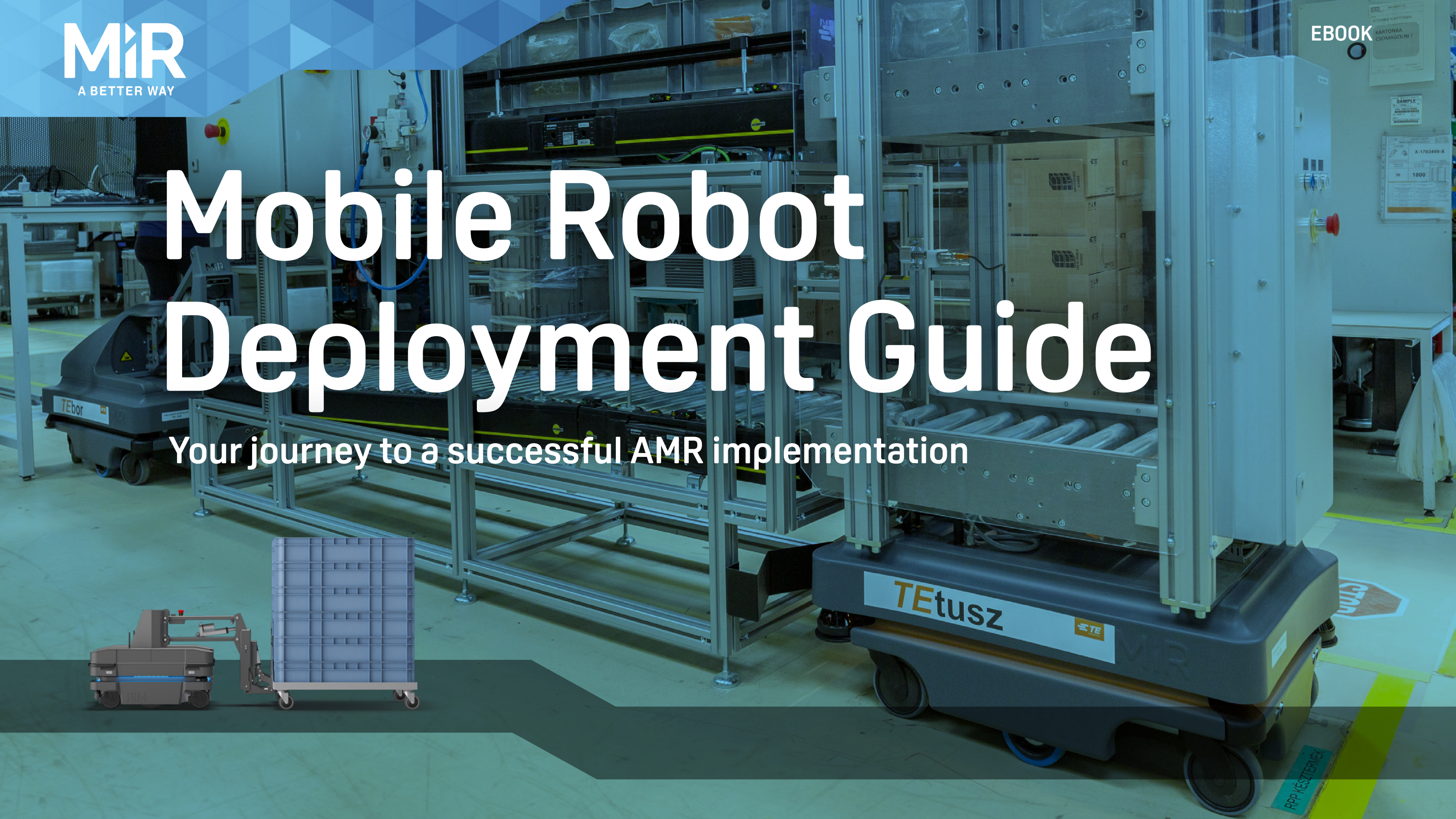# Mobile Robot Deployment Guide

Your journey to a successful AMR implementation

A successful journey begins with an expert plan

Traditional deployments of industrial robots and automated guided vehicles (AGVs) require large investments, teams of engineers and programming specialists, and can take months before they're online and working for you. In contrast, you can reach your destination quickly and painlessly with collaborative autonomous mobile robots (AMRs).

Flexible, scalable AMRs can be used in almost any industry and for a wide range of workflows. They're less expensive and typically easier to deploy than traditional automation, and can work safely alongside employees. Mobile robots take over repetitive, hard-to-staff, and unergonomic tasks, and run dependably around the clock, day after day. That frees high-value human workers for roles that require their unique capabilities.

A path to AMR deployment

As with any major undertaking, a well-planned, step-by-step approach makes it much more likely you'll reach your desired destination quickly and painlessly. In this guide, we'll help you feel confident in each stage before proceeding to the next.
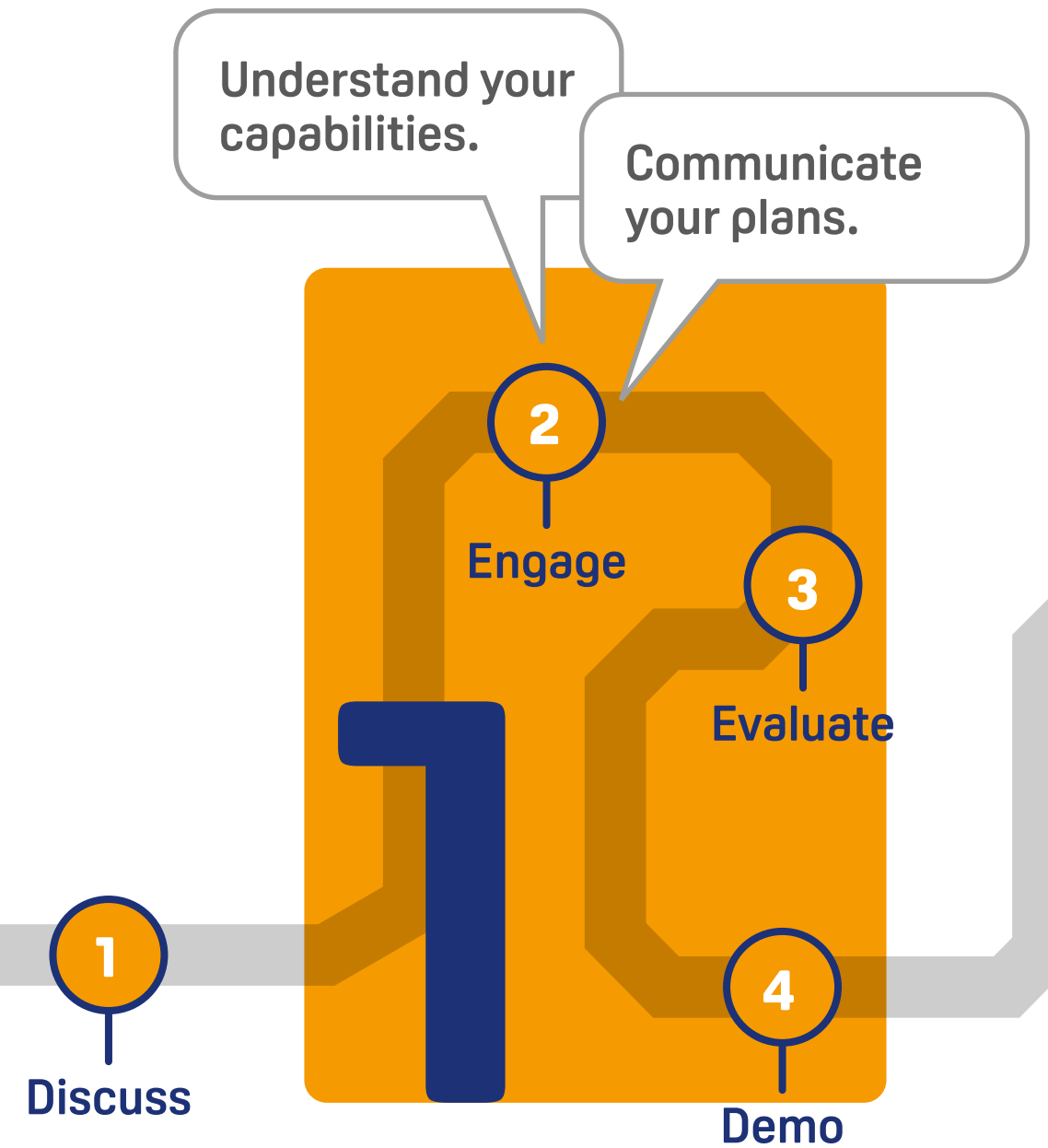
1 Prepare

2 Deploy

3 Expand

Stage 1:
Prepare

1 Discuss

☑ Internal discussions about how to improve workflows, build competitive advantage, and address business challenges are often what sets you on your automation journey. Few other business initiatives have the opportunity for the same level of significant, fast return. But there are also pitfalls, so the first step to success is to commit and engage in the process.

2 Engage in the process

☑ **Understand your capabilities.** Organizations have different levels of internal expertise and resources to handle automation projects, and it's important to be realistic. Know when to reach out for help from an experienced system integrator or automation partner.

☑ **Communicate your plans.** Successful robot deployment depends on how your plan is received by the people working with it. Share your automation strategy with employees and include them in the process as much as possible so they feel as invested in its success as you do.

Understand your capabilities.

Communicate your plans.

2 Engage

3 Evaluate

1 Discuss

4 Demo

MiRGo ecosystem →

Discover an array of mobile robot equipment that can add functionality to your AMR in the world's largest ecosystem for AMR's: MiRGo

3 Conduct a site evaluation

☑ One of the greatest advantages of AMRs is their ability to adapt to almost any environment, but you'll need to conduct a detailed evaluation of your site before you get started. This will help you optimize your robot deployment for your specific requirements—and avoid unwelcome surprises.

Environment	Connectivity	Operations	Equipment

☑ **Floor Layout**
Traffic
Routes

Evaluate the environment where the robots will travel, including traffic areas where the robot will interact with people or other equipment, and plan appropriate routes.

☑ **Wi-Fi Coverage**
ERP/WMS/MES
Protocols

Include your IT department in your plans to ensure appropriate Wi-Fi coverage and for secure, efficient integration into corporate systems such as enterprise resource planning (ERP), warehouse management systems (WMS), and manufacturing execution systems (MES).

☑ **Cycle Times**
Distances
Personnel Training

Decide what kind of implementation is right for you: simple "bus routes," employee call buttons, or full integration and automatic pick-up and delivery. Consider cycle times and travel distances, as well as employee training needs.

☑ **Type**
Weight
Integration

Research your top module options and configure your robot to match your application. MiR offers highly configurable AMRs as well as full robotic solutions, and top modules are available for a wide range of material sizes and weights and for integration with other equipment such as conveyors.

What to Consider When You're Ready to Automate Internal Logistics

The questions to ask to get the best autonomous mobile robot (AMR) for your specific needs

Learn more... →

Get our ebook What to Consider When You're Ready to Automate Internal Logistics

4 Schedule a mobile robot demo

Congratulations! With planning from your internal teams—and possibly an outside expert to guide you—you've started out on the right foot. Now you're ready for the most exciting part of your automation journey: bringing a robot on-site.

A mobile robot demo in your facility will show you how quickly and easily you can proceed with your plans, and will help drive interest and excitement among employees. It will also help clarify any additional considerations and may open up new opportunities where you can gain new benefits from automation.
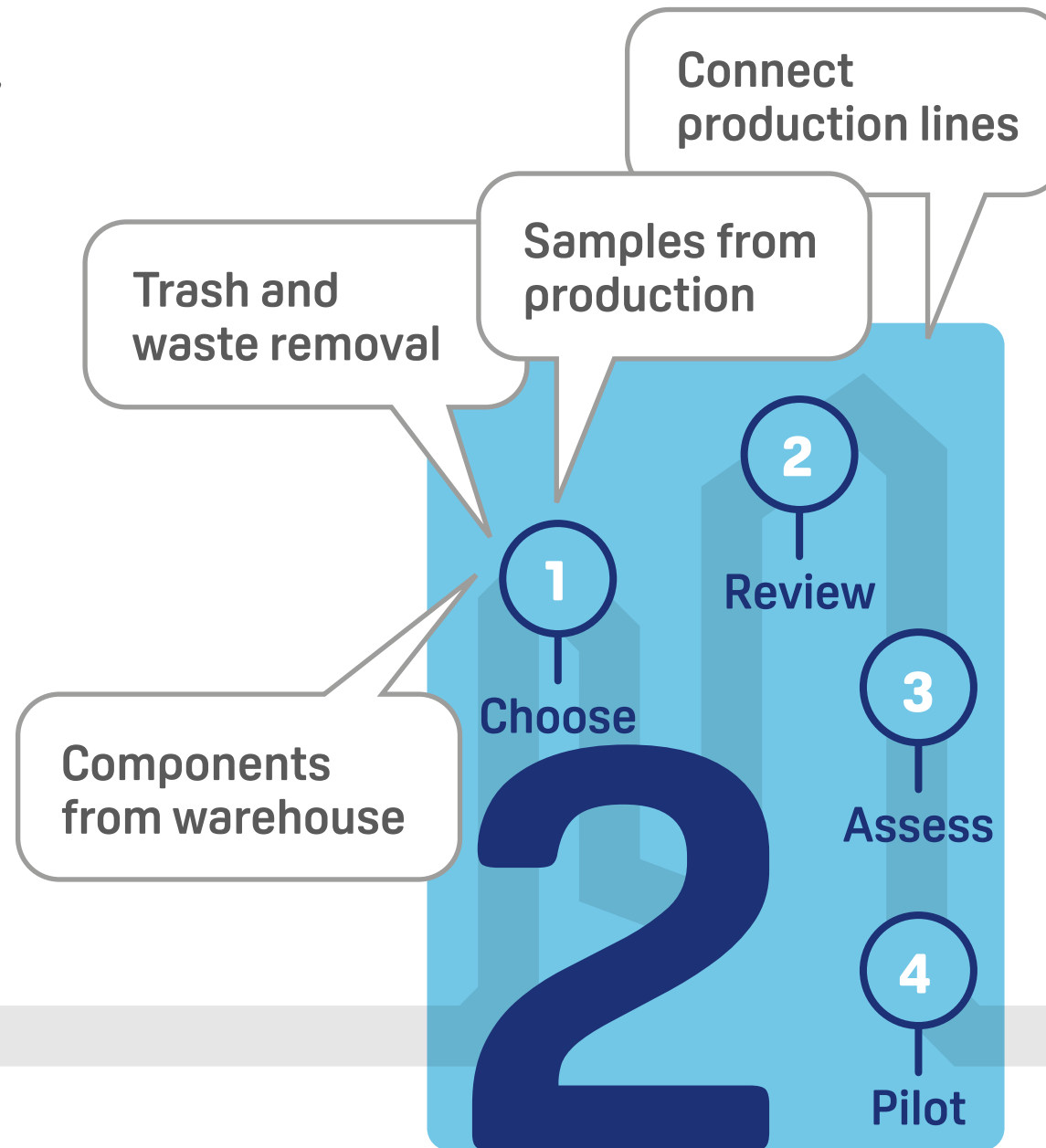
Schedule your demo →

Stage 2:
Deploy

A good approach for automation is to think big but start small. That's especially true if this is your first AMR deployment. Complexity increases as you add robots, from fleet management software and integrations to traffic considerations and space for robots when they're charging or waiting for missions. Keep your ultimate automation destination in mind, but consider starting with an easy-to-deploy high-return application to get your bearings.

Even if you're starting with a low-risk first application, make sure everyone keeps the final goal in mind. You want to be confident that you can successfully expand when you're ready,

Connect production lines

Samples from production

Trash and waste removal

Components from warehouse

1 Choose

2 Review

3 Assess

4 Pilot

2

1 Choose your ideal first AMR application

☑ **Transport components** between warehouse and production with simple missions that optimizes productivity.

☑ **Trash and waste removal** keeps production floor clear and safe and improves overall efficiencies.

☑ **Regular collection of samples from production lines** to quality control analysis catches manufacturing issues early and reduces waste.

☑ **Connect production lines** transports to components or semi-finished goods efficiently.

1 2 3

2 Review the details of your application

☑ On any successful journey, checking your bearings can keep you on track and help you avoid obstacles or costly detours. But you don't have to do it alone. Your local MiR Certified System Integrator is a great resource, and MiR's expert application team can provide guidance for your AMR design and implementation to make sure your project gets off to a good start. Make sure you consider these key areas for review:

A Project specs

- Project timeline to align resources
- Calculation of robot number and types
- Routes and purposes (bus route, call buttons, or automated)

B Facility layout

- Distances and parts per hour
- Preferred paths
- Aisle widths for bi-directional traffic

C Fleet integration

- Wi-Fi coverage heatmap
- Server requirements
- Connection to other systems
- Remote access

D Service plans

- Service contract
- Service after commissioning
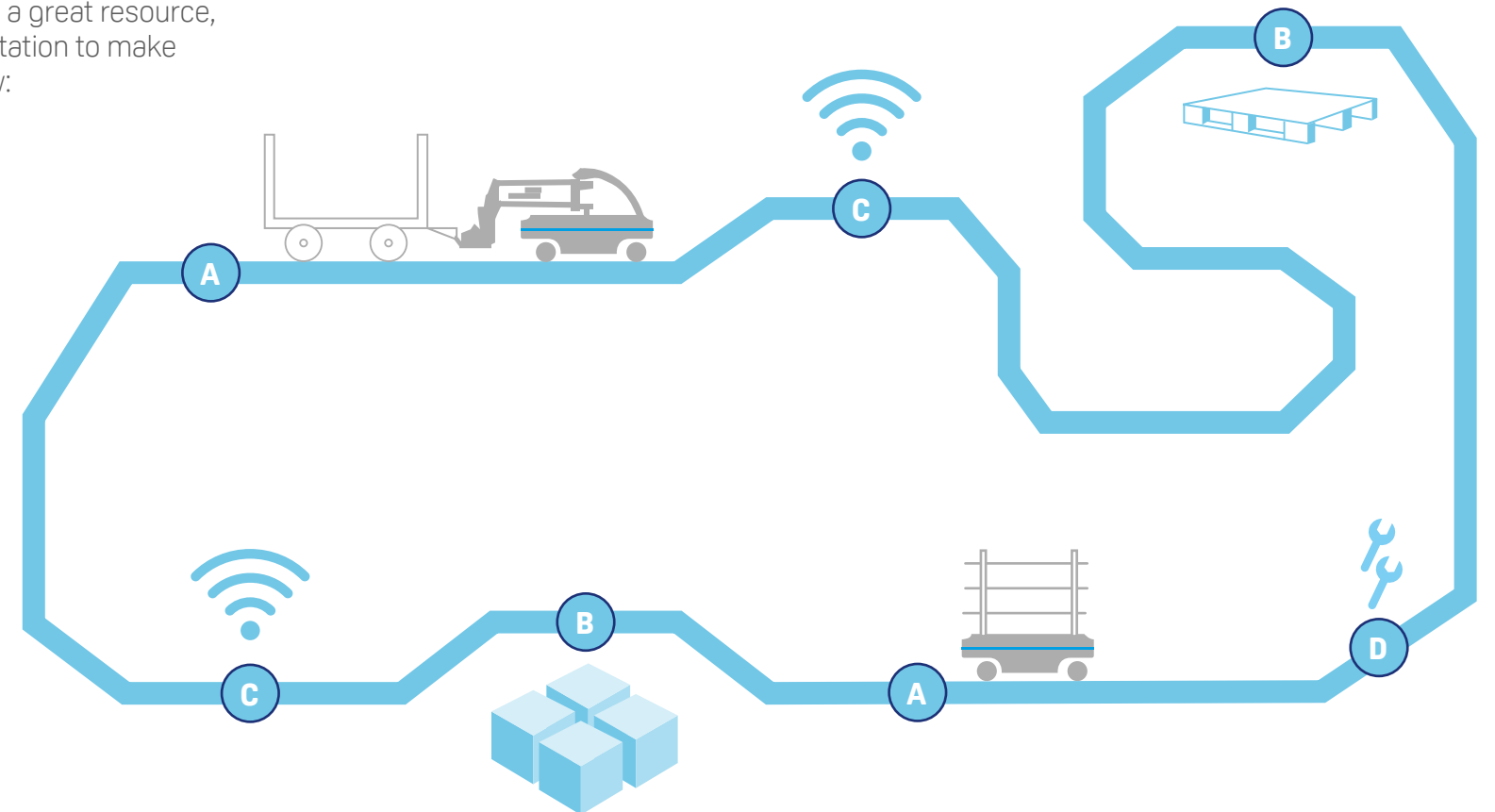
Get a free design review from MiR's application team →

3 **Conduct a risk assessment**

✔ For any mobile robot deployment, you'll need to conduct a risk assessment to ensure employee safety. While the robot manufacturer is responsible for delivering an AMR that meets safety standards, integrators and end users must also follow appropriate safety directives, international standards, and best practices.

Safety

MiR robots are designed to comply to relevant safety standards and they have built-in safety features including laser scanners, 3D cameras, and advanced software to ensure safe daily operation in industrial environments. MiR also provides materials to support customers and certified partners for a safe AMR installation.

Learn more about AMR safety →

4 Pilot program provides confidence

✅ AMRs' user-friendly interface and intelligent sensors and software mean your team can quickly create maps and simple missions on your own. But the scalability and opportunities with AMRs quickly become apparent, and that can lead you off the beaten path. As your goals and expectations expand, complexity can also rise.

✅ Starting with a pilot program that you can use as a proof-of-concept is a great way to learn and grow your automation plans successfully. AMRs are still a relatively new technology, so it often makes sense to team up with an experienced partner, even if you have in-house automation capabilities.

✅ MiR has a global network of Certified System Integrators to help with simple through highly complex integrations, as well as ongoing service and support.

Advantages of a Certified System Integrator

- Comprehensive front-end evaluation

- Project management for full turnkey solutions

- Expert training for users and operators

- On-call support and dependable service

- Regular preventative maintenance

Find a local MiR partner →

Stage 3:
Expand

Once you have a successful proof-of-concept under your belt, you're ready to expand to meet your growing business needs. Upskilling your workforce is a key part of your success, and innovative, user-friendly AMRs are a great way to boost your employer brand and attract and retain workers. This step helps your employees build valuable new skills as they're relieved from repetitive, unergonomic, and undesirable material transport tasks.

The go-to person

Education and training

2 Scale

1 Upskill

3
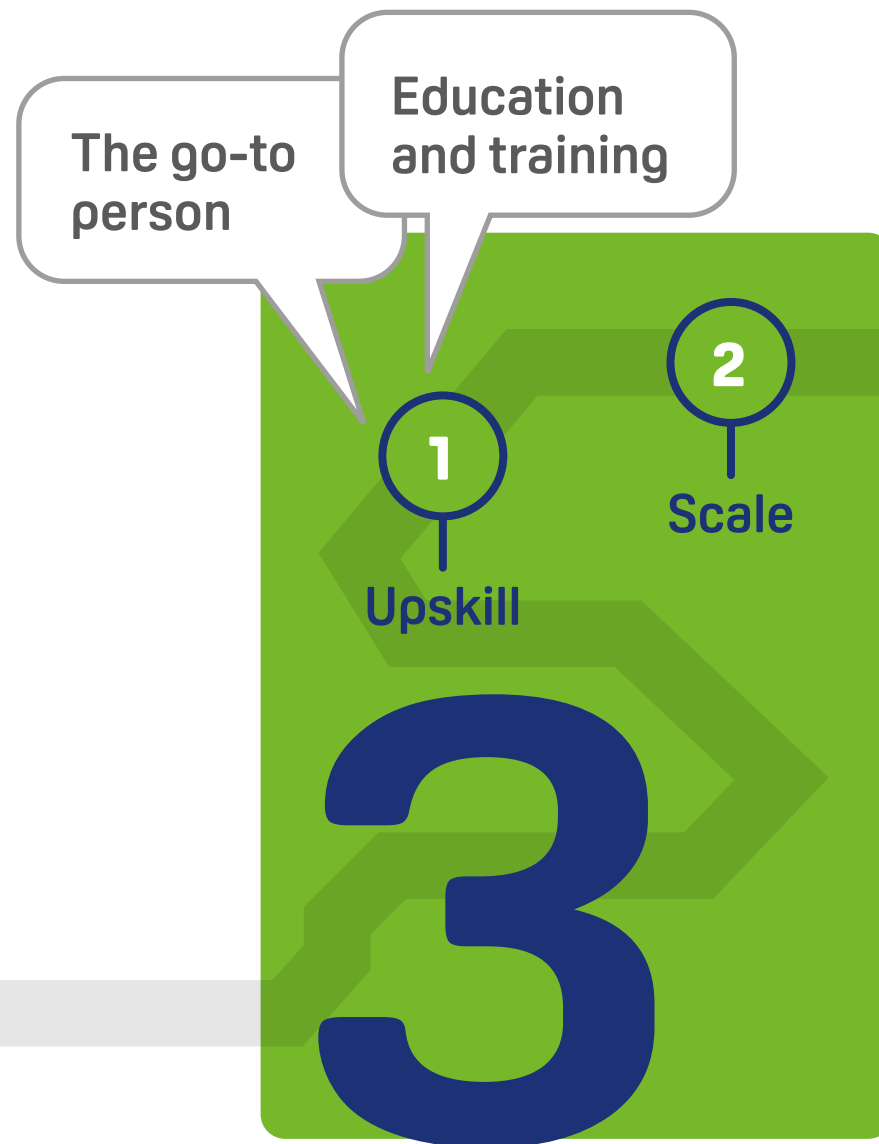
1 Upskill your workforce

☑ Choose a user-friendly AMR that is easy to teach via smartphone or tablet, giving employees confidence and a sense of ownership for the new robots.

☑ Let employees compete to become the AMR champion—the go-to person for robot questions and new opportunities.

☑ Choose an AMR manufacturer that provides education and training resources to upskill employees to cobot operators.

1 2 3

**MiR Academy provides free online training at multiple levels** →

Think big
and scale your application

Once you get started on your AMR journey, you'll see new opportunities for automating material transport throughout your facility. Working with the right partner, launching a successful pilot program, and getting your employees on board is just the beginning.

Talk to us about how to scale the benefits of automated material transport with a fleet of MiR AMRs. We offer a full range of options for footprint, payload, integrated top modules, and more.

We'll get you on the path to success.
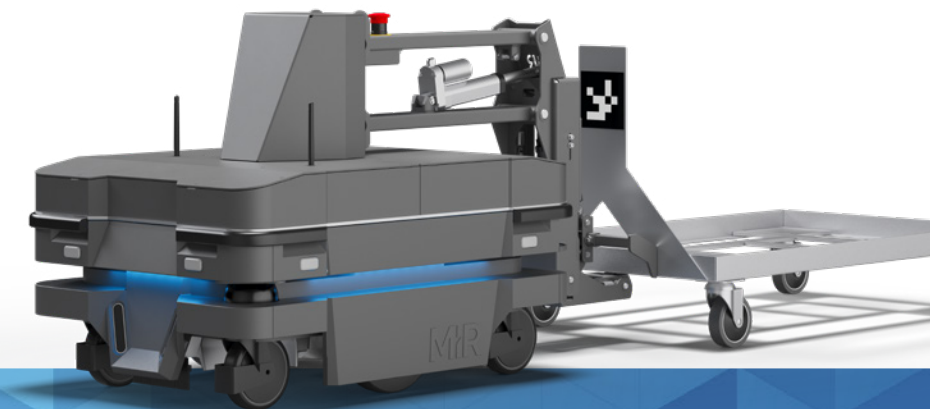
Mobile Industrial Robots A/S
Emil Neckelmanns Vej 15F
5220 Odense SØ
Denmark

+45 20 377 577
mail@mir-robots.com

Follow us:

mir-robots.com