WHAT IS CLAIMED IS:

1. A system, comprising:

a riser assembly comprising a plurality of riser components, wherein the riser assembly comprises an internal bore running through the plurality of riser components;

at least one sensor disposed on the riser assembly, wherein the at least one sensor comprises an external sensor disposed on an outer surface of the riser assembly, an internal sensor disposed along the internal bore of the riser assembly, or both; and

a communication system coupled to the at least one sensor to communicate signals from the at least one sensor to an operator monitoring system at a surface of a wellbore, wherein the communication system comprises:

a processor communicatively coupled to the at least one sensor;

a memory coupled to the processor;

a first communication interface for communicating signals from the at least one sensor directly to the operator monitoring system;

a second communication interface for communicating data stored in the memory to a remote operated vehicle (ROV); and

a backup power supply coupled to the processor, the memory, and the first and second communication interfaces to provide power for operating the communication system, wherein the processor, the memory, the first and second communication interfaces, and the backup power supply are disposed on the riser assembly.

2. The system of claim 1, wherein the plurality of riser components comprises at least one component selected from the group consisting of: a blowout preventer (BOP) connector, a riser extension joint, a buoyant riser joint, a bare riser joint, a telescopic joint, a tension ring, a termination ring, and a diverter assembly.

3. The system of claim 1, wherein the communication system comprises a wireless transmitter, an electrical cable, a fiber optic cable, an acoustic transducer, a near-field communication device, or a combination thereof.

4. The system of claim 1, wherein the first communication interface comprises a bi-directional communication interface.

5. The system of claim 1, wherein the at least one sensor comprises a sensor selected from the group consisting of: a temperature sensor, a pressure sensor, a load cell, a strain gauge, a flow meter, a corrosion testing device, an electronic identification reader, a proximity sensor, and an optical fiber.

6. The system of claim 1, further comprising the ROV, wherein the ROV comprises circuitry to retrieve the stored data from the memory and to charge the backup power supply when the ROV is disposed proximate the communication system in the wellbore.

7. The system of claim 1, further comprising a downhole tool disposed within the internal bore of the riser assembly, wherein the downhole tool comprises an actuator that is communicatively coupled to the processor such that the processor outputs a control signal to the actuator.

8. The system of claim 1, wherein the at least one sensor comprises an internal sensor disposed in a BOP connector of the riser assembly to detect downhole tools that are deployed through the internal bore of a BOP coupled to the BOP connector.

9. A method, comprising:

detecting one or more properties via at least one sensor disposed on a riser assembly, wherein the at least one sensor comprises an external sensor disposed on an outer surface of the riser assembly, an internal sensor disposed along an internal bore through the riser assembly, or both;

wherein detecting the one or more properties comprises detecting a movement of a downhole tool through the internal bore of the riser assembly via the at least one sensor;

communicating signals indicative of the detected properties from the at least one sensor to an operator monitoring system via a communication system disposed on the riser assembly;

evaluating the signals at the operator monitoring system to determine an operating status of the riser assembly and to monitor downhole tool trips deployed through the internal bore of the riser assembly;

storing data indicative of the detected properties in a memory disposed in the riser assembly; and

transmitting the data from the memory to the operator monitoring system after pulling the riser assembly to the surface.

10. The method of claim 9, wherein the one or more properties detected by the at least one sensor comprise properties selected from the group consisting of: a pressure, a temperature, a flow rate, a stress, a strain, a weight, an orientation, a proximity, and corrosion.

11. The method of claim 9, further comprising transmitting a control signal from the operator monitoring system via the communication system to actuate a component on the downhole tool.

12. The method of claim 9, further comprising communicating the signals indicative of the detected properties to the operator monitoring system in real time or near real time.

13. The method of claim 9, further comprising transmitting the data from the memory to a remote operated vehicle (ROV), moving the ROV to a wellbore surface proximate the operator monitoring system, and retrieving the data to the operator monitoring system from the ROV.

14. The method of claim 13, further comprising charging a backup power supply disposed in the riser assembly via the ROV, and powering, via the backup power supply, a processor and the memory disposed in the riser assembly for remotely storing

data indicative of the detected properties.

15. The method of claim 9, further comprising:

identifying a component of the riser assembly;

evaluating the signals from the at least one sensor to determine an operational status of the component; and storing the operational status of the component with an identification of the component in a database.

16. The method of claim 15, further comprising maintaining historical data reflecting the operational status over time of multiple components of the riser assembly in the database.

17. The method of claim 16, further comprising determining a maintenance schedule for the riser assembly based on the historical data in the database.