



GLOBAL

Petro-NEXUS

Global Petro-NEXUS Sdn. Bhd.

Company No : 202601003866 (1665963-T)



**TANK CLEANING AND
HYDROCARBON SLUDGE
REMEDATION & RECOVERY
BY NEXGEN**

INDICATIVE WORK SCHEDULE

SINGLE TANK PILOT PROJECT

Project: **NEXGEN Hydrocarbon Sludge Remediation & Recovery**

Client: MMHE / Vessel Owner

Technology Provider: Global Petro-NEXUS (GPN)

Digital Intelligence Partner: TNF

Execution Partner: HEM/Others

	Activity	Lead Party	Duration	Deliverable
1	Client Engagement & Kick-Off Meeting	GPN / MMHE	Day 1	Project Kick-Off
2	Collection of Tank Data & Drawings	MMHE / Owner / TNF	Day 1-2	Tank Information Package
3	Technical Review & Feasibility Assessment	GPN / TNF	Day 2-3	Preliminary Assessment Report
4	Site Visit & Tank Verification	GPN / TNF / HEM	Day 4	Site Verification Report
5	Sludge Sampling	GPN	Day 4	Sludge Sample
6	Laboratory Analysis	Laboratory / GPN	Day 5-8	Lab Report

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ABOUT US

PIONEERING HYDROCARBON REMEDiation & RECOVERY

Global Petro-NEXUS Sdn. Bhd. (GPN) is a Malaysian technology-driven energy solutions company dedicated to advancing the future of hydrocarbon sludge remediation, oil recovery optimization, industrial waste minimization, and circular economy solutions for the global oil and gas industry. Founded on a strong foundation of scientific research, engineering innovation, and industry collaboration, GPN is the owner and commercial developer of the NEXGEN™ Energy Solutions platform.

While GPN is a young corporate entity, the intellectual capital, technical expertise, strategic partnerships, and scientific capabilities supporting the company are highly differentiated. NEXGEN™ represents the convergence of advanced chemistry, engineering applications, laboratory science, data analytics, and operational experience to deliver measurable industrial outcomes.



STRATEGIC DIRECTION

VISION

To become a leading global technology platform for hydrocarbon sludge remediation, oil recovery enhancement, and sustainable industrial waste transformation.

MISSION

Our mission is to help the global energy industry achieve the following objectives through innovative, science-based, and commercially viable technology solutions:

- Recover trapped hydrocarbon value from complex waste streams
- Reduce sludge-related operational costs and maintenance overheads
- Improve environmental performance and minimize total waste disposal
- Enhance operational efficiency across upstream, midstream, and downstream
- Accelerate ESG and sustainability objectives



INDUSTRY PROBLEM

THE GLOBAL HYDROCARBON SLUDGE CHALLENGE

Billions of dollars are lost annually due to operational disruptions caused by hydrocarbon heavy fractions.

Storage Asset Deterioration	Accumulation of storage tank sludge and refinery bottom sludge
Marine & Logistic Fouling	Heavy marine tank residues and critical pipeline deposits
Flow Assurance Restrictions	Severe paraffin and asphaltene build-up within active process loops
Environmental Overhead	Prohibitive disposal costs, extensive downtime, and mounting waste streams

Hydrocarbon sludge is traditionally treated as a toxic liability. However, this sludge contains substantial quantities of trapped, highly valuable hydrocarbons. The primary barrier has been the inability to break the sludge matrix, reduce viscosity, and facilitate clean separation. This is where nexgen™ enters.

TECHNOLOGY PLATFORM

NEXGEN™ INTEGRATED PILLARS

nexgen™ is far more than a standard chemical additive; it is a fully integrated technology platform built upon four multi-disciplinary pillars.



ADVANCED CHEMICAL FORMULATIONS

Specialized chemical treatments engineered to actively interact with and break down complex hydrocarbon matrices containing asphaltenes, paraffins, waxes, heavy sediments, and water.



PROCESS ENGINEERING

Translating chemical properties into operational results by optimizing specific treatment methodologies for storage tanks, marine tanks, refineries, pipelines, and lagoons.



LABORATORY SCIENCE

Rigid scientific analytics providing full client visibility into sludge characterization, physical/chemical analysis, recovery yields, and empirical validation.



DATA INTELLIGENCE & AI

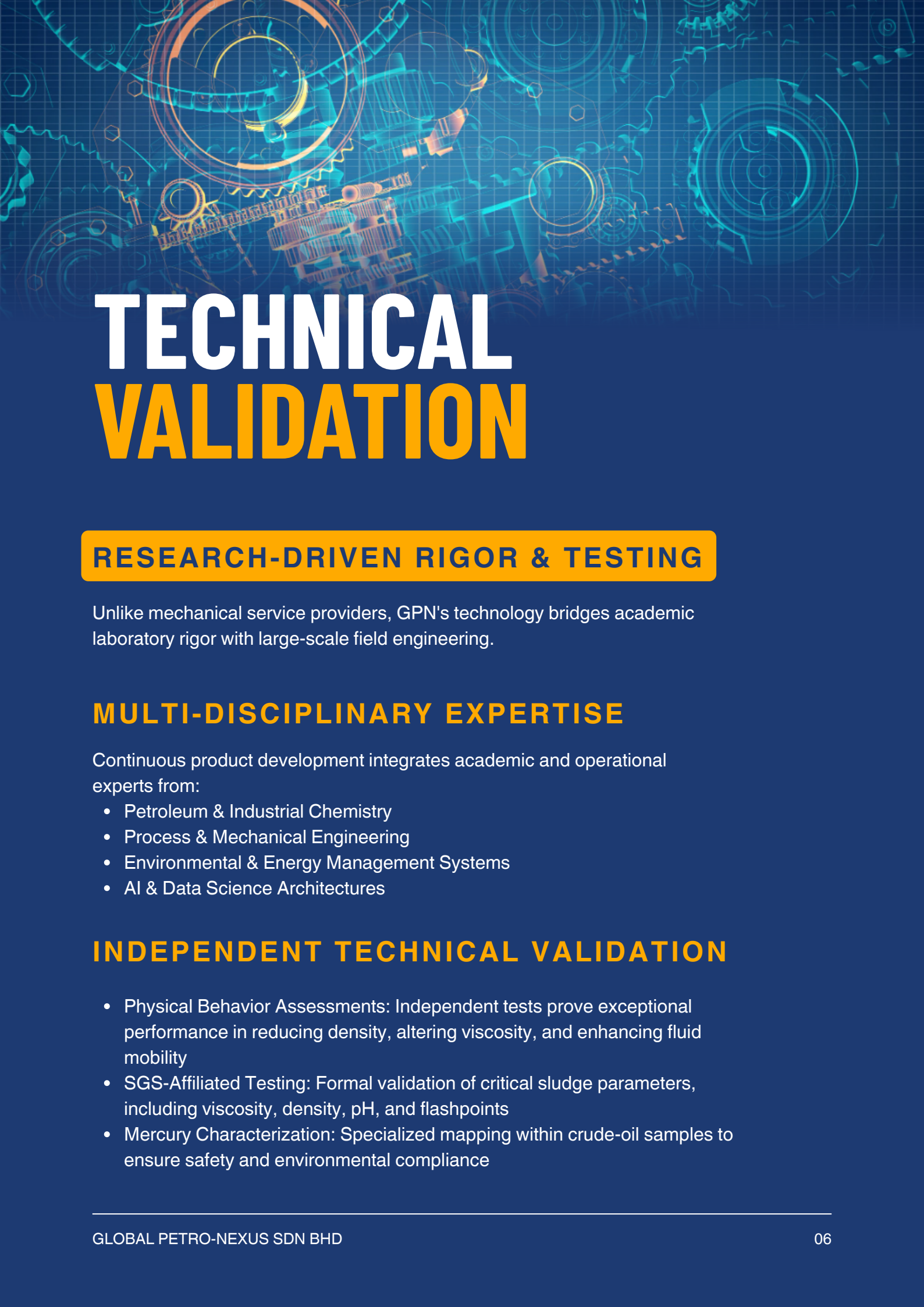
Integrating advanced data analytics, predictive modeling, process optimization, and AI-assisted decision support systems to monitor and guide field performance.

Products

PRODUCT PORTFOLIO

PROPRIETARY CHEMICAL SOLUTIONS

Proprietary Solution	Primary Structural Category	Core Field Application Profile
	Advanced Chemical Solution	Specialized Hydrocarbon Matrix Penetration & Fluidization
	Advanced Chemical Solution	Flow Assurance, Viscosity Reduction & Sludge Mobilization
	Advanced Chemical Solution	High-Yield Oil Recovery Optimization & Industrial Cleaning



TECHNICAL VALIDATION

RESEARCH-DRIVEN RIGOR & TESTING

Unlike mechanical service providers, GPN's technology bridges academic laboratory rigor with large-scale field engineering.

MULTI-DISCIPLINARY EXPERTISE

Continuous product development integrates academic and operational experts from:

- Petroleum & Industrial Chemistry
- Process & Mechanical Engineering
- Environmental & Energy Management Systems
- AI & Data Science Architectures

INDEPENDENT TECHNICAL VALIDATION

- Physical Behavior Assessments: Independent tests prove exceptional performance in reducing density, altering viscosity, and enhancing fluid mobility
- SGS-Affiliated Testing: Formal validation of critical sludge parameters, including viscosity, density, pH, and flashpoints
- Mercury Characterization: Specialized mapping within crude-oil samples to ensure safety and environmental compliance

THE GPN ECOSYSTEM

STRATEGIC ALLIANCES & ADVANTAGES

We secure our market advantage by merging academic intelligence with heavy field capabilities.



GPN completely owns and manages the nexgen™ platform, ensuring complete control over continuous R&D, chemical blending, quality control, and global IP protection



Direct access to research-oriented leadership and university professors provides GPN with deep scientific rigor and an ongoing culture of innovation



Our strategic execution partner for delivering marine asset support, heavy tank operations, site logistics, safety management, and complex mechanical execution



Our digital technology partner embedding Big Data analytics, predictive maintenance, and real-time operational dashboard monitoring into active client projects

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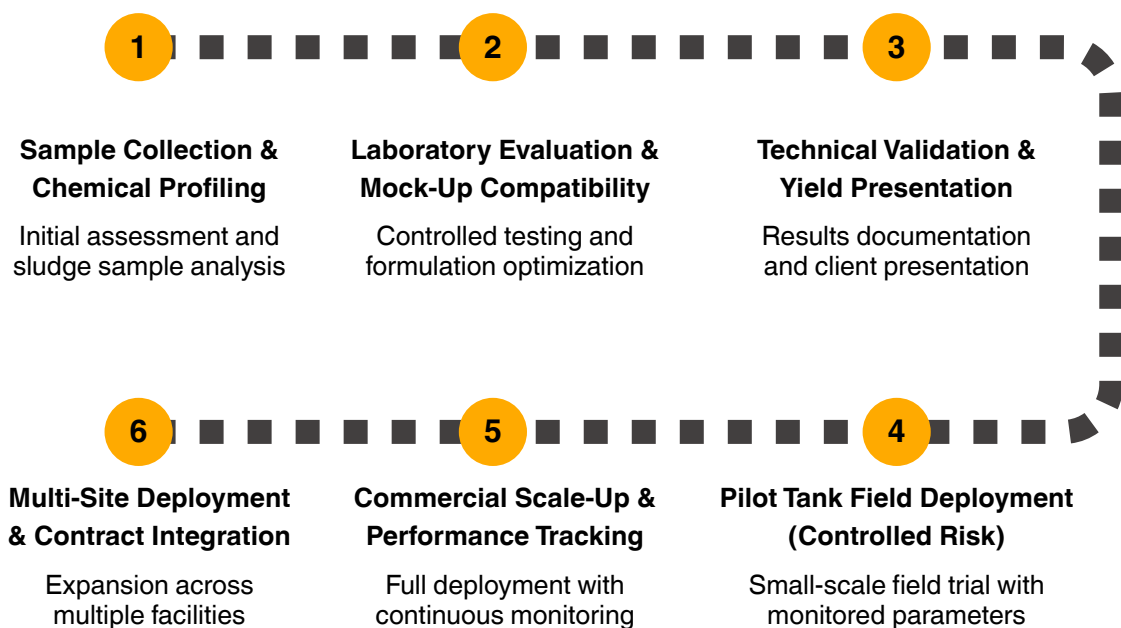
COMMERCIAL TIMELINE

CORE SERVICES & 6-PHASE DE-RISKING

Core Services

- Hydrocarbon Sludge Characterization
- Custom Laboratory Mock-Up Testing
- Tank Cleaning & Mobilization Optimization
- Hydrocarbon Recovery Enhancement
- Hazardous Waste Volume Reduction
- ESG & Sustainability Advisory

6-PHASE IMPLEMENTATION PROCESS





COMMERCIAL MODELS

NO CURE NO PAY (NCNP) MODEL

To demonstrate absolute confidence in the nexgen™ platform, we provide a performance-based, risk-sharing commercial model for qualified scopes.

GPN absorbs the upfront chemical and engineering evaluation risk—you pay only upon successful delivery of empirical parameters.

GPN Responsibilities	Client Responsibilities
• Technical site evaluations & physical sampling • Detailed sludge diagnostic chemical mapping • Tailored nexgen™ chemical formulation blending • On-site engineering & technical supervision • Comprehensive performance tracking reporting	• Providing secure site & asset physical access • Sharing historical tank & operational logs • Ensuring agreed mechanical/utility support • Actively participating in joint evaluation sign-offs • Supporting safety protocols and site coordination



value

VALUE PROPOSITION

UNLOCKING VALUE, MAXIMIZING SAVINGS

OPERATIONAL ADVANTAGES

- Dramatically Lower Waste Volumes: Minimizes the physical mass of sludge requiring manual extraction and disposal logistics
- Enhanced Maintenance Efficiency: Speeds up tank turnaround schedules and limits hazardous human exposure
- Critical Shutdown Support: Safely shortens cleaning critical paths during planned or unplanned facility shutdowns
- Risk Mitigation: Lowers total operational intervention costs while elevating corporate safety scores

COMMERCIAL ADVANTAGES

- Direct Value Creation: Reclaims trapped high-value hydrocarbons from sludge, converting a toxic liability into pumpable, sellable crude oil
- Structural Cost Optimization: Drastically slashes toxic waste disposal fees, logistics costs, and long-term asset downtime penalties

GLOBAL TARGET MARKETS

SCALABLE INDUSTRIAL APPLICATIONS

01

Upstream Oil & Gas

Offshore platforms, FPSO production units, and centralized gathering stations

02

Midstream Logistics

Tank farms, regional storage terminals, and major cross-border pipeline networks

03

Downstream Refining

Refineries, chemical processing complexes, and product distribution networks

04

Marine & Shipping

Ocean-going oil tankers, commercial shipyards, and specialized vessel cleaning

05

Industrial Processing

Waste oil treatment plants, hazardous chemical lagoons, and energy recovery operations

Meet the Experts



**Prof. Datuk Dr.
Kefli bin
Mahpol**

Chief Marketing Officer



**Prof. Emeritus
Datuk Dr. Raduan
Che Rose**

Chief Executive Officer



**Tan Sri
Razarudin bin
Husain@Abd Rasid**

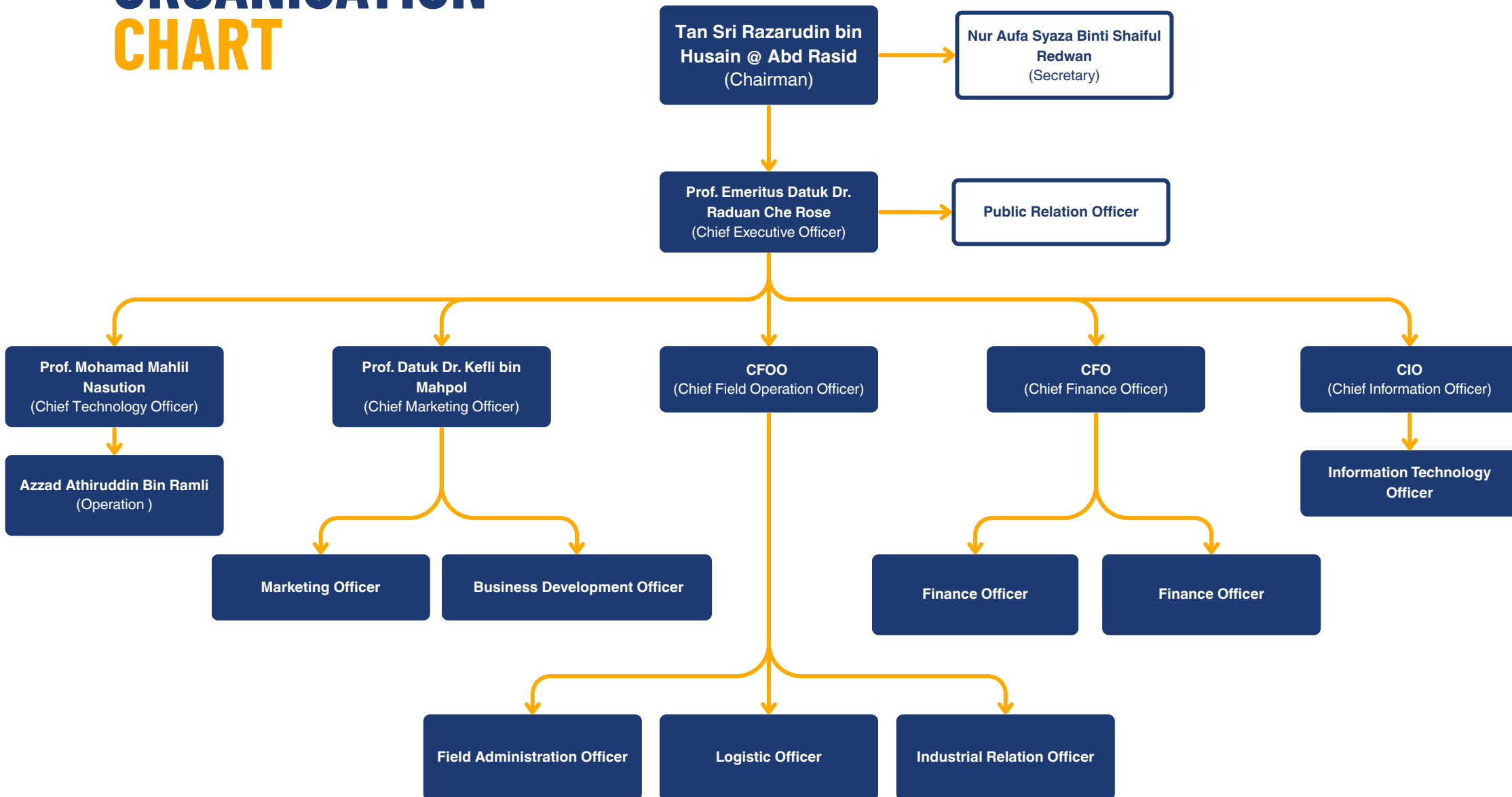
Chairman



**Prof.
Mohamad
Mahlil Nasution**

Chief Technology Officer

ORGANISATION CHART





RESPONSIBILITY

CIRCULAR ECONOMY COMMITMENTS

SOCIO-ECONOMIC DEVELOPMENT

Intent: Create shared values for local communities and cultivate deep technical capabilities.

Thrust: Drive industrial knowledge transfers, research collaborations, and specialized chemistry education.

RESOURCE OPTIMIZATION

Intent: Minimize hazardous waste generation and promote true circular economy models.

Thrust: Recover valuable hydrocarbon resources, reduce landfill volumes, and champion environmental best practices.

OPERATIONAL INTEGRITY

Intent: Deliver a safe, high-integrity workplace culture prioritizing zero-harm

Thrust: Strict operational execution protocols conforming entirely to safety and environmental standards

COMPLIANCE AND SYSTEMS STANDARDS

Committed to: ISO 9001 (Quality) | ISO 14001 (Environment) | ISO 45001 (OH&S)
| RoHS Compliant (Non-Hazardous Chemical Footprints)



**KOPERASI PENDIDIK
BANGI BERHAD**



OUR PARTNERSHIP



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