Technology becomes the critical armament to shape forces for the future. The Landward Sciences (LS) Competency Area in DPSS, a business unit in the CSIR, is proud of its track record in using scientific tools and approaches to find research solutions to transform, support and sharpen the effectiveness of our Defence Force.

**RESEARCH AREAS**

**VEHICLE PROTECTION**
- Threat analysis
- Detonics, shock and blast characterisation
- Soil and shrapnel ejecta characterisation
- Shock and blast attenuation
- Structural response
- New material development
- Existing material characterisation
- Injury criteria
- National Authority for Vehicle Landmine Protection Validation Testing in accordance with either RSA-MIL-STD-37 or AEP-55 Volume 2

**HUMAN VULNERABILITY**
- Blunt trauma
- Explosive events
- Terminal ballistics

**BLAST CHARACTERISATION**
Established measurement methodology, to compare various explosives and munitions in terms of blast wave characteristics

**BLAST ENHANCED EXPLOSIVES RESEARCH**
- Single initiated explosive compositions, with time extended pressure and temperature profiles
- Identify, analyse and protect against threats

**Explosively Formed Projectile (EFP) and Shaped Charge (SC) Protection Research**
- Threat analysis
- Numerical modelling
- EFP and SC characterisation
- Surrogate development
- Protection methods

**Warhead Protection Research**
- Threat analysis
- Numerical modelling
- Warhead characterisation
- Surrogate development
- Protection methods
Focus on CSIR services in Landward Sciences

**Improvised Explosive Device Protection Research**
- Threat analysis
- Numerical modelling
- IED characterisation
- Surrogate development
- Protection methods
- Detection

**Improvised Explosive Device Disposal (IEDD)**
- Research of disruption techniques
- Design and development of disruptors
- Test and evaluation of solutions

**Explosive Remnants of War**
- Detection
- Clearance
- Disposal

**Soldier Systems**
- Equipment interface
- Soldier performance enhancement tools
- Equipment weight considerations
- Situational awareness

**Vehicle Mobility**
- Terrain characterisation
- Vehicle mobility characterisation
- Vehicle mobility enhancement

**Specialised Security Technology Research and Support**
- Border control equipment
- Detection systems

**Short Event Computational Modelling**
- Supports all the research areas
- Short time duration
- Finite Element Analysis (FEA)
- Modelling of human responses
- Hydrocodes

**Test, Measurement & Evaluation (TME)**
- All the Landwards’ research areas are supported by an extensive TME capability.

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