The Crane Industry Council of Australia
PO Box 136
Mt Waverley, Victoria 3149
(03) 9501 0078
www.cica.com.au
ABN 73 002 565 773
Lifting Industry Standards

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Productivity Commission National Competition Analysis 2025
Locked Bag 2,
Collins St, East Melbourne VIC 8003

To the Commissioners and Associate Commissioners

In response to the Productivity Commission's request for specific examples of Australian legislation where international or overseas standards could be adopted or recognised as equivalent, including any information or data on the expected costs and benefits of alignment, please find attached The Crane Industry Council of Australia's submission.

Greater harmonisation between Australian and international standards and conformity assessments, focusing on the regulatory duplication and misalignment in crane importation approvals and vehicle compliance standards, would save the crane industry time, money and unnecessary red tape.

I trust the Commission will find these observations useful in identifying reform priorities to improve productivity and international competitiveness.

I am happy to provide further details as needed.

Yours sincerely,

Brandon Hitch
CICA CEO

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The Productivity Commission is seeking specific examples of Australian legislation where international or overseas standards could be adopted or recognised as equivalent, including any information or data on the expected costs and benefits of alignment.

How ADRs Impact Crane Importation with ROVER

Australian Design Rules (ADRs) are the national standards that set out the requirements for vehicle safety, anti-theft features, and environmental performance in Australia's Road Vehicle Standards (RVS) legislation.

They apply to almost every vehicle type that is registered for road use, including heavy vehicles such as mobile cranes. For an imported crane to be legally supplied and registered in Australia, it must be assessed against the ADRs.

Cranes present a particular challenge because they are classified as Special Purpose Vehicles. Unlike conventional trucks or cars, cranes are designed for highly specific lifting tasks and do not always meet every design rule in the strict sense. For example, a crane may exceed width limits, have a turning circle that falls outside standard requirements, or rely on specialist exhaust systems that make emissions compliance complex. This does not mean the crane cannot be used in Australia, but it does mean that the importer must go through a more rigorous approval process to show that the vehicle is safe and suitable for road operation.

That process is managed through ROVER, the Department of Infrastructure's online portal for vehicle imports and compliance under the Road Vehicle Standards Act. Importers are required to use ROVER to apply for either a Vehicle Type Approval or a Concessional RAV Entry, depending on whether the crane can fully meet the ADRs.

This involves uploading engineering reports, test data, and supporting documents that demonstrate compliance, or seeking exemptions when strict compliance is not possible. Once approved by the ROVER team and the National Heavy Vehicle Regulator (NHVR), the crane is entered onto the Register of Approved Vehicles (RAV), which is a prerequisite before it can be supplied to the Australian market.

In practice, this means that crane importation is often slower and more costly than for other vehicle categories. Importers must commission detailed engineering assessments, prepare documentation that explains how the crane satisfies the intent of the ADRs, and justify exemptions where necessary. Delays can occur if the evidence

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lodged in ROVER is incomplete or if exemptions are not adequately supported. However, once a particular crane model has successfully been through the approval process and received a Vehicle Type Approval, future imports of the same model are more straightforward.

The challenges lie in the administrative burden, engineering costs, and the need to navigate exemptions for vehicles that do not fit neatly into the rules.

In relation to the importation of cranes, The Crane Industry Council of Australia recommends:

Mutual recognition of the current and previous regulatory frameworks of Regulation (EU) 2018/858 (and its predecessor, 2007/46/EC) for mobile cranes, in parallel with the existing RAV entry approval process through ROVER.

This would mean:

If a mobile crane model is designed and manufactured in compliance with *Regulation (EU) 2018/858*, the crane model would be deemed compliant with the Register of Approved Vehicles, which is part of Australia's Road Vehicle Standards (RVS) legislation and is managed through the ROVER online system.

RAV entry approval requirements in Australia.

Benefits of alignment:

1. Alignment with Global Benchmarks
    - EU standards represent the highest global benchmark for vehicle safety and operational efficiency.
    - Adoption would maintain safety without duplicating testing and certification requirements.
2. Streamlining Approvals
    - Simplifies and accelerates the RAV application process.
    - Reduces financial and administrative burdens on businesses.
3. Environmental and Productivity Gains
    - Enables faster introduction of newer, cleaner, and more efficient crane models into the Australian market.

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- Reduces emissions and congestion by allowing direct travel to job sites instead of floating.

4. No Safety Compromise
    - The EU framework already meets or exceeds ADR requirements in critical areas such as braking, stability, and emissions control.

Technical Details

- Table 1 (below) shows the ADR list aligned with EU Regulation 2018/858, covering all ADRs relevant to mobile cranes.

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Table 1

ADR designation	ADR title	Alternative standard mentioned in ADR	TUV Certificate of Compliance to EU 2018/858 or predecessor
ADR 01/00	Reversing Lamps	UN Regulation No 23	Yes, UN ECE 23
ADR 03/04	Seats and Seat Anchorages	UN Regulation No 17	Yes, UN ECE 17
ADR 04/06	Seatbelts	UN Regulation No 16	Yes, UN ECE 16
ADR 05/06	Anchorages for Seatbelts	UN Regulation No 14	Yes, UN ECE 14
ADR 06/00	Direction Indicators	UN Regulation No 6	Yes, UN ECE 6
ADR 08/01	Safety Glazing Materials	UN Regulation No 43	Yes, UN ECE 43
ADR 13/00	Installation of Lighting and Light Signalling Devices on other than L-Group Veh	UN Regulation No 48	Yes, UN ECE 48
ADR 14/02 ADR 14/03	Rear Vision Mirrors/Devices for Indirect Vision;	UN Regulation No 46	Yes, UN ECE46
ADR 18/03	Instrumentation	UN Regulation No 39	Yes, UN ECE39
ADR 35/06 /07	Commercial Vehicle Brake Systems	UN Regulation No 13	Yes, UN ECE 13
ADR 42/05	General Safety Requirements	-	Yes, Regulation (EC) No 661/2009
ADR 43/04	Vehicle Configuration and Dimensions	-	Yes, Regulation (EC) No 661/2009, Regulation (EU) No 1230/2012
ADR 46/00	Headlamps	UN Regulation No 1,5,8,20, 31,112,113	Yes, UN ECE 31
ADR 47/00	Retroreflectors	UN Regulation No 3	Yes, UN ECE 3
ADR 48/00	Devices for Illumination of Rear Registration Plates	UN Regulation No 4	Yes, UN ECE 4
ADR 49/00	Front and Rear Position (Side) Lamps, Stop Lamps and End Outline Marker La	UN Regulation No 7	Yes, UN ECE 7
ADR 50/00	Front Fog Lamps	UN Regulation No 19	Yes, UN ECE 19
ADR 51/00	Filament Lamps	UN Regulation No 37	Yes, UN ECE 37
ADR 52/00	Rear Fog Lamps	UN Regulation No 38	Yes, UN ECE 38
ADR 61/03	Vehicle Marking	-	Yes, Regulation (EC) No 661/2009, Regulation (EU) No 19/2011, Regulation (EU) No 1003/2010
ADR 62/02	Mechanical Connections Between Vehicles	UN Regulation No 55	Yes, UN ECE 55
ADR 65/00	Maximum Road Speed Limiting for Heavy Goods Vehicles and Heavy Omnibus	BS AU 217: Part 1 1987-	Yes, UN ECE 89
ADR 74/00	Side Marker Lamps	UN Regulation No 91	Yes, UN ECE 91
ADR 76/00	Daytime Running Lamps	UN Regulation No 87	Yes, UN ECE 87
ADR 77/00	Gas Discharge Headlamps	UN Regulation No 98	Yes, UN ECE 98
ADR 78/00	Gas Discharge Light Sources	UN Regulation No 99	Yes, UN ECE 99
ADR 80/03/04	Emission Control for Heavy Vehicles	UN Regulation No 49, 83, 154 EU Regulations 595/2009 and 582/2011	Yes, Regulation (EC) No 595/2009
ADR 83/00	External Noise	UN Regulation No. 51	Yes, Regulation (EU) No 540/2014, UNECE 51
ADR 90/00	Steering System	UN Regulation No 79	Yes, UN ECE 79
ADR 92/00	External Projections	-	Yes, Regulation (EC) No 661/2009, UN ECE 61
ADR 93/00	Forward Field of View	-	TUV inspector check the field of view in person
ADR 94/00	Audible Warning	UN Regulation No 28	Yes, UN ECE 28
ADR 95/00	Installation of Tyres	-	Yes, Regulation (EC) No 661/2009, Regulation (EU) No 458/2011
ADR 96/00	Commercial Vehicle Tyres	UN Regulation No 54	Yes, UN ECE 54
ADR 97/00	Advanced Emergency Braking for Omnibuses, and Medium and Heavy Goods	UN Regulation No 131	Mobile crane ADR amendment - Not applicable for mobile cranes
ADR 99/00	Lane Departure Warning Systems	UN Regulation No 130	Mobile crane ADR amendment - Not applicable for mobile cranes
ADR 105/00	Blind Spot Information Systems	UN Regulation No 151	Application date for new model vehicle 1 Nov 2025.
ADR 106/00	Side Underrun Protection	UN Regulation No 73	Yes, UN ECE 73

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Figure 1

Adoption of N3G Classification for Mobile Cranes

Currently, cranes are incorrectly processed under the NC (heavy goods vehicle) type-approval category, despite not being goods-carrying vehicles. The industry recommends adopting the N3G classification for mobile cranes in line with EU Regulation 2018/858 and UNECE regulations.

Benefits:

- Reflects the operational purpose of cranes more accurately.
- Aligns with international classification systems, reducing technical inconsistencies.
- Streamlines regulatory compliance and facilitates smoother cross-border recognition.

Benefits of Alignment

By harmonising ADRs with international vehicle standards, specifically through mutual recognition of EU Regulation 2018/858, and adopting N3G classification for mobile cranes, Australia can:

- Maintain world-class safety standards;
- Reduce costs and administrative burdens;
- Improve environmental performance; and
- Enhance the industry's ability to meet national infrastructure and construction demands efficiently.

The cost burden to non-alignment is:

Administrative cost

[redacted]

together with the need to comply with each ADR requirement has led to a higher burden of administrative work, leading to delays, and added costs for the crane importation process.

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Supply chain and second-hand market cost

The documentation complexities introduced by the ROVER system have also created disruptions in the supply chain for mobile cranes. 35% of the all-terrain and hydraulic truck mobile cranes imported into Australia each year were from the used crane sector, these used cranes were designed and certified to international vehicle standards at the time of manufacturing.

Used crane dealers cannot provide the relevant individual certificate without input from the crane manufacturers who are often their competitors in the used crane market, making it harder for them to remain competitive in the industry. The crane industry has witnessed a significant reduction in number of used cranes coming into Australia since the introduction of ROVER system for mobile cranes.

Cost of unnecessary testing and certification requirements

Crane operation requires unique and bespoke machines due to the complex and demanding nature of the lifts required (e.g. a crane required to lift pre-cast concrete panels greatly differs from a crane required to lift wind turbines). This means mobile cranes are unable to comply with some ADR requirements due to the nature and the layout of the machine, which creates non-compliance to ADRs.

Real World Example

ADR 42 clause 24 specifies that the direction of exhaust discharge must not be to the left of the vehicle. The purpose of this ADR clause is to protect pedestrians from exposure to exhaust emissions. Certain types of mobile cranes have their exhaust pipe discharging above the cabin to the left of the vehicle. This exhaust design is directly related to noise emission regulations certified under EN 13000 Cranes – Mobile Cranes to the required UNECE 51 decibel rating.

The left facing exhaust is not compliant to ADR42, even though, when looking at the configuration of the crane, the exhaust outlet pipe, being almost 3 meters high (Figure 2) from the ground, would have provided adequate ventilation for pedestrians and other roads users while the crane is travelling to the site. **Justifications were still required to explain why complying with the ADR 42 clause 24 meant the vehicle would not be able to operate for the purpose for which it was designed.**

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Figure 2: Mobile Crane exhaust height

Below are the justifications provided by the manufacturer on why the current design is the most appropriate design and why it is not possible to change the exhaust pipe discharge direction:

- Change to an upward open design will cause an excessive collection of water and debris in the exhaust system. This would adversely affect the performance, longevity and emission control quality via the SCR system (Selective Catalytic Reduction) and the AdBlue after treatment of the exhaust system, in turn compromising EURO emissions.
- Change to designs with rain caps are not suitable due to their previous poor performance and lack of resistance to the environment, causing corrosion and ultimately failure of the system. In addition, the lack of exhaust pressure would not adequately open the cap, when idling during crane operation and could adversely impact the engine and exhaust system (NB: idling averages 80% of the crane's usage).
- Change to a design where the exhaust is directed to the rear, resulting in heat, gases, vapours and diesel particulate matter discharging in the direction of the crane operator when the crane is in lifting operation. It also means UN ECE 51 and ADR 83 approvals would no longer be met.
- Change to a design where the exhaust is directed to the right could result in the fowling of critical safety components and heat damage to the boom and

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instruments. This has the potential to result in catastrophic failure of the crane during operation.

- Change to a design where the exhaust is directed to the front results in heat, gases, vapours and diesel particulate matter discharging directly to the crane driver when the crane is travelling. In addition to the safety and well-being of the crane driver when the mobile crane is in transportation mode and the noise emission requirements; the presence of a pressure sensor, compressed air line and electric heating of the AdBlue line could be compromised by a forward orifice.

A review of available UK, Thailand and Hong Kong incident data demonstrated no reported exhaust fume-related incidents; and as mentioned above, kilometres travelled by these cranes are minimal compared with freight vehicles. The limited use on-roads (mainly freeway driving to job sites) and the low volume of annual sales make the impact of the exhaust position negligible for these cranes.

A test report was still required from the NHVR to show the influence of exhaust gas on pedestrians even with the facts and justifications provided above. The crane manufacturer conducted an exhaust temperature proximity test to help determine if the temperature of the exhaust is within safe limits for pedestrians who may be in proximity to the exhaust outlet when the mobile crane is in transportation mode. **The cost to find a suitable test place, procure test equipment, and the engineering hours spent on the test set-up, conducting the test and drafting the report across three models added up to a total of over AUD$250, 000 for the crane manufacturer.**

No change to the design was required.

This crane was designed, tested and certified to European vehicle design standards and the crane manufacturer supplies this crane model to multiple countries in the overseas market. Australia is the only country requiring this type of exhaust test which creates an enormous financial burden for the crane manufacturer and downtime in the supply chain.

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Conclusion

Mutual recognition of both the current and previous regulatory frameworks under Regulation (EU) 2018/858, and its predecessor 2007/46/EC, for mobile cranes, alongside the existing RAV entry approval process through ROVER, would deliver meaningful productivity gains across the construction, mining, and renewables sectors.

Such an approach would remove unnecessary duplication, streamline approvals, and allow businesses to invest with greater certainty and efficiency. Importantly, while a review of the vehicle Australian Design Rules (ADRs) was formally commissioned by the Australian Government Department of Infrastructure, Transport, Regional Development, Communications and the Arts in late 2024, and completed by Dr Warren Mundy (late June 2025), the Minister for Transport has yet to release its findings. The release of this review, together with reform to recognise established international standards, is critical if Australia is to remain competitive and support industries that are central to our nation's economic growth.