Today much of the world can receive information on demand through many different devices from handheld, car-mounted, to desktop devices. While information on demand is now critical to many industries and institutions, including most families in developed countries, proximity to other resources is also vital. These resources may include: food, medical talent and supplies, clothing, building supplies, jobs, and reaching family. Proximity to these and other non-information resources shapes where and how most of us live and work. In fact, proximity to resources continues to overwhelmingly shape the development of every civilization in every country. As our world population continues to grow and change, we have increasingly relied on air transportation to bring many resources to our front door. However, our world is continuing to change at a rate that requires a new look at transportation and our needs to have access to resources. Ground-based transportation alone is an insufficient long-term solution for our planet. While air travel today is safe, quick and efficient – tomorrow it must be even safer, even quicker, more environmentally-friendly, and have new capabilities to address our changing world. These capabilities may include: transforming the agriculture and fishing industries by using highly maneuverable aircraft in remote locations; commuting to work via air instead of ground transportation; making supersonic flight routine; and, addressing emergency needs and natural disasters with a variety of small and large aircraft. This future of flight may enable a new kind of internet – an on-demand aviation internet in 3-D. Today most aircraft fly on prescribed routes at prescribed times. Tomorrow demands more air travel flexibility. NASA’s research in aeronautics is unlocking many of the doors to this future world – on demand.