

wiratman

EXPERIENCE **EXCELLENCE**

WIRATMAN COMPANY PROFILE



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HELPING CLIENTS **BUILD THEIR DREAMS.**

WIRATMAN is an independent full service multidisciplinary firm headquartered in Jakarta, Indonesia. Drawing on three decades of proven expertise in seeing through complex projects of all sizes from studies, planning & design, project & construction management to completion, today Wiratman provides a complete range of professional services to private and public sector clients.

OUR REPUTATION for excellence and creativity stems from a simple philosophy: **WE WANT TO BUILD THE WORLD TO BE A BETTER PLACE.** As such, we offer our clients visionary planning, innovative design, high quality engineering and management all under one roof for a smooth and seamless process.



BACKGROUND

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PROFESSOR DR. IR. WIRATMAN WANGSADINATA, The Founder and President Director of Wiratman, is a leading figure and "technopreneur" in the field of civil and structural engineering in Indonesia. Among his works, he was appointed by the Indonesian Government to consult on the restoration of Borobudur, a world heritage site sponsored by UNESCO.

Inspired by his leadership, the firm has completed thousands of multi-disciplinary consultancy works, ranging from prominent high rise buildings to important public developments such as airports, harbours, dams, power plants and long-span bridges.

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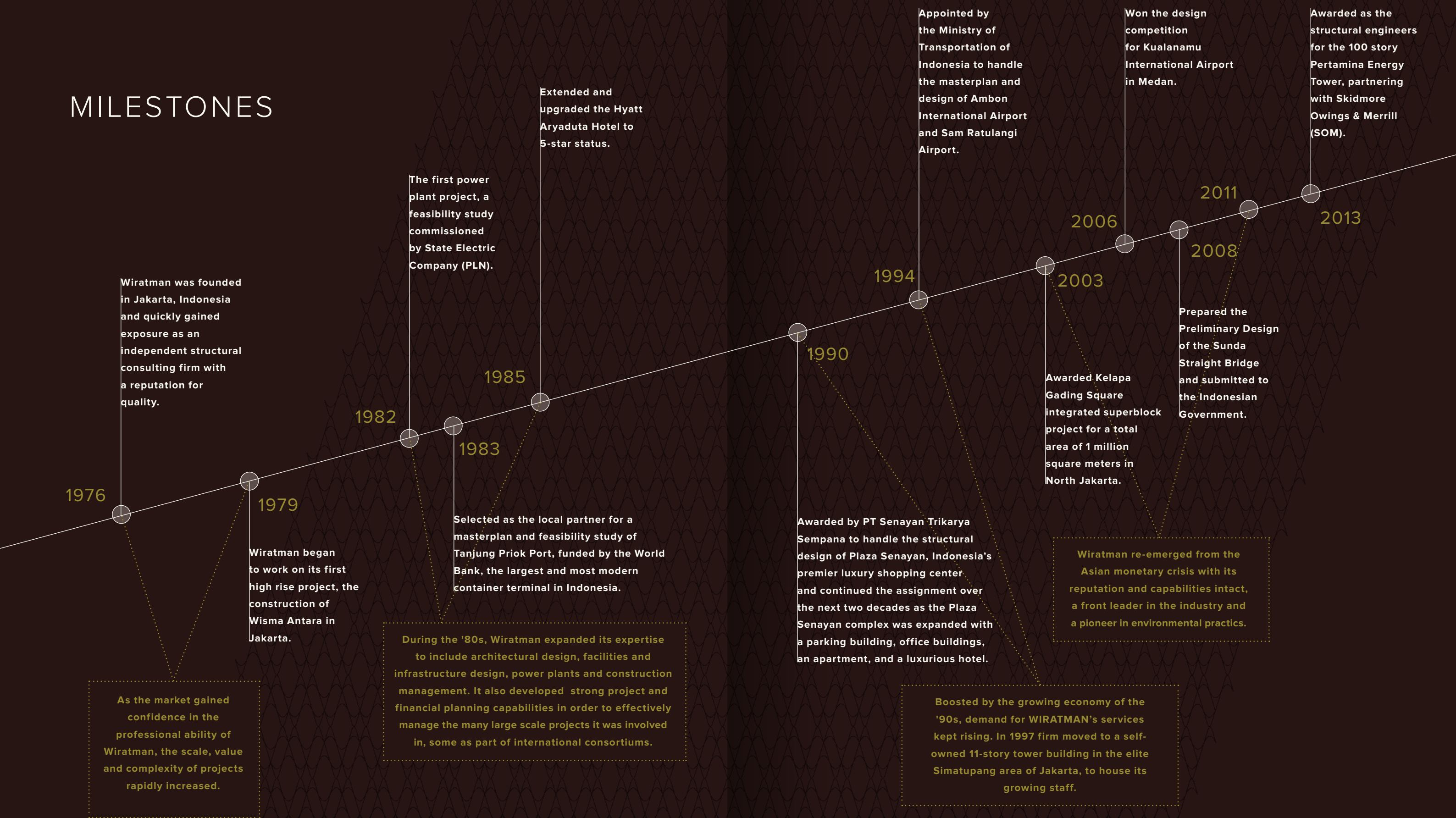
WIRATMAN was established in 1976 by President Director and CEO Professor Dr. Ir. Wiratman Wangsadinata, a senior figure in the industry and his partner Ir. Daud Tegasan. The firm swiftly established a reputation for high quality work in planning, architecture, and engineering services, becoming the go-to firm for high profile projects in Indonesia.

OVER THE FOLLOWING THIRTY YEARS, Wiratman further cemented its track record as it tackled increasingly large and complex projects for both public and private sector clients in line with the country's rapid development. These projects, conducted in

the face of the challenging field conditions of a developing country, sharpened the firm's resourcefulness and abilities to respond swiftly and creatively.

WITH TIME, the firm continued to develop its core competence in response to the increasingly sophisticated needs of our globally-oriented clients.

MILESTONES



VISION

TO BE A SUSTAINABLE company and establish
Wiratman as a legacy brand.

MISSION

TO CREATE innovative, superior creations for
the preservation of the environment and the
welfare of mankind.

VALUES

TO WORK professionally with high emphasis
on integrity.

AWARDS & CERTIFICATES



THE FOLLOWING are a few of the most prestigious awards that Wiratman has won in recent years.

- Indonesian Construction Technology Award 2013 from Ministry of Public Works for the Innovative Solution of The Two-level Shopping Bridge at Jalan Senen Raya, Jakarta
- ACECC (Asian Civil Engineering Coordinating Council) Civil Engineering Achievement Award 2013 awarded to Prof. Dr. Ir. Wiratman Wangsadinata
- BCI Top 10 Award 2011 Architect Award from Building Construction Information (BCI) Asia, 2011
- ASEAN Outstanding Engineering Achievement Award in the Individual Category awarded to founder Prof. Dr. Ir. Wiratman Wangsadinata by the ASEAN Federation of Engineering Organizations (AFEO), 2011
- Medal for Outstanding Work (Satyalancana Wira Karya) 2011, awarded to founder Prof. Dr. Ir. Wiratman Wangsadinata by the President of the Republic of Indonesia
- Indonesian Construction Technology Award 2008 from the Ministry of Public Works, for the Innovative Solution of the Keuliling Dam Project
- ASEAN Achievement Award for Engineering from the ASEAN Business Forum awarded to founder Prof. Dr. Ir. Wiratman Wangsadinata, 2004
- Indonesian Construction Technology Award 2003 from the Ministry of Public Works, for the Innovative Solution of the Underwater Sill Project at the Tuban Harbour

INTERNATIONAL CERTIFICATION

- ISO 9001:2000 certification in 2002; updated to ISO 9001:2008 in 2010., issued by SGS United Kingdom Ltd Yarsley International Construction Services certification
- INACOLD Certificates for Large Dam

REGISTERED FOR INTERNATIONAL FUNDING PROJECTS

- Asian Development Bank (ADB), Reg. No: 007766
- World Bank
- Japan International Cooperation Agency (JICA)



SCOPE OF SERVICES



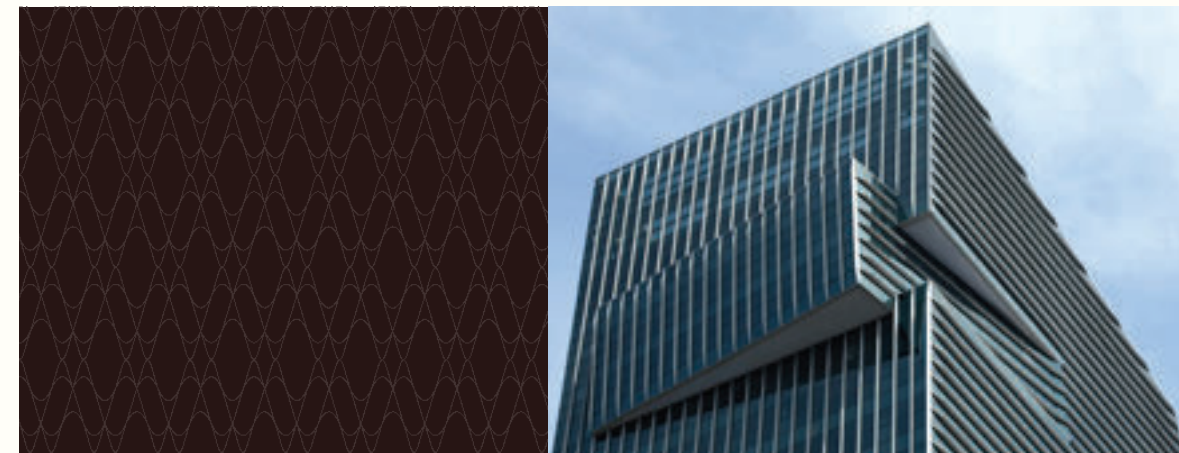
AS A FULL-SERVICE multidisciplinary firm, Wiratman offers a comprehensive range of high quality services from project concept and design to build-out and management. We have the in-house capabilities to handle all the architectural, engineering, construction management and supervision. Our capabilities further extend to related sanitation, environmental, water, and facilities management services.

THE COMPANY'S broad interdisciplinary abilities allow it to respond quickly to the overall needs of a project, and our unified project management approach results in better coordination and planning which in turn avoids unnecessary complications and delays. Clients further enjoy the convenience of a single contact point for all their needs.



ARCHITECTURE, GRAPHIC, LANDSCAPE, INTERIOR DESIGN, & MECHANICAL ELECTRICAL

GRAHA NIAGA. By all accounts, the collaboration between Kohn Pedersen Fox and Wiratman was extremely successful. An imposing wing-roofed banking hall and 27-story office tower that incorporates elegant touches and brings light in while staying in compliant with regulatory codes.



MENARA KARYA

This attractively diamond shaped 28 storey tower is designed by Arquitectonica International Corporation in association with Wiratman Architect. It is designed to adopt the sustainable principle and set another landmark style for modern glass building character in Jakarta.

WIRATMAN ARCHITECTURE was established in 1979. Since its inception, 300 projects have been completed ranging from public to private sectors, many of which were acknowledged by design competitions. We are highly experienced in collaborating with world class Architects, long before the construction boom arrived in Indonesia.

OUR MULTIDISCIPLINARY TEAM has experience for designing innovative buildings that are both architecturally beautiful and highly functional. We do green design and sustainability approach to our main stream design practice. Our solutions take into account practical build-out considerations including passive design based on local condition, local wisdom and active design through Mechanical, Electrical and Plumbing system performance and budget considerations

SERVICES:

- + Architectural design
- + Graphic design
- + Interior design
- + Landscape design
- + Mechanical, Electrical & Plumbing (ME&P) design

PROJECTS:

Our portfolio includes international airports, five-star luxury hotels and residences, commercial buildings, prestigious office buildings, embassies, government buildings, educational facilities, hospitals and health cares, industrial estate and others.

BAKRIE TOWER
The twisting and interlocking concept was utilized in the structure planning where every floor has different cantilever lengths and floorplans, and applies segmented slanting columns.

STRUCTURAL & GEOTECHNICAL ENGINEERING



WISMA DHARMALA. Since its construction in 1982, this attractive and innovative 27-story building has attracted significant domestic and international attention as a leading example of "green" architecture in Jakarta.

WIRATMAN STRUCTURE & GEOTECHNIC provides expertise in civil engineering to ensure the long-term safety, durability and stability of structures. We are experts in handling reinforced concrete, pre-stressed concrete, steel and composite structural design with extensive creative capabilities in engineering computer programs.

WE ARE CAPABLE of providing clear and accurate information on cost estimation and methods of construction, which enables clients' better coordination in structural design while concurrently implementing innovative ideas and techniques on various types of projects.

WE'VE BEEN HONORED with several achievement awards and recognized as the leading innovative consultant in the construction industry.

SERVICES:

- + Structural design for multistory buildings, towers, special structures, suspended and elevated structures.
- + Evaluation and rehabilitation of damaged structures
- + Structural modifications
- + Geotechnical design and evaluation

PROJECTS:

Our portfolio mainly scrapes the Jakarta sky and major cities throughout Indonesia. We have completed more than 1000 projects, including prestigious office buildings, five-star luxury hotels and apartments, international airports, government buildings, industrial buildings and others.

INFRASTRUCTURE

ANCOL BRIDGE. Wiratman used prestressed steel box girders to build Ancol Bridge, an approach which had never been attempted before in Indonesia, to build it without disruption to the railroad tracks underneath.



MERAK TOLL ROAD. In order to widen the Merak toll road to accommodate increasing traffic, Wiratman helped to create a workable plan to increase the capacity of the toll road between Bitung (KM.36 +300) and the Cilegon Barat toll gate (KM. 94 + 914).

WIRATMAN INFRASTRUCTURE offers comprehensive, end-to-end engineering consulting services in transportation related projects. We specialize in conceptualizing and implementing innovative and successful solutions to today's complex and multi-disciplinary transportation infrastructure challenges.

WE HAVE PARTICIPATED in notable infrastructure development projects in Indonesia, in line with our government's program. Recently, we've been involved in mining projects to design access roads, jetties and other supporting facilities. We have also participated in the pre-feasibility study of the future Sunda Strait Bridge, which will connect the island of Java and Sumatera. If completed, the length of the central span of the suspension bridge that crosses the deep-sea valley, might become the longest in the world.

SERVICES:

- + Site Investigations
- + Feasibility Studies
- + Basic Design
- + Detailed Engineering Design
- + Review Design
- + Construction Supervision
- + Construction Management

PROJECTS:

Our portfolio stretches from the west to the east part of Indonesia. With over 100 projects, we have designed major harbors and airports, roads, highways and bridges, underpass tunnels, railways and others.

POWER ENGINEERING

KAMOJANG UNIT 4 GEOTHERMAL POWER PLANT. As the team leader of a consortium with PT Rekayasa Industri and PT SKM Indonesia, Wiratman supervised the successful design and construction of the 1x60 MW Kamojang Unit 4 geothermal powerplant located in Garut, West Java, which gathers steam from 13 production wells.



SURALAYA UNIT 8 COAL-FIRED POWER PLANT. As the largest steam electric power station in ASEAN with a total capacity of 3400 MW, this power plant is part of the Java-Bali Interconnection System through networks of 500 kV, 150 kV, and 70 kV.

WIRATMAN POWER specializes in handling the challenges of modern power engineering projects. With a proven track record in dam and power plant engineering, we are able to confidently offer comprehensive consultancy services to clients in this field, assisting them to effectively design and implement their projects, including in earthquake-prone areas.

IN ADDITION to the traditional power plant projects, we also handle the growing interest in the development of hydrothermal and geothermal energy projects for both the public and private sector, often in conjunction with foreign partners. We have successfully delivered over 200 projects to support the national energy program.

SERVICES:

- + Site Investigations
- + Reconnaissance Studies, Pre-Feasibility Studies, Feasibility Studies
- + Basic Design
- + Bid Document Preparation
- + Tender Assistance
- + Detailed Engineering Design
- + Review Design
- + Quality Assurance & Quality Control (QA/QC)

PROJECTS:

Our portfolio includes Hydropower & Mini Hydropower Plant Engineering, Thermal Power Plant Engineering (Coal Fired, Geothermal, Gas, and Combined Cycle), Transmission Line & Substation Engineering and others.

KEULILING DAM. This project is located in Aceh and was innovatively constructed using local materials to reduced carbon emissions and lower transportation fuel usage. It successfully solved irrigation problems for 5,000ha of paddy fields.

WATER RESOURCES & IRRIGATION



PIRIMP. The Preparatory Irrigation Rehabilitation Improvement Management Project is a state and foreign donor-funded irrigation rehabilitation project that took place in Comal, Pemalang to mitigate the effects of drought.

WIRATMAN WATER RESOURCES AND IRRIGATION delivers a broad range of services, from study, planning, design, and supervision. Our capabilities are further augmented by the resources of the firm's other divisions, resulting in more practicable and cost-effective solutions. Therefore, we are able to effectively guide and advise clients on the best methods to achieve their goals.

HAVING SUCCESSFULLY worked with private sector clients, government agencies and other consultants and contractors, we believe that our engineers are able to truly add value in this increasingly important area.

SERVICES:

- + Site Investigations
- + Feasibility Studies
- + Basic Design
- + Detailed Engineering Design
- + Review Design
- + Construction Supervision

PROJECTS:

Our portfolio ranges from water resources management system, groundwater development, hydrology and hydro-geology, irrigation and water supply, drainage and flood control, dam and river engineering, water resources, rivers and coastal conservation, construction supervision for dam, river and irrigation system and others.

ENVIRONMENTAL SERVICES

MASTERPLAN ENERGETIC MATERIAL CENTER PT DAHANA (EMC). Designed to be eco-friendly, this 600 ha Energetic Material Center, an integrated area dedicated to the development of explosives, won the SOE Building Energy Efficient Award in 2012.



MOUNT MERAPI DETAILED SPATIAL PLAN. This project was designed to facilitate effective disaster management in the case of a volcanic explosion, for better distribution of aid to potential evacuees.

WIRATMAN ENVIRONMENTAL SERVICES offers comprehensive, cross-disciplinary environmental services in the fields of environmental management, biology, geology, geography, chemistry, planning, socio economy and culture.

WE DELIVER services based upon technical competence, professional experience, and above all, responsiveness to the clients' needs to provide superior and creative project solutions. We identify potentially complex environmental issues before they become problems and assist our clients in understanding and dealing with those issues early in the process.

SERVICES:

- + Initial Environmental Study
- + Strategic Environmental Assessment
- + Environmental Impact Assessment
- + Social Assessment Accepted
- + Environmental and Social Impact Assessment
- + Environmental Monitoring and Management

PROJECTS:

We have completed more than 150 major projects, including the environmental impact assessment and mitigation of project activities relating to power intensive industries, geothermal and hydropower power stations, overhead transmission lines, quarrying, infrastructure, waste management, water works and growth management planning, and others.

JATIGEDE DAM. It was built on the Cimanuk River, one of the largest rivers in West Java, for the purposes of irrigation, flood control, power generation, water conservation and tourism.

SURVEY & MAPPING



SIMPANG AUR HYDROELECTRIC POWER PLANT. Constructed largely from local materials, this Power Plant project is located 95km from Bengkulu city. It uses water from Simpang Aur river to generate power in an environmentally friendly way.

WIRATMAN SURVEY AND MAPPING involves in the early stages of an engineering project where it is necessary to accurately and comprehensively survey the area.

WE ARE EQUIPPED with the most current techniques and technologies to extract necessary data towards determining the project's specifications. We handle both Topographic and Hydro-Oceanographic surveys.

OUR PROFESSIONALS are highly trained in the collection, measurement and analysis of relevant data, all important information that will influence the way the project will be designed and carried out.

SERVICES:

- + Control surveys
- + Boundary survey mapping
- + Terrestrial topographic surveys and mapping
- + Construction monitoring surveys and services
- + Hydrographical surveys and mapping
- + Photogrammetric data processing and mapping
- + Geographic Information Services (GIS)
- + Hydro-oceanographic data collection (waves, currents, tidal measurements)
- + 3-D digital mapping

PROJECTS:

Our portfolio includes land development, infrastructure projects, power plan projects, and others.

TAPIN COAL TERMINAL. Wiratman supervised the development of this crucial 40km coal hauling road, ensuring that all requirements including technical quality, schedule, budget and environmental factors were met.

CONSTRUCTION MANAGEMENT & PROJECT MANAGEMENT



EPICENTRUM WALK. A strikingly designed building with an unusual 3-D ceiling that nonetheless blends into its surroundings. Tempered glass panels bring in natural light for eco-friendly illumination and energy efficiency.

WIRATMAN PROJECT MANAGEMENT AND CONSTRUCTION MANAGEMENT offer a full range of services. As part of a multi-disciplinary firm, we have evolved particularly strong project management processes and skills, extending to program management. Our goal is to help effectively plan the scope, time and budget of the project, and ensure smooth execution for on-time and cost-effective delivery.

OUR EXPERTS monitor and liaise with contractors in the field, for accurate reporting to the client and effective Contractor Performance Management (CPM). Our teams are equipped with state-of-the art surveying, inspection and testing instruments along with the necessary understanding of project needs and regulatory requirements. All processes are supported by accurate and timely documentation using paper work as well as software.

WE HAVE SUCCESSFULLY delivered more than 300 projects of which many have been awarded by repeat clients.

SERVICES:

- + Project management
- + Construction management
- + Construction supervision
- + Inspection
- + Related support services

PROJECTS:

Our portfolio consists of high rise buildings, hotel, apartment, resort, highways, bridges, utilities and transit facilities, commercial and industrial buildings, and others.

CASE STUDY

DILI MAIN ROADS RECONSTRUCTION PROJECT



Wiratman was assigned by The Democratic Republic of Timor-Leste to perform the Detailed Engineering Design and Bid Document Preparation for the Dili Main Roads Reconstruction Project in Dili, Timor-Leste. The aim of this project was to increase road lifespan through standard quality control of road alignment and pavement, provision of the subsurface and drainage system, to improve the safety for all road users, including pedestrians and non-vehicular transport, and to provide traffic capacity that meets the 10 years traffic projection horizon. Meanwhile this project was also intended to improve all of the existing roads in the city of Dili to meet international standard for urban roads.

The project covered almost all of the city's road segments and consists of three road function - arterial, collector, and local roads - with a total length of 47.037 km and 33 road segments with the main focus on the city center, where government offices, embassies, and business district are located.

The end of 2013 will have completed the construction of almost all of the city center's roads.

THE UNITED OVERSEAS BANK (UOB) BUILDING



What differs this building from surrounding buildings is the dynamic form of its facade. Not only does it plane along the height of the building, but also expresses a clever configuration of facade blocks, protruding from one to the other. To make this possible, the floor beam structure is displayed intermittently rather than with long cantilevers, which requires careful selection of beam dimensions to ensure vibration control during earthquakes. The extra effort invested in structural analysis is necessary to ensure proper function for this dynamic looking 40 story high-rise building and to provide convenience to the occupants.

Another challenging situation was to meet the client's decision to change the building function from Hotel to Office during the construction phase. Our design team had to reanalyze the structure to ensure the safety of the building remain secured and maintaining construction on schedule. We discovered that the original structural system--as a dual system--can accommodate the new concept, but retrofitting is still required in some areas. In the end, the client's satisfaction is our valuable reward.

KUALANAMU INTERNATIONAL AIRPORT



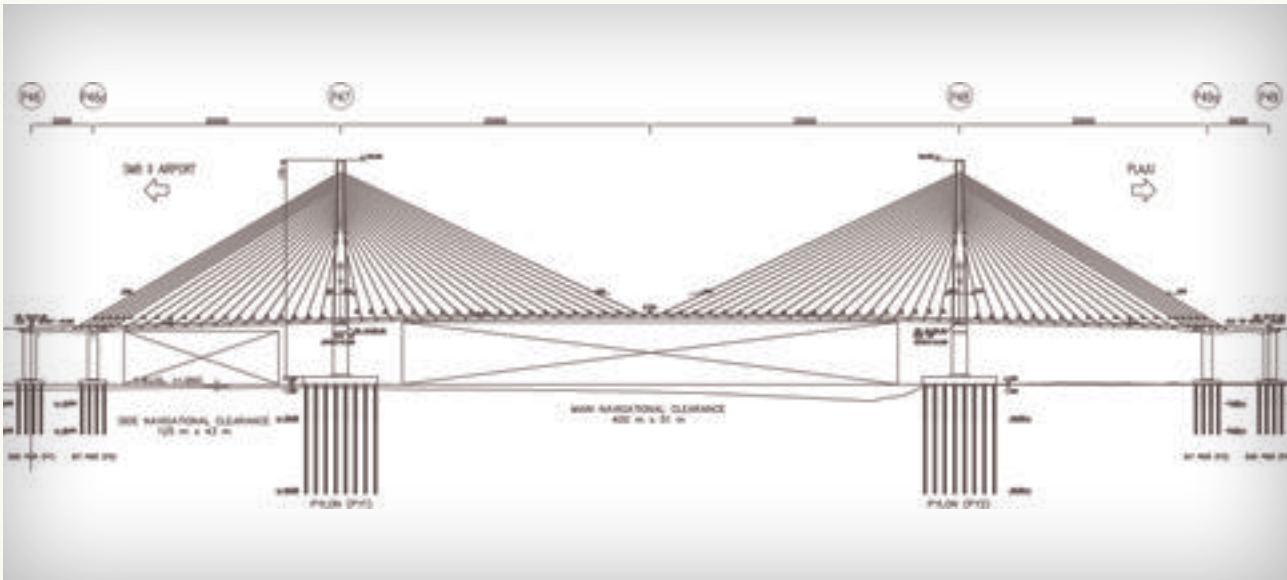
We are proud for being appointed the architect of the second largest Airport in Indonesia, the Kuala Namu International Airport in Medan after winning a design competition held in the end of 2006. This airport is the first multimode international hub airport in Indonesia, equipped with fully automated inline baggage handling system.

The architectural concept is the crystallization of an oil palm tree, through a basic repetitive form expressed as a modern roof. The atrium acts as a grand space, combining people from the time of departure and arrival, while the traffic circulation at the arrival zone leads to a parking space separated by the train station.

A green concept approach was utilized by providing a wide roof, which overhangs for greater shading. Vertical louvers almost covering the entire perimeter of the terminal building has the same purpose. Extensive skylight allows natural lighting to penetrate throughout the building, while the low E-glass was selected to protect the interior from heat gain.

The first phase terminal development caters 8 to 10 million passengers per year and has been completed in 2012. The next phase is planned to cater for 35 million passengers per year by 2025.

THE MUSI III MAIN CABLE-STAYED BRIDGE



This bridge project, with a total length of 1000 km, will cross the Musi River in Palembang, South Sumatera and connect the future Eastern Ring Road in the city. The composite bridge deck provides three lanes and two ways of highway traffic with a total structural deck width of more than 30 meters. The main span is 500 meters, with a concrete pylon height of 182 meters. The vertical navigational clearance is 51 meters and should accommodate the traffic of the largest operating vessel in Palembang port. The main bridge is designed to resist 2 levels of earthquake loads with 1000-year and 2500-year return period and will have a service lifetime of 100 years.

Assigned by the Ministry of Public Works, we carried out the Basic Engineering Design, Detailed Engineering Design, and preparation of Tender Documents for the main bridge and the approach bridge structures. We have conducted the sectional and full-scale model wind tunnel test for the main cable-stayed bridge. The wind tunnel test has provided integral information to ensure that the bridge is aerodynamically stable in resisting the 1000-year return period wind speed. Upon completion, this bridge will have the longest bridge span in Indonesia surpassing the Suramadu Bridge.

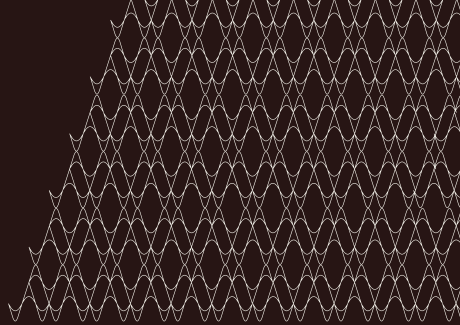
THE TWO-LEVEL SHOPPING BRIDGE AT JALAN SENEN RAYA, JAKARTA



This bridge connects two shopping centers, the Atrium Mall and the Pasar Senen Block IV Mall. This bridge's uniqueness lies in the method of construction, which is independent from the busy traffic underneath, and in the method of integrated foundation and upper structure design. The length of the main span is 40 meters, while the second smaller portion is 22 meters. Precast pre-stressed girders have been prepared in the workshop for the spans, then transported to the site and placed atop of the piers by cranes.

The girders were designed to carry the two level shopping arcades. As for the foundation of the first main pier, space is only available for a smaller number of foundation piles compared to the second pier. Therefore, the first pier was designed to carry a smaller lateral seismic load by selecting a more flexible pier than the second, and in addition placed the girders atop the piers using pot bearings ensuring lateral load transfer from one pier to the other. The overall structure looks impressive and recognized as being innovative. We are proud that this project has accorded the 2013 Construction Award from the Ministry of Public Works.





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