

# Asia Pacific | Southeast Asia

# Infrastructure that transforms the future



# Your access to premier, fully integrated infrastructure services.

AECOM project teams fuse top technical expertise around the world with deep local experience, to design and deliver infrastructure, utilities and facilities that meet the needs of our clients and the communities.

Across all components of the in-project cycle — design, build, finance and operate — AECOM is uniquely positioned to deliver a differentiated service, working globally and delivering locally. Our engineers, planners, architects, landscape architects, environmental specialists, economists, scientists and construction specialists as well as cost, construction, project and programme managers are all dedicated to finding the most innovative and appropriate solutions, and to achieve the most successful outcome for our clients.

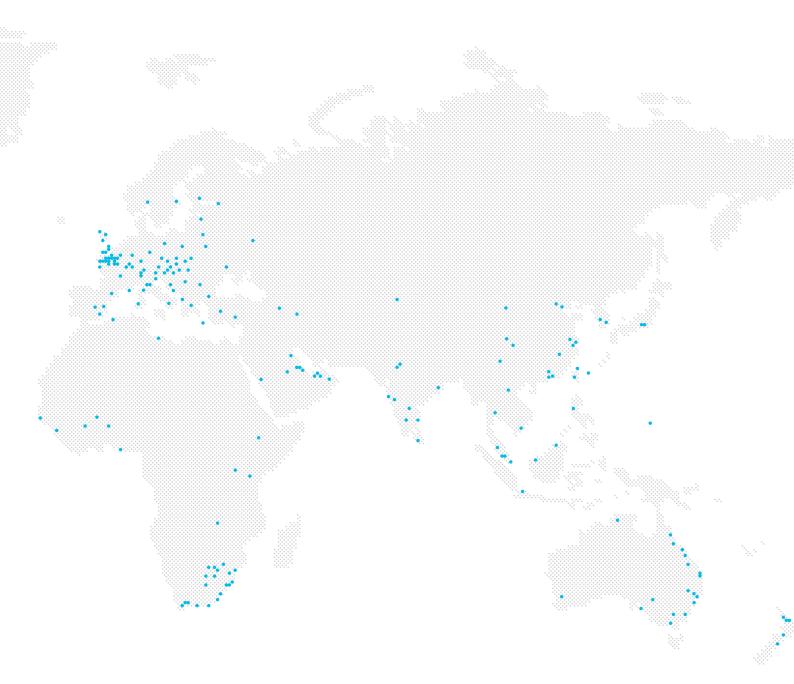
Fortune World's Most Admired Companies 2015-2018 # 161 on the 2017 Fortune 500 list

#### Engineering News-Record

**# 1** Top 500 Design Firm for the eighth consecutive year (2010–2017)

#### We are also ranked as:

# 1 in Transportation
# 1 in General Building
# 1 in Hazardous Waste
# 2 in Water
# 2 in Sewer and Waste
# 3 in Power
# 1 in the Top 50 Program Management Firms
# 1 in the Top 200 Environmental Firms
# 2 in the Top 100 Green Buildings Design Firms
# 3 in Construction Management-at-Risk
# 5 in Top 400 Contractors



Strength in numbers:







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# Global Expertise. Local Experience.

Our work in Asia Pacific is transformative. With more than 15,000 employees in 15 regional markets in Asia Pacific, we offer our clients a truly integrated suite of services that address complex project challenges, and deliver local service excellence that reflects our global knowledge and expertise.

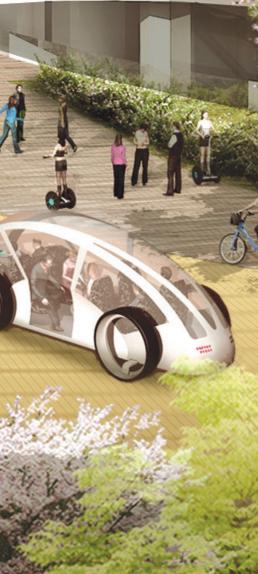
With a presence in the region for over 60 years, we have offices in virtually all major cities, including Auckland, Bangkok, Beijing, Chongqing, Colombo, Delhi, Guangzhou, Ho Chi Minh City, Hong Kong, Jakarta, Kolkata, Kuala Lumpur, Manila, Melbourne, Mumbai, Shanghai, Shenzhen, Singapore, Sydney, Taipei, Tokyo and Yangon, among others.

rnational Convention & Exhibition Centre, N









## Imagine

# We partner with you to bring your boldest ideas to life.

You have a bold idea for connecting people to places and opportunities that will transform economies and lives for the better. Sustaining the supply of life critical resources such as water. Enhancing connectivity with more integrated transportation systems. Protecting lives with critical defense, security and natural disaster resilience systems. Providing best-in-class educational and healthcare facilities.

With AECOM, you will have access to the best minds in design, architecture, engineering, economics, planning, building and project management. Bring us your bold ideas, and we will help you bring them to life.

# Deliver

# We design, build, finance and operate dreams in partnership with those who think without limits.

It is your choice which and how many of our services you wish to deploy for your project. What matters is that, with AECOM, you have options. Because we provide the full range of services across the life cycle of a project, we can help you with particular or all aspects and stages of your project. If you have decided to deploy different parties for specific deliverables, we can represent you and help you manage the project and the deliverables of all parties according to your scope.





## Transportation

# Mobility systems that connect people to cities, countries and continents, and to new opportunities.

Working with local municipalities, government agencies, commercial clients and alternative delivery partners, we are building, modernizing and expanding transportation systems that unlock untapped potential for raising national productivity, environmental sustainability, and quality of life.





Main: Klang Valley MRT: Sungai Buloh-Kajang Line (Line 1), Kuala Lumpur, Malaysia

Left: Changi Airport Terminal 4, Singapore

Right:

Manila International Container Terminal Berths 5 & 6, Manila, Philippines



#### Klang Valley MRT: Sungai Buloh-Kajang Line (Line 1)

AECOM was appointed as the design and construction supervision consultant for a significant portion of KVMRT Line 1, which was officially opened in July 2017, and for the underground works package for Line 2 which is currently in progress.

This is Malaysia's largest public infrastructure development and a major milestone in the transformation of Kuala Lumpur's (KL) transportation infrastructure. It is bringing a more environmentally sustainable means of transportation to alleviate current traffic congestion and to transform KL into a world-class metropolis. For Line 1, our transportation team provided the engineering design of one railway depot, 5.5 kilometers of works for the underground tunnel, 22.5 kilometers of elevated guideway works and 16 stations as well as offered overall construction supervision for the elevated section of the project.

#### We specialize in

Aviation Bridges and tunnels Freight rail Highways and roads Mass transit Ports and marine

#### Selected services

Asset management Capacity planning and analysis Condition assessment Cost management Estimating and procurement Feasibility studies Geotechnical Inspection Landscape architecture Master planning Modeling and simulations Operations and maintenance Pre-construction services Project and construction management Quality control Security and systems design Sustainable development Transit-oriented development



TUAS WATER RECLAMATION PLANT

## Water

# Innovation in systems that enhance the production, quality and preservation of this vital resource.

We cannot imagine a world without water, so we imagine ways to manage the water resources available today to save and produce this vital resource. Solutions that both sustain human and environmental needs require a deep understanding of the interconnected systems in urban and rural communities and the ecosystem.





*Main:* Deep Tunnel Sewerage System Phase 2, Singapore (Photo credit: PUB Singapore)

Left: River of Life, Kuala Lumpur, Malaysia

Right: San Roque Dam, Manila, Philippines

# CHANGI WATER RECLAMATION PLANT

#### Deep Tunnel Sewerage System Phase 2

In collaboration with the client and our joint venture partner, we oversee the development, engineering, and construction of Deep Tunnel Sewerage System (DTSS) Phase 2, for the production of new supplies of domestic and industrial water, meeting up to 55% of total water demand in Singapore. DTSS Phase 2 delivers a sustainable solution for used water management by conveying used water by gravity to centralized water reclamation plants located at the coastal areas, where it is then treated and further purified into ultra-clean, high-grade reclaimed water known as NEWater.

#### We specialize in

Biosolids, energy recovery and optimisation Brackish and seawater desalination Coastal/waterfront Dams, hydropower and levees Drinking water treatment and supply Industrial water Irrigation Tunnels, conveyance, collection and distribution Wastewater treatment Water reuse Watershed and ecosystems management

#### Selected services

Asset management Cost management Condition assessments Feasibility studies Flood protection Geotechnical Hydraulics modeling and analysis Hydrological and qualitative studies Mapping Master planning Modeling Pipelines Permitting Project and construction management Strategic solutions Stormwater control Treatment systems



## **Power and Energy**

# A century's worth of experience that delivers power and energy infrastructure to fuel economic growth and enhance quality of life.

The power systems for the future need to be built urgently today. With the world's fastest urbanization happening in Asia and 64% of Asia's population living in cities by 2050\*, AECOM is contributing its deep experience to help nations strategically plan, develop, design, procure and construct their energy infrastructure.

We look at our projects as part of the broader power system and across the whole lifecycle, from commissioning to decommissioning. We help clients to achieve the right balance across the spectrum of generation: fossil fuels; nuclear; and hydroelectric and other renewable and alternative energy technologies. You can count on us to provide single-source delivery across the full power spectrum.



\*United Nation's World Urbanisation Prospects 2014



Main: Wayang Windu Unit 3 Geothermal Power Project, West Java, Indonesia

**Left:** 1070-megawatt Nam Thuen 2 Hydroelectric Power Project, Lao PDR

Right: Jurong Island Cable Tunnel, Singapore



#### Wayang Windu Unit 3 Geothermal Power Project

Wayang Windu geothermal field is Indonesia's largest geothermal development and one of the largest of its kind in the world. AECOM was engaged by the client to help transfer Earth's heat into a clean and sustainable source of electricity to power the world's fourth most populous country. We provided engineering services for the first unit of Wayang Windu Geothermal Power Plant which is the largest plant in the country, and we were also responsible for the design, preparation of bid documents and construction supervision for the addition of a second turbine-generator unit.

#### We specialize in

Alternative and renewable energies Clean energy Distributed generation Energy efficiency Fossil fuel generation Gas utilities Hydroelectric generation Nuclear generation Smart energy Transmission and distribution

#### Selected services

Energy management Engineering Installation and commissioning Permitting and licensing Procurement Project and construction management Project development

## **Building Engineering**

# Places and spaces that inspire, serve and sustain.

Whether the development is public, private, residential, commercial or mixeduse, our goal is the same - we help you plan, design and build cost-effective, high-performance facilities that inspire through their functionality, creativity and sustainability.

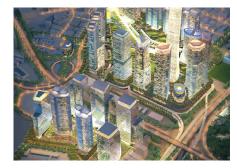
You can count on our technical experience and excellence across the spectrum of building types, materials and structures - from low-rise to the tallest highrise buildings, from concrete to steel, and from composite to tension structure. We are strong in a variety of building types and associated services such as: services integration and coordination with three dimensional modeling, performance-based fire safety design and renewable energy.

We have brought to life many of the world's iconic buildings, solving the complex challenges that often accompany pioneering ideas, through our ability to deploy leading edge technology such as virtual and augmented reality, as well as tap into relevant experience across AECOM's global network.

#### Asia Square Tower 1 and Tower 2

The Asia Square Tower 1 and Tower 2 are among Asia's greenest office buildings. AECOM provided engineering and consultancy services for this energy efficient commercial development and set the standard for a high-technology, low-energy building, producing an estimated energy savings of close to six million kilowatt-hours per year. Asia Square was the first commercial development in Singapore to be awarded LEED-CS Platinum certification by the US Green Building Council and Green Mark Platinum Award by the Building and Construction Authority of Singapore.

Main: Asia Square Tower 1 and Tower 2, Singapore Left: Tun Razak Exchange, Kuala Lumpur, Malaysia Right: JTC Space@Tuas, Singapore





#### We specialize in

Commercial and residential Education Healthcare Industrial Justice Leisure and hospitality Sports and venues

#### Selected services

Acoustic design Commissioning, measurement & verification Energy simulation Lighting and daylight design Mechanical, electrical and plumbing engineering Seismic design and retrofit Structural engineering Sustainability consulting Tall building design Telecoms, AV and IT design





### **Cost Management**

# Planning that helps your project to perform for you and everyone it serves.

We focus on a solution-driven approach to deliver the best outcomes for clients investing in infrastructure, property and construction across a variety of sectors and markets.

As one of the largest cost management consultancies, we have access to unprecedented cost data on projects across contexts and sectors. Based on that intelligence and analysis, we have developed industry-leading benchmarking data sets on a global basis. Along with our extensive experience and specialist knowledge of end markets and building types, we can provide accurate advice on the cost implications of client requirements.

#### Duo Residences, Duo Tower and Duo Galleria

Positioned at the crossroads of Singapore's emerging arts enclave, historic cultural district and bustling business hub, DUO sits on a prime piece of valued land. AECOM provided value-added cost management consultancy for the mixed-use development. We worked together with the architect to achieve viable developments that capture client objectives through value-driven and efficient designs. In Singapore's Building and Construction Authority (BCA) Awards 2013, DUO's environmental friendly and sustainable features were recognized with the BCA Green Mark Scheme Platinum award for its office space and retail gallery, and a GoldPLUS award in the same category for its hotel and residences.

#### Main: Duo Residences, Duo Tower and Duo Galleria, Singapore

**Top:** ITC Colombo One, Colombo, Sri Lanka

#### Bottom:

Kuala Lumpur Convention Centre, Kuala Lumpur, Malaysia





#### We specialize in

Commercial and residential Data centres Education Healthcare Hospitality Industrial Infrastructure Mixed-use development Pharmaceuticals Resorts Sports and venues Transport

#### Selected services Benchmarking

Capital tax allowances (or fiscal incentives) Cost management Cost modelling and cost planning Final account settlement Life cycle costing Post-contract cost management Procurement Value and risk analysis



# Design + Planning | Economics Integrated strategies that provide transformational outcomes.

The challenges facing people and the planet today are only going to get more complex in the foreseeable future, as global population growth and rapid urbanization exert pressure on the built, social and natural environments. Pioneering, high impact, long-lasting solutions will only be achieved by taking a holistic view, forming strategic partnerships, and applying an integrated approach.

AECOM is consistently at the forefront of thought leadership and the development of best practices across the built environment, because our professionals can draw on each other's specialized knowledge, skills and experience across the spectrum of economics, urban planning, master planning, landscape and buildings architecture, business and workplace strategy, interior design, and sustainability.



Main: Senate Building, Philippines

**Left:** Nusajaya Tech Park Master Plan, Johor, Malaysia

**Right:** Clark Green City Master Plan, Clark, Philippines



#### Senate Building, Philippines

AECOM is the winner of the Global Conceptual Design Competition for the new Philippine Senate Building in June 2018. The global competition sought designs that needed to meet four key criteria: instantly iconic and unique; constructable and feasible; sustainable and green and; functional and secure. Developer BCDA assisted the Philippine Senate in procuring an almost two hectare lot, located in a new, expansion area of the BGC district in Manila. Opening of the iconic new Senate Building is planned for July 2021, at the start of the next Congress.

#### We specialize in

Cities Public realm Commercial/retail/mixed-use Residential developments Open spaces and parks Waterfronts Hotels and resorts Corporate campuses and business parks College/university/school campuses Civic/government facilities Transit-oriented design Infrastructure

#### Selected services

Master planning + urban design Sustainability + SMART cities Landscape architecture Economics Wayfinding & signage Interior design Workplace management



## **Construction Services**

# Stewardship that sees your most complex projects come to fruition.

Effective stewardship comes from the ability to see and manage the macro and the micro - from your vision, to the deliverables of the different participants required to bring your vision to life. We have a strong track record in managing capital programs and stakeholders across all market sectors. Our program, project and construction management experts represent and protect your interests at all times. From managing a single to multiple, concurrent projects, guiding constructability and buildability during pre-construction, and providing supervision and leadership during construction and close-out, our unswerving goals are to deliver our clients' visions while controlling risks, managing costs and maximizing value.





Main: Engineering, Procurement and Construction Management (EPCM) for Syngenta Manufacturing Facility, Singapore

Left: Engineering, Procurement and Construction Management (EPCM) for the new IKEA store, Jakarta, Indonesia

**Right:** Program Manager for Republic Cement Building Materials's Capacity Upgrade Program, Philippines



#### Engineering, Procurement and Construction Management (EPCM) for Syngenta Manufacturing Facility

AECOM was assigned to develop a new formulation, filling and packaging facility (FFP) for Syngenta in Singapore. With our wide array of technical knowledge in process engineering, architectural, civil & structural, mechanical & electrical as well as environment, health and safety (EHS), procurement, project controls and construction management, our team provided integrated design and build solutions to help the client develop this new facility, including all permitting requirements, within a short time frame.

#### We specialize in

Commercial & residential Education Energy and utilities Healthcare Hospitality Industrial Infrastructure Leisure and culture Sports and venues Transportation

#### Selected services

Change order management Claims avoidance Construction management Delivery and contracting strategies Design management Estimating Field supervision Master scheduling/schedule analysis Program planning and management Project management Safety programs Value engineering



# Environment Sustainability that nurtures our planet so it can nurture our people.

Our environmental practice helps industries and governments fulfil their responsibilities to the people they support as well as the planet that supports us all. We provide advisory and technical services to help clients achieve compliance, manage impacts, and reduce or even eliminate risks. Our services enable you to anticipate and manage the environmental impact at each stage of the project: planning and obtaining permits for new facilities; decommissioning, cleanup and closure of contaminated sites and surplus operational facilities; restoration for reuse; addressing critical climate change issues; protection or restoration of habitats and water quality; and preservation of cultural resources.





*Main:* Environmental, and Social Baseline Studies and Impact Assessment for an oil and gas client

**Left:** Remediation of a former Petrol Station in Upper Serangoon, Singapore

**Right:** Integrated Waste Management Facility, Singapore



# Environmental, and Social Baseline Studies and Impact Assessment

For more than a decade, AECOM has served as the global environmental consultant to significant oil and gas multinationals - Shell, Chevron and ExxonMobil. Our services include environmental site assessments for client's retail service stations, refineries, chemical plants, distribution terminals, lubricants or petroleum specialties facilities, grease plants, pipeline facilities, coals or minerals facilities, gas plants, production facilities, corporate facilities, aviation and/or marine facilities and other facilities as well as risk assessments and remediation services.

#### We specialize in

Chemicals/pharmaceuticals Government Manufacturing Oil and gas Power/electrical utilities

#### Selected services

Acoustics Air and noise quality consulting Climate adaptation and resilience Due diligence for mergers and acquisitions EHS management consulting and compliance EHS sustainability Environmental management information systems Hydrodynamics modeling Impact assessment and permitting Remediation, restoration and redevelopment

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#### **About AECOM**

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AECOM is built to deliver a better world. We design, build, finance and operate critical infrastructure assets for governments, businesses and organizations. As a fully integrated firm, we connect knowledge and experience across our global network of experts to help clients solve their most complex challenges. From high-performance buildings and infrastructure, to resilient communities and environments, to stable and secure nations, our work is transformative, differentiated and vital. A Fortune 500 firm, AECOM had revenue of approximately \$20.2 billion during fiscal year 2018. See how we deliver what others can only imagine at aecom.com and @AECOM.

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