

ADACEL CUSTOMER TESTIMONIAL



NASA FutureFlight Central



“Adacel’s MaxSim was the only mature and proven option for NASA to use as the foundation of our tower simulation research.”

– Nancy Dorigi – NASA’s Manager of FutureFlight Central

SOLUTION SUMMARY

Industry

Research

The Challenge

NASA FutureFlight Central had 3 challenges to overcome. **First**, they needed to realistically model the traffic load and complexities of a major U.S. hub where considerable computational power and network throughput is required for real-time response to simulation inputs. **Second**, they required a reliable system so that researchers can collect complete and consistent data from experimental runs and interface with other simulators, data sources, or fast time modeling applications. **Third**, NASA Future Flight Central required ever-increasing detail and higher resolution from a graphics system, thus, the visual scene needed to be as realistic as possible in order to create an immersive environment for the air traffic controllers.

The Solution

Adacel introduced MaxSim to NASA FutureFlight Central’s 360-degree tower simulator. This solution provided a way to achieve the full potential of their existing equipment, by providing an effective foundation for their tower simulation research.

About NASA FutureFlight Central:

NASA FutureFlight Central (FFC) is a national Air Traffic Control/Air Traffic Management (ATC/ATM) test facility dedicated to solving the present and emerging capacity problems of the nation’s airports.

NASA FutureFlight Central opened in December 1999 and is a U.S. government research laboratory with a fully interactive air traffic control tower simulator. FFC is the first environment where airport management can breathe ‘life’ into their airport planning and bring their team members into a live simulation of their airport. The two-story facility at Ames Research Center in the heart of the Silicon Valley in California, offers a 360-degree full-scale, real-time simulation of an airport, where controllers, pilots, and airport personnel can interact to optimize operating procedures and test out new technologies. FutureFlight Central’s mission is to provide a world-class simulation research facility to improve the safety, efficiency and cost-effectiveness of airport procedures, designs and technologies.

Over the last 2 years, FFC has experienced an increase in the number and complexity of airport simulation projects. With this increase, comes a significant challenge: more robust traffic simulation and higher-end visuals. According to Nancy Dorigi, NASA’s Manager of the FutureFlight Central, the organization needed a dynamic solution that would be resilient and scalable.

A Robust Solution

To provide a more realistic, reliable and high-resolution graphics system, NASA FutureFlight Central decided to deploy a 12-channel Adacel MaxSim Tower simulator. In large part, NASA FutureFlight Central selected MaxSim for its ability to optimize NASA’s existing resources.



Leveraging MaxSim's flexibility, robustness and scalability, FFC researchers are now able to collect and compile data from experimental runs, model traffic loads and complexities of major US hubs, and most importantly, the researchers can work in an immersive environment where visual scenes are so realistic that they are barely able to tell that they are in a simulated environment.

According to Dorigi, with Adacel's simple design and high-end visuals, NASA is able to use their resources efficiently; "MaxSim is critical in increasing the effectiveness of our users' research projects."

Benefits

"NASA FutureFlight Central has already seen the advantages and benefits of MaxSim in its simulator performance and quality of visuals. MaxSim has enabled NASA FutureFlight Central to provide realistic full traffic simulation of future airport changes at major US Hub airports. Thus, NASA can provide early assessment of airport efficiency and safety, human factors issues for controllers and ultimately a better return on investment." The MaxSim solution has brought about an abundance of benefits to NASA FutureFlight Central by protecting their initial investment and improving the effectiveness and overall proficiency of their simulation program.

Future

Moving forward, NASA's goal is to develop an integrated networked system of national simulation assets to create a virtual airspace environment. It will enable the assessment of new concepts on a system-wide basis with an unprecedented level of fidelity. Integrated simulation with humans will test emerging air traffic management technologies, future airspace operational concepts and decision support tools more thoroughly, safely, and effectively than ever before. The results will be a greatly improved ability to move products from the research stage into the field. FFC's MaxSim tower is a key component in this virtual airspace-testing environment. "We plan to collaborate with Adacel in pushing the envelope in simulation technology," concluded Dorigi.

Canada

4005 Matte Blvd., Suite "E"
Brossard (Montreal), Quebec
J4Y 2P4 CANADA
Tel. : 450.444.2687
Fax : 450.444.4249
info@adacel.com

455 Fenelon Blvd., Suite 208
Dorval, Quebec
H9S 5T8 CANADA
Tel. : 514.636.6365
Fax : 514.636.2326
info@adacel.com

Australia

240 Bay Street,
Brighton, Victoria
3186, Australia
Tel: +61 3 8530 7777
Fax: +61 3 9596 2960
info@adacel.com

USA

1825 I Street, Suite 400
Washington, DC
20004 USA
Tel. 202-429-7120
Fax: 202-429-7122
info@adacel.com

6200 Lee Vista Blvd.,
Suite 100
Orlando, FL
32822 USA
Tel: 407-581-1560
Fax: 407-581-1581
info@adacel.com

UK

Columbia House
Columbia Drive
Worthing, West Sussex
BN13 3HD
Tel. : 044 1903 268 169
Fax : 044 1903 268 154
andrew.baird@adacel.com

