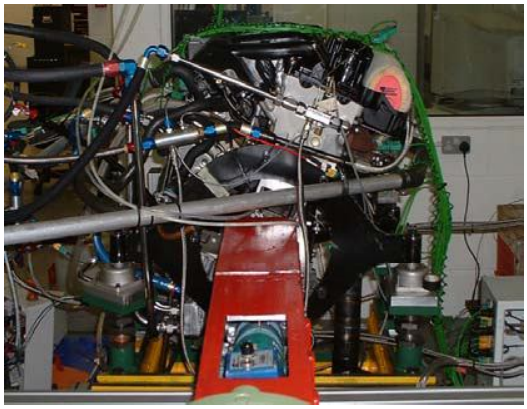
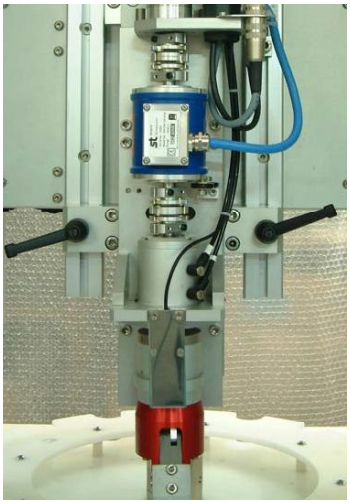
Recent Applications

TorqSense transducers from Sensor Technology are playing a key role in the development of commercial-scale in-stream tidal turbines produced by Irish company, OpenHydro. They are being used to test the bearings, and this involves the use of a simulator that allows the company's engineers to determine how frictional forces in the bearings vary with different loads and rotational speeds. Central to the operation of this simulator is the measurement of torque in a shaft from the motor that drives the bearing under test. OpenHydro uses the RWT321 sensor in conjunction with Sensor Technology's TorqView software. This offers a choice of dial, digital bar and chart graph format display for torque, RPM, temperature and power. It also provides facilities for realtime plotting and for data recording, and can output stored results as files that are compatible with Matlab and Excel.

A TorqSense torque sensor is helping Powertrain Technologies reduce engine emissions and improve economy as part of a project to develop an intelligent lubrication system. The engine being tested was a current production Diesel and the test bed was configured for motored friction tests with a 6,000rpm 32kW electric motor driving the engine. The engine lubrication system was re-designed with a bank of five computer controlled oil pumps, each capable of supplying individual parts of the engine with oil under conditions unique to that part of the engine and sensitive to the engine operating conditions. The torque sensor is critical to the project since the object of the exercise is to measure the effect on friction of a range of different oil supply strategies and oil types. Thus the changes in friction are represented by a change in the motored drive torque of the engine.





In the world of pharmaceuticals product integrity is paramount and packaging has a key role to play. CapCoder of Oxford use TorqSense transducers at the core of its specialist bottle sealing machines. These capping machines not only tighten bottle caps within precisely defined tolerance but also log every detail of every bottle that is capped. A batch size is typically 10,000 bottles, which are capped at a rate of one per second. Every cap has to be done up to the same torque, and proof of this performance is required. The machine had to run the torque up to 10kgf.cm within tolerances of 10% recording the actual value achieved. This secures the cap at a level of tightness that will ensure security and sterility, yet can be opened relatively easily by an adult. The logged values are saved using TorqView software to provide a permanent record for traceability.