

TR NEWS

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- **Drones Entering the National Airspace**
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- **Airline Consolidation: Finding a Balance**

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* Membership as of August 2016.

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A NEW ERA FOR AVIATION RESEARCH

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A New Era for Aviation Research

James M. Crites and Mary Ellen Eagan

A new era in aviation is beginning, propelled by new technologies that enable air traffic management with greater precision, safety improvements, autonomous flight, the reduction of environmental impacts, and more. Research plays a key role in charting and achieving the flight plan.

4 POINT OF VIEW

Key Issues for Aviation: Ensuring Safety, Enabling Innovation

Michael P. Huerta

The Federal Aviation Administration is working to ensure the level of safety that the public expects and to enable the innovation that has powered aviation since its inception. The approach is proactive and data-driven, as well as flexible and responsive to the needs of industry.

6 The Aviation Workforce of Tomorrow:

Where Are They Needed—and Where Will They Come From?

David A. Byers

With a rapidly growing demand for technologically savvy workers—highly educated, trained, licensed, and certified—and with a diminishing pool of people entering the labor market, the prospects for recruiting aviation professionals pose a new challenge that requires new approaches.

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Elaine C. McKenzie, Matt Beamer, Clayton Stambaugh, and Peng Wei

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Bart Elias

Commercial airlines in the United States have a safety record unsurpassed by any comparable system of mass transportation. The author reviews the technological advances, procedural changes, efforts to address human factors, and changes in organizational approaches that have led to improvements in safety and traces out several ongoing safety challenges.

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Saam Ahmadi

24 Airports' Response to Transportation Network Companies: Challenges and Lessons Learned

Peter Mandle and Stephanie Box

Transportation network companies are changing the way that passengers travel to and from airports. The changes are disrupting traditional airport ground access operations and are affecting airport revenues. The authors describe airport programs to accommodate, regulate, and manage these new services and explore changes in the use of traditional modes of airport travel.

28 Aviation's Evolving Role in a Changing Climate: Current Contributions and Future Potential

Carly Shannon and Kate Andrus

The aviation industry has undertaken significant efforts to reduce the rate of climate change, but a sustainable future also requires resiliency. The authors present aviation initiatives for establishing regional emergency hubs, collaborating on adaptations, sharing information, influencing supply chains, and more.

32 Routine Unmanned Aircraft Systems Operations in the National Airspace System: Benefits and Challenges

Jonathan Oliver

Unmanned aircraft systems are here to stay and therefore need to be safely integrated into the National Airspace System as quickly as possible, the author maintains, describing the policy, technical, and other barriers to achieving more routine access, as well as the diverse organizations at work responding to the challenges and informing the next steps.

35 How to Register an Unmanned Aircraft System

Joseph Geni



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COVER: As another century of commercial aviation begins, government and industry look to the future—moving from ground-based to satellite-based navigation and communication, integrating unmanned aircraft systems, and more. (Photo: Christy Gerencher)

TR NEWS

features articles on innovative and timely research and development activities in all modes of transportation. Brief news items of interest to the transportation community are also included, along with profiles of transportation professionals, meeting announcements, summaries of new publications, and news of Transportation Research Board activities.

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Jon C. Haass, Krishna Sampigethaya, and Vincent Capezzuto

Cybertechnologies—including software, computer networks, and information technology—are critical and fundamental to the aviation ecosystem of aircraft, pilots, personnel, passengers, stakeholders, and society and are part of the fabric that controls and assures aviation operations, safety, and performance. But cybertechnologies also expose aviation to dangerous and costly threats; the authors explore the responses.

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Thomas Berry, Katherine Harback, Simon Tsao, and Stephen Welman

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Graphic from the cover of the National Cooperative Highway Research Program domestic scan report, *Advances in Transportation Agency Knowledge Management*, May 2014.

Knowledge management—subject of a recent domestic scan of transportation agencies—is the focus of feature articles in the September–October TR News. Authors present insights into the multidisciplinary approach that assembles, develops, shares, and applies organizational knowledge to achieve institutional objectives. Articles cover transportation knowledge networks and communities of practice; lessons from the use and value of knowledge management in other fields; knowledge, information, and learning culture; experience at transportation agencies, including a CEO's perspective; supporting strategic change and preserving institutional knowledge; plus an overview of the research and applications—and more.