Media Release

Boeing and SMS Reach Commercial License Agreement

Structural Monitoring Systems plc (ASX: SMN) has entered into a commercial license agreement with US aircraft manufacturer Boeing.

The agreement establishes the commercial terms and Boeing proprietary information access rights to enable the company's Comparative Vacuum Monitoring (CVM™) systems to be manufactured, certified, sold and distributed by the company to the operators of Boeing commercial aircraft.

The agreement also establishes the terms under which Boeing will provide technical services and assistance to the company.

The company is also involved with Boeing, the Federal Aviation Administration (FAA) and two US airline operators to have CVM™ technology qualified.

This program is scheduled to be completed during the second half of 2006.

The significance of this program and the license agreement is that the CVM™ technology can be used to address certain structural inspection requirements in difficult, time consuming and costly access locations in Boeing commercial aircraft.

SMS is currently having discussions with Boeing with the aim of establishing a program to identify the most suitable applications for CVM™ systems, the results of which are then intended to focus the development of CVM™ installation kits that will be progressively rolled out onto Boeing aircraft after a successful completion of the industry evaluation and use of licensed Boeing support.

SMS is proud to be working with highly regarded firms in the aviation industry to enable a significant proportion of operators of Boeing commercial aircraft to potentially benefit from using CVM™ systems to reduce the cost of airframe inspection related maintenance and increase aircraft availability.

"The signing of this licencing agreement with The Boeing Company is an important milestone for SMS in the route to commercialising CVM™ technology," said SMS managing director Mark Vellacott from the United States.

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“It enables access to the full range of Boeing intellectual property and support necessary to develop sensor applications, and provides the commercial framework for the sale of CVM™ sensors and systems to Boeing aircraft operators."

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About SMS

SMS is a Perth based company, operating in Australia, Europe, the UK and the USA, that has developed a sophisticated structural health monitoring system with specific applications in the aerospace sector.

The company is listed on the Australian Stock Exchange (code SMN).

The company is engaged in projects with the two major aircraft manufacturers and a range of military aviation monitoring and test programs.

In June 2005 Structural Monitoring Systems entered into a Joint Development Agreement with the leading European commercial aircraft manufacturer, Airbus.

The JDA specifies that license agreements shall be entered into within the term of the agreement.

The joint development program is planned to conclude by the end of 2007 but may be accelerated at the request of Airbus to enable the CVM™ systems to be available for inclusion into existing and new Airbus aircraft.

In May 2005 SMS, in association with Aerostructures Pty Ltd of Melbourne, was awarded a significant contract by the Pakistan Air Force.

The contract is for the supply of structural engineering services and Comparative Vacuum Monitoring (CVM™) design solutions for their FT5 jet trainers, Mirage-3 fighters and Hercules C-130 transport aircraft, and a proposal to equip the Defence Aeronautical Research Centre (DARC) with laboratory testing systems.

About CVM™

Comparative Vacuum Monitoring has been developed by SMS to detect and monitor structural integrity in a wide range of structures. SMS has spent more than $14m patenting, developing and proving the CVM technology.

CVM technology has been independently tested and comprehensively validated and is being used by several major aerospace manufacturers and military organisations.

It has a broad application across many industries where Structural Health Monitoring of critical components and equipment is required.

The unique characteristics of CVM make it widely applicable to a wide range of materials and operational requirements.

CVM offers the potential for risk reduction, improved maintenance, increased availability and lower costs.

To date SMS has focused on the aerospace industry, developing systems for fatigue laboratory testing and monitoring of critical structure on operating aircraft.

In the design of future aircraft CVM offers the potential for weight reduction, improved operating efficiencies and safety margins.

Further details are available from the company's website, **www.smsystems.com.au** or by calling Mark Vellacott on the numbers below.

Market Background – Structural Health Monitoring

The basic approach of Structural Health Monitoring is to make non-destructive testing technology to become an integral part of the aircraft structure itself.

Different techniques can be used, such as measuring loads and predicting actual fatigue life, or sending acoustic or electromagnetic waves through the structure or by using a direct damage detection technology such as CVM™.

A number of technologies have been used for aircraft monitoring, but these are mostly load monitoring systems (strain gauges, etc.) or systems that determine flight parameters and enable conclusions to be drawn concerning the load levels that occurred during flight. Direct monitoring of crack sites, as well as monitoring of large areas to detect a wide range of damage, has never been applied as solutions to in-service aircraft.

To ensure aircraft structural integrity and hence maintain safety, the inspection requirements for the monitoring of airframe structures is highly regulated.

Structural integrity inspections of airframes frequently require invasive work to get into a location to check for fatigue cracking and corrosion. In some cases 90% of the total labour time involved is dismantling and reassembly of surrounding components. Typically, no damage is found and the whole process is repeated at proscribed intervals year after year.

As an aircraft ages its inspection requirements increase. In simple terms, the value of the asset declines and the cost of ownership increases.

Traditionally the maintenance of airframe is driven by periodic manual inspections using visual and manual electronic tool aids to check for damage to structures. The goal, of automating these inspections to increase damage detection reliability and reduce the costs of scheduled and unscheduled maintenance actions and aircraft downtime through SHM, depends largely on the availability of cost effective and reliable damage detection sensor technology.

SHM for airframe inspections is desirable for commercial and military aircraft operators as it offers:

- Reduce extensive labour cost of mandatory inspections.
- Efficient and electronic reporting on airframe structural integrity.
- Improved inspection reliability.
- Removes invasive inspection damage risk and replacement material costs.
- Reduced down time and ground support costs.
- Optimised scheduling of all other maintenance.
- Increase revenue or operational flight availability.

SHM industry experts have benchmarked 35% as the expected cost savings on airframe maintenance and inspections. This is derived from several independent sources; the primary evidence is from **NASA SHM Cost Benefits Analysis** of January 2000.

The world's airline industry spends US$12.9 billion annually on airframe structural maintenance. A typical aging narrow body airliner will incur costs of approximately US$750,000 per annum in airframe structural maintenance. Assuming a comprehensive installation of SHM throughout such an aircraft enabling a 35% reduction in airframe maintenance and inspection, this has the potential to yield about US$250,000 in labour and materials cost savings per year.

These figures do not include the daily “down-time” cost for the aircraft operator which typically for a small airliner is US$50,000 – of which leasing charges alone can be US$10,000 a day.

There are about 8,000 commercial aircraft in the world today, of which more than 40% are older than 15 years, and greater than 30% are over 20 years.

It’s assumed that the addressable market for the retrofit application of SHM sensor technology is 50% of the more than 3,200 commercial aircraft over 15 years old, and that SHM technology is worth 20% to aircraft operators of the potential US$250,000 in savings in labour and material costs. This could make the value of the SHM technology market for aging commercial aircraft in excess of US$80 million per year.

The potential economic benefits of SHM are not limited to reduced maintenance and inspection costs and increased aircraft availability for aging aircraft. For new aircraft the primary economic drive is to reduce manufacturing and direct operating fuel costs and increase performance through the reduction of aircraft structural weight – a primary objective for all new aircraft designs.

Studies have shown that the application of SHM in fuselage areas that are designed according to fatigue criteria may allow a reduction in panel weight of up to 15%. This equates to about 1% of the total operational empty mass of the aircraft. For large wide body civil aircraft that has an empty weight in excess of 120,000kg this can represent a weight saving of approximately 1,200kg, enabling an increase in payload – range performance capability of up to 12 additional passengers or an extra 1,400kg of freight per flight, or additional range for long haul flights.

Also that because 100kg in excess operational weight can lead to an additional 5000kg of fuel being burnt per year; this could mean that a 1,200kg weight reduction due to SHM could reduce fuel consumption by 60,000 kg per year, or about US$30,000 per year.

A reduction in weight can be achieved through a reduction in structure. This is limited by current aircraft design margins and philosophies. However, an SHM system integrated during aircraft design and manufacture has the potential to reduce design margins and multiple load paths leading to a significant weight saving in a total airframe.

In summary the cost benefits to aircraft operators of airframe SHM are:

- Simpler, less expensive maintenance programs.
- Increased flight availability.
- Improved scheduling of event driven maintenance.
- Reduced maintenance related labour costs.
- Fuel / Payload ratio and performance improvements.

The potential benefits of SHM to the manufacturer of airframes are:

- Competitive Total Cost of Ownership compared to non-SHM aircraft.
- Better warranty management.
- Better re-sale value of the aircraft.

SMS considers that sale and licensing of CVM™ sensor and system technologies on a cost benefit basis will be a significant source of revenue in the SHM retrofit of aging aircraft and integration into new SHM enabled airframes.