



Specialist Consultants
to the Electricity Industry

PSC NEWS

Independent expertise and engineering solutions for
utilities and energy companies



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Another Successful Aerial Laser Survey (ALS) in New Zealand

Transpower New Zealand has successfully completed an aerial laser survey (ALS) of 2000 km of transmission lines, with the help of PSC and Opten, the leading ALS service provider. This follows on from PSC's ongoing 17 year involvement in aerial laser survey technology and data services delivered for a range of clients.

Aerial laser surveying of transmission lines is conducted by a helicopter fitted with a high accuracy laser scanning system. The laser scans a swath under the helicopter's flight path, detecting conductors, towers, the ground plane, and other features such as roads, buildings and vegetation. Photo systems are used to supply imagery for object identification and as an accurate record at date of survey. GPS receivers are placed strategically along the route to provide differential GPS for accurate helicopter positioning. Weather recordings are also placed in the field to support accurate modeling through calculating the conductor temperature at time of survey. All this data enables the creation of accurate PLS-CADD models of the surveyed transmission lines to assist owners to manage their assets. ALS surveys using LiDAR are seen as an engineering best practice for management of lines assets.



Transpower New Zealand 2019 Survey

2000 km of transmission line survey was completed, along with a variety of small area topographical surveys. A combined GPS and GLONASS positioning approach was used to provide maximum positioning accuracy and availability. Along with the LiDAR and positioning systems, two photo systems were onboard to supply high quality imagery, and ground weather stations placed by New Zealand's National Institute of Water and Atmospheric Research (NIWA) provided the weather data input for the metrological modelling used for conductor temperature calculations. GCH Aviation was used to supply helicopter and aviation engineering services for the project.

Now that the survey is completed, models of the Transmission line are being developed using industry leading processing and modelling tools. Transpower will receive final PLS-CADD models for engineering assessment and analysis, along with some specialist reporting around vegetation clearances and other aspects.

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PSC Strengthens Regional Leadership



We are thrilled to announce that several new leadership positions at PSC were accepted by incumbent PSC staff in North America, Asia Pacific, and Europe.

"I am excited to announce a new regional team for the PSC Group," said Alex Boyd, CEO of PSC. "It is a testament to PSC's strengthening leadership that all these positions were appointed from within the existing PSC team. Congratulations to all these leaders on their increased responsibilities. I am thrilled to be working with them and the rest of the global team to take our customers into the future!"

In January 2019, Kevin Cheung was appointed to the role of Managing Director for PSC North America. In this role, Kevin is responsible and accountable for all operations and sales in North America. Prior to this appointment Kevin held the role of General Manager for North American OT and Markets, which he continues to fulfill.

"PSC is a fantastic organization composed of extraordinary people," said Kevin. "I am excited to be a part of a team that is already accomplishing great things, and I'm confident we will continue to do so as we grow into the future."

In February 2019, Roger Riley accepted the position of Managing Director for the PSC Asia Pacific group. Prior to this appointment, Roger was the General Manager for Power Networks in Australia and New Zealand. In his new role, he will be responsible for the management of PSC in Australia, New Zealand and Asia.

"I'm looking forward to this challenging new role and driving better customer outcomes through better customer engagement all delivered by the dedicated PSC Team," said Roger. "Never in all my time in the electricity industry has there been so much change and opportunity to make a

difference. As I said I'm looking forward to it on a number of levels."

In the UK, General Manager Tim Miles' role has expanded to encompass responsibility for all Europe operations and is now General Manager Europe. "I have taken great pleasure in seeing the [Europe] business expand and evolve over the past 6 years," said Tim. "We have an excellent team and a steadily growing client base who talk of our reputation for high quality and great value."

Also in February 2019, Peter Brown accepted the position of General Manager for PSC New Zealand. Prior to this appointment Peter was the Asia Pacific Sales Manager and the Manager of Genassure. In this new role, he will be responsible for all operations for PSC in New Zealand including the Genassure team.

Peter said "I've enjoyed developing a business from scratch and having the opportunity to grow it further with the support of a larger organisation. The last year in sales management has provided a good grounding in the full range of PSC services and I'm keen to work closely with our clients and our team to deliver innovative solutions."

PSC has a new website

Connecting with the electricity specialists just got even easier. Explore psconsulting.com now and see how we're Connecting with the electricity specialists just got even easier. Explore psconsulting.com now and see how we're helping utilities and energy companies innovate and thrive!

- Get in touch with PSC experts with the click of a button (try it!) – with our new easy to use contact forms, connecting with a specialist consultant has never been simpler. You can even select from a list of local offices and services to get just the help you need.
- Browse and apply for a job in minutes with our all new Careers page – learn about what makes the PSC culture unique and see what exciting opportunities lie ahead around the world!
- PSC News is online! – now you can stay on top of the latest insights and updates from the brightest minds at PSC online and share and engage on social media.



- Dig into the new Projects page to learn how we are helping our clients tackle the same challenges your organization faces
- All-new easy to navigate layout and search feature means you don't have to wade through pages of content to find what you're looking for.



DistribuTECH 2019

More than 12,000 enthusiastic attendees from utilities, energy companies, and technology vendors crammed the halls of Ernest N. Morial Convention Center in New Orleans, Louisiana to participate in DistribuTECH 2019 this February. Each year, the conference buzzes with industry participants eager to explore the major technologies and trends in the electricity industry, as well as network, attend sessions from technical experts and thought leaders, and hear success stories from their peers.

"As electricity specialists for utilities, it's the perfect place to be," said Alex Boyd, CEO of PSC. "For 3 straight days we're surrounded by our customers as they explore new technology, challenge themselves with fresh ideas, and focus on the future of their business. Naturally, they have questions. It's our job to help them find answers – and that's why we're here every year."

As the electricity industry races to understand and embrace a radically different future, DistribuTECH continues to be a melting pot of ideas and innovations that hint at what's coming. One thing everyone seems to agree on, is that utilities must transform the way they serve their customers if they want to thrive in an evolving electricity marketplace.

PSC will be at DistribuTECH 2020 in San Antonio, TX on January 28-30, 2020.



The PSC team and guests at the DistribuTECH Conference

John O'Hehir Celebrates 10 years of Excellent Service with PSC

John O'Hehir, a Director in the Operational Technology business for PSC North America, recently celebrated 10 years of excellent service with PSC.

As a project and account manager at PSC, John has leveraged his deep experience supporting the delivery of complex SCADA/EMS projects around the world to help our customers succeed. The relationships John has built with our customers, our partners, and our staff are emblematic of the PSC culture we aim to share in everything we do.

PSC Group CEO Alex Boyd commended John on his achievement. "John took a chance on me and PSC in the early days of PSC North America in 2009 and can take a lot of credit for what we have built in North America since then. Thank you John!"

Says John, "The last ten years have literally flown by. From the day I joined PSC I have met many excellent colleagues and customers alike – examples like PJM and Exelon on the East Coast, First Energy in the US heartland, and built some great relationships with vendors across the country. As to my PSC colleagues, I could never have wished for a better group of people both to work with, and to travel with – while living the genuine PSC culture to its fullest! Thank you to everyone."

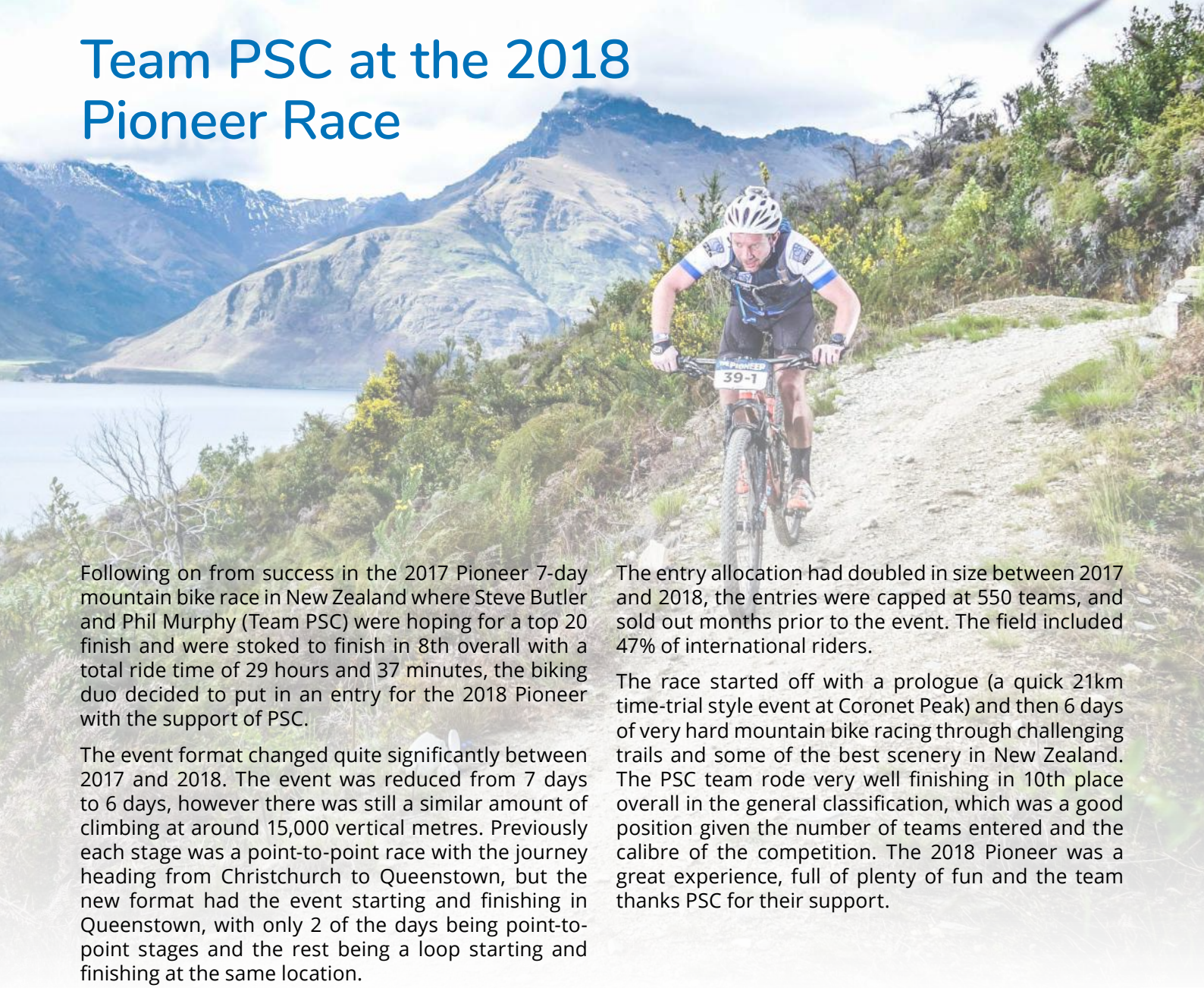
From everyone at PSC, congratulations John and thank you for all your hard work!



John O'Hehir (L) and his wife Cindy with PSC Group CEO Alex Boyd (R) and his wife Katharine



Team PSC at the 2018 Pioneer Race



Following on from success in the 2017 Pioneer 7-day mountain bike race in New Zealand where Steve Butler and Phil Murphy (Team PSC) were hoping for a top 20 finish and were stoked to finish in 8th overall with a total ride time of 29 hours and 37 minutes, the biking duo decided to put in an entry for the 2018 Pioneer with the support of PSC.

The event format changed quite significantly between 2017 and 2018. The event was reduced from 7 days to 6 days, however there was still a similar amount of climbing at around 15,000 vertical metres. Previously each stage was a point-to-point race with the journey heading from Christchurch to Queenstown, but the new format had the event starting and finishing in Queenstown, with only 2 of the days being point-to-point stages and the rest being a loop starting and finishing at the same location.

The entry allocation had doubled in size between 2017 and 2018, the entries were capped at 550 teams, and sold out months prior to the event. The field included 47% of international riders.

The race started off with a prologue (a quick 21km time-trial style event at Coronet Peak) and then 6 days of very hard mountain bike racing through challenging trails and some of the best scenery in New Zealand. The PSC team rode very well finishing in 10th place overall in the general classification, which was a good position given the number of teams entered and the calibre of the competition. The 2018 Pioneer was a great experience, full of plenty of fun and the team thanks PSC for their support.

Kent Horan Celebrates 20 years of Excellent Service with PSC

PSC congratulates Kent Horan who has achieved a significant milestone in completing 20 years of excellent service with PSC. Kent joined PSC in 1998 and spent eight years working with Transpower New Zealand's national SCADA system in Hamilton and the New Zealand wholesale electricity market systems in a technical support role in Wellington.

Since 2006, Kent has been working on HVDC project delivery as a specialist in HVDC controls, HMI and SCADA integration. This role has involved factory development and testing, and extensive site subsystem testing and commissioning roles for numerous projects, including both classical HVDC and voltage source converters.

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Kent Horan (R) celebrates 20 years with PSC Co-founder Tony Armstrong



Kent Horan Celebrates 20 years of Excellent Service with PSC (continued)...

Some of the major HVDC projects Kent has worked on include:

- Apollo HVDC upgrade project (South Africa) including control system development.
- Borwin One HVDC Light offshore windfarm project (Germany). Initial factory system testing followed by on-site testing at both stations.
- Pre-commissioning and final commissioning of the Valhall HVDC Light offshore station (Norway).
- Control system commissioning of Intermountain HVDC upgrade project in Utah, (USA).
- Control and protection upgrade of Kontek HVDC link between (Germany and Denmark).
- Site commissioning for the Maritime HVDC Link in Newfoundland (Canada).

His next project will be in the United States testing and commissioning Great River Energy's CU HVDC Project, a 1,000 MW \pm 400 kV bulk power transmission system between Underwood, North Dakota and Dickinson, Minnesota.

The PSC management team would like to thank Kent for his commitment and excellent service over the past 20 years – well done!

PSC WELCOMES NEW STAFF

MARGARET SNAPE

PSC welcomes Margaret Snape who has joined PSC North America and will be working as Business Manager to the CEO. She will be performing a range of business and project management activities and will act as corporate secretary for the PSC Group. Margaret is an experienced chief of staff and business manager and has driven initiatives across highly competitive industries and large organizations. Prior to joining PSC, Margaret has held business operations roles for consulting firms and major organizations across several industries. She brings a wealth of expertise in operationalizing strategic initiatives across large teams and creating an environment for continuous improvement. As business manager, Margaret will leverage her leadership and operations vision to foster PSC's development in many areas.



PIETER BOOYSEN

PSC is pleased to welcome Pieter Booysen to the Australian Operational Technologies Team based in Melbourne. Pieter is a Chartered Engineer in control systems, with experience gained from the utility industry and the petrochemical and hazardous products handling industry. Through assignments as a system engineer, team leader and project manager, he has expertise in many areas, from preparing sales quotes for new projects, to SCADA & control system design, testing and on-site commissioning. Previously at GE, Pieter managed complex multidisciplinary projects through the full life-cycle, leading teams and regularly interfaced with clients. Pieter's controls background will also enable him to support the Power Networks team on power system Remediate Action Schemes (or Run-back schemes) often used to manage connection of Renewable projects.



AMIR MEHRTASH

PSC welcomes Amir Mehrtash who has joined the Power Networks team based in Brisbane. Amir is a Principal Power Systems Engineer and he joins us from Vector in New Zealand. Amir has over 13 years' experience in power system modelling, planning, earthing, protection and design and has worked on many projects in the Asia Pacific region which includes significant involvement with generator grid connection investigations. Amir has also authored and co-authored over 20 publications relating to Power Systems Engineering.



PSC WELCOMES NEW STAFF

JACOB BRONKHORST

PSC is pleased to welcome Jacob Bronkhorst to the Power Networks Team in the United Kingdom. His main background is in Power Station control systems and automation, working with both main generation plant and secondary systems. Working for Snowy Hydro in Australia, Jacob's primary role was the asset management of the control systems and instrumentation. This included replacement, upgrades and the maintenance/calibration of physical hardware and PLC logic and software. Jacob will initially be assisting with several client projects in the UK.



GERMANE ATHANASIOS

PSC welcomes Germane Athanasios who has joined the Electrical Engineering team in Australia and will be permanently based in our Adelaide office. Germane is a Principal Power Systems Engineer and he joins us from TasNetworks. Germane's experience includes generator connection studies, investigation of system events, special network protection schemes, small signal analysis and real time dynamic ratings of power system plant. Germane has also authored over 20 publications relating to Power Systems Engineering.



MAHENDRA AC

PSC welcomes Mahendra AC to PSC North America as an Power Systems Studies Consultant. Prior to joining PSC, Mahendra was a Power System Studies Engineer with ABB where he performed a variety of system studies including loadflow, short circuit, motor starting, dynamic analysis, insulation coordination, power quality and ground grid design and analysis. Before ABB, Mahendra spent a decade in academia pursuing two masters degrees, teaching undergraduate and teaching post graduate programs. Mahendra will be joining our Power Networks team and based in our Vancouver office in Canada.



JASON WANG

PSC is pleased to welcome Jason Wang who has joined our Power Networks team in Australia. Jason is a Power Systems Engineer with a strong technical background in both power system analysis and electricity network control systems. He joins us from RCR Infrastructure where he has gained experience in the design and construction of auxiliary support services for underground rail systems and the design and commissioning of large scale solar farms. Jason will be based in our Melbourne office.



HOREA CATANASE

We welcome Horea Catanase to PSC North America as an Associate Power Systems Studies Consultant. Prior to joining PSC, Horea was a Power System Studies Engineer with ESB International where he reviewed and updated the Dublin 110 kV and 38 kV system model, performed grid connection studies for new 66/11 kV substations, conducted stability studies for international clients and calculated relay settings for both Irish and international electricity networks. Horea will be joining our Power Networks team based in Vancouver, BC, Canada.



CHRIS NENDICK

PSC Australia is pleased to welcome Chris Nendick. Chris is a professional electrical engineer with expertise in Energy Management Systems and Power Systems Engineering. He specialises in modelling high voltage transmission networks and the support and development of Energy Management Systems to operate them – with a particular focus on Advanced Applications. With 25 years' experience in the UK electricity supply industry, he has previously worked for Scottish & Southern Electricity Networks and the National Grid UK where he was a national expert on EMS Advanced Applications for the National Grid System Operator. Chris will be a member of PSC's Operational Technologies team based in Brisbane.



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