Join the NARSIM User Community!

Partnership in Air Traffic Management Simulations

NARSIM is the simulation platform for Air Traffic Control and Tower Control, developed by NLR. Using object-based, distributed technology and Off-The-Shelf hardware a unique simulation platform is available for Research, Development, Demonstration and Education purposes. The platform is scalable from notebook demonstration set-up to large-scale validation trials. Since 1987, NARSIM enables research in the field of ATM and has been used by organisations including the European Commission, Boeing, EUROCONTROL and ATC the Netherlands.

In an industry-revolutionary approach, your organisation may become a NARSIM user to obtain, use and operate NARSIM at your own site to perform any development, research, training or validation activity related to air traffic control. Your organisation will not only benefit a low Total Cost of Ownership (TCO), NLR also offers help in training your personnel and specifying and setting up the right ATM simulation environment.

NARSIM User Community

The NARSIM User Community (NUC) is a collaboration of NARSIM platform users to share ideas, development and experience in working with the NARSIM simulation platform. Members of the User Community will get access to the User Community part of the www.narsim.org website providing in-depth information about NARSIM. Users can become involved in future developments of the platform, read online documentation and participate in forum discussions related to NARSIM configuration, usage and development.

Today, prominent Research and Development centres and Service Providers in Europe use NARSIM and will share the benefits of jointly working on a common platform.

To learn what the NARSIM User Community can do for you or your organisation, see our website www.narsim.org or contact us for more information.
ATM Research Facilities

For large-scale exercises and/or experiments, the NLR provides the following two facilities, built around the NARSIM platform and featuring a radio/telephony communication system, flight strip printers, virtual private network connections and sufficient briefing- and presentation areas:

■ **NARSIM Radar**

The NARSIM Radar facility at NLR, Amsterdam, features 8 controller working positions equipped with 29-inch flat-panel TFT displays, and up to 4 auxiliary panels. Depending on the experiment, each position can be (optionally) configured with two touch-input devices, a trackball or mouse and a keyboard. Each working position can act as a tactical, planner or feeder position for either en-route, area or approach (terminal area) control. An integrated radio/telephony systems allows the controller to contact pilots, other controllers or neighbouring sectors or centres. A separate pseudo pilot area with currently 12 positions allow pseudo pilots to control up to 20 aircraft per position.

■ **NARSIM Tower**

NARSIM Tower is NLR’s facility for performing tower simulations using NARSIM. The facility has a 270 degrees angle Field-of-View with five configured controller working positions. Additional positions for supervisor or departure clearance can be added to the stage. The tower simulator can simulate realistic weather conditions, such as bad visibility, snow and or rain and also supports day or night view.
The pseudo pilot area of the NARSIM Radar facility can also be used for tower pseudo pilots. Each pilot position allows a maximum of 10 (active) controlled aircraft for smooth operations. In 2007, the Tower Simulator will be extended to 360 degrees to make full-scale tower simulations possible for large airports.

**NARSIM Academy**

To learn more about Air Traffic Control, or the NARSIM platform in particular, the NARSIM Academy provides a program with courses to learn about the NARSIM platform. Two courses, Introduction to Air Traffic Control and Introduction to ATC Tower Control, learn you about the basic principles of air traffic control for radar and tower operations, respectively.

For members of the NARSIM User Community, a learning program has been set-up to teach you how to use NARSIM, how to configure it, and how you can fully control it by integrating the simulation platform with your own ATC applications.

For developers of ATC applications, the NARSIM programming courses will learn you to gain access to the simulation internals and how you can fully exploit the modular middleware of the simulator.
Highlights of NARSIM Track Record

<table>
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<th>Year</th>
<th>Activity</th>
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<tr>
<td>2006</td>
<td><strong>SnowWhite.</strong> Large scale (55+ actors) winter exercise with sudden, unexpected snowfall for operational airside representatives from Amsterdam Airport Schiphol (AAS), KLM and Air Traffic Control Netherlands (LVNL).</td>
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<td>2005</td>
<td><strong>Sourdine-II.</strong> Reduction of the environmental impact of aviation around airports through the development of new approach and departure procedures. See project page.</td>
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<td>2005</td>
<td><strong>EMMA.</strong> Under contract of EU, the EMMA project, validated an A-SMGCS system level 1&amp;2 from SELEX (Italy) in simulation trials on Milano Malpensa airport.</td>
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<td>2005</td>
<td><strong>Gate-to-Gate.</strong> Under contract of EU, Validation of a European ATM Gate-to-Gate Operational Concept for 2005-2010, NARSIM simulation at NLR, Amsterdam in March 2005 and at LFV, Malmo in December 2005.</td>
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<td>2003</td>
<td><strong>Aircraft in the Future ATM System (AFAS).</strong> The project paves the way to an ATM system allowing for more autonomous aircraft operation and contributing to improve air traffic as a whole for the benefit of the citizens and the competitiveness of the European Aeronautics Industry. NARSIM simulations in a Frankfurt Airport environment.</td>
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<td>2003</td>
<td><strong>LEONARDO.</strong> Collaborative Decision Making (CDM) for airport operation, in particular integration of Departure and Arrival Management and Gate Planning.</td>
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<td>2002</td>
<td><strong>INTEGRA.</strong> Assessment of Key Performance Indicator (KPI) metrics for Capacity and Safety (Propensity and resilience).</td>
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<td>2001</td>
<td><strong>Runway Incursion Alert System Schiphol (RIASS).</strong> Under contract of LVNL, NLR designed, implemented and evaluated a prototype Runway Incursion Alert System for Schiphol. The implementation of the operational system was done by both NLR and LVNL.</td>
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<td>2000</td>
<td><strong>BETA Project.</strong> Park Air Systems’ NOVA 9000 Tested with NARSIM Tower. Under contract of EU, part of the operational A-SMGCS system (NOVA 9000) was validated in simulated trials on Hamburg and Prague.</td>
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<td>1997</td>
<td><strong>Phase Demonstrator 3 (PD3).</strong> Project to demonstrate the potential benefits and merits of the introduction of an advanced integrated Air Traffic Management (ATM) concept for the years 2005 –2015 to prevent congestion in the busy European airspace. Large scale NARSIM simulations on NARSIM Radar in Amsterdam.</td>
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For the full track record of NARSIM, visit the NARSIM website at [www.narsim.org](http://www.narsim.org)

About NARSIM

The NARSIM simulation platform is a flexible and innovative real-time simulation solution for Air Traffic Management related issues. With NARSIM, the Air Traffic Control (ATC) process can be simulated with both the air traffic controller and the pilot in the loop. Therefore NARSIM enables research in the field ATM and has been used, since its start in 1987 by NLR, the Netherlands and is in use today also (among others) at DLR in Germany, LVNL in the Netherlands, and the LFV group in Sweden.

AT-One combines the strength of NLR and DLR in ATM Research

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