



# MALAYSIA EXPERIENCE IN ESTABLISHING DNA DATABASE

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# CHRONOLOGY OF ESTABLISHING FORENSIC DNA DATABANK MALAYSIA (FDDM)

## TECHNICAL SUB-COMMITTEE MEETING

Chaired by Mr Hithaya Jeevan from Department of Chemistry Malaysia who was tasked to choose the appropriate DNA analysis system

28 Nov  
2001

## DATABANK STEERING COMMITTEE MEETING

First meeting were co-chaired by the Deputy CID Director, Dato' Musa bin Hj Hasan and the Director General Department of Chemistry Malaysia, Dato' Chang Eng Thuan

10 Jan  
2002

June  
2002

## DRAFT OF DNA IDENTIFICATION ACT

The discussion on the draft between officers from the Biology Division of the Forensic Laboratory, representative from Legal Investigation Division (D5), CID, legal advisor officer, Ministry of Home Affairs and the Attorney General's Chambers

## PROPOSAL TO ESTABLISH FDDM

Proposal was presented to the main committee

30 Jan  
2003

3 Sept  
2009

## DNA IDENTIFICATION ACT 2009

Published in the Gazette after it was passed in Parliament

## DNA IDENTIFICATION ACT 2009 & DNA REGULATIONS 2012 WERE ENFORCED

1 Sept  
2012

## ONE-STOP FORENSIC IDENTIFICATION CENTRE

2013

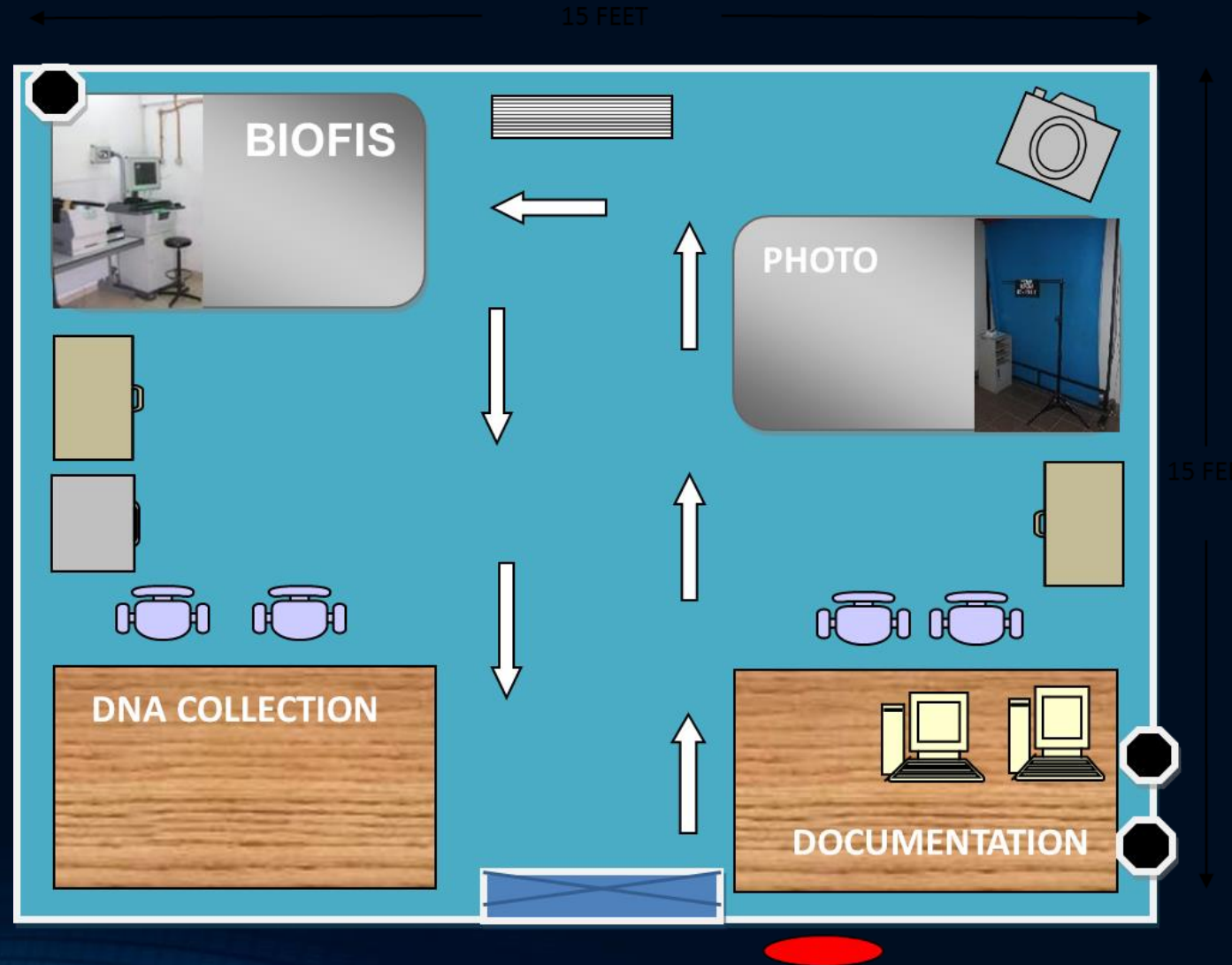


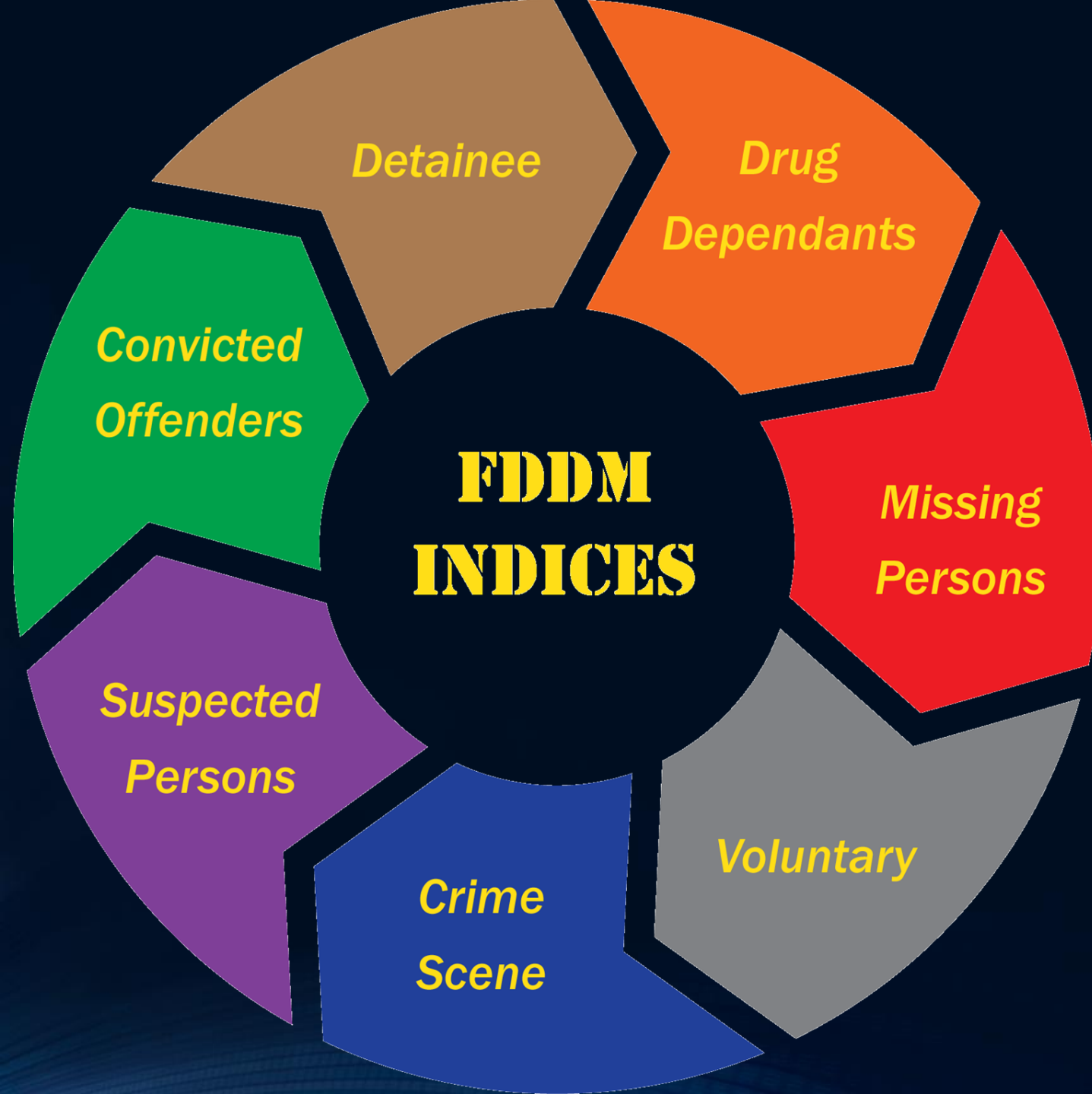
# DEOXYRIBONUCLEIC ACID (DNA) IDENTIFICATION ACT 2009

**An Act to provide for the establishment of  
a Forensic DNA Databank Malaysia, the  
taking of DNA samples, forensic DNA  
analysis, the use of DNA profiles and  
information in relation thereto, and for  
matters connected therewith**

# ONE-STOP FORENSIC IDENTIFICATION CENTRE

- Police had set up One-Stop Forensic Identification Centre at all district police headquarters nationwide
- Trained police officer placed at One-Stop Forensics Identification Centre to collect DNA samples





**Section 17- Removal of DNA profile  
and information from  
suspected persons index:**

**Not involved in the commission of any offence**

**Charge is withdrawn**

**Discharged by court**

**Acquitted by court**

**Not charged in court within 1 year from  
of sample taken**

## SECTION 13 – TAKING OF NON-INTIMATE SAMPLE

- Shall have the authorisation from “Authorised Officers” which are Police officers rank Deputy Superintendent Police and above
- Sampling taken from:
  - a) Somebody that is suspected to commit offences
  - b) Detainee
  - c) Drug dependants
- Shall be taken by gazetted medical officers or police officers or chemists

# DNA DATABASE

- Link with Chemistry Department of Malaysia
- Chemistry Department of Malaysia – handling evidence samples
- Royal Malaysia Police DNA Lab – handling databank samples



**BIOLOGY  
SAMPLES**



**CRIME SCENE**



+ Suspect/Victim  
**(Evidence)**



**DEPARTMENT OF  
CHEMISTRY**



**COURT**

**ARREST AND COLLECT  
SAMPLE**

**Databank**

- Suspects
- Convicted persons
- Drug dependants
- Voluntary
- Detainee
- Missing persons



**RMP  
(DNA LAB)**



**FDDM**

**AUTO-SEARCH  
HIT**

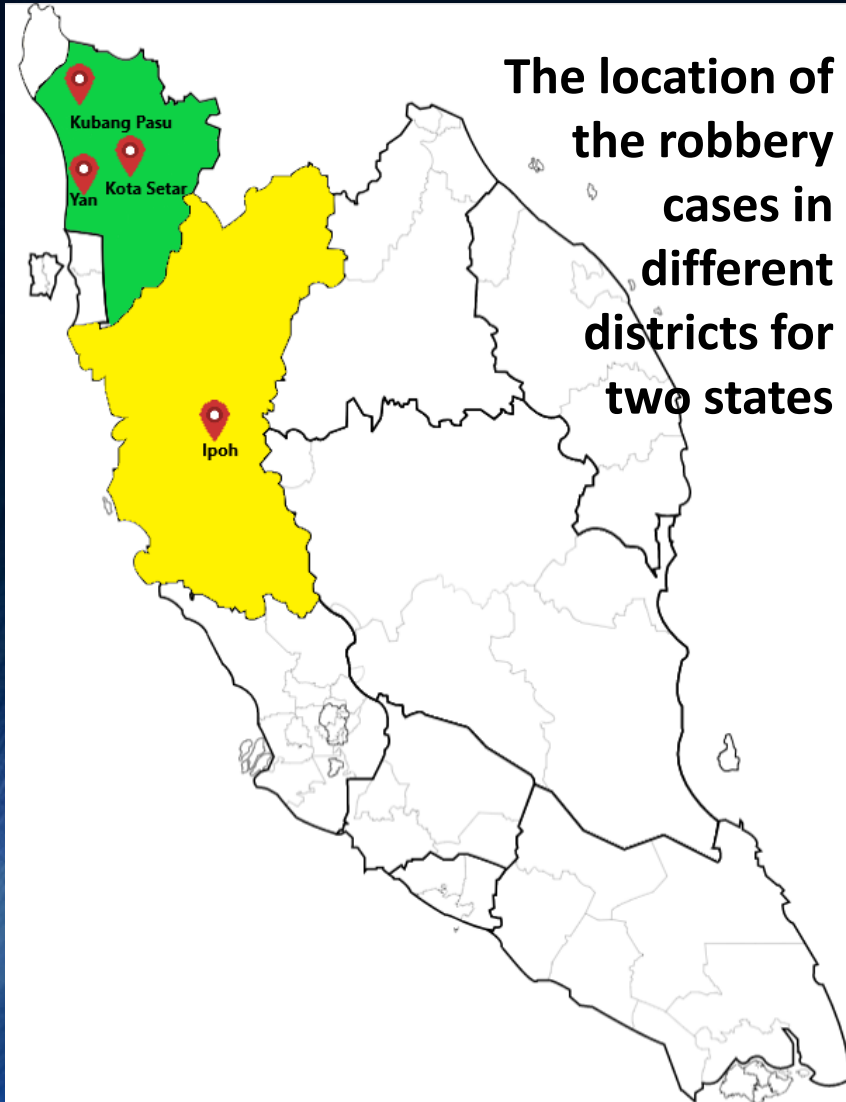
**MECHANISM**

## TOTAL NO. OF PROFILES IN FDDM AND NO. OF DNA MATCHING



- Approximately the crime scene DNA profiles from year 2013 – 2018 is 85,000 DNA profiles which need to be upload into the database

# ROBERRY CASE



*5 Vietnamese guys that involved in house breaking case were arrested and investigated under Section 457 of Penal Code*

*DNA Samples of all suspects were uploaded to FDDM*



*Unknown DNA profiles that were related to Sect 457 of PC*

**FDDM  
System  
Checking**

*Cases solved involved Sect 457 of PC in Kubang Pasu, Kedah*

*Cases solved involved Sect 457 of PC in Ipoh, Perak*

*Cases solved involved Sect 457 of PC in Yan, Kedah*

# LABORATORY CAPACITY

- Staff: 6 officers (DNA analysis), 6 officers (DNA database)
- Reagent: Globalfiler™ Express PCR Amplification Kit
- Collection kit: Bode Buccal Collector



# LABORATORY CAPACITY

- Capability to analyse approximately 50,000 samples per year



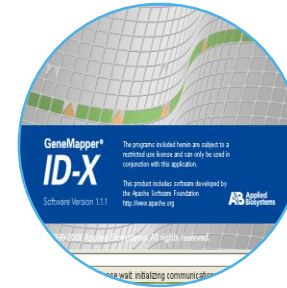
***BSD 600 Punching  
System  
(1 unit)***



***Applied Biosystems  
GeneAmp™ PCR  
System Thermal  
Cycler  
(5 units)***



***Applied Biosystems  
3500xL Genetic  
Analyzer  
(2 units)***



***Applied Biosystems  
GeneMapper™ ID-X  
Software  
(2 units)***

# SUCCESS RATE

- Identifiler™ Direct kit: ~ 92% (first run)  
~ 92% (after re-amplify)
- Globalfiler™ Express kit: ~ 90% (first run)  
~ 90% (after re-amplify)
- Most of the samples analysed with Globalfiler Express kit actually collected at 2013 - 2014



DNA analysis instruments such as Applied Biosystems RapidHIT™ ID System can be placed in all police contingent headquarters throughout Malaysia so that analysis can be run at the regional level



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