Swedish Small Arms Programs

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Försvarets Materielverk (FMV)

FMV is the technical and procuring agency for the Swedish armed forces.

FMV receives assignments from the armed forces for the development, procurement, upkeep and subsequent de-mil of all defense materiel.

We date back to 1630!
The Vasa ship was the reason...

After the Vasa sunk on her maiden trip in 1628, king Gustavus Adolphus decided that he wanted to have his own procurement agency, and FMV’s predecessor was founded two years later.
Current Swedish small arms

- 5.56 mm Ak 5
- 7.62 mm PSG 90
- 9 mm Glock 17
- 5.56 mm Minimi
- 12.7 mm Barrett
- 12.7 mm HMG M2HB QCB
- 40 mm AGL Mk 19
- 7.62 mm MAG 58
- 40 mm GL M203
Ongoing small arms projects

- **Ammo** (Green, APHC, Dim Tracer)
- **AK 5 upgrade**
- **PSG 90 upgrade**
- **Accessories**
- **NLW**
- **Integrated light and laser module**
- **Minimi Para TR**
- **MAG 58 upgrade**
- **FN M3M HMG**
- **FX Simunition kits**
- **Future grenade launchers**
- **Kongsberg Protector**
Ak 5 upgrade program

- Modification of 40,000 weapons in 2006-2010.
- Ak 5C is the primary weapon for all Swedish Soldiers.
User priorities on ak 5C

1. MIL-STD 1913 rail

2. New effective flash hider

3. Weight max 3.9kg.


5. New shoulder stock, adjustable in length

6. Hand guard, with full length MIL-STD 1913 rail at 6 o’clock, and 80mm rails at 9 and 3 o’clock.

6. Cut-outs for pressure switches and cables on left and right sides

7. New ambidextrous selector lever

7. Slimmer pistol grip at a different angle

8. Automatic bolt catch

9. Foldable emergency iron sights for ranges up to 300m

10. Transparent plastic magazines
Swedish red dot sight for small arms

- Manufacturer: Aimpoint AB
- Type: Red dot sight
- Magnification: None
- Battery life: >10 years
- Rail: Mil-Std-1913
- Deliveries: 2003-2006
- Will be used on all rifles and machine guns.
AGL Competitors

- Nammo Raufoss/General Dynamics (Norway/USA/Canada): *Striker/ALGL/Mk47*

- Singapore Technologies Kinetics/ Oerlikon Contraves Pyrotec (Singapore/ Switzerland): *Tiger/SLWAGL*
Striker/ALGL/Mk47

- 18 kg
- 250 rds/min
- Short recoil operated
- Fires from closed bolt

Raytheon "LVS" Fire Control System with day and night channel.
Tiger/SLWAGL

- 18 kg
- 350 rds/min
- Recoil operated
- Fires from open bolt

FCS with optical day channel

Muzzle coils
Current Swedish AGL status

- Mk19 in service since 1993.
- Users want a lighter system with FCS and programmable ammo.
- Sweden found that none of the systems at that time was mature for adoption.
- Swedish tests will continue on a small scale during 2009.
- Sweden delayed its procurement until 2010 with deliveries in 2011-2012.
Swedish FCS development

- Trials with AGL’s with different FCS’s, and a market study showed that there was no simple, lightweight, robust and affordable FCS available.
- Sweden therefore decided to develop a FCS with industry for use with under slung grenade launchers, AGL’s and 84mm Carl Gustaf recoilless rifles.
- A PDF study was done in 2002.
- A development contract was placed with Aimpoint in 2005.
- Delivery of prototypes started in August -07.
- Procurement started in 2009.
Requirements for Swedish FCS

- Red dot for aiming and laze.
- Moving cross.
- No magnification.
- No moving parts.
- Large field of view (20°).
- Easy to use and fast.
- High contrast in display.
- All information in display.
- Accurate when ranging.
- Small and light (less than one kg).
- NVD compatible.
- Capability to program ammunition.
- MIL-STD 1913 rail (“Picatinny rail”).
- “Long” battery life (more than one week).
- Realistic price.
How it works

1. Aim and measure range

2. Realign and shoot
Current Swedish "Green Ammo"

5.56 NATO
Development 1997-1999
In service since 2000

7.62 NATO
Development 2000-2004
In service since 2006

12 Gauge
"COTS"-procurement
2000
The biggest problem with future soldier systems is weight.
We can not expect a dramatic weight reduction in future weapons or accessories.
FMV has together with industry studied the possibility to reduce the ammunition weight.
We studied both cartridge cases made of aluminum and steel.
A reduction of up to 30% of the cartridge weight is possible.
FMV will let industry compete for a development contract.

Weight data for standard brass cased 5.56 NATO round:
- Case: 54%
- Powder: 33%
- Projectile: 13%
<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
<th>Notes</th>
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<td>2005</td>
<td></td>
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<tr>
<td>2010</td>
<td>Deliveries 2006-2010</td>
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<td>2015</td>
<td>Ak 5C</td>
<td>Final report NATO RTO Study on future small arms</td>
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<td>2020</td>
<td>Ak 6</td>
<td>Dev &amp; Test 2019-2022</td>
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Picture of FN SCAR is only an example.
Questions?

Aimpoint CS

Aimpoint BR8

General Dynamics MK47

Ak 5C