CLAIMS

1. A method, comprising:

engaging a riser joint via a riser running tool using a tool connector interface of the riser running tool received into a bore of the riser joint;

sensing one or more properties associated with the riser joint via one or more sensors disposed on the riser running tool;

communicating the one or more sensed properties via a communication system disposed on the riser running tool to an operator monitoring system located on a vessel or platform for incorporation into a database;

determining an identification of the riser joint via an electronic identification reader disposed on the riser running tool; and

communicating the identification of the riser joint to the operator monitoring system for incorporation into the database with the one or more sensed properties;

lifting or lowering the riser joint to a predetermined location relative to a spider assembly mounted on the vessel or platform via the riser running tool;

connecting the riser joint to an upper joint of a riser string to extend the riser string via the spider assembly;

sensing one or more properties associated with the entire aggregate riser string via the one or more sensors disposed on the riser running tool; and

communicating the one or more sensed properties of the riser string to the operator monitoring system.

2. The method of claim 1, wherein determining the identification of the riser joint comprises reading a radio frequency identification (RFID) tag disposed on the riser joint via the electronic identification reader.

3. The method of claim 1, further comprising:

connecting a plurality of riser joints together to form the riser string via the riser running tool and the spider assembly;

sensing one or more properties of each of the plurality of riser joints individually via the one or more sensors disposed on the riser running tool before connecting the riser joint to the riser string; and

sensing one or more properties associated with the entire aggregate riser string via the one or more sensors after connecting each individual riser joint thereto.

4. The method of claim 1, further comprising:

orienting the riser joint with respect to the spider assembly via the riser running tool; and

connecting the riser joint to the upper joint of the riser string via the spider assembly.

5. The method of claim 1, further comprising:

decoupling the riser joint from the riser string.

6. The method of claim 1, wherein sensing one or more properties via the one or more sensors disposed on the riser running tool comprises testing an auxiliary line of the riser joint via the one or more sensors.

7. The method of claim 6, wherein testing the auxiliary line comprises testing a seal between the auxiliary line of the riser joint and an auxiliary line of an adjacent riser joint.

8. The method of claim 1, wherein sensing one or more properties via the one or more sensors disposed on the riser running tool comprises sensing a weight of the riser joint via the one or more sensors.

9. The method of claim 1, further comprising storing the one or more sensed properties in the database with a time stamp for the sensor measurement.

10. The method of claim 9, further comprising monitoring a load history of a plurality of riser joints via sensor measurements stored in the database.

11. The method of claim 1, further comprising selecting a new riser joint for placement in a sequence of riser joints coupled together based on a detected identification of the new riser joint and a load history for the new riser joint stored in the database.