

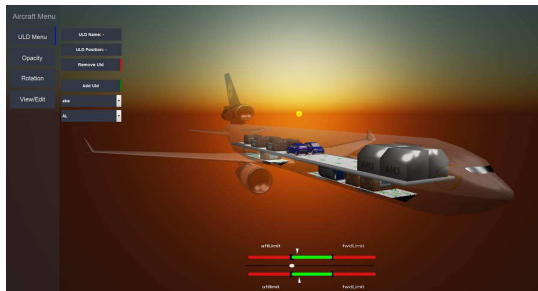


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# Future Load Control: Why using 3D visualization in load control?

Lufthansa Systems white paper

## Future Load Control: Why using 3D visualization in load control?



3D visualization has long been one of the main movers in surgery training, in architecture as well as in landscape and environmental planning. It opens up broad opportunities and allows the imagination to easily translate the most daring ideas into reality and get a better evaluative understanding about the solution respectively objects. 3D visualization technologies were enabler for improvements to many

aspects of the quality of work executions.

Why not using it also in Airline Operations, especially in Load Control, where the usual loading instructions still are in 2D and not even graphical?

The utilization of 3D visualization technologies in Weight and Balance - for instance a 3D load plan - may be one significant feature of the "Future Load Control". Here are five advantages that load controllers could experience from 3D visualization technologies:

1. **Error minimization due to effective load plan designs:** 3D visualization is an effective and attractive way to provide load controllers with a realistic view of what the load plan will look like in the belly on completion. A 3D model of the load plan provides the opportunity of viewing it from every angle. So the load controller has the opportunity to examine and explore all the interior spaces, to identify overhangs, indents and inoperative locks or see, if a non-ULD conform load item fits or not. Hence some load flaws that could otherwise have been overlooked can easily be identified and rectified well before the actual loading begins.
2. **Support of operational stability:** The easy identification of load flaws before the actual loading begins helps to reduce flight delays by saving the time required for re-loading of wrongly positioned load items. Flight delays due to Weight and Balance issues will be minimized.
3. **Improvement of load controller performance:** Today load controllers do not necessarily have a ramp agent background or have received a ramp agent training. Besides Load Control is nowadays done many times centralized and remote. Thus not all load controls saw a cargo belly from inside in real life. As at all times load controllers need to have good imagination, this could be overcome with 3D visualization: Load controllers immediately get a good understanding of a new fleet or aircraft version. The right belly loading, especially for all kinds of unusual load items, can be much easier understood and decided upon.

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4. **Ease of training and learning:** 3D visualization for sure gives a better understanding of the loading process. Especially for new or unexperienced load trainees the skill of creating a good load plan will be much more efficiently trained with this technology. Trainees will easily get a better understanding of what they are responsible for.
  5. **Improved communication between Load Controller and Ramp Agent:** 3D erases the boundaries between reality and a graphical loading instruction. With volumetric 3D visualization load controllers and ramp agents are literally almost on the same page when talking about loading the aircraft. They can much easier communicate their ideas, instructions and all other necessary information.

And last but not least, we should also not forget: 3D views are always more exciting than any other 2D views. Working with the most advanced 3D solution will be most attractive for all user groups.

Summarizing 3D visualization technologies are a chance to reinvent the traditional approach in Load Control with new technology for better results and pushing Load Control as a field to as-yet-unknown heights.

#### **About the author**

Michael Muzik has worked since 2008 as a Product Consultant and Senior Product Manager at Lufthansa Systems for different operational solutions covering Operations Control, Crew Management, Hub Management and Load Control.

#### **About Lufthansa Systems**

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