

European Midcourse Radar (EMR)

X-Band Radar Protection Against Ballistic Missile Threats



Extends defensive coverage to Europe against longer-range ballistic missiles to enhance the collective security of the NATO Alliance, strengthen trans-Atlantic unity, reaffirm America's commitments to European NATO security, and avoid the decoupling of European and American security interests.

Benefits

- Increases NATO's protection against missile threats from rogue states
- Provides earlier precision tracking of the missile warheads and associated countermeasures
- Provides ground-based midcourse defense radar with range to approximately 2,000 km
- Enhances the global U.S. Ballistic Missile Defense System for layered defense
- Operational for over a decade and proven safe to people and the environment
- Creates industry and technology teaming opportunities between the Czech Republic and Raytheon

Preparedness to Counter Threats

U.S. and NATO Intelligence are aware of potential emerging ballistic missile threats from the Middle East potentially targeting Europe and the United States. To combat these threats, it is imperative to add a new layer of defense in Europe against ballistic missiles. Deploying a ground-based, midcourse tracking and discrimination radar system in the Czech Republic as part of the U.S. Ballistic Missile Defense System (BMDS) would provide the best possible protection for NATO and enhance protection of the United States. NATO leaders fully endorse U.S. plans to build a missile defense system in Central Europe.

European Midcourse Radar

Raytheon Company was selected by the U.S. Missile Defense Agency (MDA) as the prime contractor for

developing, fielding and integrating the European Midcourse Radar (EMR) system to be based in the Czech Republic. The EMR will be developed by upgrading an existing MDA radar system that has been operational for 10 years at an MDA testing facility on the Marshall Islands in the South Pacific. It is in excellent condition and has had 38 successful flight tests since 1998. It has also operated safely and without causing interference, even with schools and an airport nearby.

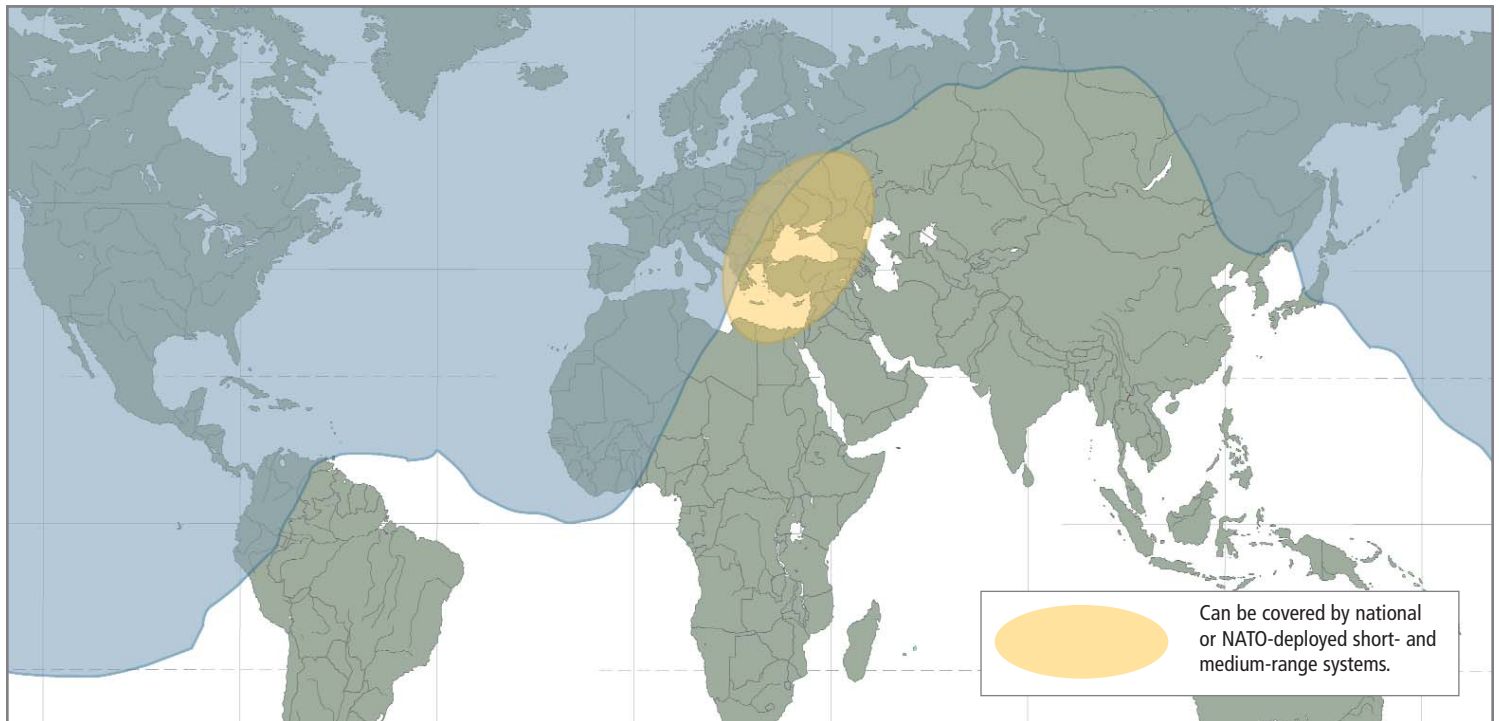
A solid-state, X-band, phased-array radar, EMR is optimized for midcourse acquisition, tracking, discrimination and hit assessment. The X-band radar forms a finely focused beam that is capable of tracking and discerning small objects at great distances, enabling EMR to discriminate

the missile warhead from decoys. It enables an interceptor missile to destroy the warhead using hit-to-kill (kinetic) technology rather than explosives. Targets are destroyed at more than 200 km above the Earth's surface.

About Raytheon

With sales of \$21.3 billion in 2007, Raytheon is a technology leader specializing in defense, homeland security and other government markets throughout the world. With a history of innovation spanning 86 years, Raytheon provides state-of-the-art electronics, mission systems integration and other capabilities in the areas of sensing; effects; and command, control, communications and intelligence systems, as well as a broad range of mission support services. Raytheon employs 72,000 people worldwide.

European Midcourse Radar (EMR)



The European Midcourse Radar adds significantly to the global ballistic defense radar coverage (shown above).

Economic Benefit to the Czech Republic

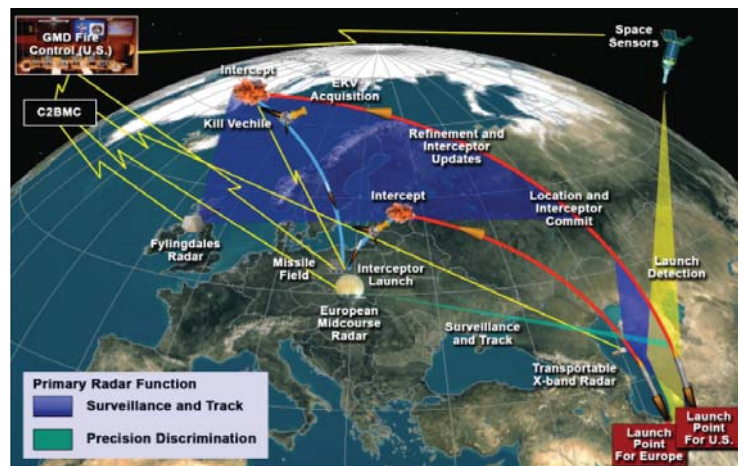
Raytheon expects to qualify Czech industry and academia for potential partnerships. These partnerships could include technology development, component second sourcing, service and maintenance, professional services, and materials procurement, among others.

Supplier Criteria

- Intellectual capital
- Financial health
- Geographic location
- Performance history – cost, quality, schedule
- Time to market
- Ability to integrate with Raytheon processes
- Risk management

EMR Technical Specifications

- 2,000 Km range
- 105 m² physical aperture
- 16,896 transmit/receive modules
- Electromechanical scanning
- Mechanical Motion: $\pm 178^\circ$ azimuth, 0° - 90° elevation
- 341,000 kg rotating weight
- Substantial commonality with other X-band radars



How it works: U.S. Ballistic Missile Defense System components in Europe

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Raytheon

Customer Success Is Our Mission