



N E W S

World leaders in handling and feeding technology

VIEWPOINT

A Clear Vision

Recent trends & requirements towards flexible manufacturing combined with quality control has pushed the use of vision system technology into process lines and component handling systems such as bowl feeders. Mick Keane, technical director at RNA, explains each application below:

Inspection systems: Vision systems are widely used to examine component parts in detail and evaluate the image to make accept/fail decisions. It performs data collection to assist quality control by identifying 'trends'. Applications with highly complex components moving at high speeds can utilise automated vision inspection systems. OCR (optical character recognition) can be used to identify specific features of components such as bar codes or batch no's. RNA recently developed a high speed tablet inspection system to measure size, shape and OCR features. A speed of 800-1000 tablets per minute was reached with 100% accuracy. [Click here for RNA Tablet Inspection Case Study](#)



Sorting systems: The use of a vision system gives the possibility to sort different component parts or a range of components into groups or individual tracks. It removes the need for mechanical orientation devices and can provide a simple and reliable feed system. Applications can also involve

sorting for size or colour, used this way the possibilities are apparent compared to the use of traditional mechanical system. RNA recently supplied a handling system to sort and inspect clothing tags into tote bins dependant on colour and numerical identity. [Click here for RNA sorting system Case Study](#)



Vision guided Robotics: Robotic handling systems can automate your production line where small batch runs and sensitive difficult components have normally been impossible or to costly to automate.

The systems utilise a Robotic arm for handling and manipulating the product

combined with a camera system. They share the same pc based control system in most cases integrated with a standard robot and controller.

The systems are easy to operate and have the added benefit of short set up times between products. The shortest possible payback time and minimal operator intervention are also key benefits of vision guided robots. With these systems it is possible to automate small or large batches and achieve good profitability even with annual volumes as low as a thousand components. A vision system combined with a Robot can be almost called "Future Proof" due to its wide limitations and ability to be re programmed for new components.

The goals of Automation are always based on the customers needs. The RNA SVIA system can offer low cost, high mechanical reliability, excellent versatility and short cycle times with a wide variety of components. [Click here for RNA SVIA Case Study](#)



Welcome to the January issue of RNA newsletter

In this issue

Viewpoint - A Clear Vision

Company News & Event

Forward

If you have friends or colleagues you think would like to receive a copy of e-News, subscribe their name and email address to us via rna@rna-uk.com

We will forward them the latest issue and add them to our quarterly distribution list.

Combining feed systems with vision

The handling system is a key component with an automated vision system, by delivering components in a uniform and controlled manner the vision system can process data more efficiently. Vision technology can be used to improve material handling by adding extra functionalities such as quality inspection, counting, sorting and product tracking. Integrating a handling and vision system to work in harmony is regarded as the most critical and challenging factor for RNA when designing and building a system.

At the early stage in developing a vision system, it is imperative to determine the exact placement of the component in view of the camera for imaging. Can the components be allowed to overlap? Or do they require a gap? If so at what pitch? How are reject components rejected from the system? What linear speed is required to feed the components at the required rate and can the vision software process the information quickly enough? All of these areas need to be carefully considered.

RNA utilise its standard products to transport components in view of the vision, examples are linear feeders, conveyer belts, robotic arms and pick & place units. The standard RNA components are selected by taking into account the product characteristics, orientation, system speed and processing time of the vision software. The feeding system should be selected and designed with some degree of flexibility as the parameters may change further in the design and build process.

Often camera suppliers give a static demonstration of camera system only for it

to fail when parts are fed past it at a high rate or at the rejection point.

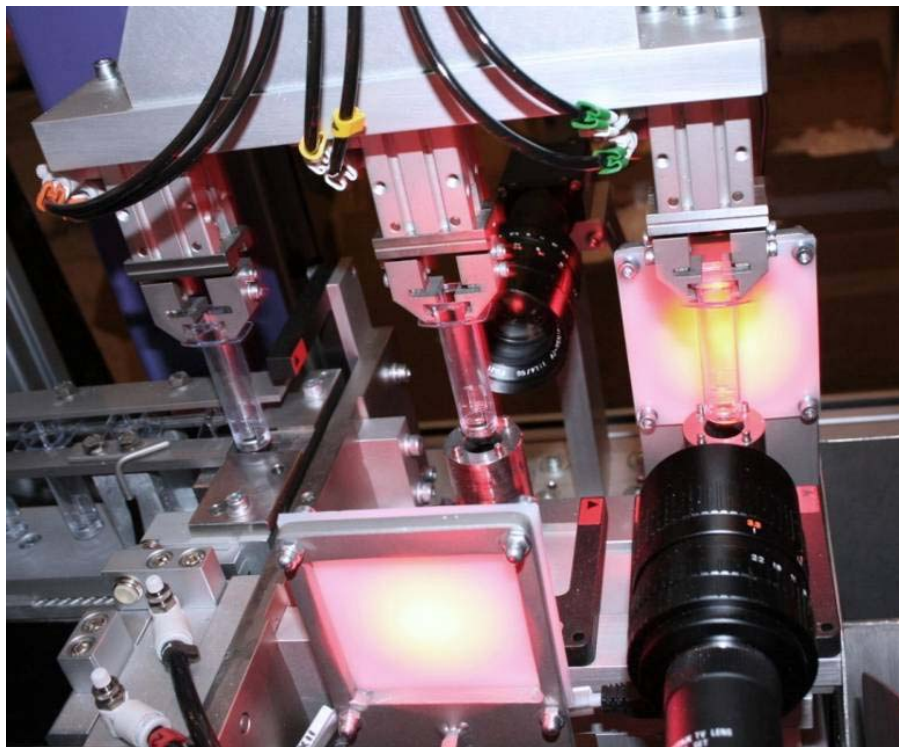
For challenging applications trials are carried out to confirm the chosen camera system will work in realtime as components are passed before it at the required rate. RNA design and build camera systems as a total package and will also carry out feasibility studies with in house equipment for development projects or new machinery.

Camera systems are supplied black and white or colour with a grey area between the vision and handling system. By looking back at past projects and drawing upon our experience RNA can supply a total package minimising the risk to the customer.

RNA supply to a wide a varied array of industries such as checking tolerances for automotive, counting systems for bagging machines, packaged food or bar code reading and tablet inspection applications.

RNA will supply a machine vision solution that will satisfy both short and long-term requirements to minimize the ownership cost and maximise the system's productivity.

If you are interested in more details of RNA inspection systems or have a process that needs improving please contact Andy Perks (andyp@rna-uk.com).



NEWS



A valued member of the RNA team for over 12 years, Carol Gauntlett retired at the end of 2009.

Carol who joined RNA in 1997 as a cleaner, went on to do many other things, but decided it was time to hang up her coat and retire when she reached her 61st birthday.

Carol often said that when she retired she would have enough time for her favourite pastime of gardening. So as a thank you the gifts were on the gardening theme and included a digging spade, a pair of wellington boots and a voucher to buy a hammock to admire her handiwork!

To kick start her retirement Carol has planned to visit her daughter in Australia in the next few months.

From all members of the RNA team we all wish her all the best during her retirement and thank her for the hard work and contribution she has given to RNA during her time here.

RNA EVENT

SP Technology Open Days

Date: 10th&11th March, 2010

Venue: SP Technology

[Click here](#) see details

IN THE NEXT ISSUE...

Feature on 'Fruit Bar' application

We are constantly adding new updates about RNA, but it is your turn to tell us what you would like to read.

If you have any comments or questions, please email to me at yingz@rna-uk.com.

Ying Zhang
Marketing Coordinator