



## **RedFlow Limited**

ACN 130 227 271

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### **RedFlow appoints Jabil Circuit for accelerated manufacturing expansion**

Electricity storage system company, RedFlow Limited (ASX: RFX), has today appointed Jabil Circuit Inc. (NYSE: JBL) as its outsourced manufacturing partner for its core zinc-bromine battery modules (ZBMs).

The Manufacturing Services Contract with Jabil is an acceleration of RedFlow's expansion plans outlined in the November 2010 IPO prospectus. Outsourced production of ZBM components by Jabil will commence in Q3 2011 and progressively expand, which is well ahead of the prospectus schedule for outsourced manufacturing to be operational in 2013.

This early expansion of manufacturing capacity is expected to accelerate RedFlow's entry into international markets by progressively reducing production costs of the Company's ZBMs.

RedFlow expects to achieve unit cost savings through a combination of:

- ✓ Reduced product costs through manufacturing expertise, high labour productivity and the buying power of a international supply chain;
- ✓ Consistent high quality of components and assembly; and
- ✓ Reduced exposure to additional capital costs for plant expansion.

Jabil is a multi-national (55 factories in 22 countries) global Electronic Manufacturing Service (EMS) provider with current fiscal year revenue of approximately \$16 billion/year. Large scale outsourcing is common in the electronics sector and is becoming increasingly used by cleantech companies.

Speaking from the Electricity Storage Association conference in San Jose, California, RedFlow's Chief Executive Officer, Phillip Hutchings, said: "It is pleasing that we have been able to appoint an outsourced manufacturer earlier than planned and accelerate our transition into higher volume, lower cost production.

"Jabil brings to RedFlow low-cost, high-quality manufacturing, a well-developed supply chain and a demonstrated ability to ramp up production to meet customer needs. RedFlow selected Jabil as its manufacturer of choice in part because of Jabil's commitment to the cleantech sector."

Jabil is separately negotiating with RedFlow to integrate ZBMs for products in the telecommunications market. Jabil has agreed to purchase sixty ZBMs for trials and delivery of these has been rescheduled to the second half of 2011. RedFlow is further developing its product and market entry plans for the off-grid telco sector and these arrangements are one component of the broader plan.

RedFlow has been fully engaged over the past five months in preparing for outsourced manufacturing, with a specialist project manager in this area. The appointment follows expanding technical interchange between the two companies and agreement on commercial terms.

Jabil will initially manufacture RedFlow ZBM components at its specialist plastics plant located in Taichung, Taiwan. It will build to RedFlow orders, with rolling production forecasts and clearly defined quality and delivery terms.

RedFlow retains its core intellectual property. The Company's production engineers will collaborate with Jabil experts to deliver cost savings well in excess of those which RedFlow could achieve on its own.

RedFlow's existing workforce and Brisbane production facilities will progressively switch to large-scale prototype production of enhanced 'next-generation' ZBMs before handover for outsourced manufacturing.

"In recent years, cleantech companies have outsourced manufacturing to take advantage of cost, quality and supply chain benefits. As an example, Jabil itself has become one of the world's leading manufacturers of solar photovoltaic (PV) panels for clients in this sector," Mr Hutchings said.

"This step is a further differentiation of RedFlow from its global competitors and will give RedFlow the production capacity and quality to progressively expand its international markets."

The outsourced EMS model has been enormously successful in the electronics industry over the past two decades and has been a key driver in the proliferation and in the low cost of consumer electronics. This model is now spreading to other sectors with similar characteristics (refer to the attached *Introduction to the Electronic Manufacturing Services (EMS) Sector*).

RedFlow's Chief Technology Officer, Chris Winter, is addressing the Energy Storage Association Conference in San Jose today and will highlight RedFlow's leading position in the roll-out of grid-connected energy storage solutions using ZBMs.

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### **About RedFlow**

RedFlow manufactures and sells electricity storage systems (ESS) based on its IP-protected zinc-bromine flowing electrolyte battery module (ZBM). RedFlow's 5kW/10kWh ZBM is light-weight, compact and with volume manufacturing, low cost compared to alternative batteries. RedFlow manufactures both ZBMs and ESSs at its Brisbane factory, currently undergoing a major expansion. RedFlow ESSs have standard capacities of 10 to 20kWh, and the range is being extended to the megawatt class with the M-category prototype under development. They are designed for peak load management and smart grid support in electricity networks, inclusion in hybrid solar and diesel generating stations and to add value to intermittent generation from renewable energy sources.

More information can be found at [www.redflow.com](http://www.redflow.com)

### **About Jabil Circuit, Inc**

Jabil is a \$16 billion/yr electronics solutions company providing comprehensive electronics design, production and product management services to global electronics and technology companies. Well known large clients of Jabil include Apple, Cisco, HP and Nokia. Jabil's global cleantech business has approximately \$1.4 billion/year of revenue across a broad spectrum including solar panels, smartgrid meters and wind turbines. With approximately 100,000 employees and facilities in twenty-one countries, Jabil provides comprehensive, individualised, focused solutions to customers in a broad range of industries. Jabil common stock is traded on the New York Stock Exchange under the symbol, "JBL".

More information can be found at [www.jabil.com](http://www.jabil.com)

## **An Introduction to the Electronic Manufacturing Services (EMS) Sector**

*The EMS industry comprises specialist global manufacturing companies who manufacture on behalf of client companies. This industry started in the electronics sector and has now spread to other industries. EMS companies themselves do not have branded products – they simply provide manufacturing services – and do not compete with their client companies.*

*From an Australian perspective, the use of specialist EMS companies is a parallel to mining companies using specialist mining contractors. That transition started approximately fifteen years ago and is now widespread.*

*The EMS industry has grown rapidly over the past twenty years as more and more large companies chose to outsource an increasing proportion and, in some cases, all of their manufacturing requirements.*

*The larger EMS companies (Tier One) include Jabil Circuit, Benchmark Electronics, Celestica, Flextronics International, Hon-Hai Precision Industry, Plexus and Sanmina-SCI.*

*Well known consumer electronics companies, which have embraced the use of EMS manufacturing include Apple, Hewlett Packard, IBM, Research in Motion (Blackberry), Cisco and Nokia.*

*RedFlow already outsources a proportion of its manufacturing. It uses some specialist suppliers in Australia and offshore and is experienced in managing contractors.*

*There are five reasons why companies chose EMS providers. RedFlow is seeking these benefits as well:*

- a) **Reduced Product Cost.** *EMS companies have highly developed processes and well skilled employees with high utilisation. They generally have their factories located in lower wage countries including China.*
- b) **Reduced Capital Investment in Manufacturing.** *EMS companies provide the factory space and machines for their client companies. In effect, this moves the capital investment off balance sheet.*
- c) **Improved Purchasing Power and Inventory Management.** *Manufacturing services providers have extremely well developed supply chains and are able to procure raw materials and components at significantly better prices.*
- d) **Access to Advanced Manufacturing Techniques.** *EMS providers are able to offer “design for manufacturing” services that further reduce product cost.*
- e) **Accelerated Product Time to Market.** *Manufacturing services providers have great experience in managing product ramp up and are skilled in transferring new products into production.*

*In effect, a whole global manufacturing ecosystem has been developed over the past twenty years which has supported the huge growth in products like computers, mobile phones and printers.*

*As these sectors themselves have matured, EMS companies have moved into related sectors such as health care products and cleantech. As an example of the latter, several major solar PV panel companies have progressively begun outsourcing their panel production to EMS companies over the past three years, to take advantage of the benefits outlined above.*

*The engagement of contract manufacturing is governed by standard contracts known as Manufacturing Service Agreements (MSA). A typical MSA governs key activities such as product quality, payment terms, rolling forecasts and IP protection.*