

**Advanced Modelling Frameworks for the Digital Twin of an Autonomous Electric Vehicle Propulsion Drive System =
Autonoomse elektrisõiduki veoelektrijami digitaalse kaksiku täiustatud modelleerimise raamistikud**

Mohamed, Mahmoud Ibrahim Hassanin 2025 <https://digikogu.taltech.ee/et/Item/6df09867-e34b-45f1-b04e-b97c08b90589>
https://www.ester.ee/record=b5746300*est <https://doi.org/10.23658/taltech.31/2025>

Ants Vill: Eesti idufirmad vajavad tugevat toetust ja tugevat fookust

Vill, Ants Trialoog 2025 <https://trialoog.taltech.ee/ants-vill-eesti-idufirmad-vajavad-tugevat-toetust-ja-tugevat-fookust/>

Application of artificial intelligence and machine learning for BIM : review

Bassir, David; Lodge, Hugo; Chang, Haochen; Majak, Jüri; Chen, Gonfa International journal for simulation and multidisciplinary design optimization 2023 / art. 5 <https://doi.org/10.1051/smdo/2023005> [Journal metrics at Scopus](#) [Article at Scopus](#)

Applications of digital twins for demand side recommendation scheme with consumer comfort constraints

Onile, Abiodun Emmanuel; Belikov, Juri; Petlenkov, Eduard; Levron, Yoash IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe 2023) : proceedings 2023 / 5 p <https://doi.org/10.1109/ISGTEUROPE56780.2023.10407399>

AR/VR Digital Twin for simulation and data collection of robotic environments

Martins, João G.; Nutonen, Karle; Costa, Paulo; Kuts, Vladimir; Otto, Tauno; Sousa, Armando; Petry, Marcelo R. 2025 IEEE International Conference on Autonomous Robot Systems and Competitions (ICARSC) 2025 / 6 p
<https://doi.org/10.1109/ICARSC65809.2025.10970158>

Assessing interaction mechanics in extended reality for control engineering applications

Remenyi, Armin; Alsaleh, Saleh; Tepljakov, Aleksei 2024 32nd International Conference on Software, Telecommunications and Computer Networks, SoftCOM 2024 2024 <https://doi.org/10.23919/SoftCOM62040.2024.10721783> [Article at Scopus](#)

Augmented reality interface for industrial robot control and teleoperation

Ordile, Laura; Bondarenko, Yevhen; Pizzagalli, Simone Luca; Kuts, Vladimir; Otto, Tauno EuroXR 2021: Proceedings of the Virtual EuroXR Conference 2021 / p. 15-19 <https://sarjaweb.vtt.fi/pdf/technology/2021/T395.pdf> <https://doi.org/10.32040/2242-122X.2021.T395>

Autonomous vehicle for industry 5.0 : Digital twin for system safety validation

Sell, Raivo; Malayjerdi, Mohsen; Malayjerdi, Ehsan; Bellone, Mauro; Pikner, Heiko Proceedings of the 11th International Conference on Vehicle Technology and Intelligent Transport Systems VEHITS ; Vol. 1 2025 / p. 660-667
<https://doi.org/10.5220/0013476600003941>

Background for development methodology for creating the digital twin for propulsion drive of an electric vehicle

Rjabtšikov, Viktor 20th International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Tallinn, Estonia, September 8-10, 2021 2022 / p. 27-28 : ill https://www.ester.ee/record=b5457278*est

Biodigitaalsete muutuste lainel = Driving the biodigital transition

Valk-Siska, Veronika Maja : Eesti arhitektuuri ajakiri = Estonian architectural review 2021 / lk. 82-87 : ill
https://www.ester.ee/record=b1072550*est <https://ajakirimaja.ee/veronika-valk-siska-biodigitaalsete-muutuste-lainetel/>

CCD IK implementatsioon in unity for finding the angles of industrial robots' links

Nutonen, Karle; Kuts, Vladimir; Otto, Tauno ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE) ; vol. 2 2024 / art. IMECE2024-142320, V002T03A072 ; 5 p. <https://doi.org/10.1115/IMECE2024-142320>

Comparative assessment of simple and detailed energy performance models for urban energy modelling based on digital twin and statistical typology database for the renovation of existing building stock

Hallik, Jaanus; Arumägi, Endrik; Pikas, Ergo; Kalamees, Targo Energy and buildings 2024 / art. 114775
<https://doi.org/10.1016/j.enbuild.2024.114775> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A comprehensive survey on digital twin for future networks and emerging Internet of Things industry

Hakiri, Akram; Gokhale, Aniruddha; Ben Yahia, Sadok; Mellouli, Nedra Computer Networks 2024 / art. 110350
<https://doi.org/10.1016/j.comnet.2024.110350> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A comprehensive survey on revolutionizing connectivity through artificial intelligence-enabled digital twin network in 6G

Sheraz, Muhammad; Chuah, Teong Chee; Lee, Ying Loong; Alam, Muhammad Mahtab; Al-Habashna, Ala'a; Han, Zhu IEEE Access 2024 / p. 49184-49215 <https://doi.org/10.1109/ACCESS.2024.3384272> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Conceptual framework of information flow synchronization throughout the building lifecycle

Raitviir, Christopher-Robin; Lill, Irene Buildings 2024 / art. 2207 <https://doi.org/10.3390/buildings14072207> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Conceptual modelling of an EV-permanent magnet synchronous motor digital twin

Mohamed, Mahmoud Ibrahim Hassanin; Rjabtšikov, Viktor; Jegorov, Sergei; Rassõlkin, Anton; Vaimann, Toomas; Kallaste, Ants 2022 IEEE 20th International Power Electronics and Motion Control Conference (PEMC) : Brasov, Romania, 25-28 Sept. 2022 : proceedings 2022 / p. 156-160 <https://doi.org/10.1109/PEMC51159.2022.9962943>

Creating digital twins fo electric vehicles using Unity 3D, Unreal Engine, and Nvidia Omniverse : a comprehensive overview

Rjabtšikov, Viktor 22nd International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral School of Energy and Geotechnology III : Pärnu, Estonia, August 23-26, 2023 2023 / p. 21-22 : ill https://www.ester.ee/record=b5570906*est

Creation of digital twin models for renovation: an integrative literature review

Lõhmus, Daniel; Pikas, Ergo Proceedings of the 2023 European Conference on Computing in Construction and the 40th International CIB W78 Conference 2023 / art. 303649 <https://doi.org/10.35490/EC3.2023.307>

Cyber range and digital twin technologies for space resiliency and security

Carlo, Antonio; Manti, Nebile Pelin; Edl, András; Bintang Alam Semesta Wisran, A.M.; Breda, Paola 57th IAA Symposium on Safety, Quality and Knowledge Management in Space Activities : held at the 75th International Astronautical Congress (IAC 2024) : Milan, Italy, 14-18 October 2024 Proceedings of the International Astronautical Congress, IAC 2024 / p. 322-332 <https://doi.org/10.52202/078376-0032> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Deep reinforcement learning-based digital twin for droplet microfluidics control

Gyimah, Nafisat; Scheler, Ott; Rang, Toomas; Pardy, Tamas Physics of Fluids 2023 / art. 082020 <https://doi.org/10.1063/5.0159981> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Development of digital twin for robotic arm

Bratchikov, Sterpan; Abdullin, Artur; **Demidova, Galina;** Lukichev, Dmitry 2021 IEEE 19th International Power Electronics and Motion Control Conference, The Silesian University of Technology Gliwice, Poland, 25 - 29 April, 2021 (PEMC) : proceedings 2021 / p. 717-723 <https://doi.org/10.1109/PEMC48073.2021.9432535>

Development of digital twin-based learning from demonstration system for industrial robots

Bondarenko, Yevhen 20th International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Tallinn, Estonia, September 8-10, 2021 2021 / p. 19-20 : ill https://www.ester.ee/record=b5457278*est

Digikaksikute ajastu tervishoius

Spuul, Pirjo Trialoog 2025 <https://trialoog.taltech.ee/digikaksikute-ajastu-tervishoius/> https://haldus.taltech.ee/sites/default/files/2025-06/MM_2025-2%20uus.pdf?_ga=2.232118294.829146956.1760013669-1142243587.1753946719&_gl=1*rrv05g*_gcl_au*MTEzMTMxNTYuMTc1NDYyNjYzMw..

Digitaalksikum diagnostika rakenduseks

Vaimann, Toomas Elektriala 2023 / lk. 24-25 https://www.ester.ee/record=b1240496*est

Digitaalse kaksikuga juhitud logistikarobot Boxbot

Horisont 2021 / lk. 5 : fot https://www.ester.ee/record=b1072243*est

Digitaalsed kaksikud teevad säästlikust energiatarbimisest võistluse [Võrguväljaanne]

Harrik, Airika novaator.err.ee 2021 / fot [Digitaalsed kaksikud teevad säästlikust energiatarbimisest võistluse](https://www.ester.ee/record=b1072243*est)

Digital shadow of an electric vehicle-permanent magnet synchronous motor drive for real-time performance monitoring

Mohamed, Mahmoud Ibrahim Hassanin; Rjabtšikov, Viktor; Rassõlkin, Anton Digital twins and applications 2025 / 12 p <https://doi.org/10.1049/dgt2.12024>

Digital Twin : concept of hybrid programming for industrial robots - use case

Kuts, Vladimir; Sarkans, Martinš; Otto, Tauno; Tähemaa, Toivo; Bondarenko, Yevhen ASME 2019 International Mechanical Engineering Congress and Exposition : conference proceedings 2019 / Paper No: IMECE2019-10583, V02BT02A005; 8 pages <https://doi.org/10.1115/IMECE2019-10583>

Digital Twin : industrial robot kinematic model integration to the virtual reality environment

Kuts, Vladimir; Cherezova, Natalia; Sarkans, Martinš; Otto, Tauno Journal of machine engineering 2020 / p. 53–64 <https://doi.org/10.36897/jme/120182> [Journal metrics at Scopus](#) [Article at Scopus](#)

Digital Twin : universal user interface for online management of the manufacturing system

Kuts, Vladimir; Bondarenko, Yevhen; Gavriljuk, Marietta; Partyshev, Andriy; Jegorov, Sergei; Pizzagalli, Simone Luca; Otto, Tauno Proceedings of the ASME 2021 International Mechanical Engineering Congress and Exposition 2021 / paper no: IMECE2021-69092, 7 p <https://doi.org/10.1115/IMECE2021-69092>

Digital Twin as a virtual sensor for wind turbine applications

Mohamed, Mahmoud Ibrahim Hassanin; Rassölkin, Anton; Vaimann, Toomas; Kallaste, Ants; Zakis, Janis; Hyunh, Van Khang; Pomarnacki, Raimondas Energies 2023 / art. 6246 <https://doi.org/10.3390/en16176246> [Journal metrics at Scopus](#) [Article at WOS](#)

Digital twin based learning from demonstration system for industrial robots

Bondarenko, Yevhen; Pizzagalli, Simone Luca; Kuts, Vladimir; Petlenkov, Eduard; Otto, Tauno ASME 2023 International Mechanical Engineering Congress and Exposition (IMECE2023) : proceedings. Vol. 3 2024 / art. IMECE2023-113240, V003T03A081 <https://doi.org/10.1115/IMECE2023-113240>

Digital twin based synchronised control and simulation of the industrial robotic cell using virtual reality

Kuts, Vladimir; Otto, Tauno; Tähemaa, Toivo; Bondarenko, Yevhen Journal of machine engineering 2019 / p. 128–145 : ill <https://doi.org/10.5604/01.3001.0013.0464> [Journal metrics at Scopus](#) [Article at Scopus](#)

Digital twin for controlled generation of water-in-oil microdroplets with required size

Gyimah, Nafisat; Scheler, Ott; Rang, Toomas; Pardy, Tamas 2022 23rd International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems (EuroSimE), 25-27 April 2022, St Julian, Malta : proceedings 2022 / p. 85-91 <https://doi.org/10.1109/EuroSimE54907.2022.9758876>

Digital twin for FANUC robots: Industrial robot programming and simulation using virtual reality

Garg, Gaurav; Kuts, Vladimir; Anbarjafari, Gholamreza Sustainability (Switzerland) 2021 / Art. 10336 <https://doi.org/10.3390/su131810336> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Digital twin for propulsion drive of autonomous electric vehicle

Rassölkin, Anton X Międzynarodowa Konferencja "Nauki społeczne i techniczne – zakres współpracy na rzecz postępu społecznego i technologicznego" 2020 / p. [36-37] : ill https://mcbi.pl/wp-content/uploads/2020/06/skrypt_abstrakty_mailing-1.pdf

Digital twin of wind generator for modelling various turbine characteristics

Raja, Hadi Ashraf; Autsou, Siarhei; Kudelina, Karolina; Rjabtšikov, Viktor; Vaimann, Toomas; Kallaste, Ants; Pomarnacki, Raimondas; Hyunh, Van Khang 2023 International Conference on Electrical Drives and Power Electronics (EDPE) 2023 / p. 1-5 <https://doi.org/10.1109/EDPE58625.2023.10274050>

Digital twin of wind generator to simulate different turbine characteristics using IoT

Raja, Hadi Ashraf; Kudelina, Karolina; Rjabtšikov, Viktor; Vaimann, Toomas; Kallaste, Ants; Pomarnacki, Raimondas; Hyunh, Van Khang Proceedings of the Future Technologies Conference (FTC) 2023. Vol. 1 2023 / p. 123-132 https://doi.org/10.1007/978-3-031-47454-5_9 [Conference proceedings at Scopus](#) [Article at Scopus](#)

Digital twin service unit development for an EV induction motor fault detection

Rjabtšikov, Viktor; Mohamed, Mahmoud Ibrahim Hassanin; Asad, Bilal; Rassölkin, Anton; Vaimann, Toomas; Kallaste, Ants; Kuts, Vladimir; Stepien, Mariusz; Krawczyk, Mateusz 2023 IEEE International Conference on Electric Machines and Drives (IEMDC) 2023 / 5 p <https://doi.org/10.1109/IEMDC55163.2023.10239085>

Digital Twin service unit for AC motor stator inter-turn short circuit fault detection

Rjabtšikov, Viktor; Rassölkin, Anton; Asad, Bilal; Vaimann, Toomas; Kallaste, Ants; Kuts, Vladimir; Jegorov, Sergei; Stepien, Mariusz; Krawczyk, Mateusz 2021 28th International Workshop on Electric Drives : Improving Reliability of Electric Drives (IWED) 2021 <https://doi.org/10.1109/IWED52055.2021.9376328>

Digital twin simulations based reinforcement learning for navigation and control of a wheel-on-leg mobile robot

Alsaleh, Saleh Ragheb Saleh; Tepljakov, Aleksei; Tamre, Mart; Kuts, Vladimir; Petlenkov, Eduard Proceedings of ASME 2022 International Mechanical Engineering Congress and Exposition (IMECE2022), 2B: Columbus, Ohio, USA, October 30 - November 3, 2022 2022 / art. IMECE2022-95411, V02BT02A025, 8 p <https://doi.org/10.1115/IMECE2022-95411>

Digital twin-based EV permanent magnet synchronous motor for condition monitoring

Mohamed, Mahmoud Ibrahim Hassanin 22nd International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral School of Energy and Geotechnology III : Pärnu, Estonia, August 23-26, 2023 2023 / p. 19-20 : ill https://www.ester.ee/record=b5570906*est

Digital twins for cities and regions : global challenges, regional initiatives, European approaches

Kern, Leyla; Dembski, Fabian; Wössner, Uwe EU Conference on modelling for policy support, 22-26 November 2021, Brussels : Abstracts 2021 / p. 51-54 https://knowledge4policy.ec.europa.eu/sites/default/files/2021_EU_CONF_MOD_Booklet_of_abstracts.pdf

Digital twins for designing energy management systems for microgrids: Implementation example based on TalTech Campus project

Korötko, Tarmo; Zahraoui, Younes; Rosin, Argo; Agabus, Hannes 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227475>

Digital twins in extended reality for control system applications

Jeršov, Stanislav; Tepljakov, Aleksei 2020 43rd International Conference on Telecommunications and Signal Processing : TSP 2020, Milan, Italy, July 7-9, 2020 2020 / art. 162353, p. 274-279 <https://doi.org/10.1109/TSP49548.2020.9163557>

Emerging role of industry 5.0 digital twins in demand response electricity market and applications

Onile, Abiodun Emmanuel; Belikov, Juri; Petlenkov, Eduard; Levron, Yoash IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe 2023) : proceedings 2023 / 6 p <https://doi.org/10.1109/ISGTEUROPE56780.2023.10407322>

Establishing visualization-to-hardware communication through middleware for digital twin with ROS-compatible microcontrollers latency tests

Belolipetskaja, Diana; Rassõlkin, Anton; Raja, Hadi Ashraf; Stupans, Andrejs; Maksimkins, Pavels Proceeding of EAI International Conference of Robotic Sensor Networks (ROSENET) 2024 2025

Estonia huku uurimine jätkub, kuigi valitsus pole lisaraha veel eraldanud [Võrguväljaanne]

Linnart, Mart err.ee 2022 [Estonia huku uurimine jätkub, kuigi valitsus pole lisaraha veel eraldanud](https://doi.org/10.1109/ISGTEUROPE56780.2023.10407322)

Evaluation of virtual reality interface interaction methods for digital twin industrial robot programming and control, a pilot study

Pizzagalli, Simone Luca; Kuts, Vladimir; Bondarenko, Yevhen; Otto, Tauno Proceedings of the ASME 2021 International Mechanical Engineering Congress and Exposition 2021 / paper no: IMECE2021-69408, 9 p <https://doi.org/10.1115/IMECE2021-69408>

EV-Permanent magnet synchronous motor control strategy evaluation based on digital twin concept

Mohamed, Mahmoud Ibrahim Hassanin; Rjabtšikov, Viktor 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 5 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227410>

EV-powertrain test bench for digital twin development

Rjabtšikov, Viktor; Mohamed, Mahmoud Ibrahim Hassanin; Rassõlkin, Anton; Vaimann, Toomas; Kallaste, Ants 2022 IEEE 20th International Power Electronics and Motion Control Conference (PEMC) : Brasov, Romania, 25-28 Sept. 2022 : proceedings 2022 / p. 559-563 : ill <https://doi.org/10.1109/PEMC51159.2022.9962879>

An EV-traction inverter data-driven modelling for digital twin development

Ibrahim, Akram Abdalla Mohammed; Raja, Hadi Ashraf; Rassõlkin, Anton; Vaimann, Toomas; Kallaste, Ants 2023 23rd International Scientific Conference on Electric Power Engineering (EPE) 2023 / 5 p. : ill <https://doi.org/10.1109/EPE58302.2023.10149230>

Green, digital, inclusive : new directions in urban and regional planning

Dembski, Fabian; Linzer, Helena; Voigt, Andreas; Wieshofer, Isabel AESOP annual congress space for species : redefining spatial justice - book of abstracts 2022 / p. 432-433 <https://proceedings.aesop-planning.eu/index.php/aesopro/issue/view/13/13>

How to approach technical challenges in the development of urban digital twins in smart cities. Case study : Tallinn, Estonia

Zarrinkafsh, Hamidreza; Mrosla, Laura; Dembski, Fabian SIGraDi 2023 : accelerated landscapes 2024 / 12 p <https://doi.org/10.5151/sigradi2023-420>

Hybrid-driven digital twin modelling framework for an EV propulsion drive system

Ibrahim, Mahmoud; Rassõlkin, Anton IET Intelligent Transport Systems 2025 / art. e70099 <https://doi.org/10.1049/itr2.70099> [Scopus](#)

Identification and characterization of modulation scheme in an EV-PMSM control strategy for digital twin modeling

Mohamed, Mahmoud Ibrahim Hassanin; Rassõlkin, Anton; Vaimann, Toomas; Kallaste, Ants Diagnostika 2024 - 2024 International Conference on Diagnostics in Electrical Engineering, Proceedings 2024 / 5 p <https://doi.org/10.1109/Diagnostika61830.2024.10693927>

Implementing an AI-based digital twin analysis system for real-time decision support in a custom-made sportswear SME

Raamets, Tõnis; Karjust, Kristo; Majak, Jüri; Hermaste, Aigar Applied sciences 2025 / art. 7952 <https://doi.org/10.3390/app15147952>

Implementing digital twin technology of the earth system in Destination Earth

Wedi, Nils; Sandu, Irina; Bauer, Peter; Acosta, Mario; Andersen, Rune Carbuhn; Andrae, Ulf; Auger, Ludovic; Balsamo, Gianpaolo; Baousis, Vasileios; Bennett, Victoria; Maljutenko, Ilja Journal of the European Meteorological Society 2025 / art. 100015 <https://doi.org/10.1016/j.jemets.2025.100015> <https://www.sciencedirect.com/science/article/pii/S2950630125000092>

Industrial collaborative robot digital twin integration and control using robot operating system

Diachenko, Danyl; Partyshev, Andriy; Pizzagalli, Simone Luca; Bondarenko, Yevhen; Otto, Tauno; Kuts, Vladimir Journal of Machine Engineering 2022 / p. 57 - 67 <https://doi.org/10.36897/jme/148110> [Journal metrics at Scopus](#) [Article at Scopus](#)

Integrating Digital Twin Software Solutions with Collaborative Industrial Systems : A Comprehensive Review for Operational Efficiency

Guerra-Zubiaga, David; Aksu, Murat; Richards, Gershom; **Kuts, Vladimir** Applied Sciences 2025 / art. 7049
<https://doi.org/10.3390/app15137049>

Integration of digital twins into virtual commissioning practices

Guerra Zubiaga, David; Richards, Gersom; Forsberg, Paul; Nwachukwu, Kingsley; Burroughs, Andrew; Sabula, Eric; **Kuts, Vladimir** ASME International Mechanical Engineering Congress and Exposition, Proceedings (IMECE) ; vol. 2 2024 / art. IMECE2024-145598, V002T03A076 ; 9 p <https://doi.org/10.1115/IMECE2024-145598>

Intelligent control and digital twins for industry 4.0

Tepljakov, Aleksei Sensors 2023 / art. 4036 <https://doi.org/10.3390/s23084036> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Kas tehisintellekt on väikeriigi demokraatia ja julgeoleku tugi või oht?

Vaaks, Eveliis Trialoog 2025 <https://trialoog.taltech.ee/kas-tehisintellekt-on-vaikeriigi-demokraatia-ja-julgeoleku-tugi-voi-oht/>

Kus häda kõige suurem, seal robot kõige lähem

Kuts, Vladimir Trialoog 2025 <https://trialoog.taltech.ee/kus-hada-koige-suurem-seal-robot-koige-lahem/>

Leveraging digital twins and demand side recommender Chatbot for optimizing smart grid energy efficiency

Onile, Abiodun Emmanuel; Belikov, Juri; Petlenkov, Eduard; Levron, Yoash 2023 IEEE PES Innovative Smart Grid Technologies - Asia, ISGT Asia 2023 2023 / 5 p <https://doi.org/10.1109/ISGTAsia54891.2023.10372761>

Model-based service provisioning in optical networks

Karunakaran, Vignesh; Müller, Jasper; Slyne, Frank; **Kaeval, Kaida**; Troia, Sebastian; Autenrieth, Achim; Kilper, Daniel C.; Bauschert, Thomas; Ruffini, Marco ECOC 2023 : 49th European Conference on Optical Communications, 1-5 October 2023 2024 / p. 1039-1042 <https://doi.org/10.1049/icp.2023.2429> <https://digital-library.theiet.org/docserver/fulltext/cp839/ICP.2023.2429.pdf?expires=1727158709&id=id&accname=guest&checksum=7B52C0279E1600FDE3FC6BCECED8CE4F> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

MS Estonia ferry investigation continues, no additional funds yet allocated [Online resources]

Linnart, Mart news.err.ee 2022 [MS Estonia ferry investigation continues, no additional funds yet allocated](https://news.err.ee/158709/ms-estonia-ferry-investigation-continues-no-additional-funds-yet-allocated)

Noored insenerid digitaalsetes kaksikutes

Vaaks, Eveliis Trialoog 2025 <https://trialoog.taltech.ee/noored-insenerid-digitaalsetes-kaksikutes/>

Novel digital twin concept for industrial application. Study case: propulsion drive system

Jegorov, Sergei; Rassõlkin, Anton; Rjabtšikov, Viktor; Mohamed, Mahmoud Ibrahim Hassanin; Kuts, Vladimir Proceedings of ASME 2022 International Mechanical Engineering Congress and Exposition (IMECE2022), 2B: Columbus, Ohio, USA, October 30 - November 3, 2022 2022 / art. IMECE2022-97243, V02BT02A011, 6 p. <https://doi.org/10.1115/IMECE2022-97243>

Pneumatics-case : enhancing learning through augmented reality and digital twin technology

Boychuk, Rostyslav; Symotiuk, Ivan; Rõbnikov, Daniil; Kuts, Vladimir; Mahmood, Kashif; Pizzagalli, Simone Luca; Otto, Tauno EuroXR 2024 : proceedings of the 21st EuroXR international conference 2024 / p. 261-266 <https://doi.org/10.32040/2242-122X.2024.T432>

PV-battery assisted three-level T-Type inverter for AC residential nanogrid realized with small-scale HIL units

Gutierrez-Escalona, Javier; **Roncero-Clemente, Carlos**; Gonzalez-Romera, Eva; Milanes-Montero, Maria Isabel; Husev, Oleksandr; Romero-Cadaval, Enrique IEEE Access 2023 / p. 48007 - 48021 <https://doi.org/10.1109/ACCESS.2023.3276235> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Quality and accuracy of digital twin models for the neighbourhood level building energy performance calculations

Parts, Egert-Ronald; Pikas, Ergo; Parts, Tuule Mall; Arumägi, Endrik; Liiv, Innar E3S Web of Conferences : 11th International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings, IAQVEC2023 2023 / art. 04021, 8 p. : ill <https://doi.org/10.1051/e3sconf/202339604021> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Reimagining laboratory learning with digital twins and extended reality

Alsaleh, Saleh Ragheb Saleh 22nd International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral School of Energy and Geotechnology III : Pärnu, Estonia, August 23-26, 2023 2023 / p. 25-26 : ill https://www.ester.ee/record=b5570906*est

Reverse engineering-based modeling of an EV motor drive for digital twin development

Mohamed, Mahmoud Ibrahim Hassanin; Rassõlkin, Anton; Rjabtšikov, Viktor 2024 IEEE International Conference on Electrical Systems for Aircraft, Railway, Ship Propulsion and Road Vehicles and International Transportation Electrification Conference, ESARS-ITEC 2024 2025 / 5 p <https://doi.org/10.1109/ESARS-ITEC60450.2024.10819839>

Review of electric vehicle testing procedures for digital twin development : a comprehensive analysis

Rjabtšikov, Viktor; Rassõlkin, Anton; Kudelina, Karolina; Kallaste, Ants; Vaimann, Toomas Energies 2023 / art. 6952
<https://doi.org/10.3390/en16196952> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Robotid saadetakse tööle kohta, kuhu vähesed meist minna tahavad
digi.geenius.ee 2024 [Robotid saadetakse tööle kohta, kuhu vähesed meist minna tahavad](#)

ROS middle-layer integration into Unity3D as an interface option for propulsion drive simulations of autonomous vehicles
Kuts, Vladimir; Rassõlkin, Anton; Jegorov, Sergei; Rjabtšikov, Viktor Proceedings of the Estonian Academy of Sciences 2021 / p. 392-398 : ill <https://doi.org/10.3176/proc.2021.4.04> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Securing self-aware cyber-physical systems using digital twins
Meeran, Mohammad Tariq 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 5 p. : ill
<https://doi.org/10.1109/BEC61458.2024.10737954> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

A ship digital twin for safe and sustainable ship operations
Hirdaris, Spyros; Zhang, M; Tsoulakos, Nikolaos; **Kujala, Pentti Jouko Sakari** State-of-the-Art Digital Twin Applications for Shipping Sector Decarbonization 2024 / p. 192–220 <https://doi.org/10.4018/978-1-6684-9848-4.ch009>

Spatial representation of self-driving vehicle for virtual entity of digital twin
Rassõlkin, Anton; Maksimkins, Pavels; Stupans, Andrejs; **Rjabtšikov, Viktor;** Šenfels, Armands; **Kuts, Vladimir** Computer 2024 / p. 58-66 <https://doi.org/10.1109/MC.2023.3319108> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Synchronizing physical factory and its digital twin through an IIoT middleware : a case study
Kuts, Vladimir; Modoni, Gianfranco E.; **Otto, Tauno;** Sacco, Marco; **Tähemaa, Toivo;** Bondarenko, Yevhen; **Wang, Ruxin** Proceedings of the Estonian Academy of Sciences 2019 / p. 364–370 : ill http://www.kirj.ee/32660/?tpl=1061&c_tpl=1064
<https://doi.org/10.3176/proc.2019.4.03> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Tallinna Tehnikaülikool teeb oma hoonetest ülitäpse 3D mudeli ukse linkideni välja
Alvela, Ain postimees.ee 2023 [Tallinna Tehnikaülikool teeb oma hoonetest ülitäpse 3D mudeli ukse linkideni välja](#)

Tallinna Tehnikaülikool tegi oma hoonete halduses ja hoolduses digipöörde
Alvela, Ain ehitusuudised.ee 2023 [Tallinna Tehnikaülikool tegi oma hoonete halduses ja hoolduses digipöörde](#)

Tallinna Tehnikaülikooli uus labor mõjutab digitaalsete kaksikute võidukäiku Eesti tööstuses
Ehitusuudised : [ajalehe Äripäev lisa] 2022 / Lk. 58 [Tallinna Tehnikaülikooli uus labor mõjutab digitaalsete kaksikute võidukäiku Eesti tööstuses](#) https://www.ester.ee/record=b2050444*est

Tallinna Tehnikaülikooli uus labor mõjutab digitaalsete kaksikute võidukäiku Eesti tööstuses [Võrguväljaanne]
ehitusuudised.ee 2022 [Tallinna Tehnikaülikooli uus labor mõjutab digitaalsete kaksikute võidukäiku Eesti tööstuses](#)

TalTech osaleb projektis, mis aitab tagada ELis energiasalvestust ja vähendada CO2 jalajälge
digi.geenius.ee 2024 [TalTech osaleb projektis, mis aitab tagada ELis energiasalvestust ja vähendada CO2 jalajälge](#)

TalTech teeb oma õppelinnaku hoonetest digitaalset 3D-mudeli
Alvela, Ain EhitusEST 2023 / lk. 12-15 : ill https://www.ester.ee/record=b4442657*est

TalTech создает роботов для обслуживания канализационных сетей
rus.postimees.ee 2024 [TalTech создает роботов для обслуживания канализационных сетей](#) <https://rus.err.ee/1609441499/taltech-razrabotaet-robotov-dlja-kanalizacionnoj-seti>

TalTechi teadlased saadavad robotid kanalisatsiooni müttama
Imeline Teadus 2024 / lk. 20 : fot https://www.ester.ee/record=b2747925*est

Tarneaehela digitaliseerimine kui juhi töövahend
Ševtšenko, Eduard Director. Inseneria 2020 / lk. 74-77 : fot http://www.ester.ee/record=b2336521*est
<https://director.ee/2020/10/28/tarneaehela-digitaliseerimine-kui-juhi-toovahend/>

Tehnikaülikoolis kirjutatakse ravirobotitele uut tarkvara
Imeline Teadus 2021 / lk. 20 : fot https://www.ester.ee/record=b2747925*est

Tootmislogistika roboti digikaksik teeb tootmise juhtimise mugavamaks
Mente et Manu 2021 / lk. 31 [Mente et Manu 2/2021](#)

Urban Digital Twins as a tool for multi-species approach in planning
Mrosła, Laura; Allik, Martin; Fabritius, Eeva Henna Helena; Kupper, Kristiina AESOP annual congress space for species :

redefining spatial justice - book of abstracts 2022 / p. 148 <https://proceedings.aesop-planning.eu/index.php/aesopro/issue/view/13/13>

Urban hubs, participation, citizen science and digital tools : pathways to more sustainable and democratic urban quarters

Dembski, Fabian; Goldfarb, Doron; Guba, Beate; **Ilves, Laugren; Sarv, Lill**; Wössner, Uwe; Maremäe, Andres Integrated planning in a world of turbulence : book of abstracts, vol. 25, 1 2023 / art. 596 <https://proceedings.aesop-planning.eu/index.php/aesopro/issue/view/15/15>

User-centred design in industrial collaborative automated systems

Pizzagalli, Simone Luca; Kuts, Vladimir; Otto, Tauno Proceedings of the Estonian Academy of Sciences 2021 / p. 436-443 : ill <https://doi.org/10.3176/proc.2021.4.10> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Uses of the digital twins concept for energy services, intelligent recommendation systems, and demand side management : a review

Onile, Abiodun Emmanuel; Machlev, Ram; **Petlenkov, Eduard**; Levron, Yoash; **Belikov, Juri** Energy reports 2021 / p. 997-1015 <https://doi.org/10.1016/j.egyr.2021.01.090> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Uudne digikaksik tõstab robotijuhtimise uuele tasemele

Horisont 2020 / lk. 4 : fot https://www.ester.ee/record=b1072243*est

Uut laorobotit saab juhtida virtuaalse kaksikuga

Imeline Teadus 2021 / lk. 21 : fot https://www.ester.ee/record=b2747925*est

Varying data on urban trees complicates meeting user needs for digital twins of urban green infrastructure

Fabritius, Eeva Henna Helena; Tuulik, Tiina; Kupper, Kristiina; Mrosla, Laura; Nummi, Pilvi; Prilenska, Viktorija; Yao, Chaowen The 18th International Conference on Computational Urban Planning and Urban Management 2023 / 14 p <https://doi.org/10.17605/OSF.IO/6YR5V> <https://osf.io/ahzds>

Vesiniku jõul liikuvad autod ja digitaalne tulevik

Rassõlkin, Anton Elektriala 2021 / lk. 22-23 : ill https://www.ester.ee/record=b1240496*est

What grows, adapts and lives in the digital sphere? Systematic literature review on the dynamic modelling of flora and fauna in digital twins

Mrosla, Laura; Fabritius, Eeva Henna Helena; Kupper, Kristiina; Dembski, Fabian; Fricker, Pia Ecological modelling 2025 / art. 111091 <https://doi.org/10.1016/j.ecolmodel.2025.111091>

Virtual factory model development for AI-driven optimization in manufacturing

Raamets, Tõnis; Karjust, Kristo; Hermaste, Aigar; Kelpman, Karolin Proceedings of the Estonian Academy of Sciences 2025 / p. 228-233 <https://doi.org/10.3176/proc.2025.2.26>

Virtual labs for higher education in industrial engineering

Terkaj, Walter; Kleine, Kari; **Kuts, Vladimir** Proceedings of the Estonian Academy of Sciences 2024 / p. 142-149 <https://doi.org/10.3176/proc.2024.2.07> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Virtual reality digital twin interfaces in human-robot collaboration

Pizzagalli, Simone Luca 20th International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Tallinn, Estonia, September 8-10, 2021 2021 / p. 23-24 https://www.ester.ee/record=b5457278*est

Virtual reality simulators for inclusion and participation : broadening perspectives on accessible cities and public space

Kern, Leyla; **Dembski, Fabian**; Obst, Thomas; Bisinger, Laura; Falk, Benedict; Wössner, Uwe Mobility, Knowledge and Innovation Hubs in Urban and Regional Development : proceedings of REAL CORP 2022, 27th International Conference on Urban Development, Regional Planning and Information Society 2022 / p. 1025-1031 <https://doi.org/10.48494/REALCORP2022.2039>

Work in progress : digital twin for propulsion drive of autonomous electric vehicle

Rassõlkin, Anton 20th International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Tallinn, Estonia, September 8-10, 2021 2021 / p. 9-10 : ill https://www.ester.ee/record=b5457278*est