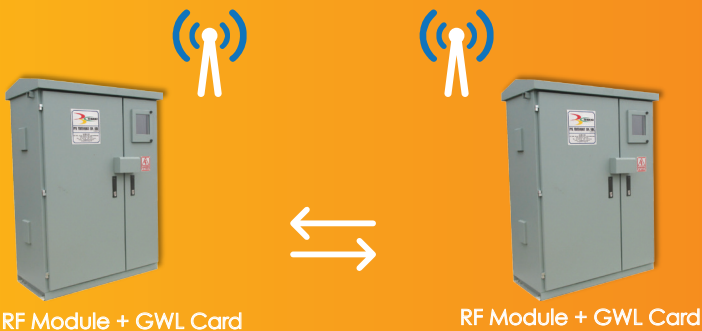
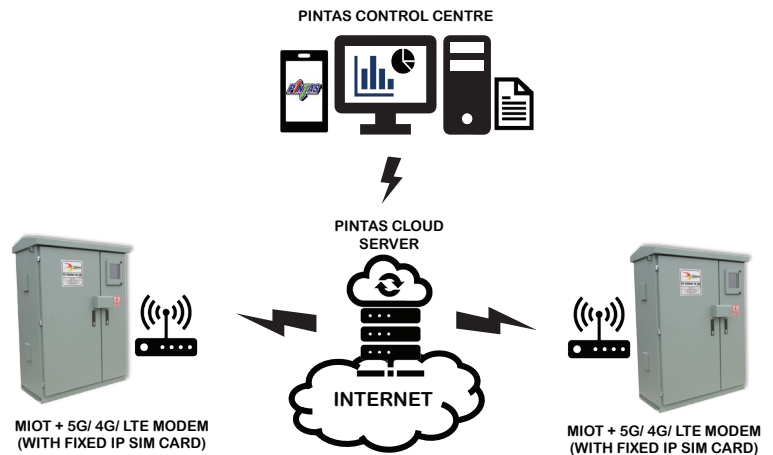


Table 1 : Types of activation and linking mode

	Forced Linking	Priority Linking	Semi-forced Linking	Schedule Linking
Linking via PINTAS	✓	✓	✓	✓
Linking via RF modules	✓	✓	✓	✗
Linking via GPS modules	✗	✗	✗	✓
Criteria for Implementation	Suitable for a short-distance gap between adjacent junction (< 500m) - preferably with cycle time differences between 20-30 seconds	Suitable for 2 adjacent junctions with similar layout, flow and cycle time	Suitable for a long-distance gap between adjacent junctions (> 70m)	Suitable for linking multiple adjacent junctions with high volume of traffics

1. Linking via PINTAS

- ☑ Each junction to be synchronised must be linked to PINTAS control and command centre.
- ☑ Instruction will be sent directly to each controller to initiate the synchronisation.

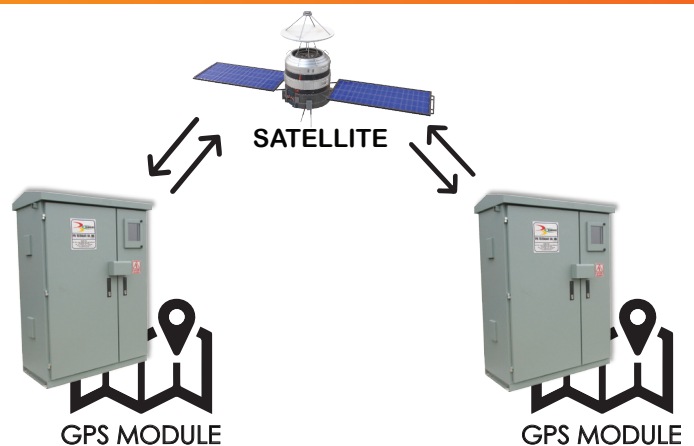


2. Linking via RF

- ☑ Each junction to be synchronised is installed with RF module and GWL card to enable communication between junctions.
- ☑ The RF range is up to 2 km line of sight (LoS). Repeaters can be added if there is a limitation in LoS or if longer range linking is required i.e more than 2 km distance between junctions.

3. Linking via GPS

- ☑ Each junction to be synchronised is installed with GPS module which synchronises the clock of the controllers and activates linking based on pre-set Multi plan timings.



DISCLAIMER

All information provided herein is for information purposes only and does not constitute a legal contract between PPK Technology and any person or entity unless otherwise specified. PPK Technology reserves the unconditional right to discontinue or make changes to product and product specifications without prior notice to improve the product's reliability, function or design.



GREENWAVE LINKING SYSTEM

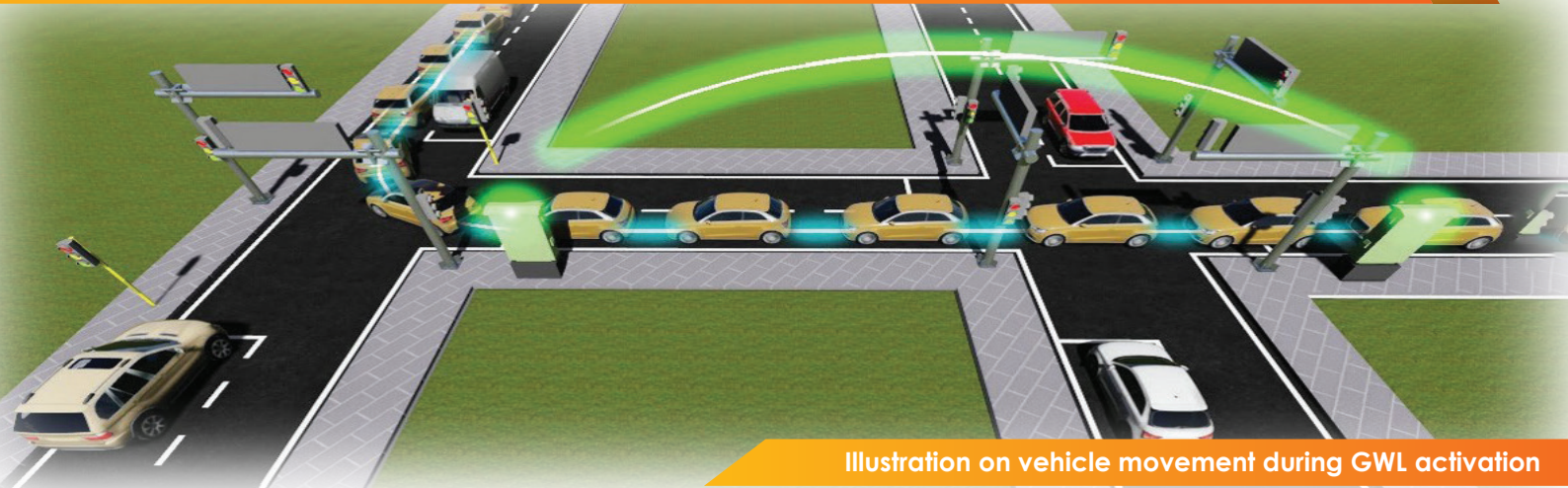


Illustration on vehicle movement during GWL activation

Promotes Smooth Vehicle Flow Through Signalised Intersections

Greenwave linking (GWL) also known as time synchronisation, is the concept of synchronising the flow of traffic (reducing stop frequency and waiting time); so that a platoon of vehicles can flow smoothly along adjacent intersections. Thus, shortening travel time and preserving the environment from pollution caused by idling engines. PPK has extensive experience in GWL, which has evolved from wired communication to a variety of wireless communication methods.

GWL implementation requires junction studies in order to analyse the arterial traffic flow and its demand at various peak hours throughout the day. The collected data will be used to determine values of significant parameters in GWL system i.e. phase splits, cycle time extension, linking hold, enable and offset time.

Various types of linking can be implemented depending on the outcome of junction studies, the details are summarised in Table 1.



Network of adjacent intersections setup for GWL system