CLAIMS

1. A method comprising:

receiving a plurality of sets of sensor data, wherein each set of sensor data comprises corresponding sensor values associated with producing corresponding product by manufacturing equipment and a corresponding sensor data identifier;

receiving a plurality of sets of metrology data, wherein each set of metrology data comprises corresponding metrology values associated with the corresponding product manufactured by the manufacturing equipment and a corresponding metrology data identifier;

determining common portions between each corresponding sensor data identifier and each corresponding metrology data identifier to identify sensor-metrology matches;

for each of the sensor-metrology matches, generating a corresponding set of aggregated sensor-metrology data that comprises a respective set of sensor data that corresponds to the corresponding sensor data identifier and a respective set of metrology data that corresponds to the corresponding metrology data identifier to generate a plurality of sets of aggregated sensor-metrology data; and

storing the plurality of sets of aggregated sensor-metrology data to train a machine learning model to provide a trained machine learning model, wherein the trained machine learning model is capable of generating one or more outputs for performing a corrective action associated with the manufacturing equipment.

2. The method of claim 1, wherein, for each of the plurality of sets of sensor data, the corresponding sensor data identifier comprises a corresponding sensor carrier identifier and a corresponding sensor timestamp, and wherein, for each of the plurality of sets of metrology data, the corresponding metrology data identifier comprises a corresponding metrology carrier identifier and a corresponding metrology timestamp.

3. The method of claim 2, wherein each common portion of the common portions comprises:

the corresponding sensor carrier identifier and the corresponding metrology carrier identifier that match; and

the corresponding sensor timestamp and the corresponding metrology timestamp that are most proximate of a plurality of carrier matches.

4. The method of claim 3, wherein, for each of the plurality of sets of sensor data, the corresponding sensor data identifier further comprises a corresponding product identifier, and wherein, for each of the plurality of sets of metrology data, the corresponding metrology data identifier further comprises the corresponding product identifier, wherein each of the sensor-metrology matches comprises matching product identifiers.

5. The method of claim 1, wherein each of the plurality of sets of aggregated sensor-metrology data is stored as a table.

6. The method of claim 1, wherein the plurality of sets of metrology data correspond to historical property data of products, and wherein the one or more outputs of the trained machine learning model comprises predicted property data.

7. The method of claim 1, wherein the corrective action comprises one or more of:
causing a graphical user interface to display an alert;
interrupting operation of the manufacturing equipment; or
causing updates to manufacturing parameters of the manufacturing equipment.

8. A system comprising:
a memory; and
a processing device, coupled to the memory, to:
receive a plurality of sets of sensor data, wherein each set of sensor data comprises corresponding sensor values associated with producing corresponding product by manufacturing equipment and a corresponding sensor data identifier;
receive a plurality of sets of metrology data, wherein each set of metrology data comprises corresponding metrology values associated with the corresponding product manufactured by the manufacturing equipment and a corresponding metrology data identifier;
determine common portions between each corresponding sensor data identifier and each corresponding metrology data identifier to identify sensor-metrology matches;
for each of the sensor-metrology matches, generate a corresponding set of aggregated sensor-metrology data that comprises a respective set of sensor data that corresponds to the corresponding sensor data identifier and a respective set of metrology data that corresponds to the corresponding metrology data identifier to generate a plurality of sets of aggregated sensor-metrology data; and

store the plurality of sets of aggregated sensor-metrology data to train a machine learning model to provide a trained machine learning model, wherein the trained machine learning model is capable of generating one or more outputs for performing a corrective action associated with the manufacturing equipment.

9. The system of claim 8, wherein, for each of the plurality of sets of sensor data, the corresponding sensor data identifier comprises a corresponding sensor carrier identifier and a corresponding sensor timestamp, and wherein, for each of the plurality of sets of metrology data, the corresponding metrology data identifier comprises a corresponding metrology carrier identifier and a corresponding metrology timestamp.

10. The system of claim 9, wherein each common portion of the common portions comprises:

the corresponding sensor carrier identifier and the corresponding metrology carrier identifier that match; and

the corresponding sensor timestamp and the corresponding metrology timestamp that are most proximate of a plurality of carrier matches.

11. The system of claim 10, wherein, for each of the plurality of sets of sensor data, the corresponding sensor data identifier further comprises a corresponding product identifier, and wherein, for each of the plurality of sets of metrology data, the corresponding metrology data identifier further comprises the corresponding product identifier, wherein each of the sensor-metrology matches comprises matching product identifiers.

12. The system of claim 10, wherein each of the plurality of sets of aggregated sensor-metrology data is stored as a table.

13. The system of claim 10, wherein the plurality of sets of metrology data correspond to historical property data of products, and wherein the one or more outputs of the trained machine learning model comprises predicted property data.

14. The system of claim 10, wherein the corrective action comprises one or more of:

causing a graphical user interface to display an alert;

interrupting operation of the manufacturing equipment; or

causing updates to manufacturing parameters of the manufacturing equipment.

15. A non-transitory computer readable medium having instructions stored thereon, which, when executed by a processing device, cause the processing device to:

receive a plurality of sets of sensor data, wherein each set of sensor data comprises corresponding sensor values associated with producing corresponding product by manufacturing equipment and a corresponding sensor data identifier;

receive a plurality of sets of metrology data, wherein each set of metrology data comprises corresponding metrology values associated with the corresponding product manufactured by the manufacturing equipment and a corresponding metrology data identifier;

determine common portions between each corresponding sensor data identifier and each corresponding metrology data identifier to identify sensor-metrology matches;

for each of the sensor-metrology matches, generate a corresponding set of aggregated sensor-metrology data that comprises a respective set of sensor data that corresponds to the corresponding sensor data identifier and a respective set of metrology data that corresponds to the corresponding metrology data identifier to generate a plurality of sets of aggregated sensor-metrology data; and

store the plurality of sets of aggregated sensor-metrology data to train a machine learning model to provide a trained machine learning model, wherein the trained machine learning model is capable of generating one or more outputs for performing a corrective action associated with the manufacturing equipment.

16. The non-transitory computer readable medium of claim 15, wherein, for each of the plurality of sets of sensor data, the corresponding sensor data identifier comprises a corresponding sensor carrier identifier and a corresponding sensor timestamp, and wherein, for each of the plurality of sets of metrology data, the corresponding metrology data identifier comprises a corresponding metrology carrier identifier and a corresponding metrology timestamp.

17. The non-transitory computer readable medium of claim 16, wherein each common portion of the common portions comprises:

the corresponding sensor carrier identifier and the corresponding metrology carrier identifier that match; and

the corresponding sensor timestamp and the corresponding metrology timestamp that are most proximate of a plurality of carrier matches.

18. The non-transitory computer readable medium of claim 17, wherein, for each of the plurality of sets of sensor data, the corresponding sensor data identifier further comprises a corresponding product identifier, and wherein, for each of the plurality of sets of metrology data, the corresponding metrology data identifier further comprises the corresponding product identifier, wherein each of the sensor-metrology matches comprises matching product identifiers.

19. The non-transitory computer readable medium of claim 15, wherein each of the plurality of sets of aggregated sensor-metrology data is stored as a table.

20. The non-transitory computer readable medium of claim 15, wherein the plurality of sets of metrology data correspond to historical property data of products, and wherein the one or more outputs of the trained machine learning model comprises predicted property data.