

Japan Airlines: Transforming Ground Operations with Real-Time Dolly Visibility

By implementing Hoopo's Fleet Intelligence Solution across its fleet of **3,040 dollies** at Narita International Airport, Japan Airlines reduced annual dolly search time by an estimated **14,000 hours**, right-sized its dolly fleet by approximately **7%**, and projects annual cost savings exceeding **¥70 million (~\$450 000)**.


JAPAN AIRLINES

Japan Airlines Co., Ltd. is one of Japan's leading airlines, operating an extensive domestic and international network. At Narita International Airport, a major international hub, JAL manages approximately 3,040 dollies used to transport air cargo and baggage containers.

Large-scale and complex airport operations require strong coordination, rapid decision-making, and accurate asset management. As part of its digital transformation strategy, Japan Airlines launched a dolly visibility project to optimize its ground operations.

Industry:

Aviation / Ground Handling

Objective:

Asset visibility, fleet optimization, and operational efficiency

Primary Implementation Site:

Narita Airport

Managed Assets at Narita Airport:

Approximately 3,040 dollies

PREVIOUS CHALLENGES

Operational Challenges

- Limited real-time visibility into dolly location and availability
- Dolly search times taking up to 30 min. in some cases
- Manual visual verification and phone coordination across ground teams
- Limited operational data made it difficult to determine the optimal dolly fleet size

Narita Airport covers a vast operational area with multiple dolly storage locations. Without real-time visibility, locating available equipment required physically searching across the airport. Given the strict time constraints of airport operations, this reduced operational efficiency and created additional coordination effort.

Cost-Related Challenges

- Excess dolly inventory due to limited visibility into real-time operational status
- Increased dolly procurement and inspection costs
- Increased CO₂ emissions caused by unnecessary vehicle movement and excessive dolly relocations during equipment searches

Extended search times resulted in additional vehicle movement throughout the airport, increasing fuel consumption and environmental impact.

As operations became more complex and performance requirements increased, implementing a data-driven visibility solution became essential to support more sustainable and efficient ground operations.

THE HOPO SOLUTION

Deployment of the **Hoopo Solution** began in **December 2023** and was completed across all **3,040 dollies** within approximately **three months**.

Each dolly is equipped with an industrial IoT device called the **hoopoSense tracking device**. Designed for outdoor airport environments, the device provides highly accurate real-time location and container load status. Its long battery life helps minimize maintenance costs.

The operations team can monitor the following in real time through Hoopo's web management platform:

• Loaded dollies (unavailable)



• Bare dollies (available)

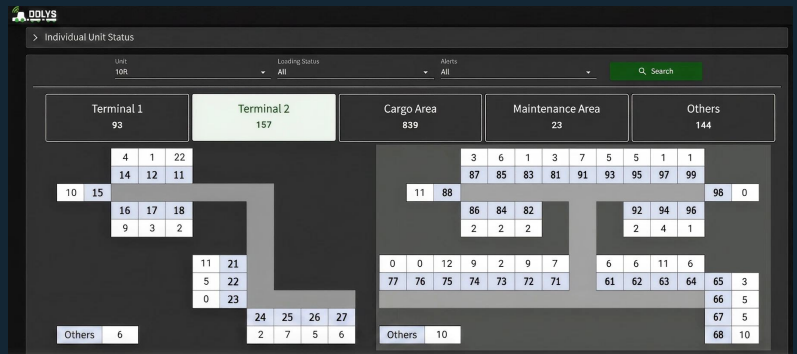


Furthermore, Japan Airlines leveraged Hoopo's API to develop its proprietary asset management system, DOLYS.* Built on Hoopo's real-time data, DOLYS was designed as a simple and practical system tailored to JAL's operational requirements.

Field operators use tablet devices to search for and verify dolly locations. The dashboard provides real-time visibility into:

- **Number of dollies by zone / location**
- **Dollies required by each company**
- **Equipment type**
- **Container load status**

Advanced filtering enables quick decision-making and improves operational responsiveness.



*DOLYS is the name of Japan Airlines' proprietary asset management system.

EXPECTED BENEFITS FROM IMPLEMENTATION

By implementing real-time tracking, Japan Airlines aims to transition from search-based to data-driven operations, giving ground teams the visibility to make faster and more confident decisions.

Operational Efficiency Improvement

- An estimated **14,157 hours** of annual dolly search time eliminated
- **Faster work initiation through real-time visibility** of available dollies

These figures are based on JAL's internal operational analysis conducted before and after deployment. The results reflect stronger coordination across ground teams and a meaningful reduction in unnecessary tasks.

Cost Reduction

- **~ 7% reduction** in fleet size required, reducing procurement and inspection costs
- Approximately **¥71.7 million** in projected annual cost savings
- **~ 66,361 liters** of annual fuel savings from reduced equipment search activity

Real-time asset visibility enables more accurate fleet allocation while reducing unnecessary equipment movement.

Environmental Impact Reduction

- Approximately **171 tons of CO₂ emissions reduced annually**

By reducing unnecessary vehicle movement and optimizing fleet utilization, JAL expects to achieve measurable environmental benefits alongside improved operational efficiency.

14K hours

Of annual search time eliminated

7%

Fleet reduction (fewer dollies required)

¥71.7M

Projected annual savings

171 tons

Of CO₂ emissions reduced annually (~66,361 L of fuel saved)

FUTURE OUTLOOK

Building on the successful deployment at Narita Airport, Japan Airlines plans to further leverage real-time data to optimize equipment allocation and improve operational efficiency.

This initiative demonstrates the flexibility of the Hoopo Solution and the value that asset visibility brings to complex airport environments. By using the data collected to continuously improve daily operations, Japan Airlines aims to further enhance operational efficiency and strengthen data-driven operational planning.

This initiative represents an important step in Japan Airlines' digital transformation of airport operations.



“The Hoopo Solution provides reliable and consistent data that enables us to accurately understand the location and utilization of our ground support equipment (GSE). By reducing search time on the ground, we expect to improve operational efficiency and on-time performance at Narita Airport while significantly increasing dolly utilization.”

Japan Airlines, Airport Operations Manager



Ready to bring
real-time visibility to
your GSE operations?

Book a meeting with our team

