

INNOVATORS & CREATORS

TERRITORIANS DOING GREAT THINGS

Creators, innovators, pioneers, challengers, thinkers, artists — they all have one thing in common; they're energetic, passionate and determined individuals with an entrepreneurial mindset who make a positive impact. Nannette Holliday talks to those who are not only positively shaping the Northern Territory's future, but also our reputation nationally and internationally. Here's to our Smart Territory.

PHOTOGRAPHY MARK AND TIM PAUL ORSZACZKI
WORDS NANNETTE HOLLIDAY



TAMARA COOPERATIVE
DESERT FRUIT COMPANY
BEN WALL

TERRITORY DATES TO REMEMBER



A Central Australian date farm is not only growing excellent dates for national distribution, they're also exporting them to the Middle East.

e've sent more than 200 boxes of the Yellow Khalal Barhi variety to Lebanon and Qatar each year for the past two years, because ours are in season when theirs are out, so they're in hot demand,' coordinator Ben Wall said. 'The yellow Khalal is a stage of ripening and very special. Barhi is the most popular overseas, as well as with local Arrente people. It's an acquired taste, dryish, but refreshing. There are five stages as dates ripen, and most people eat them at the brown Tamar and Rutab stages.' Tamara Cooperative, trading as the Desert Fruit Company, is situated 65km south-east of Alice Springs on the edge of the Simpson Desert. Originally established in 1991 by Jim and Trudi Luedi, since 2013 it's been cooperatively owned and operated. 'Our goal is to create a sustainable farm practising regenerative agriculture, with an egalitarian and stimulating work environment that's also a profitable, remote business selling Australia's very best dates,' Ben said. Other date varieties the farm sends

around the country include Brown Barhi, Bou Fergus, Deglet Noor, Zahidi, Medjool, Thoory and Khadrawy. To showcase these, this year the co-op had two designer art boxes created by local artist and Territory icon Chips Mackinoly, and Alice Springs artist and designer Nicole Sarfati. 'Nicole's design is inspired by ancient Sumerian tales of the date palm, known as the tree of life and created by Ishtar, the goddess of love. Chips's inspiration came from the farmer's markets of Palermo, Sicily,' Ben said. 'The boxes are a standout item on their own and have been well received.' Ben used a Churchill Fellowship in 2016 to learn more about date production, processing techniques and by-products in Israel, Palestine, Morocco and Jordan. 'I learnt the secrets to making date jams, syrups, oils and vinegars, various ways to use date palm leaves and trunks, and beneficial bacteria and organic methods to combat Bayoud disease, which is destroying Morocco's date farms,' he said. 'Also, seeing a 2000-year old sustainable working oasis

system was inspirational because many of the plants are here in Australia.' Initially, the co-op leased a cool room and packing shed in Alice Springs, but it has now built one on-site next to the orchard. 'We had an ambitious five-year plan to have all our water pumping and energy systems running on solar. It was a challenge, but we have just recently completed these projects with the help of NT Government funding programs such as Ecobiz and Smarter Business Solutions,' Ben said. While it was a rocky beginning, the co-op's sustainability and produce are blooming. 'Our meticulous hand pollination is working, and the yields are growing. Our produce is being well-received around Australia,' Ben said. 'Our co-op membership is also increasing, with strong connections to Central Australia, and with visions of what we can achieve. The Fruit Fly Circus has just visited and we're hosting school day trips. The community is extremely supportive, which is good because we still have a list of goals a mile long.'

TRANSFORMING WORKER PROTECTION



Each year around 200 work-related fatalities occur in Australia. Being personally affected led three Darwin school friends, cousins Emil Tastula and Andrew Thurlow, and Dave Thomson, to develop Universal Site Monitoring (USM), which last year won the Energy Resources Division and was overall runner-up in the 2018 Australian Technology Competition.

Left to right: Emil Tastula, Tim Earl, Peter Green and Garry Chapple.

UNIVERSAL SITE MONITORING (USM) EMIL TASTULA, DAVE THOMSON & ANDREW THURLOW

With backgrounds in mining, industrial marine, oil and gas, and health and safety, plus experiencing personal exposures to workplace incidents resulting in colleague injuries and fatalities, safety had always been on Emil and Dave's minds. Andrew's expertise is in IT, but when he was overcome by gas in an underground nickel mine and had to be rescued, he understood their concerns. Eight years on they have created location-sensing technology that is transforming workplace safety and on-site reporting. USM's powerful communication tools provide the solutions for multiple risks simultaneously, to ensure workers' safety and health status is captured in real time. 'Mobile phone size, but thicker, our patented Personal Safety Monitor, PSM Hero 715, protects workers in any industrial complex by giving control room operators real-time oversight of the health and wellbeing of their people,' Emil said. 'It's the first safety monitor that combines real-time communication, biometric monitoring, early gas detection and location sensing in one device. Worn on the belt, it shows where workers are, whether they've fallen, their condition, the temperature, the surrounding gas hazards.

'The alarms and reports give a holistic view of all workers on site and trigger an emergency response using GPS location-based information. Key competitor devices only offer single features. Workers would have to carry several expensive devices that still wouldn't cover everything our PSM does, including being able to be used at LNG and petrochemical facilities that are rated Zone One hazardous areas.' The PSM and Universal Data Interface were successfully trialled with the world's largest steel manufacturer, ArcelorMittal, in Belgium. 'It showed administrators the geo-fenced areas, indicating and alarming remotely on entry, exit or both, and allowed them to accept or perform phone calls with the PSM,' Emil said. 'It also showed the integrate location monitoring technology where GSM and GPS signals were unavailable, and the report and trend biometric, environmental and device data such as heart rate, temperature, speed and ambient noise levels. 'The PSM can be used across multiple industries including construction, logistics and manufacturing. We're now commercialising the units and systems for sale. During the Inpex construction we provided fixed vehicle and

vessel tracking systems.' Assistance has come from their own capital, several grants and rebates. 'The Federal Government's Accelerating Commercialisation program and a research and development grant were crucial. Austrade's Landing Pads program got us to Berlin, which will help with sales and more,' Dave said. 'The NT Government Business Innovation Support Initiatives and Trade Support Scheme have helped with business and technical issues outside our experience.' Their biggest challenge is still finding and keeping suitably qualified staff in Darwin. Presently USM employees 10 people. The electronic boards are produced in Adelaide and the casing in Perth, with all assembly and testing in Darwin. 'By 2022 we're hoping all the manufacturing and production will be done out of Darwin, employing around 400,' Dave said. 'Creating a safer work environment for people all around the world is at the heart of what we do and why we do it. Our devices are individually custom figured to suit every operation, ensuring a business's most important assets return home every day.'

In 2002, the Delegate of the Commissioner of Patents ruled in favour of Vince Collins, finding his process in discovering the blue oil was novel and involved an inventive step. 'Although the fight traumatised us and we almost lost everything, we were going to do whatever was needed to win,' Vince said.

After the announcement, American company Young Living Essential Oils contacted them to offer assistance through their Seed to Seal program. Today, more than 80 per cent of Vince and Maryann's product is exported to the US through Young Living. 'They've been a lifesaver,' Vince said. 'This also contributed to our 2018 Territory FM Small Business Export Award win.' Former tour guides, Vince and his wife Maryann settled in Darwin in 1991. Trained as an agriculturalist, Vince established Mr Mulch and, when customers wanted the blue cypress mulch because of the bouquet, he began experimenting. 'When a combination of timber and bark chips produced a blue extract, I knew I had something and sent it to New South Wales for testing,' he said. 'It turned out to be our blue gold. Our oil and the extraction, or production method, were patented.' Australian Blue Cypress is a small, family owned business operating in an industrial zone within what's locally known as 11 Mile. They are presently salvaging 65-year-old plantation trees from where a new road is planned adjacent to Tiger Brennan Drive in Palmerston. 'Once harvested, it then takes 72 hours of hydro-distillation, and a further week of crystallisation and filtration processes to produce the essential blue oil,' Vince explained. 'To ensure a continuance of trees, Maryann is propagating new trees.' Growing in the Northern Territory, the termite-resistant Callitris Intratropica tree is still crushed, steamed or burnt by the Tiwi and Larrakia people for use as a hygienic wash, and to keep insects away at dusk and dawn. Kakadu Blue oil is registered for cosmetic use, but also has anti-inflammatory, antibacterial, antipyretic and anti-allergenic properties, similar to chamomile oil. Aromatherapists are using it in the treatment of warts and cold sores. 'The natural cobalt blue oil is extremely calming,' Maryann said. 'It's being discovered by the aromatherapy community and others seeking natural products. We sell the oil, soaps and cosmetics at markets around Darwin, as well as some Top End shops and online.' While there are a few similar products on the market, Australian Blue Cypress is the only Australian business manufacturing and distributing 100 per cent pure Australian blue cypress oil. Small quantities of oil have also been exported to New Zealand, China and Brazil, with China making fragrant wood incense. 'A grant from the NT Government has enabled us to install a new water recovery and recycling system that's cut our water use dramatically,' Vince said. 'We're also expanding our production facility, and hope to open it to visitors soon. Our specialised equipment is customised, and all Australian made in Darwin. With just four staff we all pitch-in and, if production continues to grow as it has the last few years, we'll be employing more.'

FINDING BLUE GOLD

Discovered by accident in 1994, and then almost lost to a competitor in the early 2000s, Kakadu Blue cypress oil, rightfully produced by Australian Blue Cypress Pty Ltd in Darwin, is finally making considerable waves in the national and world market.



AUSTRALIAN BLUE CYPRESS VINCE & MARYANN COLLINS

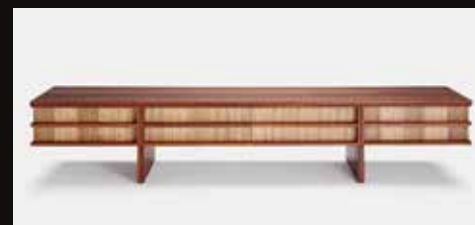
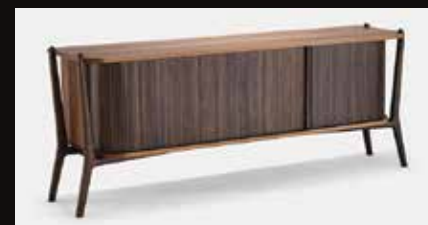


Never in a million years did Yolngu man Josiah Baker think his artistry would be showcased in Melbourne, let alone Milan, Italy. Only his son, famous indigenous rapper and current Australian of the Year 'Baker Boy' had experienced that level of limelight.

MANAPAN
FURNITURE
JOSIAH BAKER &
ROB CRISFIELD

RESIDENT INNOVATORS & CREATORS

FROM MILINGIMBI TO MELBOURNE THEN MILAN



But in the last 12 months, the magnificent handcrafted furniture that incorporates Josiah's and other Milingimbi community members' traditional designs has been purchased by contestants on Network Nine's *The Block*, Melbourne Airport Corporation, the Croatian Embassy and Australian Embassy in Rome.

Josiah is the Leading Indigenous Craftsman at Manapan, which produces fine furniture on Milingimbi Island 440km east of Darwin, off the Northern Territory's coast. While the Yolngu people have been carving wood, weaving and painting for centuries, Manapan, meaning 'coming together' in Yolngu, is the first commercial enterprise anywhere in the world incorporating traditional indigenous culture and stories into high-end furniture design.

Created four years ago by the Board of the Aboriginal-owned, not-for-profit Arnhem Land Progress Aboriginal Corporation (ALPA) and Ramvek owner Mark White, Manapan now employs five people full-time. They are being taught the art of cabinet making by supervisor and mentor Rob Crisfield.

'Josiah is now capable of building large furniture alone. He's truly an inspiration to his community,' Rob said. 'For 44 years I have aspired to be invited to Milan. Josiah achieved it in just four years.'

Creating the furniture is a community effort, and weavings by the community women are often incorporated into pieces, such as the 'Chloe' Woven Cabinet.

'Timber for our pieces comes from around the 4,900-hectare island, and from Gumatj Corporation in north-east Arnhem Land on our weekly barge,' Rob said. Besides producing expertly crafted contemporary furniture (conceptualised by six renowned Australian designers) which they sell to the world, Manapan provides employment with a strong, cultural heritage for the local Yolngu.

Through its tailor-made curriculum, the recently established Manapan Academy will develop their skills into master craftspeople, ensuring future generations are given the opportunity to develop trade skills and contribute to this ground-breaking enterprise. Local school children are also encouraged to undertake work experience in the workshop, giving them an early insight into the industry.

In April, Josiah and Rob attended the 58th Salone Internazionale del Mobile in Milan, Italy. More than 500,000 people visited the global benchmark event, which showcases products from 188 countries with an emphasis on quality, creativity and innovative furnishing design solutions.

'It was a dream come true, exhibiting our furniture in Europe,' Josiah said. 'People stopped to watch me paint, not realising I'd also made the large furniture. They were amazed, but genuinely interested in the quality and our creation stories.'

With hardwood timber making its resurgence worldwide, Manapan's Milan display pieces were eagerly purchased by the Croatian Embassy and the Australian Embassy in Rome. 'Knowing our work is truly appreciated is even more inspiring,' Josiah beamed.

After exhibiting at Denfair in Melbourne last year, Manapan was invited to exhibit at Milan. Only through the support of DEAL (Developing East Arnhem Limited) and its sponsorship of Rob and Josiah's airfares and accommodation could the craftsmen attend.

Due to Manapan's remoteness, furniture can be purchased through ALPA's Darwin office or online, as well as via their Melbourne showroom in South Yarra. The team also excels at making bespoke pieces, like the Executive Furniture and Boardroom Table recently completed and installed at Melbourne Airport.

RESIDENT INNOVATORS & CREATORS

FROM PIONEERS TO WORLD-LEADING BARRAMUNDI PRODUCER

HUMPTY DOO BARRAMUNDI
RICHARDS FAMILY

In 1993, full of passion but with little capital or aquaculture knowledge, three Territorians took over the site of the historic Humpty Doo Rice Project on the edges of the Adelaide River to follow their dream of creating a Barramundi farm.



Bob Richards, centre, with his son Dan and daughter-in-law Tarun during harvest time at the barramundi farm.

Today, the Richards family's Humpty Doo Barramundi farm supplies 97 per cent of their twice-weekly harvest to wholesalers and restaurants around Australia, with the remainder distributed to the Northern Territory and the world.

'We consistently supply premium quality, naturally-grown saltwater barramundi year-round, but things haven't always been easy,' managing director and co-owner Bob Richards said. 'There have been many trials and errors, and 25 years of research and development in between. But the Territory was built by pioneers, and the community is very supportive of people who have a go.'

'I also reckon any downturn period is ideal for building your business and investing in staff, as it's more difficult to find the right employees, contractors or suppliers when everything is plentiful.'

This persistence and attitude have won Humpty Doo Barramundi many accolades and awards over the years, but none as sweet as being one of six winners in the prestigious Delicious 2019 Queensland Produce Award hero category 'From the Sea'.

'Queensland chefs nominated us,' CEO, co-owner and Bob's son Dan Richards said. 'It's

proof our constant striving to improve our barramundi and our techniques is worth it.' Humpty Doo Barramundi is Australia's largest, the world's second largest, and the NT's only barramundi farm.

'Luckily Dad saw the site could scale up because we're more than 10,000 times larger now,' Dan said. 'Using the pristine natural tidal and floodplain salt waters is the perfect environment for growing the fish. Fingerlings grow to plate size within nine months, and large fillet size by two years.'

Bob began with an agricultural background and later used a Churchill Fellowship to visit overseas fish farms. Dan studied environmental science at university and recently completed a two-year Nuffield Farming Scholarship. 'Learning is important for all our people and our growth,' he said.

The farm has rigorous environmental systems to protect the surrounding unique flora and fauna.

'By recycling the saltwater through our manmade wetland system, our discharge into the Adelaide River is almost nil. Our minimum-stress harvest techniques also ensure the best quality fish reach the markets each week.'

While Bob, Dan and their wives Julii Tyson and Tarun Richards, are all involved in the daily operations, they have a team of 70 passionate, hardworking people employed around the farm who have helped them to grow.

'We couldn't operate without them, particularly our longest-serving members outside of the family - Peter Fisher since 2005, Nathan Downes since 2009 and Tracey Leo since 2010. We truly appreciate their dedication.'

Humpty Doo Barramundi is the first NT business, and first Australian family business, to secure a loan through the North Australian Infrastructure Facility (NAIF).

'It's a joint loan/mortgage through the Australian Government and ANZ. While we have to pay it back, it is helping us expand our facilities, introduce solar power generation and create employment and training opportunities in aquaculture that we've never had in the NT before,' Dan said. 'We've always reinvested our profits to enable the farm to grow and develop to the next stage.'

Humpty Doo Barramundi contributes around \$10 million to the Territory economy and Dan and Tarun's children are fifth generation Territorians. 'We're definitely here to stay!' Dan reassured us.



RESIDENT INNOVATORS & CREATORS

COVERTACT SALLY MAJOR

Until August 2018, plainclothes officers had difficulty finding suitable clothing that would hold essential equipment without making them appear conspicuous. That's when Territory-born, bred and educated Sally Major launched her specifically designed and manufactured protective clothing Covertact.



PROTECTING FRONTLINE PERSONNEL

Covertact gives the ultimate protection from emerging threats, while also providing coolness, comfort, flexibility and maximum freedom for extended periods,' creator and former police officer Sally said. 'After being compromised myself, I began sketching what I envisaged would be the perfect solution, especially for women. It's been a long, hard road, but after 11 years, and a couple more for research and development, Covertact has finally come to fruition, with a vest, cargo pants, and corporate pants and shirts for men and women.'

The Covertact protective vest is designed to be worn discreetly under clothing. Made from Dutch-invented Dyneema Diamond Technology fabric, Covertact protective vests are slash-resistant, lightweight, and cool to touch and wear. It is the world's strongest fibre and is 15 times stronger than steel yet weighs much less. Covertact is an exclusive rights partner with Dyneema for this fabric and application.

'I lost count of how many fabrics we tested,' Sally said. 'Dyneema hadn't been released to the market when I went to Singapore in 2016 to check it out. Thankfully I had an excellent legal team who helped secure the rights. The fabric is thinner and more comfortable to wear than any other yarn, plus it floats and is highly flexible, making it perfect for anyone on the frontline or in harm's way.'

Sally initially obtained a grant from the NT Department of Trade, Business and Innovation to gain patents and help with legal requirements. 'I've also received some amazing mentoring from some brilliant Territory business owners, including Steve Margetic, Michael Hannon, David Howie at KPMG, and former Federal and Territory Police Commissioner Mick Palmer.'

Made in Australia, Covertact clothing is produced in Queensland. 'I needed a manufacturer with a laser cutter to cut the fabric,' Sally said. 'The clothing has been designed to be worn with the protective vest, with storage aligned with the muscle memory of police training, so all equipment like handcuffs, OC spray and spare pistol magazines are where they should be when required, while the wearer remains anonymous. The pants have water-resistant pockets, ankle holster access zips and more. We also custom design for a client's particular needs or state requirements. It all enhances the safety, comfort and effectiveness of the officer in the field.'

While the NT Police Force hasn't yet taken the Darwin mother-of-three's protective vest and clothing on board, the AFP, NSW Police, NZ Police, ambulance officers, paramedics, nurses, doctors, military personnel and even some VIPs interstate have. Enquiries are also coming from the United States. Categorized as work wear, Covertact can be claimed on tax.

'While I do all the administration myself, and have received lots of support, the hardest thing for me is getting the product known and accepted,' Sally said. 'But I come from a business family and, although my dad, Yogi Griesbach, is now retired, he's taught me that trust, honesty and reliability in business is a must. Like him, I'm determined to succeed.'

In 2008, former bank employee Denise Dunn dreamt of having a six-monthly job while raising her two young children, never imagining she'd become an innovative entrepreneur, especially one that would change the mighty Aussie thong. On reflection, maybe it was destiny, as her comical wedding invitation created by a friend showed the bride and groom wearing thongs.

RESIDENT INNOVATORS & CREATORS

SLAPPA'S THONGS DENISE DUNN

During pregnancy I craved comfortable, open footwear,' Denise said. 'As much as I loved wearing thongs, they provided no foot support. That's when I had my lightbulb moment and Slappa's Thongs were born.'

Produced in a closed-cell injection mould, each Slappa's thong is made from one piece of EVA foam, and moulds uniquely to the wearer's foot shape for a tailored fit. With built-in arch support they provide superior comfort. 'They're ideal for people with knee, back and foot problems such as plantar fasciitis and heel spurs,' Denise said. 'They're now sold by podiatrists, physiotherapists and chiropractors around Australia.'

Denise's designer thongs are sold by 150 stockists nationwide, online and exported to retail stores and markets in New Zealand, with deals just reached in the United States. Produced in an array of bright colours, Slappa's are comfortable, practical and lightweight. 'I've been selling Slappa's at Mindil Beach Markets since 2010. Our business has grown through word-of-mouth, and market visitors are our best advertisers,' Denise said. 'Mindil

is a great place to promote our thongs and catch up with new and existing customers. Children from the age of six right up to grey nomads are wearing them, but getting to where we are today hasn't been easy.' Denise initially spent hours every night on the internet searching for suitable manufacturers. In nine years she's had five different ones. 'I'd find what I thought were ideal manufacturers at Asian trade fairs, but they didn't produce what they'd originally promised in the samples,' she said. 'A friend living in China said I should oversee each production physically. For the last seven years I've travelled to China twice a year to ensure quality control. I have a good understanding with my latest manufacturer and I now only travel once a year. But it's been a huge learning curve, even though I have years of financial acumen and extensive market research, import, export and cross-cultural communication experience.' In 2016 Denise was an NT Telstra Women's Business Awards finalist for the Entrepreneur Award. 'Even though we operate from our

Darwin home, the business is more than full-time,' she said. 'The self-contained flat under our house is now the office and where we pack the orders. We can no longer fit all our stock at home and lease a storeroom. My husband and a full-time staffer are crucial to our operation.' Under the NT Government's Business Growth Program Denise received grants for website production, social media, marketing advice and guidance on employment from Darwin-based business consultant Megan Lawton of Vivid Advice. 'The NT Government assistance has made it easier with employing staff and freeing me to pursue growing the business,' she said. 'My husband and I travelled all around Australia, but this will always be home now. It's a great place to raise a family. I also can't imagine creating Slappa's anywhere else but here. Family members came up with the name, and it suits our Territory lifestyle. While our business could run cheaper interstate, we love the lifestyle here, and the work/life balance is ideal.'



Denise with her husband, Roger, and the Kombi van they sell Slappa's thongs from at Mindil Beach Markets.

SOLELY GOOD FOR THE FEET

A PLATFORM FOR SUCCESS

While working on oil rigs 25 years ago, Hew McDonald chose a Darwin lifestyle to escape the southern winters. 'It didn't matter where I lived. As a mechanic I worked wherever I was required, from Asia to the Middle East or the North Sea,' he laughed. 'But it was my older brother, Jock, who gave me the opportunity to think outside the box while doing my mechanics apprenticeship with him. That led to the development of the Elevated Work Platform (EWP).'

EVOLVING WORKSHOP TECHNOLOGIES HEW McDONALD

rowing up in Queensland, Hew always thought he'd take over the family farm - until the government built a dam that would engulf it. Instead he created the EWP.

'Unfortunately, Jock only saw the prototype above ground before he died,' Hew said. 'He would've been so proud, seeing us present it on The New Inventors in late 2005.'

After installing the first platform in the ground at his Howard Springs property, Hew spent more than a year testing and refining it, before patenting it, showcasing it and winning the ABC television show.

'Being on The New Inventors was a daunting, but interesting experience. We received excellent publicity and credibility from it. They were really supportive,' Hew said.

Witnessing hazards and dangerous incidents with hoists, and listening to many harrowing hoist accidents, led Hew to develop the EWP.

'A solution that would move the mechanic and keep the vehicle safely on the ground was my answer,' he said. 'The EWP is simple in design. Companies can service many vehicles at once,

and it improves workplace efficiencies and safety. I don't know why others hadn't thought of it earlier.'

Hew's customised EWP is hydraulically-driven and controlled by a handheld remote transmitter. Initially installed in existing pits, it is now a preferred option for new workshops. Mine sites, local government, transport companies, farms and remote work camps are using the EWP.

'For a near turn-key solution we also have pre-fabricated, drop-in pits with an operational EWP and a relocatable workshop facility with pit and EWP,' Hew said.

Hew received a Commonwealth Emerging Technologies grant in 2007 which helped with equipment and legals. Otherwise, he's used his own time and money on the project and still reinvests to improve and refine the EWP.

Over the years his small company, Evolving Workshop Technologies, has won many awards, the most recent being the inaugural Innovation Award at the Australian Industry Defence Network NT (AIDN-NT) awards in 2018. Now patented in the USA, Canada and

Australia, Evolving Workshop Technologies has customers in every mainland state, exports to New Zealand, and has licensed manufacturers in the USA and Canada.

'Because of the size of the platform, we manufacture the platforms close to the client's business. I then subcontract the specialist engineering work at each site, rather than use my staff. I also only use German and Australian components,' Hew said.

'Even though we were initially shunned by some companies who thought because we operated in the NT we weren't a good product, we've managed to prove to them otherwise. Companies within Australia using our platforms include Glencore Mining at Mt Isa Mines, Mack Trucks in WA, Cleanaway in Victoria, Hilltops Council in NSW - after taking seven years to install their first, they now have a third lot of platforms - and Volvo Commercial Vehicles in Darwin. Within a few months Darwin's new MRV will use it too. In 2014 I even adapted the platform for an orchestra pit at the NSW Central Coast Grammar School - it's that versatile.'

THE NEED FOR SPEED

SPEE3D STEVE CAMILLERI AND BYRON KENNEDY

From solar cars and electric motors to supersonic 3D metal printing, life keeps getting faster for Charles Darwin University (CDU) graduates Steve Camilleri (pictured) and Byron Kennedy.

For more than 20 years you could say these Territory entrepreneurs have been obsessed with speed. Both worked on CDU's Desert Rose solar car, creating the drive technology that won a GM technical advancement award, plus collecting a world record for the highest average speed in it. They then co-founded In Motion Technologies, which designed and developed high-efficiency electric motors and electronics. After selling this to a large US motor manufacturer, they began developing their world-first 3D metal printer as SPEE3D, and it is poised to revolutionise the world's manufacturing industry. Since 2014 their multi-patented LightSPEE3D metal printer has been hugely successful for the company, winning a multitude of awards nationally and internationally. The list includes the 2018 NT Emerging Export Award, the prestigious Bosch Venture Award, a highly commended for the Best New Thinkers and Innovators in TCT Rising Star Award, and global winner of 2018 TCT Hardware Non-Polymer Systems Award for Desktop Metal Production System in Birmingham.

'The win against so many heavyweights proves

supersonic 3D deposition is a technology that the market wants - fast, low-cost, production-grade metal 3D printing,' Steve said. 'It's a testament to our team's dedication and great customer support.' Establishing SPEE3D was undoubtedly easier than setting up their first company. 'Having been there before, our team understands manufacturing and the challenges of taking a product from concept through to mass production,' Steve said. 'Having cutting-edge research is also critical to success, hence our close collaboration with leading Australian Universities.' Capable of printing complex metal objects by firing metal powder at supersonic speeds, the LightSPEE3D is up to 1,000 times faster than traditional 3D printers. It is easy to use - just load your file and you can print only one or as many parts as you like. SPEE3D technology means no tooling and no complex modelling. Most 3D printers make prototypes of parts, rather than the components themselves, and can take up to eight days to produce a prototype at a cost up to \$5,000. LightSPEE3D cuts the manufacturing time to 20 minutes and price to \$30. 'Speed is where our technology excels, and we are

targeting a completely new space. Products are made faster, cheaper and more efficiently than any other 3D printer in the world,' Steve said. 'Our printers can be used to manufacture a vast range of products, even car and machinery parts. Our commercial partners are globally focused from a diverse range of industries including automotive, mining and electronics. Applications are almost limitless, and it's up to researchers and customers how they use it.' Receiving an NT Government Business Innovation grant through Business Innovation Support Initiatives gave them the ability to take the invention further. 'We've also gained further grants from the Australian Government's Accelerating Commercialisation program, and we have investors across four continents, which has come from our proven track record of developing and commercialising innovative technologies,' Steve said. While Byron manages their production plant in Dandenong, Victoria, Steve prefers to be based at home here in the Territory. 'I love the creativeness I get from being here and working with other likeminded people at CDU,' he said.