



FACTS ABOUT RAYTHEON'S PATRIOT SOLUTION FOR POLAND

■ **MYTH: Patriot is an outdated system with obsolete technology.**

■ **FACT:** Patriot is the most advanced air and missile defense system in the world. Air and missile threats are changing constantly and Patriot has continuously improved its capability to stay ahead of these threats. Some of the planned and implemented advancements include:

- Radar Digital Processor (RDP)
- Modern Adjunct Processor (MAP)
- Software Post Deployment Build-7 (PDB-7)
- Sophisticated classification, discrimination and identification algorithms
- Integration of multiple missiles including the latest Patriot Advanced Capability-3 (PAC-3) Missile Segment Enhancement (MSE)
- Extensively validated system modeling, simulation and evaluation tools to accurately predict performance

- GaN-based AESA technology
- Common command and control

Patriot is also the system of choice for some of the most developed and well resourced countries of the world — ones who exist in the presence of active ballistic missile threats.

■ **MYTH: The U.S. Army has decided not to fund Patriot modernization.**

■ **FACT:** The U.S. Army has committed to fielding Patriot through 2048 and beyond. Patriot is continually upgraded and tested, with U.S. Army oversight, to stay ahead of evolving threats. As a result, Congress appropriated more than \$241 million for Patriot in 2015 with additional money appropriated (increased) for Patriot modifications to meet the Army's current need. Continued research and development funding for Patriot ensures that the U.S. Army has the ability to prepare for future software updates. In addition, the number of Global Patriot customers continues to grow with

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a recent acquisition announced by the U.S. Army for Qatar. Along with the United States, these international partners invest in continuous enhancements and testing of Patriot.

■ **MYTH: Raytheon will not offer Polish industry meaningful work.**

■ **FACT:** Raytheon is known for its ability to build cooperative bilateral programs. We already have ongoing collaboration with the Polish defense industry including a contract to design, develop and test a new identification friend or foe (IFF) antenna for the Patriot radar system. This will be followed by major involvement in the codevelopment (design, engineering and software) of the next generation Patriot system, including coproduction of a large portion of this future capability for both Poland and export to other nations for radar, command and control, and missiles. This includes transfer of technology with design, manufacturing, integration, assembly, system validation and test, training, service and sustainment, a joint training center, and a missile integration/assembly and certification facility. To date, Raytheon has signed seven contracts and 28 letters of intent with Polish industry.

■ **MYTH: Raytheon is reluctant to release key technologies and source codes to Poland.**

■ **FACT:** Raytheon has already received multiple International Traffic in Arms authorizations from the U.S. government to collaborate and share advanced defense technologies with Polish organizations to support codevelopment of next generation Patriot. The government has granted Raytheon advocacy for the WISLA procurement and has pioneered an inter-agency working group dedicated to facilitating technology transfer to Poland in support of its air and missile defense programs. Raytheon will offer Poland a low-cost interceptor (LCI), which can be codeveloped and manufactured by Polish industry. The U.S. government has also granted Poland access to the Guidance Enhanced Missile – Tactical (GEM-T) missile technology (currently used by 13 other countries), which would be manufactured by Mesko. With regards to source codes, much of the software is controlled both for security purposes and to allow commonality with all of our partner countries. It is upgraded and maintained by the current program as shared by 13 countries.

■ **MYTH: Raytheon offers a mix of two or three different kinds of missiles, each of the missiles severely limited.**

■ **FACT:** Raytheon's missile mix provides the best performance at the most effective cost. Most countries face a variety of threats ranging from large slow moving aircraft or smaller cruise missiles to short-range tactical ballistic missiles (TBMs). With each threat there is an optimum missile type to achieve the best performance at the lowest cost. For example, the MSE relies on highly maneuverable, advanced hit-to-kill technology to combat the most challenging TBMs, which is why it is more expensive. However, one would not choose to use an expensive MSE to defeat a slow moving large aircraft when they can use a less expensive GEM-T that has a longer range due to its large rocket motor, that is more effective at destroying the threat with its large warhead. It is more cost effective, and one can achieve better performance against multiple threat types, using a missile mix with optimized quantities for each of the expected threats. Having a weapon system that can use a mix also allows Poland to introduce new missiles such as an LCI.

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■ **MYTH: Patriot does not offer a 360-degree capability.**

■ **FACT:** Next generation Patriot will offer 360-degree capability to Poland. Currently Patriot is a sectored system with a phased array “staring” multifunction radar designed to operate in a coordinated defense design. Within a typical defense design, the avenues of threat approach are known and the various Patriot units are located and oriented to maximize defense capability. The enhanced radar proposed as part of our Poland offer includes rear panels that provide 360-degree coverage utilizing “staring” arrays.

■ **MYTH: Patriot has high maintenance and operation costs.**

■ **FACT:** Patriot maintenance, sustainment and operation is affordable and compares favorably to any advanced weapon system. Patriot users benefit from a program where engineering upgrade costs are shared amongst partners, making Patriot much more affordable than other systems with a very limited customer base. The RDP and MAP offered by Configuration 3+ (in production now) decrease operating costs. Enhancements planned for next generation Patriot aim to increase reliability and lower operating costs even further.

■ **MYTH: Patriot is incapable of intercepting cruise missiles or missiles coming from the sea.**

■ **FACT:** Countries such as Japan and those in the Gulf depend on Patriot for defense against sea-based threats. Among Patriot’s many challenging flight tests and combat engagements is a November 2011 live fire test by German Air Force Patriot forces in Crete, that validated NATO’s missile defense system with Germany’s Deployable Control and Reporting Center, command and control elements of the German Air Force’s SAM Wing 2 and Allied Air Command Headquarters at Ramstein Air Base. In October 2012, the U.S. Army, Navy and Air Force successfully conducted the largest, most complex missile defense flight test ever attempted resulting in the simultaneous engagement of five ballistic missile and cruise missile targets. While the THAAD — Terminal High-Altitude Area Defense — system successfully intercepted a medium-range ballistic target, the Patriot system (PAC-3) near simultaneously destroyed a short-range ballistic missile and a low flying cruise missile target over water.

