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## Research outputs

### **RAMS never dies! Applying the approach to IT/OT converged systems**

Kok, A., Martinetti, A. & Braaksma, J., 15 Sept 2023, *Proceedings of the 33rd European Safety and Reliability Conference (ESREL 2023)*. Singapore: Research Publishing, p. 3181-3187 7 p. P286

### **Designing a problem analysis toolkit in the context of humanitarian engineering**

Jakubeit, N., Richards, C. & Martinetti, A., 8 Jul 2023, *33rd CIRP Design Conference*. Liu, A. & Kara, S. (eds.). Elsevier, Vol. 119. p. 1065-1070 6 p. (Procedia CIRP; vol. 119).

### **Supporting maintenance operators using augmented reality decisionmaking: visualize, guide, decide & track**

Scheffer, S. E., Martinetti, A., Damgrave, R. G. J. & van Dongen, L. A. M., 8 Jul 2023, In: *Procedia CIRP*. 119, p. 782-787 6 p.

### **Educating for integrity: Blending the liberal arts and humanitarian engineering**

Frank, J., Petrová, N., Chemweno, P. K. & Martinetti, A., Jun 2023, *Proceedings of the 19th International CDIO Conference*.

### **Design for an integrated knowledge management policy for railway maintenance: An industrial synopsis**

Abbas, Y. & Martinetti, A., 2023, In: *Procedia CIRP*. 119, p. 521-526 6 p.

### **Integrating challenge-based learning into a mobile classroom environment for Jordanian camp refugees: a position paper**

Jakubeit, N., Petrová, N., Chemweno, P. K. & Martinetti, A., 2023, *The refugees in Jordan: A future vision*.

### **Disentangling large scale technological projects: Learning from ERTMS roll-out case study in the Netherlands**

Abbas, Y., Martinetti, A., Houghton, R. & Majumdar, A., Dec 2022, In: *Research in Transportation Business and Management*. 45, 100856.

### **Improving maintainability of the battery storage system in electric aircrafts**

Jain, A., Martinetti, A. & van Dongen, L. A. M., 8 Nov 2022, *11th International Conference on Through-life Engineering Services – TESConf2022, 8-9 November 2022, Cranfield, UK*. 6 p. 8176

### **Facilitating digital collaboration through knowledge management: a case study**

Abbas, Y., Martinetti, A., Rajabalinejad, M., Schuberth, F. & van Dongen, L. A. M., 2 Nov 2022, In: *Knowledge management research & practice*. 20, 6, p. 797-813 17 p.

### **Integrating the maintenance process: a framework to bridge design for maintenance to prescriptive maintenance**

Jain, A., Giacotto, A., Costa Marques, H. & Martinetti, A., 27 Oct 2022. 11 p.

### **Encouraging a Modal Shift to Passenger Railway Transportation: A Case Study in Adaptable Rolling Stock Interior Design**

Moerman, J.-J., Van Heusden, S., Matheussen, B. & Martinetti, A., 6 Aug 2022, In: *Sustainability (Switzerland)*. 14, 15, 9701.

### **EDUBOX: A Self-Contained Engineering Learning Environment for Underserved Communities**

Martinetti, A., Chemweno, P., de Wit, E., Steendam, J. & Nashwan, A., 13 Jun 2022, *Proceedings of the 18th International CDIO Conference*. Gudjonsdottir, M. S., Audunsson, H., Donoso, A. M., Kristjansson, G., Saemundsdottir, I., Foley, J. T., Kvas, M., Sripakagorn, A., Roslof, J., Bennedsen, J., Edstrom, K., Kuptasthien, N. & Lyng, R. (eds.). p. 703-713 11 p. (Proceedings of the International CDIO Conference).

**Investigating Interdependencies Between Key Features of Lessons Learned: An Integral Approach for Knowledge Sharing**  
Abbas, Y., Martinetti, A., Frunt, L., Klinkers, J., Rajabalinejad, M. & van Dongen, L. A. M., 1 Jun 2022, In: Journal of information & knowledge management. 21, 2, 2250019.

**Troubleshooting: a dynamic solution for achieving reliable fault detection by combining augmented reality and machine learning**

Scheffer, S. E., Martinetti, A., Damgrave, R. G. J., Rosic, B. & van Dongen, L. A. M., 16 Nov 2021, *10th International Conference on Through-life Engineering Service*. 6 p.

**Foreword to the 10th International Through-life Engineering Services Conferences (TESConf2021): The need for sustainable Through-life Engineering Services in the era of Industry 4.0 and beyond**

Martinetti, A., van Dongen, L. A. M. & Kuipers, M., Nov 2021. 2 p.

**Self-engineering: possibilities for maintenance operations in the mining machines industry**

Manders, S., Pantelic, M., MILISAVLJEVIĆ, V. & Martinetti, A., Nov 2021. 5 p.

**Mapping the Needs of Design for Maintenance in Electric Aviation**

Jain, A., Martinetti, A. & van Dongen, L. A. M., 20 Oct 2021.

**Lessons Learned from System Integration: A Strategic Synopsis**

Abbas, Y., Martinetti, A., Rajabalinejad, M., Frunt, L. & van Dongen, L. A. M., 18 Oct 2021, *10th International Conference on Through-life Engineering Service 16-17 November 2021, University of Twente, The Netherlands*. 6 p.

**Redefining Safety in Light of Human-Robot Interaction: A Critical Review of Current Standards and Regulations**

Martinetti, A., Chemweno, P. K., Nizamis, K. & Fosch Villaronga, E., 27 Jul 2021, In: *Frontiers in chemical engineering*. 3, 666237.

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**How to Make Augmented Reality a Tool for Railway Maintenance Operations: Operator 4.0 Perspective**

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**Augmented reality for IT/OT failures in maintenance operations of digitized trains: Current status, research challenges and future directions**

Scheffer, S., Martinetti, A., Damgrave, R. & Van Dongen, L., 2021, In: *Procedia CIRP*. 100, p. 816-821 6 p.

**Ready, trainer... one\*! discovering the entanglement of adaptive learning with virtual reality in industrial training: a case study**

Abbas, Y., Martinetti, A., Nizamis, K., Spoolder, S. & van Dongen, L. A. M., 2021, In: *Interactive learning environments*. 30 p.

**Do you have confidence in how your rolling stock has been maintained? a blockchain-led knowledge sharing platform for building trust between stakeholders**

Abbas, Y., Martinetti, A., Moerman, J.-J., Hamberg, T. & van Dongen, L. A. M., Dec 2020, In: *International journal of information management*. 55, 10 p., 102228.

### **Design for Sustainable Public Transportation: LCA-Based Tooling for Guiding Early Design Priorities**

Haanstra, W., Rensink, W.-J., Martinetti, A., Braaksma, J. & van Dongen, L. A. M., 24 Nov 2020, In: Sustainability (Switzerland). 12, 23, p. 1-17 17 p., 9811.

### **Empowering Predictive Maintenance: A Hybrid Method to Diagnose Abnormal Situations**

Imbassahy, D. W. D., Costa Marques, H., Rocha, G. C. & Martinetti, A., 3 Oct 2020, In: Applied Sciences. 10, 19, p. 1-27 27 p., 6929.

### **Optimizing Student-Driven Learning (SdL) through a Framework Designed for Tailoring Personal Student Paths**

Martinetti, A., 15 Sept 2020, In: Education Sciences. 10, 9, p. 1-9 9 p., 249.

### **Design of a Framework for Integrating Environmentally Sustainable Design Principles and Requirements in Train Modernization Projects**

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### **Applications and Challenges of Maintenance and Safety Engineering in Industry 4.0**

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### **Maintenance 4.0: Where Are We? A Systematic Literature Review**

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### **Reflections on the Adoption of Virtual Adaptive Learning Tool for Industrial Training**

Martinetti, A., Demichela, M., Spoolder, S., von Berg, J. & van Dongen, L. A. M., 23 Apr 2020, *Human Interaction, Emerging Technologies and Future Applications II: Proceedings of the 2nd International Conference on Human Interaction and Emerging Technologies: Future Applications (IHET – AI 2020), April 23–25, 2020, Lausanne, Switzerland*. Ahram, T., Taiar, R., Gremeaux-Bader, V. & Aminian, K. (eds.). Springer, p. 309-314 6 p. (Advances in Intelligent Systems and Computing; vol. 1152).

### **Tacit Knowledge Sharing for System Integration: A case of Netherlands Railways in Industry 4.0**

Abbas, Y., Martinetti, A., Rajabalinejad, M., Frunt, L. & van Dongen, L., 2020, *Applications and Challenges of Maintenance and Safety Engineering in Industry 4.0*. Martinetti, A., DeMichela, M. & Singh, S. (eds.). IGI Global

### **Big Data Analytics for Maintaining Transportation Systems**

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### **Design for Maintenance of Infrastructures: The Lesson of the Morandi Bridge**

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### **Smart Asset Management or Smart Operation Management? The Netherlands Railways Case**

van Dongen, L. A. M., Frunt, L. & Martinetti, A., 21 Aug 2019, *Transportation Systems: Managing Performance through Advanced Maintenance Engineering*. Singh, S., Martinetti, A., Majumdar, A. & van Dongen, L. (eds.). Springer, p. 113-132 (Asset analytics).

### **Vocational Education and Training in Transportation Maintenance 4.0: A Note**

Martinetti, A., 21 Aug 2019, *Transportation Systems: Managing Performance through Advanced Maintenance Engineering*. Singh, S., Martinetti, A., Majumdar, A. & van Dongen, L. (eds.). Springer, p. 173-182 (Asset analytics).

### **Reflections on the Limited Pervasiveness of Augmented Reality in Industrial Sectors**

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### **A New Adaptive E-Learning Concept for Multidisciplinary Learning Environments**

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### **Towards an Industry 4.0-Based Maintenance Approach in the Manufacturing Processes**

Reyes Garcia, J. R., Martinetti, A., Jauregui Becker, J. M., Singh, S. & van Dongen, L. A. M., Jan 2019, *Handbook of Research on Industrial Advancement in Scientific Knowledge*. González-Prida Diaz, V. & Zamora Bonilla, J. P. (eds.). IGI Global, p. 135-159 25 p.

### **Transportation Systems: Managing Performance through Advanced Maintenance Engineering**

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### **Simulating mechanical stress on a micro Unmanned Aerial Vehicle (UAV) body frame for selecting maintenance actions**

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### **Wheel maintenance in rolling stock: safety challenges in the defect detection process**

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### **Non-Natural Born lecturers: How to survive teaching in Dutch higher education**

Oude Alink, C., Martinetti, A., Karahanoglu, A. & Hahnen-Florijn, M. E., 20 Jun 2018, p. 1227-1235. 9 p.

### **Flying asset: Framework for developing scalable maintenance program for Unmanned Aircraft Systems (UAS)**

Martinetti, A., Schakel, E. J. & van Dongen, L. A. M., 14 May 2018, In: Journal of quality in maintenance engineering. 24, 2, p. 152-169 18 p.

### **Evolution of safety in industry 4.0: Future opportunities adopting resilience and antifragility engineering and virtual and augmented reality**

Martinetti, A. & van Dongen, L. A. M., May 2018, In: Geoingegneria Ambientale e Mineraria. 154, 2, p. 27-31 5 p.

### **Emergency response in large public facilities: thoughts and reflections on the unique Dutch Campus University**

Martinetti, A., Hes, F. J. & van Dongen, L. A. M., Apr 2018, In: Geoingegneria Ambientale e Mineraria. 153, 1, p. 68-73 6 p.

### **Safety I-II, Resilience and Antifragility Engineering: A debate explained through an accident occurred on a Mobile Elevating Work Platform**

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### **Approach to solving mining machine selection problem by using grey theory**

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### **Storytelling as a strategy in managing complex systems: Using antifragility for handling an uncertain future in reliability**

Martinetti, A., Moerman, J.-J. & van Dongen, L. A. M., 2018, In: Journal of the Safety and Reliability Society. p. 1-15 15 p.

### **There is no spoon: Applying virtual reality for maintenance training of rolling stock technicians**

Martinetti, A., 't Hart, K., Damgrave, R., van Dongen, L. A. M., Turkenburg, R. & Nouwens, A., 2018, In: International Journal of System of Systems Engineering. 8, 4, p. 398-415 18 p.

**Traditional Learning vs Virtual Learning in maintenance operations thoughts and reflections from a safety perspective**  
Martinetti, A. & 't Hart, K., 2018, *Prevention of Accident at Work*. Bernatik, A., Kocurkova, L. & Jorgensen, K. (eds.). CRC Press/Balkema, p. 317-322 6 p.

**Beyond RAMS Design: Towards an Integral Asset and Process Approach**  
Martinetti, A., Braaksma, A. J. J. & van Dongen, L. A. M., 23 Apr 2017, *Advances in Through-life Engineering Services*. Redding, L., Roy, R. & Shaw, A. (eds.). Springer, p. 417-428 12 p. (Decision Engineering).

**On the Initial Spare Parts Assortment for Capital Assets: A Structured Approach Aiding Initial Spare Parts Assortment Decision-Making (SAISAD)**  
Martinetti, A., Braaksma, A. J. J., Ziggers, J. & van Dongen, L. A. M., 23 Apr 2017, *Advances in Through-life Engineering Services*. Redding, L., Roy, R. & Shaw, A. (eds.). Springer, p. 429-442 14 p. (Decision Engineering).

**Beyond Accidents: A Back-Analysis on Conveyor Belt Injury for a Better Design for Maintenance Operations**  
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**Gamification in teaching maintenance engineering: a Dutch experience in the rolling stock management learning**  
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**Shaping the future maintenance operations: reflections on the adoptions of Augmented Reality through problems and opportunities**  
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**Operation, Safety and Human: Critical Factors for the Success of Railway Transportation**  
Rajabali Nejad, M., Martinetti, A. & van Dongen, L. A. M., 12 Jun 2016, *Proceedings SoSE 2016*. Kongsberg, Norway, p. -

**"I'll be back": a deep analysis on mass product recalls of non-food products**  
van Kempen, M. J. C., Martinetti, A. & van Dongen, L. A. M., 22 Feb 2016. 13 p.

**Remote pilot aircraft system (RPAS): Just culture, human factors and learnt lessons**  
Fontaine, O., Martinetti, A. & Michaelides-Mateou, S., 1 Jan 2016, *Chemical engineering transactions*. Vol. 53. p. 205-210 6 p. (Chemical engineering transactions; vol. 53).

**Initial spare parts assortment decision making for rolling stock maintenance: a structured approach**  
Martinetti, A., Braaksma, A. J. J., Ziggers, J. & van Dongen, L. A. M., 29 Oct 2015, *Proceedings of the 49th ESReDA Seminar, Brussels, October 29-30, 2015*. Brussels, p. -

## Activities

**Finding our Bearings**  
Konstantinos Nizamis (Participant) & Alberto Martinetti (Participant)  
1 Dec 2021 → 31 May 2022

**Light-Based Signaling Using Philips Hue Lighting to Enhance Entertainment Immersion**  
Konstantinos Nizamis (Examiner), Geke Dina Simone Ludden (Examiner) & Alberto Martinetti (Examiner)  
31 Aug 2021

**Evolution of safety in Industry 4.0: procedures, thoughts and words**  
Alberto Martinetti (Speaker)  
24 May 2018

**Maintenance Research Day 2018**

Alberto Martinetti (Participant) & Dario Di Maio (Participant)  
8 Mar 2018

**Maintenance Research Day 2017**

Rob Basten (Participant) & Alberto Martinetti (Participant)  
3 Feb 2017

**Maintenance Research Day 2016**

Rob Basten (Participant) & Alberto Martinetti (Participant)  
4 Feb 2016

**Projects**