

**ROADMAP  
KELOMPOK KAJIAN TERPADU (KKT)  
2015 - 2019**

**AMEMA (AEROSPACE, MECHANICAL, MARINE AND MANUFACTURING)**



# OUTLINE



**AMEMA**

Aerospace, Mechanical, Marine  
and Manufacturing  
Research Group

**INTRODUCTION**

**RESEARCH TOPIC**

**INDICATOR**

**MINIMUM INDICATOR**

**RESEARCH ROADMAP**

**RESEARCH RESOURCES AND PUBLISHED PAPER**



POLITEKNIK NEGERI Batam

# INTRODUCTION

**AMEMA (Aerospace, Mechanical, Marine and manufacture)**

**The objective of the AMEMA is scientific and technological research and development on Aerospace, Mechanical, Marine and Manufacturing.**

**It was established in 2013**



**AMEMA**

Aerospace, Mechanical, Marine  
and Manufacturing  
Research Group

# RESEARCH TOPIC

## Mechanical and Material

- |    |  |
|----|--|
| 1  | Fuild mechanics, alternative fuel and efficiency of heat engine and automobile engineering |
| 2  | Basic sandwich material and NDT  |
| 3  | Material coating fabrication tool for NDT and DT   |
| 4  | Application of coating anf offshore technology   |
| 5  | Improvement and implementation of basic research on material offshore                      |
| 6  | Research on coating material for market use  |
| 7  | Material science   |
| 8  | Alluminium furnace design for alluminium alloy manufacture                                 |
| 9  | Biodiesel  |
| 10 | Alluminium and alumina powder development  |
| 11 | Porous metal development and metal composit development                                    |
| 12 | Magnetic ceramic development   |
| 13 | Levitation magnetic development and superconductor material                                |

## Mechanical and Material

- |    |   |
|----|---|
| 14 | Material (Fe) composite for Corrosion Prevention                        |
| 15 | Supercritical Technology (CO <sub>2</sub> ) for coating material        |
| 16 | Ultrasonic Wave for reducing Fe (Fe <sub>2</sub> O <sub>3</sub> )       |
| 17 | Improvement of material value to reduce corrosion rates of iron / steel |
| 18 | Iron coating with polymer   |

# RESEARCH TOPIC

## Marine, Naval and Offshore studies

1	Ship design and construction
2	AIS system
3	Marine system and technology
4	Traditional Ship Design and Construction
5	Ship Repowering
6	Ship manufacturing process
7	Studies on multi hull ship
8	Assessment of mechanical propulsion system for merchant
9	Marine operation in shallow water
10	Marine renewable energy
11	Offshore and floating structure
12	Project management
13	Ship Design on unmaned ship vehicle
14	Solar plant, ware source power plant and monitoring system

## Manufacture

1	Cutting strategy for CNC milling (3 axis and 5 Axis)
2	Minimum quantity lubricant for machining process
3	Press tool and mold technology and optimization of cutting layout
4	Design copy turning and copy miling by mechanical and contolled technology
5	Fracture mechanics solid
6	Surface engineering of mold
7	Machining process
8	Under-carriage heavy equipment

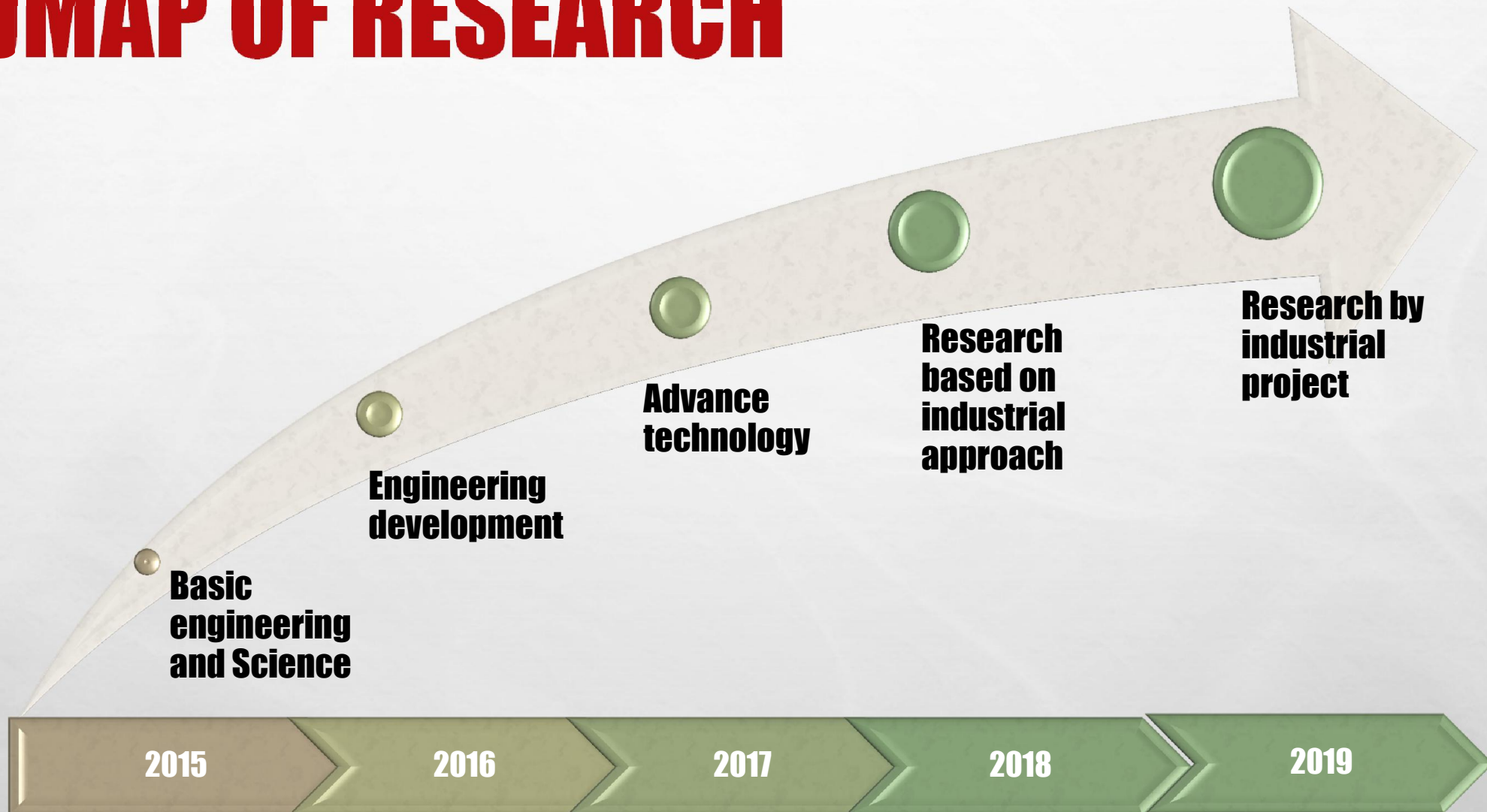
## Aerospace

1	Basic of airplan technology and maintenance
2	Hovercraft development, airplan technology and aerodynamic
3	Aerodynamic and aircraft maintenance

# MINIMUM INDICATOR

No	Output		Minimum Indicator				
			2015	2016	2017	2018	2019
1	Jurnal Publication	Non-indexed International Journal	2	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	Seminar Publication	International	1	1	1	1	1
		National	2	1	1	1	1
3	Research grant		-	1	1	1	1
4	Project/research with industry		-	1	1	2	2

# ROADMAP OF RESEARCH



POLITEKNIK NEGERI Batam

AMEMA

# Researcher Resource 2015

No	Nama
1	Hendra Saputra, S.T., M.Eng.
2	Ari Wibowo, S.T., M.Eng.
3	Benny Haddli Irawan, S.Tr.
4	Cahyo Budi Nugroho, S.T., M.Sc.
5	Rifel Landong
6	Mufti Fathonah Muvariz, S.T., M.Eng.
7	M. Hasan Albana, S.Pd., M.T.
8	Nidia Yuniarsih, S.T., M.T.
9	Nugroho Pratomo Ariyanto, S.T., M.Sc.
10	Sapto Wiratno Satoto, S.T., M.T.
11	Widodo, S.T.
12	Wowo Rossbandrio, Dipl.-Ing.
13	Nauval Abdurahman, S.T., M.T
14	Nurul Laili Arifin

No	Resources	Master degree	Bachelor	Diploma (Assistance)
1	Aerospace	2	-	-
2	Mechanical	4	-	-
3	Marine	6	-	-
4	Manufacture		2	3



# PUBLISHED PAPER

## PUBLICATION 2013 & 2014

Cahyo Budi Nugroho, ST, M.Sc Penyelidikan Daya Keluaran Panel Surya 200WP di Pekanbaru pada bulan Maret 2013 Dipersentasikan pada Seminar Nasional Informasi Komunikasi dan Industri (SNTIKI) 2013, di Pekanbaru, 02 Oktober 2013

Widodo, ST Optimasi Kekasaran pada Copy Turning dengan Variasi Parameter Kedalaman Pemakanan, Kecepatan Potong dan Gerak Makan Dipersentasikan pada Seminar Nasional Teknologi Terapan 2013, Universitas Gadjah Mada, Jogjakarta, 26 Oktober 2013.

Widodo, ST Studi Eksperimen output daya pada motor stirling TD 295 tipe Gamma dengan menggunakan striling engine control V.1.5.0-2013 Seminar Nasional Energy, Politeknik Negeri Jember, 6-7 Desember 2013

Rahman hakim, Harus L Guntur Pengembangan Desain sistem Suplai Brown's gas Model 6 cell tersusun Seri dan Implementasinya pada Mobil Suzuki Karimun Gx 970 Cc. Seminar Nasional Applied Business and Engineering conference tahun 2013, Politeknik Negeri Batam bekerjasama dengan Politeknik Caltex Riau, Gedung IT centre, BP Batam, Batam- Kepri, 30-31 Oktober 2013

Widodo, ST, Ahmad Arif Nur Ismi, Mahros Darsin Pengaruh Parameter Proses Current Pulse, On time, dan off time pada Electrical Discharge Machining (EDM) Die Sinking terhadap nilai kekasaran permukaan benda kerja baja Aisi H-13 dipresentasikan pada Seminar Nasional Applied Business and Engineering conference tahun 2013, Politeknik Negeri Batam bekerjasama dengan Politeknik Caltex Riau, Gedung IT centre, BP Batam, Batam- Kepri, 30-31 Oktober 2013

Muhammad Hasan Albana, S.Pd., M.T Penggunaan CH<sub>3</sub>OH Sebagai Bahan Bakar Alternatif untuk Spark Ignition Engine ditinjau dari Unjuk Kerja dan Emisi Gas Buang yang dihasilkan Dipersentasikan pada Seminar Nasional Hasil Penelitian dan Pengabdian Masyarakat (Flipmas), Bali, Denpasar, 27 Februari 2014

# PUBLISHED PAPER

## PUBLICATION 2013 & 2014

Cahyo Budi Nugroho, ST, M.Sc Desain Molding pada Mesin Produksi Fishing Lure untuk insudtri Rumah Tangga Dipersentasikan di Seminar Nasional Hasil Penelitian dan Pengabdian Masyarakat (Flipmas), Bali, Denpasar, 27 Februari 2014

Fedia Restu, ST Rekayasa Mesin Pencacah Sampah sederhana pada skala Internal Politeknik Negeri Batam Dipersentasikan di Seminar Nasional Hasil Penelitian dan Pengabdian Masyarakat (Flipmas), Bali, Denpasar, 27 Februari 2014

Widodo, ST Pembuatan Mesin Pencetak dan Uji Penyerapan Air Pada Batako Dengan Sistem Injak Dipresentasikan pada Seminar Nasional Teknologi Terapan 15 November 2014, Universitas Gadjah Mada

Sapto Wiratno Satoto, Hendra Saputra, M. Eng Stability and Ship Motion Comparasion Analysis Between Curve and flat Pannel Ship as a Squid Catcher Equipment on the 1st international Conference on Engineering, Technology, and Applied Business (ICETAB 2014) at Politeknik Negeri Batam, 04 th December 2014.

Hendra Saputra, S.T., M. Eng Estimation of Exhaust Ship Emission from Marine Traffic In the Straits of Singapore and Batam Waterways Using Automatic Identification System (AIS) Data on the 1st international Conference on Engineering, Technology, and Applied Business (ICETAB 2014) at Politeknik Negeri Batam, 04 th December 2014.

Rahman Hakim, ST, Harus L Guntur Pengembangan Desain sistem suplai brown's Gas Model 6 Cell tersusun seri dan implementasinya pada mobil suzuki karimun GX970CC . Jurnal Integrasi, Politeknik Negeri Batam volume ke 5 Nomor 1, April 2013, ISSN: 2085-3858

Fedia Restu, ST Rekayasa mesin pemilah dan penghancur sampah otomatis dengan sistem kendalikontrol sederhana pada skala internal Politeknik Negeri Batam. Jurnal Integrasi, Politeknik Negeri Batam volume ke 5 Nomor 1, April 2013, ISSN: 2085-3858