One step ahead

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Through its forward-thinking attitude, Vortok International offers innovative, practical and cost effective rail infrastructure solutions

The world-renowned Vortok International organisation offers products, which make a real difference in the rail industry, with regards to safety, reliability and efficiency. Over the last ten years, the company has contributed invaluably to UK rail infrastructure, developing world-class solutions to maintenance, management and engineering problems, which have now reached a global audience. This success is a result of the unique nature and can-do attitude of Vortok.

Speaking to Railway Strategies, Peter Shrubsall, managing director for the business, describes the company's evolution in more detail: "The organisation was formed back in the 1970s and was in private ownership under the name of the Multiclip company. This is still our formal name today but we now trade under the name of Vortok International. Back then, the company used wire formed technology to manufacture springs, clips and devices, and by the 1980s the business was producing a whole range of products near Farnham in Surrey.

"In the mid-eighties, the company then stumbled on a new market, which would define the success of the business for the next ten years. The then technical director was on a train journey when he got in a conversation with a track engineer, who explained the problem of loose screws in timber sleepers - when the hole for the screw is damaged it is a major challenge to try and repair it. As a result of this conversation, the technical director came up with an idea to solve this problem – this became known as the Vortok Coil. This is an aluminium coil, which could be wound into the hole so when you put a screw back in, it restores the ability to tighten it," he adds.

Until 1997, the Vortok Coil was the only product offered by the company and to date around 49 million have been produced and distributed to approximately 30 countries around the world. As the demand for the coil started to slow down due to timber sleepers being replaced by concrete sleepers, Vortok decided it was time to look at expanding its product range.

Peter continues: "We still make around two million coils per year but we now offer a wide range of different products to our clients. In 1997, we established collaborative ventures with maintenance contractors to try and find solutions to problems that were causing major train delays or incurring penalty payments. Consequently, we were able to bring innovation through the development of new designs and the use of modern materials, which helped to solve various railway infrastructure problems and also improved safety, efficiency and reliability."

Using highly experienced engineers and designers, Vortok's range of track related products have positive and lasting benefits. They are easy to install, easily transportable, safe, secure, tested and approved, save time and money, and are manpower efficient. Currently, the company's major product lines include the Vortok Coil, rigid safety barriers, temporary AWS magnets, non-destructive stress-free temperature measuring systems, clip-on track circuit insulators, retrofit switch roller systems, cable guards and signboard supports.

"Today, we are developing sophisticated products, which tackle electrification and signalling problems. Based in Plymouth, we now have more than 50 products in our catalogue and as a result we have grown from a turnover of £1.6 million in 1997 to
approximately £5.5 million this year. Innovation continues to be extremely

important to us and we currently have nine major products being developed as we speak," Peter explains.

Vortok's most significant contract over the last ten years was its involvement in the Train, Protection and Warning System (TPWS) project. This was introduced to prevent drivers driving through a red signal accidentally after some major collisions at Southall and Ladbroke Grove in central London in the late 1990s. Vortok worked with Thales Rail Signalling to design and produce all the in-track equipment for this project. "As a result of this contract, we are now developing new mounting systems for the next generation of signalling transponders. For example, we are working with the European Train Control System (ETCS), which is a signaling, control and train protection system designed to replace the 14 incompatible safety systems currently used by European railways, especially on high-speed lines. For this project, we are providing mounting systems for transponders to many of the big players in the signaling industry. These will be used on European train control systems in Belgium, Switzerland, Italy, Germany and the UK," Peter adds.

Looking at other product developments, he continues: "We have recently produced new suppressed magnets. We were asked to look at this technology by Network Rail as the old technology, which was being used was of no use on high-speed tracks. As a result, we have introduced rare earth magnets to use in the automatic track warning systems. We also have developed new calibrated magnets, which ensure that the trains are working as they should be."

One of the most famous Vortok products is the award winning Vortok Safety Barrier. This was a huge step forward for the protection of track workers and has become the industry standard for setting up safe systems of work. Furthermore, VERSE – a non-destructive stress-free temperature measuring system – is a development that can be used for identifying the stress-free temperature in continuously welded rails to prevent rail buckles and breaks.

From all of these developments it can be seen that Vortok's innovative and forward-thinking attitude is helping the rail industry to take major steps forward in safety, efficiency and reliability. Peter comments: "We are extremely proud of our ability to react quickly to rail track problems. We use modern 3D modelling software tools to design products – this allows us to produce high quality solutions as quickly as possible.

"Our main aim is to move faster than our customers, however, we don't want to become a 'me too' supplier. If there is a company on the market already supplying a good product, we won't try to copy them. We want to address issues, which haven't been tackled yet. These are not just one-off issues, but generic railway problems, which occur both in the UK and in other countries around the world. By doing this, we believe there is huge potential for growth in the export markets, including the Middle East, Australia and the US," he concludes.