CLAIMS

1. A pipeline analysis system for analyzing a pipeline, comprising:

a housing;

at least one sensor connector at least partially within the housing, each sensor connector being for connecting to at least one sensor, each sensor being for capturing information about a portion of the pipeline;

a plurality of supports for supporting the housing relative to an internal surface of the pipeline, wherein at least one support of the plurality of supports has a collapsed condition, to reduce an overall cross-section of the system, and an extended condition to increase an overall cross-section of the system;

wherein the housing comprises one or more motion sensors for measuring displacement of the system in the pipeline.

2. The system according to claim 1, wherein, in the extended condition, the plurality of supports maintain the housing sufficiently centred in the pipeline such that information captured by each said sensor, at any angle around the system, in consistent.

3. The system according to claim 1 or 2, wherein the plurality of supports comprise an extension sensor for measuring a difference in extension between the collapsed condition and extended condition.

4. The system according to any one of claims 1 to 3, wherein each support of the plurality of supports comprises a scissor-leg or a spring-loaded leg.

5. The system according to any one of claims 1 to 4, wherein the plurality of supports comprises the one or more motion sensors.

6. The system according to claim 5, wherein the plurality of supports comprise rotating members for rolling along an internal surface of the pipeline, and the motion sensors measure rotation of the rotating members.

7. The system according to any one of claims 1 to 6, wherein the at least one support is configured to move from the collapsed condition to the extended condition upon deployment of the system into the pipeline.

8. The system according to any one of claims 1 to 7, wherein:

the pipeline comprises a main pipe and a docking station connected to the main pipe and being of smaller diameter than the main pipe; and

the plurality of supports are configured to move from the extended condition to the collapsed condition to facilitate movement of the system into the docking station.

9. The system according to any one of claims 1 to 8, further comprising a functionality extender module adapted to be connected to the housing, wherein one or more sensor connectors of the at least one sensor connector is provided on the functionality extender module.

10. The system according to claim 9, wherein the housing comprises two opposed axial ends and the functionality extender module connects to a first end of the two opposed axial ends.

11. The system according to claim 9 or 10, wherein the functionality extender module is adapted to be connected to a further functionality extender module, wherein one or more sensor connectors of the at least one sensor connector is provided on the further functionality extender module.

12. The system according to any one of claims 1 to 11, wherein the housing comprises a tether connector for attaching to a tether.

13. The system according to claim 12, wherein the tether connector is connectable or connected to the tether and the tether is connected to an external location, to facilitate retrieval of the system from the pipeline by the tether; and/or

14. The system according to claim 12 or 13, wherein the tether connector is connectable or connected to the tether and the tether comprises a communication line for communicating with the system.

15. The system according to any one of claims 12 to 14, wherein the tether connector is connectable or connected to the tether and the tether is configured to be used to track the motion of the system inside the pipeline.

16. The system according to any one of claims 1 to 15, further comprising an external sensor for tracking motion of the system in the pipeline.

17. The system according to any one of claims 1 to 16, further comprising a steering mechanism connected to the housing, for steering the system in the pipeline.

18. The system according to claim 17, wherein the system is propelled, in use, along the pipeline by fluid in the pipeline and the steering mechanism comprises one or more rudders to steer the system under fluid pressure.

19. The system according to claim 17 or 18, wherein the steering mechanism comprises one or more electromagnets, the one or more electromagnets being selectively activated to attract the system towards one side of the pipeline.

20. The system according to claim 19, wherein the one or more magnets comprise a plurality of magnets spaced about a circumference of the housing.

21. The system according to any one of claims 1 to 20, further comprising a memory device within the housing, the memory device being in communication with the at least one sensor connector to receive and store measurements taken by the at least one sensor when connected to the at least one sensor connector.

22. The system according to claim 17, wherein the steering mechanism comprises one or both of:

one or more rudders for steering the system under fluid pressure from fluid in the pipeline; and

one or more electromagnets, each electromagnet of the one or more electromagnets being selectively activated to attract the system towards one side of the pipeline.

23. The system according to claim 17 or 22, further comprising:

a memory device within the housing; and

a position sensor connected to one of the at least one sensor connector,

the memory device storing a destination location and at least one of:

a pipeline network map; and

steering instructions, and

the steering mechanism automatically steering the system towards the destination location in accordance with the pipeline network map or steering instructions, and measurements taken by the position sensor.