What is claimed is:

1. A distributed remote sensing system comprising:

at least one gateway;

at least one sensing device; and

a communication interface providing radio frequency communication through a predetermined shared variable frequency scheme between each sensing device and one of the at least one gateway and between each sensing device and another of the at least one gateway through a different variable frequency scheme, wherein the communication interface is configured so that each sensing device is predeterminately paired with the predetermined shared variable frequency scheme corresponding to each sensing device from different frequency schemes of the communication interface and the at least one sensing device.

2. The distributed remote sensing system of claim 1, wherein the distributed remote sensing system comprises a parking monitoring system.

3. The distributed remote sensing system of claim wherein the communication interface further provides communication between the at least one gateway and a peripheral device.

4. The distributed remote sensing system of claim 3, wherein communication between the at least one gateway and the peripheral device is through a central controller.

5. The distributed remote sensing system of claim 3, wherein the peripheral device is a handheld device and the central controller provides parking space information on a display of the peripheral device.

6. The distributed remote sensing system of claim further comprising a controller configured to process data from the at least one sensing device.

7. The distributed remote sensing system of claim 1, wherein the at least one sensing device is configured to switch communication from the one of the at least one gateway to the another of the at least one gateway in response to an attribute of a communication with the one of the at least one gateway.

8. The distributed remote sensing system of claim 7, wherein the at least one sensing device is configured to initiate the switch in communication from the one of the at least one gateway to the another of the at least one gateway.

9. The distributed remote sensing system of claim 7, wherein the another of the at least one gateway has a frequency hopping scheme shared with the at least one sensing device.

10. The distributed remote sensing system of claim 9, wherein the at least one sensing device selects a frequency of the frequency hopping scheme corresponding to a time of switching from the one of the at least one gateway to the another of the at least one gateway.

11. A distributed remote sensing system comprising:

at least one gateway;

at least one sensing device; and

a communication interface providing radio frequency;

communication through a predetermined shared variable frequency scheme between each sensing device and one of the at least one gateway and between each sensing device and another of the at least one gateway through a different variable frequency scheme where the communication interface is configured for adaptive change in response to an attribute of a communication between the at least one sensing device and the at least one gateway, wherein the communication interface is further configured so that each sensing device is predeterminately paired with the predetermined shared variable frequency scheme corresponding to each sensing device from different frequency schemes of the communication interface and the at least one sensing device.

12. The distributed remote sensing system of claim 11, wherein the distributed remote sensing system comprises a parking monitoring system.

13. The distributed remote sensing system of claim 11, further comprising a controller configured to process data from the at least one sensing device.

14. The distributed remote sensing system of claim 11, wherein the at least one sensing device is configured to switch communication from the one of the at least one gateway to the another of the at least one gateway in response to an attribute of a communication with the one of the at least one gateway.

15. The distributed remote sensing system of claim 14, the at least one sensing device is configured to initiate the switch in communication from the one of the at least one gateway to the another of the at least one gateway.

16. A distributed remote sensing system comprising:

at least one gateway;

at least one sensing device; and

a communication interface providing radio frequency providing communication through a predetermined shared variable frequency scheme between each sensing device and one of the at least one gateway and between each sensing device and another of the at least one gateway through a different variable frequency scheme where the communication interface is configured to allow configuration of a predetermined characteristic of each sensing device over the communication interface, wherein the communication interface is further configured so that each sensing device is predeterminately paired with the predetermined shared variable frequency scheme corresponding to each sensing device from different frequency schemes of the communication interface and the at least one sensing device.

17. The distributed remote sensing system of claim **16**, wherein the distributed remote sensing system comprises a parking monitoring system.

18. The distributed remote sensing system of claim **16**, further comprising a controller configured to process data from the at least one sensing device.

19. The distributed remote sensing system of claim **16**, wherein the predetermined characteristic of each sensing device includes one or more of a frequency hopping sequence for the communication interface, firmware version, days of sensing device operation, hours of sensing device operation, a radar sensor strength, a magnetometer sensitivity, and a magnetometer calibration.