**Test Time**

The PowerJet SaM146 turbofan engine for the Sukhoi Superjet 100 family of 75-95-seat regional jets has completed the first phase of airborne trials on an Illyushin Il-76LL transport, accumulating 42 hr. during 22 flights. Officials of the Snecma/NPO Saturn joint venture say the engine is meeting performance targets, but is not yet ready for production. During flight tests, a number of important checks were conducted including air start, flame-out margin, validation of the full authority digital engine control software and fan blade flutter margin as well as engine stress and vibration levels. The test program is shifting from Russian facilities at Zhukovsky near Moscow to French facilities near Marseille.

**Moving Up**

Wichita State University (WSU) ranks third among all universities in the U.S. in aerospace engineering research and development, behind Georgia Institute of Technology and the Johns Hopkins University, according to the National Science Foundation. WSU’s new ranking is chiefly due to activities at the National Institute for Aviation Research (NIAR) located on campus. In 2007, the university spent $19 million on research and development and had an operating budget of $35 million. John Tomblin, executive director, says plans call for all of NIAR’s 23 laboratories in the new Center for Aircraft Systems Research (CASR) to be fully operational by this summer. The facility is being designed to provide “one-stop shop” capability with laboratories for testing a wide range of effects including electromagnetic interference, fire and flammability, induced lightning strikes, humidity, vibration and shock. CASR will house facilities designed to provide certification testing of aircraft electrical, mechanical and composite structural systems. Results of CASR’s research and testing work will be coordinated with airframe manufacturers and the FAA to create a database that is acceptable for certification of systems.

**Brake-by-Wire**

Airbus and Messier-Bugatti are conducting flight tests of an A340-600 equipped with an electrically operated braking system—a first for a commercial airliner transport. Airbus officials say the immediate goal of the tests is research. Although Messier-Bugatti will supply brakes for the new A350XWB, the electric system will not be installed on that aircraft because the technology needs to mature. Boeing is developing a brake-by-wire system for the 787. The electric brake initiative is part of Airbus’ plan to create an “all-electric” airplane. The system would reduce maintenance costs and increase dispatch reliability by eliminating hydraulic lines, hardware components and fluid. Tests are scheduled to continue through March.

**New Engine**

First flight of India’s Light Combat Aircraft (LCA) powered by a GE F404-GE-IN20 engine is scheduled for May. Plans call for the afterburning powerplant to be installed in the first operational squadron of LCAs for the Indian air force. The engine features increased thrust, single-crystal turbine blades and full authority digital engine control.

**AGUSTA’S GUSTO**

AgustaWestland’s executive vice president of sales for North and South America, Lou Bartalotta, says the U.S. commercial helicopter market is experiencing “a remarkable period” that will give AgustaWestland “a great ride for the foreseeable future.” He says business is being driven upward by offshore oil exploration, increased use of helicopters by public service agencies and corporate operators coupled with exploding demand in emerging markets such as China, India and Southeast Asia. Bartalotta expects the need for new helicopters in these regions in the next few years will increasingly account for a larger share of AgustaWestland’s international sales. He says the current torrid pace of business will be sustained in 2008-09 and may increase through 2010 and well into 2011. Philadelphia-based AgustaWestland has a production backlog of 18-24 months, with customers of certain models having to wait more than two years for delivery of their aircraft.