CSIR in SAFETY & SECURITY
CSIR Science, Engineering and Technology Support to the South African Police Service (SAPS)

Presented by
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Key relationship manager: CSIR/SAPS collaboration
Outline of presentation

• Introduction to the mandate of the CSIR
• How the formal SAPS-CSIR relationship originated
• Current SAPS projects
• Future planned projects
• Thoughts on requirements for future SAPS-CSIR initiatives
'The objective’s of the CSIR are, through directed and particularly multidisciplinary research and technological innovation, to foster, in the national interest and in the fields which in its opinion should receive preference, industrial and scientific development, either by itself or in co-operation with principals from private or public sectors, and thereby to contribute to the improvement of the quality of life of the people of the Republic…’

(Scientific Research Council Act 46 of 1988, amended by Act 71 of 1990)
The mandate unpacked

Fulfilling the CSIR mandate

Impact on economy and society
- Industrial and scientific development
- Improved quality of life of the people of the Republic

RD&I outcomes
- Scientific and technological support to strategic and national initiatives and to industry
- Scientific and technological capabilities, e.g. materials science, photonics, robotics, modelling, ICT

RD&I outputs
- Publications
- Reports
- Patents
- Technologies

RD&I activities
- Research
- Partnering
- RD&I management
- Technology transfer

Inputs
- Human capital
- Research facilities
- Financial resources
- Governance
Unpacking the CSIR mandate: Processes

**CSIR Mandate**
- Multidisciplinary research
- Technological innovation
- Industrial development
- Scientific development
- Improved quality of life

**CSIR Response**
- Research impact areas and core technologies
- Create new industries
- Improve competitiveness of industries
- Support service delivery
- Access to social and economic infrastructure
- Support to job creation
- Sustaining the natural environment

In support of national interests & priorities

Collaboration, partnering
The CSIR spans the research and innovation value chain but its role is differentiated from TEIs and industry/public sector.
Research impact areas and core technologies

Core technologies
Materials | Sensors | Photonics | Robotics | ICT | Modelling
Key impact indicators

• Building and transforming human capital
• Strengthening the SET base and performing relevant R&D
• Transferring knowledge and technology, and implementation
• Financial sustainability and good corporate governance and citizenship
Track record in defence and security

- CSIR has been providing science, engineering and technology (SET) support to the defence and security sector for 70 years (government and industry)
- Constantly evolving to match national priorities and (growing) needs of the defence sector - now and into the future
- **Primary function**: Providing integrated SET support as an ‘in house’ SET capability in order to ensure client is knowledgeable buyer, user, manager of technology.
- Strategic independent agency to advise on technology investment, development, emerging technologies, future planning and strategy;
- Contributes national objectives such as industrial growth, aerospace and space, national safety and security and national technical skills development
The CSIR in Safety and Security – strategic rationale

Outcome 3
Presidents’ Program of action: “All People in South Africa Are and Feel Safe”

"We need an integrated solution to achieve safety & security in South Africa. All agencies should be part of a national working group to identify impact areas, plan, implement, and monitor innovative responsive solutions”

Chapter 12
Building safer communities

DELIVERY AGREEMENT
For Outcome Three:
“ALL PEOPLE IN SOUTH AFRICA ARE AND FEEL SAFE”

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The CSIR responds to national priorities in line with its mandate and in support of South Africa’s National Development Plan

- identified research impact areas to focus R&D efforts;
- implemented flagship programmes that address significant challenges at national scale through multidisciplinary interventions;
- introduced integrated responses to national initiatives and strategic collaboration with government departments, state-owned enterprises and the private sector
To identify a Safety & Security stakeholder problem, of suitable scope to serve as the basis for a CSIR Safety and Security Flagship project.

The problem scope shall challenge the CSIR to utilise cross-functional capabilities in support of national agencies.

The Flagship project scope shall be of such a nature as to solve a national Safety and Security problem.

The Flagship shall eventually have positive effects on the safety & security of the general population.
A recent intelligence-based OPS-room deployment to support the Brooklyn, Tshwane SAPS in crime prevention operations.
Evaluating intelligence-based policing on tactical neighbourhood level: integrated SAPS and CPF operation

Tactical OPS-room support of Brooklyn SAPS & CPF (Tshwane metro area)
Intelligence-base policing support to environmental crime prevention

Situational decision support to SANParks and SAPS – Anti-rhino poaching operations
Establishment of firm strategic stakeholder relationship with SAPS: MOA

- The CEO of the CSIR and SAPS Commissioner signed the MOA on 18 February 2014

- The SAPS MOA relationship is managed from the office of Dr. Rachel Chikwamba, CSIR Group Executive: Strategic Alliances and Communication

- The MOA shall establish the foundation for a more strategic relationship between SAPS and the CSIR
Scope of the CSIR-SAPS MOA

- Programme 1: Command and Control and Shared Situational Awareness
- Programme 2: Information and Communications Technologies
- Programme 3: Integration and Interoperability Support
- Programme 4: Operational Quick Reaction tasks
- Programme 5: Science and Technology Capability Development
- Programme 6: Strategic and Operational Decision Support
Strategic positioning of CSIR

Governance, management and reporting

Ministry of Science and Technology

CSIR Board

CSIR

Ministry of Police

CSIR operating as the in-house S&T capability of SAPS

Application of technology, contracting and delivery
MOA governance structure

- MOA: Institutional Framework for Cooperation (Mandate & Spirit of Agreement)
  - Oversees
  - Manages Programmes

- BILATERAL COMMITTEE
  - Project Specific Agreement (PSA) #1
    - Statement of Work
    - Timescales, Deliverables, Cost, payment T&Cs, IP, Security, etc.
  - Project Specific Agreement (PSA) #2
    - Statement of Work
    - Timescales, Deliverables, Cost, payment T&Cs, IP, Security, etc.

- STEERING GROUP FOR MANAGEMENT
  - Project Specific Agreement (PSA) #1
  - Project Specific Agreement (PSA) #2
  - Appoints / Reports

- PROJECT CO-ORDINATORS
  - Project Specific Agreement (PSA) #1
  - Project Specific Agreement (PSA) #2
Current CSIR support priorities in support of SAPS

1. TETRA Eastern Cape
2. Field Terminal Devices
3. Firearm Control System (FCS)
4. Property Control & Exhibit Management (PCEM) 1.X
5. Investigation Case Docket Management Systems (ICDMS)
6. Automatic Vehicle Location System (AVL)
SAPS-CSIR Future priorities list

Currently under discussion between SAPS and CSIR

- The SAPS & CSIR is currently discussing collaboration priorities
- A preliminary short-list of priorities has been categorised as “Immediate”, “Fairly Urgent” and “to be addressed in a Reasonable Time” or ‘in due course’

<table>
<thead>
<tr>
<th>Project</th>
<th>MOA Programme</th>
<th>CSIR Involvement</th>
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<tbody>
<tr>
<td>Armoured vehicle</td>
<td>5</td>
<td>Definition, Acq Supp</td>
</tr>
<tr>
<td>Water canon</td>
<td>5, 6</td>
<td>D&amp;D, Acq Supp</td>
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<tr>
<td>Specialized POPS video cameras</td>
<td>1, 2</td>
<td>Architecture, Integration, Acq Supp</td>
</tr>
<tr>
<td>National Command Centre</td>
<td>1</td>
<td>D&amp;D,</td>
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<tr>
<td>Firearm Control System (All)</td>
<td>6</td>
<td>Audit &amp; Assess</td>
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<tr>
<td>Enterprise Architecture</td>
<td>6*</td>
<td>Definition &amp; Architect</td>
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<tr>
<td>Project Management System</td>
<td>6</td>
<td>Audit &amp; Development</td>
</tr>
<tr>
<td>TETRA: Overall? Methodology / DOC, etc.</td>
<td>2</td>
<td>Evaluate &amp; Assess</td>
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<tr>
<td>PCEM: Evaluation (Deliverables / Civil proceeding)</td>
<td>6</td>
<td>Audit, Evaluation</td>
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<tr>
<td>Handheld devices (Evaluation)</td>
<td>6</td>
<td>Test &amp; Evaluate</td>
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<tr>
<td>NNUP</td>
<td>2</td>
<td>Architecting</td>
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<tr>
<td>Monitoring &amp; Evaluation Tool (Analytics)</td>
<td>3, 5</td>
<td>Design &amp; Develop,</td>
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<tr>
<td>“Lifeblood” systems (Link to DRP)</td>
<td>6</td>
<td>Audit</td>
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<tr>
<td>Air wing upgrade</td>
<td>5, 6*</td>
<td>Analysis &amp; Force design</td>
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<tr>
<td>Language Lab (model)</td>
<td>5</td>
<td>R&amp;D, Definition,</td>
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<tr>
<td>Unified Converged Communication</td>
<td>2, 3</td>
<td>Analysis &amp; Architecting</td>
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<tr>
<td>Reduction of diverse technologies</td>
<td>2, 3</td>
<td>Audit</td>
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<tr>
<td>CCTV approach (Metal detectors/ Access Management)</td>
<td>1, 2, 5</td>
<td>Analysis &amp; Definition</td>
</tr>
<tr>
<td>ICT Security / Disaster recovery</td>
<td>2</td>
<td>Architecting</td>
</tr>
<tr>
<td>SAPS 6</td>
<td>?</td>
<td>TBD</td>
</tr>
<tr>
<td>TETRA Eastern Cape</td>
<td>2</td>
<td>TBD</td>
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- Immediate
- Fairly Urgent
- Reasonable Time
- In due course

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Looking into the future – two key objectives

- Utilise the current, excellent SAPS “bilateral” relationship, as a forum to support SAPS with formulating their strategic capability objectives
- The CSIR is ideally positioned to serve as the SAPS national technology leader – ensuring that future SAPS capabilities are available when required
Considerations for a future strategic relationship

- The establishment of a SAPS-CSIR SSERI
- SSERI – Safety and Security Research and Innovation budget
- The creation of formal organisational collaboration policy – operationalise the relationship.
- The establishment of a SAPS capability assessment and development capability.
- The CSIR to support SAPS with a medium to long-term “Research and innovation” roadmap and strategy
- The CSIR to serve as a national SAPS support capability – R&D Strategy development, future needs analysis, required operational concept development & validation.
- Embed SAPS members in the CSIR to facilitate knowledge transfer
SAPS Capability development: a key future objective

A more detailed look at this key strategic capability

- SAPS should have a formalised capability to continuously assess its capability needs – a key requirement for capability acquisition.
- Capability assessments take cognisance of the operating environment (threats, operational and physical) and the impact of other acquisition- and technology programmes.
- This activity is supported by an assessment capability, evaluation and experimentation knowledge, processes, facilities and infra-structure.
Thank you

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NOTE : Additional slides NOT part of the presentations