

Two Major New Customers for Sorion



Lear corporation has chosen **Sorion** Electronics to develop and supply two fully integrated seat assembly lines at their facility in Coventry.

Sorion is providing its Mintaka-G network attached operator / station interface panel. The Mintaka-G unit interfaces RFID tag reader, barcode reader, DC Tooling and track integration.

A number of PC based stations are provided for electrical test, seat functional test and vision inspection stations.

Sorion is providing full Allen Bradley PLC based control systems for the two palletised assembly lines incorporating an Andon display system.

All of the systems are networked back to an **Orion™** monitoring and reporting system.



Sorion has recently completed the first major project for Calsonic Kansei in Washington, Tyne and Wear.

Two cockpit test systems, one on-line and one rework, were integrated with an AGV assembly system. The cockpit assembly is primarily tested via CAN messaging utilising a **Sorion** Rigel-VCI2 board. The systems confirm correct part assembly and functionality.

Anemometers are used to verify the operation of the HEVAC unit and vision inspection cameras allow the test system to automatically assess the correction operation of the dials in the instrument pack.

DENSO

Sorion started supplying ruggedised connectors and test harnesses to Denso about seven years ago. The partnership has steadily developed to now supplying line-side assembly and test equipment.

Blower Lever Check

The test unit activates the air diverter control lever utilising a linear servo drive unit. A load cell is used as the interface between the cable and the linear actuator to detect excessive load situations caused by damaged cams or trapped levers. Test result data and configuration is stored on a local PC to allow statistical analysis.

HEVAC / ECU Functional Test

The test systems determine the correct HEVAC variant, programming and controlling bussed servo motors using LIN and interrogating the control ECU via CAN. The systems ensure software and hardware levels are correct, performs variant specific test cycles to validate the HEVAC build and stores results.



Sorion has been awarded another significant contract by Intier Automotive Interiors in Redditch. **Sorion** fought off tough competition for the supply of the cockpit assembly and test system for the new BMW MINI project.

The contract for the full build control system incorporates process definition, operator instruction, controlling tooling parameters, checking parts, test, storing traceability data and sequence to the dispatch area.

The electrical test systems perform all of the configuration and carry out comprehensive end-of-line part validation and test over CAN and MOST interfaces using EDIABAS and direct frame messaging techniques.

A no-fault-forward philosophy is enforced through a tight integration with the AGV based line system. A comprehensive ANDON system with large screen plasma display provides instant system status to the shopfloor.

£1 Million Plus

It doesn't seem like nine months since I wrote my last newsletter introduction. What a busy year!



Turnover exceeded plans and broke through the £1M barrier in the financial year ending September 2005, an historic milestone for our company. We have strengthened our product portfolio and the Orion™ database has matured with further instances installed in UK manufacturing plants. The research and development of the last 18 months has started to pay the expected dividends in the company bottom line, strengthening our growth and stability.

Our applications and engineering departments have been expanded with two young engineers eager to grow with **Sorion**.

Sorion is pleased to retain the confidence of Intier Automotive Interiors with the award of the contract for build control and electrical test facilities in their new plant opening in Redditch later in the year. The winning of a substantial contract to install and control two seat assembly lines at Lear Corporation in Coventry demonstrates the knowledge and skills we have in assembly process and test facilities and installation. Jaguar has selected our hand-held electrical test facilities with ruggedised connectors for use on the X150 line.

Sorion Developments has had a successful year, validating our decision to form the company as part of the **Sorion group**.

Phil Yates - Managing Director

Sorion Developments Limited

Sorion Developments has now been established for just over a year and this has been a very busy period indeed. Projects to date have included:

Developing a wireless LAN interface board for an Ethernet connected vehicle interface.

Hardware development of a niche market automotive hand-held diagnostic tool with a QVGA touch screen.

Development of a USB connected power supply control board.

PCB design of a covert security camera for miniaturisation and production.

PCB design of an engine control unit in order to achieve automotive EMC type approval.

PCB design of a test board for a microcontroller module.

Technical consultancy

This wide variety of projects has grown the experience and capabilities of the company. We have also been continuing investment in equipment and software tools. So if you have any development requirements, automotive or non-automotive, from a PCB layout up to complete product design, including hardware and firmware, please feel free to contact us for a no-obligation discussion.

Paul Maisey - Technical Director



In today's increasingly competitive, quality-driven manufacturing world, information is playing a continuously growing part in allowing manufacturers to deliver a quality assured product.

Orion™ is a birth history database system that has been specifically designed for deployment within manufacturing industries such as automotive and white goods.

The system collects traceable data from the shop floor from a wide range of sources (including items such as station, shift, time, build no., component serial numbers, measured values and visual inspection data). This is stored in Orion's database.

Once in the **Orion™** database the data can be queried (via a web browser interface from anywhere within your organisation) in a number of ways to provide quality assurance and performance statistics geared to manufacturing requirements.

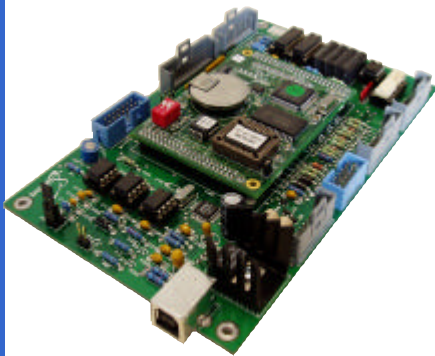
The storage used is highly flexible, effectively learning the shop floor client data structures as they are passed in. **Orion™** may therefore be used with a range of input sources, provided by Sorion or as a reporting front end to third party systems.

The **Orion™** database is fully compatible with the requirements of interfacing to other factory systems and presently these systems include; Oracle running on both PC and Unix servers, MS-SQL running on PC servers, GE Fanuc Cimplicity.

Buy-off, Traceability or other data transfer between **Orion™** and your system is configured to occur automatically, usually by XML or FTP transfers negating the need for knowledge of the database / server configuration.

Orion™ can work on almost any size of PC server and it is fully scalable from small installations to large plant wide manufacturing operations.

Rigel Family



The ongoing development of the Sorion Rigel family of single board processors, sees the application of the **Rigel-VCI** at Nissan in Washington.

The unit is used in the setting of the retractable hard top on the new Micra C+C. It interfaces with the vehicle via the J1962 connection. The unit, when initialised, will check that communications to the vehicle is available and then provide operator instruction on the LCD display.

The units are expandable and have optional onboard Wired or Wireless Ethernet capabilities allowing for integration with other assembly systems.

Rigel-VCI (Versatile Communications Interface) is designed to provide CAN, LIN & K Line communications and to operate either as an interface to a test system or independently, enabling low cost yet powerful handheld test systems to be delivered. The unit also has an LCD driver, isolated digital and analogue I/O allowing for basic machine control.

The Rigel modular concept enables Sorion to deliver bespoke hardware and



Systems Engineer **Andrew Pitt** Joined Sorion in May 2005 from MG Rover where he worked for twelve years.

He has extensive knowledge of car production, plant and systems, both hardware and software.

When not changing nappies for his newborn son, Andy spends what free time he has, what free time ?

Controls Engineer **Jonathan Hurstbourne** joined Sorion in March 2005.

Jonathan has worked in the automotive and associated industries for ten years. He has a wealth of experience in the design of electrical and PCB circuits along with PLC control systems.

Away from work, Jonathan is most likely to be found whizzing around the country in his Westfield kit car, or doing a spot of off-roading in his Range Rover Classic.



PYXIS – PSC

Sorion has recently developed a USB interface for the control of a range of EA power supply units. (nominally 12, 24, 48 Volts @ 300 or 700 Watts).

The PYXIS-PSC provides control of the set voltage and current and gives feedback of the actual voltage and current. These readings are stable to less than 5mV and 5mA over a working range of 0 - 14.2V and 0 - 50 Amp. With update rate of 100 readings per second a PYXIS-PSC system is ideal for integration into vehicle/component test systems.



Micro-Robotics

Sorion are working in close co-operation with Micro-Robotics and have applied their VM1 as the core processor module of the Rigel family of cards. Ongoing joint development will bring a range of enhancements and additional features to the Rigel family and the software development environment.

Sorion Group

Magreal Industrial Estate, Freeth Street,
Birmingham, B16 0QZ

Tel: +44 (0)121 454 8966

Fax: +44 (0)121 454 8970

sales@sorion.co.uk

www.sorion-group.com



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