Certificate No. C – 00190

ITSO Certificate of Compliance

To: Cubic Transportation Systems Limited
AFC House, Honeycrock Lane, Salfords, Surrey RH1 5LA, UK

For: Cubic IDP3B Gate POST v2.5.7
(TR3 Reader version v05.4.6; Gate version S11)

This is to certify that the above product has been tested as required by ITSO for compliance against ITSO TS 1000 Specification Version: 2.1.4 Corrigendum 9

Test Report Ref: *6P_000126 Cubic - TfL Gate Reader - Test Report_Final*

This product supports the functions: POST. It communicates within an ITSO environment as listed in Schedule A of this Certificate.

This product may only be used by ITSO Licenced Members complying with the conditions and constraints listed in Schedule B.

Signed for and on behalf of ITSO : 

Title: Chief Executive Officer

Dated : 13/02/2019

Certificate Valid until : 12/02/2026

Schedule A

List of all Customer Media, IPE's and functions that were included in the testing procedure.

ITSO Manufacturer Id.: 000121

The Cubic Post v2.5.7 infrastructure is unchanged since v2.5.2. The GATE Reader is a part of the Gate and consists of a TR3 and an MM6. The TR3 is where the card is presented by the passenger and this interfaces to the MM6.

The MM6 then interfaces to the Gate Host but it is the MM6 located software that does all the ITSO processing. The Cubic supplied ITSO Certification tool for this GATE Reader will be supplied with the appropriate Gate host software and back office (Station Computer and Data Gathering Centre) software.

The Cubic solution architecture is tiered, with the following key components:

- ITSO Message Server – message processor between the Reader and the HOPS. All ITSO transactions go direct from the Reader to the ITSO Message Server.
- Host – e.g. the GATE itself; the device that contains and manages the smartcard Reader and communicates with the Station Computer to relay transactions, operational commands, status and operating data (e.g. fare tables)
- Reader – the component of the system that actually interacts with the card. The reader is intelligent, such that it includes processing application logic as well as the smart card RF interface.
- The Host Device is responsible for passenger feedback (displays, opening barrier paddles etc) and for controlling the Reader to go into and out of service. All of the ITSO processing is performed within the Reader itself and not within the Host.

This **POST** communicates with **CMD2 and CMD7.**

IPE	Create	Modify	Accept	Delete*
TYP 14 – Entitlement			✓	
TYP 16 – ITSO ID and Entitlement			✓	
TYP 22 – Area based ticket (FR 2)	✓		✓	✓
TYP 23 – Journey Ticket (FR 2)	✓		✓	✓
TYP 24 – Pre-Defined Specific Journey Ticket	✓		✓	✓
Transient Ticket (FR 3)			✓	
Transient Ticket (FR 4)	✓		✓	

*Deletion of products is via expiry of old products, not manual deletion.

Action & Hot list support:

- Hot Lists (Block Shell and Block IPE) are supported; and
- Action Lists:
  - create IPE (TYP 22, 23 and 24);
  - Un-hotlist Shell
  - Update IPE: Add stored rides or journeys (TYP 22)
  - Update IPE: Add Stored Rides or Journeys and amend expiry date (TYP 22)
  - Update IPE (TYP 24): Amend JourneysRemaining and TransfersRemaining.

Schedule B

List of the conditions and/or constraints applied by ITSO.

This POST achieved the following benchmark timing:

- Transient Ticket Record Creation

	Average over tests
CMD2	395mS
CMD7	323mS

- Value Record Data Group Modification

	Average over tests
CMD2	552mS
CMD7	445mS