

How to understand mobile robots in the age of Industry 4.0?

As automation becomes the new norm for manufacturing and warehousing operations in the Industry 4.0 era, the options to help you achieve it are rapidly evolving. Technologies such as unmanned forklifts, collaborative robotic arms, improved sorting / collection, and smart conveyors are advancing as costs continue to decline; making these options more accessible for businesses of all sizes.

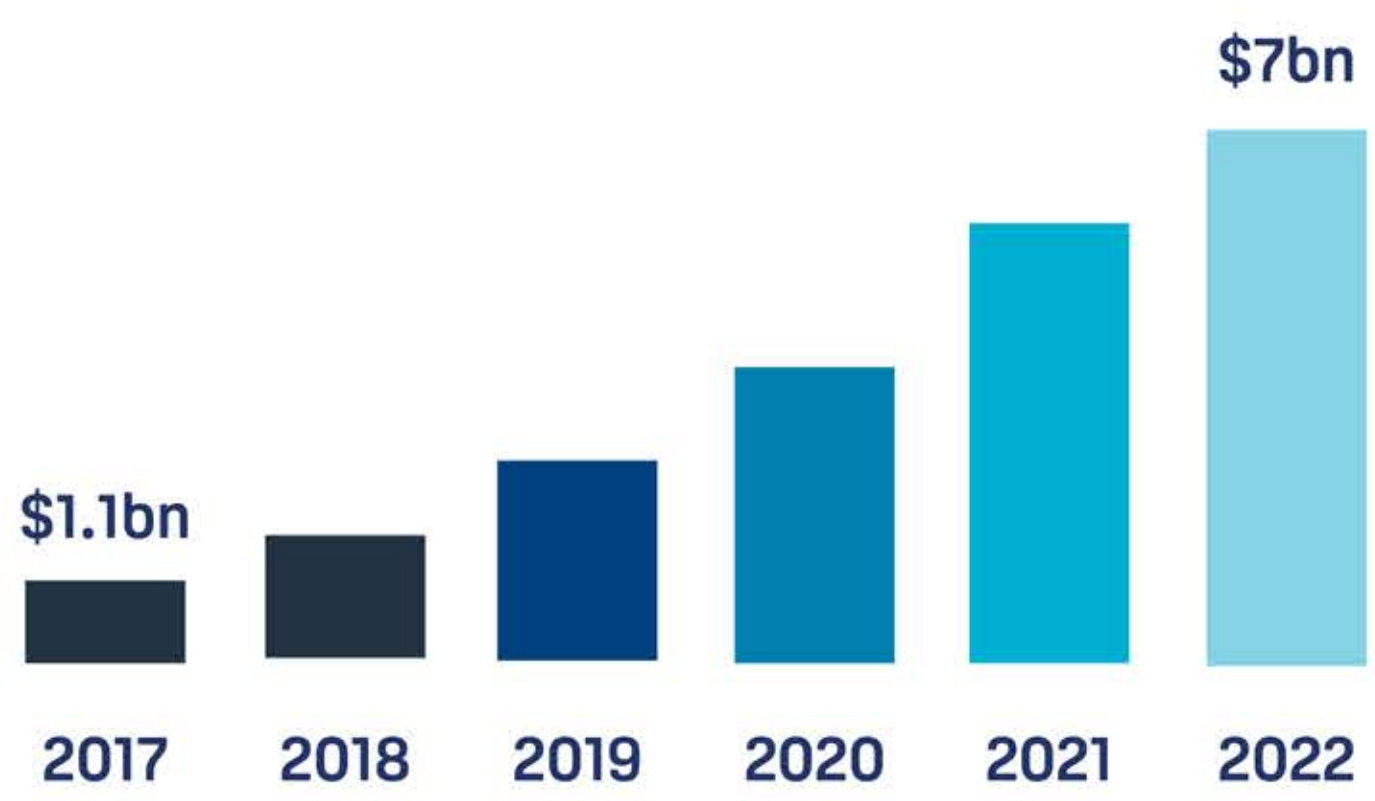
One such advancement that has attracted a lot of attention in recent years has been the advent of autonomous mobile robots (AMRs) as smarter and more flexible alternatives to automated guided vehicles (AGVs) for a wide variety of material handling activities. If you are considering these options to optimize your operations, understanding the difference between these two automation alternatives will help you:

	AGVs - Automated Guided Vehicles	AMRs - Autonomous Mobile Robots
<p>Navigation</p>	AGVs are guided by magnetic strips or cables installed on or under the floor.	AMRs create and save a map of the facility and use it to dynamically calculate the best route from A to B at any given time.
<p>Deployment</p>	AGVs require the installation of navigation guides, which sometimes requires a substantial renovation of the facilities.	AMRs require minimal or no facility changes for MiR AMRs, which can be unpacked and deployed in minutes.
<p>Flexibility</p>	Changing AGVs operational patterns or workflow requires repeating the deployment process.	AMRs dynamically plan the shortest path from A to B, and if the workflow changes from A to C, operational patterns can change with a click of the mouse.
<p>Responsiveness</p>	AGVs are unable to adapt to changes in the environment or obstacles that stand in their way.	AMRs will automatically detect and avoid obstacles and blocked paths to find the best route to your next objective.
<p>Accessibility</p>	AGVs generally require experts to configure or reconfigure the system.	Workers can set up and configure MiR AMRs for material handling with no experience required.

Automation solutions help respond to any problem that arises, now and in the future.

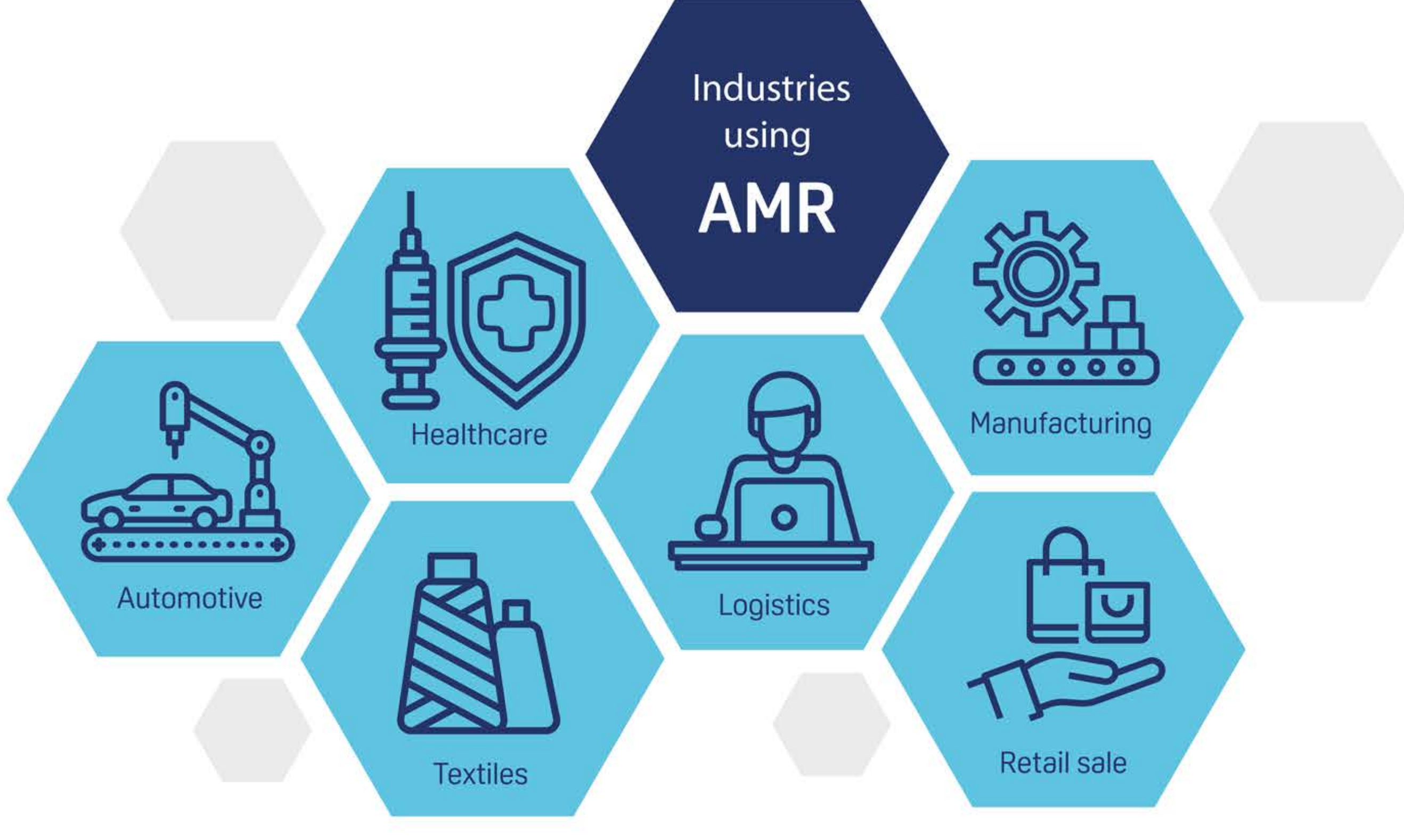
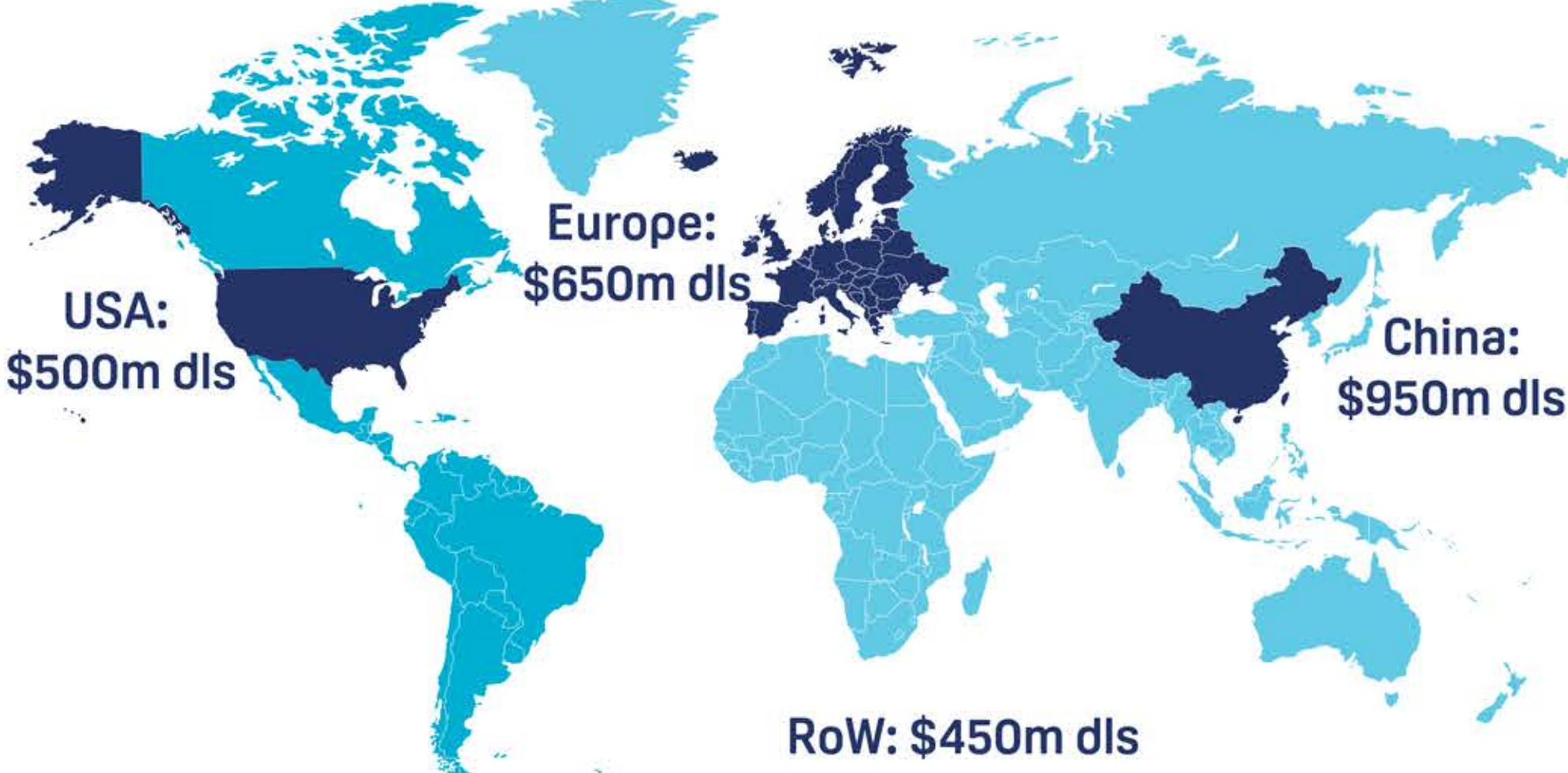
<p>Increased Productivity</p>	<p>Ensuring Health and Safety</p>	<p>Deliver Strong ROI</p>
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Global Mobile Robot Market in 2022



The mobile robot market will hit nearly **\$1 billion** by 2022<sup>1</sup>

**China and the US** will drive growth in the short term <sup>2</sup>



**Useful but limited: AGV**

If your company rarely changes, in terms of products produced, operational workflow or in its workforce, then an AGV may be a good option.

**Advanced, flexible, accessible: AMR**

AMRs are collaborative and flexible to keep up with future opportunities in manufacturing and warehousing operations.

Flexibility, advanced navigation, and ease of deployment make AMRs the perfect solution to start automating your dynamic operations and empowering your valuable workforce on the job today.

About Mobile Industrial Robots: Mobile Industrial Robots (MiR) develops and markets the industry's most advanced line of autonomous, collaborative and secure mobile robots (AMR) that manage internal logistics quickly, easily and profitably, freeing up employees for higher value activities. Hundreds of manufacturers and logistics centers from medium to large multinationals, together with several hospitals around the world, have installed the innovative MiR robots. As a global market leader, MiR has a global distribution network in more than 60 countries, with regional offices in New York, San Diego, Singapore, Frankfurt, Barcelona, Tokyo and Shanghai. MiR has grown rapidly since its founding in 2013, with a sales increase of 1,246% between 2015 and 2020. Founded by experienced professionals from the Danish robotics industry, MiR is based in Odense, Denmark, and was acquired in 2018 by Teradyne, the leading provider of automated test equipment.

For more information visit: [www.hteautomation.com](http://www.hteautomation.com)

<sup>1,2</sup>The Mobile Robot Market – 2020\_Market Study Interact Analysis