

*Annual Report 2002* Rheinmetall DeTec AG



# Rheinmetall DeTec at a glance

Rheinmetall DeTec AG including subsidiaries		1998	1999	2000	2001	2002
		HGB <sup>1)</sup>	HGB <sup>1)</sup>	IAS	IAS	IAS
Net sales	€ million	553.2	1,335.6	1,641.6	1,614.1	1,677.1
Non-German share (% of total sales)	%	30	39	48	44	52
Order intake	€ million	468.3	1,543.8	1,535.1	1,998.6	1,861.3
Order backlog (Dec. 31)	€ million	1,024.0	3,218.7	3,060.7	3,461.5	3,649.3
EBITDA	€ million	57.1	53.9	97.4	128.4	149.4
EBIT	€ million	36.3	(5.1)	31.9	61.1	71.7
EBT	€ million	37.1	(9.1)	6.7	35.5	49.7
Net income/(loss) <sup>2)</sup>	€ million	37.1	(19.3)	(20.9)	16.7	44.6
Cash flow	€ million	62.9	37.8	49.7	85.6	134.4
Capital expenditures	€ million	28.4	55.3	44.5	49.8	48.3
Amortization/depreciation <sup>3)</sup>	€ million	20.8	45.0	53.6	53.1	58.4
Accounting equity 4)	€ million	167.5	280.5	386.0	429.2	436.0
Total assets	€ million	554.7	1,358.7	1,956.5	1,963.4	2,008.5
EBIT margin	%	6.6	(0.4)	1.9	3.8	4.3
ROCE	%			4.4	9.7	12.3
Employees (Dec. 31)		3,489	9,248	9,176	9,019	8,828

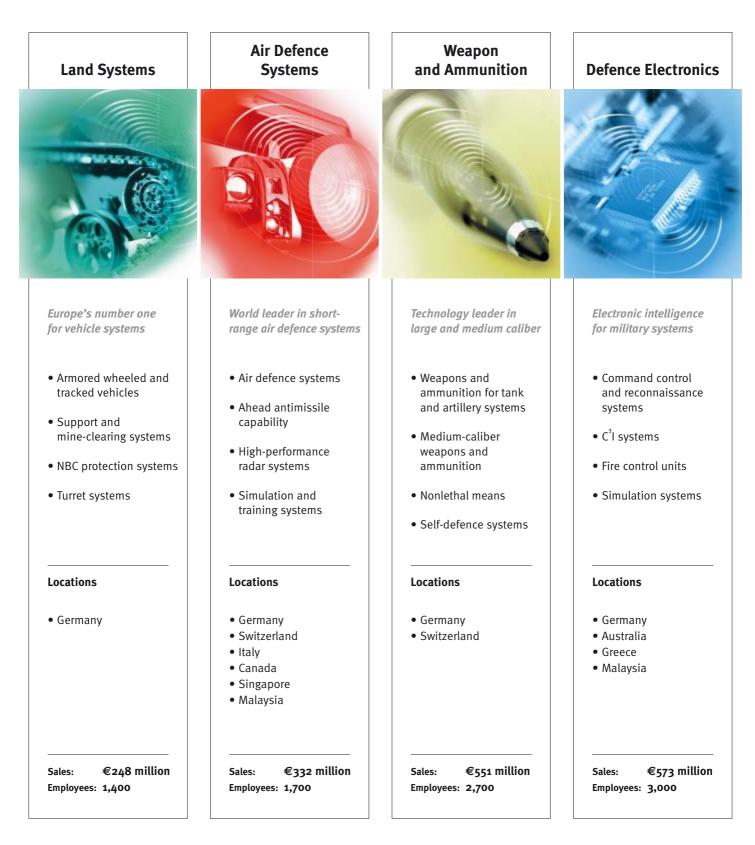
<sup>1)</sup> German Commercial Code as primary accounting base

<sup>2)</sup> Before P&L transfer

<sup>3)</sup> Excluding goodwill amortization

<sup>4)</sup> Including minority interests

# A survey of Rheinmetall DeTec



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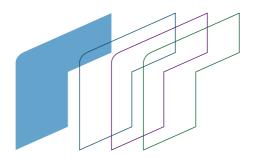
### Rheinmetall DeTec on target

### Strategic goals

- Secure market and technology leadership in European land forces equipment
- Generate corporate growth through targeted internationalization
- Improve profitability
- Concentrate on core capabilities in defence technology

### Successes in 2002

- Capabilities in key land forces technologies were systematically expanded with the focus on air-transportable and highly mobile armored vehicles as well as light and mobile air defence systems for crisis reaction missions.
- In fiscal 2002, €867.1 million of total sales was generated abroad (up from €703.7 million), equivalent to an export share of 51.7 percent.
- EBIT improved by 17.3 percent to €71.7 million, the EBIT margin increasing to 4.3 percent (up from 3.8). At €49.7 million, EBT easily topped the prior-year €35.5 million by 40.0 percent.
- Sale of Intergas B.V., based in the Netherlands, which operates in the civilian sector.



### Report of the Supervisory Board

### Report of the Supervisory Board



Klaus Eberhardt Supervisory Board Chairman

In fiscal 2002, the Supervisory Board duly complied with the duties incumbent on it under law, the Company's bylaws and its rules of procedure. The Supervisory Board monitored the Company's management and conduct of business by the Executive Board and was directly involved in all decisions of fundamental importance to Rheinmetall DeTec.

The Supervisory Board regularly obtained information through oral and written reports from the Executive Board about the business trend and position of the Group, specific divisions and the domestic and foreign subsidiaries. Moreover, the Supervisory Board dealt with projects and transactions of specific significance, fundamental issues of corporate policy, as well as corporate plans (including financial and HR planning and capital expenditure projects), besides deliberating on matters of strategic orientation.

The Executive Board timely and fully briefed the Supervisory Board on all top management actions and transactions subject to the Supervisory Board's prior approval. After scrupulous perusal and detailed discussion of the matters submitted, the Supervisory Board granted all requisite approvals.

In the fiscal year 2002, the Supervisory Board met four times with the Executive Board. At its April 12, 2002 meeting, the Supervisory Board appointed Dr. Thomas Küstner as member of Rheinmetall DeTec AG's Executive Board as of May 1, 2002, but he continues to concurrently chair the Management Board of STN Atlas Elektronik GmbH. At the constituent meeting of the newly elected Supervisory Board on April 12, 2002, the Supervisory Board elected Mr. Klaus Eberhardt and Mr. Reinhard Kiel as Supervisory Board Chairman and Vice-Chairman, respectively. Dr. Herbert Müller and Mr. Franz Mittermaier were elected as members as prescribed by Art. 27(3) German Codetermination Act ("MitbestG"). Furthermore, the Supervisory Board established a personnel committee, whose members are the Supervisory Board Chairman and Vice-Chairman, as well as Dr. Herbert Müller.

At its September 10, 2002 meeting, the Supervisory Board consented to the conclusion of profit and loss transfer agreements between Rheinmetall DeTec AG and three subsidiaries retroactively as from January 1, 2002, viz.

- Rheinmetall W&M GmbH,
- Rheinmetall Wohnungen GmbH, and
- Mauser-Werke Oberndorf Waffensysteme GmbH,

as well as to the acquisition by Rheinmetall DeTec AG from Rheinmetall AG of the remaining 5-percent stake in Rheinmetall Wohnungen GmbH.

At the same meeting, the Supervisory Board discussed and approved the acquisition from Credit Suisse of a 20percent stake in Oerlikon Contraves AG.

On the agenda of the Supervisory Board's November 26, 2002 meeting was the Rheinmetall DeTec Group's medium-term corporate plan, of which the Supervisory Board took approving note including the financial, investment and HR plans.

At the same meeting, the Supervisory Board agreed to the acquisition from Dresdner Bank AG of a 19.5-percent stake in Oerlikon Contraves AG. In addition, the Board confirmed the execution of a P&L transfer agreement between Rheinmetall DeTec AG and Grundstücksverwaltungsgesellschaft Carl-von-Linde-Str. 14 mbH.

The separate and consolidated financial statements and the management reports of Rheinmetall DeTec AG and the Rheinmetall DeTec Group for the fiscal year ended December 31, 2002, including the accounting system, were all audited by the Düsseldorf branch of PwC Deutsche Revision AG, Wirtschaftsprüfungsgesellschaft, Frankfurt/Main, which had been appointed as statutory auditors by the annual stockholders' meeting of April 12, 2002, and issued their ungualified opinion on both sets of financial statements. The scope and focal areas of the audit were specified by the statutory auditors and approved by the Supervisory Board Chairman.

In the scope of their engagement, the statutory auditors also had to examine pursuant to Art. 317(4) German Commercial Code ("HGB") whether the Executive Board duly implemented the legally required procedures, especially set up a monitoring system that would early on identify any risks likely to jeopardize the Company's continued existence. The auditors confirmed that the monitoring systems installed are capable of duly performing their functions and that the management reports on the Company and the Group fairly present the risks of future development.

Both sets of financial statements (the Company's and the Group's), as well as the audit reports delivered by the statutory auditors had been received timely enough by all Supervisory Board members to ensure a thorough review. These documents were discussed at length at the Supervisory Board meeting of April 4, 2003. The statutory auditors joined the Supervisory Board's discussion on the separate and consolidated financial statements. The Supervisory Board concurs with the audit results. In addition, this Board examined the separate financial statements of the Company, the Group's consolidated financial statements, the management report of Rheinmetall DeTec AG, and the Group management report; no objections were raised. Under the current P&L transfer agreement, Rheinmetall DeTec AG's net income of  $\in$ 7.2 million will be transferred to Rheinmetall Technik GmbH.

At its meeting on April 4, 2003, the Supervisory Board approved Rheinmetall DeTec AG's financial statements for fiscal 2002 as submitted by the Executive Board, which are thus adopted.

The Supervisory Board received the Executive Board's dependency report concerning affiliations for fiscal 2002 under the terms of Art. 312 German Stock Corporation Act ("AktG") and the pertinent report of the statutory auditors. The Supervisory Board reviewed the report of the Executive Board and concurs with it, as with the results of the examination by the auditors, who issued the following opinion on said dependency report of the Executive Board: "Based on our examination, which we performed with due professional care, and on our evaluation we certify that

(1) the facts stated in the report are valid;

(2) the consideration which the Company received for the legal transactions referred to in the report was not unreasonably high."

After reviewing the final results of its own examination, the Supervisory Board found no reasons for objection to the Executive Board's concluding statement in the report on affiliations for fiscal 2002.

The Supervisory Board thanks the customers for their confidence and the Executive Board, managerial staff and all employees of the Rheinmetall DeTec Group for their dynamic commitment, high level of personal dedication and their contributions to the further improvement of the Rheinmetall DeTec Group's market positions, upgraded profitability and continuous addition of value.

Ratingen, April 4, 2003

The Supervisory Board

Klaus Eberhardt Chairman

### General conditions

The economic environment in which the Rheinmetall DeTec Group operates is characterized both nationally and internationally by political factors and largely determined by military requirements, the funds available for defence equipment procurement and special underlying conditions, such as procurement procedures, as well as export controls and restrictions.

Germany was and is the most important customer of the Rheinmetall De-Tec Group; the German government is also the decision-making authority regarding the grant of export permits.

The German market for military procurement is shaped in particular by a limited defence budget, which has been set for the period from 2002 to 2006 at €24.4 billion annually and in 2002 was equivalent to some 1.2 percent of gross domestic product. Apart from R&D activities and procurements, this funding must cover the expenditure for reforming the German armed forces, implementing the commitments entered into at the NATO summit held in Prague in November 2002, and ongoing international missions. In 2002, the expenditure volume available to the German armed forces totaled €5.2 billion, of which military procurements and development work accounted for €4.4 billion. The financial resources thus available which have a major bear-

ing on the preservation of the core capabilities within Germany's defence technology industry are also smaller than those of other NATO countries, with the UK (defence budget for 2002: €38 billion) and France (defence budget for 2002: €29 billion) each spending 42 percent of their defence budgets over the same period on military developments and procurements.

The costs of the numerous overseas missions undertaken by the German armed forces cannot be predicted exactly. If the estimated budget for these operations is overrun, development and procurement plans are affected. During the period from 1997 to mid-2002, the German armed forces spent a total of  $\in$  4.6 billion on international missions. Some 1.5 billion has been earmarked for 2002, with a similar amount planned for 2003.

Worldwide, apart from a few Western European countries, arms spending has been growing since 1998, the events of September 11, 2001, prompting an additional rise in many cases. In 2001, a total of US \$839 billion was spent on defence technology globally, more than half of which came from the defence budgets of the major industrial nations, viz. the USA (36 percent) and Russia (6 percent), followed by Great Britain, Japan, and France (5 percent each). The strongest growth in military spending is being registered in Central and Eastern Europe, Africa, Southeast Asia and the Middle East.

The general environment described and growing competitive pressure from corporate mergers, especially in the USA, are confronting the defence technology industry in Germany as well as Europe as a whole with special challenges. This trend coupled with declining domestic sales potential requires the Rheinmetall DeTec Group to open up international markets more vigorously within the applicable export regulations.

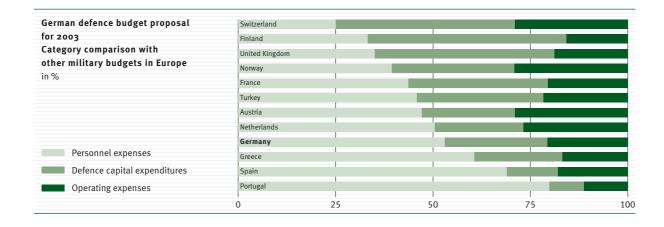
In fiscal 2002, the Rheinmetall DeTec Group generated as much as 51.7 percent of its sales abroad (up from 43.6 percent). In the medium term, apart from Western European countries, the Middle East in particular, as well as the regions of Eastern Europe and Asia, represent growth markets for the Rheinmetall DeTec Group.

Special opportunities exist in NATO's new member states, which have to convert their military systems to match NATO standards. In addition, the latent tensions in the Middle East and in parts of Asia will lead to further armament and modernization programs, which are expected to focus on close-range air defence systems and their mounting on vessels. In parts of Asia, the



need to protect shipping traffic from criminal assault represents a further potential. Gathering and analyzing military intelligence as well as position indication will also gain significant momentum in the years ahead. Owing to the changed threat scenario and the resulting changes in defence requirements, demand for air-transportable, highly mobile, armored vehicles and for close-range air defence systems is generally set to continue.

The Rheinmetall DeTec Group will continue to expand its share of sales abroad by exploiting the existing potential for business worldwide, seizing the arising opportunities even in the face of fierce international competition.



#### **Communication and marketing**

Participation at selected international and regional defence technology fairs as well as individual, customer- and demand-oriented events at home and abroad offer an ideal platform for supporting existing and opening up new markets. Direct contact with customers, decision-makers and army officials at all levels are therefore important success factors which both the Rheinmetall DeTec Group as a whole and each of the subsidiaries are keen to exploit.

In June 2002, the Rheinmetall DeTec Group attended Europe's largest military technology fair, Eurosatory. As a systems supplier for land forces technology the Rheinmetall DeTec Group laid on a convincing presentation for international experts, which included its reconnaissance and target detection systems, light armored vehicles for crisis reaction deployment, closerange air defence system solutions, NBC protection technology and knowhow in performance upgrade programs.

Additional trade fair highlights included<br/>in April 2002 participation in the De-<br/>fence Services Asia Exhibition and Con-<br/>ference, DSA, staged in Kuala Lumpur,<br/>and attendance at MSPO, held in the<br/>Polish town of Kielce in September<br/>2002. The Rheinmetall DeTec Group<br/>was also present at Defendory in Athens<br/>in October 2002. Apart from these ma-<br/>jor fair presentations by the Group as<br/>a whole with the emphasis on compre-<br/>hensive system solutions, individual<br/>subsidiaries attended numerous otherpress. The Berlin DeTe<br/>two-day range of even<br/>nalists from all over th<br/>is to be held twice or t<br/>year in Berlin. The Berl<br/>event will provide deta<br/>about the Group's exp<br/>egies. Three of these e<br/>during the year under<br/>by trade journalists as<br/>source of information.

exhibitions. Customized information events and demonstrations in selected countries supplemented these activities, thus supporting the openingup of foreign markets.

The year 2002 also saw the steppingup of activities involving the trade press. The Berlin DeTec Talks is a new, two-day range of events aimed at journalists from all over the world, which is to be held twice or three times a year in Berlin. The Berlin DeTec Talks event will provide detailed information about the Group's expertise and strategies. Three of these events were held during the year under review and used by trade journalists as an important source of information.

#### **Main events**

In fiscal 2002, the Rheinmetall DeTec Group performed encouragingly all in all, taking the political and economic environment into account, sales rising by 3.9 percent from the prior-year  $\in$ 1,614.1 million to  $\in$ 1,677.1 million.

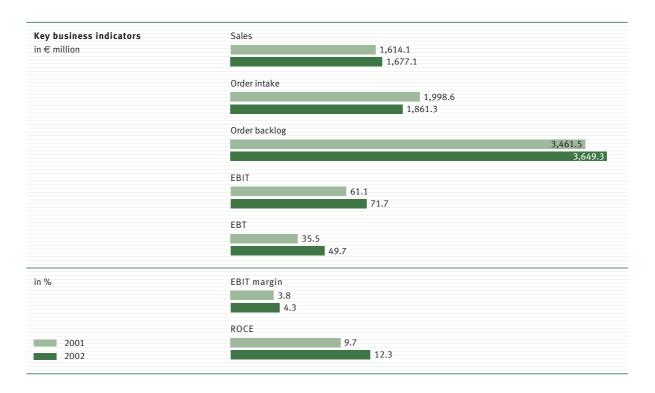
With business progressing in general, the situation within the four divisions varied, a major trend being the ongoing streamlining of the business portfolio.

As part of the strategy of concentrating on the core business of defence technology, Intergas B.V. in the Netherlands, which operates in the civilian sector (fuel value boilers) was sold, its deconsolidation from the Rheinmetall DeTec Group taking effect on October 3, 2002.

- With effect as of September 23, 2002, a further 20-percent stake was acquired in Oerlikon Contraves AG, the management company of the Air Defence Systems division.
- Retroactively as of January 1, 2002, Nico-Pyrotechnik Hanns-Jürgen
  Diederichs GmbH & Co. KG and RUAG
  Holding (formerly RUAG Schweiz AG)
  purchased the remaining 31-percent
  stake in Buck Neue Technologien
  GmbH.
- As of January 1, 2002, the existing large- and medium-caliber operations were merged in the Weapon and Ammunition division. As a result, the jointly managed companies Mauser-Werke Oberndorf Waffensysteme GmbH and Oerlikon Contraves Pyrotec AG were assigned to this division.
- In addition, local structural adjustments were carried out which form

key preconditions for improving the profitability of the Rheinmetall DeTec Group. The restructuring of the Land Systems division which started in 2000 (convergence of the companies MaK Systeme GmbH, KUKA Wehrtechnik GmbH and Henschel Wehrtechnik GmbH to form Rheinmetall Landsysteme GmbH) was largely completed.

 As part of the necessary portfolio streamlining within the Rheinmetall DeTec Group and owing to the changed political environment and insufficient capacity utilization, a decision was made in April 2002 to close down Eurometaal N.V., headquartered in the Netherlands. The measures required to bring this about, which will affect two locations, are due to be completed by the summer of 2003.



The newest artillery ammunition for the self-propelled howitzer SpH 2000

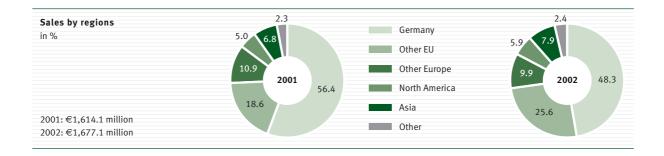


Sales

In fiscal 2002, the Rheinmetall DeTec Group generated total sales of €1,677.1 tal sales, European customers repremillion, exceeding the year-earlier level by 3.9 percent despite the deconsolida- cal segment. Sales in Asia accounted tion of Intergas B.V. and the steps taken for 7.9 percent, in North America for to close down Eurometaal N.V.

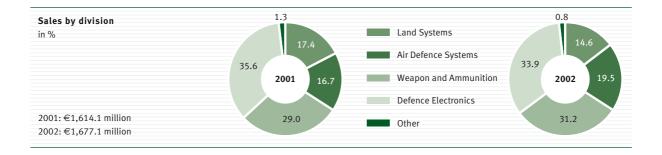
At a share of 51.7 percent (up from 43.6 percent) in the year under review, revenues from foreign business dominated for the first time. This development underlines the Rheinmetall DeTec Group's efforts to expand its interna-

tional activities. At 35.5 percent of tosented the second-largest geographi-5.9 percent; and in other regions for a total 2.4 percent.



In the period under review, the Defence Electronics division contributed the lion's share of sales at 33.9 percent. Weapon and Ammunition provided

31.2 percent, and the Air Defence Systems and Land Systems divisions 19.5 and 14.6 percent of total sales, respectively.



#### Order trend

In fiscal 2002, the Rheinmetall DeTec Group booked contracts worth €1,861.3 million (down from at €1,998.6 million). Order intake was therefore some infantry fighting vehicle as well as the 11 percent above sales, ensuring organic growth through a further rise in order backlog to €3,649.3 million (up 5.4 percent).

All divisions succeeded in acquiring major development and series produc- tion program for air defence systems tion orders which are expected to provide showcases for attracting further new business internationally.

Defence Electronics accounted for incoming business worth €520.7 million, a sizable slice coming from an order from the Finnish armed forces to supply the Asrad air defence system. Weapon and Ammunition booked orders for €517.6 million, chiefly thanks to the series production order from the German Federal Agency for Military Technology and Procurement for the supply of light naval guns, and to a contract from the Netherlands for the delivery of weapons and ammunition for the self-propelled howitzer SpH 2000. Land Systems posted an order intake of €480.4 million particularly

due to the successful booking in the domestic market of an order for the mine protection system for the Marder development of a new infantry tank together with an order from the Netherlands for the supply of chassis for the SpH 2000. Air Defence Systems registered incoming orders worth €390.3 million, most notably for a modernizaalready installed at a customer's and for a Skyshield fire unit for protecting air force bases.

By December 31, 2002, order backlog reached €3,649.3 million (up from €3,461.5 million), thus largely securing the expected sales for fiscal 2003.

#### **Earnings trend**

In fiscal 2002, the Rheinmetall DeTec Group generated an EBIT of €71.7 million, representing a clear improvement lion). As a consequence, EBT reached of 17.3 percent on the prior-year €61.1 million. The 2002 figure contains both the heavy burden entailed in the steps lion, equivalent to an EBT margin (pretaken to close down Eurometaal N.V. and the book gain from the disposal of Intergas B.V.

Improved profitability was also reflected in the preceding year was again imin a higher EBIT margin compared with proved, increasing by 2.6 percentage the previous year of 4.3 percent (up

from 3.8). Net interest expense came to €22.0 million (down from €25.6 mil-€49.7 million, thus also well above the like-for-like year-earlier €35.5 miltax ROS) of 3.0 percent versus 2.2 percent in the previous year.

In 2002, ROCE following a sharp rise points to 12.3 percent (up from 9.7).



#### Asset and capital structure

The Rheinmetall DeTec Group's total assets as of December 31, 2002, moved up €45.1 million to €2,008.5 million. Fixed assets shrank by €12.3 million to  $\in$  553.3 million. Additions of  $\in$  48.3 million to fixed assets contrasted with amortization, depreciation and related charges of €58.4 million and disposals at gross book values of €8.0 million.

Current assets grew by €70.1 million to €1,417.9 million, mainly on account of the higher receivables from manufacturing contracts (up by €85.9 million to €221.2 million) and from trade (up by €33.5 million to €386.8 million). Cash and cash equivalents were scaled back by €14.3 million to €233.2 million. the average working capital was down-The destocking of inventories meant another decrease by €37.3 million to €512.5 million. Total equity (i.e., stockholders' equity plus minority interests) inched up €6.8 million to €436.0 million as of December 31, 2002, bringing the equity ratio to 21.7 percent (down

from 21.9). Including pension accruals of €265.0 million, the Group's longterm capital outcovered fixed assets by 27 percent (up from 20). In comparison with December 31, 2001, the financial debts of €133.6 million remained virtually unchanged (down from €135.9 million).

In this context, the average capital employed (CE) by the Rheinmetall DeTec Group in 2002 sank to €585.2 million (down from €628.5 million).

Besides fixed assets, working capital is another key constituent of capital employed. In the year under review, scaled by 4.4 percent to €402.4 million (down from €420.9 million). The working capital ratio (WC to net sales) improved from 26.1 percent in 2001 to 24.0 percent in 2002. Net liquidity amounted to €99.5 million (down from €111.6 million).

#### **Rheinmetall DeTec:** summarized balance sheet

€ million	12/31/2001	12/31/2002	Change
Fixed assets	565.6	553.3	-12.3
Current assets	1,347.8	1,417.9	+70.1
All other assets	50.0	37.3	-12.7
Total assets	1,963.4	2,008.5	+45.1
Total equity	429.2	436.0	+6.8
Debt	1,506.7	1,553.9	+47.2
thereof financial debts	135.9	133.6	-2.3
thereof pension accruals	251.3	265.0	+13.7
All other liabilities	27.5	18.6	-8.9
Total equity & liabilities	1,963.4	2,008.5	+45.1

The breech of the MK 30-2 automatic cannon

#### Value added

The value added within the Rheinmetall DeTec Group moved up in 2002 by about 5.4 percent or  $\in$  3.9 million to  $\in$  658.5 million, largely due to the lower cost of materials.

At 88.1 percent, the employees again received the lion's share. A part of 0.8 percent or €5.1 million was payed to the Treasury as 2002 was the first year on which the corporate income tax group agreement with Rheinmetall AG impacted. The interest expense payable to lenders contracted by 15.6 percent to  $\in$  28.6 million.

€7.2 million is proposed to be distributed to the stockholders, the Rheinmetall DeTec Group thus retaining €37.4 million.

#### Source of value added

€ million	2001	2002	Change
Net sales	1,614.1	1,677.1	+63.0
Net inventory change	7.2	-82.8	-90.0
Other work and material capitalized	4.3	4.6	+0.3
Total operating performance	1,625.6	1,598.9	-26.7
Remaining income	104.9	133.8	+28.9
	1,730.5	1,732.7	+2.2
Input			
cost of materials	(737.2)	(658.2)	-79.0
other expenses	(301.5)	(338.3)	+36.8
Amortization/depreciation/write-down	(67.2)	(77.7)	+10.5
Value added	624.6	658.5	+33.9

#### Use of value added

€ million	2001	2002	Change
Employees	555.2	580.2	+25.0
Treasury	18.8	5.1	-13.7
Lenders	33.9	28.6	-5.3
Stockholders	6.0	7.2	+1.2
Rheinmetall DeTec	10.7	37.4	+26.7
Total value added	624.6	658.5	+33.9
Value added per capita (€ '000)	68.9	72.7	+3.8

#### **Capital expenditures**

During fiscal 2002, the Rheinmetall DeTec Group spent a total of  $\in$ 48.3 million (down from  $\in$ 49.8 million) on fixed assets (excluding financial assets). As a proportion of sales this was 2.9 percent (down from 3.1). Spending in Germany came to 64.8 percent (up from 61.6). Intangible assets accounted for  $\in$ 8.4 million (up from  $\in$ 3.5 million) and tangible assets for  $\in$ 39.9 million (down from  $\in$ 46.3 million). Depreciation added up to  $\in$ 53.9 million, exceeding expenditures by  $\in$ 14.0 million. Amortization of intangible assets (excluding goodwill) amounted to  $\in$ 4.5 million.

In Land Systems, a major focus of outlays was the introduction of an interplant product data management system, which forms the basis for optimizing design and development work.

Capital expenditures at Air Defence Systems concentrated on replacement and rationalization, including equipment for circuit board assembly and a new production planning and control system.

Apart from the expansion of the office building at the Aschau location, replacement and rationalization outlays were the emphasis at Weapon and Ammunition. In order to manufacture a new type of subcaliber ammunition, Oerlikon Contraves Pyrotec AG commissioned a new automatic turning machine, which both reduces the working cycles and provides automatic parts feed, and a new injection-molding machine. Nitrochemie Wimmis AG largely completed the modernization of its production facilities by installing a unit for manufacturing preconcentrated powder.

As part of the measures started in previous years to improve the IT structure at Defence Electronics, the changeover to SAP R/3 standard software was successfully completed in the year under review.

#### **Research and development**

The international competitiveness and leading market position held by the various divisions of the Rheinmetall DeTec Group are based on the knowhow of employees, comprehensive expertise, and continuous integration of the most up-to-date technologies. This combination promotes and optimizes existing innovation potential as well as the improvement of existing systems together with the development of new technical and more cost-effective solutions. Research and development innovations are an investment in the future and of crucial importance to a company's growth and sustained economic success. The R&D activities of the Rheinmetall DeTec Group are therefore closely nested in product and market strategies. In line with customer requirements, these efforts are geared to the changed threat scenarios, the resulting security demands, and the adjustment of defence structures. In the process, the development projects ordered by customers are supplemented by the Group's internally financed **R&D** activities.

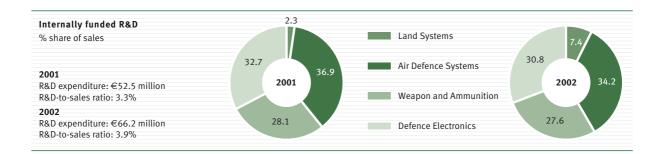
During fiscal 2002, the subsidiaries of Rheinmetall DeTec AG once again made substantial efforts in the field of research and development aimed at further improving their products and processes. At some €66.2 million, such equity-funded spending reached 3.9 percent of sales, up from 3.3 percent the previous year.

In view of current and future military requirements, Land Systems was engaged in developing a lightweight reconnaissance and infantry fighting vehicle for commando units of the German armed forces, the first two of which have already been handed over. An air-transportable vehicle was also developed on behalf of the German armed forces for its paratroopers and will undergo testing shortly. In addition, an armored 4x4 wheeled vehicle of the 8-t class was produced in cooperation with a Slovak company, a prototype of which will be available in the first quarter of 2003.

Plans for a stand-off mine-clearing system for the US army's future combat system, the chief elements of which are a precision launcher, a guidable projectile and a 3D laser scanner for trajectory tracking, were developed and presented to the customer. The components of the whole system have already been successfully tested at the company's own shooting range in Unterlüss.

R&D activities also focused on strengthening the leading position in NBC reconnaissance. In cooperation with the Military Science Institute for the Protection of the German Armed Forces, technologies for identifying biological warfare agents at greater distances were further improved. In addition, a biological retrofit kit for integration into NBC vehicles including system software was developed for the purpose of swift analysis of biological warfare agents on the battlefield.

Air Defence Systems concentrated on modernizing existing systems and completing the range of stationary and mobile close-range air defence systems.



Reconnaissance and infantry fighting vehicle AGF Wolf for crisis reaction forces





Based on the technology of the new Skyshield generation and its modules, the Skyguard III development was launched, a performance improved version of the Skyguard air defence system. A demonstration model was also provided for a battle management system, which builds on the networking of hitherto autonomously deployed air defence systems for improved air space monitoring and weapon deployment coordination. The development work which got underway in the preceding year on the highly sensitive 3D X-Tar radar and the new, self-propelled antiaircraft gun system (Spaag) was continued.

Weapon and Ammunition's development activities centered on widening the existing range of products and improving their performance, and on new high-tech weapons and carrier systems. For instance, Rheinmetall W&M GmbH developed 155-mm HE versions. In addition, the project to develop a 120-mm HE round for export plus an alternative version with programmable fuse setting was advanced further. The research into using intelligent SMArt submunition in alternative carrier systems as well as the development of new propulsion systems and explosives were continued. Ways of integrating high-performance microwave and laser weapon systems into existing carrier systems were also pursued further. With regard to their use on lightweight and heavyduty vehicles, the emphasis was on the development of mortar weapons and matching ammunition.

Mauser-Werke Oberndorf Waffensysteme GmbH continued development work on a recoilless automatic cannon and caseless ammunition as well as the use of air-burst ammunition in the MK 30 automatic cannon. Oerlikon Contraves Pyrotec AG successfully completed the development of 30-mm ammunition for arming infantry fighting vehicles as well as pushing forward with the application of Ahead technology, especially the use of airburst ammunition in 30-mm caliber for armored vehicle cannons and automatic grenade launchers in 40-mm caliber.

The Nitrochemie Group was chiefly involved in developing monobasic and polybasic propellant charge powders, molded parts und combustible cases, which are used in large- and mediumcaliber ammunition and in mortar systems.

At Buck Neue Technologien GmbH, development of the launcher and ammunition for the MASS naval decoy system was completed during the year under review. This automated, guidable system protects ships against antiship missiles which are equipped with up-to-date radar, infrared and dualmode seekers. Series production commenced in the fall of 2002. In addition, the development started in collaboration with Nitrochemie Aschau GmbH of a decoy system for protecting aircraft and helicopters against modern missiles. The Maske smoke grenade launcher for armored vehicle self-defence was technically fine-tuned and adjusted to other calibers in addition. New concepts are also being drawn up for vehicle self-defence systems.

R&D activities in the Defence Electronics division cover naval, land and air, and simulation systems. Integrated command and weapon deployment systems were a key point of emphasis in the Naval Systems unit. The Cosys system for surface vessels was further developed. Infrastructural adjustment developments were carried out for the Isus submarine system. In addition, key product developments were largely completed in the year under review with the export version of the heavyweight Seahake torpedo and the digital torpedo sonar. In the field of torpedo defence, successful technology studies were carried out into underwater missiles which produce through natural cavitation a gas bubble that envelops the traveling object. The resulting greatly reduced flow resistance enables speeds which surpass the highest speed of modern torpedoes several times over.

In the field of land and air systems, development work on the Future Infrared Search and Track System (First) continued on schedule. In the Stabilized Electro Optical Sensor System project a powerful electronic periscope is being developed for retrofitting combat vehicles with up-to-date visual equipment. The Saphir heat image unit, a key component of this periscope, is based on technology which sets new standards in thermal imaging.

For terrain and battlefield simulation a three-way laser shot simulator was developed which is compatible with the Miles standard used by NATO and therefore also ideal for retrofitting existing systems. The three-way technique imitates the trajectory of the shells mathematically, enabling the ballistically correct shot simulation. This means that the whole functional chain of simulation will be available at our in-house combat training centers from 2003. Another new development at Simulation Systems was the compact GÜZ-M Combat Training Center for mobile deployment, which meets the armed forces' need for realistic local combat training.

The Cosys command and weapon deployment system for surface vessels

Employees

Efforts to ensure market leadership and a technologically predominant position as a systems and component supplier in the field of land forces technology place high demands on a workforce's skills and motivation. Therefore, employee advancement and enhancement are high on the agenda throughout the divisions of the Rheinmetall DeTec Group. Know-how, achievement potential and a willingness to work hard are the key areas of HR development policy. Employees are asked and encouraged to generate ideas, adopt new methods and develop solutions to demanding challenges.

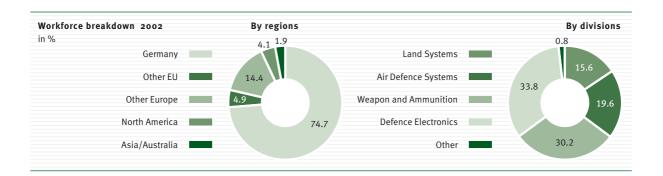
The strategic realignment of the four divisions, Land Systems, Air Defence Systems, Weapon and Ammunition, and Defence Electronics, also meant numerous organizational challenges for personnel management. This involved implementing the new structures and successfully carrying out and arranging the related internal personnel restructuring. The subsidiaries also had to be prepared for and familiarized with the new business processes.

In the course of dynamic change, consistent management is required. The continuing training of executives in methodology, specialized and interpersonal skills coupled with performance-promoting incentive pay components are therefore of central importance.

The innovative ability of a company largely depends on the quality of its specialized and managerial staff. Apart from ongoing education and skills-enhancing courses, the companies of the Rheinmetall DeTec Group therefore regard the training of young people as both a social commitment and a key success factor. In order to guarantee a high level of training new methods are often pursued. For instance, the companies have sought close contacts with schools, training and study institutions in order to broaden their own capabilities.

Presently, 376 apprentices at domestic locations and abroad are attending vocational training courses.

The companies within the Rheinmetall DeTec Group make use of the full range of personnel marketing instruments in competing for young talent. In addition, given the growing demand for young executive talent, the Rheinmetall Group's trainee program together with advancement schemes within the individual companies help to cover the



Apprenticeship and ongoing training in Germany and abroad



Group's needs in an efficient manner and create an attractive and strong position in the global contest for the most gifted.

The know-how included in Rheinmetall DeTec AG's products and services is rising constantly. For this reason, Rheinmetall DeTec AG has defined knowledge management as a mission, implementing the gate<sup>2</sup>detec knowledge management system groupwide. Thanks to a software-supported platform, collective and individual knowhow and action expertise are made accessible at management level through cross-functional forums, team ambiences and virtual working groups, thus creating additional transparency. In addition, the close interlinking of business processes groupwide makes it possible to generate synergies, reduce costs, and speed up procedures.

The Rheinmetall DeTec management system is based on the principles of personal responsibility and empowerment. In order to map out this process the Rheinmetall Group has developed a concept which supports the managerial process through the "management by objectives" tool. In the current fiscal year, this managerial tool is to be introduced across-the-board for all nonexempt employees. Organizational arrangements and a special training program will assist with its introduction.

#### Providing for old age

With a view to improving the company pension scheme, the Rheinmetall Group has launched Rheinmetall Plus which comprises alongside the retained basic pension plan, additional benefits hinged to corporate performance. This set-up emphasizes the Rheinmetall Group's sense of responsibility toward its employees, is a firm constituent of our corporate culture, and serves moreover as a reliable and secure factor in providing for old age. Rheinmetall Plus is also an acknowledgment for services rendered and designed to motivate employees into continuing to cope with the variety of challenges facing

them in a style that is committed and courageous. Rheinmetall Plus delivers maximum flexibility and security. Supplementing the company-funded basic and additional pension plan, employees may now opt to have part of their pay used to save for additional pension at especially attractive terms in view of Germany's new legislation on tax incentives for certain types of pension savings.

At December 31, 2002, the Rheinmetall DeTec Group had a total workforce of 8,828. This was a decline of 191 or some 2.1 percent over the prior year. Within Germany, a total 4,736 whiteand 1,860 blue-collar employees were working for the companies of Rheinmetall DeTec compared with 2,232 abroad. Of those abroad, most were engaged at non-EU locations (14.4 percent), followed by employees in EU countries (4.9 percent). Of the total workforce, 4.1 percent were employed in North America, 1.9 percent in various countries of Asia and Australia.

Defence Electronics accounted for 33.8 percent of employees. With its workforce of 2,986, it was the largest employer within the Rheinmetall DeTec Group. Weapon and Ammunition employed 2,667 persons (30.2 percent). With 889 employees, Rheinmetall W&M GmbH was this division's largest

€1,000 per capita*	2001	2002	<b>Change</b> € '000	<b>Change</b> in %
Net sales	178.2	185.2	7.0	3.9
Personnel expenses	61.3	64.1	2.8	4.6
Value added	68.9	72.7	3.8	5.5

#### Selected personnel indicators

\*related to the annual average headcount

individual company. At year-end, Air Defence Systems employed 1,728 persons or 19.6 percent of the total headcount, Land Systems accounting for

In fiscal 2002, the value added per capi- personnel expenses per capita amountta (rounded) rose by about six percent to €73,000 (up from €69,000). Sales per capita advanced from €178,000 to 15.6 percent with a workforce of 1,378. €185,000. In the period under review,

ed to some €64,000, hence about 5 percent above the year earlier.

#### Thanks to the workforce

Rheinmetall DeTec AG's Executive Board representatives at all the companies thanks all employees for their commit- for their continuous contribution even ment and valuable efforts during fiscal on difficult codetermination issues to 2002. Thanks also to the employees'

the results achieved.

#### **Environmental management**

The Rheinmetall DeTec Group operates in an environment whose natural resources provide the essential basis for business activities. It is therefore selfevident that the limited resources available must be handled responsibly.

Environment-friendly measures are continually carried out at the production plants belonging to the Rheinmetall DeTec Group. The chief environmental protection activities encompass measures to conserve water, reduce emissions, treat wastewater and collect, dispose of and recycle residual material, as well as the implementation of environmentally compatible treatment and disposal concepts and the use of eco-friendly materials. Ecological objectives within the Rheinmetall DeTec Group are pursued through these activities. In many parts of the Group, the ongoing further development of environmental and industrial safety management has been defined as a corporate mission. Employees are encouraged to adopt a responsible attitude

toward the environment and safety issues through training and inhouse practice.

#### Officially approved plant locations

All the Rheinmetall DeTec Group's main production plants have been approved according to the internationally applicable ISO 9001 standard. As part of the progressive implementation of environmental management systems, companies of the Rheinmetall DeTec Group are also undergoing certification according to the internationally recognized environmental standard ISO 14001. This includes Oerlikon Contraves AG and the Nitrochemie Group's two production sites.

#### Interlinking of economic and environmental activities

By constructing a plant for the production of propellant charge powder, Nitrochemie achieved a huge reduction in solvent emissions of some 70 percent at its plant in Wimmis, Switzerland, in the very first year of operation. The plant, which cost some €37 million to build, enables reduced emis-

sions and cost savings of some €0.4 million annually. Further improvements in emission levels are expected through consistent fine-tuning of the process.

Since the initial certification in 1998, energy consumption at the site of Oerlikon Contraves in Zurich has been lowered by some 20 percent, equivalent to annual savings of over €0.3 million. Consumption of hazardous substances was reduced over the same period by around 25 percent, and consumption of drinking water by about 50 percent.

The environmental management activities are governed by statutory regulations and supported by an overall responsibility for the public and the environment, which is perceived by the companies of the Rheinmetall DeTec Group.

Organization and structural development

Rheinmetall DeTec AG ("DeTec AG") is This structure is well designed to supthe parent of the Defence sector which port the strengths and competitive adcombines the defence technology oper- vantages of the internationally operations of listed Rheinmetall AG. DeTec AG is a management holding company oriented combination of systems and which exercises strategic and financial key components the Rheinmetall DeTec management functions in relation to its Group is endowed through its own prodsubsidiaries. As of December 31, 2002, DeTec AG employed 69 persons (down for tackling military tasks, especially from 79).

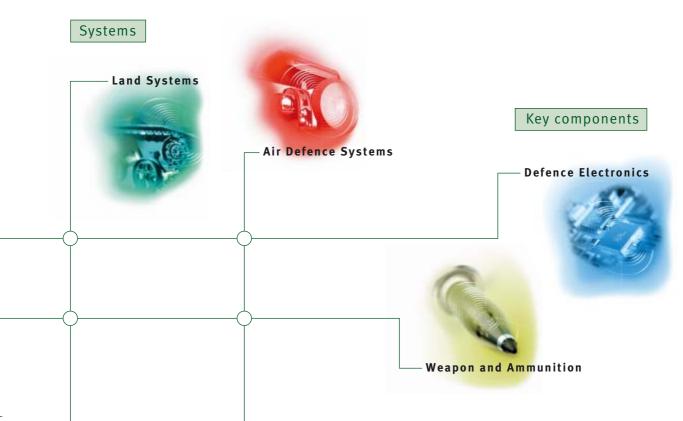
of the subsidiaries and investees of DeTec AG were reorganized into four strategic divisions, as profit centers responsible for their own respective market segments:

- Land Systems
- Air Defence Systems
- Weapon and Ammunition
- Defence Electronics.

ating Group. Thanks to the customeructs with a complete functional chain for land forces.

As of January 1, 2002, the competencies The restructuring resulted in the merging of large- and medium-caliber activities, with the two subsidiaries which cover medium-caliber weapons and ammunition, Mauser-Werke Oberndorf Waffensysteme GmbH and Oerlikon Contraves Pyrotec AG, being integrated into Weapon and Ammunition. The two companies work closely together, with their staff under joint command. Moreover, in order to achieve concerted marketing efforts, Air Defence Systems took on responsibility for the light air defence guided missile systems, which had hitherto been under the control of Defence Electronics.

#### Rheinmetall DeTec-the systems and components house



Rheinmetall DeTec AG		<b>2001</b> HGB <sup>1</sup>	<b>2002</b> HGB <sup>1</sup>	Change € million	Change in %
Capital stock	€ million	52.8	52.8		
Accounting equity	€ million	230.6	224.6	-6.0	-2.6
Total assets	€ million	553.3	615.2	+61.9	+11.2
Net investment income	€ million	19.7	15.9	-3.8	-19.3
Net income <sup>2</sup>	€ million	2.8	7.2	+4.4	+157.1
Headcount (12/31)		79	69	-10	-12.7

<sup>1</sup> German Commercial Code

<sup>2</sup> before profit transfer

#### **Dependency report**

Pursuant to Art. 312 AktG, a report concerning affiliations was prepared by the Executive Board and then examined by the Düsseldorf branch of Frankfurt/ Main-based PwC Deutsche Revision AG, all cases received an equitable con-Wirtschaftsprüfungsgesellschaft, the statutory auditors who issued their unqualified opinion thereon. This dependency report closes with the following representation:

"Under the circumstances which were known to us at the time legal transactions were entered into and actions taken or omitted, our company has in sideration. No disadvantages for our company have been involved in connection with such acts or omissions."

#### **Risk management**

The internationally operating Rheinmetall DeTec Group shields itself against possible business risks by deploying a risk management system that applies to the Group as such and is adapted to its individual business mechanisms and risk profiles. Within both Rheinmetall DeTec AG and throughout its subsidiaries in Germany and abroad, the system is a firm fixture of management repertoire.

In the monitoring and review of business risks during the year, important elements are the continuous planning and controlling process including monthly reporting, the groupwide policy guidelines, the regular talks with those in charge of operations, plus the regular reports submitted to the Executive and Supervisory Boards. As part of the annual revolving five-year plans, markets and competition are analyzed, the outcome serving as a basis for strategic planning. The data is also used for the Rheinmetall DeTec Group's three-year operating plans for finance, in turn governed by the general eco-

capital expenditures, and human resources. The monthly reporting procedures are used to check whether targets stipulated in the plans have in fact been achieved. Any shortcomings are analyzed and remedial measures taken.

The basis for the actual risk management system is the monthly risk reporting procedure adopted by Rheinmetall DeTec AG, its subsidiaries and investees. These reports quantify potential losses of individual risks, the likelihood of their occurrence, and any countermeasures taken. In line with the requirements stated in the Rheinmetall DeTec Group's risk management manual, the risk officers reviewed in 2002 the risk inventories of the individual companies, thus ensuring an update of the risk situation as identified and the instruments available for containing these risks.

Risks of future developments are mainly related to the limited defence budgets,



nomic situation. To abate present and future risks the Rheinmetall DeTec Group has taken the following action:

- Approval procedures, depending on the amounts involved, and perpetual investment controlling to abate any risks relating to expenditure projects.
- Counteracting product risks at the Group companies through a large number of quality control processes also involving suppliers. All the major locations have been approved according to ISO 9001.
- The Rheinmetall DeTec Group has taken out insurance largely covering risks to its net assets, financial position and results of operations in the event of liability or losses.
- Risks inherent in orders and contracts in progress have been duly provided for. Currency hedges ensure adequate and sufficient protection from currency risks. However, any speculative trading in financial derivatives is prohibited within the Rheinmetall DeTec Group.
- Risks emanating from tax, fair trade, patent, antitrust or contract regulations and legislation are downscaled to a minimum exposure wherever possible through ongoing monitoring and in the scope of management discretion.
- Specific market risks resulting from defence budget constraints and/or fiercer transatlantic competition cannot be fully eliminated. Nonetheless, ongoing cost-reduction and product innovation programs are designed to entrench and expand the market position of the Rheinmetall DeTec Group companies.
- IT-related risks are contained by having the existing hardware and software repeatedly checked for adequacy regarding both business processes as well as data security.

Additionally, Rheinmetall AG monitors the Rheinmetall DeTec Group's risk management system through its own internal auditing department.

The risk management system deployed by Rheinmetall DeTec AG and its main subsidiaries and investees was also covered by the statutory annual audit. The monitoring system fully meets the set requirements and is thus suitable for identifying in good time any developments jeopardizing the continuation of business.

The current review of the risk position has shown that in fiscal 2002 no risks existed or were identifiable for the future that would be potentially ruinous for Rheinmetall DeTec AG and its divisions, nor any other risks that might have a long-term material adverse impact on the Company's or the Group's net assets, financial position or results of operations.

The L55 weapon system of the Leopard 2 MBT—internationally foremost in smooth-bore technology

### Prospects

#### Material subsequent event

On January 2, 2003, Rheinmetall DeTec AG increased its stake in Oerlikon Contraves AG, Zurich, by 19.5 percent and thus wholly owns this subsidiary (at 100 percent).

#### Forecast

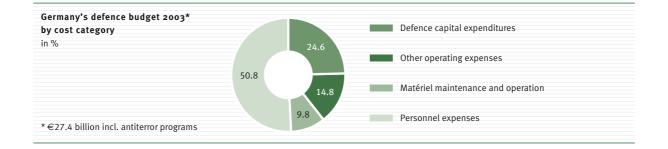
The government bill for defence spending in Germany in 2003 stipulates a limit of €24.4 billion in financial planning, which is to be increased by €614 million thanks to efficiency gains and disposals. Investment-related budget expenditures amount to €6.0 billion, of which materiel spending will account for €4.0 billion, some €0.5 billion more than a year earlier. A total of €1.0 billion has been budgeted for research, development and testing. The scope offered by the development and procurement budgets is small, with the air force accounting for over 70 percent of procurements in the years ahead.

The EU, NATO, the global security situation and potential export markets are supplying international momentum, which is impacting on the prevailing economic conditions. The numerous overseas missions being undertaken by various nations and international organizations and the resulting increased demand for mobile self-defence measures are being taken into account through the focus on relevant technologies for the land forces. Based on the planned expansion of international business, the Rheinmetall DeTec Group expects a further sales growth for the current consolidation group in the current fiscal year.

The anticipated advance in the Rheinmetall DeTec Group's business and earnings rests on the projections of the individual divisions.

For Land Systems, sales growth is budgeted for fiscal 2003, front-line products being the series-produced retrofit package for the Marder infantry fighting vehicle's mine protection system, the chassis of the SpH 2000 for Greece, the integration work for the SpH 2000 for Germany and the ARV 120 recovery tank for the Swedish army. In particular, the marketing of the Fuchs NBC reconnaissance vehicle and a series production export order for the military application of the Air Start Unit are expected to supply further momentum.

In 2003, Air Defence Systems expects to extend its sales substantially. Apart



from orders from Europe, incoming business from the Far and Middle East as well as South America is expected to contribute to this growth. The Skyguard systems for close-range air defence and the new Skyshield air defence/fire unit will continue to be the prime sources of sales.

At Weapon and Ammunition, the performance increase 1 program for the Leopard 2, the SpH 2000 and sensorfused projectiles SMArt will ensure a satisfactory level of incoming business and capacity utilization. The focus will remain on supplying the series-produced weapon system for the Eurofighter as well as shipping out the first MLG 27 light naval guns and the related ammunition. Apart from the delivery of series-produced on-board cannons for the Swedish Gripen fighter aircraft, 30-mm cannons for the Austrian infantry fighting vehicle Ulan will be shipped out. With the product groups for propellant charge powder, combustible molded parts and artillery loading systems all contributing to sales, the leading position in these market segments in Europe will be strengthened. Owing to the events of September 11, 2001, generally, demand for self-protection systems and soft-kill products has been seen to revive. In particular, the MASS naval self-defence system offers great growth potential.

The sale of the Heidel Group (tools, machines and systems for the automotive industry), which does not belong in the Rheinmetall DeTec Group's core business, did not take place in 2002 as planned but is now scheduled for 2003.

Based on the order backlog at the end of 2002, Defence Electronics hopes to widen its sales volume in 2003, the main sales contributors being the billing and milestone invoicing of the integrated sensor and weapon deployment systems for conventional submarines and the partial billing of a series production contract for the KZO drone system for the German armed forces. In the field of simulation-supported training as well as with orders related to interlinking of reconnaissance and command systems, Defence Electronics plans to convert its technologically predominant position into incremental market share.

As the shareholders of STN Atlas Elektronik GmbH (Defence Electronics), Rheinmetall DeTec AG and the British BAE Systems plc. are in talks aimed at realigning the company's structures in such a way that they conform with their respective strategic interests. Correspondingly, the Land and Air Systems as well as Simulation Systems are to be managed by Rheinmetall DeTec AG and Naval Systems by BAE Systems plc. The necessary preparations for a splitting-up of entrepreneurial responsibility are to be completed during 2003.

The expected sales trend in the Rheinmetall DeTec Group will be accompanied by further measures for optimizing internal processes and products. Programs have already been introduced aimed at improving the efficiency of capital employed. The restructuring drives launched in preceding years are likely to be completed in 2003. All measures are directed at further strengthening profitability on a sustained basis. A further improvement in earnings over the previous year is planned for fiscal 2003. A five-percent pretax return on sales (EBT margin) is the medium-term objective.

In all, this annual report contains statements and forecasts referring to the Group's and its companies' future development. These forecasts are estimates based on all information available to date. If the underlying assumptions do not materialize, or if risks surface as mentioned in the risk report, the actual figures may differ from such estimates.

For example, a military conflict in the Middle East could impact on the assumptions on which the Rheinmetall DeTec Group's performance is based. The economic consequences of such military action are difficult to foresee. The German armed forces would be affected by a conflict in the Middle East even without direct participation because commitments to the UN, EU and NATO would place them under wideranging obligations.

Ratingen, March 10, 2003

Rheinmetall DeTec AG The Executive Board

Dr. Krämer Merch Gabrielli Moog Winkler Odermatt

Dr. Küstner

### Land Systems

In the field of light and medium armored wheeled and tracked vehicles as well as support vehicles and artillery systems, Land Systems is one of Europe's leading contractors, heavily involved in virtually every major national and multinational project in this sector. Another of its fortes is servicing and retrofitting existing vehicle systems. Furthermore, its NBC protection systems for detecting and classifying nuclear, biological and chemical hazards enjoy a foremost international position.

Land Systems indicators	<b>2001</b> € million	<b>2002</b> € million	<b>Change</b> € million	Change in %
Net sales	282.7	247.8	-34.9	-12.3
Order intake	293.8	480.4	+186.6	+63.5
Order backlog (12/31)	397.5	630.4	+232.9	+58.6
EBIT	5.6	6.1	+0.5	+8.9
EBT	2.2	3.2	+1.0	+45.5
Headcount (12/31)	1,418	1,378	-40	-2.8
EBIT margin (%)	2.0	2.5		
ROCE (%)	45.8	75.4		

During the period under review, Land Systems generated sales of €247.8 million (down from €282.7 million), of which 77.0 percent was achieved in the German market, 9.5 percent in other Europe, and 13.5 percent in the rest of the world. The major sources of revenue included the series production of the chassis for the SpH 2000 as well as the integration work for this artillery system. The upgraded successor to the Büffel 3 armored recovery vehicle, specially adapted to the needs of the Swedish army, also proved to be a mainstay of business. Also a major source of revenues in 2002 was the performance upgrade program for the Leopard 2 battle tank and the Wiesel 2

carrier vehicles for the German armed forces' LeFlaSys light air defence system. This armored reconnaissance and fire control vehicle is particularly well suited for crisis reaction forces protection. The performance increase and maintenance of the US version of the Fuchs NBC reconnaissance vehicle deployed worldwide were carried out on behalf of the USA.

The repair contracts for German armed forces vehicles made a major contribution to the sales volume achieved. The two Kassel and Unterlüss locations specialize in such tasks and are endowed with the skills required for vehicle overhauls.

The Fuchs NBC reconnaissance vehicle is a world leader in this field





### Land Systems

Incoming orders in Land Systems soared versus 2001 by 63.5 percent to €480.4 million. Orders on hand compared to 2001 surged by €232.9 million to  $\in 630.4$  million (up 58.6 percent), representing a good starting position for the next fiscal year. Important development and series production orders were booked in European countries outside of Germany, thus reflecting the growing importance of exports to this division as well. For example, the Netherlands placed an order for the SpH 2000, the world's leading system. Together with a Swiss associate, a development order was secured for a new sapper tank for the Swiss army, based on the chassis of the Leopard 2. This project safeguards the division's share in the armored support vehicle market while opening up scope for the worldwide adaptation of this know-how to other battle tanks.

The Marder infantry fighting vehicle with improved mine protection for extended deployment The successfully completed development of an improved mine protection system for the Marder infantry fighting vehicle on behalf of the German armed forces led in fiscal 2002 to a series production order for the retrofitting of the armored infantry's existing main weapon systems. By year-end, three of these now ultramodern infantry fighting vehicles had been handed over to the German army.

In order to ensure its leading market position and secure the successful booking of the order to develop a new, modular infantry fighting vehicle for the German army, Rheinmetall Landsysteme GmbH, together with Krauss-Maffei Wegmann GmbH & Co. KG, established PSM Projekt System und Management GmbH. The two companies each hold a 50-percent stake and apart from development are also responsible for the production and marketing of the modular and air-transportable infantry fighting vehicles. According to its stake in the JV, the division has a share in the development contract worth some €170 million, which was awarded in September 2002. This extremely demanding project in technological terms represents an important contribution to expanding systems supremacy in the development of armored vehicles.

Sales revenues at telerob Gesellschaft für Fernhantierungstechnik GmbH, assigned to Land Systems, were generated particularly in its unexploded ordnance disposal product group, which accounted for significant new business, including orders for ordnance disposal vehicles placed by the Indonesian army and Kazakhstan's National Security Committee. The company was also awarded a development contract by the British Ministry of Defence for a new generation of manipulator vehicles. Furthermore, an order was booked together with a collaborator from the USA for master-slave manipulators intended for use in radioactively contaminated areas.

The program of restructuring and integration rolled out in 2000 was rigorously continued during the year under review, confirming the turnaround achieved in the preceding year despite declining sales owing to project cycles. At  $\in$ 6.1 million, EBIT exceeded the prior-year level by  $\in$ 0.5 million, causing the EBIT margin to rise to 2.5 percent (up from 2.0). EBT added up to  $\in$ 3.2 million (up from  $\in$ 2.2 million). ROCE was also propelled to 75.4 percent (up from 45.8).

### Air Defence Systems

Air Defence Systems is one of the world's leading suppliers of high-performance close-range air defence systems. Based in Switzerland, the Oerlikon Contraves Group has been setting standards worldwide in air defence artillery for decades and is the only comprehensive systems supplier which develops complete systems as well as key modules for radar fire control equipment, cannons, ammunition and guided missile launchers, supplying them from a single source. This expertise has also been incorporated in the new Skyshield air defence generation. The electronically programmable Ahead ammunition enables Skyshield and retrofitted Skyguard systems to engage small, fast aerial targets successfully.

Air Defence Systems indicators	<b>2001</b> € million	<b>2002</b> € million	<b>Change</b> € million	Change in %
Net sales	278.9	331.7	+52.8	+18.9
Order intake	344.2	390.3	+46.1	+13.4
Order backlog (12/31)	579.3	645.3	+66.0	+11.4
EBIT	20.6	20.6		
EBT	19.5	18.5	-1.0	-5.1
Headcount (12/31)	1,678	1,728	+50	+3.0
EBIT margin (%)	7.4	6.2		
ROCE (%)	19.3	17.2		

During the period, Air Defence Systems generated  $\in$  331.7 million in sales, up 18.9 percent compared to the previous year.

Apart from the Skyguard and Skyshield systems, performance improvement projects again contributed some 20 percent of sales. With these improvement programs for systems being deployed in over 45 countries, the division has a long-term guaranteed source of customer expenditures. Europe was responsible for almost 55 percent of revenues, the rest of the world accounting for the remaining 45 percent. The completion of a performance increase program in Switzerland which had run several years led to a sales dip in the European market.

Incoming orders reached  $\in$  390.3 million, exceeding the previous year's figure by  $\in$  46.1 million or 13.4 percent, with improvement programs for air defence systems already installed for customers as well as a contract for Skyshield for the protection of air force bases in a NATO country. This order is of special importance to the continued successful marketing of the new-generation system within and outside of NATO. Orders on hand at December 31, 2002, climbed 11.4 percent to  $\in$  645.3 million (up from  $\in$  579.3 million).

The increasing threat posed by fast, unmanned small missiles led to rising demand especially in NATO countries for gun-based air defence. The 35-mm systems (Skyguard twin cannon, Skyshield

> 35-mm medium-caliber ammunition—foremost worldwide





### Air Defence Systems

revolver cannon) matched with Ahead ammunition and 3-D radar are the only systems worldwide capable of coping with the new close-range threat scenarios. Another advantage is the modular nature of the system components, enabling customized combinations as well as light and rapid transportability.

During fiscal 2002, air defence systems again underwent extensive systems trials and individual testing in various countries, including in NATO member states. A complete, new Skyshield configuration successfully demonstrated its performance capability. The test results were recorded in detail and evaluated by company-independent third parties. A Skyshield fire control system in combination with upgraded in-service 35-mm twin cannons successfully passed exacting firing tests. The potential of the Skyshield system concept, noted for its high integration ability, was thus clearly demonstrated. The naval version of the 35-mm revolver cannon Millennium was effectively tested within the Juliet fleet battle experiment conducted by the US navy. For this deployment the naval cannon together with the MSP500 electro-optical sensor unit produced by STN Atlas Elektronik GmbH was installed on the Sea Slice high-speed vessel of Lockheed Martin Naval Electronics and Surveillance Systems. In addition to accuracy, precision and target effect, the cannon was assembled and put into operation with impressive speed and simplicity, making it ready for action on the ship within a few hours.

Adats (Air Defence Anti-Tank System) activities are represented by the subsidiary Oerlikon Contraves Inc. in Canada. Adats is a combined, highly mobile guided missile system with a combat range of up to ten kilometers for the defeat of aerial and ground targets. Besides the renewal and multiyear extension of the maintenance contract for the Canadian Adats, the remote-controlled armored weapon stations and central power supply units, for which orders were booked from the same customer, were a key source of sales. Communications Systems proved successful in fiscal 2002 in the European and international market with C<sup>3</sup>I networking solutions for air defence.

Follow-up orders also included the C<sup>3</sup>I systems for the close-range air defence system Asrad, developed by STN Atlas Elektronik GmbH, which was procured by the Finnish armed forces. In addition to the ongoing projects for the Canadian coastguard, an order was booked from its US counterpart. In the Mass Transit unit, which feeds the railbound transport industry with electronic components, the focus in fiscal 2002 was on widening the product range, including monitoring and diagnosis systems as well as the development of powerful on-board converter platforms.

In total, Air Defence Systems generated EBIT in 2002 again amounting to  $\notin$ 20.6 million. The EBIT margin measured 6.2 percent (down from 7.4 percent). EBT added up to  $\notin$ 18.5 million (down from  $\notin$ 19.5 million), ROCE reaching 17.2 percent (down from 19.3 percent).

Part of the Skyguard III fire control system—the modern machinery interface

### Weapon and Ammunition

The companies grouped under Weapon and Ammunition specialize in the development and manufacture of largeand medium-caliber weapon systems and the related ammunition. This is a market in which the division occupies a technologically predominant position worldwide. Examples include the L55 weapon system for the world's most efficient main battle tank, the Leopard 2, the self-propelled howitzer SpH 2000 and the MLG 27 light naval gun about to be introduced in the German navy. In addition, the division's companies are internationally recognized in the fields of propellant powder technology, sensor-fused ammunition for artillery, and self-defence systems for ground, air and naval applications.

Weapon and Ammunition indicators	<b>2001</b> € million	<b>2002</b> € million	<b>Change</b> € million	Change in %
Net sales	498.2	550.6	+52.4	+10.5
Order intake	545.0	517.6	-27.4	-5.0
Order backlog (12/31)	664.8	632.8	-32.0	-4.8
EBIT	21.1	33.5	+12.4	+58.8
EBT	17.6	29.3	+11.7	+66.5
Headcount (12/31)	2,905	2,667	-238	-8.2
EBIT margin (%)	4.2	6.1		
ROCE (%)	10.4	18.5		

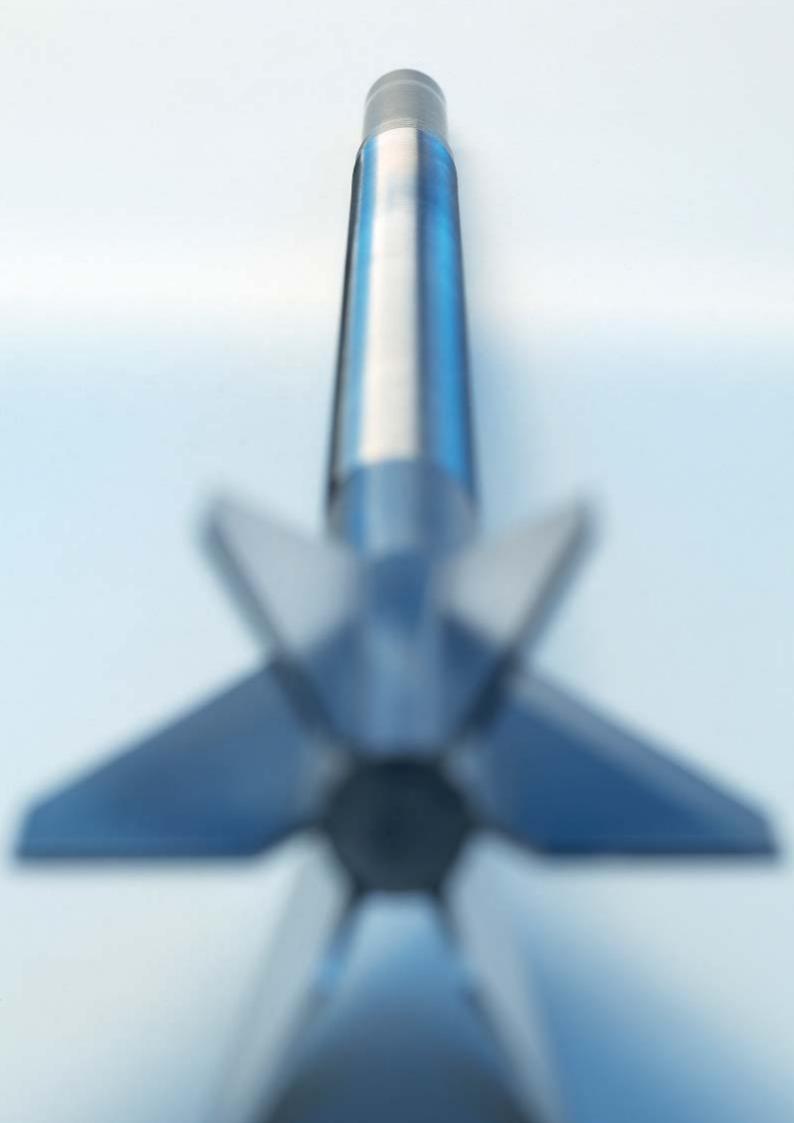
In the period under review, Weapon and Ammunition generated sales of €550.6 million, compared with €498.2 million the year before. This 10.5-percent growth was especially attributable to increased sales revenues at Rheinmetall W&M GmbH and Buck Neue Technologien GmbH in international business. Of total sales, 47.6 percent was generated on the home front, 44.3 elsewhere in Europe, and 8.1 in other parts of the world.

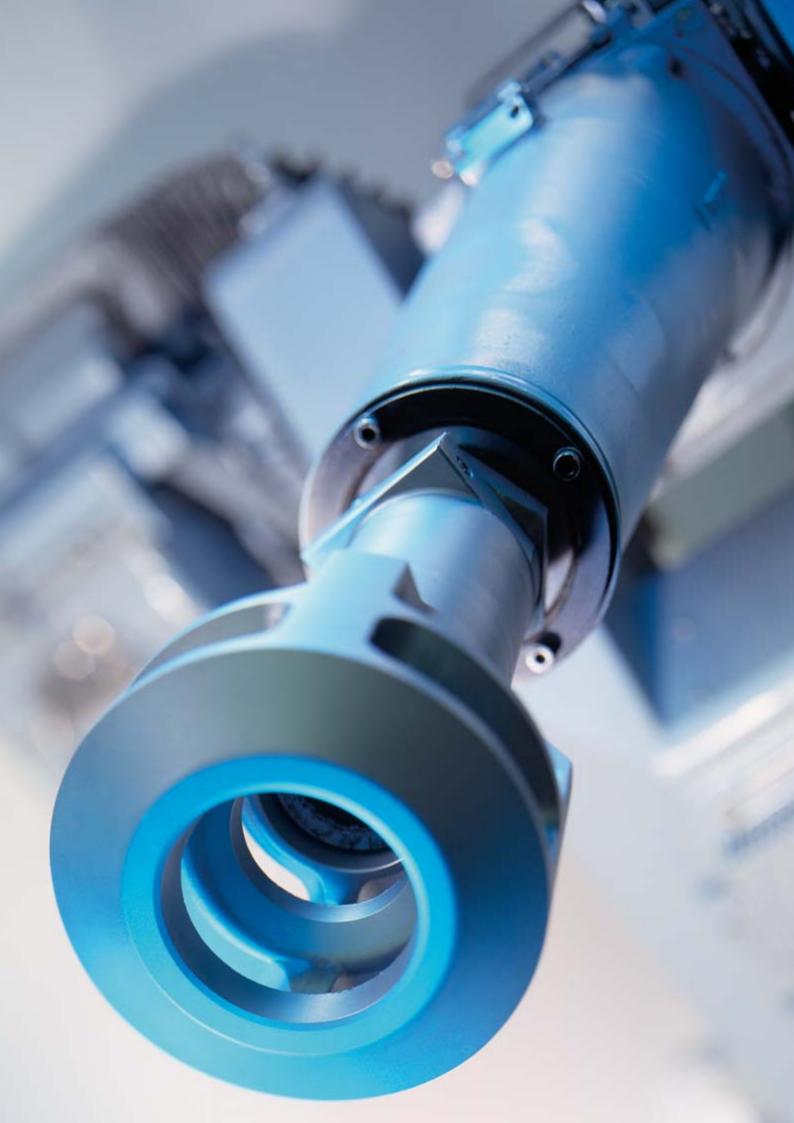
Deliveries of LKE II tank ammunition, SMArt sensor-fused ammunition and DM 662 artillery ammunition constituted the bulk of sales during the period under review. Shipments of weapon systems for the Leopard 2 main battle tank and for the self-propelled howitzer SpH 2000 as well as the BK 27 on-board aircraft cannon also made a sizable contribution to sales.

Incoming orders inched down 5 percent from the prior-year  $\in$  545.0 million to  $\in$  517.6 million. Order backlog at December 31, 2002, came to  $\in$  632.8 million, down  $\in$  32.0 million from the yearearlier level.

During the period, Rheinmetall W&M GmbH fortified its position as the world's leading manufacturer of tungsten projectiles through the series production of 120-mm LKE II tank ammunition. Another highlight of the fiscal year was the full-capacity produc-

> Performance-enhanced tungstenbased tank ammunition 120 mm LKE II—technology enjoying international supremacy





### Weapon and Ammunition

tion of the new L55 weapon system for the Leopard 2 main battle tank.

ly help the Leopard 2 remain the world's 2002. These types of ammunition most powerful battle tank. For the self- which rely solely on kinetic energy are propelled howitzer SpH 2000 artillery systems ordered by the Netherlands, the company is supplying the elevating masses and the 155-mm ammunition.

The two companies under joint management, Mauser-Werke Oberndorf Waffensysteme GmbH and Oerlikon Contraves Pyrotec AG, were integrated into Weapon and Ammunition retroactively as of January 1, 2002.

Mauser-Werke Oberndorf Waffensysteme GmbH possesses in the MLG 27 light naval gun one of the most up-todate and powerful weapon systems of this class. The gun is designed for self-defence of naval units against aircraft, helicopters, fast craft and offshore objects. The series production contract from the German navy secured in the year under review is an important reference for international marketing efforts of this system. The company also booked a follow-up order for fitting out the EF 2000 Eurofighter, including ground service and test equipment as well as other components. The 35-mm FAPDS ammunition and development work carried out and paid for by customers were also prime sources of revenues.

Oerlikon Contraves Pyrotec AG, which specializes in medium-caliber ammunition, started series production of 30-The improved weapon system will great- mm subcaliber ammunition in fiscal technological leaders in their market. In addition, ammunition demonstrations of key future importance took place in the company's own testing center in Ochsenboden, Switzerland. This included firing 27-mm Frap ammunition in the presence of Tornado and Eurofighter customers. Air burst ammunition in 30-mm caliber was successfully demonstrated in the USA. On behalf of Mauser-Werke Oberndorf Waffensysteme GmbH, the development of a 27-mm ammunition type for the MLG 27 light naval gun was also completed in fiscal 2002.

> The Nitrochemie Group with its companies in Aschau, Germany, and Wimmis, Switzerland, stepped up the cooperation with the British Royal Ordnance Defence Ltd. which started in the preceding year, thus further expanding its leading position in the market for multi-base propellant charge powders and combustible molded parts. Essential new business was posted thanks to this partnership.

Topping the agenda at Buck Neue Technologien GmbH during fiscal 2002 was the aspired turnaround in earnings. The successful restructuring program was reflected in an encouraging profit following the previous year's clear loss. Market success was achieved nationally and internationally with the MASS naval self-defence system, the development of which was completed during the period. For example, an order for this system to be deployed on the new K 130 corvette of the German navy was booked.

The venture planned last year with the US-based Alliant Techsystems (ATK) ammunition manufacturer was not realized in the form cited owing to the USA's changed defence strategy and stronger growth momentum in arms markets. The marketing opportunities for the division's own products with US partners remain unchanged, however, and will be pursued further.

Owing to poor capacity utilization and the changed political environment, a decision was made to close down the defence technology operations of Eurometaal Holding N.V. based in Zaandam, Netherlands. The steps required to bring this about were initiated in the summer of 2002 and will be completed in June 2003. Intergas B.V., which operates in the civilian sector (fuel value boilers), was sold off. The planned sale of the Heidel Group (tools, machines and systems for the automotive industry) is due to be carried out in fiscal 2003.

Weapon and Ammunition generated EBIT amounting to €33.5 million (up from €21.1 million), the EBIT margin rising to 6.1 percent (up from 4.2 percent). At €29.3 million, EBT was also well above the prior-year €17.6 million, ROCE improving to 18.5 percent (up from 10.4).

The MLG 27 light naval gun—the most modern in its class

### **Defence Electronics**

land and air systems, and simulation systems belonging to STN Atlas Elektronik GmbH form the Defence Electronics division. This latter possesses a broad technology basis and an internationally renowned range of products and services covering components, systems and equipment for ground, naval and air forces. In the fields of integrated

The business fields of naval technology, command and weapon deployment systems for submarines, sonar technology, and torpedoes, Defence Electronics is a world leader. Other areas of expertise include reconnaissance and command systems, especially for land forces, fire control systems for battle tanks, unmanned drones for target detection and simulation-supported training.

Defence Electronics indicators	<b>2001</b> € million	<b>2002</b> € million	Change € million	Change in %
Net sales	587.0	572.7	-14.3	-2.4
Order intake	852.2	520.7	-331.5	-38.9
Order backlog (12/31)	1,876.3	1,824.3	-52.0	-2.8
EBIT	27.7	32.0	+4.3	+15.5
EBT	22.3	27.5	+5.2	+23.3
Headcount (12/31)	2,936	2,986	+50	+1.7
EBIT margin (%)	4.7	5.6		
ROCE (%)	22.8	29.0		

Defence Electronics concluded fiscal 2002 with a sales volume of €572.7 million, representing a 2.4-percent fall on the year-earlier €587.0 million. Some 40 percent of sales was generated abroad, of which Europe accounted for over 80 percent and the rest of the world for almost 20 percent.

Apart from the Integrated Sensor Underwater Systems (Isus) for the Hellenic navy, sales by Naval Systems centered on the DBQS-40 sonar equipment for class 212 A submarines of the German and Italian navies. These complex sonar systems can detect mines, torpedoes, submarines and surface vessels.

For the Land and Air Systems unit, three major projects were the prime source of sales, including the delivery of further LeFlaSys light air defence systems to the German armed forces. LeFlaSys is a powerful, mobile and air-transportable air defence missile system, the main task of which is to protect crisis reaction forces. The shipping out of the first of 219 combat systems for the Spanish version of the Leopard 2 battle tank also made a major contribution to sales. Each combat system consists of a fire control unit, panoramic periscope, tank testing equipment, and a control system. The invoicing for the series production of

> Autonomous optronic targeting device AOZ for medium-caliber weapon systems





### **Defence Electronics**

unmanned KZO drones for target detection for the German armed forces also raised added revenues.

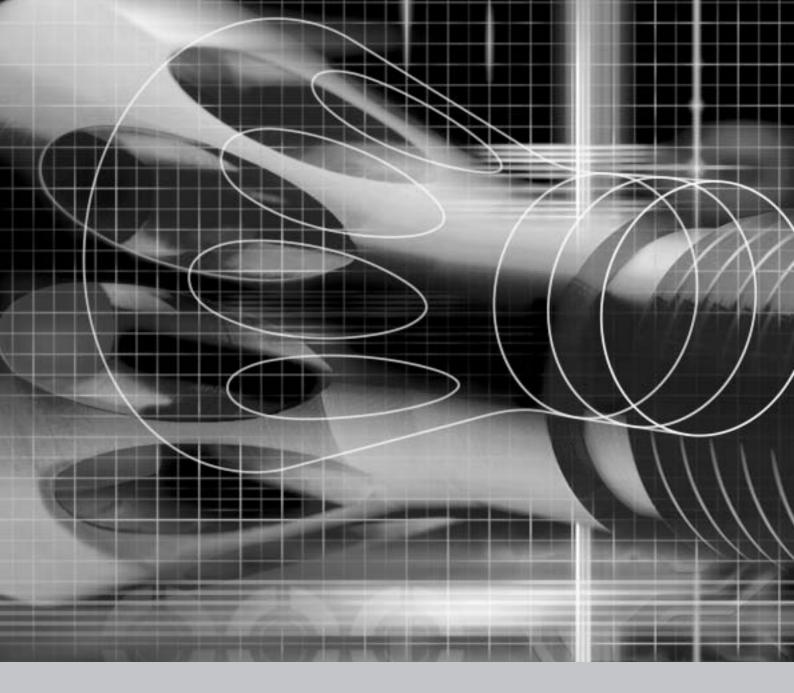
Sales of simulation systems were dominated by the ongoing national development contract for extensive simulation-supported training facilities for crews of the new Tiger combat helicopter. Also invoiced were further stages in the SCTT command and weapon deployment simulator project for class 212 A submarines of the Italian navy. The completion of the Eltam simulator system for the Swiss army also boosted sales during fiscal 2002. This system is the world's most modern indoor simulation system for tactical and mission training of combat by combined forces.

At €520.7 million, incoming orders during the period under review at Defence Electronics were, as expected, below the very high prior-year level of €852.2 million owing to the award of major project contracts. Some 60 percent of order intake related to contracts signed with customers outside of Germany (up from 32 percent). As part of the mine-hunting 2000 program being pursued in Germany, the Naval Systems unit succeeded in winning a development order for a new mine-hunting drone system for detecting conventional underwater mines and mines washed into the sea bed. On behalf of a Chinese shipyard, the unit will supply the Cosys command and weapon deployment system for two new coastal patrol boats of the Royal Thai Navy.

The Finnish armed forces placed an order for the Asrad short-range air defence system. This major contract for the Land and Air Systems unit, worth more than €120 million, comprises four systems in a containerized version which can be easily adapted to various vehicle types. In addition, significant orders were booked for electro-optical systems, including sensor kits for the MLG 27 light naval guns manufactured by Mauser-Werke Oberndorf Waffensysteme GmbH which form part of the German navy's modernization program and the MSP500 multisensor platform systems for the Norwegian army.

The Simulation Technology unit's order intake was dominated by follow-up projects or ongoing programs. The Swiss army placed an order for the construction of an electronic fire training facility for the Leopard 2 battle tank and the infantry fighting vehicle 2000. In Spain, the booking of a combat and tactical simulator, also for the Leopard 2 battle tank, was successfully completed. In addition, the combat training center of the US armed forces in Hohenfels, Germany, is being equipped with a data communications system. In fiscal 2002, Defence Electronics registered an encouraging improvement in earnings, EBIT rising to  $\in$  32.0 million (up from  $\in$  27.7 million). The EBIT margin came to 5.6 percent (up from 4.7 percent). At  $\in$  27.5 million, EBT exceeded the preceding year's by  $\in$  5.2 million (up 23.3 percent). ROCE was improved from 22.8 percent to 29.0 percent.

The one-way Seafox drone—a world leader in smart ammunition for demolishing underwater mines



Separate and consolidated financial statements 2002 Rheinmetall DeTec AG



# Balance sheet of Rheinmetall DeTec AG as of December 31, 2002

A	S	S	E	Т	S
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€ million	12/31/2001	12/31/2002
Fixed assets		
Intangible assets	0.152	0.166
Tangible assets	5.115	4.808
Financial assets	374.063	420.781
	379.330	425.755
Current assets		
Inventories	0.021	0.019
Receivables and sundry assets		
Due from group companies	157.223	180.951
All other receivables and sundry assets	7.866	1.929
Cash & cash equivalents	7.890	5.818
	173.000	188.717
Prepaid expenses and deferred charges	0.975	0.721
	553.305	615.193

#### EQUITY AND LIABILITIES

$\in$ million	12/31/2001	12/31/2002
Stockholders' equity		
Capital stock	52.800	52.800
Additional paid-in capital	127.207	127.207
Reserves retained from earnings	44.623	44.623
Net earnings	6.000	0
	230.630	224.630
Accruals		
Accruals for pensions and similar obligations	47.405	48.112
All other accruals	13.243	6.864
	60.648	54.976
Liabilities		
Trade payables	0.299	0.207
Due to group companies	256.636	331.052
All other liabilities	0.616	1.045
	257.551	332.304
Deferred income	4.476	3.283
	553.305	615.193

## Rheinmetall DeTec AG Income statement for the year ended December 31, 2002

€ million	2001	2002
Income from investments	21.410	0.608
Income from profit transfer	1.039	15.280
Expenses for loss absorption	(0.743)	0
Write-down of financial assets	(1.961)	0
Net investment income	19.745	15.888
Income from other long-term securities and loans	0.606	0.601
Other interest and similar income	4.062	4.351
Interest and similar expense	(10.459)	(8.805)
Net interest expense	(5.791)	(3.853)
Net financial result	13.954	12.035
Other operating income	53.345	49.657
Personnel expenses	(18.953)	(13.690)
Amortization of intangible and depreciation of tangible assets	(0.467)	(0.403)
Other operating expenses	(48.153)	(43.990)
Earnings before taxes (EBT)	(0.274)	3.609
Income taxes	3.110	3.608
Net income	2.836	7.217
Profit carryover from prior year	4.000	0
Transfer to reserves retained from earnings	(0.836)	0
Agreed profit transfer	0	(7.217)
Net earnings	6.000	0

## Rheinmetall DeTec Group Consolidated balance sheet as of December 31, 2002

#### ASSETS

€ million	Note	12/31/2001	12/31/2002
Fixed assets	(1)		
Intangible assets	(2)	171.2	182.6
Tangible assets	(3)	388.0	363.2
Financial assets	(4)	6.4	7.5
thereof investments stated at equity		[1.8]	[1.6]
Current assets		565.6	553.3
Inventories	(5)	576.0	547.8
less prepayments received		(26.2)	(35.3)
		549.8	512.5
Trade receivables	(6)	353.3	386.8
All other receivables and sundry assets	(6)	197.2	285.4
Cash and cash equivalents	(7)	247.5	233.2
		1,347.8	1,417.9
Income tax assets	(8)	46.6	33.0
Prepaid expenses & deferred charges	(9)	3.4	4.3
		1,963.4	2,008.5

#### EQUITY AND LIABILITIES

€ million	Note	12/31/2001	12/31/2002
Total equity	(10)		
Stockholders' equity (Rheinmetall DeTec AG)			
Capital stock		52.8	52.8
Additional paid-in capital		127.2	127.2
Other reserves		114.7	117.4
Group earnings (after minority interests)		10.1	23.5
		304.8	320.9
Minority interests	(10)	124.4	115.1
Accruals			
Accruals for pensions and similar obligations	(11)	251.3	265.0
Other accruals	(12)	325.0	312.0
Liabilities		576.3	577.0
Noncurrent financial debts	(13)	71.1	110.5
Current financial debts	(13)	64.8	23.1
Trade payables	(13)	233.4	184.7
All other liabilities	(13)	561.1	658.6
		930.4	976.9
Income tax liabilities	(14)	18.1	10.9
Deferred income	(15)	9.4	7.7
		1,963.4	2,008.5

## Rheinmetall DeTec Group Income statement for the year ended December 31, 2002

€ million		2001	2002
Net sales	(16)	1,614.1	1,677.1
Net inventory changes, other work and material capitalized	(17)	11.5	(78.2)
Total operating performance		1,625.6	1,598.9
Other operating income <sup>1)</sup>	(18)	87.7	112.2
Cost of materials	(19)	(737.2)	(658.2)
Personnel expenses	(20)	(555.2)	(580.2)
Amortization/depreciation/write-down	(21)	(67.2)	(77.7)
Other operating expenses	(22)	(286.8)	(317.6)
Operating result		66.9	77.4
Net interest expense	(23)	(25.6)	(22.0)
Net investment income and other financial results <sup>2)</sup>	(24)	(5.8)	(5.7)
Net financial result		(31.4)	(27.7)
Earnings before taxes (EBT)		35.5	49.7
Income taxes	(25)	(18.8)	(5.1)
Group net income		16.7	44.6
Profit transferred under a P&L transfer agreement		0.0	(7.2)
Minority interests	(26)	(6.6)	(13.9)
Group earnings (after minority interests)		10.1	23.5
Earnings per registered share <i>in</i> €	(27)	0.19	0.44
EBIT		61.1	71.7
EBITDA		128.3	149.4

 $^{1)}$ Thereof gain from the disposal of discontinued operations (Intergas B.V.): €19.8 million (up from €0.0 million)

<sup>2)</sup> Thereof profit from investments carried at equity: €0.2 million (up from a prior-year loss of €2.5 million)

## Rheinmetall DeTec Group Cash flow statement for fiscal 2002

€ million Note (29)	2001	2002
Cash and cash equivalents at Jan. 1 (BoP)	147.8	247.5
Group net income	16.7	44.6
Amortization/depreciation/write-down of fixed assets	60.6	76.5
Change in pension accruals	8.3	13.3
Cash flow	85.6	134.4
Net result from fixed-asset disposal	(0.7)	1.0
Change in other accruals	(23.7)	(11.0)
Change in inventories	(11.0)	35.6
Change in receivables, liabilities (excl. financial debts)		
and prepaid & deferred items	72.9	(68.3)
Other noncash expenses and income, net	17.9	(13.1)
Net cash provided by operating activities	141.0	78.6
	· · · ·	
Cash outflow for additions to tangible and intangible assets	(47.7)	(48.3)
Cash inflow from the disposal of tangible and intangible assets	3.3	7.0
Cash outflow for additions to consolidated subsidiaries and financial assets	(13.3)	(58.9)
Cash inflow from the disposal of consolidated subsidiaries and financial assets	11.6	18.2
Net cash used in investing activities	(46.1)	(82.0)
Capital paid in	24.0	0.0
Dividends paid out by Rheinmetall DeTec AG	(27.0)	(6.0)
Other profits distributed	(5.0)	(2.3)
Financial debts raised	11.5	(2.3)
Net cash provided by/(used in) financing activities	3.5	(10.6)
	5.5	(2010)
Cash-based change in cash & cash equivalents	98.4	(14.0)
Parity-related change in cash & cash equivalents	1.3	(0.3)
Total net change in cash & cash equivalents	99.7	(14.3)
Cash & cash equivalents at Dec. 31 (EoP)	247.5	233.2
thereof financial receivables due on demand from the	,	
Rheinmetall Group's central cash management system	175.5	162.7

## Rheinmetall DeTec Group Statement of changes in equity

€ million	Note (10) Capital stock	Additional paid-in capital	Reserves retained from earnings	Currency translation differences	Reserves from fair and other valuation	All other reserves	Group earnings after minority interests	Stock- holders' equity (Rhein- metall DeTec AG)	Minority interests	Total equity
Balance at December 31, 2000	52.8	103.2	168.5	3.8		172.3	(24.6)	303.7	82.3	386.0
First-time application of IAS 39 (1/1/2001)					(1.3)	(1.3)		(1.3)	(0.1)	(1.4)
Capital contributions		24.0						24.0		24.0
Dividend payments			(27.0)			(27.0)		(27.0)	(5.0)	(32.0)
Exchange differences				1.5		1.5		1.5	0.2	1.7
Changes in consolidation group				(1.0)		(1.0)		(1.0)	48.2	47.2
Other comprehensive inco	me		(27.9)		(1.9)	(29.8)	24.6	(5.2)	(7.8)	(13.0)
Group earnings							10.1	10.1	6.6	16.7
Balance at December 31, 2001	52.8	127.2	113.6	4.3	(3.2)	114.7	10.1	304.8	124.4	429.2
Dividend payments			(13.2)			(13.2)		(13.2)	(2.3)	(15.5)
Exchange differences			(1.8)	(0.6)		(2.4)		(2.4)	0.4	(2.0)
Changes in consolidation group			1.2			1.2		1.2	(23.1)	(21.9)
Other comprehensive inco	me		14.6		2.5	17.1	(10.1)	7.0	1.8	8.8
Group earnings							23.5	23.5	13.9	37.4
Balance at December 31, 2002	52.8	127.2	114.4	3.7	(0.7)	117.4	23.5	320.9	115.1	436.0

## Notes Accounting principles

#### General

The Rheinmetall DeTec Group represents the Defence sector of the Rheinmetall Group. In line with its operations, Defence breaks down into four divisions, viz. Land Systems, Air Defence Systems, Weapon and Ammunition, and Defence Electronics, all of which are parented by Rheinmetall DeTec AG as holding company.

The voluntarily prepared consolidated financial statements of Rheinmetall DeTec AG and its subsidiaries for the fiscal year 2002 have been prepared in accordance with the International Accounting Standards (IAS) of the IASB and comprise balance sheet, income statement, cash flow statement, statement of changes in equity, as well as the primary- and secondary-segment reports and the (foot)notes thereto.

All IAS effective at balance sheet date have been applied, as have the Interpretations of the Standing Interpretations Committee (SIC).

For enhanced transparency of presentation, certain items of the consolidated income statement and balance sheet have been subsumed in captions, however, which are broken down and detailed further below in these notes. The consolidated income statement has been prepared in the total-cost format. The consolidated financial statements are presented in euro ( $\in$ ), current- and prior-year amounts being indicated in  $\in$  million unless expressly otherwise stated.

Since Rheinmetall DeTec AG is included in the exempting consolidated financial statements of Rheinmetall AG, the Company is not obligated to prepare any of its own. Nonetheless, Rheinmetall DeTec AG has opted to voluntarily publish IAS-based consolidated financial statements, thus exercising the exemption option under the terms of Art. 292a HGB, viz. to draw up the consolidated accounts in accordance with internationally accepted accounting principles in lieu of consolidated financial statements according to German commercial accounting regulations. The assessment of whether the consolidated financial statements and group management report meet the prerequisites of Art. 292a HGB has been made in conformity with the DRSC interpretation in German Accounting Standard DRS-1. The present consolidated statements substantially reflect the following accounting and valuation methods in derogation of the German Commercial Code (HGB):

- translation of non-euro receivables and payables at the current closing rate and recognition in net income of the resulting translation differences
- recognition at fair value of certain primary (original) and derivative financial instruments
- capitalization of internally created intangible assets
- realization of profits according to the percentage of completion (PoC) from long-term manufacturing contracts with customers
- discounting of noncurrent accruals
- waiver of providing for accrued liabilities if the probability of accrual utilization is below 50 percent

- accounting for deferred taxes according to the liability method
- capitalization of deferred tax assets for tax loss carryovers which are likely to be offsettable against future taxable incomes
- capitalization of the asset and recognition of the residual liability under capital leases according to the definition criteria of IAS 17
- measurement of defined benefit obligations (DBO), and thus pension accruals, according to the projected unit credit (PUC) method with due regard to future pay rises and the corridor rule of IAS 19.

The fiscal year of Rheinmetall DeTec AG and its fully consolidated subsidiaries equals the calendar year. Rheinmetall DeTec AG is registered at the Commercial Register of the Local Court of Düsseldorf and maintains its official head office in Ratingen.

As mentioned above, Rheinmetall De-Tec AG's consolidated financial statements will be included through the voluntarily prepared group accounts of Düsseldorf-based Rheinmetall AG in the statutory consolidated financial statements of Röchling Industrie Verwaltung GmbH, Mannheim, as the great grandparent and highest tier of consolidation.

#### Group of consolidated companies

Besides Rheinmetall DeTec AG, the con- (i.e., entities in which a stake between solidated financial statements include all German and foreign subsidiaries in which Rheinmetall DeTec AG holds the majority of voting rights (whether directly or indirectly). One company has been included as special-purpose enterprise in the consolidation group. Principally, companies are initially consolidated or deconsolidated upon share transfer. Associated affiliates

20 and 49 percent is owned and over which a controlling influence is exercised) are stated at equity.

For lack of materiality, one subsidiary has not been included in the consolidated financial statements.

	12/31/2001	Additions	Disposals	12/31/2002
Fully consolidated companies	54	3	4	53
thereof Germany	[30]	[2]	[1]	[31]
thereof abroad	[24]	[1]	[3]	[22]
Investments stated at equity	7	1	1	7
thereof Germany	[4]	[1]	[0]	[5]
thereof abroad	[3]	[0]	[1]	[2]

In the year under review, Rheinmetall nized into a management holding company that controls four market-oriented, strategic profit centers. With a view to strengthening these profit-center segments, Rheinmetall DeTec AG acquired in 2002 further shares in subsidiaries and streamlined its shareholding portfolio.

Specifically, the 60.5-percent stake in Oerlikon Contraves AG was as of September 23, 2002, increased to 80.5 percent. The 1999 share sale and transfer agreement on the acquisition of the initial stake in Zurich, Switzerland, based Oerlikon Contraves AG includes a price adjustment bond that may entail share purchase price adjustments until the close of fiscal 2008. To date, no such effects have resulted from this bond.

Moreover, the remaining 31-percent in- All major subsidiaries and all signifi-DeTec AG has been structurally reorga- terest in Buck Neue Technologien GmbH cant investees stated at equity which was taken over in 2002. Also in the period, Rheinmetall Optronik Systeme GmbH was formed in Bremen. As of January 1, 2002, Atlas Hydrographic Holdings Pty., Ltd., Sydney, Australia, was organized and all of the shares in Atlas Hydrographic Systems GmbH, Bremen, were acquired.

> As of October 3, 2002, Eurometaal Holding N.V., Zaandam, Netherlands, sold and transferred Intergas B.V., its Dutch subsidiary in Coervorden, including the latter's two subsidiaries.

Effective January 1, 2002, Unterlüssbased Rheinmetall Forschung GmbH was merged into, and absorbed by, Rheinmetall DeTec AG.

The changes in the consolidation group are of minor significance to Rheinmetall DeTec AG's consolidated financial statements.

are included in the consolidated financial statements of Rheinmetall DeTec AG are listed on page 93. A comprehensive listing of the shareholdings of Rheinmetall DeTec AG will be deposited with the Commercial Register of the Local Court of Düsseldorf (HRB 43739).

## Notes Accounting principles

#### **Consolidation principles**

The financial statements of consolidated German and foreign companies are prepared in accordance with groupwide uniform accounting and valuation methods.

Subsidiaries included for the first time are consolidated according to the purchase method, specifically the book value method under the terms of IAS 22, by offsetting the cost of shares acquired against the subsidiaries' prorated equity. Any difference between cost and prorated equity is, if based on hidden reserves or burdens, allocated at the Group's percentage shareholding in such hidden reserves or burdens to the subsidiaries' assets and liabilities. Any residual net equity under or over cost is capitalized as goodwill or badwill within intangible assets. Goodwill is amortized over its estimated useful life, while badwill is amortized to other operating income in accordance with IAS 22. Any residual net equity under cost from pre-1995 acquisitions has been offset against the Group's reserves retained from earnings. Upon deconsolidation the residual book values of goodwill and badwill are accounted for accordingly when measuring the net gain or loss on disposal.

Shares of nongroup shareholders are disclosed as minority interests in the consolidatable capital of subsidiaries, including the profit or loss proratable to such minority interests. Expenses and income from intragroup transactions, as well as intercompany receivables and payables are eliminated in consolidation. Intercompany profits and losses in fixed and current assets are eliminated unless insignificant. Deferred taxes are recognized for temporary differences from consolidation.

Associated affiliates are principally stated at equity. Starting from the historical cost at the share acquisition date, the current investment book value is adjusted for any increases or decreases in the associated affiliates' equity pro rata of the Rheinmetall DeTec Group's interests.

To determine the goodwill (if any) of associated affiliates, principles analogous to full consolidation are adopted, goodwill and its amortization being recognized in the investment book value and net investment income, respectively.

#### **Currency translation**

The functional currency concept has been adopted to translate the noneuro annual financial statements of non-German group companies into  $\in$ . As a rule, their functional currency equals the local currency. Therefore, assets and liabilities are translated at the mean current rates and the income statements at the annual average rates. The translation differences resulting herefrom, as well as those from translating prior-year carryovers are recognized in, and only in, equity. Goodwill created from the capital consolidation of non-German companies is carried at amortized historical cost.

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		Me	an rate in € at	Annual aver	age rate in €
		12/31/2001	12/31/2002	2001	2002
Australia	1 Australian dollar	0.5764	0.5392	0.5758	0.5742
UK	1 pound sterling	1.6418	1.5378	1.6139	1.5929
Canada	1 Canadian dollar	0.7092	0.6100	0.7221	0.6741
USA	1 US dollar	1.1334	0.9601	1.1176	1.0581
Switzerland	1 Swiss franc	0.6755	0.6884	0.6624	0.6741
	€1 = \$A	1.7350	1.8545	1.7366	1.7416
	€1 = f	0.6091	1.5378	0.6196	0.6278
	€1 = Can\$	1.4101	1.6393	1.3849	1.4835
	€1 = US\$	0.8823	1.0416	0.8948	0.9451
	€1 = Sfr	1.4804	1.4527	1.5096	1.4674

In the local-currency financial statements of consolidated companies, currency receivables, payables, and cash and cash equivalents are translated at the current (closing-date) rate. Currency translation differences are duly recognized in the net financial result.

Accounting and valuation methodsPurchased intangible assets are capi- talized at (acquisition) cost, internally nologi created intangibles from which the Group believes to derive future eco- (IAS 33 nomic benefits and which can reliably that it: be measured are recognized at pro- duction cost, either type of intangible asset being amortized by straight-line erable charges over the estimated useful life.real cost, a down is rectly allocable to the production pro- cess, including any proratable produc- is reve are principally expensed. Develop- ment costs are exceptionally capital- ized and amortized on a straight-line basis if a newly developed product orset are principally expensed product or

process can be clearly defined, technologically realized and used either internally or is destined for marketing (IAS 38), and if it is reasonably sure that its costs will be recovered by future cash inflows. If certain factors hint at an impairment and the recoverable amount is below amortized cost, an intangible asset is written down. Wherever the reason for writedown has ceased to exist, the charge is reversed and the asset written up accordingly; write-up is capped by the asset's amortized cost.

The following useful lives underlie amortization as a rule:

Concessions, franchises, industrial property rights	3–18 years
Goodwill	15–20 years

## Notes Accounting principles

**Goodwill** from consolidation or the statement at equity is amortized over its estimated period of benefit, as a rule 15 to 20 years. The period is estimated with due regard to the expected benefits from the market position achieved through the acquisition and from the acquiree's value-adding potential. Amortization of goodwill is charged to amortization/depreciation while badwill is released to other operating income.

**Tangible assets** are carried at depreciated cost less any write-down. The production cost of internally made tangible assets comprises all costs directly allocable to the production process, including the proratable productionrelated overheads. Borrowing costs

are not capitalized as part of cost. Tangible assets are principally depreciated on a straight-line basis over their estimated useful lives unless in exceptional cases another method better reflects the pattern of use. The option of IAS 40 of stating investment properties at fair value is not exercised.

The following asset depreciation ranges (ADRs) apply to property, plant and equipment within tangible assets:

Buildings	25–50 years
Other structures	5–30 years
Titles equivalent to land	50–99 years
Production plant and machinery	3–50 years
Other plant, factory and office equipment	2-25 years

Tangible assets obtained under capital leases are capitalized at the lower of their fair values or the present value of minimum rents and depreciated over the shorter of their estimated useful lives or underlying lease terms (IAS 17). If certain factors hint at an impairment and the recoverable amount is below depreciated cost, a tangible asset is written down. Wherever the reason for write-down has ceased to exist, the charge is reversed and the asset written up accordingly.

The shares in nonconsolidated group companies and in associated affiliates not stated at equity and the other long-term securities, all shown as **financial assets** and throughout belonging in the category *available for sale*, are carried at their fair values. Unrealized gains and losses are accounted for in the reserve from fair valuation. Upon disposal, such gains or losses are duly recognized in the income statement. However, if a value has been impaired and fallen below cost, even unrealized losses are recognized in net income.

In accordance with IAS 39, long-term loans bearing interest at fair market

rates are carried at amortized cost, whereas non- or low-interest loans are discounted.

**Inventories** are recognized at cost, as a rule applying the average-price method to acquisition cost whereas production cost includes the absorbed costs according to IAS 2 and is determined on the basis of normal workloads. Specifically, capitalized production cost comprises direct costs plus any portions of indirect materials, indirect manufacturing costs (labor, etc.), as well as production-related depreciation and pension expenses, but excludes any borrowing costs (IAS 23). Risks inherent in inventories due to reduced utility or to obsolescence are adequately allowed for. If the net realizable value (NRV) of any inventories at balance sheet date is below their carrying value, such inventories are written down to NRV. If the NRV of inventories previously written down has risen, the ensuing write-up is offset against cost of

materials (raw materials and supplies) or shown as increase in inventories of finished products and work in process (WIP).

**Prepayments received** on account of contracts other than those covered by IAS 11 (PoC accounting) are openly deducted from inventories if produc-

tion cost has already been incurred, any other prepayments being recognized as liabilities.

Where the requirements of IAS 11 are satisfied, longer-term manufacturing orders or construction contracts from customers are recognized in accordance with their percentage of completion. This method implies that the production cost incurred, plus a markup in line with the percentage of completion, is shown as receivable under I/t manufacturing contracts and within net sales. If the criteria for PoC accounting are not met (e.g., because contract costs cannot be reliably estimated), these contracts are recognized according to the zero profit method. As a rule, the PoC is determined on a cost-to-cost basis, i.e., at the ratio the expenses incurred bear to anticipated total expenses. Expected losses on l/t manufacturing contracts (so-called onerous contracts) are either covered by an appropriate writedown or else provided for, all with due regard to the foreseeable risks. Prepayments received from customers on account of long-term manufacturing contracts are offset against the capitalized production cost plus markup or, as appropriate, less write-down or accrual. If resulting in a negative balance, the corresponding liability is recognized as payable under l/t manufacturing contracts.

#### Receivables and sundry assets are

capitalized at cost. Adequate allowances provide for bad debts and doubtful accounts. Non-euro receivables are translated at the mean current rate. Short-term securities are fair-valued as of the balance sheet date. Changes in fair value are not recognized in income until realized. However, if a value has been im-

Deferred taxes are duly recognized on temporary differences between the values of assets and liabilities in the consolidated balance sheet and those in the individual companies' tax accounts (IAS 12). Deferred tax assets also include tax reduction claims from the expected future utilization of tax loss carryovers if their realization is reasonably certain. Deferred taxes are determined by applying the local tax rates current or announced in each country at balance sheet date. Deferred taxation rates outside of Germany ranged between an unchanged 25 and 36 percent.

In September 2002, the German government enacted certain flood victim solidarity legislation, thereby raising the corporate income tax rate for the one fiscal year 2003 from 25 to 26.5 percent. Related to the average tax rate of 40 percent (rounded) applied to calculate deferred taxes (including solidarity surtax and municipal trade tax on income), the effect entailed by such legislation is marginal and, therefore, this tax rate is also applied to deferred taxes which will reverse in 2003. paired and fallen below cost, even unrealized losses are recognized in net income.

## Notes Accounting principles

Accruals for pensions and similar obligations are determined for defined benefit plans according to the projected unit credit (PUC) method, which is predicated not only on expected future pay and pension increases but also other actuarial assumptions (IAS 19). The actuarial gains and losses ensuing from differences between actuarial assumptions and actual trends of the underlying parameters give rise to a gap between the present value of the defined benefit obligation (DBO) and the pension liabilities accrued in

the balance sheet. Actuarial gains and losses outside a 10-percent corridor of the DBO's present value are distributed over the average residual service years of employees. Service cost is treated as personnel expense while the interest portion of pension provisions in the fiscal year is shown within the net financial result. Contributions to defined contribution plans (DCPs), under which a company incurs no further obligation other than to pay the contributions to earmarked pension funds, are expensed in the year when incurred.

The remaining **accruals** according to IAS 37 provide at balance sheet date for all identifiable legal and constructive commitments and obligations to third parties if based on past transactions or events and if their amount, due date or maturity is uncertain. Accruals are measured at the best estimate of their settlement amounts. Warranty obligations are accrued and provided for when the pertinent sales revenues are realized. Noncurrent accruals are shown, if the effect of discounting is significant, at the settlement amount discounted as of balance sheet date.

Pursuant to IAS 39, **liabilities** are measured at amortized cost, which as a rule equals their settlement or repayment amounts. Liabilities under capital leases are recognized at the present value of rents.

**Prepaid and deferred items** are shown to appropriately recognize pro rata temporis (p.r.t.) rents, interest, license fees, royalties, insurance premiums, etc. if paid or received in advance. Net sales (revenues) and other operating income are recognized upon performance of the contract for goods/ services or upon passage of risk to the customer. Under long-term manufacturing or construction contracts with customers, sales are prorated according to the percentage of completion. **Operating expenses** are recognized when caused or when the underlying service, etc. is used. Unless capitalized under the terms of IAS 38, development costs are expensed when incurred. **Dividends** are accounted for when distributed, **interest income and expenses** being recognized on an accrual basis.

Within the Rheinmetall DeTec Group, **financial derivatives** are solely used in fair-value and cash flow hedges.

All financial derivatives are recognized at cost and thereafter fair-valued as of the balance sheet date (IAS 39). Financial derivatives with a positive or negative fair value are disclosed as sundry assets or sundry liabilities, respectively.

Principally, any changes in the fair value of financial derivatives are immediately recognized in net income unless an effective hedge exists that satisfies the criteria of IAS 39.

If the derivative is a cash flow hedge (CFH) and hence used to effectively hedge expected future cash flows, changes in the financial derivative's

fair value are recognized in, and only in, equity under the other reserves. In this case, the changes in the derivative's value would not impact on net income until after the hedged underlying transaction has fallen due or been settled. Changes in the value of financial derivatives used in fair value hedges (FVHs) to effectively hedge the fair value of recognized assets and liabilities are posted to net income as are any changes in the hedged assets or liabilities (where appropriate, by adjusting their book values), with the result that the compensatory effects are all reflected in the income statement.

## Notes to the consolidated balance sheet

#### (1) Fixed-asset analysis

€ million				Gross va	alues	
Intangible assets	1/1/ 2002	Additions	Disposals	Book transfers	Consoli- dation group changes	
Development costs and other internally created intangibles	0.0	0.0	0.0	0.0	0.0	
Concessions, franchises, industrial property rights, and licenses	38.3	3.8	1.1	0.2	0.0	
Goodwill	235.8	0.0	0.0	0.0	24.0	
Badwill	(15.2)	0.0	0.0	0.0	(0.1)	
Prepayments on intangibles	0.1	4.6	0.1	1.8	0.0	
	259.0	8.4	1.2	2.0	23.9	
Tangible assets						
Land, equivalent titles, and buildings (incl. on leased land)	476.6	3.7	1.7	2.6	(0.8)	
Investment properties	9.1	0.0	8.7	0.0	0.0	
Production plant and machinery	456.5	8.1	11.6	8.4	(1.3)	
Other plant, factory and office equipment	280.7	14.6	11.7	1.8	(2.4)	
Prepayments on tangibles	2.1	1.4	0.0	(0.6)	0.0	
Construction in progress	21.0	12.1	0.3	(14.2)	(0.3)	
	1,246.0	39.9	34.0	(2.0)	(4.8)	
Financial assets						
Shares in nonconsolidated group companies	0.0	0.0	0.0	0.0	0.0	
Shares in associated affiliates (at equity)	4.6	0.2	0.7	0.0	0.0	
Loans to joint ventures and associated affiliates	0.0	0.2	0.0	0.0	0.0	
Other long-term securities	10.1	2.9	0.0	0.0	0.0	
Other long-term loans	2.2	0.1	0.7	0.0	0.0	
	16.9	3.4	1.4	0.0	0.0	
Total	1,521.9	51.7	36.6	0.0	19.1	

#### (2) Intangible assets

Besides concessions, franchises, industrial property rights and licenses, the intangible assets mainly comprise refers at €22.2 million to the acquisigoodwill from separate financial state- tion of another 20.0-percent stake in ments and from consolidation levels.

The increase in goodwill shown in the consolidation group changes column Oerlikon Contraves AG.

				Amortiza	ition/depre	ciation/wri	te-down			Net va	alues
Currency translation differences	12/31/ 2002	1/1/ 2002	Additions	Disposals	Book transfers	Write-up	Consoli- dation group changes	Currency translation differences	12/31/ 2002	12/31/ 2001	12/31/ 2002
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(0.1)	41.1	29.9	4.5	1.1	0.0	0.0	0.0	0.0	33.3	8.4	7.8
(0.1)	259.7	65.3	19.3	0.0	0.0	0.0	0.0	0.0	84.6	170.5	175.1
0.0	(15.3)	(7.4)	0.0	0.0	0.0	1.2	0.0	0.0	(8.6)	(7.8)	(6.7)
0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	6.4
(0.2)	291.9	87.8	23.8	1.1	0.0	1.2	0.0	0.0	109.3	171.2	182.6
0.3	480.7	232.9	18.5	1.6	0.0	0.0	(0.7)	0.4	249.5	243.7	231.2
0.0	0.4	2.6	0.2	2.8	0.0	0.0	0.0	0.0	0.0	6.5	0.4
1.6	461.7	371.2	18.6	10.4	1.6	0.0	(1.2)	1.2	381.0	85.3	80.7
(0.7)	282.3	240.8	16.6	11.3	(0.7)	0.0	(1.9)	(0.5)	243	39.9	39.3
(0.1)	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.8
0.3	18.6	10.5	0.0	0.0	(0.9)	0.0	0.0	0.2	9.8	10.5	8.8
1.4	1,246.5	858.0	53.9	26.1	0.0	0.0	(3.8)	1.3	883.3	388.0	363.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	4.1	2.8	0.0	0.0	0.0	0.3	0.0	0.0	2.5	1.8	1.6
0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
0.0	13.0	7.5	0.4	0.0	0.0	0.0	0.0	0.0	7.9	2.6	5.1
0.0	1.6	0.2	1.0	0.2	0.0	0.0	0.0	0.0	1.0	2.0	0.6
0.0	18.9	10.5	1.4	0.2	0.0	0.3	0.0	0.0	11.4	6.4	7.5
1.2	1,557.3	956.3	79.1	27.4	0.0	1.5	(3.8)	1.3	1,004.0	565.6	553.3

Amortization of intangible assets totaled  $\in$  23.8 million (up from  $\in$  18.3 million) including write-down at  $\in$  7.6 million (up from nil). Badwill was amortized to other operating income at  $\in$  1.2 million, the residual badwill being amortized to income by 2008.

# Notes to the consolidated balance sheet

(3) Property, plant and equipment, leases	The commercial property of Rheinmet- all Wohnungen GmbH shown the year before as investment property was sold in 2002 at a loss of $\in$ 1.2 million. In 2002, rental income of $\in$ 0.6 million	Moreover, standard commercial liens totaling €27.2 million (down from €27.4 million) rest on assets held un- der capital leases.
	was earned (virtually unchanged).	Expenditures for construction in progress in 2002 totaled €12.1 million
	Depreciation includes write-down at €6.6 million (up from nil), charged in	(down from €14.5 million).
	2002 in the wake of impairment tests which indicated that the value in use of certain land and buildings, as well as of specific production plant and ma- chinery was impaired.	The commitments to purchase tangible assets came to a total €11.4 million as of December 31, 2002 (down from €16.0 million).
	Certain encumbrances rest on land and buildings at a total €26.0 million (down from €32.5 million) to collater- alize liabilities due to banks. Another €12.2 million of encumbrances on re- alty is connected with BIL Industrie- metalle GmbH & Co. 886 KG, a special- purpose leasing firm based in Grün- wald.	Liabilities due to banks under capital leases totaled €12.2 million (down from €12.5 million).

Tangible assets held under leases have been capitalized at the following amounts:

Land and buildings	5.8	21.6	27.4	5.5	20.9	26.4
	Capital leases	Special- purpose leasing firms consolidated	Total	Capital leases	Special- purpose leasing firms consolidated	Total
€ million		12/31/2001				

One lease had in 1997 been signed with Catina Grundstücks-Vermietung-Gesellschaft mbH & Co., Düsseldorf, for the property located in Wedel. The lease will expire in 2010, and the property can be purchased at the end of the lease term at €2.8 million. The lease includes no restraints on disposal. The table below discloses the future rents falling due under capital leases, the interest portions included therein, as well as the present values of future rents (which have been recognized as financial debts):

#### **Capital leases**

€ million	12/31/2001	<1 year	1–5 years	>5 years	Total
Rents	10.5	0.9	3.4	5.3	9.6
Discount	3.6	0.5	1.8	0.8	3.1
Present values	6.9	0.4	1.6	4.5	6.5
Cash inflow from subleases	1.3	0.8	0.9	0.0	1.7

The current sublease will expire on December 31, 2004; thereafter, renewal of the sublease may be agreed upon in writing.

No material operating leases exist, the assets leased thereunder basically comprising personalty such as vehicles and EDP systems/hardware.

#### Rents due in succeeding years under operating leases

€ million	12/31/2001	<1 year	1–5 years	>5 years	Total
Buildings	30.9	9.5	14.1	9.1	32.7
Other leases	73.8	28.0	36.2	15.7	79.9
	104.7	37.5	50.3	24.8	112.6
Cash inflow from subleases	0.0	0.0	0.0	0.0	0.0

In fiscal 2002, rents paid under oper- No subleases existed in the year unating leases were expensed at €39.9 million (down from  $\in$  42.0 million).

der review.

#### (4) Financial assets

Analysis of shares in associated affiliates:

€million	Book value at	Additions/	Write-down		Dividends	Goodwill amorti-	Currency translation	Book value at 12/31/
Associated affiliates:	1/1/2002	(disposals)	of IBV	P/L shares	paid	zation	differences	2002
Hartchrom Defense Technology AG	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
STN Atlas-3Sigma AE	0.7	(0.7)	0.0	0.0	0.0	0.0	0.0	0.0
GIWS Gesellschaft für Intelligente Wirksysteme mbH	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0.4
All other	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.4
Total	1.8	(0.5)		0.3	0.0	0.0	0.0	1.6

# Notes to the consolidated balance sheet

#### Other long-term securities

Unrealized loss	(1.9)	(1.7)
Fair value	2.6	5.1
Book value	2.6	5.1
€ million	12/31/ 2001	12/31/ 2002

All these securities have been fair-valued.

Certain long-term securities are subject to liens of  $\in$  2.5 million in favor

of employees (in the event of business failure or insolvency) and hence their disposal is restrained, all other securities being readily available for sale anytime. The **long-term loans**, which carry interest at fair market rates, are carried at amortized cost, which virtually equals their fair value (IAS 39).

#### (5) Inventories

€ million	12/31/ 2001	12/31/ 2002
Raw materials and supplies	129.1	145.9
Work in process	307.2	226.3
Finished products	20.1	18.9
Merchandise	1.3	1.8
Prepayments made	118.3	154.9
	576.0	547.8
less prepayments received	(26.2)	(35.3)
	549.8	512.5

The book value of inventories stated at the lower NRV totals  $\in$ 135.5 million (down from  $\in$ 187.1 million). In the year under review,  $\in$ 2.1 million (down from  $\in$ 21.2 million) of inventories previously written down was written up as NRV had risen.

No inventories have been assigned as collateral security for liabilities.

#### (6) Receivables and sundry assets

€ million	12/31/ 2001	thereof due after 1 year	12/31/ 2002	thereof due after 1 year
Trade receivables	353.3	16.1	386.8	37.5
All other receivables and sundry assets				
receivables under l/t manufacturing contracts	135.3	62.3	221.2	93.3
financial receivables due from associated affiliates	0.6	0.0	2.0	0.0
sundry assets	61.3	19.1	62.2	12.4
	197.2	81.4	285.4	105.7
Total	550.5	97.5	672.2	143.2

Trade receivables include intercompany receivables of €0.1 million (down from €0.2 million) and accounts due from associated affiliates at €10.3

million (up from €4.7 million). The principal of receivables sold totaled €121.0 million as of December 31, 2002.

Breakdown of receivables from long- term manufacturing contracts:	€ million	12/31/ 2001	12/31/ 2002
	Production cost incurred		
	plus markup (less losses)	221.7	322.5
	less prepayments received	(86.4)	(101.3)
	Total	135.3	221.2

Breakdown of sundry assets:

€ million	12/31/ 2001	12/31/ 2002
Assets from hedges	1.9	6.9
Receivables from/for prepaid consultancy services	16.6	16.8
non-income taxes	15.5	12.9
employees	1.1	0.9
equities/fund shares	0.0	4.1
advances	10.9	9.3
All other assets	15.3	13.3
Total	61.3	64.2

fair value; the book values of the remaining monetary assets shown here-

The equities have been recognized at under substantially equal their fair values.

# Notes to the consolidated balance sheet

#### (7) Cash and cash equivalents

(8) Income tax assets

Total	247.5	233.2
Due on demand from the Rheinmetall Group's central cash management system	175.5	162.7
Cash on hand and in bank	72.0	70.5
€ million	12/31/ 2001	12/31/ 2002

Cash and cash equivalents include short-term investments in overnight monies and time deposits. Their fair value approximates their book value.

€ million	12/31/ 2001	12/31/ 2002
Deferred tax assets	2001	2002
from (noncurrent) temporary differences	320.5	272.9
from (noncurrent) loss carryovers	33.8	44.7
offset of deferred tax liabilities	(316.1)	(289.0)
	38.2	28.6
Income tax refundable (current)		
by the tax office	8.4	4.4
Total	46.6	33.0

## The following technicalities underlie deferred tax assets:

Total	38.2	28.6
Netting	(316.1)	(289.0)
Deferred taxes from consolidation	3.8	4.6
Total from separate financial statements	350.5	313.0
Other	30.2	66.1
Liabilities	135.9	67.3
Other accruals	13.8	16.9
Pension accruals	15.0	15.7
Inventories	119.0	102.2
Tangible assets	2.8	0.1
Loss carryovers and tax credits	33.8	44.7
€ million	12/31/ 2001	12/31/ 2002

Over and above the capitalized deferred tax assets of €44.7 million (up from €33.8 million) from loss carryovers, additional, but noncapitalizable, tax loss carryovers existed at €85.0 million (down from €302.8 million), including €9.9 million for corporate income tax purposes and €75.1 million from losses incurred abroad and carried forward. The German loss carryovers are not subject to expiration while those abroad as a rule are (e.g., in Switzerland they become forfeited after seven years). Deferred tax assets capitalized in 2001 were adjusted at €1.7 million, and deferred taxes adjusted in previous periods were written up at €8.6 million. Recognition of deferred taxes was waived for temporary differences of a total €50.1 million (up from €6.9 million) in connection with shares in nonconsolidated group companies and associated affiliates since the reversal of such differences is taxable and unlikely in the foreseeable future.

According to the German Tax Reduction Act of Oct. 23, 2000, the changeover from the imputation system to the split rate system (split income taxation) is accompanied by a 15-year transition period during which dividends distributed from EK-40 equity portions formerly subject to the full German income tax now entail a corporate income tax reduction and those distributed from EK-02 equity portions exempt from corporate income tax increase corporate income tax. As of December 31, 2002, the potential for deferred tax relief amounted to €0.1 million (down from €0.3 million), that for deferred tax burdens to €1.5 million (down from €1.9 million).

(9) Prepaid expenses and deferred charges

This caption, totaling  $\in$  4.2 million (up from  $\in$  3.4 million), solely covers prepaid expenses to be released to net income in the years ahead, such as interest, rental, and insurance premiums. €1.6 million (up from €0.7 million) of this caption is noncurrent.

#### (10) Total equity

Rheinmetall DeTec AG's capital stock amounts to  $\notin$ 52.8 million and is divided into 52.8 million registered shares of voting stock of  $\notin$ 1.00 each at par.

The capital stock of Rheinmetall DeTec AG is held by Rheinmetall Technik GmbH, Düsseldorf, and STN Atlas Holding GmbH, Bremen, at 58.14 and 41.86 percent, respectively.

The additional paid-in capital comprises stock premiums and other stockholder contributions under the terms of Art. 272 par. 2(1) and (4) HGB and has remained unchanged versus the year before. The other reserves of €117.4 million (up from €114.7 million) include, inter alia, the Rheinmetall DeTec Group's reserves retained from earnings.

Furthermore, the other reserves include also the other comprehensive income (OCI), which breaks down into differences from currency translation at  $\in_{3.7}$  million and the reserve from fair valuation (which is recognized in equity only) at a negative  $\in_{0.6}$  million.

The analysis in 2002 of such reserves presents the following picture:

# Notes to the consolidated balance sheet

€ million	Hedge reserve	Securities available for sale	Reserves from fair and other valuation
Fair value	(1.9)	(3.1)	(5.0)
Deferred taxes	0.6	1.2	1.8
Balance at January 1, 2002	(1.3)	(1.9)	(3.2)
Changes in fair value	2.9	0.2	3.1
Deferred taxes	(1.0)	0.0	(1.0)
Other changes	0.5	0.0	0.5
Balance at December 31, 2002	1.1	(1.7)	(0.6)

Under the P&L transfer agreement of September 12, 2002, Rheinmetall De-Tec AG's net income of €7.2 million will be distributed and transferred to Rheinmetall Technik GmbH. Out of the minority interests,  $\leq$ 109.1 million is allocable to those in equity (down from  $\leq$ 146.3 million), those in net earnings totaling  $\leq$ 6.0 million (up from a negative  $\leq$ 21.9 million).

## (11) Accruals for pensions and similar obligations

These accruals provide for obligations under vested rights and current pensions payable to eligible active and former employees and their surviving dependants. Such commitments primarily encompass pensions, both basic and supplementary. The individual confirmed pension entitlements are based on benefits that vary according to country and company and, as a rule, are measured according to service years and employee pay. When the pension plan for German companies was reconfigured, a performance-related benefit obligation for the fiscal years starting 2002 was additionally incurred whose amount hinges on the achievement of certain ROCE benchmarks. Being a noncurrent provision for the accumulated postretirement benefit obligation, the accrued health

care obligations to retirees are also included in the pension accruals recognized hereunder.

The company pension system consists of both defined-contribution and defined-benefit plans. Under a DCP (fairly common in non-German companies of the Group), the company incurs no obligation other than the payment of contributions to earmarked or dedicated funds. These pension expenses are shown within personnel expenses, no provision for accrued obligations being required. In the year under review, a total €42.8 million (down from €43.0 million) was paid to DCPs. Among those DCPs where material sums are involved, the earmarked pension funds of the Swiss Group companies, whose employees pay in

supplementary contributions, were overfunded as of both December 31, 2002 and 2001. According to the provisions of the underlying bylaws, such excess funds accrue primarily to the beneficiaries and eligible retirees and may not be repaid or refunded, even pro rata, to the group companies.

Under defined benefit plans, a company is obligated to meet its confirmed commitments to active and former employees. In accordance with IAS 19, the projected unit credit (PUC) method is used to measure accrued defined benefit obligations (DBO). To this end, the present value of the DBO is determined through actuarial techniques on the basis of assumptions about mortality, pay and pension rises, employee turnover, interest rate trends, as well as additional parameters. The fair value of current plan assets is offset against the accrual. Service cost is disclosed within personnel expenses, interest cost being shown under the net interest result.

The following actuarial parameters
have been assumed to determine
the present value of the DBO of
the—chiefly German—pension obli-
gations:

Percent	12/31/ 2001	12/31/ 2002
Discount rate	5.75	5.50
Pay trend	+3.00	+3.00
Pension trend	+1.25	+1.25

Locally adjusted assumptions underlie the obligations to employees abroad.

Analysis of pension accruals as of December 31:

December 31	251.3	265.0
Obligations taken over	0.2	2.3
Accruals released	0.0	0.0
Annual provision	20.0	22.8
Pensions paid	(11.9)	(11.1)
Consolidation group change	0.0	0.1
Currency translation difference	0.0	(0.4)
January 1	243.0	251.3
€ million	12/31/ 2001	12/31/ 2002

# Notes to the consolidated balance sheet

Breakdown and reconciliation of pension accruals		2001			2002	
€ million	Germany	Abroad	Total	Germany	Abroad	Total
Analysis of present value of DBO						
Present value of DBO at Jan. 1	240.2	2.8	243.0	258.9	3.5	262.4
Consolidation group changes	0.0	0.0	0.0	0.3	(0.2)	0.1
Currency translation differences	0.0	0.0	0.0	(0.1)	(0.4)	(0.5)
Service cost	4.6	0.7	5.3	7.9	0.3	8.2
Interest cost	14.7	0.0	14.7	14.4	0.2	14.6
Pension payments	(11.9)	0.0	(11.9)	(11.1)	0.0	(11.1)
Plan settlements and curtailments	0.0	0.0	0.0	0.0	0.0	0.0
Actuarial (gains)/losses	11.1	0.0	11.1	5.9	0.0	5.9
Book transfers	0.2	0.0	0.2	2.3	0.0	2.3
Present value of DBO at Dec. 31	258.9	3.5	262.4	278.5	3.4	281.9
Analysis of plan assets						
Plan assets at fair value as of Jan. 1	0.0	0.0	0.0	0.0	0.0	0.0
Fair value of plan assets	0.0	0.0	0.0	0.0	0.0	0.0
Unfunded pension obligations at Dec. 31	258.9	3.5	262.4	278.5	3.4	281.9
Unrecognized actuarial gains/(losses)	(11.1)	0.0	(11.1)	(16.9)	0.0	(16.9)
Pension accruals at Dec. 31	247.8	3.5	251.3	261.6	3.4	265.0

The €16.9 million of unrecognized actuarial loss adjustment (up from €11.1 million) was mainly caused by the reduced German DBO discount rate (down from 6.0 in 2000 to 5.5 percent). Under the terms of IAS 19, actuarial gains and losses are expensed over the average residual service years if outside a corridor of 10 percent of the total DBO.

Breakdown of pension expense:

Pension expense € million	2001	2002
Current service cost	5.3	8.2
Effects of plan curtailments/settlements	0.0	0.0
Expected return on plan assets	0.0	0.0
Compounding of expected pension obligations	14.7	14.6
Total	20.0	22.8

Service cost is charged to personnel expenses while the interest portion in the annual provision is recognized in the net interest result.

#### (12) Other accruals

Other Total	56.9 <b>325.0</b>	14.2 <b>125.7</b>	14.7 <b>159.0</b>	0.1 <b>1.7</b>	11.3 <b>45.8</b>	(1.1) (2.1)		44.8 <b>312.0</b>
						. ,		
Personnel	111.8	31.4	48.6	1.5	10.9	(0.4)	0.2	119.4
Restructuring	8.9	1.6	0.0	0.0	3.8	0.0	0.0	3.5
Yet unbilled costs	112.0	70.0	79.0	0.1	15.4	0.0	(0.1)	105.6
Identifiable losses	5.0	2.8	7.3	0.0	0.2	0.0	0.0	9.3
Warranties	30.4	5.7	9.4	0.0	4.2	(0.6)	0.1	29.4
€ million	1/1/ 2002	Utilized	Added/ newly provided for	Com- pounded	Released/ book transfers	Consolida- tion group changes	Translation differences/ sundry	12/31/ 2002

Accruals for obligations to personnel basically provide for severance package and other exit costs at  $\in$  24.7 million (up from  $\in$  22.1 million), for preretirement part-time work at  $\in$  37.0 million (up from  $\in$  34.7 million), for employment anniversary allowances at  $\in$  5.8 million (down from  $\in$  6.7 million), as well as at  $\in$  2.4 million for obligations under the SAR plans (up from  $\in$  2.0 million).

The other accruals basically cover contractual penalties and liquidated damages at  $\in$ 7.6 million (down from  $\in$ 10.4 million), sales bonuses, discounts and rebates at  $\in$ 6.2 million (down from  $\in$ 7.1 million), legal, consultancy and audit fees at  $\in$ 3.1 million (virtually unchanged), as well as environmental risks at  $\in$ 2.5 million (down from  $\in$ 6.4 million).

The following cash outflows are expected from each of the accrual categories:

€ million	<1 year	1-5 years	>5 years
Warranties	9.7	18.7	1.0
Identifiable losses	5.9	3.4	0.0
Yet unbilled costs	104.6	1.0	0.0
Restructuring	0.9	2.6	0.0
Personnel	63.1	46.9	9.4
Other	26.6	15.9	2.3
Total planned cash outflows	210.8	88.5	12.7

The background facts giving rise to the above accrued liabilities are also certain to result in refunds of €0.2 million (down from  $\in$  0.3 million), which were capitalized as receivables.

## Notes to the consolidated balance sheet

(13)	Liabili	ties
	LIUDIU	ucs

Total	930.4	605.5	134.9	976.9	514.0	120.6
	561.1	307.4	111.4	658.5	306.3	101.9
sundry liabilities	136.5	132.3	0.0	147.0	144.7	0.0
payables under l/t manufacturing contracts	335.3	102.5	111.4	323.5	78.9	101.9
prepayments received on orders	89.3	72.6	0.0	188.0	82.7	0.0
All other liabilities						
Trade payables	233.4	233.3	0.0	184.8	184.6	0.0
	135.9	64.8	23.5	133.6	23.1	18.7
other	5.2	0.6	3.9	1.5	0.8	0.0
thereof to banks	[12.5]	[0.3]	[10.9]	[12.2]	[0.3]	[10.6]
under leases	19.4	0.6	15.9	18.8	0.6	15.1
due to nonconsolidated group companies	35.0	0.0	0.0	80.0	0.0	0.0
due to banks	76.3	63.6	3.7	33.3	21.7	3.6
Financial debts	12/31/ 2001	within <1 year	after 5 years	12/31/ 2002	within <1 year	after 5 years
€ million		thereof due	thereof due		thereof due	thereof due

The prepayments received totaled €690.4 million (up from €545.6 million) as of December 31, 2002.

€35.3 million (up from €26.2 million) and long-term manufacturing contracts at €467.1 million (up from €430.1 mil-

They were offset against inventories at lion), another €188.0 million (up from €89.3 million) being recognized within sundry liabilities.

The payables under long-term manufacturing contracts break down as follows:

Total	335.3	323.5
plus markup (less losses)	(8.4)	(42.3)
less production cost incurred,		
Prepayments received	343.7	365.8
€ million	12/31/ 2001	12/31/ 2002

The sundry liabilities shown under all other liabilities were incurred for the following:

Total	136.5	147.0
Remaining liabilities	100.2	102.2
Hedges	4.6	2.8
Acquisition of nonconsolidated group companies	6.2	0.0
Personnel	1.5	1.6
Social security	13.1	12.6
Taxes	10.9	27.8
€ million	12/31/ 2001	12/31/ 2002

The accounts due to nonconsolidated group companies total €93.7 million (up from €65.0 million), those to associated affiliates  $\in$  0.1 million (virtually unchanged).

The analysis below reflects the terms and book and fair values of financial debts:

#### Due to banks

Rate term	Weighted average rate (%)	Currency	Expiring in	Book value 12/31/2001 € million	Fair value 12/31/2001 € million	Book value 12/31/2002 € million	Fair value 12/31/2002 € million
Fixed	5.1	€	2002	47.5	47.5	0.0	0.0
Fixed	5.1	Sfr	2002	2.0	2.0	0.0	0.0
Variable	Euribor + margin	€	2002	2.3	2.3	0.0	0.0
Variable	6-month Sfr Libor + margin	Sfr	2002	1.4	1.4	0.0	0.0
Fixed	1.8	Sfr	2003	0.0	0.0	0.7	0.7
Fixed	2.5	Sfr	2004	4.7	4.6	4.9	4.9
Fixed	8.6	US\$	2003	0.0	0.0	3.9	3.9
Fixed	4.0	€	2003	0.0	0.0	14.6	14.6
Fixed	4.6	€	2004	0.0	0.0	0.1	0.1
Fixed	6.3	€	2005	0.0	0.0	3.6	4.7
Fixed	5.7	€	2009	2.5	2.5	2.5	2.7
Fixed	5.6	€	2011	2.4	2.4	2.6	2.9
Variable	8.0	€	overdraft	0.0	0.0	0.4	0.4
Other				13.5	13.5	0.0	0.0
				76.3	76.2	33.3	34.9

#### Nonconsolidated group companies

Rate term	Weighted average rate (%)	Currency	Expiring in	Book value 12/31/2001 € million	Fair value 12/31/2001 € million	Book value 12/31/2002 € million	Fair value 12/31/2002 € million
Fixed	6.4	€	2006	35.0	35.0	35.0	34.7
Variable	3.4	€	2005	0.0	0.0	45.0	45.0
				35.0	35.0	80.0	79.7

#### Leases and other

Rate term	Weighted average rate (%)	Currency	Expiring in	Book value 12/31/2001 € million	Fair value 12/31/2001 € million	Book value 12/31/2002 € million	Fair value 12/31/2002 € million
Fixed	6.7	€	2003	4.6	5.0	0.0	0.0
Fixed	6.4	€	2010	12.5	13.2	12.2	12.9
Fixed	8.0	€	2010	6.7	6.7	6.6	7.0
Other				0.8	0.8	1.5	1.5
				24.6	25.7	20.3	21.4

€26.0 million of liabilities (down from €32.5 million) has been collateralized

by encumbrances on real property.

## Notes to the consolidated balance sheet

€ million	12/31/ 2001	12/31/ 2002
Deferred taxes (noncurrent)	8.0	2.6
Income taxes (current)	10.1	8.3
Total	18.1	10.9

The deferred tax liabilities refer to the following:

Total	8.0	2.6
Offset	(316.1)	(289.0)
Deferred taxes from consolidation	6.4	7.6
Total from separate financial statements	317.7	284.0
Sundry	1.4	0.4
Liabilities	184.7	90.5
Other accruals	0.9	0.7
Receivables and sundry assets	78.8	147.3
Inventories	26.6	24.4
Tangible assets	25.3	20.7
€ million	12/31/ 2001	12/31/ 2002

#### (15) Deferred income

This caption totals  $\in$  7.7 million (down under know-how transfer agreements. from  ${\in}9.4$  million) and solely covers  ${\quad}{\in}2.1$  million (down from  ${\in}3.3$  million) prepayments for future periods, mainly of deferred income is noncurrent.

## Notes to the consolidated income statement

#### (16) Net sales

Total	1,614.1	1,677.1
Revenues according to PoC	91.7	164.3
Net sales (excl. PoC)	1,522.4	1,512.8
€ million	2001	2002

Net sales include license income of  $\in$  8.9 million (down from  $\in$  26.6 million).

For a breakdown of net sales by divisions and regions, see the segment reports (primary segments = divisions; secondary segments = regions).

(17) Net inventory changes, other work and material capitalized	€ million Change in inventories	2001	2002
	of finished products and work in process	7.2	(82.8)
	Other work and material capitalized	4.3	4.6
	Total	11.5	(78.2)

#### (18) Other operating income

€ million	2001	2002
Gains from the disposal of intangible and tangible assets	1.1	0.6
Gain from the deconsolidation of subsidiaries	2.1	19.8
Income from the release of badwill	4.6	1.2
Income from the release of accruals	38.0	43.4
Income from the payment of debts/receivables charged off and from the reversal of specific/general bad-debt allowances	7.1	9.5
Income from the write-up of fixed and current assets	2.6	0.0
Income from in-house catering and ancillary operations	2.9	2.1
Commission income	1.0	0.2
Income from loss compensation	1.2	5.2
Income from debt remission	0.1	0.2
Rental income	1.2	2.0
All other operating income	25.8	28.0
Total	87.7	112.2

The  $\leq$ 19.8 million gain from the deconsolidation of subsidiaries (up from  $\leq$ 2.1 million) resulted from the disposal of Intergas B.V. and its two subsidiaries.

#### (19) Cost of materials

Total 737.2	658.2
Cost of services purchased 139.7	112.9
Cost of raw materials, supplies, and merchandise purchased 597.5	545.3
€ million 2001	2002

#### (20) Personnel expenses/workforce

€ million	2001	2002
Wages and salaries	462.0	482.7
Social security taxes	42.9	46.5
Pension expense		
and related employee benefits	50.3	51.0
Total	555.2	580.2

Pension expense substantially reflects the employer's share in contributions to the statutory social security insurance in Germany and comparable foreign entities.

The number of employees averaged
in the year:

Annual average headcount	2001	2002
Blue-collar employees	1,904	1,906
White-collar employees	7,155	7,150
Total	9,059	9,056

#### (21) Amortization/depreciation/ write-down

For a breakdown by amortization and depreciation, see the notes to the fixed-asset lines.

In the year under review, write-down came to €14.2 million (up from €0.0 million).

## Notes to the consolidated income statement

#### (22) Other operating expenses

€ million	2001	2002
Losses on the disposal of intangible and tangible assets	0.3	1.5
Severance packages, exit plans, termination benefits, preretirement part-time	4.3	19.8
Increase in accruals for		
identifiable losses	1.8	7.4
unbilled costs	6.0	6.8
warranties	9.1	9.5
other costs	10.3	12.0
M&R	35.7	30.7
Selling, promotion and advertising	37.8	61.3
Other general administration	22.5	20.4
Rents and incidentals	42.0	39.9
Legal, consultancy and audit fees	18.3	16.1
Commission expense	12.5	7.1
Write-down of receivables	5.9	4.1
EDP	13.4	14.1
Travel	24.4	25.2
Insurance	5.4	7.7
License fees/royalties	1.2	1.7
Non-income taxes	3.3	2.3
All other	32.6	30.0
Total	286.8	317.6

The all other operating expenses include the cost of outsourced services, bor, contractual penalties, liquidated sundry payroll incidentals, expenses for first- and second-stage training and security and property cleaning costs.

for the provision of non-production ladamages, as well as guard, vigilance,

#### (23) Net interest expense

€ million	2001	2002
	2001	2002
Interest income		
from long-term loans and financial receivables	0.9	2.3
other interest and similar income	4.6	4.3
	5.5	6.6
Interest expense		
from capital leases	(0.6)	(0.5)
compounding of pension obligations	(14.7)	(14.6)
compounding of noncurrent other accruals	(1.8)	(1.7)
other interest and similar expenses	(14.0)	(11.8)
	(31.1)	(28.6)
Gesamt	(25.6)	(22.0)

The other interest and similar expenses include interest on bank loans at €5.3 million (down from €6.2 million).

#### (24) Net investment income and other financial results

€ million	2001	2002
Net investment income		
from associated affiliates	(2.5)	0.2
from the disposal of associated affiliates	0.0	0.0
	(2.5)	0.2
Other financial results		
from foreign exchange/currency translation	(1.4)	(0.5)
from financial derivatives	0.5	(0.4)
from guaranty commissions	(2.8)	(3.4)
all other	0.4	(1.6)
	(3.3)	(5.9)
Total	(5.8)	(5.7)

## Notes to the consolidated income statement

#### (25) Income taxes

Total	18.8	5.1
Deferred taxes	16.4	0.1
Current income tax expense	2.4	5.0
€ million	2001	2002

The table below reconciles the expected to the recognized tax expense. The expected tax expense is determined by multiplying EBT by a tax rate of 40 percent (unchanged). This rate covers German corporate income tax (CIT), the solidarity surtax thereon, and municipal trade tax on income. The expected tax is then matched against the effective expense:

Reconciliation of expected to effective tax expense		
€ million	2001	2002
EBT	35.5	49.7
Expected income tax expense	14.2	19.9
Differences from German tax rates	0.2	0.1
Differences from foreign tax rates	(1.1)	(2.1)
Tax expense/(credit) from CIT not apportioned/refunded (P&LTA)	0.0	(2.7)
Adjustments to deferred tax assets (on loss carryovers and temporary differences)	0.0	(6.9)
Losses not subject to deferred taxation	3.8	0.0
Tax-exempt income and nondeductible expenses	0.1	(8.4)
Nondeductible goodwill amortization	4.9	6.8
Statement at equity (incl. goodwill amortization)	1.1	(0.1)
Other	(4.4)	(1.5)
Effective tax expense	18.8	5.1
Effective tax rate in %	52.9	10.3

The tax expense of €5.1 million includes €2.9 million allocable to other periods.

#### (26) Minority interests

Minority interests in profit came to  $\in$  13.9 million (up from  $\in$  8.3 million), the 2001 loss share amounting to  $\in$  1.7 million.

#### (27) Earnings per share (EpS)

EpS is obtained by dividing the weight- shares outstanding that could dilute ed average number of shares issued and outstanding in the fiscal year into in the year under review and the previthe Group's earnings. Neither as of De- ous year, undiluted EpS equals dilucember 31, 2002 nor 2001, were any

earnings per share. Therefore, both ted EpS.

Earnings per registered share of voting stock, in $\in$	0.19	0.44
Weighted average number of shares	52,800,000	52,800,000
Group earnings (after minority interests), in $\in$ million	10.1	23.5
	2001	2002

### (28) Supplementary

income statement disclosures

million (up from €52.5 million). Where were expensed in the year of their the criteria for capitalization according

The Group's R&D costs totaled €66.2 to IAS 38 were not met, such costs incurrence.

### Note to the cash flow statement

#### (29) Cash flow statement

The cash flow statement conforms with IAS 7 and breaks down into the cash flows generated by operating, investing and financing activities. The effects of changes in the consolidation group are eliminated. The impact of parity changes on cash and cash equivalents is shown in a separate line. Cash and cash equivalents include €162.7 million (down from €175.5 million) of financial receivables due on demand from Rheinmetall AG under the Rheinmetall Group's central cash management scheme. The net cash provided in 2002 by operating activities included a cash inflow from interest of €8.1 million (up from €6.7 million) and a cash outflow for interest of €13.2 million (up from €8.4 million). Income taxes paid came to €13.5 million (up from €11.7 million), those refunded totaling €9.0 million (down from €29.3 million). The dividends received from associated affiliates and investees amounted to €0.1 million (down from €o.6 million). The cash outflow for acquisitions totaled €55.5 million and represented the purchase price of the additional stake in Oerlikon Contraves AG, Zurich, Switzerland.

The disposal of the shares in Intergas B.V., Coevorden, Netherlands, and its two subsidiaries produced a cash inflow of  $\in$ 19.3 million. Acquisitions and divestments were largely transacted on cash terms.

When acquiring consolidated companies, fixed assets of  $\in$  0.1 million, current assets of  $\in$  4.1 million (excl. cash and cash equivalents) and liabilities and accruals of  $\in$  4.2 million were taken over.

Cash and cash equivalents are identical in the cash flow statement and balance sheet.

### Note to the segment reports

#### (30) Segment reports

As of January 1, 2002, the competencies Net financial debts reflect the sum toof subsidiaries and the shareholdings of Rheinmetall DeTec AG were regrouped into four strategic marketoriented profit centers which equal the divisions and primary segments. In accordance with the Rheinmetall DeTec Group's internal controlling organization, the Group breaks down into four divisions, viz.

- Land Systems
- Weapon and Ammunition
- Air Defence Systems
- Defence Electronics

The reassignment involved the integration of the large- and medium-caliber operations into Weapon and Ammunition while the two medium-caliber companies were reallocated from Air Defence Systems to Weapon and Ammunition. The prior-year comparatives were restated accordingly.

The Others/Consolidation column includes, apart from the Group's parent (Rheinmetall DeTec AG), service and other companies, as well as consolidation transactions.

Responsibilities are clearly separated between the subsidiaries and Rheinmetall DeTec AG, which performs the functions of a management holding company. Both corporate governance and internal reporting have been structured accordingly. The companies belonging in each segment/division result from the list headed Major Group companies further down. In line with the Rheinmetall DeTec Group's shareholder value concept, segment assets and liabilities include the essential assets (excluding deferred tax assets and cash and cash equivalents) and liabilities (excluding pension accruals, financial debts, and income tax liabilities).

tal of financial debts (current and noncurrent) less cash and cash equivalents. Capital employed (CE), which is used to generate EBIT, is determined as the sum of total equity plus pension accruals plus net financial debts. The return on capital employed (ROCE) equals EBIT divided into average capital employed (average of the balances at December 31, 2001 and 2002).

The intersegment transfers principally indicate sales among divisions and are priced as if at arm's length.

EBITDA means earnings before interest, taxes, depreciation and amortization, EBIT being self-explanatory. Income from the amortization of badwill from capital consolidation is hence included. The EBIT margin equals EBIT divided into total segment sales.

Capital expenditures and amortization/ depreciation refer to tangible and intangible assets (including goodwill).

## Segment report by divisions (primary segments)

€ million Note (30)					
Segments Division parents	Land S Rhein Landsyste	metall	Air Defence Systems Oerlikon Contraves AG		
	2001	2002	2001	2002	
Balance sheet (Dec. 31)					
Segment assets	135.4	159.1	403.7	430.5	
thereof investments at equity	[0.0]	[0.0]	[0.0]	[0.0]	
Segment liabilities	178.2	162.4	294.5	317.6	
Total equity	11.5	12.5	122.7	140.7	
Pension accruals	20.2	21.5	8.4	9.0	
Net financial debts	(42.9)	(6.6)	(15.8)	(25.8)	
Capital employed (CE)	(11.1)	27.4	115.3	123.9	
Average CE	12.1	8.2	106.8	119.6	
Income statement					
Net external sales	280.9	245.6	269.0	327.6	
Intersegment transfers	1.9	2.2	9.9	4.1	
Total segment sales	282.7	247.8	278.9	331.7	
thereof Germany (%)	[74.3]	[77.0]	[16.2]	[6.3]	
thereof abroad (%)	[25.7]	[23.0]	[83.8]	[93.7]	
EBITDA	9.6	10.2	31.4	31.9	
thereof P/L of investments at equity	[0.0]	[0.0]	[0.0]	[0.0]	
thereof income from write-up	[0.0]	[0.0]	[0.0]	[0.0]	
Amortization/depreciation/write-down	(4.0)	(4.1)	(10.8)	(11.3)	
thereof write-down	[0.0]	[0.0]	[0.0]	[0.0]	
Segment EBIT	5.6	6.1	20.6	20.6	
Net interest result	(3.4)	(2.9)	(1.1)	(2.1)	
EBT	2.2	3.2	19.5	18.5	
Income taxes	1.1	1.0	8.5	(4.1)	
Net income/(net loss)	1.1	2.2	11.0	22.6	
EBIT margin (%)	2.0	2.5	7.4	6.2	
Other data	(5.0	75 (	10.0	47.0	
ROCE (%)	45.8	75.4	19.3	17.2	
Net cash provided by/(used in) operating activities	48.4	(30.7)	2.7	25.3	
Capital expenditures	4.8	4.4	10.7	11.9	
Order intake	293.8	480.4	344.2	390.3	
Order backlog at Dec. 31	397.5	630.4	579.3	645.3	
Headcount at Dec. 31	1,418	1,378	1,678	1,728	

Amn Rhe	pon and nunition inmetall M GmbH	Defence E STN # Elektroni	Atlas	Others/Cor	nsolidation	Gro	up
2001	2002	2001	2002	2001	2002	2001	2002
425.1	364.2	547.5	621.9	157.6	166.6	1,669.3	1,742.3
[0.0]	[0.3]	[0.7]	[0.0]	[1.1]	[1.3]	[1.8]	[1.6]
258.5	253.9	598.7	653.3	50.3	41.2	1,380.2	1,428.4
199.9	204.8	96.8	114.1	(1.7)	(36.1)	429.2	436.0
44.7	48.3	124.8	134.3	53.3	51.9	251.4	265.0
(39.5)	(95.5)	(118.5)	(130.8)	105.1	159.2	(111.6)	(99.5)
205.1	157.6	103.1	117.6	156.7	175.0	569.1	601.5
202.9	181.3	121.2	110.4	185.5	165.7	628.5	585.2
467.9	522.1	581.0	569.0	13.7	11.2	1,612.5	1,675.5
30.3	28.5	6.0	3.7	(46.5)	(36.9)	1.6	1.6
498.2	550.6	587.0	572.7	(32.7)	(25.7)	1,614.1	1,677.1
[49.8]	[47.6]	[74.1]	[62.3]			[56.4]	[48.3]
[50.2]	[52.4]	[25.9]	[37.7]			[43.6]	[51.7]
46.9	70.5	41.6	45.4	(1.1)	(8.6)	128.4	149.4
[(1.1)]	[0.3]	[0.4]	[0.0]	[(1.8)]	[(0.1)]	[(2.5)]	[0.2]
[0.0]	[0.0]	[0.0]	[0.0]	[0.0]	[0.0]	[0.0]	[0.0]
(25.8)	(37.0)	(14.0)	(13.4)	(12.7)	(11.9)	(67.3)	(77.7)
[0.0]	[(14.2)]	[0.0]	[0.0]	[0.0]	[0.0]	[0.0]	[(14.2)]
21.1	33.5	27.7	32.0	(13.9)	(20.5)	61.1	71.7
(3.4)	(4.2)	(5.3)	(4.5)	(12.4)	(8.3)	(25.6)	(22.0)
17.6	29.3	22.3	27.5	(26.1)	(28.8)	35.5	49.7
4.0	1.0	8.7	13.2	(3.5)	(6.0)	18.8	5.1
13.7	28.3	13.6	14.3	(22.7)	(22.8)	16.7	44.6
4.2	6.1	4.7	5.6			3.8	4.3
10.4	18.5	22.8	29.0			9.7	12.3
29.4	66.1	67.5	28.8	(7.0)	(10.9)	141.0	78.6
18.7	15.5	15.4	16.2	0.2	0.3	49.8	48.3
545.0	517.6	852.2	520.7	(36.6)	(47.7)	1,998.6	1,861.3
664.8	632.8	1,876.3	1,824.3	(56.4)	(83.5)	3,461.5	3,649.3
2,905	2,667	2,936	2,986	82	69	9,019	8,828

### Segment report by regions (secondary segments)

€ million Note (30)

Segments	Germany		Other EU		Other Europe		
	2001	2002	2001	2002	2001	2002	
Net external sales by customer location	909.5	808.5	299.7	428.2	176.3	166.2	
in % of Group sales	56.4	48.3	18.6	25.6	10.9	9.9	
Segment assets	967.5	1,041.7	162.1	130.7	386.1	371.2	
Capital expenditures	30.7	31.3	3.9	2.2	11.8	11.3	

North America		As	Asia		Other Regions		Consolidation		oup
2001	2002	2001	2002	2001	2002	2001	2002	2001	2002
80.2	98.0	109.3	133.5	28.5	41.0	9.0	0.0	1,612.5	1,675.4
5.0	5.9	6.8	7.9	1.8	2.4	0.5	0.0		
29.1	27.6	15.3	14.4	9.1	14.7	100.2	142.0	1,669.4	1,742.3
1.0	0.9	1.9	1.9	0.2	0.3	0.3	0.4	49.8	48.3

### Notes Supplementary disclosures

#### (31) **Discontinued operations**

Eurometaal-Heidel Holding GmbH plus subsidiaries, as well as Intergas B.V. do not belong in the Rheinmetall DeTec Group's core business. At its November 5, 2001 meeting, the Executive Board formally resolved to dispose of these companies, which have been assigned to the Weapon and Ammunition division. Intergas B.V. was sold as of

October 3, 2002. The Heidel Group, still up for divestment, manufactures and markets tooling and systems for the series production of interior trim for cars.

The consolidated balance sheet includes the discontinued operations at the following amounts:

€ million	Hei	del	Inter	gas	Tot	al
	12/31/ 2001	12/31/ 2002	12/31/ 2001	12/31/ 2002	12/31/ 2001	12/31/ 2002
Fixed assets	8.9	6.1	0.8	0.0	9.7	6.1
Current assets (excl. cash and cash equivalents)	36.7	39.3	8.6	0.0	45.3	39.3
Cash and cash equivalents	0.8	1.1	7.1	0.0	7.9	1.1
Income tax assets, prepaid expenses and deferred charges	0.4	0.6	0.0	0.0	0.4	0.6
Total equity	14.9	14.4	9.1	0.0	24.0	14.4
Pension accruals	0.0	0.0	0.0	0.0	0.0	0.0
Other accruals	1.9	2.2	2.3	0.0	4.2	2.2
Financial debts	19.2	18.9	0.0	0.0	19.2	18.9
Trade payables and all other liabilities	10.5	11.0	5.1	0.0	15.6	11.0
Income tax liabilities and deferred income	0.3	0.6	0.0	0.0	0.3	0.6

# Summary of major income and cash flow statement data of discontinued operations:

€ million	Hei	Intergas		Total		
	12/31/ 2001	12/31/ 2002	12/31/ 2001	12/31/ 2002	12/31/ 2001	12/31/ 2002
Net sales	76.9	68.9	26.1	22.7	103.0	91.6
Operating result	4.3	1.8	3.8	4.5	8.1	6.3
EBT	3.0	0.4	4.3	4.7	7.3	5.1
Income taxes	(0.8)	(0.3)	(1.5)	(1.6)	(2.3)	(1.9)
Net income	2.2	0.1	2.8	3.1	5.0	3.2
Net cash provided by operating activities	4.1	2.7	0.1	0.0	4.2	2.7
Net cash used in investing activities	(3.7)	(2.1)	(0.3)	0.0	(4.0)	(2.1)
Net cash used in financing activities	(0.1)	(0.3)	(2.4)	0.0	(2.5)	(0.3)
Change in cash and cash equivalents	0.3	0.3	(2.6)	0.0	(2.3)	0.3

Total	70.5	74.0
Under warranty and indemnity agreements	21.3	26.6
Under bonds and guaranties (incl. for drafts, notes and checks)	49.2	47.4
€ million	12/31/ 2001	12/31/ 2002

Moreover, contingent liabilities exist at €99.0 million under an RLS letter of ter se, RLS's liability is limited in accomfort in favor of Artec GmbH, Munich cordance with its 9.33-percent interest. (up from €97.8 million). In the relation-

ship of Artec GmbH's shareholders in-

(33) Other financial obligations

(32) Contingent liabilities

The commitments to purchase tangible and intangible assets for capital expenditure projects totaled €11.4 million (down from €16.0 million). The obligations under leases with terms of 1 to 45 years totaled €112.7

million (up from €102.4 million). In the year under review, rents of €37.5 million (down from €38.9 million) were paid. In addition, obligations under other agreements and contracts exist at €9.0 million (up from €2.3 million).

#### (34) Stock appreciation rights (SARs)

Since 1999, the Rheinmetall DeTec Group has granted qualifying managerial staff SARs for them to participate in any stock appreciation. SAR programs are basically phantom stock option plans under which participants receive a cash compensation upon exercise that equals the difference between the stock price at exercise date and the base (reference) price. The base price has been fixed at the arithmetic mean of the closing prices of Rheinmetall AG preferred and common stock as quoted on the 10 market days preceding plan commencement. The SAR programs have an overall term of 7 years each: after a 3-year qualifying period, SARs may be exercised during defined time (or opportunity) windows during the residual 4-year term. If not exercised during such period or when eligible staff leave Rheinmetall DeTec for any

reason other than retirement or death, the SARs become forfeited and lapse. SARs cannot be exercised unless and until the base price has been exceeded by 25 percent or more on the day of exercise.

### Notes Supplementary disclosures

# Key parameters of the SAR programs launched to date:

SAR program	Exercisable after	Base price €	Number issued	thereof forfeited by 12/31/ 2001	thereof forfeited in 2002	SARs as of 12/31/ 2002
1998	end-2001	18.09	70,000	0	0	70,000
1999	end-2002	12.95	444,000	16,000	5,000	423,000
2000	end-2003	9.24	484,000	17,000	11,000	456,000
2001	end-2004	16.50	499,500	0	15,000	484,500
			1,497,500	33,000	31,000	1,433,500

Obligations under SARs are fair-valued pro rata temporis by using an option price model. An accrual of  $\in$  2.4 million

(up from  $\in$  2.0 million) provides for the obligations incurred up to December 31, 2002.

#### (35) Hedging policy and financial derivatives

The operations and financial transactions of Rheinmetall as an international group are exposed to financial risks, mainly from exchange rate volatility and interest rate changes. In accordance with the groupwide implemented risk management system of Rheinmetall DeTec AG, such risks are not only identified, analyzed and measured but also managed through derivative financial instruments. No such derivatives may be acquired for speculation.

Counterparties of Rheinmetall DeTec Group companies for contracting financial derivatives are exclusively German and foreign banks of prime standing. By setting these high standards on counterparties, the risk of uncollectible debts is minimized.

All transactions involving financial derivatives are subject to stringent monitoring, which is particularly ensured through the strict segregation of the contracting, settlement and control functions.

#### Liquidity risk

The Rheinmetall DeTec Group ensures sufficient liquidity at all times mainly through a liquidity forecast based on a fixed planning horizon, as well as through existing, yet unutilized credit facilities.

#### Default risk

The Rheinmetall DeTec Group primarily supplies customers of top standing and is hence hardly affected by any bad debts or uncollectibles, and even these are covered by adequate allowances according to what the Group is aware of presently. Moreover, the Rheinmetall DeTec has not materially concentrated its credit facilities in one or only few lenders. The default risk emanating from financial derivatives consists in a failure of the counterparty and is therefore limited to the instrument's positive fair value to the counterparty.

#### Currency risk

Due to the international nature of the Rheinmetall DeTec Group's business, certain operational currency risks arise from the fluctuating parity of the euro to other currencies. Open positions exposed to a currency risk are principally hedged through financial derivatives, generally currency forwards or futures and swaps. These instruments are contracted locally at subsidiary or subgroup level. As of December 31, 2002, the currency and interest rate hedges tabled below existed, their notional volumes being shown non-netted and thus reflecting the total amounts of all individual contracts. Being marked to the market at December 31, the fair values of financial derivatives correspond to prices and/or obligations in arm's length transactions.

#### Interest rate risk

For the Rheinmetall Group's financing activities, such funding tools as floating-rate facilities are used, too. Interest rate hedges like caps/floors/collars and interest rate swaps contain the risks emanating from market rate changes. These hedges are contracted centrally by Rheinmetall DeTec AG, as well as locally at subsidiary or subgroup level.

Currency hedges	Notiona	al volume	Maturing	after 1 year	Fair market values		
€ million	12/31/2001	12/31/2002	12/31/2001	12/31/2002	12/31/2001	12/31/2002	
Currency forwards/futures	168.1	172.7	49.4	50.7	(2.2)	4.5	
Currency options	2.8	0.0	0.0	0.0	0.0	0.0	
Other forex derivatives	0.0	11.3	0.0	4.6	0.0	0.5	
Interest rate hedges	Notiona	al volume	Maturing	after 1 year	Fair market values		
€ million	12/31/2001	12/31/2002	12/31/2001	12/31/2002	12/31/2001	12/31/2002	
Interest rate swaps	20.3	18.7	18.6	18.5	(0.5)	(1.0)	

Within the Rheinmetall DeTec Group, both cash flow and fair value hedges are contracted wherever the criteria of IAS 39 are met.

### Notes Supplementary disclosures

#### (36) Transactions with related companies

The subsidiaries consolidated by Rhein- to) legal, tax and PR consultancy and metall DeTec AG directly or indirectly maintain ordinary business relations with many nonconsolidated group com- via intercompany cost allocations, panies and associated affiliates. Any and all trade transactions conducted in the scope of ordinary day-to-day busi- In the scope of the cash management ness with unconsolidated related companies conform with the arm's length principle.

In addition, Rheinmetall AG as Rheinmetall DeTec AG's majority stockholder as well as Rheinmetall service companies provide extensive services to companies of the Rheinmetall DeTec Group, including (without being limited support, data processing and insurance services, which are partly charged partly at prices as if at arm's length.

system of majority stockholder Rheinmetall AG, the Rheinmetall DeTec Group invests and/or borrows cash and cash equivalents within the Rheinmetall Group. All cash management business is transacted as if at arm's length.

Volume of services provided to/by major related companies:

€ million Company	Volume of services rendered			Volume of services utilized	
	2001	2002	2001	2002	
Rheinmetall AG	0.6	1.9	19.9	16.9	
Rheinmetall Service GmbH	0.0	0.0	0.8	0.0	
Rheinmetall Informationssysteme GmbH	0.7	0.3	23.1	16.0	
Richard Hirschmann GmbH & Co.	0.6	0.6	0.0	0.0	
Rheinmetall Finanz GmbH	0.6	0.0	0.3	0.0	
STN Atlas Marine Electronics GmbH	0.0	5.3	0.0	13.7	
Preh-Werke GmbH & Co. KG	0.6	0.6	18.5	11.4	
Hirschmann Electronics GmbH & Co.	0.0	0.6	0.0	0.0	
GIWS Gesellschaft für Intelligente Wirksysteme mbH	52.3	31.6	0.0	0.0	
Nico Pyrotechnik Hanns-Jürgen Diederichs GmbH & Co. KG	0.7	0.4	0.2	0.3	

#### (37) Supervisory and **Executive Boards**

Executive Board members received a total €3.458 million for 2002 (up from €2.201 million).

Supervisory Board fees amounted to €0.180 million in fiscal 2002 (up from €0.122 million), accruals of €0.001 million being released (down from €0.074 million).

A total €0.491 million (up from €0.471 million) was paid to former Management and Executive Board members and their surviving dependants. Pension obligations to former Management

or Executive Board members and their surviving dependants exist at a total €6.220 million (up from €6.199 million).

Ratingen, March 10, 2003

#### **Rheinmetall DeTec AG**

The Executive Board

Dr. Krämer

Me

Wir

rch	Gabrielli	Moog
nkler	Odermatt	Dr. Küstner

# Major Group companies

€ '000 Fully consolidated companies	Interest held (%)	Equity at 12/31/2002	Profit/(loss) in 2002	Net sales in 2002
Rheinmetall Landsysteme GmbH, Kiel	100.00	9,301	1,897	236,230
Eurometaal N.V., Zaandam, Netherlands	86.67	773	(8,068)	45,227
Heidel GmbH & Co. KG, Viersen	86.67	1,253	49	34,243
Heidel GmbH & Co. KG, Lotte	86.67	627	(605)	18,187
Heidel North America Inc., Novi, USA	84.94	480	(908)	19,475
Nitrochemie Aschau GmbH, Aschau	55.00	25,044	1,233	62,642
Mauser-Werke Oberndorf Waffensysteme GmbH, Oberndorf	100.00	13,154	3,559 <sup>3)</sup>	50,220
Rheinmetall W&M GmbH, Unterlüss	100.00	50,067	10,616 <sup>3)</sup>	235,383
Nitrochemie Wimmis AG, Wimmis, Switzerland	55.00	34,870	1,130	30,725
Buck Neue Technologien GmbH, Neuenburg	100.00	315	1,360	23,626
Oerlikon Contraves Inc., StJean-sur-Richelieu, Canada	100.00	16,826	1,523	32,820
Oerlikon Contraves AG, Zurich, Switzerland	80.50	93,418	3,596	228,660
Oerlikon Contraves Pyrotec AG, Zurich, Switzerland	80.50	23,177	2,262	52,923
Oerlikon Contraves S.p.A., Rome, Italy	80.50	17,920	14,333	66,216
Oerlikon Contraves GmbH, Stockach	80.50	18,608	816	16,13
STN Atlas Elektronik GmbH, Bremen	51.00	113,199	14,959	561,690
Companies stated at equity				
Nico Pyrotechnik Hanns-Jürgen Diederichs GmbH & Co. KG, Trittau <sup>1)</sup>	100,00	(1.413)	(5.094)	
GIWS Gesellschaft für Intelligente Wirksysteme mbH, Nürnberg <sup>1)</sup>	50,00	829	620 <sup>2)</sup>	
Other investees				
Magnet-Motor Gesellschaft für				
magnetmotorische Technik mbH, Starnberg <sup>1)</sup>	46,37	3.635	661 <sup>2)</sup>	
ARGE STN/CAE (GbR), Bremen <sup>1)</sup>	25,50	92	30	

<sup>1)</sup> local financial statements <sup>2)</sup> prior-year profit <sup>3)</sup> before P&L transfer

### Auditor's opinion

Rheinmetall DeTec AG, Ratingen

Independent group auditor's report and opinion

We have audited the consolidated financial statements prepared by Rheinmetall DeTec AG, Ratingen, and consisting of balance sheet, income statement, cash flow statement, statement of changes in equity and the notes thereto, for the fiscal year ended December 31, 2002. The consolidated financial statements in accordance with the IASB's International Accounting Standards (IAS) are the responsibility and assertions of the Company's Executive Board. Our responsibility is, based on our audit, to express an opinion on whether the consolidated financial statements conform with IAS.

We have conducted our audit of the con- It is our opinion that the group mansolidated financial statements in accordance with German auditing regulations and with due regard to generally accepted standards on the audit of financial statements as established by IDW, the Institute of Sworn Public Auditors & Accountants in Germany. Those standards require that we plan and perform the audit to obtain reasonable assurance about the proper identification of any misstatement in the consolidated financial statements. An audit includes examining, on a test basis, the evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used, and significant estimates made, by the Company's Executive Board, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

Based on our audit, it is our opinion that the consolidated financial statements, in accordance with the IAS, present a true and fair view of the Group's net assets, financial position and results of operations as well as of its cash flows in the fiscal year under review.

Our audit, which in accordance with German auditing regulations also covered the group management report as prepared by the Executive Board for the fiscal year ended December 31, 2002, has not resulted in any objections or exceptions.

agement report presents fairly, in all material respects, both the Group's overall position and the risks inherent in its future development.

Düsseldorf, March 11, 2003

#### **PwC Deutsche Revision**

Aktiengesellschaft Wirtschaftsprüfungsgesellschaft

Bovensiepen pp. Dr. Hovenjürgen Wirtschaftsprüfer Wirtschaftsprüfer

### Supervisory and Executive Boards

#### Supervisory Board

#### **Klaus Eberhardt**

Düsseldorf Executive Board Chairman of Rheinmetall AG Chairman

Membership in other supervisory boards STN Atlas Elektronik GmbH Kolbenschmidt Pierburg AG Jagenberg AG Aditron AG Rheinmetall Elektronik AG Pierburg AG

#### Reinhard Kiel \*)

Frankfurt/Main General Secretariat of the Metalworkers Union, Frankfurt/Main Vice-Chairman

Membership in another supervisory board Rheinmetall AG

#### Werner Engelhardt

Karlsruhe Management Board Chairman of Röchling Industrie Verwaltung GmbH (up to January 14, 2002)

Membership in other supervisory boards Rheinmetall AG Kolbenschmidt Pierburg AG Pierburg AG Aditron AG Rheinmetall Elektronik AG Jagenberg AG STN Atlas Elektronik GmbH

#### Dr. Bernd Michael Hönle

Weisenheim Management Board member of Röchling Industrie Verwaltung GmbH

Membership in other supervisory boards

BEA Holding AG DeTeWe-Deutsche Telephonwerke Beteiligungs AG Francotyp-Postalia Beteiligungs AG Pfeiffer & May Grosshandel AG Seeber Beteiligungs AG Rheinmetall AG Aditron AG Pierburg AG STN Atlas Elektronik GmbH Jagenberg AG Kolbenschmidt Pierburg AG

#### Prof. Dr. Gösta B. Ihde

Mannheim Member of the Stockholders' Committee of Röchling Industrie Verwaltung GmbH

Membership in other supervisory boards Duravit AG Rheinmetall AG

#### Hans-Jürgen Klatt \*)

Altenholz/Stift Mechanic Rheinmetall Landsysteme GmbH (up to April 12, 2002)

#### Michael Krämer \*)

Müden Head of Materials Management of Rheinmetall W&M GmbH

#### Franz Mittermaier \*)

Aschau/Inn Chemical engineer Nitrochemie Aschau GmbH

Membership in other supervisory boards

LVA Oberbayern AOK Mühldorf Nitrochemie Aschau GmbH

#### Dr. Herbert Müller

Essen Executive Board member of Rheinmetall AG

Membership in other supervisory boards

Aditron AG Rheinmetall Elektronik AG Pierburg AG Jagenberg AG Kolbenschmidt Pierburg AG

#### Wolfgang H. Müller

Erkrath-Hochdahl Member of the Stockholders' Committee of Röchling Industrie Verwaltung GmbH (as from February 19, 2002)

Membership in other supervisory boards WMF Württembergische Metallwarenfabrik AG Bankhaus Bauer AG

#### Dagmar Muth \*)

Bremen Works Council Chairwoman STN Atlas Elektronik GmbH (as from March 21, 2002)

Peter Neumeyer \*)

Ratingen Clerk, Rheinmetall DeTec AG

#### Henning von Ondarza

Bonn Retired general

#### Heinrich Ortmann \*)

Hannover Union secretary General Secretariat of the BCE union

Membership in another supervisory board Shell & DEA Oil GmbH

#### **Executive Board**

#### Dr. Ernst-Otto Krämer

Chairman

Membership in supervisory boards Michelin Reifenwerke KG Oerlikon Contraves AG Rheinmetall Landsysteme GmbH Rheinmetall W&M GmbH Nitrochemie Wimmis AG STN Atlas Elektronik GmbH GIWS Gesellschaft für Intelligente Wirksysteme mbH

#### Helmut P. Merch

Membership in supervisory boards Rheinmetall Landsysteme GmbH Rheinmetall W&M GmbH Oerlikon Contraves AG STN Atlas Elektronik GmbH Rheinmetall Informationssysteme GmbH

#### Mario Gabrielli

Membership in supervisory boards Rheinmetall Landsysteme GmbH Rheinmetall W&M GmbH RM Euro B.V.

#### **Detlef Moog**

Membership in supervisory boards Oerlikon Contraves AG Mauser-Werke Oberndorf Waffensysteme GmbH Nitrochemie Wimmis AG Nitrochemie AG Buck Neue Technologien GmbH Nico Pyrotechnik Hanns-Jürgen Diederichs GmbH & Co. KG GIWS Gesellschaft für Intelligente Wirksysteme mbH Eurometaal Holding N.V. Nitrochemie Aschau GmbH

#### **Gert Winkler**

Membership in supervisory boards Rheinmetall W&M GmbH STN Atlas Elektronik GmbH PSM Projekt System & Management GmbH telerob Gesellschaft für Fernhantierungstechnik mbH LOG Logistik-Systembetreuungs-Gesellschaft mbH

#### **Ernst Odermatt**

Membership in supervisory boards

Oerlikon Contraves AG Oerlikon Contraves Pyrotec AG Oerlikon Contraves S.p.A. Oerlikon Contraves Inc. Mauser-Werke Oberndorf Waffensysteme GmbH

#### **Dr. Thomas Küstner**

(as from May 1, 2002)

#### **Executive Officers**

#### **Bernhard Hagen**

Senior Executive Officer

#### **Gero Voss**

(up to February 28, 2002)

# Glossary of defence terms

3-D radar, 3D-X-Tar radar	3-D radar enables three-dimensional localization of a detected target, poten- tially including the polar coordinates distance, elevation and azimuth angle or rectangular coordinates. Conventional radar provides only the slant range by measuring the delay of the reflected signal and the azimuth angle.
Advanced hit efficiency and destruction—Ahead	A 35-mm antiaircraft round which ejects 152 subprojectiles immediately in front of the target. Such a divergent swarm of subprojectiles significantly in- creases the likelihood of a hit, and is thus especially effective against small targets like cruise missiles or drones. The ejection of each of the small projec- tiles is timed according to the muzzle velocity of the projectile and the point of impact calculated by the fire control unit.
Air burst munition—ABM	This is based on NATO qualified Ahead technology. The round is fitted with a programmable time fuse. Once the actual muzzle velocity has been measured, the fuse setting time is calculated and each individual round inductively pro- grammed at the muzzle for the range to be covered (depth dispersion). As a consequence, the heavy-metal projectiles contained in the round are ejected at the most effective time.
Air start unit—ASU	This is a pneumatic starter for aircraft engines or for driving the onboard A/C system should the aircraft's APU (Auxiliary Power Unit) fail.
Atlas short range air defence—Asrad	This is a lightweight self-contained air defence system for engagement of tar- gets at a range of up to eight kilometers at an altitude of up to 5,000 meters.
Battle management systems—BMS	Battle management systems bring together all of the data available and nec- essary for a successful mission and generate quickly interpretable tactical op- tions and situation reports, often derived from highly complex interrelation- ships. Such data includes, for example, terrain models, manmade structures, enemy forces, friendly forces and weather conditions. A typical scenario: an attacking aircraft is simultaneously tracked by several air defence sites. In a linked battlefield management system, the best-positioned air defence site and weapon (guided missile or artillery) is selected, together with the optimum moment for engagement.
Cavitation	A cone-shaped cavity of water vapor formed at the head of an underwater vehi- cle. Also referred to as supercavitation, this phenomenon arises at underwater speeds of over 180 km/h. Not yet entirely under human control, it allows the friction caused by movement under water to be greatly reduced, thus allowing high speeds at relatively low propulsion forces.

Combat system—Cosys	This command and weapon deployment system for surface vessels automates and provides to the control crew such functions as localization, evaluation, planning, decision-making, resources management and fire command. Espe- cially suited for small craft or as a back-up system on larger combat units.
Command and weapons deployment system–FüWes	See: battle management system
Command, control, communication, information—C <sup>3</sup> I	Abbreviation often used when referring to such systems.
Frangible armor piercing discarding sabot munition—FAPDS munition	See: lightweight naval gun
Future combat cystem—FCS	This refers to the new techniques, equipment, and operational concepts being developed by the US army for highly mobile land forces.
High explosive rounds—HE rounds	Large caliber rounds containing an explosive charge which is detonated on target. With the programmable version, the explosion can be timed to occur at a selected standoff distance from the target. To do this, the velocity of the projectile is verified, taking into account the temperature of the propellant. The velocity then determines the moment of fuse actuation.
High-performance microwaves	By means of an explosion-like process, a pulse-shaped electromagnetic wave is generated with a bandwidth of between 300 MHz and 3 GHz. When penetrating electronic components, these waves create undesirable electric currents and voltage levels in these components causing temporary or permanent impairment of functions. In a military context, high-performance microwaves are used in electronic combat operations.
Integrated sensor underwater system—Isus	Of modular design, this comprises a family of antisubmarine systems designed for use on all kinds of missions and in submarines of all sizes.
Large caliber	Barrel guns and ammunition with a caliber of 77 mm and above.

Glossary of Rheinmetall DeTec AG

# Glossary of defence terms

Light naval gun	Used in the self-defence of battle ships and small short-range floating units. Aircraft, helicopters, fast craft and coastal objects can be engaged with high accuracy and effectiveness. The gun is remote controlled and operated from a separate console. It is fitted with target-tracking sensors permitting both automatic targeting and purely manual aiming of the weapon. The high degree of accuracy is achieved through the precise fire control and command system and the rate of fire of the revolver cannon BK 27. Maximum range of up to four kilometers is achieved thanks to the new 27-mm subcaliber FAPDS with ballistic effectiveness of up to four kilometers.
LKE II tank ammunition	The LKE II enhanced-performance kinetic energy round destroys its target by applying high mass and velocity, i.e., kinetic energy, which is delivered by an arrow-shaped tungsten penetrator.
Maske	A family of bispectral smoke grenades for protection of armored vehicles. The smoke generated is impenetrable to visible, infrared as well as laser seekers.
Medium caliber	Weapons and ammunition with a caliber of 12.5 to 76 mm.
Mine hunting	In maritime terminology, mine hunting refers to the detection and destruction of naval mines, a process in which mines are precisely located by sonar and then destroyed by means of a directed demolition charge. The demolition charges are delivered to the mine either by an underwater drone or as part of a one-way countermine vehicle. Mechanical equipment is used in mine-clear- ing operations when there is no knowledge of the precise location of the mine.
Multiple integrated laser engagement system—Miles	NATO terminology for laser-aided firing simulators.
Naval antimissile system—MASS	Automated decoy system for protecting ships against missiles equipped with modern radar, infrared and dual-mode seekers. Installable on all types of vessels; will integrate with existing weapon command and deployment systems or may be deployed in standalone mode.
Self-propelled antiaircraft gun—Spaag	A cannon-type mobile air-defence system integrated into a lightweight armored wheeled or tracked vehicle.

Sensor-fused munition for artillery 155—SMArt 155	The sensor-fused 155mm SMArt projectile is an intelligent round containing two submunitions. When the SMArt 155 projectile reaches the target zone, this submunition is ejected and suspended by parachute, causing it to rotate and swing in pendulum fashion above the targets. A sensor combination consist- ing of infrared and miniature radar detects a target which is then engaged by means of an explosively formed projectile.
Settable fuse	See: high explosive Round
Simulation technology	Flight simulators and vehicle simulators have long been well known. But simu- lation technology has since been applied to reproduce very complex processes, including combat operations. Other simulation techniques permit the analysis of weapons systems and their optimization during the design phase.
Softkill	Refers to ways and means of achieving military impact without direct engage- ment or destruction. Typical instances are the temporary or permanent break- down in computer systems through electromagnetic pulses or the distraction of missiles through false signals.
Sound navigation and ranging—Sonar	This is a technique for detecting underwater objects by means of directional and distance measurement. Sonars transmit sound waves and analyze the signals reflected by underwater objects. Passive sonar devices evaluate the sound waves produced by sources of noise, e.g. submarines.
Subcaliber	Ammunition whose diameter is smaller than that of the barrel bore. This allows ideal interaction between propellant mass and the aerodynamically shaped projectile.

# Glossary of financial terms

Actuarial gains and losses	The actuarial computation of pension accruals is largely based on forecasted parameters (such as pay and pension trends). If these assumptions are changed on the basis of actual developments, actuarial gains or losses result.
Capital employed (CE)	CE provided by stockholders, creditors, employees, etc. and comprising net financial debts, pension accruals and equity. The meaningful interpretation of this indicator requires $\rightarrow$ EBIT to calculate $\rightarrow$ ROCE: EBIT should ensure a sufficient return on CE to satisfy the stakeholders concerned. Depending on the employment of the capital (on the assets side), CE is determined as the net of $\rightarrow$ (segment) assets less $\rightarrow$ (segment) liabilities plus pension accruals.
Cash flow (gross, but after taxes)	Net income/net loss plus amortization/depreciation and changes in pension ac- cruals. This indicator shows a company's ability to internally fund its expendi- tures and processes and to distribute cash dividends.
EBIT	Earnings before interest and taxes; used to assess a company's performance irrespective of its financing structure. Key indicator for the Rheinmetall Group's management to control group (company) performance.
EBIT margin	Percentage obtained by dividing EBIT into net sales ×100 and used to compare the profitability of companies of different size. EBIT margins typically vary by type of business.
EBITDA	Earnings before interest, taxes, depreciation and amortization; being a pretax performance indicator that disregards the corporate financing structure and all noncash expenses, EBITDA reflects the gross cash inflow generated by a company.
EBT	Earnings before taxes: the pretax profit/loss after financing expenses is better suited to inform stockholders about the year's performance than net income/ loss since tax payments may distort the picture due to past events or special factors. In IAS-based accounts, EBT is synonymous with the result from ordinary operations.
Financial derivatives	Financial instruments (e.g., options, futures) derived from original instruments (such as equities, bonds, foreign currency) and used, inter alia, to hedge against currency and interest rate risks. The prices of derivatives hinge directly or indirectly on the value of the underlying transaction.

Goodwill	In company acquisitions, net equity under cost (or prorated net assets over cost); requires capitalization as an intangible.
International Accounting Standard (IAS)	These standards—developed by international associations of accountants and auditors, preparers of financial statements and scientists—represent an inter- nationally harmonized accounting and reporting system extending beyond the European Union and meant to provide high-quality, meaningful financial infor- mation, thus improving international comparability. The IAS provide a standard basis for both companies and investors and presently include 34 standards.
Net financial debts	All interest-bearing liabilities (such as those due to banks) less cash and cash equivalents. This figure provides information about a company's net indebtedness.
Net liquidity	Cash and cash equivalents less all interest-bearing liabilities.
Percentage of completion	According to IAS 11, method of accounting for long-term construction or service contracts with customers. Net sales, contract costs and contract profits/ losses are recognized at their percentage of completion (PoC), although the contract may not have been fully completed and billed to the customer.
Projected unit credit (PUC) method	The PUC method (under IAS 19) is used to provide for pensions and similar obligations. Based on the present value of the DBO, not only the pensions and vested rights (entitlements) as of the balance sheet date are taken into account but also future pay and pension rises.
ROCE (return on capital employed)	This performance ratio is obtained by dividing $\rightarrow$ EBIT into the annual average $\rightarrow$ capital employed. The stakeholders concerned can thus rate the profitability of the capital employed within the company. To add value, ROCE should exceed the percentage cost of capital. If defined identically, ROCE permits a comparison of the profitability of different companies. The ratio is used by management within the Rheinmetall Group for controlling purposes in line with the shareholder value concept.
Segment assets	All assets less cash and cash equivalents and less other assets that bear interest in any form (but not involved in EBIT generation). This total is part of $\rightarrow$ capital employed for segment reporting.

Glossary of Rheinmetall DeTec AG

# Glossary of financial terms

Segment liabilities	All liabilities less financial debts (which require EBIT service). This total is part of →capital employed for segment reporting.
Shareholder value	Management concept that subjects all decisions and actions within a company to whether shareholder value is thus added or not. Wherever →ROCE exceeds WACC (weighted average cost of capital), shareholder value is added.
Standing Interpretations Committee (SIC)	The SIC interprets potentially contentious accounting issues. The Interpreta- tions are approved by the International Accounting Standards Board (IASB) and, from the effective date, are binding on all IAS users.
Value added per capita	The annual average headcount divided into total value added. This absolute figure shows workforce productivity over time, specifically in relation to personnel expenses per capita.
Working capital	Net inventories plus trade receivables (including PoC), less prepayments re- ceived and trade payables (including PoC). This short definition of (net) work- ing capital within the Rheinmetall Group includes only parameters relevant to corporate governance and control and provides information about the finan- cial resources tied up in WC, which is a material, quickly controllable compo- nent of $\rightarrow$ capital employed. Reducing WC releases financial resources, raises $\rightarrow$ ROCE and also shareholder value.

### Addresses

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Rheinmetall DeTec AG

