The average life span for modern consumer electronic products, such as a mobile telephone or PC, can be anything from a matter of months to a few years. Unfortunately, consumer electronics now drives the development of new components which are only designed to last a few years before they fall out of fashion and are allowed to fail. Such attitudes by component makers has generated a difficult problem for industries where long-term maintenance of equipment is required for 10 years, 20 years or in some cases even longer. In the medical equipment industry, this rapid rate of change has enabled the development of smaller, faster and more flexible medical equipment with more functionality, which may even cost less than existing equipment. However, healthcare budgets do not allow frequent replacement of all existing equipment, which in many cases still performs more than adequately, meaning that essential maintenance programmes must be put in place to ensure continued reliable service.

Michael Trenchard

Introduction

Healthcare professionals cannot work cost-effectively and efficiently unless the necessary equipment is available when needed. However, there is a continuing challenge to ensure that serviceable equipment is available and can be used within budget and maintained in the most effective manner.

Obsolescence management plan

More time and effort is needed to establish and maintain an obsolescence management plan. Such a plan can monitor the life cycle of critical components and avoid some of the unpleasant surprises when it is suddenly discovered that necessary components or materials are no longer available. Partial equipment redesign as a solution to overcome obsolescence may be avoided by considering and evaluating other options (Table 1).

Table 1.

| * Last Time Buys - where components are bought in adequate volumes when the component manufacturer indicates that the component is to be withdrawn |
| * Die Banking of semiconductors where silicon die is stored long term to be packaged when needed |
| * Use of modern equivalents that can fulfil the original form, fit and function |
| * Use of ‘after-marked suppliers who can continue to manufacture components after the original manufacturer has stopped |
| * Use of specialist distributors who have older components within their inventory |

Coming to grips with reality

Obsolescence occurs for many reasons; the principal one is usually economic, but this is not always the case. For example, the recent environmental legislation of the Restriction of Hazardous Substances (RoHS) and the Waste Electrical and Electronic Equipment (WEEE) EU Directives have resulted in lead-free components being produced, this often making previous components obsolete.

However, while the impact of component obsolescence is costly to both medical equipment suppliers and healthcare providers, it probably remains largely misunderstood and uncontrolled today.

Obsolescence special interest group

The defence and aerospace sectors were the first to feel the effects of obsolescence in the 1990s. As a response to rising concerns about this issue, the Component Obsolescence Group (COG) was founded in the UK in 1997 as an industry forum enabling diverse organisations to work together, promoting awareness of the issues and jointly developing strategies to mitigate against the effects of obsolescence. COG now comprises 150 member organisations and has enabled its members to develop a wealth of knowledge by sharing information and working jointly on solutions. Today, its membership is drawn from a broad range of industries including defence, aerospace, railways, oil & gas, nuclear, automotive and medical equipment.

COG is very active in taking initiatives to try and reduce the impact of obsolescence. It is taking an increasingly important role in the development of national and international standards on obsolescence management, including the IEC Standard 62402 Obsolescence Management Application Guide, which should be available early in 2006. COG has also produced a number of guidance booklets starting with the Obsolescence Minefield, a summary of the problem and how to combat it. This has been followed by a number of specific guides on such topics as Date Coding, Long Term Storage, the Supply Chain, Inventory Management and Pb-free Solder.

In an ideal world, the whole of the supply chain would understand ‘obsolescence’ as a risk to equipment availability and the associated provision of services, including healthcare. Executive management would understand and support the development and implementation of an obsolescence strategy and be prepared to pay for it. The customer would understand the implications of obsolescence and buy into the ‘cost avoidance’ concept.

Much of the initial work has been done in the defence and aerospace industries, but other industries are now waking up to this important problem. Vital equipment should not be left lying around for want of components not being available.

Michael Trenchard is Chief Executive, COG.

www.cog.org.uk