Real-time Lift Status Information

Market Sounding Questionnaire

Transport for London (TfL) is part of the Greater London Authority family led by Mayor of London. We are the integrated transport authority responsible for delivering the Mayor’s aims for transport.

**This Market Sounding Questionnaire (MSQ) intends to address the problem of how to capture live, lift status information from the lifts on our network and develop a feed of this data which can be ingested by key internal systems so that customers are provided with accurate information for step free journey planning and TfL has up to date information about its lift assets for internal use.**

The primary focus is to better understand market/supplier appetite, capacity and capability, as well as perceived risks and opportunities. It is not a call for tenders or a pre-qualification exercise.

The information within this document has been generated solely for market engagement purposes and (depending on the information received from potential suppliers and/or manufacturers) may not reflect the information ultimately presented in any future calls to tender.

**Part 1: Background Information**

**Introduction**

Following on from your feedback through the Voice of the Supplier survey, TfL continues to listen to our suppliers and is committed to improving the way we engage and innovate with our supply chain.

TfL is setting the challenge to solve some of the key problems facing our organisation. Led by the Transport Innovation Directorate and Commercial team, these Problem Statements aim to provide clarity and focus to the market about where innovation is required within TfL.

TfL continually strives to provide accurate, relevant and useful information to our customers. We would like to improve how we source accurate and timely information about the status of lifts on the London Underground and DLR networks. We are looking for potential solutions that utilise our existing infrastructure to create a data feed of real time lift information which can be integrated with key internal systems and used in customer facing products. These potential solutions should take into consideration the possibility to apply these solutions across the TfL network in future.

**Feedback Request**

TfL would greatly appreciate your feedback in the form of a response to this questionnaire.

All responses will be treated confidentially.

This exercise does not form part of any formal procurement process. All responses will be carefully considered but will not bind TfL to any approach to procurement, nor will responses be treated as conveying any promise or commitment on the part of the respondent.

For your feedback to be considered, your completed MSQ must be received by 14:00 on 6th November 2020.

**Problem Statement**

Transport for London is fully committed to making our network even more accessible for all customers. Many customers rely on real-time reporting of the status and availability of lifts in order to complete step-free journeys. Any absence, delay or inaccuracy in this information can lead to significant inconvenience or even result in the trip needing to be cancelled.

TfL faces three main challenges in meeting this customer need:

1. Capturing and recording the live status of all customer-facing lifts across the TfL network
2. Delivering this lift status information to all customers in real-time via established communication channels
3. Updating the lift status in real time in TfL’s asset management system

**MSQ scope**

This MSQ intends to address the problem of how to improve both the capture and delivery of this information.

The scope of the MSQ covers data from the 328 lifts that are key to assisting passengers with step free access on the London Underground and the DLR only but we are looking for a solution that is scalable and adaptable and could be used to integrate and send data from all types of lifts on our network. This MSQ offers an opportunity to propose solutions that:

* Integrate different lift status data feeds into a single unified API (Application Programming Interface)
* Make the lift status API accessible outside of the station
* Can easily be ingested by our internal customer information and asset management systems. (Please note that integration into these systems is not part of the requirement and will be carried out by our internal Technology and Data teams.)
* Can be adapted and scaled to be applied to lifts across our network.

**Current communication process and data flow**

Real time lift status information is currently captured entirely through our station staff. There are times when customers inform our staff that a lift is faulty, resulting in the staff member checking the lift and then entering the details into our various staff apps including the staff Real-Time Information (RTI) app (currently London Underground only) and station log-book app.

The majority of lifts are self-reporting and, in this case, the outage is automatically notified to the Station Operations Room. Staff then enter it into the RTI app and other staff apps as before.

The RTI app also communicates the details of lift outages to the London Underground Control Centre (LUCC). When the lift is back in service, station staff will update the information via the RTI app.

On parts of our network where the staff currently do not have access to the RTI App, e.g. DLR, they will use email or telephone to communicate lift outages to the LUCC.

LUCC staff update the lift availability on a variety of systems (see Appendix 1) which in turn updates our customer facing channels:

* TfL Journey Planner (via Journey Planner’s Incident Capture System (ICS),
* TfL Go mobile app, TfL’s Facebook Travelbot, Status Updates webpage and Journey Alerts customer emails via TfL’s Unified API
* digital ‘Electronic Service Update Boards’ in station ticket halls
* customer information printed publicity, which is posted in stations at a location next to non-operational lifts and informing customers of alternative step-free routes.
* customer announcements in tube carriages and/ or throughout the underground station
* third party apps and products via TfL’s open data Unified API

In addition, LUCC (fault report centre) update the lift status on the asset management system.

The majority of lifts are self-reporting and provide lift status information via several formats and technologies about whether a lift is in operation or not. The lift status information is delivered to the internal station operations room and used by engineers to identify whether the lift has a fault, but it is not consolidated into a single dataset for all lifts across the network and is not made available to LUCC or our customers.

There are eight (8), older lifts that are not self-reporting and staff have to manually check when they are in service. Please see the attached report for technical information on our lifts.

We require the data feed to include the following fields for customer information:

* ID of lift affected
* Operational status - in service/out of service
* The date and time it was reported out of service
* The date and time it has been returned to operation

For asset management purposes, the data feed will also need to include (as a minimum):

* The internal asset number of the lift
* The reason for the malfunction

**Key System Requirements**

TfL’s Cyber Security team will review proposed solutions to ensure they meet our security standards.

TfL’s Technology and Data teams will assess the solutions to determine their compatibility for integration with key internal systems as well as their resilience and performance.

API Format:

Latency

* Data provided in real time (less than 30 seconds latency)

Format

* RESTful API with JSON (JavaScript Object Notation) input and output, e.g. /api/Stations/Waterloo/Lifts/B to GET the status of lift B in Waterloo
* Plus a live data stream of events as they happen that internal systems can subscribe to avoid having to poll an interface continuously
* Lift references to be consistent with those used in other TfL systems (these will be provided to successful suppliers)
* Station references to be consistent with those used in other TfL systems (these will be provided to successful suppliers)

**Part 2: Questionnaire**

Organisation Name

Company Registration Number

Key Contact Name

Key Contact Email Address

Key Contact Phone number

Organisation Website

1. What type of company are you? (Start Up; SME; Medium Sized Company; Large Organisation)

2. Please provide details of your proposed solution to this problem statement including your proposed delivery model eg Software as a Service (SaaS).

3. Do you have any previous experience of creating, implementing or delivering this type of solution? (Please note: it is not a requirement to have previous experience). If your answer is yes, please provide more details.

4. With regards to your solution please describe any assumptions you have made about TfL’s infrastructure and resources.

5. Do you anticipate any issues integrating your solution with our existing infrastructure?

6. Security is vital to any potential solution being delivered successfully. What is best practice and how do you propose to deliver this effectively?

7. What are the top three risks to delivering this solution? What mitigating action do you think can be taken by TfL and/or suppliers? Please provide details of the risk, mitigation and who is best placed to manage the risk.

8. What are the top three opportunities to delivering this solution?

9. As stated above and in the accompanying lift survey, some of our lifts do not have the capacity to self-report problems. We have been working with a third party on solving this problem but we would be interested in hearing your thoughts on how it can be resolved. Please describe how you would go about it.

10. Would you be interested in taking part in a trial or feasibility study?

11. If there is the potential to trial this solution, what do you foresee to be the financial cost for TfL? Please provide an indicative cost to TfL for a six-month trial.

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| --- | --- |
| Cost bracket | Please tick |
| No financial cost to TfL |  |
| <£10k |  |
| £10K – 25K |  |
| £25K - £50K |  |
| £50K - £100K |  |
| >£100K |  |
| Unable to provide an estimate |  |

12. Would you be prepared to follow up this Market Sounding Questionnaire with further engagement activity, for example through a 1-2-1 engagement session?

13. Do you have any other comments or questions regarding the proposal set out in this Market Sounding Questionnaire? (Maximum 250 words)