



## Progression to Pivotal Supplemental Type Certificate

### Highlights:

- CVM™ installation on Delta Air Lines B737-800 at Victorville, CA MRO now fully confirmed for week of 25<sup>th</sup> January 2021.
- SMS industry partners - Delta Engineering and Sandia National Laboratories - have formally commenced, and advanced, required Probability of Detection testing.
- The timing for all finalised testing regimes, and supporting written documentation, remains on target per previous guidance (i.e. completion in 60-90 days).
- STC attainment for GoGo-installed 2ku WiFi systems on B737-800 series aircraft will also measurably reduce testing requirements for other B737 aircraft models once subsequent, additional STCs are formalised.

Structural Monitoring Systems Plc (“**SMS**” or “**the Company**”) (**ASX: SMN**) is pleased to provide the following update regarding the Company’s formal progress to a final, and pivotal, Supplemental Type Certificate (“**STC**”) designation for CVM™ deployment on GoGo-installed B737-800 2ku WiFi systems.

### Anticipated Aircraft Installation Process and Final Steps to STC Approval

Since the last Shareholder Update, Delta Air Lines (“**Delta**”) senior management have approved the internal modification paperwork to authorize the installation of the sensors. Meanwhile, Delta Engineering (“**DE**”) has also issued the modification paperwork to the maintenance, repair and operations (“**MRO**”) facility in Victorville, California, required to perform the complete WiFi radome structure CVM™ *installation commencing in the final week of January*. The installation is expected to take 5-7 days, and upon completion the sensors will be fully tested on-aircraft to verify their operational performance.

The complete installation process is subject to Federal Aviation Administration (“**FAA**”) observance who will validate both the aircraft type conformity and official paperwork issued for the installation/testing of the system.

Once the on-aircraft installation is completed, the last remaining “open” item to obtaining the STC will be adjunct laboratory results, and their corresponding reports, to be submitted to the FAA for final review. Laboratory test setups have been witnessed by an FAA delegate for conformity, and testing is being conducted at both DE and Sandia National Laboratories (“**Sandia**”).

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Each facility will conduct circa-50% of the required lab testing, allowing for comparison of key relevant data that is obtained from two independent specialist laboratories. This testing measures the probability of detection (“**PoD**”) performance of the sensors via a method whereby the tested sensors are applied to aluminum coupons that have been designed and manufactured in concordance with the actual aircraft structure.

During testing, these coupons are then continuously fatigued with high-load stress simulation until crack formation occurs - typically taking 30k to 60k cycles for crack formation to be detected. Each coupon typically takes about a day to process, plus some additional documentation and set-up time. There are approximately 70 independent coupons available for testing. The statistical analysis of the derived data will determine the exact number of specimens required, with early estimates set at twelve (12) of each specimen type, and four (4) unique configurations.

Completion timing for the full testing process and subsequent documentation generation remains within the above-stated, and previous, guidance of 60-90 days, following which the completion reports are submitted to the FAA for final review and approval.

### **Additional STC program benefits**

While the current STC program relates specifically to GoGo 2ku WiFi systems installed on B737-800 series aircraft types, once an STC is obtained much of the background work to achieve this STC can be extended across further B737 models. For example, the B737-900ER and B737-700 WiFi radome structure installations are very similar to the B737-800 installation.

When SMS developed the test specimens for the B737-800 application, the specimens were designed in such a way as to encompass the broad array of all B737 New Generation (“**NG**”) installed GoGo/Intelsat 2Ku configurations. This preparedness should eliminate any subsequent lab or on-aircraft testing requirement when applying for future STCs on other aircraft types within the B737-NG family, greatly reducing the physical work, and critically – the time, burden for additional STC applications. The majority of future STC work would thus be confined to formal documentation processes only.

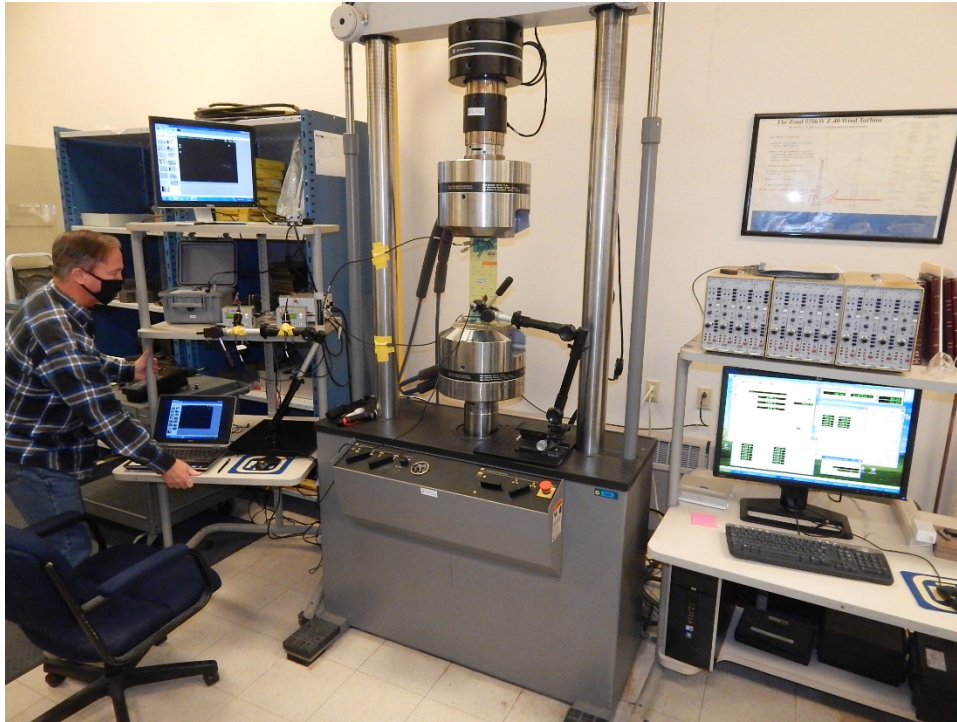
The Company looks forward providing any further relevant information at the upcoming virtual AGM on 21<sup>st</sup> January 2021, and will continue to provide timely updates as CVM™ progresses to a full and final level of commercial-readiness in the near future - a status that will allow the global airline industry to circumvent and ultimately replace costly ground-based hangar inspection protocols.

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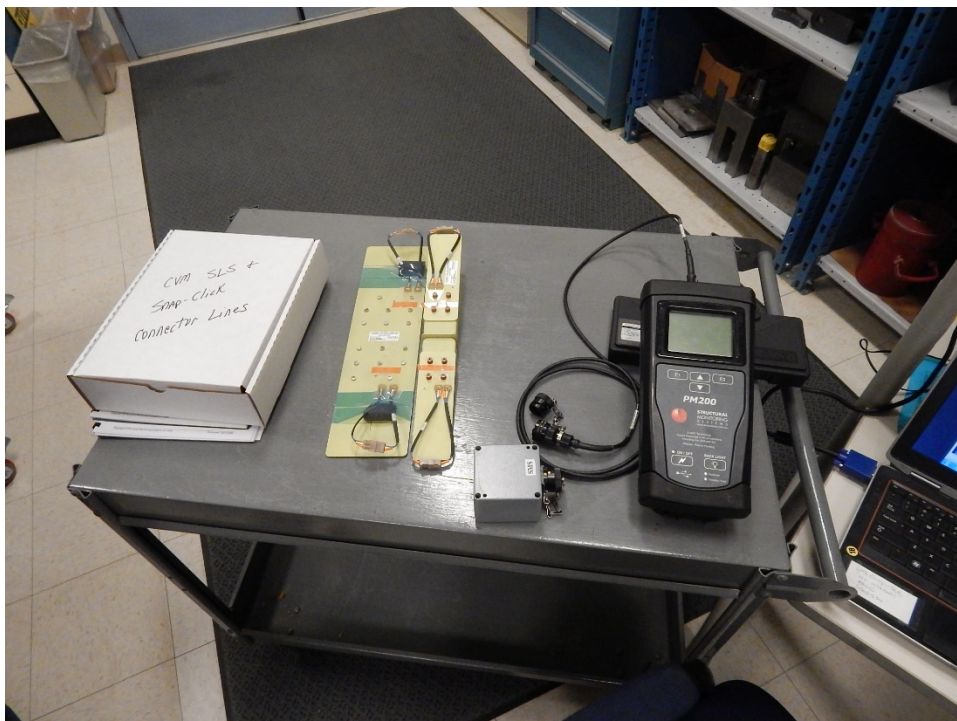
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Dennis Roach at Sandia National Laboratories FAA Airworthiness Assurance Nondestructive Validation Center (AANC) in Albuquerque NM, has a coupon Specimen loaded in the fatigue test machine. This coupon represents the Aircraft Skin and doubler plate that provides the mounting point for the WiFi radome



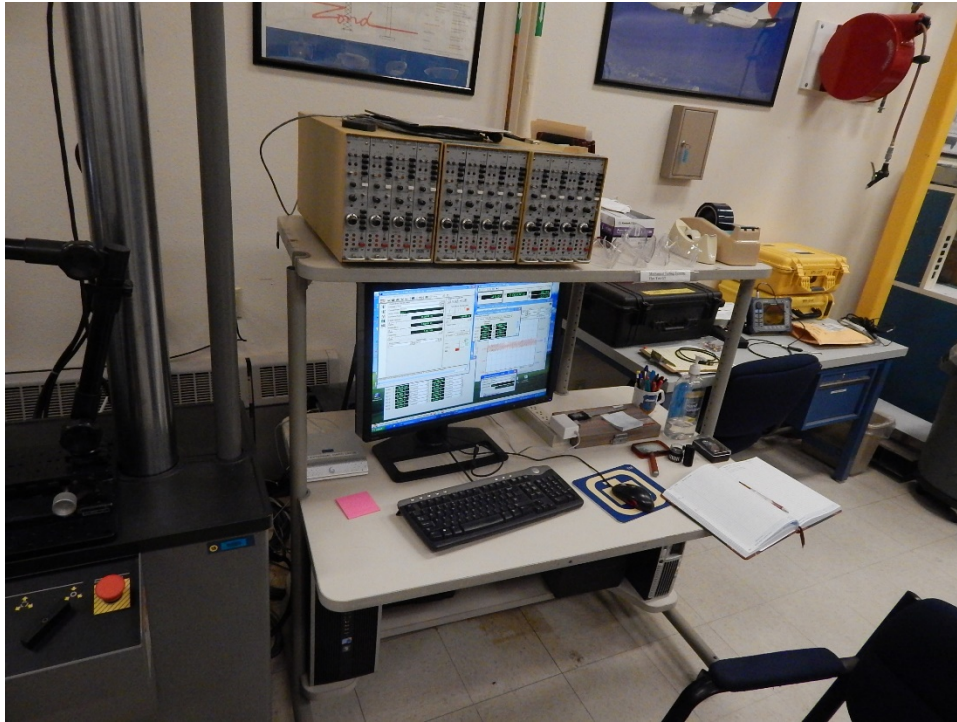
Two of the four different coupon designs, the PM 200 Verification Block and the PM200 Test Instrument

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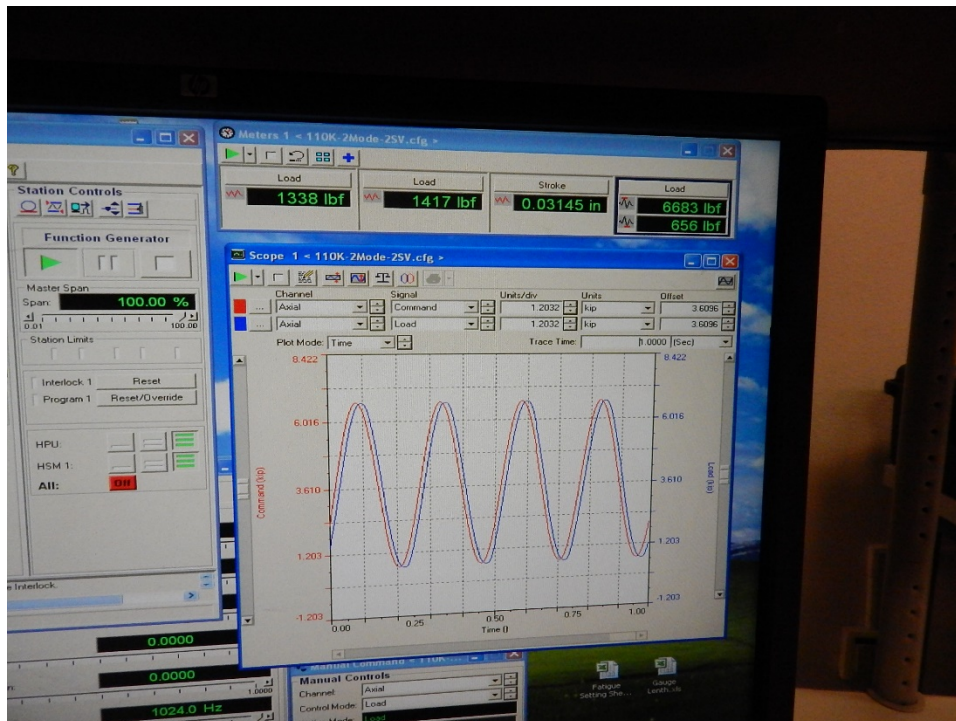
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The Fatigue Test Machine is configured and monitored at PC portal



The applied loading waveform for the coupon under fatigue testing

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A coupon under fatigue testing at the Delta Engineering Laboratory in Newark Delaware, representative of the B737 frame structure and the Interface to the Intercostals.

***This announcement is authorised by the Board.***

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