CLAIMS

1. A data logging device (200) for collecting data related to work activity comprising:

a mechanical actuator (201) which is triggerable by a worker in various ways based on motion and movement of the data logging device (200), each corresponding to a different type of input data that is related to an assigned work of a specific work activity performed by the worker to provide information about the type of assigned work;

a geographical position sensing component (202) for collecting location data of the data logging device (200);

a processing module (203) in communication with the mechanical actuator (201) and the geographical position sensing component (202) for processing the input data and the location data; and

a transceiver (204) operably connected to the processing module (203) for transmitting the processed data to a server (300) over a wireless network communication at a predetermined time interval,

wherein the mechanical actuator (201) is triggered to record the work activity performed by the worker within a work location (101).

2. The data logging device (200) according to claim 1, wherein the mechanical actuator (201) takes the form of a button that can be pressed by the worker in different ways to collect the various types of input data.

3. The data logging device (200) according to claim 2, wherein the different ways of pressing the button includes single press, double press, short press, long press, or press and hold for at least a predetermined period of time.

4. The data logging device (200) according to claim 1, further comprising at least one sensor (206) for collecting further input data based on parameters detected by the sensor

(206).

5. The data logging device (200) according to claim 4, wherein the sensor (206) is an accelerometer or a gyroscope, or a combination thereof.

6. The data logging device (200) according to claim 1, wherein the processing module (203) is configured to encrypt and/or compress the input data and location data into processed data for storage or transmission.

7. The data logging device (200) according to claim 1, wherein the server (300) is configured to analyse the processed data using one or more algorithms to determine a pathway travelled by the worker and information of the work activity performed by the worker along the pathway.

8. The data logging device (200) according to claim 7, wherein the server (300) is further configured to predict a location of the data logging device (200) along the pathway when registering input data that is between two previously collected location data points.

9. The data logging device (200) according to claim 1, wherein the wireless network communication is a long-range wireless network communication which comprises a plurality of gateways (400, 500) that are connected to one another via a long-range wireless protocol.

10. The data logging device (200) according to claim 9, wherein the server (300) is further configured to centre the data logging device (200) with respect to the gateways (400, 500) such that the input data and the location data are not collected by the data logging device (200) when the data logging device (200) is not within a coverage of the wireless network communication.

11. The data logging device (200) according to claim 1, further comprising a power management module (209) that includes a rechargeable battery for supplying electricity to the components of the data logging device (200) and a wireless charging receiver for converting energy received from a wireless charging platform (102) into electricity to charge the rechargeable battery.

12. The data logging device (200) according to claim 11, wherein the processing module (203) is further configured to identify the input data and the location data which are missing from the server (300) and then upload the missing input data and the missing location data to the server (300) via a data synchronisation algorithm when the data logging device (100) is being charged at the wireless charging platform (102).

13. The data logging device (200) according to claim 11, wherein the processing module (203) is further configured to initiate a new data logging session when the data logging device (200) is removed from the wireless charging platform (102).

14. The data logging device (200) according to claim 1, further comprising a device management module (208) configured to switch the data logging device (200) between sleep mode after a predetermined period of inactivity and active mode when the data logging device (200) is in use.

15. A data logging system (100) for monitoring work activity comprising:
a data logging device (200) having
a mechanical actuator (201) which is triggerable by a worker in various ways based on motion and movement of the data logging device (200), each corresponding to a different type of input data that is related to an assigned work of a specific work activity performed by the worker to provide information about the type of assigned work;

a geographical position sensing component (202) for collecting location data of the data logging device (201);

a processing module (203) in communication with the mechanical actuator (201) and the geographical position sensing component (202) for processing the input data and the location data; and

a transceiver (204) operably connected to the processing module (203) for transmitting the processed data over a wireless network communication at a predetermined time interval;

a server (300) configured to receive the processed data from the transceiver (204) over the wireless network communication and analyse the processed data using one or more algorithms to determine a pathway travelled by the worker and information of the work activity performed by the worker along the pathway; and

a wireless charging platform (102) for charging a rechargeable battery of the data logging device (100), wherein the processing module (203) is further configured to synchronise the processed data with the server (300) by transmitting the processed data to the server (300) when the data logging device (100) is being charged at the wireless charging platform (102),

wherein the mechanical actuator (201) is triggered to record the work activity performed by the worker within a work location (101).