20th ESI SimulationX Conference - Day 1

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	Room Hamburg I	Room Hamburg II	Room Gartensaal
9 am	Welcoming and introduction, Dr. Andreas Uhlig, ESI ITI		
9.30 am	Keynote I: Multi-physics simulation as applied to the NVH refinement of powertrains, Piero Aversa, Ford		
10 am	Keynote II: Model-based development for affordable and reliable space craft and launch vehicle by utilizing multi-physics system-level Modeling and simulation tool-chain, Kaname Kawatsu, JAXA		
Break			
Session I	**Mobile Machinery**	**Energy Technology**	
11 am	Development of a parallel control system for underground vehicle with SimulationX Sebastian Voigt, IBAF	HVAC simulation for optimization and certification of buildings Elisabeth Eckstädt, Innius	
11.30 am	Design and automated performance – evaluation of path following methods for autonomous wheel loaders using SimulationX Dr. Manuel Bös, Liebherr Bischofshofen	Co-simulation of solar district heating grids and borehole thermal energy storages using SimulationX Julian Formhals, TU Darmstadt	
12 pm	Using simulations in the control development illustrated with mobile machinery Oliver Koch, TU Dresden	Multi-criteria planning tool for a net zero energy village Dr. Pio Lombardi, Fraunhofer IFF	
Break			
Session II	**Mobile Machinery/Mining**	**Energy Technology**	**Industrial Machinery**
2 pm	Controller optimisation by SimulationX and FMU Florian Wiest, Liebherr	Simulation of solid oxide fuel cell system and the applications in shipping – with diesel engine and battery Shaghayegh Kazemi Esfeh, DNVGL	Simulation of the mechanical dryer section of a paper machine Natalie Osti, Voith Paper
2.30 pm	Simulation-based analysis of pipe rupture protection in an application-specific context Dr. Dirk Wehner, Hydrive Engineering	A XiL development environment for building energy management systems based on FMI Dr. Tobias Rodemann, Honda Research	Virtual commissioning using a non-real-time simulation environment in combination with a real controller hardware Ruediger Kampfmann, Bosch Rexroth
3 pm	Systematic improvement of the energy performance of belt conveyors Uwe Köhler, Leag	Simulation-assisted hydraulic system development for a mobile collector pipe laying machine to be used for near-surface geothermal energy systems David Wildner, HTW Dresden	Detailed modelling of a hydraulic bearing preload element for drive design and control development Georg Ivanov, Chemnitzer Maschinen- und Anlagenbau
Break			
Session III	**Automotive TechnologyTransportation**	**Aerospace**	**Industrial Machinery**
4 pm	A simulation-based analysis of longitudinal vibration modes in trains David Meinel, FAU Erlangen	Gas turbine for helicopters Lionel Belmon, Global Crown	Analysis and dimensioning of a high-temperature multi-stage hot forming process Jürgen Frank, Schuler
4.30 pm	Direct simulation of acoustic measures in SimulationX using Krylov subspace method Maximilian Zinner, ARRK Engineering Division	Electrohydraulic propulsion system of the aircraft aileron in SimulationX Dr. Maxim Andreev, ESI ITI	Simulation bunching machine – Find the right settings Fabian Holzheu, Niehoff
5 pm	Powertrain NVH optimization with SimulationX- process and applications Georg Festag, Ford	Practical Implementation of Model based system engineering from requirements to simulation verification Song Likang, Hongdu Aviation Industry Group	Residual pulsation calculation with SimulationX Achim Lamparter, Uraca
5.30 pm	Developing and virtually testing electric vehicles with ESI's SimulationX – An overview on challenges and their solution Thomas Hofmann, ESI ITI	Basic gas turbine library and its application within integrated jet engine performance design and virtual verification process Dr. Marcel Gottschall, ESI ITI	Module-based synthesis of a 14-unit deep-drawing press including kinetic criteria Stefan Heinrich, TU Chemnitz
6 pm	DEPARTURE TO DINNER EVENT		

20th ESI SimulationX Conference - Day 2

	Room Hamburg I	Room Hamburg II	
9 am	New in SimulationX 4.0, Thomas Hofmann, Thomas Neidhold, ESI ITI		
9.40 am	Keynote I: Integration of SimulationX into model based systems engineering (MBSE) and virtual validation toolchains, Dr. Marcel Gottschall, Bastian Binder, ESI ITI		
10 am	Keynote II: Minimizing Gear Noise with an Orbitless Primary Stage, Robert Eisses, Orbitless Drives		
Break			
Session I	**Interfaces**	**Integration**	
11 am	FIRST hydraulic coupling with SimulationX using FMI standard (BPA) Dr. Katja Backhaus, IST	Model Based Systems Engineering as a basis for early verification in product development process (BPA) Dr. Stephan Husung, :em Engineering	**Room Musikzimmer**
11.30 am	FMI-based coupling of SimulationX with multi-agent-simulation – Tools for a holistic power supply system layout Tom Eckhardt, EA Systems	Co-simulation between SimulationX and Visual-VPS Pascal Longrais, ESI	**Open discussion (1h):** Challenges and added value of Model Based Systems Engineering
12 pm	Distributed Co-Protocol (DCP): a new tool independent standard for network based co-simulation Dr. Claudia Bellanger, ESI ITI	A more energy-efficient production of safety glass through model-based optimization Stephan Seidel, Fraunhofer IIS	
12.30 pm	Hardware-in-the-Loop applications for intelligent energy management and coupled energy system analysis Daniel Zinsmeister, TU München	Approach to linking engineering tools in a continuous data model Dymtro Adamenko, Uni Duisburg	
Break			
Session II	**Recent Developments**		
2 pm	Automatic assembly of generic model structures through script-based model generators Sebastian Grützner, ESI ITI		
2.30 pm	Modeling of vehicles with varying level of detail for system simulation – Development of a modular chassis model kit including a consistent parameterization process Tom Wiedemann, ESI ITI		
3 pm	Development and applicaton of a SimulationX library for magnetic shape memory alloys (BPA) Annabel Effner, TU Dresden		
3.30 pm	Hybrid Twin – Systematic analysis of faults and deviations from nominal behavior Andreas Abel, ESI ITI		
4 pm	BEST PAPER AWARD CEREMONY AND CONCLUSION		

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