Benjamin CHEONG

PhD MEng

OSKEFER
Failure & Incident Investigation

PROFILE

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Oskefer Consulting, headquartered in Singapore, is a scientific and engineering consultancy firm specializing in **incident investigation** (including failure analysis, forensic engineering investigation, and root cause analysis), **risk-based consulting** (such as risk-based design review, inspection, and condition assessment), and **expert witness**.

Dr Benjamin Cheong is a Senior Consultant (Electrical Engineering) at Oskefer Consulting, with extensive experience in the design, commissioning, servicing, and repair of rotating machinery, power electronics, and electrical power systems. Dr Cheong is based in Malaysia and conducts investigations across Asia.

Dr Cheong received his M.Eng. (Hons.) and Ph.D. degrees in Electrical and Electronic Engineering from the University of Nottingham, U.K., in 2013 and 2020, respectively. From 2013 to 2015, he served with Rolls-Royce plc., U.K., and Rolls-Royce Marine, Norway, where he worked as a Marine Service Engineer. In this role, he was involved in the installation, testing, and commissioning of shipboard electrical systems — including propulsion drives, generators, transformers, and switchboards. In 2017, Dr Cheong was a Visiting Researcher with the Center for Power Electronics Systems (CPES) at Virginia Tech, USA. He later joined Nanyang Technological University (NTU) in Singapore as a Postdoctoral Research Fellow, and subsequently Rolls-Royce Singapore Pte Ltd as a Staff R&D Engineer, where he led developments in aerospace and marine electrical power system design, focusing on high-fidelity modelling, system optimization, and control of electrified propulsion architectures. He is currently also the technical director of GEF Technologies Sdn. Bhd. in Malaysia, overseeing technical aspects of its repair and servicing for LV/HV AC/DC motors, transformers, and electrical equipment.

Dr Cheong is trilingual in English, Chinese and Bahasa Melayu.

KEY STRENGTHS:

- Broad engineering knowledge across disciplines
- Expert knowledge and hands-on experience in Electrical & Electronic Engineering
- Expert knowledge in power electronics, rotating machinery, and transformers.
- Rich experiences in failure investigation, root cause analysis and risk assessment

INDUSTRY EXPERIENCE:

- **Power Generation, Steel, Cement, Mining, and Waterworks** (Servicing, repairing, and commissioning of LV/HV, AC/DC motors, generators, transformers)
- **Aviation** (aircraft electrical systems)
- **Marine** (Commissioning of ship electrical equipment such as propulsion drives, switchboards, motor/generators, transformers & starters)
- **Rail** (Automation and SCADA tools)

PROFESSIONAL EXPERIENCE

Oct 2025 – Present **Oskefer Consulting** ***Senior Consultant***

- Investigate failures of electrical equipment, such as generators, transformers, switchgear, motor, power electronics, etc.
- Conduct root-cause analysis (RCA) and issue comprehensive technical reports supported by data, testing results, and engineering judgment.
- Contribute to technical standards, knowledge databases, and training programs within the company.

Jun 2024 – Present **GEF Technologies Sdn. Bhd.** ***Technical Director***

- Oversee the scheduling of all repair and service jobs (both onsite and in-plant), manage plans, manpower arrangements, training, recruitment, certification, technical service reports, and job assessments.

- Provide expert technical direction and troubleshooting on failures involving rotating machinery, insulation systems, and electrical equipment.
- Ensure compliance with government and international bodies regarding safety, competency requirements, inspection standards, and specifications.

Sep 2022 – May 2024 **Rolls-Royce Pte Ltd** ***Staff R&D Engineer***

- Lead development of an integrated propulsion system optimization, evaluation and design tool (IPSOMEDT), for marine and aerospace applications.
- Deliver high-fidelity machine and power converter models for Electrified Propulsion Units (EPU) in Urban Air Mobility (UAM) applications to capture its dynamics accurately within system simulations.
- Develop and deploy advanced control algorithms for vector-control inverter drive systems to perform field-weakening/sensor-less operations.

Nov 2019 – Sept 2020 **Nanyang Technological University** ***Research Fellow / Co-Principal Investigator***

- Development of aerospace/marine power system sizing, analysis, and optimization tools.
- Sizing and optimization of power system components (machine, converter, batteries).
- Transient modelling and simulation of aircraft electrical power systems.

Feb 2015 – Oct 2015 **Rolls Royce Marine** ***Service Engineer***

- Testing, commissioning, upgrading and servicing ship electrical equipment like propulsion drives, switchboards, generators, transformers and starters.

Sep 2013 – Feb 2015 **Rolls Royce PLC** ***Graduate Engineer - Electrical Systems***

- First placement: Electrical Power & Control Systems – Improved the Power Electronics Sizing Tool.
- Second placement: Marine Research & Technology – Supported the MESA (Maritime Europe Strategy Action) EU funded project.
- Third placement: Strategic Research Centre (SRC) – Assessed Finite Element Analysis (FEA) tools' capability in modelling eddy current and 'skin effect' for solid rotor induction machines.
- Fourth placement: Rolls-Royce Marine – Testing and commissioning of ship electrical equipment like propulsion drives and switchboard.
- Fifth placement: Design & Make project – Reduce rework and concessions due to failed electrical bonding checks in final assembly of Trent 1000 engines.

Jul 2012 - Sep 2012 **EADS Innovation Works (Now Airbus)** ***Masters Intern***

- Implemented a CANopen master function on a prototype control computer based on the PC104 hardware and a separate CANopen node function on the DSP of a multi-channel inverter.
- Successfully designed, built and delivered a test system to validate and optimize the CANopen communication between prototype control computer and DSP.

Jul 2010 - Jul 2011 **Siemens Mobility PLC** ***Trainee Engineer - Rail Automation***

- Worked within the Product Support & Development (PS&D) Team, creating and delivering new tools to improve company's products: Fastflex (PLC), CROMOS (Database Software) and RailAsset Manager (Monitoring tool).
- Worked in the project team for the Storebaelt Bridge in Denmark as a CROMOS engineer, designing functional subsystem user interfaces.

EDUCATION

Doctor of Philosophy (PhD) in Electrical & Electronic Engineering
University of Nottingham, United Kingdom *2019*

Master of Engineering (MEng) in Electrical & Electronic Engineering
University of Nottingham, United Kingdom *2013*