curbside innovation

PLANNING STREETSCAPES FOR PUBLIC AREA MOBILE ROBOTS

NATIONAL TRANSPORT CONFERENCE

September 2025

NEON.URBAN
DIGITAL URBAN PLANNING ADVISORY

the context

THE ERA OF SCIENCE FICTION IS OVER.

AN EXTRAODRINARY CONVERGENCE OF URBAN ROBOTICS AND PUBLIC REALM PLANNING AND DESIGN IS HAPPENING.

BUT NOT IN AUSTRALIA. YET!

We’ve mastered the art of balancing human needs with spatial constraints, environmental considerations and economic realities.

Now we face a fascinating challenge - thoughtfully integrating mobile robots into our public spaces whilst preserving the accessibility of our communities.

pmr's

PUBLIC AREA MOBILE ROBOT

- **MOBILE**
- **ALWAYS ON THE GROUND**
- **AUTONOMOUS AND / OR TELEOPERATED**
- **INDOORS / OUTDOORS**
- **WHEELS / LEGS / TRACKS**

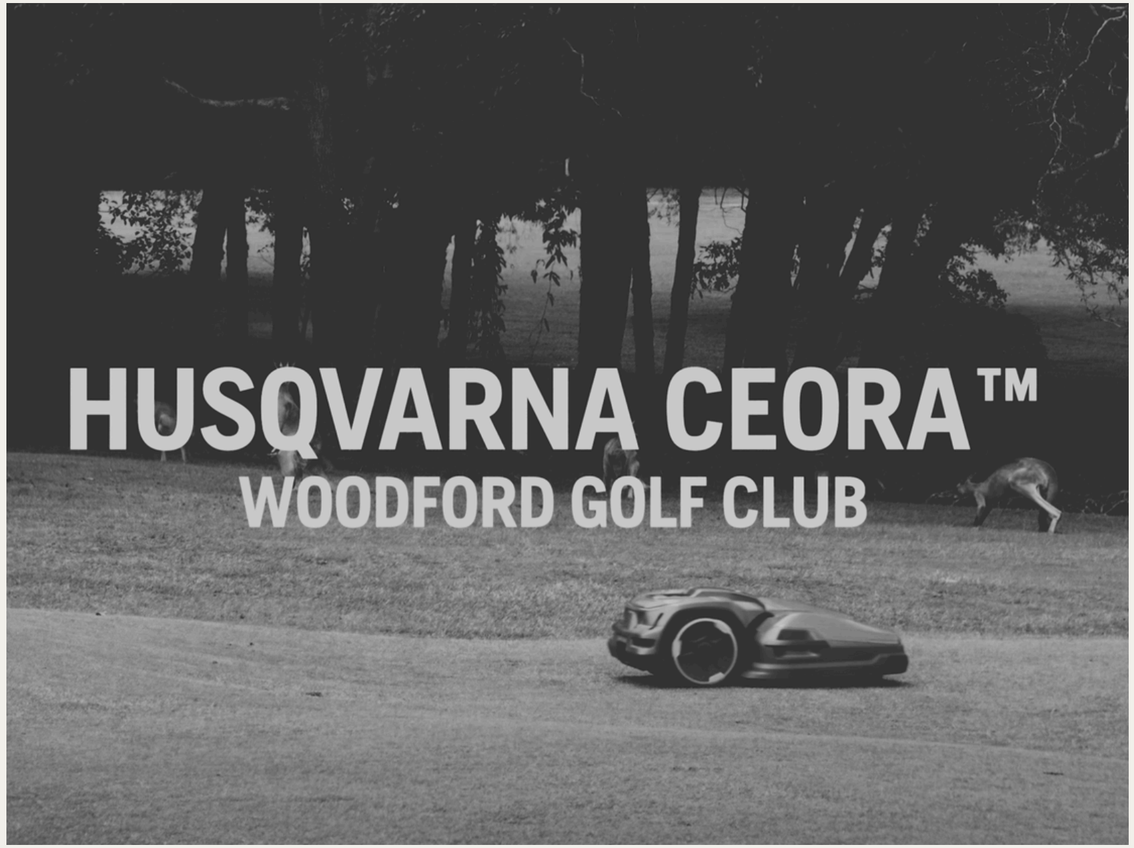
the why

EFFICIENCY, PRODUCTIVITY, SUSTAINABILITY.

- The Australian Government has identified robotics as a ‘critical technology in the national interest’.
- Enables businesses to scale and boost productivity.
- Assists with building a net zero economy.
- Addressing workforce shortages, sectors under pressure.
- Already proven in the mining sector, assembly lines, and warehousing, among others.

the why

PMR’S DONT TAKE SMOKO.



PMR’S DONT CHARGE WEEKEND PENALTY RATES.

benefits

THE NOW BENEFITS

- Asset inspection
- Autonomous wheelchair
- Blind helper
- EV charging
- Floor scrubber
- Parking management
- Personal follow-me robot
- Police support
- Security & surveillance
- Public area maintenance
- Food and goods delivery
- Customer service
- Waste collection

challenges

MAKING IT WORK

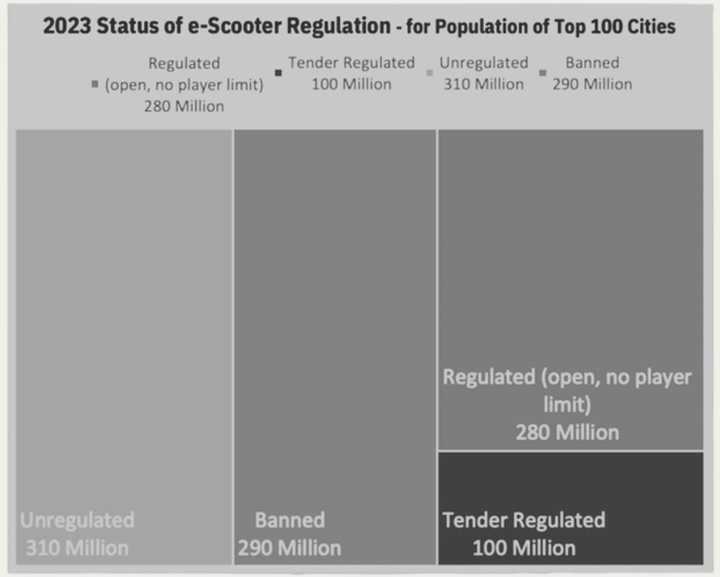
- Regulation and oversight
- Certification
- Accessibility
- Infrastructure (footpaths)
- Robot behaviour
- Human behaviour
- ISO 4448 is on it’s way

WHICH AUSTRALIAN CITY WILL BE THE FIRST TO HAVE AN ‘OFFICE OF ROBOTICS’?

regulatory landscape

“REGULATION WITH CLEAR RULES”

- **Boston:** Experimental approach with community engagement, educational programming, and pilot applications.
- **Washington D.C.:** Requires Public Right of Way Occupancy Permit (PROWOP). Permits issued for specific companies.
- **San Francisco:** Restrictive approach - limited to nine test permits citywide. Human operator always required.
- **New York City:** Actively prohibits delivery robots, issued cease and desist orders in 2019.
- **Commonwealth of Virginia:** First state-wide Personal Delivery Device (PDD) legislation, 2017, updated 2020.
- **Estonia:** Passed unanimous legislation in 2017 creating a new vehicle category - “self-driving delivery robot”.



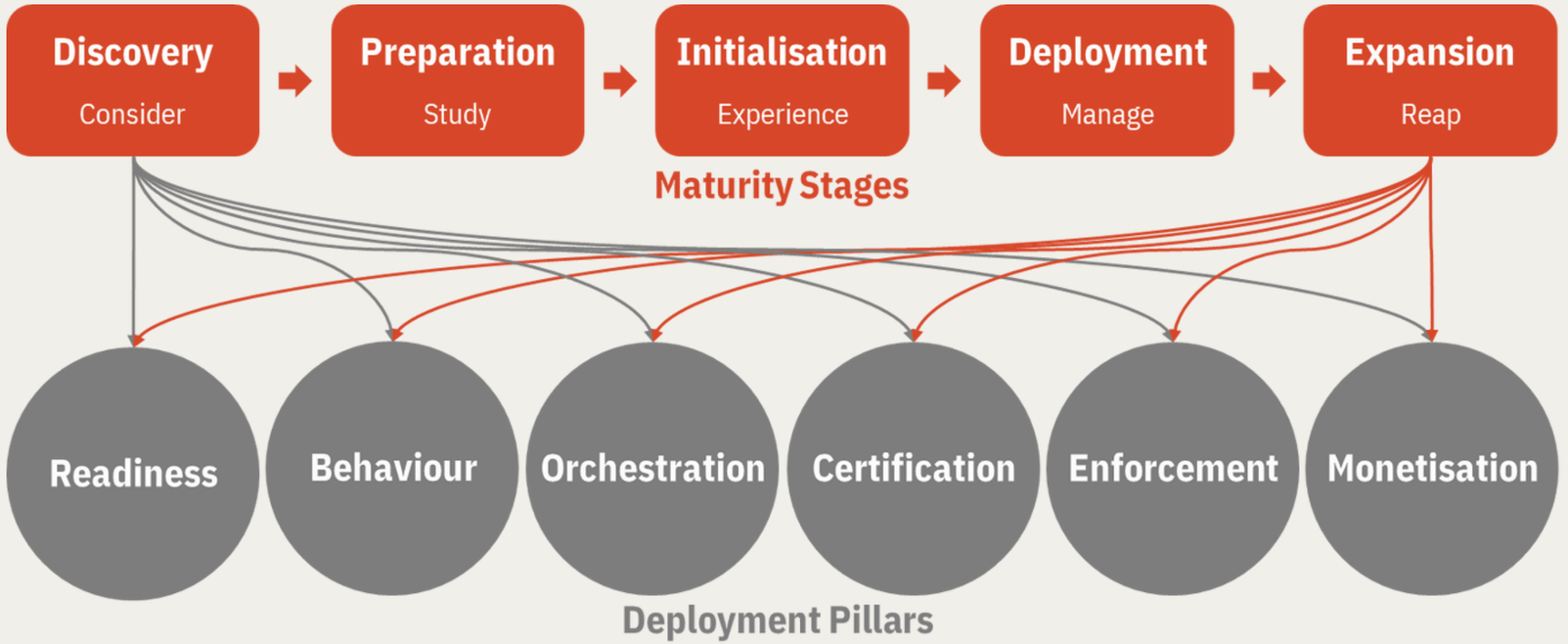
opportunities

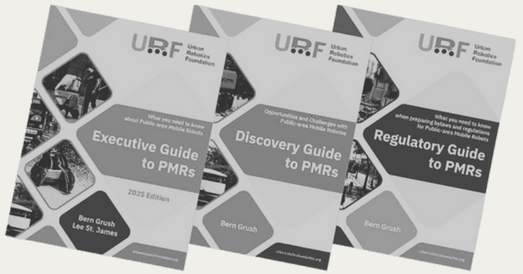
FOR CITY SHAPERS

- URBAN PLANNING / URBAN DESIGN
- COMMUNITY ENGAGEMENT
- TRANSPORT/MOBILITY PLANNING
- LANDSCAPE ARCHITECTURE
- CIVIL ENGINEERING
- ARCHITECTURE

deployment pathway

READINESS IN ACTION





Urban Robotics Foundation

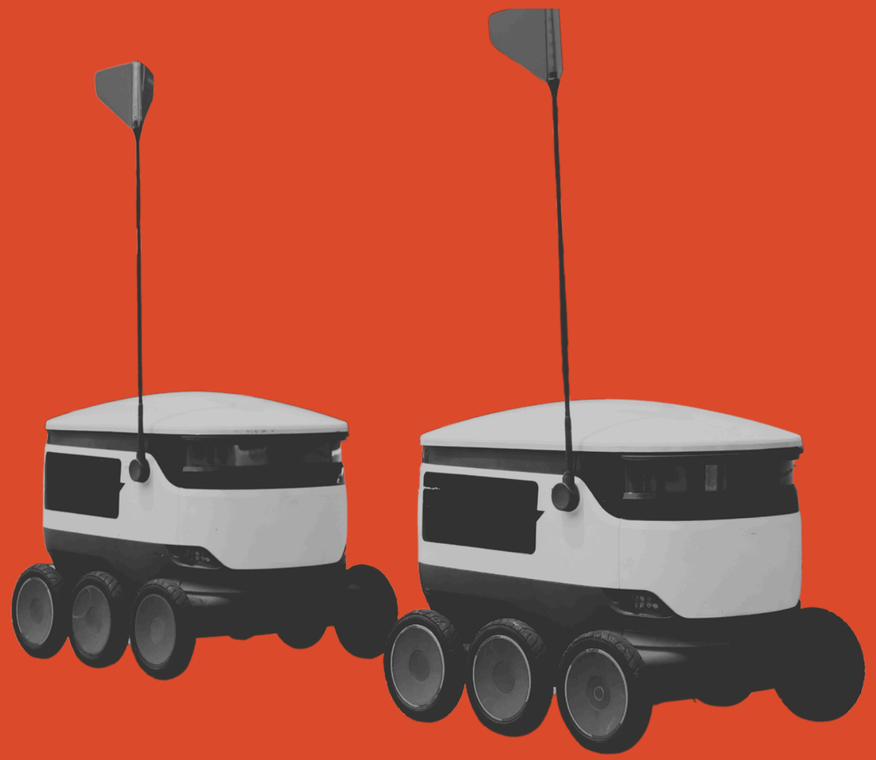
next steps

BUILDING READINESS

- **Consider participating in a Discovery Workshop - hosted by the Urban Robotics Foundation.**

- **Build your level of awareness - read about what other countries and communities are doing.**

- **How would you scope a potential PMR pilot? - build relationships with strategic partners, engage and build a program of discovery, together.**



thank you

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