

EMSD GWIN General Gateway Installation Requirements

Version 1

1. General Requirements for Gateway Installation

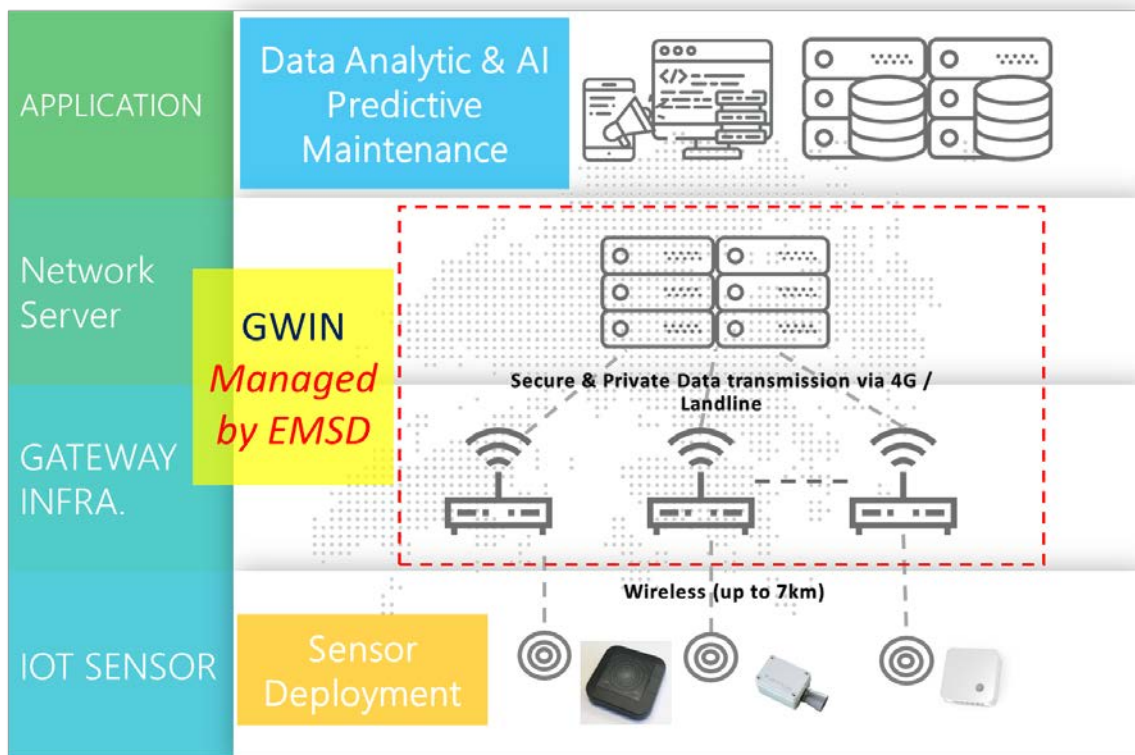
1.1 Introduction

- 1.1.1. LoRa gateway is the core infrastructure in Government Wide Internet-of-Thing Network (GWIN) which serves to provide wireless signal coverage for the sensor devices installed on site as stipulated in Annex 1.
- 1.1.2. 1 no. LoRa gateway can typically provide up to 3-5 km line of sight outdoor signal coverage for the communication with up to 100 numbers of sensor devices depending on the actual data traffic required for the sensor applications.
- 1.1.3. In general, site survey would be required to determine the optimised locations of indoor and outdoor gateways to serve the target sensor applications.

1.2 Gateway Installation Requirements

- 1.2.1. For better outdoor coverage, the location of outdoor gateway is preferred to be at high location. (i.e. building rooftop). There are two typical installation locations for outdoor gateways.
 - (a) Metal enclosure housing gateway and associated accessories (approximate 400mm W x 500mm L x 200mm D) being wall-mounted inside plant room area while the outdoor antenna (approximately 1000mm L) to be extended for mounting at outdoor locations using coaxial cables with cable distance not exceeding 10m.
 - (b) Metal enclosure and outdoor antenna being wall-mounted at building rooftop
- 1.2.2. The metal enclosure shall be located to accessible location for maintenance. The mounting details of the equipment for each mounting scenarios shall be certified by the Registered Structural Engineer (RSE). A protective conductor shall be provided for the metal enclosure.
- 1.2.3. 220V 13A single phase fuse spur unit shall be provided by the project main contractor for each outdoor gateway locations.
- 1.2.4. Lightning protection shall be provided by the project main contractor for the outdoor gateway and antenna.
- 1.2.5. Landline shall be provided by the project main contractor for each gateway location if a mobile network by local telecommunication company is not available.

Annex 1 – System Hierarchy



Annex 2 – Outdoor Gateway Installation