SWISSGERMANUNIVERSITY

Surat Tugas/*Letter of Appointment*

Nomor/ *Number*: ST/THS2/0918-A/AAO/IX/2020 – DiP/Rev. 01 (31 March 2021)

Tanggal/ *Date*: 18 September 2020/*18 September 2020*

Penugasan Sebagai Pembimbing Utama/Pendamping Skripsi Mahasiswa S2 Semester Ganjil 2020/2021
Appointment of Thesis Advisor/Co-Advisor for Master's Degree Student(s) in Odd Semester 2020/2021

Fakultas Teknik & Teknologi Informasi/Faculty of Engineering & Information Technology

Dekan Fakultas Teknik dan Teknologi Informasi, Universitas Swiss German/
The Dean of Engineering and Information Technology Faculty of Swiss German University,

Menimbang/*Considering:*

1. Perkuliahan S2 semester 2 yg telah berakhir/*The lectures for semester 2 have finished.*
2. Persyaratan untuk mencapai gelar pasca sarjana/*Requirements for Master's Degree graduation.*

Memperhatikan/*Referring to:* Hasil penunjukan Dekan Fakultas Teknik dan Teknologi Informasi/*The appointment by the Dean of Engineering and Information Technology Faculty.*

Memutuskan/Has Reached the Decision:

1. Dengan ini menugaskan kepada dosen yang tercantum pada lampiran, sebagai Pembimbing Utama/Pendamping skripsi program Strata Dua (S2) mahasiswa yang tercantum pada lampiran dengan masa penugasan 21 September 2020 sampai dengan 11 Januari 2021/*Herewith gives the task to the lecturers as listed on the attachment to become Thesis Advisor/Co-Advisor for the Masters student(s) listed on the attachment with period of task starting from 21 September 2020 until 11 January 2021.*
2. Dosen yang bersangkutan harus melaksanakan tugas dan tanggung jawab sebaik-baiknya, sesuai dengan petunjuk pembimbingan skripsi dari SGU/*The appointed lecturer shall accomplish the task in responsible ways in line with the thesis guidelines and other regulations given by SGU.*

Terima kasih atas perhatian dan kerjasama Saudara/*Thank you for your attention and cooperation.*

Dekan/*Dean,*

Dr. Maulahikmah Galinium, S.Kom, M.Sc.
Dekan Fakultas Teknik dan Teknologi Informasi/
Dean of Engineering and Information Technology Faculty

Lampiran/*Attachment:*
Daftar Nama Pembimbing Utama, Pendamping dan Mahasiswa pada Semester Ganjil 2020/2021
List of Thesis Advisor, Co-Advisor and Student in Odd Semester 2020/2021.

1. Lampiran 1/*Attachment 1*: Program Studi Magister Teknik Informatika/*Study Program of Master of Information Technology*
2. Lampiran 2/*Attachment 2*: Program Studi Magister Teknik Mesin/*Study Program of Master of Mechanical Engineering*

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www.sgu.ac.id

Lampiran 2 Surat Tugas: ST/THS2/0918-A/AAO/IX/2020 – DiP/Rev.01 (31 March 2021)
Attachment 2 to the Letter of Appointment: ST/THS2/0918-A/AAO/IX/2020 – DiP/Rev.01 (31 March 2021)
*Revisi Lampiran Tertanggal/*Revision of the Attachment dated*: 5 April 2021

Daftar Nama Pembimbing Utama/Pendamping Skripsi Pada Program Magister,
Program Studi Magister Teknik Mesin, Fakultas Teknik dan Teknologi Informasi,
pada 21 September 2020 – 11 January 2021

List of The Thesis Advisor/Co-Advisor Master's Degree Program,
Study Program of Master of Mechanical Engineering, Faculty of Engineering & Information Technology,
in 21 September 2020 – 11 January 2021

Daftar Pembimbing Utama/*List of Advisor*

Nr.	Nama Pembimbing Utama/*The Advisor Name*	Status Dosen/*Lecturer's Status*	Nama Mahasiswa/*Student's Name*	NIM/ Student's ID	Judul Skripsi /Thesis Title
1	Dr. Eka Budiarto, S.T., M.Sc.	Dosen Tetap/ Homebase Lecturer	1. Hendra Kurniawan	2-1952-040	DIGITAL TRANSFORMATION FOR IMPROVE DEBT COLLECTION PROCESS ON SPARE PARTS TRANSACTION IN LEADING HEAVY EQUIPMENT COMPANY
			2. Henry Martawidjaja	2-1952-041	PROCUREMENT FRAMEWORK ANALYSIS AND EVALUATION OF E-PROCUREMENT IMPLEMENTATION ADOPTING USING UTAUT MODEL (CASE STUDY IN INDONESIA LEADING HEAVY EQUIPMENT COMPANY)
2	Dena Hendriana, B.Sc., S.M., Sc.D	Dosen Tetap/ Homebase Lecturer	1. Basuki Rachmat	2-1952-047	SAFETY AND HEALTH CAMPAIGN TO IMPROVE ENVIRONMENT OCCUPATIONAL SAFETY AND HEALTH IN INDONESIA LEADING DISTRIBUTOR HEAVY EQUIPMENT COMPANY
			2. Budi Mulyawanto	2-1952-026	IMPROVING INNOVATION MANAGEMENT IMPLEMENTATION AS PART OF THE CONSISTENT APPLICATION OF THE STRATEGIC FOR BUSINESS GROWTH
			3. Herryan Syahputra	2-1952-038	IMPROVE REUSABLE PART QUALITY TO PROLONG REMANUFACTURED PRODUCT LIFETIME FOR LEADING HEAVY EQUIPMENT REMANUFACTURING COMPANY IN INDONESIA
			4. Satriyo Widy Prasetyo	2-1952-034	INTEGRATING AUDIT SYSTEM OF AGC, ISO14001, ISO45001 TO IMPROVE IMPLEMENTATION OF THE MANAGEMENT SYSTEMS IN LEADING HEAVY EQUIPMENT COMPANIES
			5. Bakhtiar Burhan	2-1952-046	GREEN BUILDING ANALYSIS OF PT UNITED TRACTORS ON EXISTING BUILDING BASED ON THE LATEST RATING TOOLS GREEN BUILDING COUNCIL INDONESIA
			6. Egi Gumilar	2-1952-052	STUDY OF SOLAR PV POLICIES THAT HAVE AN IMPACT ON TECHNO-ECONOMIC, SOCIO-ENVIRONMENT, IN A LEADING HEAVY EQUIPMENT COMPANY IN INDONESIA
			7. Ferdinand Widjaja	2-1952-023	PREDICTIVE MAINTENANCE OF MINING EQUIPMENT IN INDONESIA LEADING HEAVY EQUIPMENT COMPANY
			8. Yohanes Pembaptis Agung Purwoko	2-1952-062	DEVELOPMENT AUTOMATIC SWITCHING CONTROLLER FOR SHIFTING DRIVE MODE IN PROTOTYPE HYBRID VEHICLE
			9. Elroy F.K.P Tarigan	2-1952-053	DESIGN AND DEVELOPMENT OF BATTERY MANAGEMENT SYSTEMS IN PASSENGER ELECTRIC VEHICLES PROTOTYPE
			10. Dodi Garinto	2-1952-056	ANALYSIS AND DESIGN OF MEDIUM VOLTAGE THREE-PHASE AC-DC POWER CONVERSION FOR WIND ENERGY SYSTEMS
3	Ary Syahriar, B.Sc., M.Sc., Ph.D	Dosen Tidak Tetap/ Non-Homebase Lecturer	Stefanus Diyan Panggayuh	2-1952-048	TO EXTEND BATTERY LIFE FOR ELECTRICAL SWITCHBOARD BY USING THREE STAGES CHARGING METHOD

Daftar Pembimbing Utama/*List of Advisor*

Nr.	Nama Pembimbing Utama/*The Advisor Name*	Status Dosen/*Lecturer's Status*	Nama Mahasiswa/*Student's Name*	NIM/ Student's ID	Judul Skripsi /Thesis Title
4	Dr. Eng. Sumarsono, S.T., M.T.	Dosen Tidak Tetap/ Non-Homebase Lecturer	1. Bayu Cahyono	2-1952-036	SUSTAINABLE TQM IMPLEMENTATION IN RELATIONSHIP WITH CUSTOMER SATISFACTION AND BUSINESS PERFORMANCE IN INDONESIAN REMANUFACTURING COMPANY.
			2. Daniela Dea Hapsari	2-1952-050	IMPROVING WASTE MANAGEMENT SYSTEM OF LEADING CONSTRUCTION FIRM IN INDONESIA: A STUDY IN NOTABLE HIGH RISE BUILDING PROJECT IN JAKARTA
			3. Mohammad Yoga Baskoro	2-1952-028	IMPROVING MAINTENANCE COST BY IMPLEMENTATION OF CUSTOMIZE MAINTENANCE METHOD IN LEADING INDONESIAN FORKLIFT COMPANY
			4. Nur Kamaarum Adiwida Hemas	2-1952-029	IMPROVING WAREHOUSE MANAGEMENT SYSTEM AT THE LARGEST HEAVY EQUIPMENT DISTRIBUTOR COMPANY IN INDONESIA WITH SIMULATION-BASED OPTIMIZATION APPROACH
			5. Yohanes Eka Prayuda	2-1952-049	DETERMINING INTERVENTION FOR BEHAVIOR-BASED SAFETY (BBS) IMPLEMENTATION IN BUILDING CONSTRUCTION PROJECT
			6. Albherd Ramadhan Putra	2-1952-017	IMPROVING MATERIAL EFFICIENCY ON CALENDERING PROCESS BY USING SIX SIGMA AND DEFINE MEASURE ANALYZE IMPROVE CONTROL (DMAIC) METHODS IN INDONESIAN LEADING TRUCK BUS BIAS TIRE MANUFACTURER
			7. Budy Ariyanto	2-1952-019	MPROVING WORK IN PROCESS QUALITY (BIAS CUTTING PROCESS) BY USING POKA-YOKE AND DEFINE MEASURE ANALYSIS IMPROVE AND CONTROL (DMAIC) METHOD IN LEADING MOTORCYCLE TIRE MANUFACTURING
			8. Moch. Fatchul Helmi	2-1952-014	IMPROVING THE SILICA STOCK LEVEL ON CONTROLLING RAW MATERIAL INVENTORIES USING THE PERIODIC REVIEW POWER APPROXIMATION METHOD IN INDONESIAN LEADING TIRE MANUFACTURER
			9. Hasanuddin	2-1952-043	REDUCING SCRAP OF CEMENT A3CM-05 PROCESS BY CHANGING THE MATERIAL COMPOSITION FORMULA USING THE QUALITY CONTROL CIRCLE METHOD IN INDONESIAN TIRE INDUSTRY
5	Edy Sofyan, B.Eng., M.Eng., Ph.D	Dosen Tidak Tetap/ Non-Homebase Lecturer	1. Ahmad Anwari	2-1952-045	IMPROVING TALENT PERFORMANCES BY USING INTEGRATED LEARNING DEVELOPMENT PROGRAM IN INDONESIA LEADING HEAVY EQUIPMENT DISTRIBUTOR
			2. Teguh Setiono	2-1952-035	IMPACT OF INCREASING MECHANIC COMPETENCE THROUGH COMPETENCY BASED CURRICULUM TO IMPROVE PRODUCT SUPPORT PERFORMANCE IN LEADING INDONESIAN HEAVY EQUIPMENT COMPANIES
			3. Baladi	2-1952-021	IMPROVING OF THE MECHANIC QUALIFICATION STANDARD RELATED WITH CUSTOMER SATISFACTION AT LEADING HEAVY EQUIPMENT DISTRIBUTOR COMPANY IN INDONESIA
			4. Maryono	2-1952-030	IMPACT OF SERVICE ENGINEER DEVELOPMENT TO IMPROVE QUALITY OF TECHNICAL SERVICE INFORMATION REPORT OF HEAVY EQUIPMENT FAILURE
			5. Albertus Aan Dian Nugroho	2-1952-061	APPLICATION OF AN ARTIFICIAL NEURAL NETWORK MODEL TO PREDICT PARAMETER OF FRICTION STIR SPOT WELDING ON ALUMINUM SHEET
			6. Eko Ari Wibowo	2-1952-055	OPTIMIZATION WARPAGE DEFECTS OF PENCIL BOX BY USING FINITE ELEMENT ANALYSIS AND ARTIFICIAL NEURAL NETWORK
			7. Adhy Syaefudin	2-1952-051	COMPUTER VISION INSPECTION OF COLD-FLOW CASTING DEFECT WITH NEURAL NETWORK

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Nr.	Nama Pembimbing Utama/ *The Advisor Name*	Status Dosen/ *Lecturer's Status*	Nama Mahasiswa/ *Student's Name*	NIM/ Student's ID	Judul Skripsi /Thesis Title
6	Dr. Ir. Gembong Baskoro, M.Sc.	Dosen Tetap/ Homebase Lecturer	1. Anang Wahyu Wibowo	2-1952-024	IMPROVING THE PREDICTION AND ACCURACY of PARTS MARKETING PROMOTION PROGRAM FOR HEAVY EQUIPMENT SPARE PARTS BUSINESS THROUGH DIGITALIZATION APPROACH
			2. Yonta Wasfadhita	2-1952-033	ASSESSING SUSTAINABILITY IMPACT OF AUTONOMOUS HAUL SYSTEM IN INDONESIAN OPEN PIT COAL MINING COMPANY
			3. Edhie Sarwono	2-1952-027	THE IMPACT OF WORK FROM HOME DURING COVID-19 PANDEMIC TO HUMAN CAPITAL ORGANIZATIONAL EFFECTIVENESS IN INDONESIA LEADING HEAVY EQUIPMENT COMPANY
			4. Hanif Priyanto	2-1952-039	EFFECTIVE PERFORMANCE MANAGEMENT DESIGN ON REMOTE WORKFORCE ENVIRONMENT USING INTEGRATED SEVEN TOOLS OF QUALITY CONTROL ANALYSIS FOR TOP TALENT EMPLOYEE HUMAN ASSET VALUE (HAV) QUADRANT 1-4 IN UNITED TRACTORS
			5. Muhammad Hadiyanto	2-1952-037	ANALYSIS OF MINDSET AND BEHAVIOR IN EMPHASIZING LEADERSHIP ASPECTS BY IMPLEMENTATION CUSTOMER SUCCESS MANAGEMENT IN LEADING INDONESIAN HEAVY EQUIPMENT COMPANY
			6. Warno Santoso	2-1952-032	THE IMPACT OF LEAN ORGANIZATION TO EMPLOYEE COST IN IDONESIA LARGEST HEAVY EQUIPMENT DISTRIBUTOR COMPANY
			7. Ananda Tri Rizki	2-1952-018	ANALYSIS SUPPLY AND DEMAND BY HYBRID FORECASTING METHOD IN MANUFACTURER MOTORCYCLE TIRE
			8. Hartono	2-1952-012	IMPROVING QUALITY ON TIRE CURING PROCESS BY USING SIX SIGMA AND FAILURE MODE AND EFFECTS ANALYSIS (FMEA) METHOD IN INDONESIA LEADING TIRE MANUFACTURER
			9. Yanuar Anggit Eko Nugroho	2-1952-020	BUSINESS MODEL FOR STARTUP COMPANY BUSINESS MODEL FOR STARTUP COMPANY PT JET KOE INDONESIA (CASE: JETQ APPLICATION DEVELOPMENT)
			10. Bagus Prasetyo	2-1952-011	REDUCING DOWNTIME OF EXTRUDER MACHINE IN INDONESIA LEADING TIRE MANUFACTURING COMPANY
7	Dr Eng. Aditya Tirta Pratama, S.Si, M.T.	Dosen Tetap/ Homebase Lecturer	1. Steven Liang	2-1952-042	IMPROVING DAILY TOTAL COMPLETE SHIPMENT BY USING SYSTEM DYNAMICS SIMULATION IN AN INDONESIAN CAR SPARE PARTS MANUFACTURER
			2. Ali Firmansyah	2-1952-010	IMPROVEMENT PUT AWAY PROCESS WITH CLASS-BASED AND DEDICATED-BASED STORAGE IN SPARE PART WAREHOUSE PT TIRE INDONESIA
			3. Muhammad Mushlih Fadlulloh	2-1952-015	ENHANCING MAINTENANCE MANAGEMENT SYSTEM USING RELIABILITY CENTERED MAINTENANCE (RCM) CASE STUDY PT. MOTORCYCLE TIRE INDONESIA
			4. Iwan Kendarwan Kaldjat	2-1952-016	A STUDY ON SENSIBLE EXCISE POLICY BY CONSIDERING ACCEPTABLE INDUSTRY VOLUME, GOVERNMENT REVENUE AND EMPLOYMENT FOR HAND MADE KRETEK CIGARETTES
			5. Dedi Emawan	2-1952-022	DEVELOPING TOOLS FOR MEASURING PERFORMANCE OF GAS ENGINE POWER PLANTS: A CASE STUDY AT LEADING MEDIUM ENERGY COMPANY IN INDONESIA

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8	Dr. Tanika D. Sofianti S.T., M.T.	Dosen Tetap/ Homebase Lecturer	1. Hermawan Aji Utomo	2-1952-013	IMPROVING QUALITY OF MIXTURE PROCESS BASED ON MACHINE MANAGEMENT FOR REWORK ON RUBBER COMPOUNDING USING ANALYTICAL HIERARCHY PROCESS (AHP) APPROACH IN INDONESIAN LEADING TIRE MANUFACTURER
			2. Prince Sibarani	2-1952-031	IMPROVING THE OVERALL EQUIPMENT EFFECTIVENESS (OEE) OF DRUM TESTING MACHINE IN LABORATORY OF TIRE MANUFACTURING USING FMEA AND PFMEA
			3. Aloysius Sigit Haryono	2-1952-001	APPLICATION OF HUMAN FACTORS ANALYSIS AND CLASSIFICATION SYSTEM (HFACS) IN PRIORITIZING FLIGHT SAFETY RECOMMENDATIONS: A CASE STUDY AT WAMENA AIRPORT
9	Dr. Ir. Hanny J Berchmans, M.SC.	Dosen Tetap/ Homebase Lecturer	1. Paulus Gagat Charisma Arwidhiatma	2-1952-009	DESIGN AND DEVELOP AN OPEN-SOURCES PORTABLE ELECTRIC PUMP EMERGENCY RESUSCITATOR
			2. Suhartinah	2-1952-059	DEVELOPMENT MONITORING AND PID CONTROL OF AN ENVIRONMENTAL TESTING CHAMBER USING NODE RED
			3. Andreadie Wicaksono	2-1952-060	DES IGN AND DEVELOPMENT BODY TEMPERATURE SENS OR FOR ATTENDANCE MACHINE AND S ECURITY GATE
			4. Fuad Widiatmoko	2-1952-008	COMPUTER VISION AND DEEP LEARNING APPROACH FOR SOCIAL DISTANCING DETECTION DURING COVID-19 PANDEMIC
10	Dr. Widi Setiawan	Dosen Tidak Tetap/ Non-Homebase Lecturer	1. Rahayu Budi Prahara	2-1952-058	OPTIMIZATION ELECTRICAL CURRENT OF THE SPOT TIG WELDING ON THE TENSILE STRENGTH OF MATERIAL MILD STEEL SPCG 250 USING FUZZY LOGIC METHOD
			2. Yoki Andriawan Ramdan	2-1852-006	DEVELOPMENT OF EMBEDDED IMAGE PROCESSING TO CLASSIFY, DETERMINE AND CONTROL NUTRIENT DEFICIENCY OF PLANTATION IN HYDROPONIC SYSTEM
11	Dr. Ir. Henry Nasution	Dosen Tetap/ Homebase Lecturer	1. Stenli Octavian Eridheni	2-1952-054	IMPLEMENTATION OF MICROCONTROLLER IN LUBRICANT VISCOSITY MEASUREMENT TOOL
			2. Neilinda Novita Aisa	2-1952-057	THE EFFECT OF INJECTION PARAMETER ON ACRYLONITRILE BUTADIENE STYRENE (ABS) PRODUCTS USING FUZZY LOGIC SYSTEM
			3. Martinus Chorda Adi Trisnanto	2-1952-063	OPTIMIZATION CUTTING PARAMETERS ON TURNING PROCESS TO INCREASING SURFACE ROUGHNESS SKT4 MATERIAL WITH TAGUCHI METHOD

Daftar Pembimbing Pendamping/*List of Co-Advisor*

Nr.	Nama Pembimbing Pendamping/*The Co-Advisor Name*	Status Dosen/ *Lecturer's Status*	Nama Mahasiswa/ *Student's Name*	NIM/ Student's ID	Judul Skripsi /Thesis Title
1	Dr. Ir. Mohammad Amin Soetomo, M.Sc.	Dosen Tetap/ Homebase Lecturer	1. Hendra Kurniawan	2-1952-040	DIGITAL TRANSFORMATION FOR IMPROVE DEBT COLLECTION PROCESS ON SPARE PARTS TRANSACTION IN LEADING HEAVY EQUIPMENT COMPANY
			2. Henry Martawidjaja	2-1952-041	PROCUREMENT FRAMEWORK ANALYSIS AND EVALUATION OF E-PROCUREMENT IMPLEMENTATION ADOPTING USING UTAUT MODEL (CASE STUDY IN INDONESIA LEADING HEAVY EQUIPMENT COMPANY)
			3. Basuki Rachmat	2-1952-047	SAFETY AND HEALTH CAMPAIGN TO IMPROVE ENVIRONMENT OCCUPATIONAL SAFETY AND HEALTH IN INDONESIA LEADING DISTRIBUTOR HEAVY EQUIPMENT COMPANY

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2	Dr. Ir. Gembong Baskoro, M.Sc.	Dosen Tetap/ Homebase Lecturer	1. Budi Mulyawanto	2-1952-026	IMPROVING INNOVATION MANAGEMENT IMPLEMENTATION AS PART OF THE CONSISTENT APPLICATION OF THE STRATEGIC FOR BUSINESS GROWTH
			2. Herryan Syahputra	2-1952-038	IMPROVE REUSABLE PART QUALITY TO PROLONG REMANUFACTURED PRODUCT LIFETIME FOR LEADING HEAVY EQUIPMENT REMANUFACTURING COMPANY IN INDONESIA
			3. Satriyo Widy Prasetyo	2-1952-034	INTEGRATING AUDIT SYSTEM OF AGC, ISO14001, ISO45001 TO IMPROVE IMPLEMENTATION OF THE MANAGEMENT SYSTEMS IN LEADING HEAVY EQUIPMENT COMPANIES
			4. Daniela Dea Hapsari	2-1952-050	IMPROVING WASTE MANAGEMENT SYSTEM OF LEADING CONSTRUCTION FIRM IN INDONESIA: A STUDY IN NOTABLE HIGH RISE BUILDING PROJECT IN JAKARTA
			5. Mohammad Yoga Baskoro	2-1952-028	IMPROVING MAINTENANCE COST BY IMPLEMENTATION OF CUSTOMIZE MAINTENANCE METHOD IN LEADING INDONESIAN FORKLIFT COMPANY
			6. Moch. Fatchul Helmi	2-1952-014	IMPROVING THE SILICA STOCK LEVEL ON CONTROLLING RAW MATERIAL INVENTORIES USING THE PERIODIC REVIEW POWER APPROXIMATION METHOD IN INDONESIAN LEADING TIRE MANUFACTURER
3	Dena Hendriana, B.Sc., S.M., Sc.D	Dosen Tetap/ Homebase Lecturer	1. Bayu Cahyono	2-1952-036	SUSTAINABLE TQM IMPLEMENTATION IN RELATIONSHIP WITH CUSTOMER SATISFACTION AND BUSINESS PERFORMANCE IN INDONESIAN REMANUFACTURING COMPANY.
			2. Teguh Setiono	2-1952-035	IMPACT OF INCREASING MECHANIC COMPETENCE THROUGH COMPETENCY BASED CURRICULUM TO IMPROVE PRODUCT SUPPORT PERFORMANCE IN LEADING INDONESIAN HEAVY EQUIPMENT COMPANIES
			3. Baladi	2-1952-021	IMPROVING OF THE MECHANIC QUALIFICATION STANDARD RELATED WITH CUSTOMER SATISFACTION AT LEADING HEAVY EQUIPMENT DISTRIBUTOR COMPANY IN INDONESIA
			4. Maryono	2-1952-030	IMPACT OF SERVICE ENGINEER DEVELOPMENT TO IMPROVE QUALITY OF TECHNICAL SERVICE INFORMATION REPORT OF HEAVY EQUIPMENT FAILURE
			5. Iwan Kendarwan Kaldjat	2-1952-016	A STUDY ON SENSIBLE EXCISE POLICY BY CONSIDERING ACCEPTABLE INDUSTRY VOLUME, GOVERNMENT REVENUE AND EMPLOYMENT FOR HAND MADE KRETEK CIGARETTES
			6. Yanuar Anggit Eko Nugroho	2-1952-020	BUSINESS MODEL FOR STARTUP COMPANY BUSINESS MODEL FOR STARTUP COMPANY PT JET KOE INDONESIA (CASE: JETQ APPLICATION DEVELOPMENT)
			7. Aloysius Sigit Haryono	2-1952-001	APPLICATION OF HUMAN FACTORS ANALYSIS AND CLASSIFICATION SYSTEM (HFACS) IN PRIORITIZING FLIGHT SAFETY RECOMMENDATIONS: A CASE STUDY AT WAMENA AIRPORT
			8. Stefanus Diyan Panggayuh	2-1952-048	TO EXTEND BATTERY LIFE FOR ELECTRICAL SWITCHBOARD BY USING THREE STAGES CHARGING METHOD
			9. Albertus Aan Dian Nugroho	2-1952-061	APPLICATION OF AN ARTIFICIAL NEURAL NETWORK MODEL TO PREDICT PARAMETER OF FRICTION STIR SPOT WELDING ON ALUMINUM SHEET

Daftar Pembimbing Pendamping/*List of Co-Advisor*

Nr.	Nama Pembimbing Pendamping/*The Co-Advisor Name*	Status Dosen/*Lecturer's Status*	Nama Mahasiswa/*Student's Name*	NIM/ Student's ID	Judul Skripsi /Thesis Title
4	Dr. Eng. Sumarsono, S.T., M.T.	Dosen Tidak Tetap/Non-Homebase Lecturer	1. Anang Wahyu Wibowo	2-1952-024	IMPROVING THE PREDICTION AND ACCURACY OF PARTS MARKETING PROMOTION PROGRAM FOR HEAVY EQUIPMENT SPARE PARTS BUSINESS THROUGH DIGITALIZATION APPROACH
			2. Edhie Sarwono	2-1952-027	THE IMPACT OF WORK FROM HOME DURING COVID-19 PANDEMIC TO HUMAN CAPITAL ORGANIZATIONAL EFFECTIVENESS IN INDONESIA LEADING HEAVY EQUIPMENT COMPANY
			3. Ahmad Anwari	2-1952-045	IMPROVING TALENT PERFORMANCES BY USING INTEGRATED LEARNING DEVELOPMENT PROGRAM IN INDONESIA LEADING HEAVY EQUIPMENT DISTRIBUTOR
			4. Hermawan Aji Utomo	2-1952-013	IMPROVING QUALITY OF MIXTURE PROCESS BASED ON MACHINE MANAGEMENT OF REWORK ON RUBBER COMPOUNDING USING ANALYTICAL HIERARCHY PROCESS (AHP) APPROACH IN INDONESIAN LEADING TIRE MANUFACTURER
			5. Hartono	2-1952-012	IMPROVING QUALITY ON TIRE CURING PROCESS BY USING SIX SIGMA AND FAILURE MODE AND EFFECTS ANALYSIS (FMEA) METHOD IN INDONESIA LEADING TIRE MANUFACTURER
			6. Steven Liang	2-1952-042	IMPROVING DAILY TOTAL COMPLETE SHIPMENT BY USING SYSTEM DYNAMICS SIMULATION IN AN INDONESIAN CAR SPARE PARTS MANUFACTURER
5	Dr. Ir. Hanny J Berchmans, M.Sc	Dosen Tetap/ Homebase Lecturer	1. Bakhtiar Burhan	2-1952-046	GREEN BUILDING ANALYSIS OF PT UNITED TRACTORS ON EXISTING BUILDING BASED ON THE LATEST RATING TOOLS GREEN BUILDING COUNCIL INDONESIA
			2. Egi Gumilar	2-1952-052	STUDY OF SOLAR PV POLICIES THAT HAVE AN IMPACT ON TECHNO-ECONOMIC, SOCIO-ENVIRONMENT, IN A LEADING HEAVY EQUIPMENT COMPANY IN INDONESIA
			3. Stenli Octavian Eridheni	2-1952-054	IMPLEMENTATION OF MICROCONTROLLER IN LUBRICANT VISCOSITY MEASUREMENT TOOL
			4. Dodi Garinto	2-1952-056	ANALYSIS AND DESIGN OF MEDIUM VOLTAGE THREE-PHASE AC-DC POWER CONVERSION FOR WIND ENERGY SYSTEMS
6	Dr. Aditya Tirta Pratama, S.Si, M.T.	Dosen Tetap/ Homebase Lecturer	1. Nur Kamaarum Adiwida Hemas	2-1952-029	IMPROVING WAREHOUSE MANAGEMENT SYSTEM AT THE LARGEST HEAVY EQUIPMENT DISTRIBUTOR COMPANY IN INDONESIA WITH SIMULATION-BASED OPTIMIZATION APPROACH
			2. Albherd Ramadhan Putra	2-1952-017	IMPROVING MATERIAL EFFICIENCY ON CALENDERING PROCESS BY USING SIX SIGMA AND DEFINE MEASURE ANALYZE IMPROVE CONTROL (DMAIC) METHODS IN INDONESIAN LEADING TRUCK BUS BIAS TIRE MANUFACTURER
			3. Prince Sibarani	2-1952-031	IMPROVING THE OVERALL EQUIPMENT EFFECTIVENESS (OEE) OF DRUM TESTING MACHINE IN LABORATORY OF TIRE MANUFACTURING USING FMEA AND PFMEA
			4. Hasanuddin	2-1952-043	REDUCING SCRAP OF CEMENT A3CM-05 PROCESS BY CHANGING THE MATERIAL COMPOSITION FORMULA USING THE QUALITY CONTROL CIRCLE METHOD IN INDONESIAN TIRE INDUSTRY
7	Dr. Tanika D. Sofianti S.T., M.T.	Dosen Tetap/ Homebase Lecturer	1. Budy Ariyanto	2-1952-019	MPROVING WORK IN PROCESS QUALITY (BIAS CUTTING PROCESS) BY USING POKA-YOKE AND DEFINE MEASURE ANALYSIS IMPROVE AND CONTROL (DMAIC) METHOD IN LEADING MOTORCYCLE TIRE MANUFACTURING
			2. Ali Firmansyah	2-1952-010	IMPROVEMENT PUT AWAY PROCESS WITH CLASS-BASED AND DEDICATED-BASED STORAGE IN SPARE PART WAREHOUSE PT TIRE INDONESIA

Daftar Pembimbing Pendamping/*List of Co-Advisor*

Nr.	Nama Pembimbing Pendamping/*The Co-Advisor Name*	Status Dosen/*Lecturer's Status*	Nama Mahasiswa/*Student's Name*	NIM/ Student's ID	Judul Skripsi /Thesis Title
8	Dr. Ir. Henry Nasution	Dosen Tetap/ Homebase Lecturer	1. Muhammad Mushlih Fadlulloh	2-1952-015	ENHANCING MAINTENANCE MANAGEMENT SYSTEM USING RELIABILITY CENTERED MAINTENANCE (RCM) CASE STUDY PT. MOTORCYCLE TIRE INDONESIA
			2. Dedi Emawan	2-1952-022	DEVELOPING TOOLS FOR MEASURING PERFORMANCE OF GAS ENGINE POWER PLANTS: A CASE STUDY AT LEADING MEDIUM ENERGY COMPANY IN INDONESIA
			3. Bagus Prasetyo	2-1952-011	REDUCING DOWNTIME OF EXTRUDER MACHINE IN INDONESIA LEADING TIRE MANUFACTURING COMPANY
			4. Suhartinah	2-1952-059	DEVELOPMENT MONITORING AND PID CONTROL OF AN ENVIRONMENTAL TESTING CHAMBER USING NODE RED
			5. Andreadie Wicaksono	2-1952-060	DESIGN AND DEVELOPMENT BODY TEMPERATURE SENS OR FOR ATTENDANCE MACHINE AND S ECURITY GATE
			6. Rahayu Budi Prahara	2-1952-058	OPTIMIZATION ELECTRICAL CURRENT OF THE SPOT TIG WELDING ON THE TENSILE STRENGTH OF MATERIAL MILD STEEL SPCG 250 USING FUZZY LOGIC METHOD
9	Edy Sofyan, B.Eng., M.Eng., Ph.D	Dosen Tidak Tetap/Non-Homebase Lecturer	1. Hanif Priyanto	2-1952-039	EFFECTIVE PERFORMANCE MANAGEMENT DESIGN ON REMOTE WORKFORCE ENVIRONMENT USING INTEGRATED SEVEN TOOLS OF QUALITY CONTROL ANALYSIS FOR TOP TALENT EMPLOYEE HUMAN ASSET VALUE (HAV) QUADRANT 1-4 IN UNITED TRACTORS
			2. Muhammad Hadiyanto	2-1952-037	ANALYSIS OF MINDSET AND BEHAVIOR IN EMPHASIZING LEADERSHIP ASPECTS BY IMPLEMENTATION CUSTOMER SUCCESS MANAGEMENT IN LEADING INDONESIAN HEAVY EQUIPMENT COMPANY
			3. Warno Santoso	2-1952-032	THE IMPACT OF LEAN ORGANIZATION TO EMPLOYEE COST IN IDONESIA LARGEST HEAVY EQUIPMENT DISTRIBUTOR COMPANY
			4. Yohanes Eka Prayuda	2-1952-049	DETERMINING INTERVENTION FOR BEHAVIOR-BASED SAFETY (BBS) IMPLEMENTATION IN BUILDING CONSTRUCTION PROJECT
			5. Neilinda Novita Aisa	2-1952-057	THE EFFECT OF INJECTION PARAMETER ON ACRYLONITRILE BUTADIENE STYRENE (ABS) PRODUCTS USING FUZZY LOGIC SYSTEM
			6. Martinus Chorda Adi Trisnanto	2-1952-063	OPTIMIZATION CUTTING PARAMETERS ON TURNING PROCESS TO INCREASING SURFACE ROUGHNESS SKT4 MATERIAL WITH TAGUCHI METHOD
			7. Yoki Andriawan Ramdan	2-1852-006	DEVELOPMENT OF EMBEDDED IMAGE PROCESSING TO CLASSIFY, DETERMINE AND CONTROL NUTRIENT DEFICIENCY OF PLANTATION IN HYDROPONIC SYSTEM
10	Dr. Eka Budiarto, S.T., M.Sc.	Dosen Tetap/ Homebase Lecturer	1. Yonta Wasfadhita	2-1952-033	ASSESSING SUSTAINABILITY IMPACT OF AUTONOMOUS HAUL SYSTEM IN INDONESIAN OPEN PIT COAL MINING COMPANY
			2. Ferdinand Widjaja	2-1952-023	PREDICTIVE MAINTENANCE OF MINING EQUIPMENT IN INDONESIA LEADING HEAVY EQUIPMENT COMPANY
11	Dr. Widi Setiawan	Dosen Tidak Tetap/Non-Homebase Lecturer	1. Fuad Widiatmoko	2-1952-008	COMPUTER VISION AND DEEP LEARNING APPROACH FOR SOCIAL DISTANCING DETECTION DURING COVID-19 PANDEMIC
			2. Adhy Syaefudin	2-1952-051	COMPUTER VISION INSPECTION OF COLD-FLOW CASTING DEFECT WITH NEURAL NETWORK

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14	Ary Syahriar, B.Sc., M.Sc., Ph.D	Dosen Tidak Tetap/ Non-Homebase Lecturer	1. Yohanes Pembaptis Agung Purwoko	2-1952-062	DEVELOPMENT AUTOMATIC SWITCHING CONTROLLER FOR SHIFTING DRIVE MODE IN PROTOTYPE HYBRID VEHICLE
			2. Elroy F.K.P Tarigan	2-1952-053	DESIGN AND DEVELOPMENT OF BATTERY MANAGEMENT SYSTEMS IN PASSENGER ELECTRIC VEHICLES PROTOTYPE
			3. Eko Ari Wibowo	2-1952-055	OPTIMIZATION WARPAGE DEFECTS OF PENCIL BOX BY USING FINITE ELEMENT ANALYSIS AND ARTIFICIAL NEURAL NETWORK

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I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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GREEN BUILDING ANALYSIS OF PT UNITED TRACTORS ON EXISTING BUILDING BASED ON THE LATEST RATING TOOLS GREEN BUILDING COUNCIL INDONESIA

By

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MASTER'S DEGREE
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December 2020

ABSTRACT

GREEN BUILDING ANALYSIS OF PT UNITED TRACTORS ON EXISTING BUILDING BASED ON THE LATEST RATING TOOLS GREEN BUILDING COUNCIL INDONESIA

By

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SWISS GERMAN UNIVERSITY

Green buildings or environmentally friendly buildings are currently becoming an important issue in development in Indonesia. The green building concept development must apply environmental principles starting from the design, construction, operation and management. Over time, the Green Building Council Indonesia (GBCI) has emerged as a certification body that has issued Greenship as a Green Building assessment guide since 2010. The PT United Tractors building has received a Platinum predicate for the Greenship New Building Category. However, the more advanced the development and growth of the company, research must be carried out to find out whether the building is still feasible in its current condition. The method used in this study is to compare the existing building conditions with the Greenship New Building assessment tool. After being compared, a new category suitability analysis is carried out for the existing building. The analysis was carried out by direct measurement methods, interviews and using secondary data. From the results of the study, PT United Tractors' building received a Gold rating, because it fulfills five building feasibility requirements, including Appropriate Site Development, Energy Efficiency and Conservation, Water Conservation, Material Resources & Cycle, Indoor Air Health & Comfort. The assessment for the suitability of the criteria in each category showed a result of 68 points (57%). For this reason, it is necessary to make improvements in order to reach the highest point, namely the Platinum rank.

Keywords: Green Building, Greenship Existing Building 1.1, Criteria, Points, Recommendations

DEDICATION

I dedicate to both My Parents, My Beloved Familly (Nunung Sulistyaningsih, Nadhifa Ayudya Bakhtiar, Hasna Althafunnisa Bakhtiar) and All Family members that always support,.

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I am very thankful to All My lecturers and all member in Swiss German University, especially for Mr. Dena Hendriana, B.Sc., M.Sc., Ph.D. and Dr. Ir. Hanny J. Berchmans, M.Sc .

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I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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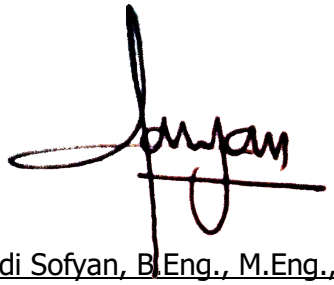

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ABSTRACT

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RELATED WITH CUSTOMER SATISFACTION
AT LEADING HEAVY EQUIPMENT DISTRIBUTOR COMPANY
IN INDONESIA

By

Baladi
Dena Hendriana, B.Sc., S.M., Sc.D., Advisor
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SWISS GERMAN UNIVERSITY

Product support services have an important role in the heavy equipment business because they are long-term relationship builder with customers which affects sales of heavy equipment. In product support services, mechanic has a dominant influence because apart from being a service provider, mechanic is also front liner who shapes customer perceptions regarding product support services. It makes mechanic as a top priority in the company's competency development programs. The main problem is how to align the mechanic development program with customer satisfaction. This study aims to arrange a competency development framework in the form of qualification standard which confirmed with customer satisfaction using the Quality Functin Deployment (QFD). The corelation between qualification standard with customer satisfaction is analyzed by regression analysis on the Structural Equation Model (SEM) using the Ωnyq software. The finding of this research is the qualification standard with comprehensive requirements in Technical Operating Competency (TOC), Business Management Competency (BMC) and Behavior Competency (BC) has better and consistent impact to customer satisfaction.

Keywords: Competency Development Program, Customer Satisfaction, Heavy Equipment Business, Mechanic Qualification Standard, Product Support Services

DEDICATION

I dedicate this work for my beloved family, especially for my wife Ani Rosiyanti, my daughters, Mazaya Marsya Baladi and Mahdiya Raghda Baladi and my son Jayantaka Wangsa Baladi.

ACKNOWLEDGEMENTS

I would like to thank to everyone for help in the writing and research process. Deep appreciation to my advisor Mr. Dena Hendriana, B.Sc., S.M., Sc.D., and my co advisor, Mr. Dr. Edi Sofyan, B.Eng, M.Eng., for all guidance and direction. Especially for Mr. Edhie Sarwono, for the opportunity to continue my study. Thank you very much to Mr. Rudy Poerwanto and Mr. Agus Suyitno for the opportunity to research and permit data collection and also Mr. Andrie Permadi, Mr. Yudistira and Miss Desy for the support and assistance in the customer satisfaction survey.

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I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ANALYSIS AND DESIGN OF MEDIUM VOLTAGE THREE-PHASE AC-DC POWER CONVERSION FOR WIND ENERGY SYSTEMS

By

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MASTER'S DEGREE
in

MASTER OF MECHANICAL ENGINEERING
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January 2021

ABSTRACT

ANALYSIS AND DESIGN OF MEDIUM VOLTAGE THREE-PHASE AC-DC POWER CONVERSION FOR WIND ENERGY SYSTEMS

By

Dodi Garinto
Dena Hendriana., BSc., M.Sc., Ph.D, Advisor
Dr. Ir. Hanny J. Berchmans, M.T., M.Sc., Co-Advisor

SWISS GERMAN UNIVERSITY

This research thesis presents analysis and design of a novel Medium Voltage (MV) AC-DC converter topology for wind energy systems. The parallel configuration and phase shifting principles of the proposed converter architecture is suggested to solve the engineering challenges of future medium voltage AC-DC power conversion for wind energy systems, particularly in the power range of 10 – 20 MW. Moreover, to obtain a low complexity design without current mode controller, the role of Discontinuous Conduction Mode (DCM) is performed. As a result, the input and output ripple currents are dramatically reduced. Consequently, smaller input inductance and capacitance filters are also achieved. The input and output ripple current stresses are analysed using PSPICE simulations. The performance of the proposed MV AC-DC converter is compared with the conventional converter in terms of the input and output current ripple stresses and the power factor correction. Simulation results demonstrate that the input ripple currents are only around 11 % compared to the conventional converter. On the other side, the output ripple current stresses of the proposed converter are only 32.5 % of the conventional converter. For that reason, high-efficiency, high-reliability and light-weight MV AC-DC converter for today's and future wind energy system can be realized.

.Keywords: wind energy system, medium voltage ac-dc converter, three-level boost converter, discontinuous conduction mode, interleaving technique.

DEDICATION

"To my mother, Sri Kustati – a great mother in my heart"

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Thanks be to God who gives the author the strength so that the author can complete this thesis assignment as one of the requirements for completing the Master of Mechanical Engineering - specifically of mechatronics engineering at Swiss German University. From the author's point of view, how beautiful and providing supreme peace it is to acknowledge and believe that God works in all things to bring good to those who believe.

Beyond the plan, this thesis really gives its own satisfaction when the author finds a new interest, as well as finding a thesis advisor who is patient and calm, namely Dr. Dena Hendriana. Furthermore, it is an honor for the author that we have collaborated to write a proceeding paper to solve a very important and urgent problems related to wind energy conversion system, especially regarding three-phase medium voltage AC-DC power conversion system.

Last but not least, the authors would like to thank all those who have contributed to the achievement of this thesis assignment:

1. My beloved mother, Sri Kustati, who has given birth to a writer and has supported the author on his rocky and hollow life journey to become someone who achieves a honorable life goal.
2. My beloved wife, Ratri Wulansari, who has faithfully accompanied the author through the joys and sorrows of the past 19 years, and even encouraged me to continue studying to post-graduate and graduate. He said that the author is better suited to be scientists than entrepreneurs. He said; "Being a scientist is your strength Papa"

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6. Other parties, whether the author knows it or not, who contribute so that this thesis assignment is accomplished.

The author sees that the research contained in this thesis is far from perfect. In other words, the research development in this thesis is still at the TRL 3 level (Technology Readiness Level). The author sees that the research topic in this thesis is a new converter topology and it is very interesting for further research. May this thesis be of use to everyone, and may the author's mission be accomplished, which is to help make our planet a better place.

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I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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STUDY OF ROOFTOP SOLAR PV POLICIES THAT HAVE AN IMPACT ON TECHNO-ECONOMIC, AND SOCIO-ENVIRONTMENT IN A LEADING HEAVY EQUIPMENT COMPANY IN INDONESIA

By

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IN A LEADING HEAVY EQUIPMENT COMPANY IN INDONESIA

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The government continues to encourage efforts to increase renewable energy, one of which is by issuing a ministerial regulation of energy and mineral resources (MEMR) 49/2018 with amendments no. 13/2019 and 16/2019. The key points of this policy are reducing the constant in charge capacity for industry, simplifying the licensing process and the existence of operating permits and certificates of operation feasibility, as well as compensation for export credit of 65% which is still deemed unfavorable. As of October 2020, 2,566 solar PV rooftop customers have registered, with a total capacity of 18.19 MWp. This research aims to not only analyze the gap policy, but also to make a case study in United Tractors' building on the existing PV rootop policy. By using a web-based simulation that is Helio Scope and the calculation of investment feasibility, the results are not economically profitable. This is due to the high investment value, interest rate value, and other parameters

.

Keywords: Rooftop solar PV, energy policy, gap analysis, Helio scope, Indonesia, United Tractors,

DEDICATION

I dedicated this research for my Family & my Partner at PT United Tractors Tbk.

ACKNOWLEDGEMENTS

I Would like to thank to Mr. Dena Hendriana B.Sc, M.Sc., Ph.D and Mr. Dr. Ir. Hanny J. Berchmans M.Sc, and all Lecturers who have guided me while studying in Swiss German University. And also to Mr. Edhie Sarwono and the management of PT United Tractors Tbk who gave me the opportunity to take a master's degree

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I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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DESIGN AND DEVELOPMENT OF BATTERY MANAGEMENT SYSTEMS IN PASSENGER ELECTRIC VEHICLES PROTOTYPE

By

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21952053

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2021

ABSTRACT

Design and Development of Battery Management Systems in Passenger Electric Vehicles Prototype

By

Elroy FKP Tarigan, Students
Dena Hendriana, BSc.,M.Sc., Ph.D, Advisor
Ary Syahriar, Ph.D, DIC,. Co-Advisor

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Electrical Vehicle (EV) is one of the research areas in Polytechnic Manufacture Astra. The development of EV in this study is in Battery area. This research aims to design and to develop a monitoring system of a battery in an electric car. The methodology of this research is problem identification. Then literature review is a method to explore the newest knowledge and methodology according to the problem. The next process is determining the target and analysis of the problem. Next step is problem solving using various method such as: implementation of new sensor, new controller, new data processing and new display for a present EV in Polman Astra. Next process is identification of maintaining process and next improvement. The Prototype development has been done. The rate in the sensor reading has been captured. The sensor result varies between 3.7 % to 5.6 %. The rate has been solved through the program listing on microprocessor. The data has been sent into the IoT Cloud Platform

Keywords: Electric Vehicle, Sensor Technology, IoT, Automotive

DEDICATION

I dedicate this works for the future of the country I loved: Indonesia, My Family and Polman Astra

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I Would like to thank to Mr. Dena Hendriana., BSc., M.Sc., Ph.D and Mr. Ary Syahriar,. Ph.D,. DIC. and all Lecturers who have guided me while studying in Swiss German University, to Mr. Yohanes Climacus Sutama and Mr. Ajib Rosadi in Automotive Department which I take the field of my thesis and to the management of Politeknik Manufaktur Astra who gave me the opportunity to take a master's degree.

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I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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PREDICTIVE MAINTENANCE OF MINING EQUIPMENT IN INDONESIA LEADING HEAVY EQUIPMENT COMPANY

By

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ABSTRACT

PREDICTIVE MAINTENANCE OF MINING EQUIPMENT IN INDONESIA LEADING HEAVY EQUIPMENT COMPANY

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The use of heavy equipment in a production process, especially coal mining, is very dominant and is the main work tool. Therefore, the productivity of mining is very dependent on the performance of the heavy equipment used. In maintaining the performance of today's machines, it is not enough only with preventive and corrective maintenance, but also with predictive maintenance. Through predictive maintenance, it is expected that heavy equipment performance can be maintained properly because it can reduce or prevent unscheduled breakdowns.

Predictive maintenance in this research aims to help prioritize heavy equipment routine service management, so that more urgent heavy equipment conditions will get priority for maintenance first so as to prevent unscheduled breakdowns compared to current service management which still uses time based (hour meter) as the only maintenance priority tool. Predictive maintenance will focus on finding warnings and indicators that can be used to determine the remaining useful life of engine components by using data from telemetry, oil analysis, historical component lifetime and also other maintenance data. Predictive maintenance will be one of the monitoring system tools used by site technical engineers in their daily work.

Keywords: Coal Mining, Heavy Equipment, Predictive Maintenance, Early Warning, Monitoring System.

DEDICATION

I dedicated this research for My Family and My Company – PT United Tractors Tbk.

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