



# RoodMicrotec Newsletter

December 2010 • RoodMicrotec

## RoodMicrotec: committed to transparency

Dear reader,

**A number of people have remarked on the limited amount of information in our recent trading update. I would like to take this opportunity to explain the background to that.**

**As we rate our shareholders and other stakeholders highly, we try to make improvements wherever we can.**

As a relatively small company, and one of the few in our sector with a stock exchange listing, too much information can have adverse effects. We have recently experienced this when we revealed the name of a new customer, which our competitors used to their advantage. In order to prevent this in the future, we will not identify new customers going forward.

The limited nature of our information provision, however, was to do with the fact that

there simply was little of note to report, other than that developments were in line with previously made announcements. It was not a matter of unwillingness on our part. We are committed to transparency, as we continue to show by revealing our sales figures well before the publication of our (semi) annual results. However, as I mentioned earlier, we must be prudent in our openness.

Some people have expressed their bemuse-

ment that we compare our results to the world market. We have found, however, that there is a strong correlation between our activities and the world market, and in the absence of a better benchmark, we will continue to do so.

We will continue to strive for the highest level of transparency.

We wish you happy holidays and a prosperous new year.



## Norbert Wirth: the new business unit leader of Test Engineering

**Norbert Wirth was recently appointed business unit leader of the Test Engineering business unit.**

Thorsten Bucksch on Norbert Wirth: 'I have known Norbert for some years, having worked with him in the past at Infineon and later at Qimonda. Norbert is an excellent communicator and he has a talent for supporting people, also in technical matters. He is also strong on strategy, he has extensive management experience and he has been very successful in the area of structuring and organisation building. As a result, he is a perfect fit for the kind of leader that we need. We are confident that we can become European market leader in test engineering

under his leadership. We believe there are many growth opportunities for this business unit, since we can provide the entire range of services in-house, which is a key issue in particular for our fabless customers. In the past few years, we have seen far-reaching developments in the area of new products, such as in wireless information and data communication in cars. In aerospace, for example, we are working on interesting products to be built into satellites. What we must do now is expand our know-how and put the right

people in the right places. We must set major steps forward through inspiring leadership.'

Norbert himself is modest about his abilities, but in our interview with him his extensive experience is unmistakable. He explains that excellence is absolutely essential for the test engineering business unit. The combined know-how of the staff and strong collaboration within the team are key for the future expansion of the department. He is looking forward to making this happen.



# Focused Ion Beam is a powerful method

**'In 2006, RoodMicrotec started FIB (Focused Ion Beam), a new service in the area of Failure Analysis.**

**Sales have increased enormously since then, and the number of orders for this service is still rising,' says Florian Hauf.**

A FIB system works very similarly to a scanning electron microscope (SEM), except that it uses a finely focused beam of gallium ions instead of electrons. It is a powerful technique for failure analysis at micro and nano-scale as it enables analysis of failures in any specific region of interest in the material. The applications are inter alia chip modifications, cross-sectional analysis, TEM Lamella preparations, micro and nano-structuring, and process monitoring, and much more.

RoodMicrotec focus on chip modifications and cross-sectional analysis.

'If a prototype chip doesn't work as expected,

we can modify the circuit within very short time following the design engineer's instruction. Metal straps can be cut and reconnected using the ion beam and different gases. With this application we avoid long waiting times for new masks, shorten learning loops and accelerate devices' market introduction.

When doing a cross-sectional analysis, once a failure has been successfully localised, this can be physically verified by means of a precise local FIB cross-section cut. The geometry of the sample remains unstressed and in original state using FIB – in contrast to many of the usual delayering procedures. After the FIB cut is made, we can understand the fail-

ure mechanism (for example a short in a gate oxide, cracks, particle, ESD damage, etc.). A single FIB cut only takes minutes.

All in all, FIB results in significant time savings. Processes that used to take several weeks can be condensed in to 2-3 hours.

Furthermore, we have found a way to apply copper-based technology on a standard sub-system. This is an interesting development as copper devices are hard to modify.

We anticipate expanding our services in this area further, so as to save our customers a great deal of time.'



**"It is Christmas in the heart that puts Christmas in the air". - W. T. Ellis**

**A merry Christmas and best wishes for the new year to our customers, investors and stakeholders from all of us at RoodMicrotec. Thank you for your support and the excellent cooperation.**

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