Episode Book

EPISODE #5619

Why Does Israel Need Six Submarines?

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SYNOPSIS

Israel took delivery of the INS Drakon, a 3,000-ton German-built submarine, on September 24, 2026 — the sixth and largest boat in its fleet. Officially, Germany denies these submarines carry nuclear weapons; Israel has never confirmed it has any. Yet SIPRI, the Nuclear Threat Initiative, and the Federation of American Scientists all describe the Dolphin fleet as Israel's sea-based deterrent. This episode walks through the hardware — air-independent propulsion, oversized torpedo tubes, an elongated sail that may hide a vertical launch system — and then takes on the harder question: how many submarines does a survivable second strike actually require? The classic answer is four. The real answer, as one 1989 essay put it, is however many it takes to convince the other guy.

TRANSCRIPT



Corn

What if the whole point of a submarine is that nobody knows where it is — so why does one country need six of them?



Corn

That's the question Daniel sent in this week, and it's a good one, because it sounds like it should have an easy answer and it doesn't. Here's what he wrote. Israel just took delivery of the Drakon, a three thousand ton submarine built in Germany, and it's being read as a message to Iran and its backers in the region. So he wants the fleet laid out — what Israel already had, what this newest boat actually adds. Then he goes bigger. Why does a tiny country like Israel need an advanced submarine network at all? Is the primary reason a nuclear second strike capability? If it is, how many submarines do you actually need for that to work? And then the line I like best: if the whole idea of stealth is that no one knows where they are, couldn't you get there with two or three?



Herman

That last one is the one that sounds like a gotcha and turns out to be a real doctrine question.



Corn

Which is why we're doing the episode. Let's start with what actually arrived in Haifa.



Herman

The INS Drakon reached Haifa Naval Base on the twenty-fourth of September, after a twenty-three day voyage from the ThyssenKrupp Marine Systems yard in Kiel — three thousand seven hundred and ninety-two nautical miles. Sixth submarine in Israeli service, and the largest one Israel has ever operated.



Corn

And it's not arriving quietly. Ynet's framing was a three thousand ton warning to Iran and Turkey. That's the headline version.



Herman

The headline version, yes. And underneath the headline there's a much stranger situation, which is that Israel has never confirmed it has nuclear weapons, Germany has formally denied that these submarines carry nuclear capability, and yet nearly every serious outfit that tracks this — SIPRI, the Nuclear Threat Initiative, the Federation of American Scientists, Jane's — describes the Dolphin fleet as Israel's sea-based nuclear deterrent. That gap is the whole episode, really. Official silence on one side, expert consensus on the other, and a boat sitting in the middle of it.



Corn

Cost?



Herman

Around six hundred and fifty million euros for the Drakon alone. It's part of a roughly three billion euro program covering this boat plus three Dakar-class submarines. And by several accounts it's the most expensive vessel in IDF history.



Corn

Most expensive thing the IDF has ever bought, and the visible part above the waterline is less than a fifth of it. There's something almost funny about that.



Herman

There's something very Israeli about it, too. Spend the money where nobody can see it.



Corn

So what does Israel actually have in the water right now, and what does the Drakon add to it?



Herman

Before this, five boats. Three Dolphin-I — Dolphin, Leviathan, Tekuma — commissioned around 1999 and 2000. Then two Dolphin-II with air-independent propulsion: Tanin in 2014, Rahav in 2016. Drakon is the sixth and the third Dolphin-II.



Corn

And the size progression is the story, isn't it.



Herman

It really is. Dolphin-I is fifty-seven point three meters, sixteen hundred and forty tons surfaced, nineteen hundred submerged, about twenty knots, crew of thirty. Dolphin-II steps up to sixty-eight point six meters, two thousand and fifty tons surfaced, twenty-four hundred submerged, twenty-five knots plus, crew of thirty-five. Drakon is seventy-four meters. That's roughly thirty percent longer than the original Dolphins.



Corn

Thirty percent is not a tweak. That's a different boat wearing the same family name.



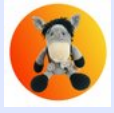
Herman

It's a different mission set. You don't add seventeen meters of hull because you want more torpedo storage. You add it because you're carrying something bigger, or you're staying out longer, or both.



Corn

So explain the air-independent propulsion, because I think people hear "diesel submarine" and picture the thing having to come up every few hours.



Herman

That's the misconception. A conventional diesel-electric boat has to snorkel to run its engines and charge batteries, and snorkeling is the vulnerable moment — you're near the surface, you're making noise, you're raising a mast. Air-independent propulsion changes



Herman (continued)

that. Drakon uses the HDW fuel cell system, hydrogen and oxygen, which generates electricity without needing atmospheric air. The Nuclear Threat Initiative puts the Dolphin-II AIP endurance at up to a week submerged without surfacing. Earlier boats in the class were good for a couple of days submerged, stretching to a couple of weeks in some conditions. The older Dolphins could stay on station about thirty days unsupplied.



Corn

A week under, without a snorkel.



Herman

And that's the number that matters for the second-strike conversation later, so hold onto it.



Corn

What's it carrying?



Herman

Ten bow torpedo tubes. Six of them five hundred and thirty-three millimeter, which is the standard NATO size — that's your torpedoes. And four oversized six hundred and fifty millimeter tubes.



Corn

Oversized for what?



Herman

That's the interesting part. Six hundred and fifty millimeter is a Russian-origin diameter, and it's big enough to launch things that aren't torpedoes. Cruise missiles. Mines. Swimmer delivery vehicles. Unmanned underwater vehicles. You're not just shooting at ships with those tubes. You're deploying things.



Corn

So the boat is a launch platform, not just a weapons platform.



Herman

That's exactly the distinction. And then there's the sail.



Corn

The sail being the tower on top.



Herman

The tower on top, yes. Drakon's sail is visibly elongated compared to the other Dolphins, and there's widespread speculation that it houses a vertical launch system — possibly two large silos, possibly four to eight smaller cells. Neither Israel nor ThyssenKrupp has confirmed any of it. H.I. Sutton at Naval News called it the first submarine in the world with modern missiles in the sail.



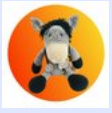
Herman

It's doing all the work. But the geometry is the evidence. You don't lengthen a sail for aesthetics. Something is in there, and the speculation is that it's a launch capability that doesn't require the boat to open a torpedo tube and flood a tube to fire.



Corn

Which matters because?



Herman

Because vertical launch means you can fire without changing depth or pointing the boat. You launch from wherever you happen to be, at whatever depth you happen to be at, and you leave. It's a faster, quieter launch sequence.



Corn

And the timeline — is it operational now?



Herman

No. It needs roughly two to three months of Israeli weapons and sensor fitting-out before it's declared operational. So what arrived in Haifa is a hull with German systems in it. The Israeli-specific electronics, the weapons, the combat system integration — that happens in Israel.



Corn

Which is the part nobody films.



Herman

Which is the part that actually determines what the boat can do.



Corn

Now — the Navy's own framing of this. Because they're not being subtle.



Herman

They're not. Rear Admiral Guy Levy, the Navy chief of staff, said Drakon can stay at sea longer and carry more weapons in distant places where Israel has never been before. Lieutenant General Eyal Zamir, the Chief of Staff, said at the arrival ceremony that the boat makes the fleet more covert, farther-reaching, deeper and more lethal. And the Navy has been explicit that since October seventh, 2023, the operating picture changed — Iran, Yemen, the western Mediterranean are now named as fronts. One Navy source put it as: at the end of the day we are an island nation, and the major challenges are the Red Sea and Yemen.



Corn

An island nation. Which is a strange thing to say about a country with land borders on four sides.



Herman

It's a strange thing to say, and it's also completely accurate about trade. Ninety-eight percent of goods reaching Israel arrive by sea. Whatever the borders look like on a map, the country runs on ships.



Corn

So that's the hardware. But the bigger question is why a country the size of New Jersey needs any of this — and whether the real answer is one nobody in Jerusalem will confirm.



Herman

Let's do the boring part first, because the boring part is documented and nobody argues about it. Submarines do intelligence collection. They support special operations — Shayetet 13, the naval commando unit, works off these boats. Anti-surface warfare. Deterrence patrols. All of that is real, all of it is uncontroversial, and all of it would justify a submarine fleet for a country in Israel's neighborhood.



Corn

And then there's the other thing.



Herman

The Popeye Turbo, a submarine-launched cruise missile, has a range of at least fifteen hundred kilometers, and it's widely believed to carry a two hundred kiloton nuclear warhead with up to six kilograms of plutonium. If that's true — and nobody has confirmed it is — it gives Israel an offshore nuclear second-strike capability.



Corn

Define second strike for me, because I want it precise.



Herman

A second strike is what you can still do after you've been hit. If your land-based missiles and your aircraft are gone — destroyed on the ground, or you can't be sure they survived — a submarine at sea is the thing your adversary cannot locate and cannot destroy. It's the guarantee that a first strike doesn't end the exchange. That's why it's called the survivable leg.



Corn

And the official position is what, exactly?



Herman

Israel has never confirmed it has nuclear weapons at all. That's the policy — deliberate ambiguity, sometimes called amimut. Germany has denied that the submarines carry nuclear capability. But Hans Rühle, who was the policy chief in the German Ministry of Defense, said publicly that he assumed Israel intended to arm them with nuclear weapons. And in 2000, the U.S. Navy reportedly observed an Israeli submarine-launched cruise missile test in the Indian Ocean with a fifteen hundred kilometer range. Israel denied it.



Corn

So the pattern is: something happens, someone observes it, Israel says it didn't happen, and everybody proceeds as though it did.



Herman

That's the pattern. And it's not an accident. The ambiguity is the policy. If you confirm it, you've given your adversary a target set and your allies a problem. If you deny it too firmly, you've given up the deterrent. So you say nothing and let the boats do the talking.



Corn

Right. Now Daniel's actual question — how many do you need?



Herman

The classic answer is four. Continuous at-sea deterrence — CASD — is generally modeled as one boat on patrol, two in port ready to surge, and one in overhaul. The United Kingdom has maintained that posture since 1969 with four boats. It's the benchmark everybody cites.



Corn

Where does the four come from? Is it a law of physics or a rule of thumb?



Herman

It's a maintenance arithmetic, mostly. A submarine's life is not mostly patrol. It's patrol, then refit, then workup, then patrol again. If you want one boat actually on station at all times, and each boat spends a substantial fraction of its life unavailable, you need several boats to produce one.



Corn

And there's a 1989 essay on this — Jerry Holland, in the Naval Submarine League's journal, "How Many SSBNs Are Enough?"



Herman

Yes. And his argument is that the minimum isn't set by the math, it's set by perception. His line is that the number must not be less than some minimum which ensures the continued perception of the system's assured and unacceptable destruction of the enemy's homeland assets. And it has to be enough that an enemy's best anti-submarine warfare efforts cannot attrite the force below that minimum.



Corn

So the number is whatever convinces the other guy.



Herman

The number is whatever convinces the other guy. Which is why it's not a clean calculation. You're not solving for coverage. You're solving for belief.



Corn

Here's where I want to push, though. Daniel's question — if stealth means nobody knows where they are, why not two or three? And the honest answer is that stealth and availability are two different problems.



Herman

They're completely different problems, and this is the part that gets underreported. Israel's fleet is diesel-electric. It is not nuclear-powered. A nuclear submarine makes its own air and water and can stay under for months. A diesel-electric boat with air-independent propulsion can stay under for about a week, and then it has to come up or snorkel. It's limited by range, by battery and fuel, and by crew endurance — thirty-five people in a steel tube, and there's a limit to how long that's sustainable before performance degrades.



Corn

So the UK's four-boat model doesn't transfer.



Herman

It doesn't transfer directly, and this is the key distinction. The British, French, American, and now the Indian SSBN forces are nuclear-powered. They can hold a continuous patrol cycle. Israel's boats cannot hold that same cycle. So the "how many" math is fundamentally different — and here's the honest part, which I want to flag clearly: no source I've seen gives an Israel-specific number. There's no published Israeli requirement of "we need X boats for a credible second strike." The four-boat benchmark is the general CASD figure, and it applies to nuclear-powered boats. Applying it directly to Israel is a category error.



Corn

So the answer to Daniel's question is: the doctrine says four, but that doctrine was written for a different kind of submarine, and nobody has published the Israeli number.



Herman

That's the answer. And I'd rather say that plainly than pretend there's a figure.



Corn

Then let's do the arithmetic that does exist. Six boats. How many are actually at sea at any given moment?



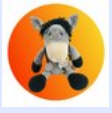
Herman

Nowhere near six. The flotilla logs about ten thousand hours at sea per year across the whole force. Do the division and it's clear that most of the fleet is in maintenance, refit, or workup at any given time. Six boats is not six patrols. It's maybe one or two on station, with the rest in the cycle.



Corn

So when Daniel asks "couldn't two or three do it" — the answer isn't "no, stealth doesn't work that way." It's "no, because two or three boats can't produce one boat on station, all the time, forever."



Herman

That's the correct answer, and it's the one that surprises people. The stealth is not the constraint. The constraint is the dockyard.



Corn

Now let's do the regional comparison, because it reframes the whole thing.



Herman

Turkey operates fourteen submarines, with four more under construction. Israel has six. On a pure hull count, Israel is not the regional submarine power. Not close.



Corn

Which tells you the fleet isn't built for a hull-count competition.



Herman

It's not built for a hull-count competition. It's built for a quality-over-quantity argument — fewer boats, better boats, each one individually more capable than what it's likely to face. Which is a coherent strategy right up until the moment you need more than one boat somewhere at once.



Corn

And the dependency question.



Herman

Israel relies entirely on Germany for submarines. Every boat in the fleet came from a German yard. And allied export and access curbs — Canada, France, Denmark, Norway have all restricted naval cooperation with Israel at various points — already delayed the Drakon, and could delay the Dakar class. That's a real strategic vulnerability. You can have the best submarine in the region and still be waiting on a foreign government's export committee to decide whether you get the next one.



Corn

And the political layer underneath it.



Herman

The submarine purchases became a state commission of inquiry in Israel — the Case 3000 affair — involving associates of Netanyahu. So the procurement story has a corruption dimension that's entirely separate from the strategic one, and it's worth



Herman (continued)

knowing that the boats arrived in the middle of a political fight about how they were bought.



Corn

There's a version of this episode that's just a list of specifications. I'm glad we're not doing that one.



Herman

The specifications are the least interesting part of it, honestly. What's interesting is that you have a country that will not say what the boat is for, buying boats from a country that formally denies what the boats are for, to deter an adversary that has to assume the boats are for exactly what everyone denies.



Corn

Let me try to state the whole thing in one line. Israel's submarine fleet is a deterrent built out of ambiguity — the boat is the message, and the message is that you don't know.



Herman

That's the cleanest version of it. And the ambiguity is load-bearing. If Israel confirmed the nuclear role, the boats become a proliferation problem and a target set. If Israel denied it too convincingly, they stop deterring. The silence is the weapon.



Corn

Hilbert, you've been quiet — but I know you've been waiting to say something about this.



Hilbert

The Drakon's impressive. I'll give you that. But it's not a submarine.



Corn

Go on.



Hilbert

Everyone's calling it a submarine. In the classification world, and in the insurance world, a boat that spends most of its time on the surface or snorkeling is a submersible. A submarine is a vessel designed to operate submerged as its normal condition. Those are different categories, and they're insured differently.



Corn

That distinction matters for endurance.



Hilbert

It matters for endurance, and it matters for how you think about vulnerability. A submersible is a surface vessel that can hide. A submarine is a submerged vessel that can surface. The whole risk model is different. I spent a stretch in the early seventies working marine insurance out of Haifa, and I handled a claim on one of the diesel boats — minor flooding during a refit, nothing dramatic, nobody hurt. But I remember the paperwork because the hull was insured for more than the entire fishing fleet I also covered that year. All of it. Every trawler, every seiner, every little wooden thing in the harbor, and one boat in drydock was worth more than the lot.



Corn

That's a hell of a way to put the value of the thing.



Hilbert

It's the honest way to put it. And the policy had an exclusion — nuclear-related incidents, excluded from coverage. Standard language on a lot of marine policies, so I didn't think much of it at the time. But I've thought about it since. You insure a boat for a figure that would buy a small town, and then you write down that the one thing that would actually matter isn't covered. Somebody made a decision about what that boat was for. It wasn't in the paperwork.



Corn

So the insurance industry reached the same conclusion as SIPRI.



Hilbert

The insurance industry reached it earlier, and it didn't have to say so out loud. That's the whole trick, isn't it. You can deny a capability in a press conference and still price it into a policy.



Herman

That's a better illustration of the ambiguity than anything in the reporting, honestly. The exclusion is the admission.



Hilbert

I don't know if it's an admission. I know it was in the paperwork. And I know the man who signed it wouldn't have signed it for a boat that was just going to look at things.



Corn

That's a good way to think about it. Let's pull this together.



Corn

Where does that leave Daniel's question? The honest answer is that the number nobody has is the number he asked for. There's no published Israeli requirement — no figure for how many boats produce a credible second strike. The four-boat benchmark is real, but it was written for nuclear-powered submarines that can stay under for months, and Israel's boats are diesel-electric with about a week of submerged endurance. The math doesn't transfer, and nobody has done it publicly for Israel.



Herman

The direction of travel is more, not fewer. Israel is seeking approval for two more boats beyond the three Dakar-class submarines already ordered. The Navy is drawing up a multiyear expansion plan to take to the General Staff toward the end of the year. The



Herman (continued)

Dakar class is eighty-four meters, thirty-eight hundred tons, expected in the early 2030s.



Corn

Which means the fleet that answers Daniel's question doesn't exist yet. What's in the water now is the transition.



Herman

What's in the water now is the transition, and the Drakon is the last of the old family rather than the first of the new one. Which is a strange thing to say about the biggest submarine Israel has ever operated.



Corn

The biggest one they've ever had, and it's the end of a line.



Herman

That's the right way to close it. The Drakon is a message. And the message is ambiguous by design, because the ambiguity is the point.



Corn

Thanks to Hilbert Flumingtop, our producer. This has been My Weird Prompts. If you want to send us a question, email us at show at my weird prompts dot com. We'll be back soon.