



## **STRUCTURAL MONITORING SYSTEMS PLC – MARCH QUARTER UPDATE**

### **Highlights:**

- Structural Monitoring Systems (SMS) continued to progress its ongoing negotiations and contractual review relating to the execution of a strategic agreement with a major aerospace organisation.
- SMS remains involved in multiple programmes and negotiations, as previously highlighted in various communications. The programmes and negotiations involve major aerospace OEMs, defence forces and civil aerospace concerns – involving both fixed-wing and rotor aircraft.
- The Company announced a multi-year contract with Sandia Laboratories (Sandia) to engage Dr. Dennis Roach and his staff to focus on multiple aerospace industry opportunities (commercial and military) and the subsequent commercialisation and regulatory approval of CVM™.
- The Company met with Airbus and Testia senior management and project engineers in Bremen, Germany, to discuss the initiation of an Airbus/Operator program for CVM™, and the structure of an enhanced engagement with Testia. Dr. Dennis Roach, FAA Assurance Center, also participated in the meetings to update participants regarding the current worldwide status of structural health monitoring (SHM), and to highlight the demonstrable maturity and technology readiness level (TRL) of CVM™ - as viewed independently by benchmark industry participants and global regulators.
- The Company met with Netherland Aerospace Centre (NLR) in Amsterdam to discuss the current state of the Apache military program. The initial installation and data accumulation stages have been completed, and the Company is looking forward to a future rollout of the programme across the Apache fleet.
- Pivotal meetings with the Brazilian civil aviation authority, Agenica Nacional de Aviacao Civil (ANAC) were successfully completed. The direct feedback from ANAC during the meetings indicated that CVM™ was viewed as a fully commercial-ready technology, commensurate with a TRL 9 designation.
- Following the approval of CVM™ technology from the formal review at ANAC, SMS is now positioned to work directly with OEMs and their key customer airline operators to pursue licensing agreements directly related to the onboarding and use of CVM™.
- SMS has engaged NWR Communications to assist with the Company's Investor Relations activities. Simon Hinsley is the contact for all investor enquiries. Further, NWR will directly assist with the drafting of all announcements and presentations, conducting roadshows, expanding overall investor base awareness and understanding of the business platform/model, and optimising the Company's global exposure through highly effective use of all media channels and formats.
- The Company is frequently achieving CVM™ equipment/peripheral sales and as a result it is expected these sales will further bolster the Company's cash balance, as will expected CVM™-related licensing agreements with major counterparties.
- Cash at bank as at 31st March 2017 was approximately \$3.2m, seeing the Company fully funded for multiple years, and similarly fully able to fund the expected timeframe for the achievement of enduring and material positive cashflow operations. The Company thus does not expect to issue any shares at any time in the foreseeable future, as all visible operational requirements are more than adequately funded.

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Structural Monitoring Systems Plc ("SMS" or "the Company") (ASX: SMN), the developer of the fully patented CVM™ technology used to detect and monitor fatigue in composites and metals, is pleased to report its March Quarterly Report and Appendix 4C.

The Company has continued to de-risk and execute upon its plan to achieve widespread global adoption of the use of its patented CVM™ technology used to detect and monitor fatigue in composites and metals. In civil aerospace, this has involved working with three key counterparty groups – namely, aerospace regulators, original equipment manufacturers (OEMs) and airline operators. The Company has been meticulously focused upon working with these counterparties to identify applications for CVM™ that reduce the burden of regulator/OEM mandated aircraft inspections. CVM™ is now highly regarded in the aerospace industry as the only viable engineering solution to costly and burdensome routine maintenance and inspections. It is recognised that CVM™ can dramatically improve the utilisation rates of global aircraft fleets, and importantly their respective revenue profiles.

The Company is pleased to provide an update on its progress within each counterparty vertical highlighted above.

### **Regulators**

During the March Quarter the Company completed pivotal meetings with Agenica Nacional de Aviacao Civil ("ANAC") in Brazil.

The Company was represented by one of the world's leading industry experts in structural health monitoring technologies, Dr. Dennis Roach. Dr. Roach and his staff at Sandia were engaged during the quarter to assist in the adoption and integration of the CVM™ technology platform. Sandia, an important advocate of, and collaborator with, SMS for several years, formally signed a multi-year contract to focus on multiple aerospace industry opportunities (commercial and military) and the subsequent commercialisation and regulatory approval of CVM™. *Further information on the appointment of Sandia and Dr. Roach is provided under "Corporate and appointments".*

Dr. Roach presented detailed aircraft OEM flight test and laboratory test data, for CVM™. The feedback from ANAC during the meetings was highly positive, indicating CVM™ was viewed by ANAC as a fully commercial-ready technology, commensurate with a TRL 8-9 designation. TRL's are a universally accepted and utilised measurement system developed by NASA to assess the maturity level, development, and commercial "readiness" of a particular technology. Each technology project is evaluated against the parameters of each technology level and is then assigned a TRL rating based on that specific project's progress and development. There are nine fully technology readiness levels, with "TRL 1" being the lowest, and "TRL 9" the highest.

The Company was advised that ANAC is expected to issue a formal written confirmation of the acceptance of the data submitted in the near-term. The next steps for SMN will be to enter further airline operator-driven programmes with one, or more, global airline operators to identify additional specific Airworthiness Directive

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(AD) and/or Service Bulletin (SB) affected aircraft applications which demonstrate high commercial viability - and commensurate operational costs to those operators. As a result, the Company will develop expedited flight test programmes, coupled with simultaneous lab testing to be conducted at Sandia for these applications.

The successfully completed Delta/Boeing/FAA programmes conducted in 2015 provides a case study for the manner in which the Company believes CVM™ will receive explicit formal OEM and regulator approval/s as required. The near-term goal of these programmes is to sign one, or multiple, commercial licensing agreement(s) for CVM™ as a result of these approvals.

### **OEMs and Operators**

Within the aerospace industry, a natural partnership exists between the OEMs and operators. This is due to the network effect of OEMs looking to their customers, the Operators, as to the applications they identify for the use of CVM™ technology, to meet their customer's future demands and expectations of purchasing new aircrafts.

The Company is currently directly engaged with the three largest global fixed-wing OEMs with the intention of identifying applications on aircraft across their respective fleets. This engagement is importantly alongside major operators within these regions, with the aim of OEMs and/or regulators re-writing SBs via revisions to these SBs, or modifying ADs via an alternative means of inspection, or compliance (AMOC). Once an SB is re-written, operators' maintenance teams will have the ability to utilise CVM™ technology to reduce costly and timely inspections.

In March, the Company met with senior Airbus and Testia personnel in Bremen, Germany, to discuss the current state of CVM™ technology. Dr. Dennis Roach, joined the meeting to update participants re the current global status of SHM methodologies, and highlight the technical maturity and commercial readiness of CVM™ as viewed by industry participants and global regulators. The main goal of the meeting was to garner the support of Airbus and Testia for an operator-driven programme on Airbus aircraft operating in the Middle East, functionally to be similar to the successful Boeing/Delta programme in the US. All participants agreed to pursue this initiative and support an upcoming trip to Dubai in June to meet with multiple operators.

Testia senior management also provided an update on their efforts to integrate further into the SHM industry. In March, Testia purchased Hantke Industrie Messtechnik, located in Stade, Germany. By purchasing this business, Testia is stepping fully into the SHM market by providing worldwide services of sensor and SHM systems installation. This development greatly enhances the value of the existing Testia/SMS agreement, providing a path for Testia to act as SMS's elongated "workbench" to install, maintain, commercialise and promote SMS products in Europe, and beyond.

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During March, SMS senior management also met with Netherlands Aerospace Centre (NLR) in Amsterdam to discuss the state of the Apache program. NLR engineers have successfully installed sensors in a very difficult to access wing section of the aircraft. Fatigue cracks develop in this area due to a variety of factors including excess weight and landing stress. As a result, the frequency of mandated inspection cycles makes normal operations extremely problematic. As the military makes more Apache's available, NLR will mount additional sensors and continue to collect the flight test data. The Company believes that this application may be widely applicable to other Apache military helicopters. Management were highly encouraged by the visit and will provide further updates as and when additional milestones are reached.

The Company continues to progress ongoing negotiations and contractual review relating to the execution of a strategic agreement with a major aerospace organisation. The Company will continue to update the market with material updates as they come through in the near-term.

SMS is pleased to provide an update concerning the Company's world-leading inaugural helicopter programme with Sikorsky. As previously announced, Sandia completed the testing regime for CVM™ with the primary goal of significantly maturing the integration of SHM solutions for rotor-craft structures - with an emphasis on their use in Health and Usage Monitoring Systems (HUMS). The testing was completed very successfully, with the sensors clearly exceeding the probability of detection (POD) thresholds for the chosen Sikorsky test application.

Following this success, Dr. Dennis Roach has been performing laboratory testing related to a another SHM technology which does not compete with CVM™. Sandia has been tasked to test each technology in the lab and generate POD curves to be included in a comprehensive SHM study for Sikorsky. As stated, CVM™ testing was concluded some time ago, and additional application test areas are currently being considered for Sikorsky rotor-craft, as well as an operator programme which would ultimately be designed to provide sufficient data to permit the eventual integration of CVM™ into HUMS - a definitive world first.

### **Corporate and appointments**

As detailed earlier, SMS entered into a strategic relationship with Sandia during the quarter. The multi-year contract with Sandia involves the engagement of Dr. Dennis Roach and his staff to focus on multiple aerospace industry opportunities (commercial and military) and the subsequent commercialization and regulatory approval of CVM™.

Dr. Roach will essentially play a central role in the Company's progress towards a newly created "Global Task Force", whereby Dr. Roach and other key global aerospace participants (these additional personnel to be announced and highlighted shortly) will target rapid civilian and military industry adoption for CVM™ technology.

The SMS Global Task Force has the following key near-term deliverables:

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1. Promote a global SHM adoption model with OEMs to holistically approve CVM™ across entire airframe superstructures on the world's civilian aircraft fleet.
2. Engage the management of commercial operators of civilian fixed-wing aircraft to integrate CVM™ usage on their global aircraft fleets.
3. Target global military applications for CVM™. Interface with military personnel at key aircraft operational and air logistic (maintenance) centers to promote the adoption of CVM™ sensors. In rotorcraft, this will include the advancement of current SHM work with Sikorsky, NLR (Apache attack helicopter), and others, to promote regulatory approval and adoption of CVM™ for use on both civilian and military rotorcraft.
4. Interface with current and potential SMS customers to identify or create CVM™ applications in aviation, civil, oil & gas, energy, transportation, mining, wind, railway, and shipping industries, as well as other industries to be determined.
5. Produce teaming arrangements between SMS and private industry, and propose associated technology validation programmes to result in the introduction of CVM™ sensors to the industries listed in Item 4.

The Company was extremely pleased with the immediate progress witnessed through the meetings with ANAC demonstrating Dr. Roach's standing in the industry and the penetration the Global Task Force will be able to achieve.

The Company had approximately \$3.2m cash at bank as at 31st March 2017, seeing the Company fully funded to achieve full, licensing (or similar) based commercialization of CVM™. and achieve an enduring cash flow positive operational platform.

The Company is frequently achieving CVM™ equipment/peripheral sales and as a result it is expected, these sales will further bolster the Company's cash balance, as will expected CVM™-related licensing agreements with major counterparties.

SMN has engaged NWR Communications to assist with the Company's Investor Relations. Simon Hinsley is the contact for all shareholder enquires. NWR will assist with drafting announcements and presentations, as well as conducting roadshows to expand the investor base and awareness.

SMN reviewed its corporate governance and arrangements it has in place with its directors to ensure that it is able to meet its disclosure obligations under listing rule 3.19A. In order to reinforce the requirement and enforcement, the Company will put in place a formal letter agreement between the Company and each director substantially in terms of the pro-forma agreement attached to ASX Guidance Note 22. The requirement of directors to notify the Company of trading in the Company's securities will remain as part of the Securities Trading Policy.

The Company continues to meet all necessary expenditure needs and is, per usual, operating with demonstrable financial constraint and responsibility. The Company's key operational and strategic liquidity/working capital objectives remain well-defined and visible.

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## Appendix 4C

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

Introduced 31/03/00 Amended 30/09/01, 24/10/05, 17/12/10, 01/09/16

**Name of entity**

Structural Monitoring Systems plc

**ARBN**

106 307 322

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

March 2017

| <b>Consolidated statement of cash flows</b>               | <b>Current quarter<br/>\$A'000</b> | <b>Year to date (9<br/>months)<br/>\$A'000</b> |
|---|------------------------------------|--|
| <b>1. Cash flows from operating activities</b>            |                                    |  |
| 1.1 Receipts from customers                               |                                    |  |
| 1.2 Payments for  |                                    |  |
| (a) research and development                              | (131)                              | (131)  |
| (b) product manufacturing and operating costs             |                                    |  |
| (c) advertising and marketing                             |                                    |  |
| (d) leased assets   |                                    |  |
| (e) staff costs   | (89)                               | (167)  |
| (f) administration and corporate costs                    | (154)                              | (462)  |
| 1.3 Dividends received (see note 3)                       |                                    |  |
| 1.4 Interest received                                     | 16                                 | 51   |
| 1.5 Interest and other costs of finance paid              |                                    |  |
| 1.6 Income taxes paid                                     |                                    |  |
| 1.7 Government grants and tax incentives                  |                                    |  |
| 1.8 Other (GST)   | 17                                 | 12   |
| <b>1.9 Net cash from / (used in) operating activities</b> | <b>(341)</b>                       | <b>(697)</b>                                   |

|  |  |  |
|--|--|--|
| <b>2. Cash flows from investing activities</b> |  |  |
| 2.1 Payments to acquire:                       |  |  |
| (a) property, plant and equipment              |  |  |
| (b) businesses (see item 10)                   |  |  |
| (c) investments                                |  |  |

| Consolidated statement of cash flows                      | Current quarter<br>\$A'000 | Year to date (9<br>months)<br>\$A'000 |
|---|----------------------------|---------------------------------------|
| (d) intellectual property                                 |                            |                                       |
| (e) other non-current assets                              |                            |                                       |
| 2.2 Proceeds from disposal of:                            |                            |                                       |
| (a) property, plant and equipment                         |                            |                                       |
| (b) businesses (see item 10)                              |                            |                                       |
| (c) investments   |                            |                                       |
| (d) intellectual property                                 |                            |                                       |
| (e) 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 Net cash from / (used in) investing activities</b> | -                          | -                                     |

|   |  |            |
|---|--|------------|
| <b>3. Cash flows from financing activities</b>                                  |  |            |
| 3.1 Proceeds from issues of shares  |  |            |
| 3.2 Proceeds from issue of convertible notes                                    |  |            |
| 3.3 Proceeds from exercise of share options                                     |  | 454        |
| 3.4 Transaction costs related to issues of shares, convertible notes or options |  |            |
| 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)   |  |            |
| <b>3.10 Net cash from / (used in) financing activities</b>                      |  | <b>454</b> |

|   |       |       |
|---|-------|-------|
| <b>4. Net increase / (decrease) in cash and cash equivalents for the period</b> |       |       |
| 4.1 Cash and cash equivalents at beginning of quarter/year to date              | 3,563 | 3,460 |
| 4.2 Net cash from / (used in) operating activities (item 1.9 above)             | (341) | (697) |
| 4.3 Net cash from / (used in) investing activities (item 2.6 above)             | -     | -     |
| 4.4 Net cash from / (used in) financing activities (item 3.10 above)            |       | 454   |



| <b>Consolidated statement of cash flows</b> |  | <b>Current quarter<br/>\$A'000</b> | <b>Year to date (9<br/>months)<br/>\$A'000</b> |
|---|--|------------------------------------|--|
| 4.5   | Effect of movement in exchange rates on cash held  | (2)                                | 3  |
| <b>4.6</b>                                  | <b>Cash and cash equivalents at end of quarter</b> | <b>3,220</b>                       | <b>3,220</b>                                   |

| <b>5.</b>  | <b>Reconciliation of cash and cash equivalents</b><br>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<br/>\$A'000</b> | <b>Previous quarter<br/>\$A'000</b> |
|------------|---|------------------------------------|-------------------------------------|
| 5.1        | Bank balances   | 720                                | 1,063                               |
| 5.2        | Call deposits   | 2,500                              | 2,500                               |
| 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>3,220</b>                       | <b>3,563</b>                        |

**6. Payments to directors of the entity and their associates**

- 6.1 Aggregate amount of payments to these parties included in item 1.2
- 6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

**Current quarter  
\$A'000**

89

Director's Wages & Salaries

**7. Payments to related entities of the entity and their associates**

- 7.1 Aggregate amount of payments to these parties included in item 1.2
- 7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

**Current quarter  
\$A'000**

| 8. <b>Financing facilities available</b><br><i>Add notes as necessary for an understanding of the position</i>   | Total facility amount<br>at quarter end<br>\$A'000 | Amount drawn at<br>quarter end<br>\$A'000 |
|--|--|---|
| 8.1 Loan facilities  |  |   |
| 8.2 Credit standby arrangements  |  |   |
| 8.3 Other (please specify)   |  |   |
| 8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well. |  |   |

|  |
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| 9. <b>Estimated cash outflows for next quarter</b> | \$A'000    |
|--|------------|
| 9.1 Research and development                       |            |
| 9.2 Product manufacturing and operating costs      |            |
| 9.3 Advertising and marketing                      |            |
| 9.4 Leased assets                                  |            |
| 9.5 Staff costs                                    | 75         |
| 9.6 Administration and corporate costs             | 175        |
| 9.7 Other (provide details if material)            |            |
| <b>9.8 Total estimated cash outflows</b>           | <b>250</b> |

| 10. <b>Acquisitions and disposals of business entities (items 2.1(b) and 2.2(b) above)</b> | Acquisitions | Disposals |
|--|--------------|-----------|
| 10.1 Name of entity  |              |           |
| 10.2 Place of incorporation or registration  |              |           |
| 10.3 Consideration for acquisition or disposal   |              |           |
| 10.4 Total net assets  |              |           |
| 10.5 Nature of business  |              |           |

**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.

Sign here:  .....

(Company Secretary)

28 April 2017

Date: .....

Sam Wright

Print name: .....

**Notes**

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly 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 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.