

NAME: RICHARD GILMOUR BILLET

YEAR OF BIRTH: 1981

ACADEMIC QUALIFICATIONS:

Bachelor of Engineering (Mechanical) 2004, University of Queensland, St Lucia

Bachelor of Business (Management) (Business Economics) 2004, University of Queensland, St Lucia

PROFESSIONAL QUALIFICATIONS:

Member, Engineers Australia
Registered Professional Engineer Queensland
Chartered Professional Engineer

AWARDS:

2012 Winner, National Engineering Excellence Award, Engineers Australia, Canberra
2012 GHD Overall Winner, Engineering Excellence Award, Newcastle Division, NSW
2012 UGL Innovation in Sustainable Engineering Award, Newcastle Division, NSW
2012 Winner, Engineering Excellence Award, Newcastle Division, NSW
2004 Dean's Commendation, University of Queensland

CAREER APPOINTMENTS:

2020 – Vice President Technology, Gilmore Engineers|e3k Global
2013 – Business Development Manager, Bright Devices Pty Ltd
2011 – Business Development Manager, Gilmore Engineers|e3k Global
2010 – 2020 Senior Consultant, Gilmore Engineers|e3k Global
2009 – 2010 Research & Development Engineer, Gilmore Engineers|e3k Global
2005 – 2008 Mechanical Engineer, New Product Development, The Riviera Group
2004 – 2005 Undergraduate Mechanical Engineer, The Riviera Group

BIOGRAPHICAL NOTES

Richard Billett is the Vice President (Technology) of Gilmore Engineers Pty Ltd | e3k. He is part of an award-winning and innovative team, specialising in Research & Development, Computer Simulations, FEA, CFD, Engineering Failure Analysis, and providing Professional Expert Witness services to the legal profession.

He received his Bachelor of Mechanical Engineering degree in 2004, from The University of Queensland, Australia. He also completed a Bachelor of Business (Management) degree in 2004, majoring in Business Economics.

In 2005, Richard joined The Riviera Group, builder of luxury powerboats on the Gold Coast, Australia, as a Graduate Mechanical Engineer working in the New Product Development division. He worked on the design and implementation of the mechanical, structural and liveability (HVAC) systems on all new models and across the entire range of Riviera's existing powerboat range. During this time, he developed skills in advanced CAD (Computer-Aided Design) and mechanical design of various drive systems.

In 2009, Richard joined Gilmore Engineers Pty Ltd|e3k Global as a Research and Development Engineer. He has worked on numerous design projects and developed expertise in concept generation and engineering analysis, three dimensional computer modelling, prototype testing and Computational Fluid Dynamics (CFD).

e3k has been the recipient of 6 Engineering Excellence Awards from Engineers Australia. e3k was a National Winner in 2012, as well as taking 3 Awards in the Newcastle Division, including

the GHD Overall Winner, and the UGL Innovation in Sustainable Engineering Award for engineering design and testing of the SeaUrchin marine power generator. Richard led the simulation team and optimised the form of the power-generating blades, stator blades, slotted diffuser and shroud.

Some career highlights of Mr Billett include the following:

A noteworthy project led by Richard in 2009 was the successful dynamometer testing of a novel internal combustion engine that had been researched, designed, developed and prototyped by e3k. This provided valuable experience in the design of the fuel injection and ignition maps for a non-conventional combustion engine.

In 2010 and 2011, Richard conducted an extensive design and analysis on a novel underwater tidal power-generating turbine. The SeaUrchin turbine underwent successful testing of a prototype on the George's River in Sydney.

In 2013, the medical device named "Agilitas" which was wholly developed by e3k over 5 years, was launched for commercial sale by Bright Devices Pty Ltd, part of the Gilmore Engineers Group. It is a smart visual cueing device designed to assist persons suffering primarily from 'Freeze of Gait' associated with Parkinson's Disease.

In 2014, Richard conducted CFD analysis on diverse projects such as the multiphase wash streams of a commercial dishwashing machine, the flow behaviour within a municipal water storage tank in the Middle East and the heat transfer through a performance vehicular heat exchanger. Further projects in 2014 included the analysis and evaluation of a new SAG mill design along with the formulation of a lifting strategy for a 300 tonne ore feeder in Papua New Guinea, involving Finite Element Analysis. Richard also provided a concept design for a novel, amphibious vehicle and investigated capital works upgrades in a copper concentrator plant.

In 2015, Richard spent time in Papua New Guinea developing capital equipment reports for a mine life extension program. Further development of the SAG mill project from 2014 saw Richard travel to the sites of manufacture of the replacement mill casing, in Ankara, Turkey and Tianjin, China, to conduct quality assurance inspections. Richard also performed CFD on novel livestock loafing shelters to demonstrate temperature reduction.

In 2016, e3k expanded its Project Engineering internationally and Richard was part of the team which conducted the lead contractor role for the repair of a stainless steel lined concrete tank in Laos, SE Asia, which was leaking acid, as part of a five day total plant shut. Richard conducted CFD studies in 2016 on Olympic swimming pools, an anaerobic sewage digester tank and a novel ship hull.

In 2017, Richard conducted CFD studies on the Great Barrier Reef environment; a Dubai Shopping Centre HVAC and smoke analysis; and a Council Aquatic Centre refurbishment and dimpled surfboard fins. Product development in 2017 included a medical device for performing tonsillectomies and an aged-care mobility device.

In 2018, Richard acquired Chartered Status with Engineers Australia and also became a Registered Professional Engineer Queensland (RPEQ). Notable projects in 2018 include detailed design of a collapsible garden shed, a mechanised trap door for a casino game, an adaptation of earlier work on a tonsillectomy device to include diathermy components and a comprehensive design project for a Kazakhstan copper miner to enable lifting and removal of a large vibrating screen from the processing plant.

Starting formally in 2018, Richard works within Gilmore Engineers Pty Ltd as an Expert Witness for the legal professionals of Australia. Richard has prepared reports of investigations covering vehicle fires, maritime incidents, industrial bearing and pump failures, detailed product failures, personal injuries and patent actions.

In 2019, Richard's notable projects included redesign of a pump housing for optimal balance and performance, CFD analysis of the largest spray booth in Australia and analysis of mixed flow within a municipal water reservoir.