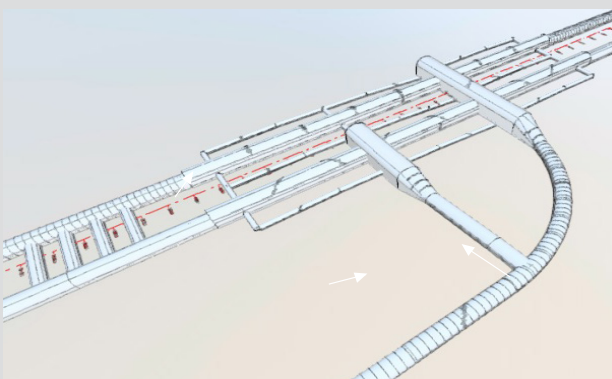
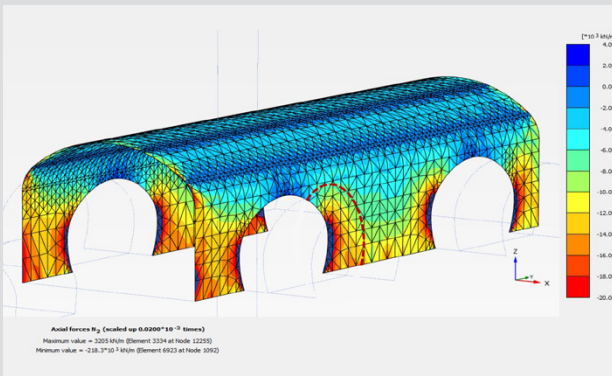
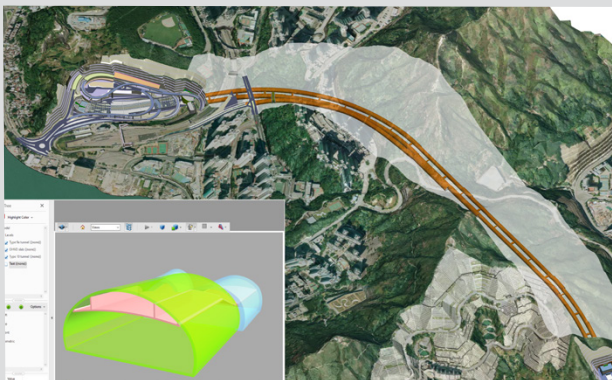
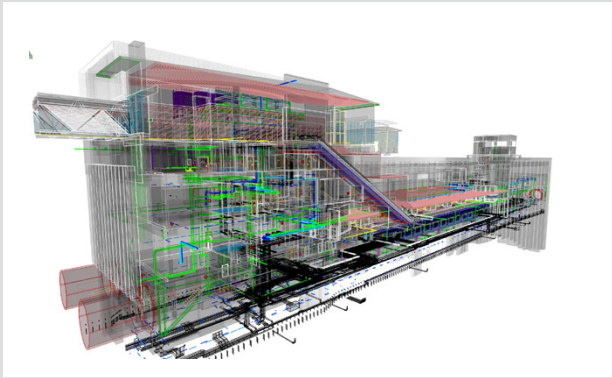


Tunneling and Underground Structures

Asia

AECOM's tunneling practice provides the expertise of a truly global service firm and applies advanced design techniques such as Building Information Modeling (BIM), 2D/3D Finite Element Method (FEM), Augmented and Virtual Reality (AR/VR) for innovative and cost-effective solutions.



Tunneling and underground expertise

- Cut-and-cover tunnels and stations
- Tunnel boring machine (TBM) tunnels
- Drill and blast tunnels
- New Austrian Tunneling Method (NATM)
- Immersed tube tunnels
- Jacked box tunneling
- Underground quarrying
- Deep excavation
- Large and deep shafts
- Pipe jacking and micro-tunneling
- Raiseboring
- Ground improvement
- Tunnel M&E system design
- Tunnel ventilation design
- Tunnel fire-life safety design

Specialized services

We offer an extensive range of tunneling and underground engineering services to governments, infrastructure owners, private developers, contractors and operators.

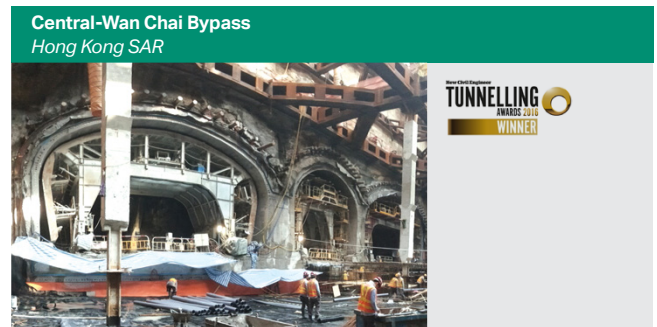
- Feasibility study
- Concept, basic and detailed design
- Planning and environmental engineering
- Geological and hydrogeological study
- Geotechnical baseline reports
- Economic/financial analysis
- Project and construction management
- Tunnel risk management
- Technical advisory



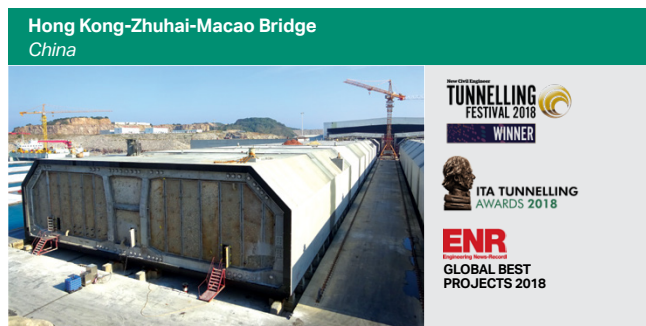
Internationally acclaimed



Drill and blast, ϕ 14.1 m OD Earth pressure balance (EPB) TBM



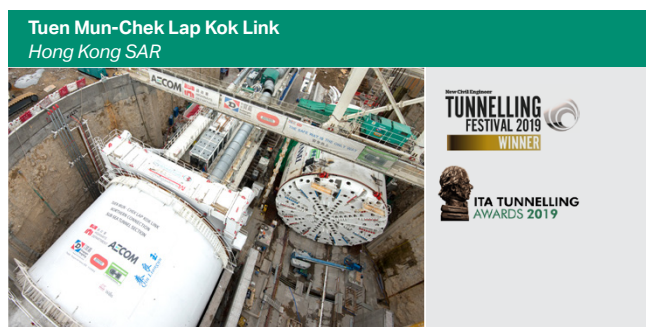
Trinocular, offshore cut-and-cover tunnel



Longest road immersed tube tunnel



1.7-km-long railway immersed tube tunnel



Largest tunnel boring machine (TBM) in the world, ϕ 17.6 m OD



Large-scale semi-caverns as part of road tunnels

Pioneering engineering



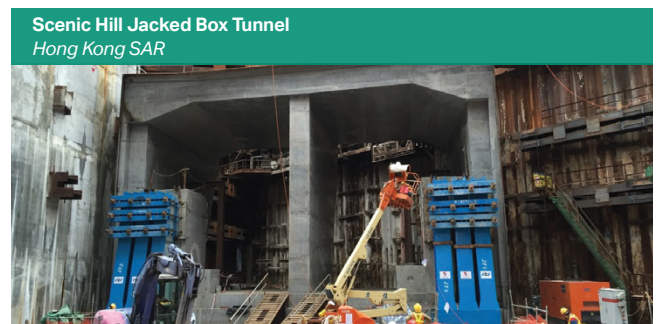
Sustainable use of underground space – New Civil Engineer Award 2015



Largest rock cover (650 m) and longest tunnel (7.6 km) in Hong Kong SAR



Deepest sub-sea tunnel (160 m below sea) in Hong Kong SAR



First jacked box highway tunnel in Hong Kong SAR



AECOM, as one of the largest engineering and design companies in the world, is capable of developing turnkey solutions incorporating leading tunneling and underground engineering skills.

AECOM provides a full range of tunneling and underground structure design and management services serving clients in both the public and private sectors across Asia. We provide one-stop access to services ranging across project and construction management, feasibility studies, concept, basic and detailed design, and risk management for all types of tunneling and underground works.

Our team has established expertise in the design of different tunnel types and are experienced in the application of various international codes and guidelines from Europe, the U.S., China, Japan, Singapore, Australia, New Zealand, India and many others. We have expertise in specialized areas such as seismic and blast-resistant designs and ground improvement methods. AECOM has been involved in many award-winning signature projects. We have received prestigious awards from the ITA, NCE, ENR and various industrial award-giving bodies.

With offices spread across Asia, AECOM is able to offer both local expertise and international collaboration to deliver the most complex and challenging projects.

Representative projects

Mainland China

- Chongming South Channel Tunnel
- Qianhai-Nanshan Deep Tunnel Drainage System
- Shanghai Bund Sightseeing Tunnel
- Guangzhou Zhoutouzui Immersed Tunnel

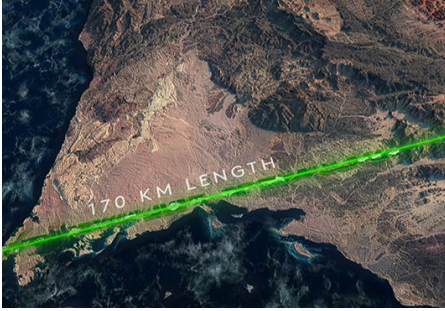
Hong Kong SAR

- Central-Wan Chai Bypass Link
- Liantang/Heung Yuen Wai Boundary Control Point*
- Harbour Area Treatment Scheme (HATS) Stage 2A
- Hong Kong West Drainage Tunnel
- Hong Kong West Kowloon Station
- Hong Kong-Zhuhai-Macao Bridge Immersed Tube Tunnel & Artificial Islands*
- Lai Chi Kok Drainage Tunnel
- MTR XRL Contract 822, 823A+B, 826
- MTR Shatin to Central Link Contract, 1108, 1121, 1128
- MTR Kwun Tong Line Extension Contract 1001
- MTR South Island Line (East) Contract 904
- MTR West Island Line Contract 703
- Tseung Kwan O-Lam Tin Tunnel
- Tuen Mun-Chek Lap Kok Link*
- T2 Trunk Road

Southeast Asia

- Bangkok Mass Rapid Transit (MRT) Blue Line Extension*
- Ho Chi Minh Metro Line 1*
- Johor Bahru-Singapore Rapid Transit System Link
- Kuala Lumpur Klang Valley MRT Line 1* and 2
- Kuala Lumpur-Singapore High Speed Rail
- Singapore Cable Tunnel East West
- Singapore Common Services Tunnel
- Singapore Deep Tunnel Sewerage System Phase 2
- Singapore Jurong Island-Pioneer Cable Tunnel
- Singapore Downtown Line*
- Singapore MRT Circle Line Stage 1, 2, 4, 5 & 6
- Singapore MRT Downtown Line 1 & 2
- Singapore MRT Thomson Line Contracts T225 & T228
- Singapore NEWater Infrastructure Plan Extension C4

**Refer to page 5 for further details*



NEOM Spine Infrastructure
Drill and blast railway tunnels
Kingdom of Saudi Arabia

Client:
NEOM

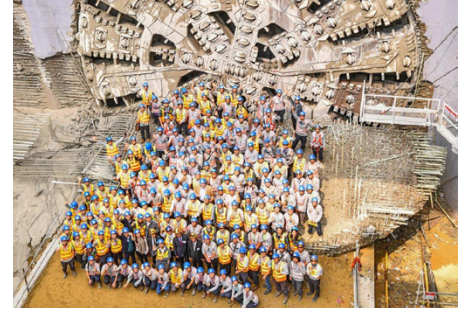
Services:
Concept, preliminary and detailed design



Hong Kong-Zhuhai-Macao Bridge
Longest road immersed tube tunnel
China

Client:
China Communications
Construction Co. Ltd.

Services:
Construction, project and risk
management consultancy,
technical advisory



Tuen Mun-Chek Lap Kok Link
Largest TBM in the world, $\varnothing 17.6$ m OD
Hong Kong SAR, China

Client:
Highways Department,
HKSAR Government

Services:
Preliminary design, tendering, detailed
design of enabling works, construction
supervision, environmental impact
assessment (EIA)



Liantang/Heung Yuen Wai BCP
Drill and blast, $\varnothing 14.1$ m OD EPB TBM
Hong Kong SAR, China

Client:
Civil Engineering and Development
Department, HKSAR Government

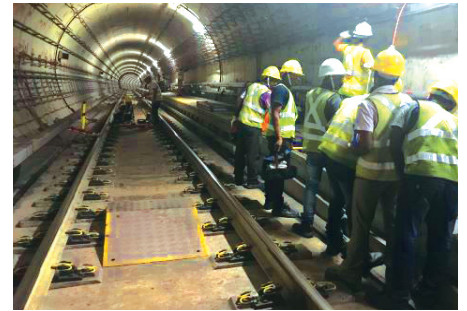
Services:
Preliminary design, tendering,
contract management,
construction supervision



Singapore Downtown Line
Cut-and-cover stations, Singapore

Client:
Land Transport Authority (LTA)

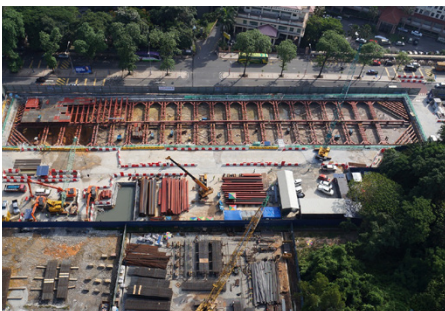
Services:
Architectural and engineering design,
electrical services, environmental
control system and fire protection



Singapore MRT Thomson Line C2104
Tunnels and station, Singapore

Client:
Land Transport Authority

Services:
Engineering design for civil, architectural
and electrical and mechanical (E&M)
works, EIA, temporary works, historical
land use survey



Klang Valley MRT Line 1
First MRT Line in Malaysia, steel fiber
reinforced concrete tunnel, $\varnothing 6.35$ m OD

Client:
MMC Gamuda KVMRT

Services:
Engineering design, detailed design and
supervising consultancy



Ho Chi Minh City MRT Line 1 CP1b
First metro line in Ho Chi Minh City,
 $\varnothing 6.65$ m OD EPB TBM, Vietnam

Client:
Shimizu Maeda Joint Operation

Services:
Detailed design for civil, geotechnical
and E&M works, project management



Bangkok MRT Blue Line Extension
Sub-river tunnel, $\varnothing 6.3$ m OD EPB TBM
Thailand

Client:
CH. Karnchang PCL

Services:
Detailed design for civil, architectural
and E&M works, risk management

Industry recognition

Our work is widely recognized by the industry and brings transformational outcomes to our communities.

Year	Project	Award	Awarding Institution
2024	Tseung Kwan O-Lam Tin Tunnel	Grand Prize (Infrastructure Category) - HKIE Grand Award	Hong Kong Institution of Engineers (HKIE)
2020	MTR Shatin to Central Link Immersed Tube Tunnels	Tunnelling Project of the Year (up to US\$500M)	New Civil Engineer (NCE)
2020	Tseung Kwan O-Lam Tin Tunnel Main Tunnel and Associated Works	Environment and Sustainability Initiative of the Year	New Civil Engineer (NCE)
2019	Liantang/Heung Yuen Wai BCP	Tunnelling Project of the Year (Over US\$500M)	New Civil Engineer (NCE)
2019	Tuen Mun-Chek Lap Kok Link-Northern Connection Subsea Tunnel Section	Major Project of the Year (Over €500M)	International Tunnelling Association (ITA)
2019	Tuen Mun-Chek Lap Kok Link	Tunnelling Team of the Year	New Civil Engineer (NCE)
2019	Central-Wan Chai Bypass C15 Contract	16th Tien-yow Jeme Civil Engineering Prize	China Civil Engineering Society & Beijing Tien-yow Jeme Foundation for Development of Science and Technology in Civil Engineering
2018	Hong Kong-Zhuhai-Macao Bridge, Immersed Tunnel and Artificial Islands	Tunnelling Project of the Year (Over US\$1B)	New Civil Engineer (NCE)
2018	The Immersed Tunnel of Hong Kong-Zhuhai-Macao Bridge	Major Project of the Year (Over €500M)	International Tunnelling Association (ITA)
2018	Island & Tunnel Project of Hong Kong-Zhuhai-Macao Bridge	Global Best Project, Bridge/Tunnel Category	Engineering News Record (ENR)
2018	MTR Shatin to Central Link – Causeway Bay Typhoon Shelter to Admiralty Tunnels – Contract No. 1128	Gold Award – International Design for Safety Awards 2018	The Lighthouse Club Hong Kong
2017	Setting up and Implementation of Geographical Information System for the KVMRT SSP Line– Underground Works	Asia Geospatial Excellence Awards 2017, Digital Engineering	GeoSmart Asia
2017	Liantang/Heung Yuen Wai Boundary Control Point – Site Formation & Infrastructure Works Contract 2	Global Tunnel Team of the Year	New Civil Engineer (NCE)
2017	MTR Shatin to Central Link – Causeway Bay Typhoon Shelter to Admiralty Tunnels – Contract No. 1128	Gold Award for Temporary Works Excellence, Civil Engineering Works	Development Bureau, HKSAR Government
2017	MTR Shatin to Central Link – Causeway Bay Typhoon Shelter to Admiralty Tunnels – Contract No. 1128	Designer Innovation of the Year, MTRC Contract 1128 SOV to Admiralty Tunnels	New Civil Engineer (NCE)
2016	Central-Wan Chai Bypass & Island Eastern Corridor Link–Causeway Bay Typhoon Shelter Section (HY/2009/15)	Tunnelling Project of the Year (Over US\$500M)	New Civil Engineer (NCE)
2016	MTR Shatin to Central Link Contract 1103	Highly Commended Tunnelling Project of the Year (US\$50M–US\$500M), NCE International Tunnelling Awards	New Civil Engineer (NCE)
2016	Tseung Kwan O-Lam Tin Tunnel	buildingSMART Hong Kong International BIM Award 2016	buildingSMART Hong Kong
2016	Underwater Domes of Istanbul (Pedestrian Subsea Tunnel)	World Architecture News (WAN) Future Projects Transport Award 2016	World Architecture News (WAN)
2015	Relocation of Sha Tin Sewage Treatment Works to Caverns	Sustainable Use of Underground Space Award	New Civil Engineer (NCE)
2015	Contract 901; Admiralty Station Expansion Project	Specialist Tunnelling Project of the Year	New Civil Engineer (NCE)
2014	Lai Chi Kok Drainage Tunnel	Honour Award, Design Projects Category	International Water Association
2014	Relocation of Sha Tin Sewage Treatment Works to Caverns	Marketing and Communications Award	International Water Association Global Project Innovation Awards
2012	Chongming-Yangtze River Tunnel, Shanghai, China	Major Tunnelling Project of the Year (Over US\$1B)	New Civil Engineer (NCE)
2012-2013	Lai Chi Kok Drainage Tunnel	HKIE Engineering Innovation Award	Hong Kong Institution of Engineers (HKIE)
2011-2012	Chongming-Yangtze River Tunnel, Shanghai, China	National Quality Project Gold Award	China National Award
2011	Hong Kong West Drainage Tunnel	Tunnelling Project of the Year (US\$100M–US\$1B)	New Civil Engineer (NCE)
2011	Tuen Mun-Chek Lap Kok Link-Northern Connection Subsea Tunnel Section	Foresight Award	Tunnels & Tunnelling International



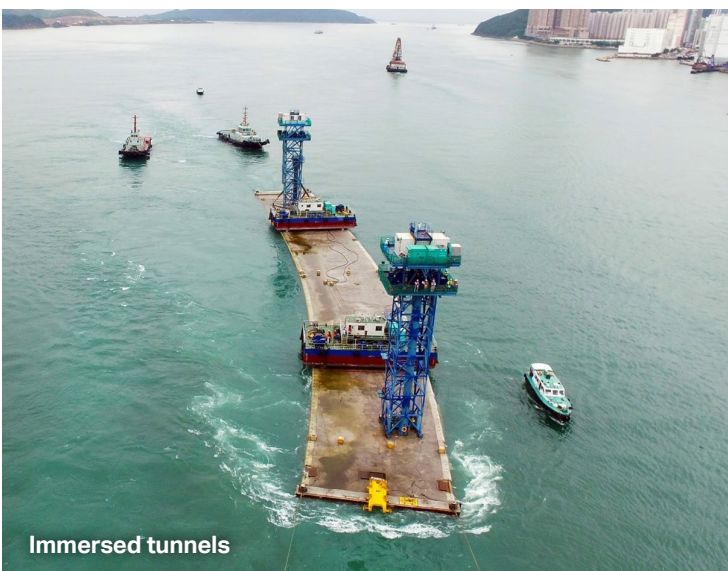
TBM tunnels



Mined tunnels



Cut-and-cover tunnels



Immersed tunnels



Deep shafts and excavations

About AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle – from advisory, planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy, and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical and digital expertise, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a Fortune 500 firm and its Professional Services business had revenue of \$14.4 billion in fiscal year 2023. See how we are delivering sustainable legacies for generations to come at aecom.com and [@AECOM](https://twitter.com/AECOM).

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asiatunnelling@aecom.com

Cover Image:
Tuen Mun-Chek Lap Kok Link, Hong Kong SAR