



Subcontract Case Study 12/2011

Company: LG Motion Ltd

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LG Motion
Axiom too



[LG Motion Ltd](#) design and manufacture specialist motion technology products and provide associated services to End-User and OEM professional institutes and organisations throughout Europe. The Basingstoke based company's powerful computer aided design provision, together with its impressive manufacturing facility and access to the technical resources of major international motion technology manufacturers, enables the delivery of a range of imaginative solutions to global customers' problems.

As mechanical and electronics disciplines continue to merge into an integrated whole, LG Motion recognise the need to provide a comprehensive service embracing all aspects of system engineering. This all-inclusive approach has lead LG Motion to becoming the motion technology provider of choice for many of the world's leading companies involved in the fields of science, industry and commerce. Areas covered include - Laboratory Automation, Scientific Research, Aerospace & Defence, Processing & Packaging, Energy and Specialist System Integrator markets. Motion applications across science and industry include nuclear handling and fuel-rod inspection, synchrotron facility installations, aerodynamic analysis of high performance racing cars and the design and manufacture of rapid pick and place machines.

Due to the nature of the important projects LG Motion undertake and their customer's high-precision requirements, in addition to employing premium quality machine tools and ancillary equipment, the company also invest heavily in the best available inspection equipment. To avoid the potential inspection bottle-necks, that could have occurred due to the growing volume of work passing through the company's busy workshop, a decision was recently made to investigate the available high-quality Coordinate Measuring Machines. LG Motion Managing Director, Gary Livingstone explained "In addition to our reputation for innovation, our current status is based on the extremely high quality of our output. As well as thorough in-process inspection routines, we also undertake exhaustive trials and final inspection before pass-off. To keep pace with our manufacturing facility we identified the need for a CMM that could carry out rapid inspection of components, and that would also further improve our accuracy capability. Having had demonstrations of several excellent CMMs, we decided that the [Axiom too](#) from Aberlink Innovative Metrology had the edge on its opposition. As much of the Axiom too is based on our field of expertise, high-quality motion technology, we were able to appreciate the CMMs ingenious design and robust construction."

"Now installed, the Aberlink CMM has far exceeded our expectations, it has proven to be extremely accurate and repeatable, and through its speed of operation, has removed the possibility of delays in our Inspection Department. As the machine is so easy to operate, our training period was surprisingly short, in-fact our operators were able to undertake complex measuring routines within hours of the Axiom too's installation. In addition to all aspects of dimensional inspection, the recorded data from our new Aberlink CMM now plays an important part in our essential traceability records"

"As we believe in on-going close liaison with all of our clients, each major project has its own dedicated LG Motion team, consisting of a project manager, a project engineer and a designer. The team is responsible for every aspect of a system from its earliest design stages, through the development phase where modifications can be agreed and costed, then on to final assembly and commissioning. To enable visual communication with our customers throughout the inspection stages of projects, we have fitted a high-resolution web-cam to our Aberlink CMM. This facility has proven to be an excellent aid to communication and is very popular with all of our clients"

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The cost effective Axiom too is the top selling Coordinate Measuring Machine from the largest UK owned CMM manufacturer – Aberlink Innovative Metrology. Available in [manual](#) and [CNC](#) variants, Aberlink’s popular Axiom too CMM can truly be described as the complete Inspection Centre; high measuring accuracies are achieved through the use of the latest metrology techniques and advanced in-house manufacturing methods. The Axiom too boasts an all aluminium bridge resulting in a very low thermal mass, this means that the machine ideal for use either in controlled environments or within less than perfect shop-floor conditions. Thanks to the Axiom too’s use of advanced materials, its reduced inertia results in class leading speed of operation. For increased accuracy air bearings of optimised stiffness are employed on all axes, whilst a granite Y Beam allows preloading of bridge bearings in both directions.

The CMM’s sturdy component support consists of an advanced granite/aluminium honeycomb construction, this technology, borrowed from the Aerospace industry, provides natural damping and further improves the machine’s thermal properties. Despite the Axiom too’s generous measuring volume 640x600x500 or 640x900x500, the machine’s compact design occupies a relatively small footprint, with the controller and all peripherals housed within the Axiom too’s workbench.

Equally rewarding when used by the novice or an experienced CMM operator, the easy to use Axiom too utilises Aberlink’s famous, intuitive 3D software, ensuring greater user productivity and profitability. A welcome bi-product of any Aberlink CMM inspection routine is that a simultaneous picture of the measured component is created on the computer screen. Dimensions between the measured features, mirroring those that appear on the component drawing, are then picked off as required. In essence this ‘smart’ software represents an intelligent measuring system that is able to automatically recognise and define the various features being measured. [Aberlink 3D is the easiest to use CMM software](#) currently available, and a complete novice is usually able to perform relatively involved measurement routines after just 5 minutes training.

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