

Integrated Project Engineering Congress (IPEC)
Congress Day 1: Thursday 27 May 2021
(Online)

7:00 AM - 8:00 AM	Virtual Portal Access					
8:05 AM - 8:15 AM	Congress Opening Address & Acknowledgement of Country - Jane MacMaster, Chief Engineer at Engineers Australia					
Technical Presentations - Concurrent Streams						
Technical Concurrent Sessions Thursday I	Concurrent Stream 1: Systems & Test	Concurrent Stream 2: Systems & Test	Concurrent Stream 3: Project Controls	Concurrent Stream 4: RISK	Concurrent Stream 5: RISK	Concurrent Stream 6: Integrated Project Engineering
	Human Systems and Culture/ Sustainability and Resilience	Governance and Assurance/ Capital Projects and Lifecycle	Capital Projects and Lifecycle/ Human Systems & Culture	Sustainability and Resilience/ Technology and Data	Capital Projects and Lifecycle/ Human Systems and Culture	Technology and Data/Capital Projects and Lifecycle
8:15 AM - 8:40 AM	108: An Overview of Systems Engineering in the Australian Transport Sector Ruben Welschen	52: Putting Unicorns in the Right Paddock: Effective Assurance as an Enabler of Change Jonathan Armstrong	66: A Markov Model for Project Planning Evaluation Mahmoud Efatmaneshnik	4: Energy Infrastructure Modelling for Sustainability & Resilience: Using the FRAM to Model a Complex System Geoff Hurst	50: Projects - Why Leadership & Management are Critical in Avoiding a Repeat of Post GFC Mistakes in Major Infrastructure Projects Veno Panicker	6: Knowledge Management Challenges in an Alliance-Based Major Project Delivery Organisation Stephen Howe
8:40AM - 9:05 AM	81: Reconciling Enterprise Architecture and Systems Engineering Thomas Manley	22: Systems Engineering Professional Certification Standard Ray Hentzschel	79: Innovative Approach to Project Controls and Reporting for High Volume of Small Scale Design Portfolio Praema Ranga	5: Protection of Critical Public Infrastructure Assets in the event of a Terrorist Attack with High Explosives Ruwan Weerakoon	129: The need for an International Standard for Failure Analysis Nigel Booker	94: Successes in Project Management and SE Integration Martin Griffin, Mark Betts, Jules Moore, Susan Jacques, Oliver Fried (Panel)
9:05 AM - 9:30 AM	75: Systems Engineering Education in Australia – Supply and Demand Grace Kennedy	67: Analysis of Telecommunications System Model for Service Delivery Network Sizing Daniel Spencer	122: Effort Optimisation A New Way to make Resource/Workforce Decisions in Project Based Organisations Alex James	55: Maximising Investment Post COVID-19: Integrating Resilience into all Aspects of Infrastructure. Chris Quin	48: Emergent Behaviour in the Battle Management System (BMS) Aleksander Seizovic	
9:30 AM - 9:55 AM	80: A Criticality Framework for Communications Networks Thomas Manley/ Susan Ronning	20: A Modelling Approach for Integration of Systems Engineering and Program Management Mahmoud Efatmaneshnik	39: How To Accelerate Your Leadership Skills & Build A Resilient & High Performing Team Joshua Stone	59: Combining Operational Data with Accounting Data for Complex Endeavours Alastair Paton	17: The Capability Management Process: a Systematic Way into Business Improvement Katharina Gerstmann	14: Multidiscipline Coordination – a Process Towards an Integrated Project Richard Lau
9:55 AM - 10:20 AM	Congress Morning Break & Technology Hub Exhibition					

	Concurrent Stream 1: Systems & Test II	Concurrent Stream 2: Systems & Test II	Concurrent Stream 3: Project Controls II	Concurrent Stream 4: RISK II	Concurrent Stream 5: RISK II	
Technical Concurrent Sessions Thursday II	Sustainability and Resilience/ Human Systems and Culture	Capital Projects and Lifecycle/ Technology and Data	Capital Projects and Lifecycle/ Governance and Assurance/ Sustainability & Resilience	Technology and Data/ Human Systems and Culture/ Sustainability and Resilience/ Governance and Assurance	Capital Projects and Lifecycle/ Human Systems and Culture	
10:20 AM - 10:45 AM	101: Architecting for 'Ilities' Peter Bernus	43: Effectively Communicating Developmental System Reliability Growth Plans and Risk to Decision-Makers Paul Nation	9: Multi-Project Lifecycle Management System Calin Borbeli	10: How we Built Awesome Risk Software to Kill Spreadsheets Doug Vincent	111: The Swiss Cheese Model with "Risk Leadership" as the Fifth Domain in a Complex Project Environment" Santhosh Therakam	
10:45 AM - 11:10 AM	46: Resilient SATCOM System design using Model Based Systems Engineering (MBSE) Georgia Castignani/ Brad Spencer	28: RAIDOC - The Project Management Tool used by Systems Engineers Anthony Afonso	73: Earned Value Management for Integrated Project Performance Measurement Matt Byun/ Nihal Soofi/ Laurie Bowman (Tutorial)	107: International Humanitarian Law for the Australian Defence Industry Derek Rogers	110: High Capacity Electric Public Transport Vehicles: A Brisbane Metro Case Study David Cox	
11:10 AM - 11:35 AM	89: Mapping the Human Systems Integration Perspectives to Systems Resilience in Critical Infrastructure Grace Kennedy	117: Exploring the Role of Hierarchy Structures in Achievement of Sustainable Development Goals Maya Narayan		115: Post-Disaster Facility Resilience: Design Gaps, Traps and Failures to deliver Building Code Compliant in Line with Business Continuity Requirements Jordan Bartlett	98: Existential Risk - Why we urgently need our population and economy to degrow Ian Thomas	
11:35 AM - 12:00 PM	19: Application of Subjective Complexity for Utilizing Competency Framework for System Engineer Role Assignment Mahmoud Efatmaneshnik	106: The Challenges of Artificial Intelligence and Systems Engineering Jake Vanderlinde	120: Unpredictable Risk and Building Resilience in Engineering and Construction Tim Rigby	119: A Systems Thinking View of Failure Sean Brady	109: An Integrated Approach to Wellness in Construction Kerrie Adaway	
12:00 PM - 1:00 PM	Congress Lunch Break - Virtual Networking & Technology Hub Exhibition					
4:00 PM - 4:45 PM	Plenary 1 - Our Future World: Megatrends Reshaping Livelihoods and Lifestyles over the Coming Decades - Stefan Hajkowicz, Senior Principal Scientist - Strategy, Foresight and Decision (Virtual)					
4:45 PM - 5:30 PM	Plenary 2 - Houston, we have a Problem! The Critical need for Human Factors in the Design of Artificial Intelligence - Gemma Read, Associate Professor, University of Sunshine Coast (Virtual)					
5:30 PM - 6:15 PM	Plenary 3 - Governance to Deliver Successful Business Re-engineering Projects - Case Study and Lessons Learned: Sandra Diethelm, Executive Consultant, IXL Pty (Virtual)					
6:15 PM - 7:15 PM	Virtual Networking Reception - Online Participants					

Integrated Project Engineering Congress (IPEC)
Congress Day 2: Friday 28 May 2021
(Online)

7:00 AM - 8:00 AM	Virtual Portal Access					
8:05 AM - 8:15 AM	Congress Day 2 Opening					
Technical Presentations - Concurrent Streams						
Technical Concurrent Sessions Friday I	Concurrent Stream 1: Systems & Test III	Concurrent Stream 2: Systems & Test III	Concurrent Stream 3: Project Controls III	Concurrent Stream 4: RISK III	Concurrent Stream 5: RISK III	Concurrent Stream 6: Integrated Project Engineering II
	Technology and Data	Sustainability and Resilience/ Human Systems and Culture	Technology and Data/ Capital Projects and Lifecycle	Capital Projects and Lifecycle/ Human Systems and Culture	Human Systems & Culture/ Sustainability and Resilience	Governance and Assurance/ Capital Projects & Lifecycle
8:15 AM - 8:40 AM	88: Optimization and Integration the Hard and Soft Systems Nightmare for Chaos Avoidance in Complexity Management. Edward Tooher	127: Australia's Future Fuels Strategy - Opportunities and Challenges of a Transition to Hydrogen Renata Berglas	116: Digital Transformation within the Major Transport Infrastructure Authority Cameron Mills	7: Digital Project Twin for Quantitative Cost, Risk and Schedule Assessment of Capital Projects Taylor Burns	128: Human Factors in Project Portfolio Risk Management Laurie Bowman	47: Technical Success Factors for Major Projects in the Oil and Industry is a Mandatory Requirement and How to Achieve it Vijay Vijayaraghavan
8:40 AM - 9:05 AM	65: Practical Approaches to Data Integration Spanning Technical Modelling for Projects Daniel Spencer	126: Potential for Nuclear Fuels Chris Skinner	118: The role of Engineering Technologist in Systems Engineering Rowan Goyns	112: Risk Engineering in Defence Domains Jennifer Del Mastro	96: Inter-storey 'Drift into (FRL) Failure': Holistic Construction Compliance Failures and Future Causal Scenarios Jordan Bartlett	38: Technical Translators – Engineering Management; a Defined and Unique Skillset for Project Success Georgina Mahony
9:05 AM - 9:30 AM	41: A Bayesian Approach to Complex Discrete-use System Reliability Growth Planning under Delayed or Arbitrary Corrective Actions Paul Nation	123: The Weibel Parsing Analysis recipe for text-driven Model- Based Systems Engineering (MBSE) with Systems Modeling Language (SysML) Dr Darren Kelly	24: Improving the Accuracy and Speed of Project Cost and Time forecasts with Artificial Intelligence: Theory and Case studies Cuong Quang	104: Developing a Culture of Readiness: How Systems Thinking can support people prepare for Operational Change Adam Tull	34: WWED – What Would Earth Do? A Regenerative Approach towards a Resilient & Sustainable Future Megan Jones & Mary Casey	12: A System for Tailoring the Requirements Approach for New Zealand Defence Force Capability Projects Ben Morton
9:30 AM - 9:55 AM	57: Operations Modelling Schemas for In-Service Sustainment Vincent Capizzi/ Bill Wang	23: SESA Resilience Initiative towards a Resilience Framework for Australia as a System Jawahar Bhalla, John Blackburn, Geoff Hurst, Grace Kennedy, Thomas Manley, Kevin Robinson, Chris Browne (Panel)	125: Cost-Loading a P6 Schedule from a Fixed Bid Contract Michael Lepage	93: Why do we Still Argue about Definitions of Risk and of Opportunity? Jim Whiting	31: Risk Management and Systems Thinking - The Past, Present and the Future Laurie Bowman, Trish Kerin, Sean Brady, Warren Black, Jane MacMaster (Panel)	
9:55 AM - 10:20 AM	45: Failure modes effect & critically (FMECA) analysis using Model based Systems Engineering (MBSE): An Industry Case Study Jade Chantrell/Brad Spencer			78: Assessment of the Viability and Benefits of using Vegetable Oil Fuels and of more Fundamental Ways to offset the Impeding Fossil Fuel Dilemma Ian Thomas		

