

# Kalmar ASC System.

Your foundation for  
the future, today.



# Ready to run, ready for the future.

The Kalmar ASC System delivers significant benefits for your business today, and will also help you prepare a complete end-to-end automation solution for the future.

**Increase your volume, save on space.**

The Kalmar ASC System is ideal for high-density sites, typically those above 1,000 TEU/ha. With Kalmar's unique pre-integration capabilities, you will be able to optimise both your space utilisation and container capacity from day one of operations at a greenfield site. It can also be introduced to existing terminals one stack at a time, so your day-to-day operations are not disrupted.

Kalmar cranes are built on the experience and knowledge we have acquired since launching the first ASC in 1990, for ECT Delta Terminal in Rotterdam, The Netherlands.

*"It is of utmost importance for us to have equipment and a terminal operating system that are fully integrated and make our operations as efficient as possible."*

ANDREW BOWEN  
ENGINEERING DIRECTOR  
DP WORLD, LONDON GATEWAY



# Building a fully automated solution.

## End-to-end efficiency.

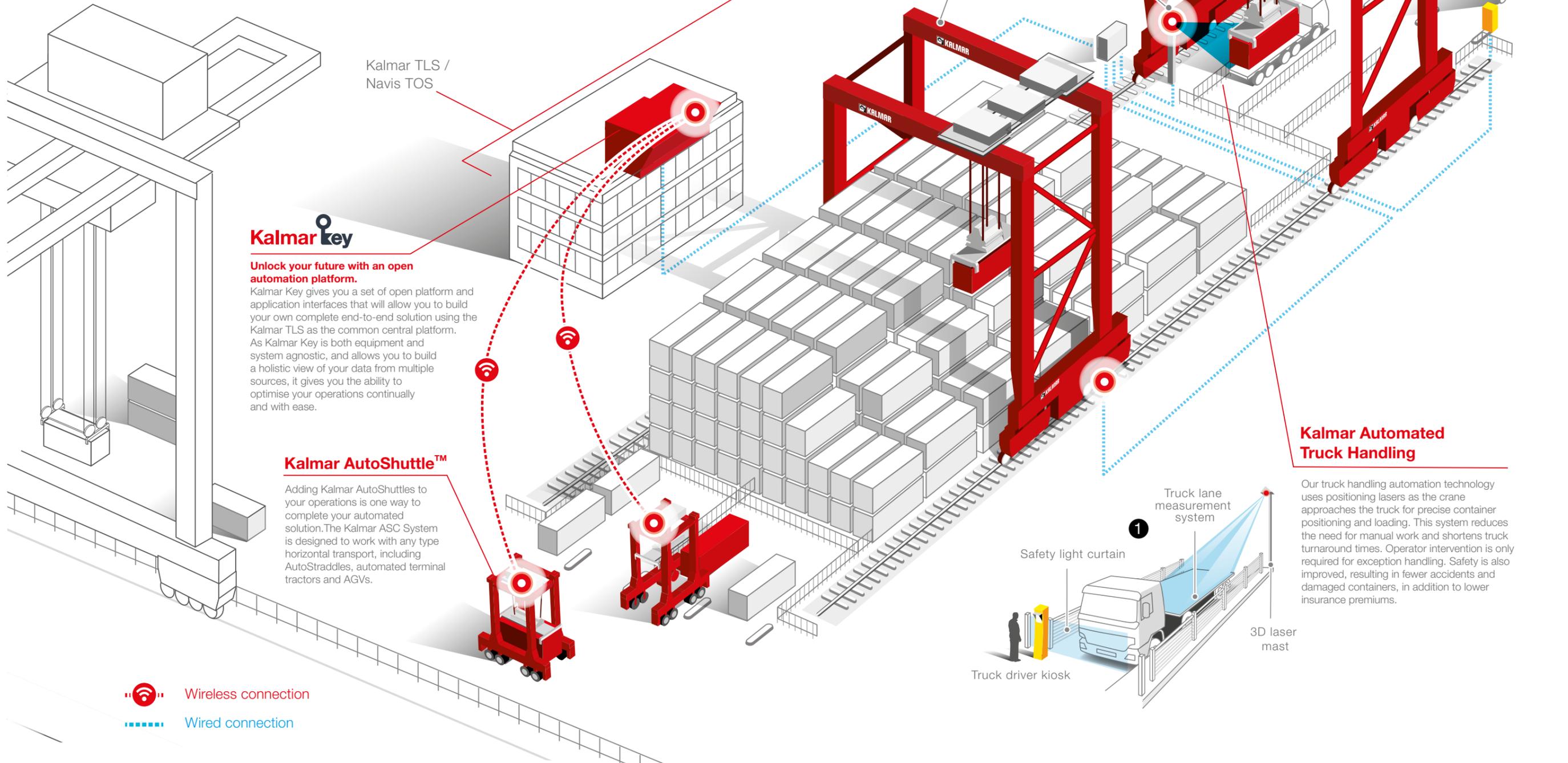
You can build a fully automated container terminal with the latest Kalmar ASC system at its heart. By adding Kalmar AutoShuttles™ to move containers between the quay and stacks, and Kalmar Automated Truck Handling System on the land side, you will have a complete automated solution that will operate in a safe and efficient manner.

## Pre-integrated for instant use.

The Kalmar Terminal Logistics System (TLS) is the most flexible equipment control system on the market, as it can be integrated with any type of terminal operating system (TOS). Our TLS ensures that your automated equipment and TOS work together optimally at all times. The TLS comes fully pre-integrated with the equipment and Navis N4 TOS, meaning that much less time is needed for on-site testing.

## Kalmar Insight

**Turn your data into actionable insights.**  
Data is by far the most valuable asset when it comes to optimising your operations. Kalmar Insight takes the vast quantities of data you produce from multiple sources and turns it into actionable insights. With a real-time overview of your terminal's productivity and performance, you can take instant action that delivers instant impact.



## Kalmar Key

### Unlock your future with an open automation platform.

Kalmar Key gives you a set of open platform and application interfaces that will allow you to build your own complete end-to-end solution using the Kalmar TLS as the common central platform. As Kalmar Key is both equipment and system agnostic, and allows you to build a holistic view of your data from multiple sources, it gives you the ability to optimise your operations continually and with ease.

## Kalmar AutoShuttle™

Adding Kalmar AutoShuttles to your operations is one way to complete your automated solution. The Kalmar ASC System is designed to work with any type of horizontal transport, including AutoStraddles, automated terminal tractors and AGVs.

## Kalmar Automated Truck Handling

Our truck handling automation technology uses positioning lasers as the crane approaches the truck for precise container positioning and loading. This system reduces the need for manual work and shortens truck turnaround times. Operator intervention is only required for exception handling. Safety is also improved, resulting in fewer accidents and damaged containers, in addition to lower insurance premiums.

 Wireless connection

 Wired connection

# Built with purpose.

Our Automated Stacking Cranes are purpose built from the ground up, with every detail designed to deliver an efficient and reliable crane that can operate 24/7. With an optimised lightweight frame, you can expect reduced operational and infrastructure costs without compromising on the crane's structural integrity.

## Lift with safety and precision.

The redesigned trolley with Max Stable stiff rope reeving maintains operational stiffness and, when combined with the Kalmar Advanced 3D Measurement System, they help to reduce load sway, resulting in quicker and more precise container movements. Since this system does not require a separate anti-sway system, it improves uptime through less need for maintaining and servicing additional ropes.

## Easy and safe access.

Kalmar ASCs are designed for ease of access, which is critical in operations that work 24/7. Their light weight frame has been designed to provide you with safe and easy access to all major components for servicing and maintenance, from the trolley to the E-House. Kalmar was the first in the industry to install non-slip gantry surfaces and access stairways on its cranes as standard.

The crane's transformer is separated from the E-House, which makes the E-House safer to maintain for service technicians, as high voltage lines are isolated in a separate area.

## Stable and smart operating system.

All of our ASCs are built to give you a more reliable, stable and productive system with fewer electrical components and cabling. Our ASCs are also fitted with state of the art inverters which are highly responsive and efficient. To further enhance the operating efficiency of the crane, kinetic energy is fed back into the grid during deceleration and each crane is fitted with hibernation modes, minimising energy consumption during idle times between jobs.



## Ready to run.

We know how important it is to you to be able to realise your investment as quickly as possible. Which is why Kalmar ASC System interfaces can be pre-integrated and tested in our unique facilities at our Technology and Competence Centre in Tampere, Finland. Working with you, we will make sure that the Kalmar TLS and your TOS are working optimally together and that the system is ready to run when delivered to your site.





# Kalmar OneTerminal.

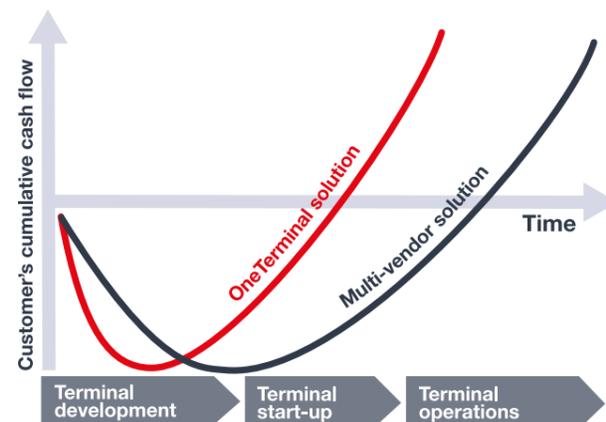
Optimise your performance every day.

Kalmar OneTerminal is an integrated automation solution delivered by a single team. It brings together the Kalmar TLS with the Navis N4 TOS as well as Kalmar support and services for a seamless deployment 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 reaching your best utilisation rate and providing outstanding efficiency from day one.

Whether automating a greenfield or existing site, Kalmar's 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 sooner.

## One integrated team.

There are clear and substantial benefits in having a single, accountable team from Kalmar and Navis deliver your automation project.



## Good planning, the key to any project's success.

With many years of valuable experience, the Kalmar team knows just how important good planning will be for the successful delivery and ongoing operations of your new Kalmar ASC System. 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.

Some times are just better than others. Do you need to upgrade your terminal infrastructure and cranes within your existing terminal, or expand into a new space?



### Defining the right specifications.

Kalmar will work with you to design an ASC terminal that will meet your current and future needs.



### Leveraging the right experience.

Having the right partners is essential. Kalmar's experience in automation reaches back for almost three decades. We can offer you the right kind of expertise from the design phase and ramping up operations, to complement your in-house know-how.



### Upgrade or invest in new equipment.

How much life is in your current equipment fleet? What current infrastructure needs to be changed or upgraded?



### Assign a dedicated team.

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

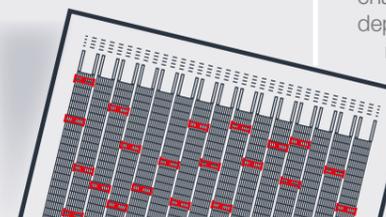


### People and change management.

Automation will mean major changes for your current operations, especially if you are moving to remote controlled or automated cranes. Developing a full business, operations, human resources and change management plan will significantly help in bringing everyone along on the journey.

### Scope out your project.

A detailed, fully scoped project plan is an essential requirement. The plan must include all parties involved in the project.



### Careful transition planning.

A new ASC System will mean significant changes to your operations. Planning for these changes will allow for a seamless deployment of your new equipment and processes.



### Integration and testing.

When deploying a Kalmar ASC System, it is essential to allow time in your project plan for integrating and testing of the equipment control system and your TOS by your own staff. Kalmar pre-integrated components and integration services ensure this phase of your project will be as smooth as possible.

# More support.

Our job doesn't stop once we deliver your new system. We also offer a range of support services that help keep your new ASC System and equipment running at its optimal best. With a global network of over 1,500 service and support staff in over 100 countries, we will always have someone nearby to give you the support you need.



Always someone nearby, with 1500 service and support professionals in over 100 countries.

## Kalmar Care.

### **Making sure your business never stops.**

Kalmar offers four different types of service and maintenance contracts, for any brand of equipment. Each is designed to help you improve your operational efficiency, drive productivity and secure financial predictability. Each contract type includes a set of standardised service modules that can be matched to meet your business needs. You just need to choose the one that is right for you and your day-to-day operations.

## Kalmar Genuine Parts.

### **When the right part matters.**

When something needs to be replaced urgently, you need a spare part that meets your exact needs – immediately. Kalmar offers a rapid delivery service for over 50,000 premium-quality genuine parts to anywhere in the world, with installation support if needed.

You may also want to consider outsourcing all or part of your parts management and inventory control. Kalmar Parts Care ensures you can do just that. Kalmar Parts Care can make sure that critical spare parts are always on hand so your equipment downtime is kept to a minimum. Each Kalmar Parts Care plan is based on your individual needs, so talk to us today and see how we can improve your parts availability, while reducing your inventory holding costs.

## Open 24/7.

Kalmar MyParts allows you to order genuine Kalmar parts on-line 24/7. You can also access information on your Kalmar equipment to ensure that you ordering exactly the right part. Contact your local sales support to register for Kalmar MyParts.





# KALMAR

Making your every move count

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