Request for Information

Dynamic Parking Guidance Solution

January 18th , 2017

CONTENTS

1 DEFINITIONS

A.A.S.
Amsterdam Airport Schiphol, a trade name of SNBV.

DPGS
Dynamic Parking Guidance Solution

NDA
Non-disclosure agreement

Notice for Additional Information
Anonymized response to the questions asked by the selected Supplier with regard to this RFI.

RFI
Request for Information, this document.

RFI procedure
The procedure SNBV will follow after issuing the RFI to selected Supplier.

SNBV
Schiphol Nederland B.V., the company issuing this RFI.

Supplier
The party delivering a Dynamic Parking Guidance Solution

2 GENERAL

2.1 Introduction

This is a Request for Information (RFI) of Schiphol Nederland B.V (SNBV) with regard to a Dynamic Parking Guidance Solution (DPGS). With this RFI, SNBV wishes to investigate which DPG solutions the market has to offer that matches SNBV requirements.

For more information about Amsterdam Airport Schiphol please visit our website: http://www.schiphol.nl
The RFI is only made available digitally by e-mail to selected Suppliers.

2.2 Tendering procedure

This RFI is only for information purposes. After receiving the responses to this RFI, SNBV will analyse and evaluate these responses. After this analysis, SNBV will decide whether a business case concerning the DPGS is valid and a go/no-go decision will be made. This will also result in a decision whether or not a tender procedure will be performed. Therefore no rights, in a financial sense or otherwise, may be derived from this RFI. Participating in this RFI does not in any way guarantee the continuation of SNBV with a tender nor does it guarantee that participants will be included in a tender. No rights, in financial terms or otherwise, can be derived from this RFI.

2.3 Organization of Schiphol Nederland B.V.

Schiphol Nederland B.V. is the operator of Amsterdam Airport Schiphol (hereafter referred to as Schiphol), the largest airport in the Netherlands.

Schiphol is the main international airport of the Netherlands and an important European airport, ranking as Europe's fifth busiest and the world's fourteenth busiest by total passenger traffic in 2015. It also ranks as the world's fifth busiest by international passenger traffic and the world's sixteenth busiest for cargo tonnage. 58.285 million passengers passed through the airport in 2015. Schiphol's main competitors in terms of passenger traffic and cargo throughput are London Heathrow Airport, Frankfurt Airport, Paris–Charles de Gaulle Airport and Madrid–Barajas Airport.

2.4 Background of the project

By 2025 Schiphol will have to be able to handle 25% more passengers in order to retain its Main port position. Therefore a “connected” capacity expansion in combination with improvement of quality and passenger experience is a central component in the Strategic Plan 2016-2020, which offers opportunities for new commercial concepts.

As a result of this strategy, Schiphol Group has announced an expansion of Schiphol, featuring a new pier, an expansion of the terminal, and new parking garages. The first activities have started in 2016.

Next to the physical expansion SNBV has announced in 2015 its ambition to be the world’s first digital airport. To realize this ambition the Digital Airport Program (DAP) is started. DAP is THE program to introduce innovative IT solutions to deliver to passengers and airlines the ultimate travel experience.

Guiding a visitor of Schiphol to the right place is part of this experience and SNBV wants to get in contact with market players with experience to deliver and integrate IT solutions to achieve this ultimate travel experience.

Last but not least, SNBV has a commercial customer vision that consists of three different pillars:

1. Guide me: take the passenger by the hand at his arrival and departure of Schiphol and the preparation of arriving and leaving Schiphol. Give him relevant information about the steps he needs to take and about what can be done, based on his needs. He has insight in the time schedules and knows where he needs to be.

- No searching yourself but pro-actively push messages.
- Practical information, shopping and food suggestions, services.
- Cross-sell over products.

2. Relieve me: SNBV understands what the passenger needs, helps him pro-actively with the result that the passenger doesn't lose any time, experiences comfort and has less on his mind.

- Services that relive you (baggage, shopping).
- Convenient services for the elderly, mothers with little children, etc.
- Last things you need for your journey.

3. Excite me. Surprise and entertain the passenger with unique experiences he personally finds interesting. He is also informed about how much time he has left and where he needs to board. His holiday has begun!

- Offer a unique experience for retail, food/drinks and services
- Try to seduce before the actual experience

2.5 Description of the DPGS project

Key questions that SNBV want to be answered with this RFI are:

1. What solutions are available to make sure that a visitor of Schiphol is guided to the right place in the most easy, convenient way (the mentioned travel experience in paragraph 2.4 combined with the passenger process of paragraph 2.6)?
2. What solutions are available to provide information to optimize yield management (see explanation paragraph 2.6)?
3. What solutions are available that use the available data to optimize commercial opportunities, based on the commercial customer vision mentioned in paragraph 2.4?
4. What solutions are available that use the available data to optimize the operation process?
5. What solutions are available that can actively guide a visitor in a parking garage as well as on the road in case SNBV to block certain routes, parking lots or parking garages?
6. How does your solution deal with the current issues mentioned in Annex 2?

2.6 Description of the processes

The primary processes passengers will follow when travelling to Schiphol:

- Collecting information at home about parking at Schiphol
  - Select the right parking product
  - Make a reservation for this product.
  - Provide online information of actual free parking places.
- Driving / finding a car park
  - Wayfinding by means of directions to find the right carpark, number of free parking spaces, exit to the motorways etc. The DPGS must be able to provide all relevant information.
  - Driving in and out of the parking garage.
  - Opening barriers and / or speedgate.
  - Driving up or down the ramps in the parking garage.
- Parking
  - Providing support in finding a free parking space.
  - Entering and leaving a parking space
  - Entering and leaving a car.
  - Loading and unloading baggage.
- Walking
  - Wayfinding for pedestrian routes towards entrances and exits.
  - Walking through the parking garage or lot.
  - Entering and leaving the parking garage.
  - Entering and leaving the main and emergency stairwell.
  - Vertical transportation in the main stairwell by means of an elevator or stair.
  - Vertical transportation in the emergency stairwell.
- Flow management
  - Observing the locations accessible to the public for timely detection of congestion on the landside infrastructure as well as in parking garages and lots.
- Leaving of / returning to the parking garage and lot.
  - Payment of the ticket before leaving the parking garage and lot.
  - Help pedestrians orientate themselves in the parking garage.
  - Help pedestrians locate their car.

The secondary processes are related to staying activities (sitting, loading and unloading of baggage etc.) The DPGS is to provide information on free parking spaces and should support the clearing of parking spaces for:

- Maintenance, projects and administration; clearing of parking spaces/ sections /floors for:
  - Regular, preventive or corrective maintenance
  - Replace armatures for lighting / sensors / drainage system
  - Floor cleaning / rainwater drainage
  - Events
  - Dynamic allocation of parking capacity to parking products
- Yield management. Yield management at Schiphol Parking is a variable pricing strategy, based on understanding, anticipating and influencing the buying behaviour of the people that park their car at Schiphol Airport, with the aim to maximize the profit of the carparks. Examples of important commercial decisions are the allocation of available parking spaces per parking location to a particular product or the differentiation of tariffs per product.
- Damage
  - Collision.
  - Vandalism.
- Use data for planning purposes.

- Safety.
- Control of barriers to support dynamic allocation scenarios.
- Clearing of parking spaces scenarios. The execution of the scenarios should preferably be automated processes.
- Signalling when a section/floor exceeds a certain percentage of occupation.

Schiphol emphasises that a DPGS should optimally support all these processes and not only a few of them. SNBV is specifically looking for complete / total solutions and not partial solutions (f.e. only for finding a free parking lot). Collaboration between different supplier is of course allowed, as long as the DPGS can be offered as one integrated solution.

2.7 Purpose of the RFI

The purpose of this RFI is:

- To gather information about the possibilities in the market, including a cost indication;
- To invite selected potential suppliers to present their proposed solution to SNBV (optional).

SNBV would like to have a good understanding and overview of your possible solutions. Therefore, SNBV would like to receive all relevant information about your solution, based on the questions mentioned in paragraph 3.1.

2.8 Planning of the RFI

The planning of the RFI is presented in Table 1. All data is subject to change and no rights may be derived from the plan presented.

Table 1: Planning

Action	Actor	Date
Confirmation that you will participate in the RFI procedure to martijn.van.bennekom@schiphol.nl by 18:00 hrs C.E.T at the latest.	Supplier	1-2-2017
Deadline for submitting questions concerning the RFI by e-mail to martijn.van.bennekom@schiphol.nl, by 18.00 hrs C.E.T. at the latest.	Supplier	1-2-2017
Notice for additional information made available via e-mail to all participating suppliers.	SNBV	8-2-2017
Deadline for submitting response to the RFI to martijn.van.bennekom@schiphol.nl by 18.00 hrs C.E.T. at the latest.	Supplier	22-2-2017

3 DELIVERABLES

The following paragraphs outline the structure and format of the requested response to this RFI.

3.1 RFI Questions

The participating Suppliers are requested to provide information and reply to the questions mentioned below in Table 2. Please elaborate as much as possible answering the questions in the context of the subject.

Please use the numbering and subjects below when assembling your response to the RFI.

Table 2: RFI Questions

Subject	Required information
1. Organization	Summary of the organization, which encloses: a. Headquarters and/or regional subsidiary. b. Subcontractors needed for a DPGS.
2. Strategy	Please explain your company's views on a Dynamic Guidance Solution: a. What are the important topics? Please elaborate. b. What will be the major future developments and innovations? Could you share a roadmap of your future developments with us?
3. Security	a. What measures have been taken to ensure the confidentiality and integrity of the data that is used by and/or stored in your solution? b. Describe how your solution meets basic security demands.

Subject	Required information
4. Dynamic Parking Guidance Solution	Provide a blueprint of your DPGS and describe what and how your solution provides the following, please elaborate on the questions as much as possible: a. What solutions are available to make sure that a visitor of Schiphol is guided to the right place in the most easy, convenient way (the mentioned travel experience in paragraph 2.4 combined with the passenger process of paragraph 2.6)? b. What solutions are available to provide information to optimize yield management (see explanation paragraph 2.6)? c. What solutions are available that use the available data to optimize commercial opportunities, based on the commercial customer vision mentioned in paragraph 2.4? d. What solutions are available that use the available data to optimize the operation process? e. What solutions are available that can actively guide a visitor in a parking garage as well as on the road in case SNBV to block certain routes, parking lots or parking garages? f. How does your solution deal with the current issues mentioned in Annex 2? g. What are the particular benefits of the solution? h. What is the expandability of the solution? i. What is the availability and reliability of the solution? j. What are the integration/interfacing possibilities with existing technology at the airport? k. How does your solution differentiate from the other DPGS vendors in the market?
5. Reference	If possible and available, please provide us with a relevant reference project.
6. Corporate responsibility	Describe your efforts with respect to corporate responsibility.
7. Cost and cost model	Please elaborate on your cost model and provide a cost estimate, based on the described required functionality, containing: a. Initial one-off costs; b. Recurring costs; c. Any other / additional fees (if applicable)

3.2 Additional information

In addition to your answers to the RFI questions you are invited to provide any additional information or advice, based on your previous experience with similar projects.

If you require a NDA as a prerequisite for sending in a response, SNBV is willing to sign a standard SNBV NDA.

4 REQUEST FOR INFORMATION PROCEDURE

4.1 General procedural rules

4.1.1 Cost of response to RFI

Any expenses incurred by an Supplier for drawing up or submitting a response to this RFI, will not in any way be eligible for compensation by SNBV.

4.1.2 (Intellectual) property

The intellectual property rights to information supplied by SNBV rests with SNBV. Without the prior approval in writing by SNBV, nothing in this RFI may be multiplied (for other purposes than submitting the response to this RFI) by means of printing, photocopy, microfilm or otherwise. The provisions of the present section do not prejudice SNBV's rights to damages.

4.1.3 Confidentiality

The Supplier agrees by participation in this RFI that all the information that SNBV provides with regards to this RFI will be treated confidential.

4.1.4 Consent

Submitting a response to the RFI implies that the Supplier agrees to all conditions set forth in this Request for Information.

4.2 Structure of Response to the RFI

4.2.1 Response to the RFI

The structure of the response to the RFI must at least contain the components specified in the table below. To enable objective comparison of your response with others, we request that you adhere to the sequence and structure given.

Table 3 Lay-out of your response to this RFI

RFI	Required content / structure
Introduction	Free format
Answers	Follow structure of table 2
Documentation	Relevant documentation with respect to this RFI. Please do not refer to these documents in answering the questions in table 2 unless used as background information.

4.2.2 RFI Questions

Please use the format in 3.1 to answer the RFI questions about your company, pricing, references and the functionality of your solution.

4.2.3 Additional Information

If applicable please provide further information. In this section the Supplier is asked to be as elaborate as possible. Note that SNBV wishes to receive all relevant information about the possible solution(s).

4.2.4 Language

The entire RFI procedure will be in English. Therefore, all documents must be drawn up in the English language.

4.2.5 Contact details

Contact with SNBV about this RFI is limited and only allowed with Mr. M. van Bennekom within the Corporate Procurement department. A Supplier can be excluded from future participation if contact is not limited to the intended person within SNBV.

The deadline for submitting a response via e-mail (and/or hardcopy) is presented in Paragraph 2.8. Date and time should be interpreted as a statutory limitation. In the response please include the following information:

Subject: *Response to RFI – DPGS*
To: martijn.van.bennekom@schiphol.nl

5 COMMUNICATION

5.1 Inconsistencies

This RFI has been drawn up with great care. Should you discover any inconsistencies, please report these spontaneously to the point of contact mentioned in section 4.2.5. Submitting a response implies that you as a submitter are deemed to agree to all conditions in this RFI procedure. Therefore, should you object to a certain component or certain aspects of the procedure, then you must express these timely and before submitting the response, in writing and giving reasons, to the point of contact mentioned above.

5.2 Questions to SNBV based on this RFI

Please address any questions about this RFI or the documents provided no later than the mentioning planning (Paragraph 2.8) to the e-mail address martijn.van.bennekom@schiphol.nl . In the subject of the message, please state: “Questions RFI – DPGS”

The questions must be supplied in MS Excel format using the following template:

Your question number	paragraph of RFI	relevant text in that paragraph	Question

All questions received from participating Supplier and the corresponding answers of SNBV will be anonymised by SNBV and will be sent to all participating Suppliers.

5.3 Supplemental information

SNBV reserves the right to request supplemental information with regard to this RFI.

5.4 Closing provisions

Contact with references

Schiphol Nederland B.V. reserves the right to approach references indicated in the received reactions to this RFI without pre-notice to the Supplier.

Choice of applicable law and forum:

Any disputes in relation to this RFI and any legal relationships arising from it will exclusively be submitted to the competent Court at Amsterdam.

Language:

The Supplier must be able to communicate in fluent English (for reference CEF level C1).

ANNEX 1: CURRENT AND FUTURE SITUATION PARKING

Current situation Parking

Schiphol offers 8 parking products to its customers:

- Schiphol Terminal Parking, in P1 and P2, close to the terminal. Specifically for dropping off and collecting passengers and short journeys.
- Schiphol Smart Parking, a less expensive product. Parking on parking garage and lot P3, some distance away from the airport. Shuttle busses provide a suitable connection with the airport.
- Schiphol Privium Parking, for Privium Plus-members. Reserved parking spaces in P1, P2 and P3.
- Schiphol Valet Parking, aimed at the business traveller. Park the car in the special Schiphol Valet Parking section directly in front of the terminal. Drop off the car keys at the Schiphol Valet Parking service desk (between Departures Hall 2 and 3).
- Schiphol Holiday Valet Parking, aimed at the leisure traveller. Park at Schiphol Short Stop Parking (P6) at Schiphol-Centre, hand over the car keys at the Holiday Valet service desk in the covered garage, and cross over to the terminal (a two minute walk)
- Schiphol Short Stop Parking in P6. Designed specifically for picking up passengers without spending too much time at the airport, short-stop parking is located near the Arrivals Hall, directly opposite Schiphol Plaza. The first 15 minutes are free of charge.
- Schiphol Excellence Parking, the quickest and most comfortable way of parking. The parking garage is located right by Departure Hall 3 and is accessible only to users of the garage.
- Personnel parking. Personnel of Schiphol make use of several parking garages or lots, which are located either close to Schiphol Centre or in the vicinity of Schiphol.

Schiphol has 2 control rooms to manage the processes that provide these products. One is located at car park P3, at some distance from Schiphol and the other at Schiphol Centre, located in P1.

Schiphol currently offers the following parking garages or lots in combination with one or more parking products. Some locations are equipped with free space detection systems, see table below:

Location	Target group/ parking product	Capacity	Free space detection	Floor counting	Supplier
Excellence Parking	Excellence Parking (total)	401	401	0	Indect / Skidata
	Disabled (total)				
	Charging poles (total)	4			
P1	Visitors & Business Parking (total)	2.473	1705	0	ARS/ Scada
	Disabled (total)	18	12		
	Charging poles (total)	12	0		
P1 Privium	Privium (total)	864	472	0	ARS/ Scada
	Disabled (total)	4	2		
	Charging poles (total)	12	0		
P1 WTC	WTC (total)	1.278	0	2	Indect / Skidata
	Disabled (total)		0		
	Charging poles (total)		0		

Location	Target group/ parking product	Capacity	Free space detection	Floor counting	Supplier
P1 Short Stop (P6)	Short Stop Parking	177	0	0	
	Disabled	2	0		
P1 Car rental	Car rental	573	0	0	
P1 Sheraton	Sheraton	159	0	0	
P2	Visitors & Business Parking	1.751	0	0	
	Disabled	11	0		
	Charging poles	6	0		
P2 Privium	Privium	1.164	0	4	Schick (out of order)
	Disabled	6	0		
	Charging poles	10	0		
P3 parking garage		2.646	0	5	Indect / Skidata
P3	Park & Travel and Smart	10.487			
	Disabled				
P3 Privium	Privium	465			
	Disabled				
P4	Park & Travel and Smart	2.575			
	Disabled				
P5	Personnel parking	1.178			
P6	Short Stop Parking	179			
	Disabled				
P12	Personnel parking	1.520			
	Disabled				
	Charging poles	4			
	Carpool				
	Valet	495			
	Car rental				
P15	Personnel parking	133			
	Disabled				
P22	Travellers	240			
	Disabled				
	Charging poles	2			
P26	Personnel parking	149			
	Disabled				
P28	Personnel e parking	179			
	Disabled				
P30	Personnel parking	3.349			
	Disabled				
	Eco				
	Charging poles	4			
P30E	Travellers	165			

Location	Target group/ parking product	Capacity	Free space detection	Floor counting	Supplier
P40	Personnel parking	2.974			
	Disabled				
	Eco				
	Charging poles	4			
P44	Personnel parking	525			
P50	P50	211			
P57	Travellers & Personnel parking	1.872			
	Disabled				
	Charging poles	4			
P80	Personnel parking	558			
	Disabled				
total		38.843			

Future situation Parking:

All parking garages at Schiphol Centre should be equipped with a free parking space detection system and need to be combined with systems in the areas further away, that provide information regarding free parking capacity per floor level or per section.

Schiphol also has plans for the realisation of:

- An extra parking garage at P3 (+2.500 parking places).
- A parking garage P1 XXL at Schiphol Centre (+3.000 parking places).
- A new central control room.

ANNEX 2: CURRENT ISSUES

Parking space detection systems:

- The floor counting system in P2 is very vulnerable to faults. The operational results are so dissatisfying that this floor counting system has been taken out of operation.
- The system in P1 functions correctly with the exception of the roof level. The wirelessly operated components that are used to indicate free parking spaces on the roof level are disrupted by the electromagnetic fields due to passing trains in the underlying train tunnel. Therefore the components on the roof level have been taken out of operation as well.
- The vacant parking space detection in Schiphol Excellence Parking is working well, but as a standalone system. Schiphol does not have the ability to monitor the usage of the parking garages and lots as a whole for an integral overview.

In conclusion, at Schiphol Centre the Parking department has 5 systems, which support free parking space detection and dynamic guidance. One system is permanently out of order. A second one functions correctly with the exception of the roof level. In the control room in P1 the two systems of ARS and SKIDATA support the same functionality, but no interface between these systems exist, as a result of which no data is exchanged.

Central control room

Although Schiphol maintains two control rooms, these control rooms are not configured to take over functions of each other. In case of an emergency, there is no fail over functionality.
The Parking department has plans for a central control room, but this is not yet realised. However, the function of a dynamic parking guidance system will be even more important in the central control room. It is expected that this system will provide operators with more tools to make the excellent passenger experience possible and enhance the degree of capacity utilisation.

Parking products

Due to the different parking products offered, as described in Annex 1, Schiphol feels the need to dynamically allocate sections of the parking garages on Schiphol Centre to different products. This however is not supported by the current systems.

Dynamic Guidance

- The accessibility of P1, P2 and P6 will change significantly as a result of all the landside infrastructure developments. Changing the access will affect the car routing.
- Currently, no functionality is available to detect congestion on the roads to the parking garages.
- No functionality is offered to car drivers with respect to retrieving the location of a car.
- The current systems offer no indication how much time it takes for our customers between entering the parking garage or lot and parking the car on a vacant parking place. Similarly, there is no indication of how much time expires between finding the car and leaving the parking garage. These are important KPI’s for Schiphol.

Schiphol already has information displayed on guidance board at roads leading to Schiphol Centre. However, this information is entered manually and is not based on real-time data retrieved from information systems.

Additional levels on P1 and P2

- Both P1 and P2 will have an additional level on top of the existing levels. However, in order to minimise the additional load to the foundation of the garages, a light-weight construction of the additional levels is deemed necessary. These levels will not have a 5

cm thick concrete layer. This may have consequences for the detection system components (cables, sensors) used on the roof level.

Infrastructural focal points

The location of the new terminal will have significant consequences for the infrastructure. New routes to the garages, detours and temporarily unavailable roads have to be taken into account and to be managed.

ANNEX 3: OVERVIEW PARKING LOCATIONS