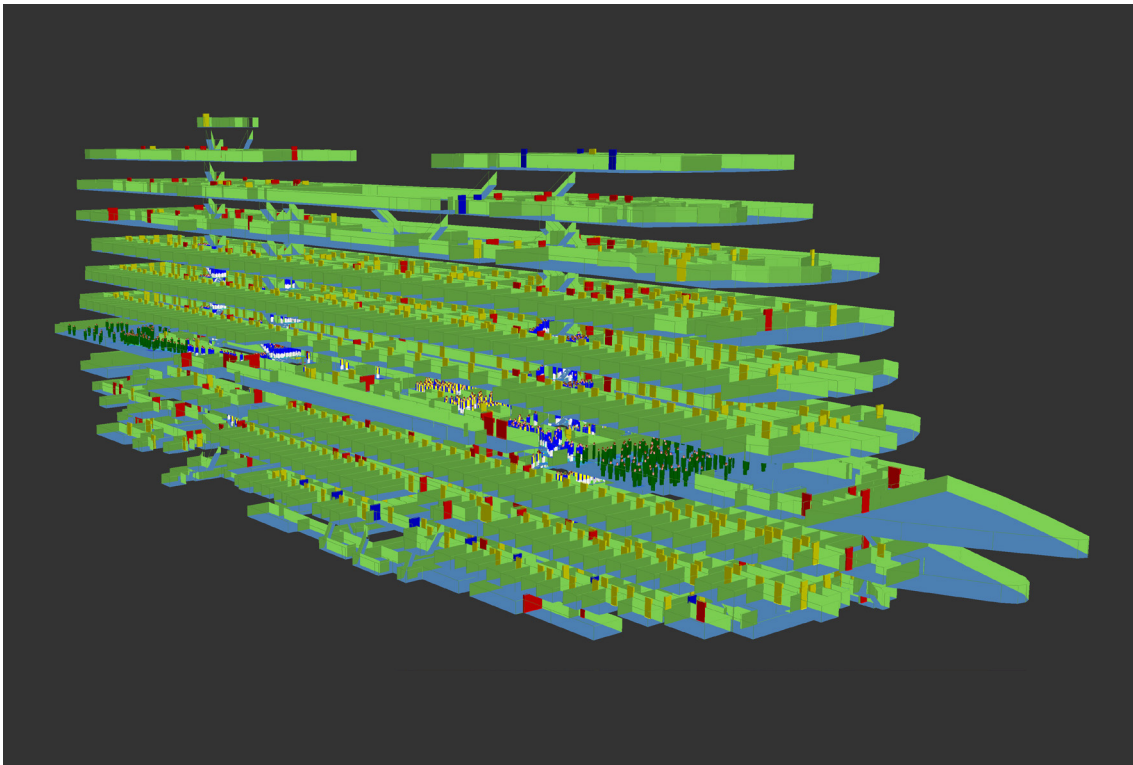


EVI™

PEDESTRIAN DYNAMICS SOFTWARE-PRODUCT SHEET



BACKGROUND

IMO rules for evacuation analysis have, until recently, only applied to Ro-Pax ships. However, from January 2020, all passenger ships (in addition to Ro-Ro passenger ships) carrying more than 36 people and with keel laid on or after the same date will have to prove adequate evacuation times through an evacuation analysis. Shipyards and designers will need to show that their design meets the IMO performance standard which is the time taken to both muster and abandon ship. This performance standard is defined as 60 minutes for Ro-Pax ships or ships with 3 main vertical zones or less, and 80 minutes for ships with more than 3 main vertical zones.

THE SOFTWARE

EVI™ is a Pedestrian Dynamics software tool designed specifically for application within the ship design spiral. First released in 2000, EVI™ has a long history of supporting designers and shipyards in analysing ship evacuation

procedures and in understanding the effect of ship layout on evacuation and highlighting areas of congestion.

EVI™ provides rapid modelling of the environment, prebuilt demographics for the standard IMO Day and Night cases so that analysing a ship design against regulatory requirements is quick and easy. The product's outputs are both visual representations of the simulations which are intuitive to analyse as well as a vast array of numerical results in graphs and tables that can support detailed analysis.

EVI™'s value, however, is not limited to evacuation analysis as the software comes with a flexible scripting interface able to control the simulation down to the behaviour and objective of each agent within the simulation. In this mode, EVI™ has been used to analyse and optimise Port layouts, to analyse ship disembarkation as well as improving the efficiency of shift patterns during shipbuilding.

BENEFITS AND FEATURES

IMO Compliant	Compliant with the latest IMO regulations on passenger ship evacuation - MSC 96: Revised guidelines on evacuation analysis for new and existing passenger ships (MSC.1/Circ.1533).
Semi-continuous space	EVI™'s simulation engine is based on semi-continuous space modelling, allowing the exact definition of layout and removing the need for spatial approximation of grid-based solutions.
Rapid Modelling	Through its companion software, EVE™, modelling large and complex vessels or structures is easy to learn and rapid.
No size constraints	EVI™ can deal with the largest cruise vessels and is as equally applicable to smaller vessels.
Process Driven	Provides a proven process to analyse ship designs against minimum required evacuation times.
Alternative design	EVI™ has been used effectively to provide evidence of compliance to Class for designs outside the prescribed rules.
Flexible	Through scripting EVI™ can simulate any passenger or crew situation requiring analysis.
IMO Distributions	Preloaded with IMO Day and Night demographics with the flexibility of easily modifying them for any situation.
Batch Running	Allows the easy execution of multiple simulations to calculate the 95th percentile solution for evacuation times.
Detailed Output	Provides detailed data on each evacuation, with Agent time histories, congestion reports and density statistics for designers to delve into the detail.
Visualisation	Every simulation can be reviewed in full 3D with easy access to exploded views so that passenger and crew behaviour is easy to understand.
Integral part of the Design Spiral	Used through-out the design spiral, EVI™ can support designers in optimising the layout for evacuation and for any other passenger behaviour worth analysing.
Beyond Evacuation	EVI™ has been used to optimise the design against various pedestrian dynamic situations. The software has been used to look at disembarkation as well as Port design to optimise layout and improve throughput. EVI™ has also been used to analyse evacuation from a dockyard during shipbuilding and optimise working patterns.

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