



Politeknik Negeri Batam

ROADMAP

KELOMPOK KAJIAN TERPADU (KKT)

2021-2025

AMEMA

Aerospace, mechanical, marine and manufacturing



OUTLINE



AMEMA

Aerospace, Mechanical, Marine
and Manufacturing
Research Group

PART 1: Introduction

PART 2: Research Topic

PART 3: Indicator

PART 4: Minimum Indicator

PART 5: Research Roadmap

PART 6: Research Resources and Published Paper

INTRODUCTION

AMEMA (Aerospace, Mechanical, Marine and manufacture)

Objectives: Scientific and technological research and development on
Aerospace, Mechanical, Marine and Manufacturing.

Established: 2013



AMEMA

Aerospace, Mechanical, Marine
and Manufacturing
Research Group



Research Topic

AMEMA

2021-2025

AEROSPACE

Aircraft maintenance
Drone fixing wing
Reliability and maintenance
Hovercraft development, airplane technology and Aerodynamic

MECHANICAL

Composite and manufacture
Computational Fluid Dynamic
Corrosion
Inspection database and failure pre-detected
Material Engineering
nanomaterial
Technology education
Welding technology
Welding traceability record data base

MANUFACTURE

Advanced Manufacturing Technology
Clean production
Design Optimization
DFMA
Effectiveness of Manufacturing Technology
Ergonomic
Injection molding manufacture
Oil and gas manufacture
Occupational health and safety in manufacturing

OTHERS

Carbon and water footprint in fabrication technology
Climate change
Health and safety
Life Cycle Analysis (LCA)
Pollution
Solid waste
Sustainability energy
Waste management

MARINE

Design Optimization
Floating Offshore Wind Turbine
Potential of Offshore Wind Energy
Risk and Reliability Analysis
Ship and Offshore Structure
Structural Health Monitoring
Structural Integrity Management
Unmanned Surface Vehicle
AIS system
Solar plant, wave source power plant and monitoring system

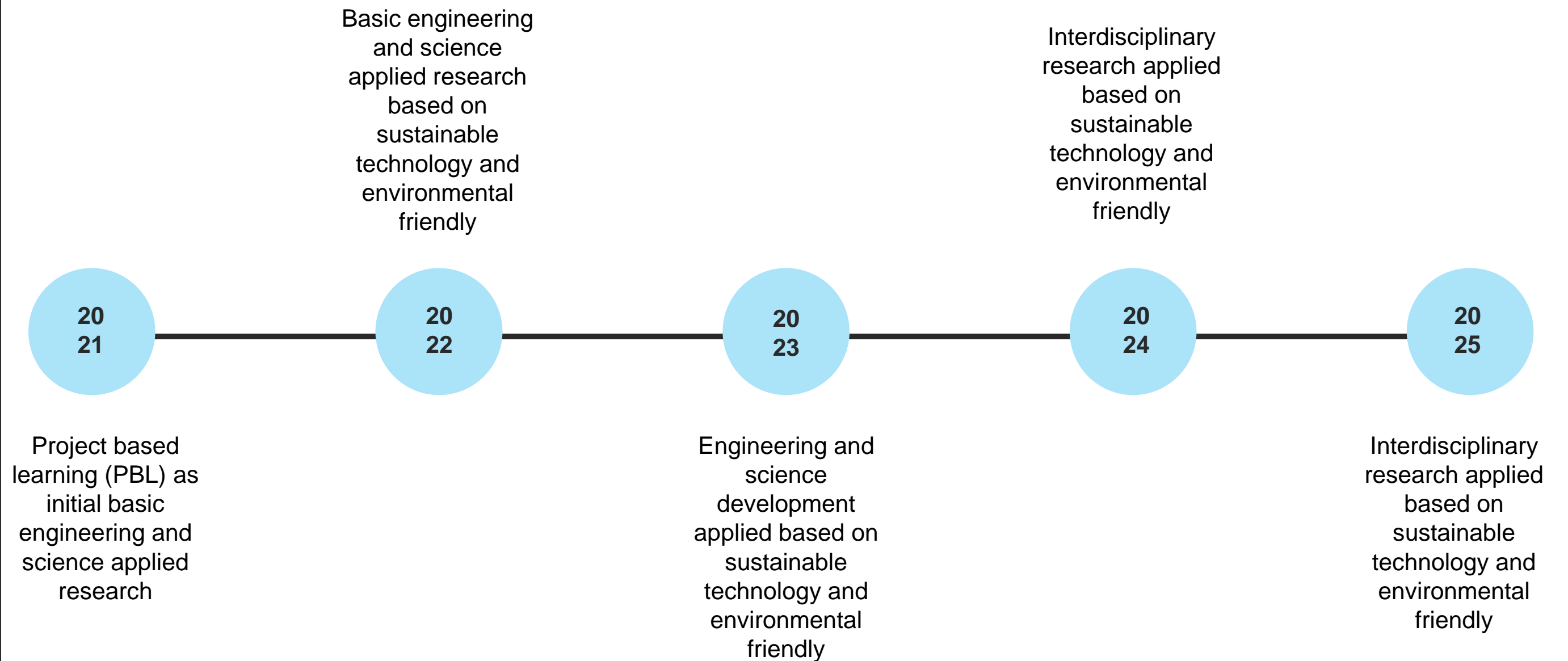
FUTURE PLAN



P2M POLIBATAM 2021-2025
“Applied research based on sustainability, environmentally friendly and local wisdom”

Development of environmentally friendly and sustainable technology to support logistics technology and industry 4.0 in Indonesia”

ROADPMAP



DETAILED ROADMAP

Development of environmentally friendly and sustainable technology to support logistics technology and industry 4.0 in Indonesia”

KKT/PK	ISSUE	CONCEPT OF THINKING	RESEARCH TOPIC
Aerospace	Advance technology	Design and development technology to support logistic technology and industry 4.0	<ul style="list-style-type: none"> • Aircraft maintenance • Drone fixing wing • 3Reliability and maintenance • Hovercraft development, airplane technology and Aerodynamic
Mechanical	<ul style="list-style-type: none"> • Environmentally friendly and sustainable technology • Database for advanced mechanical technology • Renewable energy 	<ul style="list-style-type: none"> • Design and development technology to support logistic technology and industry 4.0 • Sustainable 4.0 Technology acceleration based on environmentally friendly 	<ul style="list-style-type: none"> • Composite and manufacture • Computational Fluid Dynamic • Corrosion • Inspection database and failure pre-detected • Material Engineering • nanomaterial • Technology education • Welding technology • Welding record database
Marine	<ul style="list-style-type: none"> • Energy Efficient and Clean Ship • Risk and reliability analysis • Unmanned Surface Vehicle • Oil spill from the ship 	<ul style="list-style-type: none"> • Design and development technology to support logistic technology and industry 4.0 • Sustainable 4.0 Technology acceleration based on environmentally friendly 	<ul style="list-style-type: none"> • Design Optimization • Floating Offshore Wind Turbine • Potential of Offshore Wind Energy • Risk and Reliability Analysis • Ship and Offshore Structure • Structural Health Monitoring • Structural Integrity Management • Unmanned Surface Vehicle • AIS system • Solar plant, ware source power plant and monitoring system

DETAILED ROADMAP

Development of environmentally friendly and sustainable technology to support logistics technology and industry 4.0 in Indonesia”

KKT/PK	ISSUE	CONCEPT OF THINKING	RESEARCH TOPIC
Manufacture	<ul style="list-style-type: none"> Manufacturing Industry 4.0 - advance manufacturing technology Clean production – zero waste 	<ul style="list-style-type: none"> Sustainable 4.0 Technology acceleration based on environmentally friendly Smart manufacturing technology 	<ul style="list-style-type: none"> Advanced Manufacturing Technology Clean production Design Optimization DFMA Effectiveness of Manufacturing Technology Ergonomic Injection molding manufacture Oil and gas manufacture Occupational health and safety in manufacturing

MINIMUM INDICATOR

No	Output	Minimum Indicator				
		2021	2022	2023	2024	2025
1	Non-indexed International Journal	1	1	1	1	1
	Indexed International Journal	-	1	1	1	1
	Accredited/indexed National Journal	-	1	1	1	1
	Non-accredited National Journal	1	1	1	1	1
	Local Journal	2	2	2	2	2
2	International Seminar Publication	1	1	1	1	1
	National Seminar Publication	2	1	1	1	1
3	Research grant	-	1	1	1	1
4	Project/research with industry	-	1	1	2	2

1	Sapto Wiratno Satoto, S.T., M.T	Desain dan Pembuatan Faceshield Sebagai Alat Perlindungan Diri Penyebaran Covid19 A 3 Ft Gurindam Unmanned Surface Vehicle (USV) Stability Hullform Performance	JURNAL PENGABDIAN KEPADA MASYARAKAT (AbdiMas) 2 (1), 1-16 Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (2), 42-47
2	Ihsan Saputra, S.T., M.T	Pengaruh Temperatur Tempering Terhadap Pembentukan Struktur Mikro Dan Kekerasan Baja Skd 11 Untuk Tool Steel Perancangan Spud Pada Dredger Barge 25 Meter	Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (1), 10-13 Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (2), 70-79
3	Hendra Saputra, S.T., M.Eng	Analisa Rancangan Pipe Support pada Aliran Fuel Gas Menggunakan Auto Pipe Rancang Bangun Peralatan Uji Karakteristik Pompa Sentrifugal Susunan Seri dan Paralel untuk Pembelajaran Sistem Pompa dan Perpipaan Perencanaan Penjadwalan Preventive dan Proactive Maintenance Pada Dies Molding Capacitor	Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (2), 80-85 Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (1), 36-41 Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (1), 26-35
4	Benny Haddli Irawan, S.Tr., M.T	Pengaruh Weld Time Terhadap Kecacatan Produk Pada Proses Pengelasan Material Termoplastik ABS (Akrilonitril Butadiena Stiren) Menggunakan Mesin Ultrasonic Welding	Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (2), 57-63
9	Mufti Fathonah Muvariz, S.T.,M. Eng	Potensi Novelty Bidang Injection Mold Design: Visualisasi Pemetaan Bibliometric Studi Mula Pembuatan Purwa-rupa Smartphone Document Scanner Stand Dengan Metode Taguchi Integration System of CAD/CAM In Machinery Process Using Wire-EDM	Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (2), 48-56 Jurnal Teknologi dan Riset Terapan (JATRA) 3 (1), 32-36 Jurnal Teknologi Dan Riset Terapan (JATRA) 3 (1), 21-26
10	Naufal Abdurrahman Prasetyo, S.T., M.T	Studi Kekuatan Eyebolt Pada Proses Pengangkatan Wellhead	Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (1), 14-19
12	Nurman Pamungkas, S.T., M.T	Desain dan Pembuatan Faceshield Sebagai Alat Perlindungan Diri Penyebaran Covid19 Studi Kekuatan Eyebolt Pada Proses Pengangkatan Wellhead	JURNAL PENGABDIAN KEPADA MASYARAKAT (AbdiMas) 2 (1), 1-16 Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (1), 14-19
14	Rahman Hakim, ST, M.Sc	A 3 Ft Gurindam Unmanned Surface Vehicle (USV) Stability Hullform Performance ALTERNATIF PENGGANTI PASTA ALUMINA SEBAGAI BAHAN POLISHER UNTUK METALOGRAFI Rancang Bangun Jig & Fixture Untuk Pipe Fitting Steel Concentric Reducer Pada Mesin Bevel Pipa	Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (2), 42-47 Jurnal Integrasi 12 (2), 134-139
16	Cahyo Budi Nugroho, ST, M.Sc	Desain dan Pembuatan Faceshield Sebagai Alat Perlindungan Diri Penyebaran Covid19 ALTERNATIF PENGGANTI PASTA ALUMINA SEBAGAI BAHAN POLISHER UNTUK METALOGRAFI Sosialisasi Lapangan Pasca Bencana Gempabumi Dan Tsunami Di Sulawesi Tengah Tahun 2018	Jurnal Poli-Teknologi 19 (2), 145-150 JURNAL PENGABDIAN KEPADA MASYARAKAT (AbdiMas) 2 (1), 1-16 Jurnal Integrasi 12 (2), 134-139
23	Fedia Restu, S.T., M.Sc	ALTERNATIF PENGGANTI PASTA ALUMINA SEBAGAI BAHAN POLISHER UNTUK METALOGRAFI RANCANG BANGUN ALAT TAMBAL BAN DALAM SEPEDA MOTOR	Jurnal Manajemen Bencana (JMB) 6 (2) Jurnal Integrasi 12 (2), 134-139
24	Nurul Laili Arifin, S.Tr, M.T		Jurnal Technopreneur (JTech) 8 (1), 18-25
25	Hanifah Widiastuti, S.T., Ph.D	Determination and Classification of Benthic Habitat With Lyzenga Algorithm in Tanjung Piayu Waters, Riau Islands ALTERNATIF PENGGANTI PASTA ALUMINA SEBAGAI BAHAN POLISHER UNTUK METALOGRAFI PENGETAHUAN DAN SIKAP MASYARAKAT TERHADAP PRAKTEK MINUM OBAT DALAM PROGRAM PEMBERIAN OBAT MASSAL PENCEGAHAN (POMP) FILARIASIS	2020 3rd International Conference on Applied Engineering (ICAEE), 1-5 Jurnal Integrasi 12 (2), 134-139
29	Mega Gemala, S.T., M.Si	Efektifitas Metode Kombinasi Pasir Zeolit dan Arang Aktif dalam Pengolahan Air Lindi di Tempat Pembuangan Akhir (TPA) Analisa Rancangan Pipe Support pada Aliran Fuel Gas Menggunakan Auto Pipe Rancang Bangun Jig & Fixture Untuk Pipe Fitting Steel Concentric Reducer Pada Mesin Bevel Pipa	Jurnal Kesehatan Ibnu Sina (J-KIS) 2 (01), 63-70 Jurnal Teknik Kimia dan Lingkungan 4 (2), 162-167 Jurnal Teknologi Dan Riset Terapan (JATRA) 2 (2), 80-85 Jurnal Poli-Teknologi 19 (2), 145-150
31	Nurul Ulfah, S.Si., M.T	Efektifitas Metode Kombinasi Pasir Zeolit dan Arang Aktif dalam Pengolahan Air Lindi di Tempat Pembuangan Akhir (TPA) The effects of fiber ply orientation, laminate layer and PLA content on mechanical properties of carbon fiber reinforced bioplastic composites	Jurnal Teknik Kimia dan Lingkungan 4 (2), 162-167
32	Aulia Fajrin, S.T., M.Sc		Modern Physics Letters B 34 (07n09), 2040013 JURNAL PENGABDIAN KEPADA MASYARAKAT (AbdiMas) 2 (1), 43-51
33	Tian Havwini, S.Si., M.A	Pembuatan Media Belajar English For Ecotourism Untuk Masyarakat Hinterland	

1	Sapto Wiratno Satoto, S.T., M.T	An Analyze Stability of Traditional Boat in Riau Island Pengendalian Penularan COVID-19 Melalui Penerapan Non Medical Infant Face Shield (Nomifef) Karakteristik Lambung Kapal Gurindam Fuel Engine Politeknik Negeri Batam Project-Based Learning for the Design of Progressive Dies Supporting Tools	SPECTA Journal of Technology 5 (2), 123-129 JURNAL PENGABDIAN KEPADA MASYARAKAT (AbdiMas) 3 (1), 1-17 Jurnal Teknologi dan Riset Terapan (JATRA) 3 (1), 1-6 Rekayasa Mesin 12 (1), 117-124
9	Mufti Fathonah Muvariz, S.T.,M. Eng	Pengendalian Penularan COVID-19 Melalui Penerapan Non Medical Infant Face Shield (Nomifef) Karakteristik Lambung Kapal Gurindam Fuel Engine Politeknik Negeri Batam	JURNAL PENGABDIAN KEPADA MASYARAKAT (AbdiMas) 3 (1), 1-17 Jurnal Teknologi dan Riset Terapan (JATRA) 3 (1), 1-6
10	Naufal Abdurrahman Prasetyo, S.T., M.T	Karakteristik Lambung Kapal Gurindam Fuel Engine Politeknik Negeri Batam Karakteristik Lambung Kapal Gurindam Fuel Engine Politeknik Negeri Batam	Jurnal Teknologi dan Riset Terapan (JATRA) 3 (1), 1-6 Jurnal Teknologi dan Riset Terapan (JATRA) 3 (1), 1-6
11	Nidia Yuniarsih, S.T., M.T	Pengendalian Penularan COVID-19 Melalui Penerapan Non Medical Infant Face Shield (Nomifef) Numerical Simulation Hot-Spot Stress and Stress Concentration Factor in Simple Tubular Joints T, Y, K, and X	JURNAL PENGABDIAN KEPADA MASYARAKAT (AbdiMas) 3 (1), 1-17 Jurnal Teknologi dan Riset Terapan (JATRA) 3 (1), 1-6
12	Nurman Pamungkas, S.T., M.T	Studi Pengaruh Flame Straightening Terhadap Kekerasan Material High Strength Low Alloy (HSLA)	Jurnal Teknologi dan Riset Terapan (JATRA) 3 (1), 1-6
14	Rahman Hakim, ST, M.Sc	Prototype Development of Motorbike Towing Hook Towards Authorized Mechanic Perception and Investigation	4th Forum in Research, Science, and Technology (FIRST-T1-T2-2020), 450-455
17	Muhammad Hasan Albana, S.Pd., M.T	Prototype Development of Motorbike Towing Hook Towards Authorized Mechanic Perception and Investigation	4th Forum in Research, Science, and Technology (FIRST-T1-T2-2020), 450-455
18	Nugroho Pratomo Ariyanto, ST, M.Sc	Pengaruh Holding Time Annealing terhadap Perubahan Mikrostruktur Baja Struktur S690QL dan S235JR	Jurnal Integrasi 13 (1), 46-52
19	Ari Wibowo, S.T., M.Eng	Pengaruh Holding Time Annealing terhadap Perubahan Mikrostruktur Baja Struktur S690QL dan S235JR	Jurnal Integrasi 13 (1), 46-52
22	Adhe Arysawan, S.Pd., M.Si	Effect of Stainless Steel Weld Overlay Deposit on the Hardness of API 5L Pipes Hierarchical Porous g-C3N4 as a Photocatalyst Nanomaterial Effect of Stainless Steel Weld Overlay Deposit on the Hardness of API 5L Pipes	The International Conference on Applied Engineering 2020, 119-123 Journal of Research and Development on Nanotechnology 1 (1), 1-5 The International Conference on Applied Engineering 2020, 119-123
24	Nurul Laili Arifin, S.Tr, M.T	Pengaruh Holding Time Annealing terhadap Perubahan Mikrostruktur Baja Struktur S690QL dan S235JR Pengendalian Penularan COVID-19 Melalui Penerapan Non Medical Infant Face Shield (Nomifef) Effect of Stainless Steel Weld Overlay Deposit on the Hardness of API 5L Pipes Prototype Development of Motorbike Towing Hook Towards Authorized Mechanic Perception and Investigation Pengaruh Holding Time Annealing terhadap Perubahan Mikrostruktur Baja Struktur S690QL dan S235JR	Jurnal Integrasi 13 (1), 46-52 JURNAL PENGABDIAN KEPADA MASYARAKAT (AbdiMas) 3 (1), 1-17 The International Conference on Applied Engineering 2020, 119-123 4th Forum in Research, Science, and Technology (FIRST-T1-T2-2020), 450-455 Jurnal Integrasi 13 (1), 46-52
25	Hanifah Widiastuti, S.T., Ph.D	Project-Based Learning for the Design of Progressive Dies Supporting Tools Pengendalian Penularan COVID-19 Melalui Penerapan Non Medical Infant Face Shield (Nomifef) Numerical Simulation Hot-Spot Stress and Stress Concentration Factor in Simple Tubular Joints T, Y, K, and X	Rekayasa Mesin 12 (1), 117-124 JURNAL PENGABDIAN KEPADA MASYARAKAT (AbdiMas) 3 (1), 1-17 Jurnal Teknologi dan Riset Terapan (JATRA) 3 (1), 1-6
27	Nur Fitria Pujo Leksonowati, S.Tr., M.Sc	Studi Pengaruh Flame Straightening Terhadap Kekerasan Material High Strength Low Alloy (HSLA)	Jurnal Teknologi dan Riset Terapan (JATRA) 3 (1), 1-6
30	Annisa Fyona, S.K.M., M.K.K.K	Studi Mula Pembuatan Purwa-rupa Smartphone Document Scanner Stand Dengan Metode Taguchi	Jurnal Teknologi dan Riset Terapan (JATRA) 3 (1), 32-36
31	Nurul Ulfah, S.Si., M.T	Pengendalian Penularan COVID-19 Melalui Penerapan Non Medical Infant Face Shield (Nomifef)	JURNAL PENGABDIAN KEPADA MASYARAKAT (AbdiMas) 3 (1), 1-17
34	Ita Wijayanti, S.T.P., M.Sc	Project-Based Learning for the Design of Progressive Dies Supporting Tools	Rekayasa Mesin 12 (1), 117-124

Patent 2020-2021

1. Alat Bantu Pemungut Sampah (ID patent 2020/SID/00,643)
2. Carriage Stopper Magnet untuk Mesin Bubut (ID Patent 2020/SID/00,893)
3. Alat Penghasil Listrik dari Saluran Radiator Mesin Menggunakan Thermoelectric Generator

F Restu, MH Albana, CB Nugroho, H Widiastuti, I Nainggolan, R Hakim
MH Albana, F Restu, CB Nugroho, M Sidiq
MH Albana, R Hakim, CB Nugroho

Widodo, S.T., M.T PERANCANGAN SISTEM PERAWATAN MESIN BERBASIS KOMPUTER DI LAB MANUFAKTUR POLIBATAM
Evaluasi Manajemen Perawatan Dengan Metode Reliability Centered Maintenance Pada Kinerja Mesin Kapal TB.ELANGTIRTA V

CONCLUSION

2020

sinta 3	2
sinta 4	5
national non accreditation	21
proceeding	2
Book	2
Patent	2

2021

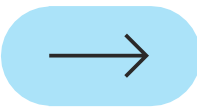
sinta 2	3
sinta 3	
sinta 4	4
sinta 5	1
national non accreditation	16
proceeding	7
Book	
Patent	1



Volume 3 no 1 (June 2021)



Applying for Accreditation after volume 3 no 2 (December 2021)



Open submission for volume 3 no 2 (publish in December 2021)



JOURNAL

Mechanical Engineering, Marine Engineering, Naval Architecture, Aerospace Engineering and Aircraft Maintenance, Electrical Engineering, Industrial Engineering, Informatics Engineering, Material Science and Engineering, Manufacturing Processes, Microelectronics, and other application of mechanical, electrical, electronical and informatics in applied engineering and technology



**THANK
YOU!**

Jurnal Teknologi dan Riset Terapan (JATRA) Tasks 4

Issues

Future Issues | Back Issues

Submissions

Issues

Settings

Users & Roles

Tools

Future Issues

Back Issues

	Items
▶ Vol 3 No 2 (2021): Jurnal Teknologi dan Riset Terapan (JATRA) - December 2021	0
▶ Vol 4 No 1 (2022): Jurnal Teknologi dan Riset Terapan (JATRA) - June 2022	0
▶ Vol 4 No 2 (2022): Jurnal Teknologi dan Riset Terapan (JATRA) - December 2022	0
▶ Vol 5 No 1 (2023): Jurnal Teknologi dan Riset Terapan (JATRA) - June 2023	0
▶ Vol 5 No 2 (2023): Jurnal Teknologi dan Riset Terapan (JATRA) - December 2023	0
▶ Vol 6 No 1 (2024): Jurnal Teknologi dan Riset Terapan (JATRA) - June 2024	0
▶ Vol 6 No 2 (2024): Jurnal Teknologi dan Riset Terapan (JATRA) - December 2024	0

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