IdZ program

On July 1, 2004, the German government through the Federal Office of Defense Technology and Procurement ordered 15 IdZ integrated front-line warrior systems worth €10 million ($14.7 million or £7.4 million) for German forces deployed within the ISAF in Afghanistan.

On December 3, 2004, EADS Defense Electronics received a €70 million ($102.9 million or £52.2 million) contract to provide the Bundeswehr with 196 IdZ individual soldier equipment. These basic systems are envisaged for use by around 2,000 German soldiers from all services. More systems of the enhanced version will be delivered between 2010 and 2014.

The IdZ system covers self-protection against small caliber arms and Nuclear, Biological and Chemical agents, communications, navigation/ orientation and weaponry. The system utilizes a wide range of new technologies to achieve network-centric warfare capability.
EADS Defense Electronics is leading the Projekthaus System Soldat (PSS) industrial consortium, working with the Bundeswehr to define the Infantries der Zukunft (IdZ) Infantryman of the Future system. The individual infantryman is equipped with a bullet-proof vest, nuclear, biological and chemical (NBC) protection, night vision equipment, digital navigation and communication, tactical speech and data communication and a new range of weapons.

IdZ prototype ESB version

The German Army carried out a five-month trial of the ESB-prototype IdZ systems at Prizren in Kosovo during 2002 (ESB = Einsatzbedingter Sofortbedarf, German for "urgent operational requirement"). Two prototype IdZ Squad systems, together with additional squad weapons and sighting systems, were used in the trials.
Germany's Federal Office of Defense Technology and Procurement awarded EADS Defense Electronics a €10 million contract for the supply of 150 ESB Lot 3 sets (15 sets, each set for ten soldiers) of the IdZ Infantryman of the Future systems. The contract was awarded to meet the urgent operational requirement for deployment by troops serving in Kunduz, Afghanistan. The first system was handed over to the Army Inspectorate at Hammelburg Infantry School on 1 July 2004.

IdZ Version V1

The development phase of the first full production IdZ V1 model has been completed. A quantity of 217 IdZ V1 systems (= 2.170 kits) was scheduled for delivery between the last quarter of 2005 and 2007 and the systems entered service within the Division für Spezielle Operationen (Division for Special Operations), the Force Protection Forces of the Luftwaffe and the SEK-M of the German Navy.

Idz Version V2

The Projekthaus System Soldat industrial consortium led by Rheinmetall Defense is currently developing IdZ -ES- for the German Army, the Luftwaffe and the German Navy. Prototype units will be delivered during Q1/2 in 2008. Approx. 1.100 IdZ-ES systems are scheduled for deliveries between 2010 and 2014. The IdZ-ES system particularly focuses on the infantry squad in combination with its transport vehicle, which will function as "mother ship" providing the squad with network centric capabilities. The vehicle has all weapons and equipment on board so that the necessary elements can be selected from the modular system. The vehicle also provides the squad with power supply and allows data transmission. The basic version of the IdZ system has already been integrated in some military vehicles, such as the ATF Dingo, Mungo ESK, TPz Fuchs and BV 206 D/S. The enhanced ES-system offers these capabilities as standard options in the future Boxer MRAV vehicles and Puma infantry fighting vehicles.

Description

Prototype and predecessor of the current NavICom during a field test in Kosovo.

Night vision Lucy

The system includes ten kits which can be configured for the tasks of the different soldiers. In general, a kit comprises: H&K G36 assault rifle, weapon mounted laser system, command, control, communications, computers and information system (C4I) integrated in the load-carrying vest, eye and ear protection subsystem, NBC protection subsystem, ballistic and stab protection subsystem and night vision subsystem.

The systems included two sets of ten kits for each squad commander plus nine squad members. Each kit comprises a Heckler & Koch G36 5.56 mm rifle, a NavICom, a helmet-mounted display, Communications Command, Control, Communications, Computers and Information (C4I) system developed by Thales, a Thales Angenieux Lucie image intensifying helmet-mounted night vision goggles, an Oerlikon Contraves weapon mounted laser system together with eye protection glasses, a ballistic and stab protection vest and a load-carrying vest.

The NavICom C4I system provides the soldier with secure communications and continuously updated situation awareness. The digital moving map display system shows the soldier's own position, the position of his comrades, the position of minefields and other danger zones, target and target course, target co-ordinates and the enemy situation. The current situation data is received from higher levels of command. Digital voice and data radio communications instantly provide the soldier with commands and reconnaissance data. The soldier has access to miniature unmanned air vehicles or micro-UAVs and all-terrain unmanned vehicles for safe reconnaissance, for example in urban environments and trenches. The navigation system is equipped with a global positioning system. The NavICom is also used to control the central computer integrated into the soldier's vest and to operate the helmet display.

The additional squad weapons are the Dynamit Nobel Panzerfaust 3 anti-tank rocket launcher with Dynarange computing sight, Heckler & Koch rifle mounted AG36 40 mm grenade launcher, Heckler & Koch 5.56 mm MG4 light machine gun and Heckler & Koch MP7 personal defense weapon. Additional sights include the Vectronix Vector IV target acquisition and laser range finding binoculars, Zeiss handheld thermal sights, and the Zeiss AN/PAS-13(V) lightweight thermal camera weapon sight.

G36 assault rifle

A G36A2 of the Bundeswehr with a Zeiss RSA reflex sight and an AG36 grenade launcher (2008).
Heckler & Koch, based in Oberndorf, Germany, started development of the 5.56 mm caliber G36 assault rifle in the early 1990s.

The G36 is equipped with a short stroke gas piston that expels forwards away from the soldier. The gas system does not foul back into the weapon interior. This gives reliable operation even after firing 15,000 rounds without cleaning. The rifle can be disassembled and reassembled without tools. The fire selector lever, which serves as a safety switch, allows firing in single shot, multiple round, burst and fully automatic modes.

The lightweight, 3.6 kg, low maintenance rifle is currently issued to German forces in an upgraded variant, which has been given the in-service designation G36A2. The G36A2 is equipped with a quick detachable Zeiss RSA reflex red dot sight[2] mounted on a Pica tinny rail that replaces the original red dot sight of the dual combat sighting system mounted on the G36A1 assault rifles of the Bundeswehr. The G36A2 upgrade kit also consists of a new hand guard with three Pica tinny rails and a handgrip with an integrated switch for operating a LLM01 laser light module. The IdZ system includes the Heckler & Koch AG36 under barrel 40 mm grenade launcher which fits the G36 rifle.

Sniper rifles

G22

G82
Both standard sniper rifles of the Bundeswehr, the G22 and the G82, will be integrated into the IdZ program.
The G82 has been procured specifically for this program.

Anti-Tank Rocket Launcher

The Dynamit Nobel Panzerfaust 3 IT-600 anti-tank rocket launcher is fitted with a DYNARANGE computing sight. The system comprises a disposable rocket launch tube containing the rocket and a reusable sighting and firing unit. The rocket is armed with a shaped charge warhead.

Panzerfaust 3.
The system is suitable for urban warfare deployment and can be fired from an enclosed space. After a flight of about 5 m from the launch tube the rocket's internal safety fuse is released. The PzF 3 is fitted with a hollow charge which penetrates reactive armor and the PzF 3 Bunkerfaust is deployable against concrete bunkers and other hardened targets. Panzerfaust 3 IT-600 has a range of up to 600 m against moving and stationary targets.

MP7 personal defense weapon

MP7A1.
The Heckler & Koch MP7A1 is a next-generation submachine gun.
The advantage of the small lightweight MP7A1 personal defense weapon is that it is compact enough to be carried like a handgun but still provides the target penetration and modern body armor penetration capability of an assault rifle. As first unit, the Kommando Spezialkräfte (KSK), the German Army special operations force, has been using the Heckler & Koch MP7 since 2002. The MP7A1 weighs 1.9 kg (4.19 lb) loaded.

The MP7A1 can be field stripped very quickly without tools. Very little maintenance and cleaning are required because the gas system keeps the weapon clean. Test firings at a range of 45 m demonstrate a clustered target grouping of diameter less than 5 cm in 10-shot semiautomatic mode.

The MP7A1 has a flat bullet trajectory and full penetration of CRISAT protection, i.e. 1.6 mm titanium combined with 20 layers of Kevlar, at 200 m target range.

MG4 light machine gun

MG4
The Heckler & Koch 5.56 mm x 45 MG4 belt fed machine gun is gas operated with a rotary bolt similar to the HK G36 series. The gun, weighing 8.55 kg, has a folding butt stock. Unlike other Heckler & Koch designs, the gun has only safe and fully automatic modes of fire. The barrel length is 480 mm and the overall length is 1,050 mm.

KM2000

The KM2000 is the new standard combat knife of the Bundeswehr. Its laser-cut Tantō blade is 172 mm long and is made of stainless steel. The knob is ergonomically shaped to be used left and right-handed and is made of polyamide. The entire knife weighs approx. 320 grams.

UAVs and ROVs

MIKADO air robot holding a camera at the booth of the Bundeswehr at the CeBIT 2006.

The IdZ system will be supplement by mini- or micro UAVs or small, remotely controlled off road vehicles. First UAVs are the Aladin airborne reconnaissance drone and the MIKADO air robot for close area imaging. The video feedback of the Aladin and the MIKADO air robot can be displayed on the soldiers NavIComs or on video visors.

Weapon sight

Thermal weapon sight AN/PAS-13 for the G36.

The Zeiss Optronics AN/PAS-13A (V) thermal weapon sight for rifles and light weapons is equipped with a cadmium mercury telluride (CdHgTe) 40 x 16 detector array operating in the 3.4 to 4.2 micrometre waveband. The sight is easily and quickly mounted on a weapon without tools. The detector is fitted with a thermo-electric cooler. The image has 160 lines, with 160 pixels per line. The weapon sight has interchangeable observation and targeting telescopes each with selectable fields of view. An additional RS-170 interface can be used for external viewing.

Recently the Bundeswehr decided against the AN/PAS-13 in favor of the HuntIR thermal sight, produced by Diehl BGT Defense, + the NSA80 night vision. Also the LLM01 laser light module for the G36 has been ordered.

Also a video weapon sight and reconnaissance 40mm ammunition are currently under development for future integration into the IdZ-program.