CLAIMS:

1. A tracking system comprising:

a central control arrangement which is configured to communicate with a client device, the central control arrangement comprising:

a processor; and

a memory coupled for communication with the processor, wherein the central control arrangement is configured to:

receive vessel data from a plurality of vessel data sources and store the vessel data in the memory, the vessel data indicating at least one vessel status parameter for a vessel;

receive cargo data from at least one cargo data source and store the cargo data in the memory, the cargo data comprising at least an item identifier which identifies an item of cargo carried by the vessel;

receive port data from at least one port data source and store the port data in the memory, the port data comprising at least one port parameter related to the vessel;

receive a tracking request from the client device which requests tracking data corresponding to one or more of the vessel or the cargo; and

in response to the tracking request, output at least a portion of the tracking data to the client device to enable a user of the client device to track at least one of the vessel or the cargo.

2. The system of claim 1, wherein the client device is a mobile device selected from a group including a smartphone, a tablet, a smartwatch or a portable computer.

3. The system of claim 1 or claim 2, wherein the system further comprises:

at least one beacon arrangement which is configured to communicate with the central control arrangement and the client device, wherein the at least

one beacon arrangement is configured to communicate with the client device over a limited distance range.

4. The system of claim 3, wherein the at least one beacon arrangement is configured to communicate directly with the client device over a limited distance range of up to 500 metres.

5. The system of claim 3, wherein the at least one beacon arrangement is configured to communicate directly with the client device over a limited distance range of up to 100 metres.

6. The system of any one of claims 3 to 5, wherein the at least one beacon arrangement is configured to communicate with the client device using a communication protocol selected from a group including Bluetooth™, WiFi™, Zigbee™, Z-Wave™, 6LowPAN™, Sigfox™ or LoRaWAN™.

7. The system of any one of claims 3 to 6, wherein the client device is configured to restrict a user from accessing at least one function of the client device when the client device is not within the limited distance range of at least one beacon arrangement.

8. The system of any one of claims 3 to 7, wherein the central control arrangement is configured to calculate the geographic position of the client device relative to the known geographic position of the at least one beacon arrangement based on data communication between the client device and the at least one beacon arrangement.

9. The system of any one of the preceding claims, wherein the client device is configured to:

send a tracking request to the central control arrangement, the tracking request requesting tracking data corresponding to one or more of a vessel or an item of cargo;

receive tracking data corresponding to at least one of:

vessel data from a plurality of vessel data sources which indicates at least one vessel status parameter for a vessel, or

cargo data from at least one cargo data source which comprises at least an item identifier which identifies an item of cargo carried by the vessel; and

output at least a portion of the tracking data to a user interface of the client device.

10. The system of any one of the preceding claims, wherein the at least one vessel status parameter comprises one or more of:

the location of the vessel,

an approval for the vessel,

the expected time of arrival of the vessel at a location,

the expected time of berthing of the vessel,

the expected time of departure of the vessel from a location,

the actual time of arrival of the vessel at a location,

the actual time of departure of the vessel from a location,

an International Maritime Organization (IMO) number, or

the last ten ports visited by the vessel.

11. The system of any one of the preceding claims, wherein the cargo data further comprises one or more of:

a physical status of the item of cargo;

a physical condition of the item of cargo;

a business condition of the item of cargo; or

an event associated with the item of cargo.

12. The system of claim 11, wherein the physical and/or business status of the item of cargo comprises a status selected from a group including loaded, unloaded, trade import, trade export, gated in, gated out, verified gross mass (VGM) weight, verified gross mass (VGM) status, delivery order status, release status, appointment status, payment status, free days status or customs clearance status.

13. The system of any one of the preceding claims, wherein the port data comprises one or more port parameters selected from a group including:

a port name,

the estimated number of voyages to a port and within a time frame,

the number of the voyages arrived at a port,

the number of voyages departed from a port,

voyages calendar data representing the count of expected, arrived and departed voyages on a particular date for at least one port,

the estimated number of voyages to a terminal within a time frame,

the number of the voyages arrived at a terminal,

the number of voyages departed from a terminal,

voyages calendar data representing the count of expected, arrived and departed voyages on a particular date for at least one terminal in a port.

14. The system of any one of the preceding claims, wherein the plurality of vessel data sources are selected from a group including a port authority system, a marine service provider system, a customs authority system, a port operator system, a shipping line system, a shipping agent system or a system accessible via the Internet.

15. The system of any one of the preceding claims, wherein the tracking request comprises a cargo identifier which identifies an item of cargo.

16. The system of any one of the preceding claims, wherein the tracking request comprises a vessel identifier which identifies a vessel.

17. The system of any one of the preceding claims, wherein the tracking request requests tracking data comprising the status of tracking documents across a plurality of different entities.

18. The system of claim 17, wherein the tracking documents are selected from a group including a manifest status, a loading list or a discharge list.

19. The system of any one of the preceding claims, wherein the client device is configured to:

provide an alert message to a user comprising at least a portion of the tracking data.

20. The system of claim 19, wherein the client device is configured to provide the alert message to the user in the form of a push notification.

21. The system of any one of the preceding claims, wherein the client device is configured to:

group a portion of the vessel data and a portion of the cargo data for a user; and

output to the user at least a portion of the tracking data corresponding to the grouped vessel data and cargo data.

22. The system of any one of the preceding claims, wherein the central control arrangement is configured to:

transmit a port clearance document to the client device to enable a user to process a port clearance document related to the user's vessel using the client device.

23. The system of any one of the preceding claims, wherein the memory of the central control arrangement is a data storage repository within a server or a plurality of network connected servers.

24. The system of any one of the preceding claims, wherein the central control arrangement is configured to:

store statistics data corresponding to the vessel data and/or the cargo data over period of time.

25. The system of any one of the preceding claims, wherein the central control arrangement further comprises:

a machine learning module which is configured to use machine learning to analyse historical data and current data generated by the system to generate at least one of a predicted arrival time and a predicted departure time for a vessel.

26. A tracking method comprising:

receiving vessel data from a plurality of vessel data sources, the vessel data indicating at least one vessel status parameter for a vessel;

receiving cargo data from at least one cargo data source, the cargo data comprising at least an item identifier which identifies an item of cargo carried by the vessel;

receiving port data from at least one port data source and store the port data in the memory, the port data comprising at least one port parameter related to the vessel;

storing the vessel data, cargo data and the port data in a memory of a central control arrangement of a tracking system;

receiving a tracking request which requests tracking data corresponding to one or more of the vessel or the cargo; and

in response to the tracking request, outputting at least a portion of the tracking data to a user to enable the user to track at least one of the vessel or the cargo.

27. The method of claim 26, wherein the method further comprises:

communicating data between the client device and at least one beacon arrangement directly over a limited distance range.

28. The method of claim 27, wherein the limited distance range is a distance of up to 500 metres.

29. The method of claim 27, wherein the limited distance range is a distance of up to 100 metres.

30. The method of any one of claims 27 to 29, wherein the method comprises communicating between the at least one beacon arrangement and the client device using a communication protocol selected from a group including Bluetooth™, WiFi™, Zigbee™, Z-Wave™, 6LowPAN™, Sigfox™ or LoRaWAN™.

31. The method of any one of claims 27 to 30, wherein the method further comprises:

restricting a user from accessing at least one function of the client device when the client device is not within the limited distance range of at least one beacon arrangement.

32. The method of any one of claims 27 to 31, wherein the method further comprises:

calculating the geographic position of the client device relative to the known geographic position of the at least one beacon arrangement based on

data communication between the client device and the at least one beacon arrangement.

33. The method of any one of claims 26 to 32, wherein the at least one vessel status parameter comprises one or more of:

the location of the vessel,
an approval for the vessel,
the expected time of arrival of the vessel at a location,
the expected time of berthing of the vessel,
the expected time of departure of the vessel from a location,
the actual time of arrival of the vessel at a location,
the actual time of departure of the vessel from a location,
an International Maritime Organization (IMO) number, or
the last ten ports visited by the vessel.

34. The method of any one of claims 26 to 33, wherein the cargo data further comprises one or more of:

a physical status of the item of cargo;
a physical condition of the item of cargo;
a business condition of the item of cargo; or
an event associated with the item of cargo.

35. The method of claim 34, wherein the physical and/or business status of the item of cargo comprises a status selected from a group including loaded, unloaded, trade import, trade export, gated in, gated out, verified gross mass (VGM) weight, verified gross mass (VGM) status, delivery order status, release status, appointment status, payment status, free days status or customs clearance status.

36. The method of any one of claims 26 to 35, wherein the port data comprises one or more port parameters selected from a group including:

a port name,

the estimated number of voyages to a port and within a time frame,

the number of the voyages arrived at a port,

the number of voyages departed from a port,

voyages calendar data representing the count of expected, arrived and departed voyages on a particular date for at least one port,

the estimated number of voyages to a terminal within a time frame,

the number of the voyages arrived at a terminal,

the number of voyages departed from a terminal,

voyages calendar data representing the count of expected, arrived and departed voyages on a particular date for at least one terminal in a port.

37. The method of any one of claims 26 to 36, wherein the plurality of vessel data sources are selected from a group including a port authority system, a marine service provider system, a customs authority system, a port operator system, a shipping line system, a shipping agent system or a system accessible via the Internet.

38. The method of any one of claims 26 to 37, wherein the tracking request comprises a cargo identifier which identifies an item of cargo.

39. The method of any one of claims 26 to 38, wherein the tracking request comprises a vessel identifier which identifies a vessel.

40. The method of any one of claims 26 to 39, wherein the tracking request requests tracking data comprising the status of tracking documents across a plurality of different entities.

41. The method of claim 40, wherein the tracking documents are selected from a group including a manifest status, a loading list or a discharge list.

42. The method of any one of claims 26 to 41, wherein the method further comprises:

providing an alert message to a user comprising at least a portion of the tracking data.

43. The method of claim 42, wherein the method comprises providing the alert message to the user in the form of a push notification.

44. The method of any one of claims 26 to 43, wherein the method further comprises:

grouping a portion of the vessel data and a portion of the cargo data for a user; and

outputting to the user at least a portion of the tracking data corresponding to the grouped vessel data and cargo data.

45. The method of any one of claims 26 to 44, wherein the method further comprises:

transmitting a port clearance document from the central control arrangement to a mobile device to enable a user to process a port clearance document related to the user's vessel using the mobile device.

46. The method of any one of claims 26 to 45, wherein the method further comprises:

storing statistics data corresponding to the vessel data and/or the cargo data over period of time.

47. The method of any one of claims 26 to 46, wherein the method further comprises:

using machine learning to analyse historical data and current data generated by the system to generate at least one of a predicted arrival time and a predicted departure time for a vessel.

48. The method of any one of claims 26 to 47, wherein method comprises outputting at least a portion of the tracking data to a mobile device.

49. The method of claim 48, wherein the mobile device is a mobile device selected from a group including a smartphone, a tablet, a smartwatch or a portable computer.

50. A computer program having instructions which, when executed by a computing device or system cause the computing device or system to perform the method of any one of claims 26 to 49.

51. A tangible computer readable medium storing instructions which, when executed by a processor, perform the method of any one of claims 26 to 49.