



# Support to the Investigation of Crime

## Division: Forensic Services

*Presented By: Major General Shezi*

*5 September 2012*



# FINANCIAL PROGRAM STRUCTURE

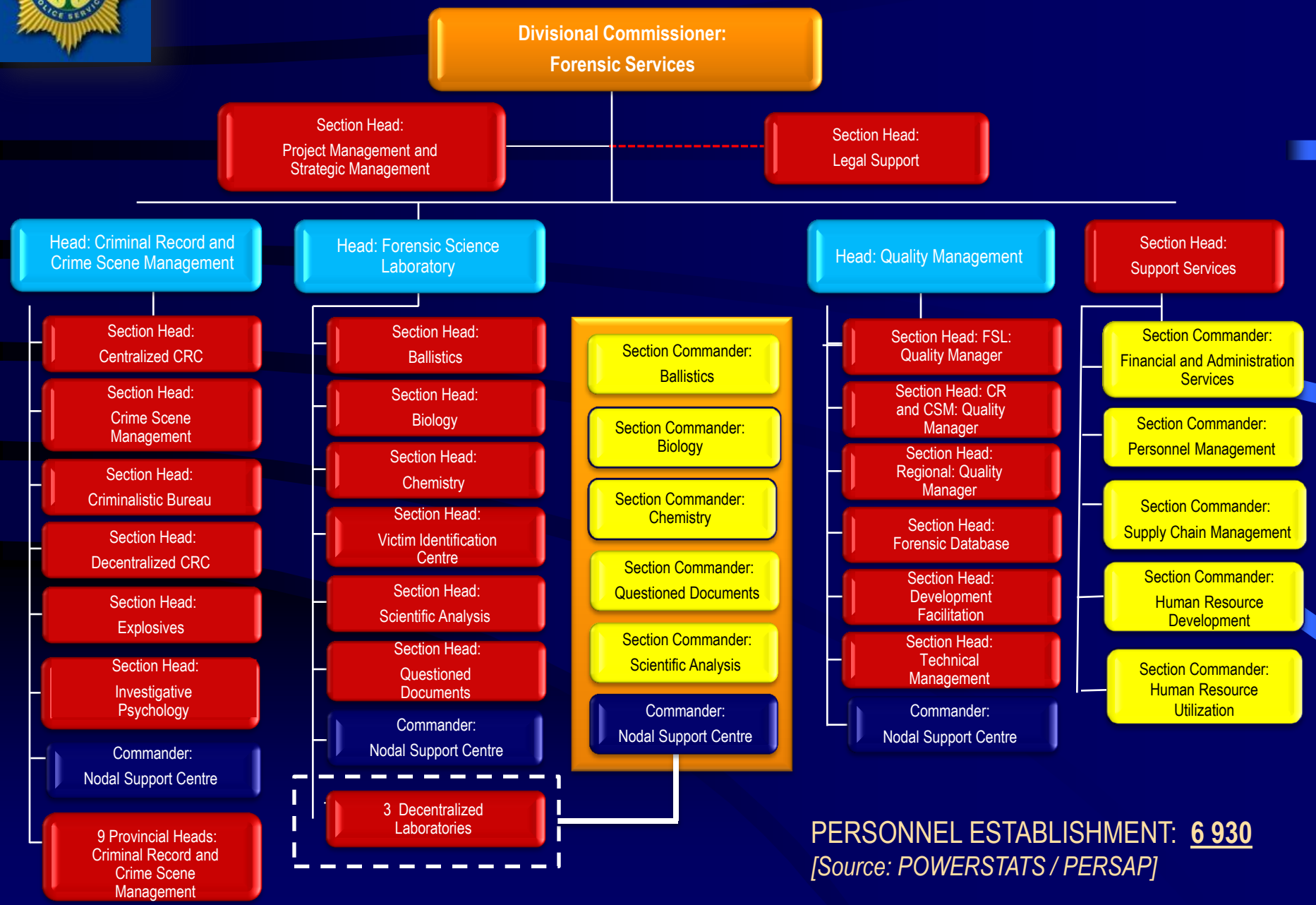
## PROGRAM 3: CRIME DETECTION

### SUB-PROGRAMS 3 & 4:

- The **CRIMINAL RECORD CENTRE** provides for an effective and credible CRC / LCRC service in respect of crime scene management / processing and the provision of criminal history & related information
- The **FORENSIC SCIENCE LABORATORY** funds forensic science laboratories, which provide specialized technical analysis and support to investigators regarding evidence



# ORGANIZATIONAL STRUCTURE

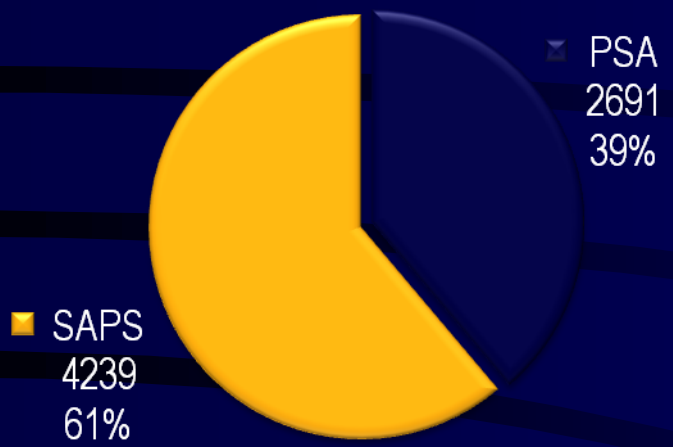


**PERSONNEL ESTABLISHMENT: 6 930**  
 [Source: POWERSTATS / PERSAP]

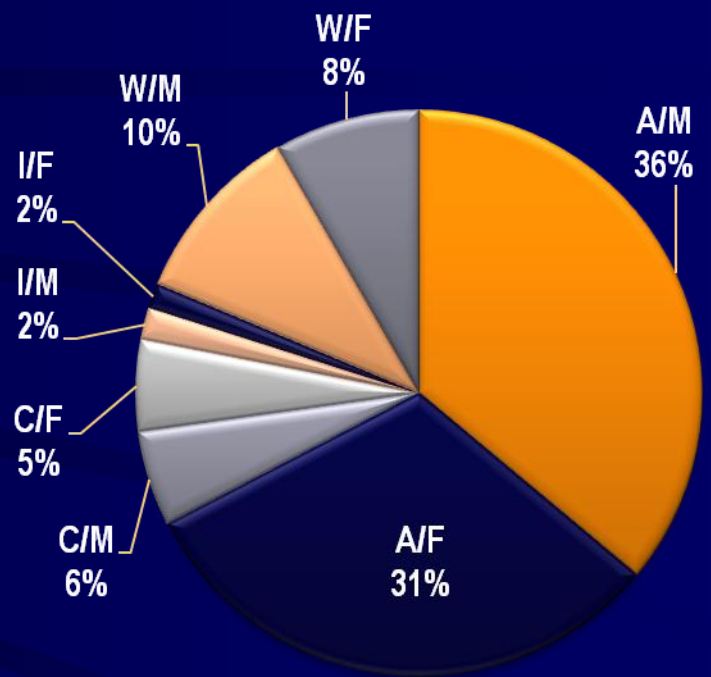


# PERSONNEL PROFILE

## Occupational Classification



## Employment Equity



Employees with Disabilities: 57 [0,8%]

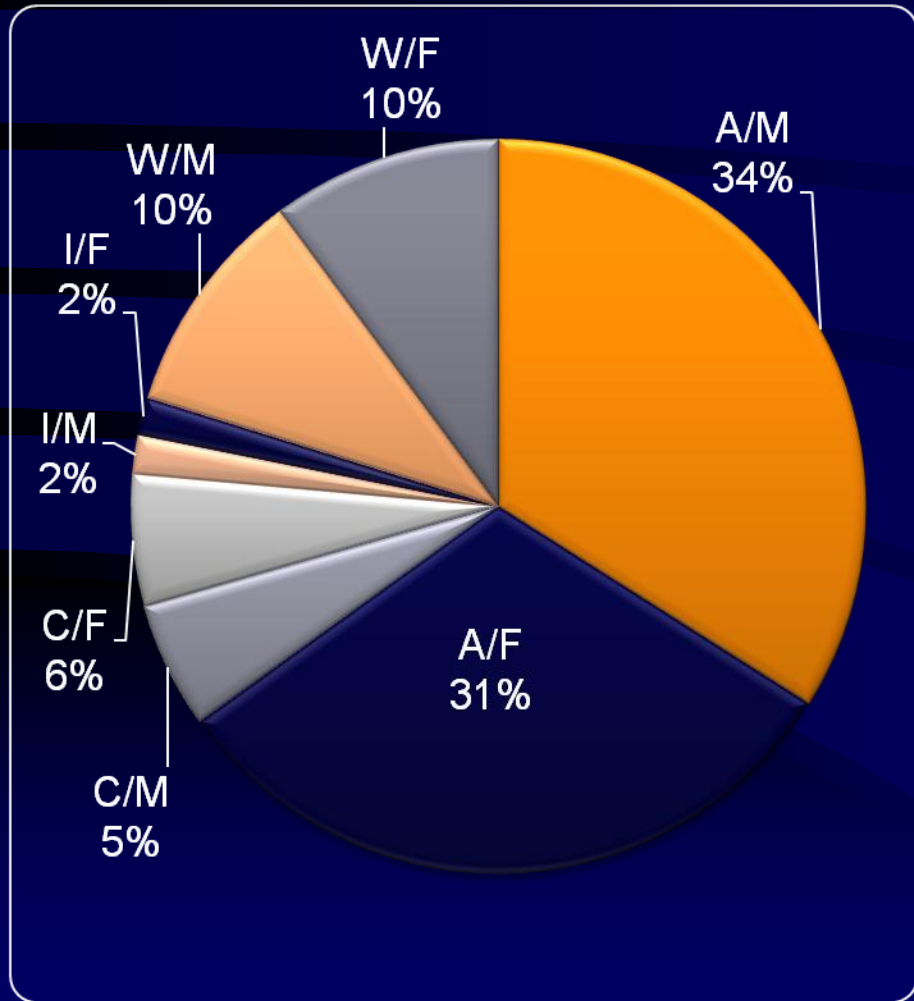
|        | AFRICAN     | COLOURED  | INDIAN   | WHITE       | TOTAL       |
|--------|-------------|-----------|----------|-------------|-------------|
| MALE   | 2 499       | 377       | 128      | 719         | 3 723 [54%] |
| FEMALE | 2 171       | 360       | 99       | 577         | 3 207 [46%] |
| TOTAL  | 4 670 [67%] | 737 [11%] | 227 [3%] | 1 296 [19%] | 6 930       |



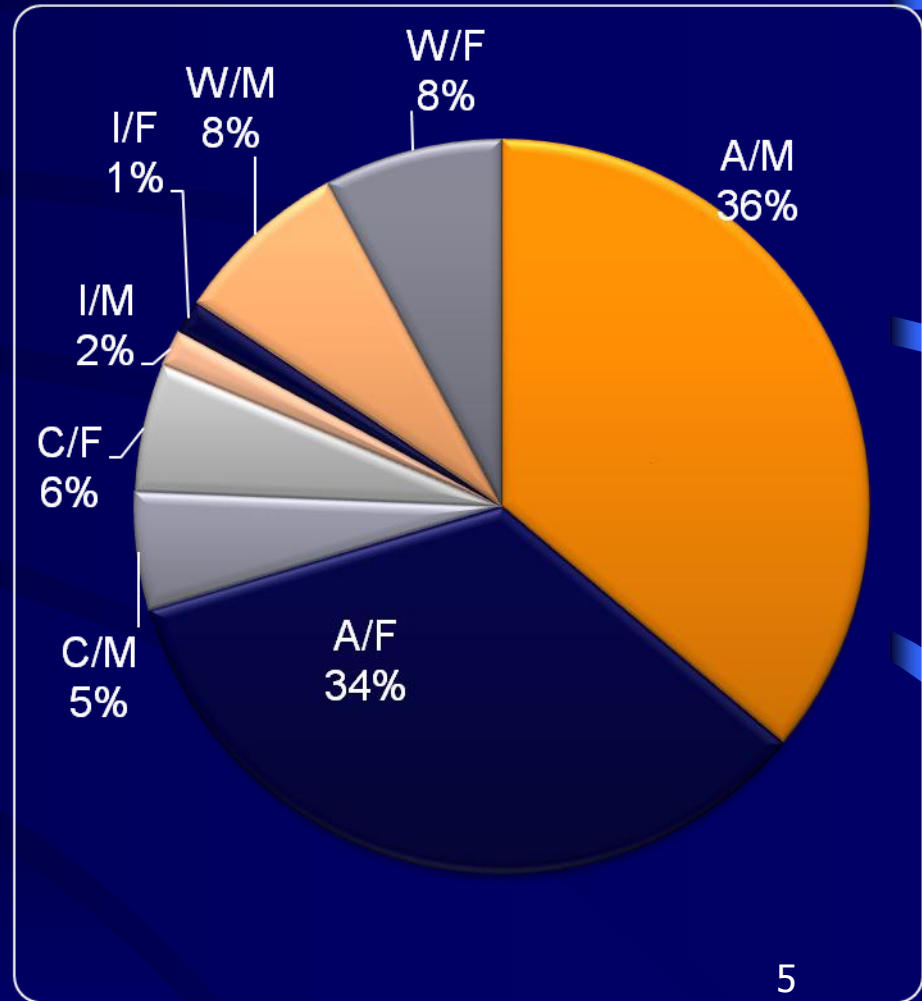
# IMPROVEMENT IN EMPLOYMENT EQUITY

## SR 1 – 7: 2010 vs 2012

### June, 2010



### June, 2012

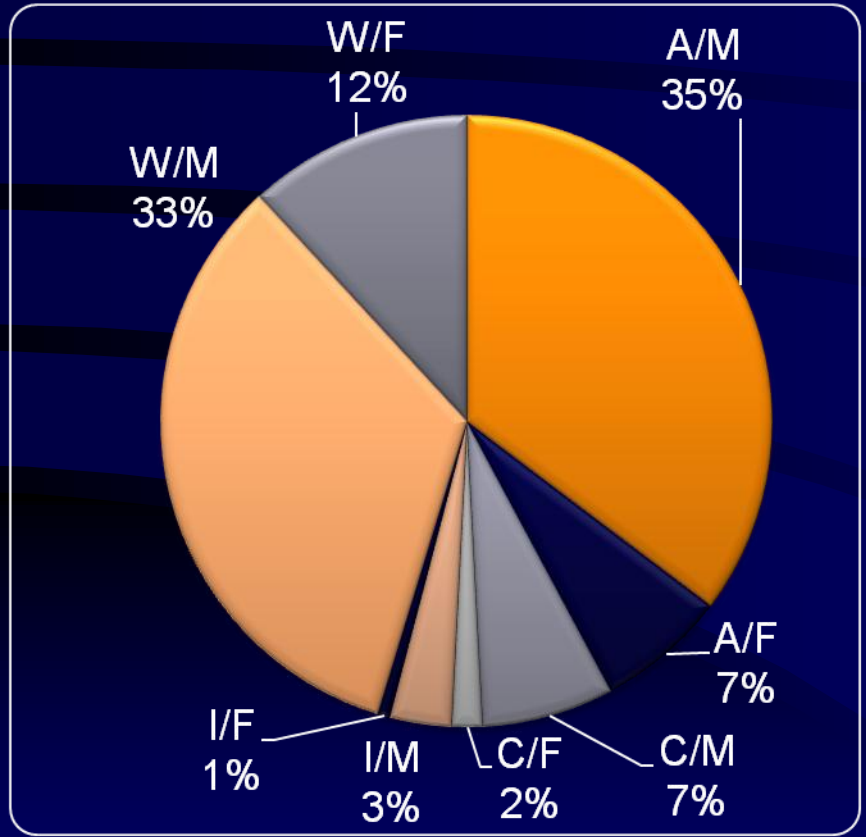




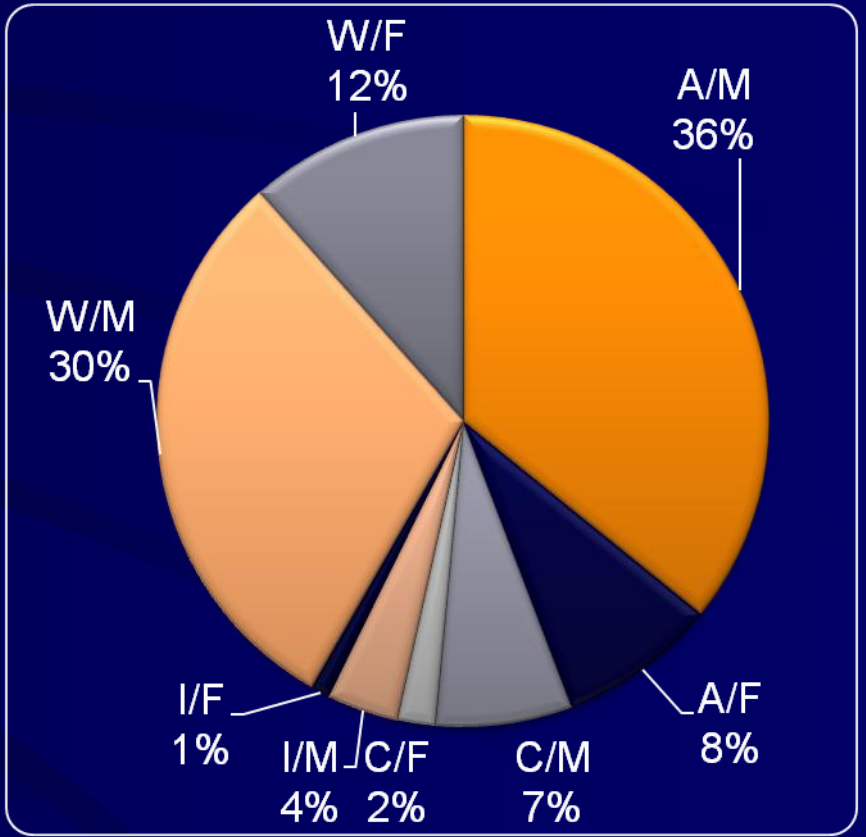
# IMPROVEMENT IN EMPLOYMENT EQUITY

## SR 8 – 12: 2010 vs 2012

### June 2010



### June 2012

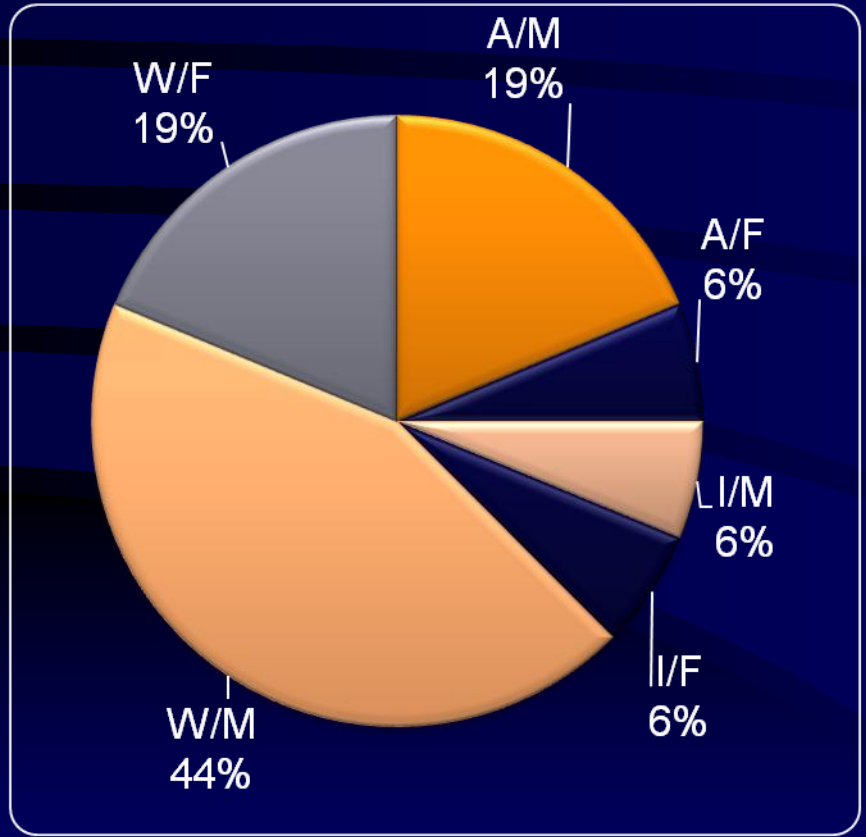




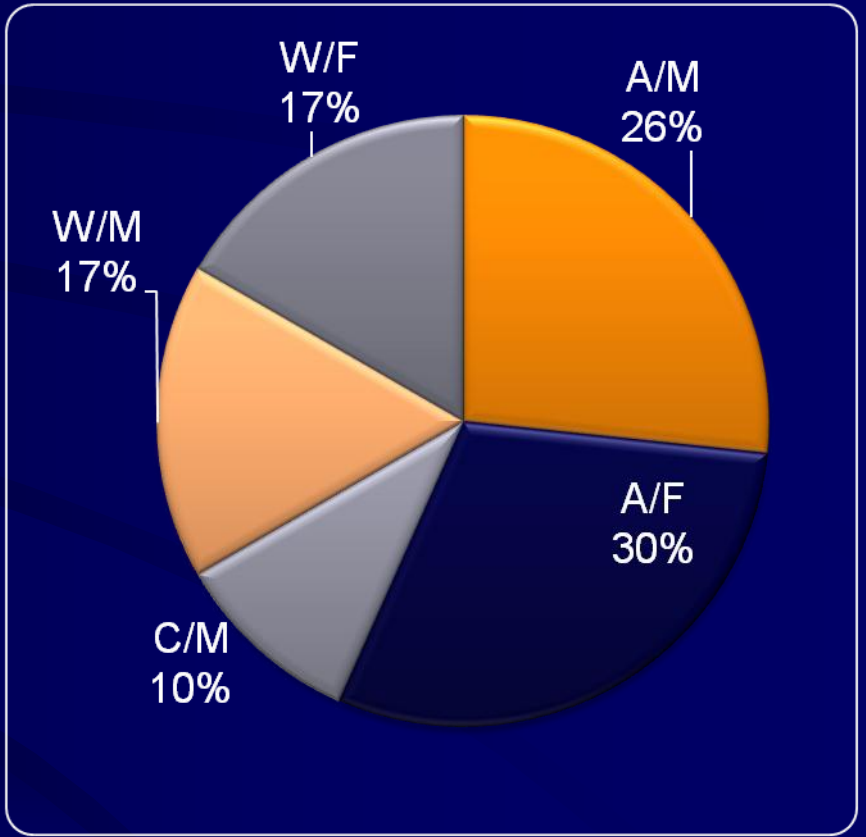
# IMPROVEMENT IN EMPLOYMENT EQUITY

## SR 13 – 15: 2010 vs 2012

### June, 2010



### June, 2012





# BUSINESS PROFILE

## Criminal Record & Crime Scene Management

Criminal Record Centres: 91

Service Points: 26

Crime Scene Laboratories: 69

Investigative Psychology Unit: 1 [National]

Explosives Units: 46

| FORENSIC SCIENCE LABORATORIES          | BALLISTICS | BIOLOGY                              | CHEMISTRY | SCIENTIFIC ANALYSIS | QUESTIONED DOCUMENTS |
|--|------------|--------------------------------------|-----------|---------------------|----------------------|
| Eastern Cape [ <i>Port Elizabeth</i> ] | Green      | Yellow<br><i>[Evidence Recovery]</i> | Green     | Red                 | Red                  |
| Gauteng [ <i>Pretoria</i> ]            | Green      | Green                                | Green     | Green               | Green                |
| Kwazulu-Natal [ <i>Durban</i> ]        | Green      | Red                                  | Green     | Red                 | Red                  |
| Western Cape [ <i>Cape Town</i> ]      | Green      | Green                                | Green     | Red                 | Green                |





# **CORE BUSINESS**

***[OVERVIEW OF RESPECTIVE BUSINESS UNITS /  
DISCIPLINES]***



# CRIMINAL RECORD & CRIME SCENE MANAGEMENT

A central collage of images related to forensic science and law enforcement. It includes:

- A computer monitor displaying fingerprint software with a "Candidate List" table and a "Method: Automatic" setting.
- A close-up of a fingerprint with red lines indicating ridge endings and bifurcations.
- A police van with "POLICE" written on the side and a SAPS logo.
- A close-up of a person's face, possibly a suspect or investigator.
- Yellow forensic markers with numbers 1 through 10 and letters AB, and a red fingerprint.
- A "Clearance Certificate" form from the South African Police Service, with fields for "FINGERPRINT FORM" and "SAPS 76".
- A diagram showing a tire tread pattern with red lines indicating the tread structure.

South African Police Service

**Clearance Certificate**

G.P. S. 602-0249

Complete in print

SAPS 76

AFRICAN POLICE SERVICE

**FINGERPRINT FORM**

PARIS PRAETORIA-NOORD  
L.C.D.C. PRAETORIA WORTHY

COMPONENT CODE / SUBCOMPONENT CODE

SAPS 69 MUST BE FORWARDED TO FOR CRC ONLY



# CRIMINAL RECORD & CRIME SCENE MANAGEMENT

Updating, Maintenance & Archiving of **Criminal History**

**Providing** of Criminal History & Related **Information**

Administration of **Wanted Persons** Information

Issuing of **Police Clearance Certificates** upon application

National coordination of all information & issues iro operational forensic **crime scene investigation** activities

Coordinating **crime scene management & evidence handling** team initiatives / developments

Ensuring the monitoring, coordination of effective utilization and maintenance of **AFIS** [Automated Fingerprint Identification System] & **CRIM** [Criminal Information System]

A **24-hour Service** to Investigating Officers



# EXPLOSIVES

## The management & maintenance of a bomb disposal capacity in the SAPS & the control over explosives nationally

**Investigation** of Explosives related incidents, bomb threats & incidents and suspect articles & vehicles

**Prior Searching for & Safeguarding** of Premises & Vehicles against Explosive Devices

Searching for & **Collection of Evidence** at Explosive-related Scenes

Maintenance of **Bomb Data Centre & Computerized System** to assist with control of the **Import, Export, Storage, Transport & Use** of Explosives

**Investigation, Safekeeping, Transport & Disposal** of Explosives, Accessories for Explosives, Explosive Weaponry & Incendiary / Flammable Services

Control of **manufacture of Explosives** – Excl Licensed Factories & Research Facilities

Handling & Disposal of **Radioactive & Toxic** Substances



# EXPLOSIVES [cont]

**Advising, Informing & Assisting** I/O, other Government Departments & Public on matters pertaining to Explosives

Evaluating standard of **Explosive Detection Dogs & Handlers**

**Training Inspectors of Explosives** appointed into Section 2 of Explosives Act

Compiling & **Setting Standards & Specifications** iro Storage, Transportation & use of Explosives

Testing & Appointment of **Learner Blasters & Magazine Masters**

**Licensing** of Explosives Magazines & Vehicles Transporting Explosives and Handling **Applications for Permits** as per Section 32 of Arms & Ammunitions Act

**Inspections** to ensure adherence to requirements of Explosives Act



# INVESTIGATIVE PSYCHOLOGY

To promote and implement the effective use of forensic psychology to the benefit of SAPS investigations

- Provisioning of operational assistance & advice to investigators dealing with psychological motivated crimes
- Provisioning of expert evidence and courtroom support
- Liaising with experts in related fields for investigative purposes
- Facilitate training to SAPS employees in Investigative Psychology related matters



# FORENSIC SCIENCE LABORATORY





# BALLISTICS

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*Firearm & Tool Mark Examination & Identification*

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*Identification of Firearms & Ammunition*

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*Restoration of Defaced / Removed Numbers on Metals [Etching]*

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*Internal, External & Terminal Ballistics [Angles, distances, etc]*

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*Research in the field of Firearm & Ammunition Technology*

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*Reconstruction of Vehicle Accident Scenes*

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*Examination of Wheels & Tyres*

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*Assist in Vehicle Theft-related Examinations [Mechanical tests]*

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*Examination of Filaments / Fibre*

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*Reconstruction & Examination of Illegal Entries & Exits*

---

*Queries concerning Fields of Mechanical & Metallurgical Engineering in general*

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# BIOLOGY

The examination of biological exhibit material to determine the identity & relationship thereof

**Evidence Recovery: Body Fluids & Hair**

Preliminary Testing of **Body Fluids**

**Blood Spatter** Pattern Analysis

DNA Analysis & Comparison of DNA Profiles

Microscopic Comparison of **Hair**

2D & 3D Facial Reconstruction

**Mummified Fingerprinting** [*Decomposed Bodies*]

Establishment of a **DNA Statistical Data Base & Criminal Intelligence Data Base** [*Link individuals to crime scenes*]





# CHEMISTRY



Identification & Classification of **Drugs** controlled ito Drugs & Drug Trafficking Act

Identification & Classification of **Medicines** scheduled ito Medicines & Related Substances Act

Attendance of Drug and/or Medicine Related Crime Scenes

Identification of Substances involved in illicit [*clandestine*] synthesis & formulation of drugs and/or medicines

Generation of Drug **Intelligence Reports**

**Fire** Origin and Cause Determination & **Arson** Chemistry [*Determination of Fuel Element*]

**Poison** Analysis, **Toxicology** related Crime Scenes & **Alcohol** Analysis



# SCIENTIFIC ANALYSIS

The forensic investigation of cases concerning matters in electronic & electrical engineering, a variety of chemical analyses as well as science & physics

**Audio Enhancements** on Magnetic Tapes

**Voice Comparisons & Audio Authentication**

**Electrical & Electronic Investigations**

Assisting in **Arson** Related Investigations

**Polygraph** Investigations & Truth Verification

**Specialized Forensic Photography**

**Image Processing & Analysis**

**Analysis** of Rubber, Plastics, Polymers & Tape, Explosives, Explosive Devices & Explosive & Propellant Residues, Fibers, Ropes, Liquids, Paint, Glue, etc





# SCIENTIFIC ANALYSIS [Cont]

Precious Metal Analyses

Analyses of Jewelry & Gemstones

Analyses of Gun Shot Residue

Analysis of Soils & Related Materials

Analysis of Cables & Wires

Comparison of Impressions & Prints

Analysis & Classification of Ivory

Examination of Glass

Analysis of Material pertaining to Environmental Pollution & Toxic Waste

Elemental Analysis & Profiling of all Materials





# QUESTIONED DOCUMENTS

## The forensic examination of documents and document- related exhibits

**Individualization** of Handwriting, Signatures, Typescript, Printed Matter & Stamped Impressions

Identification of **Forgeries, Erasures & Additions**

**Examinations:** Writing Instruments, Ink, Paper & other media used in committing Criminal Offences

Identification or Elimination of Source & Output of **Mechanical / Electronic Imaging Devices** [Printers, Copy Machines, etc]

Establishment of Date, Source, History, Sequence of Preparation, Alterations or additions to **Documents & Relationships of Documents**

**Decipherment & Restoration** of Erasures, Deleted / Damaged Parts of Documents

Deciphering of **Obscured Writing & Indentations**





# VICTIM IDENTIFICATION CENTRE

To identify missing and unidentified remains or bodies

- Facilitation of ante-mortem data collection of victims
- Assisting in recovery of remains & property of victims on disaster / crime scenes
- Facilitating the post-mortem process of remains of victims
- Ensuring an effective data reconciliation, reporting & liaison service

**BURN**



**BOMB**



**TSUNAMI**

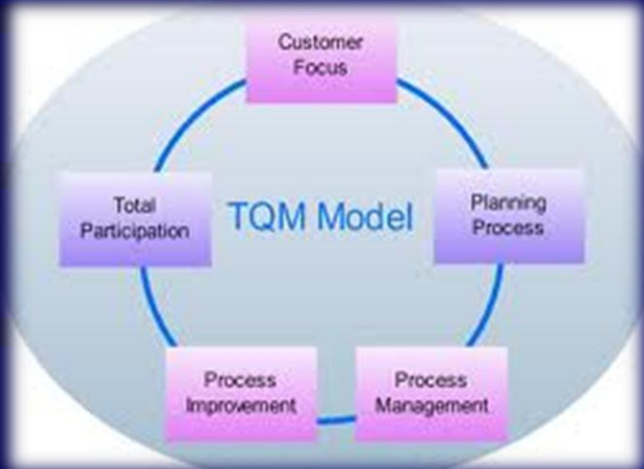


**BLAST**





# QUALITY MANAGEMENT





# QUALITY MANAGEMENT

To establish an enabling mechanism for improved business performance & the accreditation of the forensic services laboratories

Provide strategic direction on Medical Surveillance, instruments, utilization and acquisitions

Applying standards for information security, as prescribed by the Minimum Information Security Standards and Legislation relating to the protection of information.

Align plans and processes to ISO 9001:2008, ISO 17025:2008, ISO 14001, OHSAS 18001 standards.

Provide technical management expertise in respect of Forensic Services equipment and instrumentation.

Ensure the implementation of the Explosive Act, NEMA Act and the COIDA Act.

Apply quality assurance and quality control to Forensic Databases





# **STRATEGIC DIRECTION & PERFORMANCE**



# STRATEGIC DIRECTION [REVISED]

## 2010- 2014

### MANDATE:

*To support the investigation of crime through the processing of crime scenes, forensic evidence & maintenance of criminal Records*

STRATEGIC OBJECTIVE: Contribute to the successful prosecution of crime, by investigating, gathering and analyzing evidence, thereby increasing the detection rate of priority crime

**PROVISION OF FORENSIC EVIDENCE TO IN THE MAIN FOCUS ON INVESTIGATION OF [BUT NOT LIMITED TO]:**

*Trio Crimes*

*Crimes against Women & Children*

*Serious & Violent Crimes*



# STRATEGIC DIRECTION [REVISED] 2010 - 2014

## IMPROVED COLLECTION & PROCESSING OF EVIDENCE

### CRIME SCENES

Concerted effort to improve collection & processing of evidence at crime scenes by crime scene experts

### UPDATING RECORDS OF OFFENDERS CONVICTED

Improve **procedures for updating of records** of offenders convicted of crime to reduce the incidents of bail being awarded to hardened offenders

### STRATEGIC SHARING OF DATA BASES WITH OTHER ORGANS OF STATE

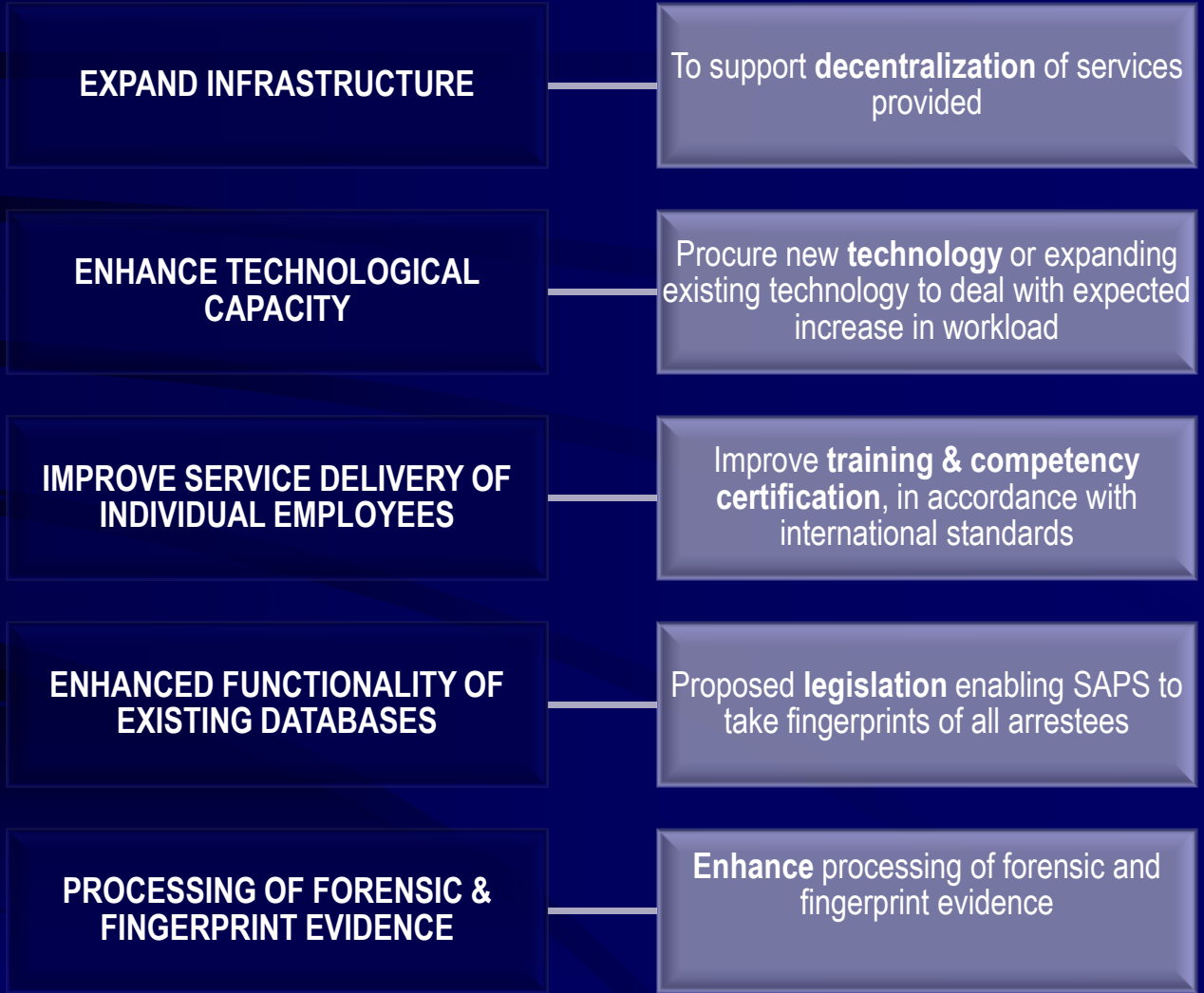
Strengthen capacity of SAPS in **identifying individuals involved in crime**



# STRATEGIC DIRECTION [REVISED]

## 2010 - 2014

### CAPACITATE FORENSIC SERVICES





# ANNUAL TARGETS & PERFORMANCE INDICATORS - 2012/13

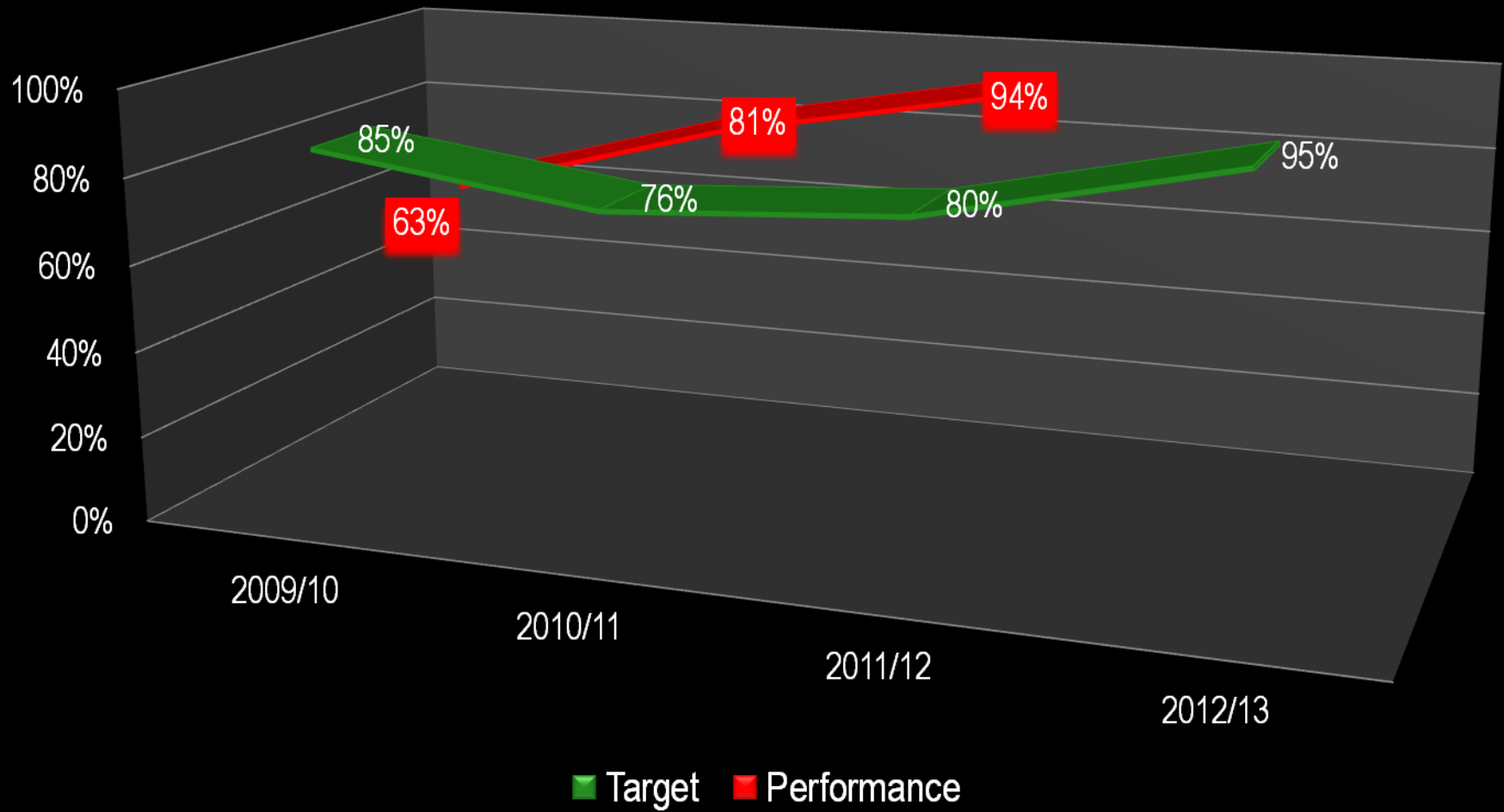
## SUB-PROGRAM: CRIMINAL RECORD & CRIME SCENE MANAGEMENT

| Strategic Priority   | Performance Indicator  | Audited / Actual Performance  |  |   | Estimated Performance 2012/13  |
|--|--|---|--|---|--|
|  |  | 2009/10   | 2010/11  | 2011/12   |  |
| Improving the procedures for updating the records of offenders | % of original previous conviction reports for formally charged individuals generated <b>within 20 days</b> | <b>63,41%</b><br>[750 844]<br>previous conviction reports generated within <b>30 days</b> | <b>81,5%</b><br>[994 020]<br>previous conviction reports generated within <b>30 days</b> | <b>94%</b><br>[1 137 423]<br>original previous conviction reports generated within <b><u>20 calendar days</u></b> | <b>95%</b> previous conviction reports generated within <b><u>20 calendar days</u></b> |



# CRIMINAL RECORD & CRIME SCENE MANAGEMENT - *ANNUAL PERFORMANCE*

% Previous Conviction Reports generated





# ANNUAL TARGETS & PERFORMANCE INDICATORS - 2012/13

## SUB-PROGRAM: FORENSIC SCIENCE LABORATORY

| Strategic Priority  | Performance Indicator  | Audited / Actual Performance  |   |   | Estimated Performance 2012/13   |
|---|--|---|---|---|---|
|   |  | 2009/10   | 2010/11   | 2011/12   |   |
| Improving the collection and processing of crime scene evidence | % of case exhibits [entries] processed by <b>Forensic Services</b> within <b>28 working days</b> | <b>86%</b><br>[189 569]<br>of case exhibits<br>[entries]<br>processed by<br><b>forensic analysts</b> within<br><b>35 days</b> | <b>94%</b><br>[297 955]<br>of case exhibits<br>[entries]<br>processed by<br><b>forensic analysts</b> within<br><b>35 days</b> | <b>77%</b> of case exhibits<br>[entries]<br>processed by<br><b>forensic services</b> within<br><b>28 working days</b> | <b>92%</b><br>of case exhibits<br>[entries] processed<br>by <b>forensic services</b><br>within <b>28 working days</b> |

Performance Measurement purified



# FORENSIC SCIENCE LABORATORY

## *ANNUAL PERFORMANCE*

% Exhibits [Entries] Analyzed

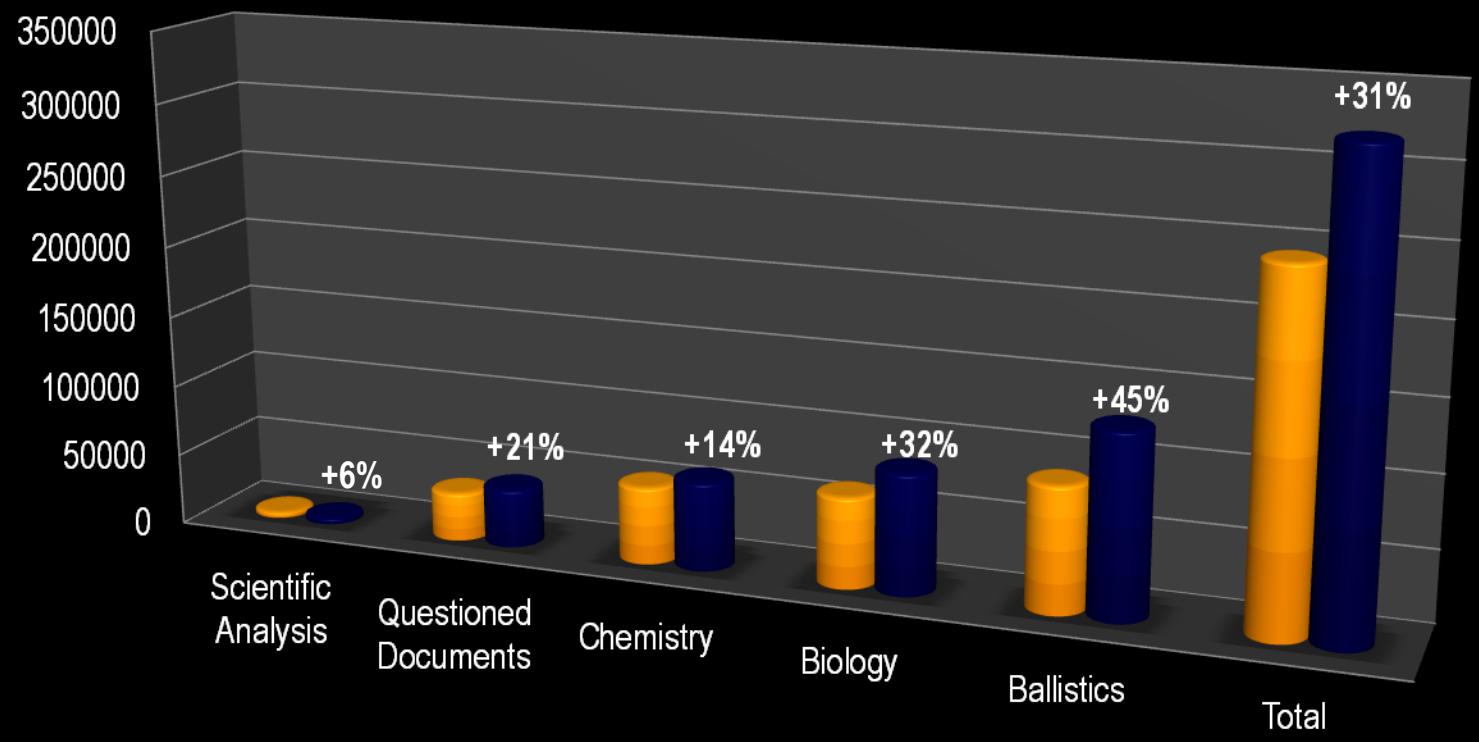






# FSL PRODUCTION [ENTRIES RECEIVED]

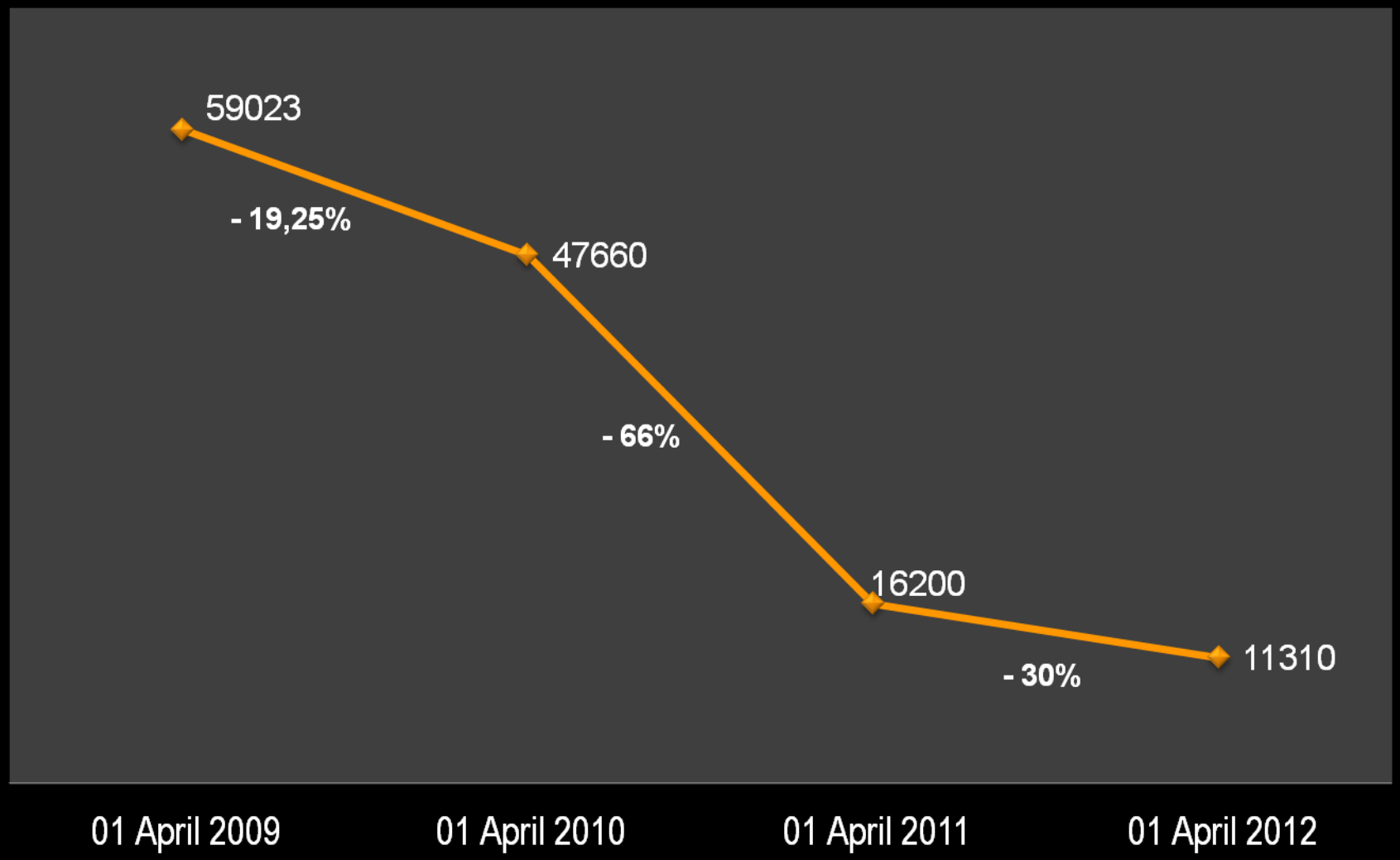
## 2010/11 vs 2011/12



|         | Scientific Analysis | Questioned Documents | Chemistry | Biology | Ballistics | Total  |
|---------|---------------------|----------------------|-----------|---------|------------|--------|
| 2010/11 | 4104                | 34309                | 54404     | 63627   | 87822      | 244266 |
| 2011/12 | 4355                | 41417                | 62230     | 84331   | 128396     | 320729 |

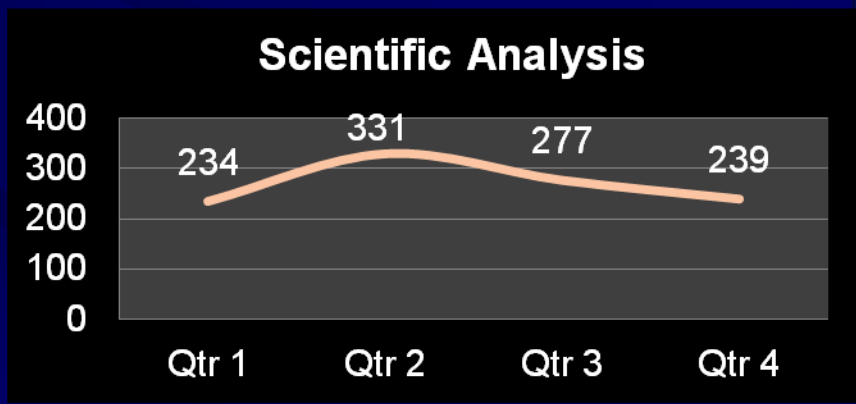
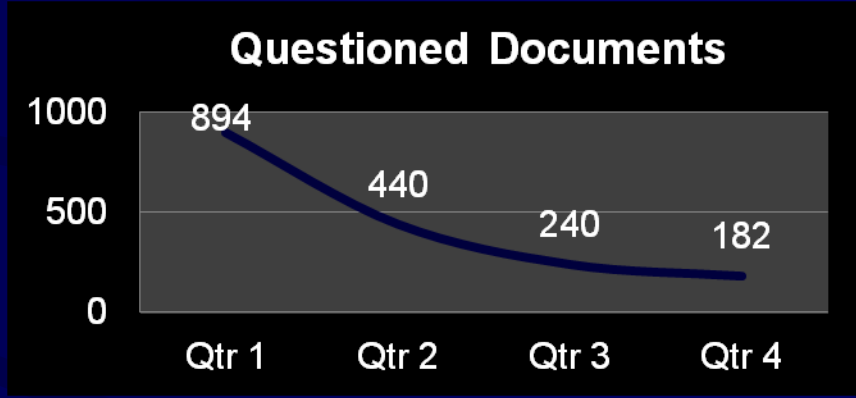
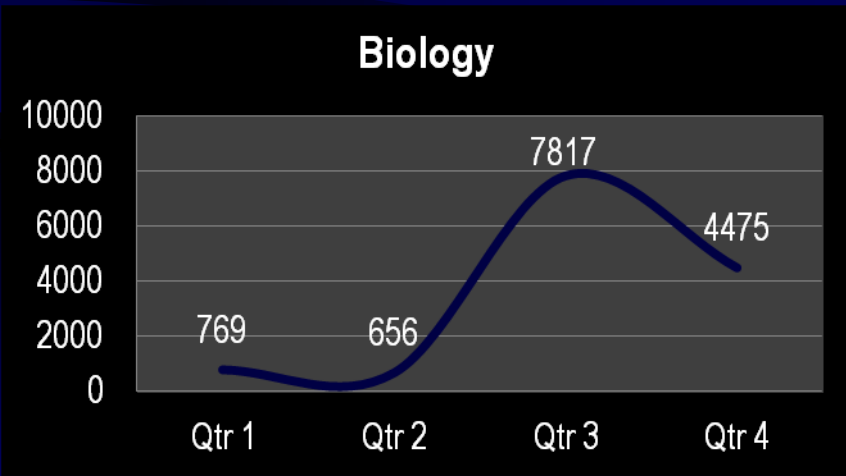
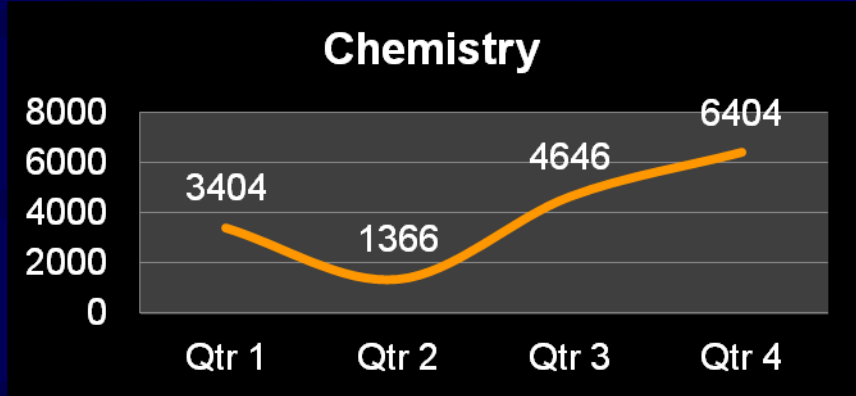
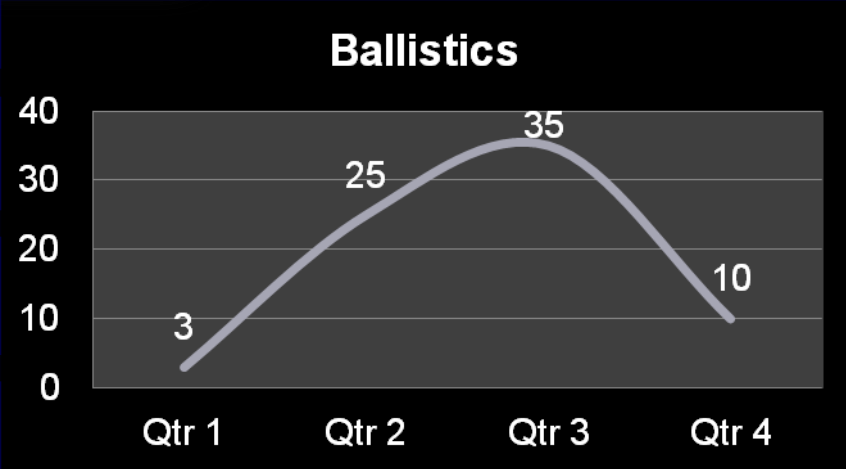


# REDUCED BACKLOG ANNUAL COMPARISON





# BACKLOG PER DISCIPLINE - 2011/12





# **STRATEGIC PRIORITIES**

**2012/13**



# 2012/13 KEY PERFORMANCE AREAS

The rendering of an effective & efficient **CRIMINAL RECORD & CRIME SCENE MANAGEMENT SERVICE**

The rendering of an effective & efficient **FORENSIC SCIENCE SERVICE**

The establishment of an enabling mechanism for improved business performance and **ACCREDITATION** of Forensic Science Laboratories

The rendering of an effective & efficient **MANAGEMENT SUPPORT** function in accordance with the organizational policing priorities

The provision of strategic direction within the Division



# KEY DELIVERABLES: CRIMINAL RECORD & CRIME SCENE MANAGEMENT

Enhanced Collection & Processing of Evidence at Crime Scenes

Fast-track Processing of Exhibits by Crime Scene Laboratories

Implementation of the Criminal Law [Forensic Procedures] Amendment Act, 2010

Enhanced Processing of Criminal History & Related Information

Standardization

Capacitate the Criminal Record Centre & Crime Scene Management

Provide Advanced, Specialized Investigative Psychology Support

Compliance with Provisions of the Explosives Act



# KEY DELIVERABLES: FORENSIC SCIENCE LABORATORY

Processing of Case Exhibits

Identification of Individuals involved in Crime [Hits]

Capacitate Forensic Science Laboratories

Standardization

The establishment of a Victim identification Centre to assist in identifying missing and unidentified remains or bodies



# KEY DELIVERABLES: QUALITY MANAGEMENT

Alignment of forensic processes & plans to ISO standards

*[ISO9001, ISO17025, ISO14001 & OHSAS 18001]*

Establishment & management of forensic databases for effective governance

The provision of technical management expertise iro forensic processes

[Including the acquisition, utilization & replacement of equipment/instruments]

Ensuring the competence & proficiency of analysts/examiners & all employees in the Division

Accreditation

Forensic Awareness





# REVAMP OF THE CJS

## 2012/13





# REVAMP OF THE CRIMINAL JUSTICE SYSTEM

Reporting of crime to the Police

Dispatch of police member to crime scene

Case handed over to detectives for investigation and bringing offender/s to book



**CRUCIAL FUNCTION** within the CJS, as *everything that follows depends upon the outcome of their work*



# CJS REVAMP - OBJECTIVES

1. To ensure a forensic human resource capacity, responsive to the needs of the criminal justice system
2. To advance the development of personnel in forensics
3. To provide support to the criminal investigation & judicial process through the detection, collection and use of quality forensic evidence
4. To ensure the provision of reliable and timely forensic processing, analysis & examinations to support the fairness and effectiveness of the Criminal Justice System
5. To establish an enabling mechanism for improved business performance and the accreditation of the forensic service laboratories
6. To create forensic awareness
7. To expand and decentralize the Forensic Service and Criminal Record and Crime Scene Management capacity
8. To facilitate the modernization of systems



# SERVICE DELIVERY HIGHLIGHTS



# SERVICE DELIVERY HIGHLIGHTS

## COMPLETION AND OFFICIAL OPENING OF FORENSIC SCIENCE LABORATORY, PLATTEKLOOF IN THE WESTERN CAPE

### REVISED STRUCTURE

- To enhance capacity
- Elevation of Section: Quality Management to a Component Level
- Centralized Support capacity
- Nodal Support Centers established to enhance service delivery in the respective environments

### ACCREDITATION OF THE LABORATORY

- Capacitating Quality Management
- Study Tours to capture best practices

### PROCUREMENT / DECOMMISSIONING OF EQUIPMENT / INSTRUMENTATION

- Process established to curb unnecessary procurement of equipment / instrumentation
  - Expert Forum & Technical Capacity



# SERVICE DELIVERY HIGHLIGHTS

## ERADICATION OF CORRUPT PRACTICES WITHIN THE DIVISION

- Lifestyle Audits conducted by DPCI [Chemistry]

## FORENSIC AWARENESS

- Processes & Structures established
- Interventions / Initiatives Implemented [Internal]

## REDUCED BACKLOG

- Forensic Backlog
- Criminal Record & Crime Scene Management [Central Firearm Register]

## FORENSIC SCIENCE LABORATORY

- Sustained technologies
- Eradication of backlog in respective disciplines
- Kick-started implementation process for Crime Index (CI)
  - To improve turn-around times for casework



# SERVICE DELIVERY HIGHLIGHTS

## CRIMINAL RECORD & CRIME SCENE MANAGEMENT

- Database for foreign nationals established
- Purification of Wanted Database done in co-operation with Detective Services
  - Comparisons between SAPS & Dept of Home Affairs databases
- Police Clearance Certificates
  - Help Desk established to ensure prompt service to other government departments
- **IDECO Contract**
  - Long term Contract reviewed and reduced from 15 years to 5 years
  - Contract customised to be self-funding & will generate revenue for the State
  - Government departments [without exception] to be serviced by SAPS at no cost
- Establishment of Provincial Evaluation Teams to assess & determine status of the Labs
- Evaluation Teams at SMS & MMS level to conduct monitoring and evaluation at LCRCs
- Visits by the Divisional Commissioner to LCRCs to determine challenges and status of LCRCs



**THE VALUE OF DNA  
IN SUPPORTING  
THE INVESTIGATION OF CRIME**





# INVESTIGATIVE PSYCHOLOGY & DNA PROFILING - PROMINENT CASES

| MURDER                                      |  |                |
|---|--|----------------|
| CASE  | DETAIL   | SENTENCE       |
| Durban Axe Murderer<br>Phindile Ntshangwana | DNA linked the Durban Axe serial murderer to some of his previous crime scenes.  | Awaiting Trial |
| Vredendal Serial Murderer                   | Suspect previously convicted for a rape-murder in 1998 and sentenced. He committed a further rape-murder in November 2011.<br><br>Suspect subsequently linked by DNA, interviewed by Investigative Psychology Unit and confessed to the recent murder. | Awaiting Trial |
| Springs Serial Murderer<br>Lucky Shezi      | 3 Murder cases & 2 rape cases linked by DNA. Located in Westville prison by Investigative Psychology Unit.   | Awaiting Trial |



# INVESTIGATIVE PSYCHOLOGY & DNA PROFILING - PROMINENT CASES

| RAPE  |   |  |
|---|---|--|
| CASE  | DETAIL  | SENTENCE   |
| Westonaria Serial Rapist<br>Uria Molefe               | Suspect committed 13 rapes.<br>Link established to other rape cases through DNA Database.   | Suspect pleaded guilty to all charges - Sentence pending                 |
| Hillbrow Serial Rapist<br>Mlungisi Mtshali            | 12 Cases at start of investigation.<br>Suspect linked to other cases through DNA.   | Awaiting trial   |
| Muldersdrift Serial Rapist<br>Shavani Phophi          | Suspect linked through DNA database to rape of 10 year old girl.<br>Found guilty on 6 counts of rape, 2 counts of theft & 3 counts of robbery with aggravating circumstances. | 2 Life Sentences<br>[+ 95 years in total]<br><br>Convicted: 06 June 2011 |
| Khayelitsha Serial Rapist<br>Soyisiso Athwel Nofemele | Suspect linked to 21 rapes of minor children and murder of 1 child. He was arrested in September 2011 and has been conclusively linked by DNA to 10 of the cases to date.     | Awaiting Trial   |



# CHALLENGES / INHIBITING FACTORS



# INHIBITING FACTORS

**STAFF TURN-OVER [Scarce Skills]**

**INFRASTRUCTURE / ACCOMMODATION**

- Inadequate Drug Storage Facilities [Silverton]
  - Insufficient Storage Facilities
  - Insufficient Accommodation [Scattered / Shared / Leased, etc]
  - Un-finished DPW Projects

**INADEQUATE SECURITY**

- [CCTV, Access Control, etc]

System Capacity / Network Infrastructure

**TMS & SCM**

- 'Red Tape' / Delayed Processes

Multiple Stand-alone Systems



# MILESTONES



# FORECASTED MILESTONES

Accreditation

Implementation of Legislation:

- Criminal Law [Forensic Procedures] Amendment Act, 2010
- Explosives Act
- 'DNA-Bill'

Test Firing of SAPS Firearms [Acquiring on IBIS]

Purification of Wanted Database

Expansion / De-centralization [Rural Areas]



**“It is not the strongest of the species  
that survives,  
nor the most intelligent;  
It is the one that is most  
adaptable to change”**

*- Charles Darwin -*