

TRACKS

News from Trackwise – The RF PCB Innovator

Autumn 2010

RECORD SALES FOR TRACKWISE – TO CUSTOMERS ACROSS THE GLOBE

June 2010 saw Trackwise book their best monthly sales since September 2004.

Of our top 5 customers in September 2004 – one is still operating as-is, two are still in operation but no longer making base station antennas and two are no longer in business! In spite of this high turnover of our customer base, since that date Trackwise has gone from strength to strength, being awarded the Queen's Award for Export in 2005, acquiring its main UK competitor in 2006 to become the principal UK supplier of antenna and PTFE PCBs and launching Trackwise Epitome India in 2007.

In September 2004 Trackwise invoiced 12 different customers in the month – in July 2010 we have invoiced 39 different customers. This growth in Trackwise customer list is as a result of our determination to meet customer needs and a belief that satisfied customers keep coming back! This attitude resulted in the world's largest antenna manufacturer recently rating Trackwise as an A-supplier for excellence in quality and delivery performance.

For an established, experienced and proven partner to provide your antenna and RF PCBs on time and to quality – please be in touch with Trackwise.



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Trackwise Epitome India (TEI) – 3G Licence Auction Unleashes Major Demand

The Indian Department of Telecom completed the 3G spectrum auction in May 2010, raising approximately \$14.6bn for the Indian state. This was soon followed by the Indian BWA auction which raised approximately \$8.2bn.

The completion of these auctions and the need to roll out the planned networks, plus the increasing demand for localised telecoms equipment manufacture has lead to a huge jump in business for **Trackwise Epitome India (TEI)** facility for manufacturing antenna and RF PCBs.

The TEI facility has been relocated to Epitome Components new facility in the "SUPA Industrial Estate" MIDC located on the Ahmednagar-Pune Highway.

For an established, experienced and proven partner to provide your antenna and RF PCBs, please be in touch with Trackwise Epitome India and come and see the excellent new facility. **Alternatively please visit us at Electronica 2010, Hall B1 Booth 275/12.**



PIM study wins QUB IEEE award

A paper on the phenomenon of passive intermodulation (PIM) that causes signal distortion and increased noise levels, and limits the efficiency of communications systems has won the prestigious **IEEE 2010 Microwave Prize for the Queen's University Belfast's Institute of Electronics, Communications and Information Technology.**

Dr Schuchinsky - along with co-authors from North Carolina State University - won the prize for their paper, Electro-Thermal Theory of Intermodulation Distortion in Lossy Microwave Components.

The work described in the paper results directly from a recently completed three-year EPSRC funded study into the mechanisms of PIM

generation in printed circuit boards and passive microwave components.

Trackwise are delighted to have support this award winning work; Alex Schuchinsky was kind enough to say to Trackwise,

“This prize would be impossible without your ongoing help and support.”

PTFE price increases in the pipeline

As a consequence of planned and unplanned reductions in PTFE manufacturing capacity combined with overall robustness of demand, some shortages and resulting price increases have been reported in the PTFE supply chain.

Whether or not these translate into price increases in PTFE-based RF laminates remains to be seen. It is Trackwise' belief that there is still significant excess capacity in the world market – resulting in competitive pressures that should resist any price increases.

In addition there are plenty of existing and new RF laminates that are not based upon PTFE and these new products potentially offer an alternative solution.

If you are concerned about the potential of price increases of PTFE laminates and wish to discuss a strategy to mitigate this risk, please do not hesitate to contact Trackwise.



Trackwise bike ride in support of CLIC Sargent

Thank you to all friends and colleagues of Trackwise who generously supported our cycle ride on 4th September. Eight of us completed the 65 miles on a lovely sunny Saturday morning with varying degrees of ease and style!

We raised close to £5,000 which will go a long way to support children and young people with cancer and their families. I know that Marc and Jack Elleker found CLIC Sargent support very helpful at a difficult time and so your generous sponsorship – and our sweat – will make a big difference to others who sadly find themselves in a similar situation.

Special mention to Concordia International Forwarding, Eagle Tapes, Elga Europe and Lloyds TSB CF. Thank you for your support at work and at play!

'The answer is more innovation'

Quintel Solutions

Trackwise are very proud to have supported Quintel Solutions Ltd from their earliest prototype antennas while still part of QinetiQ, through to their current successes in the global market.

As wireless operators worldwide upgrade their existing networks to deliver LTE services, questions arise regarding how to achieve optimal spectrum usage, performance tradeoffs and site logistics.

A recent study demonstrates an increase throughput of 2 x for LTE at the cell edges using Quintel's patented QTilt™ technology compared with using common tilting.

The innovative QTilt technology allows for multiple independently tilting (RET) beams to be supported for different information/signals sources carried on the same

antenna array and—as a minimum—doubling the output of standard antennas.

Trackwise' patented **TrackSlip™** low friction surface finish is a key enabler within the QTilt™ phase shifter.



Large Trackwise PCBs for Muon Drift Chambers

Don't pretend that you knew what these were for!

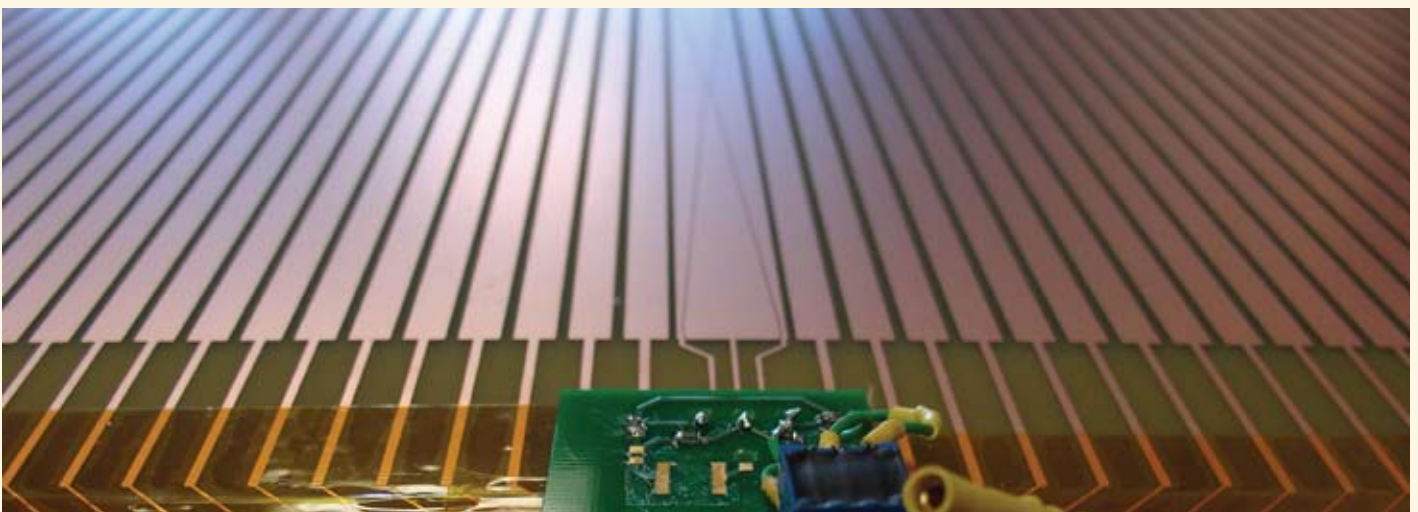
A muon is basically a heavy electron (200x the mass of a 'normal' electron) and are generated by cosmic rays – look them up on Wikipedia.

Muons travelling through a material

are deviated from their original trajectory, the amount of which is related to the material's radiation length (Z). In combination with some very sophisticated mathematics it is possible to use this deviation in order to determine different shapes and positions of materials, with the added possibility to discriminate

nuclear and radioactive material or shielding materials from low and medium Z materials.

Trackwise are delighted to have supplied the large drift chamber PCBs to a leading British University for this important project – which in these troubled times has clear security potential.



Trackwise – continuing to serve international markets for specialist PCBs

Trackwise, formed in 1989, specialises in the manufacture of antennas using printed circuit technology – including very large (up to 2.8m) boards used as the radiating element in cellphone base station antennas.

The company exports to antenna manufacturers around the world, including the USA, Australia, Europe, China and Thailand, **with exports to China representing more than 20% of Trackwise turnover.**

At Trackwise, we specialise in leading-edge PCB manufacture.

Over the past few years we have invested extensively in manufacturing technology dedicated to the production – to a very high degree of precision – of the very large high-frequency printed circuit boards used as antennas in the cellphone base stations run by mobile phone operators.

Our antenna PCBs range from very small chip-sized terminal antennas for PCMCIA cards etc through patch and panel versions for applications such as WiFi and WIMAX to the largest GSM base station antenna

or FSS (frequency selective surface). The boards are based on PTFE, FR4 and flexible substrates.

Trackwise has patented a number of innovations for the antenna community, including TrackSlip® a low-friction surface finish for the sliding element of variable tilt UMTS antennas.

The skills acquired in manufacturing antenna PCBs have brought success for the company in other RF and microwave industry sectors, such as security systems, broadcast and vehicle telematics.

TRACKWISE TO EXHIBIT AT LAPC 2010

Trackwise are pleased to announce that they will be exhibiting at the 6th **Loughborough Antennas & Propagation Conference 2010** to be held on 8th - 9th November 2010 in Burleigh Court Conference Centre, Loughborough University.

“LAPC 2010 will focus on new ideas and the latest developments in antenna technology, applied

technology, applied electromagnetics and the propagation sciences for both academia and commerce throughout the international community.”

We would be delighted to welcome you to our stand at LAPC and to have the opportunity to explain our up-to-date achievements and also about exciting new developments within UK and India.



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