

**TELEMONITOR PATENT - Smart remote monitoring system and method  
US 6553336 B1**

The present invention is not limited to the specific applications disclosed herein but may be utilized to monitor any types of property, equipment or other objects. For example, the present invention may be utilized in substantially the same manner described above to monitor:

1. Yachts at a dock to prevent yachts from sinking at the dock from small leaks or loose moorings and to detect theft and possibly assist recovery.
2. Yachts underway to prevent incidents or expensive repairs due to malfunction of yacht systems.
3. Vacation homes to prevent costly repairs due to small problems going unnoticed in unoccupied homes (e.g., water, freezing, etc.).
4. Yachts on land to prevent theft (or enable recovery) of expensive boats stored on trailers or in boatyard racks.
5. Recreational vehicle (RV) status to prevent costly repairs due to small problems going unnoticed in RVs while stored.
6. RV security to prevent theft (or enable recovery) of RVs while stored.
7. Aircraft status to prevent costly repairs due to small problems going unnoticed in aircraft while stored (e.g., water, loose tiedowns, etc.).
8. Aircraft security to prevent theft (or enable recovery) of aircraft.
9. Medical refrigeration to prevent loss of irreplaceable medical specimens or pharmaceuticals (e.g., tissue, sperm, embryos, bacteria or virus samples, etc.) due to temperature.
10. Food storage to prevent health problems or expensive recalls due to spoiled food.
11. Poultry incubators to prevent loss of eggs/babies due to improper temperature.
12. Poultry houses to prevent loss of birds due to equipment malfunctions.
13. Livestock barns to prevent loss of animals due to equipment malfunctions.

**TELEMONITOR PATENT - Smart remote monitoring system and method  
US 6553336 B1**

14. Horse barns to reassure absentee owners of conditions for their expensive horses (e.g., temperature, water, stall door opening, etc.).
15. Swimming pools to alert owners/managers of unauthorized use or equipment failure.
16. Amusement park rides to prevent incidents due to malfunctioning equipment and record operation of equipment for investigation of any that do occur, and to detect changes in ride quality of rides (e.g., coaster-type rides).
17. Rental vehicle status to prevent costly repairs due to small problems going unnoticed in rental vehicles while in operation by customers.
18. Rental vehicle security to prevent theft (or enable recovery) of rental vehicles (and locate late/missing vehicles).
19. Farm equipment status to prevent costly repairs due to small problems going unnoticed in farm equipment.
20. Farm equipment security to prevent theft (or enable recovery) of expensive farm equipment.
21. Hazardous material barges to prevent catastrophic spills of hazardous material due to equipment malfunction and possibly operator error.
22. River barges tracking to solve reported problems of poor cellular coverage and power management of present tracking systems.
23. Truck tracking to find lost trucks and drivers.
24. Trailer tracking to solve reported problems of poor power management of trailer tracking systems.
25. Residential utilities to eliminate need for meter readers (e.g., in homes with full-time Internet connections).
26. Smart home status to prevent costly repairs due to small problems going unnoticed in home systems and provide integrated remote control in a home through a web server (e.g., in homes with full-time Internet connections).
27. HVAC to prevent costly repairs due to small problems going unnoticed in commercial and residential systems and to eliminate need for site visits for systems under maintenance contracts.
28. Title V equipment to eliminate need for site visits to verify

**TELEMONITOR PATENT - Smart remote monitoring system and method  
US 6553336 B1**

operation of emission monitoring equipment, especially systems under maintenance contracts.

29. Bridge structures to detect damage (e.g., from earthquakes, impacts, etc.) to bridges and overpasses by shock or tilt sensing.

30. Tower structures to detect damage to or of deterioration of telecommunications towers by shock or tilt sensing.

31. Clean rooms to prevent (or minimize) production losses due to problems with temperature, humidity, or vibration and to prevent quality audit problems from not having continuous monitoring records.

32. Pipelines to prevent incidents and/or catastrophic spills due to equipment malfunction and possibly operator error.

33. Storage tanks to prevent incidents and/or catastrophic spills due to equipment malfunction and possibly operator error and to prevent interruption of service due to unnoticed depletion of stock.

34. Cranes to reduce chances of incidents or accidents due to improper use of portable cranes (e.g., poor load management, failure to extend outriggers, etc.) or improper maintenance.

35. Mines to detect safety or operational problems with widely-distributed mining equipment.

36. Industrial process temperature to prevent incidents or loss of production due to improper temperature.

37. Room air to detect indoor air quality problems (e.g., temperature, humidity, CO/CO<sub>2</sub>, etc.).

38. Power quality to prevent damage to sensitive equipment by detecting problems with power quality (e.g., brownouts, phase dropouts, distortion, etc.).

39. Power use to eliminate need for meter readers for large campus-type facilities with multiple sub-meters (e.g., colleges typically have hundreds of on-campus meters, may also apply to apartment complexes).

40. Water level/flow to warn of problems with stream flow (e.g., high or low).

41. Seismic to warn of possible earthquake damage to remote facilities (e.g., power substations, transmission line towers, telecommunications facilities, etc.).

**TELEMONITOR PATENT - Smart remote monitoring system and method  
US 6553336 B1**

42. Railway crossings to prevent incidents due to malfunctioning equipment and record operation of equipment for investigation of any that do occur.

43. Track gauge to prevent incidents due to improper track gauge (e.g., track tends to open up under use).

44. Power transmission lines to improve repair response time by reporting location (and nature) of failure.

45. Tramways/ski lifts to prevent incidents due to malfunctioning equipment and record operation of equipment for investigation of any that do occur.

46. Elevators/escalators to prevent incidents due to malfunctioning equipment and record operation of equipment for investigation of any that do occur.

47. Well-heads/pumps to reduce loss of production for remote well-head pumping station (e.g., due to equipment malfunction, depletion of fuel, etc.) and to reduce possibility (or extent) of hazardous material spill.

48. Landfills to reduce possibility (or extent) of hazardous waste contamination.

49. Parking garages/lots to improve utilization of large parking facilities by detecting empty spaces and to locate abandoned vehicles by tracking abnormal parking time.

50. Aircraft structure to detect changes in structure before hazardous condition develops (e.g., shock or 'G' loads, landing cycles, change in shape).

51. Aircraft engines to prevent incidents or expensive repairs by enabling condition-based maintenance (CBM) of aircraft engines (especially when engines are leased or under maintenance contracts).

52. High-risk drivers to reduce risk from high-risk drivers by detecting and reporting improper activities (e.g., parental reports for speed, location, hours of operation, etc.).

53. Local traffic speed to enable local communities (e.g., neighborhoods, gated communities, apartment/townhouse complexes, etc.) to detect and identify violators of local speed limits.

**TELEMONITOR PATENT - Smart remote monitoring system and method  
US 6553336 B1**

54. Railway ride quality to report violations of ride quality standard for railway shipments of expensive goods.

55. Truck/trailer ride quality to report violations of ride quality standard for shipments of expensive goods (e.g., attached to vehicle).

56. Cargo ride quality to report violations of ride quality standard for shipments of expensive goods (e.g., attached to cargo such as large motors, pumps, etc.).

57. Heavy equipment ride quality to prevent injury to operator due to malfunction/deterioration of suspension or seat.

58. Motor sports ride quality to provide on-the-air data on 'G' loads for various motor sports (e.g., automobiles, boats, aircraft, etc.) and provide accident data to improve design of safety systems.

59. Vending machines to detect malfunctions (e.g., including temperature of temperature-controlled unit), to reduce refill trips and/or lost sales by detecting low stock and to enable e-commerce transactions.

60. Billboards to detect equipment malfunctions, including lights and to eliminate need for site visits to read the power meter.

61. Weather to detect local hazardous and favorable weather conditions (e.g., for irrigation, sporting events, boating, etc.)

From the foregoing description, it will be appreciated that the invention makes available a novel smart remote monitoring system and method wherein end-users may remotely monitor an object and access information related to the monitored object via a communications network.

Having described preferred embodiments of a new and improved smart remote monitoring system and method, it is believed that other modifications, variations and changes will be suggested to those skilled in the art in view of the teachings set forth herein. It is therefore to be understood that all such variations, modifications and changes are believed to fall within the scope of the present invention as defined by the appended claims.