Two Conferences – One Event: ASE Summit meets DSM Conference | September 24–26, 2024

Day 1, September 24, 2024

08:15 am | Registration and Welcome

09:00 am | Opening Keynote ASE Summit [G1.00]
»Advanced Systems Engineering and the Industrial Metaverse«
Univ.-Prof. Dr.-Ing. Oliver Riedel, Fraunhofer IAO

09:45 am | Industry Pitch [G1.00]
»Digital Continuity – PLM Selection and Introduction while Ensuring Business Continuity«
Mehmet Akif Akbulut, Tirsan/Kässbohrer
Stephan Schüle, Fraunhofer IAO

10:30 am | Coffee Break

11:00 am | Innovation Insight [G1.00]
»Creating Value with ASE and Visual Interaction«
Dr.-Ing. Matthias Bues and Mehmet Kürümlüoglu, Fraunhofer IAO

11:45 am | Research Insight [G1.00]
»Asset Administration Shell for the Wiring Harness«
Christian Kosel, ARENA2036

12:30 pm | Lunch Break

01:30 pm | Break Out Session
Conceptualization of Digital Twins [G1.00]
Visual interactive Collaboration [Z1.60]
Circularity enabled by ASE [E1.40]

01:30 pm
DSM Registation

02:30 pm | Welcome Address and Opening [Z0.00]
»DSM Conference«
Prof. Matthias Kreimeyer, IKTD
Univ.-Prof. Dr.-Ing. Oliver Riedel, Fraunhofer IAO

03:15 pm | Coffee Break

03:45 pm | Interactive DSM Experience [Z0.00]
Prof. Tyson Browning, Texas Christian University

05:15 pm | Coffee Break

05:45 pm | Industry Insight [Z0.00]
»R&D Study 2030«
Prof. Dr. Florian Kauf, PwC Germany

06:30 pm | Evening Event & Dinner Speech [MICA]
@FhG Campus
Prof. Steven D. Eppinger, MIT Sloan School of Management

Day 2, September 25, 2024

08:30 am | Registration and Welcome

09:00 am | Keynote & Introduction [G1.00]
Industry Sprint Workshop Use Case
Representatives ebm-papst

10:15 am | Coffee Break

10:45 am | Industry Sprint Workshop [Z0.00]
all Participants in groups

12:30 pm | Lunch Break

01:30 pm | Industry Sprint Workshop [Z0.00]
all Participants in groups

02:30 pm | Closing: Industry Sprint Workshop [Z0.00]
all Participants

03:15 pm | Coffee Break

03:45 pm | Industry Insight [G1.00]
»The complex challenge of product portfolio optimization«
Dr. Dominic Distel and Dr. Lars Schonenberg, McKinsey & Company

04:15 pm | Full Paper Presentations [Session 1] [G1.00]
Data-Driven Design
[Authors of full papers]

05:00 pm | Closing Day 2 [G1.00]
Prof. Matthias Kreimeyer, IKTD
Univ.-Prof. Dr.-Ing. Oliver Riedel, Fraunhofer IAO

05:15 pm | Transfer

07:00 pm | Dinner [Ratskeller Stuttgart]

Chair: Prof. Matthias Kreimeyer
Data-Centric Architecture Model for the Development of Smart PSS
Yevgeni Paliyenko
Facilitating the Implementation of Data-Driven Processes in Product Development
Yevgeni Paliyenko
Generation of Rule-Based Variance Schemes Towards a Data-Driven Development of High-Variant Product Portfolios
Thorsten Schmidt

Day 3, September 26, 2024

08:30 am | Registration and Welcome

09:00 am | Extended Abstract Presentations [Session 2] [G1.00]
Authors of Extended Abstracts

10:30 am | Coffee Break

11:00 am | Industry Insight [G1.00]
»DSM & AI: Applications for Managing Complex Product Development and Supply Chains«
Dr. Thomas Braun, Teseon

11:30 am | Full Paper Presentations [Session 3] [G1.00]
Modularization and Variant Management
Authors of full papers

12:30 pm | Lunch Break

01:30 pm | Full Paper Presentations [Session 3] [G1.00]
(Model-Based) Systems Engineering
Authors of full papers

02:45 pm | Coffee Break

03:15 pm | Paper Presentations [Session 5] [G1.00]
Process and Project Management
Authors of full papers

04:15 pm | Conference Closing [G1.00]
Prof. Matthias Kreimeyer, IKTD
Univ.-Prof. Dr.-Ing. Oliver Riedel, Fraunhofer IAO

Chair: Prof. Pascal Etman
Modeling and Analyzing Interactions Between Stakeholders for Train Decarbonization Decisions at a Regional Scale
Benoit Volant
Development of a Method for Comparing Industrial Processes Using DSM: Application to a Case Study in the Automotive Sector, the Seatbridge Patent
Daniele Grazzini
Process Versus Knowledge Interdependencies: Balancing Alternative Grouping Criteria
Runar Solberg
Exploring Indicators for Multiple Modes in Resource-constrained Project Scheduling
Gergely Lajos Novak

Chair: Prof. Steve Eppinger
Generating A Design Structure Matrix With A Large Language Model
Edwin Koh
Towards the Capabilities of Large Language Models Regarding Functional Reasoning of Designed Products
Jonas Fastabend
Modular Design Method Based on DSM Using Spectral Clustering for Frame Structures
Daichi Kunishi
Ensuring Consistency and Credibility in Cyber-Physical Systems Validation
Patrick Grycz
The Role of the Design Structure Matrix in a Streamlined Innovative Product Design Approach
Daniele Ferrara
Aerospace aftermarket options management using Design Structure Matrix
Sreeram Bhaskara

Chair: Prof. Tyson Browning
A DSM Approach to Modularize for Reusability
Pascal Etman
Towards an Approach for the Target-Size-Oriented Selection and Adaptation of Methods for the Development of Modular Product Families
Lea-Nadine Wöller
Towards a Framework for the Continuous Decision-Making Concerning Variety-Induced Cost of Complexity in the Product Generation Development Process
Maximilian Ridder

Chair: Prof. Ali Yassine
A Maturity Model for Data-driven Model-based Systems Engineering for Producing Companies
Denis Tissen
AI-MBSE-Assisted Requirements Writing and Management – Towards a Knowledge-based Framework
Ali Asghar Bataleblu
Optimizing Token Usage on Large Language Model Conversations Using the Design Structure Matrix
Ramon Maria Garcia Alarcia
A Lifecycle Model for Autonomous Buses in Public Transport
Christopher Langner

ASE Summit | **ASE/DSM Shared** | **DSM Conference**