

# This is FOI

Swedish Defence Research Agency

Government agency under Ministry of Defence

Funded by appropriations and contracts

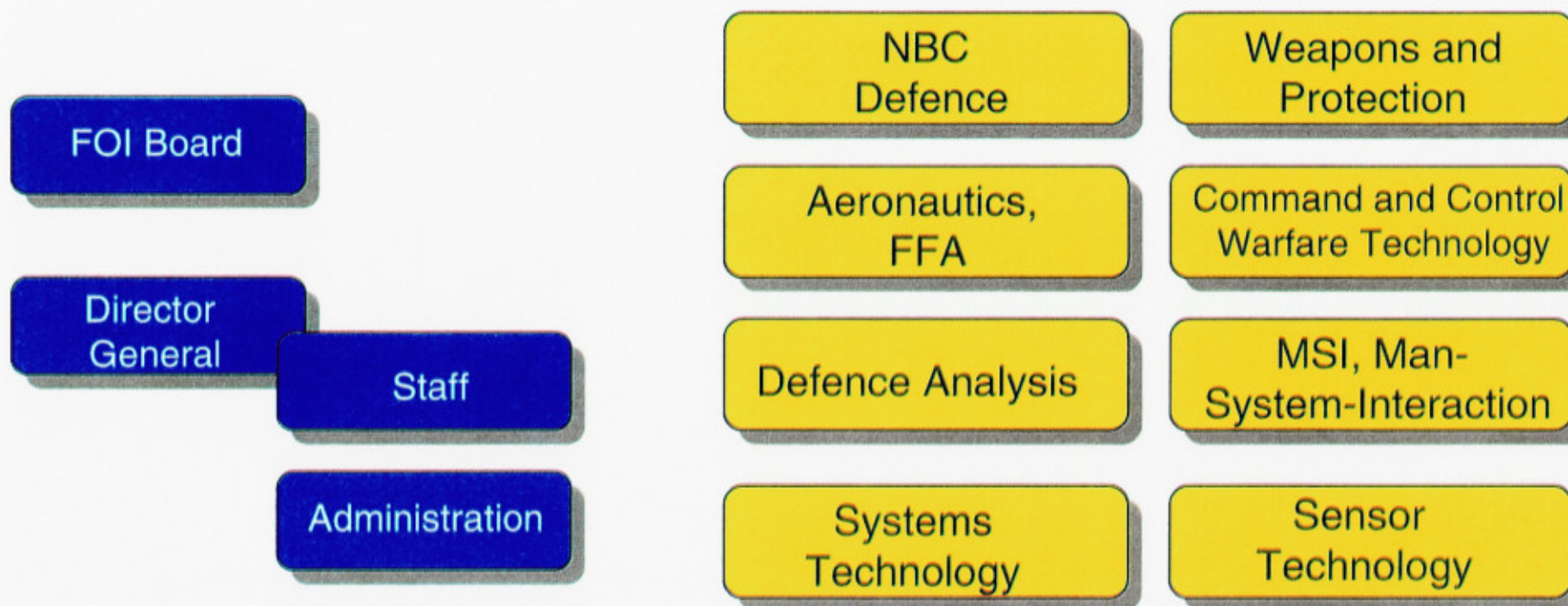
Total staff: 1220

Scientists: 860

**FOI**

# FOI Organisation

## Research Divisions



## Division Locations



**UMEÅ;**  
NBC-Defence

STOCKHOLM, **BROMMA;**  
Aeronautics, FFA  
Director General, Staff

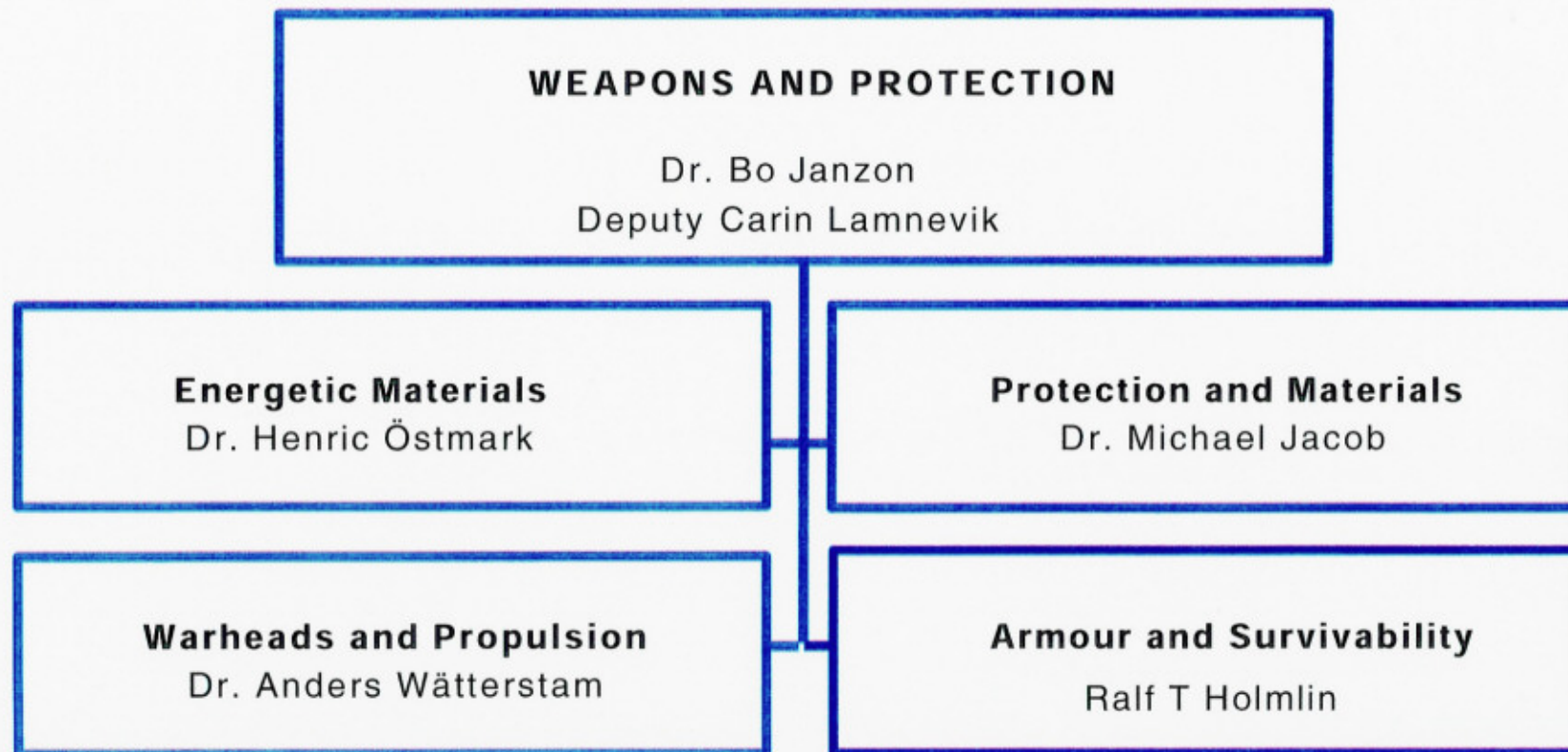
STOCKHOLM, **GÄRDET;**  
Defence Analysis

STOCKHOLM, **URSVIK;**  
System Technology

STOCKHOLM, **GRINDSJÖN;**  
Weapons and Protection

**LINKÖPING;**  
Command and Control Warfare Technology  
Man System Interaction, MSI  
Sensor Technology

# FOI Weapons and Protection, Organisation



## Swedish surveillance test of NC-propellants

- Prevent self-ignition during depot storage and transportation
- Prevent propellant batches from being rejected earlier than necessary
- Singelbase, Doublebase, DEGDN, Triplebase and FNH propellants

## **Analytical techniques used for surveillance tests**

- HPLC
  - High Performance Liquid Chromatography
- HF
  - Heat Flow calorimetry
- TLC
  - Thin Layer Chromatography

## **HPLC** (High Performance Liquid Chromatography)

- Qualitative and quantitative analysis of stabilizers
- Isocratic
- Columns ultraspheres ODS 4,5 cm and 15 cm
- External standard
- Peak hight

## Heat Flow calorimetry

- Isothermal twin calorimeter: sample and reference
- Measuring the temperature difference
- 65°C
- Results heat flow ( $\mu\text{W}$ ) versus time

## **TLC** (Thin Layer Chromatography)

- Qualitative analysis
- Determines some of the derivatives of the stabilizers