



JURUTERA MINSAR CONSULT SDN BHD

Civil & Structural Consulting Engineers



COMPANY PROFILE

AIRPORT DIVISION

Committed to Excellence Since 1985

ABOUT US

MINSAR'S AIRPORT DIVISION

Jurutera Minsar Consult Sdn Bhd (Minsar) is an award-winning Sarawak-based engineering consultant firm established in 1985, with majority Bumiputra (52%) share participation. Since its inception, Minsar has been actively growing its staff strength and experience in the engineering field and has now over 180 staff comprising more than 80 qualified engineers. The Company is registered with the Kementerian Kewangan Malaysia (MOF) as well as Unit Pendaftaran Kontraktor and Juruperunding Negeri Sarwak (UPKJ) and other relevant government agencies. as a Civil and Structural Engineering Consultant in Malaysia.

In 1995, realising the potential in the region's airport industry, Minsar brought together a talented team of experts to form Minsar's Airport Division. Minsar's Airport Division has since carried out over RM13.7 billion worth of airport projects and studies, 10.0 million square feet of terminal building designs and 170,000 feet of runway designs. Minsar's experience and deep understanding of airport operations encompasses both domestic and international airports throughout Malaysia, Brunei as well as military airfield facilities in Malaysia.



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WORLD BUSINESS
PARTNER



Head Office



Drafting Office



Administrative Office



Head Office Building, Kuching



OUR LEADERSHIP

(AIRPORT DIVISION)



Ir. Hii Yuh Tung
Principal

Email : hiiyt@minsar.com.my

Ir. Hii is the Founder of Minsar, and is the Managing Director of the Company since its establishment in 1985. He has over 45 years of experience in the Civil and Structural Engineering field and is involved in the planning & management of most major projects undertaken by the Company. He has also been actively involved in major airport development works since 1998. He is a member of MIEM, P.Eng, MACEM, C.Eng, MICE and MCIWEM, CWEM.



Ir. Sa'id Bin Haji Dolah
Director – Head of Project Management

Email : sdolah@minsar.com.my

Ir. Sa'id is an Executive Director in Minsar and is the Head of the Project Management Division in the Company. He has over 35 years of experience in Civil and Structural design and project management works. Ir. Sa'id has also gained much experience in the project management of airport projects including live airport upgrading projects such as the KKIA and Kuching International Airports. He is a member of MIEM, P.Eng, and MACEM.



Ir. Laurance Chiam
Director – Head of Structural

Email : Ichiam@minsar.com.my

Ir. Laurance is an Executive Director in Minsar and heads the Structural Division in the Company. With over 35 years of post-graduate experience, he has gained extensive experience in handling the structural aspects of airport projects, and has great innovative expertise for planning work sequencing in complicated development works for live airports, such as the modernisation of Brunei Airport, Kuching and KKIA. He is a member of MIEM, P.Eng, and MACEM.



Ir. Dr. Adrian Hii
Director – Head of Transportation

Email : adrian.hii@minsar.com.my

Ir. Dr. Adrian has over 20 years of experience in major civil infrastructure projects, initially based in Australia, Kuala Lumpur, and Singapore before returning to Sarawak. Some notable projects include the KVMRT Sg. Buloh - Kajang Line, Malaysia-Singapore RTS Link, Pan Borneo and Coastal Highways, and Lawas Airport. He has also led various Feasibility and Master Plan Studies for airports and port projects. He is a member of MIEM, P.Eng, MStructE, CEng, MIEAust, CPEng, MACEM, APEC Engineer, IntPE(Aus).



Ir. Lucas Lau
Head of Airport Division

Email : lucas.lau@minsar.com.my

Ir. Lucas has over 26 years of experience in Civil and Infra-structural Projects, and is the Head of Airport Division in the Company. He has been involved in more than 10 major airport projects throughout Malaysia, and has gained extensive and specialised experience in airport planning and development works as well as Airport Feasibility and Master Plan Studies. He is a member of MIEM, P.Eng. and MACEM.

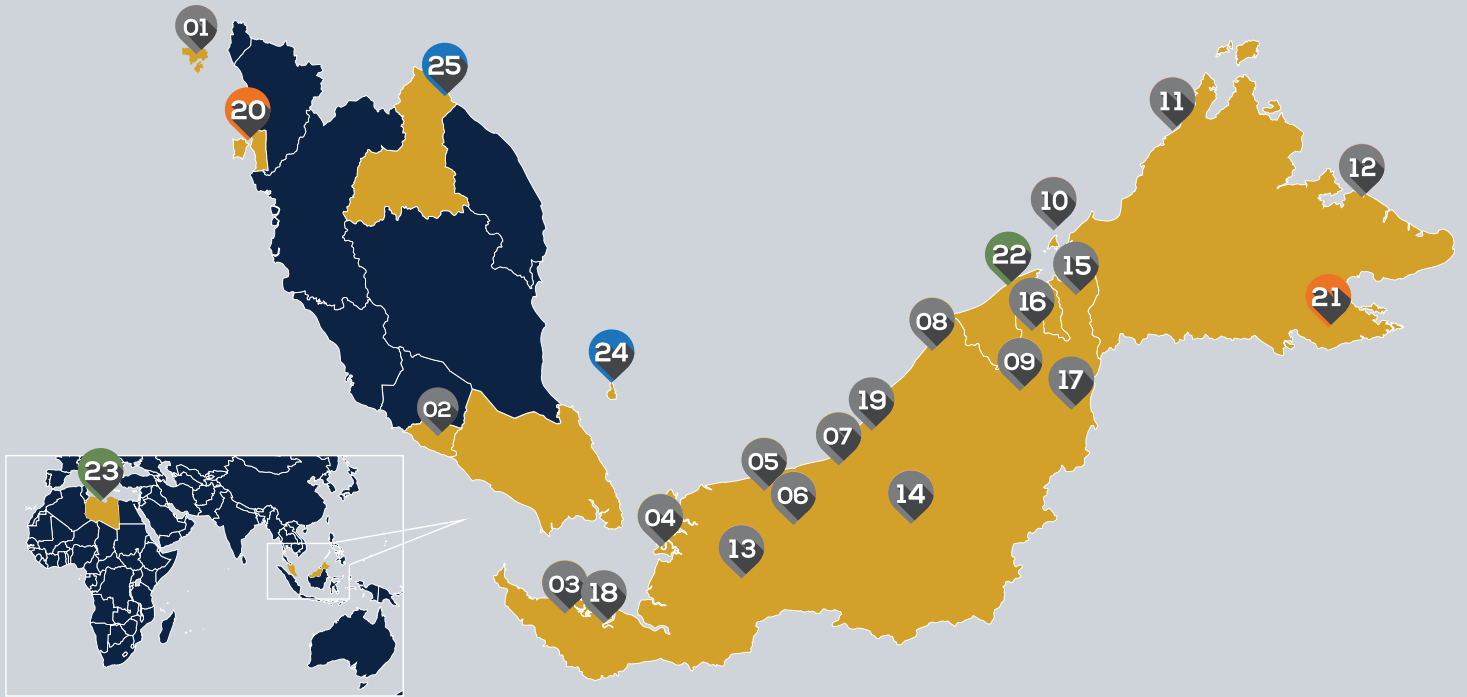


Nuradeena Hoklai Sarudu
Senior Executive Engineer of Airport Division

Email : deena.hoklai@minsar.com.my

Deena has over 14 years of experience in Airport Development Projects, and is the Executive Engineer of the Airport Division in the Company. She has been involved in more than 15 major airport projects throughout Malaysia, and has gained extensive experience in airport Development Works and Airport Master Planning. She also has hands-on experience and insights on airport redevelopments under 'Live Airport Operations' conditions.





OUR FOOTPRINT

Minsar has gained valuable relevant experience in the development of airports of various sizes throughout Malaysia, Brunei and elsewhere overseas.

We provide complete end-to-end solutions ranging from feasibility studies, master-planning, detailed design, contract administration, construction supervision as well as project management.

For over 25 years, Minsar Airport Division has been applying its knowledge as Lead Consultant, Airport Planner, Civil & Structural Engineering Consultant on Airport development projects for government agencies, turnkey contractors, private clients and airport owners.

Our local strength, world-class expertise and collaborative relationships have been recognized in the industry for delivering value and full satisfaction of our Client's needs.

13.7 BILLION MYR WORTH OF AIRPORT
PROJECTS & STUDIES

10.0 MILLION SQUARE FEET
OF TERMINALS

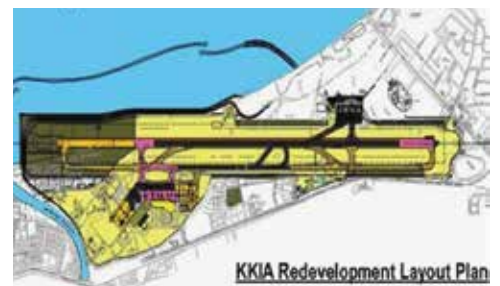
170,000 FEET OF
RUNWAYS



Extension of Langkawi International Airport



Upgrading of Labuan Airport



Redevelopment of Kota Kinabalu Airport

OUR EXPERIENCE

1. LANGKAWI INTERNATIONAL AIRPORT, KEDAH
2. BATU BERENDAM AIRPORT, MELAKA
3. KUCHING INTERNATIONAL AIRPORT, SARAWAK
4. TANJUNG MANIS AIRPORT, SARAWAK
5. NEW MUKAH AIRPORT, SARAWAK
6. SIBU AIRPORT, SARAWAK
7. BINTULU AIRPORT, SARAWAK
8. MIRI INTERNATIONAL AIRPORT, SARAWAK
9. MULU AIRPORT, SARAWAK
10. LABUAN AIRPORT, FEDERAL TERRITORY
11. KOTA KINABALU INTERNATIONAL AIRPORT, SABAH
12. SANDAKAN AIRPORT, SABAH
13. NEW BEBULING AIRPORT, SPAOH, SARAWAK
14. NEW BUKIT MABONG AIRPORT, SARAWAK
15. NEW LAWAS AIRPORT, SARAWAK
16. LIMBANG AIRPORT RUNWAY EXTENSION, LIMBANG
17. BARIO AIRPORT EXTENSION, BARIO
18. PROPOSED BUSINESS AVIATION TERMINAL (BAT), ADMIN. BUILDING, HANGAR EXPANSION AT KUCHING INTERNATIONAL AIRPORT, KUCHING
19. NEW TUDM BARE BASE AT BINTULU AIRPORT

FEASIBILITY AND MASTER PLAN STUDIES

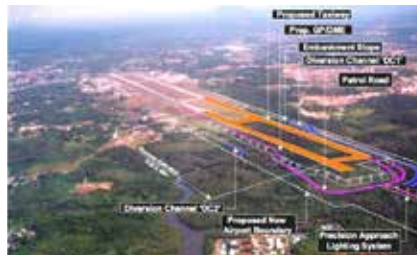
20. PENANG INTERNATIONAL AIRPORT, MASTER PLAN
21. TAWAU AIRPORT, MASTER PLAN

INTERNATIONAL AIRPORTS

22. MODERNIZATION OF BRUNEI INTERNATIONAL AIRPORT
23. NEW BENGHAZI INTERNATIONAL AIRPORT, LIBYA

TENDER AND PROPOSALS

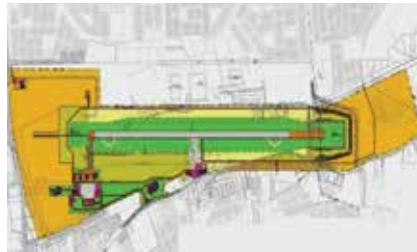
24. PULAU TIOMAN AIRPORT, PAHANG
25. SULTAN ISMAIL PETRA AIRPORT, KOTA BAHRU, KELANTAN



Redevelopment of Kuching International Airport & TUDM facilities



New Bintulu Airport



Extension of Malacca Airport



Redevelopment of Miri Airport



Extension of Mulu Airport, Sarawak



New Mukah Airport, Sarawak



Upgrading of Sandakan Airport Terminal Building



New Tg. Manis Airport, Sarawak



Roof Structure of KKIA Terminal



New Betong Airport, Sarawak



Master Plan and Design of New Phase 1 Lawas Airport, Sarawak



New Benghazi International Airport, Libya



Modernization of Brunei International Airport

CAPABILITY OVERVIEW

AIRFIELD PAVEMENT ENGINEERING

- Evaluation & Design of Airfield Pavement.
- Airport Pavement Management System.

AIRPORT MASTER PLANNING

- Priorities & Phasing of Airport Development.
- Landside & Airside Facilities Planning.

AIRPORT FEASIBILITY STUDIES

- Assessing & Forecasting Airport Traffic, Demand & Capacities.
- Economic & Financial Feasibility.

HELIPORT / HELI-BASE DESIGN

- Air Taxiways, Ground Taxiways, etc.
- Rotary Aircraft Parking Apron & Associated Facilities.

AIRPORT CONSTRUCTION PLANNING

- Planning of Live Airport Upgrading Works with Minimum Disruption.

LANDSIDE INFRASTRUCTURE DESIGN

- Access Road, Landside Facilities, Carparks & Utilities.
- Air Traffic Control Tower.

AIRFIELD MARKINGS & SIGNAGE

- Runway, Taxiway & Apron Markings.

AIRPORT TERMINAL PLANNING

- Airport Terminal Capacity Calculations.
- Planning & Design of Terminal.

OBSTACLE LIMITATION SURFACE STUDIES

- Assessment of Obstacle Limitation Surfaces & Airspace.
- Restrictions & Requirement of an Aerodrome.

AIRCRAFT HANGARS

- O&G Crew Change & MRO Hangars.
- Military Hangars & Associated Facilities.

PROJECT MANAGEMENT

- Contract Administration & Management.
- Supervision & Monitoring of Construction.

MILITARY AIRBASE PLANNING & DESIGN

- Air Force Base Planning & Design.
- Shelters, Hangars, Aircraft Bunkers.
- Ammunition & Explosive Storage.

STRUCTURAL DESIGN SOFTWARE



ROADS / CIVIL WORKS / BRIDGES / GEOTECHNICAL DESIGN SOFTWARE



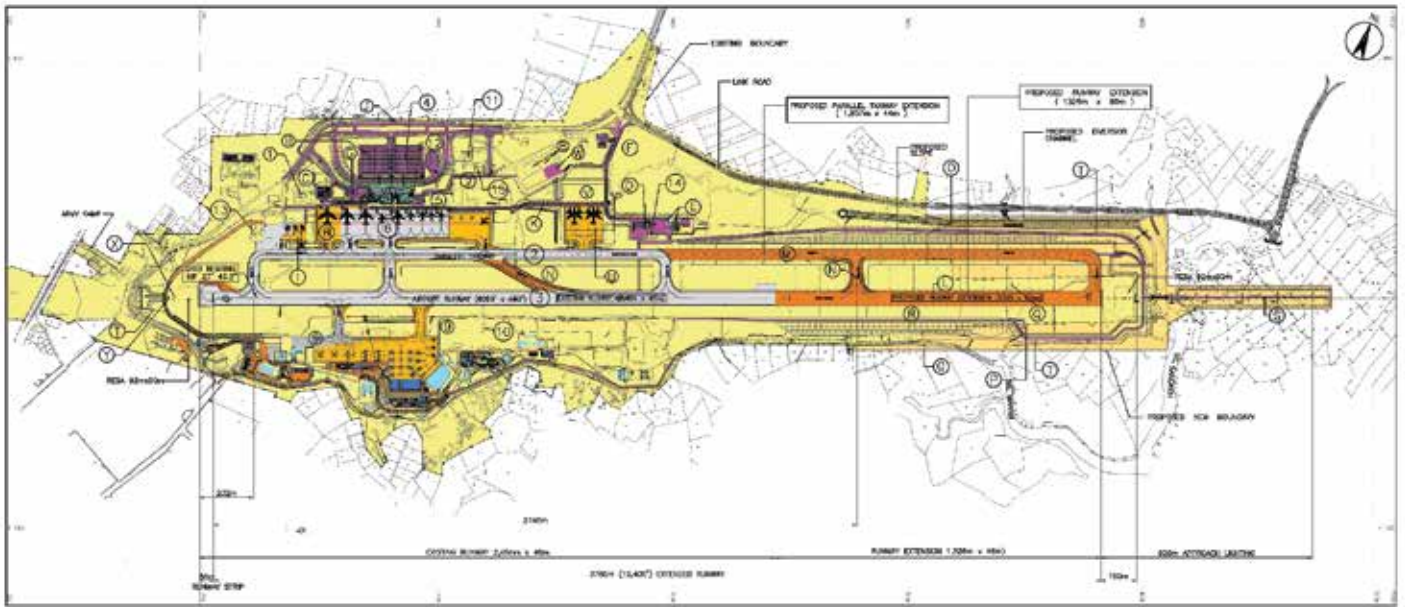
DRAFTING SOFTWARE



AIRPORT DESIGN SOFTWARE



REDEVELOPMENT OF KUCHING INTERNATIONAL AIRPORT



Upgrading of the fourth busiest airport in Malaysia by extending the existing runway to 3,780m (for full B747 operations) over low swampy land, and expansion of live operational terminal building to 5.0 Million Passengers per Annum (MPPA) capacity. Expansion of Aircraft Apron to 9 bay-stands. Works include relocation and reconfiguration of existing southern TUDM Terminal facilities to fully comply with obstruction clearance to Annex 14 for Code 4E Aircraft Operations.

COST: RM1.05 BILLION

DURATION: SEP 2004 - DEC 2010

Services Provided : As Lead Consultant for Turnkey Design Team, as well as Airport Planner, and Civil & Structural Engineers.



New Terminal Building (right) was built whilst maintaining live operations over the Old Terminal (above)



Relocation of numerous existing facilities at the TUDM Terminal Area (left), together with some extension & reconfiguration of existing Parking Apron in order for the Runway Operations to fully comply with ICAO Annex-14 obstruction clearance requirements.



NEW BINTULU AIRPORT, SARAWAK



Works involved a new Runway of 2,780m with Cat. 1 Instrument Landing System, two new connecting taxiways, a new Apron with 5 aircraft stands, a new 10,000 sqm Terminal Building, ATC Control Tower, completely new NAVAIDS, COMAIDS and ILS System as well as other associated facilities for a ICAO Code 4C Airport.

COST: RM380 MILLION

DURATION: NOV 2000 - MAY 2003

Services Provided : As Lead Consultant for Turnkey Design Team, as well as Airport Planner, and Civil & Structural Engineers.



EXTENSION OF MIRI INTERNATIONAL AIRPORT, SARAWAK



New Terminal Building (top pic) being built behind the Old Terminal (for demolition later) under live operations.

Works involved the extension of the existing runway to 2,745m, a new partial Parallel Taxiway and a new Terminal Building for Airbus-330 operation. Project was completed ahead of schedule in July 2003.

COST: RM200 MILLION

DURATION: NOV 2001 - MAY 2004

Services Provided : As Lead Consultant for Turnkey Design Team, as well as Airport Planner, and Civil & Structural Engineers.



REDEVELOPMENT OF KOTA KINABALU INTERNATIONAL AIRPORT, SABAH



Extension of Runway to 3,780m (for unrestricted B747 operations) through sea reclamation and extension of Parking Apron, including a 1.5km new Rock Armour Breakwater, strengthening of existing Runway Pavement and new pumped drainage system for the Airport.

COST: RM750 MILLION

DURATION: APR 2006 - NOV 2010

Services Provided : As Lead Consultant for Turnkey Design Team, as well as Airport Planner, and Civil & Structural Engineers.



NEW MUKAH AIRPORT, SARAWAK



As the lead consultant for the Master Plan Study of New Mukah Airport, and followed through as the lead consultant for the Phase 1 development of the airport for ATR72 aircraft operations, with provisions for future extension of the airport for B737 operations.

COST: RM450 MILLION

DURATION: SEP 2010 - SEP 2012

Services Provided : As Lead and Civil & Structural Engineers for the Turnkey Design Team.



EXTENSION OF LANGKAWI INTERNATIONAL AIRPORT, MALAYSIA



Extension of Runway to 3,780m beyond the coastline. Works involved sea reclamation and subsoil improvement, and an 8km long Double-Sided Sheet Pile Off-Shore Breakwater.

COST: RM315 MILLION

DURATION: JUN 1994 - JUN 1997

Services Provided : As Lead and Civil & Structural Engineers for the Turnkey Design Team.



UPGRADING OF LABUAN AIRPORT, FEDERAL TERRITORY



Works include Runway extension from 2,330m to 2,745m, upgrading of existing Terminal Building, expansion of aircraft parking Apron, and extension of military Hangars. Special works include relocation and testing of military jet arrestor Cable & Net System at each end of the extended Runway.

COST: RM365 MILLION

DURATION: MAY 2005 - NOV 2008

Services Provided : As Lead Consultant for Turnkey Design Team, as well as Airport Planner, and Civil & Structural Engineers.



MODERNIZATION OF BRUNEI INTERNATIONAL AIRPORT



The Project was won through Design and Build Tender among International Firms. Our Team was engaged as the Lead Engineering Consultant as well as the Airport Planner for the Sequencing of construction work and safe passenger flow for building a new Terminal over the existing Building under Live conditions. The extended Terminal has a capacity of 3.0 MPPA, and a widened Apron with 11 new Aerobridges and a new public carpark.

COST: RM325 MILLION

DURATION: NOV 2011 - JUL 2015

Services Provided : As Lead, Civil & Structural Engineers & Planner for the Turnkey Design.



NEW BENGHAZI INTERNATIONAL AIRPORT, LIBYA



New Benghazi International Airport with a design capacity of 15MPPA and PPH of 1,775 (1-way). Phase 1 Terminal is 120,000 sq.m with 12 Contact Aircraft Stands and 14 Remote Stands. Other works include new VVIP Terminal and VVIP Hanger, Airline HQ and Cargo Buildings, etc.

COST: USD200 MILLION

DURATION: MAY 2024 - ONGOING

Services Provided : Detailed design for all Aircraft Parking Apron, Landside Civil Work, Structural Design of National HQ & Training Building and Cargo Building.

AIRPORT TERMINAL PROJECTS



EXPANSION OF SIBU AIRPORT TERMINAL, SARAWAK



Redeveloping the Existing Terminal Building into a larger and modern Terminal under live airport operational conditions, including extending Aircraft Parking Apron, adding and reconfiguring aircraft parking stands and boarding bridges.

COST: RM138 MILLION

DURATION: SEP 2010 TO SEP 2012

Services Provided : As Lead and Civil & Structural Engineers for the Turnkey Design Team.



UPGRADING OF SANDAKAN AIRPORT TERMINAL, SABAH



Redeveloped and modernized the Terminal Building to 12,500 sq m, by extending and integrating the existing Old Terminal. Works include extending the existing Apron with more Aircraft Stands and Aerobridge. The work was completed ahead of schedule in October 2014.

COST: RM60 MILLION

DURATION: MAY 2013 - NOV 2014

Services Provided : As Lead Consultant, as well as Civil & Structural Engineers.



NEW AIRCRAFT HANGAR AT MIRI INTERNATIONAL AIRPORT



Lead and C&S Consultant of a new Hangar (110m x 50m) for housing and maintenance of 4 nos. EC225 helicopters, and a new General Parking Apron for 4 nos. Helicopters EC225, mainly as an Operation Base to serve Off-shore Petroleum Platforms.



NEW AIRCRAFT HANGAR AT SIBU AIRPORT, SARAWAK



Lead and C&S Consultant of a new Hangar (700m x 50m) for housing and maintenance of 1 nos. EC225 helicopters , mainly for use by private operator Jaya Tiasa Aviation.



ROYAL MALAYSIAN AIR FORCE BARE BASE AT BINTULU AIRPORT, SARAWAK



As Airport Planner, C&S Consultant and as Lead Consultant for a Design & Build Contractor of a new Royal Malaysian Air Force Base at Bintulu Airport, including two connecting taxiways to existing Runway, Aircraft Parking Apron & RMAF facilities at RM190 million. Scheduled completion in mid of 2028.

AIRPORT - FEASIBILITY AND MASTER PLAN STUDIES

NEW MUKAH AIRPORT, SARAWAK - 2014

Engaged by the Government of Malaysia for the Feasibility and Master Plan Study of a new Code 4C Airport for Mukah, Sarawak, and Development of Phase 1 Airport for ATR operations (completed in Aug. 2020).

NEW LAWAS AIRPORT, SARAWAK - 2016

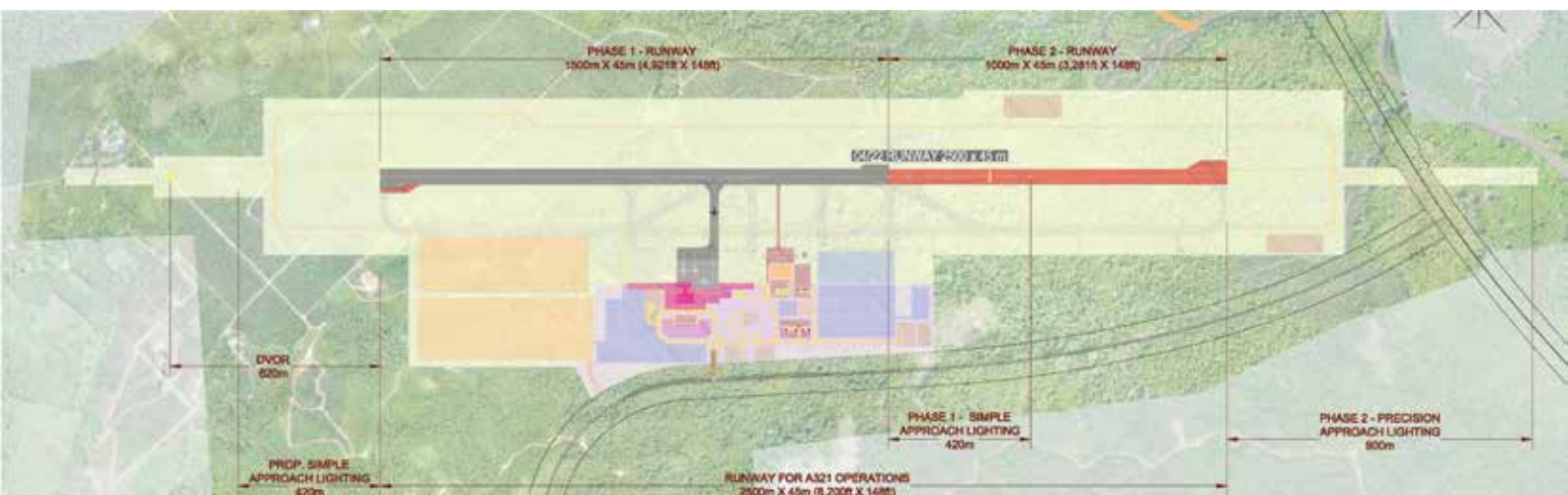
Engaged by the Government of Malaysia for the Feasibility and Master Plan Study of a new Code 4C Airport for Mukah, Sarawak, and Development of Phase 1 Airport for ATR operations (Tender Stage in 2024). A supplementary study in 2020 was undertaken by Minsar for Sarawak Government, to review the proposed New Lawas Airport site and plans.

NEW BEBULING AIRPORT, SARAWAK - 2020

Engaged by the Sarawak Government for the Feasibility Study of a new Code 3C Airport for Betong Division, Sarawak, and followed through the Development of Phase 1 Airport for Twin-Otter operations (70% completed in 2024).

NEW BUKIT MABONG AIRPORT, SARAWAK - 2020

Engaged by the Sarawak Government for the Feasibility Study of a new Code 3C Airport for Kapit Division, Sarawak, and followed through the Development of Phase 1 Airport for Twin-Otter operations (construction stage in 2024).



TYPICAL MASTER PLAN LAYOUT OF A SMALLER AIRPORT





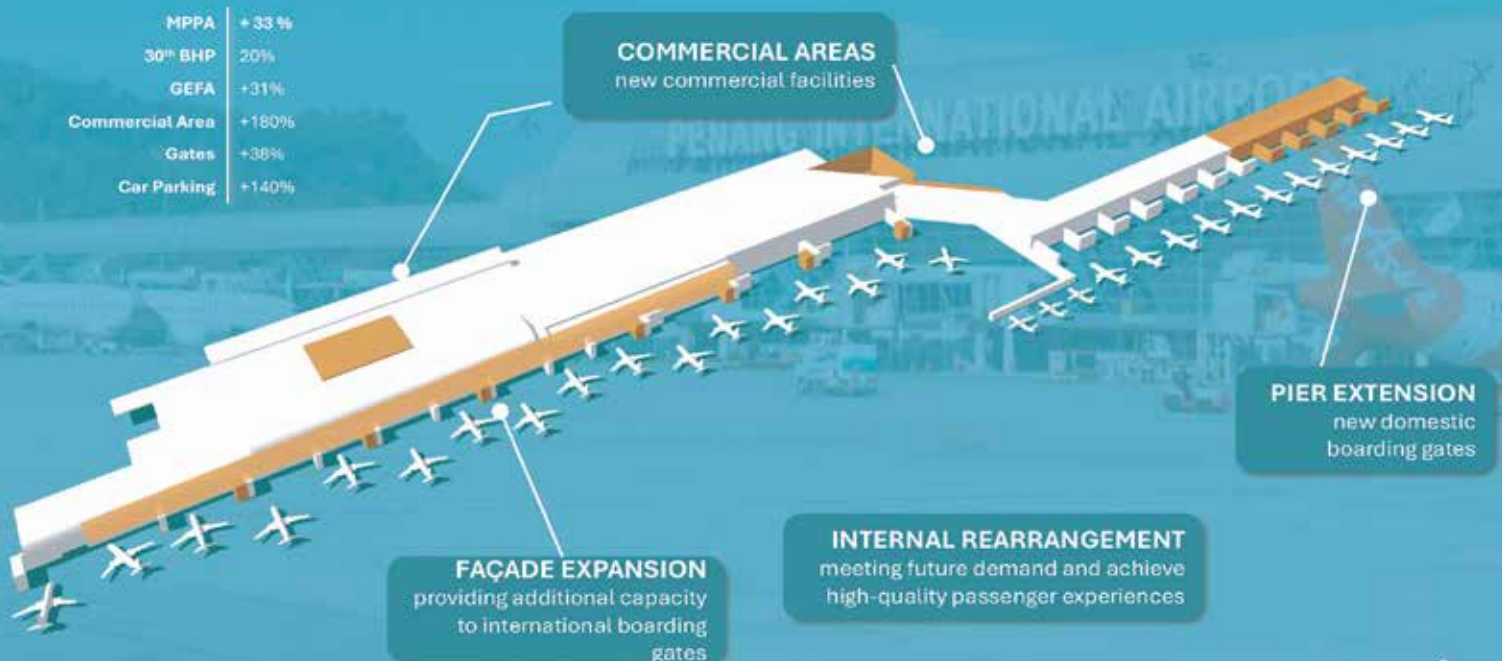
CONSULTANCY SERVICES FOR THE MASTER PLAN FOR 5 AIRPORTS IN MALAYSIA

Minsar was a key member in a consortium of local and international consultants in successfully bidding for the open tender of the consultancy services for the five (5) airport master plans (from 2019 - 2022) Kota Kinabalu International Airport (BKI), Penang International Airport (PEN), Kuching International Airport (KCH), Sibu Airport (SBW) and Tawau (TWU).

Penang

Penang International Airport Master Plan Proposed Terminal Building Expansion (2nd Phase)

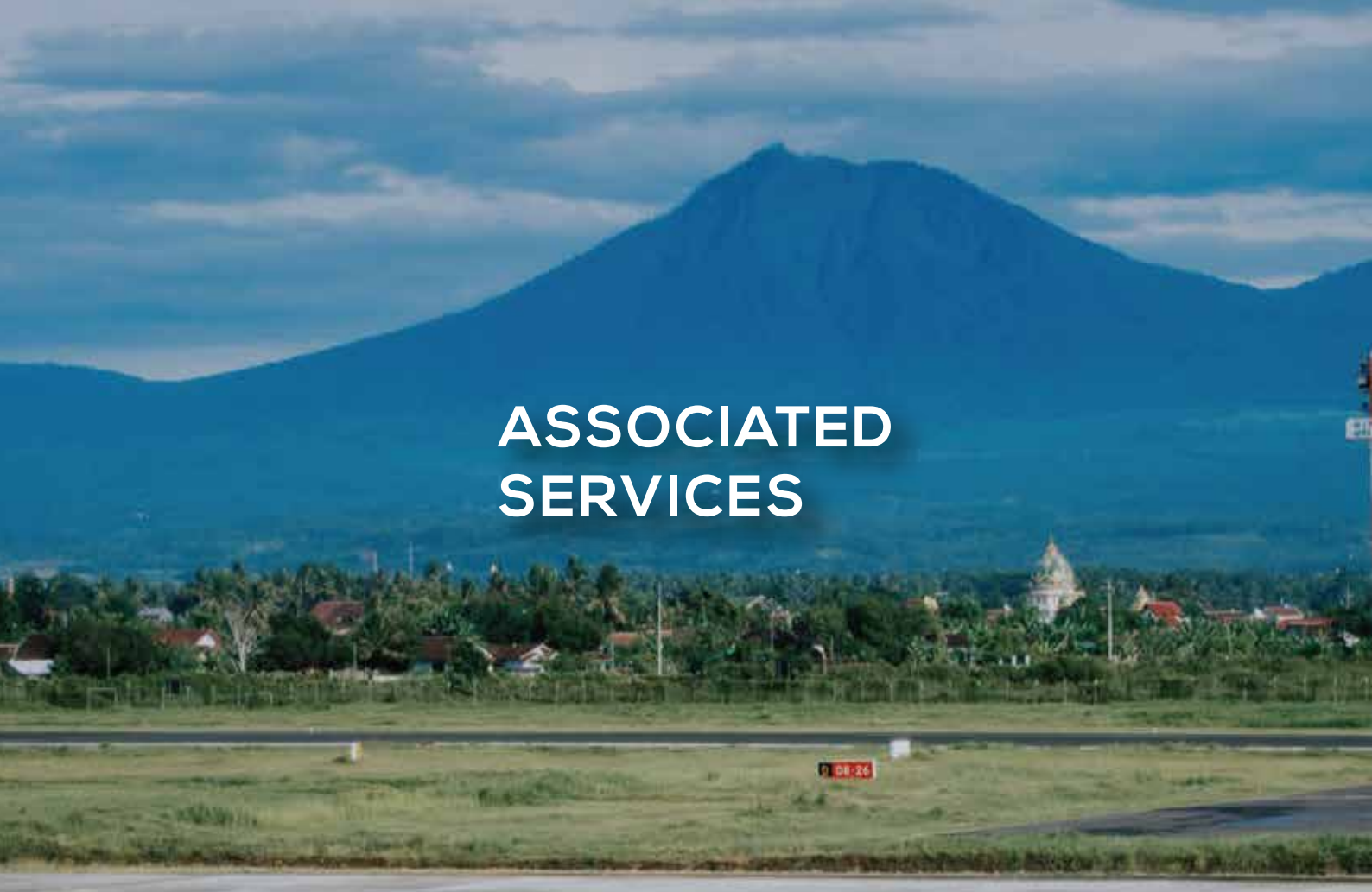
MPPA	+33%
30 th BHP	20%
GEFA	+31%
Commercial Area	+180%
Gates	+38%
Car Parking	+140%



2

The five airport master plans were essential to Malaysia Airport Sdn Bhd (MASB) in charting the future development and implementation towards 2050. The major scope of work completed includes:

- Aviation Forecast
- Assessment of Airport Existing Conditions
- Facilities Requirement
- Site Evaluation
- Master Plan Alternatives
- Technical and Operational Feasibility
- Evaluation of Master Plan Alternatives
- Airport Land Use Plan
- Airport Layout Plan
- Capital Expenditure
- User Requirement
- Terminal Planning and Design
- Airport Operations and System Requirements
- Architectural and Interior Design Direction
- Terminal Functional Layout Concept
- Development Implementation Plan



ASSOCIATED SERVICES

LIVE AIRPORT UPGRADING

A majority of Minsar's Airport Division projects involve upgrading of live operational airports. Minsar adapts its design in accordance to the needs and ease of construction, especially renovations over busy live airports. Our expertise and deep understanding in airport operations provide the most efficient and safest construction phasing plans on upgrading of airfield facilities and terminal building on even the busiest airports.



Modernization of Brunei International Airport, Brunei



Runway Preparation Works, New Bintulu Airport

AIRFIELD PAVEMENTS

Minsar's Airport Division team has extensive experience in airfield pavement engineering and an in-depth knowledge of pavement materials and mechanistic methods of airfield pavement design. Our team has applied their knowledge on some of the most challenging pavement rehabilitation projects including the airfield pavement rehabilitation of Kota Kinabalu International Airport, Miri Airport and Labuan Airport.



Redevelopment Of Kota Kinabalu International Airport, Sabah 2010

CIVIL ENGINEERING

Minsar's Airport Division provides wide range of civil engineering consultancy services for all fields of airport works. Our experience ranges from large-scale new green-field airport projects to complex redevelopment of brown-field airport projects. Our team have carried out engineering design and supervision of massive earthworks, covering works like soil backfill up to 50 feet, rock blasting, build-up over swampy land, sea walls and sea reclamation works for airstrip platform formations.



Approach Lighting System, Kota Kinabalu International Airport



Langkasuka Marina, 8km off-shore breakwater, Langkawi Airport



Revetment Works at Kota Kinabalu International Airport

INSPECTIONS & TESTING



Proof Rolling Test at Kuching International Airport

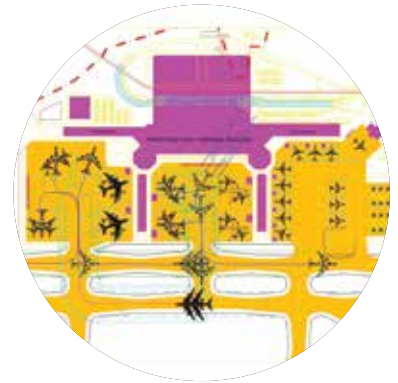
Minsar's Airport Division has substantial experience in pavement inspection, evaluation and testing on existing and newly completed projects. Reliable and accurate inspections to determine load carrying capacities is an essential element of Airfield Pavement Management System, an essential tool and resource for a cost effective airport maintenance programme.



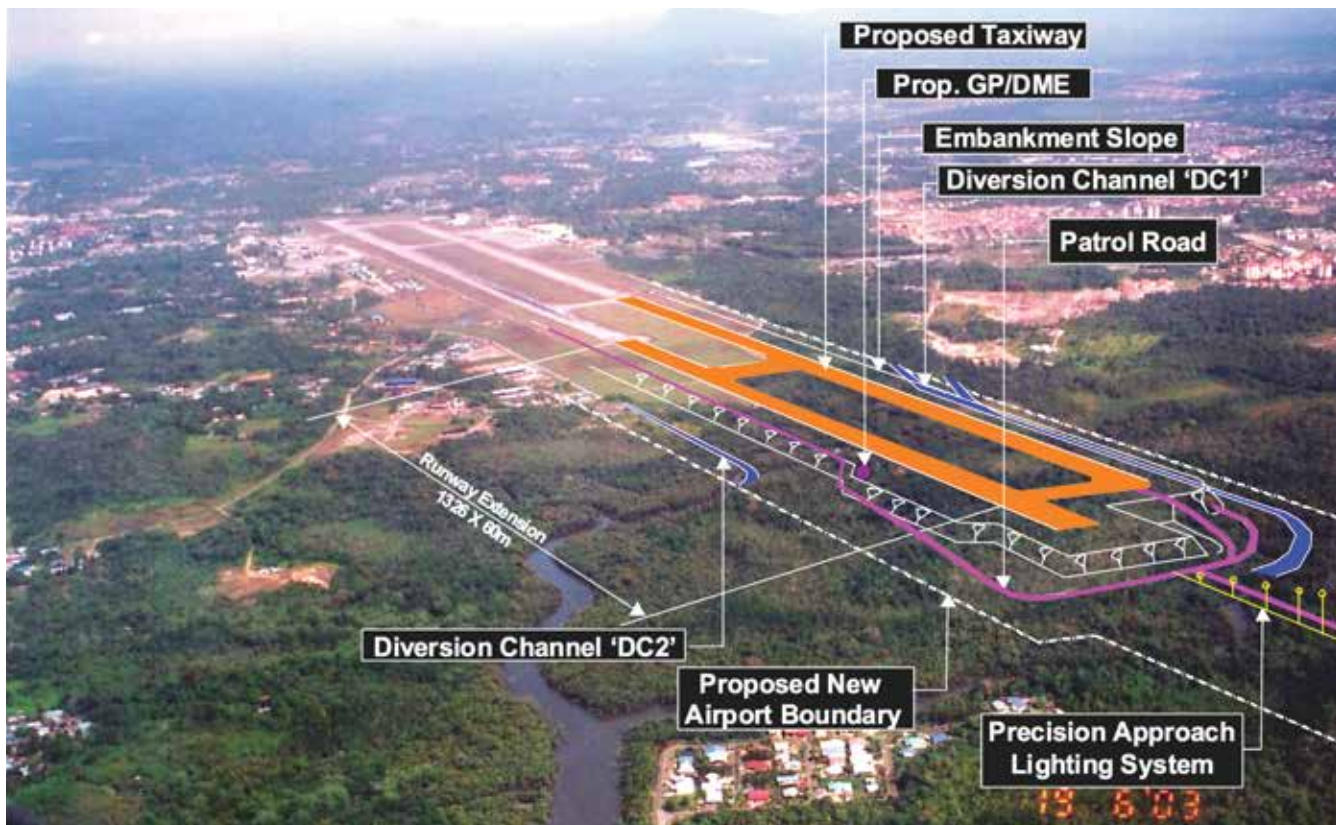
HWD Test at Kuching International Airport

AIRPORT PLANNING

Minsar's Airport Division has been using AviPLAN (successor to Aeroturn) by Transoft Solutions for its Airside Planning and Design Modelling software since 2006. Our team prides themselves to providing the most optimal airside layout and apron configuration to satisfied clients, ensuring operational efficiency while complying with international standards, namely the ICAO, IATA, FAA and CAP168.



Aircraft Simulation



Feasibility Study and Master Planning for Redevelopment of Kuching International Airport

MRO HANGARS

Minsar's Airport Division experience include the planning, design and construction management of a few complete MRO (Maintenance, Repair & Overhaul) hangars both for fixed winged and rotary winged aircrafts. Our team has extensive knowledge of MRO hangar planning and designs. Our team constantly keeps up to date with the most modern and state-of-the-art facilities available for MRO hangars.



Miri Hangar



Sibu Hangar



ACEM ENGINEERING AWARD 2023

NEW MUKAH AIRPORT, SARAWAK

In August 2023, Minsar was conferred a "BRONZE AWARD OF COMMENDATION" for its submission of New Mukah Airport Project, Mukah, Sarawak in the ACEM Engineering Awards Competition 2023.

The ACEM Engineering Awards Competition 2023 was opened to all consulting engineering firms in Malaysia for projects completed within the past 6 years throughout the world. Its main objective was to aim at recognizing consulting engineers' achievements that demonstrated the highest degree of skills, ingenuity and provided a significant benefit to the public welfare, the practice of engineering and the environment.





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