



Terence Kok Wai Chuen

Enterprise AI Strategist | Executive Director, AI Governance & Assurance Practice, Orion Five Engineering | Co-author, AI at Scale: From Pilot to Production

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Terence Kok is an Enterprise AI Strategist and Executive Director, AI Governance & Assurance Practice at Orion Five Engineering, with twenty-five years leading digital and AI transformation programmes across Asia and the Middle East. He has designed and deployed AI systems for national smart-city initiatives, critical infrastructure projects, and enterprise operations at scale, including a retrieval-augmented generation platform serving more than 6,000 engineers with zero security incidents. His practice spans the full deployment lifecycle: from readiness assessment and governance design through to production optimisation and ROI measurement.

Beyond delivery, Terence invests in the broader ecosystem, advising deep-tech founders at NUS National GRIP, serving on IMDA's GenAI Sandbox evaluation panel, and contributing to global AI policy as a member of the AI for Developing Countries Forum. He is a regularly invited speaker and panellist at regional and international forums on AI, digital transformation, and smart cities, including CDO Vision Singapore, InteracTech Asia, and the UN ESCAP AI for Developing Countries Forum in Bangkok. He received the CDO Vision 2026 Award, recognising leaders driving measurable impact through AI and enterprise transformation, and the Google Trailblazer Transformation Award 2024 for innovation in AI-driven digital ecosystems. He co-authored AI at Scale: From Pilot to Production with Iram Tanvir (forthcoming Q4 2026) and introduced the Return on Employee framework for measuring AI value in knowledge work.

AI & Digital Transformation

Building enterprise-grade AI ecosystems, including LLMs, Vector/Graph/Hybrid RAG, and deterministic frameworks, deployed in production at scale.

Smart Cities & Infrastructure

Designing city-scale ICT and IoT platforms where physical infrastructure and digital systems converge, including IOCCs and digital twins.

Security & Governance

Certified Counter Terrorism Practitioner integrating strategic risk management with AI-driven threat intelligence and governance design.

Professional Experience

2026 – Present	Executive Director, AI Governance & Assurance Practice , Orion Five Engineering Pte Ltd
2026 – Present	Strategic Advisor , Praxora Lab
2018 – 2026	Meinhardt (Singapore) Pte Ltd
2025 – 2026	Chief AI & Innovation Officer
2024 – 2025	Executive Director, Technology and Innovation
2024	Director, ICT and Smart Cities
2021 – 2024	Associate Director
2019 – 2021	Technical Director
2018 – 2019	Principal Engineer
2016 – 2018	Chief Technology Officer , Pelsis Group / Brandenburg UK Ltd
2015 – 2018	Co-Founder , Orion Five Engineering Pte Ltd
2009 – 2014	Research & Development Program Manager , EV World Pte Ltd
2003 – 2025	Co-Founder , Cool N Lite Solar Film
2002 – 2004	Director, Technology , Pesthunters Pte Ltd
1999 – 2002	Chief Strategy Officer , VoLUM Communications Pte Ltd
1994 – 2015	Military Officer , Singapore Armed Forces

PATENTS FILED

- Detection Apparatus for Identifying the Presence of a Targeted Warm-Blooded Animal in a Detection Zone. US-20240081652-A1 · Issued Mar 14, 2024
- Method And Apparatus for Determining The Occurrence Of Animal Incidence. US-20050151653-A1 · Issued Jul 15, 2004

Key Projects, Milestones & Experience

Meinhardt AI Centre of Excellence

MANAGING DIRECTOR

Established and led Meinhardt's global AI Centre of Excellence, a production-oriented capability integrating AI governance, MLOps/LLMOps pipelines, and federated delivery across heterogeneous enterprise and OT systems. Targets: 20–30% reduction in rework, 15–25% faster RFI processing, and ≥70% of AI use cases delivering validated ROI within three years.

Global AI Governance Framework, Meinhardt Group

PROJECT DIRECTOR

Designed the enterprise governance framework for Autonomous Agentic AI deployment across AEC operations, a lifecycle-based model covering Discover, Operate, and Retire phases. Six pillars: risk assessment, human accountability, technical controls, responsible user enablement, supply chain provenance, and frontier risk management. Aligned with IMDA Model AI Governance Framework, NIST AI RMF, and multi-jurisdictional data privacy laws.

KELIX Enterprise AI Platform (Domain-Specific Enterprise AI for the AEC Industry)

MEINHARDT · PROJECT DIRECTOR

Built Meinhardt's proprietary on-premises RAG platform, enabling 6,000+ engineers to access 30+ years of institutional knowledge across global offices. Outcomes: 20%+ reduction in engineer time on routine tasks, AI-assisted design review, zero security incidents.

AI-Enabled Enterprise Operations Platform (Meinhardt Online ERP)

PROJECT DIRECTOR

Directed development of Meinhardt's enterprise ERP platform integrating project management, timesheets, payment milestones, and claims processing, with an AI-enabled HR chatbot and real-time SBU performance dashboards.

Saudi Royal Aviation New Terminal Development

SECURITY LEAD

Led integrated security design for new terminal land and airside operations: access control, surveillance, sensor fusion, and perimeter intrusion systems. Conducted security risk assessments aligned with ICAO and GACA requirements; coordinated with airport authorities, military, and civil aviation units.

DIFC Enterprise Campus Network Design Review (Low Level Design), Dubai

PEER REVIEW

Peer reviewed network architecture, segmentation, security controls, and regulatory compliance (DIFC ICT Law, UAE/TDRA, DESC, SIRA UAE). Translated findings into RFP-ready requirements for a regulator-aligned infrastructure baseline for DIFC 2.0.

Infrastructure Capability Diagnostic Framework and Toolkit

CLIENT: PUBLIC INVESTMENT FUND (PIF), KSA · PROJECT DIRECTOR

Delivered a four-phase technical capability diagnostic across six infrastructure domains. Produced benchmarking scorecards, gap reports (20+ opportunities), and a real-time executive dashboard, enabling prioritisation of over US\$60 billion in improvement investments.

Sultan Haitham City IOCC (Integrated Operations and Control Centre), Oman

TECHNICAL ADVISOR

Technical Advisor for the IOCC within Sultan Haitham City, a 1,540-ha greenfield smart city in Oman. Scope: governance strategy, data sharing policies, smart infrastructure, interoperability, IoT integration, full-lifecycle design from concept to construction.

NEOM Magna Smart City Master Plan, KSA

SMART CITY LEAD

Delivered the infrastructure master plan for MAGNA, a 406 km² coastal district along the Gulf of Aqaba. Scope: city-wide digital infrastructure including ICT/connectivity, smart mobility, safety and security, smart utilities, and environmental management.

NEOM Bay Airport Digital Strategy: Smart Airport Digitisation Strategy and Roadmap, KSA

PROJECT DIRECTOR

Led the smart airport digitisation strategy for NEOM Bay Airport (6M passenger capacity). Defined digital responsibilities across GACA/Matarat; developed ICT infrastructure requirements aligned with IATA NEXTT and NEOM digital standards.

8 Shenton Way, Singapore (GM2021 Intelligence)

GM2021 INTELLIGENCE SECTION LEAD

Contributed smart technology and systems advisory for Singapore's tallest skyscraper (63 storeys, 305m). Scope: smart building integration covering energy optimisation, health and wellness, spatial management, and occupant experience.

NEOM Customs Infrastructure Design Prototype

PROJECT DIRECTOR

Designed detailed operational workflows and land boundary port infrastructure for NEOM Customs Administration (NCA), across six land entry/exit points, including a Smart Border Wizard analytical tool.

SM Super City, Pasay 360 Detailed Master Plan, Manila, Philippines

SMART CITY LEAD

Led smart city systems design for a 396-ha mixed-use development (3 reclaimed islands, 10.85M m² GFA): communications/connectivity, smart transport, waste, energy, water management, and security risk assessment.

Suntec City Office Towers: Digital Twin and Smart ACMV Upgrading Works, Singapore

SMART SYSTEMS LEAD

Designed smart control and monitoring systems for ACMV upgrading, including digital twin integration (IT/OT), predictive ML-based airflow balancing, CO₂ demand-controlled ventilation, and open-protocol BMS integration.

Concept Master Planning for Lim Chu Kang Food Hub, Singapore

SMART CITY AND SECURITY LEAD

Led concept master planning for Singapore's Lim Chu Kang high-tech agri-food zone. Projected to deliver 3× current food production capacity, supporting Singapore's 30-by-30 food security goal.

Sultan Haitham City, Oman

SMART CITY LEAD

Led smart city infrastructure engineering for Sultan Haitham City (1,540 ha, greenfield). Full lifecycle engagement: data collection, gap analysis, concept, preliminary and detailed design.

King Saud University, KSA

SMART CITY LEAD

Delivered smart city concept design inputs for KSA's largest university: transport/mobility, sustainability, landscape, signage, lighting, and water utilities. Aligned with KSA Vision 2030.

Islamic Civilisation Village, Al-Madinah Al-Munawarah, KSA

SMART CITY LEAD

Led smart city infrastructure planning for the first-of-its-kind ICV development in Al-Madinah, calibrated to the unique cultural requirements of the Al-Madinah context. Aligned with KSA Vision 2030.

NEOM Airport Digital Strategy, KSA (Brownfield & Greenfield)

TECHNOLOGY LEAD

Developed the digital strategy and technical roadmap for both NEOM Bay Airport (brownfield) and NEOM International Airport (greenfield): IoT/sensor infrastructure, AI/robotics rollout, remote control tower, and predictive maintenance.

Project Raha, Jeddah, KSA (13,500 ha)

TECHNOLOGY AND SECURITY LEAD

Delivered integrated smart-sustainable infrastructure concept for a Red Sea waterfront development supporting KSA Vision 2030: mobility, ICT infrastructure, data centre design, and safety/security assessment.

IGIA Smart Airport City Digital Blueprint (5,000 acres), India

TECHNICAL LEAD

Designed and delivered the end-to-end digital blueprint for IGIA Smart Airport City: IoT/sensor infrastructure, digital twin with 3D holographic command centre, smart transport/energy/water/waste/security, and a multi-disciplinary super-app.

New Jeddah Downtown Concept Master Plan, KSA

SMART CITY AND SECURITY LEAD

Developed pre-master planning concept for a 5M m² mixed-use downtown (36,000 jobs) across six smart city pillars: governance, economy, utilities, mobility, community, environment.

DIAL Aerocity Smart Commercial District (230 acres), Delhi, India

SMART TECHNOLOGY LEAD

Delivered concept master plan and schematic design for a 30M sq ft smart commercial district (400,000 workforce): smart traffic/transport, ICT infrastructure, smart city management, and IT infrastructure.

Command Center Integration, Singapore

PROJECT LEAD

Deployed large-scale video-wall command centres integrating drones, autonomous robotics, IoT devices, body-worn cameras, and GPS asset tracking. Delivered Singapore's first landmark LEDS project supported by e2i, WSG, and ESG.

Product and Robotics Deployments

Ministry of Home Affairs: Autonomous Ground Robot Deployment. GPS-denied autonomous ground robot supporting the Singapore Police Force at Chingay 2018 and confidential security operations.

AETOS KoolScan: Contactless High-Speed Temperature Scanner. Fully customised, Class B medical device-certified temperature scanning system; over 1,200 units built to support pandemic operations.

PSA Marine: Biometric Fuel Management Operations. Secured, biometric-authenticated fuel management system connecting Brani and West Coast bases over a redundant fibre and LTE network.

PSA Marine: Hydroponics AI Monitoring and Optimal Harvesting. AI-based optimal harvesting and remote sensory monitoring for PSA Marine's sustainable hydroponics farming initiative.

Raymang Eggs: Automated Carton Box Removal System. ESG-funded robotic carton removal system for egg distribution, a 1,000%+ efficiency gain using two 6-axis industrial robotic arms.

Chye Thiam Maintenance: Unified Communications System. Secured mission-critical unified communications and asset tracking system, demonstrated to Singapore's Deputy Prime Minister.

PestBusters Industry Transformation Programme. The first Lead Enterprise Assisted Scheme (LEDS) project in Singapore: fleet, surveillance, and IoT transformation for the pest management industry.

EARLIER CAREER HIGHLIGHTS

- **IoT & Embedded Systems R&D (2014–2020):** Designed and deployed commercial IoT sensor platforms (rodent detection, fly traps, smart bins, air quality, thermal imaging) using Sigfox, BLE, and LTE, adopted by UK MNCs and the Singapore government; up to 9-year battery operation. Developed COVID-19 thermal scanner adopted by the Singapore government (2020). Autonomous surveillance robotics deployment with Singapore MHA, including Chingay 2018 operations.
- **EV Drivetrain R&D (2010–2013):** Joint development with MIT/NUS; LTA-authorized electric conversions of Porsche 911, BMW 5 Series, and Renault Kangoo; national media coverage.
- **M2M/Mobile Platforms (1999–2004):** Lead developer of one of the world's first WAP media-sensitive mobile platforms, adopted within 3 months by Singtel, M1, and StarHub; co-developed early mobile Microsoft Exchange with MobileONE and Microsoft.

Qualifications & Certifications

ACADEMIC QUALIFICATIONS

- **Doctor of Business Administration (DBA), Digital Leadership.** Candidate. Golden Gate University, California (2024–2027)
- **Bachelor of Business in Business Administration (Distinction).** Royal Melbourne Institute of Technology, Australia (1996–1999)
- **Diploma in Airport Operations (2023).** Airports Council International
- **Diploma in Electronics & Computer Engineering** (Integrated Circuit Design Technology). Ngee Ann Polytechnic, Singapore (1991–1994)
- **Diploma in Computer Studies** (Business Computing). National Computing Center, UK (1991–1994)

PROFESSIONAL CERTIFICATIONS



- Certified AI Governance Professional (AIGP), IAPP / SMU (2026)
- ISO/IEC 42001:2023 Lead Auditor, AI Management Systems (BSI, 2026)
- ISO 14064 Lead Auditor, Greenhouse Gas Lead Verifier (SGS, 2022)
- Certified Generative AI Expert (Blockchain Council)
- Certified Metaverse Expert (Blockchain Council)
- Certified NFT Expert (Blockchain Council)
- Databricks Fundamentals (Databricks, 2025)
- DB-AI: Accelerated Doctoral Research with Copilot Program (upGrad, 2025)
- Prompt Design in Vertex AI Skill Badge (Google, 2024)
- AI4I® AI Project Lifecycle (AI Singapore, 2024)
- AI4I® Literacy in AI (AI Singapore)
- Advanced Certified Scrum Product Owner (A-CSPO), Scrum Alliance (2026)
- Certified Scrum Master (CSM), Scrum Alliance (2024)
- Certified Scrum Product Owner (CSPO), Scrum Alliance
- Professional Certificate in Agile Project and Product Management (SUTD, 2024)
- Certified Counter Terrorism Practitioner (CCTP)
- Certified Physical Security Consultant (CPSC)
- Certified Security Specialist, EC-Council (Cyber Security)
- Security Risk Management Professional, Country (SRMP-C), ASIS International
- Security Risk Management Professional, Regional (SRMP-R)
- Certified Data Center Professional (CDCP), EPI
- Certificate in Airport Business Operations (ACI)
- Certificate in Airside Operations (ACI)
- Certificate in Terminal and Landside Operations (ACI)
- BSAFE, UN Department of Safety & Security
- Preparing & Responding to Active Shooter Incidents, UN DSS
- R1 Certification, Ionising Radiation Safety (NEA)
- SMP Robotics Engineer Level 4
- E-Series CORE Training (Universal Robots)

PROFESSIONAL AFFILIATIONS & ACTIVITIES

- Registered Management Consultant (RMC), Enterprise Singapore recognised certification, SS 680:2021 Management Consultant Standards
- CPSC Advisory Board, Counter Terrorism Certification Board

COMMUNITY WORK & SERVICE

- Commercial Champion for National Graduate Research Innovation Programme (2026–current)
- Lee Kuan Yew Technology Award, Panel Member (2014–2020)
- Singapore Business Federation, SME Committee (Technology), EXCO (2018–present)
- 2019 National Day Parade, Deputy Contingent Commander (SME Contingent)
- 2021 National Day Parade, Contingent Commander (SME Contingent)

CIVILIAN AWARDS

- CDO Vision Award 2026
- Google Trailblazer Award 2024
- National Day Parade Awards, Silver Award, 2021 (Ministry of Defense)
- National Day Parade Awards, Silver Award, 2019 (Ministry of Defense)

MILITARY SERVICE & AWARDS

- Certificate of Appreciation, Chief of Army, Singapore Armed Forces
- Letter of Commendation, Commander 9th Division, Chief Infantry Officer
- National Service Medal, Ministry of Defense
- Brigade Commander Coin, Commander 10th Singapore Infantry Brigade
- Chief Infantry Officer Coin, Commander 9th Division / Chief Infantry Officer
- US Air Force Division Commander Coin, US Air Force
- SAF Good Service Medal, Ministry of Defense
- Platoon Best Trainee, 41st Singapore Armour Regiment, Ministry of Defense