

Transparency

Quality

Services



**RoodMicrotec**  
powerful solutions

Outsourcing

High-tech

Innovation

Supply chain

Fabless



# POWERFUL SOLUTIONS

RoodMicrotec is focusing its services increasingly on Original Equipment Manufacturers (OEMs) and Fabless Companies (FCs)/IP providers and distributors.

## OEMs

We offer tailored solutions for OEMs who wish to market their products successfully. We do this using our eXtended supply chain or by OEMs outsourcing their services fully or partially to RoodMicrotec. We have placed this outsourcing work in a special project ('Atlas').

## FCs

RoodMicrotec aims to support the development of products from FCs both technologically and materially together with other parties. In addition, RoodMicrotec collaborates with partners to financially support FCs with a proven track record and a good business plan to launch healthy projects.





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## RoodMicrotec N.V. Business Report 2013

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Chamber of Commerce number 33251008





INDUSTRY



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# 2013 HIGHLIGHTS

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## Commercial/operational

- Strengthened our position in outsourcing (Atlas project).
- Secured an outsourcing contract from a Siemens AG, Drive Technologies Division company in Germany, including takeover of equipment; issued shares and warrants.
- Strengthened our Supply Chain Management organisation with an additional specialised engineer.
- Strengthened our position in the UK.
- Optimised our critical installed equipment base.
- Increased number of applications and orders in SCM.
- Organised highly successful seminars.
- Extended mechanical qualification with new test equipment.
- Integration of equipment from EIB (Elektrostatik Institut Berlin) in Failure & Technology Analysis.

## Financials

- Sales in 2013 of EUR 11.2 million fell by 7% compared to 2012 (EUR 12 million).
- Further rationalisation of operating expenses led to a decrease of 10% or approx. EUR 929,000 compared to 2012.
- EBITDA: EUR 1 million (2012: EUR 0.7 million); strong recovery in the second half of 2013 (H2 2013: EUR 0.8 million).
- EBIT (operating result) EUR 82,000 (2012: EUR 181,000 negative); strong recovery in second half of 2013 (H2 2013: EUR 346,000).
- Net income: EUR 189,000 negative (2012: EUR 281,000 negative); strong recovery in second half of 2013 (H2 2013: EUR 197,000).
- Solvency is at 45%.

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# PROFILE

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RoodMicrotec is a semiconductor company supplying products and services to the industrial market.

These products are semiconductors, also called 'chips', that RoodMicrotec develops and manufactures to its customers' specifications. RoodMicrotec's service provision includes designing and supplying the entire chip in collaboration with

partners. RoodMicrotec subcontracts wafer production and packaging to other parties, and tests, qualifies and investigates the chip's functionality and quality. Thus, RoodMicrotec manages the entire supply chain. In the context of its strategy to offer customers to handle all the steps involved in taking an idea to market, RoodMicrotec is increasingly focusing on consultancy, product engineering and project management. RoodMicrotec has both highly experienced and young ambitious engineers who are able to work in all disciplines in our organisation.

RoodMicrotec also independently provides services to industrial companies, primarily to companies that do not have certain services in-house, or not sufficiently. As an independent company, RoodMicrotec is never in competition with its contractors. RoodMicrotec operates globally, with its main focus on Europe. With the know-how of its engineers and consultants, RoodMicrotec is ideally positioned to bridge the gap between the idea (the designer) and the end-user by performing the intermediary steps.

RoodMicrotec's services comply with the industrial and quality requirements of the high reliability/space, automotive, telecommunications, medical, IT and electronics sectors. 'Certified by RoodMicrotec' refers inter alia to certification of products to the stringent ISO/TS 16949 standard that applies to suppliers to the automotive industry. The company also has an accredited laboratory for test activities and calibration to the ISO/IEC 17025 standard.

At year-end 2013, the company had 96 full-time employees with an average of 99. In the 2013 financial year, sales of EUR 11,180,000 generated a net result of EUR 189,000 negative.

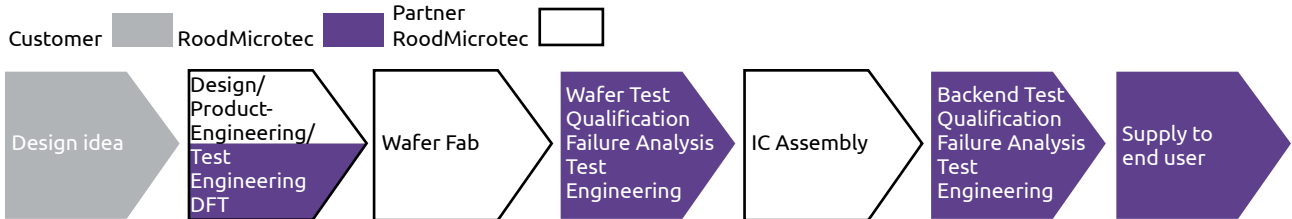
## Know-how

Our products are mainly used in high-tech environments: in aeronautical and aerospace applications including satellite connections and communication with satellites, and in healthcare, for example in pacemakers, which must be reliable under various conditions like temperature - after all, you can't have a pacemaker fail when the wearer jumps into a swimming pool. But also in automotive, where microchips are used to monitor tire pressure, in steering mechanisms, braking systems, ABS, airbags, etcetera. In all these situations, the highest possible reliability under many different conditions is paramount. Achieving this requires ever more know-how on all fronts as well as knowledge of all the specific regulatory requirements for these products.



# SUPPLY CHAIN

Legend:



## Supply Chain Management (SCM) and eXtended Supply Chain Management (eXtended SCM)

RoodMicrotec offers Supply Chain Management and eXtended Supply Chain Management. This means that we manage the entire process from design idea to delivery to the end-user, including: purchasing, logistics, warehousing/logistics and consultancy. RoodMicrotec offers this as a one-stop-shop proposition.

In 2012, RoodMicrotec expanded its supply chain management further by adding ASIC design in collaboration with Fabless Companies: eXtended SCM. This complete service package with highly experienced engineers gives us a unique position in the market.

Already in the chip specification phase, RoodMicrotec's experienced test engineers can work with ASIC design engineers on a test concept targeting the selected test environment. If required, even appropriate measurement blocks can be designed into the ASIC at this stage. This DFT (Design for Testability) method can contribute significantly to higher yield and shorter test times once the device is in mass production; key factors for bringing the overall part price down.

eXtended SCM is an additional offer uniting multiple disciplines and by no means replaces any of RoodMicrotec's individual services provided to our customers since many years. To summarise, RoodMicrotec's eXtended SCM concept combines full turnkey service and full flexibility – the best of both worlds!

### Individual services

RoodMicrotec distinguishes the following individual core services:

1. testing semiconductors (microchips), which represents the majority of sales, optoelectronics (image sensors, OASICs, LEDs) and printed circuit boards;
2. end-of-line manufacture and service;
3. developing test software for semiconductors;
4. qualifying semiconductors and printed circuit boards as well as printed boards assemblies;
5. qualifying production processes according interconnection technologies and ESD sensitivity;
6. analysing failures at wafer, package and board level;
7. reliability and environmental investigations of semiconductors and (assembled) printed circuit boards (PCBs).

### Products

Semiconductors: There is a wide range of products in the semiconductor market. We focus on more complex products that often combine analog and digital technologies and are used in the space and aeronautical, automotive, medical and connection technologies, as well as in other industrial applications. These applications demand the highest reliability.

Optoelectronics: Optical electronics is a booming business which will find more and more applications. Strong market growth is expected in this product segment. Our products tend to be associated with industrial applications and are often produced in limited series, but to very high quality requirements. We have the specialists capable of doing this.



Printed Circuit Boards: Developing and testing printed circuit boards for high-quality industrial applications is a relatively new market for us. The distinction between printed circuit boards and chips is growing smaller and more complex due to rapid technological developments. The quality requirements are very high, especially in aerospace and aeronautical applications. We expect further growth in this market.

#### **Collaboration with (financial) partners and customers**

Key in our operations is not only collaboration with customers, but also with partners, including financial partners. The entire semiconductor industry is dependent on collaboration within the production chain. For this purpose, we forge partnerships with our customers, such as FCs and OEMs, and in the field of design with our design partners, such as FCs, but also with foundry and back-end service partners, knowledge institutes like universities, technical colleges, the Fraunhofer Institute, IMEC and with technology partners, suppliers and government authorities.

RoodMicrotec is fully committed to possessing in-house all the know-how required to develop an idea all the way from concept to end-product.

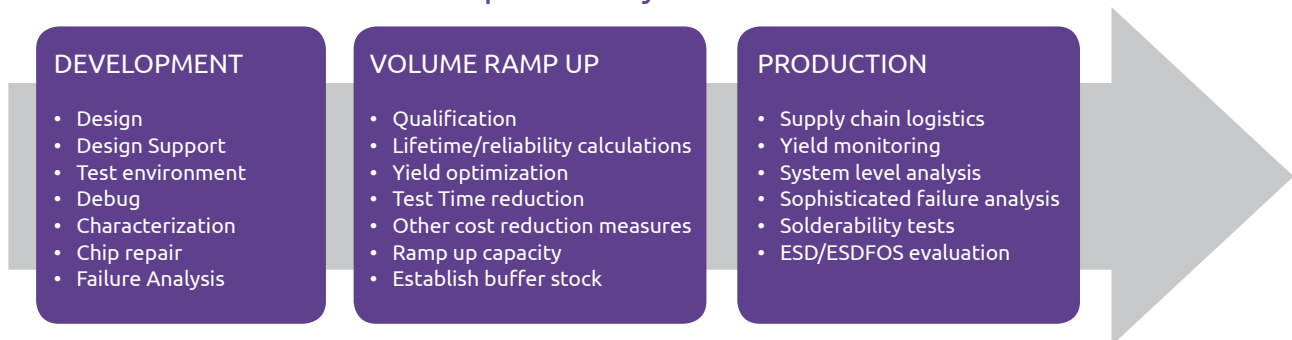
The banks' lending restraint and problems in the development of new chips have held back healthy FCs with proven track records in their development. In order to force a breakthrough, RoodMicrotec has set up schemes with partners to facilitate raising financing for healthy projects, in particular of FCs. With this approach, RoodMicrotec aims to boost the development of FCs and also to improve its sales and market position.

## **VISION, MISSION, STRATEGY**

### **Vision**

We anticipate that an increasing number of product design companies will focus on the partial segments in which they have a strong position, but also that many of these often vertically integrated companies will shed non-core activities to lower their risk exposure. Such activities would be testing, assembly and engineering. This will create a market for specialised service providers focusing on supporting leaner OEMs and FCs. We are such a specialised service provider, and we have the know-how to offer these OEMs and FCs high-quality products, both independently and within the Supply Chain Management concept. This forms the basis for our growth potential. One of the major trends is outsourcing of the development of ASICs. This enables companies to make significant cost savings and thus improve their profitability. Also, companies can rely on continuity and security of its IP, because RoodMicrotec is an experienced and accredited independent service provider. For RoodMicrotec, this means additional sales and expansion of new business. Synergy can be achieved because the same production equipment can be used for multiple applications, creating further upward sales potential. The outsourcing trend is expected to continue. Partly due to its infrastructure, RoodMicrotec is in an excellent position to benefit from this optimally. In several extensive audits RoodMicrotec was selected as the best qualified candidate.

## **RoodMicrotec - Services for the entire product lifecycle**





## Mission

We have set ourselves the following mission:

- to position our company as the party of choice that offers OEMs and FCs solutions to operate successfully in their market; to position our company as the party of choice to support OEMs in their outsourcing strategies with our (eXtended) SCM and/or individual service provision;
- to position ourselves as a first-class one-stop-shop supply chain service provider to OEMs and FCs;
- to offer the highest quality individual Qualification & Reliability, Failure & Technology Analysis, Test Engineering, Supply Chain Management and Test & End-of-Line services;
- to develop into a major player in the semiconductor supply chain from Asia (China) to Europe (and vice versa);
- to develop into a major player in the electronics services market from wafer to board;
- to position ourselves as a leading innovative test house in Europe.

## Strategic analysis

Characterisation of our market

The semiconductor industry can be characterised as follows:

- continuous high market growth: average annual growth of 9.1% over the past 40 year;
- rapid technological innovation;
- capital intensive, to support this growth and technological innovation.

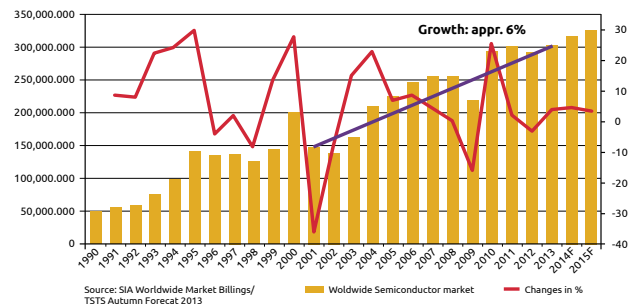
From this, we derive 7 findings for the global semiconductor market:

1. Current market conditions and outlooks are mixed for the next few years, mainly due to the fragile global economic perspective.
2. The automotive market will be driven by the increasing number of vehicles in China, India, South America and Russia, and by an increased average number of semiconductors per vehicle and enhanced functionality.
3. The industrial markets for semiconductors offer significant growth potential because of increasing energy demands, environmental trends toward renewable energies, better safety conditions and improvements and highly demanding transportation systems like aircrafts, trains and ships.
4. Accelerating of tablet and smart phones sales in a strongly growing communication market.

5. Increase of global production capacity of semiconductors, especially in Asia (China).
6. Design and development will continue in Europe and USA.
7. Operating profitability will improve after the recent financial crises. Due to the smaller feature sizes, more semiconductor features on a single chip and larger wafer diameters, the back-end processes sub sectors will face strong competition due to cycles of overcapacity.

The semiconductor market fell in 2009, then recovered in the second half of 2010 and the first half of 2011, but slumped again in 2012. The long-term trend remains very positive, with an average annual growth of approximately 6% since 2000. The market is expected to see strong growth of between 3% and 6% over the next few years. We will continue to focus on the fastest growing segments within the semiconductor market in order to grow at least at the same rate as the market as a whole.

OEMs are becoming ever leaner. To achieve their goal, they contract out non-core activities, including semiconductor manufacturing facilities. It is vital for OEMs to have a supply of reliable highly qualified chips. Production continuity is of the essence. But they also often require tailored solutions. We are uniquely qualified to provide these solutions in collaboration with our partners. Protection of specific features of these products may play an important role in this.





FCs are even more motivated than the other categories to protect their know-how. IP protection is their priority. As a service provider, we are never in competition with FCs, so their IP is maximally protected. Also, FCs have shown double digit growth over the past few years. There are between 300 and 400 of these FCs in Europe, many of which are active in the more complex mixed-signal chips.

### **Strategy**

1. expanding our sales force;
2. strengthening and expanding engineering capacity;
3. strengthening the internal organisation;
4. strengthening our position in the market by organising seminars on qualification, failure analysis and engineering and possibly on outsourcing;
5. acquisition and/or partnering.

### **Long-term strategy and M&A**

RoodMicrotec will continue to strengthen its core business Test & Related services with its competence centre in the south of Germany. The entity will expand its activities through a sales and engineering presence with primary focus on Europe to increase scale. If interesting opportunities elsewhere arise, we will look at those very seriously. In parallel to this strategy, RoodMicrotec will focus on increasing its activities in complementary businesses related to the semiconductor and the electronics/IT/telecom markets as well. We can do this through partnerships and/or mergers/acquisitions with other companies.

It is our objective to strengthen and broaden the basis of the company and create shareholders value.





HiRel/SPACE



# I. ROODMICROTEC IN PERSPECTIVE - 2013

## SALES: EUR 11.2 MILLION

Sales growth is a key aspect for RoodMicrotec since the total semiconductor market has grown by approximately 6% each year since 2003, unit costs keep falling and complexity is increasing.

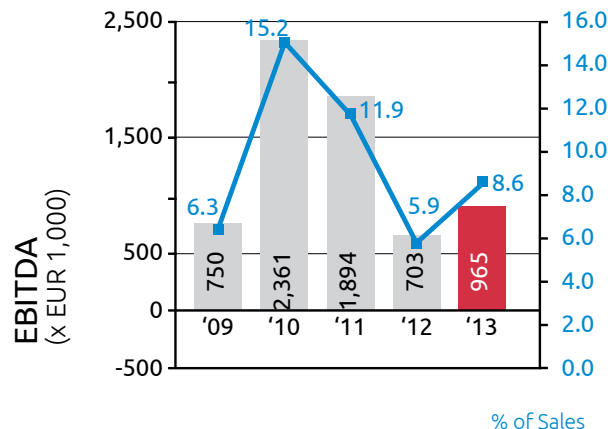
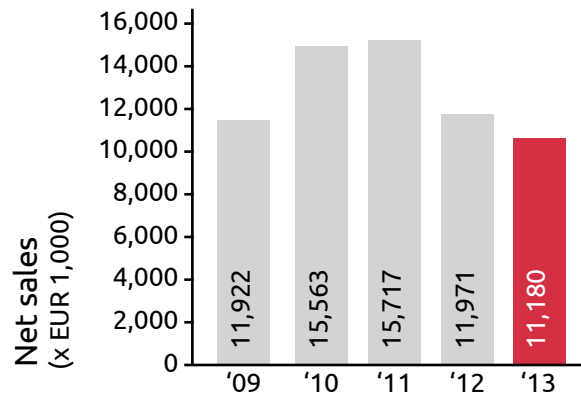
To retain our intended market position we need volume and sales growth. Sales growth allows us to invest in the expert knowledge in the company and thus bringing about essential cost reductions. The world market has been flat since 2009, which was one of the reasons why RoodMicrotec's sales slumped. In 2013, some of our customers postponed projects with a value of over EUR 2 million. The expectation is that these projects will be (re)started in 2014. The average semiconductor market growth in 2014 and 2015 is forecast at 4.1% and 3.4% respectively (WSTS, World Semiconductor Trade Statistics forecast). As of 2014, RoodMicrotec's sales will increase again in parallel with the expected market growth.

**Objective for 2014 - 2018:** Long-term (2015 and beyond) we aim to continue to grow at the same rate as in the last ten years (autonomous growth between 3% and 13%), i.e. at least at the same rate as the global market.

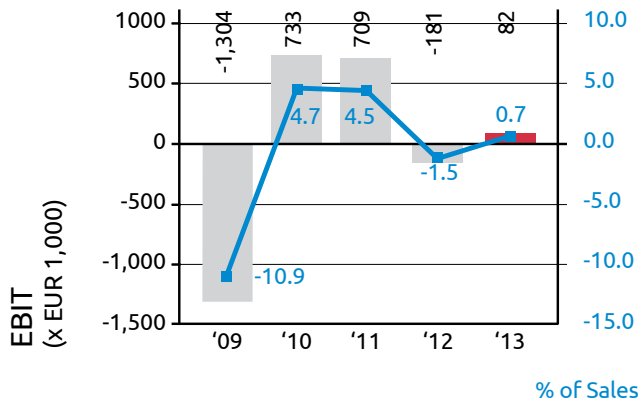
## EBITDA: EUR 1 MILLION, OR 9% OF SALES

EBITDA: EBIT before depreciation and amortisation is one of RoodMicrotec's key evaluation criteria. Working as we do in a high-tech environment, investment in production equipment and innovation is vital in order to be able to continue to provide the desired technological solutions.

**Objective for 2014-2018:** EBITDA to rise to at least 10-15% of sales.



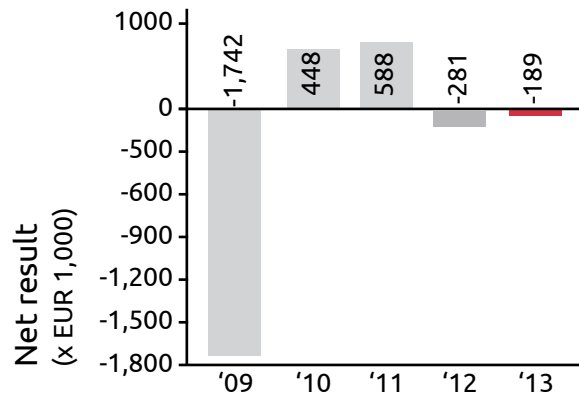




### EBIT: EUR 0.1 MILLION, OR 1% OF SALES

EBIT – the operating result or income minus operating costs – is the main benchmark for the profitability of our operations and the continuity of our company. EBIT is highly dependent on the internal efficiency of the company. RoodMicrotec has therefore committed itself to further optimise its operations.

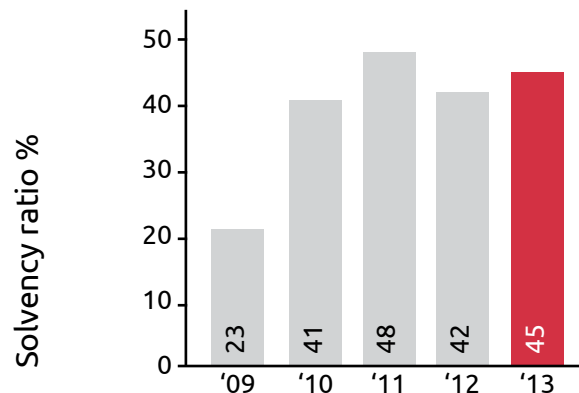
**Objective for 2014-2018:** EBIT to rise to 5-10% of sales.



### NET RESULT: EUR 0.2 MILLION NEGATIVE

The net result is the eventual reward for all our work. RoodMicrotec is aware of the need to achieve higher profitability than in the past, and also of the logic that we can only achieve higher profitability by raising production volumes, sales and efficiency. Management is proud of the contribution of further rationalised operating expenses to the net result in 2013 and expects that it will sustain in the years to come.

**Objective for the next five years:** to raise the net result step by step to a level between 4% and 10% of sales.



### SOLVENCY: 45 PERCENT

Solvency - the ratio of shareholders' equity to total assets - is a key indicator of the stability and continuity of a company, and is also a commercial tool. A strong solvency ratio of between 40% and 50% helps RoodMicrotec to obtain desired loans, to strengthen confidence among customers and to guarantee continuity and secure growth.

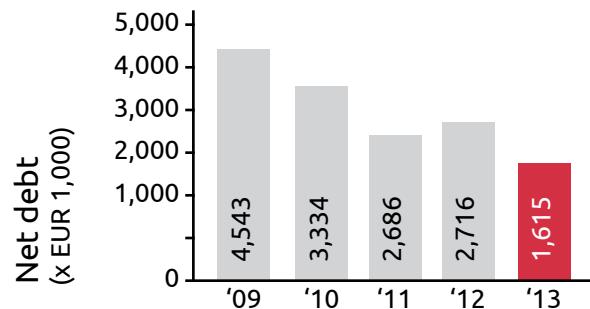
**Solvency target:** between 38% and 50%.



### NET INTEREST-BEARING DEBT: EUR 1.6 MILLION

A significant debt position can negatively impact business operations, which in turn may impede the growth of the company. Since financing is regularly required for new activities, being able to respond rapidly is imperative. A limited debt position makes operating in the market far easier.

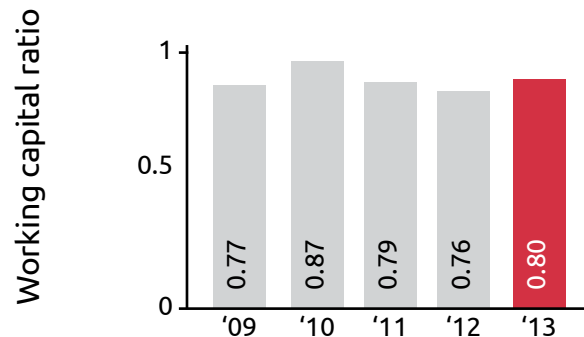
**Objective:** a moderate reduction of the debt position with banks based on the present business model.



### WORKING CAPITAL RATIO: 0.80 (CURRENT ASSETS/CURRENT LIABILITIES)

As a service provider and project organisation, the working capital is a key element of our balance sheet. We must be able to secure sufficient funding to invest promptly in our projects, and working capital is vital for our company's future growth.

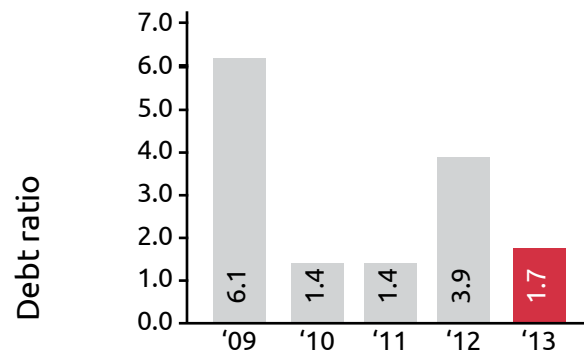
**Objective:** to keep the working capital ratio to a gross margin of between 1.0 and 1.5



### DEBT RATIO: 1.7

The debt ratio – net interest-bearing debt divided by EBITDA – is important for RoodMicrotec for growth financing and for obtaining long-term projects.

**Objective:** RoodMicrotec considers a debt ratio of between 1.0 and 4.0 as a solid position that can be defended vis-à-vis the bank syndicates. RoodMicrotec is in compliance with the banking syndicate agreements.





## II. KEY FIGURES

(x EUR 1,000)	IFRS 2013	IFRS Restated* 2012	IFRS 2011	IFRS 2010	IFRS 2009
<b>Result</b>					
Net sales	11,180	11,971	15,717	15,563	11,922
Total operating income	11,181	11,909	15,464	15,684	12,076
Gross margin	9,021	9,688	12,342	12,242	9,821
EBITDA	965	703	1,865	2,361	750
EBIT (operating result)	82	-181	709	733	-1,304
EBT	-148	-507	408	207	-1,744
Cash flow (net result + depreciation and amortisation)	694	603	1,744	2,076	312
Cash flow from operating activities	17	899	1,939	1,689	315
Net result	-189	-281	588	448	-1,742
<b>Capital, Debt &amp; Liquidity Ratios</b>					
Total assets	11,947	12,915	12,857	13,726	13,713
Group equity	5,396	5,457	6,139	5,647	3,115
Net Debt	1,613	2,716	2,686	3,334	4,543
Capital (net debt + equity)	7,009	8,173	8,824	8,981	7,658
Gearing ratio (net debt / capital)	23%	33%	30%	37%	59%
Solvency (group equity / total liabilities)	45%	42%	48%	41%	23%
Debt ratio (net debt / EBITDA)	1.7	3.9	1.4	1.4	6.1
Net working capital	-831	-922	-831	-569	-974
Working capital ratio	0.80	0.76	0.79	0.87	0.77
<b>Assets</b>					
Tangible fixed assets	5,446	6,347	5,732	5,710	6,629
Investments in tangible fixed assets	535	1,475	1,024	681	288
Depreciation of tangible fixed assets	869	860	1,156	1,600	2,026
<b>Data per share (x EUR 1.0)</b>					
Capital and reserves	0.14	0.15	0.17	0.16	0.09
Operating results	0.00	-0.01	0.02	0.02	-0.04
Cash flow	0.00	0.03	0.05	0.05	0.01
Net result	0.00	0.00	0.02	0.01	-0.05
Share price: year end	0.16	0.15	0.16	0.17	0.15
Share price: highest	0.18	0.23	0.31	0.19	0.57
Share price: lowest	0.14	0.15	0.14	0.15	0.12
<b>Issue of nominal shares</b>					
At year end (x 1,000)	38,674	35,769	35,769	35,769	35,196
<b>Number of FTEs (Permanent)</b>					
At year end	96	103	106	120	126
Average	99	103	111	124	128
Sales (total)/ Average FTEs (Permanent)	113	116	142	126	93

\* Certain amounts shown here do not correspond to the 2012 financial statements and reflect adjustments made, refer to changes in accounting policy and prior period adjustments

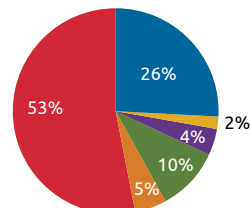


### III. KEY FIGURE CHARTS 2013

(X EUR 1,000)

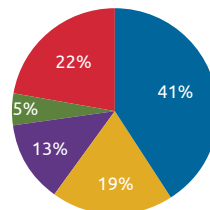
#### Revenue by Markets 2013

Automotive	2,961	26%
Telecommunication	0,257	2%
Industrial/Medical	5,883	53%
Data Processing	0,555	5%
Consumer	0,419	4%
HiRel/Space	1,104	10%



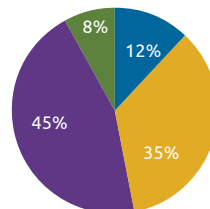
#### Revenue by Business Units 2013

Test&EOL	4,526	41%
Q&R	2,158	19%
Failure Analysis	1,447	13%
Test Engineering	0,584	5%
SCM	2464	22%



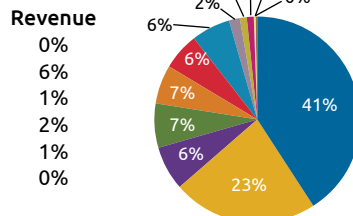
#### Revenue by Customer type 2013

IDM	1,369	12%
OEM	5,046	45%
Fabless, IP, Provider, SCM	3,935	35%
Disti, CEM, OSH	0,829	8%



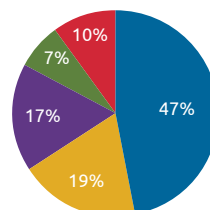
#### Revenue by Country 2013

Country	Revenue	Country	Revenue
Germany	41%	USA	0%
Switzerland	23%	France	6%
Poland	6%	Ireland	1%
Austria	7%	Eastern/Southern Europe	2%
UK	7%	Scandinavia	1%
Benelux	6%	China, India & Rest of Asia	0%



#### Costs by Category 2013

Personnel costs	47%
Cost of sales	19%
Operating costs	17%
Energy (current, gas, water)	7%
Other expenses	10%







AGRICULTURE

### Financial agenda

24 April 2014	Annual general meeting of shareholders
13 May 2014	Publication trading update
10 July 2014	Publication sales figures first half 2014
28 August 2014	Publication interim report 2014
28 August 2014	Conference call for press and analysts
13 November 2014	Publication trading update
8 January 2015	Publication annual sales figures 2014
26 February 2015	Publication annual figures 2014
26 February 2015	Conference call for press and analysts
13 March 2015	Publication annual report 2014
23 April 2015	Annual general meeting of shareholders
14 May 2015	Publication trading update
9 July 2015	Publication sales figures first half 2015
27 August 2015	Publication interim report 2015
27 August 2015	Conference call for press and analysts
12 November 2015	Publication trading update



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## IV. SHAREHOLDER INFORMATION

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### Listing

RoodMicrotec N.V. is a public limited liability company with its registered office in Zwolle, the Netherlands and publicly listed on the NYSE Euronext Amsterdam Stock Exchange since 1986

### Major Holdings in Listed Companies Disclosure Act

As at 31 December 2013, RoodMicrotec has received in the context of the Major Holdings in Listed Companies Disclosure Act the following reports:

P.M.G. Nijenhuis	3.64%
Kuikens B.V.	3.69%

### Regulations to prevent insider trading

We comply with the Regulations on Notification and Regulation of Securities Transactions of the Securities Transactions (Supervision) Act (Wte 1995). A broad circle of employees and consultants has signed a declaration binding them to abide by the Rules as referred to in Section 46d of the Wte 1995. The board of management and the supervisory board also comply with the 1996 Major Holdings in Listed Companies Disclosure Act (WMZ 1996), as amended on 1 September 2002.

The Netherlands Authority for the Financial Markets (AFM) monitors compliance with this law.

### Dividend

So far, we have not distributed any dividend since our financial position did not allow it. The management prefers to allow the company over the next few years to grow and further improve its financial health. The management prefers to use the company's own resources to finance growth, and strives to raise the market value of the share through such growth. In the next few years, we will seek a balance between the intended debt reduction, essential investment and a fair return for investors. The board of management proposes in view of the negative results not to distribute any dividend for the year 2013. Our first priority is balanced debt management without jeopardising growth.

Changes in the number of shares in 2013 (x EUR 1,000):  
Position as at 1 January 2013: 35,769. Position as at 31 December 2013: 38,674

At 31 December 2013, the company held 4,100 of its own shares.

### Investor relations

We are well aware of the importance of active and open communication with our stakeholders. For this reason, we have since 2006 pursued an active investor relations policy through meetings and conference calls with press, analysts and investors. As in 2013, we will raise our profile in 2014 by organising seminars highlighting our core activities and the corresponding services for FCs and OEMs. The objective is to communicate our specific knowledge and share it with our customers and partners. We will also give more attention to publicity.

Communication with the various target groups is provided through the company's website, [www.roodmicrotec.com](http://www.roodmicrotec.com), and our newsletter.

### Liquidity provider

In order to promote the trade in the RoodMicrotec N.V. shares and to optimise the company's relationship with its shareholders, SNS Securities N.V. in Amsterdam has been engaged as liquidity provider.

### Annual general meeting of shareholders 2013

The report of this meeting may be inspected on the website.

Irmgard Bayerle  
Management Assistant





## V. REPORT OF THE CEO

### Trends

#### Outsourcing

Medium-sized companies are increasingly working together in order to raise their joint services to a higher level so as to best combat competition from Asian countries. OEMs who still develop ASICs or other chips in-house will increasingly outsource this work to independent service providers like RoodMicrotec. This outsourcing trend is expected to continue. Partly due to its infrastructure, RoodMicrotec is in an excellent position to profit from this optimally. We are highly experienced in a wide range of services, such as test engineering, failure & technology analysis and qualification & reliability. With shock proofing, thermal load and electrostatic discharge tests, we are uniquely able to investigate whether products will function under all conditions and predict their expected life.

Another benefit is that we as an independent service provider are never in competition with the IP of other companies, in fact we can protect our customers' IP.

Major projects outsourced to RoodMicrotec are grouped in project Atlas. In the second half of 2013 we secured a first major order from an OEM, followed by outsourcing of activities to RoodMicrotec, including the takeover of a complete test cell of Siemens AG, Drive Technologies Division company in Germany.

This creates a win-win situation for both parties. By transferring ASIC development and production to us, OEMs can focus on their core activities: application and sales of mechanical and electrotechnical products. For OEMs, outsourcing also means considerable cost savings, quality improvements and shorter time-to-market. The projects outsourced to us will run several years, providing us with a solid base and predictable sales. Equipment taken over from this OEM can also be used for other customers in the RF market, which will further boost sales.

#### Co-financing

Due to the lending restraint mentioned earlier, healthy FCs with proven track records are held back in their development. In order to force a breakthrough, RoodMicrotec has set up schemes with partners to facilitate raising financing for healthy projects, in particular for FCs. With this approach, RoodMicrotec aims to boost the development of FCs and also to improve its sales and market position.

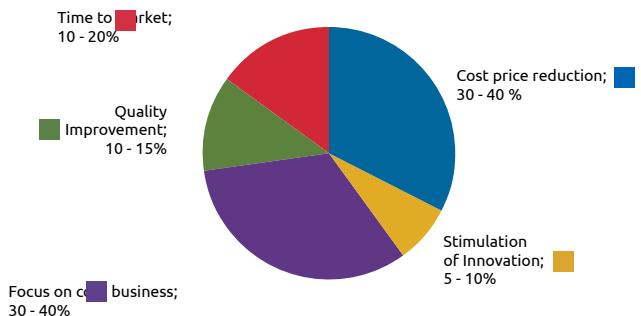
### 2013

Expectations for 2013 were high, as many forecasts had predicted strong growth. But over time sales growth proved disappointing. Forecasts were adjusted downwards in the course of the year due to uncertainty in the market, especially in the financial market. This resulted in a mixed picture. The number of applications remained high and even increased, but actual order placement was often elusive. Also, projects were frequently postponed. Normally, postponed contracts tend to be offset by new opportunities, but this was less the case in 2013. In total, projects representing over EUR 2 million in sales were postponed. We expect that these projects will be re(started) in 2014.

In January 2013, Mr Malkit Jhitta joined RoodMicrotec to improve our servicing of especially the British, but also the Israeli and Indian markets. His work has resulted in a significant increase of the number of applications both for (eXtended) Supply Chain Management and for individual services. Our presence in Britain was also strengthened by our prominent role in the NMI (National Microelectronics Institute), where we have made contact with many companies in the semiconductor industry.

In 2014 we intend to hire another sales manager to step up the development of our (potential) customer base. A major event was the closure of Unisem England, a subsidiary of a Malaysian parent company. Unisem was found to have been losing money for some time, and often undercut market prices. Its demise has eliminated a supplier in our segment, which might favour us.

### Outsourcing Reasons for our Customers





The seminars we organised were very successful: applications stretched capacity. Our sector clearly craves a platform to exchange views on cutting-edge technology. We have worked hard to improve communication with both shareholders and customers with our newsletter. Last year, six editions were published and sent to some 4,500 people, and mostly favourably received. We will continue our newsletter in the near future.



**Philip Nijenhuis (CEO)**

*'Our activities in the area of (eXtended) Supply Chain Management have clearly increased over the past year. I am pleased that we have chosen this course because these contracts are often recurring, and they provide opportunities to sell our other services.*

*Our supply chain activities perfectly match our customers' wish to outsource services. Focusing on outsourcing and/or supply chain management helps to give our market position long-term stability. The 'Atlas' project mentioned earlier aims to exploit the outsourcing trend optimally.'*

In 2013 much attention was devoted to optimising internal processes, including information technology (IT structure). We installed a new mainframe and worked hard to improve our logistics. We will continue to focus on IT to improve accessibility and transparency of customer orders. In the future, our customers will be able to follow their orders via our website. The in 2012 mentioned partially outsourcing of our finance and accounting department has yielded important improvements in our processes and reporting.

Our Test Engineering business unit works both directly for customers and for our own test division; the latter often to optimise test programs. Contracts for the division are extremely variable, which is why we have decided to recruit alongside a central core of engineers a group of engineers who we can assign to other divisions. We hope this will significantly raise RoodMicrotec's capacity through efficient use of available resources. We are also looking for a lead engineer to strengthen the Test Engineering business unit.



**Reinhard Pusch (CSO)**

*'2013 was a year of drastic changes and improvement. RoodMicrotec's sales force was strongly improved by Malkit Jhitta joining the sales team. His focus is on the UK, Israeli and Indian markets. In Israel and India RoodMicrotec opened REP offices. These improvements and further sales initiatives in Central Europe have resulted in a strong increase in the number of applications, specifically in the area of SCM. This has borne major improvements in the SCM business unit. I am convinced that our new SCM Business unit team will be able to handle the increasing market demand. I am very grateful to the entire sales team for their dedication in managing the strong increase of applications so professionally.'*

The Qualification and Reliability business unit, which focuses on mechanical qualification, has further expanded its service portfolio in the area of shock proofing tests. With our partners we are now able to perform shock testing in a humid environment, which will benefit the reliability of the end products.



**Norbert Wirth (CTO)**

*'Last year we were able to extend our know-how and engineering capabilities through some very interesting RF (radio frequency) projects, which immediately generated new revenue in our test department. On top of that, due to the outsourcing of a Siemens AG, Drive Technologies Division company in Germany we were able to extend our knowledge of the Advantest/Verigy 93000. In 2014 we will continue with such projects. All this strengthens both our test engineering department and our company.'*



The Failure & Technology Analysis business unit was impacted by major reorganisations by some key customers. Orders, which are usually stable, were suddenly reduced due to factors including cost-cutting schemes. RoodMicrotec responded to this inter alia with a service programme at attractive conditions. We also made our customers rationalisation proposals for analyses. The business unit is pulling out all the stops to turn its sales around as soon as possible.

#### **Outlook for 2014**

After disappointing market developments in the first half of 2013, but a recovery later in the second half of the year, especially in the USA, the global market is expected to grow by 4.1% in 2014 and 3.4% in 2015, according to forecasts from the World Semiconductor Trade Statistics (WSTS). However, these figures are still below the multi-year average since 2000 of 6%. Analogous to the forecasts of the WSTS for 2014 and beyond, RoodMicrotec anticipates a recovery of its business and the realisation of its growth objectives. We aim, as we did before the crisis started, to grow at least at a faster rate than the global market.

The record number of applications confirms our confidence that in 2014 RoodMicrotec's growth can exceed the total market growth in 2014. However, in view of the delicate macro-economic recovery, we remain cautious and refrain from making concrete predictions for 2014.

RoodMicrotec will continue to strengthen its product portfolio, inter alia by focusing on FCs and OEMs (particularly outsourcing: project Atlas).

#### **Remy Cuny (CFO)**



*'RoodMicrotec's sales declined sharply in 2013, putting pressure on profitability and liquidity. As banks are unwilling to provide additional financing in the current economic climate, this presented us with a real challenge.*

*Over the past year, we looked at our day-to-day costs and expenditure, and tried to make any further savings that we could. We believe our financial results show that we have been successful. All our colleagues have made fantastic efforts to achieve this, often putting in long days under pressure, and occasionally having to overcome internal resistance. Eventually, we found the unity necessary to make the necessary changes.*

*It was very helpful to us that there is good legislation in Germany for temporary reduction of working hours, which we have used to get through difficult times.*

*Our customers and suppliers were faced with similar challenges. We have found that by working together closely and proactively with our customers and suppliers, we can help each other surmount the challenges.*

*And despite the difficulties, we succeeded in finding new capital by issuing shares to ensure we can make investments to secure our future. We are very grateful to our colleagues and business partners for their wonderful dedication and loyalty, and we are looking forward to the current year.'*





AUTOMOTIVE



## VI. REPORT OF THE SUPERVISORY BOARD

We hereby present the 2013 business report as prepared by the board of management in accordance with Article 26 of the articles of association of the company.

The financial statements were audited and issued with an unqualified opinion by Mazars Paardekooper Hoffman Accountants N.V. and discussed by us with the board of management in the presence of Mazars. We propose to our shareholders to adopt these financial statements in the general meeting of shareholders on 24 April 2014 and to discharge the board of management of liability for its conduct of business in 2013 and the supervisory board for its supervision of the management.

In consultation with the management we propose that no dividend be distributed.

### **RoodMicrotec in 2013**

2013 was a soft year for the industry, mainly the first half, and consequently also for RoodMicrotec. There was no specific reason just a general sluggish recovery of demand across the semiconductor industry segments we serve. However, the long-term growth prospects remain positive as is supported by the leading indicators of our industry.

Focus for the year 2013 was on the implementation of a new growth strategy and the development of new markets while at the same time managing the immediate consequences of the soft market through the implementation of frugal cost controls.

The board of management has put major efforts in its continued path towards more integrated services for its clients and prepared for a stronger marketing organisation in Europe. Proposals were presented by the board of management and discussed with the supervisory board. In particular, during a review of some of the strategic initiatives it was concluded to seek specific alliances to reinforce and speed up their development.

RoodMicrotec remains a small player and the costs of being a listed company outweigh the benefits. It is therefore the shared opinion of the board of management and the supervisory board

that cooperation with financially strong partners is a desirable option for the company and its stakeholders. In consultation with the supervisory board, the company has shown openness to orientation discussions with potentially interested parties. As a consequence there are several discussions in process and a continuous review held jointly by the board of management and supervisory board.

### **Supervisory board meeting schedule**

The supervisory board gives the highest priority to good corporate governance practice.

The supervisory board met with the board of management six times during 2013. Meetings with the CEO were held on average each second week. In addition, meetings were held between individual members of the board of management and the supervisory board. These meetings were held both in Zwolle at the corporate head office and at the production sites in Stuttgart and Nördlingen. Given the location of the supervisory board members, some meetings were held using teleconferencing.

In the supervisory board meetings, the following topics were reviewed and discussed extensively:

- the business update, operational and financial targets;
- development and changes in the management team and appointments;
- the financial position, liquidity & banking relations;
- relevant capital expenditures;
- strategic M&A options;
- the scope and strategy of the company and the related risk profile;
- composition of the supervisory board, CEO's position in perspective of the M&A strategy;
- corporate governance issues;
- succession planning;
- risk management;
- remuneration;
- financial audit and the outsourcing of parts of the financial administration;
- publication of press releases.

The supervisory board met with representatives of the Works Councils in both Stuttgart and Nördlingen in the absence of the board of management to discuss the position of the company. The meetings were constructive with the teams on both sites expressing their thoughts on areas for improvement. In view of the underlying economic and market situations this was welcome.



The supervisory board was able to provide personal support on several occasions throughout the year for strategic business discussions both internally and externally with potential alliance partners.

### **Supervisory board composition and evaluation**

There is currently no separate remuneration and audit committee; all topics are discussed in the joint meetings with the board of management following an independent review by the supervisory board.

The long-term strategy issues and the adequate meetings with the board of management resulted in a restraint in calling for a second supervisory board member up to now. Nevertheless it will have our attention for the immediate future.

The supervisory board evaluated its own performance over the year 2013 by consulting and in conversation with some stakeholders of the company. It was concluded that competences in the areas of microprocessor technology, operations, commercial management, strategic management, finance and risk management as well as international experience remain sufficiently represented on the supervisory board. Procedures of the board are considered adequate for a company of this size.

Finally, the supervisory board wishes to thank all of RoodMicrotec's staff for their great efforts, loyalty and continued dedication during 2013.

The supervisory board  
V.G. Tee, chairman

Zwolle, 13 March 2014

V.G. Tee







CONSUMERS



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## VII. REPORT OF THE BOARD OF MANAGEMENT

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### A. General and key developments 2013

At the end of 2012, the outlook for 2013 was positive. World Semiconductor Trade Statistics (WSTS) forecast approx. 4.6% growth in 2013. In contrast to 2012 when the market contracted, it grew in 2013, mainly in the second half of the year. Also, several customers carried out reorganisations, which in many cases significantly reduced outsourcing volume.

RoodMicrotec has responded to this situation by:

1. expanding its supply chain management activities with eXtended supply chain, to support FCs that develop ASICs and other chips;
2. supporting design companies better by starting collaboration in the design stage (design for testability);
3. strengthening our position in the British market by appointing a new sales manager;
4. developing a Failure Analysis pool;
5. focusing more on outsourcing opportunities with OEMs, as illustrated by Siemens AG Drive Division;
6. expanding our ESD activities by integrating equipment from EIB (Elektrostatik Institut Berlin) in Failure & Technology Analysis;
7. reinforcing the internal organisation by improving both our IT systems and our logistics organisation;
8. organising seminars;
9. creating opportunities to finance projects by FCs in collaboration with partners.

**Erika Nagel**  
Management Assistant



### SWOT analysis, critical success factors and financial objectives

#### Internal assessment of the company

##### SWOT analysis:

As of 2007, we have reported on our internal assessment of the company. An update of those reports is set out below.

##### Strengths:

- Gained a strong position and perfect partner in the OEM and FC market.
- Our company's location in southern Germany, which has reached the necessary critical mass per service.
- The staff's know-how and quality awareness are very high.
- Positive cash flow and balance sheet ratios.
- One of the few recognisable independent Supply Chain providers in Europe.
- Know-how of our customers is very well protected.

##### Weaknesses:

- Limited size of the company.
- The financial net result is poor.
- No presence outside Europe.
- Our market is and will remain cyclical.

##### Opportunities:

- A key opportunity is to become a first-class European one-stop-shop supply chain provider and a partner for leading high-tech FCs.
- To become the best outsourcing partner for OEMs.
- There are currently exciting opportunities in the services market to FCs and OEMs: many companies are introducing new products with great potential, which RoodMicrotec can support.
- Opportunities to strengthen our market position by means of partnerships in engineering and in-house test engineering.
- Increased scale and scope through M&A and partnerships.

##### Threats:

- The developments in the dollar, even though we currently have only limited exposure.
- The risk that the development of new products also moves to Asia, partly due to the cheap dollar.
- Semiconductor production in Europe will continue to decline.
- The cyclical nature of the semiconductor business.
- The tight labour market for highly qualified specialised personnel.



### Critical success factors

Several critical success factors have been identified within the company, which are measured periodically. These include: sales, sales per business unit, engineers, order intake, order hit rate, staff motivation, customer assessment, cash position and our relationship with banks. Some of those measurements are quantitative, others are qualitative; the indicators are periodically adjusted to changing circumstances. The management draws conclusions based on this information.

### Financial objectives realised in 2013

The objectives for 2013 were based on worldwide semiconductor market forecasts of 4.6% growth. This increase was realised (actually 4.8%), but mainly due to the growth of the USA market of approx. 13.1%. Also, the growth only occurred in the second half of the year, so that RoodMicrotec had less time to profit from it. The total market grew to a level of USD 305.6 billion.

The fact that market growth was restricted mainly to the USA and to the second half of 2013 significantly impaired the realisation of our objectives. Nevertheless we were able to improve several financial objectives:

- reduction of inventories by EUR 23,000, or approx. 8%;
- strong improvement of the net-debt position and stabilisation of cash and cash equivalents position;
- significant reduction of non-current liabilities;
- improvement of EBITDA and EBIT.

### Long-term financial objectives

- sales growth of between 0% and 7% over the annual market growth, at an average semiconductor world market growth of 6% per year;
- annual improvement of the operating result;
- optimising the debt position in terms of long-term and short-term loans.

## B. Operational and commercial objectives for 2014

We will expand our activities in the area of eXtended SCM further through partnerships with other companies. In particular, our strengthened sales organisation will allow us to focus more on recruiting new customers in the OEM segment. We will also continue to work on improving customer satisfaction.

In 2014 we will try to raise sales and strengthen our market position by:

1. expanding our sales capacity in Europe;

2. maximum focus on and growth in outsourcing contracts in our 'Atlas' project;
3. further strengthening of our Supply Chain Management business unit;
4. strengthening our Engineering business unit;
5. further optimisation of our operations, including logistics;
6. giving and organising seminars, on topics including qualification, failure analysis and engineering, and possibly on outsourcing;
7. developing more lasting partnerships.

## C. Sustainability

As we are faced with a world faced by far-reaching changes for the environment and the people living in it, such as poverty in developing countries, globalisation, climate change and natural resource exploitation issues, 'people, planet and profit' are ever more fixed components in RoodMicrotec's strategy.

RoodMicrotec understands sustainability as responsible corporate conduct that leads to long-term business success and is in harmony with the environment and society.

That's why we integrate long-term economic, environmental and social aspects in our business strategies while maintaining global competitiveness and brand reputation.

**Jerôme Sabot**  
Manager Internal Sales,  
Communications, Logistics





We manage our human resources to maintain workforce capabilities and employee satisfaction. RoodMicrotec therefore strives to offer employees best-in-class organisational learning and knowledge management practices. In order to create a performance-oriented environment for our employees we also strive to make use of remuneration and benefit programs depending on company's objectives and individual objectives.

The aim of RoodMicrotec's environmental policy is to safeguard the environment and human health. The practical aims are to monitor and prevent environmental risks so as to avoid ruining the environment for future generations.

### Sales by employee and head count

The average number of full-time employees (FTE) decreased by approx. 4% from 103 FTE in 2012 to 99 FTE in 2013. Sales per full-time employee decreased by approx. 3% from EUR 116,000 in 2012 to EUR 113,000 in 2013. Our personnel costs decreased significantly over the years see our Annual Accounts note 3.

## D. Quality management

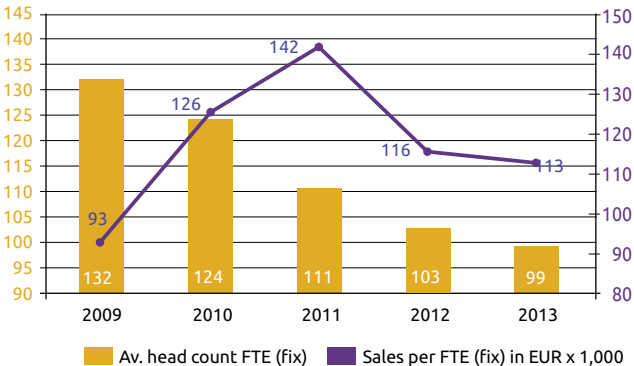
The success of our company is dependent on the success of our customers, employees and investors. But we believe it is also conditional on ensuring the quality and management of our processes and operations. Our core business is to pursue continuous improvement of the reliability and reproducibility of our services and products and the efficiency of our processes. RoodMicrotec's integrated management system is based on international standards.

Our location in Nördlingen is certified in according to the international standard for quality management systems ISO 9001.

The Qualification & Reliability (electronic, mechanical and optical qualification) and Failure & Technology Analysis and labs in Stuttgart and Nördlingen are certified by the DAkkS Deutsche Akkreditierungsstelle GmbH (German Accreditation Body) based on ISO/IEC 17025 'general requirements for the competence of testing and calibration laboratories'.

This enables us to perform verifications for public reference. With our products and services we aim to exceed customers' expectations in terms of quality and price.

**"Certified by RoodMicrotec"**



**Hans-Joachim Mertens**  
Quality Manager



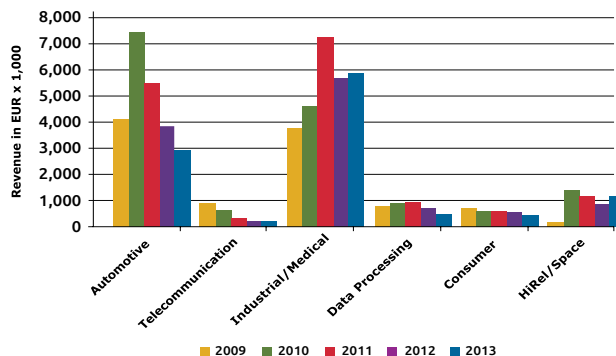


## E. Sales and result

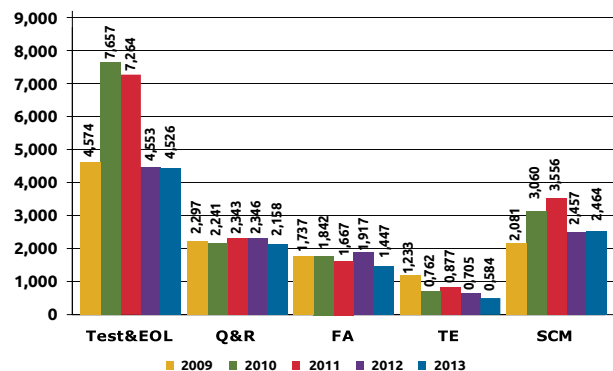
In 2013, RoodMicrotec's sales decreased compared to 2012. Net sales are presented below, broken down by customer category/sector (market segment).

(x Eur 1,000)	2011	2012	2013
Automotive	5,491	3,870	2,961
Telecoms	385	277	257
Industrial/Medical	7,222	5,658	5,883
Electra Data Proc.	904	765	556
Consumer	610	563	419
Hi-rel/Space	1,105	838	1,104
<b>Total</b>	<b>15,717</b>	<b>11,971</b>	<b>11,180</b>

## Revenue by Markets



## Revenue by Business Units



The sales results of the business units were as follows:

(x Eur 1,000)	2012	2013	Approx. change
Test	4,546	4,526	-0.6%
Supply Chain Management	2,457	2,465	+0.3%
Failure & Technology Analysis	1,917	1,447	+24.5%
Test Engineering	705	584	-17.2%
Qualification & Reliability	2,346	2,158	-8.0%
<b>Total</b>	<b>11,971</b>	<b>11,180</b>	<b>-6.7%</b>



## F. Investments and financing

In 2013, investments in tangible fixed assets totalled EUR 0.535 million (2012: EUR 1.475 million). Depreciation was EUR 0.9 million (2012: EUR 0.9 million). The investments were partly financed from operational cash flow. For the next few years, we anticipate that investments will remain limited due to various synergy benefits. At year-end equity was EUR 5.4 million (2012: EUR 5.5 million).

Solvency remained stable at 45% (year-end 2012: 42%).

## G. Market developments

### **RoodMicrotec Supply Chain Management - far more than the sum of its parts!**

SCM stretches far beyond organising, planning and logistics: RoodMicrotec is fortunate to have employees who are highly experienced in the electronics and semiconductor markets with its diverse application environments.

Based on a thorough understanding of the customer's project objectives, RoodMicrotec can smoothen the entire flow all the way down from the design phase, via 'industrialisation' and qualification to quality volume production and worldwide shipment.

Knowing the end customer's application and the environment, the product is key to offering the best service in terms of schedule, quality and costs. Examples of this application expertise are automotive areas like dashboard, powertrain or engine compartment. There is a wide variety of sensor electronics applications in the industrial and medical sectors, with

end products like smart meters, automation and hearing aids. In telecommunications, we serve fast transmission systems and base stations, and satellite components in aerospace and airplane electronics.

This intimate market and application knowledge is indispensable for optimum end solutions – an ideal area for RoodMicrotec, with its 'powerful solutions'!

### **Optical and Mechanical Qualification development**

A focus on Optical and Mechanical Qualification, in 2014, will be to extend qualification and characterisation of VCSELs (Vertical Cavity Surface Emitting Laser).

A VCSEL consists of a light emitting semiconductor layer placed between two reflecting mirrors. In contrast to conventional edge emitting semiconductor lasers, which emit from a narrow edge of the chip, VCSELs emit the light perpendicular to the semiconductor chip top surface. Owing to its construction, a VCSEL already functions while still on the wafer and can be tested and selected at wafer level. Another benefit is higher packaging yield. Due to their perpendicular emission, groups of VCSELs can be arranged in any matrix form. In contrary to conventional semiconductor lasers, a VCSEL has circular far field, which eases coupling the laser output to optical fibre. VCSELs also have a low threshold current, requiring less complex control electronics.

Due to these advantages VCSELs are now entering consumer markets, e.g. in sensors, PC mice and other applications. Single mode VCSELs with wavelengths of 760nm and 948nm are used in absorption spectroscopy and in traditional data transmission applications.

**Alexander Fritsch**  
Supply Chain Management



**Wilhelm Wagner**  
Engineering/Consultancy/  
Key Account Project  
Management





The VCSEL life test rack of RoodMicrotec can be used to qualify more than 300 VCSELs in parallel in Burn-In or life tests with currents up to 50mA and temperatures up to 150°C. Our range of test equipment further comprises setups to characterise the electro-optical parameters from -40°C to 100°C as well as mechanical tests (shock and vibration under temperature), bond pull, etc.

Another objective of optical and mechanical qualification is the expansion of qualification and characterisation of photo diodes for aerospace applications and medical technology. This will be possible at wafer level as well as for packaged versions, for discrete photo diodes, photo diodes with integrated electronics and image sensors. Where assembly is required, we cooperate with various assembly houses.

Our plans for the future are to continue to align our resources (know-how, equipment) with the technical demands of the market for qualification and life tests, in various LED applications for the consumer market and automotive markets, street lighting, public displays and shop applications.

### Services and devices for aeronautical and space applications

Applications in aeronautical and space applications place the highest demands on the total value creation chain in terms of quality and reliability. The lives of the crew and passengers or the success of the mission depend very much on the correct operation of all parts in the most demanding environmental conditions. Repairs are largely impossible during flight, reducing the safety of typically multi-secured systems.

Aeronautical and space parts are typically used in low production numbers and meeting the highest reliability requirements is challenging. The physical investigations and tests carried out by RoodMicrotec are adequate to meet the high demands of aeronautical and space applications: in particular Qualification, Lot Acceptance Test (LAT) and Destructive Physical Analysis (DPA) of new developments, production parts as well old and obsolete parts.

Selection tests, upsampling procedures and counterfeit analyses for obsolete parts that are no longer in production complete our portfolio. They extend to the entire range of electronic components, from passive components (i.e. resistors, capacitors) and semiconductors (diodes, integrated circuits) up to complex optical sensors with detection logic.

Test and measurement activities and analyses are performed on hermetic and non-hermetic parts according to the ESCC

9000 and 9100 standards. Our labs have been accredited to ISO/IEC 17025 for many years.

RoodMicrotec serves a wide range of customers in the aeronautical and space industries, mainly in Europe. RoodMicrotec is also a direct supplier of ESA (European Space Agency) in conjunction with various long-term and professional partners. Our customers in the HI-REL areas aeronautical, space and satellites is steadily increasing in number.

A customer in the telecommunication infrastructure industry has awarded RoodMicrotec with a Certificate of Qualification that honours the good work we provide to our customer.

**Dieter Schreiber**  
Sales & Marketing Manager



*'As a value-added service provider, RoodMicrotec is alert to the demands of the market. Hiring an additional sales manager has helped to improve market penetration. In this context, a few years ago we introduced our Supply Chain Management (SCM) service, in which we take care of production, assembly and logistics of the devices, in addition to our standard services. This service has been a growth segment for RoodMicrotec. Starting a few years ago, it rose to over 20% of revenue in 2012, and was also a success story in 2013 with an additional 22% contribution to revenue.'*

*At the end of 2013, RoodMicrotec introduced a new program called **eXtended** Supply Chain Management. In collaboration with well-known design companies, the company offers ASIC design, in addition to the already offered services, and herewith we can deliver apart from services products to the market as well. Products for an automotive volume application and an optical ASIC have been discussed and will be realised during the coming year. This service makes RoodMicrotec more attractive and such long-term projects help to secure the future.*

*In 2014 we expect to grow further in this segment by focusing our sales efforts on this programme. In addition we have taken over a full test cell from a customer to perform the upcoming inspection test of more than 10 ASICs on a three-year contract. We are convinced that this service will appeal also to other customers who*



are prepared to outsource their test activities, allowing them to concentrate on their core business.

*In the area of programming service we acquired a customer who relocated its programming activities to RoodMicrotec in full. This customer operated in the growing lighting market with very innovative products with promising growth rates. In the business unit Qualification & Reliability we extended cooperation with a customer in the space business. By using RoodMicrotec it succeeded in listing several products to the QPL (Qualified Products List) for space applications. In the Failure & Technology Analysis business unit, RoodMicrotec was able to convince critical IDMs of its services, resulting in substantial cooperation contracts for various services.'*

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**Malkit Jhitta,**  
**Sales & Marketing Manager**



*'The semiconductor industry is a continuously and often rapidly changing environment. Customers are requiring higher performance, greater integration, faster time to market and all at lower cost! Giving adequate thought and commitment to design for manufacture and the associated features such as ease of test and reliability is extremely important. RoodMicrotec as a supplier of a range of world-class specialist skills and services in qualification, reliability, test and quality engineering is well positioned to assist customers with new designs. By engaging early with our customers in the design process, our engineers can call on their many years' experience to meet the ever increasing demands our customers are up against. 2014 should see a significant increase in new designs as the semiconductor industry takes advantage of improving global conditions and new demand.'*

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**Mike Jarvis,**  
**Sales Representative UK**



*'In 2013 several opportunities arose. The start of 2014 saw continuing work on the major SCM project with a new UK start-up. Engineering starting in the fourth quarter of last year, the first silicon is due for delivery for qualification during the beginning of 2014 and will mark the start of a strong working relationship with what should be a major player in its field.'*

*2013 also saw the beginning of a relationship with a global US customer, who is looking for a partner in Europe to process and test its products. The first quote was met very favourably and an early meeting prior to orders is expected during the beginning of 2014.*

*Since Malkit Jhitta joined as UK sales & marketing manager, RoodMicrotec's exposure to the ASIC design market has improved dramatically with good expectations.'*

*Due to the demise of Unisem's UK facility, RoodMicrotec is in a good position to pick up some of these test, qualification and failure analyses opportunities, and although the UK market remains challenging, I feel confident that 2014 will be a very good year.'*

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R

MEDICAL





## H. Research and Development projects

### SMARTRANGE Project

RoodMicrotec and a UK partner have received in quarter 4/2012 a grant from Eurostars for their project named SMART Radio Networks for Greater Energy Management (SMART-RANGE). The aim of the project is to develop a prototype for a radio device for use in smart meters and other energy management systems, designed specifically to overcome the power consumption vs. area coverage problems of low-power wireless protocols, thus allowing whole-house coverage.

The partner as project leader is responsible for chip development and prototype evaluation. As a participant in the project, RoodMicrotec is responsible for an innovative test concept development and a reliability assessment.

After some delays in early 2013 during the evaluation period, the technical work on RoodMicrotec side has started mid-2013 and will be completed in 2014.

### Manos Project

The first step in the project in 2012 was to lay down the specifications and requirements for two planned sensor systems. These specifications include basic properties, range of functions and lifespan requirements.

In 2013 the optimisation of the various adhesives and construction of the first prototype was carried out with appropriate initial qualification.

Under RoodMicrotec's direction a test adapter for electrical functional tests of the modules (Stuck) was implemented and verified, which allows the project partners to carry out functional tests of the test samples.

RoodMicrotec evaluated various cover materials, adhesive and conductive materials.

The objective for 2014 is to realise fully functional prototypes with subsequent qualification.

**Holger Pross**  
Sales & Marketing Manager



*'Our employees are known as professional partners for industry, for universities and research institutes. With our capabilities and experience we are able to contribute to the economy and industry in Europe. RoodMicrotec is participating in a number of research and development projects. This also contributes to brand awareness of our company and helps to forge ties with other companies participating in these projects. In earlier projects our practical experience in Failure & Technology Analysis combined with our capabilities in performing measurement and reliability tests on electronic components was highly appreciated. The technical project work on the innovative research fields of embedding and corresponding testing has been successfully finalised. In the context of the project RoodMicrotec developed and verified new test concepts for the different project demonstrators. In another project, RoodMicrotec together with its project partners designed a concept for testing modular components at different stages of completion. The purpose of this test concept is to reduce the reliability investigation of individual modules after completion by means of acceleration investigations. Furthermore, reliability investigations were performed. We look forward to bringing in our knowledge and experience of LEDs and LED lamps in a new research and development project soon. Around 50% of our customers come to RoodMicrotec on other customers' recommendation, which directly reflects customer satisfaction. My personal feeling is that 2014 will prove to be a good year for us and that we will be able to deal with the increasing number of requests for quotes and be competitive in the market place.'*



## I. Report per business unit and division

### Supply Chain Management (SCM) / eXtended Supply Chain Management (XSCM)

#### Profile

In this business model RoodMicrotec supports customers who wish to put high-quality semiconductors, in particular ASICs and ASSPs, on the worldwide market. RoodMicrotec provides all services from the beginning of the development process (together with design partners), up to delivery to its customers, including engineering support, test engineering, wafer test, assembly (through partners), final test, qualification & reliability, failure & technology analysis and logistics. RoodMicrotec achieves this by qualifying and testing suppliers as well as products and, if requested, executing the entire project management for such processes. RoodMicrotec is capable of managing the entire 'end-to-end' process, but can also provide each individual step separately. On request RoodMicrotec can also provide the complete package ASIC with devices on a board (through a partner).

#### Key developments in 2013

In 2013 we strengthened our SCM team with two highly experienced engineers to meet the increasing demand and to meet the high-level standards of new packages in the market. We now offer the whole range of packages from sophisticated optical packages to plastic packages for mass production. During the year we extended our portfolio by offering the complete package of ASICs and other devices on printed circuit boards.

In 2013, RoodMicrotec intensified its relationship with its existing partner to increase its customer services in terms of turnaround time and delivery conditions. Further we found additional assembly partners in Europe, the US and the Far East to meet the demand from our customers for a wider range of packages. RoodMicrotec is now in a position to serve the market starting with a few samples up to millions of units a year.

#### Objectives realised in 2013

In the second half of 2013 we managed to improve the sales result by 6% compared to the first half of 2013. Furthermore, the extension of a long-term partnership with one of our main customers was a great success in 2013, which reflects its confidence in RoodMicrotec. Compared to 2012, we increased the number of new customers by 25%. The roots of these customers are in different market segments, which brought us a wider range of applications.

This also includes new market segments in Europe, giving us an opportunity to further expand our market penetration as a first-class one-stop-shop supply chain provider in Europe. In 2013 the numbers of applications for new projects in SCM increased enormously, specifically in the second half of the year. RoodMicrotec also presented its supply chain capabilities during different events, in particular the GSA European Executive Forum in Geneva, the Embedded World and SENSOR and TEST in Nuremberg.

#### Objectives for 2014

In 2014 we will keep focusing on the branding of our eXtended SCM business model, in which we expect increasing business. For this we will strongly work together with design houses, to offer our customers the best service possible and also to provide a wide range of products. We aim for long-time partnerships, as well as one-off customers.

As a result of the increasing number of customers and also new projects we will also put a lot of effort into the optimisation of our already established SCM services (from full SCM to assembly-only). The goal here is mainly, to reduce the lead time of our quotation process, to provide our customers a better and faster service.

Also we are aiming to provide a better visibility and wider range of our offered products (e.g. assembly packages). To achieve this, we will increase the number of assembly fab partners. To ensure a constant high quality level, continuous audits are planned for the year 2014.

In terms of our overall SCM business we are aiming for a further increase in the number of customers and projects.

**Arno Rudolph**  
Sales & Marketing Manager



*'The establishment of our supply chain services (SCM) some years ago has gradually changed RoodMicrotec's role in terms of responsibility for the end product. Presently, our SCM customers subcontract the entire process of qualification, production, planning, logistics and – in the case of "eXtended SCM" – also the ASIC/ASSP design. Hence a solid understanding of our customers' business simply became mandatory. This is true not only for the sake of*



*optimum technical implementation, but also of course for understanding and meeting specific commercial and quality conditions. In other words: in order to fully appreciate all the requirements of the environment the device is targeting, our engineers' application know-how must not end at the pins of the chip. Many of our employees have a vast background and experience in the electronics and semiconductor markets with its various application environments, so RoodMicrotec is well placed to meet our customers' expectations and trust. Obviously the market recognises these abilities: an increasing number of enquiries for overall supply chain services ensure long-term business and growth for the next few years.'*

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## Development Engineering / Project Management

### Introduction

RoodMicrotec's solution packages include Supply Chain Management for the semiconductor industry and significantly contribute to reliable complete solutions, supplying services like test engineering, qualification and reliability testing as well as failure and technology analysis. Many of our customers own IP for which we can guarantee best protection. We are proud to meet the requirements of our customers in the aerospace, automotive, telecommunications, medical technology, IT and electronics industries.

The new development engineering group bridges the gap between (external) design houses on the one hand and operations like wafer production, backend assembly, test engineering and test on the other.

The new engineering group supports our customers in the field of assembly and interconnection technology by providing solutions for new devices and products and failure analysis and corrective actions on existing boards and devices, also known as eExtended SCM. The group has currently been reduced, but will be reinforced again in the future.

### Business unit Test Engineering

#### Profile

The business unit Test Engineering develops test solutions for mixed-signal and digital ICs. The test cells utilise state-of-the-art Automated Test Equipment (ATE) and PC-based hardware. In order to overcome test system limitations, external equipment such as network analysers or RF signal sources are integrated into the test cells. This approach increases the flexibility while limiting the costs of the test.

The test cells are used in production testing and qualification to the highest standards such as required by automotive, high-reliability or telecom (AEC-Q, ESCC, MIL-STD, JEDEC, TELCOR-DIA, IEC, DIN).

Services include design for test, test time reduction, yield improvement, electrical characterisation and data analysis. Additional services are migration of complete test cells, production ramp-up and product validation. All these services are also available as on-site engineering support for the customer. Extensive know-how on several test platforms is available, e.g. for Teradyne Flex, LTXCredence D10/DUO, Advantest/SZ, Advantest/Verigy 93000 as well as Lab View. Application know-how has been developed for mixed-signal, digital, analog, memory, RF applications, image sensors, MEMS and PC applications.

The business unit Test Engineering has a broad range of customers, mainly in the area of mixed-signal applications in the automotive, aeronautical and space, radio frequency, medical and industrial sectors. Customers include OEMs, IDMs and FCS worldwide.

### Objectives realised and key developments in 2013

RoodMicrotec is participating in the Eurostars Research Programme, the SMARTrange project described earlier. In the second part of 2013 Siemens AG, Drive Technologies AG, decided to outsource its complete test activities to RoodMicrotec, which was an important step of our so called 'Atlas'-project. Our engineering department supported the transfer of hard- and software of the required Advantest/Verigy 93000 tester. In the context of a test and qualification project for a space application RF ASIC we established a method for semi-automated device characterisation over both temperature and electrical parameters which allows us to fulfil customers' expectations with a high degree of efficiency.

Another major project successfully completed was the migration of a family of RF Programmable Dividers with integrated Pre-scaler and Phase Detector to RoodMicrotec's tester platforms. Used in high-end measurement equipment up to 17GHz with demanding specifications, these devices required highly skilled and experienced engineers.



## Objectives for 2014

Prospects for 2014 are quite promising. Over the past few months, many new requests for quotes (RFQs) were received, also for big projects, and we made substantial quotes. Most of the projects have demanding requirements ranging from supply chain services over test package development to characterisation and qualification to the highest automotive or space standards.

Our target is to increase revenue strongly compared to 2013, and we aim to broaden our engineering business by engaging external consultants.

## Business unit Test & End-of-line Services (Test & EOL)

### Profile

The business unit Test & EOL Services focuses on testing of wafer and packaged devices such as semiconductors (analog, digital and mixed-signal RF applications), electronic devices and sensors.

The customer base of this business unit comprises IDMs, OEMs, FCs, distributors and others engaged in the automotive, industrial, medical, telecommunication and Hi-Rel markets. We intensified our positive long-term business relationships, resulting in many projects.

## Objectives realised and key developments in 2013

### Test

We streamlined the test operation by deinstalling obsolete and inefficient test equipment (testers, handlers, wafer probers, programming and EOL equipment) so as to further optimise the operation towards a process flow oriented structure. In the space freed up we installed a new machine (Advantest/Verigy 93000) to enhance our flexibility.

The organisational measures taken in 2012/2013 have produced the desired results: smooth process cycles and shorter lead times, resulting in visible cost savings. New technicians and engineers (approx. + 25%) were assigned

**Alexander Scheitza**  
Test Operations Manager



to production in order to handle the growing demands of customers. With product and process oriented measures we achieved higher efficiency and shorter lead times.

### Programming

Over the past year, another engineering programming system was introduced in order to be able to respond more quickly to new products and orders.

### EOL

Due to the increase of complex devices with higher requirements we increased the technical level in the department by recruiting new employees.

## Objectives for 2014

We aim to replace obsolete equipment by new equipment and optimise the test department by increasing the know-how and intensifying the maintenance.

Purchase and installation of a new fully automated programming system for new and existing customers, in order to handle future projects successfully.

There is a continuous increasing of technical know-how in the test as well as in the programming department which results in hiring additional engineers.

## Business unit Failure & Technology Analysis

### Profile

RoodMicrotec's extensively equipped failure & technology analysis laboratory can provide failure, construction and qualification-related analysis of all kinds of electronic parts like wafers, integrated circuits, discrete components, electro-mechanical components, printed circuit boards and complete printed board assemblies. These various types of analytical investigations can be performed as part of a reliability assessment, including focused ion beam (FIB) services and consulting/line surveys concerning electrostatic discharge (ESD). In addition, the lab is now able to issue certificates for ESD packing materials.

**Jürgen Gruber**  
Failure & Technology  
Analysis Manager







TRANSPORT



## Failure & Technology Analysis

Analysis of defective devices (failure & technology analysis) is carried out using physical, chemical and metallurgical analytical methods. These methods are applied to confirm customer-complained failures, to identify the area of the defect and the failure mechanisms, and to initiate corrective actions for quality improvement. In the area of integrated circuits, new technologies with reduced feature size require expensive expanded capabilities. Therefore strategic partnerships have been concluded to share equipment and reduce investment.

## Construction Analysis and DPA

Construction Analysis and Destructive Physical Analysis (DPA) can be performed as part of a reliability assessment. The objective of construction analysis is early identification of potential deficiencies that can cause zero-hour failures or reliability problems. These tests are required for all components used in aerospace applications. Request numbers for DPAs are very stable as the aerospace market is less sensitive to economic cycles. The lab has obtained a certificate to perform DPAs for space application according to RA.0010.900.10 standard.

## Qualification-related Analysis

Qualification-related analyses are carried out before and after various qualification tests performed by our own Q&R laboratory. The purpose of these investigations is to determine how these environmental tests impact package and chip-related problems.

## FIB service

With our highly sophisticated focused ion beam (FIB) we offer our customers chip modifications, circuit editing, micro cross-sectioning, TEM lamella preparation, micro-machining and material science applications. The business unit has a broad European customer base, primarily in the automotive, aeronautical and aerospace industries. Good service is time-driven, so 1.5 shift operation is offered where necessary.

**Günther Lippold**  
Manager Opto-/Mechanical  
Qualification



## Objectives realised and key developments in 2013

The integration of equipment from EIB (Elektrostatik Institut Berlin) enables us to offer service for measurements on ESD protection materials. In addition, the lab is now able to issue certificates for ESD packing materials. Objectives for 2013 were postponed to 2014 because economy measures of our main customer lead to a significant reduction of our sales.

## Highlights 2013

Beside the achieved certificate for DPAs on components for space application, we got a contract from a second customer to support on DPA business. Our lab became preferred supplier for scanning acoustic microscopy of a European IC manufacturer with locations in 4 countries.

## Objectives for 2014

We are offering an outstanding quality of metallographic preparation and light-optical microscopy. We are planning to further promote this service. In view of strong demand for X-ray analysis, expansion of the X-ray tomography service must be considered.

High-power electronics is a growing market. We still are looking for an experienced engineer to introduce this service.

## Business unit Qualification & Reliability

### Profile

In our business unit Qualification & Reliability we distinguish between electronic qualification and optical and mechanical qualification.

### Electronic qualification

This unit focuses on investigating components like semiconductors, passives and PCBs in various stress environments.

The electronic qualifications of customer components for automotive, space, telecommunication etc. are performed to various international specifications (AEC-Q, MIL, JEDEC, ESCC, Telecommunication). Furthermore, up-screening of components (specific qualification and test flow for higher quality grade of units for military and space applications) are another main task of the business unit. Products can be tested under extreme conditions such as climatic and temperature changes as well as under vibration and mechanical shock.

The investigations determine whether the components meet the required qualification standards.

Using burn-in (monitored or standard), components are stressed in order to identify parts prone to premature failure.



This process forces defective semiconductor devices to fail before they are incorporated into assemblies where they can cause reliability problems in the end-product. The business unit is one of the leading independent certified test-houses in Europe. Most products are tested for the aerospace, automotive and medical sectors. Our main customers are in these sectors and are FCs and OEM. Burn-in board loading for the monitoring system can be done manually or on request by means of an automated board loader/unloader.

### **Key developments in 2013**

Prior to a product release by the customers, qualifications are required in order to determine whether the product meets its reliability and functional requirements. Below some examples are set out of qualifications performed during 2013.

a. ***Upscreening of 256k x 16-Bit Multiport DRAM.***

The requested up-screening was performed to customer specifications referencing the military standard MIL-STD-883H. This up-screening included the development of necessary burn-in boards for the available packages TSOP-II 70/64 as well as SSOP64.

b. ***Test and screening of PLL units for space application.***

Various screenings were performed according to the ESCC Generic specification 9000, containing the F3 screening tests with testing at three different temperatures, monitoring burn-in, three temp-testing and seal test. Additionally the F4 qualifications, consisting of mechanical (subgroup 1.1) and environmental subgroup (1.2), endurance subgroup (2) and assembly capability subgroup (3) were performed where applicable.

c. ***Qualification of receiver for automotive infotainment/multimedia application***

Automotive qualification of a dual port video receiver IC, now with confidential data transfer using HDPC (high density content protection) encryption.

### **Plans for 2014**

Based on the current outlook, the business unit will return to positive growth at least in line with RoodMicrotec's targets. Product and service-related objectives are focusing on new market segments as well as additional services in the burn-in area.

We will perform seminars to be recognised as the qualification party of choice in the market.

### **Optical/mechanical qualification**

This unit focuses on mechanical investigations of semiconductors and boards. These qualifications are for automotive, space, telecommunication, etc. The mechanical qualifications include shock, vibration and bump. The focus for optoelectronics is mainly LED.

RoodMicrotec will bring in the experience and its knowledge of LEDs and LED lamps in a new research and development project. In former projects our practical experience in failure & technology analysis combined with the capabilities in measurements and reliability tests on LED was highly appreciated.

We are known as a professional partner for universities, research institutes and the industry.

**Frank Weber**  
**Manager Electronic**  
**Qualification & System**  
**Analysis, Burn-In**







LED



## Semiconductor services to achieve and ensure consistent quality in LEDs

LEDs open the way to new applications and markets in various different fields with a broad spectrum of requirements. LED lighting is advancing rapidly and increasingly replaces classical lighting. LEDs are used in flat screen TVs, automotive applications, general lighting, traffic and street lighting.

Besides other benefits, LEDs in general provide high reliability; lifetimes of over 50,000 hours can be reached. Manufacturing of LEDs may influence the lifetime of LEDs negative. Reduced reliability can also be due to power supply problems, i.e. insufficient heat dissipation, environmental stress, no-compliance with the junction temperature or system set-up. Avoiding failures and achieving fast resolution of existing problems requires excellent knowledge of the failure mechanisms and suitable analytical methods. Failure analysis is not limited to the defect confirmation anymore as the root cause can be found in a lighting system analysis

RoodMicrotec has extensive experience of performing failure analysis, characterisation, qualification, life testing and classification of single LED chips and LED applications. LEDs present a broad range of faults which can be approached using different methods of analysis. The objective of failure analysis is to allocate the observed error pattern to a possible cause and then show a way to avoid it. Because of its complexity, failure analysis requires advanced technological know-how and the availability of methods for analysis.

The knowledge and experience of the employees as well the dedicated inspection equipment in semiconductor failure analysis has been available at RoodMicrotec for many years and offers the best basis for failure analysis on LEDs. Close teamwork of failure analysis people with opto- and reliability engineers results in fast and effective root cause finding, and offering our customers recommendations for quality improvements.

RoodMicrotec regularly contributes to conferences and fairs with technical presentations, lectures and articles that promote its experience to a broad community. Our publications present typical failure mechanisms, various types of analysis and corresponding ways to avoid failures.

Our plans for the future are to continue to align our resources (know-how, equipment) with the technical demands of the market for qualification and life tests, in several LED applications for the consumer market and automotive market, street-lighting, public displays and shop applications. Our objective is to contribute to energy and cost savings, improved lifetimes, and waste reduction.

## J. Events after balance sheet date

In the beginning of 2014 1,395,345 shares have been issued according to an agreement with an investor, which concluded in September 2013.

Board of management  
Ph.M.G. Nijenhuis

Zwolle, 13 March 2014



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## VIII. CORPORATE SOCIAL RESPONSIBILITY

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### General commitment

RoodMicrotec's mission is to improve the quality of people's lives through the timely introduction of meaningful technological innovations. In a world where technology increasingly touches on every aspect of our daily lives, RoodMicrotec aspires to be a leading solutions provider in the areas of healthcare, lifestyle and enabling technology, delighting its customers with products and services that meet and even exceed their expectations.

RoodMicrotec wishes to be a responsible partner in society, acting with integrity towards its shareholders, customers, employees, suppliers and business partners, competitors, governments and their agencies and others who may be affected by its activities. RoodMicrotec duly observes applicable laws and regulations in the countries in which it operates and regularly reviews its interests and those of affected persons or entities in order to ensure a healthy, long-term relationship with them. RoodMicrotec endeavours to adapt to local situations in order to take the most appropriate approach to possible problems within the bounds of applicable laws and responsible conduct. In this respect RoodMicrotec supports the principle of dialogue and cooperation with all parties involved.

### Human rights

With due regard to the Universal Declaration of Human Rights, which states that all parties in society, including corporate entities, have a duty to respect and safeguard human rights, and within the framework of the legitimate role of businesses, RoodMicrotec supports and respects human rights and strives to ensure that its activities do not make it an accessory to infringements of human rights.

### Free market competition

RoodMicrotec supports the principle of free market competition as a basis for conducting its business and complies with applicable competition laws and regulations.

### Product safety

RoodMicrotec aims at all times to supply safe products and services.

### Privacy

The privacy of personally identifiable information about customers, employees, business partners and other individuals will be protected.

### Environmental protection

Consistent with RoodMicrotec's commitment to sustainable development, it will do all that is reasonable and practicable to minimise any adverse effects of its activities on the environment.

### Commitment towards customers

RoodMicrotec is dedicated to improving people's lives. Its goal is to constantly delight each customer with breakthroughs both large and small. To this end, the company seeks to maintain an ongoing dialogue with its customers. RoodMicrotec is committed to listening to and learning from them, so that it can design and deliver the solutions they really want and need. RoodMicrotec will always deal with its customers in a fair and forthright manner, maintaining the highest levels of integrity.

**Jessica Nogger**  
Human Resources





## Commitment towards shareholders

It is of central importance to RoodMicrotec to conduct its operations in accordance with the highest standards of internationally accepted principles of good corporate governance. RoodMicrotec aims to achieve a satisfactory return on equity, with the intention if possible to distribute a sustainable dividend payment to shareholders, while at the same time retaining sufficient funds in the company to generate profitable growth.

RoodMicrotec attaches great value to its relations with its shareholders and the financial markets and provides timely, regular and reliable information on its activities, structure, financial position and performance.

## Commitment towards employees

### **RoodMicrotec values its employees as a key resource**

An atmosphere of good employee communication, involvement and responsibility is of vital importance, and employees' personal development and optimum use of talents is encouraged.

### **Right to organise**

RoodMicrotec recognises and respects the freedom of employees to choose whether or not to establish, or to associate with, any organisation.

### **RoodMicrotec respects**

- within the framework of (local) laws, regulations and prevailing labour relations and employment practices;
- the right of its employees to be represented by labour unions and other employee organisations, and RoodMicrotec will engage in negotiations, either on its own behalf or through employers' associations, with a view to reaching agreement on employment conditions.

### **Health and safety**

RoodMicrotec will do all that is reasonable and practicable to protect the health and safety of its employees.

### **Equal and fair treatment**

Every employee has equal opportunities and will be treated equally in employment and occupation regardless of personal background, race, gender, nationality, age, sexual preference or religious belief. The same applies to the recruitment of employees. RoodMicrotec strives to offer equal pay for equal work performed at equal levels at similar locations. No form of harassment or discrimination will be tolerated.

## Wages and payment

Remuneration and working hours shall comply with local labour laws and shall be in line with prevailing industry norms.

## Commitment towards suppliers and business partners

RoodMicrotec pursues mutually beneficial relationships with its suppliers and business partners. It seeks to award business to suppliers and business partners who are committed to acting fairly and with integrity towards their stakeholders and who observe the applicable laws of the countries in which they operate.

## Assets and information

### **Use and protection of assets**

Each employee is responsible for the proper use, protection and conservation of RoodMicrotec's assets and resources as well as confidential information disclosed to RoodMicrotec by its business partners.

RoodMicrotec's assets and resources as well as any opportunities arising by virtue of one's position, are to be used solely to pursue and achieve RoodMicrotec's goals and not for personal benefit.

### **Improper disclosure**

RoodMicrotec regards information for the purpose of its business as a corporate asset that must be protected against loss, infringement and improper use and disclosure.

RoodMicrotec is committed to not making use of information disclosed to it by a third party if it is suspected that the discloser thereby violates an obligation of confidentiality, unless the information:

- is generally available to the public other than as a result of disclosure by RoodMicrotec;
- has been independently developed by RoodMicrotec; or
- becomes available to RoodMicrotec either on a non-confidential basis from a third party who is not bound by any confidentiality obligations or by operation of law.



### **Insider trading**

All employees shall comply with RoodMicrotec's insider trading rules. This means that non-public information which might influence the market price of RoodMicrotec shares shall be kept in strict confidence until publicly released by authorised management.

Furthermore, employees who have sensitive information which could influence the price of RoodMicrotec shares and related rights must refrain from directly or indirectly executing transactions in RoodMicrotec shares and related rights. Additionally, employees must comply with statutory rules and regulations concerning insider trading with respect to securities of other listed companies.

## **Business integrity**

### **Bribery; records of transactions**

RoodMicrotec insists on honesty, integrity and fairness in all aspects of its business. Bribes in any form are unacceptable; commission payments and personal gifts or favours may only be made or accepted in strict accordance with the General Business Principles Directives. RoodMicrotec strives to comply with the highest levels of transparency and accountability throughout the company. Records of transactions should be maintained in an accurate, complete and timely manner in accordance with RoodMicrotec's accounting principles. No unrecorded funds or assets should be established or maintained.

### **Third-party interests**

Employees are not allowed to have any direct or indirect financial interest in a supplier or competing company with the exception of a financial interest in a publicly traded company.

### **Political payments**

RoodMicrotec companies shall not make payments or donations, in money or in kind, to political parties, political organisations or individual politicians, unless such payments are made in strict accordance with the GBP Directives.

## **Observance of General Business Principles**

### **Sanctions**

All RoodMicrotec employees must comply with the General Business Principles. Violation may lead to disciplinary action, including dismissal, notwithstanding any further civil or criminal action that may be instigated.

### **Whistleblower policy**

In order to promote the reporting of violations of the General Business Principles, a whistleblower policy is in place, enabling employees to submit complaints anonymously without fear of the complaints leading to disciplinary action.

### **Compliance**

Compliance with the General Business Principles is monitored by a compliance officer, who regularly reports to the board of management and supervisory board on the deployment of the General Business Principles and on ethical issues in general. Reporting on compliance with the General Business Principles is also an integral part of the Statement on Business Controls issued annually by the management as part of a cascade process leading to CEO/CFO certification of the company's annual accounts. Compliance processes and procedures are audited by RoodMicrotec's audit committee.

Further information: [www.roodmicrotec.com](http://www.roodmicrotec.com)

Board of management  
Ph.M.G. Nijenhuis

Zwolle, 13 March 2014



A low-angle photograph of a modern glass skyscraper. The building's facade is composed of a grid of windows, reflecting the sky. In the foreground, a dark, angular architectural element, possibly a balcony or overhang, frames the left side of the image. The sky is a clear, pale blue.

# ZigBee Solutions DATA PROCESSING



## IX. CONSOLIDATED FINANCIAL IFRS STATEMENTS

### Consolidated Statement of Profit or Loss

(x EUR 1,000)	2013	2012 Restated*
Net sales	11,180	11,971
Cost of sales	-2,159	-2,283
<b>GROSS MARGIN</b>	<b>9,021</b>	<b>9,688</b>
Personnel expenses	-5,351	-6,401
Other operating expenses	-2,705	-2,584
<b>TOTAL OPERATING EXPENSES</b>	<b>-8,056</b>	<b>-8,985</b>
<b>EBITDA</b>	<b>965</b>	<b>703</b>
Depreciation and amortisation	-883	-884
<b>EBIT</b>	<b>82</b>	<b>-181</b>
Financial expenses	-230	-326
<b>Profit before tax</b>	<b>-148</b>	<b>-507</b>
Taxation	-41	226
<b>Net profit</b>	<b>-189</b>	<b>-281</b>
<b>Net profit attributable to:</b>		
Owners of the company	-189	-281
Non-controlling interests	-	-
<b>Net profit</b>	<b>-189</b>	<b>-281</b>
<b>Earnings per share</b>		
Basic	-0.01	-0.01
Diluted	-0.01	-0.01

\* Certain amounts shown here do not correspond to the 2012 financial statements and reflect adjustments made, refer to changes in accounting policy and prior period adjustments



## Consolidated Statement of Financial Position

(x EUR 1,000)	2013	2012 Restated*	As at 1 January 2012 Restated*
<b>ASSETS</b>			
Property, plant and equipment	5,446	6,347	5,732
Intangible assets	1,741	1,755	1,783
Deferred tax assets	910	951	444
Financial assets	497	949	1,720
<b>Non-current assets</b>	<b>8,594</b>	<b>10,002</b>	<b>9,679</b>
Inventories	283	305	402
Trade and other receivables	2,359	2,089	2,431
Cash and cash equivalents	711	519	345
<b>Current assets</b>	<b>3,353</b>	<b>2,913</b>	<b>3,178</b>
<b>TOTAL ASSETS</b>	<b>11,947</b>	<b>12,915</b>	<b>12,857</b>
<b>EQUITY AND LIABILITIES</b>			
Share capital	4,255	3,935	3,935
Share premium	17,851	17,751	17,723
Reserves	1,668	1,890	1,885
Retained earnings	-20,872	-20,613	-19,339
Mezzanine capital	2,494	2,494	1,994
<b>Equity, attributable to shareholders</b>	<b>5,396</b>	<b>5,457</b>	<b>6,198</b>
Loans and borrowings	279	1,399	1,077
Retirement benefit obligations	2,088	2,224	1,573
<b>Non-current liabilities</b>	<b>2,367</b>	<b>3,623</b>	<b>2,650</b>
Bank overdrafts	1,537	1,381	1,115
Loans and borrowings	508	455	839
Trade and other payables	2,081	1,977	1,846
Current tax liabilities	58	22	209
<b>Current liabilities</b>	<b>4,184</b>	<b>3,835</b>	<b>4,009</b>
<b>Total equity and liabilities</b>	<b>11,947</b>	<b>12,915</b>	<b>12,857</b>

\* Certain amounts shown here do not correspond to the 2012 financial statements and reflect adjustments made, refer to changes in accounting policy and prior period adjustments

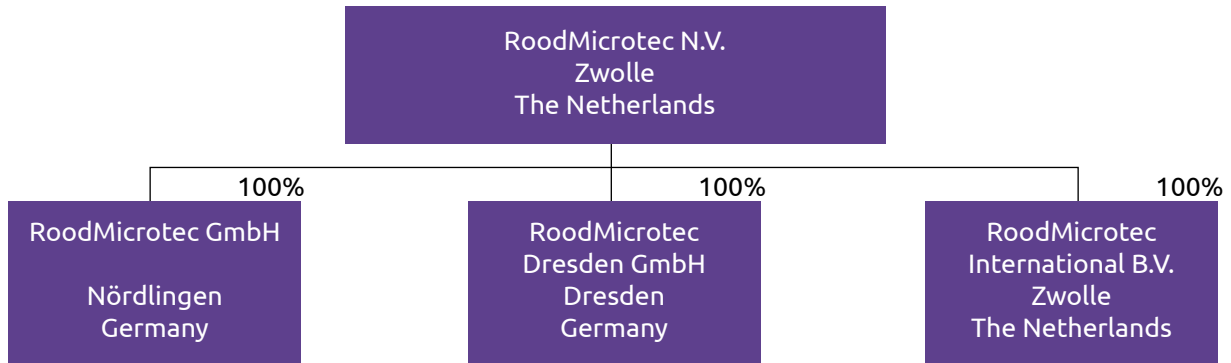




INDUSTRY



## Group Structure



### **RoodMicrotec GmbH, (locations Stuttgart & Nördlingen)**

- Supply Chain Management
- Test & Related Services
- Test Engineering
- Qualification & Reliability
- Failure & Technology Analysis
- Opto-electronics
- Contracting
- Consultancy

### **RoodMicrotec Dresden GmbH & RoodMicrotec International B.V.**

- Contracting
- Test Engineering



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### **Members of Corporate Management Team**

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N. Wirth, CTO

R. Cuny, CFO

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Chamber of Commerce

Number 33251008

### **Management**

Ph.M.G. Nijenhuis

N. Wirth

R. Pusch

### **Management**

Ph.M.G. Nijenhuis

N. Wirth

### **Management**

Ph.M.G. Nijenhuis, CEO



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## Colophon

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## Business Report 2013

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