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STRAAM'S Alan Jeary Named as One of 25 Top Newsmakers of 2010 **Engineering News Record Recognizes Innovation In Structural Health Monitoring**

Dr. Alan P. Jeary, Chief Technology Officer of STRAAM, Corp, New York, has been selected by *Engineering News Record* (ENR) as one of 25 Top Newsmakers of 2010. Citing Jeary's pioneering invention and development of real-time dynamic structural health monitoring, ENR's January 12, 2011 issue selected him to join the elite group "chosen for their innovations and achievements, for giving back to the industry and the public, and for going beyond the duties of their day-to-day jobs."

"We are grateful to ENR," said STRAAM Chairman Charlie Thornton, PhD., PE. (himself a four time "Newsmaker" winner) "for recognizing the importance of Alan Jeary's work. He has developed a way to make structures reveal their secrets. With it, we can see their inner movements, and learn what those movements tell us about their structural condition and performance."

STRAAM – **ST**ructural **R**isk **A**ssessment **A**nd **M**anagement – was launched in 2009. "What excited me," recalled Jeff Matros, STRAAM CEO, "was the opportunity to bring together two powerful forces: what ENR described as Alan Jeary's "30 years of research, invention, fieldwork and development;" and Charlie Thornton's 40 years' experience designing and building some of the tallest and most complex structures in the world, and the forensics expertise he's developed during that remarkable career. Combining those two bodies of work allows us to bridge the gap between the design and performance of structures".

STRAAM projects span a wide variety of structures throughout the world, including the preservation of endangered buildings adjacent to excavations, dams, hyperbolic cooling towers, rail and roadway bridges, wind turbines, and ports (jetties, mooring dolphins, docks). "Recognition of Alan Jeary's work could not come at a better time," suggests Matros. "With the urgent need to preserve our infrastructure, prioritizing and targeting resources is the order of the day. This technology allows us to identify structural problems quickly, affordably, and with great precision, so that budgets can be used where they are truly needed."

Jeary's technological advance, real-time dynamic structural monitoring, involves recording vibrational patterns made by structures as they move. Normal movement caused by wind, thermal expansion and contraction, earth movement or other causes is sufficient to set even massive structures in motion. Each structure has a unique 'vibrational signature.' This complex of patterns can be detected and recorded by STRAAM's highly sensitive accelerometers. The process is called a "structurocardiogram" (SKG) because, like the electrocardiogram used to graph performance of the human heart, it reveals things that can't be seen.

Vibrations from all parts of a structure are superimposed on one another, but they can be separated into their individual components by specialized computer analysis. They can then be compared with STRAAM's large

data-base of vibrational signatures of other structures. Using this data in conjunction with 3-D computer modeling, STRAAM can pinpoint where structural elements and connections are performing properly, where they are failing, and whether the condition is stable or changing.

STRAAM's method is both faster and more economical than conventional structural monitoring methods using multiple sensor placements. Significant performance data can be collected in time-periods measured in minutes instead of weeks. Moreover, it delivers a much more detailed picture of the inner workings of the structure.

The technology can be applied proactively, to take a healthy-structure baseline reading that will enable faster and more accurate analysis in the event that problems develop, or after a traumatic event such as an earthquake or explosion.

"We see STRAAM's role," comments Thornton, "as providing owners and engineers with the most accurate and detailed information about structural condition, the inside story. That's Alan Jeary's great contribution to our industry. Utilizing this information, owners can prioritize maintenance and repair expenditures efficiently, and engineers can determine the most effective and cost-effective means of ensuring safety and extending the useful life of valuable structures."

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STRAAM Corporation – Structural Risk Assessment And Management – is the only company worldwide offering real-time dynamic structural monitoring to diagnose the structural soundness and health of buildings, dams, bridges, towers, marine installations and other critical infrastructure. The STRAAM Protocols apply advanced, real-time monitoring to detect the natural vibrations of a structure. Using that data, STRAAM can quickly and efficiently pinpoint problems, assess damage, and predict risk of failure. STRAAM assessments provide owners, engineers, contractors and public safety agencies with detailed, reliable information that can lead to engineering solutions and cost-effective business decisions, restoring confidence in a structure's integrity.

For more information, please visit **www.STRAAM.com**.

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