

GCRI INTERVIEW

Rolf Henke**DLR Executive Board Member for Aeronautics, German Aerospace Center
(Deutsches Zentrum für Luft- und Raumfahrt; DLR)****In your opinion, what are some of the major upcoming trends and challenges in the aviation industry?**

Central to the activities of aviation research and industry is the reduction of noise and pollutant emissions (eco-efficient flying). Other activities include the reduction of bottlenecks at airports through the improvement of process flows (TAMS – Total Airport Management System), lowering costs and increasing the service life of aircraft, improving security and bringing about cooperation between various modes of transport to create an integrated system.

How do you expect commercial air travel to change in the next decade?

Nothing fundamentally new will be seen in the sky before 2020. With the Airbus A320neo, the Boeing 787 and Airbus A350, conventional configurations will continue to shape events.

Real innovations in aerodynamics and fuel saving will require at least 15 years of research and development; market introduction and penetration will require an additional 15 years.

How will air traffic management adjust to an increase in commercial flights? What kinds of adjustments would you like to see?

To enable the eco-efficient use of aircraft – that is, optimisation of flight time together with low emissions and noise – it will be necessary to create a unified airspace. Secondly, 'segmented approaches', that is, the allocation of vertically and horizontally incoming aircraft, should be implemented in the vicinity of airports. In addition, increasing the amount of on-board autonomy for flight crews and devising solutions for the use of and interaction with Unmanned Aerial Vehicles (UAV) will offer new possibilities for future air transport.

What are the benefits of cooperation between research institutions, universities and industry in aeronautics research? How could this relationship be enhanced?

All three areas must independently position themselves well, be optimally managed and directed, and work collaboratively; universities, because of their agility in basic research, major research institutions such as DLR for technical breadth and depth combined with research infrastructure, and industry because of its relevance to the market.

Which specific areas of aviation and aeronautics research have the greatest potential for sustainable development?

Ever-growing air traffic demands a high degree of flexibility and safety in all operations and across all areas. This can only be ensured through the provision and development of modern infrastructure, both air- and ground-side.