



# Plan your way to RTG automation.

Kalmar AutoRTG System.  
Your foundation for the future, today.



**KALMAR**

# Start your automation journey today.

Starting your automation journey today will bring significant benefits to your business in the future no matter what sort of terminal you operate. With a Kalmar AutoRTG System, you can choose to invest in new AutoRTGs or upgrade your existing RTG fleet, either way, you will be able to reap the rewards of the choices you make today, for many years to come.

With a Kalmar AutoRTG System at the heart of your terminal you can expect greater operational efficiencies, a safer workplace and better predictability in your day to day operations. You just need to start by choosing the level of automation that is right for your business.

#### The choice is yours.

Kalmar AutoRTG System allows you to choose what level of automation will be right for your business today.

You may decide to start your automation journey by simply having your AutoRTGs operated remotely from your control centre, or have some moves automated with the operator overseeing them.

You can choose to start your automation journey by fully automating hoist, trolley and gantry moves with the operator only controlling truck handling.

Whatever level of automation you decide to start your journey on, with Kalmar AutoRTG System you can be assured that once you decide to raise your level of automation, you will already have the right platform in place to do so.

#### In safe hands.

With over 25 years of delivering automation projects globally, Kalmar has the knowledge and experience to help your terminal get the most out of your AutoRTG System from day one.

Plus if you have the Navis N4 TOS then the Kalmar TLS comes pre-integrated and pre-tested, which can make the transition to an automated system even more seamless. Kalmar can even work with you to integrate any TOS system with the Kalmar TLS to help shorten implementation time and to minimise disruptions to your existing operations.

## Greater efficiencies.

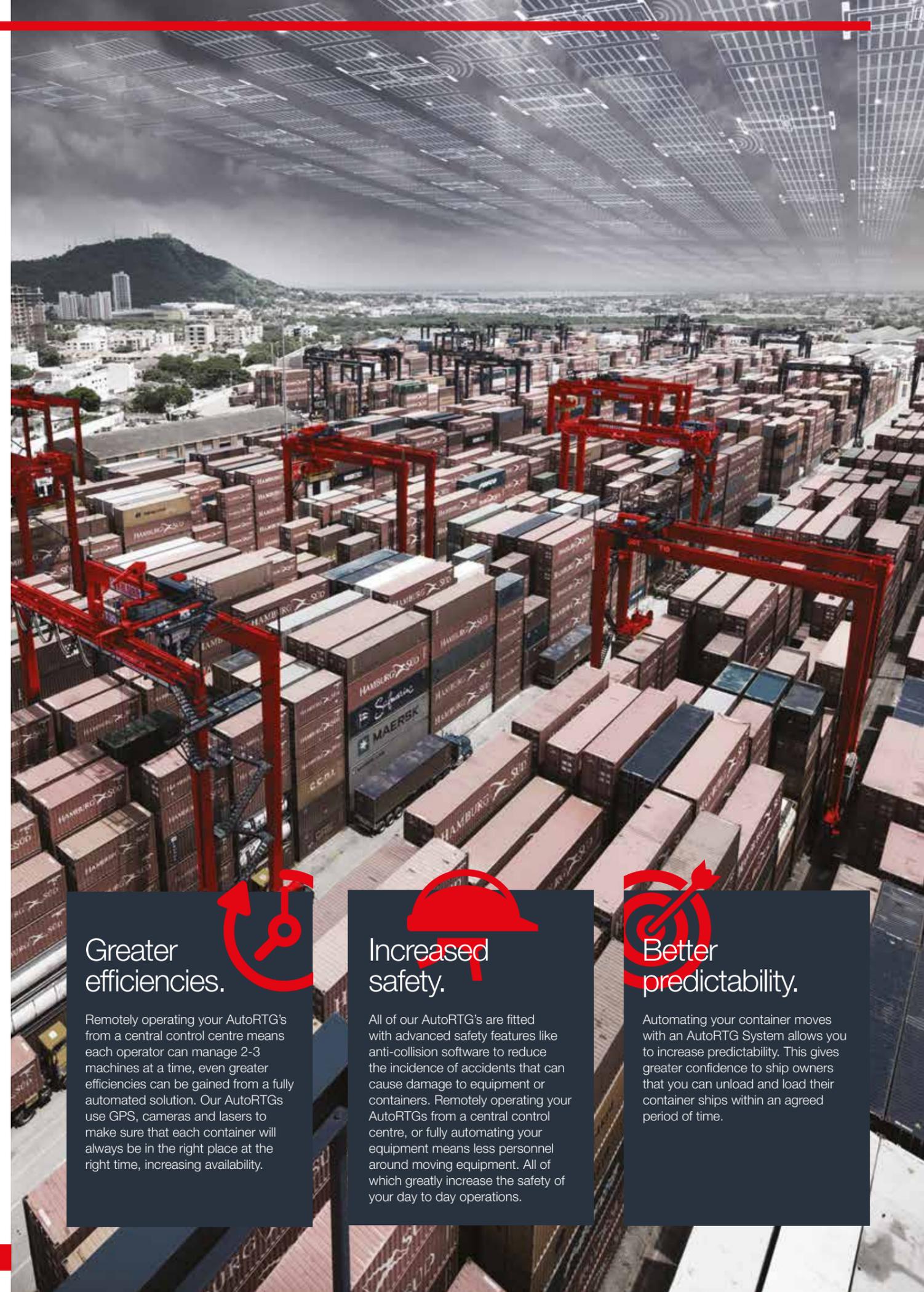
Remotely operating your AutoRTG's from a central control centre means each operator can manage 2-3 machines at a time, even greater efficiencies can be gained from a fully automated solution. Our AutoRTGs use GPS, cameras and lasers to make sure that each container will always be in the right place at the right time, increasing availability.

## Increased safety.

All of our AutoRTG's are fitted with advanced safety features like anti-collision software to reduce the incidence of accidents that can cause damage to equipment or containers. Remotely operating your AutoRTGs from a central control centre, or fully automating your equipment means less personnel around moving equipment. All of which greatly increase the safety of your day to day operations.

## Better predictability.

Automating your container moves with an AutoRTG System allows you to increase predictability. This gives greater confidence to ship owners that you can unload and load their container ships within an agreed period of time.





# Choosing the right level of automation for you.

Once the Kalmar TLS has been fully integrated with your TOS you have an automation platform ready for future automation upgrades. You choose your own starting point on your automation journey and you can decide to step up your level of automation with the same system in place. Here are the different levels of automation that you can choose from.

## One system for any level of automation.

At the heart of Kalmar's automated systems is our Terminal Logistics System (TLS), which operates as your equipment control system across all of your equipment, no matter what level of automation you choose to start with. The TLS schedules, dispatches and executes orders it receives from your TOS to make sure that your equipment is doing exactly what it needs to, when it needs to, to make sure everything is running at its optimal best.

The Kalmar TLS comes pre-integrated with all Kalmar equipment and recent versions of Navis N4 TOS. It can also work with any brand of equipment and be integrated with any type of TOS system.

### The benefits of pre-integration.

Off site testing and integration of the Kalmar TLS and your current TOS will mean less time spent on site during the installation phase, which means you can realise your investment sooner. It is even quicker and easier if you are using the Navis N4 TOS as this is integrated with the Kalmar TLS.

Kalmar can create a virtual simulation of your terminal at our Technology and Competence Centre, completely emulating your new terminal operational structure to make sure that the on-site installation proceeds as seamlessly as possible and you are fully operational from day one.

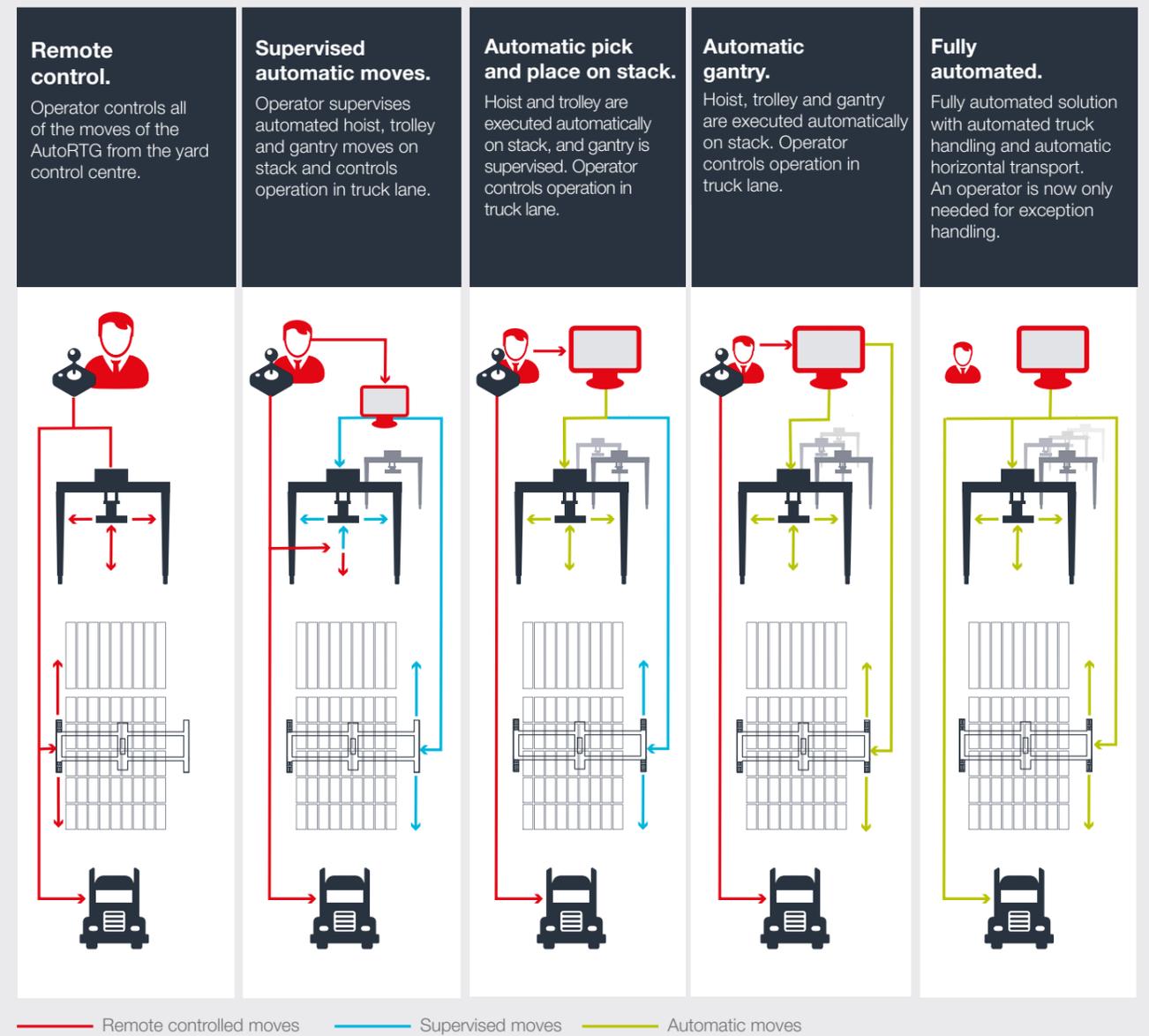
### By your side every step of the way.

Our job doesn't stop at the end of the installation phase. We will be by your side every step of the way; with one team looking after the entire automation process. And with continuous software support, as well as Kalmar Care, we will keep your operations running at their optimal best.

### Making sure that your business never stops.

With years of knowledge and experience, Kalmar can help you optimise the value of your automated equipment and software over their lifetime through on-going software support and maintenance as well as Kalmar Care.

Kalmar Care has a range of service and maintenance contracts for you to choose from. We offer four different types of contracts, which are designed to help you improve your operational efficiency and productivity. You just need to choose which one is right for you and your day-to-day operations.



# Good planning - the key to automation success.

With 25 years of experience, the Kalmar team knows just how important good planning will be for the success of your automation project. That is why we will be at your side, advising and supporting you every step of the way. Here are some of the things that you need to think about before you begin:

## Identifying the right time to automate.

Some times are just better than others. When you need to expand, replace or upgrade equipment of get higher capacity within an existing terminal space.



## Identify the right level of automation.

Integrating the Kalmar TLS with your TOS will give you an automation platform for the future, but at what level of automation will be best for you to start at?



## Leveraging the right experience.

Kalmar can offer you the right support at any stage of your automation journey, the earlier you get us involved, the earlier you can benefit from our knowledge and experience.

## Upgrade or invest in new equipment

How much life is in your current RTG fleet? Will it be more cost effective to upgrade or replace equipment?



## Assign a dedicated team.

Consistency and accumulated knowledge of a dedicated team will be crucial to a successful project.

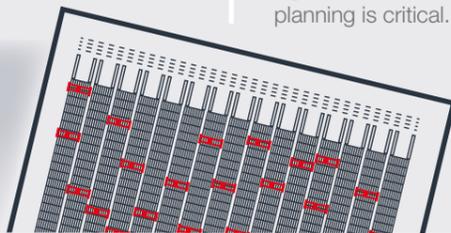


## People and change management.

Automation at any level will mean significant differences to your manual operations. Developing a full business, operations, human resources and change management plan will significantly help bring everyone along on the journey.

## Scope out your project.

A detailed project plan must be created that is fully scoped out and involves all parties that will be involved in the project.



## Careful transition planning.

No matter what level of automation you choose to start with the changes to your current processes will be significant, so careful transition planning is critical.

## Pre-integration and testing.

Building into your project plan the integration and testing of the Kalmar TLS with your TOS or pre-integration with the latest versions of the Navis N4 TOS; will mean a faster deployment on site, minimising operation disruptions and allowing you to realise your investment sooner.



## Kalmar OneTerminal.

Optimise your performance every day.

Kalmar OneTerminal provides an integrated automation solution, delivered by a single team, which brings together the Kalmar AutoRTG System with Kalmar TLS, Navis N4 TOS and Kalmar Lifetime Services for a seamless deployment of an automated terminal solution at the level of automation that is right for you.

It also ensures that all automation systems combine optimally, giving you the shortest possible time to realisation and providing outstanding efficiency from day one. Whether automating a greenfield or existing site, the Kalmar OneTerminal will help you to realise your investments faster and ensure that your terminal performance is optimised for both today and tomorrow. You can expect dedicated operational support, combined with Kalmar's superior service, throughout the lifespan of your terminal.

With one key contact, one core team, Kalmar OneTerminal makes automation accessible, mitigates the risks involved and enables you to realise the full potential of your terminal operations.

Visit our site to learn more:  
[www.kalmarglobal.com/oneterminal](http://www.kalmarglobal.com/oneterminal)



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