
	ended	Six months ended
	30 June 2018	30 June 2017
	£000	£000
Earned income	1,908	1,076
Less: lease interest income	(43)	(43)
REVENUE	1,865	1,033
Cost of sales	(1,960)	(937)
GROSS PROFIT	(95)	96
		1
Lease interest income	43	43
Adjusted gross (loss)/profit	(52)	139
Administrative expenses	(12,947)	(14,558)
Adjusted EBITDA*	(11,573)	(13,192)
Share based payment expense	(1,028)	(997)
Amortisation of intangible fixed assets	(89)	
Depreciation of tangible fixed assets	(352)	(273)
ODEDATING LOSS	(77.0(0)	(7.7.7.60)
OPERATING LOSS	(13,042)	(14,462)
Net finance (expense)/income	70	(678)
LOSS BEFORE TAXATION	(12,972	(15,140)
Taxation	(8)	(
LOSS AFTER TAX	(12,980)	(15,140)
LOSC DED CLIADE		
LOSS PER SHARE	(17.00)	/17 7 C\
Basic and diluted on loss from continuing operations	(13.09)p	(17.36)p

Six months

Earned income growth of 77.3%:

39.0% organic growth (Hydrofinity) 38.3% growth from Marken acquisitions

Hydrofinity growth is a combination of:

23.7% machine sales

59.3% service income

Overall service income grew by 142.6% and represents 63% of total income.

Expenses are reducing as we move out of development and into commercialisation.

Gross margin on revenue of (5.1%):

(8.1%) Hydrofinity 5.6% Marken

## FINANCIALS - CASHFLOW

	6 months ended	6 months ended
	30 June	30 June
	2018	2017
	£000	£000
Operating activities		
Loss before tax	(12,972)	(15,140)
Adjustment for non-cash items:		
Amortisation of intangible assets	89	-
Depreciation of property, plant and equipment	352	273
Share based payment	1,028	997
Decrease/(Increase) in inventories	224	(1,647)
(Increase) in trade and other receivables	(98)	(171)
(Decrease)/increase in trade and other payables	(2,698)	1,890
Finance income	(70)	(84)
Finance expense	-	762
Cash used in operations	(14,145)	(13,120)
Tax receipts	1,298	
Net cash outflow from operations	(12,847)	(13,120)
·		
INVESTING ACTIVITIES		
Finance income	70	85
Acquisition of subsidiary undertaking	(675)	-
Cash withdrawn from/(placed on) deposits with more than		
3 months maturity	(6,031)	(24)
Purchases of property, plant and equipment	(1,303)	(69)
Net cash inflow/(outflow) from investing activities	(7,939)	(8)
FINANCING ACTIVITIES		
Proceeds from issue of share capital, net of costs	15	413
Net cash inflow from financing activities	15	413
	•	
(Decrease) in cash and cash equivalents	(20,771)	(12,715)
Cash and cash equivalents at start of year	25,149	18,975
Effect of exchange rate fluctuations on cash held	13	(40)
CASH AND CASH EQUIVALENTS AT END OF PERIOD/YEAR	4,391	6,220

Working capital in H2 2018 will reduce as machine inventory is placed in new markets such as UAE & South Africa

## FINANCIALS - PRO-FORMA CONTRACT VALUES FOR MEDIUM SIZED TANNERY

#### Volume inputs for contract terms:

Average daily hides processed: 2,500 hides

Average weight per hide: 7 kg

Operational days p.a.: 288 days

Kg processed p.a.: 5,040,000kg/5,040 tonnes

### Value inputs for contract terms:

Average value created per kg of hide £0.08 - £0.15 per kg

Average value created per hide £0.56 - £1.05 per hide

Xeros share of savings 50%

Total savings p.a. (@ £0.10 per kg) £504,000

Xeros revenue @ 50% share £252,000 p.a.

#### Contract revenue over 10 years:

£2.52m + up-front fees to cover XOrb Cleaning Station - Xeros' scope of supply

#### Contract costs:

Replacement XOrbs<sup>TM</sup> every 2 years Estimated < £50k p.a.

## FINANCIALS - TARGETS

Commercialisation achieved and predicted milestones now give line of sight to breakeven dates:

**Hydrofinity** - EMEA EBITDA positive in 2019. Overall business EBITDA positive in 2020.

Marken - As previously guided, EBITDA positive in 2019.

**Domestic** - EBITDA positive upon any up-front licence payments.

**Tanning** - EBITDA positive in 2021 and with 10-year forward book of revenue from end 2019.

**Textiles** - With licensing agreements in 2019, would be EBITDA positive in late 2019 or 2020.



## **SUMMARY**

Environmental and regulatory pressures increasing demand for our technologies

Strong revenue growth from our established businesses

Clear line of sight to break even points for each business, with the majority in the next 12 - 18 months.

Numerous commercial inflection points reached

Clear commercial milestones planned for 2018 and 2019:

Licensing agreements with one or more domestic washing machine OEMs.

Achieve EBITDA positive position in Marken

Sign Symphony Project agreements for commercialising our Hydrofinity business at scale with a reduced cost base.

Multiple Tanning contracts operational in 2019

Commercial licensing agreements signed for Textiles

