Erwin Rauch

List of Publications by Year
in descending order

105	3,178	159585	182427
papers	citations	30 h-index	51 g-index

106	106	106	2238
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Human-robot activity allocation algorithm for the redesign of manual assembly systems into human-robot collaborative assembly. International Journal of Computer Integrated Manufacturing, 2023, 36, 308-333.	4.6	9
2	Human-Robot Collaboration During Assembly Tasks: The Cognitive Effects of Collaborative Assembly Workstation Features. Lecture Notes in Networks and Systems, 2022, , 242-249.	0.7	4
3	Development and validation of guidelines for safety in human-robot collaborative assembly systems. Computers and Industrial Engineering, 2022, 163, 107801.	6.3	35
4	Systematic selection methodology for worker assistance systems in manufacturing. Computers and Industrial Engineering, 2022, 166, 107982.	6.3	9
5	Reference Architecture for an Integrated and Synergetic Use of Digital Tools in Education 4.0. Procedia Computer Science, 2022, 200, 407-417.	2.0	14
6	A value sensitive design approach for designing AI-based worker assistance systems in manufacturing. Procedia Computer Science, 2022, 200, 505-516.	2.0	8
7	Towards Sustainable Manufacturing: A Case Study for Sustainable Packaging Redesign. Lecture Notes in Mechanical Engineering, 2022, , 84-93.	0.4	2
8	Development and evaluation of design guidelines for cognitive ergonomics in human-robot collaborative assembly systems. Applied Ergonomics, 2022, 104, 103807.	3.1	22
9	Emerging research fields in safety and ergonomics in industrial collaborative robotics: A systematic literature review. Robotics and Computer-Integrated Manufacturing, 2021, 67, 101998.	9.9	201
10	Usage of Autonomous Mobile Robots Outdoors - an Axiomatic Design Approach. Procedia CIRP, 2021, 96, 242-247.	1.9	12
11	Three Dimensional Technology Radar Model to Evaluate Emerging Industry 4.0 Technologies. Lecture Notes in Mechanical Engineering, 2021, , 233-242.	0.4	2
12	Industrial Assistance Systems to Enhance Humanâ€“Machine Interaction and Operatorâ€™s Capabilities in Assembly. , 2021, , 129-161.		4
13	Implementation of a Vision-Based Worker Assistance System in Assembly: a Case Study. Procedia CIRP, 2021, 96, 295-300.	1.9	6
14	Function-Based Mapping of Industrial Assistance Systems to User Groups in Production. Procedia CIRP, 2021, 96, 278-283.	1.9	6
15	Teaching Axiomatic Design for a Long-Term Sustainable Introduction of Industry 4.0 in SMEs. Procedia CIRP, 2021, 96, 169-174.	1.9	4
16	Methodology for the definition of the optimal assembly cycle and calculation of the optimized assembly cycle time in human-robot collaborative assembly. International Journal of Advanced Manufacturing Technology, 2021, 113, 2369-2384.	3.0	25
17	Mechatronic Re-Design of a Manual Assembly Workstation into a Collaborative One for Wire Harness Assemblies. Robotics, 2021, 10, 43.	3.5	12
18	Research Fields and Challenges to implement Cyber-Physical Production Systems in SMEs: A Literature Review. Chiang Mai University Journal of Natural Sciences, 2021, 20, .	0.1	2

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19	Worker assistance systems in manufacturing: A review of the state of the art and future directions. Journal of Manufacturing Systems, 2021, 59, 228-250.	13.9	69
20	A Cybersecurity Assessment Model for Small and Medium-Sized Enterprises. IEEE Engineering Management Review, 2021, 49, 98-109.	1.3	8
21	Knowledge Transfer and Introduction of Industry 4.0 in SMEs. , 2021, , 275-302.		5
22	Application of Axiomatic Design for the Design of Flexible and Agile Manufacturing Systems. , 2021, , 483-519.		0
23	The Application of Digital Worker Assistance Systems to Support Workers with Disabilities in Assembly Processes. Procedia CIRP, 2021, 103, 243-249.	1.9	2
24	Artificial Intelligence in Design: A Look into the Future of Axiomatic Design. , 2021, , 585-603.		1
25	Development of a Morphological Box to Describe Worker Assistance Systems in Manufacturing. Procedia Manufacturing, 2021, 55, 168-175.	1.9	3
26	Application of Axiomatic Design for the Development of Robotic Semi- and Fully Automated Assembly Processes: Two Case Studies. , 2021, , .		1
27	Biological Transformation in Manufacturing: Overview and Fields of Application. IEEE Engineering Management Review, 2021, 49, 115-122.	1.3	2
28	Urban production â€“ A socially sustainable factory concept to overcome shortcomings of qualified workers in smart SMEs. Computers and Industrial Engineering, 2020, 139, 105384.	6.3	64
29	Anthropocentric perspective of production before and within Industry 4.0. Computers and Industrial Engineering, 2020, 139, 105644.	6.3	162
30	From Design for Assembly to Design for Collaborative Assembly - Product Design Principles for Enhancing Safety, Ergonomics and Efficiency in Human-Robot Collaboration. Procedia CIRP, 2020, 91, 546-552.	1.9	14
31	Lean management in hospitality: methods, applications and future directions. International Journal of Services and Operations Management, 2020, 36, 303.	0.2	5
32	Safety, Ergonomics and Efficiency in Human-Robot Collaborative Assembly: Design Guidelines and Requirements. Procedia CIRP, 2020, 91, 367-372.	1.9	30
33	Study of the impact of projection-based assistance systems for improving the learning curve in assembly processes. Procedia CIRP, 2020, 88, 98-103.	1.9	13
34	BIM, Augmented and Virtual Reality empowering Lean Construction Management: a project simulation game. Procedia Manufacturing, 2020, 45, 49-54.	1.9	37
35	The Advantages of Industry 4.0 Applications for Sustainability: Results from a Sample of Manufacturing Companies. Sustainability, 2020, 12, 3647.	3.2	104
36	A Review of Further Directions for Artificial Intelligence, Machine Learning, and Deep Learning in Smart Logistics. Sustainability, 2020, 12, 3760.	3.2	106

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37	Design of Human-Centered Collaborative Assembly Workstations for the Improvement of Operatorsâ€™ Physical Ergonomics and Production Efficiency: A Case Study. Sustainability, 2020, 12, 3606.	3.2	79
38	A Maturity Level-Based Assessment Tool to Enhance the Implementation of Industry 4.0 in Small and Medium-Sized Enterprises. Sustainability, 2020, 12, 3559.	3.2	58
39	Systematic analysis of needs and requirements for the design of smart manufacturing systems in SMEsâ˜†. Journal of Computational Design and Engineering, 2020, 7, 129-144.	3.1	17
40	SME 4.0: The Role of Small- and Medium-Sized Enterprises in the Digital Transformation. , 2020, , 3-36.		55
41	SME Requirements and Guidelines for the Design of Smart and Highly Adaptable Manufacturing Systems. , 2020, , 39-72.		17
42	Industry 4.0+: The Next Level of Intelligent and Self-optimizing Factories. Lecture Notes in Mechanical Engineering, 2020, , 176-186.	0.4	17
43	Die Natur als Inspiration. ZWF Zeitschrift Fuer Wirtschaftlichen Fabrikbetrieb, 2020, 115, 158-161.	0.3	3
44	Requirements and Barriers for Introducing Smart Manufacturing in Small and Medium-Sized Enterprises. IEEE Engineering Management Review, 2019, 47, 87-94.	1.3	75
45	An agile scheduling and control approach in ETO construction supply chains. Computers in Industry, 2019, 112, 103122.	9.9	38
46	A human-in-the-loop cyber-physical system for collaborative assembly in smart manufacturing. Procedia CIRP, 2019, 81, 600-605.	1.9	52
47	AD Design Guidelines for Implementing I4.0 Learning Factories. Procedia Manufacturing, 2019, 31, 239-244.	1.9	10
48	From a literature review to a conceptual framework of enablers for smart manufacturing control. International Journal of Advanced Manufacturing Technology, 2019, 104, 517-533.	3.0	40
49	Roadmap in eine Digitale Welt. ZWF Zeitschrift Fuer Wirtschaftlichen Fabrikbetrieb, 2019, 114, 576-579.	0.3	3
50	An evaluation methodology for the conversion of manual assembly systems into human-robot collaborative workcells. Procedia Manufacturing, 2019, 38, 358-366.	1.9	32
51	Industry 4.0 for Managing Logistic Service Providers Lifecycle. MATEC Web of Conferences, 2019, 301, 00014.	0.2	1
52	Inclusion of Workers with Disabilities in Production 4.0: Legal Foundations in Europe and Potentials Through Worker Assistance Systems. Sustainability, 2019, 11, 5978.	3.2	36
53	Modeling and application of configuration complexity scale: concept for customized production. International Journal of Advanced Manufacturing Technology, 2019, 100, 485-501.	3.0	10
54	Axiomatic design guidelines for the design of flexible and agile manufacturing and assembly systems for SMEs. International Journal on Interactive Design and Manufacturing, 2019, 13, 1-22.	2.2	35

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55	Concept Design of a Digital Shop Floor Information System for Assembly Operators in Machine Industry. MATEC Web of Conferences, 2019, 301, 00017.	0.2	4
56	Complexity reduction in engineer-to-order industry through real-time capable production planning and control. Production Engineering, 2018, 12, 341-352.	2.3	33
57	Industry 4.0 as an enabler of proximity for construction supply chains: A systematic literature review. Computers in Industry, 2018, 99, 205-225.	9.9	313
58	Industry sector analysis for the application of additive manufacturing in smart and distributed manufacturing systems. Manufacturing Letters, 2018, 15, 126-131.	2.2	46
59	Application of Axiomatic Design for the Design of a Safe Collaborative Human-Robot Assembly Workplace. MATEC Web of Conferences, 2018, 223, 01003.	0.2	13
60	Axiomatic Design based Design of a Software Prototype for Smart Shopfloor Management. MATEC Web of Conferences, 2018, 223, 01012.	0.2	6
61	A Lean Approach for Real-Time Planning and Monitoring in Engineer-to-Order Construction Projects. Buildings, 2018, 8, 38.	3.1	31
62	Knowledge Transfer and Introduction of Industry 4.0 in SMEs. Advances in Business Information Systems and Analytics Book Series, 2018, , 256-282.	0.4	10
63	Critical Factors for Introducing Lean Product Development to Small and Medium sized Enterprises in Italy. Procedia CIRP, 2017, 60, 362-367.	1.9	36
64	Business Model Engineering for Distributed Manufacturing Systems. Procedia CIRP, 2017, 62, 135-140.	1.9	8
65	Parametric and Generative Design Techniques for Mass-Customization in Building Industry: A Case Study for Glued-Laminated Timber. Procedia CIRP, 2017, 60, 392-397.	1.9	23
66	Enabling Connectivity of Cyber-physical Production Systems: A Conceptual Framework. Procedia Manufacturing, 2017, 11, 822-829.	1.9	39
67	Simulation Based Validation of Supply Chain Effects through ICT enabled Real-time-capability in ETO Production Planning. Procedia Manufacturing, 2017, 11, 846-853.	1.9	29
68	Sustainable Construction Supply Chains through Synchronized Production Planning and Control in Engineer-to-Order Enterprises. Sustainability, 2017, 9, 1888.	3.2	30
69	Sustainability in Manufacturing and Supply Chains Through Distributed Manufacturing Systems and Networks. , 2017, , 429-438.		2
70	Axiomatic Design of a Framework for the Comprehensive Optimization of Patient Flows in Hospitals. Journal of Healthcare Engineering, 2017, 2017, 1-9.	1.9	23
71	(Re-)Design of a Demonstration Model for a Flexible and Decentralized Cyber-Physical Production System (CPPS). MATEC Web of Conferences, 2017, 127, 01016.	0.2	4
72	Distributed manufacturing network models of smart and agile mini-factories. International Journal of Agile Systems and Management, 2017, 10, 185.	0.3	56

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73	Distributed manufacturing network models of smart and agile mini-factories. International Journal of Agile Systems and Management, 2017, 10, 185.	0.3	32
74	Collaborative Cloud Manufacturing: Design of Business Model Innovations Enabled by Cyberphysical Systems in Distributed Manufacturing Systems. Journal of Engineering (United States), 2016, 2016, 1-12.	1.0	29
75	Customer-oriented Production System for Supplier Companies in CTO. Procedia CIRP, 2016, 57, 533-538.	1.9	4
76	Application of Axiomatic Design in Manufacturing System Design: A Literature Review. Procedia CIRP, 2016, 53, 1-7.	1.9	21
77	The Way from Lean Product Development (LPD) to Smart Product Development (SPD). Procedia CIRP, 2016, 50, 26-31.	1.9	65
78	Design and Implementation Approach for Distributed Manufacturing Networks Using Axiomatic Design. , 2016, , 225-250.		4
79	Sustainable production in emerging markets through Distributed Manufacturing Systems (DMS). Journal of Cleaner Production, 2016, 135, 127-138.	9.3	102
80	Requirements for the Design of Flexible and Changeable Manufacturing and Assembly Systems: A SME-survey. Procedia CIRP, 2016, 41, 207-212.	1.9	57
81	Lean Hospitality - Application of Lean Management Methods in the Hotel Sector. Procedia CIRP, 2016, 41, 614-619.	1.9	36
82	Chapter two Designing assembly lines for mass customization production systems. , 2016, , 15-36.		4
83	Smart Factory fÃ¼r den Mittelstand. ZWF Zeitschrift Fuer Wirtschaftlichen Fabrikbetrieb, 2016, 111, 52-55.	0.3	13
84	Systematic Design of SME Manufacturing and Assembly Systems Based on Axiomatic Design. Procedia CIRP, 2015, 34, 81-86.	1.9	13
85	An axiomatic design-based approach for the patient-value-oriented design of a sustainable Lean healthcare system. International Journal of Procurement Management, 2015, 8, 66.	0.2	5
86	Increasing productivity in ETO construction projects through a lean methodology for demand predictability. , 2015, , .		13
87	Mobile On-site Factories — Scalable and distributed manufacturing systems for the construction industry. , 2015, , .		12
88	Sustainability in the Supply Chain through Synchronization of Demand and Supply in ETO-Companies. Procedia CIRP, 2015, 29, 215-220.	1.9	18
89	Sustainability in Manufacturing through Distributed Manufacturing Systems (DMS). Procedia CIRP, 2015, 29, 544-549.	1.9	52
90	Trends towards Distributed Manufacturing Systems and Modern Forms for their Design. Procedia CIRP, 2015, 33, 185-190.	1.9	101

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91	Axiomatic Design Based Guidelines for the Design of a Lean Product Development Process. Procedia CIRP, 2015, 34, 112-118.	1.9	22
92	Synchronization of Engineering, Manufacturing and on-site Installation in Lean ETO-Enterprises. Procedia CIRP, 2015, 37, 128-133.	1.9	12
93	On-site Oriented Capacity Regulation for Fabrication Shops in Engineer-to-Order Companies (ETO). Procedia CIRP, 2015, 33, 197-202.	1.9	8
94	Mini-factory â€“ A Learning Factory Concept for Students and Small and Medium Sized Enterprises. Procedia CIRP, 2014, 17, 178-183.	1.9	61
95	Synchronization of the Manufacturing Process and On-site Installation in ETO Companies. Procedia CIRP, 2014, 17, 457-462.	1.9	29
96	A Three Level Model for the Design, Planning and Operation of Changeable Production Systems in Distributed Manufacturing. , 2014, , 23-28.		2
97	SMART Reconfigurability Approach in Manufacture of Steel and FaÃ§ade Constructions. , 2014, , 29-34.		6
98	Implementing Lean in Engineer-to-Order Manufacturing. Advances in Logistics, Operations, and Management Science Book Series, 2014, , 148-172.	0.4	23
99	Implementation of Lean Production in Small Sized Enterprises. Procedia CIRP, 2013, 12, 420-425.	1.9	83
100	Design of a Network of Scalable Modular Manufacturing Systems to Support Geographically Distributed Production of Mass Customized Goods. Procedia CIRP, 2013, 12, 438-443.	1.9	30
101	Design of a Scalable Modular Production System for a Two-Stage Food Service Franchise System. International Journal of Engineering Business Management, 2012, 4, 32.	3.7	10
102	Continuous Improvement of Manufacturing Systems with the Concept of Functional Periodicity. Key Engineering Materials, 2011, 473, 783-790.	0.4	13
103	Kundennutzenorientierte Strategieentwicklung. ZWF Zeitschrift Fuer Wirtschaftlichen Fabrikbetrieb, 2010, 105, 700-705.	0.3	1
104	Mobile Factory Network (MFN) â€“ Network of Flexible and Agile Manufacturing Systems in the Construction Industry. Applied Mechanics and Materials, 0, 752-753, 1368-1373.	0.2	7
105	An Industry 4.0 Training Framework Addressing â€˜COVID-19 Typeâ€™ Disruptions on Manufacturing. , 0, , 60-80.		0