

CLAIMS

1. A method for updating one or more properties of one or more digital twins comprising:
 - 5 receiving a request for one or more digital twins;
retrieving the one or more digital twins required to fulfill the request from a digital twin datastore;
retrieving one or more dynamic models corresponding to one or more properties that are depicted in the one or more digital twins indicated by the request;
 - 10 selecting data sources from a set of available data sources based on the one or more inputs of the one or more dynamic models;
obtaining data from selected data sources;
determining one or more outputs using the retrieved data as one or more inputs to the one or more dynamic models; and
 - 15 updating the one or more properties of the one or more digital twins based on the one or more outputs of the one or more dynamic models.
2. The method of claim 1, wherein the request is received from at least one of:
 - a client application that corresponds to an industrial environment and/or one or
 - 20 more industrial entities within the industrial environment, and
a client application that supports an Industrial Internet of Things sensor system.
3. The method of claim 1, wherein the digital twins are digital twins of at least one of
- 25 industrial entities and industrial environments.
4. The method of claim 1, wherein the one or more dynamic models take data selected from the set of temperature, pressure, humidity, wind, rainfall, tide, storm surge, cloud cover, snowfall, visibility, radiation, audio, video, image, water level, quantum, flow rate,
- 30 signal power, signal frequency, motion, velocity, acceleration, lighting level, analyte concentration, biological compound concentration, metal concentration, and organic compound concentration data.

5. The method of claim 1, wherein the selected data sources include at least one of:
an Internet of Things connected device, and
a machine vision system.
- 5 6. The method of claim 1, wherein retrieving the one or more dynamic models
includes identifying the one or more dynamic models based on the one or more properties
that are depicted in digital twins indicated by the request and a respective type of the one
or more digital twins.
- 10 7. The method of claim 6, wherein the one or more dynamic models are identified
using a lookup table.
8. A system for monitoring interaction within an industrial environment, the system
comprising:
- 15 a digital twin datastore including data collected by a set of proximity sensors
disposed within an industrial environment, the data including location data indicating
respective locations of a plurality of elements within the industrial environment; and
one or more processors configured to:
- maintain, via the digital twin datastore, an industrial-environment digital
20 twin for the industrial environment;
- receive signals indicating actuation of at least one proximity sensor within
the set of proximity sensors by a real-world element from the plurality of elements;
- collect, in response to actuation of the at least one proximity sensor,
updated location data for the real-world element using the at least one proximity sensor;
- 25 and
- update the industrial-environment digital twin within the digital twin
datastore to include the updated location data.
9. The system of claim 8, wherein each of the set of proximity sensors is configured
30 to detect a device associated with the user.
10. The system of claim 9, wherein the device is a wearable device and an RFID
device.

11. The system of claim 8, wherein each element of the plurality of elements is at least one of:

- 5 a mobile element, and
 a respective worker.

12. The system of claim 8, wherein the plurality of elements includes mobile equipment elements and workers, mobile-equipment-position data is determined using data transmitted by the respective mobile equipment element, and worker-position data is
10 determined using data obtained by the system.

13. The system of claim 12, wherein the worker-position data is determined using information transmitted from a device associated with a respective worker.

15 14. The system of claim 8, wherein the actuation of the at least one proximity sensor occurs in response to interaction between at least one of:
 the respective worker and the proximity sensor, and
 a worker and a respective at least one proximity-sensor digital twin
 corresponding to the at least one proximity sensor.

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15. The system of claim 8, wherein the one or more processors collect updated location data for the plurality of elements using the set of proximity sensors in response to actuation of the at least one proximity sensor.