



SUCCESS STORIES



RTS FLEXIBLE SYSTEMS

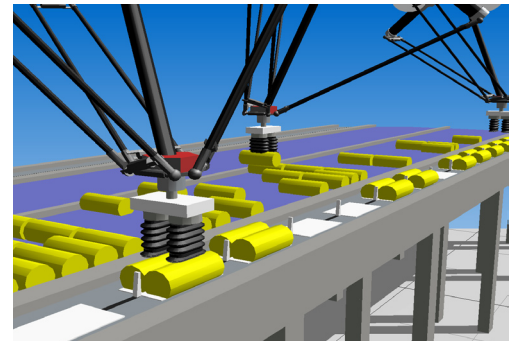
designs, develops and manufactures advanced end-of-line packaging systems for the food, pharmaceutical and consumer products industries. A highly innovative feature of its products is a software-based machine vision and advanced robot guidance system. The company is one of two specialist business units comprising the RTS Group, an AIM-listed, high technology enterprise located in Manchester, UK, and founded in 1981.

◦ <http://www.rts-group.com/>

SIMULATION REDUCES COSTS AND RISKS FOR RTS FLEXIBLE SYSTEMS

THE COMPANY'S WORLD-LEADING INTELLIGENT VISION SYSTEM COMBINES WITH VISUAL COMPONENTS SIMULATION SOFTWARE TO HELP THE PACKAGING SYSTEMS MAKER OPTIMISE DESIGN, INCREASE PRODUCT PERFORMANCE, AND ACCELERATE MANUFACTURING

Visual Components industrial simulation software is playing a key role in the design and manufacture of the end-of-line, automated pick and place robotic systems for packaging made by RTS Flexible Systems Ltd., helping to optimise configurations before proposals are shown to potential customers and ensure that, once built, systems work 'right-first-time'.



Designed to increase capacity, enhance throughput and product yield, the innovative packaging machines feature an intelligent vision system developed by RTS Flexible Systems. The technology identifies products entering the packaging machine and is programmed to 'see' a variety of items that are either sub-standard, or of a particular type for sorting and packaging. Appropriate positioning and feed rate data is sent by the vision system to multiple, downstream, 4-axis fast picking robots that select and pick products from the conveyor belt for processing. To ensure a design works to a customer's requirements, RTS Flexible Systems could either construct a machine and test various options to establish the best configuration, or build a virtual model at a fraction of the price, using simulation software. The company chose the latter approach, but the problem was finding the right software.

VISUAL COMPONENTS

Visual Components Oy is a world leading 3D simulation and visualization software specialist. With a new generation of simulation products Visual Components offers machine builders, system integrators and companies using complex turnkey manufacturing solutions a simple, quick and highly cost effective way to build and simulate their complete production lines. Now with the help of 3D simulation, it is possible for industrial firms to implement new production lines faster and more cost effectively with improved profitability. Visual Components Oy was established in 1999 and operates from Helsinki, Finland with the support of a global reseller network.

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The company already used several simulation systems. Designed for specific purposes these products all lacked one vital feature – the integration of statistics-based discrete event simulation and kinematic robot simulation. Uniquely, Visual Components offered this vital combination. Better still, it featured an affordable price and its open architecture included an all-important application program interface (API). This enabled RTS Flexible Systems, with support from the software's UK distributor, SimX, a Manchester-based company specialising in factory and robotics simulation, to directly link the advanced programming in the manufacturer's machine vision system to the industrial simulation software. "Using the combination of our technology and Visual Components we can optimise a system's configuration and performance, including how many robots are actually required," says Dr David Hopper, technical director of RTS Flexible Systems. "Now we can be sure at the initial design and proposal stage, whereas the alternative might be to discover - and to our cost - that another robot is needed, or one is redundant, only after the machine has been built and is in use. This has major benefits to us and our customers in minimising risk, saving money, and enhancing our competitive edge."



"The highly realistic simulation achieved with Visual Components is also a good sales tool and facilitates requirements discussions with customers. It minimises risk for the customer and for us. What's more, we can also use the data for downstream manufacturing functions, so it's giving us tremendous value for money."

Dr David Hopper, Technical Director, RTS Flexible Systems

Besides preparing realistic and reliable sales proposals, the combined technology is also used to test 'what if' operations. "You can design for extremes, but in the real world it's the unexpected events that catch you out," says Hopper. "With this system – which is unique in the world – we can run a wide variety of random tests to show customers how robust, flexible and efficient our solutions are."