

# PENANGANAN BUKTI ELEKTRONIK DI LAB DIGITAL FORENSIC

(TANTANGAN, KERJASAMA, DAN ARAH PENGEMBANGAN)



Teguh Arifiyadi, S.H. M.H. CEH., CHFI

[Koordinator Penyidikan dan Penindakan]

# TEGUH ARIFIYADI

- LAW FACULTY, UNIVERSITY OF DIPONEGORO, CRIMINAL LAW-CYBER CRIME
- MASTER OF LAW, UNIVERSITY OF INDONESIA, ECONOMIC LAW-INFORMATION SYSTEM

## INFORMAL TRAINING AND EXPERIENCES

- CERTIFIED HACKING FORENSIC INVESTIGATOR (CHFI), EC COUNCIL, JAKARTA;
- CERTIFIED ETHICAL HACKER (CEH), EC COUNCIL, JAKARTA;
- CERTIFIED INFORMATION SYSTEM AUDITOR (CISA) REVIU TRAINING, BANDUNG;
- CERTIFIED OF CIVIL INVESTIGATOR, BARESKRIM, BOGOR;
- SMART CARD TECHNOLOGY, SEOUL, KOREA;
- COUNTERFITING AND PIRACY, PARIS, FRANCE;
- FUTURE NETWORK, INTERNATIONAL TELECOMMUNICATION UNION, GENEVA, SWITZERLAND
- LAWFULL INTERCEPTION, SS8, BANDUNG;
- LAWFULL INTERCEPTION, ISS WORLD TRAINING, PRAGUE, CZECH REPUBLIC;
- PROTOCOL TESTING, INTERNATIONAL TELECOMMUNICATION UNION, GENEVA, SWITZERLAND;
- ELECTROTECHNICAL STANDAR DEVELOPMENT TRAINING, SINGAPORE;
- COPY RIGHT ON IEC STANDARD DOCUMENTS, TOKYO, JAPAN;
- LAWFULL INTERCEPTION, ISS WORLD TRAINING, JOHANNESBURG, SOUTH AFRICA;
- TECHNOLOGY TRANSFER, D-8 MEMBER COUNTRIES, TEHRAN, I.R. IRAN;
- INTERNATIONAL VISITOR LEADERSHIP PROGRAM ON CYBER SECURITY, WASHINGTON DC, UNITED STATE OF AMERICA;
- CYBER LAW INTERNATIONAL-CYBER OPERATIONS, VIRTUAL EXCECUTIVE COURSE, DEPARTEMENT OF FOREIGN AFFAIRS AND TRADES AUSTRALIA.

## ACTIVITIES

- CHAIRMAN OF INDONESIA CYBER LAW COMMUNITY (ICLC)  
[[www.cyberlawindonesia.net](http://www.cyberlawindonesia.net)]
- HEAD OF LEGAL AND ETHICS INDONESIA DIGITAL FORENSIC ASSOCIATION (AFDI)
- DEPUTY DIRECTOR FOR CYBER CRIME INVESTIGATION AND LAW ENFORCEMENT MINISTRY OF ICT
- WRITER ON LAW CLINIC [[www.hukumonline.com](http://www.hukumonline.com)]
- CYBER LAW EXPERT ON THE COURT
- TRAINER

# Digital Forensic Lab Facilities

## Sub Directorat of Cyber Crime Investigation and Law Enforcement

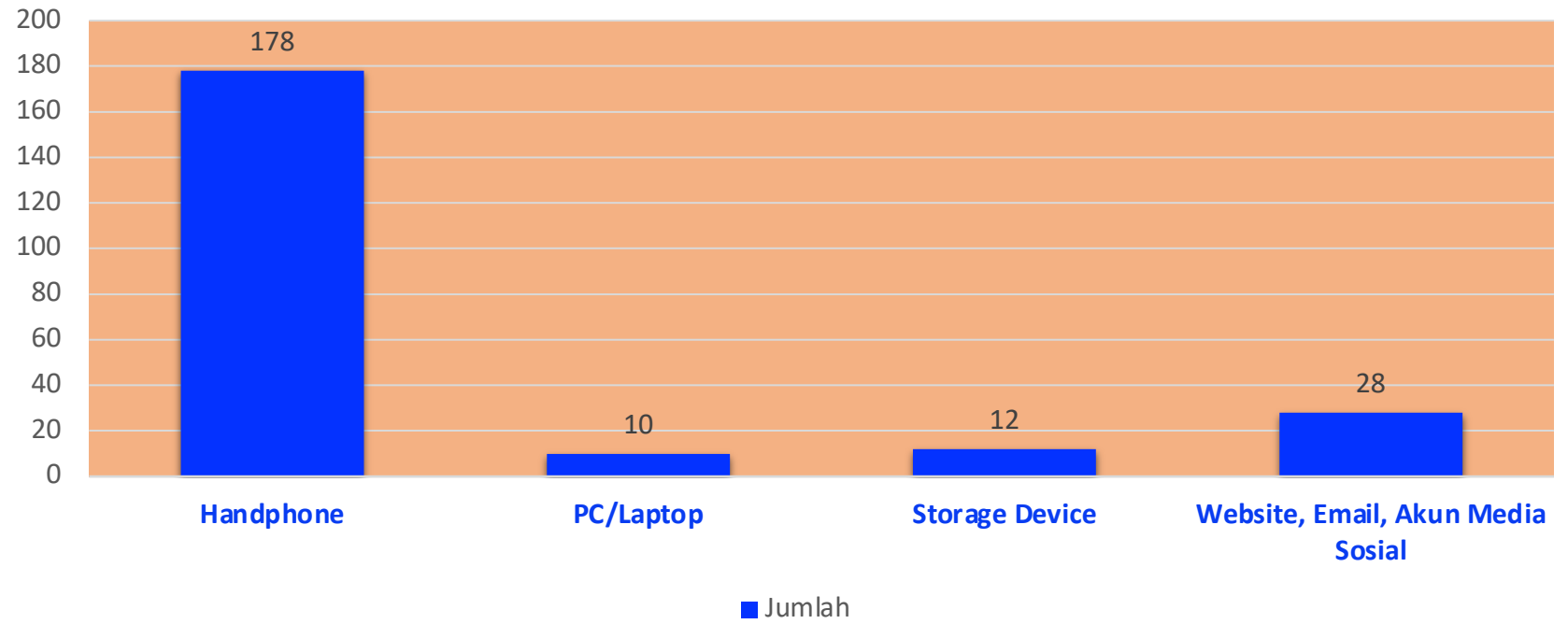
No.	Forensic Digital Category	Tools and Equipment	DF Expert
1.	Computer Forensic	Forensik Tool Kit (FTK) Encase Atola Forensic Imager ADTriage ImageMaster 4000Pro	5 Person
2.	Mobile Forensic	UFED Cellebrite Oxigen Forensic	5 Person
3.	Audio & Video Forensic	Diamond Cut & MIDAS	4 Person
		Cognitech Forensic Video	3 Person
4.	Etc.		

# Kompetensi Personil

No	Kompetensi	Jenis Pelatihan	Jumlah Pemegang Sertifikat
1.	Hukum	SANS Law Data Security & Investigation	1 orang
		UNITAR Introduction to Privacy and Data Protection	1 orang
		IRCA Auditor ISO 27001	2 orang
		SANS Advance Computer Forensic	1 orang
2.	Digital Forensic	SANS Mobile Phone Forensic	1 orang
		SANS Windows In Depth Forensic	2 orang
		SANS Advance Computer Forensic	1 orang
		Certified Hacking Forensic Investigator	4 orang
		Certified Ethical Hacking	5 orang
		IRCA Auditor ISO 27001	3 orang
		Xynexis OSIM Log Monitoring & Analysis	2 orang
		Forensic Tool Kit	2 orang
		Celebrite Certificate Operator	2 orang
		Celebrite Certificate Physical Analyzer	2 orang
3.	Etc.		

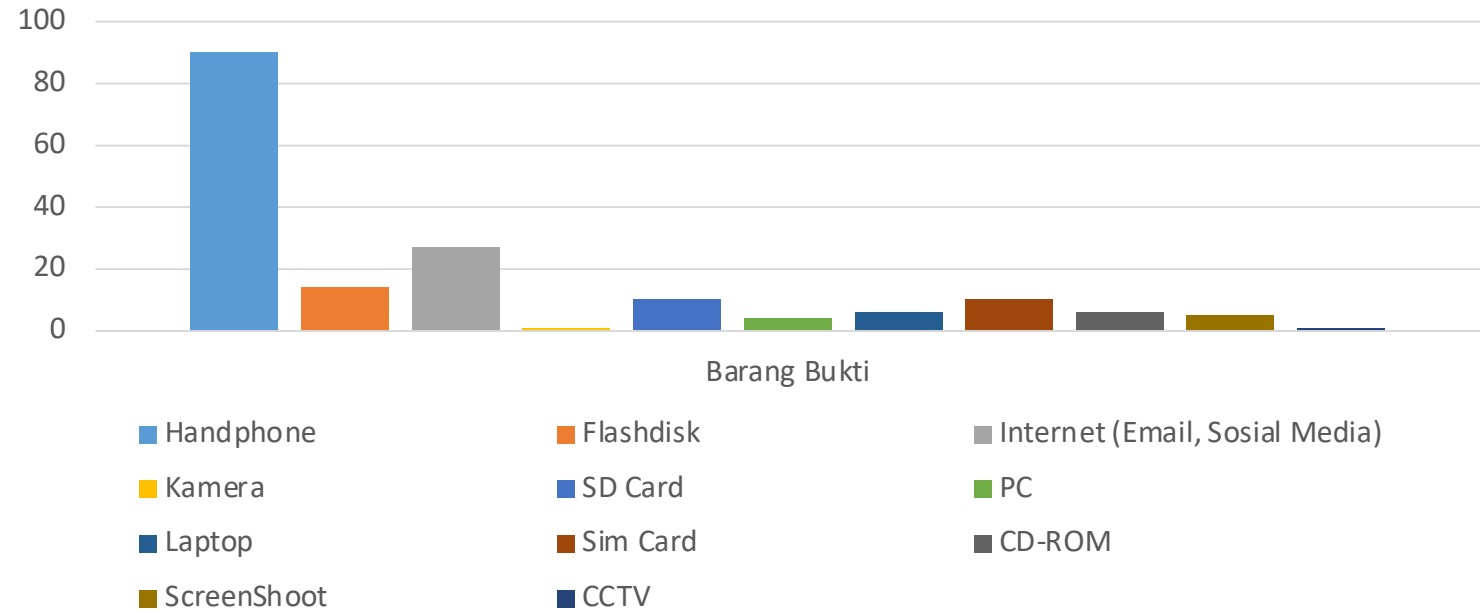
Barang Bukti yang di Uji di 2018

Permintaan Uji Bukti Elektronik Tahun 2018



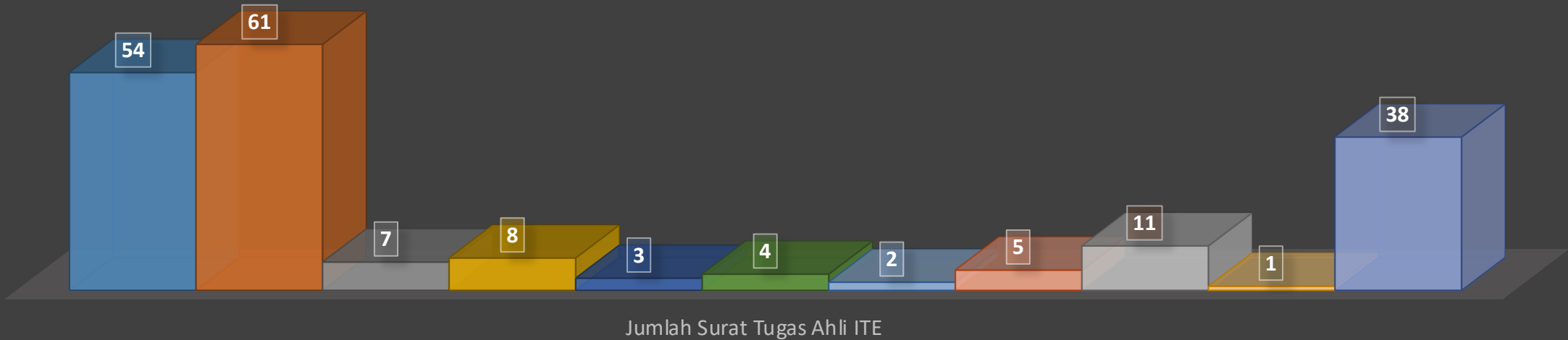
# Barang Bukti yang di Uji di 2019

Permintaan Uji Bukti Elektronik Tahun 2019

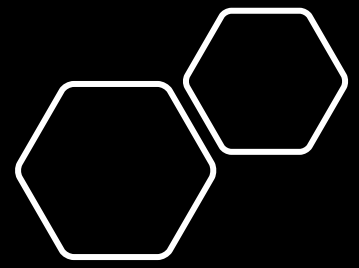


## PASAL YANG DIGUNAKAN

- Pasal 27 (1) "Melanggar Kesusilaan"
- Pasal 27 (3) "Pencemaran Nama Baik"
- Pasal 27 (4) "Pemerasan"
- Pasal 28 (1) "Berita Bohong"
- Pasal 28 (2) "SARA"
- Pasal 29 "Ancaman Kekerasan"
- Pasal 30 (2) Mengakses Komputer Untuk Mendapat Informasi"
- Pasal 32 (1) "Mengubah Informasi Milik Publik/Orang Lain"
- Pasal 35 "Membuat Informasi Seolah Otentik"
- Pasal 45 (2) "Perjudian"
- Lainnya



Dari data jumlah barang bukti yang masuk ke Subdit Penyidikan dan Penindakan selama periode waktu 2016-2019, dapat digambarkan grafik regresi linier untuk jumlah barang bukti 5 tahun ke depan (2020-2024) sebagai berikut:



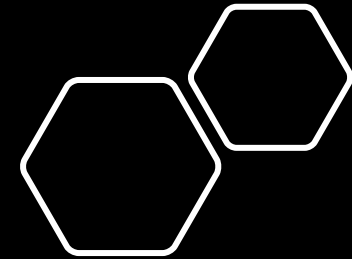


Dari grafik dan persamaan tersebut, estimasi jumlah barang bukti yang akan masuk sampai dengan tahun 2024 adalah sebagai berikut:

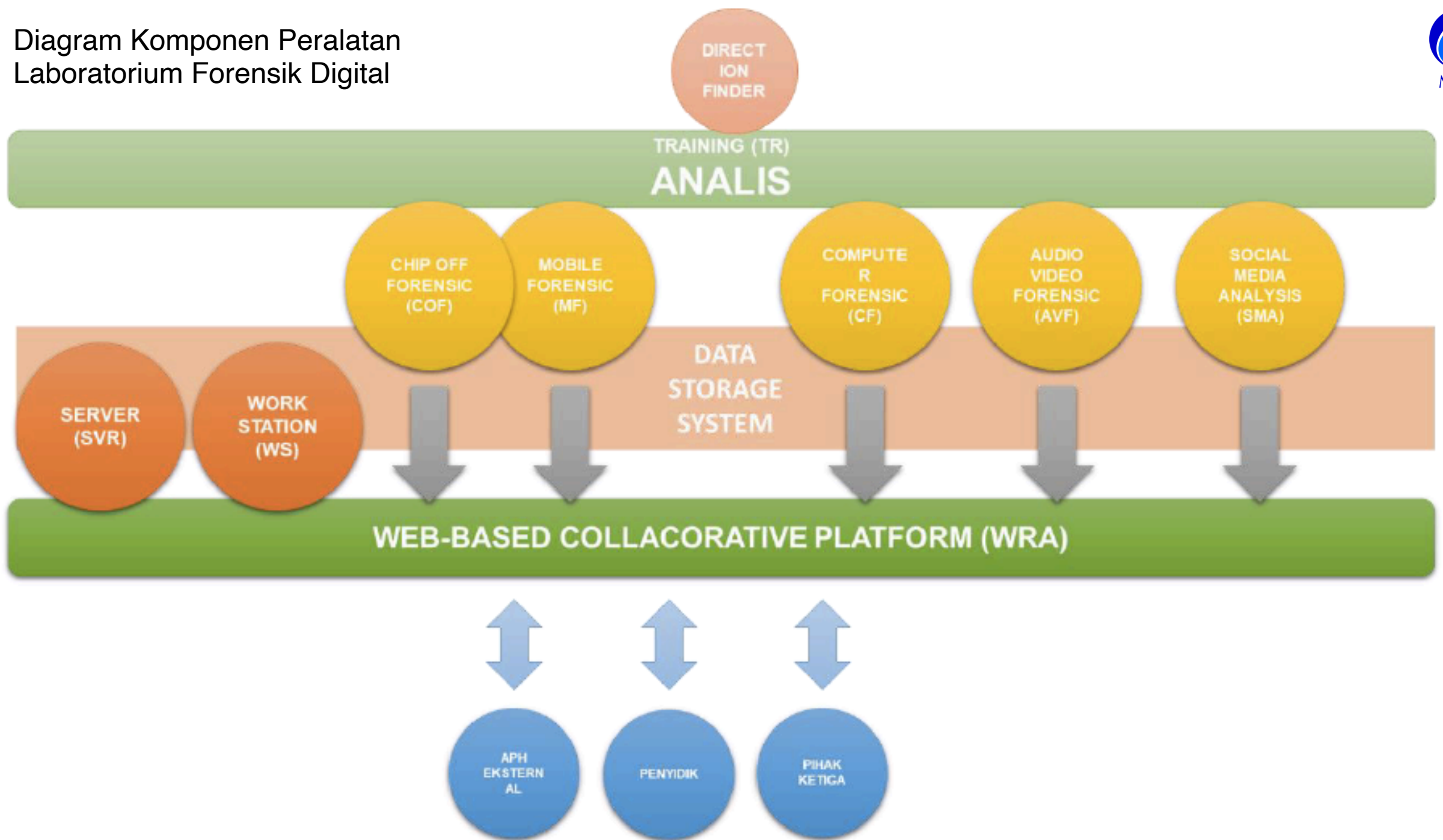
Tahun	Jumlah Barang Bukti
2016	121*
2017	142*
2018	228*
2019	271
2020	324
2021	378
2022	431
2023	485
2024	538

Tabel Perkiraan Total Barang Bukti Digital

\*) *data real*



# Diagram Komponen Peralatan Laboratorium Forensik Digital



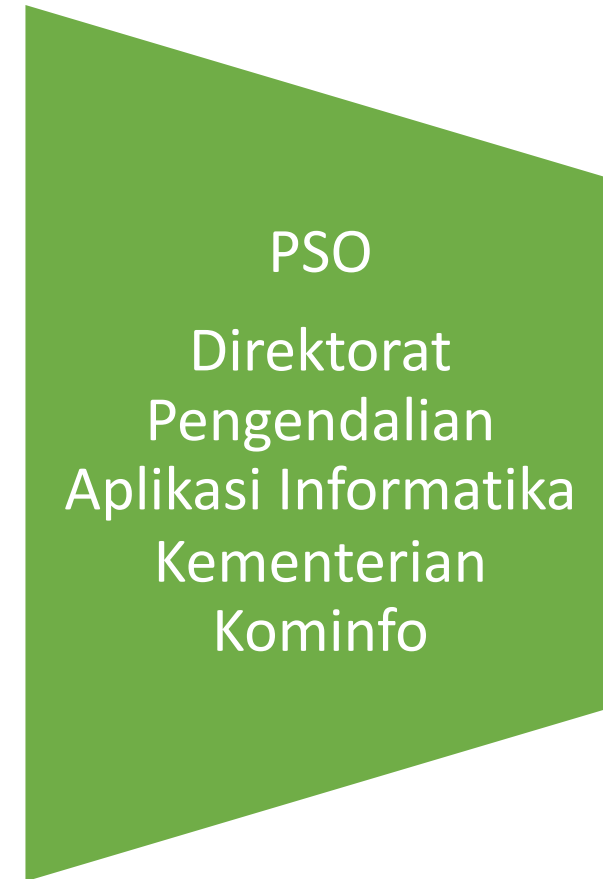
# DIGITAL FORENSICS STANDARDS & GUIDELINES

- **NIST:** National Institute of Standard Technology (CFTT, NSRL, CFReDS)
- **NIJ:** National Institute of Justice (Several Standards, National Criminal Justice Reference Service)
- **IOCE:** International Organization on Computer Evidence
- **ASCLD/LAB:** American Society of Crime Laboratory Directors/Laboratory Accreditation Board
- **ASTM:** E2678 standard; Guide for Education & Training
- **ISO SC 27 CSI: 17025** General requirements for the competence of testing and calibration laboratories
- **AES:** Audio Engineering Society (Authentication of Analog tape)
- **SWGDE & SWGIT:** Scientific Working Group on Digital Evidence & Scientific Working Group on Imaging Technology
- **ACPO:** Association of Chief Police Officers
- **DSCI Manual India** (Not specific standards but Manual)





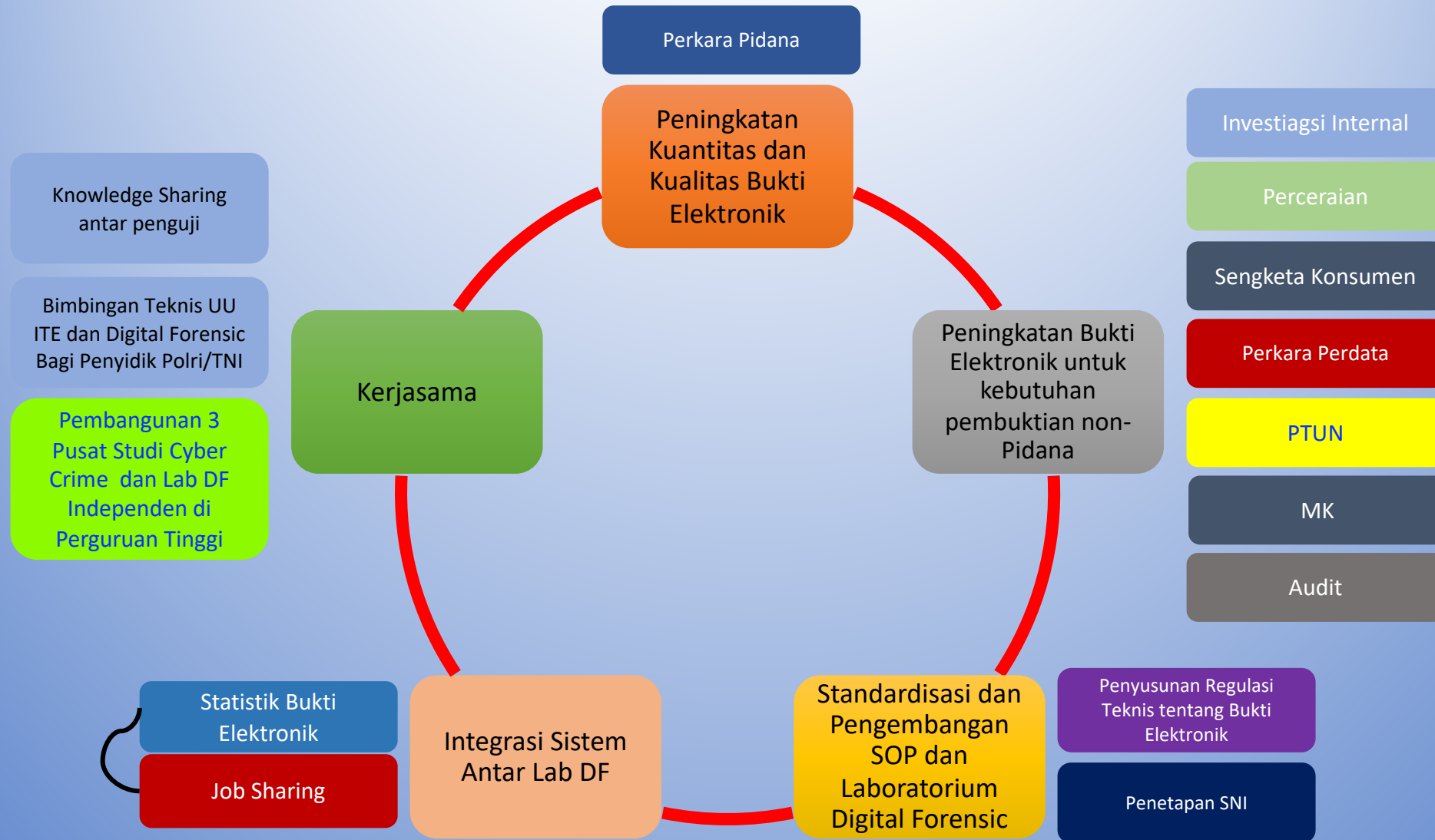
- Akuisisi HD, FD, MemCard
- Analisa HD, FD, MemCard
- Akuisisi HP dan SimCard
- Analisa HP dan SimCard
- Analisa Audio Forensik
- Akuisisi langsung Komp
- Komitmen jam kerja
- Prosedur Analisa Forensic



- Prosedur Berbasis TKP
  - Perlindungan Barang Bukti
  - Pembuatan Image Live Memory
  - Imaging dan Preview
- Prosedur Berbasis Laboratorium
  - Persiapan Pengujian: workstation
  - Inspeksi Fisik
  - Media Write Protecting
  - Wiping Media.dll

# IDENTIFIKASI PERSOALAN

SUBDIT PENYIDIKAN DAN PENINDAKAN DIREKTORAT PENGENDALIAN APTIKA



# Laboratorium Forensik Digital Nasional?

SUBDIT PENYIDIKAN DAN PENINDAKAN DIREKTORAT PENGENDALIAN APTIKA



2022

2023

2024

1

Peningkatan Kuantitas dan Kualitas Bukti Elektronik

2

Peningkatan Bukti Elektronik untuk kebutuhan pembuktian non-Pidana

3

Kerjasama

4

Standardisasi dan Pengembangan SOP dan Laboratorium Digital Forensic

5

Integrasi Sistem Antar Lab DF



1. Independen
2. Profesional
3. Pusat Layanan Uji
4. Pusat Riset
5. BLU
6. APBN
7. Pusat Sertifikasi DEFR dan DFA
8. Multistakeholder (APH, Instansi, Akademisi, Praktisi)

terima kasih

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