



31 January 2020

Redflow December 2019 Quarterly Report

Redflow Limited (ASX: RFX) is pleased to provide the following quarterly business update alongside its Appendix 4C for the quarter ended 31 December 2019 (Q2 FY2020).

Highlights

- Sales gaining momentum with \$316k in follow up orders delivered to strategically important customers Vodacom (through telco partner Mobax in South Africa), Western Australian partner TIEC and Rural Connectivity Group (through new partner SBS in New Zealand)
- Deployment to Vodafone has enabled Redflow to significantly progress engagements with a number of telco tower companies and mobile operators in the African region
- Redflow was selected by the Rural Connectivity Group in New Zealand to provide batteries for new cell sites in rural locations
- Experienced Sales Director hired to promote Redflow and secure new customers in South Africa
- Material progress made with engineering projects to deliver lower cost batteries and implement enhanced theft mitigation features
- Confirmed orders for over 50 batteries, expected to be largely delivered during the March 2020 quarter
- Cash receipts up 282% on prior corresponding period to \$1,050k (Q2 FY2019: \$275k). Trade receivables of \$490k
- 31 December 2019 Cash balance of \$5.0 million, with an R&D tax rebate of \$2.0 million received in January 2020

Operational Update

Delivered batteries to Vodacom in South Africa

In December 2019, Redflow announced that Vodacom had commenced deploying our zinc bromine batteries to its mobile base stations. This follows an order in September from its partner, Mobax, to provide 68 batteries for at least 20 mobile phone tower sites in South Africa. Vodacom is one of Africa's leading telecommunication companies, providing communication and data services to over 110 million people across six countries. Vodacom is majority owned by Vodafone Group.

Vodacom, the owner of the tower sites, is deploying Redflow's flow batteries at diesel-powered base stations and help address the critical issues of vandalism and theft of lead-acid and lithium batteries. Moropa, another key Redflow partner in South Africa, has also deployed Redflow's batteries in its deep rural towers to support the Vodacom network since November 2018.

Vodacom's new use of the ZBM2 specifically to manage battery theft and vandalism is a significant commercial development for Redflow in the large African market. Redflow's batteries also deliver significantly reduced operating costs associated with diesel-powered base stations.

A March 2019 Reuters interview with Vodacom CTO Andres Delpoort reported that as many as 500 towers out of the 14,000 have either been vandalised or had batteries stolen every month and Vodacom forecasted to invest 250-300m rand (AUD\$ 25-30m) just on batteries in the year.

A number of the 68 batteries purchased by Vodacom have now been deployed by Mobax at both diesel sites and theft-prone locations. Mobax will continue to deploy the remainder over the coming months.



To support the growing opportunity in South Africa, Redflow has recruited an experienced Sales Director from the renewable energy industry to manage sales efforts and partners in the country. This will provide the on ground support to enable Redflow to commence and significantly progress engagements with a number of telco tower companies or mobile operators who are interested in a trial or initial order in the African region.

Redflow Selected by Rural Connectivity Group for Off-grid Storage

During the quarter, the New Zealand Rural Connectivity Group (RCG) selected Redflow ZBM2 batteries to store energy in off-grid telecommunication sites in remote rural New Zealand locations. RCG's off-grid telecommunications sites will incorporate a combination of PV solar panels, Redflow batteries and a backup generator to provide a stable power supply.

RCG is a joint venture by New Zealand's mobile network operators – Vodafone, Spark and 2degrees. The New Zealand government through its entity Crown Infrastructure Partners has contracted with RCG to bring 4G mobile and wireless broadband coverage to rural New Zealand. RCG will build over 400 new off-grid and on-grid telecommunication sites to extend mobile and wireless broadband coverage to more than 34,000 rural homes and businesses. These towers will provide mobile coverage to a further 1,000 kilometres of state highways and provide connectivity to more than 100 top New Zealand tourist destinations by December 2022.

The first site using eight Redflow batteries was installed in late December 2019. Further sites are expected to be deployed in the coming months.

Redflow is currently working on a broader commercial agreement with RCG, which it expects to finalise over the next few months.

Further Progress in Off Grid Energy Storage Market in Australia

A recent deployment in late 2019 in Western Australia also demonstrated the market opportunity for Redflow batteries to provide off-grid energy storage for rural properties in harsh Australian environments.

Redflow worked with Perth-based installation partner, TIEC Electrical to install a Redflow battery-based energy storage system at Yallalong Station, a 348,000-hectare cattle property 650km north of Perth. The site is 150 km away from the nearest power grid and was only able to run their diesel generator 2-3 hours a day due to the high cost and required maintenance.

TIEC Electrical CEO, Leith Elsegood, endorsed the unique features of the Redflow solution "The heat tolerance and sustained energy storage of Redflow batteries make them ideal for the harsh conditions at Yallalong," he said "I'm sure that the longevity and performance of these batteries in hot conditions will attract a lot more interest here in WA."

Redflow is currently working on further opportunities for rural deployments in Australia and continues to actively support its key partners in Australia and other markets on a number of sales opportunities.

Engineering Updates

Redflow has continued to make progress in its core engineering projects to deliver higher quality and lower cost batteries and provide the platform for a volume manufactured battery at a competitive price point. Specifically, Redflow has progressed its development and testing of its new Gen 3 stack and updated electronics board.

Additionally, Redflow remains focused on innovation. Working closely with its partners and end telco customers, Redflow has developed a number of important hardware and software theft mitigation features which directly meet the needs of our target markets.

Financial Update

Cash receipts were \$1,050k (Q2 FY19: \$275k), and trade receivables were \$490k, underpinned by orders delivered to multiple customers, including Mobax for Vodacom, TIEC and SBS in New Zealand. The Company continues to moderate production to allow it to focus on incremental improvements to the factory, which will benefit long term productivity, minimise expenditure on raw materials and focus on engineering projects. At 31 December 2019, Redflow had a cash balance of \$5.0 million.



During the first week of January, the company received an R&D tax rebate of \$2.015m, which will appear in the March Quarter Appendix 4C. Redflow currently has confirmed orders for over 50 batteries, which are expected to be largely delivered during the March 2020 quarter.

Commenting on the progress made in Q2 FY2020 and outlook, Redflow CEO and Managing Director Tim Harris said:

“We are delighted to have made significant progress on commercialising our technology during the quarter, receiving follow up orders from several strategically important customers. The higher order flow follows successful reference deployments and new customer wins during previous periods. FY20 half year revenue significantly exceeds the total revenue achieved in FY19. We now have an attractive and growing list of orders from a set of world class companies who have the potential to order batteries in volume and also provide further reference deployments for growth.

“We are positive on the outlook for the remainder of the financial year and our ability to attract additional capital to support our growth. We now have a proven scalable manufacturing platform that will allow us to reach cash flow break even and then increase production to up to 55Mwh annually without significant investment.”

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About Redflow www.redflow.com

Redflow Limited, a publicly listed Australian company (ASX: RFX), produces small 10kWh zinc-bromine flow batteries that tolerate daily hard work in harsh conditions. Marketed as [ZCell](#) and [ZBM2](#), Redflow batteries are designed for high cycle-rate, long time-base stationary energy storage applications in the residential, commercial & industrial and telecommunications sectors, and are scalable from a single battery installation through to grid-scale deployments. Redflow batteries are sold, installed and maintained by an international network of energy system integrators. Redflow's smart, self-protecting batteries offer unique advantages including secure remote management, 100 per cent daily depth of discharge, tolerance of high ambient temperatures, a simple recycling path, no propensity for thermal runaway and sustained energy delivery throughout their operating life.

Appendix 4C

Quarterly cash flow report for entities subject to Listing Rule 4.7B

Name of entity

Redflow Limited

ABN

Quarter ended ("current quarter")

49 130 227 271

Dec-19

Consolidated statement of cash flows		Current quarter	Year to date (6 months)
		\$A'000	\$A'000
1	Cash flows from operating activities		
1.1	Receipts from customers	1,050	1,390
1.2	Payments for		
	(a) research and development	-736	-1,667
	(b) product manufacturing and operating costs	-1,202	-2,582
	(c) advertising and marketing	-361	-617
	(d) leased assets	-46	-93
	(e) staff costs	-700	-1,408
	(f) administration and corporate costs	-356	-625
1.3	Dividends received (see note 3)		
1.4	Interest received	12	49
1.5	Interest and other costs of finance paid	-1	-4
1.6	Income taxes paid	-36	-36
1.7	Government grants and tax incentives	40	40
1.8	Other (provide details if material)	0	0
1.9	Net cash from/(used in) operating activities	-2,336	-5,553
2	Cash flows from to investing activities		
2.1	Payments to acquire:		
	(a) entities		
	(b) businesses		
	(c) property, plant and equipment	-99	-111
	(d) investments		
	(e) intellectual property	-76	-124
	(f) other non-current assets		

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from disposal of:		
	(a) entities		
	(b) businesses		
	(c) property, plant and equipment		
	(d) investments		
	(e) intellectual property		
	(f) other non-current assets		
2.3	Cash flows from loans to other entities		
2.4	Dividends received (see Note 3)		
2.5	Other (provide details if material)		
2.6	Net cash from/(used in) investing activities	-175	-235
3	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)		
3.2	Proceeds from issue of convertible debt securities		
3.3	Proceeds from exercise of options		
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-22	-66
3.5	Proceeds from borrowings		
3.6	Repayment of borrowings		
3.7	Transaction costs related to loans and borrowings		
3.8	Dividends paid		
3.9	Other (provide details if material)		
3.10	Net cash from/(used in) financing activities	-22	-66
4	Net increase (decrease) in cash and cash equivalents for the period	-2,533	-5,854
4.1	Cash and cash equivalents at beginning of period	7,581	10,902
4.2	Net cash from/(used in) operating activities (Item 1.9 above)	-2,336	-5,553
4.3	Net cash from/(used in) investing activities (Item 2.6 above)	-175	-235

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
4.4	Net cash from/(used in) financing activities (Item 3.10 above)	-22	-66
4.5	Effect of movement in exchange rate on cash held	-25	-25
4.6	Cash and cash equivalents at end of quarter	5,023	5,023

5 Reconciliation of cash and cash equivalents		Current quarter \$A'000	Previous quarter \$A'000
at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts		\$A'000	\$A'000
5.1	Bank balances	1,023	1,581
5.2	Call deposits	4,000	6,000
5.3	Bank overdrafts		
5.4	Other (provide details)		
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	5,023	7,581

6 Payments to related parties of the entity and their associates

- 6.1 Aggregate amount of payments to related parties and their associates included in item 1
- 6.2 Aggregate amount of payments to related parties and their associates included in item 2

Current quarter \$A'000

Note: if any amounts are shown in 6.1 or 6.2 your quarterly report must include a description of and an explanation for, such payments

7 Financing facilities

NOTE: The term "facility" includes all forms of financing arrangements available to the entity

Add notes as necessary for an understanding of the sources of finance available to the entity.

Total facility amount at quarter end	Amount drawn at quarter end
\$A'000	\$A'000

7.1 Loan facilities

7.2 Credit standby arrangements

7.3 Other (please specify)

7.4 **Total financing facilities**7.5 **Unused financing facilities available at the quarter end**

7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.

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8	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (Item 1.9)	-2,336
8.2	Cash and cash equivalents at quarter end (Item 4.6)	5,023
8.3	Unused finance facilities available at quarter end (Item 7.5)	0
8.4	Total available funds (Item 8.2 + Item 8.3)	5,023
8.5	Estimated quarters of funding available (Item 8.4 divided by Item 8.1)	2.2

8.6 If Item 8.5 is less than 2 quarters, please provide answers to the following questions:

1. Does the entity expect that it will continue to have the current level of net operating cash flow for the time being and if not why not ?

Answer:

N/A

2. Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operation and , if so, what are those steps and how likely does it believe that they will be successful?

Answer:

N/A

3. Does the entity expect to be able to continue its operations and to meet its business objectives and , if so , on what basis?

Answer:

N/A

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 31-January-2020

Authorised by: The Audit and Risk Committee

(Name of the body or officer authorising release - see note 4)

Notes

- 1 This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
- 2 If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report
- 3 Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
- 4 If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [*name of board committee – eg Audit and Risk Committee*]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
- 5 If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.