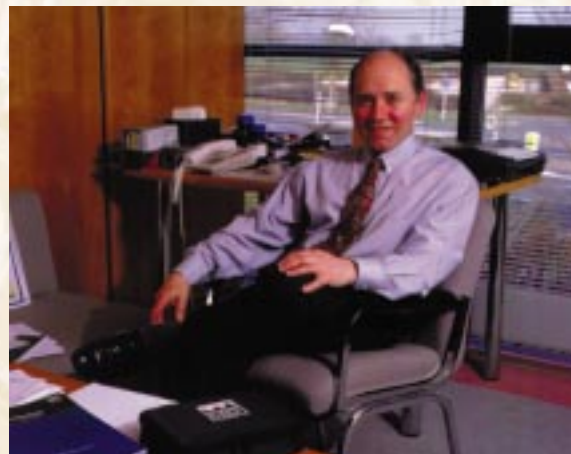


### Bryan Hobbs set to retire

After dedicating a quarter of a century to City Technology, Bryan Hobbs has announced his intention to retire from full-time service as Technical Director at the end of October 1999. As a founder member of the company Bryan has contributed immensely to the commercial success of City Technology and in its transition from a "research project" company to an international player.

Over the next four months Bryan will be handing over responsibility to Tony Cowburn, who was appointed Design & Development Director last month. Bryan will continue to work for City Technology in a part-time consultancy role, supporting the Group with its research, technical and intellectual property activities.

See September's "Silver" issue for a farewell tribute to Bryan & John Finbow.



### New Appointments

#### Welcome to Tony Cowburn - Design & Development Director



Tony joined City Technology on 7th June as Design & Development Director. In this role Tony will manage a team who will be responsible for the introduction of new products from concept, through process development and pilot build, to manufacturing hand-over.

Tony was previously Director of Technology for ADFlex Solutions, at their Portsmouth Technology Centre, where he managed new product and technology development, and pilot manufacturing, for advanced "flexible circuit"

assemblies that were eventually manufactured in volume at facilities in Arizona, Mexico and Thailand.

After gaining a Physics degree, Tony initially worked as a semiconductor process development engineer for Philips, and later moved to IBM, and then Xyratex, where he held a number technical management positions associated with product assurance, electro-mechanical product development and disk drive development and manufacturing.

### The changing face of CiTiceLs®.

City Technology has recently undertaken a project to overhaul and improve the current labelling system. The new system will be unveiled over the next 6-12 months, beginning with the C/2 Oxygen CiTiceL® in August 1999. The proposed system will be a bespoke software based system, tailored to our needs such that it will feature a full label design facility, allowing all label design to be controlled by City Technology. Once the customer label has been designed, each sensor will be individually scanned into the machine, and the information from

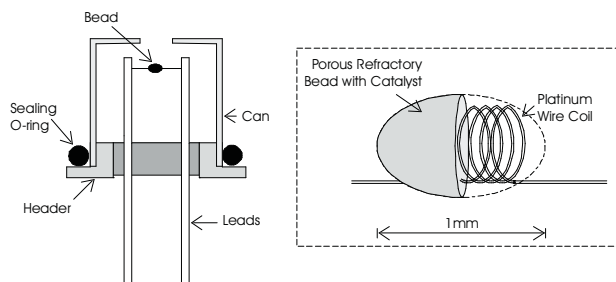
the manufacturing label transposed onto the customer label.

As the software will work from a database of known label types against customers' names, it will prevent labels being printed for products that customers do not purchase. Similarly the software will be used in other error checking ways via the use of default dates, operator prompting/passwords and fail-safes, to prevent the following occurring:

- Incorrect dating.
- Conflicting information on the label, i.e. an NO sensor with a CO label.
- Conflicting information on the pot and sensor.
- Unlabelled product.
- Inaccurate quantity of sensors sent against an order.

## Combustible Gas Sensors – Design overview 4

To compliment City Technology's range of Oxygen & Toxic Gas CiTiceLs® there is a range of combustible gas sensors, for fixed and portable applications. Supplied under the CiTipeL® tradename they employ catalytic combustion to measure combustible gases or vapours in air up to the Lower Explosive Limit (LEL)\* of the gas. The sensor consists of a matched pair of elements, typically referred to as a detector and compensator. The detector comprises a platinum wire coil embedded within a bead of catalytic material. The compensator is similar except that the bead material is rendered inert.



Both elements are normally operated in a Wheatstone bridge circuit, that will produce an output only if the resistance of the detector differs from that of the compensator. The bridge is supplied with a constant dc voltage that heats the elements to 500-550°C. Combustible gases are oxidised only on the detector element, where the heat generated increases its resistance, producing a signal proportional to the concentration of combustible gas. The compensator helps to compensate for changes in temperature, pressure, and humidity, which affect both elements equally.

Standard CiTipeLs® have the pairs of elements housed in separate metal cans. In a complete gas detector (to be used in a potentially explosive atmosphere) the cans will normally be mounted inside a flameproof enclosure consisting of a metal sinter and housing. This enclosure allows gas to reach

the sensor whilst ensuring that the hot sensor elements cannot ignite an explosive gas mixture. Since the design here is critical, it is usual for the enclosure to be certified to National Standards by a recognised test house. This can be a lengthy and costly exercise especially if certification is sought in different countries. As an alternative complete detectors are available with both elements mounted inside a flameproof enclosure approved to the latest European (CENELEC) and North American (CSA & UL) standards.

For fixed applications the CiTipeL® Detector Head (CDH) is recommended as it can be supplied with three different thread sizes, allowing them to be used with a wide variety of metric and non-metric junction boxes.



For portable instruments the low power 4P range is recommended as they offer increased shock resistance, better orientation sensitivity, smaller size than conventional can sensors and complete dimensional compatibility with 4-Series Oxygen & Toxic Gas CiTiceLs®.

\* The LEL of a gas is the minimum concentration of that gas in air at which an ignition source will cause an explosion.

August '99 issue:  
New pellistor developments  
New Technical Adviser

**Key telephone numbers:**

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Technical Support Officer  
+ 44 1705 288134

**Karen Wright**

Senior Sales Support Officer  
+ 44 1705 288133

### Key email addresses

Along with direct personal email addresses we have a number of departmental email addresses for our Technical Support, Customer Services, Accounts, and Materials departments that can be used for general enquiries:

- techhelp@citytech.co.uk - any technical enquiries
- sales@citytech.co.uk - general sales queries
- accounts@citytech.co.uk - accounts enquiries
- supplies@citytech.co.uk - materials/purchasing enquiries

Please note our telephone and fax numbers will also be changing in April 2000 to the following:

Tel: +44 23 9232 5511  
Fax: +44 23 9238 6611

The old numbers and codes can still be used up until this time.

### City Technology Limited

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