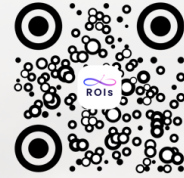


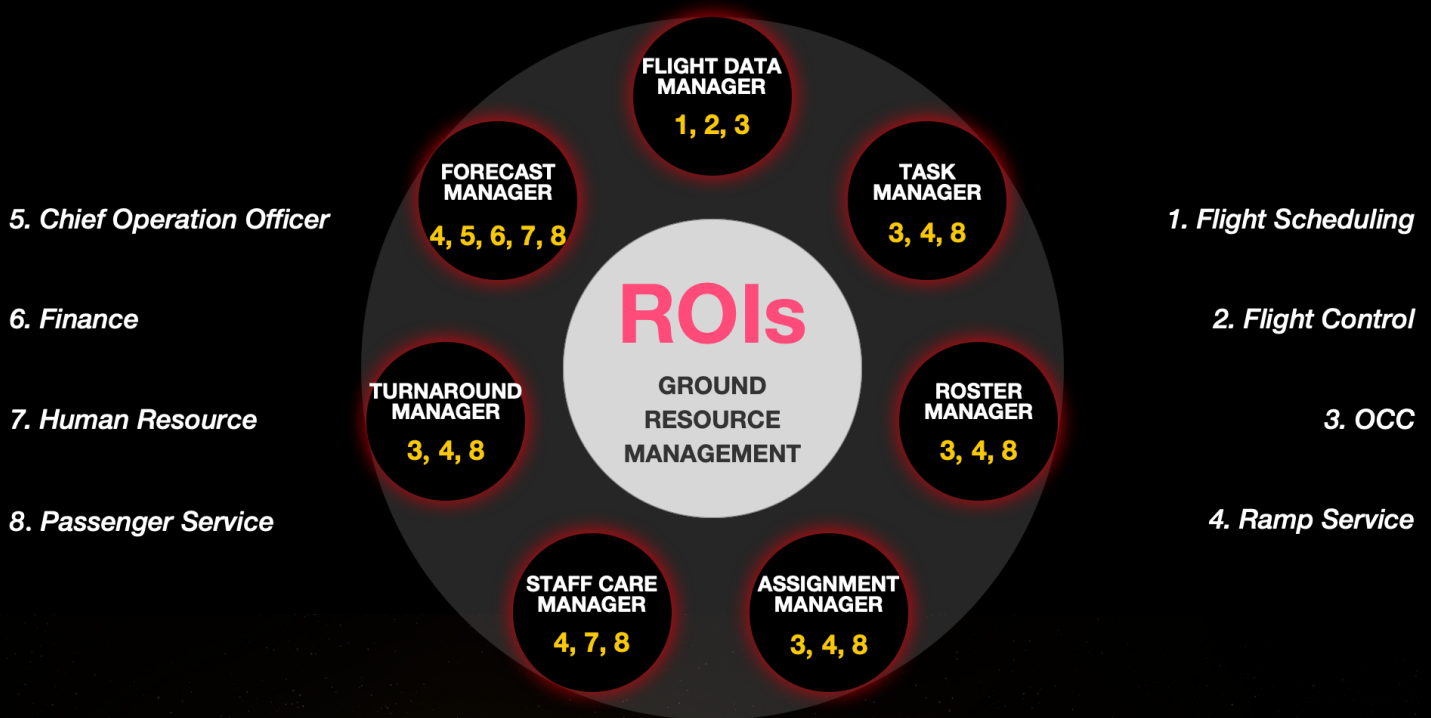


ROIs



ROIs AIRPORT & GROUND SOLUTIONS

“ROIs” is an innovative SaaS solution designed to streamline and enhance various aspects of aviation operations resource management requirements. A complete end-to-end solution for ground support operations, ROIs streamlines airport operations using real time information during irregular operations as well as being used for planning and forecasting purposes. ROIs empowers airlines and aviation service providers to optimize their operations, reduce costs, ensure compliance, and improve the employee experience.



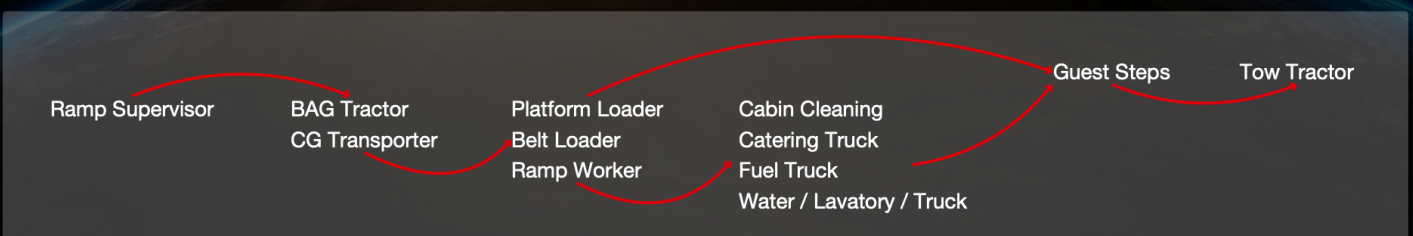
ABOVE THE WING

PAX Check-In	PAX Boarding	Security
PAX Transit	PAX Shuttle Bus	VIP
Lounge	Immigration	

PLANNING & MONITORING

Parking Bay	Baggage Carousel
Boarding Gate	Weight & Balance
Check-In Counter	HCC Controller

BELOW THE WING



Reducing **delay** minutes has a direct impact on an airline's **financial** performance

Calendar Year 2022	Direct Aircraft Operating Cost per Block Minute (USD)	Increase vs. 2012	2022 Delay Costs (USD millions)
Total	\$ 101.18	29.4 %	\$ 9,284

WHY ROIs

ROIs is a proven solution in the aviation industry that provides innovative features, an enhanced user experience, the ability to customize parameters, has no restraints on data compatibility, and allows for modeling strategic initiatives as well as providing tactical support for the existing operation. Additionally, implementation is accomplished in a bespoke manner that allows the nuances of each customer's business processes and business requirements to be accommodated.

ROIs Provides **Value** Across Stakeholder Requirements

Fully automated airport / ground resources planning & real-time dispatching optimization

Staff productivity increased by **2%-12%**

Weekly or Monthly shift hours decreased by **3%-8%**

Labor cost on roster planning decreased by **90%+**

Flight departure delays reduced by **~10%**

Weekly roster optimization within **5** mins, daily task dispatching optimization within seconds

Task standards compliance increased by **50%**

Reduce phone, VHF, email communications by **95%**

Task distribution fairness increased by **5%-15%**

On-time departure of flights within **30** minutes of arrival delay increased by **~15%**

*Highly configurable
UI and Rules*

*Cross-functional
Optimization*

*Cloud-native
& Service-based*

Closed-loop Integration

*Forecasting
& Predicative Capability*

*Data Intelligence
& Collaborative Decision*

*Higher & Faster
Project ROI*

*Experienced
Global Team*

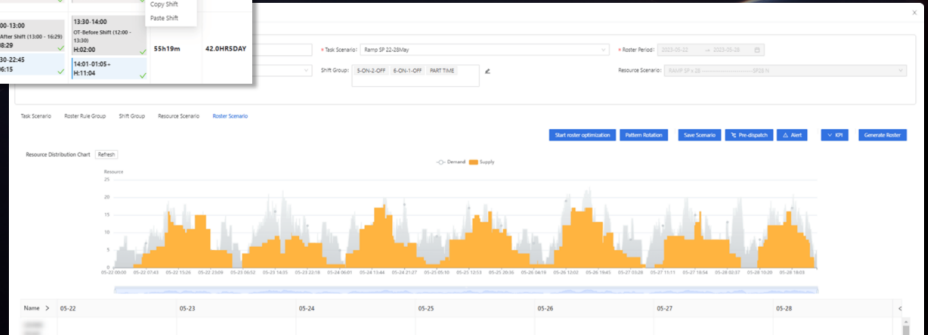
OPTIMIZED ROSTERING AUTO REAL-TIME OPTIMIZATION

Name	05-15	05-16	05-17	05-18	05-19	05-20	05-21	Planned Hour	EA Workhour
...	14:00 01:05- H11:05	14:00 01:05- H11:05	12:00 22:15 H:10:15	Day Off Off after shift (18:00 - 18:30) H:10:30	07:05-16:55 H:09:55 16:56-19:00 H:03:04	Day Off Off after shift (07:00 - 17:30) H:10:30	08:00 14:45 Off after shift (14:45 - 17:20) H:03:20 13:30 22:30 H:05:00	\$500/m	42 SHRS DAY
...	10:00 13:00 H:02:29	11:00 13:00 H:04:59	Day Off Off after shift (11:00 - 20:00) H:09:00	07:30 17:45 H:10:15	Day Off Off after shift (07:30 - 17:45) H:10:15	13:30 00:25- H:10:55	11:00 14:00 Off after shift (14:00 - 16:20) H:05:20 16:30 00:25- H:07:55	\$50/m	42 SHRS DAY
...	13:30 00:45- Off after shift 00:45 - 01:00 H:11:30	Day Off H:00:00	08:00 18:30 Off after shift (18:30 - 19:00) H:11:00	11:00 13:00 Off after shift (13:00 - 16:20) H:05:20 16:30 00:45- H:05:15	15:30 01:20- H:09:50	13:30 00:45- H:11:15	Day Off H:00:00	42 SHRS DAY	42 SHRS DAY
...	06:00 21:45 H:11:00	06:00 21:45 H:11:00	06:00 21:45 H:11:00	06:00 21:45 H:11:00	06:00 21:45 Annual Leave H:00:00	Day Off H:00:00	Day Off H:00:00	42 SHRS DAY	42 SHRS DAY
...	Day Off Off after shift (08:00 - 18:30) H:10:30	08:00 18:00 Off after shift (18:00 - 18:30) H:10:30	08:00 18:30 Off after shift (18:30 - 19:00) H:11:00	Day Off Off after shift (07:15 - 18:00) H:10:45	08:00 13:00 H:05:20	08:00 13:00 Off after shift (13:00 - 16:20) H:05:20	13:30 14:00 Off after shift (12:00 - 13:30) H:03:00	\$50/m	42 SHRS DAY

As flight schedules are imported or retrieved in real-time, The Roster Manager automatically generates and updates these tasks to reflect the operational demands, to respond promptly and accurately to changes in flight schedules or other operational variables, enhancing overall productivity.

ROSTER MANAGER

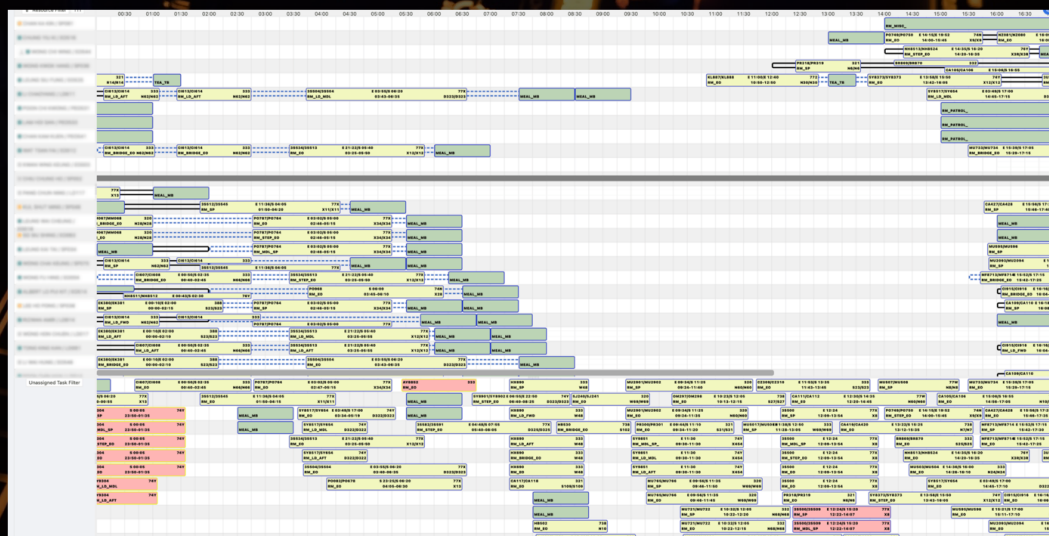
The Roster Manager offers flexible and configurable options for defining ground handling tasks based on service level agreement (SLA) conditions, including factors such as carriers, flight routes, aircraft types, parking stands/gate types, and passenger/cargo volume. The user interface allows for easy customization of these conditions to fulfill your evolving business needs.



ASSIGNMENT MANAGER

The assignment manager has advanced features to streamline the operations and enhance the overall performance. It dynamically updates the flights, tasks, and resources to ensure operational efficiency. It also accounts for qualifications to ensure regulatory compliance of the operations. It uses a multi-objective calculation to find the best balance among fairness, fatigue, and efficiency. Moreover, it has an auto-trigger assignment rescheduling feature that accounts for the work intensity of the employees.

The assignment manager aims to help coordinators deal with the daily complexities of ground handling tasks by automating the assignment of tasks to the appropriate resources in a timely manner. The system takes into account various factors such as task coverage rate, resource qualifications, work efficiency, labor intensity, meal breaks, airport topography, personal preferences, and more. In the event of a temporary resource shortage, the system will search for pre-defined plans to maximize the task coverage rate and flight on-time departure rate, including task prioritization, task length compression, multiple task overlap, qualification standard downgrade, and other strategies.

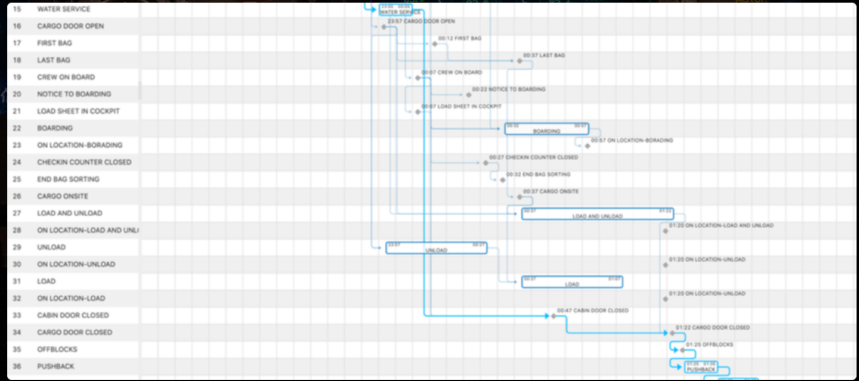


Despite the automation, unexpected events can still occur. Therefore, assignment manager also provides tools and kits such as task drag and drop, contingency task adding, auto-rule check, real-time KPI check, and more to support manual task assignment. Ultimately, the human coordinator has the final say in the assignment of tasks.

COLLABORATIVE DECISION

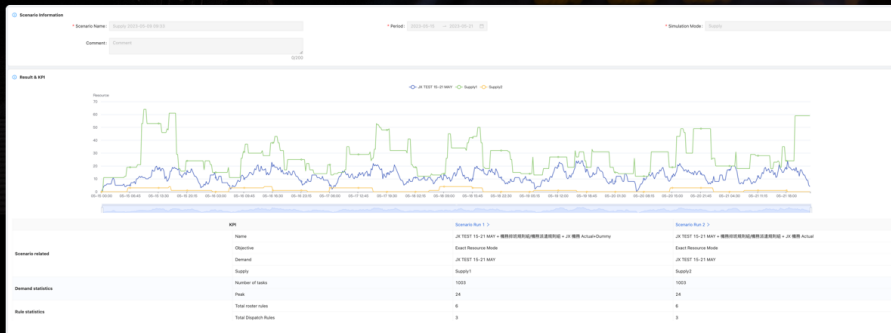
TURNAROUND MANAGER

The Ground Handling Service (GHS) network involves a multitude of interdependent service tasks that must be executed with accuracy and precision. To ensure optimal service delivery, the turnaround manager allows for customizable service workflow design based on various conditions such as carriers, flight routes, aircraft types, parking stands/gate types, Guest/CG volume or any other data field in AODB. The module auto-calculates the critical path and the longest service path, for an entire turnaround and captures actual start/end timestamps for each task. This enables the system to calculate variations and their impact on subsequent services, providing a reliable COBT or CTOT.



In the event of abnormalities, the system generates warnings to support decision-making by duty controllers. The system can automatically adjust the service strategy based on pre-determined scenarios to guide the management of each working unit, to ensure efficient and reliable service delivery.

DATA INTELLIGENCE / PREDICTIVE CAPABILITY



FORECAST MANAGER

The Forecast Manager drives meaningful insights. One of its key features is workload forecasting, which predicts workload coverage and operational cost for new flight seasons, customers, or SLAs, and also implements various business insights, such as roster results comparison in multiple dimensions, analysis of flight delay reasons, road-blocks in ground service process, resource fatigue management, and more.

By analyzing historical data, the platform verifies the consistency of business rules and parameters. Additionally, it offers a visual, data-driven, and scenario-based simulation approach that allows businesses to evaluate and experiment with their processes without incurring costs and risks associated with making changes in the real business environment.

The module uses historical operational data / seasonal flight schedules to simulate operational demands. Using a resource supply plan that considers factors such as amount, qualifications, preferences and union/company rostering regulations such as maximum and minimum shift hours, consecutive working days, and mandatory rest days, the module automatically generates a rostering plan that best meets target KPIs such as task coverage, work efficiency and labor cost. Roster planners can compare and choose from various solutions generated by different condition combinations to support their recruitment plan.

CASE STUDY

One of the Flagship airlines in APAC

With the continuous increase in the number of flights at the hub and the continuous expansion of the business scale, flight ground support without automation has become increasingly complex. ROIs drives the digital transformation of this airline's ground service, with **5 Core Modules** covering **17 Ground operations departments**.

Some Operational Figures:

- Manage 6300+ staff and 1100+ GSE to serve 750+ flights daily.
- Rules to cover 22 Business Units, 110+ SLAs, 330+ Task Types and 80+ Task Assignment Restrictions.
- Overall staff work hour reduced 8% with labor productivity increased 12%.
- Labor cost spent to generate staff roster reduced 90%.

One of the largest international airports in Asia

Business Challenges

- High labor costs & strict slot controls.
- Increased complexity due to change in business model
- Need to solve for individual shifts rather than teams.
- Tasks assigned in compliance with qualifications.
- Enhance automation and efficiency, to achieve optimizations in resource planning, staff rostering and real time deployment.

Project Complexity:

- 1,000+ employees with 15 position,
- 72 work types and 129 ranks
- 1,700+ qualifications, most employees with 5+ qualifications
- 8 types of work shift with
- 13,000+ regulatory restrictions on it
- 1,000+ automatic optimization every day