

Cyber Criminology:

Risks, Present Capability to Counter, Future outlook

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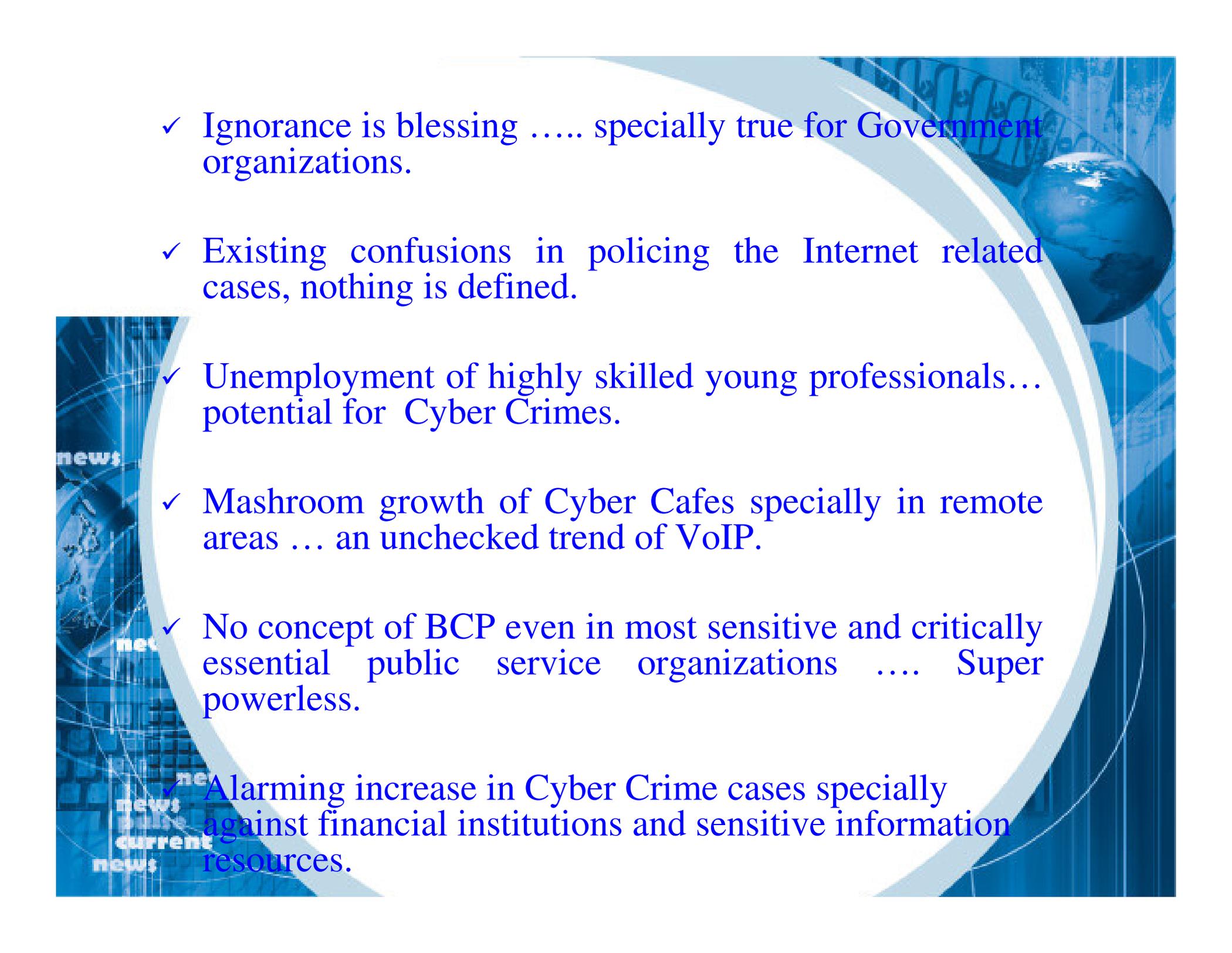
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Main Topics

- ✓ About Internet
- ✓ Current Scenario in Pakistan
- ✓ New Face of Internet
- ✓ Threat Perceptions
- ✓ Functional Challenges
- ✓ Legal Challenges
- ✓ Technical Challenges
- ✓ About NR3C
- ✓ Need for Global Co-operation.
- ✓ Few suggestions

About Internet

- ✓ Fastest growing phenomena encompassing every walk of life.
- ✓ More than 143 million people were estimated to be Internet users in mid 2000, and by the end of 2006 many expect to see more than 3.5 billion Internet users.
- ✓ Survey report of University of California Barkely :
 - Last two years vs the human history.
 - 70% information is digital.
 - 750 Billion pages on web.
- ✓ New threats and vulnerabilities.
- ✓ Dark side of internet.
- ✓ Lot of unknowns.

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- ✓ Ignorance is blessing specially true for Government organizations.
 - ✓ Existing confusions in policing the Internet related cases, nothing is defined.
 - ✓ Unemployment of highly skilled young professionals... potential for Cyber Crimes.
 - ✓ Mashroom growth of Cyber Cafes specially in remote areas ... an unchecked trend of VoIP.
 - ✓ No concept of BCP even in most sensitive and critically essential public service organizations Super powerless.
 - ✓ Alarming increase in Cyber Crime cases specially against financial institutions and sensitive information resources.

Current Scenario in Pakistan

a) **Tangible indicators of Fast Economic growth :**

- Stock market trends.
- Increased interest of multinational companies.
- Lowering down of Banks interest rates.
- Increasing confidence of foreign investors.
- Increasing remittance.

b) **New Trends :**

- New ways to do business.
- New technologies ... Faster than the speeding bullets.
- New dependencies.
- New threats and vulnerabilities.

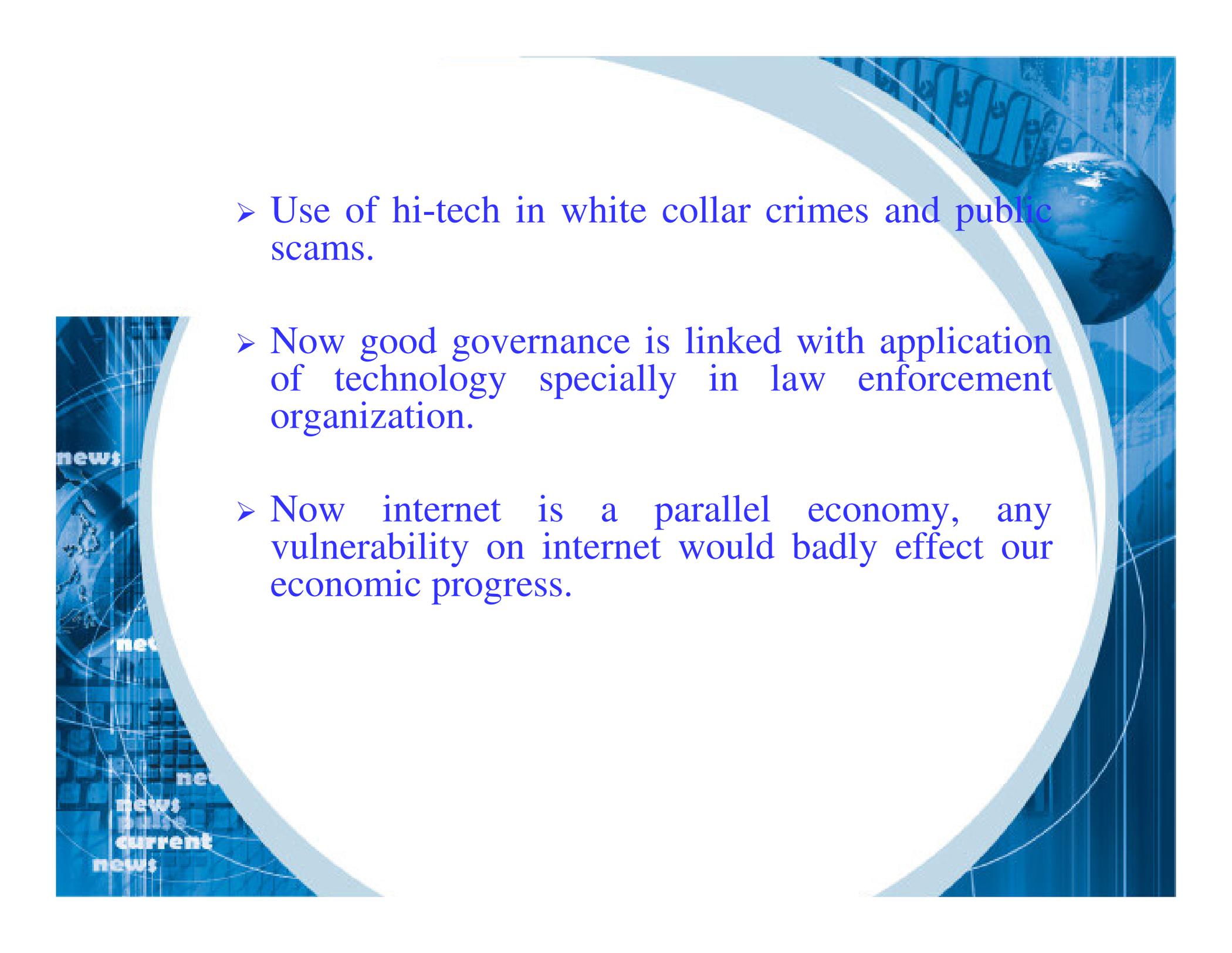
Telecom Sector In Pakistan

- Telecom Sector share in GDP was 1.9% in financial year 2005
- GST/CED collection from telecom sector is Rs. 26.8 billion in 2005-2006
 - Total Fixed line subscriber 5.2 million
 - Total Wireless Local Loop Subscriber 1.3 million
 - Total Mobile phone subscriber 41.5 million
- Substantial growth in Cellular Mobile Density

Year	Teledensity %
2000-01	2.80
2001-02	3.66
2002-03	4.31
2003-04	6.25
2004-05	11.89
2005-06	31.00

c) Threat Scenario:

- International efforts to defame Pakistan using PK-based domains.
- DoS attacks on Government websites.
- Cyber Crimes are on an increase with corresponding expansion of internet, the fastest growing phenomena in the world.
- Targets ranges from a common internet home user, multinational companies, banks and even the vital government information resources.
- Banks frauds and credit card frauds would decrease the investor's interest in Pakistan ... Anti E-commerce environment.

- 
- Use of hi-tech in white collar crimes and public scams.
 - Now good governance is linked with application of technology specially in law enforcement organization.
 - Now internet is a parallel economy, any vulnerability on internet would badly effect our economic progress.

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- Northern Ireland
- Scotland
- Wales
- Business
- Politics
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- Education
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- Technology
- Entertainment

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- In Pictures
- Week at a Glance
- Country Profiles
- In Depth
- Programmes

RSS

What is RSS?

- BBC SPORT
- BBC WEATHER
- CBBC news
- BBC ON THIS DAY

Last Updated: Wednesday, 4 January 2006, 13:41 GMT

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Bank staff stole from footballers

Two bank workers have admitted stealing about £300,000 from the accounts of three former Manchester City players.



The players only played for City for a short period

They stole the money by making withdrawals over a 15-month period, Manchester Magistrates' Court heard.

Cashier Paul Sherwood, 25, masterminded the theft and recruited his boss at the Co-op Bank, supervisor Paul Hanley.

The pair secretly diverted the funds from the accounts of Daniel Van Buyten, Matias Vuoso and Djamel Belmadi - who have all since left the club.

Alan Richardson, prosecuting, said the two had targeted the overseas players because they were at the club for a short time and did not use the accounts regularly.

Lavish lifestyles

"These men committed a serious breach of trust," he said.

BBC
man
BBC Manchester
 Information and features on the BBC's Manchester website

- RELATED INTERNET LINKS:**
- ▶ [HM Courts Service](#)
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Levels Of Security Issues

MACRO

- Ownership of Infrastructure
 - Flag owned by VSNL India (10GB/Sec)
 - SMW-3 (40 GB/Sec) and SMW-4 (1024 GB/Sec) Main Consortium leaders are Reliance, Bharti's and VSNL India
- Pakistan is transparent to outside world
 - Calls to/from Pakistan
 - Information on E-mails
 - All type of data information
- Hacking of sensitive database (Economy Destabilization)
 - Stock Exchange Database
 - Airline Databases

Hacker's go after the low hanging fruit

Hackme Bank

Investment

Credit

International

Cash Management

Corporate Investments

Hackme's Corporate & Institutional Banking Group provides financial solutions to support the growth of a variety of domestic and multinational corporations, as well as institutional and public sector clients.

Cash Management solutions to enhance funds availability, increase productivity, and improve decision-making.

Credit solutions to achieve capitalization goals.

Investment solutions to gain the greatest return on excess balances.

International services to expand global reach.

Insurance & Benefits Management services to protect your company and employees.

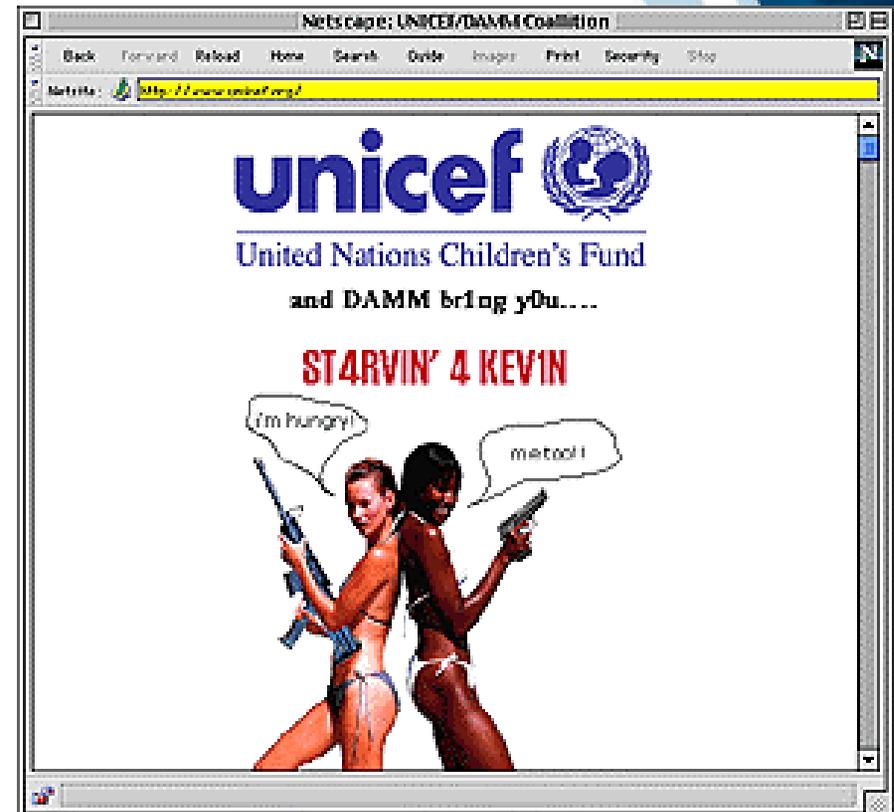
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GO

current
news

Everyone is a target – if they'd hack Unicef they'd hack anyone!



New Face of Internet

- ✓ Vehicle for progress
- ✓ From Globalization to localization.... Future is personalization
- ✓ Encompassed almost every walk of life
- ✓ Fastest media of communication of today
- ✓ Being used extensively for spreading new concepts and ideologies
- ✓ Google it A new buz word
- ✓ Internet ... every where

New Face of Internet

- ✓ Secure Internet is no more a technology issue it has now become a proven vehicle of Good Governance
- ✓ From Database of Knowledge to Database of Intentions
- ✓ Knowledge of ICT for development (KICT4D)
- ✓ Internet2
- ✓ Web 2.0
- ✓ Secure Wireless Networks are in high demand
- ✓ IPV6
- ✓ Localization

Threat Perceptions

- ✓ From Internet to Undernet
- ✓ From Cyber Crimes to Cyber Terrorism
- ✓ Threat from in-side is still on an increase
- ✓ Social engineeringera of unknowns
- ✓ Deployment of defense Systems without any security policy
- ✓ No penalty for not reporting the losses
- ✓ New International Security Standards fix responsibility on senior management

Functional Challenges

- ✓ PKI
- ✓ No dispute resolution Mechanism exist
- ✓ No Escrow Service
- ✓ Presence at International Fora to combat Cyber Crimes
- ✓ Conformity with International Standards like SOX, ISO, BS etc
- ✓ Need for Business Continuity Planning

Japan	17	Sweden	9	South Africa	2
UK	26	Spain	8	Sri Lanka	2
India	20	Turkey	7	Armenia	1
Taiwan	94	Iceland	6	Chile	1
Germany	62	Greece	5	Egypt	1
Italy	42	Philippines	5	Indonesia	1
USA	42	Kuwait	4	Lebanon	1
Korea	38	Mexico	4	Lithuania	1
Hungary	31	Russian	4	Luxemburg	1
China	28	Saudi Arabia	4	Macedonia	1
Netherlands	28	UAE	4	Morocco	1
Singapore	24	Argentina	3	New Zealand	1
Hong Kong	22	Canada	3	Oman	1
Australia	20	France	3	Pakistan	1
Czech Republic	16	Isle of Man	3	Peru	1
Finland	15	Macau	3	Qatar	1
Poland	15	Slovenia	3		
Norway	14	Bahrain	2		
Malaysia	13	Belgium	2		
Switzerland	13	Colombia	2		
Brazil	11				
Ireland	11				

Source: <http://www.iso27001certificates.com> August 06

Legal Challenges

- ✓ Cyber Laws
- ✓ Professional understanding with ISPs
- ✓ Privacy Issues
- ✓ Crossborder jurisdiction issues
- ✓ Dispute resolution Mechanism
- ✓ Awareness of a common man
- ✓ Collection and presentation of evidence in the court of law
- ✓ Required knowledge with judiciary and lawyers

Technical Challenges

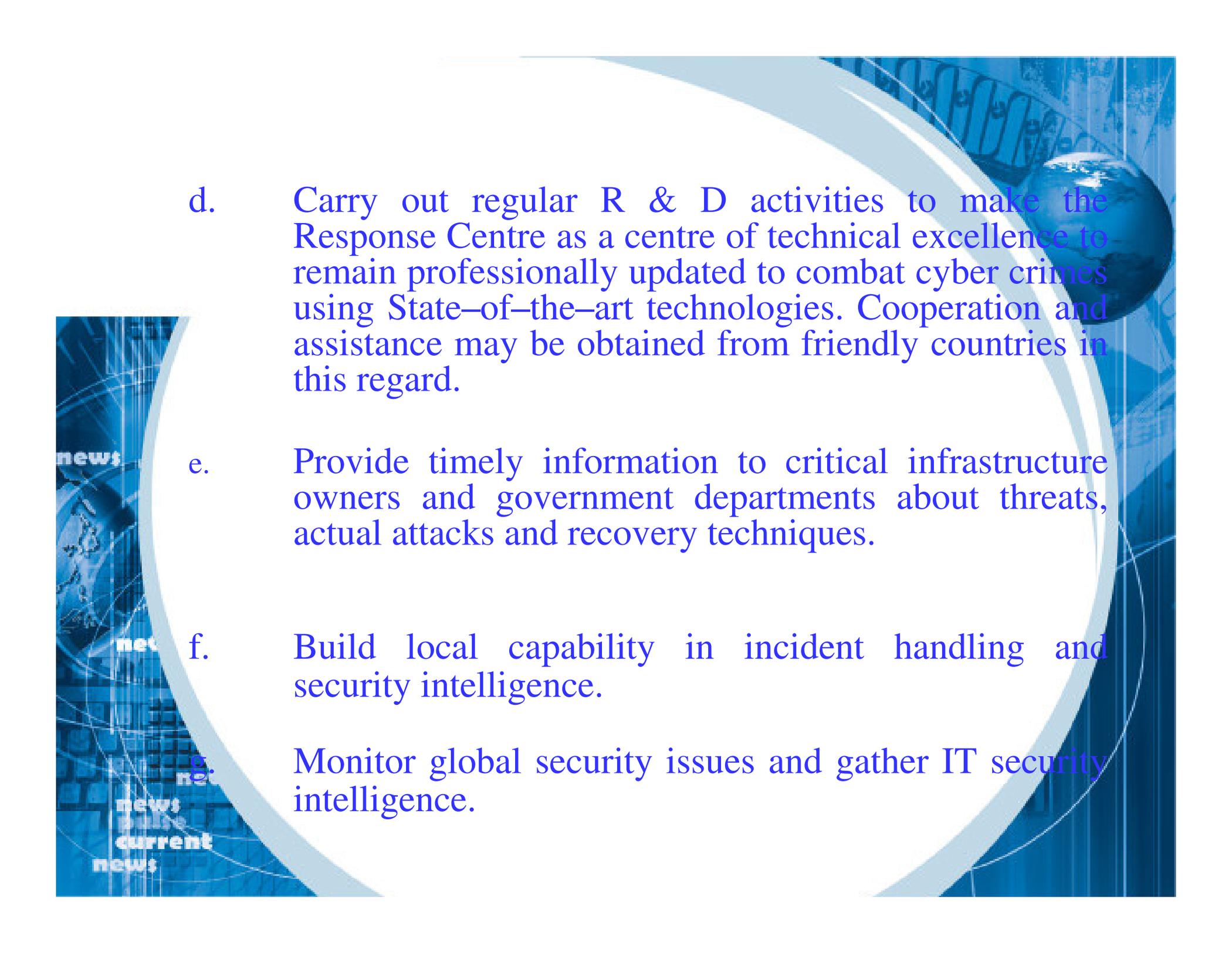
- ✓ Acute shortage of Information Security professional specially in Government organization
- ✓ No Information security policy
- ✓ Breaches are not being reported
- ✓ Information outflow to un-authorized channels without any due care
- ✓ In most of the organizations, there is no concept of Security Audit



About NR3C

About National Response Centre of Cyber Crimes(NR3C)

- a. Reporting Centre for all types of cyber crimes in the country. Maintain a type wise log of all cyber crimes in the Country.
- b. Liaison with all national and international organizations to handle the issue of cross border jurisdiction for efficiently handling the cases against the Cyber Criminals.
- c. Provide necessary technical support to all sensitive government organizations to make their web based resources and computer networks secure.



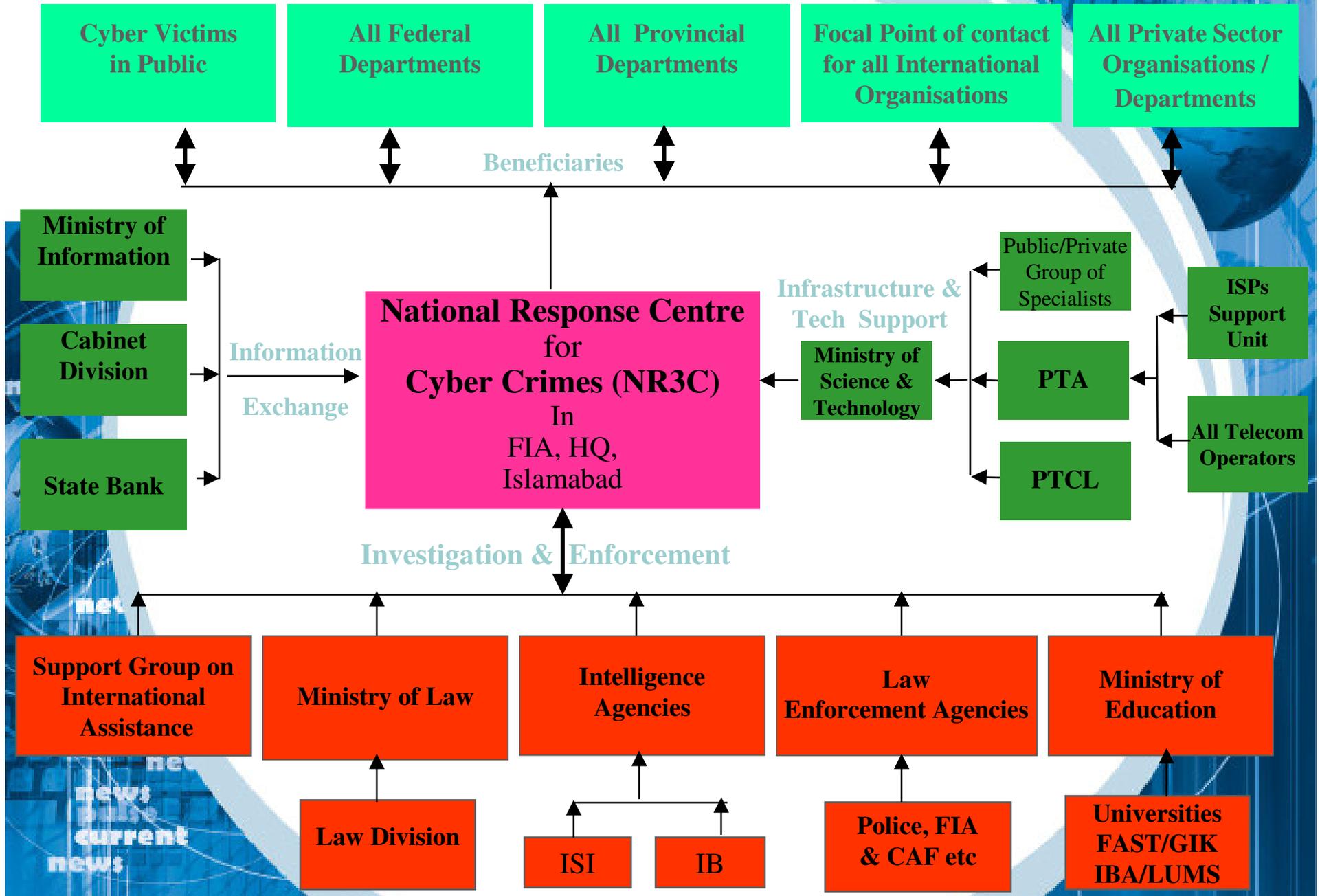
d. Carry out regular R & D activities to make the Response Centre as a centre of technical excellence to remain professionally updated to combat cyber crimes using State-of-the-art technologies. Cooperation and assistance may be obtained from friendly countries in this regard.

e. Provide timely information to critical infrastructure owners and government departments about threats, actual attacks and recovery techniques.

f. Build local capability in incident handling and security intelligence.

Monitor global security issues and gather IT security intelligence.

Work Flow of Cyber Crimes Response Center



Need for Global Co-operation.

- ✓ Regional and Global conflicts and lack of trust between countries is an obstacle to evolve a mutual understanding based on technology and logical solutions to combat organized crimes.
- ✓ Traditional Channels of Communications between Governments need to be made pro-active to discourage the designs of highly committed, qualified and technologically expert Criminals (They normally work Eighteen hours a day).
- ✓ Information about Audit trails of Terrorist financing using Internet channels like paypal etc may be shared under well defined formats and channels.

Need for Global Co-operation.

- ✓ Immediate assistance in areas like free mails servers and phishing attacks.
- ✓ National, Regional and Global alert centers to provide relevant information to concerned quarters immediately.
- ✓ Tracing and the sharing foot prints of Digital evidence.

Few Suggestions

- ✓ 24/7 direct contacts on specific issues.
- ✓ Immediate information to right organization.
- ✓ Need to adopt pro-active approach
- ✓ Quickly learn from International Standards
- ✓ Organize International level conferences on focused topics like PKI, computer forensic and security on wireless etc
- ✓ New channels of information flows based on technologies may be established between relevant organizations of different countries.

Few Suggestions

- ✓ Best practices and success stories to control technology based crimes be exchanged immediately.
- ✓ Immediately devise:-
 - “National Information Security Framework”
 - And all public and private sector organizations may be made responsible to follow it.
- ✓ International laws under UNO be implemented to combat technology based terrorism.
- ✓ Cyber laws as soon as possible.

A hand is shown holding a glowing, semi-transparent globe of the Earth. The globe is illuminated from within, showing a grid of latitude and longitude lines. The background is a dark, textured surface with green circuit board patterns. The overall lighting is a mix of blue and purple, giving it a high-tech, digital feel.

THANKS