

# ARCHIVED REPORT

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## RDM - Archived 2/2006

### Outlook

- In April 2004, RDM Holding applied for protection from its creditors for four of its companies
- The companies seeking protection included RDM Technology, RDM Submarines, Nevesbu warship design bureau and Flycam
- With RDM now effectively out of the defense industry, this report will be archived in 2006

### Sales & Net Income Trends

Information Unavailable

### Headquarters

RDM Technology b.v.  
PO Box 1039  
Heijplaatstraat 21  
3000 BA Rotterdam, the Netherlands  
Telephone: (31 10) 487 2753

RDM originated from the Rotterdam Drydock Company (de Rotterdamsche Droogdok Maatschappij b.v. – RDM), founded in 1902 as a company specializing in the repair of ships and their equipment.

Starting in 1930, the company specialized in the development and construction of submarines. During this period, RDM added the production of naval guns and army howitzers to its product range.

On January 1, 1992, RDM became part of the Begemann Group of the Netherlands. The formal transfer of shares took place on December 20, 1991, reversing almost a decade of state ownership of RDM.

In February 1996, former Chairman Joep van den Nieuwenhuyzen of RDM's parent Begemann Group took over the company and formed RDM Technology Holding BV.

RDM Submarines, together with RDM Technology and NEVESBU (naval engineering and design), is a subsidiary company of RDM Nederland BV. RDM Nederland is in turn held by RDM Technology Holding BV. In addition to RDM BV, the RDM Technology Holding group holds SP Aerospace and Vehicle Systems BV and Wilton Fijnnoord Holding BV.

Another part of RDM Holding is RDM Aerospace Holding, which includes the U.S.-based MD Helicopters.

In April 2004, RDM Holding sought bankruptcy protection.

### Structure and Personnel

Joep A.J. van den Nieuwenhuyzen  
Chairman & CEO, RDM Holding NV  
W.J.T.H. Luijten  
Managing Director, RDM Technology  
Don Eshuis  
Managing Director, SP Aerospace and Vehicle Systems BV

J.F.H. Pacanda  
Managing Director, RDM Submarines BV  
Henk Schaeken  
CEO, MD Helicopters

## Product Area

RDM Holding is organized in the following manner:

1. RDM Technology Holding
  - 1.1 RDM Nederland BV
    - 1.1.1 NEVESBU
    - 1.1.2 RDM Submarine
    - 1.1.3 RDM Technology
  - 1.2 SP Aerospace and Vehicle Systems BV
  - 1.3 Wilton Fijnoord Holding
2. RDM Aerospace
  - 2.1 MD Helicopters Holding
  - 2.2 Rigid Airship Design (42 percent)

**RDM Submarine.** This unit's primary defense products are conventional submarines. RDM Submarine is active in the development of the new Moray class of conventionally powered submarines, which is to feature an air-independent propulsion (AIP) system. RDM Submarine developed and manufactured the Zeeleeuw (formerly Walrus) class of submarines, currently in service with the Royal Netherlands Navy. Other submarine classes previously constructed by RDM Submarine for the Royal Netherlands Navy include the Zwaardvis and Zeehond classes. The company also produces heavy-walled diving vessels, and has supplied the Royal Netherlands Navy with the Poolster class fast combat support ship. RDM Submarine also offers maintenance, update, and mid-life conversion services for submarines.

**RDM Technology.** RDM Technology undertakes contract modification and upgrade/modernization work on military vehicles and ordnance systems. It has completed a modernization package on M114/39

155mm howitzers for the Dutch, Danish, and Norwegian armies, as well as upgrades for Canadian M101/33 105mm howitzers. Other retrofit and modernization weapons systems specialties include the M109A2/A3, Leopard Land II, AMX 13, M113, and YPR 765.

**SP Aerospace and Vehicle Systems.** This unit was known as DAF Special Products prior to its acquisition by RDM Technology Holding. SP Aerospace and Vehicle Systems BV is a major European supplier of landing gear systems, actuators, and rotor systems for a variety of civil and military fixed- and rotary-wing aircraft. In addition, this operation produces armored personnel carriers, drive systems, and superstructures for trucks.

**MD Helicopters Holding.** This unit was acquired in February 1999 when Boeing's McDonnell Douglas Helicopter Company sold its civil helicopter line to MD Helicopters Holding Inc, an indirect subsidiary of RDM Holding. Included in the sale are the MD 500E and MD 530F single-engine helicopters with conventional tail rotors, the MD 520N and MD 600N single-engine helicopters, and the MD Explorer series of twin-engine, eight-place helicopters.

**Rigid Airship Design N.V.** is a Dutch consortium whose purpose is the development and commercial manufacture of rigid airships. It was officially formed in May 1998. Its aim is to start building a prototype airship at the earliest opportunity, followed by the mass production of airships at its new production complex in Lelystad.

## Facilities

RDM Submarines BV, 21 Heijplaatstraat, PO Box 801, 3000 AV, Rotterdam, the Netherlands. Telephone: (31 10) 487 2757.

RDM Technology BV, PO Box 1039, 3000 BA Rotterdam, the Netherlands. Telephone: (31 10) 487 2753.

SP Aerospace and Vehicle Systems BV, PO Box 436, Eindhovenweg 120, 5660 AK Geldrop, the Netherlands. Telephone: (31 40) 280 9191. Web site: <http://www.sp-aerospace.com>

MD Helicopters Inc, 4555 E McDowell Rd, Mesa, AZ, 85215-9734. Telephone: (480) 346-6344. Web site: <http://www.mdhelicopters.com>

## Corporate Overview

RDM Technology is an industrial company active in both the defense and civil markets. Under the auspices of RDM Holding, the company has broadened its market interests to make up for lackluster defense sales. RDM Holding unifies a large number of technologically advanced industries active in defense, civil, aerospace, naval, and maritime engineering sectors.

### New Products and Services

**Fennek.** The Fennek was developed and is to be manufactured by the ARGE consortium, consisting of Special Products Aerospace & Vehicle Systems (formerly DAF Special Products), Eindhoven, the Netherlands, and Krauss-Maffei Wegmann. ARGE is headquartered in Kassel. In December 2001, a delivery contract was

signed between the Dutch Ministry of Defense and ARGE covering a total of 612 vehicles in different variants. The contract is valued at \$445 million. In July 2003, the first Fennek was handed over to the Royal Netherlands Army.

In 2004, following the bankruptcy of SP Aerospace & Vehicle Systems, Krauss Maffei Wegmann established a new Dutch company, DDVS, to handle the Netherlands portion of the Fennek program (See Teaming/Competition/Joint Ventures section below for details).

### **Plant Expansion/Organization Update**

**Bankruptcy Protection.** In April 2004, RDM Holding applied for protection from its creditors for four of its companies. The companies seeking protection included RDM Technology, RDM Submarines, the Nevesbu warship design bureau and Flycam, a developer of miniature unmanned rotorcraft. According to chairman Joep A.J. van den Nieuwenhuyzen, there are insufficient business opportunities to sustain these companies.

### **Mergers/Acquisitions/Divestitures**

**Civil Helicopter Line Acquired.** In February 1999, Boeing's McDonnell Douglas Helicopter Company sold its civil helicopter line to MD Helicopters Holding Inc, an indirect subsidiary of RDM Technology Holding. The sale price was not disclosed, although the asset value was about \$150 million. Included in the sale are the MD 500E and MD 530F single-engine helicopters with conventional tail rotors; the MD 520N and MD 600N single-engine helicopters with the Boeing NOTAR no tail rotor system for anti-torque and directional control; and the MD Explorer series of twin-engine, eight-place helicopters. Boeing will retain ownership of NOTAR technology, but MD Helicopters will have a license to use the technology on existing and future aircraft. RDM is a subcontractor (through SP

Aerospace and Vehicle Systems BV) to Boeing for landing gear and fuselage assemblies for Apache helicopters.

### **Teaming/Competition/Joint Ventures**

**ARGE.** This consortium consisted of SP Aerospace & Vehicle Systems (formerly DAF Special Products), Eindhoven, the Netherlands, and Krauss-Maffei Wegmann. ARGE, headquartered in Kassel, is producing the Fennek armored vehicle for Dutch and German requirements.

The April 2004 collapse of RDM Technology rippled into the ARGE consortium, as RDM Technology was a major supplier to SP Aerospace & Vehicle Systems.

In July 2004, KMW took legal action to end its consortium arrangement with SP Aerospace & Vehicle Systems. The reason cited for the suit is that the financial position of SP can no longer be guaranteed, and that delays in Fennek series production are more than six months behind schedule. SP Aerospace & Vehicle Systems subsequently entered bankruptcy in August.

By November 2004, KMW had set up a new company, Dutch Defence Vehicle Systems (DDVS), to handle the Netherlands-based work share of the Fennek program.

**Rigid Airship Design.** In May 1998, this Dutch consortium was formed with the purpose of developing and manufacturing airships. Rigid Airship Design N.V. believes that in the 21st century there will be a large market for airships as a silent, safe, energy-efficient, cost-effective, and multifunctional alternative for transport, observation, data communications, promotion, and tourism. The share allocation in Rigid Airship Design N.V. is as follows: RDM Aerospace N.V., 42.3 percent; Airshot International N.V., 36.3 percent; Stork N.V., 10 percent; M. Caransa B.V., 7 percent; and Greenfield Capital Partners B.V., 4.4 percent.

## **Financial Results/Corporate Statistics**

As RDM is a privately held firm, financial statistics have not been made available.

## **Strategic Outlook**

With consolidation sweeping Europe, RDM has been left behind. The company was too small to even be considered a niche manufacturer, and too uncompetitive to be a viable subcontractor.

In April 2004, the company put its key defense operations into bankruptcy as it sought protection from

creditors. These operations are now being broken up and sold off to pay off the company's debts.

With RDM effectively dissolved as a defense company, this report will be archived in 2006.

## Prime Award Summary

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Unavailable

### Program Activity

Some important programs currently under way at RDM are listed below. For detailed information or analyses of specific programs or equipment, please refer to Forecast International's *Warships* binder. The following are the company's business interests:

- Conventional Submarines
- Military Vehicles
- Ordnance
- Aerospace components

#### RDM Submarine

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##### Walrus

RDM has finished construction of the four Zeeleeuw (or Walrus) class submarines. Construction of the planned first submarine in the class, *Walrus*, was set back by a fire in 1986. As a result, *Zeeleeuw* was to be the first submarine in service, with commissioning in 1989. The last of the class was scheduled for commissioning in 1993. Initial plans to build two more of this class were canceled in the 1989-1998 defense plan in favor of the Moray class. Moreover, the Ministry of Defense had previously announced that the two Zwaardvis class submarines will not be replaced by the two Moray class subs. The DFL44 million awarded to the RDM shipyard will be kept by the contractor, however. An opportunity to sell up to 10 submarines of this type to Taiwan had been emphatically stopped by the government. No further construction is anticipated.

##### Moray

The program definition study for the Moray has been completed, and the program is in advanced development. The Moray class will be the first submarines built from the bow up for the AIP system. RDM is designing the new AIP system, which has been named SPECTRE (Submarine Power for Extended Continuous Trial and Range Enhancement). The SPECTRE AIP system will contain the following: closed-cycle diesel (including a 600 kW DC generator), liquid nitrogen storage and supply system (total capacity of 60 tons in two tanks), argon storage and supply system, CO<sub>2</sub> absorber and water management system, CO<sub>2</sub> scrubber, and weight compensation tanks for liquid oxygen. Much of the armament and electronics for the Moray will probably be adapted from Zeeleeuw/Walrus class to reduce costs. The Moray will be of a modular single-hull design,

constructed of HY 100 steel. The Moray will consequently be able to reach a diving depth in excess of 300 meters (980 feet). No domestic procurement of the Moray class is forecast.

#### RDM Technology

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##### Defense Engineering

In the military sphere, RDM Technology is involved in land-based military systems, specifically artillery. RDM undertook the modernization of 226 M114/39 155mm howitzers for the Dutch, Danish, and Norwegian armies. Efforts have also been made to extend the range of the Canadian Army's M101 105mm howitzers. The Defense Engineering division is capable of a full array of ordnance modernization and retrofit work, and also updates and modifies military vehicles.

RDM Technology has been participating in the production of the Leopard 2 tank for the Netherlands, as well as for the German requirement. RDM Technology produced all turrets (for the Netherlands requirement only), as well as cradle and recoil systems for both the Dutch and German programs. RDM Technology is working on a Leopard 2 upgrade program that involves a complete rebuild of the turrets as well as the manufacture of new components.

In addition to the Leopard 2 modernization, RDM Technology is producing the XA-188 Wheeled Armored Vehicles for the Royal Netherlands Army. The vehicles, which are being produced in cooperation with Patria Vehicles of Finland, will be used for U.N. missions of the Royal Netherlands Army.

Finally, this unit participated in a program to replace Dutch artillery systems.

##### Mechanical Engineering

The Mechanical Engineering division of RDM is involved in many civil programs. In the civil sector, RDM produces turbine casings, stators, and other components. In addition, the firm produces various components for merchant vessels such as helicopter landing grids.

This division is also responsible for the production of Ariane 4 and Ariane 5 component production. Specifically, RDM Technology manufactures connection rings for the Ariane 4 and Ariane 5 engine frames.

## SP Aerospace and Vehicle Systems BV

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### Aerospace

SP Aerospace and Vehicle Systems BV is a major European supplier of landing gear systems, actuators, and rotor systems for a variety of current and past civil and military fixed- and rotary-wing aircraft programs, including the following: AgustaWestland Lynx; Lockheed Martin F-16; Northrop F-5; Fairchild A-10; Lockheed P-3C; NH90 medium-duty helicopter; Airbus A330/A340; and Sikorsky SH-3. In addition, SP performs all related support, repair, overhaul, and maintenance work on these aircraft.

### Armored Vehicles

The YPR-765 is an advanced development of the world-renowned M113 armored personnel carrier. The YPR-765 features an advanced turret and upgraded armor, among other improvements. DAF (now SP Aerospace and Vehicle Systems BV) manufactured and assembled over 2,100 of these vehicles, which are in use with the Royal Netherlands Army. In addition, DAF played an important role in the Leopard 1 and Leopard 2 main battle tank programs in the Netherlands. The Leopard 1 and Leopard 2 are developments of Krauss-Maffei Wegmann of Germany, and both tanks are utilized by the Netherlands in large numbers.

SP Aerospace and Vehicle Systems designs, develops, and manufactures purpose-built superstructures for special-mission utility vehicles, including artillery transports, bridge-laying vehicles, refueling trucks, and support vehicles. In a major program for the Royal Netherlands Army, some 5,000 4-ton vehicles are being equipped with widely varying cargo bodies and other superstructures. The unit is also a supplier of customer-defined simulators and in-house training facilities.

### MD Helicopters

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*MD Helicopters, Mesa, Arizona, USA, acquired these programs in early 1999. The operation is an indirect*

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*subsidiary of RDM Holding. It has not been affected by the problems at RDM's defense operations.*

### MD Helicopters 500/H-6 Series

These are four- to seven-seat, single-engine, single-rotor commercial and military utility helicopters. Commercial applications include resource development, environmental protection, fishery and forestry protection, agricultural chemical application, pipeline and utility power line surveillance, short-haul passenger operations, corporate passenger operations, general cargo carriage, television/radio news reporting, and police and paramilitary operations such as drug interdiction, border patrol, traffic patrol, and monitoring. Production of commercial 500E, 520N, and 530F and military 520N and 530MD/MG models is ongoing.

### MD Helicopters MD600N

This is a seven- or eight-place, single-engine, single-rotor commercial helicopter designed for corporate transport, utility, electronic news gathering, EMS, and law enforcement. Production is ongoing.

### MD Helicopters MD900/902 Explorer

This is an eight-place, advanced-technology, light twin turbine helicopter. Commercial applications include corporate, charter, and rental passenger transport, resource development, environmental/fishery protection, border patrol, drug interdiction, law enforcement, pipeline and power line monitoring, forestry protection, aerial photography, agricultural chemical application, media reporting, and general cargo transport. Anticipated military applications include light attack/scout, reconnaissance, target acquisition, liaison, search-and-rescue, medical evacuation, and VIP transport. The program is in early production; first two aircraft delivered in December 1994. Improved Model 902 replaced 900 in late 1997.