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MS ISO/IEC 27001:2007 INFORMATION SECURITY MANAGEMENT SYSTEM (ISMS) IMPLEMENTATION

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CyberSecurity Malaysia

Securing Our Cyberspace

AGENDA

- ***<u>Introduction to Information Security Management System (ISMS)</u>***
- ISMS Implementation
- Benefit of ISMS Certification for CyberSecurity Malaysia
- Critical Success Factors

WHAT IS INFORMATION SECURITY?

Preservation of **confidentiality**, **integrity** and **availability** of information; in addition, other properties such as authenticity, accountability, non-repudiation and reliability can also be involved

Reference: MS ISO/IEC 27001:2007 Information Security Management Systems

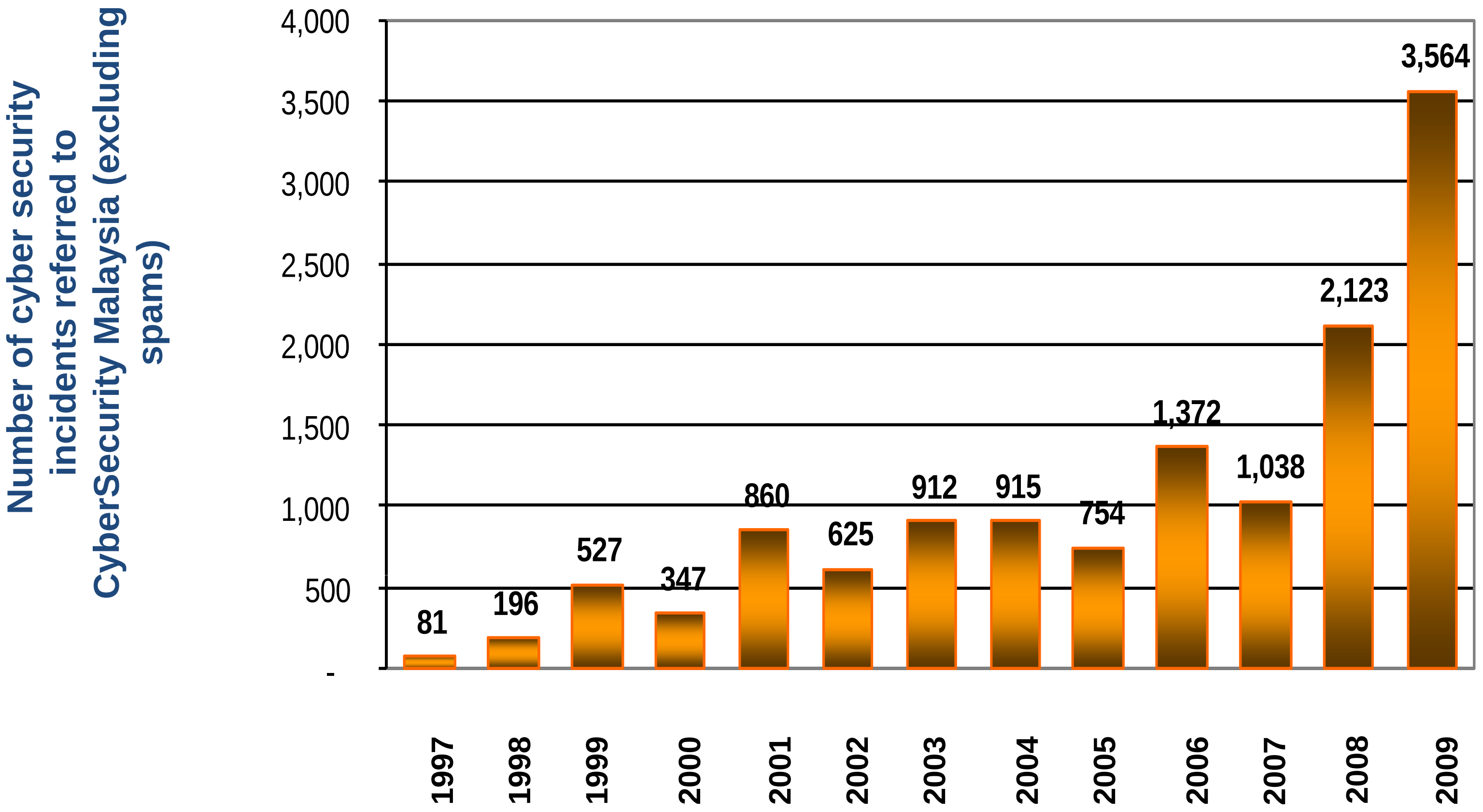
- ❑**Confidentiality** - the property that information is **not disclosed** to unauthorized individuals, entities, or processes

- ❑ **Integrity** - the property of safeguarding the **accuracy** and **completeness** of information

- ❑ **Availability** - the property of being **accessible** and **usable upon demand** by an authorized individuals, entities, or processes

CYBER SECURITY INCIDENTS (1997-2009)

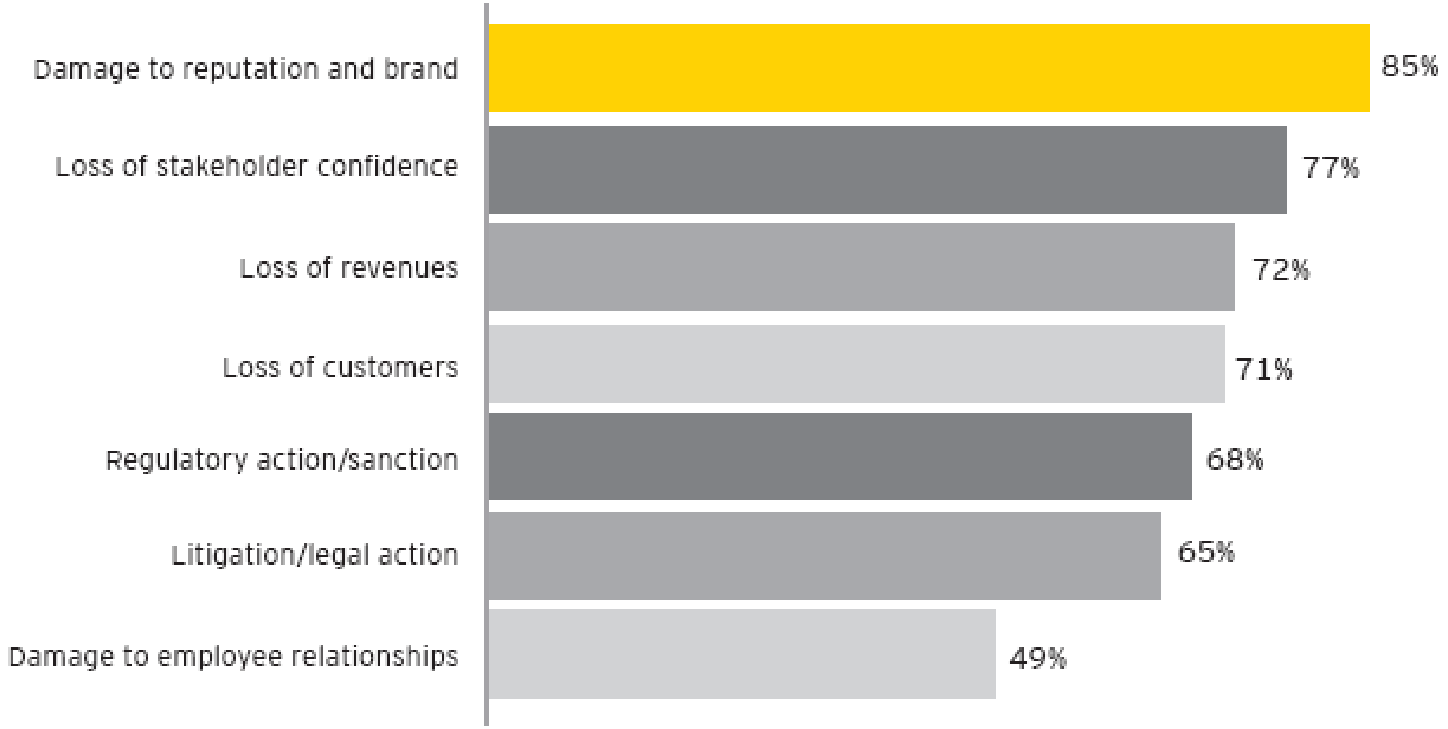
- A total of 13,314 security incidents referred since 1997 (excluding spams)
- For year 2009, total no. of spams detected was a whooping 184,407



Source: MyCERT

CONSEQUENCES OF SECURITY INCIDENTS

What is the level of significance for the following consequences if your organization's information is lost, compromised or unavailable?



Source:
Ernst &
Young, 2008

HOW DO WE RESPOND?

- ❑Understand the threats
- ❑Mitigate the risks
- ❑Security strategy – people, process, technology
- ❑Establish security requirements:
  - ❑Risk assessment
  - ❑Legal, statutory, regulatory and contractual requirements
  - ❑Set of principles, objectives and business requirements for information processing that an organization has developed to support its operations

WHAT IS ISMS?

- ISMS is that part of the overall management system, based on a business risk approach, to establish, implement, operate, monitor, review, maintain and improve information security.
- The management system includes organizational structure, policies, planning activities, responsibilities, practices, procedures, processes and resources.

Reference: MS ISO/IEC 27001:2007

A systematic approach in managing organization's information security

WHY ISMS?

Objective of information security as defined in ISO/IEC 27002

"To minimize the risks and impacts to business whilst maximising business opportunities and investments and to ensure business continuity"

Maximise business opportunities and investments

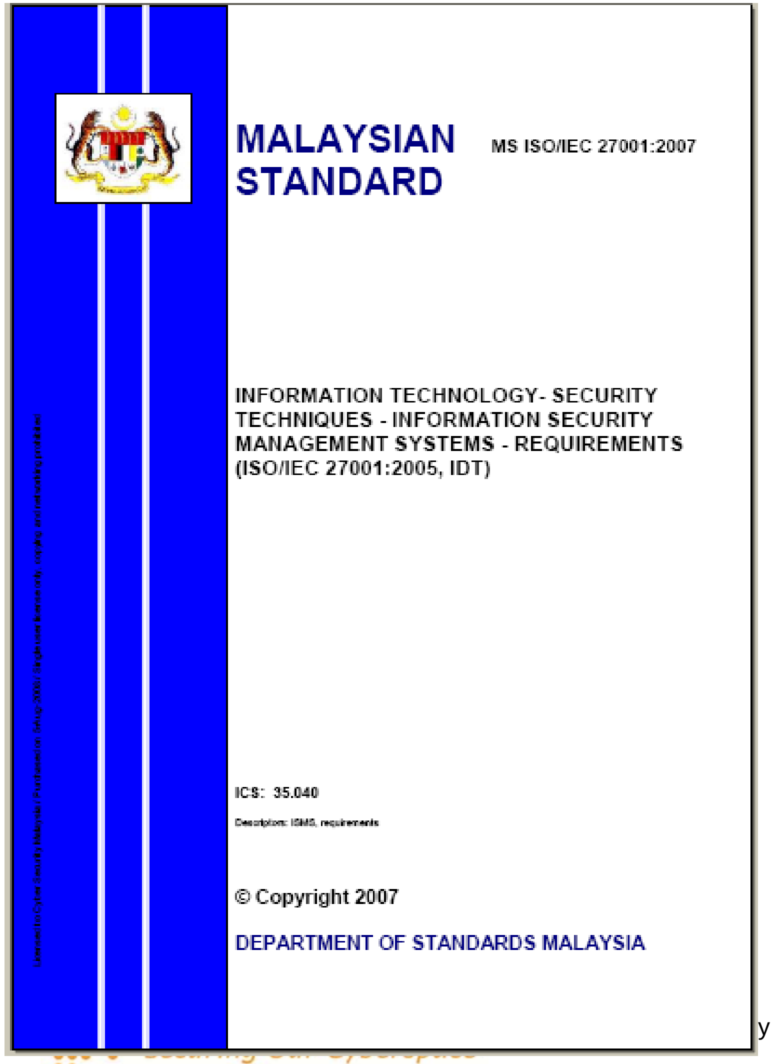
Minimize risks and impacts

Ensure business continuity

AGENDA

- Introduction to Information Security Management System (ISMS)
- ***ISMS Implementation***
- Benefit of ISMS Certification for CyberSecurity Malaysia
- Critical Success Factors

MS ISO/IEC 27001:2007 or ISO/IEC 27001:2005



MALAYSIAN STANDARD

MS ISO/IEC 27001:2007

INFORMATION TECHNOLOGY- SECURITY TECHNIQUES - INFORMATION SECURITY MANAGEMENT SYSTEMS - REQUIREMENTS (ISO/IEC 27001:2005, IDT)

ICS: 35.040

Descriptors: ISMS, requirements

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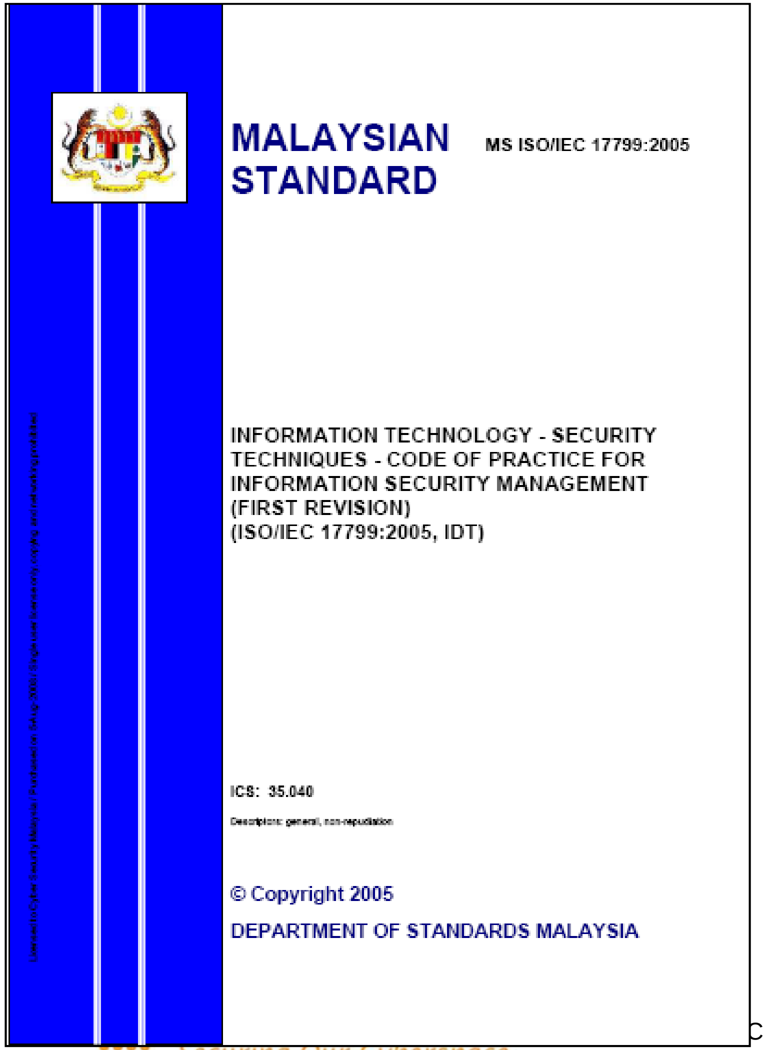
- ❑ Information technology – Security techniques – Information security management systems - Requirements
- ❑ **<u>Certification and auditable standard</u>**
- ❑ Mandatory risk based approach
- ❑ Clause 4 to Clause 8 – conformity clauses

SUMMARY OF MS ISO/IEC 27001:2007

- **4:Information Security Management System**
  - 4.1 General Requirements
  - 4.2 Establishing & managing information security
    - 4.2.1 Establish the ISMS
    - 4.2.2 Implement & operate ISMS
    - 4.2.3 Monitor & review ISMS
    - 4.2.4 Maintain & improve ISMS
- 4.3 Documentation requirements
    - 4.3.1 General
    - 4.3.2 Control of documents
    - 4.3.3 Control of records
- **5: Management responsibility**
  - 5.1Management commitment
  - 5.2 Resource management
    - 5.2.1 Provision of resources
    - 5.2.2 Training, awareness & competence
- **6:Internal ISMS Audit**
- **7:Management Review of ISMS**
  - 7.1 General
  - 7.2 Review input
  - 7.3 review output
- **8:ISMS Improvement**
  - 8.1: Continual improvement
  - 8.2: Corrective action
  - 8.3: Preventive action

MS ISO/IEC 17799:2006 or ISO/IEC 27002:2005



MALAYSIAN STANDARD

MS ISO/IEC 17799:2005

INFORMATION TECHNOLOGY - SECURITY TECHNIQUES - CODE OF PRACTICE FOR INFORMATION SECURITY MANAGEMENT (FIRST REVISION)
(ISO/IEC 17799:2005, IDT)

ICS: 35.040

Descriptors: general, non-repudiation

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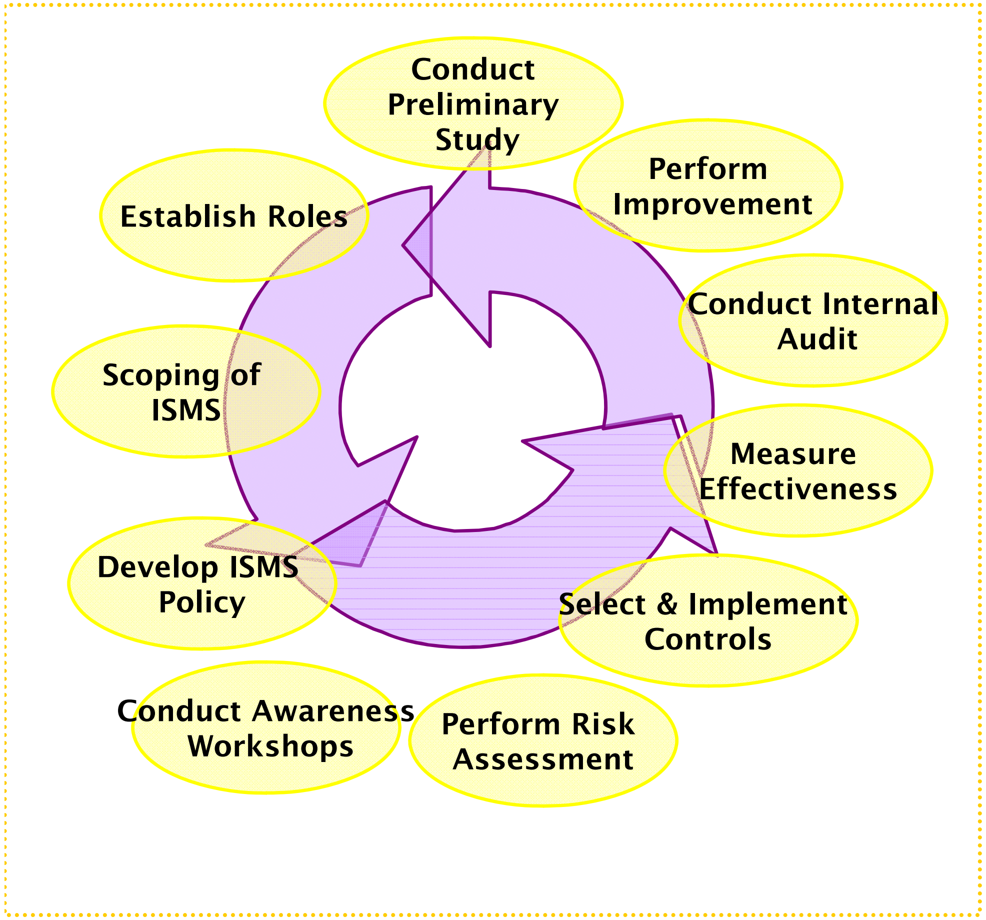
- ❑ Information technology – Security techniques - Code of practice for Information Security Management
- ❑ Establishes guidelines and general principles for initiating, implementing, maintaining, and improving information security management in an organization
- ❑ It contains best practices of control objectives and controls (with some implementation guidelines) in many areas of information security management
- ❑ The controls listed are also included in MS ISO/IEC 27001 Annex A
- ❑ It is **NOT a certification and auditable standard**

OVERVIEW OF ISMS IMPLEMENTATION



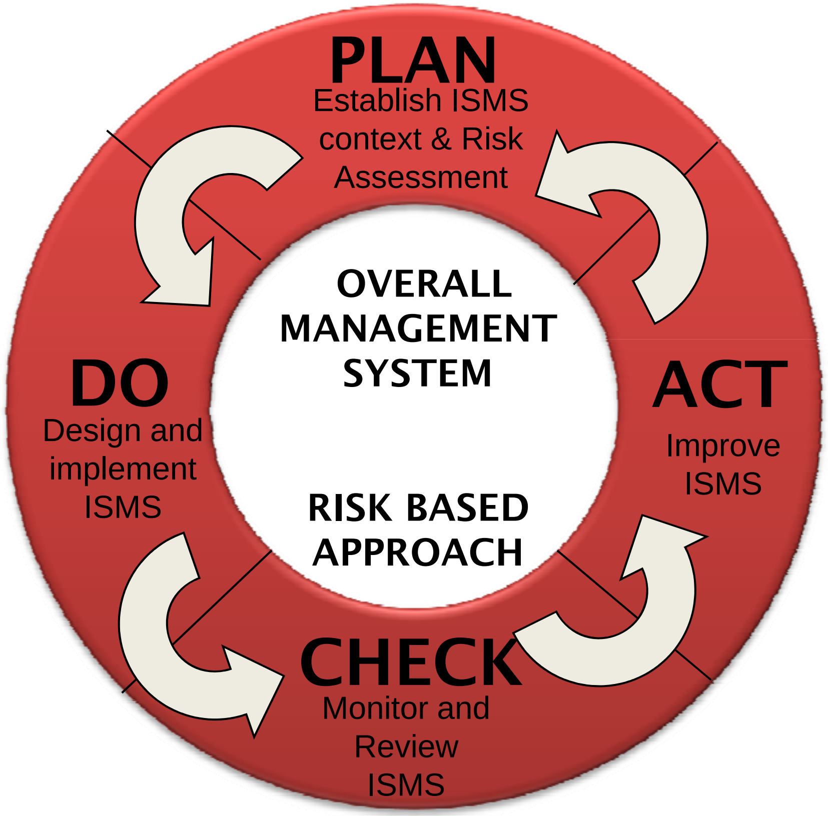
Information Security Controls (based on ISO/IEC 27002:2005) [11areas, 133 controls]

- Security Policy
- Organization Of Information Security
- Asset Management
- Human Resources Security
- Physical and Environmental Security
- Communication and Operation Management
- Access Control
- Information System Acquisition, Development and Maintenance
- Information Security Incident Management
- Business Continuity Management
- Compliance

Information Security Management Requirement (based on MS ISO/IEC 27001:2007)

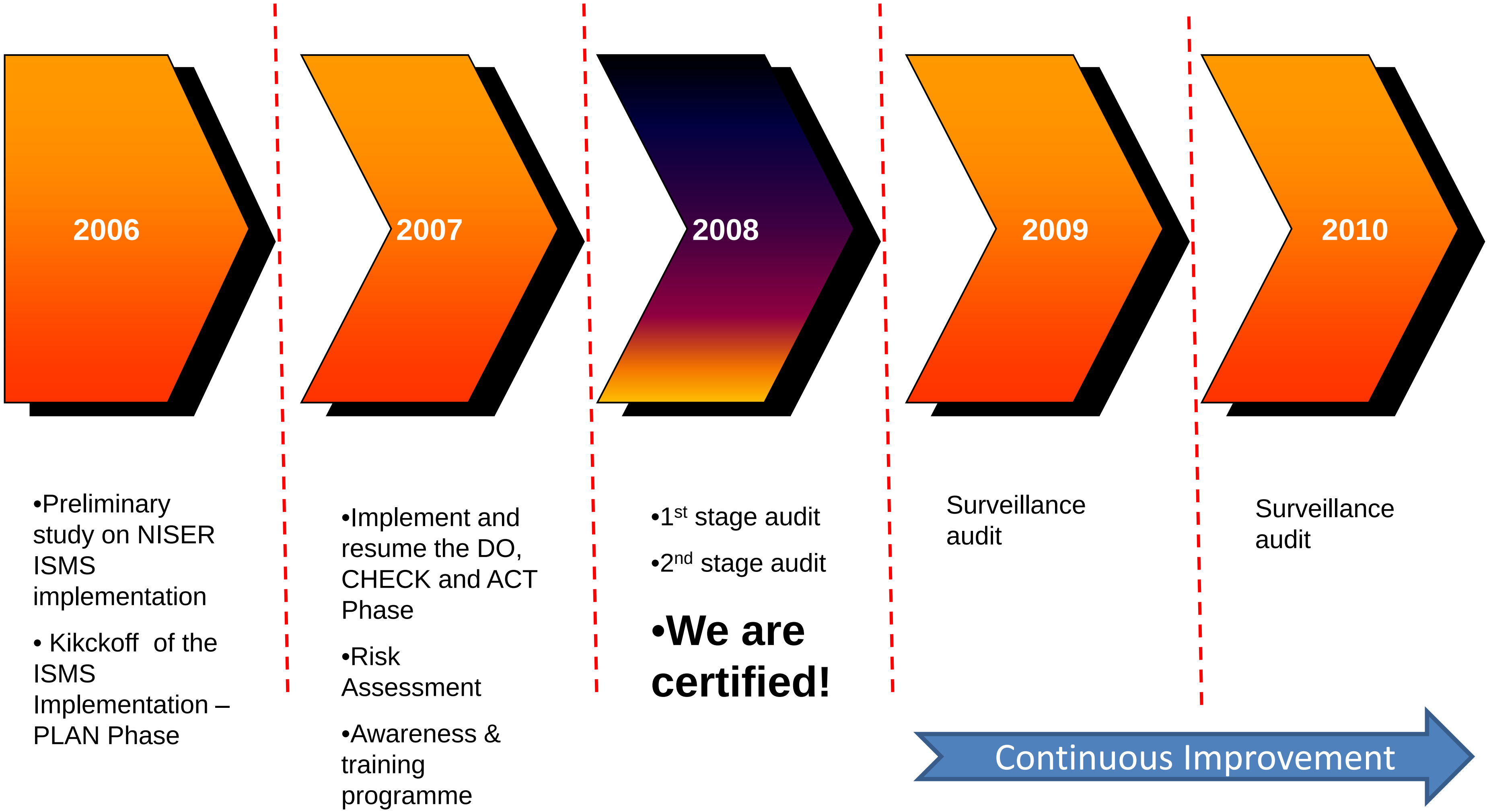
ISMS PDCA CYCLE

The organization shall establish, implement, operate, monitor, review, maintain and improve a documented ISMS within the context of the organization's overall business activities and the risks they face


PLAN
Establish ISMS context & Risk Assessment
OVERALL MANAGEMENT SYSTEM
DO
Design and implement ISMS
ACT
Improve ISMS
RISK BASED APPROACH
CHECK
Monitor and Review ISMS

Reference: MS ISO/IEC 27001:2007 Clause 4.1 General Requirements

ISMS Implementation
- CyberSecurity Malaysia's experience



2006

- Preliminary study on NISER ISMS implementation
- Kikckoff of the ISMS Implementation – PLAN Phase

2007

- Implement and resume the DO, CHECK and ACT Phase
- Risk Assessment
- Awareness & training programme
- Internal audit

2008

- 1st stage audit
- 2nd stage audit
- **We are certified!**

2009

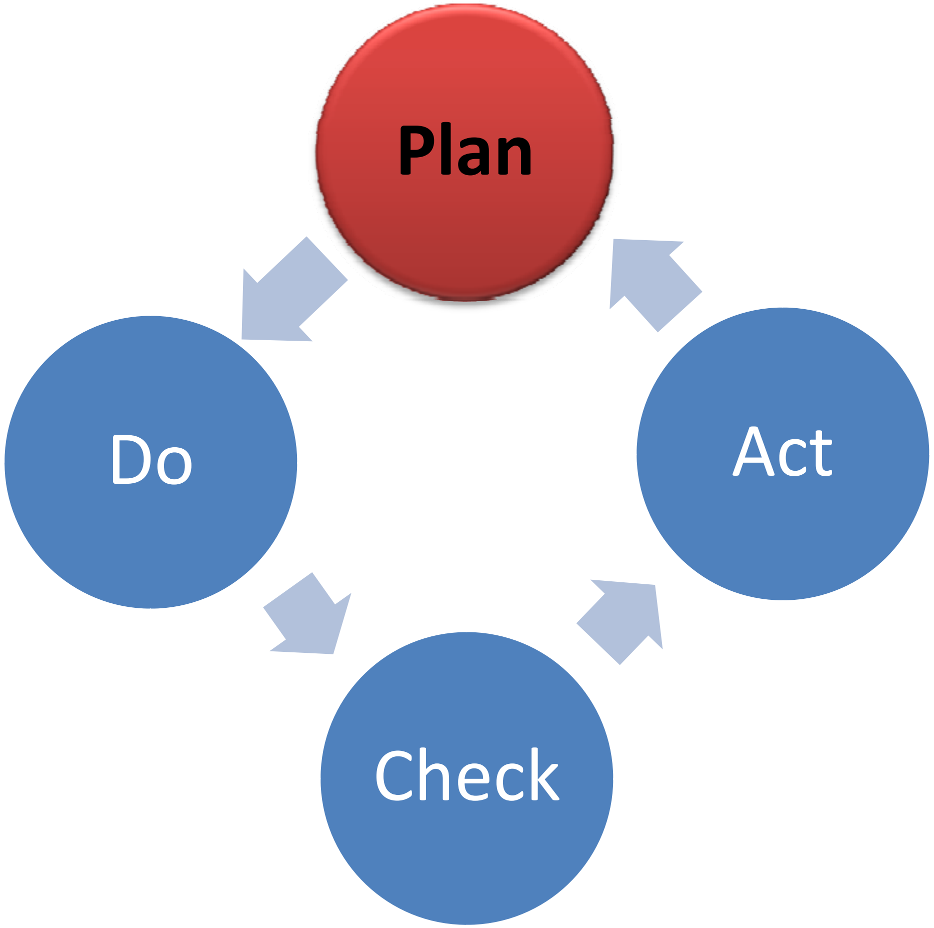
Surveillance audit

2010

Surveillance audit

ESTABLISH THE ISMS

- Define the scope and boundaries of the ISMS
- Define an ISMS policy
- Define the risk assessment approach of the organization
- Identify the risks
- Analyse and evaluate the risks
- Identify and evaluate options for the treatment of risks
- Select control objectives and controls for the treatment of risks
- Obtain management approval of the proposed residual risks
- Obtain management authorization to implement and operate the ISMS.
- Prepare a Statement of Applicability (SOA)



DEFINE THE SCOPE AND BOUNDARIES OF ISMS

- Define the scope and boundaries of the ISMS in terms of the characteristics of the business, the organization, its location, assets, technology, and including details of and justification for any exclusions from the scope

- Limited part of organization or the whole organization

DEFINE AN ISMS POLICY

- Define an ISMS policy in terms of the characteristics of the business, the organization, its location, assets and technology and taking account any legal and regulatory requirements

- Takes into account business and legal or regulatory requirements, and contractual security obligations

- Should be approved by management

RISK ASSESSMENT APPROACH

- Risk Assessment - the overall process of risk analysis (systematic use of information to identify sources and to estimate risk) and risk evaluation (process of comparing the estimated risk against given risk criteria to determine the significance of risk)

- Identify a risk assessment methodology that is suited to the ISMS, and the identified business information security, legal and regulatory requirements

- Conduct risk assessment

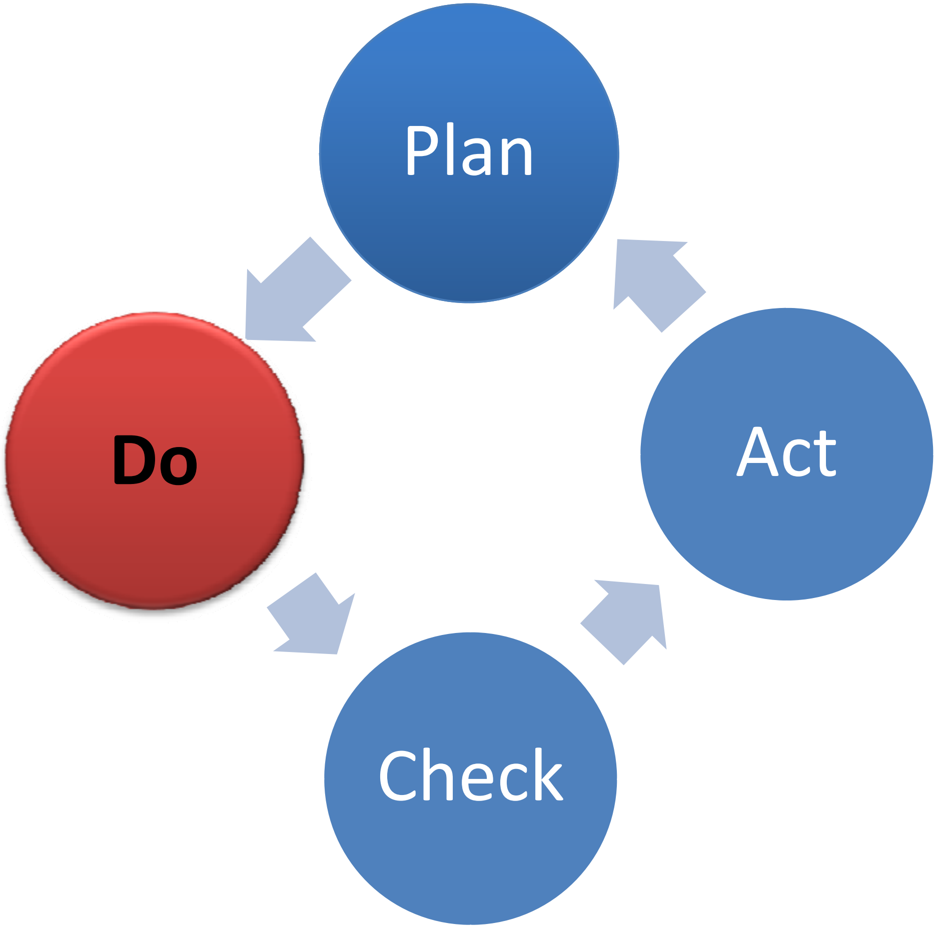
PREPARE SOA

- Statement of Applicability (SOA)

- SOA is a document describing:
  - the control objectives and controls selected and the reasons for selections
  - the control objectives and controls currently implemented
  - the reasons for the exclusions

IMPLEMENT AND OPERATE THE ISMS

- Formulate and implement risk treatment plan
- Implement and operate controls
- Measure effectiveness of selected controls
- Implement training and awareness programmes
- Manage operation of the ISMS
- Manage resources
- Implement procedures and other controls



IMPLEMENT CONTROLS

- Implement controls that has been selected in risk assessments and treatments:

- Controls objectives and controls from Annex A MS ISO/IEC 27001 shall be selected; additional control objectives and controls may also be selected.

MEASURE EFFECTIVENESS

- Achieving effective information security by balancing business requirements wit security requirements

- Metrics of measurement should be:
  - Accurate and reliable information
  - Repeatable, verifiable and scalable

IMPLEMENT TRAINING AND AWARENESS PROGRAMME

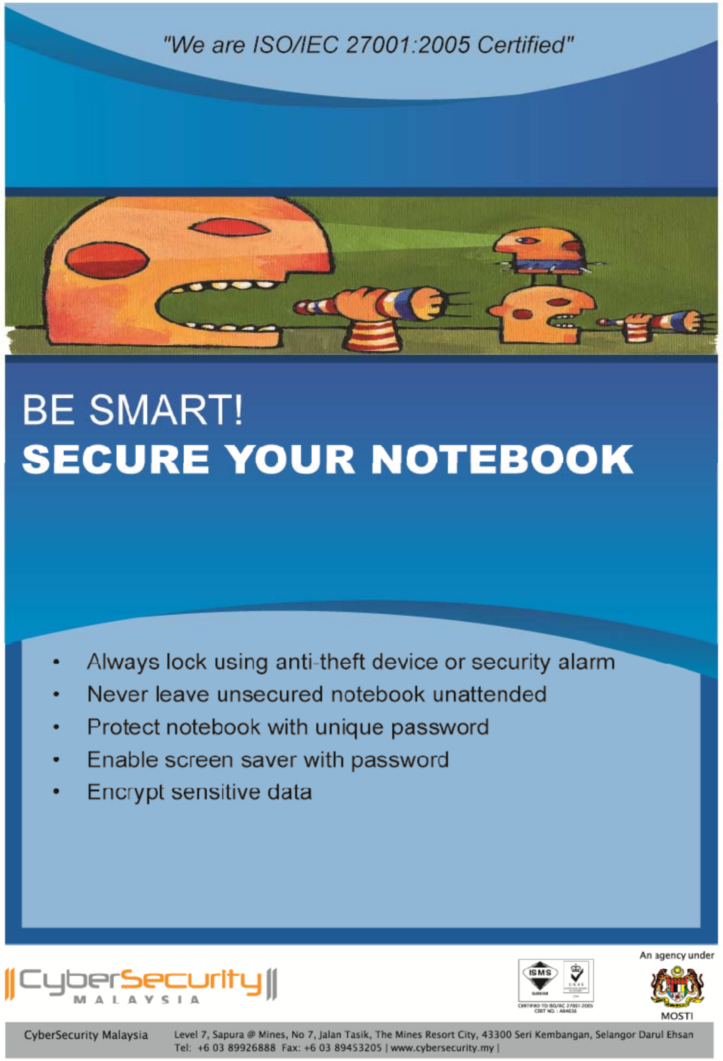
- The aim of training and awareness program is to generate a well-founded risk management and security culture.

- Specific security training should be applied wherever necessary to support the awareness program, and to enable all parties to fulfill their security tasks

AWARENESS & TRAINING

AWARENESS/ TRAINING	ISMS TRAINING PROGRAM	MODULE/TOOL TARGET
ISMS competency training	• *ISMS Implementation* • *Certified Lead Auditor* • *Risk assessment training*	• *ISMS implementers* • *ISMS internal auditors* •*Senior management*
ISMS introduction training employees	• *Standards requirements & code of practice* • *Risk assessment workshop*	*All employees*
General ISMS awareness	• *Awareness talks* • *Posters* • *Email messages*	*All employees* *3rd party (vendor, consultant, etc)*
ISMS assessment	• *Ad-hoc quizzes* • *Online test*	*All employees*

AWARENESS MATERIALS – POSTERS SAMPLE



"We are ISO/IEC 27001:2005 Certified"

BE SMART!

SECURE YOUR NOTEBOOK

- Always lock using anti-theft device or security alarm
- Never leave unsecured notebook unattended
- Protect notebook with unique password
- Enable screen saver with password
- Encrypt sensitive data

CyberSecurity MALAYSIA

ISMS SIRIM UKAS
CERTIFIED TO ISO/IEC 27001:2005
CERT NO. : AR4656

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"We are ISO/IEC 27001:2005 Certified"

HAVE YOUR PEACE OF MIND
TO HOUSE YOUR BUSSINESS
CRITICAL DATA BUT
IS YOUR SERVER SECURE ?

- Install the most recent service pack
- Get all available critical updates and OS security patches
- Assign a strong password
- Delete or secure old setup files
- Audit and check logs regularly

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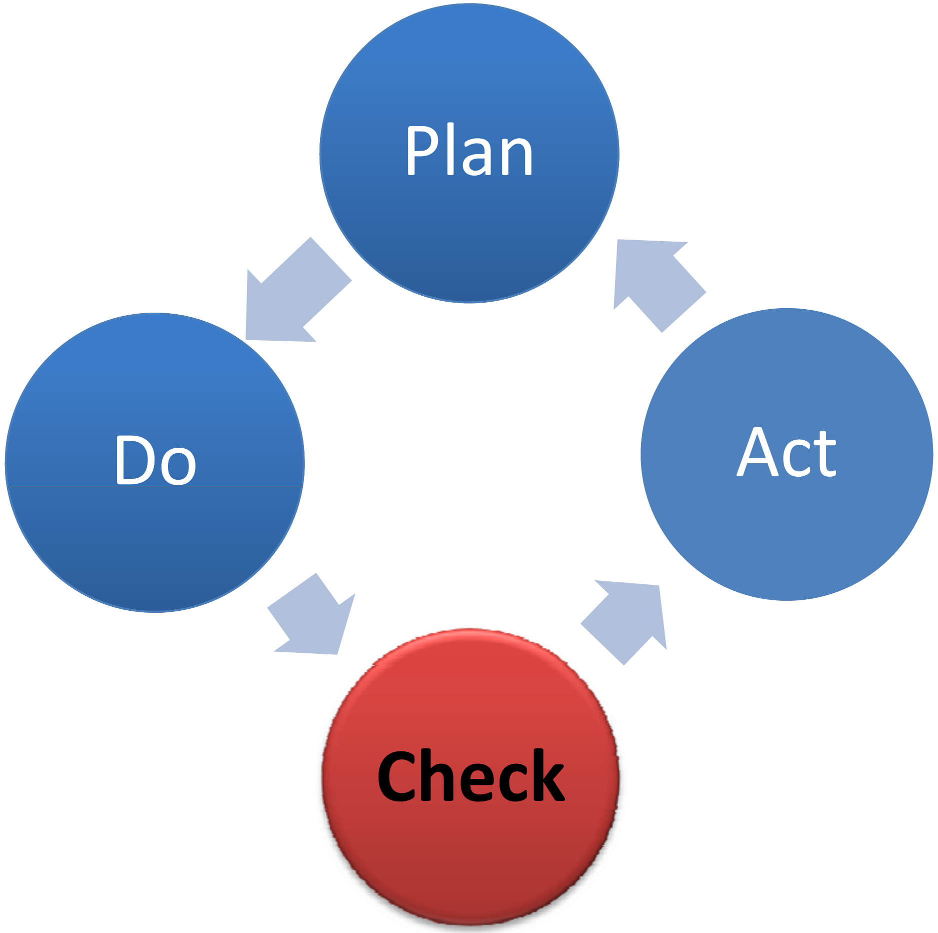
MONITOR AND REVIEW THE ISMS

- Monitor and review performance
- Review the risks and carry out risk reassessments
- Review incident handling results
- Management reviews
- Review the effectiveness of the controls
- Audits



REVIEW OF THE ISMS

- Regular Review of ISMS Effectiveness
  - Taking into account results of security audits, incidents, suggestions and feedback from all interested parties

- Review Level of Residual and Acceptable Risk
  - Taking into account the changes to the organization, technology, business objectives and processes, identified threats, and external events

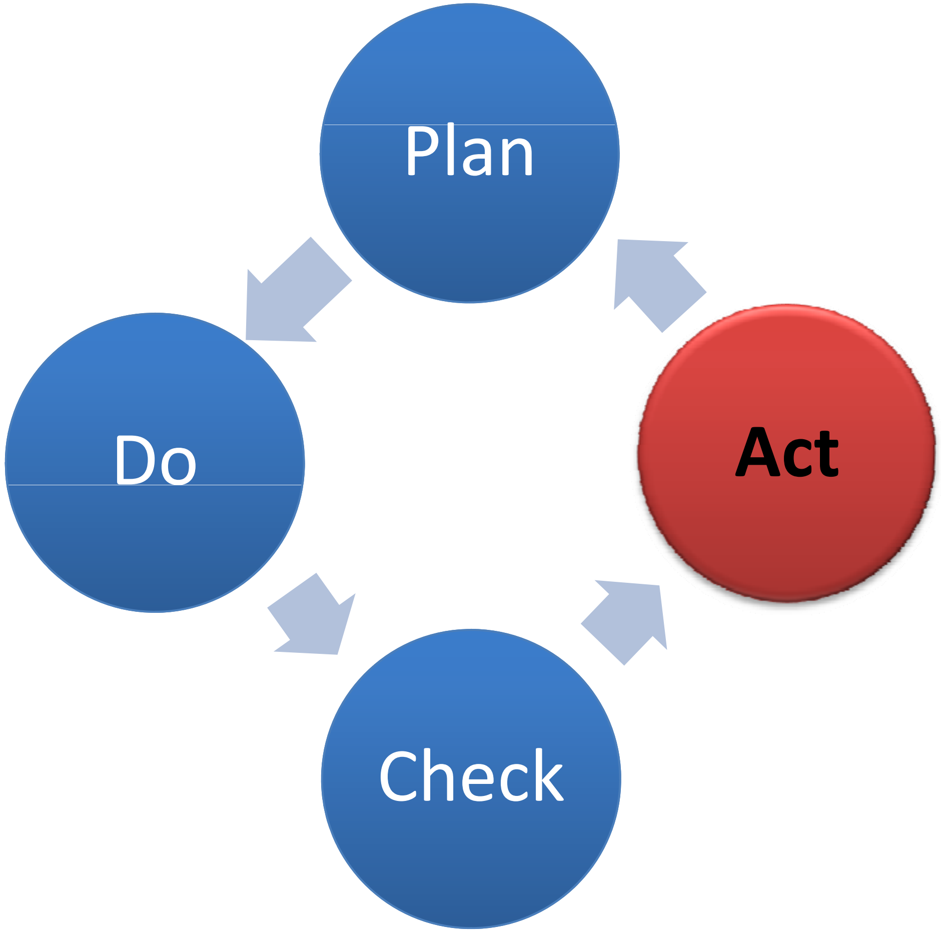
- Regular Management Review of ISMS
  - Management shall review the ISMS at planned intervals to ensure its continuing suitability, adequacy and effectiveness

CONDUCT INTERNAL ISMS AUDITS

- Internal audit shall be conducted at planned intervals to determine whether the controls objectives, controls, processes and procedures:
  - Conform to the identified security requirements
  - Are effectively implemented and maintained
  - Perform as expected

MAINTAIN AND IMPROVE THE ISMS

- Implement identified improvements
- Take corrective and preventive actions
- Communicate actions and improvements
- Ensure improvements achieve intended objective



IMPLEMENT IDENTIFIED IMPROVEMENTS

- Organization shall continually improve the effectiveness of the ISMS through the use of the information security policy, security objectives, audit results, analysis of monitored events, corrective and preventive actions and management review.

DETECT NONCONFORMITY

- Nonconformity:
  - the absence of, or failure to implement and maintain one or more ISMS requirements; or
  - a situation which would, on the basis of available objective evidence, raise significant doubt as to the capability of the ISMS to fulfill the information security policy and security objectives of the organization

TAKE CORRECTIVE/PREVENTIVE ACTIONS

- Corrective action
  - to eliminate the cause of a nonconformity or other undesirable situation to prevent recurrence
- Preventive action
  - to eliminate the cause of a potential noncompliance or other undesirable potential situation

AGENDA

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- Critical Success Factors

BENEFITS OF ISMS FOR CYBERSECURITY MALAYSIA

- Increase information security awareness amongst the staff
- Reduced number of security incident by improving management of information security incident and from lesson learnt
- Risks are well managed especially when staff become more risk aware
- Systematic approach to manage information security for our organization

AGENDA

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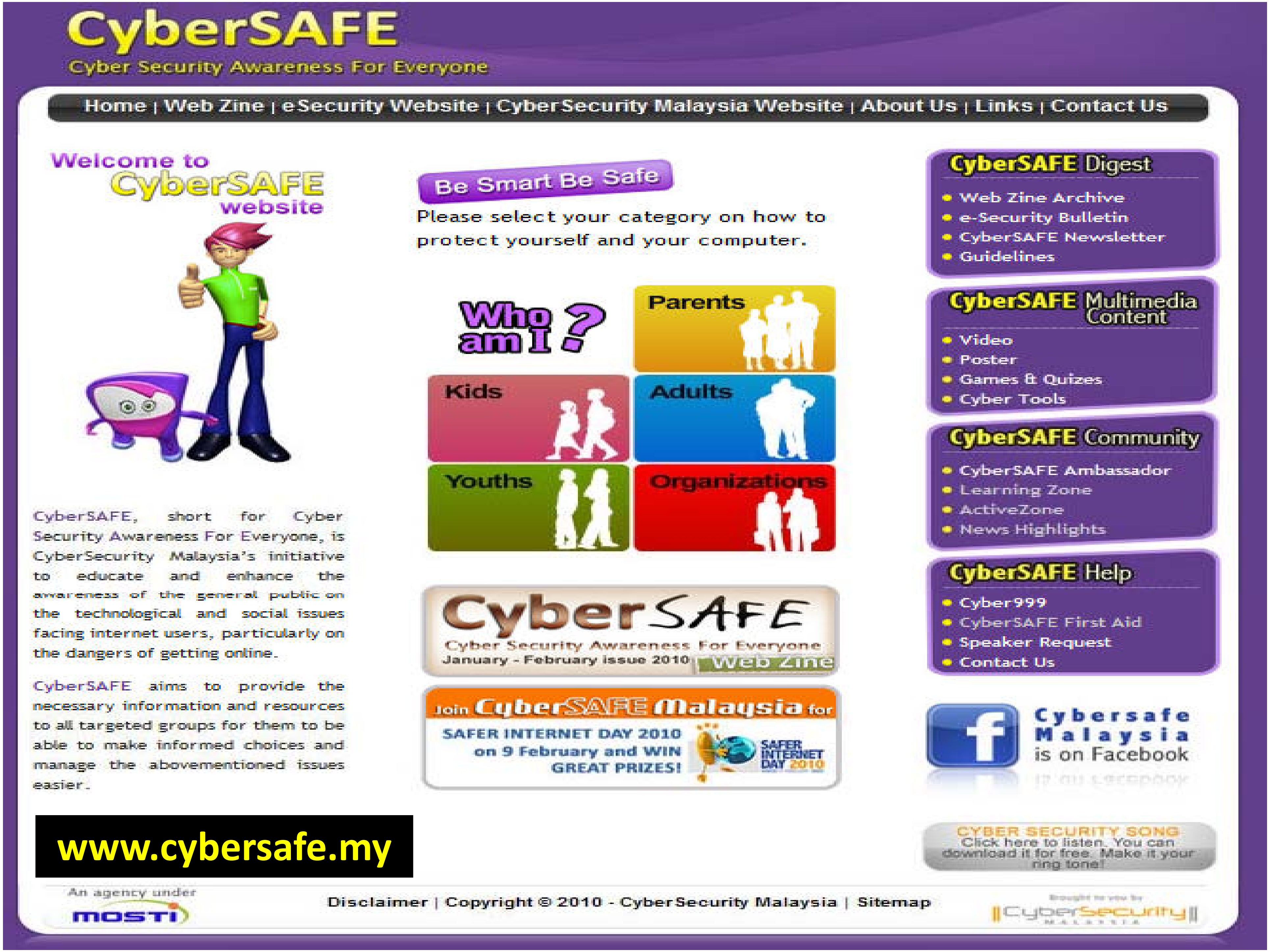
- ***<u>Critical Success Factors</u>***

CRITICAL SUCCESS FACTORS

- Management commitment and support
- Good understanding of security requirements, risk assessment and risk management
- Effective awareness programs, training and education in inculcating security as a culture
- Willingness “to change”
- Distribution of guidance on information security policy and standards to all managers, employees and other parties
- Make it a fun thing, NOT a serious subject

CyberSAFE Program

Cyber Security Awareness For Everyone



CyberSAFE

Cyber Security Awareness For Everyone

Home | Web Zine | eSecurity Website | CyberSecurity Malaysia Website | About Us | Links | Contact Us

Welcome to CyberSAFE website

CyberSAFE, short for Cyber Security Awareness For Everyone, is CyberSecurity Malaysia's initiative to educate and enhance the awareness of the general public on the technological and social issues facing internet users, particularly on the dangers of getting online.

CyberSAFE aims to provide the necessary information and resources to all targeted groups for them to be able to make informed choices and manage the abovementioned issues easier.

www.cybersafe.my

Be Smart Be Safe

Please select your category on how to protect yourself and your computer.

CyberSAFE
Cyber Security Awareness For Everyone
January - February issue 2010 Web Zine

Join CyberSAFE Malaysia for
SAFER INTERNET DAY 2010
on 9 February and WIN
GREAT PRIZES!
SAFER INTERNET DAY 2010

CyberSAFE Digest

- Web Zine Archive
- e-Security Bulletin
- CyberSAFE Newsletter
- Guidelines

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- Video
- Poster
- Games & Quizes
- Cyber Tools

CyberSAFE Community

- CyberSAFE Ambassador
- Learning Zone
- ActiveZone
- News Highlights

CyberSAFE Help

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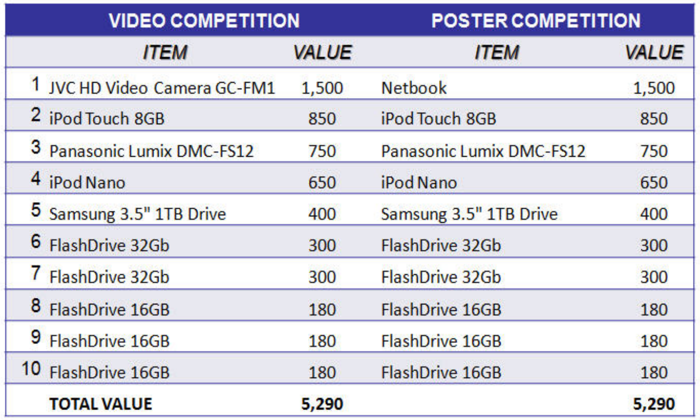
CyberSAFE Activities

CyberSAFE Awareness Talk

"Ask not what your country can do for you- ask what you can do for your country."
Join Us CYBERSAFE AMBASSADOR PROGRAM

CyberSAFE Forum

CyberSAFE Multimedia References



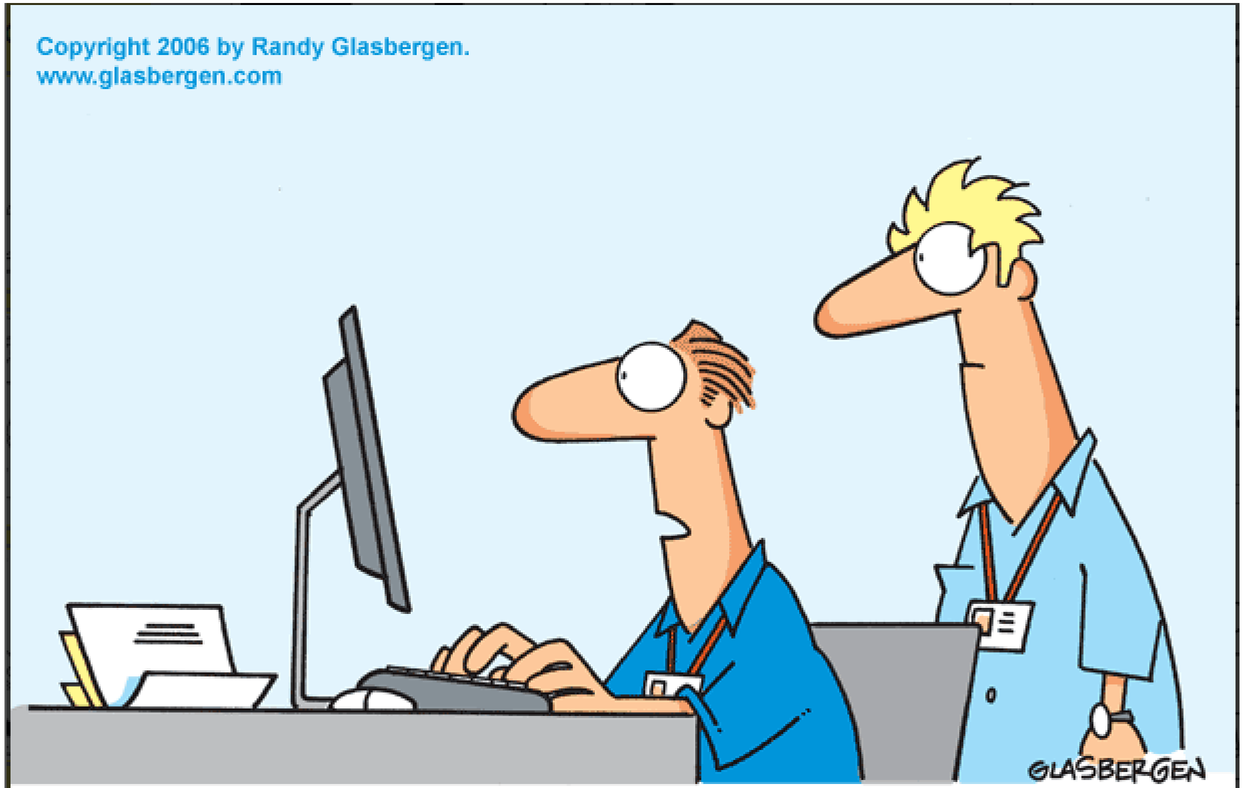
	VIDEO COMPETITION		POSTER COMPETITION	
	ITEM	VALUE	ITEM	VALUE
1	JVC HD Video Camera GC-FM1	1,500	Netbook	1,500
2	iPod Touch 8GB	850	iPod Touch 8GB	850
3	Panasonic Lumix DMC-FS12	750	Panasonic Lumix DMC-FS12	750
4	iPod Nano	650	iPod Nano	650
5	Samsung 3.5" 1TB Drive	400	Samsung 3.5" 1TB Drive	400
6	FlashDrive 32Gb	300	FlashDrive 32Gb	300
7	FlashDrive 32Gb	300	FlashDrive 32Gb	300
8	FlashDrive 16GB	180	FlashDrive 16GB	180
9	FlashDrive 16GB	180	FlashDrive 16GB	180
10	FlashDrive 16GB	180	FlashDrive 16GB	180
	TOTAL VALUE	5,290		5,290

CyberSAFE Digital Content Competition

CyberSAFE Community Partners

CONCLUSION

Security is **EVERYONE’s** responsibility!



“Information security is a major priority at this company.
We’ve done a lot of stupid things we’d like to keep secret.”

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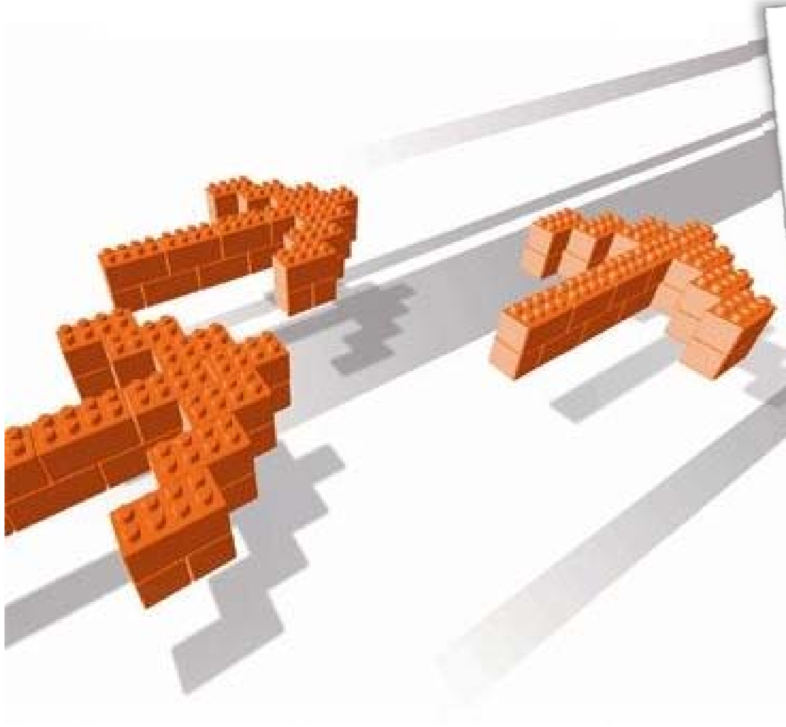

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