



RoodMicrotec
powerful solutions

December 2008 • RoodMicrotec

RoodMicrotec Newsletter



Dear reader of this RoodMicrotec newsletter,
In this newsletter we focus on one of RoodMicrotec's new lines of business, consultancy work for Electronic Manufacturing Services (EMS) companies, and on the developments in the area of LEDs, an activity with lots of growth potential. There is also a brief summary of RoodMicrotec's Analysis Days, our highly successful customer event.

The barometer

RoodMicrotec is cautiously optimistic for 2009

Just like many other industrial sectors, the high-tech segment in which RoodMicrotec operates is feeling the impact of the turbulence in the financial markets. Some customers have had to scale down their growth prospects for the second half of this year. The automotive sector, one of the sectors we are active in, has certainly taken some blows. However, the volume of semiconduc-

tors used in this market continues to grow significantly, so that the decrease of market volume may be set off by an increase in the number of semiconductors. Furthermore, several customers are investing less and are therefore outsourcing more business. Despite some negative developments, we have noticed that we are in a much better position to discuss new business than before and the number of enquiries for our services has increased considerably in the past few months, both in Nördlingen and in

Stuttgart. We have also been able to repay from our own resources one third of the bridging loan of over one million euros for the acquisition of Microtec. All in all we are cautiously optimistic that we may realise sales growth in 2009.

We are hopeful, and we are not alone in that, that 2009 will have some positive developments in store. In any case, we offer you our very best wishes for 2009.

We are ready to enter the market

Reinhard Pusch, CSO of RoodMicrotec, tells us about the developments in the area of LEDs.

'The light emitting diode (LED) was invented in the second half of the 20th century. A LED is a semiconductor that emits light when a current is applied in the forward direction of the device.

Its first application in the electronics industry was as an identification lamp: green was on, red was off. That was 32 years ago.



It took a long time to develop the colour blue. When that was achieved, the next big challenge was to make white light, which is a combination of the three colours, blue, red and green. Most convenient is to combine the three colours in one package, so that you can play with different shades of white, from cool to warm.

LEDs are used in the aircraft and aerospace, medical and automotive industries. Other applications are for signalling in traffic lights, backlighting of displays, advertising displays, architectural lighting, pocket lamps, mobile phones, etc.

A really important development is that the brightness has increased tremendously. These so-called ultra high brightness LEDs are used on an increasing scale due to their longevity, strong (mechanical) resistance to shocks and jolts, limited energy use and lower heat production.'

What are RoodMicrotec's activities in this area?

'In 2006 we started doing business for 'the outside world'. Before that, we mainly worked for Alcatel. Between 2007 and 2008, we roughly doubled the business and the number of customers is still increasing.

We perform test & selection, failure analysis, reliability & qualification tests and eye safety classification tests. Failure analysis is often a door opener for other business. When we detect a failure and give the customer good technical advice, he will come back for further business.



Selection tests are essential, because the human eye is for example very sensitive to brightness and colour in car displays or washing machine displays.

We also perform qualification and life tests to determine the degradation of the device over time. The tests run at different temperature, humidity and electrical operations conditions.'

How do you see RoodMicrotec's future?

'LEDs are a growing market with an increasing number of applications and RoodMicrotec will support the new applications. For example: for the lighting market, RoodMicrotec will become a member of a DIN standardisation group "measurement methods for LED based lamps".'

We have the know-how, the equipment is basically available and cooperation with major partners is in place. We are ready to enter the market.'

Financial agenda

16 December 2008
4-hour discussion for a broad group of interested parties from the world of finance.

12 January 2009
Publication full year sales figures 2008

26 February 2009
Publication annual figures 2008

26 February 2009
Conference call for press and analysts

12 March 2009
Publication annual report 2008

26 March 2009
Annual general meeting of shareholders

EMS consulting is a growing and interesting business

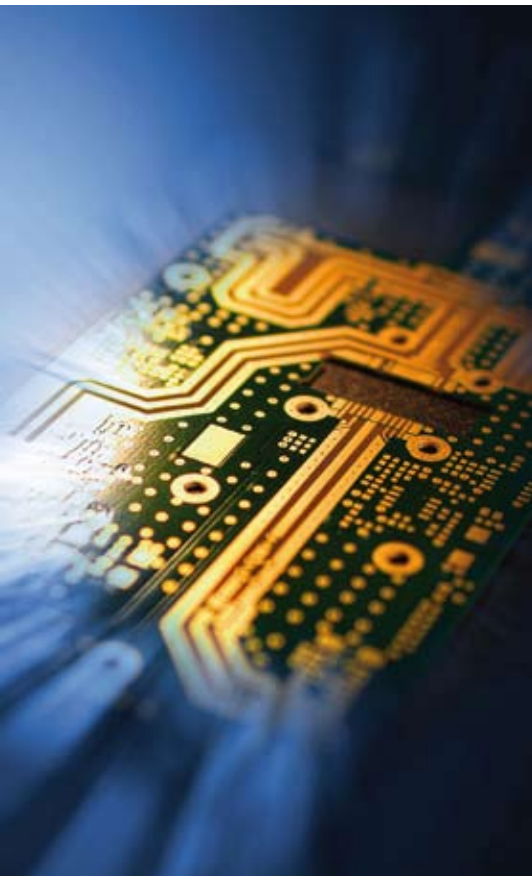
Eckard Schöller is a manager with RoodMicrotec's interconnection technology department. Interconnection technology deals with printed circuit board assembly. Eckard has 25 years' experience in this area and has been with RoodMicrotec for four and a half years.

'RoodMicrotec's big advantage is that we have failure analysis on the component side and we have process knowledge. When one of our customers has a problem, we look at each step in the production, starting with single components. In Nördlingen the focus is mostly on the integrated circuits (ICs), while in Stuttgart we focus more on component and the board side. We also offer the complete qualification flow: electronic tests as well as mechanical tests (shock and vibrations).

We have recently expanded our service with EMS consulting, which focuses on the Electronic Manufacturing Services companies. In this market the larger suppliers are better positioned to serve the high-volume, low-mix market for products like personal computers, cell phones and computer electronics. Their production plants are mostly located in low-cost

regions. Smaller companies tend to focus on the highly specialized, low-volume, high-mix segments and products. The industrial, instrumentation, medical, and aerospace/defence markets appear to be their most profitable markets. These companies are less susceptible to relocation to low-cost regions because these types of products are complex and require detailed coordination, so that close geographic proximity is preferable.

We focus on companies that do not have their own assembly lines and therefore lack the necessary experience; these are mostly smaller companies. We now have some three customers in Germany, and we are looking for customers abroad, for example in France and Italy. This is a growing and interesting business. This is exactly the field in which our knowledge and experience are highly appreciated.'



Global EMS revenue

Based on the increasing acceptance of outsourcing as a viable option for the industry, Technology Forecasters Inc. (TFI) projects the global market will annually grow at 12 percent to USD 222 billion by 2010. The six largest players account for 65% of the world's 2005 EMS revenue. The industrial, medical and aerospace segments provide almost half the business for the smaller EMS players. 46% of the revenue of the smaller EMS players was generated through printed circuit board (PCB) assembly.

Source Charles W. Wade,
Technology Forecasters Inc.

Four-hour discussions RoodMicrotec

For the first four-hour discussions on 17 September and 14 October RoodMicrotec has invited guest speakers professor Peter Jacob respectively Reinhard Pusch.

Four-hour discussion 17 September

During RoodMicrotec's first four-hour discussion, guest speaker professor Peter Jacob presented an extensive analysis of the gap between a failure in a device or component and its root cause, which he illustrated with many pictures. RoodMicrotec considers fail-

ure analysis to be the prime engine of the company, partly thanks to Peter Jacob. But opportunities always involve risks, which Mr Jacob also set out very clearly.

Opportunities

- Increased demand for electronic components from industrial users.
- Semiconductor manufacturers are outsourcing their lab activities.
- Increased demand for reliability analysis in automotive applications.

Risks

- Increasing complexity of electronic devices: do we have the capability for analysis?
- Recruiting qualified Failure Analysis staff is difficult.
- Competition from the Far East.



Four-hour discussion 14 October

During the four-hour discussion of 14 October, Reinhard Pusch, CSO of RoodMicrotec, gave a very clear explanation of the technology behind LEDs, their various applications and of the services that RoodMicrotec offers in the area of LEDs (see also the interview with Mr Pusch on page 2).



'Analysis Days' customer event



RoodMicrotec's customer events in Stuttgart on 28 October and in Nördlingen on 29 October were a great success. The programme included many speeches and guided tours of the opto-electronics lab, the qualification & failure analysis lab, the mechanical shock testing lab and the testing & programming area. Both days were concluded with a buffet and drinks.

The number of guests exceeded all expectations. Some even went to both events. There were serious and committed discussions between the customers and RoodMicrotec's experts, and the intention is for such events for technical experts to be organised on a regular basis.

Colophon

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