



Mach-SmartPredict[®]

Resourcing Made Simple



Passenger Flow Forecasting System

- Seamless integration of passenger flow monitoring into staff equipment planning
- Simple equipment planning tools for Check-in , Make Up and Outbound Security assets
- Improves operational efficiency
- Provides Real Time monitoring of actual versus expected Pax flow
- Automatic generation of
 - Capacity excess warnings
 - Capacity shortfall alarms
 - Warning and alarm resolution
- Extensive trending and reporting functionality
- Seamless integration into
 - Mach-Secure Product Family – Mach-SmartRoster[®]
 - 3rd Party Applications

Mach-SmartPredict[®]

Fully Integrated Resource Planning Solution



> Overview Page

Mach-SmartPredict[®] provides a comprehensive set of tools to manage the activities associated with the resource planning of Airport facilities. The overview page provides resource planners with tools for staff and equipment allocation, flight schedule maintenance, flight profiling, capacity utilisation monitoring and reporting.

> Flight Schedule

Mach-SmartPredict[®] provides a simple tool for the creation and maintenance of the operating flight schedule and provides interfaces to live flight information sources to ensure that the current operational schedule accurately reflects the real operating situation.

Flight	Flight (IATA)	Destination	Destination Description	Other Destinations	Status	Scheduled Time	Departure	MakeUp
DL4247	LH427	FRA	FRANKFURT RHEN-MAIN		Waiting To Open	06/12/2013 06:00	06/12/2013 06:00	
LQ764	LQ64	WAR	WARSAW CRZEE		Waiting To Open	06/12/2013 06:00	06/12/2013 06:00	
ROT155	RO155	TLV	TEL-AVIV BEN GURION		Waiting To Open	06/12/2013 06:00	06/12/2013 06:00	
KLM158	KL158	AMS	AMSTERDAM SCHIPHOL		Waiting To Open	06/12/2013 06:05	06/12/2013 06:05	
MAR57	MAR57	BUD	BUDAPEST FERENGY		Waiting To Open	06/12/2013 06:10	06/12/2013 06:10	
AZ453	AZ53	FCO	ROME FRAMICHO		Waiting To Open	06/12/2013 06:25	06/12/2013 06:25	
CS485	CS85	PRG	PRAGUE RYZINE		Waiting To Open	06/12/2013 06:45	06/12/2013 06:45	
AF109	AF109	CDG	PARIS CHARLES DE GAULLE		Waiting To Open	06/12/2013 06:50	06/12/2013 06:50	
LH425	LH425	MUC	MUNICHEN FRANZ JOSEF STRAUSS		Waiting To Open	06/12/2013 07:00	06/12/2013 07:00	
LH426	LH426	DUS	DUESSELDORF BERNHARD		Waiting To Open	06/12/2013 07:00	06/12/2013 07:00	
ROT371	RO371	BRU	BRUSSELS NATIONAL		Waiting To Open	06/12/2013 07:20	06/12/2013 07:20	
ROT201	RO201	SOF	SOFIA INTERNATIONAL		Waiting To Open	06/12/2013 08:20	06/12/2013 08:20	
BW485	B485	LHR	LONDON HEATHROW		Waiting To Open	06/12/2013 08:30	06/12/2013 08:30	
RA128	W628	AYT	ANTALYA		Waiting To Open	06/12/2013 08:30	06/12/2013 08:30	
ROT381	RO381	IST	ISTANBUL ATATURK INTERNATIONAL		Waiting To Open	06/12/2013 08:35	06/12/2013 08:35	
ROT41	RO41	VI	VIENNA SCHNECHAT		Waiting To Open	06/12/2013 08:35	06/12/2013 08:35	
ROT403	RO403	FCO	ROME FRAMICHO		Waiting To Open	06/12/2013 08:35	06/12/2013 08:35	
ROT431	RO431	MUC	MUNICHEN		Waiting To Open	06/12/2013 08:40	06/12/2013 08:40	
AF152	SU152	SVO	MOSCOW SHEREMETEV		Waiting To Open	06/12/2013 08:50	06/12/2013 08:50	
ROT15	RO15	MAD	MADRID BARAJAS		Waiting To Open	06/12/2013 09:00	06/12/2013 09:00	
ROT31	RO31	FRA	FRANKFURT RHEN-MAIN		Waiting To Open	06/12/2013 09:10	06/12/2013 09:10	
ROT41	RO41	BCN	BARCELONA		Waiting To Open	06/12/2013 09:15	06/12/2013 09:15	
ROT81	RO81	CDG	PARIS CHARLES DE GAULLE		Waiting To Open	06/12/2013 09:20	06/12/2013 09:20	
CA182	CA82	ATH	ATHENS HELLENKON		Waiting To Open	06/12/2013 09:25	06/12/2013 09:25	
A691	A391	ATH	ATHENS HELLENKON		Waiting To Open	06/12/2013 09:30	06/12/2013 09:30	
M382	R382	KIV	KYIV		Waiting To Open	06/12/2013 09:30	06/12/2013 09:30	
FB184	FB84	SOF	SOFIA INTERNATIONAL		Waiting To Open	06/12/2013 09:40	06/12/2013 09:40	
ROT31	RO31	LHR	LONDON HEATHROW		Waiting To Open	06/12/2013 09:45	06/12/2013 09:45	
MS412	MC412	MRS	MURGAHA		Waiting To Open	06/12/2013 10:15	06/12/2013 10:15	

> Passenger Profiles

Mach-SmartPredict[®] provides tools for the modelling of expected passenger flows, baggage flows and outbound security loads based on the operational flight schedule, operating aircraft and historical carrier load factors. It is able to model the passenger profile over the active operational time of each flight taking into account the passenger mix and characteristics based on the leveraging of real accurate passenger data per flight or carrier.

Flight	Destination Description	Scheduled Time	Seg 1 Start	Seg 2 Start	Aircraft	Psa Factor	Tray Factor	Tray Factor	Hold	Exp
DL3477	FRANKFURT RHEN-MAIN	16/12/2013 06:00:00	06:00	04:00	2430	733	D	D	0	16
LQ764	WARSAW CRZEE	16/12/2013 06:00:00	06:00	04:00	0540	884	D	D	0	16
ROT155	TEL-AVIV BEN GURION	16/12/2013 06:00:00	06:00	04:00	0560	770	D	D	0	16
KLM158	AMSTERDAM SCHIPHOL	16/12/2013 06:05:00	06:05	04:05	0540	792	D	D	0	16
MAR57	BUDAPEST FERENGY	16/12/2013 06:10:00	06:10	04:10	0510	778	D	D	0	16
AZ453	ROME FRAMICHO	16/12/2013 06:25:00	06:25	04:25	0525	800	D	D	0	16
CS485	PRAGUE RYZINE	16/12/2013 06:45:00	06:45	04:45	0545	800	D	D	0	16
AF109	PARIS CHARLES DE GAULLE	16/12/2013 06:50:00	06:50	04:50	0550	800	D	D	0	16
LH425	MUNICHEN FRANZ JOSEF STRAUSS	16/12/2013 07:00:00	07:00	05:00	0600	800	D	D	0	16
LH426	DUESSELDORF BERNHARD	16/12/2013 07:00:00	07:00	05:00	0600	800	D	D	0	16
ROT371	BRUSSELS NATIONAL	16/12/2013 07:20:00	07:20	05:20	0620	800	D	D	0	16
ROT201	SOFIA INTERNATIONAL	16/12/2013 08:20:00	08:20	06:20	0730	875	D	D	0	16
BW485	LONDON HEATHROW	16/12/2013 08:30:00	08:30	06:30	0730	885	D	D	0	16
RA128	ANTALYA	16/12/2013 08:30:00	08:30	06:30	0730	885	D	D	0	16
ROT381	ISTANBUL ATATURK INTERNATIONAL	16/12/2013 08:35:00	08:35	06:35	0735	885	D	D	0	16
ROT41	VIENNA SCHNECHAT	16/12/2013 08:35:00	08:35	06:35	0735	885	D	D	0	16
ROT403	ROME FRAMICHO	16/12/2013 08:35:00	08:35	06:35	0735	885	D	D	0	16
ROT431	MUNICHEN	16/12/2013 08:40:00	08:40	06:40	0740	885	D	D	0	16
AF152	MOSCOW SHEREMETEV	16/12/2013 08:50:00	08:50	06:50	0750	885	D	D	0	16
ROT15	MADRID BARAJAS	16/12/2013 09:00:00	09:00	07:00	0800	778	D	D	0	16
ROT31	FRANKFURT RHEN-MAIN	16/12/2013 09:10:00	09:10	07:10	0810	778	D	D	0	16
ROT41	BARCELONA	16/12/2013 09:15:00	09:15	07:15	0815	778	D	D	0	16
ROT81	PARIS CHARLES DE GAULLE	16/12/2013 09:20:00	09:20	07:20	0820	778	D	D	0	16
CA182	ATHENS HELLENKON	16/12/2013 09:25:00	09:25	07:25	0825	778	D	D	0	16
A691	ATHENS HELLENKON	16/12/2013 09:30:00	09:30	07:30	0830	881	D	D	0	16

> Passenger Flow Forecast

Mach-SmartPredict[®] utilises the passenger profiles to forecast outbound security loads, check-in desk loadings and make-up capacity. The historical data gathered by SmartPredict is leveraged into the forecast algorithms so that it can learn from previous experience and provide more accurate forecasts of future resource demands. Simple tools allow exceptional situations such as public holidays, school holiday patterns etc. to be taken into account when generating current forecasts.

The new Mach-SmartPredict[®] module addresses the security requirements and problems of the transport industry globally and satisfies these objectives with a totally integrated system that offers fast, efficient, secure and accurate monitoring of Airport passenger flows.

With the passenger experience being of paramount importance, it has been recognised that the efficiency of an Airport is significantly enhanced when presented with the controlled, secure and managed environment that the Mach-SmartPredict[®] solution guarantees.

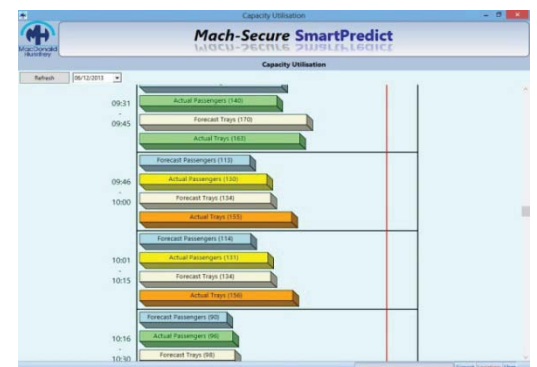
Changing threats and passenger processing systems mean that the challenges we face today will be greater tomorrow – Mach-SmartPredict[®] is a scalable modular solution which is designed to enable an Airport to maximise the efficient use of its valuable resources while providing class leading passenger service.

> Prediction Monitoring

Mach-SmartPredict[®] displays in real time the actual passenger flows and associated equipment capacity demand against the predicted demand generated by the forecast engine. Simple colours are used to provide at a glance indication of passenger short flows or unexpected demand peaks. The real passenger flow is fed back into the prediction engine to modify the prediction and generate warnings of pending capacity shortfall.

> Capacity Utilisation

Mach-SmartPredict[®] takes the predicted and actual demand flows and compares them to the available processing capacity. Simple colours are used to provide at a glance indication of capacity over and under utilisation to allow operations managers to fine tune their resource allocation to real passenger flows. Capacity utilisation can be further leveraged into the Mach-SmartRoster[®] system to facilitate efficient staff planning.



> Equipment Planning

Mach-SmartPredict[®] provides a comprehensive set of tools to facilitate the effective planning of equipment resources. The results of the forecast engine and real time feedback of the actual passenger flows are leveraged into the equipment planning tools to improve the efficiency of the airport operation. Tools are provided for check in, out bound security and flight make up planning and simple colours are used to indicate resource over utilisation while drag and drop tools provide an intuitive user interface experience.

> Reports

Standard shift, daily, weekly and monthly reports are available at all times. Using the reporting tools it is possible to produce granulated reports down to individual equipment device level over a selected reporting period. Reporting subjects and time periods are selected via a simple intuitive GUI and can be generated on screen or as either paper or PDF forms.

Mach- Secure[®] - Integrated Airport Security Solutions

The Mach-Secure[®] suite of innovative products and systems has been specifically designed for Airport security applications. These dedicated products and systems address the day to day operational and financial challenges faced by today's modern businesses. The Mach-Secure suite of products and systems will dramatically increase the overall efficiency of an Airport's security systems whilst enhancing the passenger experience and lowering the operational costs. For the first time Mach-Secure[®] introduces a totally integrated system solution to the Airport security environment.

Mach-Secure[®] Airport Security Products:

- Mach-SEMS[®] - Security Efficiency Management System
- Mach-SmartLane[®] - Automated Tray Handling
- Mach-SmartView[®] - Remote Search Facility
- Mach-SmartViewMatrix[®] - Centralised X-Ray Security Screening System
- Mach-SmartVision[®] - Integrated CCTV
- Mach-SmartSense[®] - Personnel Tracker
- Mach-SmartAccess[®] - Access Control
- Mach-SmartRoster[®] - Personnel Roster System
- Mach-SmartBRS[®] - Baggage Reconciliation Systems
- Mach-SmartSAC[®] - Security Audit and Sortation Systems
- Mach-SmartRegister[®] - PAX / Airline Spend Profile & PAX Locator
- Mach-SmartTutorial[®] - In Line Security Training
- Mach-SmartARCS[®] - Airport Regulatory Compliance Systems
- Mach-SmartPredict[®] - Dynamic Real Time Equipment Utilisation Planning
- Mach-SmartPupil[®] - Security Vigilance Monitoring System
- Mach-SmartDrop[®] - Automated Passenger Bag Drop
- Mach-SmartFlow[®] - Queue Analysis Management System

The Mach-Secure[®] suite of products and systems offers a coherent, structured and centrally controlled solution to provide the secure Airport of the future.

Resourcing Made Simple



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