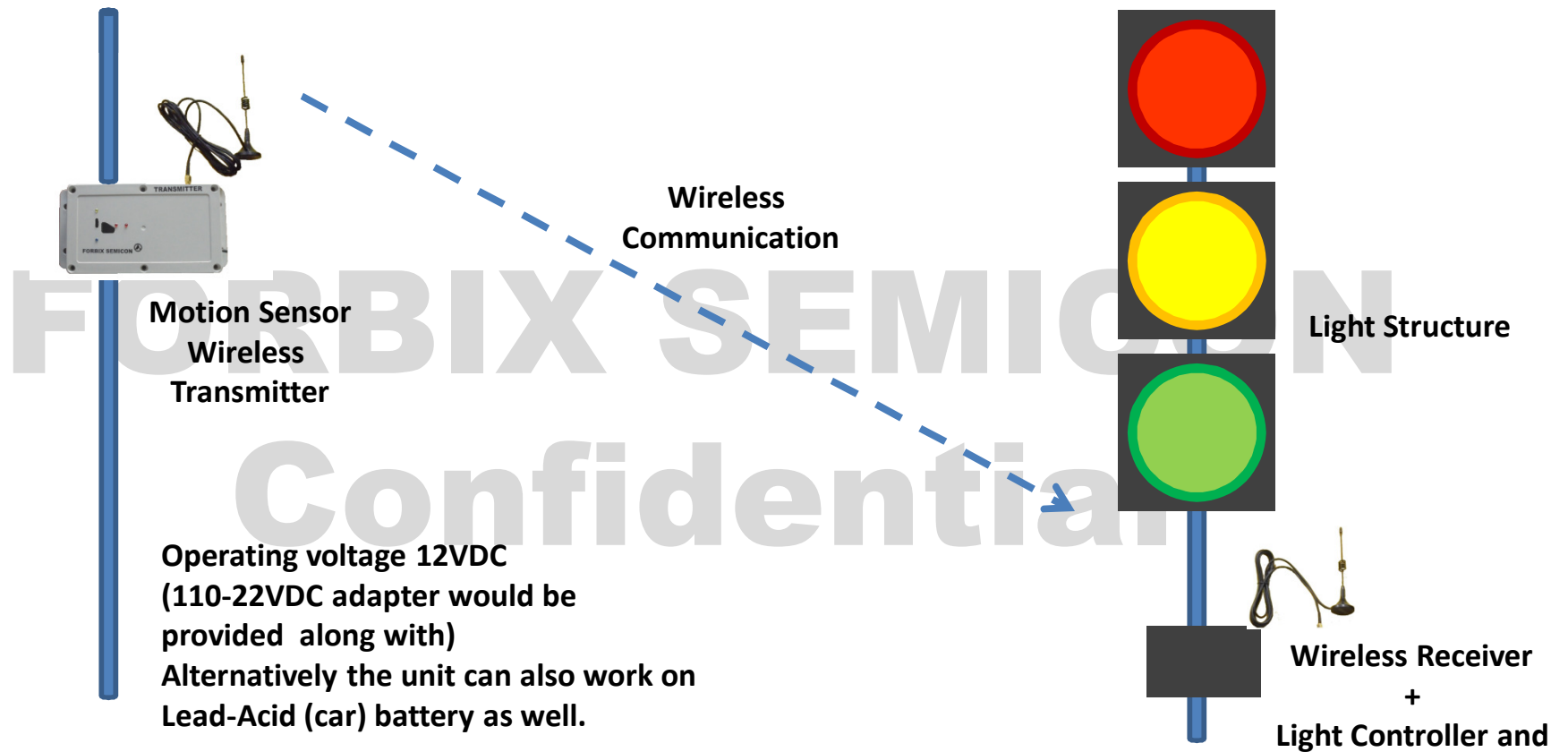
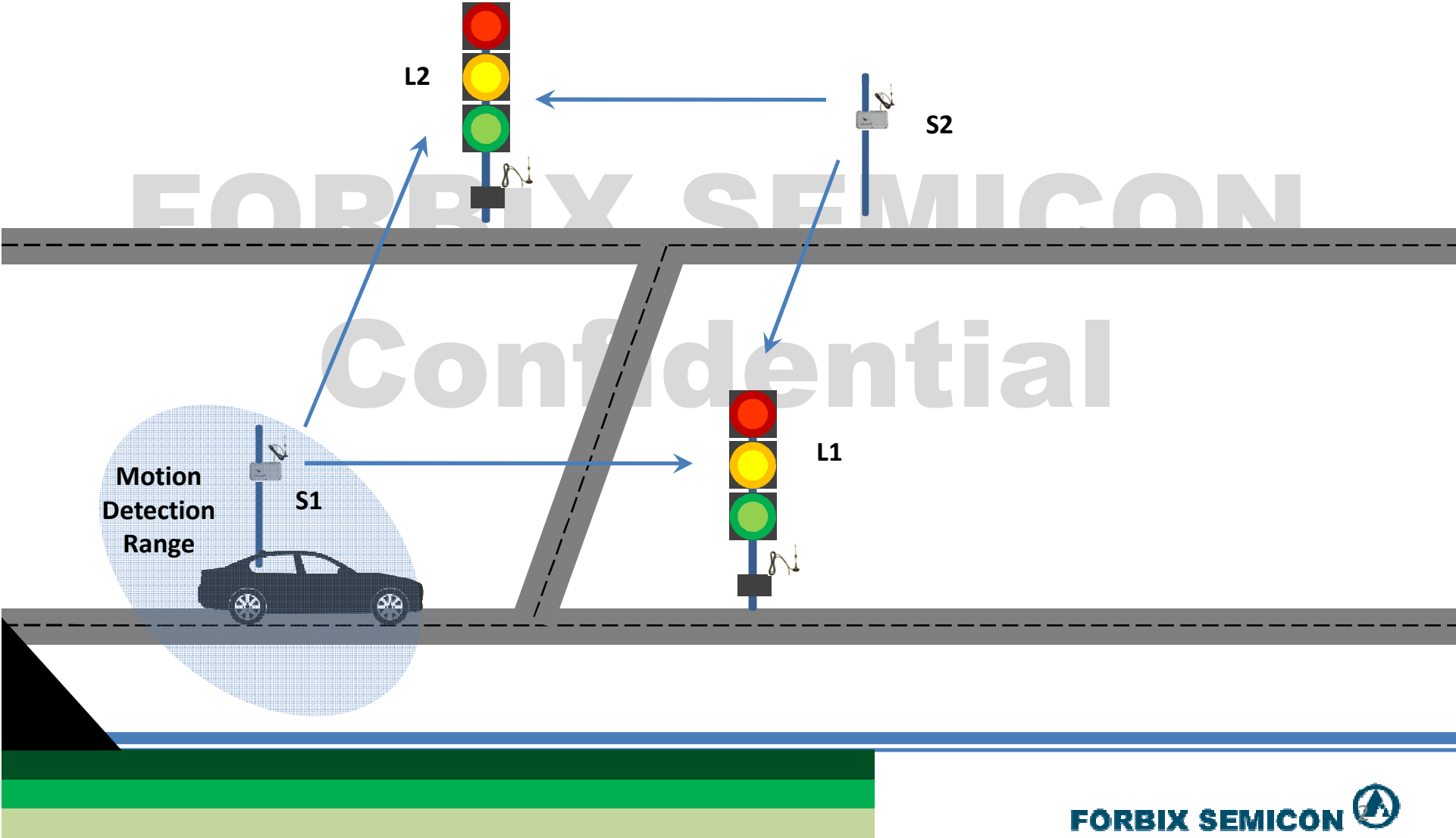


FORBIX SEMICON motion sensor and traffic alert system



Components of customized motion sensor + traffic light system

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S1 and S2 are sensors

L1 and L2 are lights (each pole has Red, Amber and Green respectively)

Range of detection of S1 and S2 is around 10 meters (each).

Assumption:

1. A vehicle approaching sensor (say S1) should not be moving in front of S2. Means the location of S2 needs to be such that it should not detect the same vehicle
2. Human body movement will also be detected near the motion sensors

Rules:

Default state: When no vehicle is approaching either S1 or S2, then both L1 and L2 will blink amber lights at a constant rate

When vehicle is sensed near S1 => L1 will turn green and L2 will turn Red

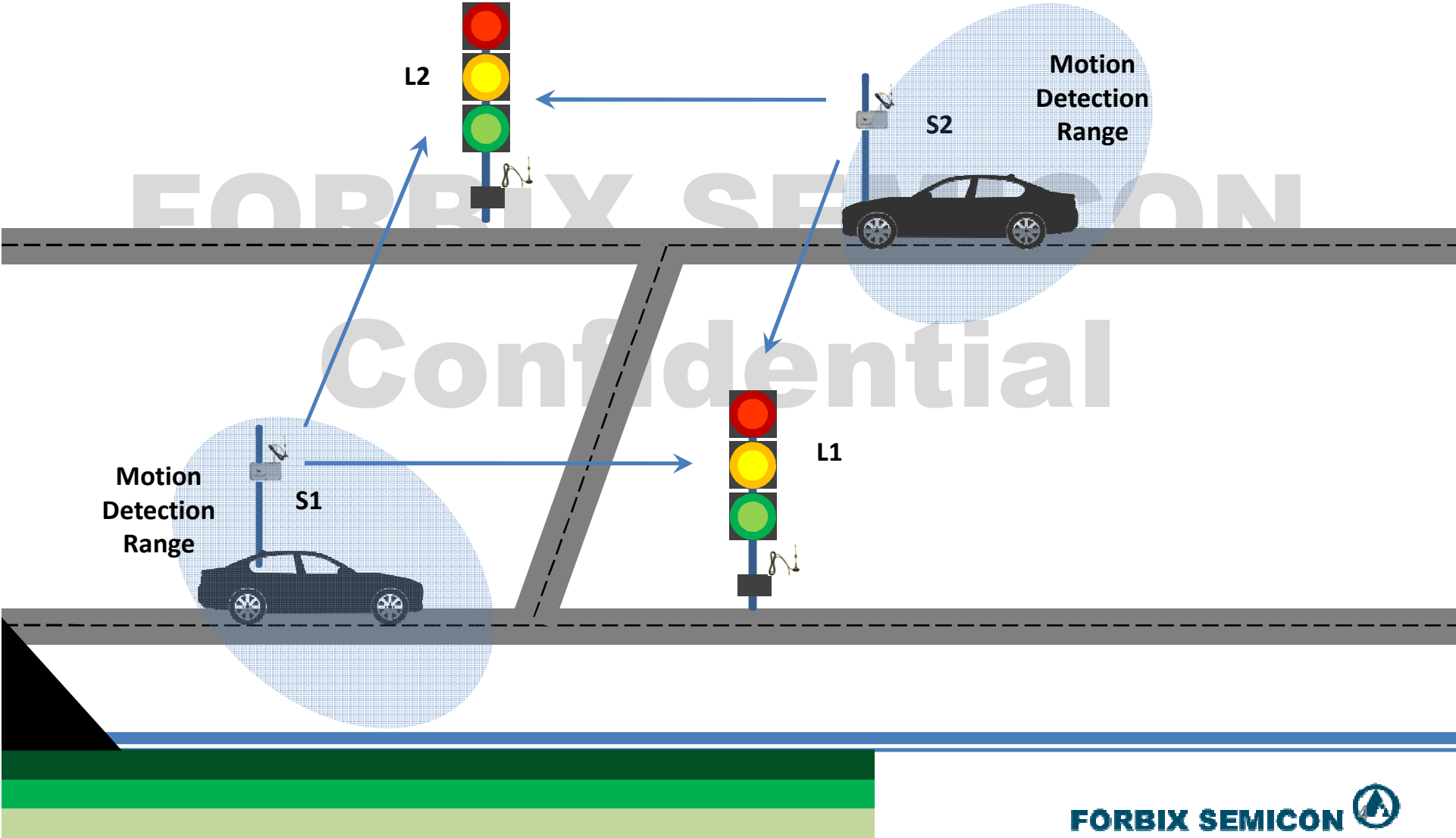
When vehicle has moved out of S1 (after a short timeout the lights will start blinking again)

Next vehicle approaches S2 will now turn L2 green and L1 red and so on....

Manual operation: (additional feature)

2 manual push button switch would be provided at the receiver unit. If you press it, the machine will override sensor detection algorithm and forcibly switch to red or green, whichever pressed.

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There would be scenarios where both the vehicles are waiting (S1 and S2 both have sensed)
In such scenarios, machine will get locked to L1 green and L2 red (assuming L1 is reached 1st).
Once no detection at L1 and timeout has passed, S2 will be serviced and L2 will turn green and L1 will be red.

If in case both S1 and S2 will have exactly same time of detection, machine will have internal algorithm to prioritize one over another.

In case many vehicles are moving from S1 then, S2 will be kept waiting for a long time. In such cases there would be a deadlock breaking mechanism, so give S2 a chance to move. That would be controlled by a separate timeout mechanism.

Instead of motion sensors at S1 and S2, the system can be designed with obstacle detection mechanism, provided the vehicle is in front of the pole WITHIN 4 METERS OF DISTANCE. Means the vehicle to pole sensor distance is less or equal to 4 meters, an obstacle detection mechanism can be developed as well.

Advantages of obstacle detection:

- Vehicles **ONLY** in the front of the pole would be detected (motion sensors detect activities in a spherical region of 10 meters)
- It is better than infrared sensors, because IR sensors cannot detect vehicles at times. Obstacle sensors will also detect anything in front of it (within 4 meters)

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