

# Beijing Capital International Airport (PEK) in Beijing, China

## Surface surveillance MLAT system by ERA and Parallel Runway Monitoring (PRM)

### Introduction:

Beijing is home to the Beijing Capital International Airport (PEK) which has rapidly ascended in the rankings of the world's busiest airports over the past decade. Prior to the beginning of the ERA project, Beijing Capital was the world leader in passenger growth in 2005 with a staggering 17.5% upswing in passenger traffic. It became the busiest airport in Asia in terms of passenger traffic and total traffic movement by 2009 and as of 2012 has been the second busiest airport in the world in terms of passengers although still behind Atlanta airport and has registered 557,167 aircraft movements. To accommodate the growing traffic volume, Beijing Capital added the enormous Terminal 3 in 2008 in time for the Olympic Games. This is the second largest terminal in the world after Dubai Airport Terminal 3, and the fifth largest building in the world by area.

### Challenge:

Beijing's unprecedented growth and success has represented an immense challenge for airport officials. The large increase in demand could not be met by capital improvements and construction alone. Furthermore, safety concerns became paramount in the face of the rapid expansion. A parallel runway monitoring (PRM) system was necessary due to the three parallel runways at Beijing Capital International Airport. Additionally, with the extreme upswing in aircraft movements, Beijing Capital International Airport needed improved airport ground surveillance. ATM officials decided to research systems which could leverage next-generation technologies based on multilateration and



### CHALLENGES:

- Surface management
- Parallel runways
- Growth of operations
- Safety enhancements
- Airport infrastructure growth

### SOLUTIONS:

- WAM (PRM) and surface multilateration
- ADS-B transmitters - vehicle tracking units
- Tracks transponder Mode S, ADS-B
- Cover all manoeuvring areas

### BENEFITS:

- Higher accuracy
- Greater update rate
- Better coverage
- Scalable
- Cost-effective

### STANDARDS:

- EUROCAE ED-117
- DO-260A

