Muhammad Haikal Fasya

Geodetic Engineer



30+
Project Approved

2+
Years Experience

95%
Client Satisfaction

PORTOFOLIO OVERVIEW

An overview of my professional journey, expertise, selected projects, and contributions in the geospatial field.

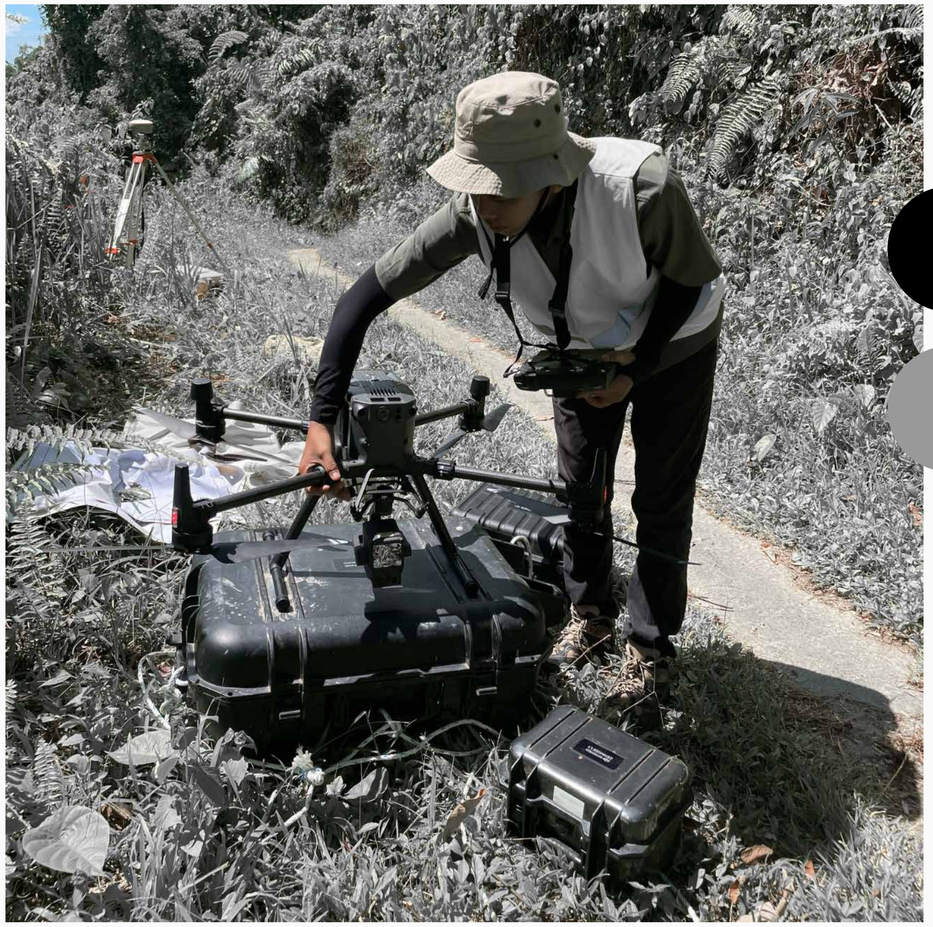
01
Proffesional Profile
My background, experience, and the professional value I bring.

02
Technical Expertise
Expertise in UAV mapping, LiDAR, GNSS, topographic survey, bathymetry, GIS, and project control.

03
Selected Project Case Studies
Project challenges, personal contributions, technical workflows, and delivered outcomes.

04
Leadership & Knowledge Sharing
Experience in team coordination, project control, training, and professional collaboration.

MY JOURNEY, MY STRENGTH



Where It All Started

My geospatial journey began while pursuing a bachelor's degree in Geomatics Engineering at Institut Teknologi Sumatera. My interest in surveying, mapping, UAV technology, and GIS built the foundation for understanding projects from data acquisition to final deliverables.

The Turning Point

Working across various projects expanded my role from technical execution to team coordination, progress monitoring, and quality control. I learned that reliable outcomes are built through planning, communication, leadership, and consistent quality.

Techincal Strength

UAV, LiDAR, GNSS, GIS, Topography & Bathymetry

Proffesional Strength

Planning, coordination, quality control & leadership

THE UNIQUE VALUE I BRING

END-TO-END PERSPECTIVE

Connecting planning, acquisition, processing, quality control, and final project deliverables.

CLARITY IN COMPLEXITY

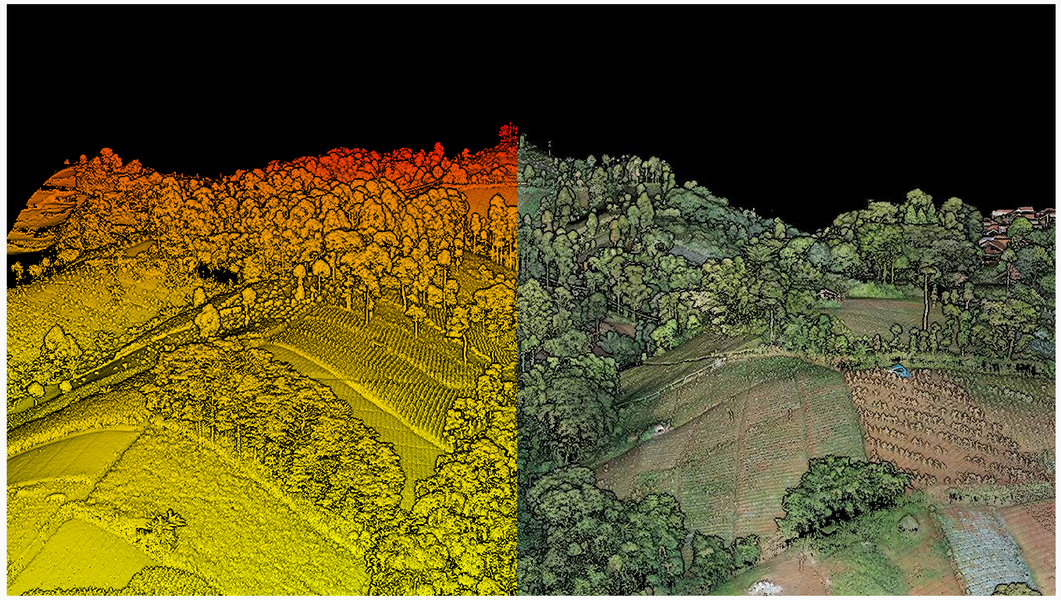
Translating complex technical requirements into clear plans, priorities, and actionable decisions.

QUALITY & OWNERSHIP

Maintaining data accuracy, process consistency, and output readiness through quality control at every stage.



SOLUTIONS THROUGH GEOSPATIAL DATA



DATA BEFORE ASSUMPTIONS

Every decision is supported by measurable, validated field data that meets the required accuracy standards.

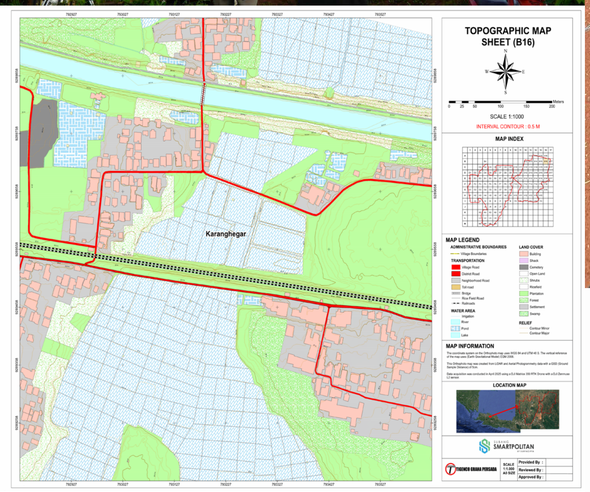
BUILT FOR REAL-WORLD USE

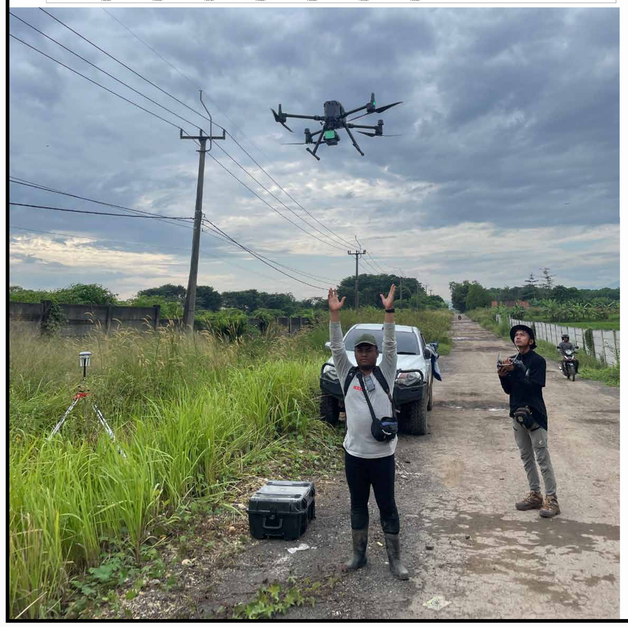
Maps, elevation models, profiles, volumes, and reports are prepared to support technical needs and informed decisions.

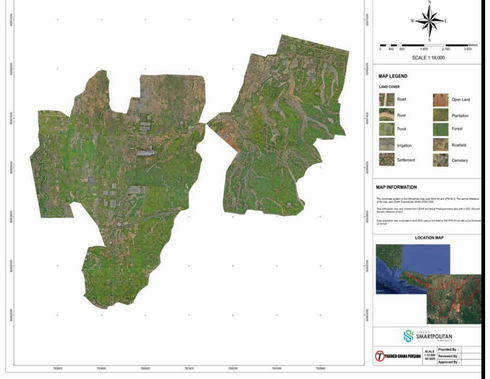
- UAV Mapping & LiDAR
- GNSS & Topography
- Photogrammetry & GIS
- Bathymetry
- Project Control

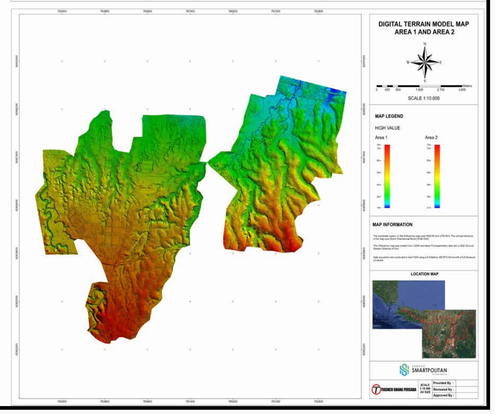












SELECTED PROJECT

UAV LIDAR & PHOTOGRAMMETRY SUBANG SMARTPOLITAN

Large-Scale Integrated Topographic Mapping

Subang, West Java | 2025 | Geodetic Engineer

Challenge & Objective

Mapping a 6.365-hectare area required a robust control network, efficient acquisition planning, and consistent

Role & Approach

Coordinated the BM, CP, GCP, and ICP control network, UAV LiDAR and photogrammetry acquisition, data processing review, and final deliverable quality control.

Result & Deliverables

Delivered 10 BM, 10 CP, 30 GCP, and 10 ICP points, along with a DTM, 5 cm GSD orthophoto, 1:1,000 situation map, 0.5-meter contours, topographic digitization, and a project preview video.



SELECTED PROJECT

UAV LIDAR & PHOTOGRAMMETRY TIMOR-LESTE AIRPORT

Airport Topographic Mapping & Runway Development Support

Timor-Leste | 2025 | Geodetic Engineer

Challenge & Objective

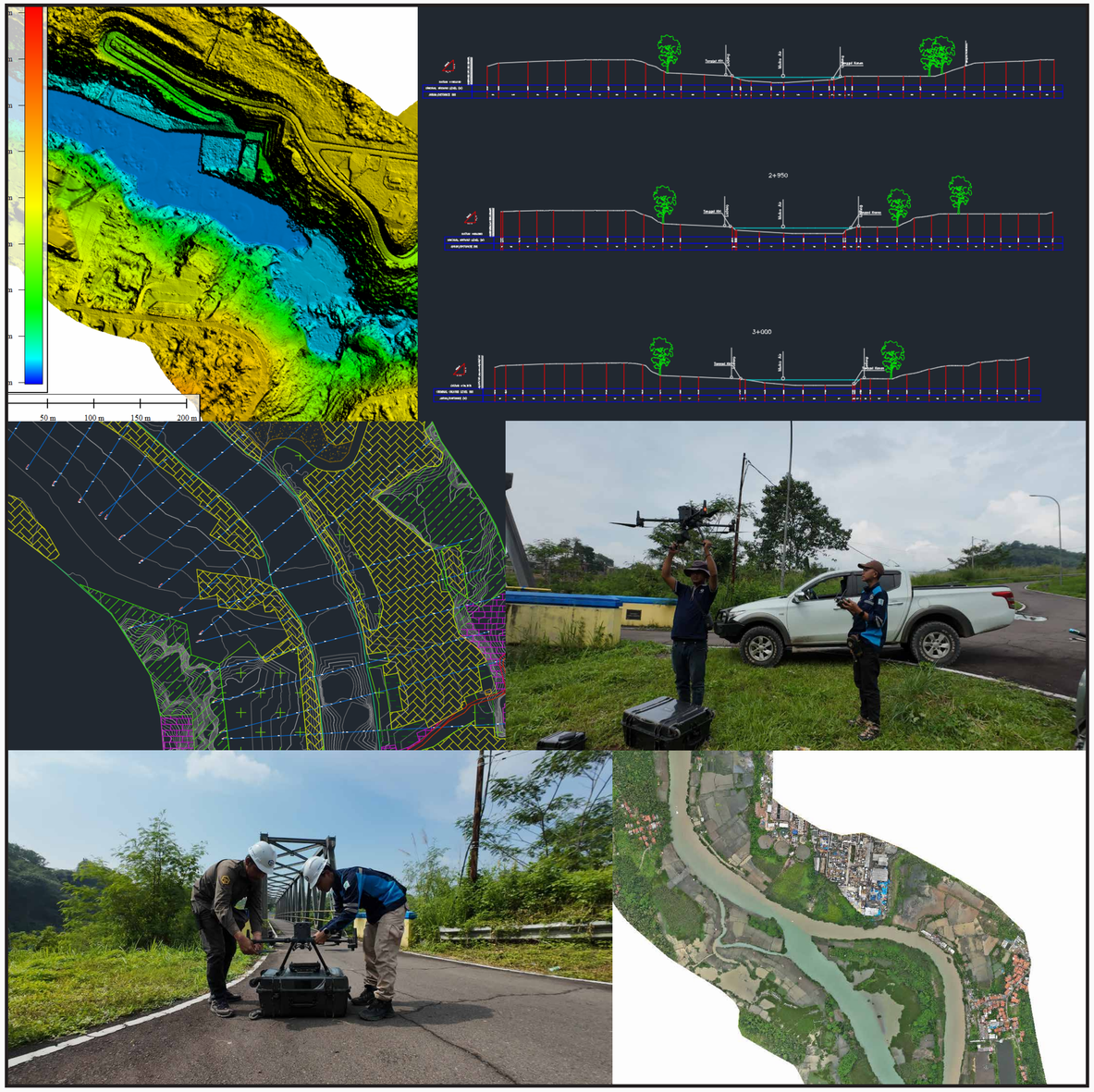
Airport development required high-resolution topographic data covering both airside and landside areas, including the runway, apron, drainage network, buildings, and surrounding settlements.

Role & Approach

Coordinated UAV LiDAR and photogrammetry acquisition, control-point implementation, point-cloud processing, elevation modelling, and the preparation of profiles and existing-condition maps.

Result & Deliverables

Delivered a 3 cm GSD orthophoto, DTM, 0.5-meter contours, airport situation map, and longitudinal and cross-sectional profiles to support the planned runway extension from 1,850 to approximately 2,200 meters.



SELECTED PROJECT

CITARUM RIVER RIPARIAN BOUNDARY STUDY

UAV LiDAR-Based River Corridor Mapping

West Java | 2025 | Geodetic Engineer

Challenge & Objective

The long river corridor, with varied terrain and vegetation, required consistent ground-surface data to support boundary assessment and existing-condition analysis.

Role & Approach

Coordinated control-point establishment, UAV LiDAR and photogrammetry acquisition, point-cloud classification, and quality control of the DTM, orthophoto, contours, and river profiles.

Result & Deliverables

The project established 13 BM, 13 CP, and 24 GCP points and delivered a DTM, 7.5 cm GSD orthophoto, 0.5-meter contours, and longitudinal and cross-sectional profiles at 150–200-meter intervals.



SELECTED PROJECT

IRRIGATED LAND OPTIMIZATION BANTEN PROVINCE

Topographic Survey for Irrigation Land Optimization

Banten | 2025 | Project Coordination & Quality Control

Challenge & Objective

The survey covered 28 irrigation systems across Banten Province, requiring consistent reference control, measurement methods, and quality standards to accurately represent the existing irrigation network.

Role & Approach

Coordinated survey planning, BM/CP establishment and measurement, GNSS RTK topographic data acquisition, field-progress monitoring, and quality control of positional, elevation, and data-completeness requirements.

Result & Deliverables

The survey covered 28 irrigation systems with a total measurement length of approximately 138.86 km. A total of 16 BM and 16 CP points were established, achieving horizontal accuracy of ±1–2 cm and vertical accuracy of ±2–3 cm. The resulting data documented concrete channels, earth channels, and damaged sections to support irrigation network evaluation, rehabilitation, and improvement.

2026
PROJECT EXPERIENCE

01	Upstream and Downstream Bathymetric Survey of Major Rivers in Aceh and North Sumatra	North Sumatra
02	UAV LiDAR Survey of the Bireuen–Takengon Corridor	Aceh
03	UAV LiDAR and Photogrammetry Survey	Southeast Sulawesi
04	Bathymetric Survey of the Leung and Kuala Simpang Rivers	Aceh
05	Bathymetric and UAV LiDAR Survey for Lubuk Sidup Bridge	Aceh Tamiang
06	Survey, Investigation and Design for New Paddy Field Development	Halmahera, North Maluku
07	UAV LiDAR Survey for MC100	Indramayu, West Java
08	Topographic Survey for SITU Boundary Delineation	Depok, West Java
09	UAV LiDAR and Photogrammetry Survey in Batang Toru	North Sumatra
10	UAV LiDAR and Photogrammetry Survey for Kopiluhur Landfill	Cirebon, West Java
11	Topographic Survey for DIR New Paddy Field Development	Ogan Komering Ilir, South Sumatra

2026
PROJECT EXPERIENCE

12	Topographic Survey for the Cisangkuy and Cipamokolan River Boundary Study	Citarum, West Java
13	Topographic Survey for Irrigation Channel MC0	South Sumatra
14	UAV LiDAR and Photogrammetry Survey	Timor-Leste

2025
PROJECT EXPERIENCE

01	UAV LiDAR and Bathymetric Survey for Waste Canal Quality Control	Palembang, South Sumatra
02	Topographic Survey of Irrigation and Swamp Areas	Palangka Raya, Central Kalimantan
03	Topographic Survey for Irrigated Land Optimization	Cirebon, Garut and Brebes
04	Bathymetric Survey for an Underwater Fuel Pipeline Project	Cikampek, West Java
05	UAV LiDAR Topographic and Bathymetric Survey of the Bekasi River	Bekasi, West Java
06	Topographic Survey for the Garuntang and Balau River Boundary Study	Bandar Lampung
07	Topographic and Bathymetric Survey of a Mining Area	Muara Enim, South Sumatra

2025
PROJECT EXPERIENCE

08	Topographic Survey for Irrigated Land Optimization	Banten
09	Regional Boundary Determination and Delineation	Raja Ampat, Southwest Papua
10	3D Laser Scanning and BIM Modelling of the Makarti Muktitama Building	Jakarta
11	UAV LiDAR Survey for Piyungan Landfill Planning	Bantul, Yogyakarta
12	Bathymetric and UAV LiDAR Survey for Lubuk Sidup Bridge	Aceh Tamiang
13	UAV LiDAR Survey for the Citarum River Boundary Study	West Java
14	Topographic and Bathymetric Survey for Wulan River Optimization, Phase 2	Demak, Central Java
15	UAV LiDAR and Topographic Survey for Dili Airport Master Plan	Dili, Timor-Leste
16	UAV LiDAR and Photogrammetry Survey for Subang Smartpolitan	Subang, West Java
17	Photogrammetric Survey and Customary Boundary Mapping	Malaseme, Papua
18	UAV LiDAR and Photogrammetry Survey of the Cikampek–Karawang Commuter Rail Corridor	West Java