



Curriculum Vitae

Dr. Ir. Wahyudi Sutopo, ST., M.Si, IPU

Professor in Industrial Engineering,

- Vice Dean for Human Resources, Finance, and Logistics
- Head of Industrial Engineering and Techno-Economics (RITE) Research Group
- Faculty of Engineering, Universitas Sebelas Maret (UNS), Surakarta, 57126 Indonesia
- Head of Industrial Relations & Commercialization Div.,
- the Centre of Excellence for Electrical Energy Storage Technology (CEFEEST) UNS
- President, IEOM Indonesia Chapter & Director, IEOM Asia Pacific Operations
(<http://ieomsociety.org/ieom/>)

Personal Identity:

- ASN (Civil State Apparatus): NIP197706252003121001; Pembina Utama Muda/IVC; Citizenship: INDONESIA (PASPOR NO. E0233043)
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- Youtube: <https://www.youtube.com/watch?v=10mqBbHy3XE>;
- Scopus author id: 42062336300, H-Index: 15, 205 docs; 929 Citations, 200 co-authors;
- Scholar Profile ; Wahyudi Sutopo + wYQMP-EAAA AJ&hl, 403 docs; h-index: 24; i10-Index: 87;
- ORCID, <https://orcid.org/0000-0001-9795-0560>;
- Web of Science ResearcherID: AAO-2300-2020; WOS H-index: 6
- SINTA author id: 1778; Sinta Score Overall: 5.404; SINTA SCORE 3YR: 783

1. Short Bio

Dr. Ir. Wahyudi Sutopo, ST., M.Si, IPU

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His educational background is the profession of engineer (Ir) from the professional engineering program UNS in 2018; Doctor (Dr) in industrial engineering & management from Institut Teknologi Bandung in 2011; master of management (M.Si.) from Universitas Indonesia in 2004, and bachelor of industrial engineering (S.T.) from Institut Teknologi Bandung in 1999. He is a member of the board of the industrial engineering chapter - of the Institute of Indonesian Engineers (BKTI-PII) and has professional qualifications as an Executive Professional Engineer (IPU) since 2022. His research interests include logistics & supply chain engineering, economic engineering & cost analysis, and technology commercialization. He has developed a research roadmap in the field of study "*Industrial Engineering and Techno-Economics of Energy Storage (ES) and Electric Vehicles (EV) Applications*" as an effort to study the field of Industrial Engineering, especially Supply Chain Engineering which is integrated with multi/interdisciplinary approaches into the Technology Commercialization Process (see: <https://youtu.be/xrGerbPWaxo>).

Wahyudi Sutopo is a copyright holder/inventor for 16 IPRs; the author of 15 books, and 205 Scopus-indexed articles (H-index-15). He was involved in the commercialization of CEFEEST UNS research results regarding energy storage technology and electric vehicle conversion through a start-up where he was one of the founders, namely PT Batex Energi Mandiri (see <https://batexindonesia.com/about/>) and PT. Ekolektrik Konversi Mandiri (see <https://ekolektrik.com/>). He has been honoured as Academy of IEOM Fellows (2019); Distinguished Service Award (2021); and Distinguished Academic Leadership Award (2023). He has special attention to improving the quality of industrial engineering education (teaching & learning; assessment & evaluation; and accreditation & quality assurance). He also took the role of the advancement of industrial engineering discipline for the betterment of humanity through IEOM Society (<https://ieomsociety.org/ieom/>). He is the President of IEOM Indonesia Professional Chapter (since 2020) and Director of IEOM Asia Pacific Operations (since 2021). He is also a member of ISLI, IISE, and IEOM. Email Address: wahyudisutopo@staff.uns.ac.id;

Academic & Professional Qualifications

2.

1. **Engineering Professional degree (Ir)** from Study Program of Professional Engineer, Universitas Sebelas Maret (UNS), Des. 2018
2. **Ph. D in Industrial Engineering & Management (Dr)**, Bandung Institute of Technology, Oct. 2011.
3. **Master in Management Studies (M.Si.)**, University of Indonesia, Aug. 2004.
4. **Bachelor Degree in Industrial Engineering (S.T.)**, Bandung Institute of Technology, Sept. 1999.

3. Professional Qualification/ Membership/ Affiliation

1. The Institution of Engineers Indonesia – IEI (<https://pii.or.id>); (**Executive Professional Engineer, IPU, since 2022**);
2. Chairman of BKSTI /The Indonesian Association of Industrial Engineering Higher Education Institution, Oct 2017- Oct 2020 (<https://www.bksti.org/>);
3. Institut Supply Chain dan Logistik Indonesia (ISLI), since 2017;
4. Asosiasi Logistik Indonesia (ALI), since Mei 2017 (<http://www.ali.web.id/>)
5. International Membership: Member number : 88019654, www.iise.org; and Member number : 1234570 www.ieomsociety.org/ieom/;

4. Appointments

April 2020~now	Professor (Guru Besar) in Industrial Engineering
Sep 2014~March 2020	Associate Professor (Lektor Kepala), Dept. of Industrial Engineering
April 2008~Ags 2014	Assistant Professor (Lektor), Dept. of Industrial Engineering
Aug. 2006~Mar. 2008	Lecturer (Asisten Ahli), Dept. of Industrial Engineering
Dec. 2003~July 2006	Assistant Lecturer, Dept. of Industrial Engineering
2002~2003	Product Planner Section Head, Creation Centre Div., PT. Panasonic Manufacturing Indonesia, Jakarta
2000-2002	Product Engineer Sup. – Refrigerator Div. PT. Panasonic Gobel, Jakarta

5. Structural Position

1. Tasks executor (**Plt / Pelaksana Tugas – in BAHASA**) Vice Dean for Human Resources, Finance, and Logistics, Faculty of Engineering, April 11, 2023-Now
2. Vice Dean for Human Resources, Finance, and Logistics, Fac. of Engineering, 2020- April 11, 2023.
3. Vice Dean for Vice Dean for General and Financial Affairs, Faculty of Engineering, 2019-2020.
4. Department Head of Undergraduate Program, UNS, 2015-2019
5. Head of Centre of Innovation Technology, UNS, 2014-2016

6. Area of Research Interest

Logistics & supply chain management, engineering economy & cost analysis, and technology commercialization [see **roadmap description** - <https://www.youtube.com/watch?v=I0mqBbHy3XE>]

The roadmap research of the industrial engineering and techno-economic research group (GR RITE), Faculty of Engineering, UNS to collaborate with researchers around the world.

The Study of Industrial Engineering and Techno Economy in Energy Storage Technology and Electric Vehicles Application in **ASEAN MARKET**

As a professor of Industrial Engineering, I have developed a Research Roadmap to Study Industrial Engineering and Techno Economy in Energy Storage Technology and Electric Vehicles Applications (see **roadmap description** - <https://www.youtube.com/watch?v=I0mqBbHy3XE>). The intervention instruments use Early Supply Chain Integration to solve the various challenges and problems with the product, process, innovation, and business of the Electric Motor/Electric Vehicle (and its ecosystem) in Indonesia, through improving technopreneurship models; improving models to measure TTO efficiency; developing supply chain networks and its business models; and improving models to develop standard & to measure standards effectiveness. **The study of Industrial Engineering Sciences through an interdisciplinary approaches will continue to be carried out to gain contributions to new knowledge on Early Supply Chain Engineering Integration into the Technology Commercialization Process and to improve the productivity and efficiency of the Commercialization of Innovation Technology.**

I was involved in the commercialization of PUI TPEL UNS's (see https://www.youtube.com/watch?v=iXS_DcDoW24) research results regarding energy storage technology and electric vehicle conversion through a start-up where I was one of the founders, namely PT Batex Energi Mandiri (see <https://batexindonesia.com/about/>) and PT. Ekolektrik Konversi Mandiri (see <https://ekolektrik.com/>). The potential for joint research between PUI TPEL UNS and partners is the roadmap of "The Study of Industrial Engineering and Techno Economy in Energy Storage Technology and Electric Vehicles Application" which will be expanded to much broader research subjects to cover the research area about "EV/EM (and its ecosystem in ASEAN MARKET". The ASEAN EV/EM market is segmented by Vehicle Type (Passenger Vehicle; Commercial Vehicle; and Electric Motor versus Electric Car), Drive Train Technology (Battery Electric Vehicle, Plug-in Hybrid Electric Vehicle, and Fuel Cell Electric Vehicle; and New versus Conversion), and Country (Thailand, Malaysia, Indonesia, Singapore, and the Rest of ASEAN). The problems of adoption/diffusion of the commercialization of innovation technology about "EV/EM (and its ecosystem in the ASEAN MARKET" provide an exciting research gap to be solved in joint research with researchers in ASEAN countries. The problems of adoption/diffusion of the commercialization of innovation technology about "ES & EV and its ecosystem in the ASEAN MARKET" provide an exciting research gap to be solved in joint research with researchers in ASEAN countries. Our Slogan: "**Enhancing collaboration and innovating solution to synthesize ASEAN market problems into industrial engineering knowledge acquisitions**".

7. Teaching Experiences

Undergraduate Level: Engineering Economic (2 credits); Supply Chain Management (2); Logistics System (2) Cost Analysis and Estimation (2); Financial Management, elective course, (2); Performance Measurement System, elective course (2)

Master Level: Philosophy in Industrial Engineering (3); Global Business Strategy (3); Performance and Business Strategy (3); Advanced Financial Management (3);

Doctore Level: Philosophy of Science and Research Methodology (3); Supply Chain Systems and Business Engineering (3);

8. Student Supervisions

- PhD students: **7 as supervisor & 2 as co-supervisor @ Unviersitas Sebelas Maret; 1 completed & 1 student on-going as co-supervisor @ UTM Malaysia;**
- Master students: **25 completed, 4 students on-going**
- Undergraduate students (B.S) – **85 completed and 4 students on-going**

9. Research Grants (> 50 projects since 2004), selected (2016-2023):

1. FY 2024, **Primary Investigator:** Development of an Expanded Circular Supply Chain and Battery Swap Station Technical Interoperability Framework to Support the Circular Business of the Electric Motorcycle Industry (1st Year);
2. FY 2024, **Primary Investigator:** Development of a Learning Model Based on RITE Group Research Outcomes to Increase the Achievement of Graduate Learning Achievements in the Industrial Engineering Study Program;
3. FY 2024, **Primary Investigator:** Development of an equivalent annual cost (EAC) model as a comparative indicator between battery capacity and charging infrastructure to enhance global competitiveness of the electric motorcycle market (2nd Year);
4. FY 2023, **Primary Investigator:** Development of an equivalent annual cost (EAC) model as a comparative indicator between battery capacity and charging infrastructure to enhance global competitiveness of the electric motorcycle market (1st Year);
5. FY 2023, **Co-Investigator:** Development of the “Mobile Charging Station” Business Model: An Alternative to Accelerating the Improvement of Battery-Based Electric Vehicle Energy Charging Services
6. FY 2022, **Primary Investigator:** Internet of Things (IoT) Based Decision Support System for Electric Motorcycle Swap Battery Distribution and Maximizing Business Strategy,PUPT – LPPM UNS
7. FY 2022, **Primary Investigator:** Model for Measuring the Readiness of Implementation of the Electric Vehicle Swap Battery System Standard in Indonesia, HRG – LPPM UNS
8. FY 2022, **Co-Investigator:** Development of Electric Vehicle Adoption-Diffusion Models and Strategies to Reduce Carbon Emissions in Indonesia, PUPT – LPPM UNS
9. FY 2021, **Primary Investigator:** Development of a Supply Chain Management Model to Increase Productivity of the Forward Commodity Auction Market: A Case Study
10. FY 2021-2020, **Primary Investigator:** *Network Design And Standardization Of Technology Development For Accelerating A Commercialization Using Early Supply Chain Integration: A Case Study*
11. FY 2019, **Primary Investigator:** *Perancangan Sistem Simulasi Supply Chain Dengan Perangkat Simulator Dan Supercomputer untuk Penguatan Pembelajaran Supply Chain (Riset Dasar, Ristek-Dikti, IDR 74 millions);*
12. FY 2020-2019, **Pengembangan Material berbasis Silika sebagai Anoda Baterai Lithium Ion Berkinerja Tinggi (Anggota), (World Class Research – Ristek Dikti 2019, IDR 115 millions)**
13. FY 2020-2019, **Primary Investigator of Co-Partner:** *Model Peningkatan Sertifikasi Halal Produk Umkm Menggunakan Structural Equation Model Dan System Dynamics, Penelitian Kerjasama Antar Perguruan Tinggi - Ristek Dikti 2019, IDR 80 millions)*
14. FY 2019, **Co-Investigator:** *Pengembangan Laboratorium Uns Sebagai Lembaga Pengujian Kesesuaian Untuk Mendukung Akselerasi Penerapan SNI di Indonesia (Anggota) DIPA BLU UNS 2019 (SK NO 516/UN27.21/PP/2019, IDR 45 millions)*
15. FY 2018, **Primary Investigator:** *Designing Framework for Standardization and Testing Requirements of Battery Swap for Electric Motorcycle Application in Indonesia, (Riset Mandatory, LPPM UNS, IDR 100 millions);*
16. FY 2018, **Primary Investigator:** *Strengthening Logistics System Research and Supply Chain Management with Simulator and Supercomputer Devices in the Context of Strengthening the Group Research - Roadmap and Publications (LPPM UNS, IDR 105 millions);*
17. FY 2017, **Primary Investigator:** *Development Start up Company from R & D of University_Year 2, (Hibah Kompetensi, Kem. Ristek & Dikti, IDR 118,5 millions);*
18. FY 2017, **Development of National Standard for Battery Management System, (Riset Mandatory, LPPMUNS, IDR 97.5 million);**
19. FY 2017, **Co-Investigator:** *Model and Application Development Based On Supply Chain Management to Support The Distribution System of Soybean Commodity, (Hibah Pusat Keunggulan- LPPM UNS, IDR 82.5 millions);*
20. FY 2017 (International Funding): *Center for Collaborative Research on Sustainable Electric Based Transportation Technology Development National Center for Sustainable Transportation Technology (NCSTT), Sustainable Higer Education Research Alliance (SHERA) – from USAID, Name of Lead Indonesian HEI Applicant : Institut Teknologi Bandung; Name of US Higher Education Institution Partner: Massachusetts Institute of Technology (MIT); Name of Indonesian affiliate Higher Education Institution Partners (UNS, UNDIP, ITK, UNSRI, UNLAM & UNSRAT); Position, Investigator of Technology Policy, Planning, Business, and Transit Oriented Development*
21. FY 2016, **Primary Investigator:** *Development Start up Company from R & D of University-Year1, Hibah Kompetensi, Kem. Ristek & Dikti, IDR 125 million)*
22. FY 2016, **Co-Investigator:** *Development of National Standard for Battery Lithium (IDR 67 million); Development of Economics Readiness Level (LPPM UNS, IDR 105 million);*

10. Publications (Selected, last 5 years)

- 1) Fahma F, **Sutopo W.**, Pujiyanto E, Nizam, M., *Dynamic Open Innovation to Determine Technology-Based Interoperability Requirement for Electric Motorcycle Swappable Battery; Journal of Open Innovation: Technology, Market, and Complexity; Volume 10, Issue 2, June 2024, 100259; Q1;*

- 2) Yuniaristanto, **Sutopo, W.**, Hisjam, M., Wicaksono, H. Exploring the determinants of intention to purchase electric Motorcycles: The role of national culture in the UTAUT, *Transportation Research Part F: Traffic Psychology and Behaviour*, 2024, 100, pp. 475–492 (Q1);
- 3) Olawore, A.S., Wong, K.Y., Ma'aram, A., **Sutopo, W.** Prioritization of technology commercialization success factors using fuzzy best worst method. *Journal of Open Innovation: Technology, Market, and Complexity*, 2023, 9(3), 10009
- 4) Afrach, S.M., **Sutopo, W.**, Hisjam, M. Development of PBL on technopreneur education to encourage faster technology commercialization, *Journal of Applied Research in Higher Education*, 2023
- 5) Kusuma Wardana, Muhammad Reza; **Sutopo, W.**; Yuniaristanto; Hisjam, Muhammad; Game Theory Model of Salt Price Stabilization Using Warehouse Receipt System, *Evergreen* Volume 10, Issue 1, 531 – 538, March 2023
- 6) Pujotomo, Darminto, Syed Hassan, Syed Ahmad Helmi, Syed Hassan S.A.H.; Ma'aram, Azanizawati, Ma'aram A.; **Sutopo, W.**, University–industry collaboration in the technology development and technology commercialization stage: a systematic literature review, *Journal of Applied Research in Higher Education*, 2023
- 7) **Sutopo W.**, Prianjani D, Fahma F, Pujiyanto E, Rasli A, Kowang TO. Open Innovation in Developing an Early Standardization of Battery Swapping According to the Indonesian National Standard for Electric Motorcycle Applications. *Journal of Open Innovation: Technology, Market, and Complexity*. 2022; 8(4):219. <https://doi.org/10.3390/joitmc8040219> (Q1)
- 8) Istiqomah, S.; Sutopo, W.; Hisjam, M.; Wicaksono, H. Optimizing Electric Motorcycle-Charging Station Locations for Easy Accessibility and Public Benefit: A Case Study in Surakarta. *World Electr. Veh. J.* 2022, 13, 232. <https://doi.org/10.3390/wevj13120232> (Q2)
- 9) Aqidawati, Era F., **Wahyudi Sutopo**, Eko Pujiyanto, Muhammad Hisjam, Fakhri Fahma, and Azanizawati Ma'aram. 2022. "Technology Readiness and Economic Benefits of Swappable Battery Standard: Its Implication for Open Innovation" *Journal of Open Innovation: Technology, Market, and Complexity* 8, no. 2: 88. (Scopus - SJR 2021 - 0.59; Scimagojr: Economics, Econometrics and Finance (miscellaneous), 2021, Q1);
- 10) Yuniaristanto, Martha Widhi Dela Utami, **Wahyudi Sutopo**, & Muhammad Hisjam, Investigating Key Factors Influencing Purchase Intention of Electric Motorcycle in Indonesia, *Transactions on Transport Sciences*, (Scopus - SJR 2021 - 0.25; Scimagojr: Transportation/Automotive Engineering, 2021, Q3);
- 11) Ramadhan GT, **Sutopo W**, Hisjam M. A Sustainable Location-Allocation Model for Solar-Powered Pest Control to Increase Rice Productivity. *Applied System Innovation*. 2022; 5(2):39. <https://doi.org/10.3390/asi5020039> (Scopus - SJR 2021 - 0.36; Scimagojr: Industrial and Manufacturing Engineering, 2021, Q2);
- 12) **Sutopo, W.**, Nida An Khofiyah, Muhammad Hisjam, Azanizawati Ma'aram, Performance Efficiency Measurement Model Development of a Technology Transfer Office (TTO) to Accelerate Technology Commercialization in Universities, *Appl. Syst. Innov.* 2022, 5(1), 21. (Scopus - SJR 2021 - 0.36; Scimagojr: Industrial and Manufacturing Engineering, 2021, Q2);
- 13) Habibie, A., Hisjam, M., **Sutopo, W.**, Nizam, M. Sustainability evaluation of internal combustion engine motorcycle to electric motorcycle conversion, *Evergreen*, 2021, 8(2), pp. 469–476
- 14) Sutopo, W., Mardikaningsih, I.S., Zakaria, R., Ali, A. 2020. A model to improve the implementation standards of street lighting based on solar energy: A case study, *Energies*, 13 (3), 630.
- 15) Giyanti, I., Indrasari, A., Sutopo, W., Liquidanu, E. 2020. Halal standard implementation in food manufacturing SMEs: its drivers and impact on performance, *Journal of Islamic Marketing*

Invited/Keynote Speakers:

- 1) Enhancing Collaboration and Innovating Solutions to Synthesize ASEAN Market Problems into Industrial Engineering Knowledge Acquisitions (Early Supply Chain Integration with Interdisciplinary Approaches to The Technology Commercialization Processes)" (Keynote Speaker), The 6th Industrial Engineering and Operations Management Bangladesh Conference, Dhaka, Bangladesh, December 26 - 28, 2023;
- 2) Innovating Solution to Synthesize ASEAN Market Problems "Reducing CO2 pollution" Into Industrial Engineering Knowledge Acquisitions; (Keynote Speaker), The fourth Asia Pacific Conference on Industrial Engineering and Operation Management 2023 (4th AP IEOM 2023),
- 3) Accelerating A Commercialization of The Innovation Technology Using Early Supply Chain Integration: A Case Study the Electric Motorcycle Swap Battery in Indonesia (Keynote Speaker), First Australian Conference on Industrial Engineering and Operations Management, Sydney, Australia, December 20-22, 2022 (<http://ieomsociety.org/australia/keynote/>)
- 4) Early supply chain to support commercialization of innovation product in technology transfer process: A case study (Keynote Speaker), the 11th Annual IEOM Singapore Conference, March 7-11, 2021
- 5) Intervening for accelerating a technology commercialization in university using early supply chain integration: a case study of renewable energy – LFP battery. (Invited Speaker), The Joint Conference of 2nd International Conference on Industrial and System Engineering (IConISE) and 7th Annual Conference on Industrial and System Engineering (ACISE), Surabaya, Indonesia July 22-23, 2020
- 6) Learning a Supply Chain Management Course by Problem Based Learning: Case Studies in the Newspaper Industry (Invited Speaker), *The 13th Global Engineering Education at the 2019 IEOM*, 05 -07 Maret 2019 di Bangkok Thailand.
- 7) The Roles of Industrial Engineering Education for Promoting Innovations and Technology Commercialization in the Digital Era (Invited Speaker), *The 11th Curtin University Technology, Science and Engineering (CUTSE) International Conference*, November, 26th-28th, 2018, di Miri, Sarawak, Malaysia.
- 8) Accelerating Technology Transfer Office as A Strategic Mechanism for Commercializing University-Created Technology: A Case Study in Indonesia (Invited Speaker), *3rd International Materials, Industrial & Manufacturing Engineering Conference (MIMEC)*, tgl 6 - 8 Desember 2017 di Miri, Serawak, Malaysia.
- 9) Technopreneurship As Bridging System Of Technology Commercialization : Lesson Learn Form Sebelas Maret Univ. (Invited Speaker), *The 2nd ASIA International Conference (AIC 2016)*, 10-11 December 2016 di UTM, KL Campus Kuala Lumpur, Malaysia.

11. Scientific Activities

1. Organizing Committee: IC And Exhibition On Automotive Science And Technology- 2012; IC on Electric Vehicle-Technology-2014; Joint IC on The 3rd International Conf. in Electrical Vehicular Technology; IC on Industrial, Mechanical, Electrical and Chemical Engineering (IMECE-2015), and IC IMECE 2016; Coorganizing: ICAMT 2015 (<http://www.icamt.net/committees>); MIMEC 2017 (<http://www.mimec.me/committees>); ICEVT2017 & ICEVT2018 (<http://icevt.org/>); IC-IMECE 2019 (<https://icimece2019.ft.uns.ac.id/>); Conference chair of 2nd Asia Pacific Conference on Industrial Engineering and Operations Management 2021; Conference chair of 3rd Asia Pacific Conference on Industrial Engineering and Operations Management 2022; Co-Chair for 4th Asia Pacific Conference on Industrial Engineering and Operations Management, Ho Chi Minh City, Vietnam, September 12-14, 2023 (<http://ieomsociety.org/vietnam2023/>); and co-chair for 17th Global Congress on Manufacturing and Management; Kuching, Malaysia, 4 – 7 Dec. 2023; (<https://www.gcomm.org/>);
2. Session Chair: IEOM-2019 (<http://ieomsociety.org/ieom2019/>); the International MultiConference of Engineers and Computer Scientists (IMECS 2012; IMECS 2014, IMECS 2015); International Conference of Manufacturing Engineering and Engineering Management (WCE 2013)

Surakarta, April 10, 2024



Prof. Dr. Ir. Wahyudi Sutopo, ST. , M.Si, IPU

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