



Bursting the Bubble

Russia's A2/AD in the Baltic: Capabilities, Countermeasures and Implications

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*The authors are personally responsible for the content, which does not necessarily reflect the views of FOI or of the Swedish government

Scary stories of A2/AD-bubbles...



AIR, LAND, SEA, STRATEGY & POLICY

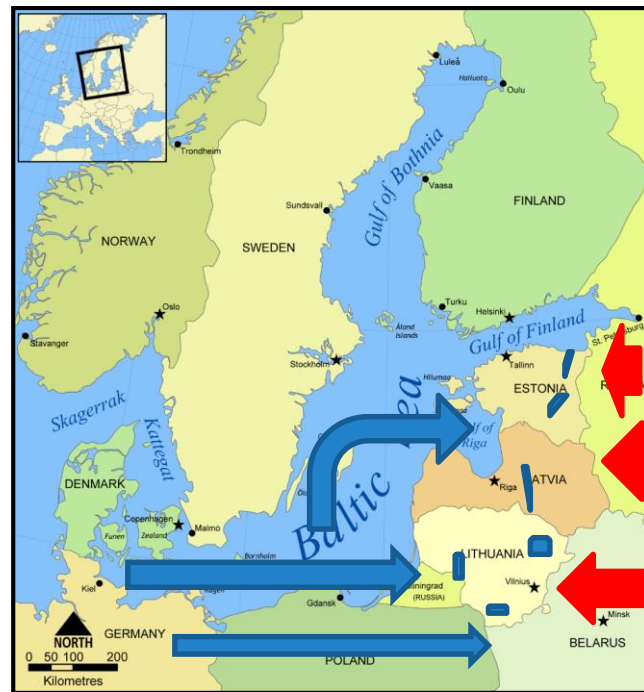
Russians In Syria Building A2/AD 'Bubble' Over Region: Breedlove



September 20, 2016 | Topic: Anti-Access/Area Denial | Region: Eastern Europe | Blog Brand: The B
Tags: Russia, Baltics, Poland, A2/ad, Bastion-P, S-400, Iskander, SM-3, AEGIS

Entering the Bear's Lair: Russia's A2/AD Bubble in the Baltic Sea

Nato's predicament in the Baltics...



...gets worse with A2/AD

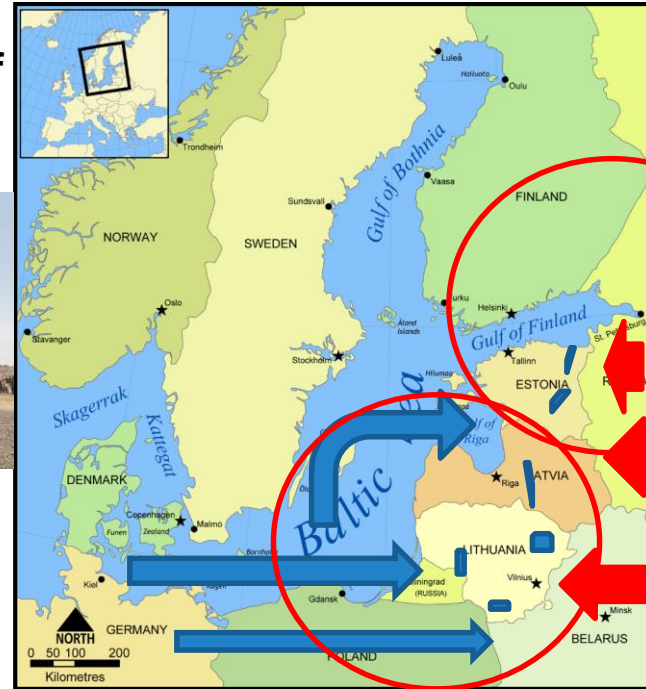


**S-400 Triumf
anti-air**

**Bastion-P
anti-ship**



**Iskander-M
SSM**



Russian A2/AD is overrated !



F-105 WILD WEASEL
VS
SA-2 'GUIDELINE' SAM

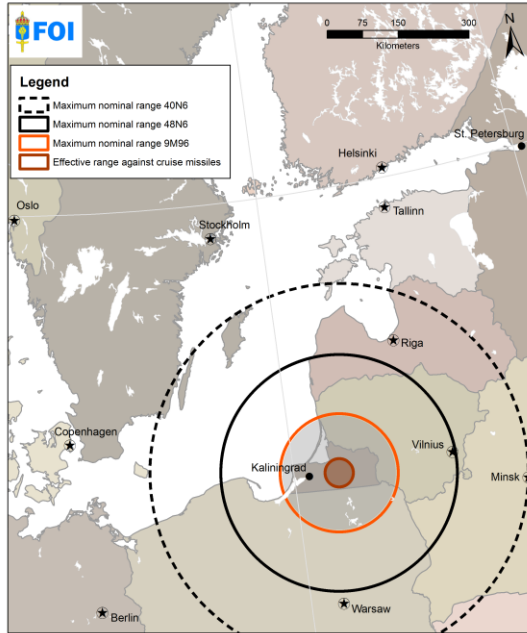


Four cardinal errors

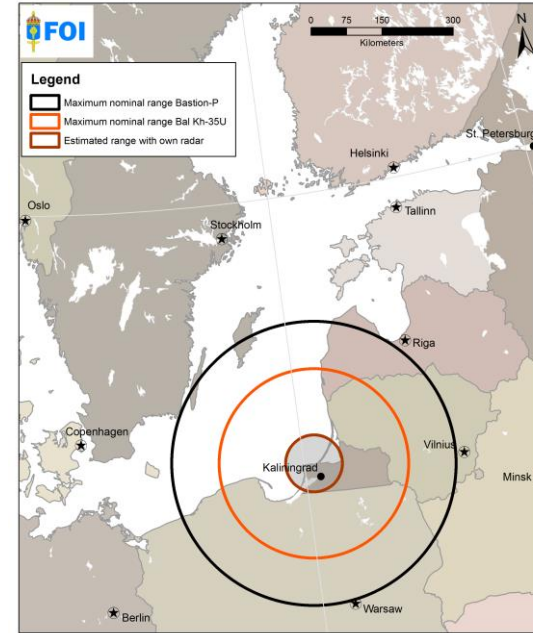
- 1) Equating **nominal** and **effective** range.
- 2) Underestimating problem of **hitting moving targets** at a distance.
- 3) Underestimating **counter-measures**.
- 4) Disregarding the **need to brag**.



Effective range << nominal

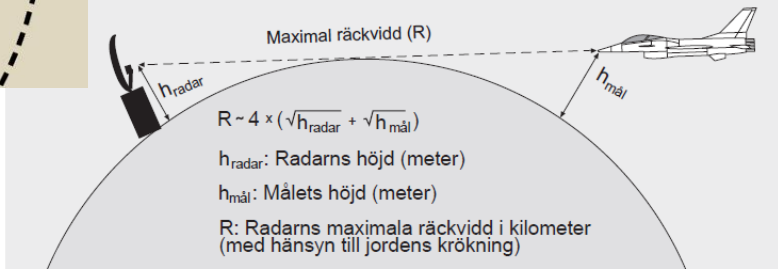
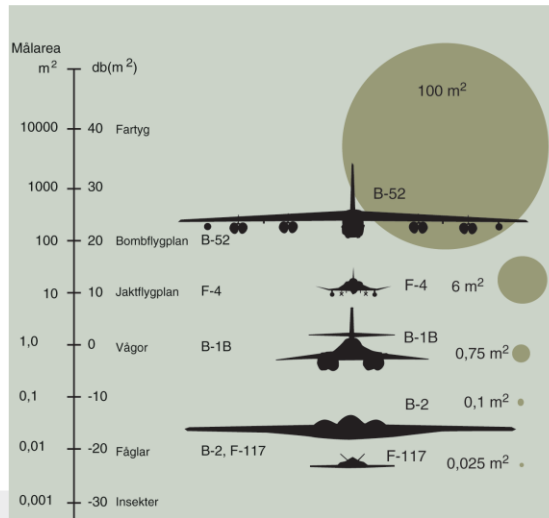
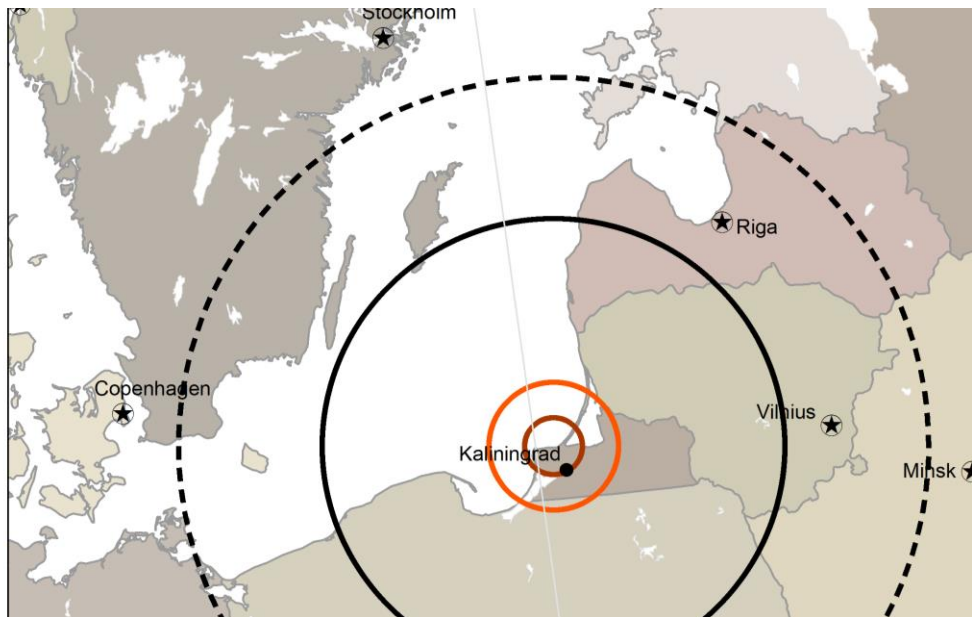


S-400 against airborne targets

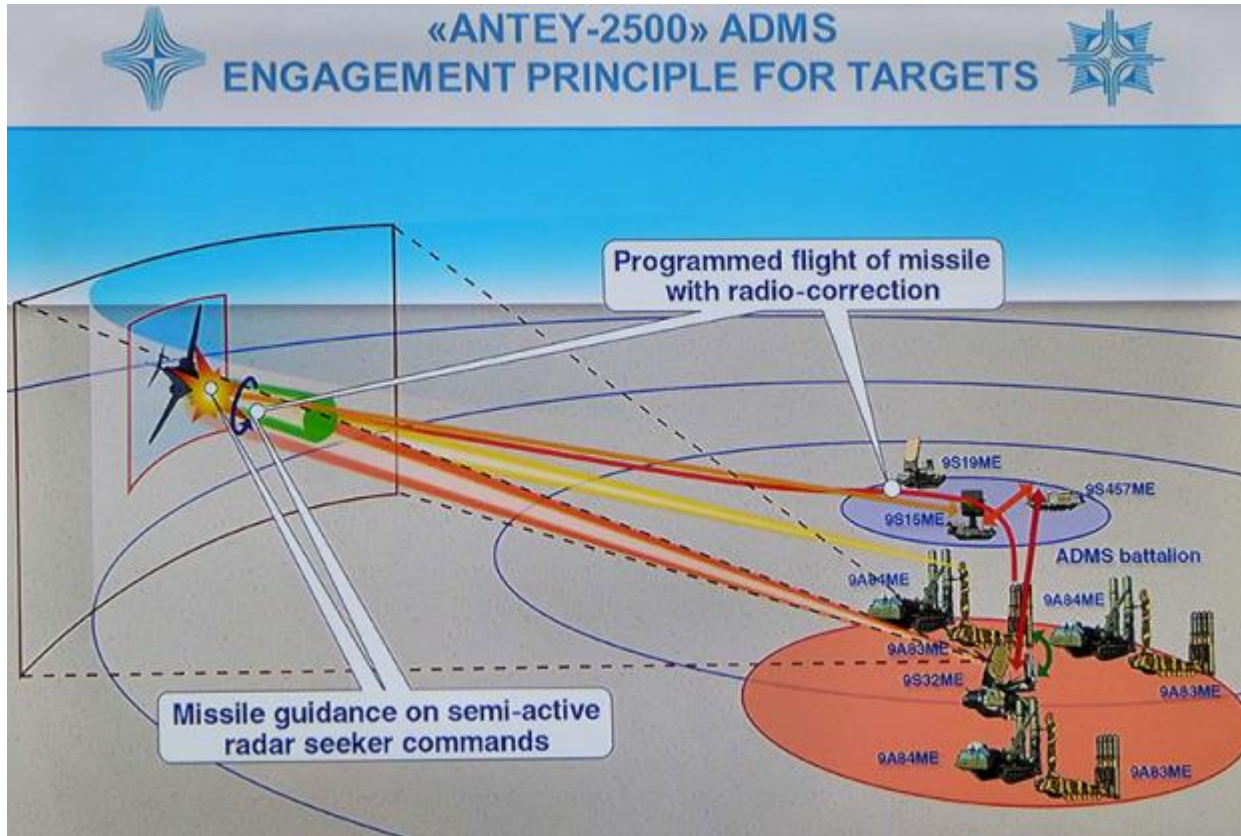


Bastion-P against ship targets

Target acquisition is key...



Complicated engagement



A panoply of counter-measures

- **Passive**
 - Re-route, deter, preposition gear
- **Soft-kill**
 - Electronic attack, decoys, cyber
- **Hard-kill**
 - Missile defence, radar-homing missiles, GPS-bombs, SF, artillery, cheap drones, stealth aircraft, saturation attacks...

Break the kill-chain, cutting a single link suffices



Russian tech does not always deliver...

Steve Trimble @TheDEWLine

I asked Rostec CEO Chemezov about S-400 deliveries to China and if it included 40N6 interceptors. He said it did, but a storm struck the ship that was delivering the missiles and destroyed all of them. Almaz-Antey, Rostec's S-400 producer, is now making replacements for China.



Implications for Nato

- S-400 less of a threat than feared
- Bastion-P needs external target data
- Iskander-M numbers low
- Threat to ground targets greater from cruise missiles
- Russia's A2/AD is a problem, but not a show-stopper
- The Baltic is no worse an ops-area than the Persian Gulf is



Expectations for the future?

- End of INF → new weapons in medium term
- Are Putin's new *Wunderwaffen* black cygnets?
- 40N6 missile to be operational in near term
- Forward-deployed sensors against ships expected in short-to-medium term.
- Cooperative engagement against aircraft expected only in medium-to-long term.
- New Western capabilities expected in near-to-medium-term.

