

LATAR BELAKANG

KONTEKSTUALISASI GLOBAL: PERGESERAN PARADIGMA AERONOTIKA

Dunia kedirgantaraan tidak lagi berada dalam era mekanis murni. Kita sedang menyaksikan Aeronautical Revolution yang dipicu oleh konvergensi teknologi digital dan energi terbarukan. Transformasi ini mengubah fundamental bagaimana pesawat dirancang, dibangun, dan dipelihara.

School Building Timeline

Problem Statement

1 **SYSTEMIC MISMATCH (pedagogical gap)**
 2 **TECHNOLOGICAL LAG (global vs local)**
 3 **RESEARCH VOID (VIA Aerotropolis)**

Can static spatial infrastructure support systemic propulsion intelligence??

SITE TERPILIH

KAWASAN BANDARA VIA

GUBAHAN MASSA

Fuselage Core, Aero-Fin, Nozzle Exhaust, Delta-Wing Aerodynamics

Floor Plan Level 1

Floor Plan Level 2

Floor Plan Level 3

Manifestasi Geometri dan Sistem Pesawat ke dalam Arsitektur

LEFT SIDE - AERODYNAMIC GEOMETRY	CENTRAL TRANSFORMATION ZONE	RIGHT SIDE - ARCHITECTURAL MORPHOLOGY	Parameter Udara	Formula / Geometri	Tektonika Bangunan	Output Performa
NACA 8-Series Airfoil	Laminar Flow → Envelope Drag Reduction	C _d reduction	Laminar Flow	NACA Airfoil	Reduksi drag (hambatan angin) 15%	
Laminar Flow Control	Shockwave Delay → Curvature Transition Strategy	Roof Shell Profile	Shockwave Delay	Jetbrake Nose	Optimalisasi distribusi beban angin lateral	
Shockwave Delay - M _∞	Dihedral Stability → Structural Inclination Logic	Facade Curvature Transition	Dihedral Stability	Jetbrake Nose	Respons struktur mandiri anti-seismik	
Supercritical Wing	Boundary Layer Control → Porous Adaptive Skin	Inclined Structural Planes	Dihedral Stability	Jetbrake Nose		
Dihedral Angle	LOWER SECTION - PROPULSION ARCHITECTURE ANALOGY	Porous Bionic Envelope				
Rolling Stability (C _r)	Passive Brayton-regulated thermal cycle					
Rolling Stability (C _r)	Active Brayton-regulated thermal cycle					
Boundary Layer Section						

BIONIC STRUCTURAL READING OF AIRCRAFT GEOMETRY

Studi Bentuk

FORM FINDING

Analisis Site

SITE TERPILIH

VIEW FROM SITE, **VIEW TO SITE**, **AKSESIBILITAS**, **KEBISINGAN**, **ARAH ANGIN**, **MATAHARI**, **SUPERIMPOSE**, **ZONING VERTIKAL**

SITE PLAN

Skala 1:1500

Zona Laboratorium, Perpustakaan Amphitheater Gedung Pameran, Asrama, Gedung Akademik, Auditorium

Data Site, **SITE CONTEXT**, **CIRCULATION**, **SOFTSCAPE**, **HARDSCAPE**, **ROOF**

SECTION

Video Presentasi Desain (tersedia di YouTube)

SCAN HERE

SHAPING THE FUTURE OF FLIGHT, TODAY.

LEARN BEYOND HORIZONS, FLY BEYOND LIMITS.

AeroSphere