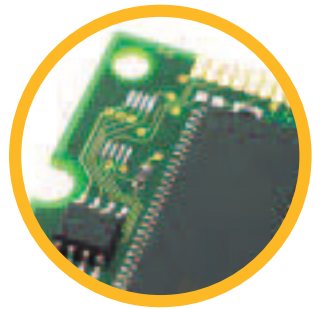




LOOP Technology Limited

vision in motion

IMPROVE YOUR
PRODUCT QUALITY



GAIN A DISTINCT
COMPETITIVE ADVANTAGE



www.looptechnology.com



Motion Control

Machine Vision

Software Development

System Support

Training

Machine Vision

Machine Vision is an established part of the production process in a diverse range of industries ranging from food and packaging to semi conductor electronics and telecommunications.

It can perform roles as varied as quality checking, print or colour verification or system enhancement. Machine Vision systems are frequently used to gauge components, orient and align assemblies, inspect print or surface quality and identify faulty or missing elements.

Vision Systems can reliably perform 100% inspection at rates that would be impossible for human operators.

Machine Vision components are continuously advancing, sizes are reducing, speeds are getting faster and algorithms are getting smarter. New technologies are being developed and new standards adopted. At Loop Technology we ensure our knowledge of the industry is completely up to date thus we are able to draw on components from the world's best vision system vendors to provide a uniquely tailored solution which is not only scalable but can take advantage of future technology advances.

Our services range from upgrading an existing system to complete turnkey solutions. In addition to providing static camera heads we can draw on our motion control expertise to provide a fully integrated moving camera platform for applications where access is restricted or several areas of a component need to be inspected.

Motion Control

Reliable, precise motion control is at the heart of any automated system. At Loop Technology we have the skills and experience to take your requirements or ideas and translate them into cost effective quality solutions. Whether your requirement is for a simple single axis stepper drive or a multi axis servo controller capable of synchronized vectored moves we can provide the solution you need. Systems can be based upon PCs, PLCs or dedicated motion controllers all networked into your factory monitoring system if necessary.

Robotic solutions provide an alternative, more flexible arrangement compared to traditional bespoke machinery. Their multiple degrees of freedom and scalability often make them a more appropriate choice. Advances in technology have facilitated many more classes of robot than those commonly depicted in automobile production lines. Perhaps there is one ideally suited to your application?

When we couple a vision system with a motion controller we are able to serve a vast array of applications ranging from self calibrating wafer handling stations to automatic assembly or component alignment. Because we deliver an integrated solution you avoid the all too frequent problem of one vendor playing off against another in the event of a system failure.

It is surprisingly common that systems cannot be fully specified using standard off the shelf components. When required we can produce custom electronics in the form of signal conditioning and data acquisition modules permitting us to correctly interface with the process at hand.

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System Support and Training

The smooth operation of our systems in a production environment is the yard stick by which our performance as a company is ultimately judged. We are dedicated to helping our customers develop their processes to meet new challenges and keep downtime to a minimum.

Whether it is a phone call to an engineer, remote parameter monitoring or a site visit we will always take ownership of any problems. At Loop Technology we feel providing a solution is only the start of the process. It is vital that our customer's staff are correctly trained in the correct operation of all equipment we deliver. Even though our policy is to keep our systems as simple as possible they are inherently technical, this normally means that even skilled operators require an introduction to the system.

Depending on the system being supplied training can either take place in advance at our premises in Dorset or at the client site after commissioning has been completed. A detailed training program will be included in any quote right from the start.

Software Development

If your resources are stretched or you need assistance with a particular software development project we can help. Here are some examples of the systems we have developed for our clients.

- Multi Axis Motion Controller
- Embedded Motion Controller
- Wafer Aligner
- PCB Alignment System
- Bar Code Reader
- RF Tag Reader
- Vacuum Controller
- SEMI E84 Interface
- Windows Socket Interface
- Serial Communications Monitor
- Ion Beam Sequencer
- Distributed Sea Bed Acoustic Monitor



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**Do you need to drive down your costs?
Drive up your quality?
Improve your Margins?**



So why would you want to use a robot?

- Quality improvement.
- Improvement of working environment.
- Better cost effectiveness.
- Flexibility to change.

Robot cells can be developed and built for your own specific applications.

For certain tasks robots can be superior to humans in terms of the quality of the work that is produced. This has been found to be the case where one or more of the following are required; high positioning precision, high repeatability, no deviation due to fatigue, highly accurate inspection and measurement using sensors.

Key areas where automation could be considered are areas such as heavy lifting, repetitive work, contaminated environments.(solvents, noise, heat, dust) and jobs requiring continuously high levels of concentration.

Robots can be linked with sensors to perform inspections, using laser lighting to detect any dust or dirt causing imperfections in, for example, finished paint work. In areas where high levels of concentration are required over long periods fatigue in humans can be a problem, the correct use of robots can eliminate this.

With intense competition always present in the market, and product lifetimes steadily decreasing, production lines need to be flexible and able to handle more than one product. Why not use re-programmable automation to reduce your lead times? Robots can not only be more flexible to change than fixed automation but can also be faster.

From simple robots using jigs and fixtures to robots with more complex sensory capabilities, the possibilities are endless.

A Complete Solution:

At Loop Technology we are happy to supply complete work cells with integrated guarding, conveyors, turntables and fixturing. To improve cell utilisation and flexibility we can provide vision systems, bar code and RF tag readers allowing you to process many different variants over a longer period of time. We can equip the cell to produce statistical data for trend analysis and quality records.

In addition to the design and installation we can also provide operator training and system servicing.

Return On Investment:

Investing in a robot should be considered not only for short-term problem solving, but also as a possible vehicle for growth. By making the company more cost-and-quality competitive you may be able to expand your area of operations.

When calculating payback periods you should consider not only the labour costs, wages, insurance, benefits etc but also the savings afforded by reducing rework and waste. Doing things right first time eliminates downstream costs and time wasting. Space formerly allocated to rework can be assigned to activities that make you money not cost you money. Experience indicates payback expectations of 18-to-24 months are reasonable.

Would you like to know more?

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