In Conversation with…
Lajpat Rai, AGM (Cartography), Airport Authority of India

The Airports Authority of India or AAI is responsible for creating, upgrading, maintaining and managing civil aviation infrastructure in India. It provides air traffic management services over Indian airspace and adjoining oceanic areas.

AAI covers all major air-routes over Indian landmass and has ground installations at all airports and 25 other locations to ensure safety of aircraft operations.

To safeguard the Airspace in and around the civil airports, Airports Authority of India (AAI) decided to use Colour Coded Zoning Maps (CCZM) based on the latitude & longitude of the area in respect of civil aerodromes. These maps indicate the permissible heights in the areas around the airport through different colour coded grids.

Accuracy is of utmost concern in the task and to ensure accuracy in Latitude & Longitude with $1/100^{th}$ of second, AAI collaborated with Esri, a leader in mapping software. How this collaboration has led to impressive outcomes, shares *Lajpat Rai, AGM, AAI in an exclusive interview*.

What challenges were you facing with the existing system?

The existing system for creating maps is time consuming, so we need to update our system to meet the current demand. Our main purpose is to provide systematic and accurate work in map form which fulfils the needs of Civil Aviation, which is as per ICAO requirement. Another concern was accuracy. The traditional system was not providing us as much precision as we desired. With safety being a major concern in case of airspace management, we needed a technology that could provide us accuracy to nano-second level.

Why did you choose ArcGIS?

The ArcGIS software provided by Esri India was apt to meet our requirements. Using the software, many of our aeronautical charts/maps could be prepared easily with more accuracy. Accuracy of latitude and longitude in GIS is very reliable. GIS fulfils the need of aviation, airlines, route maps, Colour Coded Zoning Maps, manmade feature, etc. for manipulating and preparation of maps/charts.

What are the main features of the technology?

The ArcGIS provided by Esri India is a robust solution. Using the application, many our maps like Colour Coded Zoning Map (CCZM), Air Route Chart (ATS) Instrument Approach Chart, Aerodrome Chart, Aircraft Parking Docking Chart, Airport Map, Type - A & B, etc. can be prepared easily. The software meets the requirement of accuracy in latitude and longitude with $1/100^{th}$ of second at the same time.

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Please illustrate the benefits of using Esri ArcGIS.

ArcGIS provided by Esri India is of great help. As expected, the system meets our requirements. The technology is benefitting AAI immensely. We are not only saving time and money but also our quality of work is improving. We believe a similar solution from some other organisation would have not only cost us more, but also we may not have got such enhanced quality work.

Is the technology completely meeting your requirements or you feel few updates/additions are required?

Though we are satisfied with the current results, to perform better, we feel some more tools need to be added as per our field of work and requirements. Also, I feel with better knowledge of the system and more hands-on experience, we will gain better results in the future.