



### Introduction

Efficient routing of passengers within the terminal depends on the distribution of information via various media. One of the central components is informing passengers using the airport's public address system. These announcements are often played out manually by the airport personnel. As a result, the quality of the announcements is not at a consistently high level and the number of languages is limited to the language skills of the employees who are currently on site. Manual announcements therefore do not significantly improve the passenger experience and optimize passenger flow, and at the same time lead to high costs, as employees cannot perform other activities during the recording time.

The technology of automatic announcement systems can solve this situation. By using automatic announcements, passengers are automatically informed and guided through the terminal in different languages. However, existing solutions have some disadvantages. They are often not well integrated with the public address systems and can only distribute announcements to large areas, resulting in a constant background noise. Furthermore, automated announcement systems are often stand-alone systems and do not use available intelligence from other subsystems such as camera and sensor systems to play out dedicated announcements. Last but not least, many systems lack the ability to interconnect different public address systems to provide a unified platform. Especially for airport groups, a scalable system is missing, that allows to automate announcements group-wide in the same quality and cost efficiency.

Sittig Technologies, the German market leader for automatic announcement systems at airports, has developed it's announcement system into a multi-airport solution. The PAXGuide Cloud System enables scalable optimization of the passenger experience and process efficiency at a variety of airports.

# All PAXGuide Cloud benefits at a glance



#### Automation in 43+ languages

Announcements can be generated in over 43 languages to ensure that every passenger understands the message. In addition, one of the best Text-2-Speech engines on the market can be used.



### Interfaces to all major PA-systems

Interfaces to: Bosch Praesideo / Praesensa / Paviro, Honeywell Variodyn D1, TOA SX-2000 / VX-3000, Dynacord Promatrix 9000/8000/6000, IED Globalcom, G+M, Biamp Vocia.



### Uses the existing infrastructure

Thanks to state-of-the-art IP technology, PAXGuide uses existing cabling, loudspeakers and IT infrastructures. Thus, no costly rewiring is necessary.



#### Modular design

The PAXGuide system has been designed modularly, which means it can be customized easily and therefore be perfectly tailored to the customers needs. Modules for different use cases make it extremely flexible.



#### **Smart automatic announcements**

In addition to boarding announcements with all airline specifics, the system uses data from sensor, camera and workforce management systems to play out targeted intelligent announcements.



### Scalable cloud hosting

The system is hosted either in the Sittig or a private cloud and can therefore be used in a scalable and cost-efficient manner at a variety of airports.



## **System Modules**

The PAXGuide Cloud system consists of different modules that can be easily and flexible assembled.





### **Automatic Announcement Modules**

Core user interfaces for the operation of the automatic announcement system. Specialized for various applications and user groups.



## **PAXpaging**

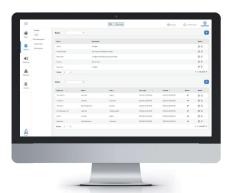
Web application for central announcement workstations for the management of time-controlled, stored and manual announcements. Predefined templates consisting of stored text modules, Text-2-Speech texts and ad-hoc recordings can be individually compiled and output. In addition, all announcements triggered by the system are displayed in a global history database. PAXpaging is ideal for info desks and central announcement workplaces.



# **PAXgate**

Web application for automization of the announcement process at the airport gate. Announcements such as first call, boarding call, etc. can be triggered automatically with live-data from the AODB/FIDS or can be triggered manually by the handling agent at the gate during the boarding process. The gate announcements can be transmitted to any airport location, they are however directed to the zone of the specific gate by default. Of course, manual gate announcements are still possible. PAXgate is a helpful partner for the ground staff to automate the standard boarding announcements in a high, consistent and understandable quality.





### **PAXadmin**

Web application for configuration and administration of the PAXGuide system. Automatically detects the integrated software modules as well as IP-Paging Stations and enables userfriendly configuration of these. The configuration options are very extensive and include the administration of users, announcements, announcement zones and priorities as well as the assignment of the IP-Paging Stations and many more. PAXadmin is included in every PAXGuide Cloud system.



### **Database Modules**

The interface to flight databases, which are needed to output announcements automatically and with individualized content. The following database interfaces are available (further interfaces on request):

- AODB: Interface to the central database system of the airport
- FIDS: Interface to the database of displayboards of the airport
- Online-Provider: Interface to the database of an online provider



## **Speech Modules**

Different technologies for audio announcements in realtime and high quality.

The following Speech modules are available:

- **Prompt Voice:** Prerecorded text blocks recorded with native speakers in high quality that are automatically assembled for each announcement.
- **Text-2-Speech:** Live generated announcements with one of the best Text-2-Speech engines on the market. Allows to generate new announcements quickly and easily.

### **Available Languages**

If a language is needed that is currently not in our portfolio, we can create it using our large network of professional native speakers and our own sound studio (Prompt Voice only). There are no additional costs for the creation of a new language.

The following languages are available in our portfolio at the moment (Prompt Voice and Text-2-Speech):

Language	PV	T2S
Albanian	х	
Arabic	х	х
Chinese	х	х
Czech	х	
Danish	х	х
Dutch	х	х
German	х	х
German (Austrian)		х
English (Australian)		х
English (British)	х	х
English (Indian)		х
English (NZ)		х
English (US)		х
English (Welsh)		х
French	х	х

Language	PV	T2S
French (Canadian)		х
Greek	х	
Hebrew	х	
Hindi	х	х
Indonesian	х	
Icelandic		х
Italian	х	х
Japanese	х	х
Korean	х	х
Mongolian	х	
Norwegian		х
Plattdeutsch	х	
Polish	х	х
Portuguese (Brazil)		х

Language	PV	T2S
Portuguese (EU)	х	х
Romanian	х	х
Russian	Х	х
Swedish		х
Spanish (Catalan)		х
Spanish (EU)	Х	х
Spanish (Mexican)		х
Spanish (US)		х
Thai	х	
Turkish	Х	х
Ukrainian	Х	
Urdu	Х	
Vietnamese	х	
Welsh		х





# **PA-System Modules**

We are experts in interfacing to PA-systems from various brands. Our established interfaces to all major PA-systems allow to play out announcements in dedicated small zones as well as to interconnect multiple PA-systems. Thus, the PAXGuide Cloud system provides a unified management platform and reduces background noise. The PAXGuide Cloud system has interfaces to:

- Bosch Praesideo, Praesensa, Paviro
- Honeywell Variodyn D1
- TOA SX-2000, VX-3000
- IED Globalcom
- Dynacord Promatrix 9000/8000/6000
- Biamp Vocia
- G+M



## **Other Modules**

PAXGuide Cloud offers a number of additional modules to get the most out of automated announcements.

## Sensor/Camera System Interface

Installed sensor systems, such as Xovis, can be connected to the PAXGuide system to significantly improve the passenger flow. Based on real-time data provided by the sensor/camera system, announcements can be played out automatically in dedicated areas using previously defined scenarios. But not only announcements can be triggered also other activities can be performed. This leads to an improved passenger experience and supports terminal operations. Below is just a small selection of use cases:

- · Automatic volume adjustment in certain areas based on passenger volume
- · Automatic routing of passengers in case of overcrowded queues
- Automatic announcement when people are (too) close to a certain point (e.g. escalator)
- · Automatic control of external units, e.g. slowing down an escalator if the queue in the upper area is too long

### Workforce Management System

External workforce management systems (such as Inform or T-Systems) can be connected so that work instructions to ground handlers are issued automatically via the PA system. This allows to make personalized calls to the locations where the employees are currently located with current work instructions.

#### Personalized PAX Calls

In combination with biometric systems, location-based passenger announcements can be made automatically (e.g., the Last Call). In the zone in which the passenger is currently located, passenger-specific announcements are made in his or her native language.

#### SIP Interface

Interface to trigger announcements via SIP telephony or handle each SIP endpoint as a kind of PA zone (Infopoints, SIP Loudspeaker..). The Interface provides multiple (up to 60) channels/calls in each direction at the same time.

## **Open Interface**

PAXGuide Cloud provides an interface that can be used to connect a variety of external systems. Enables the use of large existing data sources to trigger announcements or play out announcements in other systems.



### **Technical Overview**

Thanks to state-of-the art secure cloud technology the system is easy to integrate and to maintain. PAXGuide Cloud can either be hosted in the secure Sittig cloud or in a private cloud. This allows a resource-efficient operation of the system as well as a fast roll-out of the system at several airports. The public address systems at the airports are connected to the cloud via a gateway (PAXController) using a secure site-2-site VPN connection. The systems for several airports thus run on one virtual machine. At the same time, the users of the individual airports only have access to the public address zones of their own airport.

