SCABBLE PROJECT OF 60,000 CONCRETE SLEEPERS
SYDNEY RAIL UNDERGROUND NETWORK

Water as a tool

WOMA®

GLOBAL SOLUTIONS LOCAL INGENUITY

AUSJET / ADCVA INNOVATION SAFETY AWARDS SUPPLIER CATEGORY

WOMA (Australia) Pty Ltd

Author: Rebecca (Bec) Fowler

August 26th 2024

WOMA (AUSTRALIA) SUBMISSION

Supplier Award Category:

Awarded to an organisation that has improved industry safety through innovation, via the introduction of new products or the enhancement of existing products or services.

To enter this category an organisation must demonstrate how they improved safety through innovation.

SUBMISSION DETAILS

WOMA Austrack - Vossloh Rail Scabbling Project

CONTACT DETAILS

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DECLARATION

I hereby declare the information enclosed herein and all attachments to be true and complete to the best of my knowledge.

I understand that any information provided in relation to this Award will be used by AUSJET and the Assessment Panel for the award judging process.
Upon request and authorization by WOMA (Australia) Pty Ltd, WOMA may authorise the use and public release of all information contained within this submission by AUSJET for promotional purposes.

I declare the organisation I am lodging the submission on behalf of does not have any current or ongoing major incident cases open at the time of lodgment. I understand I must notify AUSJET of any incidents and accidents to ensure the betterment of safety and productivity in our industry.

Name: **Bec Fowler** Date: **26.08.2024**

Signature: **B Fowler**

WOMA (AUSTRALIA) PTY LTD

WOMA Australia is an agile, bespoke original Industrial Equipment Manufacturer (OEM). WOMA's focus on seamlessly integrating positive displacement, high pressure, steam, vacuum, pneumatic, hydraulic, compressor, generator, explosion protection and related robotic automation technologies with industry is well proven. We offer experienced and dedicated Engineering, Manufacturing, Service, Training, Rental and Customer Support services driven to provide direct technical and problem solving solutions to our valuable clients. Your critical deliverable is our concern and WOMA has the experience, knowledge, resources and skills you can rely on to meet your ESG, Technical and Productivity benchmarks. We aspire to provide improved service to pro-active and dynamic customers working in hazardous & non-hazardous working environments. WOMA is a steadfast business partner in the resources sector (Oil & Gas, Mining & Minerals processing), Waste & Recycling, Manufacturing (Cement, Sugar, Fertilizer, Food & Beverage), Shipping, Marine, Defence, Municipal & Civil Construction.

Scabble Box For Conveyor System

EXECUTIVE SUMMARY

The traditional method of scabbling concrete involves using a rotary jet with a handheld gun. However, discussions with Austrack Vossloh early on revealed a preference for minimising human involvement and incorporating automation. This approach introduced several challenges that needed to be addressed.

Austrack Vossloh had a client who required both sides of the sleepers to be scabbled 100mm up each side as part of their supply contract. To determine if this was feasible, Austrack Vossloh consulted WOMA Australia. A trial was conducted, and both Austrack Vossloh and the client were satisfied with the outcome.

In collaboration with Austrack Vossloh and WOMA Australia, the next challenge was integrating the scabbling process into the existing production line with minimal disruption and maintaining production throughput. It was decided that two 150M UHP pumps would be used, one for each side of the sleeper, delivering 17 lpm at 2500 bar.

Another issue was achieving the desired 100mm scabbling width. Initially, the rotary nozzle only produced a scabble width of around 50mm. To address this, two UHP rotary swivels were supplied by each of the 150M UHP pumps, each equipped with a custom head to meet the 100mm requirement.

A further challenge was to ensure that high-pressure water was supplied to the sleepers only when they were correctly positioned in the scabbling box and aligned with the rotary heads. An infrared laser beam was used to trigger an electric-over-pneumatic switch linked to the plant conveyor system. When the infrared beam was interrupted, it activated the pneumatic switch to close the unloader valve and increase engine RPM, thereby supplying UHP water to the swivels. Simultaneously, air was supplied to the high-pressure rotary swivels.

Once set up and operational, the system worked efficiently, with all sleepers being scabbled without any operator being near the UHP water. Additionally, any debris produced during the scabbling process was contained within the box.

WOMA - CULTURE AND LEADERSHIP

WOMA has worked extremely diligently to develop an open-minded, transformative Company culture focused on Customer deliverables and appropriate product development. Specifically, **WOMA promotes**;

- **Positive safety, product development and customer-focus culture**, including demonstrated engagement of internal business unit managers and external business partners with the hosting on an Annual Strategic Planning Event
- **Demonstrated company-wide focus on safety performance** with regular Toolbox Safety Meetings
- **Demonstrated consultation and engagement with its workforce, contractors and customers** with regular WOMA / Client Continuous Improvement Consultations
- **Support to Staff (e.g. induction, training and professional development), including Technical & Leadership development training**

- WOMA does not overlook the importance of workforce training in process optimization. We equip our team with the skills and knowledge they need to embrace new technologies and methodologies. Continuous training ensures that everyone is proficient in the latest techniques and tools, which is essential for maintaining an innovative and competitive edge in production and as an industry technology partner.

- **Contribution to Industry and Industry Associations** for example AUSJET, ACRA, ACA, CCI and other industry leading entities

- **ESG & Sustainability Focus** - innovation isn't just about efficiency—it's also about sustainability. WOMA designs processes that are not only cost-effective but also environmentally responsible. We look for ways to reduce energy consumption, minimize waste, and use materials more efficiently. Sustainable practices can lead to significant long-term savings and a stronger brand reputation for WOMA, its clients, their clients and for future generations.


BUREAU VERITAS
Certification

Certification

Awarded to

WOMA (AUSTRALIA) PTY LTD

16 REDEMPTORA ROAD, HENDERSON, WA 6166
AUSTRALIA

Bureau Veritas certify that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards indicated below

STANDARD

ISO 9001:2015

SCOPE OF SUPPLY

DESIGN, MANUFACTURE, SUPPLY & SUPPORT OF HIGH PRESSURE WATER PUMPS, HIGH PRESSURE WATER JETTING SYSTEMS, VACUUM SYSTEMS, EXPLOSION PROTECTION SERVICES, SPARES ACCESSORIES, MANUALLY OR REMOTE CONTROLED WATER TOOLS AND THE PROVISION OF EQUIPMENT RENTAL SERVICES

Original Approval Date: 6 February 2003

Subject to the continued satisfactory operation of the organisation's Management System, this certificate is valid until: 22 September 2024

To check the validity of this certificate please call us: 1800 855 190

Further clarification regarding the scope of this certificate and the applicability of the Management System requirements may be obtained by consulting the organisation.

Certificate Number: AU0004721-1 Date: 23 September 2021

Andrew McKinnon
Vice President – IMT Pacific Region

Managing office: Bureau Veritas Pty Ltd, 3/455 Williamstown Road, Port Melbourne, Victoria, 3207

Issuing office: Bureau Veritas Pty Ltd, 3/455 Williamstown Road, Port Melbourne, Victoria, 3207

JAS-ANZ

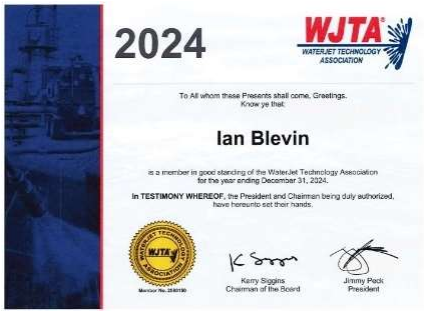

Chamber of Commerce and Industry WA

Woma (Australia) Pty Ltd

A valued member and proud supporter of free enterprise since

15/06/1983

Chris Rodwell
Chief Executive Officer


2024

WJTA
WATERJET TECHNOLOGY ASSOCIATION

To All whom these Presents shall come, Greetings.
Know ye that

Ian Blevin

is a member in good standing of the WaterJet Technology Association for the year ending December 31, 2024.

In TESTIMONY WHEREOF, the President and Chairman being duly authorized, have hereunto set their hands.

Kerry Siggins
Chairman of the Board

Jimmy Peck
President


CERTIFICATE
OF MEMBERSHIP

This is to certify that

WOMA Australia Pty Ltd

has been accepted as a corporate member of The Australasian Corrosion Association from 9 June 2024 to 8 June 2025.

Certificate Number: 0001

Issued On: 13/08/2024


CERTIFICATE

~ OF MEMBERSHIP ~

WOMA Australia Pty Ltd

PLATINUM Member/Sponsor of AUSJET/ADCVA

Chairperson
2023/2024

WOMA – PRODUCT DEVELOPMENT

WOMA as an OEM works diligently to develop an open-minded, transformative Company culture focused on Customer deliverables and appropriate product development. Specifically, **WOMA promotes the following Principle stages;**

- **Industry Consultation & Collaboration** – by analyzing the data available to us; via Site consultation or Scope of Work (SoW) briefings and documentation, we draw on leading edge global solutions and apply local-knowledge and ingenuity to innovate operational processes and solutions for our clients.

- **Design Concept & Modelling** - tools like Siemens Solid Edge 3 Dimensional (3D) Design software and associated Finite Elemental Analysis (FEA) or Computational Fluid Dynamics (CFD), enable monitoring and analysis of structure and design options, identifying areas of advantage, waste and inefficiency.
  - FEA is the process of predicting an object's behavior based on calculations made with the finite element method (FEM) analyses and optimizes our designs with weld modeling, complex load path analysis, and more. Advanced technology allows for quick and precise structural and thermal analysis.
  - In a CFD software analysis, fluid flow and its associated physical properties, such as velocity, pressure, viscosity, density, and temperature, are calculated based on defined operating conditions. In order to arrive at an accurate, physical solution, these quantities are calculated simultaneously.

- **Early Concept Primary Design Review** – clear understanding of the current state of a client's operational intent and a 3D designed solution model, enables the development of targeted strategies for solution improvement. This stage enables cross-checking and refinement both internally and externally with their own client and the operational challenges at hand.

- **Prototype Manufacture & Market Testing** - embraces lean manufacturing principles to eliminate waste and optimize our production processes. This approach focuses on value creation for the end customer with minimal waste. We identifying non-value-added aspects or activities and find ways to reduce or eliminate them.

- **Secondary Design Review** - adopting a mindset of continuous improvement is a cornerstone of industrial engineering. WOMA encourages small, incremental changes on a regular basis rather than waiting for a major overhaul. This philosophy fosters a culture of innovation and helps to sustain gains in efficiency and productivity over time. Employing FEA, CFD and other automation technologies, we can optimize production. Integrating semi-automation and full robotics automation, we can increase safety, precision and operational consistency while reducing human error and labor costs. Automation also allows WOMA and its clients to collect data in real-time, providing valuable insights that can drive further innovation in our processes and solutions.

- **Product Development and Market Release – WOMA's Roadmap to Release** is multi-staged, as best as possible ensuring that the Refine and Release stage is perfecting the product based on real-world feedback and then launching it into the market in a way that maximizes its chances of success. It's not just the end of the product development process, but also the start of the product's life in the market.

WOMA 150M UHP UNIT

SCABBLE BOX DESIGN - To keep High-Pressure water and noise from penetrating the factory.

VIDEO EVIDENCE

A. WOMA (Australia) Pty Ltd - AusTrak Vossloh Rail Cleaning System - AUSJET Innovation Safety 1.MOV

B. WOMA (Australia) Pty Ltd - AusTrak Vossloh Rail Cleaning System - AUSJET Innovation Safety 2.MOV