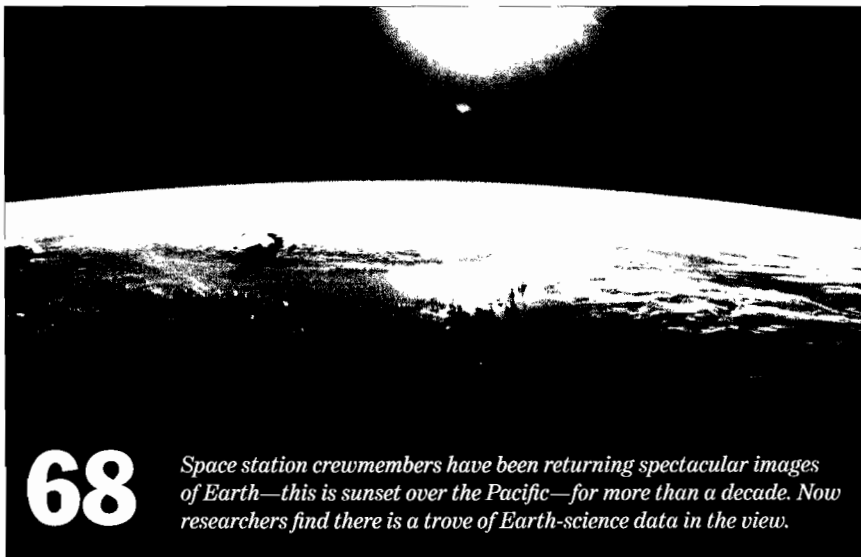


# AVIATION WEEK

## & SPACE TECHNOLOGY

Tap this icon in articles in the digital edition of *AW&ST* for exclusive features. If you have not signed up to receive your digital subscription, go to [ow.ly/AkXJo](http://ow.ly/AkXJo)



**68**

*Space station crewmembers have been returning spectacular images of Earth—this is sunset over the Pacific—for more than a decade. Now researchers find there is a trove of Earth-science data in the view.*

- 6 Feedback
- 8 Who's Where
- 9-10 First Take
- 11 Up Front
- 15 Going Concerns
- 17 Airline Intel
- 18 Reality Check
- 19 Leading Edge
- 20 Commander's Intent
- 22 In Orbit
- 23 Washington Outlook
- 71 Classified
- 72 Contact Us
- 73 Aerospace Calendar

### DEFENSE

- 26 Testing of adaptive engine** paves the way for sixth-generation fighters and possible F-35 retrofit
- 28 GE validates** temperature capabilities of low-pressure turbine blades made from lightweight composites
- 30 Senior Pentagon** officials consider a future where the F-35's crown jewels are compromised
- 53 Aurora's Orion** medium-altitude UAS shows ultra-long-endurance potential with record flight
- 54 Major operational JSF** test series abandoned in an attempt to stay on aircraft delivery schedule

### SPACE

- 32 Advent of SpaceX**, OnWeb ventures reignites dreams of bringing broadband access to the masses
- 33 Legal settlement** offers little near-term gain for SpaceX, but serves company's strategic goals
- 35 Boeing may receive** order to fly NASA crew to the ISS, but SpaceX could be first to serve the market
- 63 Early look at NASA** Orion crew capsule test data reveals lower-than-expected reentry temperatures

### COMMERCIAL AVIATION

- 38 Lower fuel prices** help U.S. majors to better profits, but have not triggered fleet and capacity planning changes
- 39 IAG nearing** deal to acquire Aer Lingus, subject to government and shareholder approval

- 40 Info-tech nerds** playing for big stakes in boosting airline finances by tracking customer preferences
- 41 Air Canada plans** to spend several years regaining the international share it lost in the past decade
- 43 China finally has** an indigenously designed airliner, now that the ARJ21-700 has a type certificate
- 44 London Heathrow** Airport facing up to the reality that it has to become a quieter neighbor

### LOW-COST CARRIERS

- 46 Asia-Pacific** becomes the epicenter of the long-haul, low-cost airline trend, but can the model succeed?
- 49 Airlines in Europe** rediscovering the long-haul low-cost model, but will it work this time?



### ON THE COVERS

*This week, Aviation Week publishes two editions. On the cover far left, Aurora's Orion UAS lands at China Lake Naval Air Weapons Station, California, after its record-breaking 80-hr. flight (see page 53). U.S. Navy photo. Elsewhere in both editions are special reports on remote-sensing with satellites and UAS (page 64), long-haul low-cost carriers (page 46) and adaptive engine technology (page 26). On the cover of our MRO Edition is a Boeing photo of a 787, which is operated by Scoot, one of Asia's long-haul low-cost carriers. The jury is still out on what threat they might pose to established international carriers. That edition includes a section with additional articles on maintenance, repair and overhaul.*

**51 WestJet edges** toward long-haul market, but most North American LCCs are taking a wait-and-see attitude

## TECHNOLOGY

**55 Lockheed Martin** taking delivery of hardware for third generation of F-35 helmet-mounted displays

**56 NASA flight-testing** full-scale flexible flap aimed to show benefits of a seamless, morphing structure

**58 Coming year** promises to be pivotal period of test and development for air-launched space access projects

## PILOTING

**60 NASA suggesting** enhancements to airline training, including techniques that throw pilots more curveballs

**62 Improved crew** awareness provided by active sidesticks could spell the end for conventional pilot controls



39

## OVERHEAD SURVEILLANCE

**64 U.S. agency crafting** strategy to leverage influx of imagery available from the many new info providers

**65 Insurance settlement,** new contract could put UrtheCast back on track to exploit opportunities aboard ISS

**66 Global demand** for Earth-observation satellites booms, mainly from countries lacking space programs

**68 Earth scientists** find growing utility in external space station instruments and ISS's unique orbit

**70 French defense** ministry faces obstacles to pan-European cooperation on optical satellites

## VIEWPOINT

**74 How the U.S.** can take several steps to reverse its sorry trend on defense program management

