

What is C-Dome?

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About C-Dome

- It is a **naval version of Israel's Iron Dome air defence** system, used to shield against rocket and missile attacks.
 - The **Iron Dome**, which was activated in 2011 and has an **effectiveness of about 90%**, works by using radars to detect short-range rockets before destroying them with its own missiles.
- The **C-Dome**, which was first unveiled in 2014, **declared operational in November 2022**, works similarly to the Iron Dome, using some of the **same technology**, except that it's **mounted on ships**.
- It is mounted on Sa'ar 6-class corvettes, German-made warships, and **uses the same interceptor as the Iron Dome**.
- **Unlike the Iron Dome**, which has its own dedicated radar, the **C-Dome is integrated into the ship's radar** to detect incoming targets.
- C-Dome **ensures full-circular vessel protection** and **high kill probability** against a full spectrum of modern threats—maritime and coastal.

Key Facts about Iron Dome

- It is **Israel's air missile defense system** that can **defend against short-range rockets, intercepting them in the air** above the state.
- It is capable of successfully **handling multiple rockets** at a time.
- **Developed by Rafael Advanced Defense Systems** and **Israel Aerospace Industries**, the system became operational in March 2011.
- **Features:**
 - It is powered by **missile-defense batteries**.
 - It has **all-weather capabilities** and is able to function night or day.
 - It is able to **launch a variety of interceptor missiles**.
 - It is designed to shoot down missiles with a **range of about 40 miles or less**.
 - It also has the **ability to be moved**, either onto ships or across land, to better suit defense needs.
 - It **must be reloaded to continuously intercept** incoming missiles.

The Iron Dome operates through **three main components:**

- A **radar** that detects incoming rockets,
- A **command-and-control system** that determines the threat level,

An interceptor that seeks to destroy the incoming rocket before it strikes.

Q1: What is a Radar?

RADAR stands for 'Radio Detection And Ranging' and is an active transmission and reception method in the microwave GHz range. Radar sensors are used for contactless detection, tracking, and positioning of one or more objects by means of electromagnetic waves. The radar antenna emits a signal in the form of radar waves, which move at the speed of light and are not perceivable by humans. When the waves hit objects, the signal changes and is reflected back to the sensor – similarly to an echo. The signal arriving at the antenna contains information about the detected object.

Source: [Israel Deploys C-Dome Defence System For First Time. Here's Why](#)

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