Next-generation Airport Management Suite
Our Portfolio

With more than 30 years of experience in the airport and aviation industry, ISO’s SKYport Suite offers a complete range of software applications to support (multi-)airport operators and ground handlers of all sizes.

ISO’s Software Business Processes of Airport Management

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See our SKYport Portfolio – online
Airport Operations

Browser-based Airport Management
Accurate, real-time information is key for successful airport operations. Numerous parties are involved in running an airport. Internal staff as well as business partners, airlines and authorities depend on this data to play their part in an airport’s integrated business process.

Intuitive, browser based GUIs, exceptional integration capabilities and easy adaptation to customer-specific demands make SKYport the ideal, profitable “single source of truth” for airports of all sizes.

SKYport AODB
The SKYport AODB is the central hub for storing, processing and distributing all flight-related information. Based on an ORACLE database server, SKYport ensures the availability as well as the integrity of all operational data and provides secure access to this data to all legitimate users.

Master Data Management
Reliable master data is the basis for using software systems efficiently. SKYport AODB has a master data module that can easily be adapted to reflect the customer’s needs.

The master data module supports daily operations with reliable data for airlines, flights and airport facilities.

For convenient data entry, all master data is available in pull-down menus or auto-completers.

To guarantee high-quality information, all entries of the operational data are checked against the respective master data.

Rule Engine
Intuitive management of business rules allows for a high degree of automation throughout the SKYport applications.

Business Rules can be based on a variety of database parameters – for flexible management of resource allocations, fully automated invoice creation and expediting of documents.

Depending on the business process, hard and soft rules can be defined to determine the best possible scenario.

Scheduler
The SKYport scheduler provides intuitive automation of routine tasks such as the preparation of the daily flight plan and automated report generation and distribution.

Going beyond Airport
- Did you know that SKYport customers use SKYport AODB to manage not only planes but also trucks and even ships?
- The quality features of SKYport let you flexibly manage all your traffic operations.
- Airports use the daily flight plan to manage road feeder service trucks handling cargo.
- Some customers even manage ship movements at their inland port with the SKYport AODB.
SKYport Connect

SKYport Connect – the integration suite of the SKYport AODB – guarantees real-time data exchange with external systems covering multiple protocols and data formats.

SKYport Connect allows for rapid integration of new interfaces and data processing rules.

SKYport Connect supports more than one hundred interfaces to third-party systems of airport operators, to business partners or public information platforms.

Available data exchange procedures include airport-specific standard interfaces as well as individually customizable interfaces for local requirements.

SKYport Connect Examples

- **IATA Type B Messages**
  Send, receive and process standardized IATA message formats via SITATEX, ARINC or email.
  Supported message types include MVT, LDM, PTM as well as FFM, FSU, SAM/SRM and many others.

- **Schedule Messages**
  Initialize seasonal flight plans and import daily updates from regional coordinators or airline systems.
  Supported message types include German FLUKO, SCORE, SSIM, SIR and many others.

- **ATC Tower Systems**
  Real-time communication with local air traffic control based on ADEX-P or AFTN

- **Provide real-time data for third-party systems i.e.**
  - Human Resource Management System
  - Flight Information Display Systems
  - Gate Access Verification
  - and many others

SKYport Applications

Seasonal Flight Plan

The seasonal flight plan offers the first wide-angle view of future airport capacity and resource allocation. SKYport AODB lets you create seasonal flight plans interactively. Alternatively, SKYport Connect offers interfaces for downloading and importing your seasonal flight plan from regional flight plan coordinators and airline systems. Resource usage for gates and parking positions can be planned on a seasonal basis. The automatic composition of rotations supports an accurate planning of apron occupancy. Multiple simultaneous seasons reflect different planning states.

Daily Flight Plan

The daily operational flight plan is generated automatically from the seasonal flight plan and allows managing scheduled traffic as well as general aviation flights interactively.

The user interface of SKYport Daily Flight Plan presents information in tabular and detailed format. The table view can easily be configured according to the user’s specific business processes. Simultaneous data entry from different workstations is fully supported.

SKYport provides the user with a variety of validation tools like plausibility checker against master data references (i.e. passenger count exceeding seating) and color coding for missing information (i.e. block time entered but aircraft registration missing).
The SKYport Daily Flight Plan supports both IATA and ICAO standards for data entries. All time entries can be fed and displayed in UTC or local time. Flight detail screens deliver insight into supplementary information like transfer passengers, travelers’ final destinations or incoming IATA messages. Configurable filters can be used for retrieving both current and historical flight data.

**SKYport AODB Add-ons**

**SKYport Resources**

SKYport Resources adds resource management capabilities to your SKYport AODB – for easy administration of gates, parking positions, baggage belts and more.

Resource preferences can be set for any flight and are displayed in a diagram.

For the daily operations, all resource allocations can easily be changed to any desired value using drag and drop. Automatic conflict detection ensures that users can allocate only those resources that are suitable for a specific flight. SKYport Resources is fully integrated with the SKYport AODB. All changes made in the resource allocation are stored directly in the AODB, and data is available to all users in real time.

**SKYport Maps**

For larger airports and airport operation control centers, SKYport Situational Maps offer an intuitive overview of airport operations.

Real-life representations of your airfield are used to display flight movements, aircraft stand allocations and potential resource allocation conflicts. The data displayed in the situational map is real-time data from the AODB or third-party sources – for highest accuracy and a quick yet comprehensive overview of your current operational situation.

Besides the airfield status, SKYport Situational Maps can also provide a quick overview of airport resources. A map of your terminal can be used to display resource availability (e.g. boarding gate unavailable due to planned maintenance). To provide real-time information on airport infrastructure, SKYport Connect can interface with your integrated building management system or any other data source providing operational information.
SKYport Activities

SKYport Activities adds functions for ground handling management to the SKYport AODB standard. Existing contracts with airlines can be used to define the mandatory and optional ground handling activities per airline/flight/aircraft type.

When generating the daily flight plan, the SKYport Activities rule engine will also generate a set of work orders outlining mandatory and optional activities per flight for the supervisor.

These work orders can be either printed or accessed via a web GUI using mobile devices such as rugged tablets or smartphones.
SKYport Care

Airports are facing a new logistical challenge: Transporting passengers with reduced mobility to the aircraft or the check-out – and doing so in the most comfortable way with little or no waiting time. This is not only a service for the customer, but it is an air passenger right according to pertinent EU regulations.

SKYport Care can be used anywhere, whether on a PC or a mobile device. You can check all the relevant information – such as the name of the passenger, flight data, flight number, arrival, departure, parking position or the Special Service Request (SSR) – directly on your Android phone. User access to the data can be adjusted on a need-to-know basis.

The Dispatcher Mode allows dispatchers to contact PRM employees for planning and deployment. Real-time information about the current flight status provides dispatchers with updated data to react accordingly, such as an alarm notification warning the administration if no employee has been assigned to a PRM route yet. If the user does not react to an alarm notification, SKYport Care will automatically release the routes again so that another employee can take over the task.

Route overview & employee management

You can create, edit or delete new PRM tracks with just a few clicks. In the airport’s route overview, you and your employees can see who has to accompany “whom, when, where”, along with the status of the current task at a glance. For maximum overview, the tasks can be displayed and sorted by either PRM route or staff.
### Cargo Handling

#### Integrated Cargo Handling and Billing

**SKYport Cargo**

Nowadays, cargo handling is an essential source of airport revenue. As cargo handling is a high-volume, time-critical process, applications need to be closely integrated with the airport system environment.

Linking to the SITA network, for example, can dramatically reduce the effort for handling airway bills – all the required information can be derived from the FFM messages.

Another way to speed up processes is to incorporate the aeronautical billing.

Still, managing cargo handling is often done apart from the existing AODB and the aeronautical billing software. ISO has taken a step forward toward a fully integrated airport operations suite with SKYport Cargo, which becomes an inherent component of the SKYport AODB.

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#### Managing Freight Shipments

For each flight, an unlimited number of freight shipments can be managed, identified by their Master Air Waybill (MAWB). MAWB details are accessed directly from the daily flight plan. The intuitive dialog has been optimized for quick and easy data entry:

- number of pieces
- weight
- contents
- damage/loss notes
- storage place

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#### Cargo Handling

SKYport Cargo extends the seasonal and daily flight plans of SKYport AODB by special flight types for road feeder service support – thus providing a common interface for both flight and cargo handling. User-customizable views ensure that your cargo teams are provided the information in a user-friendly way.
Advanced Handling Options for Import Shipments

Besides managing airway bills, SKYport Cargo provides a variety of advanced handling options, such as creating customs declaration (via ATLAS or other Web Services), warehousing documents (i.e. manifests) and release documents for pickup (i.e. collection vouchers). Further options include taking the shipment out of the warehouse (collection), calculating the storage period (based on working hours and holiday calendar), and splitting shipments into individual HAWBs. SKYport Cargo also allows issuing status message (FSUs) through SITA.

Benefits
- fully integrated with SKYport AODB
- manage cargo flights and road feeder services from a common user interface
- fast capturing of all cargo relevant data
- integration with SITATex reduces manual input tremendously

Cargo Billing

SKYport Cargo is fully integrated with SKYport AODB, making all cargo information available in SKYport Billing – for faster billing cycles. The powerful rule engine of SKYport Billing allows flexible and automated billing of all cargo charges. Whatever the fee – basic cargo handling, warehousing, declaring to ATLAS or splitting – SKYport Billing can calculate the charges automatically. Additional fees can be configured individually, and further services can be recorded manually.

SKYport Billing also handles invoicing, such as the generating and printing of collective invoices, even with customer-specific tariffs. The software lets you transfer data to financial accounting and can manage cash payments specifically for settling warehousing fees with the collecting party.
Customs handling can be done directly from SKYport Cargo using interfaces such as:

ATLAS (D) The connection to the ATLAS customs system is done through the ZABIS® solution by service provider BlueJay. All relevant customs messages are automatically generated from SKY-Cargo, sent to the provider’s via Website interface, and transmitted to customs from there. Feedback can also be transmitted in this way.

The specific process has to be adapted according to local regulations.

Benefits

- automated calculation of all cargo charges
- cash reimbursement, invoicing and electronic invoicing
- IS-XML-compliant billing
Passenger Experience

SKYport FIDS

Passenger Experience – a topic that is trending throughout the industry.

With flap-boards or LED boards moving out and being replaced with flat screen monitors, multimedia FIDS applications are taking over.

SKYport FIDS, a browser-based Flight Information Display System, offers a range of display components to create media-rich output to your passengers. Create added value for your passengers – by displaying destination weather at the boarding gate, provide destination information or incorporate video advertising on FIDS screens. With SKYport FIDS, all this is just a mouse click away.

Benefits

- directly integrated with the SKYport AODB, displaying all data in real time with no additional interfaces
- efficient update mechanisms keep the workload of the FIDS client to a minimum
- supply FIDS information to any screen in your terminal using inexpensive, energy-efficient single board computers like the Raspberry Pi
- comes with a ‘wysiwyg’ layout editor letting your staff create media-rich FIDS screens on the fly
SKYport Billing

Market Leader for Airport Billing and Ground Handling Billing

An airport needs a billing and charging process with close collaboration of both operations and administration. All relevant information has to be provided as parameters for the charge calculation. Thanks to its flexible rules, SKYport Billing is adaptable to any charge structure.

More than 60 installations make ISO the European market leader in billing systems for airport operators and ground handlers. In addition, ISO has deployed its systems to airports / ground handlers in America, Asia and Africa.

ISO’s airport expertise ensures benefits far beyond the standard implementation of new software. Our focus is on business process optimization and system integration.

ISO offers two solutions for airport billing. We thus focus on your preferred technology.

Two Alternatives for Airport Billing / Aeronautical Invoicing

Most airports today have an off-the-shelf ERP (enterprise resource planning) system, SAP ERP for instance, to integrate business processes and data. Moreover, the airport billing system/aeronautical invoicing requires flight movement data from the AODB (airport operational database).

One integrated view – two ways for airport billing/aeronautical invoicing

- SKYport Billing is closely integrated with the AODB. An automated upload process enables the billing system to operate with data from the AODB. A rule engine calculates the applicable fees and creates the corresponding bill items, bills and receipts. Financial data is transferred to your accounting system using interfaces.
- SKYport Billing for SAP forms a module of your ERP system. Any operational data will be uploaded from your AODB to SAP.

Benefits
- save administration overhead by streamlining your invoicing processes
- reduce manual calculations and media gaps throughout your system landscape
- invoice quicker, more frequently and more accurately
- realize your revenues earlier and reduce clearing efforts
- send your invoices not just as paper but also electronically
- save IT costs by replacing costly customer tailored systems with standard software
- make your billing data available for business intelligence - for more insights into your airport’s potentials
Calculating in two steps

1 Determine the charges to be calculated

On the basis of selected attributes of a flight, the system determines the extent of relevant charge types to be calculated. The list of charge types and their descriptions (e.g. “Landing Charge”, “Charge for use of CUTE and FIDS”) may be maintained by the user, as well as their relation to certain flight attributes (e.g. passenger charges only for commercial flights).

2 Calculate the charges

The calculation of the amounts to be actually invoiced is performed by a flexible rule engine. Of course this engine makes it possible to handle customer-specific conditions like rebates or surcharges. The result of the calculation is stored in a separate table (Bill Items) without relation to a later invoice. These bill items may be revised and amended before producing the final invoice.

Two ways of producing invoices from bill items

1 Commercial Invoicing

The user may determine the extent of items to be invoiced by several parameters including

- date of supply
- customer
- charge types

Within such a selection, all items of a customer are collected and stamped with a unique serial invoice number. These invoices are stored in a dedicated database table, the respective bill items are updated with a link to their invoice and marked as “invoiced” to prevent multiple processing.

2 Cash Settlement

All bill items referring to a certain flight are combined to a cash receipt. The user may influence the cash settlement process in a dedicated dialog:

- insert additional items (e.g. services on demand)
- modify the customer
- determine the currency of payment
- issue a charge note without actual payment
- complete the transaction and print the receipt
As in commercial invoicing, the system inhibits an item from being invoiced twice. The invoice amount is simultaneously recorded as a cash payment. Cash box management enables capturing cash revenues and expenditures, for example to record the transfer of money from the local cash box to a central account. To transfer invoices to a financial accounting system, a standard interface is provided. It produces a text file and determines the accounts to be used by

- charge type
- tariff
- nature of flight
- flight origin/destination (e.g. domestic or international)
- tax rate

The interface can be adapted to the requirements of the ERP system.

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**SKYport Billing for SAP**

With SKYport Billing for SAP, SAP ERP can upload flight data from an AODB and make the data available for pricing and invoicing in SAP SD.

The SKYport Billing for SAP interface module uses a graphical interface, giving you full control of the status for uploads from your airport operations systems.

SAP offers highly flexible functions for modeling your airport charges (landing charge, passenger charge, parking charge, infrastructure charge, ground handling agreements, etc.) and processes. Even standard ground handling agreements (SGHA) according to IATA AHM 810 can be managed.

SAP is the market leader for business software. No other ERP system available to airports that can compete with SAP ERP. SKYport Billing for SAP is also certified by SAP (“Powered by SAP NetWeaver”).

Thanks to its SAP standard functions, the software is fully integrated with the SAP world. This saves much reconciliation work between systems that used to be separated. Direct posting to accounts receivables and managerial accounting brings airport billing and accounting closer together.
Can the approaches be combined?

SKYport Billing and SKYport Billing for SAP

Yes, the approach can be combined – this makes sense particularly for multi-airport operators. Copenhagen Airports A/S, for instance, manages not only Copenhagen airport but also Roskilde airport. Copenhagen use SKYport Billing for SAP, because of the advantages of the close integration with the SAP system. Roskilde uses SKYport Billing, because at Roskilde the focus is more on operational requirements.

Stuttgart Airport has a similar scenario and uses SKYport Billing for SAP with great success. A subsidiary company at the remote Baden Airport also uses SKYport Billing for SAP with a powerful online integration of the SKYport AODB. The online interface uses SAP’s remote function call capabilities to provide a cash imbursement process which is completely controlled by the SKYport AODB. GAT users can create cash receipts from SKYport Billing for SAP without even logging on to the Stuttgart system. Even cancellations and recalculations can be managed directly from the AODB.

Side-by-Side Extensions

In addition to the scenarios outlined above, ISO also offers a billing solution that integrates to your ERP system even closer.

SKYport Billing as a side-by-side extension will take care of all aero-billing calculations and will provide the bill-items generated to your ERP sales module. From here on the ERP system will take over and create the invoices. This provides a high degree of integration while making use of all the ERP localizations like taxation, authority interfaces, financial accounting, dunning and payment reconciliation.

Going beyond Airport

Did you know that SKYport Billing covers not only aeronautical revenue?

The SKYport Billing rule engine can easily be configured to calculate non-aeronautical revenue such as airport pass issuance, rent or any consumption-based charges like telephone or energy.
Air Navigational Facilities Charging

Automated Invoicing of En-route and Approach Fees

The air traffic volume is continuously rising and route usage is nearing the capacity limits. This drives the need for modern and often costly Air Traffic Control equipment and systems. ATC bodies – whether state-owned or privatized – need to make sure to recover these investments by implementing automated Air Navigational Facilities Charging systems.

Benefits

- 100% web-based
- can be integrated with various FDP systems
- flexible user interfaces for data checking
- sophisticated, user maintainable rule engine for ATC charges
- user maintainable master data for flight routes, waypoints, entry and exit points
- can be integrated with various ERP/Financial Accounting systems
- integrated Reporting Engine for statistics
- based on ISO's Dynamic Components development environment

With its background in airport billing and air traffic control, ISO can offer commercial off-the-shelf solutions for ATC authorities to cover such air navigation charges.
Business Intelligence

SKYport Reporting

Whether you want to produce printed lists for your operations personnel or create colorful graphics for use on tablet computers at board meetings and customer presentations – your reporting tools need to deliver reliable, up-to-date figures.

How do incidents in a major destination impact your traffic?

How does a changed rate affect your traffic figures and charges?

Which scenarios arise from the start-up of an aggressive low-cost carrier at your airport (or at a competing neighbor airport)?

These and various other questions are the reality at every airport. To cope with such questions, airports need reliable figures, up-to-date formation and tools to simulate the impact of their decisions.

SKYport Reporting offers an easy-to-use approach for querying data of your AODB and/or billing solution.

Based on the market-leading Open Source business intelligence standards Jasper Reports and iReport, a broad variety of reports and forms may easily be designed by the user.

SKYport Reporting options:
- formatted lists
- grouped reports with totals and sub-totals
- crosstabs
- various diagram types
- integration of graphic elements
- output to csv, xls, pdf and html

SKYport Reporting includes standard reports
- operational flight plans and worksheets
- passenger and capacity utilization
- turnover reports

Benefits
- seamlessly integrates with your SKYport landscape as well as third-party products
- easy-to-use reporting engine
- multitude of output formats
- access your reports from any mobile device
SKYport CDM

CDM in Airport Management

Experts assume that the world-wide air traffic will double over the next years. Airports will meet their operational limits, and further expansion will be hard to achieve. Therefore, all available capacity reserves must be better utilized. This requires close cooperation by all air traffic stakeholders.

To support such a cooperation, Eurocontrol has developed the concept of Collaborative Decision Making together with Airports Council International (ACI) and International Air Transport Association (IATA) to harmonize the IT processes in the airport business.

SKYport CDM standard Features

Already the basic components of the SKYport AODB, combined with the versatile communication options of SKYport Connect, provide your airport with an efficient tool to implement CDM projects with its local partners:

- open web-based AODB
- communication platform
- SKYport Connect

SKYport CDM enhanced Features

These options can be extended by SKYport CDM, which adds a sophisticated process management to SKYport, giving you a first-rate CDM application.

- all substantial phases of the aircraft handling processes can be precisely monitored
- status information and alarm procedures ensure common situational awareness of all concerned parties
- web interfaces send the data directly to the user – on mobile devices and on CUTE terminals

SKYport CDM is not limited to the linear turnaround process described in the standard. It also supports the parallel processes of airplane handling like

- boarding
- cleaning or
- catering

and thus integrates the handling agent even more intensely into the common decision-making processes.

Benefits

Improve your Planning Process thanks to

- flexible planning and monitoring of handling processes down to the minute
- optimized resource usage and improved punctuality of air traffic
- monitoring of exceptions
- calculation of the effect of process delays
- control of Service Level Agreements
- logging of all events and alarms
- documentation of requests for optional handling services
- access via browsers independent of workstations
- precise data entry through mobile devices
The ISO-Gruppe


The ISO-Gruppe has been active in the market since 1979 and has become an established international IT service provider. Targeting specific markets has resulted in several powerful and innovative companies under one roof.

Some 560 permanent employees work at several sites throughout Germany and in associate companies in Austria, Poland and Canada.

The companies ISO Software Systeme, ISO Travel Solutions and ISO Professional Services of the ISO-Gruppe, with their respective offices in Nuremberg, Munich and Offenbach, are certified to the requirements of the quality management system in accordance with DIN EN ISO 9001:2015.

In 2018, we generated an annual turnover of some 57.3 million Euro. As part of our portfolio we consult, develop, implement, maintain and optimize IT solutions and offer personnel services.

The ISO-Gruppe consists of these companies:

- **ISO Software Systeme**
  - Software Engineering and IT Services
  - Aviation | Automation | Medical Technology
  - Public Service | Custom Software Engineering

- **ISO Travel Solutions**
  - IT Solutions and Services for Tourism
  - Reservation System Outcoming and Incoming
  - CRM for Tourism | Mobile Solutions | Distribution
  - System for Tourism | Custom Product Development

- **ISO Professional Services**
  - SAP Experts and IT Service Provider
  - Services for: SAP | Hosting | Infrastructure
  - Data Quality | Data Governance | Data Integration: Industry 4.0

- **ISO Recruiting Consultants**
  - Recruiting and Staffing Services in the IT domain
  - Placement of qualified staff: freelance | permanently employed