

In the shadows of war and uncertainty, a quiet revolution began—not in boardrooms or bustling startup hubs, but in a bunker beneath Mount Carmel. The year was 1948. A newly born Israel faced overwhelming odds. While its survival hung in the balance, a small group of scientists and engineers gathered underground, not for glory or gain, but for the simple, unwavering purpose of protecting their homeland.

This was the birth of **Rafael Advanced Defence Systems**.

What started as a modest government R&D unit has today grown into one of the most formidable names in global defence technology. Yet Rafael's journey isn't just about missiles and machines—it's about people. People who believed that even in a system often weighed down by red tape, innovation could still take flight. People who proved that government-run organizations, too, could be bold, agile, and world-leading.

For the early team at Rafael, failure wasn't an option. They worked long hours in tight, windowless labs with makeshift equipment. The urgency wasn't for quarterly targets—it was about stopping the next attack, saving lives, and giving their young nation a fighting chance. Each invention was personal. Each system they built carried the hopes of soldiers in the field and families at home.

That sense of purpose never left the organization. It became its soul.

Fast-forward to the 21st century, and Rafael stands at the forefront of modern warfare innovation. The **Iron Dome**, often seen intercepting missiles in the skies over Israeli cities, is more than just a technological marvel—it's a symbol of peace and reassurance for millions. The **Trophy** system, guarding tanks from deadly ambushes, is a silent guardian, born from the relentless spirit of those early engineers.

Rafael holds over **700 global patents** today. But behind each one is a story of persistence, passion, and vision. What makes Rafael different is its ability to cross boundaries. Its inventions don't stay confined to the battlefield. Technologies developed for defence have helped revolutionize **medical imaging, smart farming, and emergency response systems**. When a company begins with the goal of saving lives, that mission has a way of extending far beyond its original scope.

In a world quick to assume that innovation thrives only in private hands, Rafael offers a compelling counterpoint. It proves that when the mission is clear, the people are empowered, and the leadership is visionary, **even a government organization can outpace global competitors**.

Rafael's strength lies in its people—scientists, engineers, and technicians who could have gone anywhere but chose to serve something greater. Many are former soldiers who understand the price of failure. Some are immigrants who arrived with little more than hope. All are united by a belief: that defence innovation isn't just about power—it's about dignity, survival, and the future.

For every government institution doubting its potential, and for every public-sector engineer dreaming big, Rafael is a reminder: The system doesn't define you—your purpose does. And when you work with passion, even from the depths of a bunker, you can reach the stars.



Dr. Medha Kaushik
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Dr. Kaushik is a Patent Agent and is working for IP Commercialization for the potential technologies.

**Products deployed
in 50+ countries**

**Core contributor to
Israel's \$11 billion
defence export
market**

**700+ active
global patents**



**100% government-owned
yet operating as a global
defence innovator**

2023–2025

Rafael invests in AI-enabled targeting, autonomous drones, and loitering munitions (SPICE). Expands its IP strategy into dual-use domains: disaster management, surgical robotics, and smart agriculture.

2019

Rafael's C-Dome (naval version of Iron Dome) developed for ship-based defence.

2011

Deployment of Iron Dome, which became operational during Operation Pillar of Defence. Becomes a symbol of Israel's technological supremacy.

2005

Launch of Spike family of missiles (Spike-MR, LR, ER, NLOS) — exported to over 30 countries.



1990s

Rafael systems were sold and adopted by countries in Asia, South America, and Europe. Initial patent filings began in international jurisdictions.

1970s

Developed Israel's first air-to-air missiles (Shafrir series) and electronic warfare systems.

1948

Established as the Science Corps (Hemed) under Israel's Ministry of Defence.

2021

Rafael recognized as one of the most prolific patent filers among government-owned defence entities.



2014–2018

Co-development and licensing deals with defence firms in India, U.S., and Europe. Establishes joint ventures in India under "Make in India," including with Bharat Forge and Kalyani Group.

2007

Introduced Trophy Active Protection System — the world's first operational system to protect armored vehicles from incoming threats.

2002

Became Rafael Advanced Defence Systems Ltd., a government-owned corporation. Strengthened focus on IP protection and global partnerships.

1980s

Introduced Barak missile system (naval point defence)



1952

Officially designated as RAFAEL (Authority for the Development of Armament). Focused on guided weapons, explosives, and electronic warfare systems.