

We keep you moving. All ways.





COMPANY VALUES

Harness Master NSW is a leader in the electrical design and manufacturing industry.

Our Purpose

To provide innovative, turn-key electrical solutions to Australian industry and the world.

Our Vision

To be the undisputed leader in Australia of electrical solutions for anything that drives, flies, floats or turns on while delivering unrivalled quality and value to our clients.

Our Mission

We provide the most innovative, reliable, bespoke electrical solutions and services of the highest quality, to keep your business and equipment moving.

Our Values

- We are committed and dependable - always.
- We are open, honest and transparent in our communication.
- We pursue quality in all things: our people, service, process, systems, and products.
- "Can't" doesn't exist: we can overcome, we can improve, and we can win.
- Our collaboration and inclusive approach builds trust and community.
- We are accessible, we value relationships, and we care for our people, clients and our community.
- We innovate - better is best.
- Our focus on safety gets us home to our families today and brings us back to work tomorrow.

ABOUT US

Harness Master NSW is an electrical product manufacturer and service-based business providing quality, robust electrical system solutions for a range of industries across Australia.

From concept to design, manufacture, installation, and product monitoring, we work with our clients to provide quality, tailored, end-to-end electrical solutions for a variety of applications.

Backed by decades of “on the ground” experience and qualifications, our knowledge, skills and expertise is second to none. We prioritise people, processes, and quality to deliver exceptional service and outcomes for our clients – first time, every time.

As such, our electrical systems are robust, fit-for-purpose, and trusted by leading OEMs and businesses across Australia and around the world.

Our core service offerings are:

- > **MANUFACTURING**
- > **SERVICE**
- > **PARTS SUPPLY**
- > **ENGINEERING**





OUR PROCESS

At Harness Master NSW, we work collaboratively with our clients to develop unique, innovative, long-lasting solutions for their electrical projects – big or small.

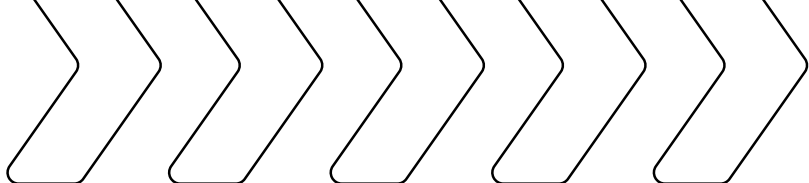
Here's how it works

- 1 Call or email our friendly, experienced team.
- 2 Tell us about your business and the problem you're trying to solve.
- 3 We will arrange a meet & greet and work with you to find the right solution for your specific need.

Our Promise

- > A process that engages the entire life of your system.
- > A business that supports you at any stage with your product.
- > Quality control across all aspects of our work.
- > Full documentation for continuous improvement.





WHY CHOOSE HARNESS MASTER NSW?

Commitment to quality

At Harness Master NSW, we have a reputation for being reliable and affordable providers of tailored, quality, durable harness solutions. Every product we design, manufacture, install and service undergoes a rigorous, multi-stage quality assurance process.

Customer-focused

Trusted, long-term partnerships are really important to us. That's why we take the time to get to know our customer's machines, environment and specific challenges and requirements – so we can deliver the exact solution that's right for them.

We take our customer's pain away by:

- Reducing downtimes for their machines and equipment
- Increasing the reliability of their machines, equipment and parts
- Providing products and solutions that are easy to maintain and cheaper to install
- Providing breakdown support

Our customers choose Harness Master NSW because we:

- Manufacture lower cost, high quality products
- Provide a secure supply chain with local capability
- Offer short lead time solutions

Experienced

With over 75 years of collective product development experience, our products are designed and manufactured by a team of expert problems solvers.

Our comprehensive understanding of the entire end-to-end process – from complete wiring design and installation, to customised parts manufacturing and supply - ensures we continually exceed our customer's expectations.



LEADERSHIP & PHILOSOPHY

Harness Master NSW is led by Anthony Kropp and supported by a team of experienced, qualified professionals who excel at what they do. The team are experts in trouble shooting and highly skilled at complex diagnostics, solution design and manufacture. Their many years of field experience at the highest levels of industry has instilled the need for serviceable customer solutions.

Harness Master NSW has developed a reputation for being the company that clients contact when other companies can't solve their problems. Our team has a passion for designing better, more robust, dependable electrical solutions for a range of industries.



At Harness Master NSW, we are risk averse but innovative and continually embrace technology and opportunities to improve or develop new products, systems and processes.

We'll take on projects that others won't because we love a challenge and to us, there's no such thing as "can't be done". Nothing is ever too hard, it's just a solution we haven't developed yet.

We take great pride in offering quality products, service, and outcomes. We try to see every project from the customer's point of view – we imagine we are onsite, working on it, installing it, servicing, or replacing it - and then design a turn-key solution that's exactly right for them."

- Anthony Kropp, Managing Director

The Team

Our team has a collaborative approach where individual contributions are appreciated and expected. Our work is challenging and interesting and we value team members who can think independently, creatively and bring a positive attitude to their work.

We employ:

- > Industry experienced tradies
- > Experienced manufacturers
- > Innovative and structured engineers
- > Quality assurance specialists
- > Proficient business professionals



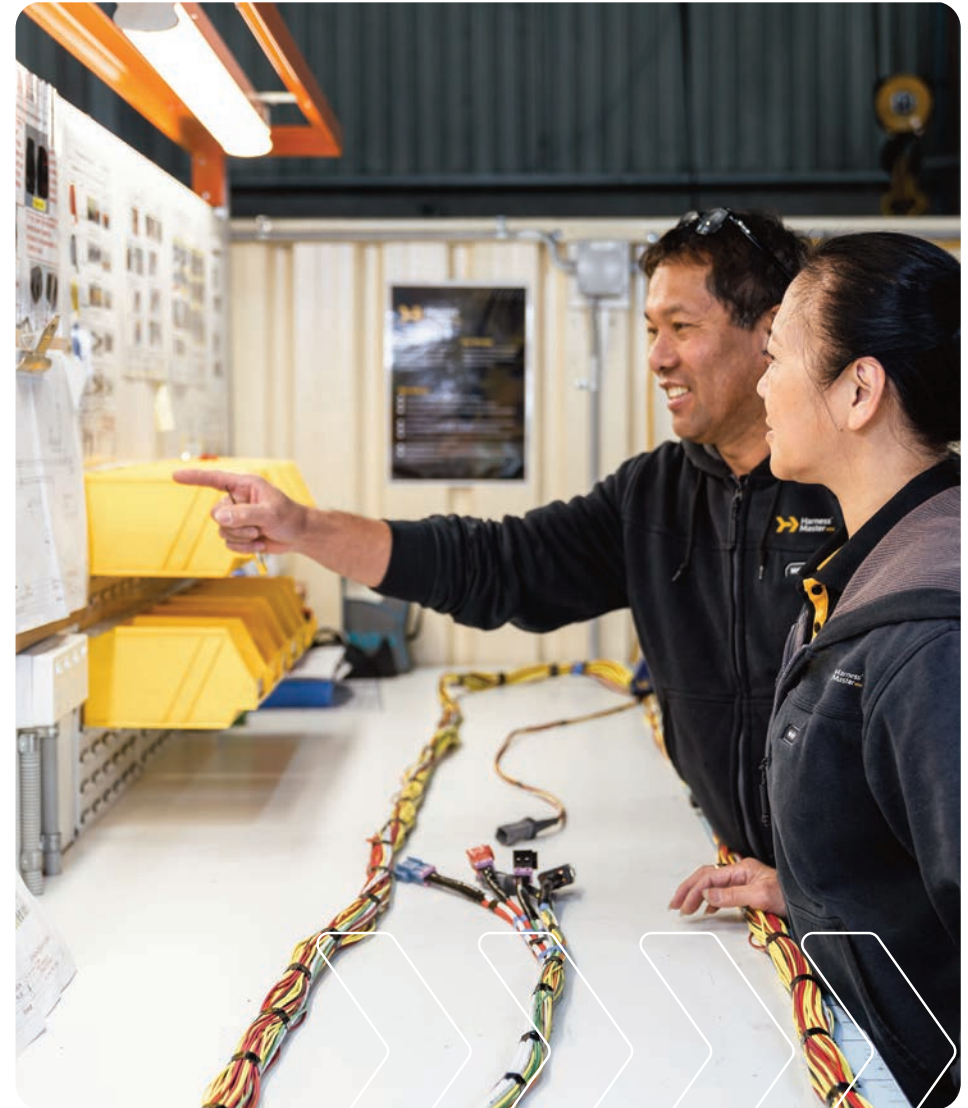
CAPABILITIES FOCUS

MANUFACTURING

Harness Master NSW has become renowned for designing and manufacturing superior products for our customers, because those products are long-lasting, high-quality, and high-performing. Our products stand apart from others, and are demanded by our customers because they are easier to use, install, maintain and service than alternatives made elsewhere.

Our manufacturing capabilities include:

- Low and high volume production runs
- Wire harnesses
- Cable assemblies
- Connector over moulding
- Fast one-off prototyping
- Electronic circuit boards and assemblies
- Electrical enclosures, cabinets and brackets
- Wire braiding
- Custom parts
- Inhouse 3D printing





CAPABILITIES FOCUS MANUFACTURING

We manufacture our products and solutions with superior, high quality materials that we trust and have thoroughly tested. Because our manufacturing benchmark is whether we would use the product ourselves in the field, it adds more weight to our rigorous quality assurance assessments and ensures the right result for our customers every time.

The benefits that manufacturing division deliver include:

- Low cost, high quality products
- On-shore or off-shore production
- Reduced downtime
- Increased reliability
- Short lead time
- MDG-15 compliant
- Simple installation and maintenance
- Breakdown support

Harness Master NSW has become renowned for designing and manufacturing superior products for our customers. That's why our harnesses are long-lasting, high-quality, high-performing and easy to use, install, maintain and service.

We design and manufacture wiring harnesses and cable assemblies that are:

- New / custom-made
- Remanufactured
- Aftermarket / OEM



Our harnesses can be designed with multiple specifications, modifications, materials and options to suit our customer's specific needs. We are proud to invest our skills, experience, and knowledge into creating new, innovative harness designs to address a range of problems our clients report they experience with other brands.

Designing & manufacturing the right product

We follow this process every time we design and manufacture a product for our clients:

- 1 Assess the application and purpose of the product to identify its function and its place in the greater machine schematic.
- 2 Assess the operating environment where the product will be fitted or operate, taking into account factors such as load, heat, exposure to fluids, movement, vibration, and element exposure.
- 3 Apply our strict design and product standards to deliver a customised solution which optimises performance, installation, maintenance and serviceability for the harness application and operating environment.



CAPABILITIES FOCUS MANUFACTURING

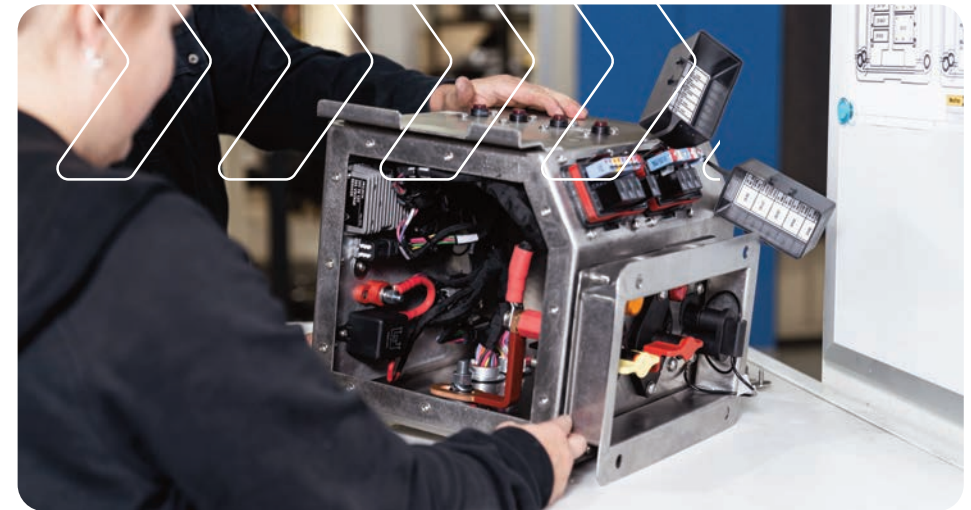
Electrical enclosures, cabinets and harnesses

Harness Master NSW prides itself on creating and manufacturing innovative solutions to address reliability, down-time, and safety issues. Backed by our team's extensive experience in the field, we design and develop efficient, long-lasting solutions that will reliably perform to the highest standards when they are needed most.

That's why we design, assemble and supply easy to maintain and repair electrical enclosures, cabinets and brackets.

Our enclosures are built for optimum field performance because they:

- Are made from stainless steel to prevent corrosion
- Can be made to customer standards, including IP68-rated
- Integrate with our wire harnesses and cable assemblies perfectly
- Work optimally within their greater machine assembly
- Are designed to be mounted within the machine assembly
- Incorporate the best electrical componentry to increase both their Mean Time Between Failure (MTBF) and Availability KPI result



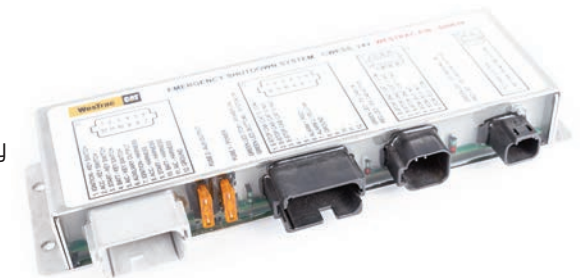
Electronic circuit boards and assemblies

We design, assemble and test Printed Circuit Boards for a range of functions to ensure our clients (and their equipment) are kept safe. Our printed circuit boards can be manufactured into fully sealed modules by using encapsulation resin, or mounted into a custom enclosure to suit the customer's requirements.

We can provide all componentry required to utilise our inhouse assembly capabilities to fit out your product.

Custom parts

Harness Master NSW and our Engineers are known for their ability to design and manufacture custom parts that either don't exist or are unavailable/discontinued.



CAPABILITIES FOCUS SERVICE

Harness Master NSW's service capabilities are multi faceted. Our service solutions are supported by our team of qualified trade professionals, each possessing extensive field experience.

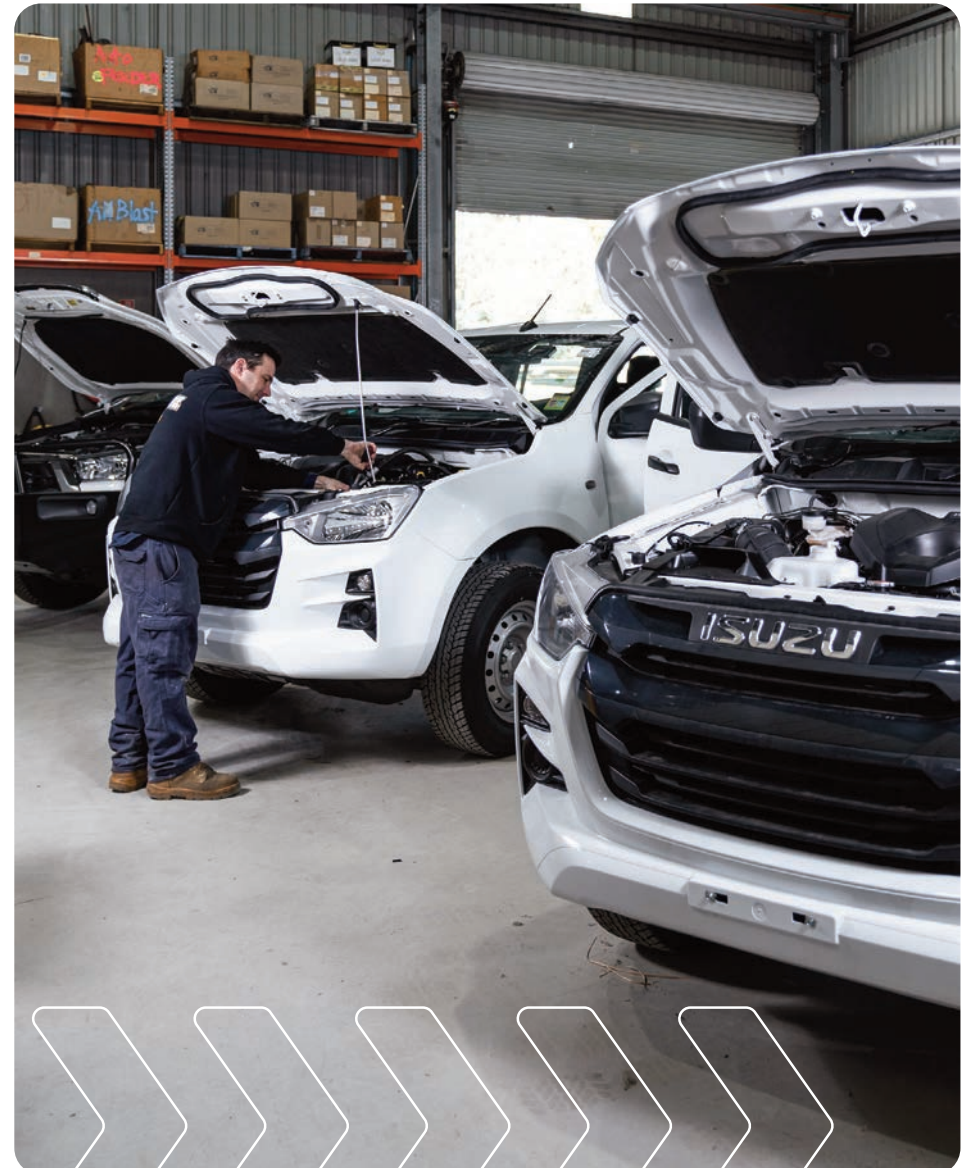
Our service capabilities include:

- Installations and vehicle fitouts
- Mining machine cab overhauls
- Product refurbishments
- Rotable solutions
- Turn-key maintenance & service solutions
- Breakdown service
- General auto electrical

Our service division provides workshop solutions for customers at our premises, as well as on-site and self-install solutions so that we cover every possible need and scenario.

Our customers benefit from working with our service division with:

- Reduced costs
- Faster vehicle/machine changeover
- Customer maintenance strategy focused on reliability and increased availability
- Decreased procurement loads and planning
- Fixed (not variable) cost model for maintenance, allowing customers to be proactive instead of reactive
- Conformity across fleet
- Upgraded vehicle and machine componentry



CAPABILITIES FOCUS

SERVICE

Installations & vehicle fit-outs

Our service division provide fleet and vehicle fit-out solutions to customer and industry specifications like MDG-15. We are also experts in fitting out custom applications to vehicle fleets, large or small, to deliver a specific customer required solution, such as retrofitting bus seatbelt alarms.

Mining machine cab overhauls

At Harness Master NSW, we overhaul to “as new” condition truck, excavator, grader and dozer cabs while also meeting specific customer requirements or industry operating specifications.

In addition to our turn-key programmatic overhaul service, we undertake on-condition assessments of equipment to identify corrosion damage and pre-failure parts needing replacement. We close out each job with comprehensive testing and quality assurance assessments.

Turn-key maintenance and service solutions

We provide project management and co-ordination of all trades and vendors required, and our service division are supported by fully engineered designs to ensure reliability, compliance, performance and longevity.

Product Refurbishments

Our service division apply our unique approach to product refurbishments, including enclosures, cabinets and e-stop enclosures.

Our turn-key, programmatic approach to delivering an “as new” or customer defined standard typically exceeds customer expectations, especially when combined with pre-work on-condition assessments and our comprehensive testing regime and quality assurance assessments.





CAPABILITIES FOCUS

PARTS SUPPLY

Harness Master NSW is proud to offer an extensive range of parts to trade and industry, direct to consumers and to small businesses.

We sell difficult to find parts, known brands, as well as our own products such as jump start receptacles, plugs and covers, Uni-switch, light bars, brackets and assemblies, emergency stops, and other innovative products. If we don't have it in our inventory, we will source it or build it!

Specifically, we supply:

- Tailored kit solutions
- Raw parts supply to trade and industry
- E-commerce supply to consumer and small business
- Custom parts
- Vendor managed services
- Fixed price/supply contracts
- 24-hour breakdown support

We also provide after-sales support for every part of any harness, cable assembly or enclosure we have manufactured, any solution we have installed, and/or any vehicle or machine we have rebuilt.



CAPABILITIES FOCUS

ENGINEERING

Over 50 years of practical field, engineering and trade-based experience means we scope, design, test and manufacture products based on an in-depth knowledge of what works.

Our engineering capabilities include:

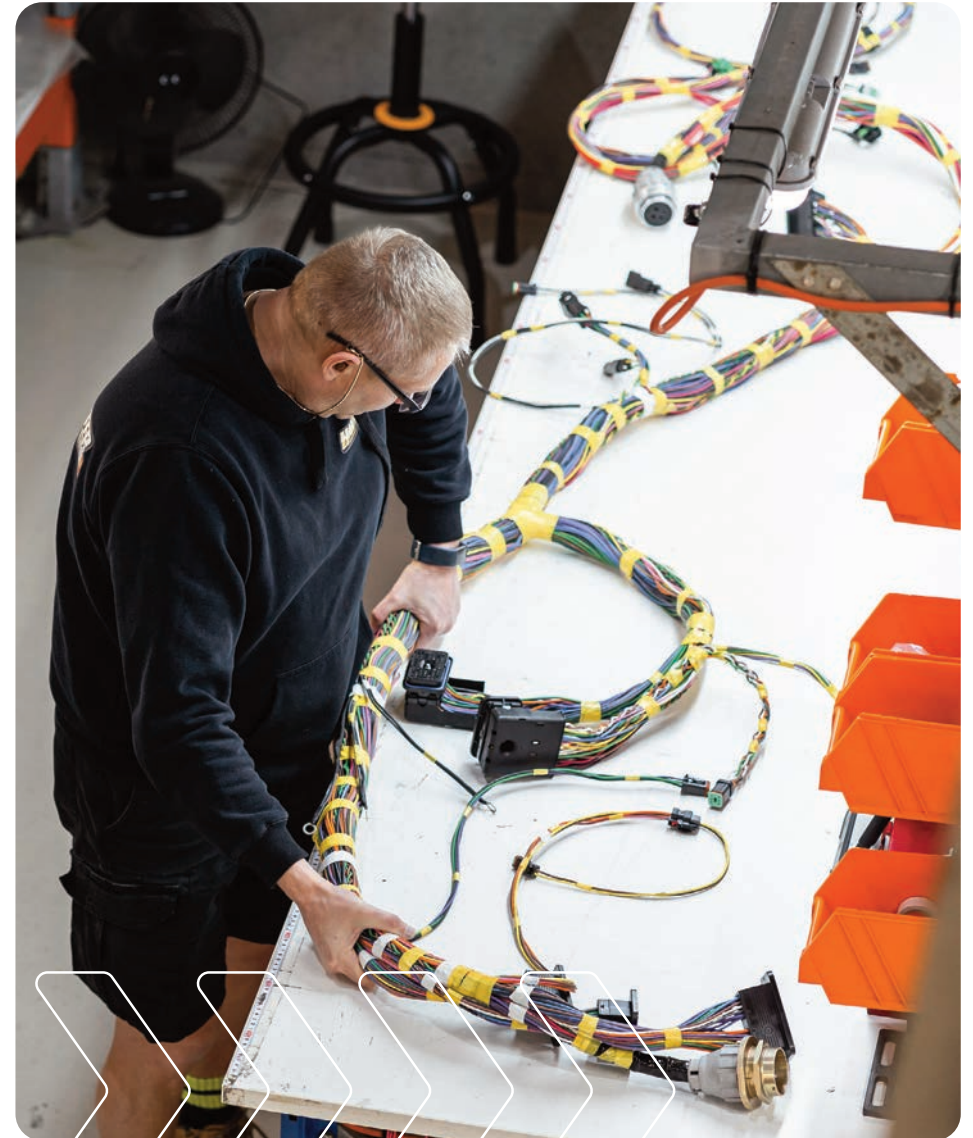
- Full drafting service
- Schematic and system design
- Harness and cable design
- Rapid prototyping and product design
- Connector wire selection and advice
- Electronics and software design

We design all of our products from the ground up to produce a reliable end result that is able to withstand the harsh environments that many of our mining and industrial clients operate in.

We understand the nuances between scope and application so our solutions always consider client requirements, as well as support the people who will be manufacturing, assembling, using, and maintaining it.

We have developed bespoke solutions for some of the world's largest OEM companies including Caterpillar, Komatsu, Hitachi, Penske Power Systems, and Cummins. Our R&D capabilities have enabled us to extend the range of industries we support to include mining, agriculture, marine, and defence.

We design robust, plug and play products that are customised, easy to service and maintain for the long term. We are proud to be the "go to" provider when a client needs to keep moving.



PROJECT FOCUS

Client: Bale Defence

Bale Defence is a family-owned engineering company, dedicated to supporting the Australian Defence Force and its allies.



Opportunity

Bale Defence built a Rough Terrain Vehicle prototype and engaged Harness Master NSW to build a robust electrical system suitable for harsh conditions.

Solution

Using original design documents provided by the client, the Harness Master NSW team formally documented the prototype and began identifying opportunities to optimise design.

Here's a few things we did...

- 1 Our team modified the harness into a kit consisting of multiple harnesses, making it faster to install, faster to service and easier for Bale's defence customers to use.
- 2 To improve performance, temperature tolerance and decrease failure potential, we upgraded the wire and provided braid for extra protection.
- 3 We sourced more suitable electrical connectors and identified difficult to source parts and recommended more readily available alternatives.
- 4 We created branch labels to confirm connector function.
- 5 During manufacturing, we completed six stages of rigorous testing to ensure the correct materials and procedures were used to create exactly the right product.
- 6 We conducted computer circuit testing to provide assurance that harnesses were schematically correct, and then provided Bale Defence with the complete schematics.

Outcome

Harness Master NSW's work resulted in a more robust, secure, sustainable, and purpose-built Rough Terrain Vehicle for Bale Defence – and the client was delighted.

Our efforts enabled them to meet their deadlines for large quantity orders and dispatch according to schedule. The client was able to focus on other projects while we fine-tuned their prototype. The trust that was built during this engagement has resulted in additional discussions about future collaborations.

PROJECT FOCUS

Client: Penske Rail

Penske Australia & New Zealand (Penske) operates automotive and commercial vehicle dealerships across the United States and Western Europe.



Opportunity

Penske wanted to implement a remote engine monitoring system (telemetry) to its fleet of rail engines. The telemetry system, once operational, would give the engineers real-time data on cylinder temperatures, helping to identify issues before they become problems and cause breakdowns.

Penske's engineers had designed a system, however they were unsure how to physically implement it.

Solution

We designed a specific "for purpose" enclosure to house all necessary components within the design constraints, provided by the client.

The design engineers could not provide us with a clear answer regarding the pinout configuration for the modules to be used and the enclosure interface, so we took it upon ourselves to draw-up a pinout table for the design engineers that everyone in the project could work from.

This allowed us to choose the appropriate bulkhead connectors for the interface and begin the design of the internal harnesses.

At Harness Master NSW, we understand the value of being able to design and make a harness to install into an enclosure as a finished product. Working this way greatly reduces assembly time and ensures a higher level of quality. As a result, we designed and manufactured a bespoke enclosure and shipped it to New Zealand.

Once the first enclosures reached their destination, the client required a supplementary mounting bracket for the enclosure.

As we had custom designed the enclosure, we were able to design and manufacture the necessary mounting bracket quickly and easily.

Feedback from the client was very warm and they were highly appreciative of the custom solution we provided.

PROJECT FOCUS

Client: SwarmFarm Robotics

SwarmFarm Robotics is an Australian company leading the development of agricultural robots for crop production.



Opportunity

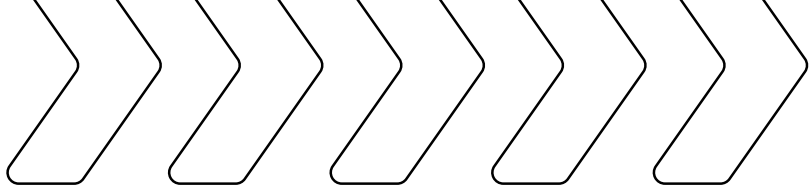
A skeleton of a farming machine was delivered to Harness Master NSW and Swarmfarm Robotics wanted us to design the full electrical schematic for the machine.

Solution

The Harness Master NSW team were given free rein to design the electrics (harnesses and control boxes) of the entire machine. The end product was designed collaboratively between Swarmfarm Robotics' engineering department, our engineers and our trained technicians who have experience in the field.

Here are a few things we did...

- 1 We schematically designed harnesses for manufacturing to be used as a prototype. We used a higher quality wire than is typically used in the automotive industry. This longer-lasting, better performing wire fails less and has a higher temperature tolerance and tensile strength.
- 2 Our prototype was designed to meet increased standards which are required in mining, as the usual quality standards found in agriculture/vehicles are low. We recommended new materials to improve design or if others are obsolete/hard to source.
- 3 We fitted the prototype of the machine and made amendments to schematics and layout of harnesses for correct use, ease of installation, and fault-finding purposes, using our modular, "plug-n-play" design.
- 4 We provided complete kits containing everything needed to install the harness or enclosure (including custom-made brackets, nuts and bolts). Harnesses can also be individually ordered.
- 5 We included wire, harness and branch identification on the harnesses which makes the harness easier to install and easier to service/maintain/repair. If you read what a wire/branch or harness does on a label, you don't need to guess, read and interpret a schematic or use trial and error to figure it out.
- 6 We installed a TM booted connector for extra protection against corrosion of the wires terminating into the connector. This provides better performance, longer life and less failure.



Outcome

Harness Master NSW has, and continues to, support SwarmFarm Robotic's growth as a company and as their preferred supplier for electrical design and manufacturing.

Our collaboration has enabled them to bring to market a unique technological solution designed to make the agricultural sector more efficient and productive.

Harness Master NSW has scaled to support SwarmFarm Robotics so they can meet their customer orders. We have the materials/stock available to produce the large quantities their customers require, enabling them to keep to their build schedule and provide streamlined after sales support to their clients.

Our flexibility and agility supports SwarmFarm Robotics to meet their goals and KPIs, which ultimately delivers win/win outcomes for both companies.

The two companies continue to regularly work together to identify and implement new or improved solutions, as technology advances and requirements evolve.



PROJECT FOCUS

Client: Glencore– Bulga mine site

Glencore is one of Australia's largest producers of coal, cobalt, zinc, nickel and copper and operates 25 mines in Australia. Bulga Coal mine is located 15 kilometres south-west of Singleton, in New South Wales' Upper Hunter Valley.



Opportunity

Bulga was experiencing a lack of uniformity amongst their fleet of mine site vehicles. This resulted in the company needing a wider range of parts, coupled with a larger labour force equipped with more varied knowledge and skills to support fleet maintenance. This resulted in higher costs and increased rebuild timeframes which jeopardised project delivery timelines.

Bulga engaged Harness Master NSW to create a better, more efficient, cost-effective way of servicing and maintaining their fleet of mine site vehicles.

Solution

Harness Master NSW team worked with the client to streamline the entire servicing and maintenance process, including rebuilding the parts and maintenance program.

We worked with Bulga's maintenance planners and supervisor to develop a bespoke, turn-key solution which delivered easy to use, long-lasting harness and parts kits, in support of a robust maintenance strategy. This sets-up the mine's direction for the future, focusing on reliability and increased availability achieved through conformity across fleet.

Outcome

The client can now monitor hours and change-out times to reduce hours and running costs. Our solution increased reliability across the fleet and improved efficiencies to support a reliable supply chain.

The Harness Master NSW team worked closely with Bulga to understand their needs and develop a bespoke solution. As a result, Bulga's vehicles are now on the system and coded so they are informed when change-out needs to occur, based on the lifespan of the product. Vehicles are now maintained more efficiently, which means less downtime and reduced costs for the client – a great benefit to them.

These solutions also help reduce procurement load, planning with fixed costs, unified fleet, meaning the mine can continue with proactive (instead of reactive) maintenance.

CLIENT LIST

Harness Master NSW works with a range of industry sectors including:

- > Manufacturers and fabricators
- > Original Equipment Manufacturers (OEMs)
- > Mining
- > Oil and Gas
- > Government
- > Defence
- > Commercial
- > Transport
- > Agriculture

Harness Master NSW has been a long-term supplier of custom electrical systems that enabled us to support our customer base spanning a range of applications from mining, marine and rail to power generation.

From the initial consultation to the final product delivery, Harness Master NSW has demonstrated their expertise and dedication in meeting our goals. They have proven their ability to tailor solutions that match our specific requirements. Their team of engineers and technical support have worked closely with us to develop custom solutions. Any concerns or requests were promptly addressed, and they were always willing to accommodate our needs.

We highly recommend Harness Master NSW to anyone seeking a reliable wire harness manufacturer and look forward to continuing our partnership with them for years to come."

- Penske Australia & New Zealand, Engineering and Technical Team

Some of our recent clients include:





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We keep you moving. All ways.

