University Academic Curriculum Vitae

Personal information

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Education since leaving school

- 2022, **National Scientific Habilitation** (Abilitazione Scientifica Nazionale) as **Full Professor** in Industrial Engineering (sector 09/B2 ING-IND/17 Impianti Industriali Meccanici, valid from 03.06.2022 until 03.06.2032)
- 2018, **National Scientific Habilitation** (Abilitazione Scientifica Nazionale) as **Associate Professor** in Industrial Engineering (sector 09/B2 ING-IND/17 Impianti Industriali Meccanici, valid from 24.07.2018 until 24.07.2028)
- 2016, **Doctor of Philosophy in Industrial Engineering (PhD)**, University of Stuttgart, Faculty 7 Mechanical Engineering, Pfaffenwaldring 9, 70569 Stuttgart (Germany), Supervisor: Univ.-Prof. Dr.-Ing. Dr.-Ing. E.h. Dr. h.c. Dieter Spath
- 2012, **Master of Science in Industrial Engineering and Management**, Polytechnic of Turin, Corso Duca degli Abruzzi 24, 10129 Torino (Italy)
- 2009, **Bachelor of Science in Logistics and Production Engineering**, Free University of Bolzano in collaboration with Polytechnic of Turin, Piazza Università 1, 39100 Bozen-Bolzano (Italy)
- 2004, **Technical High School diploma in German language** (Gewerbeoberschule, Istituto tecnico industriale), Electronics and Communications Engineering, Otto Huber Straße 74, 39012 Meran-Merano (BZ)

Appointment

- **Since 12/2022 Associate Professor** in Factory and Plant Planning (SSD ING-IND/17) – Free University of Bozen-Bolzano, Faculty of Science and Technology, Industrial Engineering and Automation (IEA)
- **2016-2022 Assistant Professor** in Factory and Plant Planning (SSD ING-IND/17) – Free University of Bolzano, Faculty of Science and Technology, Industrial Engineering and Automation (IEA)
- **Member of the Ph.D. Collegium** in “Sustainable Energy and Technologies” (2018/19) and “Advanced Systems Engineering” (since 2019/20), Faculty of Science and Technology, unibz.
- **Associate Editor** of the international journal "Production & Manufacturing Research" (Taylor & Francis). Scopus indexed (Q1).
- **Member** of the **Editorial Board** journal Buildings MDPI (Basel Switzerland) indexed in Scopus Q1-Q2.

Professional experience

From / to	Job title	Name of academic Institution	Acad. level	Responsibilities
2022-today	**Contract Professor**	Management Center Innsbruck (Austria),	PhD	Lecturer in the in the course "Supply Chain Strategy & Innovation" (in English), Master in Industrial Engineering.
01.12.2019 – 30.11.2022	**Assistant Professor (RTD-B)**	Free University of Bozen-Bolzano	PhD	Assistant Professor in Industrial Engineering tenure-track (Ricercatore a tempo determinato L.240/10 tipo B nel settore scientifico disciplinare ING-IND/17)
01.05.2019 – 30.11.2019	**Assistant Professor (RTD-A)**	Free University of Bozen-Bolzano	PhD	Assistant Professor in Industrial Engineering (Ricercatore a tempo determinato L.240/10 tipo A nel settore scientifico disciplinare ING-IND/17)
01.05.2016 – 30.04.2019	**Assistant Professor (RTD-A)**	Free University of Bozen-Bolzano	PhD	Assistant Professor in Industrial Engineering (Ricercatore a tempo determinato L.240/10 tipo A nel settore scientifico disciplinare ING-IND/17)
26.02.2018 – 31.01.2019	**Member** of the **Advisory Board** of the research group "Process Engineering in Construction"	Research institute Fraunhofer Italia s.c.a.r.l.	PhD	Scientific advice and consulting through regular meetings
01.11.2015 – 30.04.2016	**Research Associate (AR)**	Free University of Bozen-Bolzano	M.Sc.	Modeling and Managing Processes in Construction – MoMaPC (IN2021)
15.01.2014 – 15.09.2015	**Research Associate (AR)**	Free University of Bozen-Bolzano	M.Sc.	Concepts and innovative material handling systems for optimizing the construction execution process (TN2004)
01.08.2012 – 31.07.2015	**Research Associate**	Fraunhofer Italia Research s.c.a.r.l.	M.Sc.	Scientific collaborator within the research group "Process Engineering in Construction" Principle investigator of publicly co-funded projects as well as direct commissioned research projects from local companies
01.12.2012 – 01.12.2013	**Research Associate (AR)**	Free University of Bozen-Bolzano	M.Sc.	Adaptation of the Value Stream Optimization approach to collaborative company networks in the construction industry (TN5048)
01.03.2012 – 31.07.2012	**Research Assistant**	Fraunhofer Italia research s.c.a.r.l.	B.Sc.	Development of Master Thesis "Process optimization for the supply chain of window installation using the Value Stream Engineering approach"
01.10.2004 – 26.02.2010	**Collaborator technical office**	Fructus Meran AG – Food Industry	B.Sc.	Technical design/planning of production lines, automation of existing production plants, project management of new investments

Experience in academic teaching

Courses and lectures taught at unibz

- **Responsibility and lecturing** of the course “Industrial Installations and Operational Safety” 10 ECTS (94 out of 94 hours) in English language. Bachelor Degree in Industrial and Mechanical Engineering L-9, Free University of Bozen-Bolzano. AY 2016-2017, 2017-2018
- **Responsibility and lecturing** of the course “Industrieanlagen und Arbeitssicherheit new name “Fabrik- und Anlagenplanung” 8 ECTS (74 out of 74 hours) in German language. Bachelor Degree in Industrial and Mechanical Engineering L-9, Free University of Bozen-Bolzano. The course is mandatory for all four majors of the bachelor programme L-9: 1) Mechanics, 2) Logistics and Production, 3) Energetics, 4) Automation. AY 2018-2019, 2019-2020, 2020-2021, 2021-2022, 2022-2023, 2023-2024, 2025-2026
- **Responsibility and lecturing** of the course “Anlagenbau und Logistik” 6 ECTS (60 out of 60 hours) in German language. The course was loaned (“mutuato”) with the course “Industrieanlagen und Arbeitssicherheit”. Professional Bachelor in Wood Engineering L-9, Free University of Bozen-Bolzano. AY 2019-2020
- **Responsibility and lecturing** of the course “Project Management” 5 ECTS (46 out of 46 hours) in English language. Master Degree in Industrial Mechanical Engineering LM-33, Free University of Bozen-Bolzano (Italy) and Otto-von-Guericke-University Magdeburg (Germany). The course is mandatory for all four majors of the programme: 1) Computational Mechanical Design, 2) Digital Manufacturing and Automation, 3) Digital Manufacturing and Management, 4) Logistics and Production (double degree with the OvGU Magdeburg). AY 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, 2022-2023, 2023-2024, 2024-2025, 2025-2026.
- **Lecturing of the course** "Construction Project Management" within the study program Construction Engineering and Management (CEM) (6 hours lectures) in English language. Chiang Mai University (Thailand); lecturing during the secondment within the project “SME4.0 – Industry 4.0 for SMEs”. AY 2016-2017
- **Lecturing** of the course “Produktionsplanung und -steuerung (PPS)” (30 hours exercises) in German language. Bachelor Degree in Industrial and Mechanical Engineering L-9, Free University of Bozen-Bolzano. AY 2015-2016
- **Teaching assistant** of the course “Production systems and industrial logistics” (60h exercise) in German language. Bachelor Degree in Industrial and Mechanical Engineering L-9. Free University of Bozen-Bolzano. AY 2014-2015, 2015-2016
- **Lecturing** of part of the course “Wertstrom Engineering – Typen- und variantenreiche Produktion” (4h exercise) in German language. Bachelor Degree in Industrial and Mechanical Engineering L-9. Free University of Bozen-Bolzano. AY 2014-2015

Courses as Contract Professor

- Since 2022 Contract professor in **Supply Chain Strategy & Innovation**, Management Center Innsbruck (MCI) (Austria), Master in Industrial Engineering, 2,5 ECTS, Language: English.

Student supervision

- **Supervisor of 5 PhD students** at unibz.
- **Hosting and co-supervision** of **2 external PhD students** at unibz. Maria Pia Ciano from the School of Industrial Engineering, LIUC-Università Carlo Cattaneo. Leonardo

Marrazzini from the Department of Civil and Industrial Engineering, University of Pisa. Spring of 2019.

- **Supervisor or co-supervisor** of 9 Bachelor theses within the degree of “Industrial and Mechanical Engineering L-9” at unibz. Titles of theses: (1) ”Analyse und Prozessoptimierung anhand der Wertstrom-Engineering Methode: Fallstudie eines projektorientierten Unternehmens im Anlagenbau”, (2) “Design and implementation of a manual assembly line for small batches in a purchase to order company”, (3) “Gestaltung eines Material- und Informationsflusskonzepts für die Cloud-basierte Produce-on-Demand Fertigung von Betonteilen”, (4) “Nachhaltigkeitsanalyse von Agrar-Lebensmittel-Versorgungsketten: Eine Wirtschtaftsobst Fallstudie”, (5) “Entwicklung eines Lebenszyklus-Bewertungsmodells zur Steigerung der Effizienz von Produktionsanlagen”, (6) “Concept for a Digital Twin to optimize the logistics of a food manufacturing company”, (7) “Konzeptplanung einer unbesetzten Seilbahn unter Berücksichtigung von Industrial Engineering Prinzipien”, (8) “Planung einer flexiblen Produktionszelle mit Hilfe von Lean Methoden und Industrie 4.0 Technologien”, (9) “Industrie 4.0 in der Auftragsfertigung: Stand der Technik und Best Practices”.
- **Supervisor** of 5 Master theses within the degree of “Industrial Mechanical Engineering LM-33” at unibz. Titles of theses: (1) “Key Performance Indicators to measure environmental sustainability: A food supply chain case study”, (2) “Process Patterns to support Planning and Scheduling of Construction Projects: An Approach and a Software Prototype”, (3) “Improving EVA Forecasting by considering Rework and Schedule Adherence: Novel Indicators and a Machine Learning-based Framework”, (4) “A Roadmap for a Food Manufacturing company towards Green Logistics” (5) “Collaborative brown field design process of a distribution center by using digital factory planning tools: Case study in the electronics industry.”
- **Supervisor or co-supervisor** of 7 Study Projects within the master’s degree of “Industrial Mechanical Engineering LM-33” at unibz. Titles of theses: “Literature Review of Digital Twins implementation for Predictive Maintenance in the Process Industry”, “Reviewing Truck Logistics Emissions: a CO2e Calculation Model”, “Concept development for production cockpit allowing a real-time tracking”, “Enhancing the Performance of Value Stream Mapping Using FlexSim Simulation Software”, “Definition and empirical validation of a framework on the impact of Industry 4.0 on sustainability performances”, “Collaborative Digital Factory Planning: An Automotive case study”, “Machine-Learning based object recognition from digital point clouds to support Project Management”.
- **Academic Supervisor** of five curricular **internships** at the Free University of Bozen-Bolzano Bachelor in Industrial and Mechanical Engineering L-9.
- **Academic Tutor** of students for the *“Industrial Scholarship”* programme within the bachelor’s degree in Industrial and Mechanical Engineering L-9. Since AY 2021-2022.

Summary of significant personal achievements in teaching

- **Lecturer** of the Smart Enterprise Qualification Program Modul 2 – Lehrgang Industrie 4.0 – Digitale Fabrikplanung und AR/VR on the 02.12.2022.
- **Lecturer** at the EUCLIDES International Week Industry 4.0: Technologies and Management, from the 8-12 March 2021 that was hosted by unibz (https://industry40week.events.unibz.it/). Title of the lecture: Worker assistance systems in construction.
- **Lecturer** of module 3 “Virtual and Augmented Reality” within the “Digital and Technology Summer Camp 2021” funded by the European Social Fund (ESF) – Summer Camp for high school students in collaboration between Smart Mini Factory lab and Bitz fablab for providing digital and technical skills to high school students.

- **Lecturer** of module 3 “Virtual and Augmented Reality” within the “Digital and Technology Summer Camp 2022” funded by the European Social Fund (ESF) – Summer Camp for high school students in collaboration between Smart Mini Factory lab and Bitz fablab for providing digital and technical skills to high school students.
- **Lecturer** of the webinar entitled “Trends der digitalen Fabrikplanung” within the project Engineering Education 4.0 (E-Edu 4.0) on the 12.11.2020. The event was organized for high school students of the “Technologische Fachoberschule TFO Max Valier Bozen”.
- **Lecturer** at the professional school of Silandro-Schlanders (Bz) within the course Lehrgang Fenstermonteure Aufbaukurs entitled “Organisation: Montageverantwortlicher, Arbeitsfolge, Baustelle” from 13:30 until 17:30 on the 2nd March 2018, the 11th of March 2019 and on the 25th of June 2020.
- **Lecturer** within the course Facades Architecture Construction Engineering (FACE) organized by EURAC research. Carrying out of the "Lean Construction" module with a didactic load of 4 hours of lectures on the 11th of February 2017.
- **Teaching assignment** by the “Project Management Institute (PMI) – Northern Italy Chapter” in German language. Seminar and workshop entitled “Lean Construction Management – Revolution in der Baubranche?” (Lean Construction Management - Revolution in the Construction Industry?") on the 12th of April 2019. It took place at the NOI techpark where 15 employees from the local construction industry participated.
- **Teaching assignment** by the Project Management Institute – Northern Italy Chapter. Seminar entitled “Lean Construction and Construction 4.0” by the Project Management Institute – Northern Italy Chapter. Online Webinar 12th June 2020.
- **Teaching assignment** by the Project Management Institute – Northern Italy Chapter. Online Webinar entitled “Lean Construction and Construction 4.0 (webinar)” 11th of December 2020. See the link to the advertisement of the speech: https://www.pmi.org/chapters/northern-italy/events/lean-construction-and-construction-4 https://www.youtube.com/watch?v=EFPB_77emsE

Other teaching related experiences

- **Coordinator / responsible** of the scientific sector **ING-IND/17** (Industrial Mechanical Plants) at the Free University of Bozen-Bolzano since May 2016. The total teaching load of the sector at unibz is **45 ECTS** (34 ECTS in curricular courses and 9 ECTS in elective courses).
- **Member of the PhD Council** of the PhD course "Advanced-Systems Engineering” of the Free University of Bozen-Bolzano. AY 2019-2020, 2020-2021, 2021-2022, 2022-2023
- **Member of the PhD Council** of the PhD "Sustainable Energy and Technologies" of the Free University of Bozen-Bolzano. AY 2018-2019
- **Reference lecturer** (MIUR database) within the bachelor’s degree in Industrial and Mechanical Engineering L-9. AY 2018-2019.
- **Reference lecturer** (MIUR database) within the master’s degree in Industrial Mechanical Engineering LM-33. AY 2019-2020, 2020-2021, 2021-2022.
- **Member** of the **AQ group** (MIUR database) within the bachelor’s degree in Industrial and Mechanical Engineering L-9. AY 2018-2019, 2019-2020, 2020-2021, 2021-2022.
- **Participation** as **member AQ group** to the EUR-ACE accreditation CdL in Industrial and Mechanical Engineering L-9 on the 08th of March 2022.
- **Tutoring of students** within the master’s degree in Industrial Mechanical Engineering

LM-33. AY 2018-2019, 2019-2020, 2020-2021.

- **Member of final exam commission** within the bachelor's degree in Industrial and Mechanical Engineering L-9 on 23.07.2019.
- **Member of final exam commission** within the master's degree in Industrial Mechanical Engineering LM-33 on 29.09.2020, 20.07.2021, 15.12.2021.
- **President of the exam commission** for the subject "47522 Study Project" as a mandatory activity for students enrolled in the LM-33 degree in Industrial Mechanical Engineering. AY 2019-2020, 2020-2021, 2021-2022.
- **Organization** of **stakeholder meetings** in November 2021 and individual interviews with stakeholders/companies. Master Degree Industrial Mechanical Engineering LM-33.
- **Contribution** to the **revision of the study program of LM-33** starting in AY 2020/21 responding to general trends (Industry 4.0, Sustainability), local strategies (RIS-3 strategy) and stakeholder needs.
- **Presentation** of the **bachelor and master programs L-9 and LM-33** at the company fair of the technical high school Technologische Fachoberschule TFO Max Valier of Bolzano on the 19.09.2021
- Substitute **member** of the **admission commission** of the bachelor's degree in Industrial and Mechanical Engineering L-9. AY 2020-2021, 2021-2022.
- **Member** of the **admission commission** of the bachelor's degree in Industrial and Mechanical Engineering L-9. AY 2022-2023
- **Substitute member** for the **selection** of **PhD students** within the PhD program in Advanced-Systems Engineering (ASE) 35th cycle.
- **Member of the PhD selection committee** related to the public competition for admission to PhD courses related to the XXXVII PhD cycle of Advanced Systems Engineering (ASE), academic year 2021/2022 pursuant to DM 1061 of 10/08/2021 on the allocation of the PON (National Operational Programme) "Research and Innovation" 2014-2020, with reference to action IV .4 "PhDs and research contracts on innovation issues" and action IV.5 "PhDs on green issues". The selection procedure took place in November 2021.
- Participation to the working group for the submission of an **Erasmus Mundus Design Measure** for the development of an Erasmus Mundus Master on Digital and Sustainable Manufacturing (PI Prof. Renato Vidoni) together with other 3-5 European universities and a lump sum budget of 55.000 Euro. The proposal had been submitted in February 2022.

Use of innovative teaching methods

- Use of the haptic teaching tool **VILLEGO Last Planner simulation** to illustrate the application of the innovative Last Planner System method during the exercise hours of the lecture Project Management within the Master of Industrial Mechanical Engineering LM-33. By constructing a small house project with Lego bricks the students understand the differences between the conventional process and the Last Planner System method. The simulation with Lego-bricks provides context rich experiences that facilitates students to understand Lean Management concepts. Please find below the link to the innovative teaching tool (https://www.villego.com/).
- Use of the innovative teaching tool **visTABLE®** for Digital Factory Planning during the lectures of Industrieanlagen und Arbeitssicherheit (42155 and 42166) and the course Anlagenbau und Logistik (42313) of the Bachelor in Industrial and Mechanical Engineering L-9. Students are asked to plan the layout, the facility and the material flow of a factory used to produce IKEA desks and specifically the product type ALVE.

Please see below the link to the software website (https://www.vistable.com/).

- Use of **digital interaction tool Mentimeter** (https://www.mentimeter.com/) to support the interaction with students by querying opinions during the lectures.
- Use of **digital interaction tool Opinio** (https://www.objectplanet.com/opinio/) for online course satisfaction surveys within the lectures of the bachelor's and master's degree in Industrial Mechanical Engineering L-9 and LM-33 at unibz. After 50% completion of the course, students are asked to express an overall and detailed assessment of the course. The information provided is used to improve the efficiency and effectiveness of teaching.
- Use of **digital tool Miro Collaborative Whiteboard** (https://miro.com/) to support collaboration of and with students for case study work during exercises.
- **Video-recording** over MS-Teams of all courses to facilitate the following of the lectures for students of the dual program and working students since the a.y. 2019-2020.
- **Online exam management system** (OWL) (https://owlts.com/) for proctored exams of all courses within the bachelor's and master's degree L-9 and LM-33 since the a.y. 2020-2021.
- Use of **advanced technology Virtual Reality (VR), Augmented Reality (AR) and Building Information Modeling (BIM)** in the lecture Project Management of the Master in Industrial Mechanical Engineering LM-33 at unibz (doi: 10.1016/j.promfg.2020.04.059). Practical explanation of how new technologies like VR, AR and BIM could empower traditional Project Management methodologies to increase efficiency during project execution. Use of the equipment Oculus Rift and the Microsoft HoloLens (2nd generation) from the Smart Mini Factory laboratory as Head Mounted Displays to show the technology to students. The results of the application of VR, AR and BIM during the course Project Management were summarized in the scientific publication entitled "BIM, Augmented and Virtual Reality empowering Lean Construction Management: a project simulation game doi: 10.1016/j.promfg.2020.04.059".
- Development of a **Tutorial** to visualize the **Digital Factory Planning** of visTable in **Virtual Reality (VR).** The tutorial was developed in collaboration with the company Plavis GmbH and published on YouTube. Please find below the link to the tutorial entitled "Virtual Reality in factory planning - shown by the example of the Free University of Bozen-Bolzano" (https://www.youtube.com/watch?v=_5cRJ3nOkEY). Publication date: 06.06.2021.
- **Excursion** to the **Brenner Base Tunnel (BBT) project** (https://www.bbt-se.com/en/)**,** within the lectures "Industrieanlagen und Arbeitssicherheit" (a.y. 2018-2019) and the lecture "Project Management" (a.y. 2019-2020, 2021-2022) of the bachelor's and master's degree L-9 and LM-33 at unibz.
- **Excursion** to the **company Frener&Reifer GmbH** (https://www.frener-reifer.com/home-en/) within the lecture of "Project Management" LM-33 a.y. 2018-2019.
- **Online expert seminar** with the company **Progress Holding AG** (https://www.progress.group/de) within the lecture "Industrieanlagen und Arbeitssicherheit" L-9, on the 13.05.2021.
- **Online expert seminar** with the company **Technoalpin AG** (https://www.technoalpin.com/en/) within the lecture "Project Management" LM-33, on the 13.11.2020.
- **Online expert seminar** with the company **Brenner Base Tunnel (BBT) project**

(https://www.bbt-se.com/), Lecture Project Management LM-33, 13.11.2020.

- **Excursion** to the **Brenner Base Tunnel (BBT) project** (https://www.bbt-se.com/) in Fortezza, lecture Project Management LM-33, 04.11.2021
- **Excursion** to the company **Progress Holding AG** (https://www.progress.group/de) within the lecture "Industrieanlagen und Arbeitssicherheit" L-9, on the 12.05.2022.
- **Excursion** to the company **Würth-Italia** (https://fs.wuerth.it/it/globaltemplate/company/wuerth_italia/wuerth_italia.php) within the lecture "Industrieanlagen und Arbeitssicherheit" L-9, on the 18.05.2022.

Other academic responsibilities

Coordination of the Industrial Mechanical Plants (ING-IND/17) research group at unibz

- **Leadership** and coordination of internal staff:
  - 2 Assistant Professors
  - 3 Post-Docs
  - 5 PhD students

- **Supervision** of visiting (external) PhD student Maria Pia Ciano from the School of Industrial Engineering, LIUC-Università Carlo Cattaneo, Castellanza (VA), at unibz from the 29.04.2019 to the 10.05.2019. Publication of the journal article entitled "One-to-one relationships between Industry 4.0 technologies and Lean Production techniques: a multiple case study". Main PhD supervisor Prof. Tommaso Rossi, LIUC.
- **Supervision** of visiting (external) PhD student Leonardo Marrazzini from the Department of Civil and Industrial Engineering, University of Pisa, at unibz from the 08.07.2019 to the 19.07.2019. Publication of the journal article entitled "Overall Construction Productivity: a new lean metric to identify construction losses and analyse their causes in Engineer-to-Order construction supply chains". Main supervisor Prof. Marcello Braglia, University of Pisa.

Other internal appointments

- **Secretary** of the Pillar meetings Macroarea **"Industrial Engineering and Automation (IEA)"** from 2016 until 2019.
- **Evacuation officer** ("Evakuierungsbeauftragter") for the university building L since February 2021
- **Person in charge** of the teaching activities of the scientific disciplinary **sector ING-IND/17** at the Free University of Bozen/Bolzano. The total teaching load of the sector at unibz is **45 ECTS** (34 ECTS in curricular courses and 9 ECTS in elective courses): 18 ECTS in the Bachelor Industrial and Mechanical Engineering (L-9), 12 ECTS in the Professional Bachelor in Wood Engineering (L-9 wood), 15 ECTS in the Master Industrial Mechanical Engineering (LM-33).

Roles at national (scientific) level within the scientific sector 09/B2 – ING-IND/17

- Person in charge of the relationships with the national association of the scientific sector 09/B2 ING-IND/17 Industrial Mechanical Plants for the Free University of Bozen/Bolzano.
- Representative of the Free University of Bozen-Bolzano within the sector 09/B2 ING-IND/17 Industrial Mechanical Plants during the ordinary meetings (Summer School and Winter Meeting).

Organization of international and national conferences and events

- **Conference Chair** of the 5th European Conference on Industrial Engineering and Operations Management from July 26-28, 2022 at the Faculty of Civil and Industrial Engineering of the University La Sapienza in Rome. Organisation of the conference in collaboration with the research group of prof. Massimo Tronci (full professor ING-IND/17 at Sapienza University of Rome). Please find below the conference website. http://ieomsociety.org/rome2022/
- **Conference Chair** of the 4th European Conference on Industrial Engineering and Operations Management that was planned to take place from July 22-24, 2020 at the Faculty of Civil and Industrial Engineering of the University La Sapienza in Rome. Because of COVID-19 pandemic the conference was moved to a hybrid conference taking place from August 3-5 2021. The theme of the conference was Resilient Manufacturing and Logistics. http://www.ieomsociety.org/rome2020/
- **Member** of **European Academic Committee** at "4th European Conference on Industrial Engineering and Operations Management", Rome, Italy, August 02-05, 2021. Please find below the link: http://www.ieomsociety.org/rome2020/committee/
- **Session chair** of the track Global Engineering Education at "4th European Conference on Industrial Engineering and Operations Management", Rome, Italy, August 02-05, 2021. Please find below the link: http://www.ieomsociety.org/rome2020/committee/
- **Session chair** of the technical track Industry 4.0 within the 5th International Conference on Industrial Engineering and Operations Management, August 10-14, 2020, Detroit, MI, USA. http://ieomsociety.org/detroit2020/
- **Session chair** of the track Motivation and Learning at the 27th annual conference of the International Group for Lean Construction (IGLC), Dublin, Ireland, July 01-07, 2019. Please find below the link: http://iglc2019.com/
- **Member** of **European Academic Committee** at "2nd European IEOM Conference Industrial Engineering and Operations Management", Paris, France, July 26-27 2018. Please find below the link: http://ieomsociety.org/paris2018/committee/
- **Review and Program Committee member** of the XXVI edition of the Summer School "Francesco Turco", September 08–10, 2021, organized by the CELS research group at the University of Bergamo (Italy) in collaboration with the RISE Lab at the University of Brescia (Italy). Please find below the link: https://www.summerschool-aidi.it/
- **Review and Program Committee member** of the XXV edition of the Summer School "Francesco Turco", September 09–11, 2020, organized by the University of Bergamo (Italy) in collaboration with the University of Brescia (Italy). Please find below the link: https://www.summerschool-aidi.it/edition-2020/index.php
- **Review and Program Committee member** of the XXIV edition of the Summer School "Francesco Turco", September 11–13, 2019, organized by the University of Brescia (Italy) in collaboration with the University of Bergamo (Italy). Please find below the link: https://www.summerschool-aidi.it/edition-2019/index.php

Organization of local conferences and events

- **Co-Chair** of the 1st International Symposium on Industrial Engineering and Automation - Managing and Implementing the Digital Transformation, 21.06.2022 and 22.06.2022, at the Free University of Bolzano, Italy. Please find below the link to the event: https://isiea.events.unibz.it/
- **Co-Chair** and **speaker** of the Workshop with local SMEs within the project SME 4.0 to

identify requirements of small and medium sized enterprises, Bolzano, April 30, 2021.

- Organisation of **series of lectures** at the 29.10.2020 from 18:00-20:00. Invitation of Prof. Dr. Daniel Hall, Department of Civil, Environmental and Geomatic Engineering, ETH Zürich. Please find below the web-link and the program of the event. The future of housing industry: robotic, autonomous and mass-customized. Link: https://www.unibz.it/en/events/136461-series-of-lectures-the-future-of-housing-industry
- Organisation of **research workshop** entitled "Industry 4.0 and sustainability: influences and relationships" with Prof. Joseph Sarkis from the Worcester Polytechnic Institute (USA) at the 21.06.2019 from 14:00-18:00 in the Smart Mini Factory (SMF) laboratory of unibz. Please find below the link to the event: https://www.sme40.eu/category/uncategorized/page/6/
- **Co-Chair** and **speaker** at the "1st Annual Meeting SME 4.0 – Industry 4.0 for SMEs", February 8-9 2017 at the Free University of Bolzano, Italy.

Keynote and invited presentations

- **Keynote speaker** for the **4th International Conference on Industrial and Mechanical Engineering and Operations Management (IMEOM)** organized in hybrid form, both virtual and onsite, at Dhaka, Bangladesh during 26-27 December 2021. Title of the presentation: "Lean Management and Industry 4.0: current status and future perspectives". http://ieomsociety.org/ieom/imeom2021/
- **Keynote speaker** for the **6th North American Industrial Engineering and Operations Management (IEOM)** Conference organized in hybrid mode, both virtual and onsite, at the University of Monterrey during 03-05 November 2021. Title of the presentation: "The Interconnection between Lean Management and Industry 4.0 concepts and technologies". Please find below the link to the website: http://www.ieomsociety.org/monterrey2020/keynote/
- **Invited Presentation** at the 4th European Conference on Industrial Engineering and Operations Management, 24th IEOM Global Engineering Education series, organized in virtual form on August 03, 2021. Title of the presentation: "Aligning Engineering Education to Industry 4.0 requirements". Please find below the link to the website: http://www.ieomsociety.org/rome2020/global-engineering-education/
- **Invited Presentation** at the 11th International Fair UDEM (FIU) 2021, organized at the Universidad de Monterrey in Mexico on September 15, 2021. Title of the presentation: "Industry 4.0 in teaching activities". Please find below the link to the website: https://www.udem.edu.mx/en/node/49721
- **Invited Presentation** at the 5th North American Industrial Engineering and Operations Management (IEOM) Conference, 18th IEOM Global Engineering Education series, on August 12, 2020. Title of the presentation: "Industry 4.0 Implications for Future Engineering Education". Please find below the link to the website: http://ieomsociety.org/detroit2020/global-engineering-education/

Scientific presentations at international conferences (last 3 years)

- **IEOM 2019 (1)**: Participation as speaker at the 9th International Conference on Industrial Engineering & Operations Management, organized in Bangkok, Thailand from 5-7, March 2019. Presentation of the paper: Dallasega, P., Woschank, M., Ramingwong, S., Yaibuathet Tippayawong, S., Chonsawat, N., 2019, "Field study to identify requirements for smart logistics of European, US and Asian SMEs", on March 05, 2019.
- **IEOM 2019 (2):** Participation as speaker at the 9th International Conference on Industrial Engineering & Operations Management, organized in Bangkok, Thailand

from 5-7, March 2019. Presentation of the paper: Rauch, E., Stecher, T., Unterhofer, M., Dallasega, P., Matt, D.T., 2019, “Suitability of Industry 4.0 Concepts for Small and Medium Sized Enterprises: Comparison between an Expert Survey and a User Survey”, on March 05, 2019. Receiving of best track paper award.

- **IGLC 2019:** Participation as speaker at the 27th Annual Conference of the International Group for Lean Construction (IGLC), organized in Dublin, Ireland from 3-5 July 2019. Presentation of the paper: Dallasega, P., Revolti, A., Follini, C., Schimanski, C.P., Matt, D.T., 2019, “BIM-Based Construction Progress Measurement of Non-Repetitive HVAC Installation Works.” Please find below the web-link to the presentation: https://iglc.net/Papers/Details/1723
- **IEOM 2020:** Participation as speaker at the 5th North American International Conference on Industrial Engineering and Operations Management Detroit, Michigan, USA from 10 – 14 August 2020. Presentation of the paper: Woschank, M., Del Rio, E., Zsifkovits, H.E., Dallasega, P., 2020, “Comparison of Industry 4.0 Requirements between Central-European and South-East-Asian Enterprises”, on August 12, 2020.
- **ISARC 2021:** Participation as speaker at the 38th International Symposium on Automation and Robotics in Construction (ISARC 2021), Dubai, United Arab Emirates from 02-04 November 2021. Presentation of the paper: Dallasega, P., Schulze, F., Revolti A., Martinelli, M., 2021, “Augmented Reality to increase efficiency of MEP construction: a case study.” doi: 10.22260/ISARC2021/0063.

Editorial responsibilities

- **Associate Editor** of the international journal "Production & Manufacturing Research" (Taylor & Francis). Scopus indexed (Q1). (https://www.tandfonline.com/action/journalInformation?show=editorialBoard&journalCode=tpmr20)
- **Member** of the **Editorial Board** journal *Buildings* MDPI (Basel Switzerland) indexed in Scopus Q1-Q2 (https://www.mdpi.com/journal/buildings/editors)
- **Guest Editor** for the Special Issue "Towards Construction 4.0: The Connection of Lean Construction and Industry 4.0". Buildings (MDPI), Q1-Q2, Impact Factor 2.648, closed the 31st of May 2022, Guest Editor: Dr. Patrick Dallasega – Free University of Bolzano. See web-link of the Special Issue: https://www.mdpi.com/journal/buildings/special_issues/Construction_Connection_Lean_Industry
- **Guest Editor** for the Special Issue "Industry 4.0 Impacts on Lean Production Systems: Sustainable Practices". Sustainability (MDPI), Q2, Impact Factor 3.251, ongoing and it will close on March 30, 2022, Guest Editors: Prof. Massimo Bertolini University of Modena and Reggio Emilia, Dr. Mosè Gallo University of Naples Federico II, Dr. Mattia Neroni University of Parma, Dr. Patrick Dallasega Free University of Bozen-Bolzano. See web-link of the Special Issue: https://www.mdpi.com/journal/sustainability/special_issues/lean_production
- **Guest Editor** for the Special Issue "The Role of Engineering Education in Industry 4.0 Era". Sustainability (MDPI), Q2, Impact Factor 3.251, Closed the 30th of June 2019, Guest Editor: Dr. Patrick Dallasega – Free University of Bolzano. See web-link of the Special Issue: https://www.mdpi.com/journal/sustainability/special_issues/sus_engineering_edu
- International peer-review **journal referee:**
  - Computers in Industry (Elsevier), Impact Factor 7.635, Q1, https://www.journals.elsevier.com/computers-in-industry

- Computers and Industrial Engineering (Elsevier), Impact Factor 5.431, Q1, https://www.journals.elsevier.com/computers-and-industrial-engineering
- Journal of Cleaner Production (Elsevier), Impact Factor 9.297, Q1, https://www.journals.elsevier.com/journal-of-cleaner-production
- International Journal of Production Research (Taylor&Francis), Impact Factor 8.568, Q1, https://www.tandfonline.com/journals/tprs20
- International Journal of Production Economics (Elsevier), Impact Factor 7.885, Q1, https://www.journals.elsevier.com/international-journal-of-production-economics
- Production Planning & Control (Taylor&Francis), Impact Factor 7.044, Q1, https://www.tandfonline.com/journals/tppc20
- Resources, Conservation & Recycling (Elsevier), Impact Factor 10.204, Q1, https://www.journals.elsevier.com/resources-conservation-and-recycling
- Automation in Construction (Elsevier), Impact Factor 7.700, Q1, https://www.journals.elsevier.com/automation-in-construction
- Journal of Manufacturing Technology Management (Emerald), Impact Factor 7.547, Q1, https://www.emerald.com/insight/publication/issn/1741-038X
- Sustainability (MDPI), Impact Factor 3.251, Q2, https://www.mdpi.com/journal/sustainability
- Buildings (MDPI), Impact Factor 2.648, Q1-Q2, https://www.mdpi.com/journal/buildings
- Reviewer for different International Conferences: CIRP, IEOM, IGLC

- **Project proposal reviewer** for the National Science Center Poland. Review of a project proposal submitted to the executive government agency of the National Science Centre (Narodowe Centrum Nauki – NCN) under the call “BEETHOVEN” – Polish-German Funding Initiative.
- Subscribed to the **REPRISE database** for the revision of research projects
- Selected reviewer for **ANVUR** within the VQR 2015-2019 programme. Review of journal articles of Italian peers.

Membership

Member of the following scientific associations:

- Affiliation to the international research group **Industrial Engineering and Operations Management (IEOM)** (http://ieomsociety.org/) (2017-now)
- Ordinary member of the **Italian Association of Industrial Plant Teachers (AIDI)** (ING-IND/17) (http://www.aidi-impianti-industriali.it/) (2016-now)
- **HDI-EC3**: Member of the **Human-Data Interaction (HDI)** committee of the **European Council on Computing in Construction (EC3).** https://ec-3.org/governance/technical-committees/human-data-interaction-committee/
- **IGLC:** Member of the **International Group for Lean Construction (IGLC)**. IGLC is an international network of researchers from practice and academia with the aim to develop, adapt and apply methodologies and tools from the lean manufacturing environment to the architecture, engineering, and construction (AEC) in order to respond to global challenges. https://iglc.net/Home/About

Research and scholarships

I have been part as PI, co-PI or team member to different research projects that are listed below. I have been involved in **20 financed projects** with a **total volume** of **5.820.000 €** and a total funding amount for **unibz** of **2.174.000 €**.

Duration	Award Holder(s)	Funding Body	Title	Funding unibz	Overall funding
04.02.2025 – 03.02.2027	Patrick Dallasega (PI)	PRIN 2022	**MES4RES** - Measurement Model to assess Resilience of Manufacturing companies	69.200 €	300.000 €
01.11.2024 – 31.10.2027	Patrick Dallasega (PI)	Erasmus+ KA 2-3 2021-2027	**TRAINEE** - Advanced MR Training foR HumAn-Centric ProductIon EmpoweriNg Engineering TalEnt	69.891 €	400.000 €
01.12.2024 – 30.11.2027	Patrick Dallasega (PI)	Erasmus+ KA 2-3 2021-2027	**MaDE-for-UASs** - Methodology and Didactics Education for Universities of Applied Science	53.319 €	400.000 €
01.01.2022 – 31.10.2025	Patrick Dallasega (PI)	Joint Projects Switzerland-Italy CH-I	**SMF4INFRA** - Smart Mobile Factory for Infrastructure Projects Research partner: ETH-Zurich, Euro-Tube Foundation	266.403 €	912.056 €
01.01.2023 – 31.12.2026	Dominik Matt (PI) Patrick Dallasega (Team Member)	European Union, ERC/MSCA	**SME 5.0 -** A Strategic Roadmap Towards the Next Level of Intelligent, Sustainable and Human-Centred SMEs	317.400 €	1.168.400 €
01.02.2022 – 31.03.2023	Erwin Rauch (PI) Patrick Dallasega (Team Member)	European Social Fund (ESF)	**SEQP** - Smart Enterprise Qualification Program	56.729 €	56.729 €
01.02.2021 – 31.12.2023	Patrick Dallasega (PI)	Autonomous Province of Bolzano (LG-14)	**DIGPLABI** - DIGital PLAtform for Building and Infrastructure Projects	70.000 €	504.700 €
18.08.2021 – 31.10.2021	Patrick Dallasega (PI)	Intercable GmbH (Contract for research project)	**DIGIFAP** - Pianificazione e ottimizzazione digitale della fabbrica per la produzione di componenti per la mobilità elettrica	11.100 €	11.100 €
01.07.2020 – 30.06.2023	Elisa Marengo (PI) Patrick Dallasega (CO-PI)	Internal research project of the Free University of Bolzano (ID call 2020)	**Confucius** - "Study the past if you would define the future": Discovering Patterns in Scheduling and Monitoring Data	110.000 €	110.000 €
28.02.2020 – 28.02.2021	Patrick Dallasega (PI)	Mader GmbH (Contract for research project) Autonomous Province of Bolzano (LG-14)	**Industry4Site** -Feasibility study on the use of Industry 4.0 technologies to support construction site management	10.000 €	15.575 €
29.05.2020 – 30.09.2020	Patrick Dallasega (PI)	Novitas-Italia srl. (Contract for research project)	**DIGPLAMI** - Implementation study for the development of a digital platform to support the maintenance of the urban line infrastructure	8.000 €	31.785 €
01.01.2017 – 30.06.2022	Dominik Matt (PI) Patrick Dallasega collaborated	European Union, Horizon 2020, Rise 2016	**SME 4.0 - Industry 4.0 for SMEs** "Smart Manufacturing and Logistics for SMEs in an X-to-order and Mass Customization	311.500 €	783.000 €

	actively in the acquisition of the research project. Moreover, he Is leader of WP 4.1 (Requirement analysis for Smart and Lean Supply Chains for SMEs), and WP 7.1 (Design of Smart and Lean Supply Chains for SMEs), as well as responsible for the hosting of visiting researchers at the Free University of Bolzano.		Environment (SME 4.0)"		
01.01.2017 – 31.12.2020	Werner Nutt (PI) Patrick Dallasega collaborated actively in the acquisition of the interdisciplinary research project within the Faculty of Computer Science, the Faculty of Science and Technology and Fraunhofer Italia s.c.a.r.l.. Moreover, he is responsible area manager of the Industrial Engineering research group of the Faculty of Science and Technology.	European Union: Investimenti a favore della crescita e dell'occupazione (FESR 2014-2020), Asse 1 b Ricerca ed innovazione	"**COCKPIT** - Collaborative Construction Process Management" Research consortium: Faculty of Computer Science, Faculty of Science and Technology of the Free University of Bolzano and Fraunhofer Italia s.c.a.r.l.; Industrial partners: Unionbau GmbH, Frener&Reifer GmbH, Atzwanger AG.	503.200 €	747.000 €
01.05.2018 – 30.04.2021	Dominik Matt (PI) Patrick Dallasega is member of the research team and collaborates within different work packages.	INTERREG I-A 2014-2020 Funding Body: European Regional Development Fund (ERDF) - Interreg Italy-Austria.	**"Engineering Education 4.0" -** Research consortium with 5 partners: Carinthia University of Applied Sciences – Austria, HTL Höhere Technische Bundeslehranstalt Wolfsberg – Austria, Friuli Innovazione Centro di ricerca e di trasferimento tecnologico – Italy, t2i– trasferimento tecnologico e innovazione – Italy, Camera di Commercio di Treviso e Belluno – Italy.	180.000 €	1.150.000 €
01.09.2020	Patrick	Free University of	**BT-OSCM -** Blockchain	9.250 €	9.250 €

– 31.08.2022	Dallasega (PI)	Bozen-Bolzano – RTD call	adoption in operations and supply chain management: An investigation for improved information sharing and performance		
01.01.2017 – 31.12.2020	Dominik Matt (PI) Patrick Dallasega is member of the research team and collaborates within different work packages.	Internal research project of the Free University of Bolzano (CRC call 2016)	"**SMART SHOPFLOOR**" - Development of a software prototype for intelligent Shop Floor Management through Industry 4.0 technologies Research consortium with 2 industrial partners: Solunio GmbH, Anyt1me.	70.000 €	70.000 €
01.01.2021 – 30.10.2021	Erwin Rauch (PI) Patrick Dallasega (CO-PI)	European Social Funding (ESF)	**PCK** - Women in construction	1.600 €	1.600 €
01.09.2020 – 30.04.2021	Erwin Rauch (PI) Patrick Dallasega (CO-PI)	ESF teaching	**Build Up** - Costruiamo il Futuro	1.600 €	1.600 €
17.06.2021 – 30.06.2021	Erwin Rauch (PI) Patrick Dallasega was member of the research team and collaborated within different work packages.	ESF teaching	**Camp 2021** - Digital and Technology Summer Camp 2021	32.601 €	32.601 €
17.06.2021 – 30.06.2021	Erwin Rauch (PI) Patrick Dallasega was member of the research team and collaborated within different work packages.	ESF teaching	**Camp 2022** - Digital and Technology Summer Camp 2021	32.538 €	32.538 €
01.01.2015 – 31.12.2017	Werner Nutt (PI) Patrick Dallasega was member of the research team and collaborated within different work packages.	Internal research project of the Free University of Bolzano (CRC call 2014)	"**MoMaPC** – Modeling and Managing Processes in Construction" Research consortium: Frener&Reifer GmbH, Fraunhofer Italia s.c.a.r.l., The University of Melbourne (UNIMELB)	82.580 €	82.580 €
01.01.2015 – 31.12.2016	Erwin Rauch (PI) Patrick Dallasega was member of the research team and collaborated within different work packages.	Internal research project of the Free University of Bolzano (CRC call 2014)	"**DIMASY**" - Design of decentralized and distributed manufacturing systems and their coordination in manufacturing networks Research consortium: Fraunhofer Italia s.c.a.r.l., Tecnomag GmbH.	34.500 €	34.500 €

01.10.2013 – 30.09.2016	Dominik Matt (PI) Patrick Dallasega is member of the research team and collaborates within different work packages.	Internal research project of the Free University of Bolzano (CRC call 2013)	"**Concepts and innovative material handling systems for optimizing the construction execution process**" Research consortium: Frener&Reifer GmbH, Lanz Metall KG, Fraunhofer Italia s.c.a.r.l.	65.000 €	65.000 €
			Total	**2.174.000 €**	**5.820.000 €**

Additional attracted funding

- I have led the process towards the agreement with the company **Rhomberg Sersa Rail Group AG, Zurich (Switzerland)**, to fund an Industrial Doctorate position for the 37th PhD cycle, "Advanced-Systems Engineering" program. The company's financial contribution is 15.000 Euro. Within this agreement, I am currently supervising the Industrial PhD student Sascha Van der Veen.

Visiting research periods abroad

- **Visiting researcher** at the company ELCOM (Slovakia) within the research project SME 4.0. Detailed analysis of the currently used production planning and control approach of the company. Analysis of the potential for real-time progress measurement. Collaboration with Prof. Vladimir Modrak and Prof. Jan Pitel from the Technical University of Kosice in collaboration with the company ELCOM. Period: 02.09.2019 – 10.09.2019 and 03.02.2020 – 22.02.2020.
- **Visiting researcher** at Chiang Mai University (Thailand) within the research project SME 4.0. Collaboration with the research group "Excellence Center in Logistics and Supply Chain Management (E-LSCM)" for the identification of requirements for the application of Industry 4.0 principles in small and medium sized enterprises (SMEs) in Asia. Period: January 2019 – March 2019
- **Visiting researcher** at Worcester Polytechnic Institute (USA) within the research project "Industry 4.0 for SMEs - Smart Manufacturing and Logistics for SMEs in an X-to-order and Mass Customization Environment (SME 4.0)". Collaboration with Prof. J. Sarkis in the fields of Industry 4.0 as well as sustainable supply chain management. Period: June 2018 – July 2018
- **Visiting researcher** at Chiang Mai University (Thailand) within the research project SME 4.0. Collaboration with the research group "Excellence Center in Logistics and Supply Chain Management (E-LSCM)" for the identification of requirements for the application of Industry 4.0 principles in small and medium sized enterprises (SMEs) in Asia. Period: February 2017 – April 2017

Collaboration with international research groups

(1) ETH Zürich (Switzerland): Collaboration with Prof. Daniel Hall.
(2) Foisie Business School (USA): Collaboration with prof. Prof. Joseph Sarkis
(3) Worcester Polytechnic Institute (WPI): Collaboration with prof. Christopher Brown
(4) Poznan University of Technology (Poland): Collaboration with prof. Jerzy Paslawski and Dr. Piotr Nowotarski of the Faculty of Civil and Transport Engineering
(5) ESCP Business School (Paris – France): Collaboration with prof. Christian Linder. Role: Participant
(6) Montanuniversität Leoben (Austria): Collaboration with prof. Helmut Zsifkovits and Dr. Manuel Woschank from the Chair of Industrial Logistics
(7) Technical University of Košice (Slovakia). Collaboration with prof. Vladimír Modrák

and Dr. Zuzana Šoltysová
(8) Chiang Mai University (Thailand). Collaboration with prof. Sakgasem Ramingwong and Dr. Korrakot Tippayawong
(9) Northumbria University (United Kingdom). Collaboration with prof. Mohammad Kassem
(10) University of Reading (United Kingdom). Collaboration with Dr. Dragana Nikolić
(11) Eurotube - Hyperloop (Switzerland). Collaboration with Doré Demorsier
(12) University of Electronic Science and Technology of China. Collaboration with prof. Chunguang Bai, School of Management and Economics
(13) Norwegian University of Science and Technology (NTNU). Collaboration with prof. Fabio Sgarbossa and prof. Erlend Alfens

Research areas

1. Industry 4.0

1.1. Lean Production and Industry 4.0 interrelationships

Scholars and practitioners have identified a strong link between Lean Production methods and Industry 4.0 technologies and concepts. However, so far, just few empirical studies, without an in-depth and comprehensive pairwise analysis, have been carried out to understand the interrelationship between Lean and Industry 4.0. Therefore, a multiple case studies research was performed to investigate the enabling effect of Lean Production on Industry 4.0 and the empowering effect of Industry 4.0 on Lean Production.
Considering Engineer-to-Order (ETO) companies with subsequent assembly on-site losses are caused by external factors (e.g. frequent changes by the customer) as well as within the supply chain (e.g. assembly errors on-site). Generally, Lean methods can be applied to mitigate these losses, but considering the ETO industry, various implementation barriers exist. Thus, the undersigned has investigated traditional Lean implementation barriers in the field of ETO (with subsequent assembly on-site) and how these barriers can be overcome with emerging technologies from the Industry 4.0 area.

1.2. Industry 4.0 applied to specific contexts and settings

Industry 4.0 technology and concepts applied to industrial logistics has been termed Logistics 4.0. However, the term Logistics 4.0, similar in many ways to its parent Industry 4.0, lacks of a consensus definition and set of constructs. Therefore, the undersigned proposed an empirically validated multidimensional construct to measure Logistics 4.0 in manufacturing companies. Moreover, the relationship between Logistics 4.0 concepts and technologies and logistics performance indicators in manufacturing enterprises had been empirically investigated. As a result, it emerged that the implementation of smart and lean concepts has a major impact on logistics performance, whereas information and communication technologies, as well as autonomous logistics systems and vehicles, are not completely implemented and exploited yet.
Similarly, construction 4.0 refers to the digitalization and automation of the construction industry by using technologies like Building Information Modeling (BIM), Additive Manufacturing, Advanced Prefabrication, Industrial Internet of Things, Cloud, Big Data Analytics, Autonomous Robots as well as Virtual, Augmented and Mixed Reality. These new technologies have the potential to further increase productivity, quality and safety of construction sites.
Industry 4.0 has so far be mainly applied to larger companies and specific models and concepts are still missing to allow a successful implementation into small and medium-sized enterprises (SMEs). Indeed, most Italian and South Tyrolean companies belong to the SME category. Therefore, this research area covers the identification of requirements for the application of Industry 4.0 to the logistics and production chain of

SMEs. In addition to the identification of requirements, the development of concepts and methodologies for an efficient and integrated management of logistics systems and the logistics-production chain have been studied.

2. Digital Factory

2.1. Digital Factory Planning

Digital Factory Planning encompasses the usage of virtual working techniques to support the planning of the product, the corresponding fabrication processes as well as the production facility. In this way, the whole process of planning a new fabrication facility with its associated production equipment can be completely simulated before starting the realization avoiding potential problems during the execution phase. This research area has focused on the integration of heterogeneous processes and systems with the final aim to reach a so-called “Digital Factory”. By integrating the digital product, with the digital processes and the digital production facility a dynamic mapping and simulation of the entire production flow and its processes including logistics is reached. This allows to introduce a collaborative planning approach by considering the knowledge of all planners involved in the factory planning process.

2.2. Digitalization in ETO companies

Another main research interest has focused on how digitalization can support the optimization of the logistics-production chain. In particular, the synchronization between manufacturing and assembly on-site of ETO companies, to ensure an efficient material handling and supply, has been studied. This research proposed a decentralized and agile approach for scheduling and control in ETO construction supply chains. Here, the concept of “Digital Twin” is used, to implement a bidirectional information flow between the physical system and the digital model. This allows not only real-time monitoring of the physical system but also to exploit (real-time) data from the physical system through data analytics, simulation, or artificial intelligence in the digital model and to pass the results as improvements back to the physical system. Real-time data, made available by Industry 4.0 technologies, represent a high potential to sense and react to plan deviations as soon as they appear.

2.3. Digitalization of the construction execution process

Here, it has been investigated how digitalization could support the execution of construction processes resulting in decrease of waste and better synchronization with the supply chain. Traditionally, the planning, scheduling and monitoring of the construction execution process is done in a not structured and systematic way leading to budget and time overruns. Therefore, this research stream has investigated how planning, scheduling and monitoring could be supported with digitalization by developing a methodology and an IT-support for the following execution phases: 1) a support for the collaborative definition of process models; 2) a support for the short-term capacity scheduling based on the real-time construction progress; and 3) a support for real-time construction progress measurement on-site.
Furthermore, it has been investigated how process mining techniques and machine learning based approaches could support the scheduling and monitoring of construction execution processes. Specifically, it had been studied how pattern-based scheduling can support the definition of more detailed construction schedules.

2.4. Digital Worker-Assistance Systems

Worker assistance systems can be categorized in 1) physical aid systems that support the worker in the physiological work), 2) sensorial aid systems that record data and make it available to the operator, and 3) cognitive systems that support planning processes of human operators. An increased share of complex cognitive tasks is predicted for the human operator in future factories.

Therefore, this research stream has investigated how emerging technologies like Virtual- and Augmented Reality (VR, AR) could support operators in planning activities. Here, the support of VR and AR in Digital Factory Planning has been empirically validated. Furthermore, the combination of VR/AR with Building Information Modeling (BIM) had been tested with local companies by using the Head Mounted Displays (Oculus and MS-Hololens) of the Smart Mini Factory laboratory. Here, the capability of AR to support marking works in the field of Mechanical, Electrical and Plumbing installations on-site were studied. Furthermore, the potential of AR to support the maintenance of the urban line infrastructure had been investigated.

3. Distributed and Sustainable Manufacturing

Since recent years, the choice of industrial plant configuration has shifted towards decentralization of production systems. In addition to the comparative economic advantages of each country, such as the lower cost of labour or raw materials, this interest area has focused on how a decentralization of production can increase social and ecological sustainability. A particular interest has been devoted to the research topic "Distributed Manufacturing Systems" in the construction sector. The concept of "Mobile On-site Factories" as production units that are available directly on different construction sites offers great opportunities for reducing logistics and production costs as well as CO2 emissions mitigating so the environmental impact. Specifically, complex infrastructure projects such as roads, railways and tunnels can suffer from budget overruns, time delays and high negative impacts on environmental sustainability. Through the usage of smart and mobile production units capable to be flexibly configured according to the requirements of different locations, it is possible to supply in a more ecological and economical sustainable way infrastructure construction projects.
In this direction, the contribution of Industry 4.0 technologies to economic, social, and environmental sustainability has been investigated. By using a multi-context analytical approach, the sustainable performance of the main Industry 4.0 technologies was studied considering the United Nations Sustainable Development Goals.

4. Advancing Engineering Education

Industry 4.0 is increasing technical and organizational complexity of industrial processes. This induces an increased demand of qualified staff at all organizational levels. The entailing increased degree of digitalization and automation requires a dramatic change for engineering education. The required competencies of future engineers consist of advanced hard skills by integrating industrial engineering with mechatronics and informatics engineering competencies. Such skills are needed to re-engineer processes with the support of information technology and automation to increase interconnection and collaboration among machines and human operators. Moreover, future engineers require soft skills like teamwork ability, problem analysis abilities, structuring capabilities, data analysis and interpretation skills. The undersigned collaborated actively in setting up the Smart Mini Factory laboratory to provide an advanced engineering education format for students and professionals at the Free University of Bozen-Bolzano.

Publications **International peer-reviewed journal papers**

1) Schulze, F., Dallasega, P., Alfnes, E., & Sgarbossa, F. (2026). The mitigation effect of Industry 4.0 technologies on Lean implementation barriers in Engineer-to-Order companies: A Multiple Case Study. Production Planning & Control, 37(2), 128-152. Scopus indexed (quartile 1)

2) Raheem, A., De Marchi, M., & Dallasega, P. (2025). Digital twin driven factory and production planning (FPP). Production & Manufacturing Research, 13(1), 2507954. Scopus indexed (quartile 2)

3) Felder, M., De Marchi, M., Dallasega, P., & Rauch, E. (2025). Smart Routing for Sustainable Supply Chain Networks: An AI and Knowledge Graph Driven Approach. *Applied Sciences*, *15*(14), 8001. Scopus indexed (quartile 1)

4) Dallasega, P., Gualtieri, L., Padovano, A., & Rocca, G. (2025). Investment evaluation of Augmented Reality-based training: a human-centered model. Production Engineering, 19(3), 665-694. Scopus indexed (quartile 2)

5) Revolti, A., Gualtieri, L., Pauwels, P., & Dallasega, P. (2024). From building information modeling to construction digital twin: a conceptual framework. *Production & Manufacturing Research*, *12*(1), 2387679. Scopus indexed (quartile 2)

6) Gualtieri, L., Öhler, M., Revolti, A., & Dallasega, P. (2024). A visual management and augmented-reality-based training module for the enhancement of short and long-term procedural knowledge retention in complex machinery setup. Computers & Industrial Engineering, 196, 110478. Scopus indexed (quartile 1)

7) Woschank, M., Dallasega, P., König, A., & Hoffelner, M. (2024). Potentials of using real-time data to increase the update frequency of production planning and control strategies in MTO: a discrete event simulation study. Flexible Services and Manufacturing Journal, 1-20. Scopus indexed (quartile 1)

8) Gualtieri, L., Fraboni, F., Brendel, H., Pietrantoni, L., Vidoni, R., & Dallasega, P. (2024). Updating design guidelines for cognitive ergonomics in human-centred collaborative robotics applications: An expert survey. Applied ergonomics, 117, 104246. Scopus indexed (quartile 1)

9) Schulze, F., & Dallasega, P. (2023). Lean and Industry 4.0 mitigating common losses in Engineer-to-Order theory and practice: an exploratory study. Flexible Services and Manufacturing Journal, 1-41. Scopus indexed (quartile 1)

10) Schulze, F., Dallasega, P., (2023). Barriers to lean implementation in engineer-to-order manufacturing with subsequent assembly on-site: state of the art and future directions. Production Planning & Control, 1-25, doi: 10.1080/09537287.2021.1888159, Scopus indexed (quartile 1)

11) Dallasega, P., Schulze, F., Revolti, A., (2023) Augmented Reality to overcome Visual Management implementation barriers in construction: a MEP case study, Journal: Construction Management and Economics, doi: 10.1080/01446193.2022.2135748 Scopus indexed (quartile 1)

12) Dallasega, P., Woschank, M., Sarkis, J., Tippayawong, K. Y. (2022). Logistics 4.0 measurement model: empirical validation based on an international survey. Industrial Management & Data Systems, 122 (5), 1384-1409, doi: 10.1108/IMDS-11-2021-0694, Scopus indexed (quartile 1)

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2) Dallasega, P., Kaushal, I., Revolti, A., Tripathi, A., & Ma, J. (2025, August). A Conceptual Assessment of Digital Twin Potential Through Discrete Event Simulation for Smart Mobile Factories in Linear Infrastructure Construction Projects. In IFIP International Conference on Advances in Production Management Systems (pp. 319-333). Cham: Springer Nature Switzerland.

3) Revolti, A., Benedetti, L., Kaushal, I., & Dallasega, P. (2025, July). Empirical Validation of BIM-to-Digital Twin Transformation for Smart Mobile Factories: a Case Study. In *EC3 Conference 2025* (Vol. 6, pp. 0-0). European Council on Computing in Construction.

4) De Marchi, M., Revolti, A., Dallasega, P., & Rauch, E. (2025, March). Digital Twin-Native Learning Factory Life-Cycle Management: An Applied Case Study. In Conference on Learning Factories (pp. 342-349). Cham: Springer Nature Switzerland.

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6) Raheem, A., Dallasega, P., Kaushal, I., Suni, H. A. M., & Baumgartner, F. (2025). An Object Process Modelling Ontology for a Digital Twin Prototype supporting Factory and Production Planning. IFAC-PapersOnLine, 59(10), 933-938.

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Book chapters

1) Dallasega, P., Woschank, M., Zsifkovits, H., Tippayawong, K., Brown, C. A. (2020). Requirement Analysis for the Design of Smart Logistics in SMEs. Industry 4.0 for SMEs, 147-162, doi: 10.1007/978-3-030-25425-4_5, Scopus indexed.
2) Dallasega, P., Schimanski, C.P., Revolti, A., Marcher, C., Matt, D.T. (2018). Untersuchung des Potenzials für KMU zur Unterstützung der Baulieferkette mit Building Information Modeling: eine Fallstudie eines ETO-Fassadenlieferanten, book chapter in KMU 4.0 – Digitale Transformation in kleinen und mittelständischen Unternehmen, doi: 10.30844/wgab_2018_13
3) Marengo, E., Dallasega, P., Montali, M., Nutt, W., Reifer, M. (2017). Process Management in Construction: Expansion of the Bolzano Hospital. In: Vom Brocke; Mendling J, Business Process Management Cases: Digital Innovation and Business Transformation in Practice. MANAGEMENT FOR PROFESSIONALS, 257-274, Springer, Cham:Springer, ISBN: 978-3-319-58306-8, ISSN: 2192-8096, doi: 10.1007/978-3-319-58307-5_14
4) Rauch, E., Dallasega, P. (2017). Sustainability in Manufacturing and Supply Chains Through Distributed Manufacturing Systems and Networks. In: Abraham M A, Encyclopedia of Sustainable Technologies, 429-438, Oliver Walter - Elsevier ISBN:9780128046777, doi: https://doi.org/10.1016/B978-0-12-409548-9.10221-0, Scopus indexed

Bibliometric parameters

Scopus database: 09.02.2026	No. of scientific papers	No. of citations	H-Index
Patrick Dallasega	**96**	**4.042**	**31**

Scientific awards

- **IEOM DISTINGUISHED SERVICE AWARD.** In Recognition and Appreciation as a Conference Co-Chair at the 2021 IEOM European Conference and Outstanding Service in Industrial Engineering and Operations Management Profession. Presented at the Virtual Awards Ceremony on August 5, 2021.
- **BEST PAPER AWARD.** In Recognition of Contribution to the Best Paper entitled: *"Industry 4.0 concepts and Lean methods mitigating traditional losses in Engineer-to-Order manufacturing with subsequent assembly on-site: a framework"* presented at the 30th international conference on Flexible Automation and Intelligent Manufacturing (FAIM 2021), 07-10 September 2021, Athens, Greece.
- **IEOM YOUNG RESEARCHER AWARD**. In Recognition and Appreciation of Outstanding Achievement in Research and Publication, Dedication, Support and Service in Industrial Engineering and Operations Management. Presented at JW Marriot Hotel, Bangkok, Thailand, on March 6, 2019.
- **BEST TRACK PAPER AWARD** within the section "Industry 4.0" of the 9th International Conference on Industrial Engineering and Operations Management (IEOM), Bangkok, Thailand, March 5-7, 2019. Rauch E., Stecher T., Unterhofer M., Dallasega P., Matt D.T. "Suitability of Industry 4.0 Concepts for Small and Medium Sized Enterprises: Comparison between an Expert Survey and a User Survey".
- **BEST TRACK PAPER AWARD** within the section "Sustainability in Supply Chain" of

the 8th International Conference on Industrial Engineering and Operations Management (IEOM), Bandung (Indonesia), March 6-8, 2018. Dallasega P., Stecher T., Rauch E., Matt D.T. "Sustainable City Logistics through Shared Resource Concepts".

- **BEST TRACK PAPER AWARD** within the section "Engineering Education" of the 8th International Conference on Industrial Engineering and Operations Management (IEOM), Bandung (Indonesia), March 6-8, 2018. Rojas R., Rauch E., Dallasega P. and Matt D.T. "Safe Human-Machine Centered Design of an Assembly Station in a Learning Factory Environment".
- **BEST TRACK PAPER AWARD** within the section “Construction Management” of the "5th International Conference on Industrial Engineering and Operations Management (IEOM), Dubai (United Arab Emirates), March 3-5, 2015. Rauch E., Dallasega P., Matt D.T. "Mobile On-site Factories – scalable and distributed manufacturing systems for the construction industry"

Third mission activities

Technology transfer

- Participation in the creation of the **Smart Mini Factory (SMF) laboratory** of the Free University of Bozen-Bolzano. The SMF laboratory has been designed for applied research, education and technology transfer to local industry. Responsible for the following research topics: Virtual Reality (VR), Augmented Reality (AR) and Digital Factory Planning.

Projects with companies

- EFRE/FESR project “COCkPiT: COllaborative Construction Process ManagemenT” in collaboration with companies Unionbau GmbH (Sand in Taufers-Campo Tures, Bz), Frener&Reifer GmbH (Brixen-Bressanone, Bz) and Atzwanger AG (Bozen-Bolzano, Bz).
- CRC project “Confucius” in collaboration with the company Mader GmbH (Sterzing-Vipiteno, Bz).
- Horizon 2020 project “SME 4.0 - Industry 4.0 for SMEs Smart Manufacturing and Logistics for SMEs in an X-to-Order and Mass Customization Environment (SME 4.0)” in collaboration with the company ELCOM, Presov, Slovakia.
- CRC project “SMART SHOPFLOOR” Development of a software prototype for intelligent Shop Floor in collaboration with the companies Innovaalp GmbH (Brunico-Bruneck, Bz) and the company Anyt1me s.r.l. (Venezia)
- ESF project “Build Up” in collaboration with Change Soc. Coop. (Bozen-Bolzano)
- ESF project “Women in construction PCK” in collaboration with Change Soc. Coop. (Bozen-Bolzano)
- CRC project “Modeling and Managing Processes in Construction (MoMaPC)” in collaboration with Frener&Reifer GmbH
- CRC project “Design of decentralized and distributed manufacturing systems and their coordination in manufacturing networks (DIMASY)” in collaboration with Tecnomag GmbH
- CRC project “Concepts and innovative material handling systems for optimizing the construction execution process” in collaboration with Frener&Reifer GmbH and Lanz Metall KG

Seminars and trainings for companies

- **Organization and conducting of the seminar** “Construction 4.0 – Digital tools for the construction site” at the Smart Mini Factory (SMF) laboratory on the 29 March 2018. A number of eight companies from the local construction industry participated to the seminar.
- **Presentation** of **“Virtual and Augmented Reality VR/AR”** technology from the Smart Mini Factory laboratory at the event “Die Baustelle der Zukunft / Il cantiere del futuro” organized by the company Niederstätter at the Safety Park Bolzano. https://www.niederstaetter.it/de/magazine/die-baustelle-der-zukunft/17-1047.html on the 22nd and 23rd November 2019.
- Organization of the final event project Cockpit. **Online presentation** of the Cockpit approach "Panoramica dell’approccio - Dr. P. Dallasega" on the 15th of December 2020. Link to the webpage: http://www.cockpit-project.com/
- **Online seminar** on theoretical concepts in the field of assistance systems in production and construction to young migrants preparing themselves to be integrated in the italian labour market. The online seminar was organised by the cooperative **company CHANGE Soc. Coop.** within the project BuildUp and it took place Monday 26th of April 2021 from 09:00-11:00.
- **Online workshop** for the presentation of suitable Industry 4.0 tools for manufacturing, logistics and organisation to be applied in small and medium sized enterprises (SMEs). A total number of **14 local companies** participated to the event. Workshop organised within the research project SME 4.0 at the 30th April 2021 from 14:00-17:00.
- Organisation and carrying out the **webinar** in German language "Baustelle 4.0 Digitalisierung im Bauwesen". The event was organised within the research project Engineering-Education 4.0. A total number of **36 companies** participated to the event. It took place on the 19th of February 2021 from 14:00-15:30.
- **Presentation** entitled “Einsatz von Industrie 4.0 Technologien zur Unterstützung der Baustellensteuerung” during the event Mader BIM Day on the 23rd of July 2021. The event took place at the **company Mader GmbH** in Bruneck-Brunico (Bz).
- **Organization and conducting of the seminar** “Digitale Fabrikplanung und AR/VR” within the Smart Enterprise Qualification Program Modul 2 – Lehrgang Industrie 4.0 – on the 02.12.2022.

Third mission schools

- Holding of the **online-seminar** “Trends der digitalen Fabrikplanung” in German language within the project E-Edu 4.0 “Webinar Schools” for students of the High-School Technologische Fachoberschule TFO Max Valier in Bozen-Bolzano on 12th November 2020.
- **Teaching assignment** by the professional school of Schlanders-Silandro (BZ) within the advanced course for window installers (Lehrgang Fenstermonteure-Aufbaukurs) on 11th March 2019. Carrying out of the module “Organisation: installation supervisors, task sequencing and site management” (Organisation: Montageverantwortlicher, Arbeitsfolge, Baustelle).
- **Teaching assignment** by the professional school of Schlanders-Silandro (BZ) within the advanced course for window installers (Lehrgang Fenstermonteure-Aufbaukurs) on 25th June 2020. Carrying out of the module “Organisation: installation supervisors, task sequencing and site management” (Organisation: Montageverantwortlicher,

Arbeitsfolge, Baustelle).

- **INTERNATIONAL WEEK INDUSTRY 4.0**: Technologies and Management. Seminar entitled "Worker assistance systems in construction" on Thursday 11th March 2021 from 09:45 until 10:30 am. Moderation of the morning session on Thursday 11th March 2021 "Assistance Systems, Cyber-physical systems and security issues".
- **Technology Summer Camp 2021**. Presentation of Modul 3 entitled “Virtual and Augmented Reality” for students of the High-School Technologische Fachoberschule TFO Max Valier in Bozen-Bolzano. The seminar took place on 23rd of June 2021 in the Smart Mini Factory laboratory.
- **Technology Summer Camp 2022**. Presentation of Modul 3 entitled “Virtual and Augmented Reality” for students of the High-School Technologische Fachoberschule TFO Max Valier in Bozen-Bolzano. The seminar will take place on 29th of June 2022 in the Smart Mini Factory laboratory.

Third mission associations

Project Management Institute – Northern Italy Chapter (PMI-NIC):

- **Invited speech** “Lean Construction and Construction 4.0 (webinar)” by the Project Management Institute – Northern Italy Chapter. Online Webinar 11th December 2020. See the link to the advertisement of the speech: https://www.pmi.org/chapters/northern-italy/events/lean-construction-and-construction-4 https://www.youtube.com/watch?v=EFPB_77emsE
- **Invited speech** “Lean Construction and Construction 4.0” by the Project Management Institute – Northern Italy Chapter. Online Webinar 12th June 2020
- **Teaching assignment** by the “Project Management Institute (PMI) – Northern Italy Chapter” in German language. Seminar and workshop entitled “Lean Construction Management – Revolution in der Baubranche?” (Lean Construction Management - Revolution in the Construction Industry?") on the 12th of April 2019. It took place at the NOI techpark where 15 employees from the local construction industry participated.

Craftsmanship Association (Landesverband der Handwerker lvh-apa):

- Participation in the **“techParcour Handwerk 2019”** event organized by the “Wirtschaftsverband Handwerk und Dienstleister/Confartigianato Imprese”. Technology from the Smart Mini Factory laboratory (like the Microsoft HoloLens) as well as some novel demonstrators were presented at the two stands named “Informationsbasierte Assistenzsysteme und Physische Assistenzsysteme (Information-based assistance systems and physical assistance systems)“. The event was organized on the 26th of July 2019.
- Participation in the “**techParcour Handwerk 2020**” event organized by the “Wirtschaftsverband Handwerk und Dienstleister/Confartigianato Imprese”. Technology from the Smart Mini Factory (like the Microsoft HoloLens) as well as some novel demonstrators were presented at the two stands named “Digitale und Virtuelle Assistenzsysteme am Bau und in der Produktion (Digital and Virtual Assistance Systems in Construction and Production)“. The event was organized on the 24th of July 2020.
- Participation in the “**TechParcour Handwerk 2021**” event organized by the “Wirtschaftsverband Handwerk und Dienstleister/Confartigianato Imprese” at the NOI techpark. Demonstration of Augmented Reality and worker assistance systems on

28th of September 2021.

Association of Engineers of the province of Trento (Ordine degli Ingegneri della provincia di Trento)

- **Presentation** of the research project “Cockpit” at the Ordine degli Ingegneri della provincia di Trento in collaboration with the Faculty of Computer Science and Fraunhofer Italia on the 17th of May 2019. Please find below the link to the event: https://trento.ing4.it/ISFormazione-Trento/the-project-cockpit-un-approccio-innovativo-per-la-pianificazione-e-gestione-collaborativa-del-canti-corso-121.xhtml;jsessionid=2127ea31a02b12f6da50931daec5

EURAC - Research

- **Seminar** entitled: “Traditional Project Management vs. Lean Construction Project Management: Towards a sustainable process”. 3rd RESTORE Training School, COST Action CA166144 RESTORE REthinking Sustainability TOwards a Regenerative Economy Training School Working Group 3 Bolzano (Italy) at NOI techpark in Bolzano. http://www.eurestore.eu/. The training school was organized by **EURAC research** on the 11th March 2019.
- **Teaching assignment** by the European Academy EURAC research within the Facades Architecture course Construction Engineering (FACE). Carrying out of the "Lean Construction" module with a didactic load of 4 hours of lectures on 11 February 2017.

Hoteliers- und Gastwirteverband (HGV) - Unione Albergatori e Pubblici Esercenti

- **Presentation** entitled “BIM, Virtual- und Augmented Reality - Einsatz im Bereich Fabrik- und Anlagenplanung sowie im Projektmanagement” on the 17.06.2022. Discussion of potential future collaboration with the department company consulting.

Third mission society

- **Representation of unibz** within the Smart Mini Factory (SMF) laboratory at the **Bernstein Conference 2021**, which took place the 23rd of September 2021. Please find below the link to the event: https://www.stol.it/artikel/chronik/valentin-braitenberg-award-fuer-eve-marder.
- **Presentation** of the joint research project “Cockpit” in collaboration with the Faculty of Computer Science and Fraunhofer Italia during the interactive project fair of the **department Europe** at Castle Mareccio on the 24th and 25th of October 2019. Link to the event: http://www.provinz.bz.it/politik-recht-aussenbeziehungen/europa/eu-foerderungen/news-und-veranstaltungen.asp?news_action=4&news_article_id=630286
- Participation to the **LUNA - Long night of the research 2019** event. Exhibition and demonstration of Augmented and Virtual Reality in the Smart Mini Factory laboratory on the 27th September 2019.
- **Radio Interview** in RAI SENDER BOZEN to speak about Industry 4.0 and the project SME 4.0 - MSCA RISE H2020 on 27th January 2017.

Public relations – Media:

Uni News:

- Forschungspartnerschaft mit der Schweiz: Zwei unibz-Projekte genehmigt, 23. November 2021, https://www.unibz.it/de/home/newsroom/news/forschungspartnerschaft-mit-der-schweiz-zwei-unibz-projekte-genehmigt
- Digitale und virtuelle Fabrikplanung, 05. August 2020, collaboration in the field of Virtual and Augmented Reality with the company Progress 3D Innovation https://www.unibz.it/en/news/135864-digitale-und-virtuelle-fabrikplanung
- Ein ‚Werkzeugkasten' für intelligente Fertigung erhält Auszeichnung, Best Paper Award at the conference FAIM 2021. https://www.unibz.it/it/home/newsroom/news/ein-werkzeugkasten-fuer-intelligente-fertigung-erhaelt-auszeichnung

News of the Autonomous Province of Bolzano:

- "Forschungspartnerschaft mit der Schweiz: Weitere Projekte genehmigt - Für nachhaltige Materialversorgung bei Infrastruktur-Bauprojekten", 23. November 2021, https://www.provinz.bz.it/autonomietag/2019/news-archiv.asp?/news_action=4&/news_article_id=661430

Südtiroler Wirtschaftszeitung (SWZ):

- Die Zukunft des Bauens, 30. July 2021, https://swz.it/mader-bim-day-die-zukunft-des-bauens/
- BIM-Day am 23. Juli, 02. July 2021, https://swz.it/bim-day-am-23-juni/
- Smart Mini Factory Labor plant 3D-Druckcenter mit, 07. August 2020, https://swz.it/smart-mini-factory-labor-plant-3d-druckcenter-mit/
- Gemeinschaftsprojekt von unibz und Mader: Bau 4.0, 10. July 2020, https://swz.it/gemeinschaftsprojekt-von-unibz-und-mader-bau-4-0/
- Schlanker Bau, Mit den Chancen der Lean Construction für die Bauwirtschaft und deren Kunden befassten sich Experten unlängst in Bozen. 24. May 2019, https://swz.it/schlanker-bau-30694/

Verband Deutscher Maschinen und Anlagenbauer (VDMA):

- Expertenstatement, Mass-Schuhe aus der App. 05. May 2021, go.vdma.org/n5j7i

NOI techpark Südtirol/Alto Adige

- Press release and video to show the collaboration between unibz and Photogram within the projects DIGPLABI and DIGPLAMI, 22. June 2022, Press release and video, https://noi.bz.it/de/magazine/vermessung-der-welt#msdynttrid=0L83BN5oCGaqmfe4N-KYEpIkW-QMwmKpOwKiOAbTHJE

Video releases:

- Virtual Reality in factory planning - shown by the example of the Free University of Bozen-Bolzano, Collaboration with company Plavis GmbH, 06. June 2021, https://www.youtube.com/watch?v=_5cRJ3nOkEY

Entrepreneur-ship

- I have been involved in **13 applied research / technology transfer** projects from 2012 to 2022 (see table before).
- Within the last three years I acquired as Principal Investigator contracts for research **projects with companies** consisting of a total sum of around **100.000 Euro**
- I have been involved in founding and setting up the company **Photogram GmbH** (https://www.photogram.pro/) as a result of the commissioned research project *"DIGPLAMI - Implementation study for the development of a digital platform to support the maintenance of the urban line infrastructure".*

Language skills

- German: **First** language
- Italian: **Level C1** - certificate of bilingualism (attestato di conoscenza delle lingue italiana e tedesca (riferito al diploma di laurea) rilasciato ai sensi degli articoli 3 e 4 del D.P.R. 26.07.1976, n. 752, e successive modifiche)
- English: **Level C1** - Cambridge Certificate in Advanced English (CAE)

Bozen-Bolzano, 09 February 2026

Done, read and signed
Patrick Dallasega