

中技社 『美中科技戰發展與我國產業面臨之挑戰與機會』研討會

# 美中科技戰產業界的因應經驗- 以半導體產業為例

*誰殺了阿基米德？ Who Killed Archimedes?*

張振倫 Lucas S. Chang

Taipei, Taiwan

November 11, 2019

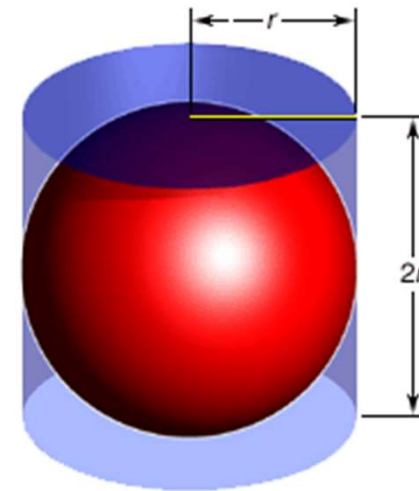
# *Who Was Archimedes?*

- Second Punic War (218 – 201 BC) 第二次布匿戰爭
  - A **war arising from trade conflict** between two great powers of antiquity
  - The siege and fall of Siracusa (214 – 212 BC)
  - A great *technologist* came onto the scene
  
- *Give me a place to stand on, and I can lift the earth.”*

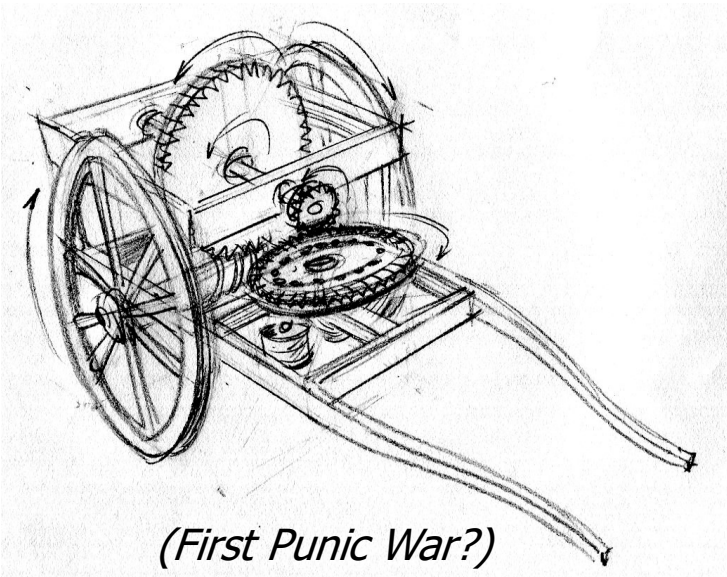
Archimedes of Syracuse (c. 287 – 212 BC)

# Mathematician, physicist, engineer, . . .

-Eureka!



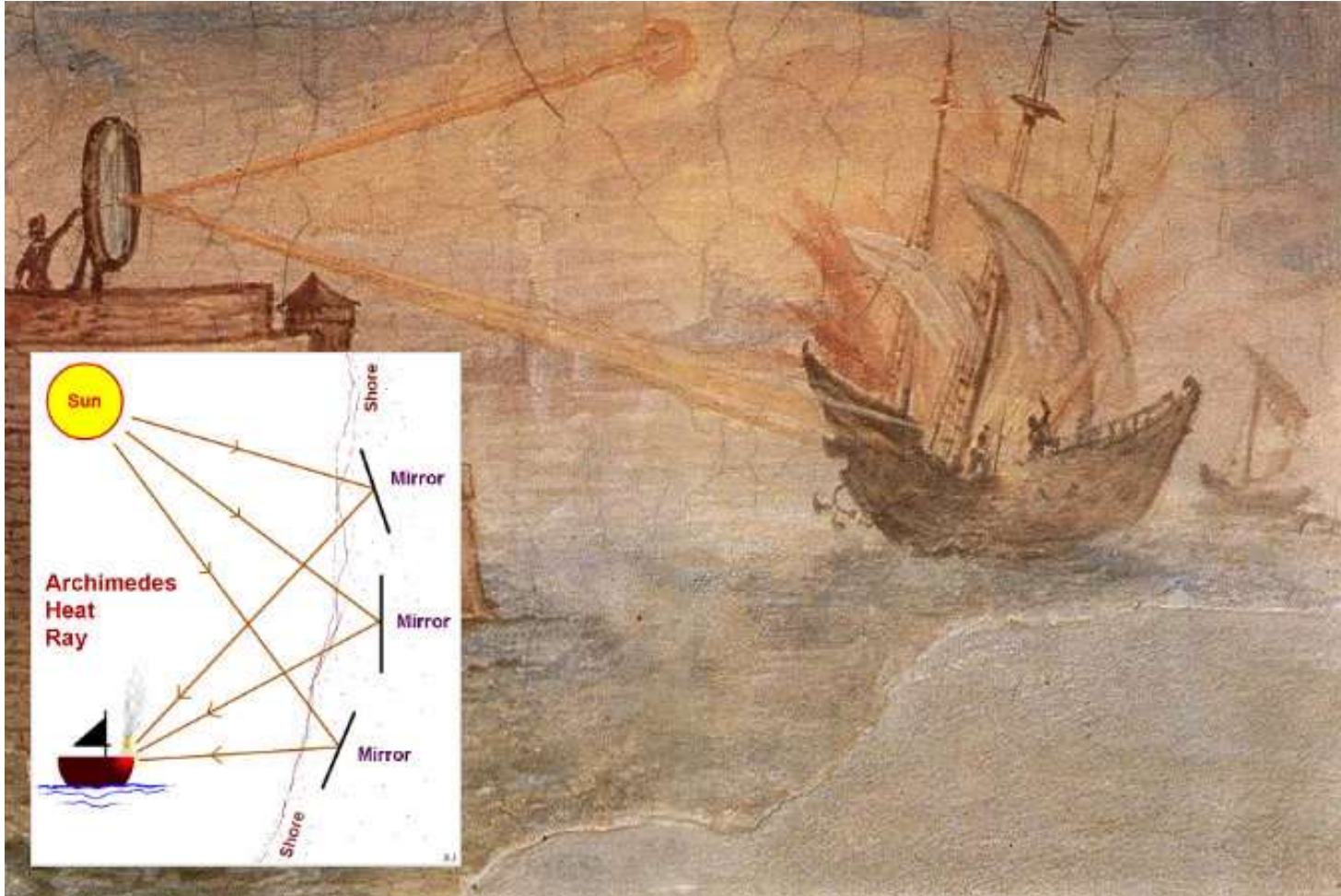
(Various Sources)



3

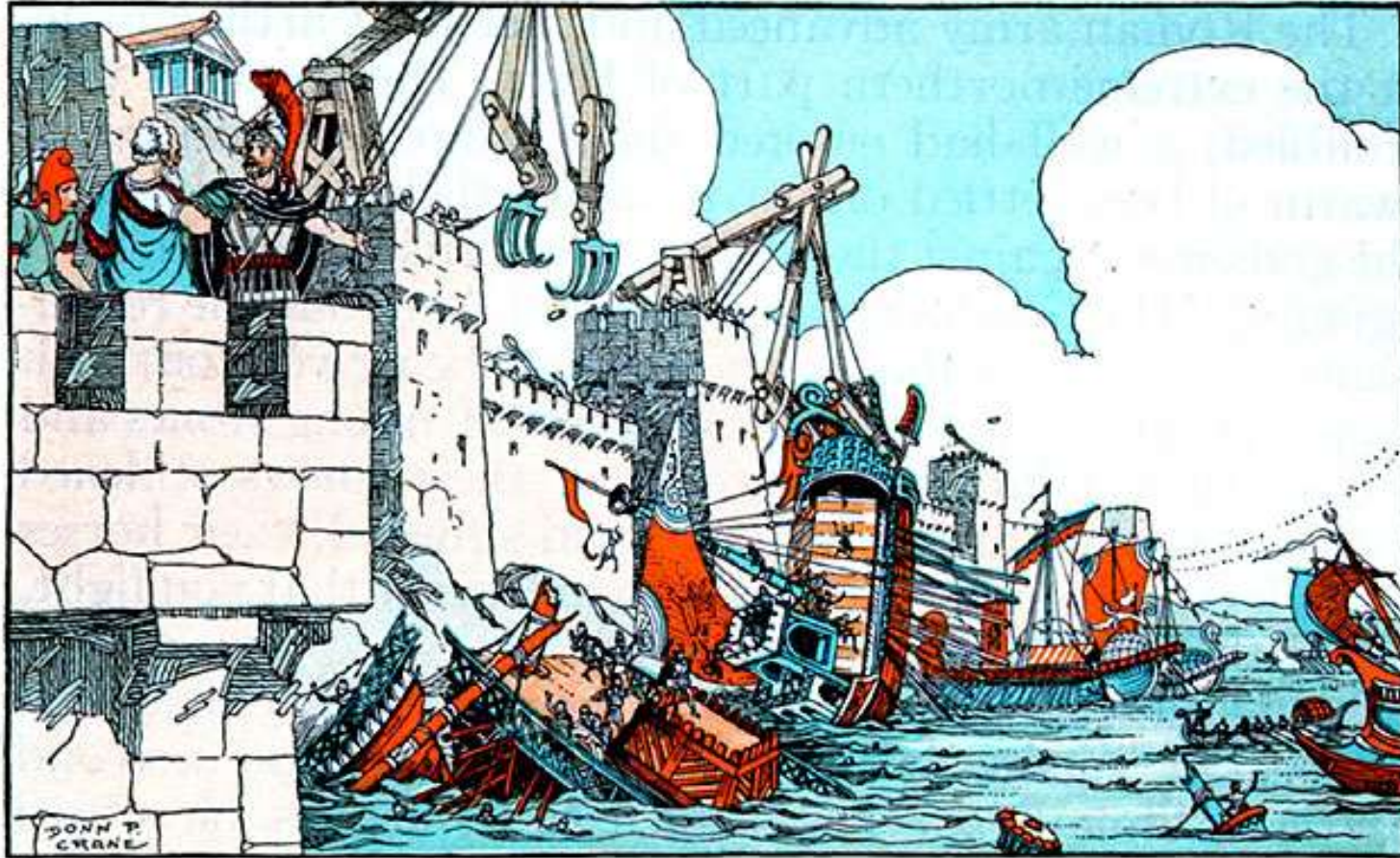
(First Punic War?)

# Archimedes' Heat Ray



*Source:* theepochtimes.com

# Archimedes' Iron Claw



*Source:* cs.drexel.edu

# *Killing Archimedes*



Thomas Degeorge (1815)

# The Moral of the Story

- 已有的事後必再有；已行的事後必再行。日光之下並無新事。(There is no new thing under the sun.)

傳道書 Ecclesiastes 1:9

- *It ain't over till it's over."*

Yogi Berra

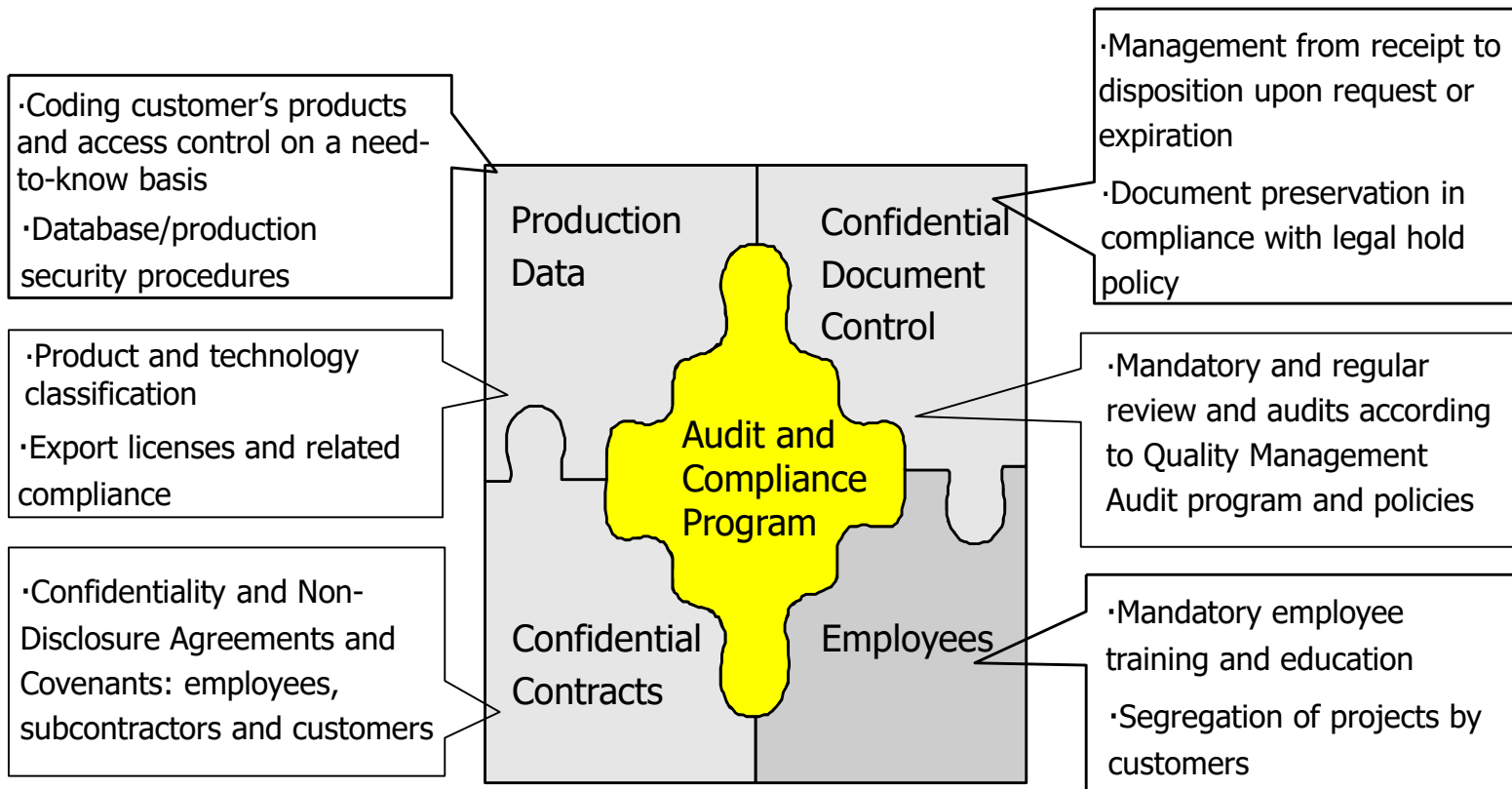
- *What shall we do (so as not to become the next Archimedes)?*

- ✓ **Be patient**

- ✓ **Be prudent**

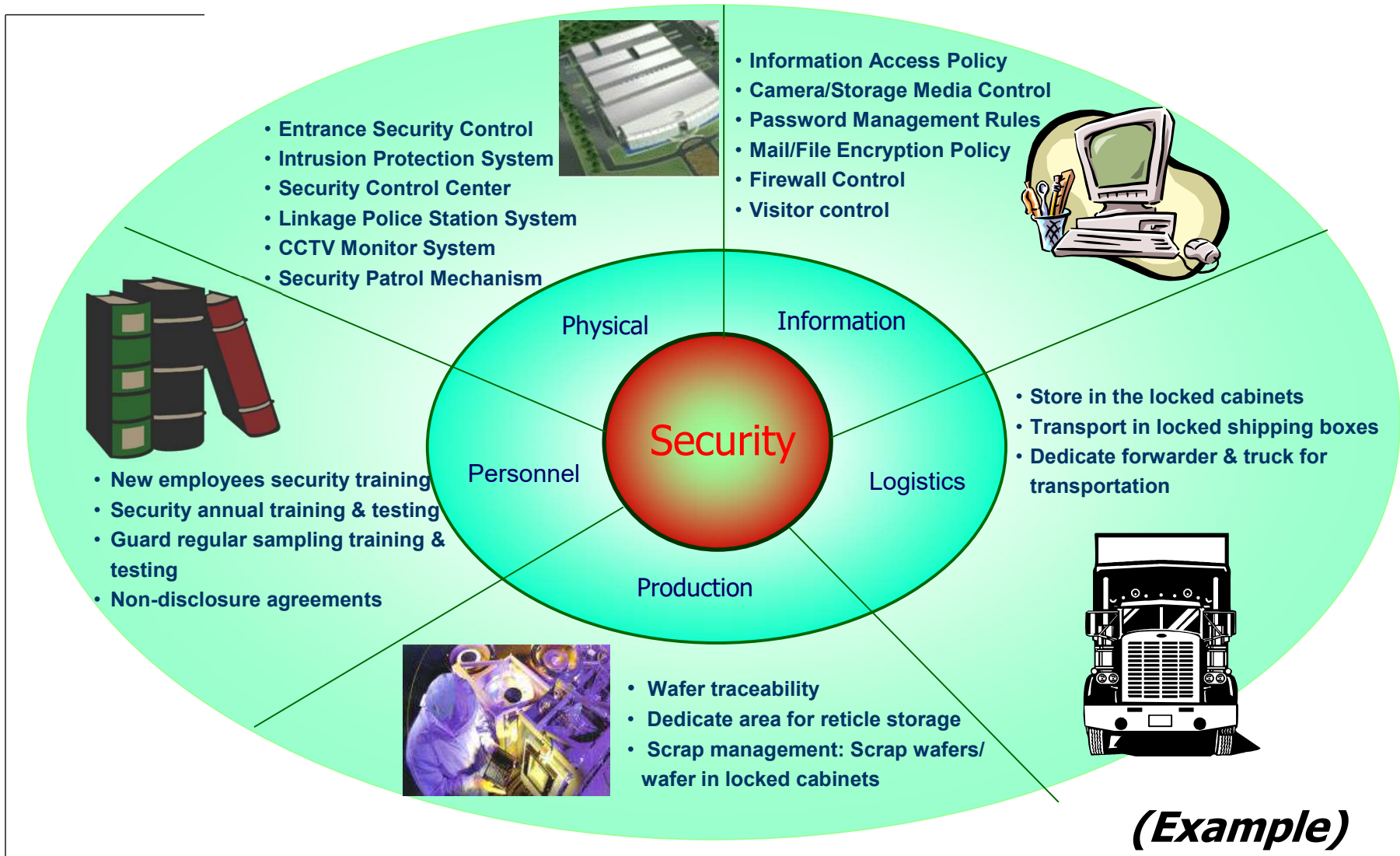
- ✓ **Be prepared**

# Legal Compliance





# Data/Information Protection



# ISO/IEC 27001 Information Security Management ISO/IEC 15408 Physical Security

(Samples)

**bsi.**  By Royal Charter

## Certificate of Registration

INFORMATION SECURITY MANAGEMENT SYSTEM - ISO/IEC 27001:2013

This is to certify that:

**Hiinchu Science Park**  
Hiinchu City  
300  
Taiwan

Holds Certificate No: **IS 532879**  
and operates an Information Security Management System which complies with the requirements of ISO/IEC 27001:2013 for the following scope:

The provision of development, operation and maintenance of internal information systems and management of related server rooms activities and network infrastructure supporting activities within Information Technology Division.  
This is in accordance with the Statement of Applicability, Ver. 2.0, dated 13 Sep. 2014.

For and on behalf of BSI:   
Chris Cheung, Head of Compliance & Risk - Asia Pacific

Original Registration Date: 10/03/2008 Effective Date: 10/03/2017  
Latest Revision Date: 25/02/2017 Expiry Date: 09/03/2020

  Page: 1 of 2

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<b>Tainan Science Park</b> Sirahih Dist. Tainan City 741 Taiwan	The provision of development, operation and maintenance of internal information systems and management of related server rooms activities and network infrastructure supporting activities within Information Technology Division.
<b>Singapore</b> Singapore	The provision of development, operation and maintenance of internal information systems and management of related server rooms activities and network infrastructure supporting activities within Information Technology Division.

Original Registration Date: 10/03/2008 Effective Date: 10/03/2017  
Latest Revision Date: 25/02/2017 Expiry Date: 09/03/2020

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 Bundesamt für Sicherheit in der Informationstechnik

## Deutsches IT-Sicherheitszertifikat

erstellt von

**BSI-DSZ-CC-S-0074-2016**

**Maskendatensatz-Produktion**

Life cycle phase: Mask data optimization, wafer foundry

Assurance (\*): Common Criteria Part 3 conformant  
- ALC\_CMC.5, ALC\_CMS.5, ALC\_DVS.2,  
ALC\_LCD.1  
- ALC\_DEI.1, ALC\_TAT.3

valid until: 3 November 2018

The site identified in this certificate has been evaluated by an approved evaluation facility using the Common Methodology for IT Security Evaluation (CEM), Version 3.1 extended by BSI Scheme procedures including the Supporting Document Guidance CCM-3007-11-001 for conformance to the Common Criteria for IT Security Evaluation (CC), Version 3.1.

This certificate applies only to the specific site as indicated above and in conjunction with the complete content of the Certification Report and the Site Security Target.

(\*): For information on the evaluated scope of the certified site and the application of the assurance components listed above and their relevance and applicability for the certified site see Certification Report.

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Born, 4 November 2016  
For the Federal Office for Information Security

  
Bernd Kowatz  
Head of Department



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言語純全，無可指責，叫那反對的人，... 無處可說我們的不是 ...  
(... and soundness ... that cannot be condemned, so that those who oppose you ...  
have nothing bad to say about [you].)

提多書 Titus 2:8

# 中美科技戰之一面



# Subject to Export Administration Regulations (EAR)

- All items in the United States 美國境內之品項
- All U.S.-origin items wherever located 源於美國之品項
- Non-U.S.-origin items outside the United States:
  - Non-U.S.-origin item that incorporates more than a *de minimis* threshold of U.S.-origin controlled content (i.e., the **De Minimis Rules**) ( 微量原則 )
  - Non-U.S.-origin item that is a direct product of (i) certain U.S. technology or software, or (ii) a plant or major component that itself is the direct product of certain U.S.-origin technology (i.e., the [Foreign] **Direct Product Rule**) ( 直接[外國]產品原則)
- *Exceptions*
  - Items that are exclusively controlled for export or reexport by other departments and agencies; e.g., patents (USPTO), defense articles (Department of State), and commodities related to nuclear reactor vessel (Nuclear Regulatory Commission)
  - Prerecorded phonograph records, printed books, pamphlets, and miscellaneous publications (non-technical)
  - Certain publicly available software and information such as fundamental research information, and non-proprietary system descriptions

# Export Control - *How?*

物

***What is being exported?***

- Product classification
- Technology classification

地

***Where is it going?***

- Destination country
- By any means: shipping, mailing, email, phone call, meeting, etc.
- Export, transit and transfer
- Country chart and country groups

人

***Who is receiving it?***

- Corporation
- Entity on the Restricted Lists
- Foreign nationals

事

***What is the end use?***

- Commercial
- Chemical/biological weapons
- Nuclear weapons
- Firearms
- Missiles

# The End of Time

- *"The future ain't what it used to be."*
- *"If you don't know where you are going, you might wind up someplace else."* Yogi Berra

- At the end of the Third Punic War in 146 BC, the deadly conflict between the Romans and the Carthaginians ended with a jubilant Rome and an obliterated Carthage.

➤ ***But will there always be a triumphant Rome?***



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## 美中科技戰半導體產業的因應經驗：

*誰殺了阿基米德？*

*Thank you!*

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