



CloudFMS is an exciting new concept where each participating aircraft has a digital twin—an exact software replica—of the main components of its Flight Management System (FMS). The Digital Twin (DT) exists in a cloud-based environment (hence the name "Cloud FMS"). The on-board FMS synchronizes vital information with the Cloud FMS. APIs are built around the Cloud FMS which enable authorized internet-based users and apps to access the information for planning purposes. Applications include accurate FMS-based trajectory prediction, top-of-climb and top-of-descent information, and better aviation forecasts with up-to-date atmospheric parameters. There are many other applications, the list is endless.

Cloud FMS helps enable transformation of the National Airspace System to a digital-based system. Additionally, Cloud FMS information can be used to create an accurate Digital Twin of the NAS itself, which has innumerable applications.

## Cloud FMS Architecture

