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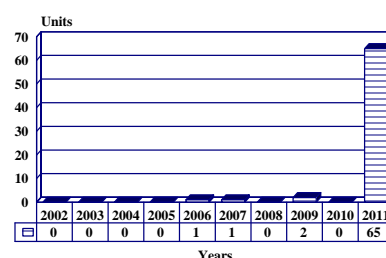
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# Schützenpanzer Marder 2 – Archived 12/2002

## Outlook

- After being postponed for years, the development of what was originally designated the Schützenpanzer Marder 2 has again been officially stated as a goal bbbb
- Two Schützenpanzer Marder 2 prototype vehicles were manufactured under the original program
- The program is expected to be revived around the year 2005

10 Year Unit Production Forecast  
2002 - 2011



## Orientation

### SPECIAL NOTE

The data in this report refer to the Schützenpanzer Marder 2 that was canceled in late 1992. The program is now expected to be officially revived, possibly under the Neue Gepanzerte Plattformen program. The vehicle, tentatively designated the Schützenpanzer Marder 2, is described herein as originally conceived. The configuration of this vehicle could change significantly over the course of its development in order to incorporate various advances in technology.

**Description.** A tracked vehicle.

**Sponsor.** The development of the Schützenpanzer Marder 2 has been sponsored by the Federal Republic of Germany's Federal Ministry of Defense through the Rüstungsabteilung (Armament Department), Bundeswehrverwaltungsamt (Federal Office of Defense Administration), and Bundesamt für Wehrtechnik und Beschaffung (Federal Office for Military Technology and Procurement).

**Contractors.** The Schützenpanzer Marder 2 was being developed by Krauss-Maffei AG (now Krauss-Maffei Wegmann), Munich, Federal Republic of Germany. Major subcontractors included Motoren- und Turbinen-Union, Renk AG, and Rheinmetall DeTec. These companies are expected to be the contractors for the revived program.

**Licensees.** None

**Status.** Before its cancellation in late 1992, the final stages of concept definition were under way, and two preprototype testbed vehicles had been fabricated. Development of the basic technology related to a new mechanized infantry combat vehicle continues. In early 2001, a German government official stated that a program for a new mechanized infantry combat vehicle will be restarted in the near future.

**Total Produced.** As of January 1, 2002, two preprototype testbed Schützenpanzer Marder 2 vehicles had been manufactured under the original development program.

**Application.** A mechanized infantry combat vehicle for the transportation of light infantry squads that has the ability to conduct defensive and offensive operations as required.

**Price Range.** In equivalent 1992 United States dollars, the unit price for a serially produced Schützenpanzer Marder 2 was expected to be \$1.756

million. The projected unit price for the new vehicle that is expected to fill this requirement is \$4.224 million in equivalent 2002 United States dollars.

## Technical Data

The following technical data refer to the Schützenpanzer Marder 2 as it was originally conceived. As noted above, the final vehicle may differ in some respects because of the incorporation of advanced technology.

**Crew.** This vehicle was to have been crewed by three personnel: commander, gunner and driver, plus six to eight infantrymen.

**Armor.** A high degree of all-around protection was being incorporated in the Schützenpanzer Marder 2 design. A modular-type armor suite was probable, and explosive reactive armor was being considered.

**Dimensions.** The Schützenpanzer Marder 2 was expected to weigh about 43 tonnes (47.39 tons).

**Performance.** The overall performance was expected to be superior to that of the Marder, especially in terms of speed and battlefield mobility. Components of a special kits would need to be installed in order for the Marder 2 to be amphibious.

**Engine.** Motoren- und Turbinen-Union was to provide the MT 883 V-12 diesel engine which is rated at 1,100 kilowatts (1,474.5 horsepower) at 50 revolutions per second (3,000 revolutions per minute). This

supercharged engine was to be significantly smaller than other engines of a similar power rating. The power-to-weight ratio was expected to be around 25.58 kilowatts per tonne (31.11 horsepower per ton). The overall mobility of the Schützenpanzer Marder 2 was intended to be significantly better than that of the original Schützenpanzer Marder.

**Gearbox.** The Schützenpanzer Marder 2 was to use an unspecified automatic gearbox, which would probably have been provided by Renk AG.

**Suspension and Running Gear.** The suspension was to be a torsion bar-type with six roadwheels and an unknown number of return rollers on each side.

**Armament.** The Schützenpanzer Marder 2 was to have mounted a Rheinmetall DeTec two-man turret with the new Rheinmetall Rh 503 35/50 millimeter cannon. One or two 7.62 millimeter machine guns were to compose the secondary armament. Several firing ports for the embarked infantrymen were also being considered for the Schützenpanzer Marder 2. As then planned by the German Army, the Schützenpanzer Marder 2 would not have carried any anti-tank guided missiles.

## Variants/Upgrades

**Variants.** Several variants of the Schützenpanzer Marder 2 were being proposed before the program went dormant in late 1992.

**Modernization and Retrofit Overview.** This is not applicable at this time.

## Program Review

**Background.** The Federal Republic of Germany is the post-war pioneer in the development and fielding of mechanized infantry combat vehicles, beginning with the Schützenpanzer Marder program. First fielded in 1968, the original Schützenpanzer Marder is still regarded as one of the finest designs of the mechanized infantry combat vehicle concept. In the mid-1980s, the Federal Republic of Germany began to look at a new mechanized infantry combat vehicle to replace the original Marder for introduction in the mid- to late 1990s.

**Development.** In July 1986, the concept definition phase for what had become known as the Schützenpanzer Marder 2 was initiated. The (then) Krauss-Maffei design was selected from the competing

designs which were submitted in September 1987. The Krauss-Maffei design team refined the design prior to fabricating the initial two vehicles' testbeds. While there was talk of another competition for the actual production program for the Schützenpanzer Marder 2, our research indicated that Krauss-Maffei would have retained the program. The Schützenpanzer Marder 2 was originally expected to be fielded in late 1996.

**Description.** The Schützenpanzer Marder 2 design had always been shrouded in secrecy. The Marder 2 actually represented a generation-and-a-half in advancement over existing mechanized infantry combat vehicle designs.

Under the original development program, the Schützenpanzer Marder 2 was similar to the M2/M3 Bradley in appearance. The hull and turret had a significantly higher level of protection than existing mechanized infantry combat vehicles. The two-man Rheinmetall DeTec turret seated the commander and gunner and mounted a variety of surveillance and fire control components, including a thermal viewer. While some sources claim that 10 infantrymen would have been carried on the Schützenpanzer Marder 2, our research indicated that the number would actually have been six to eight.

One of the major innovations of the Schützenpanzer Marder 2 was the integration of the revolutionary Rh 503 dual-caliber cannon from Rheinmetall DeTec. This weapon can be changed from a 30 to a 50 millimeter weapon and vice versa simply by changing the barrel and ammunition, offering considerable tactical flexibility. Many observers were surprised that an anti-tank guided missile system such as the PARS 3 system was not incorporated into the Schützenpanzer Marder 2 design. Apparently the Panther, another vehicle then being developed by Wegmann, was intended to provide infantry support. However, the Panther program was canceled in 1990, and the mission area will need to be addressed by another vehicle.

Another major innovation in the Schützenpanzer Marder 2 was the integration of the MT 883 diesel engine. This compact engine would have provided a quantum leap in the power-to-weight ratio of the Schützenpanzer Marder 2 over the mechanized infantry combat vehicles then in service.

Procurement. A total of 3,111 Schützenpanzer Marder vehicles were originally procured. Around 500 Schützenpanzer Marder 2 vehicles were expected to be procured.

Cancellation. The Schützenpanzer Marder 2 program was canceled in late 1992, a victim of the geopolitical changes in Europe.

Expected Renewed Requirement. By the late 1990s, the original Schützenpanzer Marder was getting long in the tooth and was expected to be obsolescent by 2005. Following the trend toward families of armored vehicles, it was decided, initially at least, to study the options for a new family of mechanized infantry combat vehicle.

By 1997, the concept had been given a name: Neue Gepanzerte Plattformen. This program is being examined at both the industry and government levels, and the development of three new armored vehicles (tank, air defense system and mechanized infantry combat vehicle) is ongoing. The mechanized infantry combat vehicle, tentatively called the new Schützenpanzer Marder 2, and the other vehicles being explored will incorporate a number of advanced technologies. These will include an active suspension system, active and passive defense systems, advanced fire control components, and electric propulsion. An advanced-design diesel engine will drive a generator which in turn will provide electric current to the drive sprockets.

It is far too early in the development program to forecast the exact armament fit, but a number of options (including exotic) are being examined. In 2005, the latest of the original Schützenpanzer Marder vehicles will be about 30 years old. The mechanized infantry combat vehicle is the first member of the group of vehicles being developed under the Neue Gepanzerte Plattformen and planned for production.

Official Commitment. At a weapons fair in early 2001, a German government official stated that the country would begin the development of a new mechanized infantry combat vehicle in "a few years."

## Funding

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The developmental funding for the Schützenpanzer Marder 2 was being provided by the Federal Republic of Germany's Ministry of Defense through the Federal Defense Technology and Procurement Agency. The revived program will have the same sponsorship and tap the same sources of funding.

## Recent Contracts

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Not available, as contractual information is not released.

## Timetable

This timetable is for the Schützenpanzer Marder 2 only.

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
July	1986	Concept definition phase for Schützenpanzer Marder 2 begun
September	1987	Proposals submitted
June	1988	Krauss-Maffei design selected
Late	1992	Development of Schützenpanzer Marder 2 canceled
	1997	Neue Gepanzerte Plattformen program begun
Early	2001	German official states program for new mechanized infantry combat vehicle will be restarted
Mid	2002	Development of base technology ongoing

## Worldwide Distribution

Export Potential. None for at least five years, as the original Schützenpanzer Marder 2 program was canceled in 1992.

## Forecast Rationale

Under the original Schützenpanzer Marder 2 program, only two preprototype vehicles were produced.

The Schützenpanzer Marder 2 program was resurrected in early 2001 when a government official stated that the development of a new mechanized infantry combat vehicle would begin soon. However, the initial development of this new mechanized infantry combat vehicle, possibly under the Neue Gepanzerte Plattformen program, has yet to be funded or even officially announced. But our research indicates that a

new development program will be created by 2004. By that time, the Schützenpanzer Marder 2 will be vital to the German Army, as the original Schützenpanzer Marder will be obsolescent for all practical purposes.

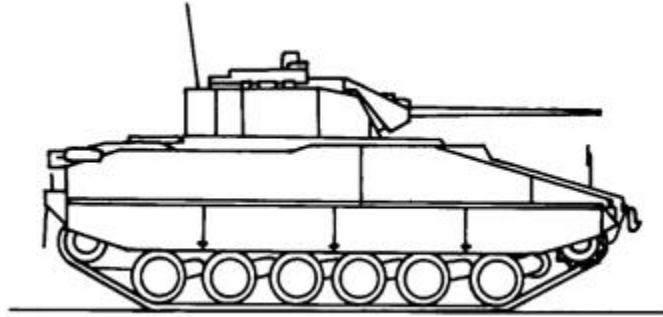
Production of the Schützenpanzer Marder 2 is expected to start in 2010. It will be preceded by the manufacture of developmental prototypes and operational test vehicles to validate the technologies being incorporated into the new vehicle.

## Ten-Year Outlook

### ESTIMATED CALENDAR YEAR PRODUCTION

Vehicle	(Engine)	<u>High Confidence Level</u>				<u>Good Confidence Level</u>				<u>Speculative</u>			Total 02-11
		thru 01	02	03	04	05	06	07	08	09	10	11	
UNDETERMINED													
SCHUTZENPANZER MARDER 2 (a)	MT 883	0	0	0	0	0	1	1	0	2	0	65	69
Total Production		0	0	0	0	0	1	1	0	2	0	65	69

(a) This program was canceled in late 1992; the through 2000 production is for the two preprototype developmental vehicles. The general requirement for a new mechanized infantry combat vehicle to replace the Schützenpanzer Marder was restated in March 2001. The program is now expected to be officially reinstated, with the through 2010 production being the new developmental and test prototypes of the Schützenpanzer Marder 2, possibly as a member of the Neue Gepanzerte Plattformen program.



Schützenpanzer Marder 2 (original concept)

Source: Forecast International