WHAT IS CLAIMED IS:

1. A method, comprising:

receiving a signal indicative of an identification of a riser component at a monitoring and lifecycle management system (MLMS), wherein the riser component forms part of a riser assembly having a plurality of riser components connected end to end;

detecting one or more properties via at least one sensor disposed on the riser component during operation of the riser assembly;

communicating data indicative of the detected properties to the MLMS; and

storing the data indicative of the detected properties with the identification of the riser component in a database of the MLMS;

determining via the MLMS, based on the stored data, a running sequence for a subsequent deployment of a second riser assembly that will use the riser component of the riser assembly, wherein the running sequence comprises a sequence in which riser components and the riser component of the riser assembly will be connected end to end to form the second riser assembly;

determining via the MLMS a surface location in which to stack the riser component of the riser assembly during deconstruction of the riser assembly, based on the determined running sequence;

decoupling the riser component from the riser assembly; and

positioning the riser component at the surface location determined based on the running sequence for the subsequent deployment of the second riser assembly.

2. The method of claim 1, further comprising linking the identification of the riser component and the data indicative of the detected properties to a riser identification number associated with the riser assembly via the MLMS.

3. The method of claim 2, further comprising:

determining at least one property of the riser assembly via the MLMS based on the data retrieved from the at least one sensor; and

storing data indicative of the at least one property of the riser assembly with the riser identification number.

4. The method of claim 1, further comprising:

determining at least one other property associated with the riser component via the MLMS based on the signal indicative of the identification of the riser component and a time stamp; and

storing the at least one other property with the identification of the riser component and the data indicative of the detected properties in the database.

5. The method of claim 1, further comprising displaying the data indicative of the detected properties on an operator interface in response to receiving an operator selection of the identification of the riser component.

6. The method of claim 1, further comprising predicting, via the MLMS, a time in the future when the riser component will receive maintenance based on the stored data.

7. The method of claim 1, further comprising outputting an alert on an operator interface of the MLMS in response to one or more of the detected properties approaching or exceeding a pre-determined threshold.

8. The method of claim 7, further comprising setting the pre-determined threshold by manually overriding an initially set industry default threshold using an operator input received at the MLMS.

9. The method of claim 1, further comprising:

receiving an operator input of an identification of a second riser component at the MLMS, wherein the second riser component forms part of the riser assembly;

receiving operator input data indicative of one or more properties associated with the second riser component; and

storing the operator input data with the identification of the second riser component in the database.

10. The method of claim 1, further comprising:

determining the identification of the riser component via an electronic identification reader during the subsequent deployment of the second riser assembly;

accessing the data indicative of the detected properties stored with the identification of the riser component via the MLMS; and

determining via the MLMS whether the riser component is appropriate to run in a next position in the running sequence of the second riser assembly based on the data stored with the identification of the riser component.

11. The method of claim 1, further comprising: determining via the MLMS one surface location out of a group of surface locations in which to stack each riser component of the plurality of riser components during deconstruction of the riser assembly, based on the determined running sequence.

12. The method of claim 11, wherein the group of surface locations comprises:

a first surface location corresponding to riser components that are to be recycled into use within the second riser assembly during the subsequent riser deployment;

a second surface location corresponding to riser components that require maintenance;

a third surface location corresponding to riser components that require recertification; and

a fourth surface location corresponding to riser components that are to be held for backup use during the subsequent riser deployment.

13. The method of claim 1, further comprising positioning the riser component at the surface location in a particular order relative to other riser components stacked at the surface location, based on the running sequence.

14. A system comprising:

a first riser component disposed within a riser assembly;

at least one sensor disposed on the first riser component;

a communication system disposed on the first riser component and coupled to the at least one sensor;

a second riser component disposed within the riser assembly, wherein the second riser component does not have any sensors disposed thereon; and

a monitoring and lifecycle management system (MLMS) communicatively coupled to the communication system, wherein the MLMS comprises a processor, a memory, and a database, wherein the memory contains instructions that, when executed by the processor, cause the MLMS to:

receive a signal indicative of an identification of the first riser component;

receive signals from the communication system containing data indicative of one or more properties of the first riser component detected by the at least one sensor;

receive operator inputs containing identification information for the second riser component;

determine one or more properties of the second riser component based on the data indicative of one or more properties of the first riser component;

store the data indicative of the detected properties of the first riser component with the identification of the first riser component in the database; and

store data indicative of the one or more properties of the second riser component with the identification of the second riser component in the database.

15. A non-transitory computer-readable medium with instructions stored thereon that, when executed by a processor, perform the steps of:

receiving an identification number for a riser component present within a riser assembly and storing the identification number in a database;

determining one or more properties associated with the riser component based on the identification number and a time stamp and storing the one or more properties with the identification number in the database;

receiving signals containing data indicative of one or more sensed properties of the riser component detected by at least one sensor on the riser component;

storing the data indicative of the sensed properties with the identification number in the database;

displaying a table on an operator interface, the table comprising a list of properties associated with a plurality of riser components including the riser component in the riser assembly, the list of properties including the one or more properties associated with the riser component and the one or more sensed properties of the riser component, wherein the table is arranged by component identification number;

displaying an interactive riser assembly graphic on the operator interface, wherein the interactive riser assembly graphic contains a string of two-dimensional images, each two-dimensional image having the likeness of a corresponding riser component or group of riser components present in the riser assembly; and

filtering the table on the operator interface to only display a list of the one or more properties associated with the riser component and the one or more sensed properties of the riser component in response to an operator selecting the two-dimensional image corresponding to the riser component from the interactive riser assembly graphic.

16. The non-transitory computer-readable medium of claim 15, wherein the one or more properties associated with the riser component comprise one or more properties selected from the group consisting of: an electronic identification tag number, a riser component type, a riser component status, a history of the riser component, a water depth, a deployed usage number, a string number, and an installation date.

17. The non-transitory computer-readable medium of claim 15, having instructions stored thereon that, when executed by the processor, perform the steps of outputting an alert to an operator interface in response to one or more of the sensed properties of the riser component approaching or exceeding a pre-determined threshold.

18. The non-transitory computer-readable medium of claim 15, having instructions stored thereon that, when executed by the processor, perform the steps of:

determining that the riser component requires maintenance, is malfunctioning, or is operating outside of pre-selected parameter bounds, based on the data indicative of the one or more sensed properties of the riser component detected; and

changing the interactive riser assembly graphic by lighting up or changing a color of the two-dimensional image corresponding to the riser component upon making this determination.

19. The non-transitory computer-readable medium of claim 15, having instructions stored thereon that, when executed by the processor, perform the steps of:

determining, based on the data indicative of the one or more sensed properties, whether the riser component is operating within a first pre-determined range, a second pre-determined range, or a third pre-determined range of operating parameters;

displaying the two-dimensional image corresponding to the riser component in a first color when the riser component is operating within the first pre-determined range;

displaying the two-dimensional image corresponding to the riser component in a second color when the riser component is operating within the second pre-determined range; and

displaying the two-dimensional image corresponding to the riser component in a third color when the riser component is operating within the third pre-determined range.