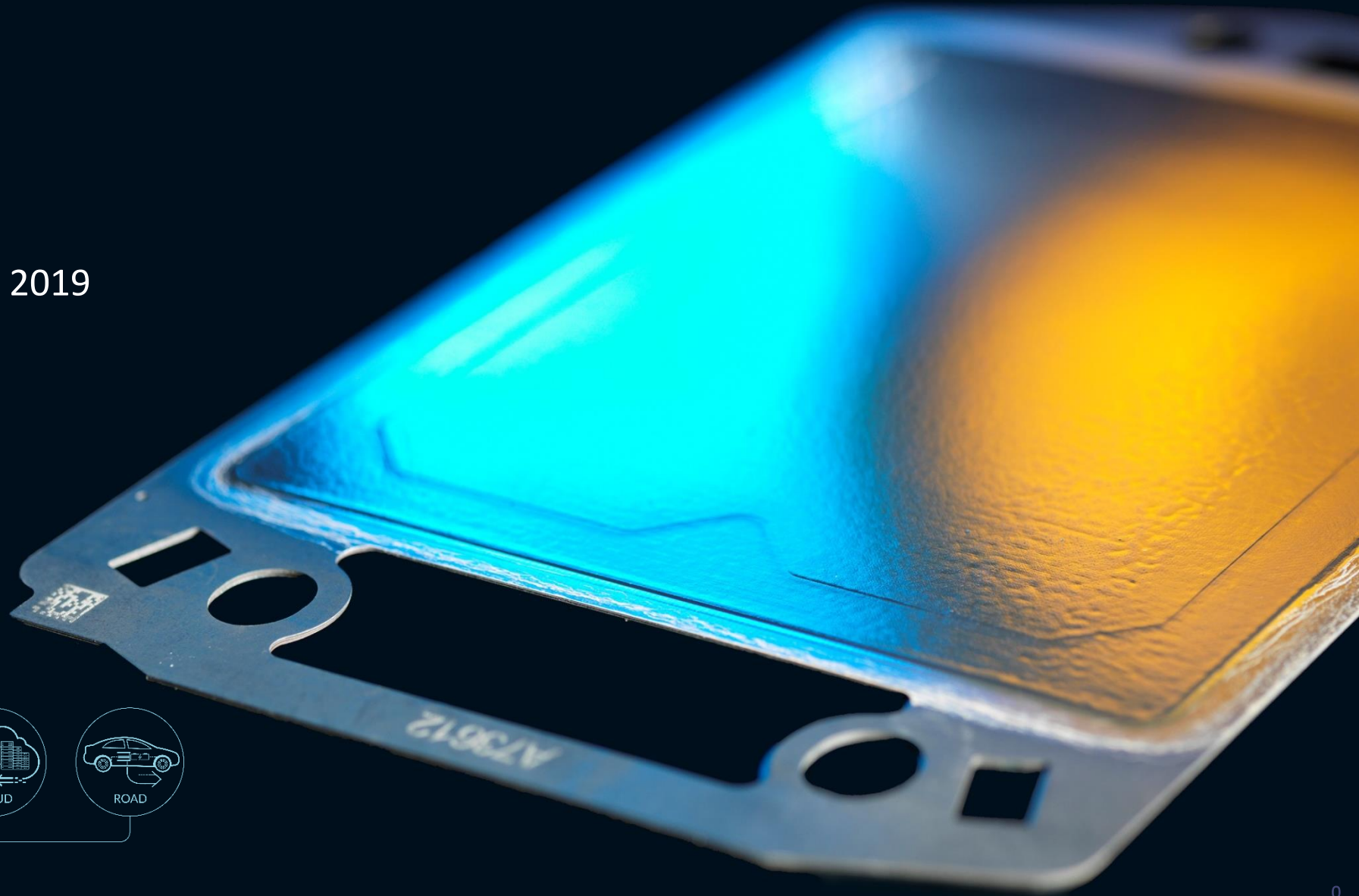




# Full Year Results

For the year ended 30 June 2019



HOME



WORK



SteelCell™



CLOUD



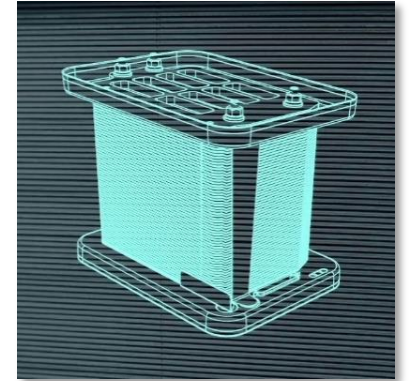
ROAD



# BUSINESS OVERVIEW

# Technology to address climate change

- High growth UK technology licensing company with global world-class partners
- World leading Solid Oxide fuel cell technology – Imperial College
- Unique IP ~50 Patent families plus know how
- 240+ highly skilled scientists and engineers based in UK
- Fully funded £71m cash and £28m order book and £50m pipeline
- AIM listed ~£320m market cap
- High-margin, capital light technology licensing business model



# Fuel cell's role in energy transition

## Air Quality

- Batteries & fuel cells key to Zero emissions
- Pressure on charging infrastructure



## Climate Change

- Path to Net Zero
- Nat Gas to hydrogen

## Balancing renewables

- Cheap renewable energy disrupting centralised power generation
- Fuel cells offer flexible distributed power



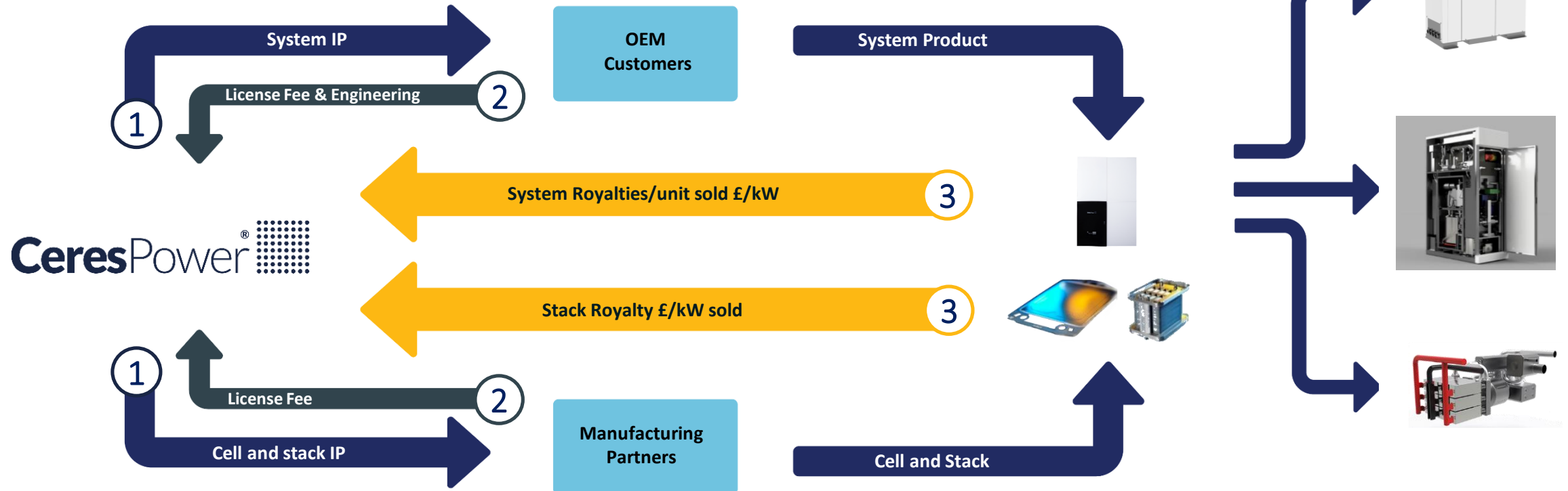
## Energy efficiency

- Better than centralised power
- 60 % efficiency
  - > Centralised CCGT
  - 2x combustion engine



# Ceres licensing business model

- ① Ceres develops fuel cell technology that is licensed to OEMs and manufacturing partners
- ② Ceres receives payments through engineering services and up front license fees
- ③ Ceres secures future royalties on every system and stack that uses Ceres technology



# Ceres partnerships in multiple applications globally

## De-centralised Power



## Electric vehicles



## Clean power for datacentres



Market size <sup>1</sup>	~100 GW	>300 GW	>50 GW
Possible annual revenues for Ceres	U\$360m	U\$400m	U\$270m

**Rapidly growing Fuel Cell market predicted to reach U\$25bn by 2025**

- 1 kW residential to 10's to 100 kW's for businesses
- Higher efficiency than power from centralised grid

- Use as range extender for EVs in commercial vehicle markets (buses/trucks)
- Grid reinforcement for vehicle charging

- Data centres use > 2 % global power
- Saves energy and CapEx
- Reliable on-site power generation

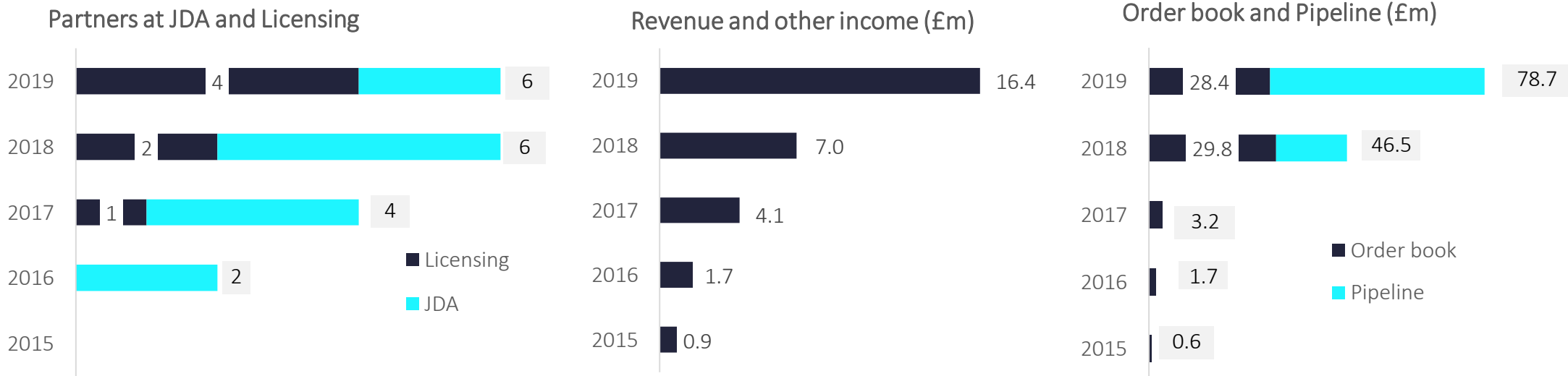
<sup>1</sup> total addressable market



# COMMERCIAL, TECHNOLOGY AND FINANCIAL PROGRESS

# Financial and commercial highlights

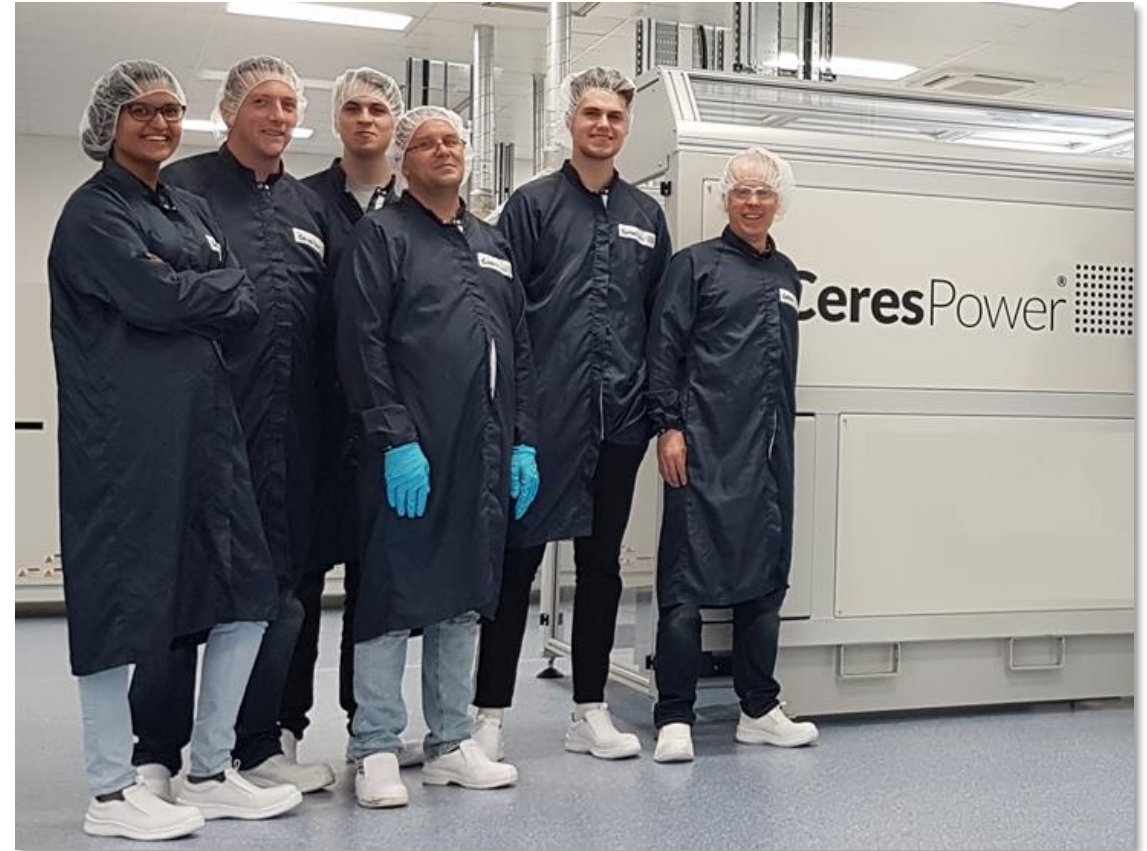
- Strong revenue & income growth £16.4m (2018: 7.0m) at improved gross margin of 75% (vs target of >50%)
- Operating loss down 33% to £7.9m (2018: £11.9m) and underlying cashflow reduced to £3.1m (2018: £9.5m)
- Cash of £71.3m at 30 June 2019
- Strategic partnerships signed with Bosch and Weichai including equity investment and licensing agreements
- First product launch with Japan's Miura Co. using Ceres' SteelCell® in a CHP system for commercial use
- New system licence and JDA worth £8.0m over two years signed with Doosan post year end
- Strong order book of £28.4m and pipeline £50.3m (as at report date)





# Technology and operational highlights

- Continuous development of core technology. V5 power density ~50% vs V4
- SteelCell® reached 60% net efficiency, greater than MW-scale gas turbine and twice that of a gas engine
- Joint development completed with Weichai of first prototype 30kW range extender system for electric buses
  - Meeting all technical milestones in 1 year programme



## CP2: First global reference plant

- SteelCell® produced in small volumes proves scalability, facilitates new partnerships
- £8m investment, ~60 skilled jobs. Phase 1 launch 2020 at 2MW annual capacity
- Will provide near term capacity for customers and act as “blueprint facility” for technology transfer to enable license to manufacturing partners e.g. Bosch.

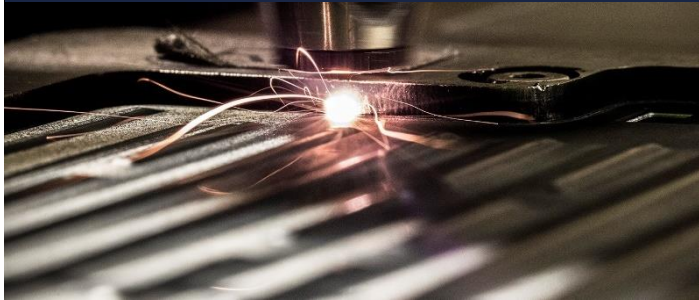




## PARTNER UPDATE

# How we work with Partners

## 1. Joint Product Development



Engineering Services

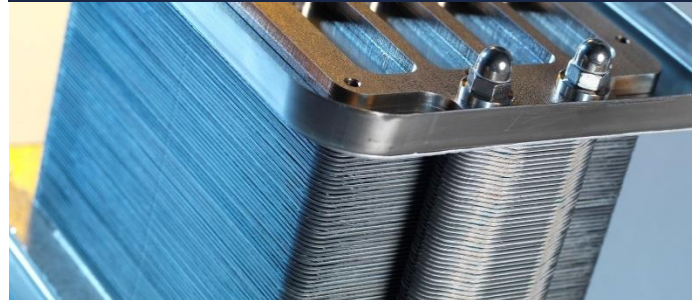
(2 – 3 years)

\$

6 Joint Development partners



## 2. System and manufacturing Licensing



Up Front License Fees for technology transfer

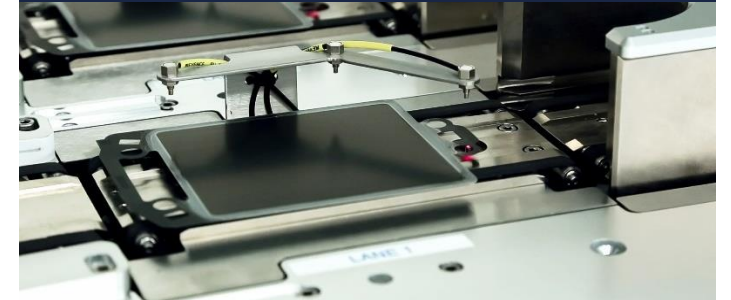
(~3 years)

\$\$

4 Licensee partners



## 3. Royalties from multiple products in global markets



Future Royalties per kW

At start of production

\$\$ Recurring revenues

1<sup>st</sup> Product Launch Q4 2019





# Bosch – manufacturing partner progress

## Strategic collaboration

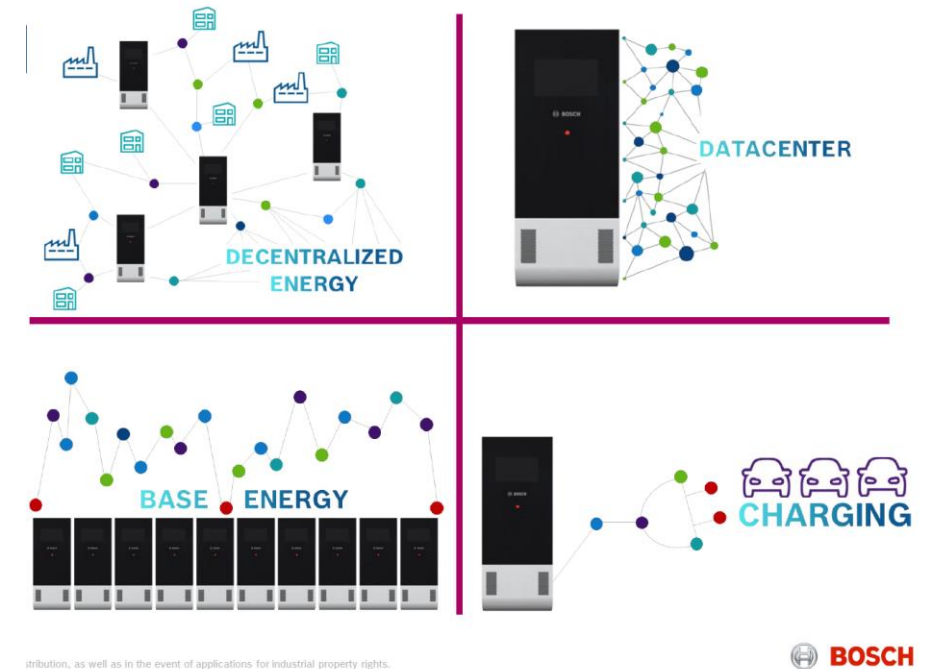
- Bosch Invested £9m in Ceres for 4 % stake + £20m license/JDA revenues to 2020 (**Aug 2018**)
- Global ceramics manufacturing expertise in Germany/China/USA

## Multiple market applications

- Small power stations for cities, factories, datacentres and EV charge points

## Continued progress against key milestones

- Tech transfer completed and key milestone passed (**Dec 2018**)
- Collaboration on CP2 in UK and parallel low volume manufacture at Bosch in Bamberg Germany (**Q1 2020**)
- Industrialise 5kW stack with aim to enable future product high volume scale up and manufacture





# Weichai Power – system partner and manufacturing JV

## Market opportunity

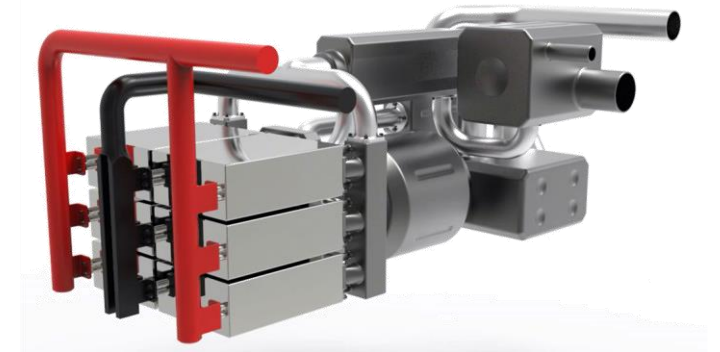
Access to China - fastest growing fuel cell market, focus EV bus and truck

- World-leading automotive/equipment manufacturer worth +£10Bn
- Produces 600k engines per year, c.30k buses and 150k heavy duty trucks
- Strong international track record Kion, Germany and Ferretti, Italy
- Initially 30kW power systems for Commercial EVs, scalable to higher power stationary applications.



## Progress of strategic collaboration

- Completed equity investment of total £48m for 20% of ISC (**Dec 2018**)
- Licence Agreement and JDA for up to £39m concluded (**Dec 2018**)
- Completed initial prototype bus Range Extender (**Sep 2019**)
- Next system JDA and small fleet field trials (**Next 12mths**)
- Form system JV in China on successful field testing (**Q4 2020**)



30 kW EV Bus range extender

# Miura Co – system partner

## Miura

- Japan's leading industrial boiler manufacturer with US\$1.3bn global revenues

## The market

- Japan is one of the most advanced markets in the world for fuel cells and a key target market for Ceres
- Approx. 300,000 residential units installed with government subsidies
- Government focused on CHP for commercial building sector

## Ceres Power's first product launch

- Relationship first announced and tech transfer (**Dec 2016**)
- 4.2 kW CHP product set to launch (**Oct 2019**)
- Follows three year successful joint development programme



# Doosan – system partner

## Major South Korean industrials business

- Fortune 500, 39,000 employees and turnover +US\$15bn
- Leaders in energy, renewables, construction

## South Korean fuel cell market well established

- Government targeting combined output from fuel cell technology of 15 GW by 2040, 300MW deployed to date

## Doosan Fuel Cell is global No. 1 fuel cell power generator

- >US\$800m orders in 2018
- Acquired PAFC and PEM technology; SteelCell® addresses technology gap for Doosan re SOFC



## The Agreement signed July 2019

- System-level licence and JDA to develop 5-20kW power system, initially for commercial applications
- £8m value to Ceres in licencing, technology transfer and engineering services over two years
- Fills a technology gap for Doosan and a geographic gap for Ceres
- Potential for longer broader collaboration



# FINANCIAL SUMMARY

# Financial highlights

Revenue and other operating income

**£16.4m**

+133%

Gross margin

**75%**

(2018: 51%)

Operating loss

**£7.9m**

(2018: £11.9m)

Net cash used in operating activities

**£3.1m**

(2018: £9.5m)

Order book

**£28.4m**

(2018: £30m)

Pipeline

**£50.0m**

(2018: 17m)

Cash and short-term investments

**£71.3m**

(2018: £6.4m)

New equity raised

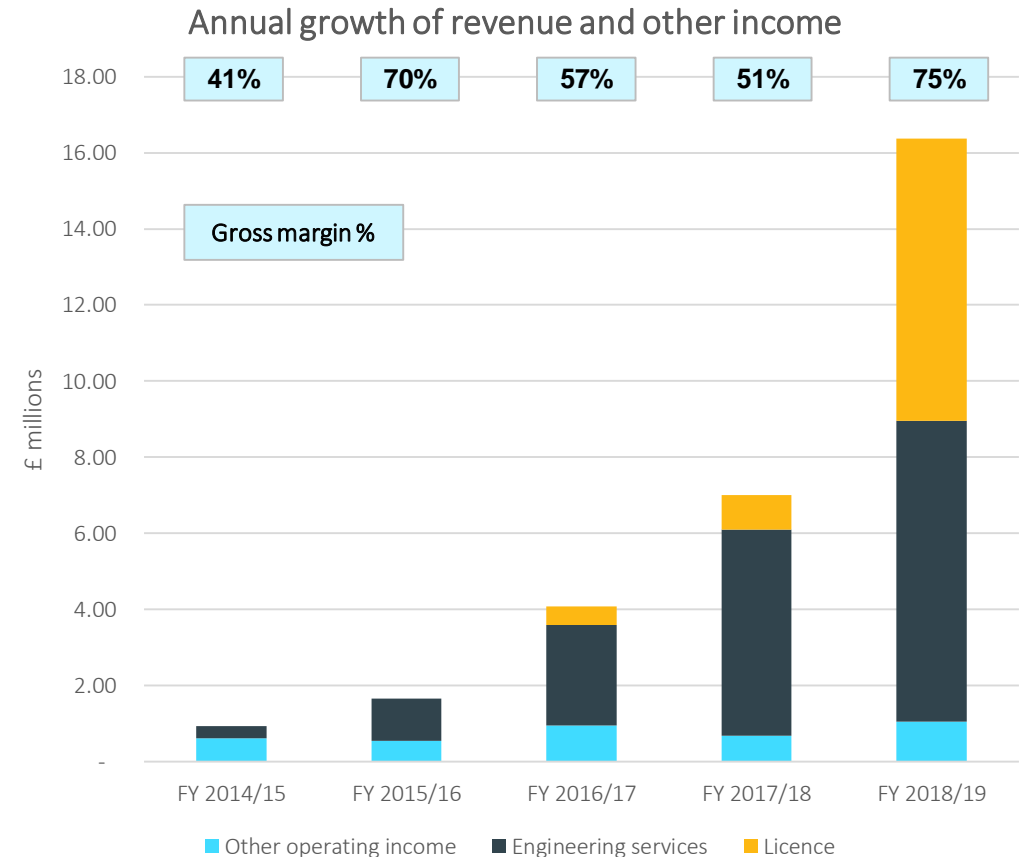
**£77.1m**

From strategic partners  
and financial institutions

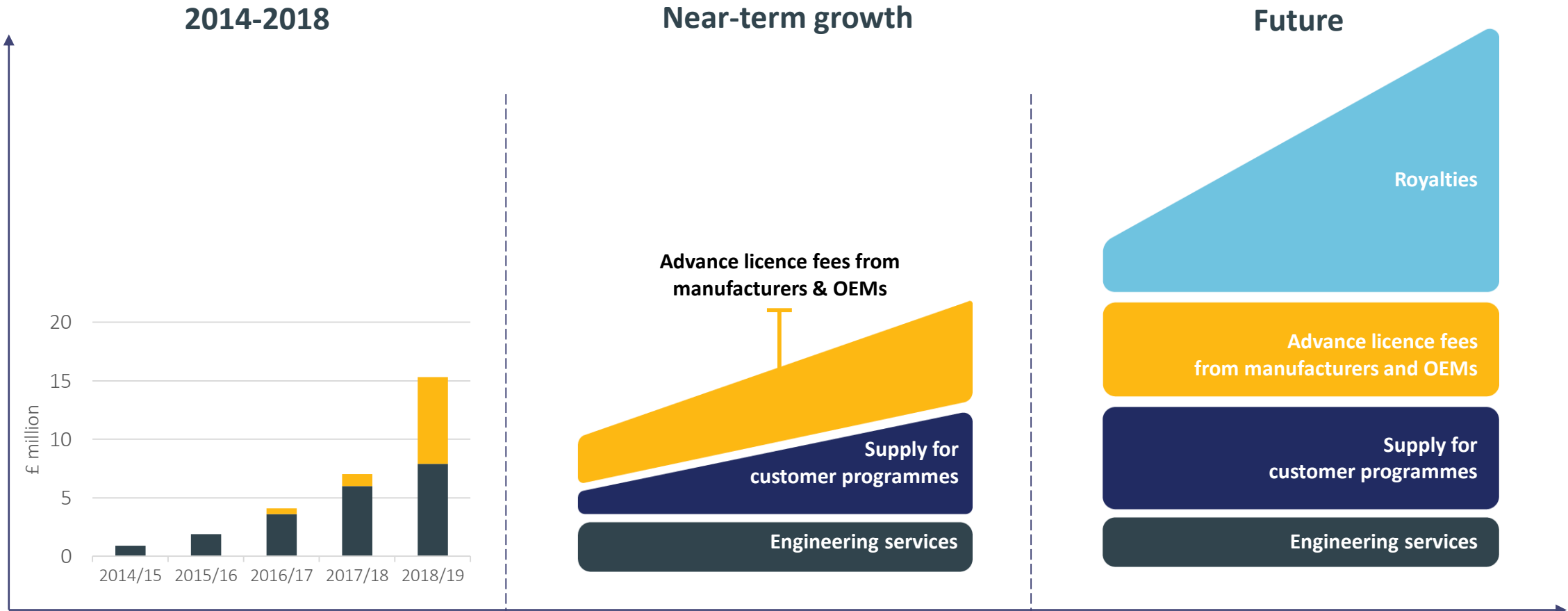


# Revenue and gross margin

- Licence and engineering services driving high margin revenue growth
- Revenue mix will change with low volume hardware supply as CP2 comes on line
- Targeting sustained gross margin >50%  
Dependent on individual contracts



# Revenue evolution



# Income statement

- Targeting gross margin consistently > 50%
- Investment in people and facilities to deliver growth
- Increased R&D investment to maintain technology leadership position
  - Development capitalised in year
- Tax credit – reflects increased R&D activity
- Loss After Tax halved from 2018

£m	FY 2019	FY 2018
<b>Revenue</b>	15.3	6.3
<b>Gross margin</b>	11.5	3.2
Gross margin %	75%	51%
 R&D	-13.8	-11.4
SG&A	-6.7	-4.4
<b>Operating costs</b>	-20.5	-15.8
 Other operating income	1.1	0.7
<b>Operating loss</b>	-7.9	-11.9
Interest	0.6	0.1
<b>LBT</b>	-7.3	-11.8
Taxation	2.5	1.9
<b>LAT</b>	-4.8	-9.9

# Cash flow

- Cash used in Operating Activities down by 2/3
- £7.3 m invested in Capex - majority at CP2
- Development capitalised as company commercialises technology
- Fully funded cash position with £71.3 m

£m	FY 2019	FY 2018
Operating cash flows	-5.9	-9.9
Changes in working capital	0.7	-1.5
Tax received in the period	2.1	1.9
<b>Cash used in operating activities</b>	<b>-3.1</b>	<b>-9.5</b>
Capital expenditure	-7.3	-1.5
R&D capitalised	-1.3	0.0
Finance income	0.2	0.1
<b>Equity-free cash outflow<sup>1</sup></b>	<b>-11.5</b>	<b>-10.9</b>
<b>Net cash &amp; financial assets</b>	<b>71.3</b>	<b>6.4</b>

<sup>1</sup>Equity free cash outflow is the net change in cash and cash equivalents in the year less net cash generated from financing activities plus the movement in short-term investments.



## SUMMARY AND OUTLOOK



- Commercial launch with Miura in Japan (Q4 2019)
- CP2 on track for first production (Jan 2020)
- Bosch: Collaboration to establish pilot manufacture in Bamberg Germany
- Weichai: Focused on developing the next stage systems for bus field trials in 2020. Commitment to form a JV to manufacture fuel cell systems (Q4 2020)
- Continued investment in R&D latest technology update V6 targeted (Q4 2020)

Strong revenue growth to continue, with high margin licensing business model



**QUESTIONS**



# Appendices

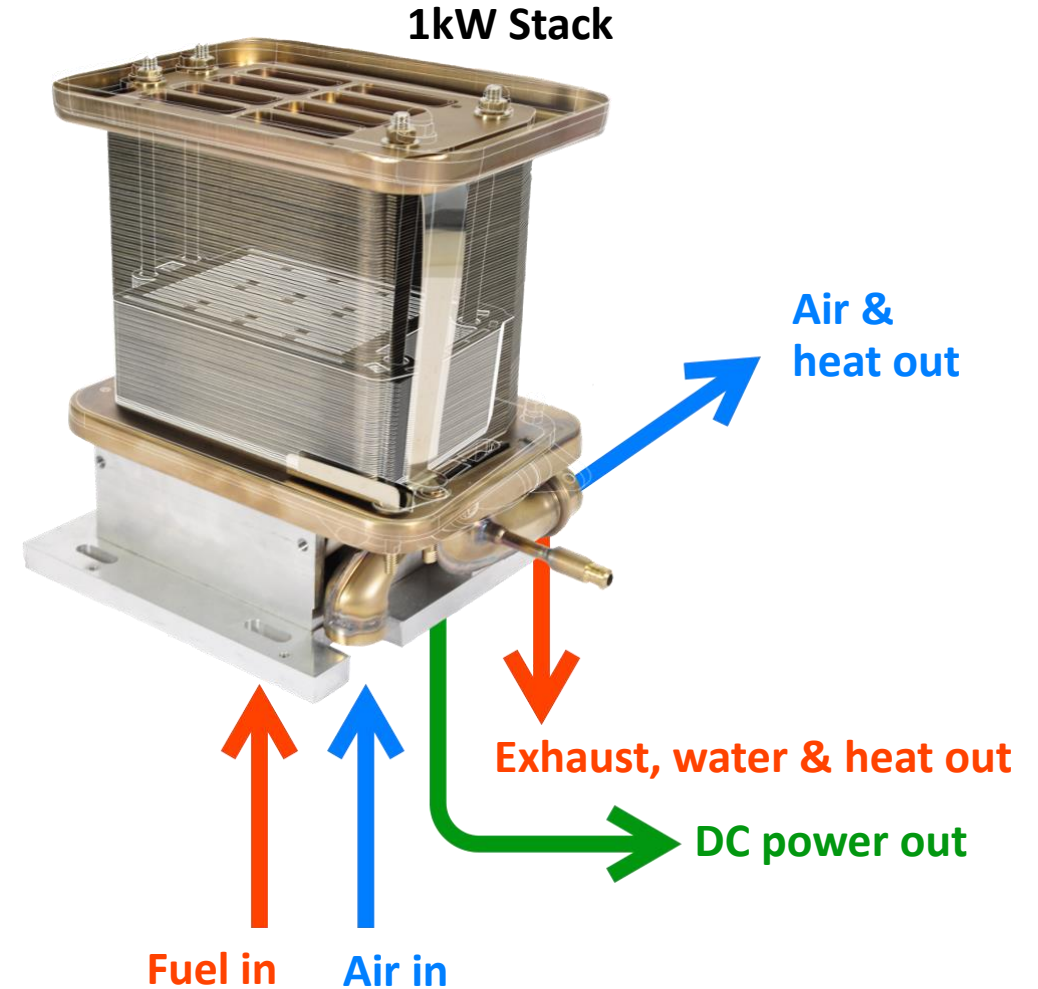
# Fuel cell technology

A fuel cell is the most efficient way to convert fuel to power

- Produces an electric current from a chemical reaction
- No combustion

Results in clean air and less CO<sub>2</sub>




- No particulates, SOx or NOx emissions
- Low to zero CO<sub>2</sub> produced depending on fuel used (30% to 100% reduction)



# Advantage of Ceres' SteelCell®

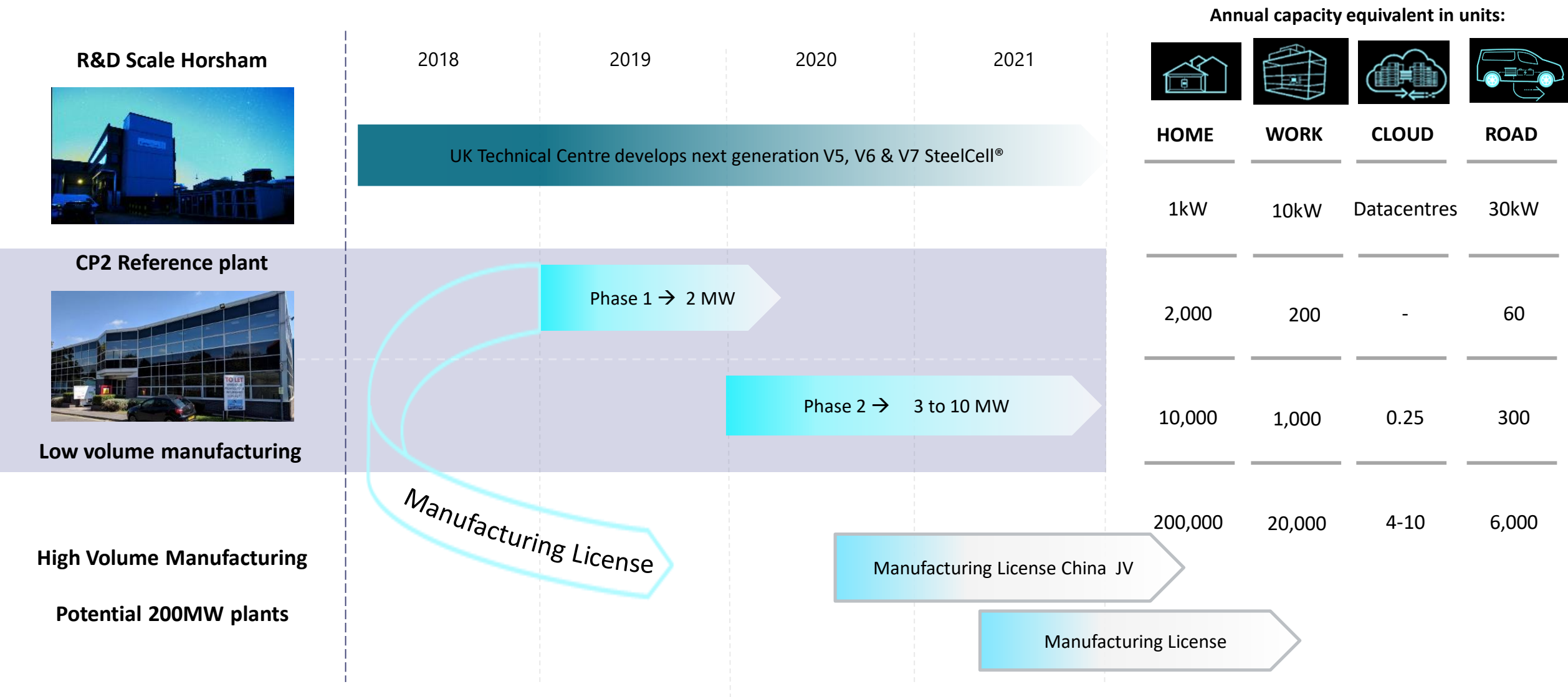
SteelCell® is a solid oxide fuel cell (SOFC) technology incorporating a proprietary process to deposit very thin ceramic layers on micro-perforated steel plates.

- Steel construction; low-cost and robust
- Fuel flexible; hydrogen ready, operate on natural gas, liquid fuels or biofuels today
- Scalable; more cells stacked equals greater energy delivered
- Stationary and transport applications

Fuel Cell Technology Family	 PEM	 SOFC	 SteelCell®
Efficiency		✓	✓
Fuel suitability	Hydrogen only	Nat Gas Liquid fuels Bio fuels Hydrogen	Nat Gas Liquid fuels Bio fuels Hydrogen
Cost	✓		✓
Robustness	✓		✓
Applications	Transport	Stationary	Both
Leading players	Ballard, Toyota etc	Bloom Energy	Ceres



# UK Manufacturing enables global licensees





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For more information please contact  
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