

## Weebit executing ReRAM commercialisation plans

*Transferring technology to SkyWater's fab*

*Demonstrated its ReRAM at 28nm*

*Received silicon demo wafers integrating ReRAM module*

*Raised \$35.2 million to accelerate growth initiatives and technology development*

### Q2 FY22 Quarterly Activities Report

#### Key Q2 FY22 highlights

- **Technology being transferred to SkyWater's US fab, with qualification process currently on track**
- **Successfully demonstrated Weebit's ReRAM technology at 28nm**
- **Received first silicon demo wafers integrating Weebit's embedded ReRAM module**
- **Raised \$35.2 million to accelerate growth initiatives and technology development**
- **Commenced environmental initiative with CEA-Leti to measure carbon footprint**
- **Filed five new patents, further protecting intellectual property**
- **Post-quarter end, demonstrated its first crossbar ReRAM arrays and published a research paper on neuromorphic computing with IIT Delhi**
- **Advancing commercial negotiations with several potential partners and customers**

28 January 2022 – Weebit Nano Ltd (**ASX: WBT, Weebit or Company**) is pleased to provide this activity report for the quarter ended 31 December 2021 (**Q2 FY22**), along with the Company's Appendix 4C cash flow report.

#### Commenting on Q2 FY22, Weebit CEO Coby Hanoach said:

"Weebit Nano made significant in-roads towards commercialisation during the quarter, transferring our embedded ReRAM technology to SkyWater's US production facility, demonstrating our technology at 28nm, and manufacturing our first silicon demo wafers with CEA-Leti for the embedded market.

"Alongside this technical progress, we successfully raised \$35.2 million, \$25.7 million of which was from leading Israel-based institutional and pension funds, to accelerate our growth initiatives, and advanced commercial negotiations with potential partners and customers. We also continued to develop a solution for the discrete [stand-alone] memory market in line with our longer-term commercialisation strategy, demonstrating our first crossbar ReRAM arrays.



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“Delivering Weebit’s first silicon demo wafers was a key milestone in our commercialisation roadmap. We are now packaging them into demo chips, enabling potential customers to test and evaluate our embedded ReRAM technology within their applications. Until now we have focused on refining our memory array, which can be likened to a car engine, which we tested extensively in the lab. The demo chip is like the car body, allowing us to test the memory array in a real-life environment, just like a car manufacturer finally gets to install its engine within a car body to see how it functions in real-world scenarios, including key metrics such as how fast it reaches 100km/h.

“In the memory industry, the module is even more important as it features logic that impacts memory speed and power consumption. Until we incorporated our array into a module – which knows how to read and write to the memory array – we couldn’t verify the real-world capabilities of our memory technology. With our demo chips, having integrated the embedded ReRAM module with a complete subsystem, potential customers can now measure the technical parameters of our memory technology within their own designs.

“We are seeing an ever-growing need for new memory technologies that provides a huge addressable market globally for Weebit’s embedded ReRAM technology, which is faster and more energy efficient than existing Flash technology. We are now well-funded to migrate our ReRAM technology to even smaller geometries, where Flash is no longer a viable option, further increasing the number of target applications and industries.”

### **Technology being transferred to SkyWater’s US fab, with qualification process currently on track**

The transfer of Weebit’s embedded ReRAM technology to SkyWater’s US production fab is progressing with the first prototype tape-out expected to be completed by mid-year, followed by technology qualification. Once Weebit’s technology has been qualified, SkyWater will add it to its 130nm Process Design Kit, enabling SkyWater customers who license Weebit’s technology to embed it within new product designs they develop and mass-produce at SkyWater’s fab.

Like all industries currently, the over-demand in the semiconductor domain with some of Weebit’s suppliers operating at their capacity limits, coupled with the fact that many suppliers’ employees are quarantined due to COVID-19, is causing uncertainties within the industry generally. Weebit and its suppliers are working hard to minimise any potential impact to Weebit’s qualification schedule, but there is a possibility that qualification may be slightly delayed to early 2023.

### **First silicon demo wafers received**

Weebit reached a key commercialisation milestone during the quarter, receiving the first manufactured silicon wafers integrating its embedded ReRAM module inside complete subsystem demonstration chips. These demo chips support the adoption of Weebit’s technology, enabling potential customers to run applications and test Weebit’s technology ahead of commercial orders and volume production.

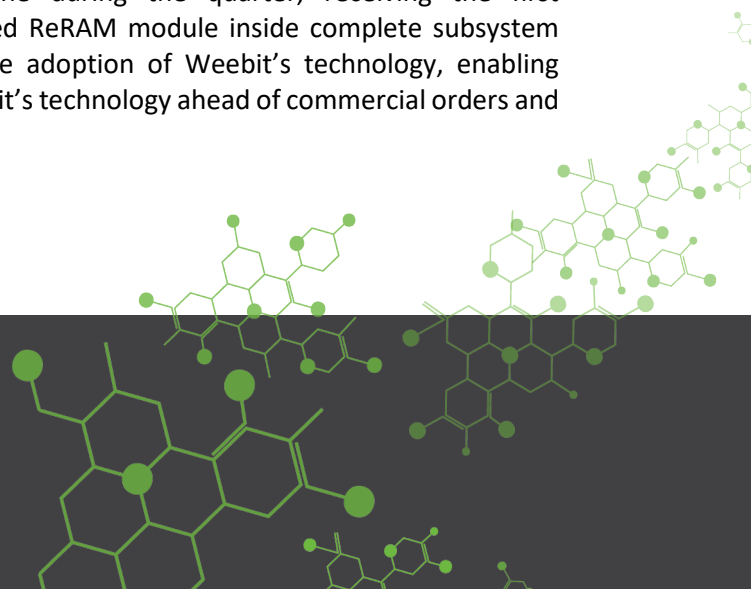


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Weebit worked with CEA-Leti to successfully manufacture the demo wafers, which are now being sliced into chips, packaged, tested, characterised and qualified. Weebit's embedded ReRAM module has been designed with unique patent-pending analog and digital smart circuitry and includes a 128Kb array, control logic, decoders, IOs (input/output communication elements) and error correcting code (ECC).

### **Secured \$35.2 million to accelerate growth initiatives and technology development**

In November 2021, Weebit raised \$35.2 million via a Placement to four Israel-based institutional and pension funds and an Entitlement Offer to existing shareholders. Meitav Dash, a major institutional investment and pension fund in Israel, was the Placement's cornerstone investor, and the Entitlement Offer was oversubscribed. The Placement was another significant milestone for the Company, representing the first time international institutional investors joined Weebit's register.

The funds raised are being used to bring forward longer-term R&D and commercial initiatives, including:

- Moving to smaller geometries below 28nm in the embedded memory sector
- Ongoing development of a solution for the discrete memory market
- Improving the baseline parameters of Weebit's ReRAM technology
- Expanding sales and marketing activities to increase engagement with additional fabs and customers

### **Successfully demonstrated ReRAM at 28nm**

In October 2021, the Company and its development partner CEA-Leti successfully demonstrated very good endurance, data retention and other production-level parameters of its ReRAM technology at 28nm on 300mm wafers – a key step towards productisation of embedded Non-Volatile Memory (NVM) for AI, autonomous driving, 5G and advanced IoT.

The 28nm geometry is very popular and widely used in a range of advanced embedded applications, including image sensors for multi-camera products and silicon components in end devices. As embedded flash technology has difficulty scaling down below 40nm, there is a strong need for an efficient NVM technology at 28nm and below. Weebit is also in the process of scaling down to even smaller geometries.

### **Commenced environmental initiative with CEA-Leti to measure carbon footprint**

During the quarter, Weebit and CEA-Leti commenced a Life Cycle Assessment (LCA) of Weebit's ReRAM technology to analyse and quantify its environmental impact compared to other NVMs. The LCA will assess the total greenhouse gas (GHG) emissions associated with the uses of mineral, fossil and water resources, energy consumption and gases/chemistry involved in the development, manufacture, and operation of Weebit's ReRAM technology.

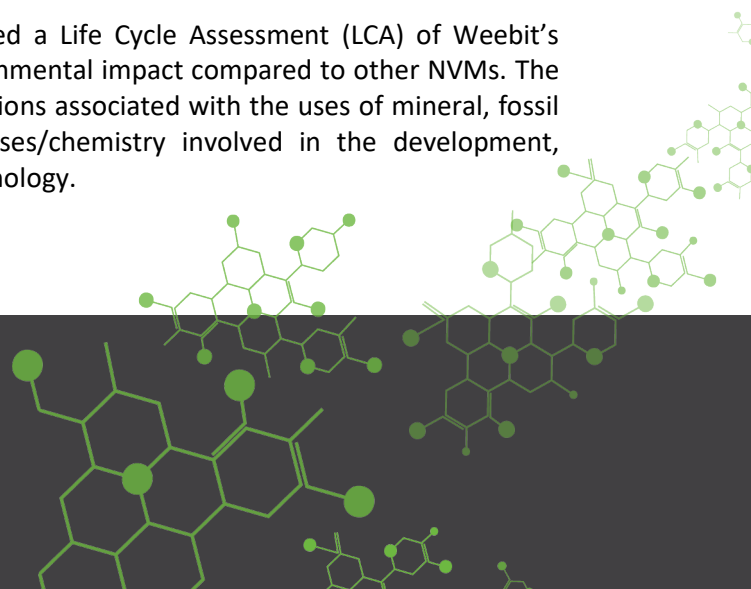


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“With an estimated 77 per cent of GHG emissions from the electronics industry attributable to the supply chain, it’s imperative all companies within the semiconductor ecosystem further reduce their carbon footprint. Weebit’s ReRAM is significantly more energy efficient than many other memory technologies, and as we progress to more advanced nodes, we want to ensure our technology is industry-leading on all fronts, including sustainability. Importantly, this LCA will assist in identifying ways to reduce the environmental impact of AI and IoT, which are significant contributors to emissions,” Mr Hanoch said.

### **Filed new patents, further protecting intellectual property**

Weebit continues to protect its intellectual property, filing five new patents during the quarter. Four of the patents were co-authored with CEA-Leti and relate to the ongoing development of the selector technology. These patents cover different selector-based memory structures and their programming schemes. The selector is a key component for Weebit’s longer-term strategy, targeting the discrete memory market.

The fifth patent reflects Weebit’s ongoing innovation in developing smart algorithms for its ReRAM module, saving on power consumption, and reducing time to complete a memory write transaction.

### **Advancing commercial negotiations with several potential partners and customers**

During Q2, Weebit progressed its commercial negotiations with potential customers and partners. While most companies prefer to wait until the technology is qualified before commencing commercial discussions, some realise the potential of Weebit’s ReRAM and are open to engaging in advance of qualification. Weebit is working with these companies to define ways for them to incorporate its technology into their products during 2022, so they will be ready for production once it is qualified.

### **Summary of Q2 FY22 cashflows**

During the quarter, Weebit Nano received \$35.2 million gross proceeds from its successful Placement and Entitlement Offer. An additional \$7.2 million was received through the exercising of listed options (that expire on 30 January 2022). Post quarter end, a further \$7.6 million was raised through the exercising of the listed options.

As the majority of Weebit’s yearly research and development costs are paid in November/December, notable operating cash flow items during the quarter included R&D expenses of \$11.7 million. Total R&D payments for CY21 were \$16.1 million. Payments to related parties over Q2 FY22 were \$196K, which included fees paid to directors and the CEO’s cost of payroll for the period.

### **Post-quarter end demonstrated its first crossbar ReRAM arrays and published a research paper on neuromorphic computing with IIT Delhi**

Together with CEA-Leti, Weebit demonstrated its first operational Kilobit (Kb) crossbar arrays that combine its ReRAM technology with a selector. This is a key milestone on the Company’s path to creating discrete (stand-alone) NVM chips. Weebit’s crossbar arrays were developed using 1S1R (one



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selector one resistor) architecture, which in future will enable Weebit's arrays to be stacked in 3D layers, so they can deliver even higher densities. Weebit's 1S1R crossbar ReRAM architecture has the potential to be used as storage class memory, persistent memory and as a NOR flash replacement, and is also ideal for Machine Learning in-memory computations and neuromorphic computing (Artificial Intelligence).

A paper by researchers from IIT Delhi (led by Prof. Manan Suri), CEA-Leti, and Weebit has been published in scientific journal Applied Physics Letters. The paper leverages multiple state-of-the-art concepts to realise energy efficient edge-AI hardware, including low-precision Binary Neural Networks (BNNs) for computer vision. The paper is available at: <https://doi.org/10.1063/5.0073284>

### Looking forward

Weebit is focused on achieving its goals in the embedded memory market by the end of CY22, including:

- Transferring and qualifying its technology at SkyWater's US fab
- Providing functional test results of its embedded ReRAM module and demonstrating its functionality and performance
- Signing new licensing agreements with partners and customers
- Continuing scaling down its technology to smaller geometries

At the same time, Weebit will also continue to develop its solution for the discrete memory market.

### Investor briefing details

Coby Hanoch (CEO) will participate in a "Meet the CEO" interview covering the Company's quarterly update at **4:00pm AEDT today, 28 January 2022**. Participants will have an opportunity to ask questions.

To attend, please pre-register at: [https://us02web.zoom.us/webinar/register/WN\\_XghHxOgITdS-R0zEaAQJCQ](https://us02web.zoom.us/webinar/register/WN_XghHxOgITdS-R0zEaAQJCQ)

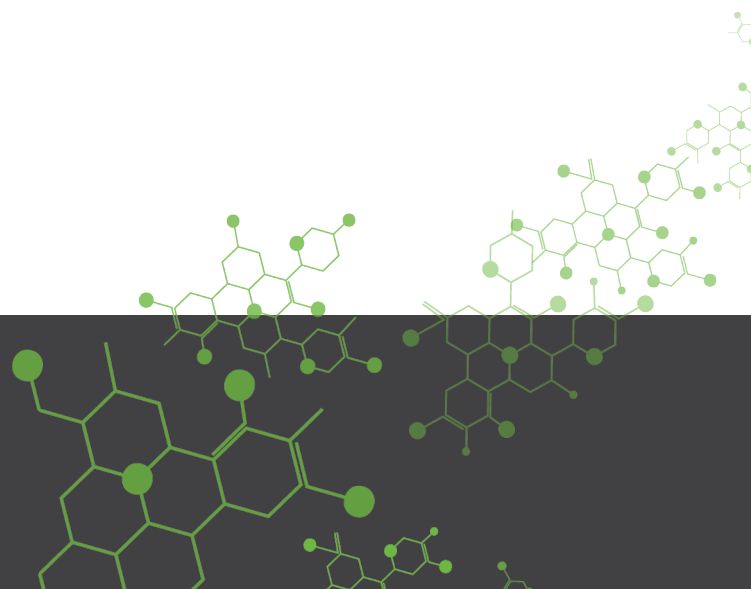
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*This announcement has been authorised for release by the Board of Weebit Nano Limited.*



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**About Weebit Nano Limited**

Weebit Nano Ltd. is a leading developer of next-generation semiconductor memory technology. The company's ground-breaking Resistive RAM (ReRAM) addresses the growing need for significantly higher performance and lower power memory solutions in a range of new electronic products such as Internet of Things (IoT) devices, smartphones, robotics, autonomous vehicles, 5G communications and artificial intelligence.

Weebit's ReRAM allows semiconductor memory elements to be significantly faster, less expensive, more reliable and more energy efficient than those using existing Flash memory solutions. Because it is based on fab-friendly materials, the technology can be quickly and easily integrated with existing flows and processes, without the need for special equipment or large investments.

See: [www.weebit-nano.com](http://www.weebit-nano.com) or follow us on <https://twitter.com/WeebitNano>

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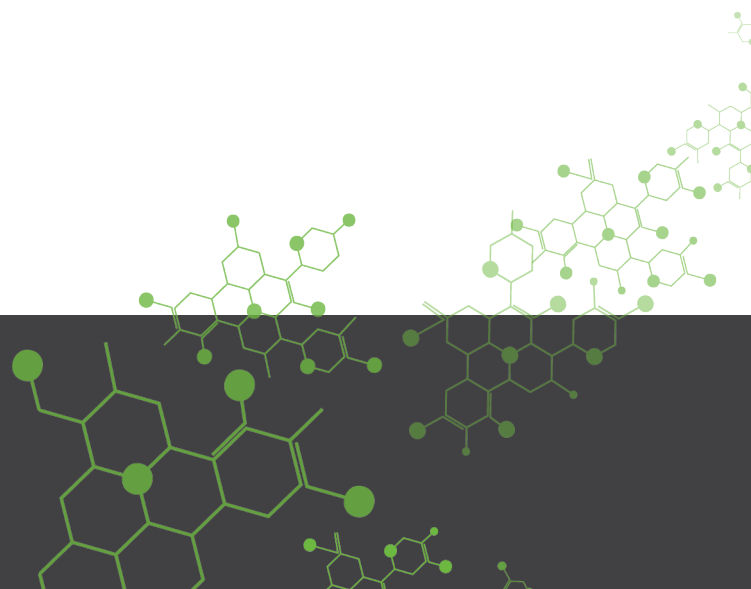


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## Appendix 4C

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

**Name of entity**

Weebit Nano Limited (ASX: WBT)

**ABN**

15 146 455 576

**Quarter ended ("current quarter")**

31 December 2021

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (6 months) \$A'000</b>
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) research and development	(11,774)	(13,836)
(b) product manufacturing and operating costs	-	-
(c) advertising and marketing	(120)	(252)
(d) leased assets	(89)	(160)
(e) staff costs	(915)	(1,828)
(f) administration and corporate costs	(288)	(690)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	6	6
1.5 Interest and other costs of finance paid	(1)	(3)
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (provide details if material)	-	-
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(13,181)</b>	<b>(16,763)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) businesses	-	-
(c) property, plant and equipment	(52)	(86)
(d) investments	-	-
(e) intellectual property	-	-
(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)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>(52)</b>	<b>(86)</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	35,175	35,175
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	7,196	8,055
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(931)	(943)
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 (cash received in relation to tax withheld on ESOP)	579	579
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>42,019</b>	<b>42,866</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	18,990	21,725
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(13,181)	(16,763)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(52)	(86)



<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (6 months) \$A'000</b>
4.4	Net cash from / (used in) financing activities (item 3.10 above)	42,019	42,866
4.5	Effect of movement in exchange rates on cash held	(114)	(80)
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>47,662</b>	<b>47,662</b>

<b>5.</b>	<b>Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$A'000</b>	<b>Previous quarter \$A'000</b>
5.1	Bank balances	47,662	18,990
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
<b>5.5</b>	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>47,662</b>	<b>18,990</b>

<b>6.</b>	<b>Payments to related parties of the entity and their associates</b>	<b>Current quarter \$A'000</b>
6.1	Aggregate amount of payments to related parties and their associates included in item 1	196
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-

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

The payments at 6.1 relate to salaries of management and directors' fees for entities of the group.

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

<b>7. Financing facilities</b>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity.</i>		
<i>Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)	-	-
<b>7.4 Total financing facilities</b>	-	-
<b>7.5 Unused financing facilities available at quarter end</b>		-
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.		

<b>8. Estimated cash available for future operating activities</b>	<b>\$A'000</b>
8.1 Net cash from / (used in) operating activities (item 1.9)	(13,181)
8.2 Cash and cash equivalents at quarter end (item 4.6)	47,662
8.3 Unused finance facilities available at quarter end (item 7.5)	-
8.4 Total available funding (item 8.2 + item 8.3)	47,662
<b>8.5 Estimated quarters of funding available (item 8.4 divided by item 8.1)</b>	4
<i>Note: if the entity has reported positive net operating cash flows in item 1.9, answer item 8.5 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.5.</i>	
8.6 If item 8.5 is less than 2 quarters, please provide answers to the following questions:	
8.6.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer:	
8.6.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
Answer:	
8.6.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?	
Answer:	
<i>Note: where item 8.5 is less than 2 quarters, all of questions 8.6.1, 8.6.2 and 8.6.3 above must be answered.</i>	

## 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: 28 January 2022  
 .....

Authorised by: The Board of Directors  
 .....  
 (Name of 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.