The Mobility Revolution

Crown’s Work Assist Vehicle®, the Wave, is a revolutionary mobile productivity tool that enables one person to efficiently and safely do the work of two. It dramatically changes the way work is accomplished: eliminating time-consuming ups and downs, and minimising the risks of using rolling ladders. Plus, it provides the unmatched ability to elevate and travel simultaneously in one smooth motion.

Beyond easing work and boosting productivity, the Wave delivers significant savings opportunity through greater efficiency, task flexibility, improved safety and lower total costs.

It’s time to ride the Wave®.

Diverse Applications

The Wave is ideal for many applications from small parts picking to facilities maintenance.

It supports productive and safe work in busy, confined spaces where workers move short and long distances. It’s also proven in environments where small loads are handled in receiving, shipping and put-away, such as retail and manufacturing applications.

The Wave is an intuitive solution for almost any facility that currently uses ladders to access high places. With the Wave, users can avoid or eliminate the use of ladders for faster, safer and easier work practices.

Productivity
Quickly cover distance at 8 km/h with the fastest vehicle of its kind, navigate narrow aisles and access items at height.

Safety
The Wave’s four-point system enhances workplace well-being by reducing the risk of injury and accidents associated with everyday tasks such as lifting, climbing and carrying.

Flexibility
Take advantage of the Wave’s compact size, exceptional manoeuvrability and proven performance in countless applications.

Savings
Reduce labour, decrease effort, save time, lower costs and diminish exposure to injury by creating a safer and more efficient work environment.

Visit crown.com
See the WAV 60 Series
Productivity Achieved

The Wave, with AC motor technology and precise control, allows operators to accomplish more. A maximum travel speed of 8 km/h and operator reach height up to 5 metres can dramatically increase productivity.

The Wave also eliminates climbing and reduces heavy, awkward lifting while providing stable footing, reducing the risk of product damage. Plus, there's no need to move cumbersome ladders from place to place.

With the Wave, operators can easily move merchandise and materials, reach the required elevation, and complete the task at hand in less time than it may take to simply walk to the picking location.

Manoeuvre with Ease
With a small footprint and zero turning radius, the Wave can fit in smaller spaces. It easily navigates 80 cm doorways, manoeuvres around corners and traverses tight spaces, enabling you to make the most of your facility by storing more products in less space.

Simultaneous Travel and Lift
With productivity in mind, Crown designed the Wave to travel and lift simultaneously, so operators can move around a facility while raising or lowering to the appropriate heights in one smooth, seamless operation. The Wave reaches a maximum speed of 8 km/h and adjusts speed based on lift height.

Rail Guidance System
This optional infrastructure offers even more time- and cost-saving advantages by reducing required aisle width to 90 cm, allowing operators to travel and reach various heights at maximum speed. In fact, while using rail guidance, the Wave delivers the highest density picking application without automation.

e-GEN® Braking gives you an edge in performance, service and cost of ownership by eliminating traditional friction brakes, providing:
- Variable motor braking, specific to conditions
- Reduced maintenance (fewer parts and wear points)
- Automatic parking brake engagement
Enhanced Operator Control and Safety

Crown's Four-Point Safety System is designed to ensure safety for Wave operators and bystanders.

1. Interlocked Gates
   - Interlocked Gates must be closed to raise or lower the platform. Full speed travel requires gates to be open to allow an unobstructed exit in the event of an emergency. Travel speed is reduced when the gates are closed.

3. Hand Sensors
   - Hand Sensors ensure the operator has both hands on the controls for normal travel and lift functions. If either hand is removed, travel is automatically reduced to creep speed.

2. Safety Sensors Below the Platform
   - Safety Sensors Below the Platform disable raise, lower and travel if someone or something applies pressure to the motor cover located below the platform.

4. Dual Foot Pedals
   - Dual Foot Pedals include sensors to ensure the operator has both feet properly positioned on the platform. The Wave automatically stops travel and lift/lower functions if either foot is removed.

Safety with Every Turn

The Wave is a versatile and user-friendly vehicle, enabling operators to work with confidence. Its built-in system of protection and control starts the moment the operator turns the key switch. A security check verifies all safety devices are functioning properly before the vehicle will start up. It then coordinates functional displays, manages lift/lower operations, controls travel speeds, steering and braking, so the operator can focus on the task at hand.

Crown’s Access 1 2 3® Comprehensive System Control monitors and controls vehicle functions and provides the operator with feedback for safe, reliable performance.

- Intuitive Display
- Event Codes
- Prompting Operator Messages
- Fully Adjustable Performance Levels
- Advanced Diagnostics

Ergonomically Designed
The Wave is designed for smooth elevation and stable reach when lifting and placing loads, reducing operator fatigue.

Crown’s Four-Point Safety System
is designed to ensure safety for Wave operators and bystanders.
Application Flexibility

The Wave’s compact footprint, zero emissions and simple operation make it a perfect solution for work environments that require lifting or moving loads. In many applications, the Wave can operate for days without recharging. When recharging is needed, the Wave simply plugs into any standard power outlet.

Serious Capacity

The Wave’s load tray supports up to 90 kg, while the load deck holds up to 115 kg, going far beyond what workers can safely lift and move using ladders.

Retail Distribution/Small Parts Picking

Manufacturing

Transportation

Food and Beverage

Maximum Utility

Powered load tray (optional) with infinitely variable position allows the operator to adjust the height of the tray, even while loaded, for flexibility with any load.

Five position manual load tray (standard) accommodates loads of varying shapes and sizes. The tray can also fold and stow away for larger loads needed on the load deck.

Facilities/Hospitality

Serious Capacity

The Wave’s load tray supports up to 90 kg, while the load deck holds up to 115 kg, going far beyond what workers can safely lift and move using ladders.
The Wave cuts labour in half for many routine activities by enabling a single employee to accomplish tasks that typically require two. Beyond tremendous efficiency gains, enhanced safety can lower costs associated with lost time and product damage. Consider this formula below for your operation:

<table>
<thead>
<tr>
<th>Labour is cut in half</th>
<th>A two-person task becomes a one-person task and a one-person task can be accomplished twice as fast.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost time expense reduction</td>
<td>Increased safety also reduces overtime or replacement labour to compensate for worker injury associated with falls from a ladder.</td>
</tr>
<tr>
<td>Product damage reduction</td>
<td>Safer product handling and lift assistance reduces risk of products dropping off a ladder.</td>
</tr>
</tbody>
</table>

OPERATIONAL COST SAVINGS

Using a traditional ladder can be cumbersome, time-consuming and dangerous for employees because it requires them to handle heavy loads at height.

Using the Crown Wave increases labour and time savings, while allowing operators to safely and efficiently move product or materials.

According to the European Statistics on Accidents at Work database (ESAW), approximately 145,000 injuries leading to four or more days of absence were due to falls from height.

“Carrying even light and manageable loads up or down ladders should be avoided wherever possible.”

Source: Eurostat – Causes and circumstances of accidents at work in the EU, 2009

The Wave Saves in So Many Ways

It only took a few hours of use by employees at a True Value Hardware Cooperative for co-owner Rob Kuenning to say, “We have to have one.” Today, multiple Wave units are used in two company locations, the largest of which is a 3,700 m² retail space.

Prior to using the Wave, employees there depended solely on ladders to handle stock above floor level. Even after 15 years of use, they are finding new ways to use the Wave and are still seeing noticeable improvements in efficiency and safety.

“Our Waves are used constantly, multiple times a day by many of our employees,” Rob said. “They can handle large loads once instead of moving up and down a ladder multiple times, and they enjoy maximum visibility and ease of use.”

They also haven’t experienced any injuries from transporting and retrieving items at height since the first Wave was deployed.

“Safety is at the forefront of our operation and the Wave helps us maintain this focus,” Rob explained. “There is nothing we cannot do with the Wave in our facility. I would definitely recommend it to others. I cannot imagine doing business without it.”

More Uptime for Your Investment

Crown’s integrated approach combines truck feedback and diagnostics, Crown-made parts and dedicated service teams to give you more uptime and the lowest total cost of ownership.

Change the Way You Work with the Wave.