



#### 2017 AGM Presentation

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## **Changing Perceptions in the Energy Storage Market**

The wider market is only beginning to understand power vs energy from a use case. perspective



Incumbent technologies (Lead, Lithium) are power-centric. Lots of power for a short period of time.

energy storage

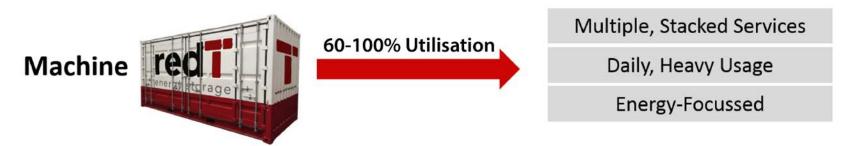
Flow machines are energy-centric. Provide power over a sustained period in line with your use case

## **Changing Perceptions in the Energy Storage Market**



#### **Ideal for:**

Frequency Response Tenders – Good return in short run, but not sustainable long term



#### **Ideal for:**

Multiple, stacked services – Financeable, Infrastructure Asset with good long term returns



## **Sales Strategy & Targets**

#### **Segment 1: UK Grid-Connected**

- Behind-The-Meter Commercial, Industrial & Agricultural
- Grid-Scale projects at network level
- Stacking multiple grid services, renewable firming & energy trading
- 7-10 Year Payback

#### **Segment 2: Off-Grid Diesel Optimisation & Microgrid**

- Sub-Saharan Africa/Islands
- Developers, EPCs, C&I, Mining
- Energy Security & Project Opex Reduction
- 3-5 Year Payback

### Segment 3: Australia Grid-Connected (Market Entry in Short Term)

- Behind-The-Meter Commercial, Industrial & Agricultural
- Grid-Scale projects at network level
- Stacking multiple grid services, renewable firming & energy trading
- 5-10 Year Payback



## **Commercial Update**

Production & Deployment	<ul> <li>University of Strathclyde</li> <li>Thaba Eco Lodge</li> <li>Jabil Inala</li> <li>The Olde House</li> <li>RNLI</li> <li>UK Agri-business</li> <li>Chester University</li> </ul> 15 x Tank Unit Modules
2017 Orders	6 x Tank Unit Modules
Final Stage Customer Selection for 2018 delivery	€15.9m - 265 x Tank Unit Modules
Active Customer Pipeline	~€314m



redT 15-75 being loaded for shipping



redT 60-300 assembly



### **Customer Case Study: UK Agri-Business**





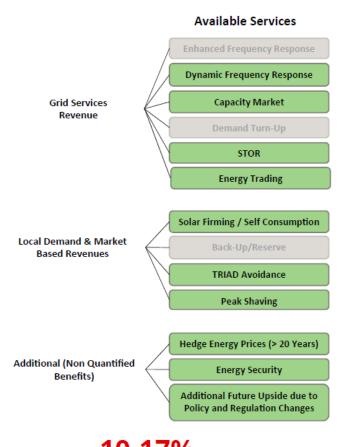
250kWp of Solar Panels (Grid Connected)



**Key Project Financials** 

**7-10 Years** 

Project Payback



10-17% Internal Rate of Return (Unlevered) **Customer Chosen Services** 

Dynamic Frequency Response

Capacity Market

STOR

**Energy Trading** 

Solar Firming / Self Consumption

TRIAD Avoidance

Price Arbitrage

Hedge Energy Prices (> 20 Years)

**Energy Security** 

Additional Future Upside due to Policy and Regulation Changes

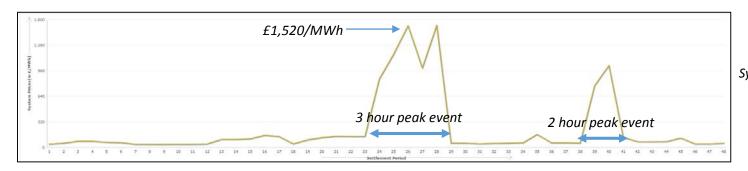
#### 54MWh/Year

Additional PV Generation Utilised

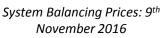


## **Grid Services – System Balancing & Wholesale Markets**

• To take advantage of these multiple and long peak pricing events, a long duration energy storage machine is essential where batteries won't be able to service long intervals



System Balancing Prices: 8<sup>th</sup> November 2016







### **Customer Case Study: The Olde House, Cornwall**



Farm & Holiday Retreat, Cornwall, UK



350kWp Solar Panels



90kW, 1,080kWh redT energy storage system

- Cornwall's largest energy storage project
- Key redT customer demonstration site
- Currently being implemented

#### **Customer Use Case**

- Time-shift excess energy to avoid up to 50% of peak energy charges
- Provide flexibility to the local grid and earn additional revenue from grid services
- Participate in future local energy market trading initiatives
- Stack multiple savings and revenue streams for best economic returns

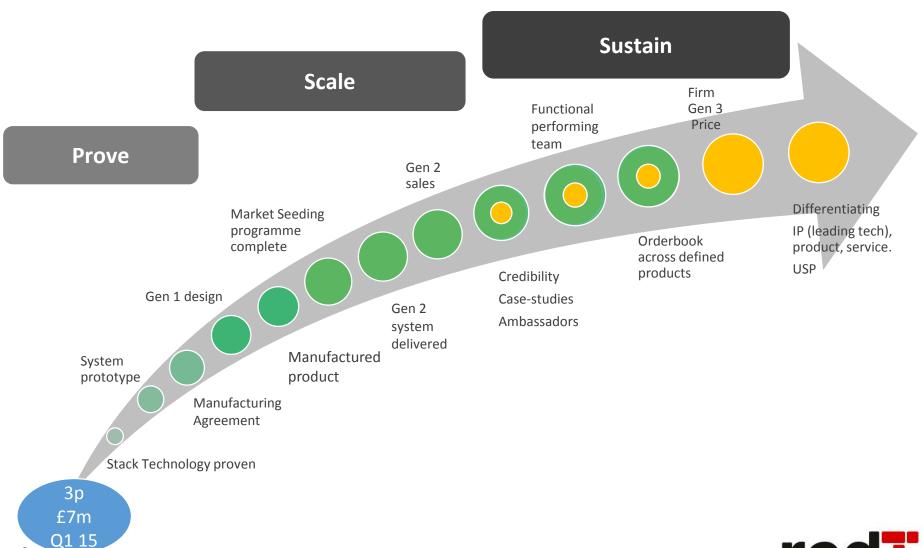
#### **Project Partners:**





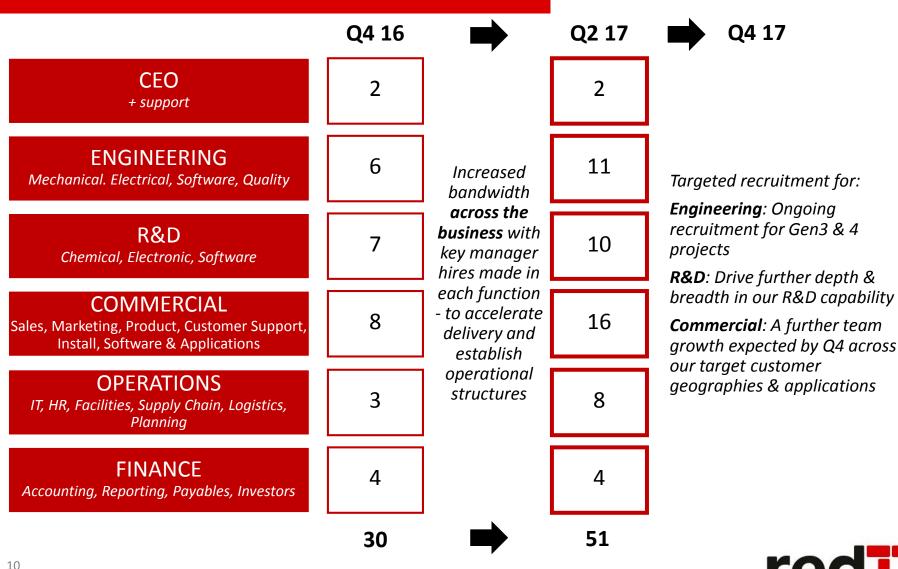


## **Sustainable Equity Value**





## redT Organisation Growth





#### redT – Business Outlook

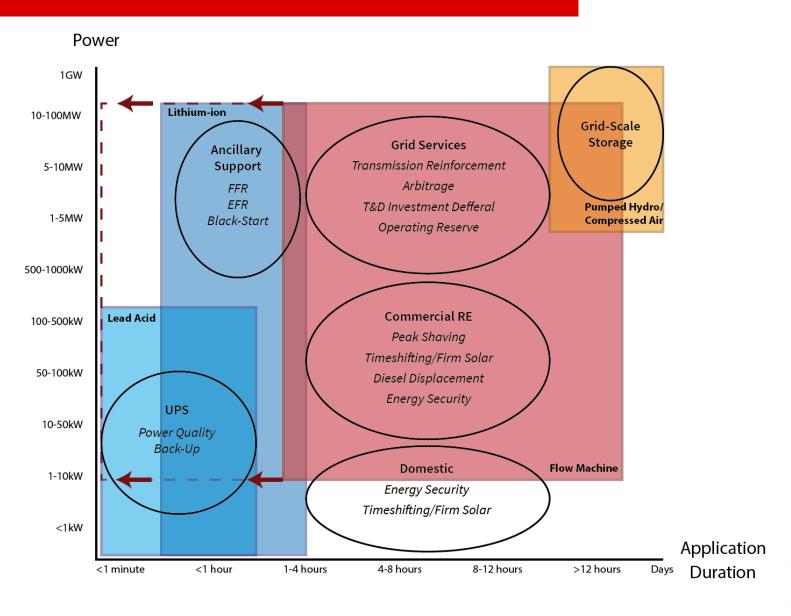
- Focussed on **implementation and deployment** of key customer sites (Olde House, RNLI etc.)
- Final stage of redT team build-out
- Gen 2 sales key segments & product differentiation
- Building orderbook for 2018
- Gen 3 stack and electrolyte cost down



# **Appendix**

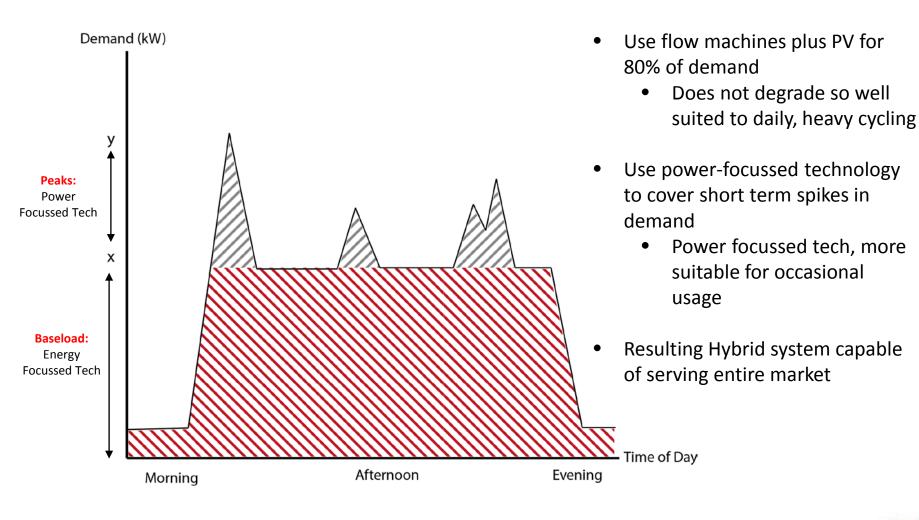


## The Energy Storage Market



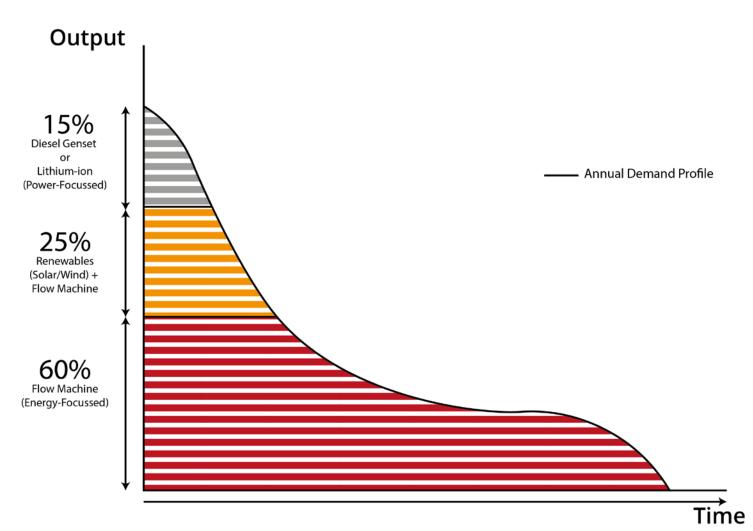


### **Hybrid Energy Storage System – Daily Output**





## **Hybrid Energy Storage System – Annual Output**





redT 15-75 Machine being prepared for shipping to Johannesburg, South Africa



Internal view of redT 15-75 machine performing a charge/discharge cycle





redT machines being prepared for shipping at manufacturing site

