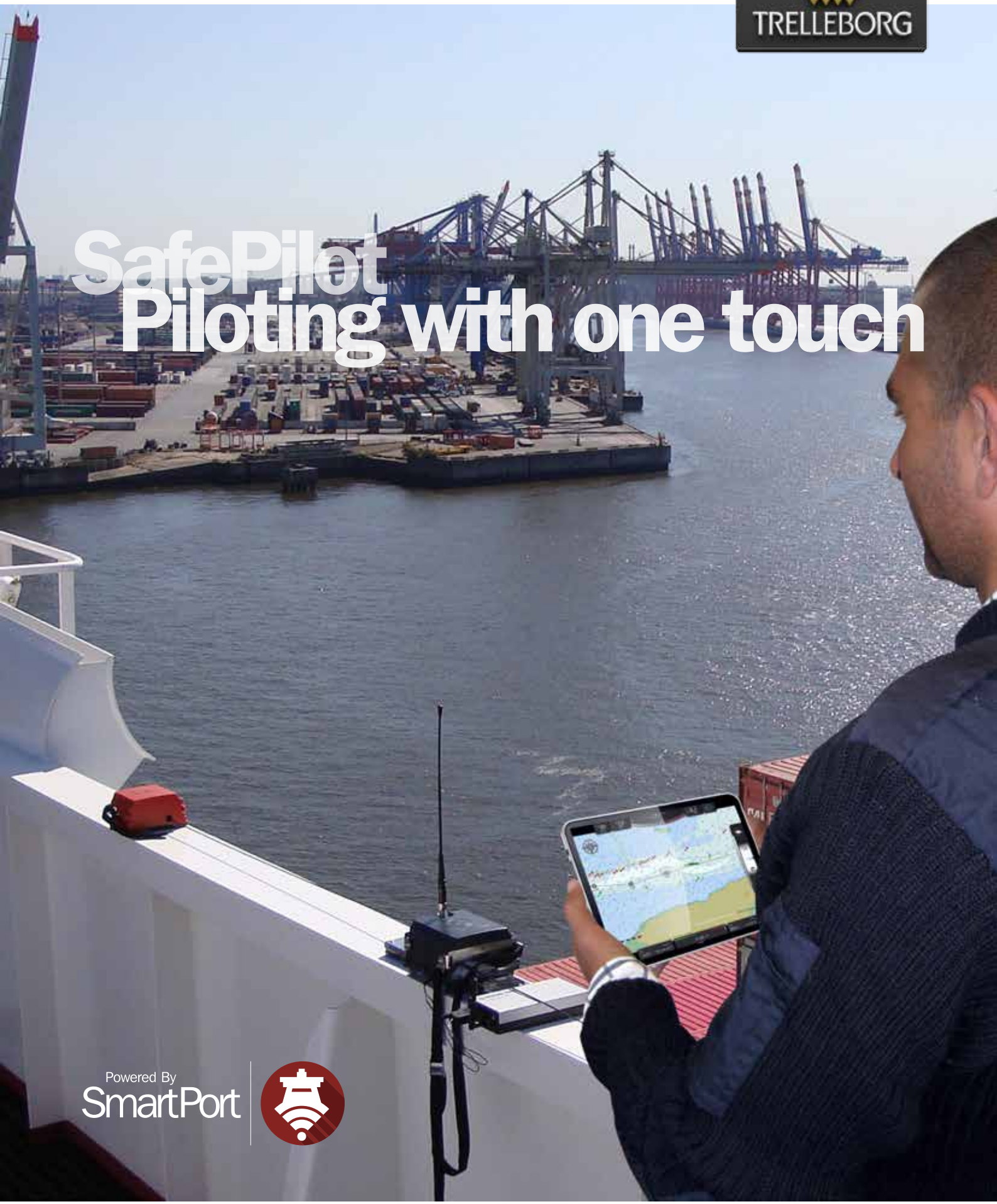
TRELLEBORG

SafePilot
Piloting with one touch



Powered By SmartPort

The Smarter Approach

Connect with **The Smarter Approach**

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The demanding nature of commercial ports and terminals means you need partnership that provides much more than technically superior products and technologies. You need to work with a partner that combines best practice expertise gained through worldwide experience with a deep understanding of local requirements and regulations. At Trelleborg, we call this the Smarter Approach.

Our Smarter Approach combines global reach with feet-on-the-ground local presence, delivering solutions that continually enhance your operations.

Smart technologies are at the forefront of improving operational efficiencies. Trelleborg's innovative SmartPort offering deploys the latest in marine technology applications to help ports and terminals optimize their operations.

Connect with a partner that combines smart solutions, proven product capability and industry expertise to maintain and enhance port and vessel performance.

Take a Smarter Approach, with Trelleborg Marine Systems.

SafePilot
Piloting with one touch

Trelleborg is a world leader in the design and manufacture of advanced, high accuracy piloting and navigation solutions for offshore and pilotage applications. SafePilot is our flagship product within the category.

This new generation of navigation and piloting software is designed by a dedicated team of software programmers working closely together with worldwide working pilots.

The result is the most professional and user friendly PPU (Portable Pilot Unit) software. A touch screen interface allows quick interaction to make piloting smoother. The instant zoom function and new intelligent chart structure improves response and decision-making times, giving pilots greater control and accuracy in maneuver.

SafePilot is a critical component of SmartPort. SmartPort by Trelleborg is a technology platform that connects disparate, data-driven assets to power communication and decision making in the port environment, giving stakeholders a holistic view of operations.

Take a Smarter Approach to port management with Trelleborg.

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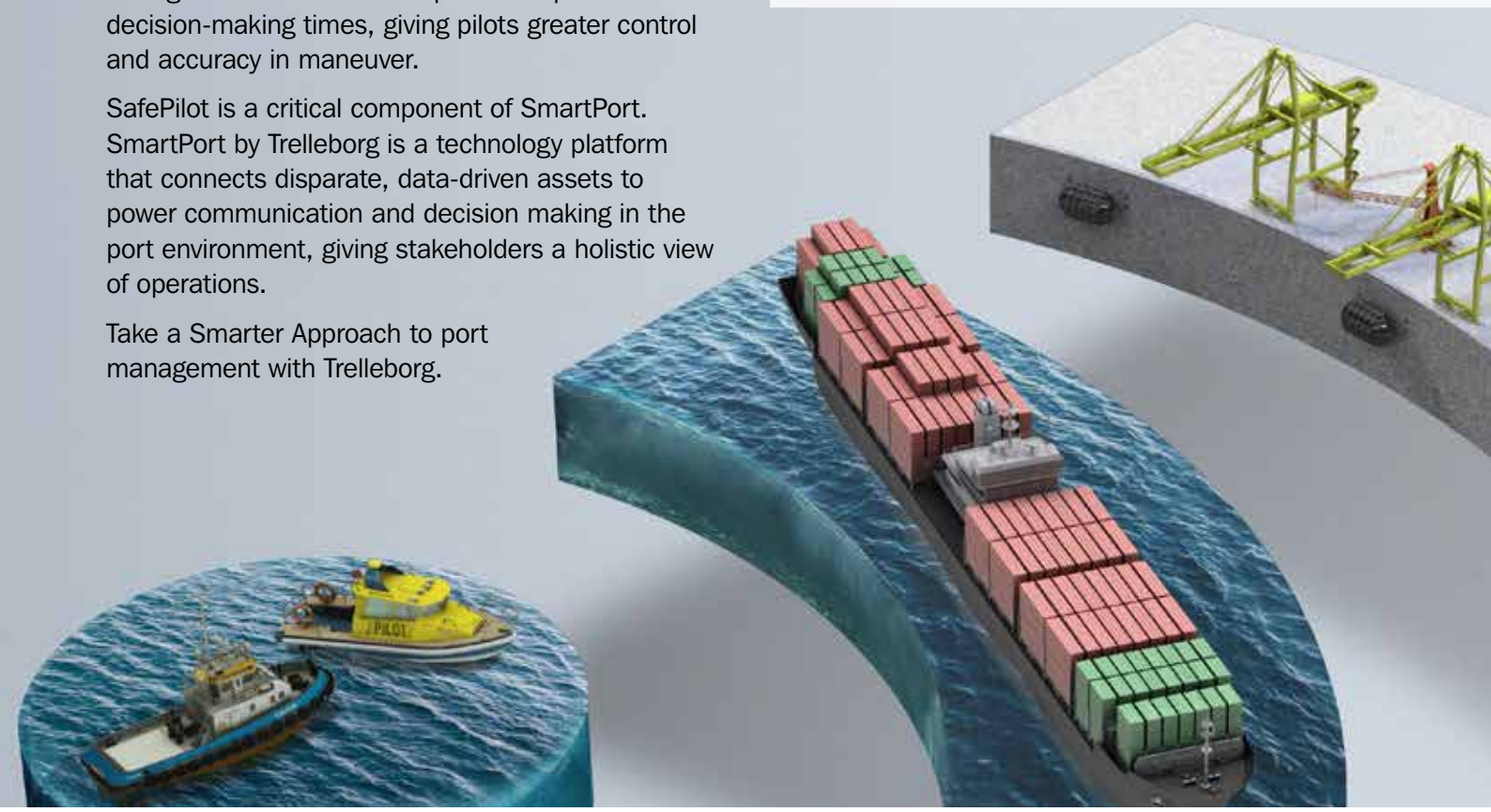


A Smarter Approach at every stage

A smarter approach to…

CONSULTATION

Consultation from the earliest project phase to ensure the optimum fender systems and marine technology solutions are specified, with full technical support from our global offices.

CONCEPTS

Conceptual design in your local office – with full knowledge of local standards and regulations, delivered in your language – for optimized port and vessel solutions.

DESIGN

Concepts are taken to our Engineering Center of Excellence in India where our team generates 3D CAD designs, application-engineering drawings, a bill of materials, finite engineering analysis and calculations for both our fender systems and marine technology solutions.

MANUFACTURE

Our entire product range is manufactured in-house, meaning we have full control over the design and quality of everything we produce. Our strategically located, state-of-the-art facilities ensure our global, industry leading manufacturing capability.

TESTING

Across our entire product range, stringent testing comes as standard at every step in our in-house manufacturing process. We ensure that life-cycle and performance of our entire product range meets your specifications, and more.

INSTALLATION

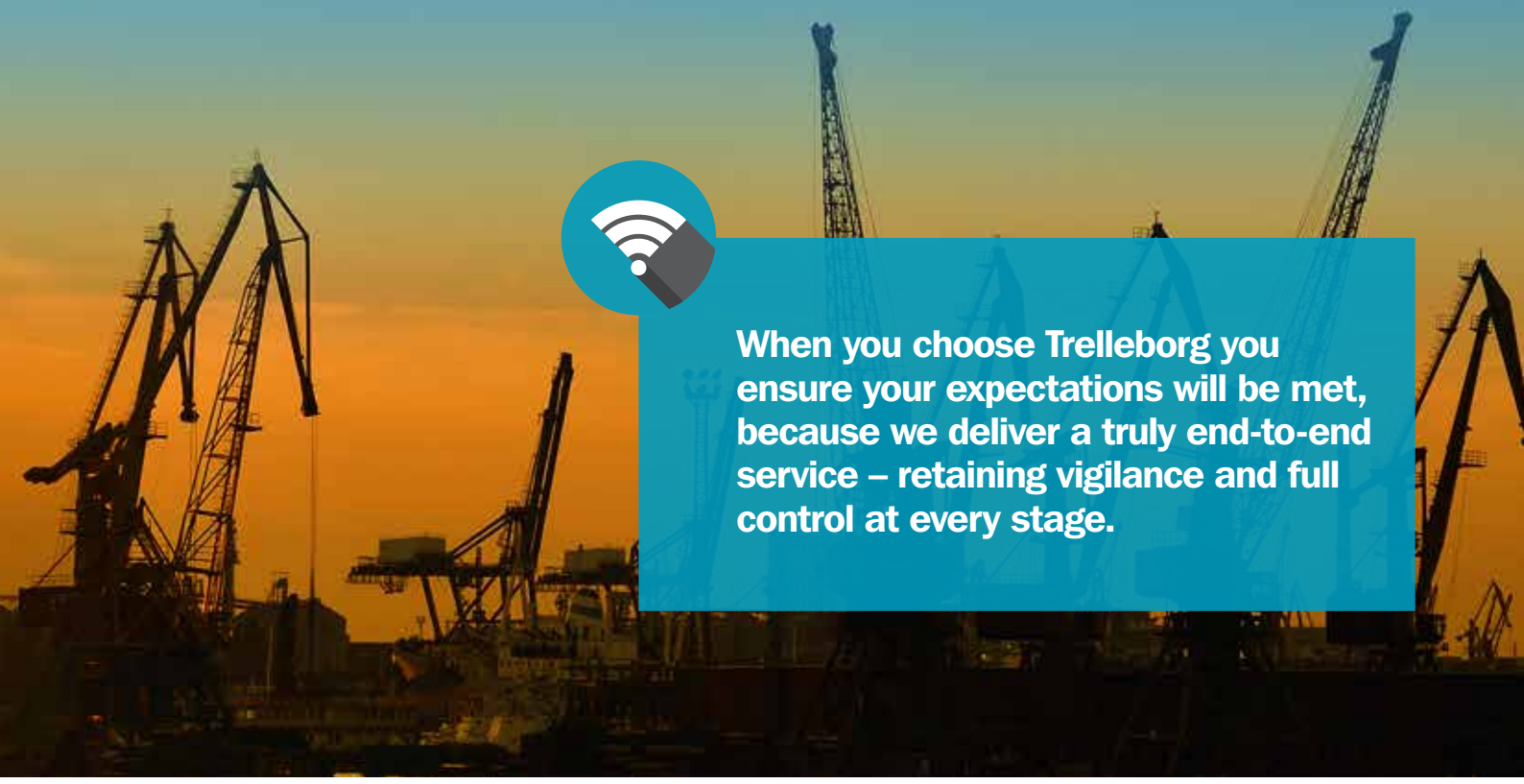
Dedicated project management, from solution design right the way through to on site installation support. We design products and solutions that always consider ease of installation and future maintenance requirements.

SUPPORT

Local support on a truly global scale, with customer support teams all over the world. And this service doesn't stop after a product is installed. You have our full support throughout the entire lifetime of your project, including customized training programs, maintenance and on-site service and support.

THE FUTURE

Deploying the latest in smart technologies to enable fully-automated, data-driven decision making that optimizes port and terminal efficiency. At Trelleborg, we're constantly evolving to provide the digital infrastructure our industry increasingly needs.



When you choose Trelleborg you ensure your expectations will be met, because we deliver a truly end-to-end service – retaining vigilance and full control at every stage.

SafePilot
A Joint Effort

SafePilot, the new generation of navigation & piloting software from Trelleborg Marine Systems, is designed by a dedicated team of software programmers working closely together with worldwide maritime pilots.

The result is the most professional and user friendly PPU (Portable Pilot Unit) software with touch screen technology, built on an intelligent kernel for handling multi-layered charts, added unbeatable features with integration of pilot requirements for practical functions.

The PPU software is easy to operate and allows for flexible software packages.

A DIFFERENT WAY OF THINKING

The overall aim of the SafePilot is to provide dedicated piloting software that:

- No information overloading. Only display data that is relevant to a pilot's current stage of operation.
- Reinforces real time information sharing with bridge team, pilot colleagues and port.
- Supports use and size of iOS tablets to optimize size, weight and performance of the PPU solution.

FEATURES

- Touch screen operation

  The touch screen interface of SafePilot enables the user to interact directly and very quickly making the operation of the PPU extremely user friendly and smooth.

- Instant zoom function

  New intelligent chart structure enables instant zooming and is capable of a faster response than any other navigational software.

- Scalable and cost efficient

  To keep the SafePilot intuitive and simple, and at the same time a highly specialized tool for pilots, it is designed with a core that allows for expansion options for dedicated applications such as Docking-, Lock-, River- or Offshore operations. Likewise, integrations to shore based systems, live data and personnel are available as add-ons.

- Developed for iPads

  Featured by low weight, long battery life, flat and integrated design, instant accessibility as well as excellent outdoor readable graphics.

Highlights of SafePilot

INTELLIGENT CHART KERNEL WITH INSTANT RESPONSE

Dedicated chart kernel featuring intelligent chart handling with quick zooming and panning functionality based on simple touch gestures for ease of use and momentary response.

The chart kernel supports electronic charts complying with the s-57 and s-63 format.

VESSEL DATABASE

Editable vessel database with vessel particulars based on information automatically drawn from AIS for minimum set-up time and effort.

CLEAR AND INTUITIVE STRUCTURE

The general navigation data is provided in suitable resolution with a clear and intuitive structure, making perception quick, clear and easy for any task. The innovative structure of SafePilot is completed through all modules, eliminating the risk of information overload, and at the same time offering highly specialized and dedicated piloting features designed to support the pilot throughout the operation. By a single touch of the pilot mode change, SafePilot displays the data of relevance to the current step of operation – nothing more nothing less.

GNSS STATUS

The GNSS status indicator in SafePilot uses different colors to indicate the strength of the satellite signal. In addition, SafePilot provides GNSS connection details in the sub-menu, such as but not limited to GNSS types, number of satellites, GNSS raw data.

PLANNING MODE WITH OVERVIEW

Separate planning mode from which construction, editing and selection of all features across modules can be handled for easy overview and planning. When leaving the planning mode, selected features are locked to eliminate risk of unintended change during operation.

NAVIGATION MODE

The navigation mode of SafePilot offers close route monitoring with distance, bearing and ETA to individual waypoints and cross track monitoring (XTE) to the route. The route is secured against accidental modification in this mode but way point can be jumped and destination way point changed in the selected route directly. The basic data such as heading, COG, SOG, rate of turn (ROT) and position quality is always displayed.

ENHANCED OVERVIEW

True shape graphical illustration of own and other vessels enhance the overview and situational awareness. Other vessels can be investigated for additional data via AIS and an adjustable vector gives an indication of current speed and direction.

PREDICTIONS AND PAST TRACK

Prediction foot prints give a clear picture of the vessel's movement ahead in time. SafePilot predictions include rate of turn in the calculations, enabling accurate display of turns and the effect of current maneuver. The foot prints are adjustable in number and time interval. Past track with adjustable time interval is also included.

ADJUSTABLE MOTION VECTORS

Automatically displaying fore and aft motion vector on own vessel at turns or low (maneuvering) speed. At speeds above 5 knots and steady course, one motion vector is displayed to minimize screen clutter.

REPLAY AND RECORDING

Replay function of previous passages with possibility to change scaling, routes, distance lines and fender lines ideal for training and optimization of maneuvers.

UNIQUE SCRUBBING FEATURE FOR MPX SUPPORT

For visual support of the Master-Pilot exchange (MPX) phase, SafePilot provides a unique scrubbing feature allowing the pilot to give captain and crew a quick and easy demonstration of intended route and maneuver, based on previously recorded passages.

SAFEPILOT SMARTPORT SYSTEM

Optionally, a SafePilot SmartPort System is available for support of pilots through provision of relevant services needed during pilotage operations. The services comprise a/o real-time traffic overview, shared annotations, central management of routes, fender lines.

Highlights of SafePilot Pro Navigation

Pro Navigation (Mandatory)

SafePilot Pro navigation module is a mandatory module for the professional pilot. It provides a powerful platform with the required features and functionality with the added ability to interface with external, more accurate and reliable data sources and added pilot tools for general navigation.

SafePilot Pro Navigation supports the full range of PPU antennas by Trelleborg Marine Systems.

EXTERNAL ANTENNA SUPPORT

Pro navigation enables support from external professional pilot systems as accuracy and reliability of the data source is of no less importance than the capability of the pilot software itself.

For a professional pilot tool, the minimum requirement to the data source includes reliable and real time positioning, rate of turn, heading, course over ground and speed over ground, in order to properly reflect the vessel's current and predicted movements, a signal quality status for situational awareness, and AIS targets for overview.

Trelleborg Marine Systems PPU's are all designed for professional use, starting from the small, powerful and cost effective CAT ROT unit which, used in combination with SafePilot Pro Navigation, offer an ideal solution for all-round piloting.

DISTANCE LINES

Distance lines is a tool that displays the shortest distances from the vessel as well as distances straight ahead and astern. The distance lines are placed in the chart by the pilot where monitoring is of value to the operation. This could be in port areas, narrow channels, areas with shallow water or simply to be used as an extension line to ensure the optimal line-up or early detection of drift. This feature provides the pilot with a complete overview during line-up and execution of maneouvre in areas with limited space in order to optimize the maneuver time and safety of the operation.

To avoid information clutter, SafePilot only displays a distance when the vessel is 500m or closer to a line it is moving towards. When the distance is less than 200 m the distances will always be displayed no matter if the vessel is moving towards or away from the line.

CPA AND TCPA

Touch a target and get AIS information and TCPA and CPA for overview and due diligence.

AUTOMATIC ENC UPDATES

SafePilot Pro Navigation module supports automatic updating of ENC charts in order to ensure full validity and display of latest available corrections at all times on the pilot display.

SHARED ANNOTATIONS

The shared annotations is a feature that enables direct real-time information sharing with other SafePilot users in closed forums for added safety, transparency and team effort. The shared annotation enables real-time information between the shore and pilots to enhance situational awareness and increase operational safety.

A pilot can use the annotation function as a personal tool to mark and highlight a spot or an area (for instance, a missing buoy or a dredging area) that requires attention. The system administrator can collect those field information and push out annotations through our SafePilot Server to share with all pilots in operation and notify the pilots all the spots and areas that need attention.

SAFE AREAS

To follow your tidal window or just to have a clear indication on the available safe area, SafePilot includes the feature of marking depth contour lines and no go areas based on vessels draft, requested under keel clearance and tidal data if available.

The tidal water height can be entered directly, by tide table or real time reading from tidal sensors.

No go area is divided in two shades, one marking the area with insufficient under keel clearance and the other marking the grounding area.

BATHYMETRIC DATA (b-ENC)

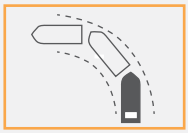
SafePilot allows overlay of most recently available hydrographic survey data on to the official ENCs covering the pilotage area.

ROUTES

SafePilot features advanced route planning and monitoring comprising curved track at waypoint, Cross Track Distance (XTD), etc. Centralized management and distribution of routes as well as related information of common interest like distance lines are optionally available in SafePilot Port System.

(Shared annotations, integration to tidal sensors, and centralized management and data distribution requires SafePilot Client/Server module and SmartPort System).

SafePilot Optional Modules

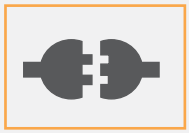


River / En Route

Dedicated functionality relevant for tight and busy waterways. Features comprise calculation of meeting point, speed recommendation to change meeting point, or achieve particular ETA at destination.

Locks

Dedicated functionality for lock operations featuring alignment guidance, angle and shoulder, bow and stern distances to lock walls, optional integration of tugs and/or lock gate status (open/closed) via SafePilot Port System.

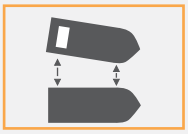


Client Server

This module features integration of SafePilot PPU to SafePilot SmartPort System. The SafePilot SmartPort System provides pilots access to real-time services as well as automated administration, e.g. electronic Master-Pilot Exchange Form (MPX), shared vessel data base, environmental data and customized modules, etc.

Docking

Features dedicated functionality relevant for the docking operation such as transverse speed and distances relative to user defined docking lines, berthing angle, and optionally integration to tugs via SafePilot SmartPort System.



Offshore

Dedicated functionality for offshore operations such as STS (FSO/FPSO/FLNG/FSRU), SPM and tandem mooring operations, integration of product data hawser/mooring load, ESD, and environmental data. Data available via SafePilot Port Server.

SAFEPILOT STRUCTURE AND DISTRIBUTION

Pro Navigation is the basic module with general navigation data and features such as planning, chart handling, visualization and standard navigation functionalities. All other modules are optional.

SafePilot Pro Navigation and optional SafePilot modules can be purchased directly from Trelleborg Marine Systems.

The SafePilot software can be further customized by adding dedicated modules to support dedicated tasks. Tailor your SafePilot software to support your exact requirements and avoid the clutter and cost of irrelevant features.

PIONEERS IN SAFE, FAST AND EFFICIENT PILOTING

Since 2000, Trelleborg Marine Systems has been pioneers in the development of intelligent navigation and piloting systems. Our long term vision of upholding the complexity of dedicated piloting software while simplifying the user interface has now been brought to life in our innovative SafePilot software range. But it does not stop there. SafePilot is being continuously developed and tested in close cooperation with a group of active pilots working world wide.

DISCLAIMER

Trelleborg AB has made every effort to ensure that the technical specifications and product descriptions in this catalogue are correct.

The responsibility or liability for errors and omissions cannot be accepted for any reason whatsoever. Customers are advised to request a detailed specification and certified drawing prior to construction and manufacture. In the interests of improving the quality and performance of our products and systems, we reserve the right to make specification changes without prior notice. All dimensions, material properties and performance values quoted are subject to normal production and testing tolerances.

This catalogue supersedes the information provided in all previous editions. If in doubt, please check with Trelleborg Marine Systems.

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For a smarter approach to your next project, get in touch today.

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TRELLEBORG

Trelleborg is a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments. Its innovative solutions accelerate performance for customers in a sustainable way.

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