iomac

International Operational Modal Analysis Conference

21–24 May 2024

10th International Operational Modal Analysis Conference

Naples, Italy

May 21	
15.00	Registration
	Plenary - Chapel
18.00	**Opening Ceremony** Chairs: *Rainieri C., Gentile C.*
18.30	**Keynote Lecture #1** Chairs: *Rainieri C., Gentile C.* *Reynders E.:* Operational modal analysis and structural health monitoring with fiber-optic strain sensors
19.30	Welcome cocktail at Villa Doria D'Angri

May 22			
08.30	Registration		
	Plenary - Chapel	**Conference Hall - University**	**Posillipo Room**
	New methods for SHM (1) Chairs: *Rainieri C., Reynders E.*	**SS3: OMA and dynamic monitoring of monuments and historical constructions (1)** Chairs: *Clementi F., Gentile C.*	**SS5: Vibration-based assessment and monitoring of special structures (1)** Chairs: *Magalhaes F., Pereira S.*
09.00	**#1** *Mattiacci M.:* Structural damage detection on a single-opening masonry wall subjected to differential foundation settlements using modal features: experimental tests and numerical simulations	**#13** *Marin Montanari P.:* Experimental and Numerical Damage Assessment of the Garisenda Tower: Investigation by AE, Thermal, Seismic, and Permanent Strain Analyses	**#217** *Auersch L.:* System and damage identification for cars, floors and roofs, bridges, tracks and foundations by modal analyses, frequency response functions and moving-load responses
09.15	**#84** *Kamali S.:* Comparing Static and Dynamic Regression Models for Temperature Compensation in Vibration-based SHM Systems	**#212** *Girardi M.:* Vibration monitoring of historical towers: New contributions from data science	**#95** *Storti G.:* Enhancing structural health monitoring through automatic modal parameter identification for rotating machinery on flexible foundation structures
09.30	**#205** *Siddiqui M.A.:* A damage detection strategy based on autoregressive parameters	**#26** *Trovatelli F.:* Dynamic identification of complex structures: the case study of "Palazzo dei Priori", Florence, Italy	**#123** *Vella A.D.:* Dynamic characterization of an electric kick scooter through operational modal analysis
09.45	**#57** *Giglioni V.:* A Transfer Learning application for damage identification across a population of experimental bridges	**#233** *Regnier J.:* Empirical Correlation Between Fundamental Resonance Periods and Architectural Characteristics: A Case Study in Nice, France	**#114** *Pereira S.:* Operational modal analysis of moving scaffolding systems for bridge construction
10.00	**#200** *Rainieri C.:* Extreme Value Statistics for alarm threshold setting in data-driven damage detection	**#50** *Mercerat D.:* Dynamic characterization of five historical bell towers in the Mugello basin (Italy)	**#168** *Cimmino M.:* Modal identification methods for a CDW-based structure
10.15		**#240** *Chalhoub M.:* Dynamic identification of the main entrance tower and the historic bridge of the Citadel of Aleppo after the Syria 2023 earthquake	**#253** *Sandoli A.:* OMA-based monitoring of glass partition walls in healthcare facilities
10.30	Coffee Break		

May 22			
	Plenary - Chapel	**Conference Hall - University**	**Posillipo Room**
	SS9: Direct Structural Health Monitoring of Engineering Structures (1) Chairs: *Rizzo P., Ricci F.*	**SS1: Operational Modal Analysis in Aerospace Engineering** Chairs: *Marulo F., Di Lorenzo E.*	**SS7: Key software for real world OMA and vibration based SHM applications** Chairs: *Occhiuzzi A., Fabbrocino G.*
11.00	**#51** *Masnata C.:* An experimental investigation on Sliding Tuned Liquid Column Damper for mitigating vibrations in short-period structural systems	**#28** *Slavic J.:* High-speed Camera Based Methods for Experimental and Operational Modal Analysis	**#21** *Pasca D.:* pyOMA2: an open-source module to perform Operational Modal Analysis with Python
11.15	**#73** *Vanali M.:* Comparison of experimental and operational modal analysis results on long-term monitoring of a laboratory truss girder subjected to environmental variability	**#118** *Salzano C.:* The Use of Dynamic Strain Sensors and Measurements on the Ground Vibration Testing of an F-16 Aircraft	**#49** *Garcia Macias E.:* Incorporating digital twins and artificial intelligence for next-generation SHM software
11.30	**#142** *Kim T.-Y.:* Real-time Site Specific Assessment of Cement Mortar using a Solitary Wave based Deep Learning	**#238** *Soal K.:* Identification of the Flutter Boundary During Flight Testing using Operational Modal Analysis	**#106** *Quarchioni S.:* A novel software tool for the optimal sensor placement in civil engineering structures
11.45	**#256** *Sforza G.:* Monitoring system with a high number of accelerometers: optimization of installation and OMA	**#68** *Zagrai A.:* Structural Health Monitoring of Space Structures using Elastic Waves and Integrated Piezoelectric Sensors	**#247** *Notarangelo M.:* Making vibration data processing an easy task: industrial software solutions for OMA and SHM
12.00	**#87** *Rizzo P.:* Latest Advancements on a Vibration-based Monitoring Approach for Continuous Welded Rails	**#99** *Vettori S.:* Experimental dynamic investigation of a small-scale wind turbine	**#254** *Aguero M.:* KMIBridge: Kinemetrics' Journey to a Comprehensive Bridge Management Platform
12.15	**#94** *Dai W.:* Experimental investigation on structure dynamic stress based on OBMA and FEA	**#116** *Peeters B.:* Operational modal testing of large wind turbine blades	**#182** *Pirrò M.:* DYMOND: a Matlab toolbox for the dynamic monitoring of bridges according to the Lombardia Regional guidelines
12.30		Lunch	
	SS9: Direct Structural Health Monitoring of Engineering Structures (2) Chairs: *Rizzo P., Ricci F.*	**SS6: Vibration-based SHM of bridges (1)** Chairs: *Betti R., García-Macías E.*	**SS10: Vibration serviceability of footbridges** Chairs: *Mulas M.G., Bassoli E.*
14.00	**#122** *Cassese P.:* Scenario-based qualification approach for civil vibration-based SHM systems	**#11** *Garcia Macias E.:* Quasi-Instantaneous Operational Modal Analysis of Bridges through AI-Driven Blind Source Separation	**#45** *Bassoli E.:* Multi-sensor and multi-frequency data fusion for structural health monitoring
14.15	**#175** *Spada A.:* Recent advancements in Global-Local analysis of UGW in plates	**#221** *Iermonti L.:* Integrating Bayesian Networks into Enhanced Bridge Management: A Data Fusion Approach	**#46** *Ponsi F.:* Dynamic monitoring of a steel footbridge based on computer vision techniques

May 22

	Plenary - Chapel	Conference Hall - University	Posillipo Room
14.30	**#187** *Sakellariou J.:* Damage diagnosis in a floating wind turbine lab-scale model under varying wind conditions using vibration-based machine learning methods	**#14** *Garcia Fernandez N.:* Vibration Testing and Finite Element Modelling of a Steel-Concrete Composite Bridge	**#61** *De Angelis M.:* Output-Only Identification of a Footbridge Equipped With Isolators
14.45	**#192** *Giagopoulos D.:* Estimation of numerical data reliability in damage detection tasks	**#16** *Anastasopoulos D.:* Strain-based AOMA of a Vierendeel truss bridge	**#239** *Colmenares D.:* On the dynamic characterization of a two span post-tensioned concrete footbridge
15.00	**#236** *Schmidt T.:* Experiences in Testing Structures with Distributed Fiber-optical Sensing	**#58** *Rillo V.:* A framework to define an effective structural health monitoring (SHM) system using the data from OMA test	**#245** *Mulas M.G.:* OMA-based FE model validation of a lively footbridge
15.15	**#207** *Lopez Lopez Z.:* Vertical displacements estimation of a bridge-type structure with triaxial accelerometers and dynamic loading tests	**#251** *Bilotta A.:* Damage identification in PC bridges by operational modal analyses	
15.30	End of Technical Sessions		
16.45	Sansevero Chapel guided tour		
18.00	Guided Underground City Walking Tour of Naples		
20.00	Street Food Experience at Lanificio 25		

May 23

	Plenary - Chapel	Conference Hall - University	Posillipo Room
08.30	Registration		
	SS3: OMA and dynamic monitoring of monuments and historical constructions (2) Chairs: *Clementi F., Gentile C.*	**SS8: Physics-based Model Updating in Structural Health Monitoring, Earthquake Engineering and Structural Dynamics (1)** Chairs: *Bernal D., Fabbrocino G.*	**SS5: Vibration-based assessment and monitoring of special structures (2)** Chairs: *Magalhaes F., Pereira S.*
09.00	**#76** *Ivorra S.:* Dynamic identification of an historic railway riveted bridge	**#3** *Marra A.:* Bayesian FE-model updating of a curved approaching span of the Indiano Bridge in Florence	**#206** *Oliveira S.:* Modal based SHM of Cabril dam. Exploring vibration data acquired over the last 15 years
09.15	**#228** *Casarin F.:* OMA and dynamic SHM of the Urbino Cathedral after the 2016 central Italy seismic events	**#74** *Bernal D.:* The Basis Pursuit as a Set Selector	**#208** *Trujano M.A.:* Mexico City soils' dynamic characterization through ambient vibration tests. Importance for the structural design

May 23

	Plenary - Chapel	Conference Hall - University	Posillipo Room
09.30	**#218** *Liu W.:* Identification of dynamic characteristics of a heritage building - Yingxian wooden pagoda	**#90** *Rosati I.:* OMA test and model refinement of a reinforced concrete arch bridge	**#54** *Li J.:* A Robust Operational Modal Analysis Method and Its Application to a Concrete Arch-gravity Dam
09.45	**#146** *Avramova A.:* Long-term dynamic monitoring of a large cathedral: environmental effects and seismic performance	**#170** *Gres S.:* Data-driven identification of noise covariance in Kalman filtering for virtual sensing applications	**#107** *Pirrò M.:* Assessment of structures using dynamic monitoring and autoencoders: application to Baixo Sabor dam
10.00	**#64** *Pirrotta A.:* Vibration based Structural Health Monitoring: A real case study framed into Cultural Heritage	**#215** *Hurtado O.D.:* Bayesian Model-Updating Implementation in a Five-Story Building	**#250** *Janeliukstis R. (presentation only):* Structural health monitoring of a TV tower
10.15	**#152** *Clementi F.:* Continuous dynamic monitoring to enhance the knowledge of a historic civic bell-tower	**#32** *Mevel L.:* A novel lagged estimation framework for sparsely observed systems supplemented with virtual measurements	**#201** *Betti M.:* Long-term structural health monitoring of a steel offshore platform. Optimal sensors position and implications for maintenance
10.30	Coffee Break		
	SS2: Output-only Methods for Bridge Identification and Structural Health Monitoring (1) CHAIRS: *Malekjafarian A., Foti D.*	**SS4: Vibration-based Assessment & Monitoring for Wind Energy Structures (1)** CHAIRS: *Caetano E., Haywood-Alexander M.*	**New methods for OMA (1)** CHAIRS: *Fabbrocino G., Dohler M.*
11.00	**#29** *Longo M.:* Transforming Infrastructure Management in a Networked World: OMA strategies empowering SHM Diagnostics	**#104** *Cara F.J.:* Operational modal analysis of wind turbine structures: a maximum likelihood approach	**#145** *Dessi D.:* Hybrid uncertainty analysis of damage indexes based on modal strain energy
11.15	**#53** *Marasco G.:* Bridge Modal Identification Using Crowdsourced Vibration Data from Passing Vehicles	**#113** *Magalhaes F.:* Operational modal analysis of wind turbines: onshore and offshore floating	**#136** *Gres S.:* Modal mass estimation from state-space models and frequency response functions
11.30	**#71** *Civera M.:* Validation and comparison of two AOMA approaches for the Ambient Vibration Testing of long suspension bridges under strong wind loads	**#117** *Iriarte X.:* Modal Frequency and Damping Estimation of Wind Turbines: Analysis of a Wind Farm	**#135** *Dohler M.:* Automated uncertainty-based clustering and tracking of modal parameters under strong variations
11.45	**#248** *Malekjafarian A.:* Output-only modal analysis of Malahide viaduct bridge	**#213** *Brealy S.:* On Additive Gaussian Processes for Wind Farm Power Prediction	**#47** *Tomassini E.:* ML-driven Operational Modal Analysis of road bridges: Preliminary results
12.00	**#112** *Foti D.:* Dynamic characterization of a squat historical bridge by considering vehicle-bridge interaction	**#41** *Gnebner K.:* Operational modal analysis of the idling CART3 research wind turbine using Blade Vision data	**#31** *O'Connell B.J.:* On improving the efficiency of Bayesian stochastic subspace identification
12.15	**#189** *Somaschini C.:* OMA applied to a reinforced concrete railway bridge through a reduced measurement set-up	**#72** *Georgiou I. (presentation only):* Global and Local Proper Orthogonal Modes of Waves-Vibration in Physical Wing-Blade Structures: Towards an Unbiased OMA-EMA Like Nonlinear Analysis and Zero Ground Machine Learning	
12.30	Lunch		

May 23			
	Plenary - Chapel	**Conference Hall - University**	**Posillipo Room**
	SS6: Vibration-based SHM of bridges (2) Chairs: *Betti R., García-Macías E.*	**SS3: OMA and dynamic monitoring of monuments and historical constructions (3)** Chairs: *Clementi F., Gentile C.*	**Buildings** Chairs: *Ivorra S., Tronci E.M.*
14.00	**#80** *Miano A.:* Structural health monitoring of road systems: from the network analysis to the single bridge assessment	**#162** *Rinaldi C.:* Long-term vibrational monitoring of the Marcus Aurelius Exedra	**#88** *Ziccardi M.:* Operational Modal Analysis of a tower with mixed structure under construction in Cali, Colombia
14.15	**#91** *Busatta F.:* Investigating the performance of a wide-deck bridge	**#181** *Borlenghi P.:* Vibration testing and monitoring of historical towers	**#39** *Marano G.C.:* Intelligent Automatic Operational Modal Analysis: application to a tall building
14.30	**#109** *Stagi L.:* An unsupervised damage detection strategy for recognizing unseen structural conditions in monitoring of bridges	**#184** *De Matteis G.:* Operational Modal Analysis and structural identification of a masonry arch bridge	**#222** *Ventura C.E.:* Ambient Vibration Testing of Canada's Tallest Wood Frame Building
14.45	**#111** *Hidalgo Fort E. (presentation only):* Distributed Edge Computing Application to Low Power IoT-SHM System	**#186** *Chacara C.:* Operational Modal Analysis on an Emblematic Brick Masonry Historical Building in Latin America: The Case of the Lima Metropolitan Cathedral	**#9** *Aloisio A.:* One-year dynamic monitoring of an eight story CLT building
15.00	**#120** *Pettinari A.:* Use of Ground-Based Interferometric Radars (GB-InRa) for remote real-time Structural Health Monitoring of bridges	**#244** *Cieri L.:* Analysis of environmental effects on the natural frequencies of the Civitacampomarano's belfry	**#105** *Nicoletti V.:* Operational modal analysis of complex buildings with and without structural joints
15.15	**#124** *Severa L.:* An integrated PCA-ICA approach for early-stage damage detection	**#252** *Hofer L.:* Structural health monitoring of a historical church in Italy	**#2** *Riascos C.:* Modal Parameter monitoring of a Set of Twin High-Rise Buildings
15.30	End of Technical Sessions IOMAC Committee		
19.00	Guided Tour of the Cloister of Santa Chiara		
20.00	Gala Dinner and Award Ceremony at "Antico Refettorio" of Complesso Monumentale Santa Chiara **Lecture of honor** Chairs: *Rainieri C., Gentile C.* *Caetano E.:* Vibration Testing Avenues: from ground to roof		

May 24

08.30	Registration		
	Plenary - Chapel		
09.00	**Event in memory of Reto Cantieni**		
09.15	**Video Advertisements**		
09.30	**Keynote Lecture #2** Chairs: *Rainieri C., Gentile C.* *Ubertini F.:* Advancing Structural Health Monitoring: Embracing a Territorial Perspective		
10.30	Coffee Break		
	Plenary - Chapel	**Conference Hall - University**	**Posillipo Room**
	New methods for OMA (2) Chairs: *Aenlle Lopez M., Coppotelli G.*	**SS2: Output-only Methods for Bridge Identification and Structural Health Monitoring (2)** Chairs: *Malekjafarian A., Busatta F.*	**SS4: Vibration-based Assessment & Monitoring for Wind Energy Structures (2)** Chairs: *Tronci E.M., Tcherniak D.*
11.00	**#98** *Sbarra R.G.:* DBSCAN-Based approach for the automatic estimate of the modal parameters	**#103** *Giordano P.F.:* Output-only modal analysis and system identification for indirect bridge health monitoring: needs, requirements, and limitations	**#36** *Sorge E.:* Extreme and fatigue load reduction of Wind Turbines Towers: Optimal Design of a Hinge-Spring-Friction Device
11.15	**#89** *Coppotelli G.:* Stochastic Modal Appropriation method: time domain extension for MDOF systems	**#92** *Busatta F.:* Operational modal analysis of periodic structures with application to the Olifants River Viaduct	**#177** *Tavares A.:* Monitoring damage progression on a wind turbine blade under fatigue testing based on acceleration measurements
11.30	**#44** *Haywood-Alexander M.:* On the Application of Physics-Informed Neural-Networks for Identification and Prediction of Vibrating Structures	**#144** *Stochino F.:* Advancing Structural Health Monitoring: Case Studies in Operational Modal Analysis for Existing Structures	**#86** *Chaar M.:* Scaling Operational Modal Analysis through Delayed DBSCAN Tracking: Lessons from Widespread Offshore Wind Turbine MonitoringScaling Operational Modal Analysis through Delayed DBSCAN Tracking: Lessons from Widespread shore Wind Turbine Monitoring
11.45	**#159** *Gaile L.:* Multi-dataset OMA of a Sightseeing Tower with the New SpCF Method	**#167** *Nyoni B.R.:* Towards a digital twin of a new concrete tied-arch bridge: material characterisation and model validation	**#55** *Tcherniak D.:* Optimal Sensor Placement to improve the Virtual Sensing precision
12.00	**#220** *Aenlle Lopez M.:* Local Sensitivity Analysis in Structural Dynamics Using Structural Dynamic Modification	**#149** *Argentino A.:* Automated OMA through SSI-COV algorithm of a Warren truss railway bridge exploiting free decay response	**#257** *Tronci E.M. (presentation only):* Digital twinning of offshore wind turbines integrated with data for predicting strain measurements
12.15	**#153** *Amador S.:* On the Initial Assessment of a New Complex Frequency Domain Decomposition (C-FDD) Technique Formulated in Modal Model	**#211** *Pozzi A.M.:* Operational modal analysis and structural identification of a concrete box girder bridge	
12.30	Lunch		

May 24		
	Plenary - Chapel	**Conference Hall - University**
	SS6: Vibration-based SHM of bridges (3) CHAIRS: *Betti R., García-Macías E.*	**Sensors** CHAIRS: *Ubertini F., Foti D.*
14.00	**#255** *Imposa G.:* A robust end-to end framework for automated modal identification for infrastructure monitoring	**#246** *Castellaro S.:* Optical detection of mechanical vibration
14.15	**#258** *Pagot R. (presentation only):* A cloud-based SHM solution for the CAV bridges	**#243** *Patané D.:* MonVia Project, development and application of a new sensor box
14.30	**#196** *Gargaro D.:* Operational Modal Analysis of a bridge subjected to perceptible vibrations	**#125** *Luo Z.:* Vision-based operational modal analysis robust to complex environmental conditions
14.45	**#223** *Kvale K.A.:* Operational modal analysis of the Grenland Bridge using wireless accelerometers and one day of measurement data	**#190** *Esposito D.:* Dynamic Identification of "Ansa del Tevere" viaduct using a classic and an innovative approach
15.00	**#134** *Rota L.:* Operational modal analysis of a RC arch bridge	**#160** *Meoni A.:* Last advancements in the diffuse structural health monitoring of masonry buildings from the experimental testing of a full-scale case study structure subjected to controlled damage
15.15	**#155** *Gupta V.:* Bridge Condition Monitoring Using Frequency Domain Decomposition Method	**#151** *Orlando A.:* Compressive Sensing for Operational Modal Analysis of a prestressed concrete bridge
	Plenary - Chapel	
15.30	**Closing Ceremony** CHAIRS: *Rainieri C., Gentile C.*	

May 24		
	Posillipo Room	**Mergellina Room**
	New methods for SHM (2) CHAIRS: *Peeters B., Dohler M.*	**SS8: Physics-based Model Updating in Structural Health Monitoring, Earthquake Engineering and Structural Dynamics (2)** CHAIRS: *Bassoli E., Rosati I.*
14.00	**#179** *Gomez S.:* Practical Clustering Approaches for SHM	**#174** *Ditommaso R. :* Using a calibrated numerical model to analyse the vertical displacement of a bridge produced by air temperature variations
14.15	**#60** *Comella M.C.:* Damage Detection through Modal Parameters and Cepstral Coefficients	**#17** *Sivori D.:* Isospectral stiffness matrix identification for the Equivalent Frame modeling of buildings
14.30	**#82** *Fernandez P.:* Real Time FatigueMonitoring using OMA	**#209** *Olvera Garcia I.:* Mathematical models calibration of bridge-type structures by means of natural period and ambient vibration
14.45	**#100** *Kullaa J.:* Damage Detection with Closely Spaced Modes Using Autocovariance Functions	**#249** *Yaya N.:* Vibration Mitigation and Finite Element Model Calibration in Coal Preparation Plants Using Bayesian Model Updating
15.00	**#126** *Mendler A.:* Normalization of environmental effects in modal parameter tracking	**#224** *Bienert J.:* Extension of linear systems by fractional derivatives
15.15	**#150** *Sepe V.:* Classification algorithms for damage identification in framed structures by means of natural frequencies	
	Plenary - Chapel	
15.30	**Closing Ceremony** CHAIRS: *Rainieri C., Gentile C.*	

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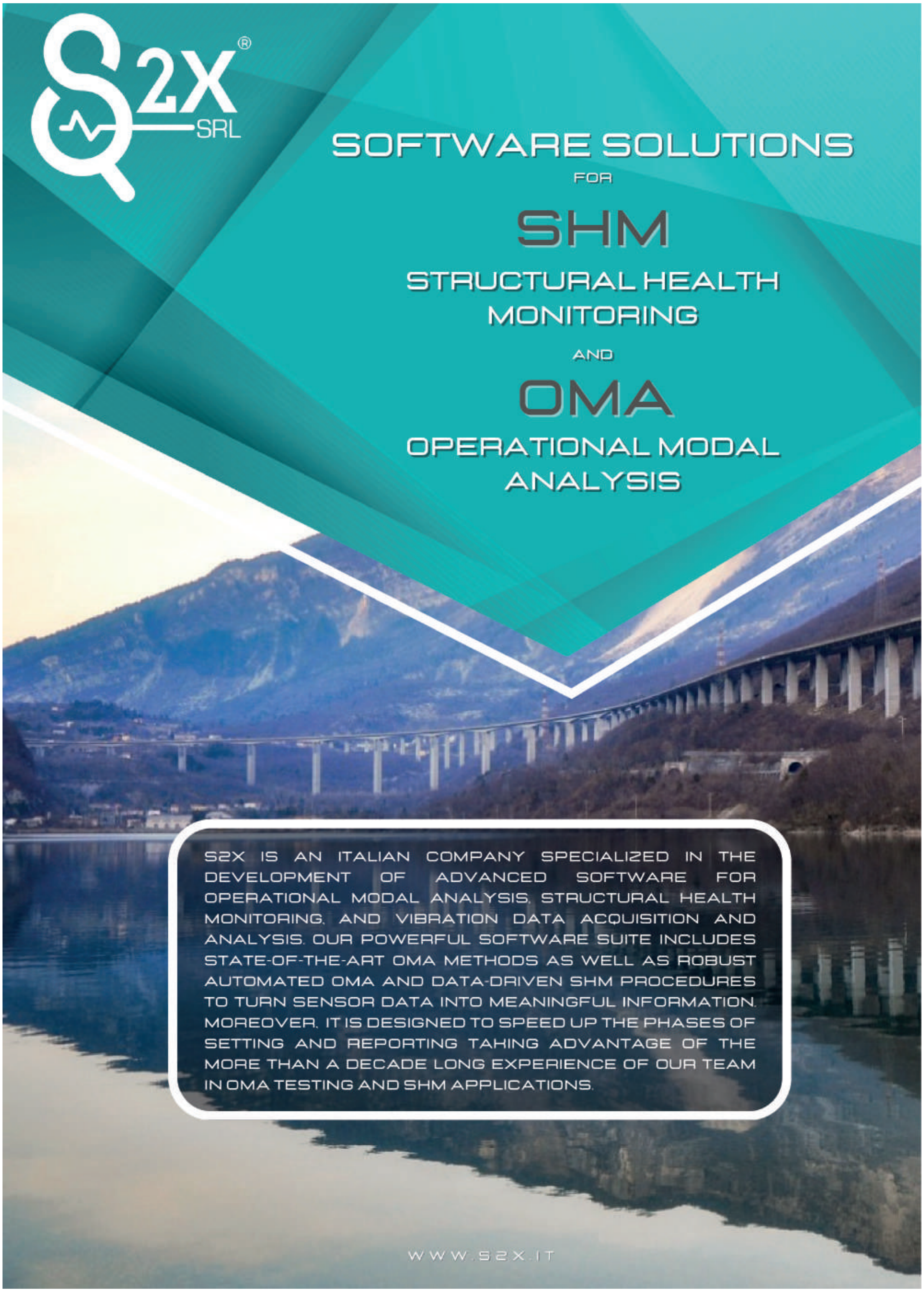

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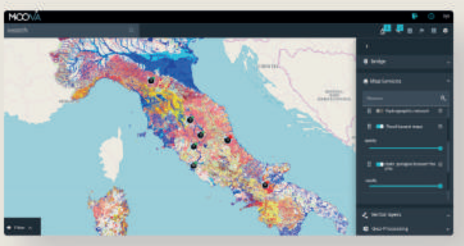
MOOVA SHM platform_

Almaviva's **MOOVA SHM** platform integrates and applies Structural Health Monitoring methodologies and best practices to support the continuous and long-term monitoring of infrastructure assets. This process, which **MOOVA SHM** makes particularly intuitive and effective, leads to obtaining essential information to determine the health status of individual assets at every moment of their life and provide a broader overview of the state of the entire infrastructure network.

The structural monitoring process of an extensive infrastructure network requires a series of sequential and interconnected phases, which start from the collection and storage of measurements continuously acquired on the infrastructure and passing through the analysis of time series through complex OMA algorithms, arrive at delineating the health status of the asset and to report it conveniently to the user. **MOOVA SHM** is designed to be the nerve centre of this process, a unique tool that leads to the correct perception of the infrastructure network. Thanks to the possibility of integrating data from exogenous and endogenous sources into the monitoring framework, the platform can provide the user with clear and precise information, which constitutes the ideal basis of awareness on which to plan interventions.



In the scenario of structural health monitoring management, the **MOOVA SHM** platform play a central role: its Front End constitutes a single access point for dealing with multiple ordinary and extraordinary situations, by taking actions in real time, monitoring services and processes, collecting documentation, carrying out analyses and managing any malfunctions, interruptions and alarms, both structural and plant.

MOOVA
ABSOLUTE MOBILITY

External data sources relating to phenomena connected with the management of an infrastructure network (environmental, geological, hydrogeological, seismic and others) are appropriately integrated on the **MOOVA SHM** platform. The platform also allows integration with third-party video surveillance systems and dynamic weighing systems by associating them with any alarms and stresses detected by the sensors, correlating cause and effect.

Information relating to single asset is made available and easily consultable on interactive 2D/3D representations. The features of the platform allow to select the sensors, change their configuration, turn them off, change the sampling frequency, update the firmware and view the collected data. This monitoring data can be analyzed within a specific module of the platform, dedicated to the configuration of the static and dynamic monitoring process and the extraction of diagnostic information. Advanced preprocessing, dynamic identification, modal parameter tracking, statistical pattern recognition and anomaly detection algorithms are implemented in it, within a data driven monitoring approach. The platform makes the results of this process available and notifies any alarms if anomalies in the structure's behavior are detected.

MOOVA SHM also includes an Advanced Analytics module that allows you to discover and analyze data, develop and train analytical models by applying data quality functions. This module integrates and applies artificial intelligence and machine learning techniques to measurements, enabling management of the entire IoT data analysis lifecycle.

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ON_TOGETHER.

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Da oltre 50 anni Kinemetrics sviluppa tecnologie, prodotti e soluzioni per il monitoraggio dei terremoti e dei loro effetti su persone e strutture. I prodotti Kinemetrics forniscono informazioni fruibili in tempo reale, valutazioni strutturali, avvisi di impatto rapido, rapporti sullo stato di salute e rispondono alle esigenze vitali dei settori infrastrutturali sfruttando una combinazione di tecnologia di rilevamento intelligente e calcoli di ingegneria predittiva, come la piattaforma di gestione delle infrastrutture Kinemetrics. Decenni di esperienza nella fornitura di soluzioni della massima qualità per il monitoraggio strutturale e sismico di ponti e altre grandi strutture hanno reso Kinemetrics un partner tecnologico e operativo affidabile a livello globale per le organizzazioni responsabili dei sistemi più critici del mondo. Kinemetrics si è affermata come leader di mercato per la strumentazione e le soluzioni sismiche. I nostri prodotti, incluso KMIBridge, la Piattaforma Completa di Gestione Sismica dei Ponti, rappresentano de facto gli standard mondiali.

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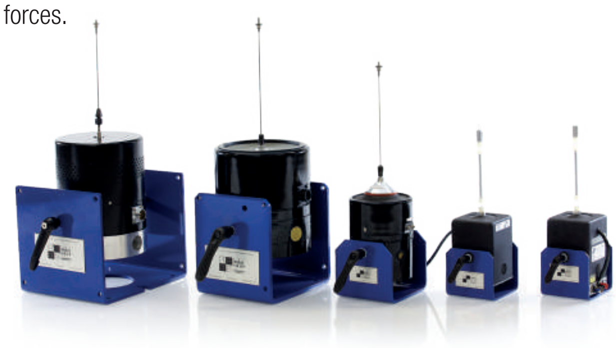
PCB manufactures vibration, pressure, force and strain, shock, and acoustic sensors used by design engineers and predictive maintenance professionals worldwide for test, measurement, monitoring, and control requirements. Our sensors support testing in aerospace and defense, automotive, transportation, civil engineering, and general R&D industries. Primary sensing technologies include piezoelectric (ICP®), piezoresistive, and capacitive MEMS. With a worldwide customer support team, 24-hour SensorLine, and a global distribution network, PCB is committed to Total Customer Satisfaction. PCB Piezotronics is a wholly-owned subsidiary of Amphenol Corporation.

PCB Piezotronics offers many sensors for use in Modal testing. These include both single and triaxial high sensitivity TEDS ICP® accelerometers, DC-MEMS, cable assemblies, patch panels, and the necessary signal conditioning. In addition, PCB and The Modal Shop offer Modal Shakers and Modally Tuned Impulse hammers for exciting the object under test. TEDS equipped Impedance Heads and Force Sensors can be used to measure the input forces.



Polytec
BPS

www.bpsweb.it

Polytec GmbH is the internationally acknowledged leader and gold-standard for non-contact vibration measurement through Laser Doppler Vibrometers: with the help of these instruments, you can perform modal analysis on samples of different size, from entire car bodies and large aerospace parts to micron-sized MEMS without any mass loading effect. BPS is the official distributor in Italy for Polytec instruments.

Additionally, Polytec and BPS can assist you in modal parameter estimation and system excitation, as we provide:

- Polywave Post Processing Suite to extract modal parameters handling large and complex data with ease.
- Automatic modal hammers for repetitive and controlled impulse excitation.
- Lightweight modal exciters with through hole from TIRA GmbH, a top-class German producer.

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www.plm.sw.siemens.com

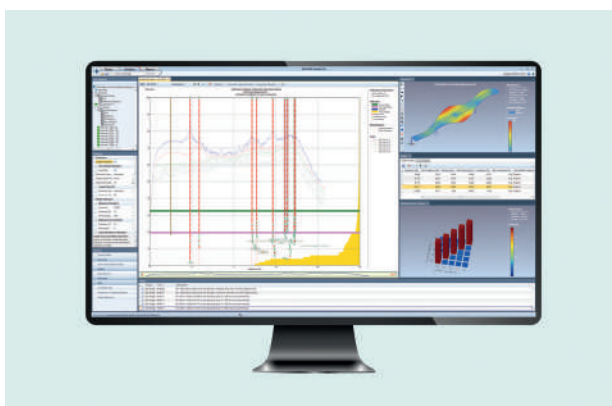
Siemens Industry Software (formerly LMS International) (SISW) is a leading provider of engineering innovation and software/services in functional performance engineering of mechanical structures (vehicles, aircraft, machinery, wind turbines…) and has an extensive methodology and toolset development track record in a wide range of relevant mechanical attributes, with over 25 years of experience in NVH/Acoustics, over 20 years in durability/fatigue methods development and 10 years in multi-attribute structural analysis process solutions in automotive sector including crashworthiness and passive safety.

The company has 30 years of experience in professional software development, an accredited (ISO 9000) quality assurance process and organization, usability expertise, etc. This guarantees that SISW can make the transformation of the research results into a successful commercial software product offering. The software development process has been entirely professionalized, with well-defined gates for the definition, implementation, validation, testing and launch of the products and product releases. Since 2013, SISW is part of Siemens constituting the Simulation and Test Business Segment of Siemens PLM Software Business Unit.

Structural Vibration Solutions

www.svibs.com

Structural Vibration Solutions A/S has been providing software solutions for Operational Modal Analysis for the last 25 years. On March 1st, 1999, Structural Vibration Solutions was founded as a spin-off from Aalborg University in Denmark. Our first software release, ARTeMIS Extractor, was made in year 2000 and included the two patented Frequency Domain Decomposition methods FDD and EFDD as well as three versions of the Stochastic Subspace Identification (SSI) methods. ARTeMIS Extractor has been succeeded by the more powerful ARTeMIS Modal that has a new look and feel. However, the philosophy is the same as it was back when we started. The user should have different methods available for analysis of the measurements to enable a validation of the modal results. Today, our software is used by more than 1000 users. The users are e.g., mechanical engineers performing modal analysis of operating machinery and components, and civil engineers for ambient vibration testing and analysis of large structures like bridges and buildings.



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Organizing Secretariat

COLLAGE S.p.A.

Via U. Giordano, 55 - 90144 Palermo - Tel. 091 6867.401
web: www.collage-spa.it
e-mail: **giusy.ventura@collage-spa.it**