

APAM 2011

New Research Paradigm of Asia Pacific Intellectual Collaboration



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Assessment)**

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***Australia India
Korea Russia
Uzbekistan
China Japan
Mongolia
Hong Kong
singapore
Taiwan***



**Congratulations,
Prof Hwang of
Tsing Hua
University for
becoming the
new President of
APAM!**

**Research Paradigm cannot
be isolated with the
geographical and political
landscapes!**



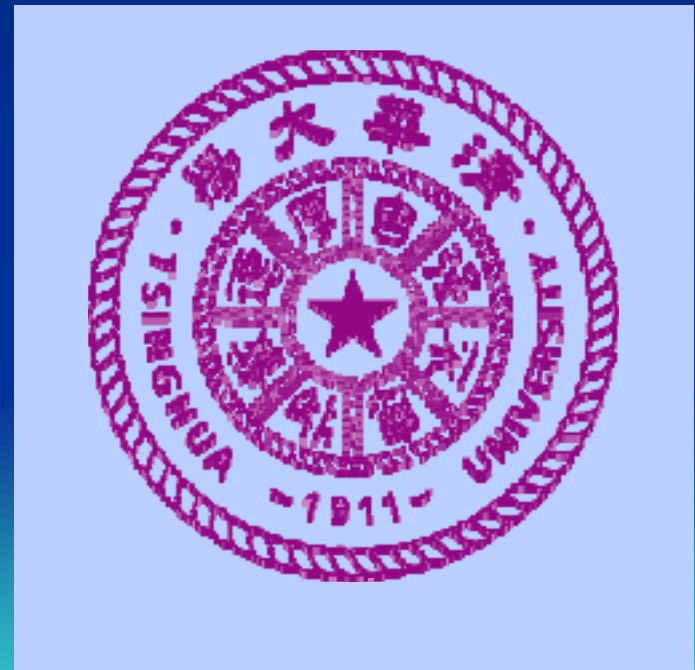
**First, Cross Straits
Scientific Collaborations:
Cross Straits is the
euphemism for Mainland
China and Taiwan**



**An interesting example:
it is intriguing that I am
now in Hsinchu's Tsing
Hua University.**



Beijing Tsinghua and Hsinchu Tsing Hua have nearly the same emblem!



1911 清華學堂(北京)

Tsing Hua College (Beijing)

1925 國立清華大學(北京)

National Tsing Hua University (Beijing)

1938-1946 國立西南聯合大學(昆明)

**National Southwest Union University
(Kunming)**

1946-1949 國立清華大學(北京)

National Tsing Hua University (Beijing)

1949-now 清华大学(北京)

Tsinghua University (Beijing)

1956-now 國立清華大學(新竹)

National Tsing Hua University (Hsinchu)

清華學校校歌

汪覺翔先生撰歌

何林一夫人作

(Eb 調 C)

1 13 5 5 | 6 16 5 5 | 3 3 53 1 | 6 1 2 5 —

(一) 西山蒼蒼東海茫茫吾校莊嚴巍然中央

(二) 左圖右史鄴架巍巍致知窮理學古探微

(三) 器識爲先文藝其從立德立言無間西東

6 6 61 5 | 3 2 32 1 | 2 5 54 5 | 6 6 76 5 | i·i 6 i

東西文化薈萃一堂大同爰躋祖國以光莘莘學子
新舊合冶殊途同歸肴核仁義聞道日肥服膺守善
孰紹介是吾校之功同仁一視泱泱大風水木清華

5·6 5 — | 6·6 5 3 | 2 23 5 — | 1·1 1 3 | 2 32 1 —

來遠方莘莘學子來遠方春風化雨樂未央
心無違服膺守善心無違海能卑下衆水歸
衆秀鍾水木清華衆秀鍾萬烟如一矢以忠

6·6 3 | 2 23 1 — | i i — 0 | 6 6 — 0 | 5 5 6 5

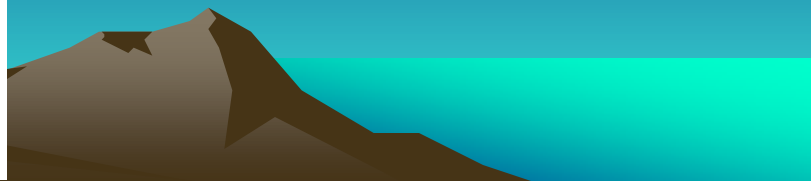
行健不息須自強 自強 自強 行健不息
學問篤實生光輝 光輝 光輝 學問篤實
赫赫吾校名無窮 無窮 無窮 赫赫吾校

2 3 5 — | i i — 0 | 6 6 — 0 | 5 5 6 5 | 2 32 1 —

須自強 自強 自強 行健不息須自強
生光輝 光輝 光輝 學問篤實生光輝
名無窮 無窮 無窮 赫赫吾校名無窮

(一九二四年三月十八日下午十二點半第一次全體練習)
二十三日三點一刻正式合唱)

Same Anthem



Eternal President Mei Yiqi for Beijing Tsinghua and Hsinchu Tsing Hua

1938 – 1949

1955 – 1962





清華百年校慶 兩岸同步慶祝

【本報綜合報導】兩岸昨天同步慶祝清華大學100周年校慶，馬英九總統與中國國家主席胡錦濤在各自出席己方校慶紀念會時，均發表談話，兩人都認為大學校園的國際化程度仍不夠，與國際一流學校仍有差距，仍需努力。



The broad and deep relationship between Beijing Tsinghua and Hsinchu Tsing Hua provide us with a glimpse of research collaboration hitherto unknown in the 20th century.





ASEAN



**APAM has some members
from ASEAN. I suggest
APAM, when appropriate,
expands its membership to
ASEAM members.**



Taken at China –ASEAN Forum on Education Collaboration, August 18, 2011 Bangkok



ASEAN – China P2P Forum

August 22 2011 Bangkok



17th ASEAN SUMMIT

Hanoi, 30 October 2010

CLOSING CEREMONY

17TH ASEAN SUMMIT

Hanoi, 30 October 2010



**Asia Pacific, especially
ASEAN had undergone
and is still undergoing
metamorphic
transformation in the
latter part of the 20th
century and certainly in
the 21st century!**

A stylized silhouette of a mountain range is visible at the bottom of the slide, rendered in dark brown and black tones against the blue background.

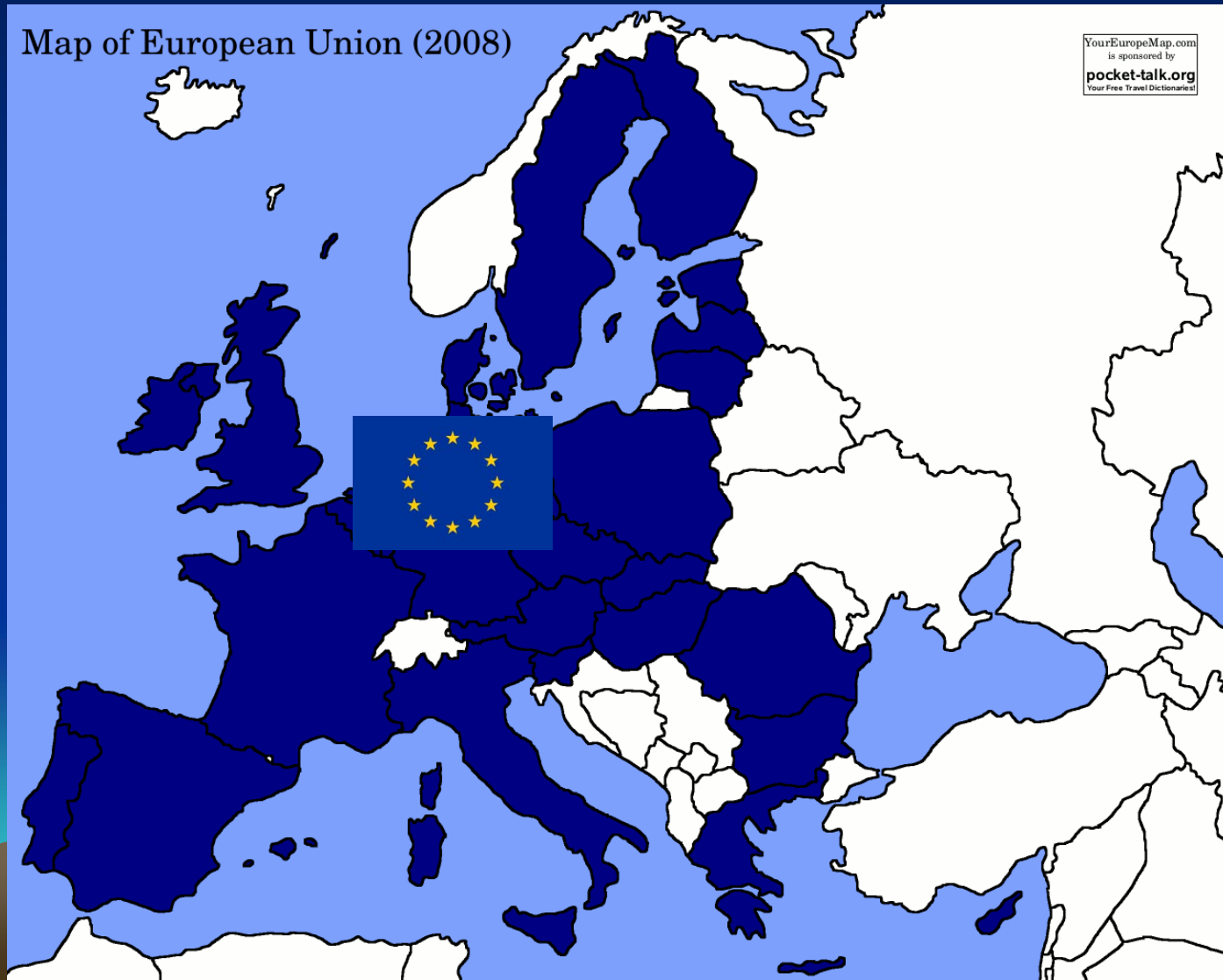
First example: Economic Defragmentation!



**The Association of
Southeast Asian Nations
(ASEAN) has signed a
charter creating a
borderless ASEAN
Community come 2015.**



European Union



ASEAN and China Free Trade Zone (10+1) Jan 1, 2010



**Also under discussion is 10 + 3 or
ASEAN + China+Korea+Japan**



**Second example of
transformation:
Geographical
defragmentation of
ASEAN**



**As of today, there is
perception and reality of
ASEAN nations are
geographically
fragmented!**



ASEAN is indeed geographically fragmented



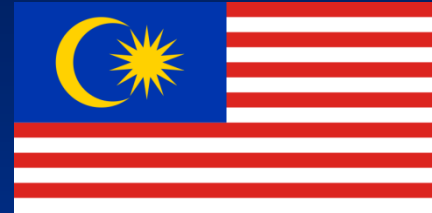
**21st century will see a
defragmentation of
ASEAN!**



Kunming (昆明) – Singapore (新加坡) High-speed rail to be completed in 2020



Indonesia and Malaysia



Indonesia

Population: 230 million

GDP: \$4000 (2008 estimate)

Malaysia

Population: 28 million

GDP: \$15,000





June 15, 2011



YUDHOYONO, (through translator): Yes, I realize that infrastructure is a particular challenge for our investment climate. Because of this, in the next five to 10 years, we have plans to prioritize infrastructure development. Be it ports, airports, transport, power plants, and other infrastructure that is needed.

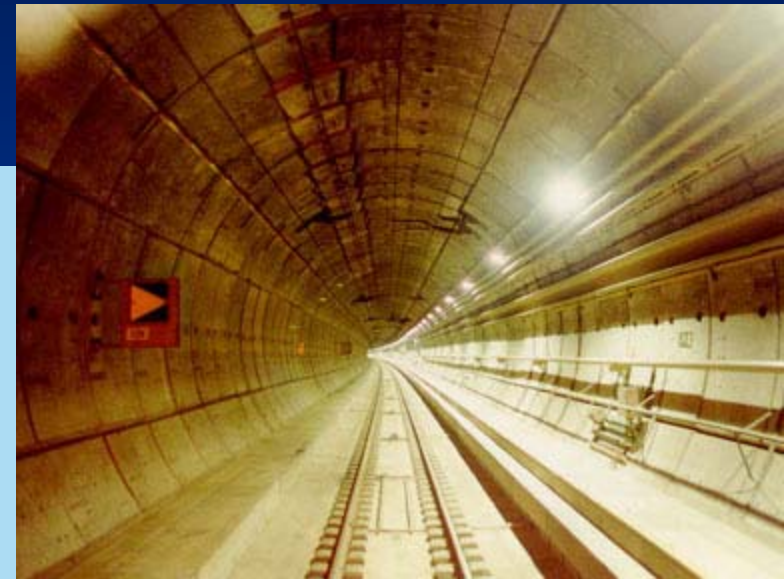
On July 8, I met with Tan Sri Ghauth Jasmon, Vice Chancellor of the University of Malaya, flagship university of Malaysia's research universities.



Vice Chancellor Ghauth Jasmon of the University of Malaya told me, which was confirmed by my Google search, that Malaysia and Indonesia are considering constructing an underwater tunnel between the two closest points between Malacca and Sumatra. The distance between these two points is a mere 38 kms.



UK-France 50 kms
Malacca – Sumatra 38 kms



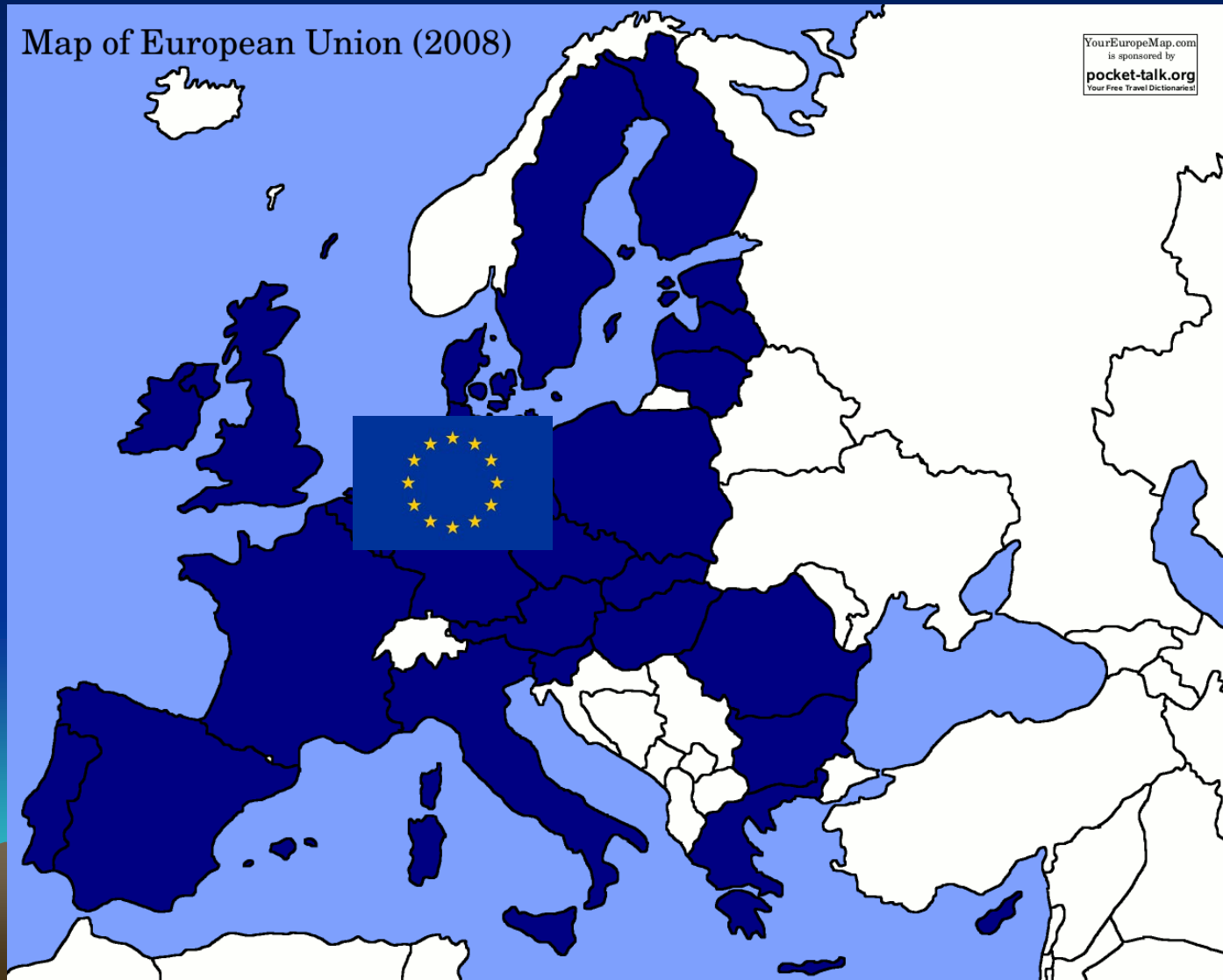
Shortest distance is 38 kms



**When all these
developments and
constructions become
reality, Asia Pacific will no
longer be geographically
fragmented.**



European Union



**One major advantages of
European nations
becoming European Union
is because they are not
geographically
fragmented.**



**So with de-fragmentation
of Asia Pacific in the “near”
horizon, surely there will be
metamorphic
transformation of
economic, political, even
cultural landscapes!**



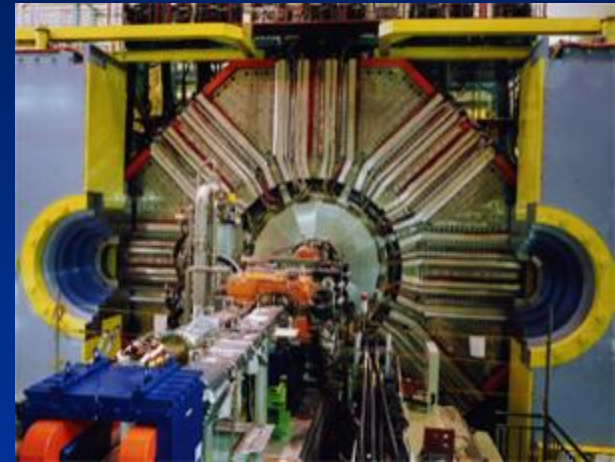
**Third Example of
Transformation:
Large Scale Scientific
Collaborations of Asia
Pacific in 21st century?**



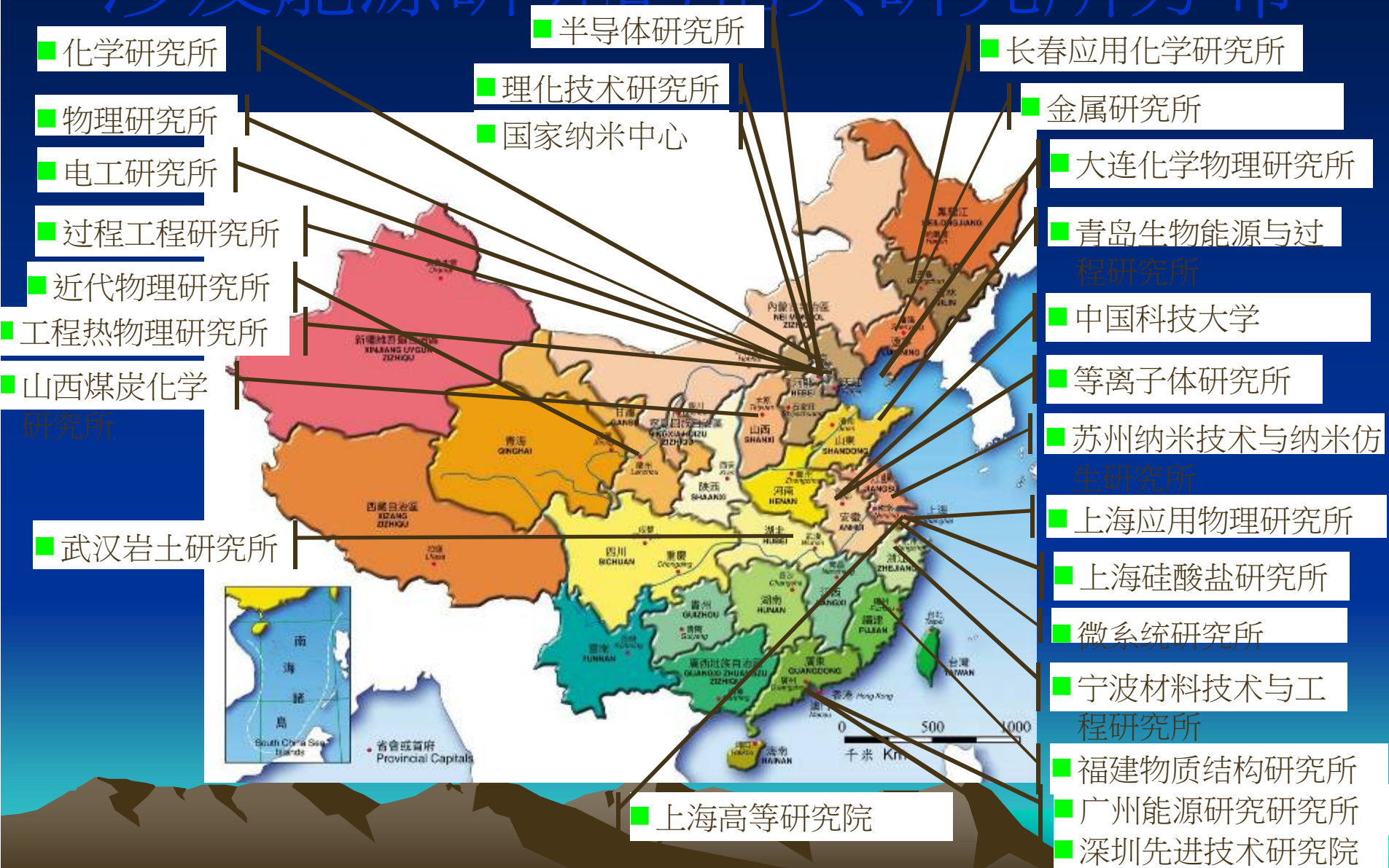
Building of Research facilities in Asia Pacific for basic research and applied research



KEK founded in 1954 as Institute of Nuclear Studies



涉及能源研究的相关研究所分布



Oct 16, 1988 Beijing Electron positron collision was realized at the BEPC. Started as basic research, then spin-off to applied research



Japan Spring-8 Super Photon Ring – 8 GeV



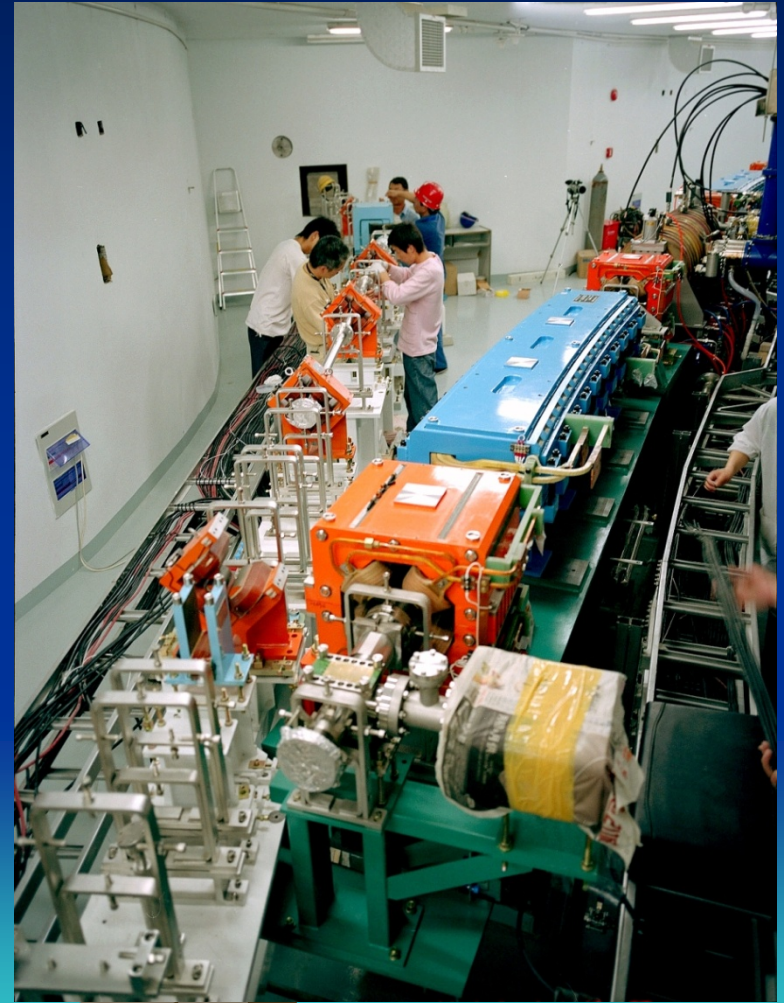
Hsin Chu Light Source 1993



Shanghai Synchrotron Radiation Center (2007)

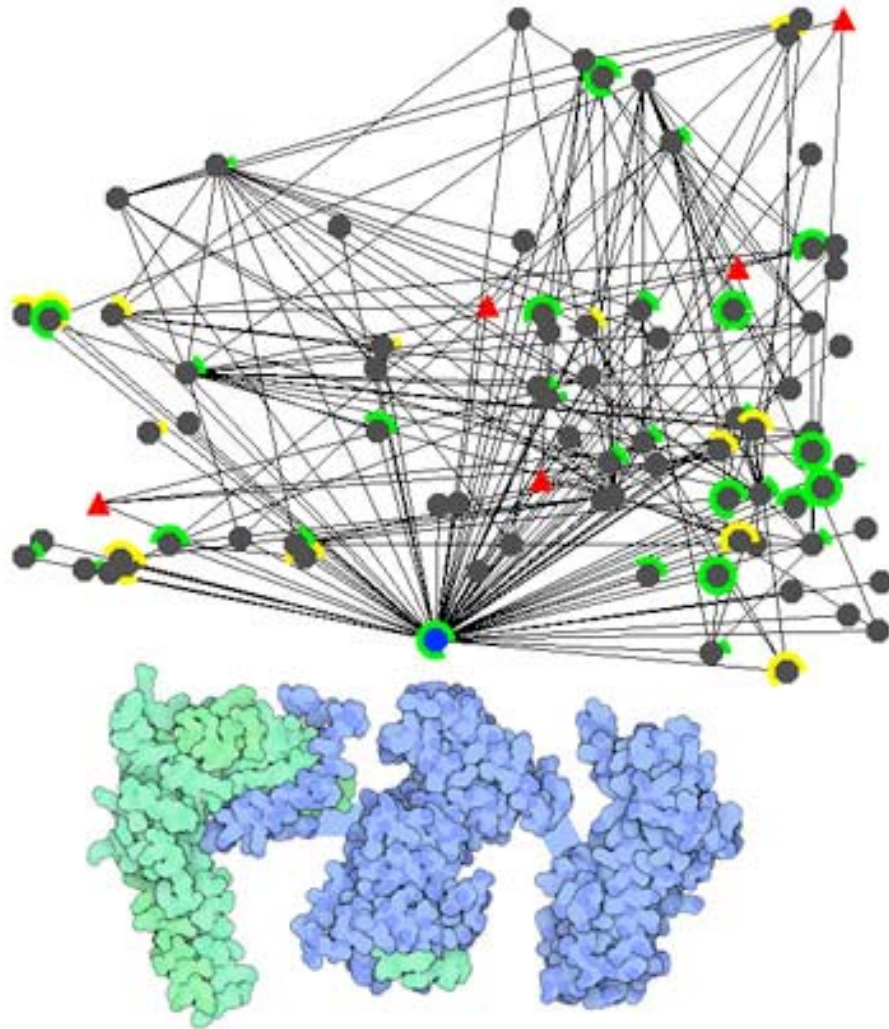


Shanghai Synchrotron Facility



Taiwan Photon Source - 2014





**Protein
crystallographic
studies with
synchrotron
facility**

Heavy Ion Research Facility in Lanzhou (HIRFL), the Radioactive Ion Beam Line in Lanzhou (RIBLL) 2007



Crab Nabula 蟹皇星

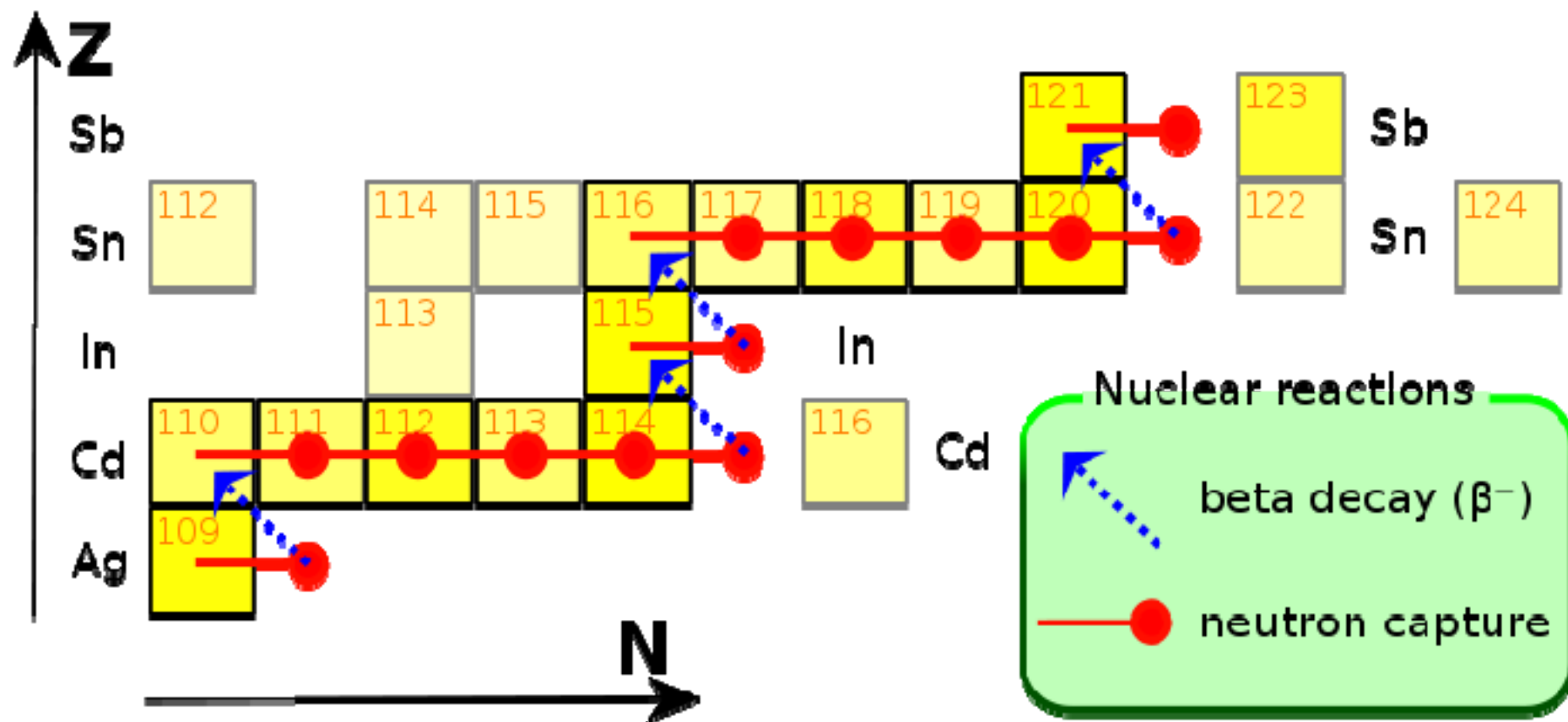


1054

(observed by
Chinese and
Arab
astronomers)

Nuclear Astrophysics





Daya Bay Nuclear Power Plant also serves as a neutrino detection facility





**Xiangdong Ji, Shanghai Jiaotong
University**

**PandaX” A Dark Matter Experiment in
Sichuan, China** In the southwest of
Sichuan China, a deep underground
tunnel provides an unprecedented
opportunity to build one of the deepest
science and engineering labs in the
world.



Rubber Research Institute in Kuala Lumpur



International Rice Research Institute in Thailand



**All this growth happened in
the last three to four decades,
when Asia Pacific region
economically saw an explosive
growth and politically moving
towards stability, albeit
awkward sometimes.**



These are some of the world class facilities currently under construction or constructed in Asia Pacific. However, they are all “national” facilities. They are state-of-the-art facilities for basic and applied sciences!



GLOBAL (全球)

Not

INTERNATIONAL

(國際)



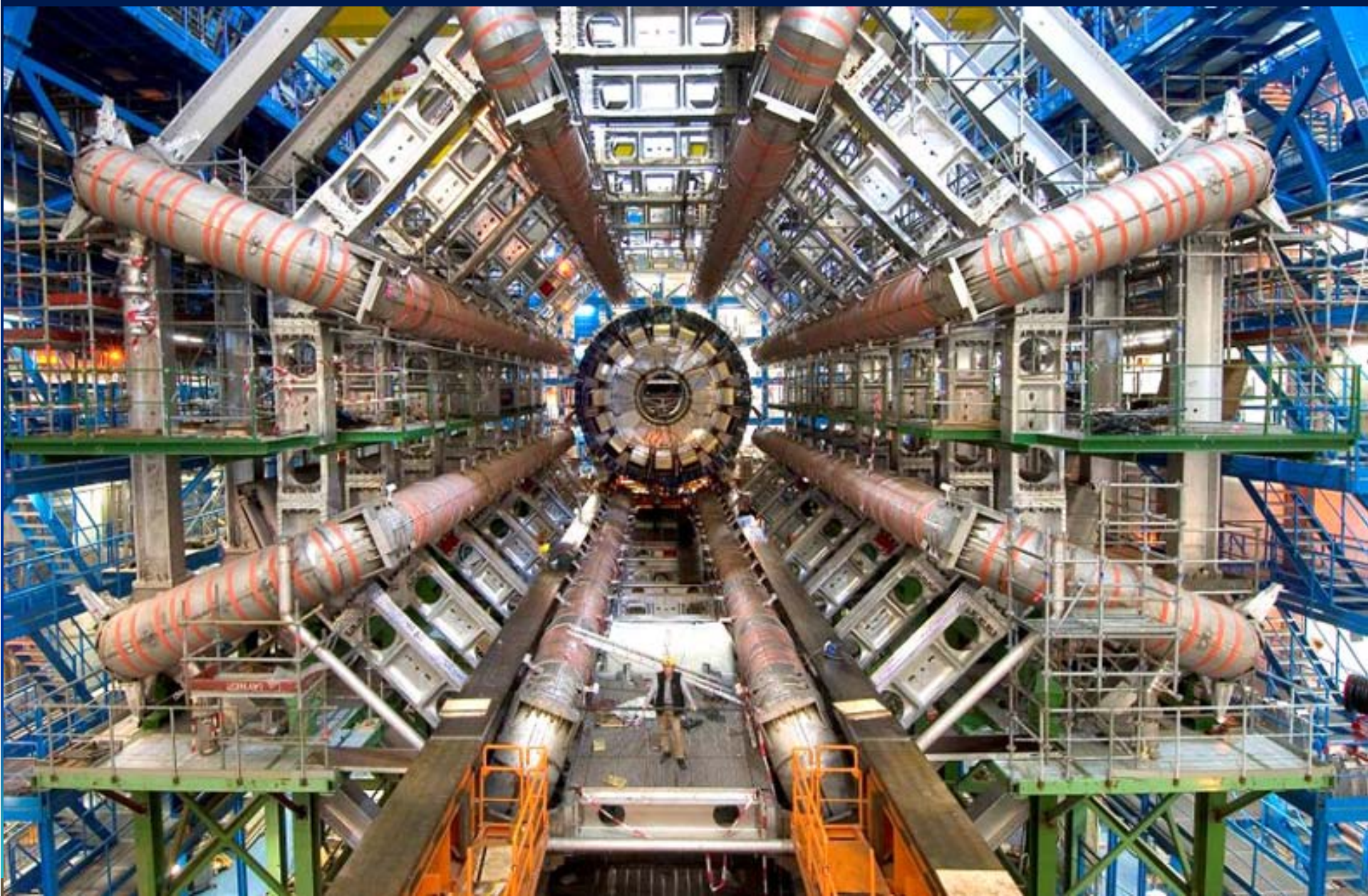
Global is “**inclusive.**”

Inter**national** is
“**exclusive.**”

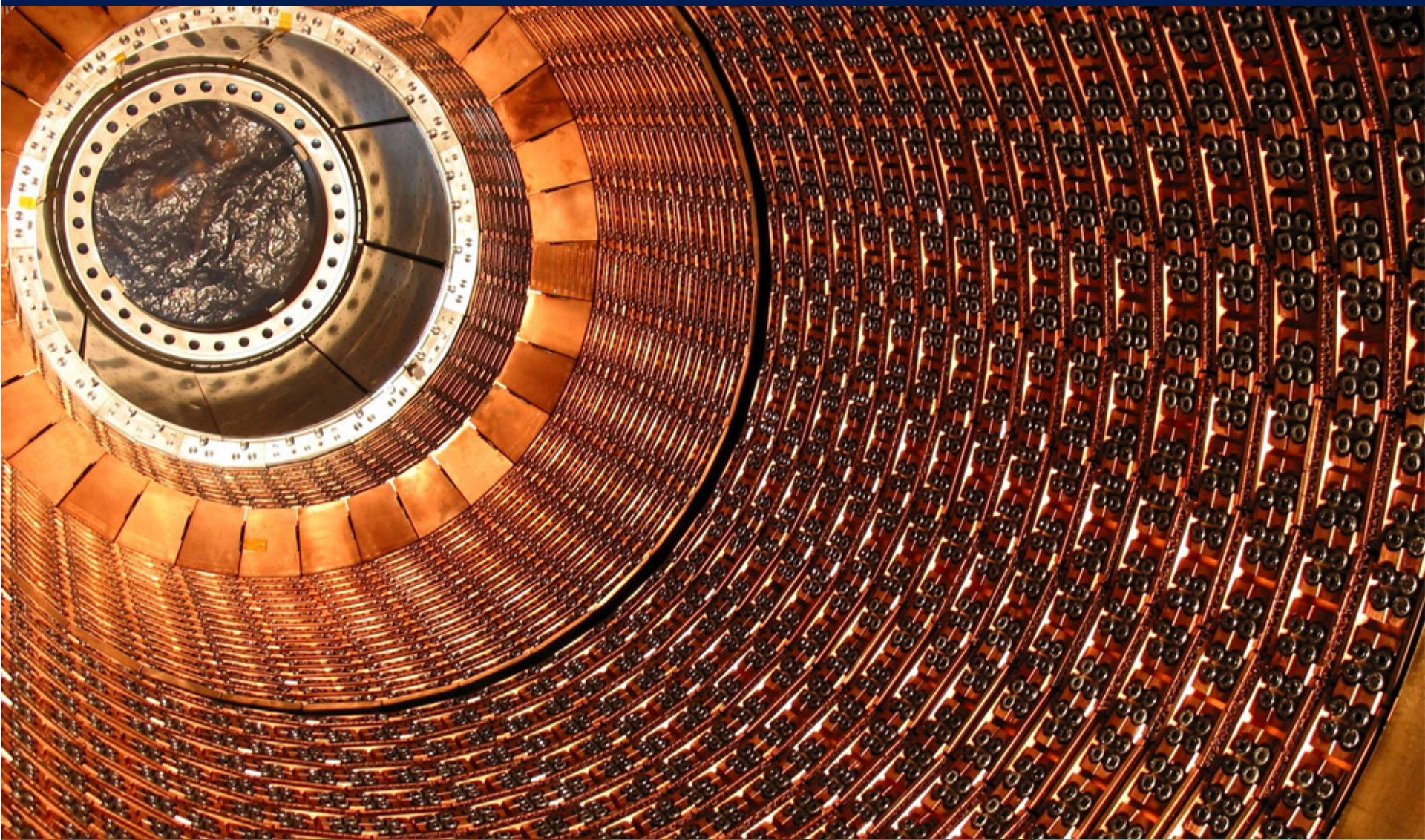


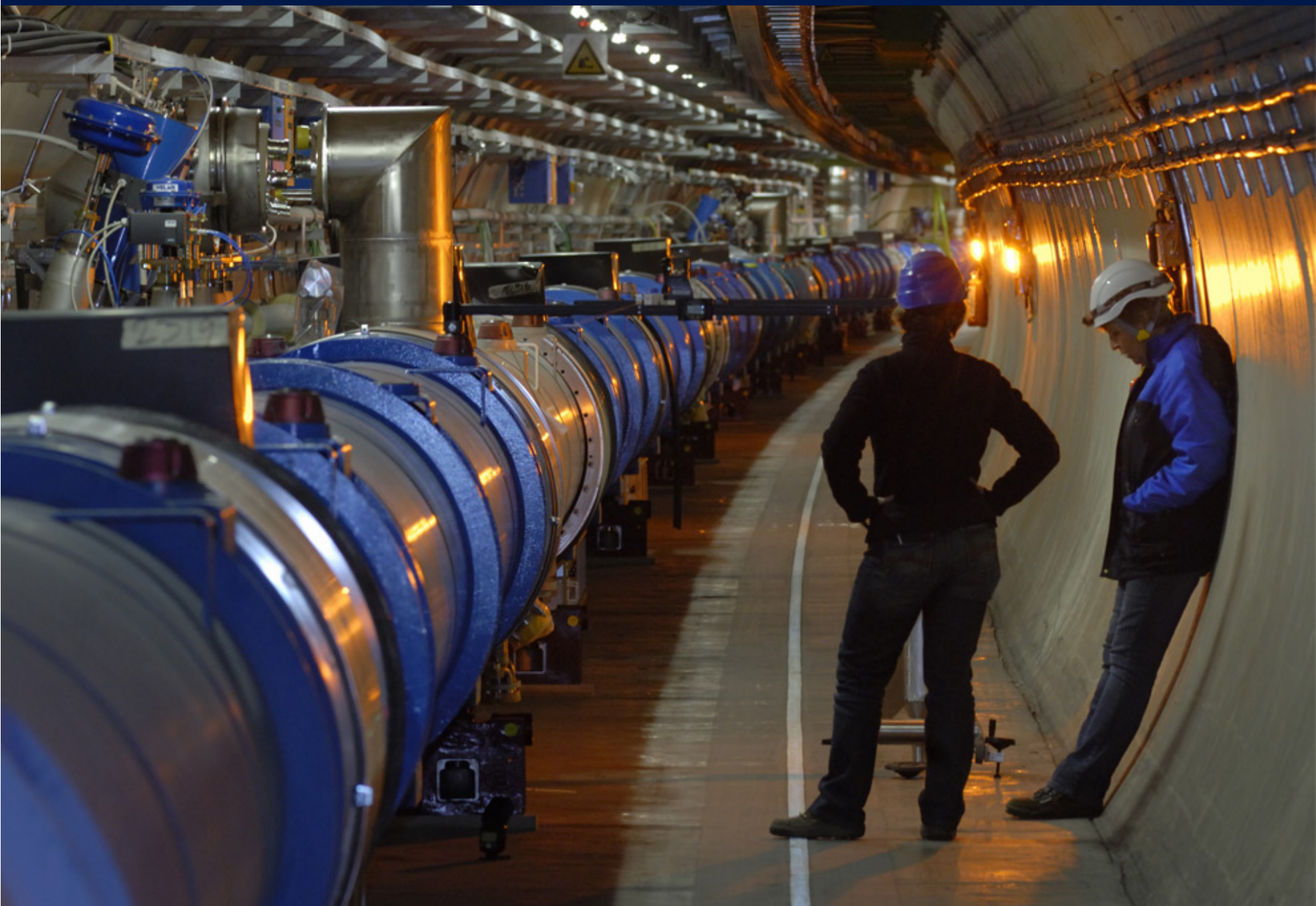
**Let me show you some slides now
and they are not MODERN ART,
although they could be because
they are so stunning!**

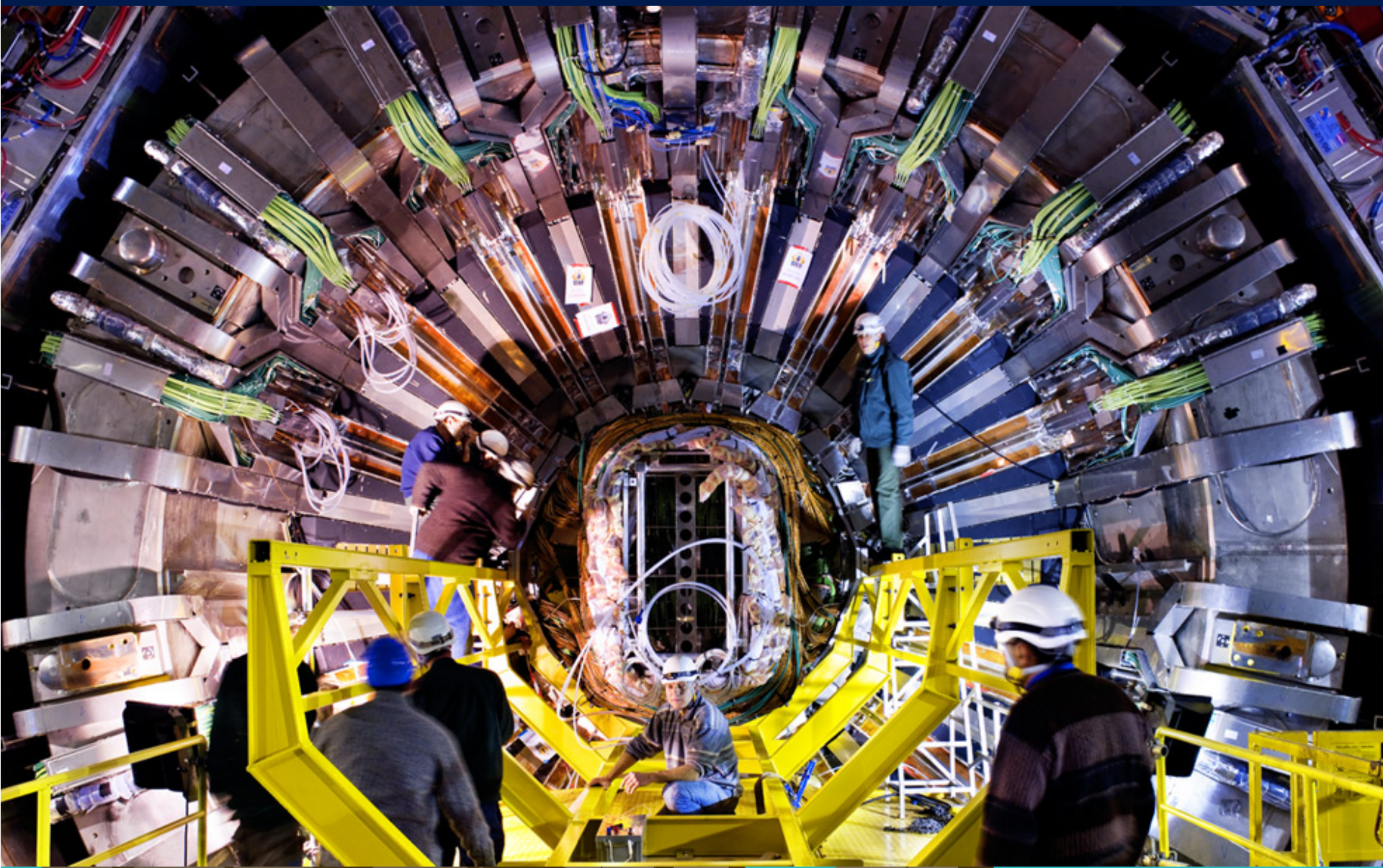






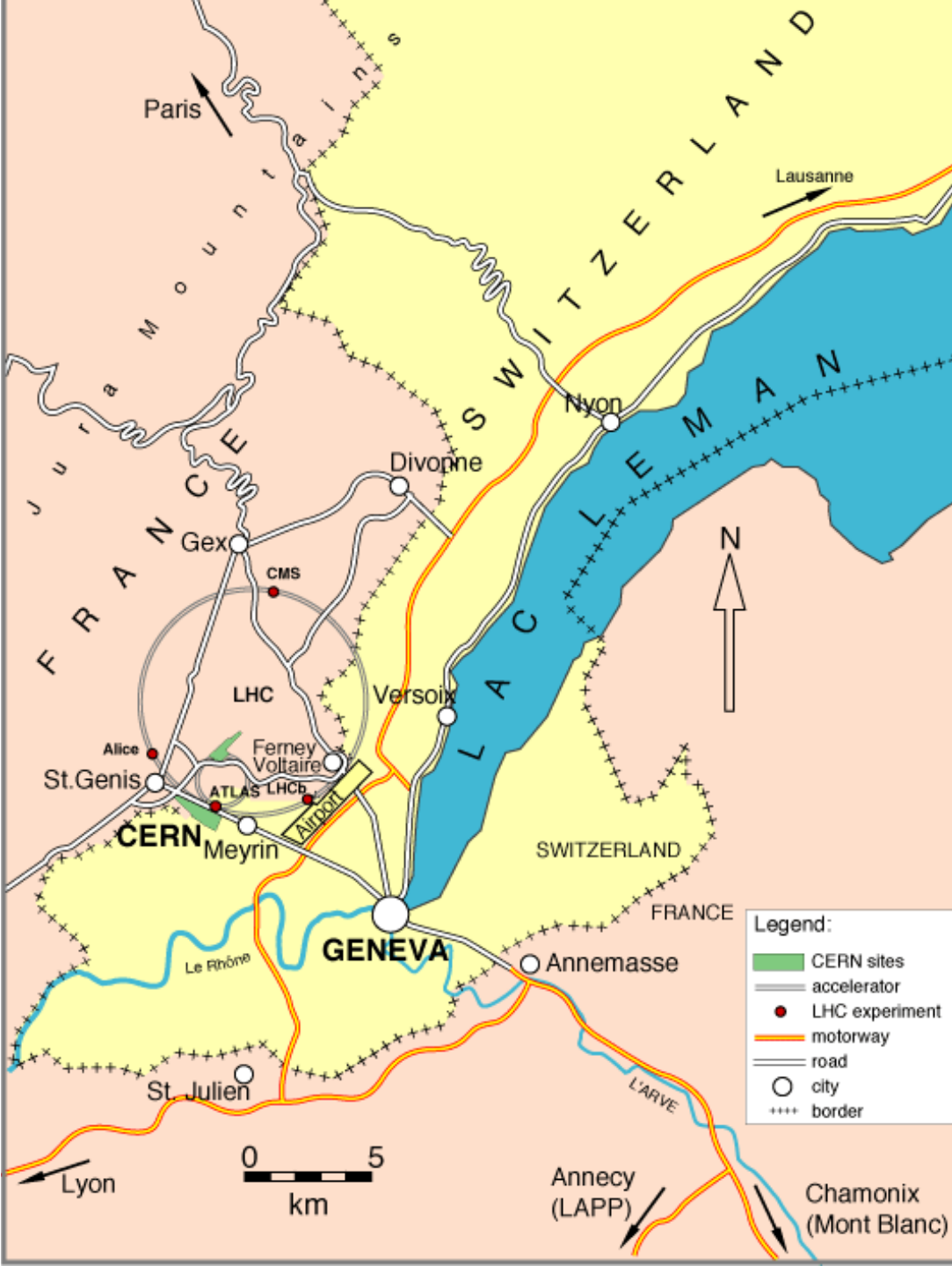






**Some of you may know
already. They are pictures of
the world's biggest subatomic
particle accelerator called
LHC, or Large Hadron
Collider.**





**This facility is
in the
European
Center for
Nuclear
Research, or
CERN, and it
sits in Genève,**



CERN



**CERN is not in London, Berlin, Paris
or Rome because Switzerland is
scientifically so superior. It is because
Switzerland is a NEUTRAL GROUND
for the BIG FOUR in Europe!**

**It is the best example of what REAL
collaboration can achieve!**



So two challenges facing Asia Pacific

1. With the region growing economically, should it also contribute to human knowledge significantly in the 21st century?

2. Is the time right for the region consider developing something similar to CERN in the 21st century? Is there a Switzerland-like place in the region?



**Can Asia Pacific
defragmentize their
scientific investigations in
a major way in the 21st
century?**



**Hence, facing such fast pace
and transformational nature
of Asia Pacific, how should
higher education build its soft
and hardware infrastructure
in this new century?**



Inherent Self- confidence



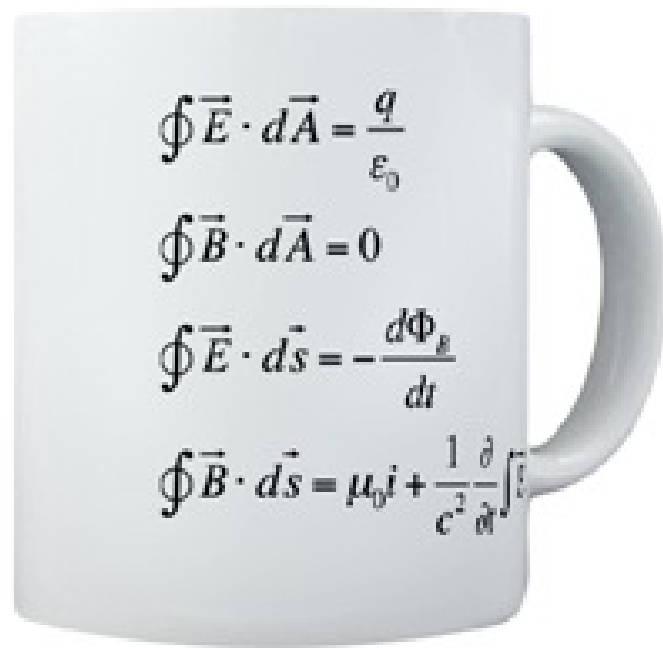
It is well documented
that before **Renaissance**,
China led the world in
technologies!



**By the time 19th century came
around, Europe standing on
the solid underpinning erected
from Renaissance, became the
global epic center of
intellectual achievements!**



Maxwell Equations



Chopin Nocturne

A Mademoiselle J.W. Shirling
Nocturne

Chopin
op. 55 nr 1

Andante

Piano

p

dim

Sheet Music from 8notes.com © Copyright 2007 Red Balloon Technology Ltd

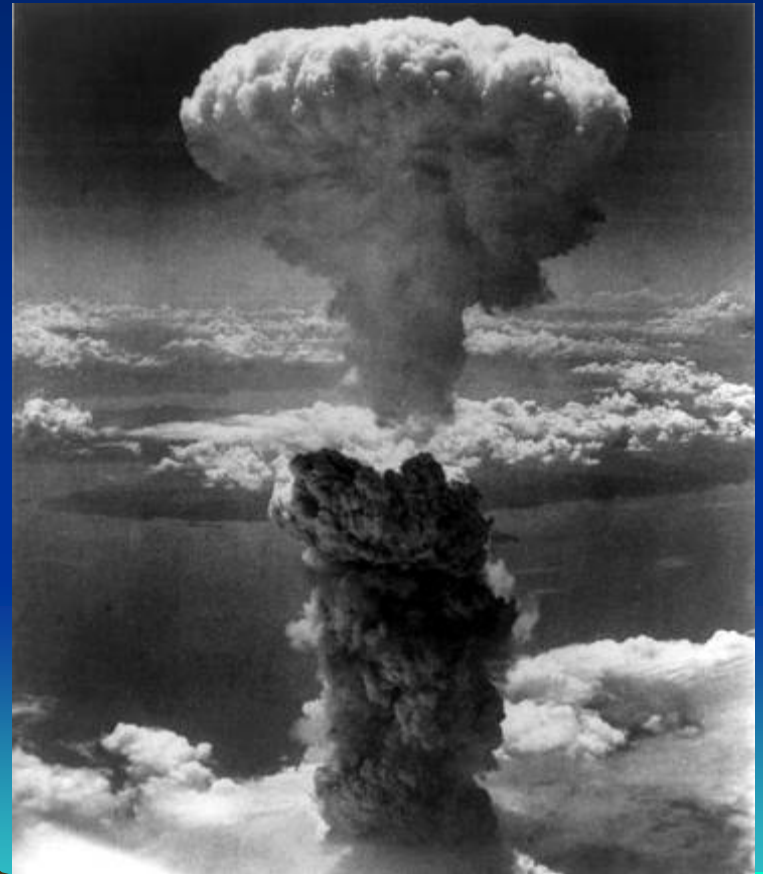
20th century saw the rise
of North America's
intellectual and economic
prowess ◦



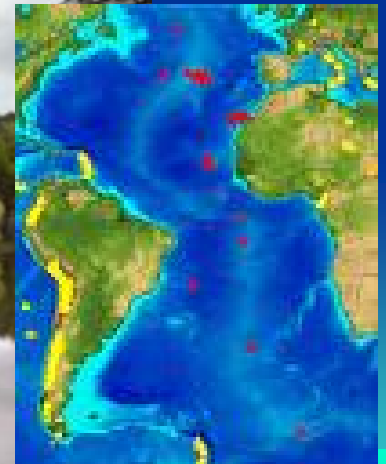
How did that happen?



WWI and WWII



While Europe and Asia were turned upside down by WWI and WWII, North America was like a castle protected by a moat!



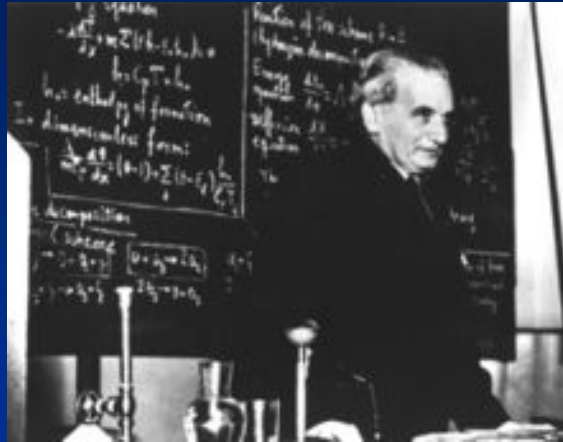
As a result, North America enjoyed one of the greatest brain-drain from Europe in the first half of the 20th century.



Albert Einstein

1879-1955

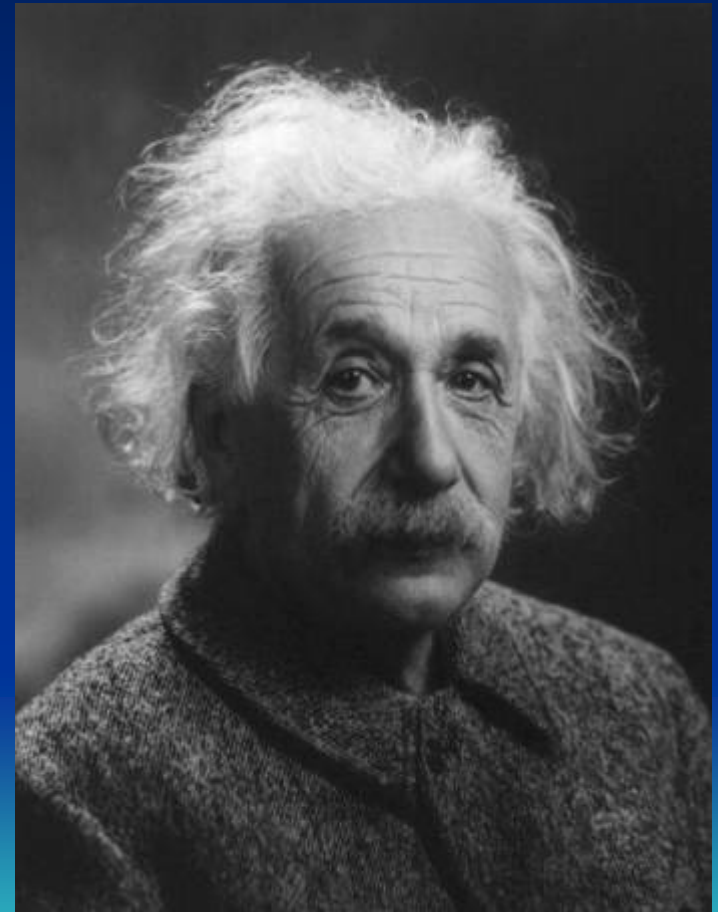
Theodore von Kármán
1881 - 1963



John von Neumann
1903-1957



Herman Weyl
1885-1955





Jascha Heifetz
1901-1981

Isaac Stern
1920-2001



Ludwig Mies van der Rohe (1886 – 1969)



After 1933, Nazi political pressure soon forced Mies to close the government-financed school. his style was rejected by the Nazis as not "German" in character. Frustrated and unhappy, he left his homeland reluctantly in 1937 and accepted an offer to head the department of architecture of the newly established Illinois Institute of Technology..

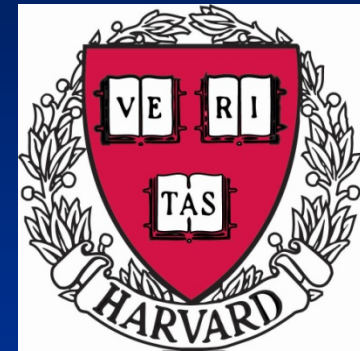
Supreme excellence!

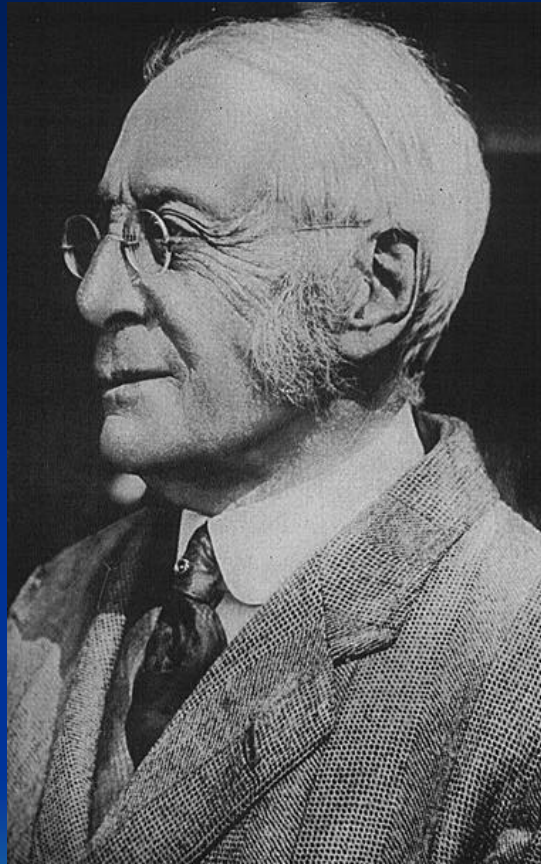


Coupling the supreme excellence
from Europe with robust culture of
the United States since 1766, North
American young people were able to
develop inherent self-confidence 内

涵信心!





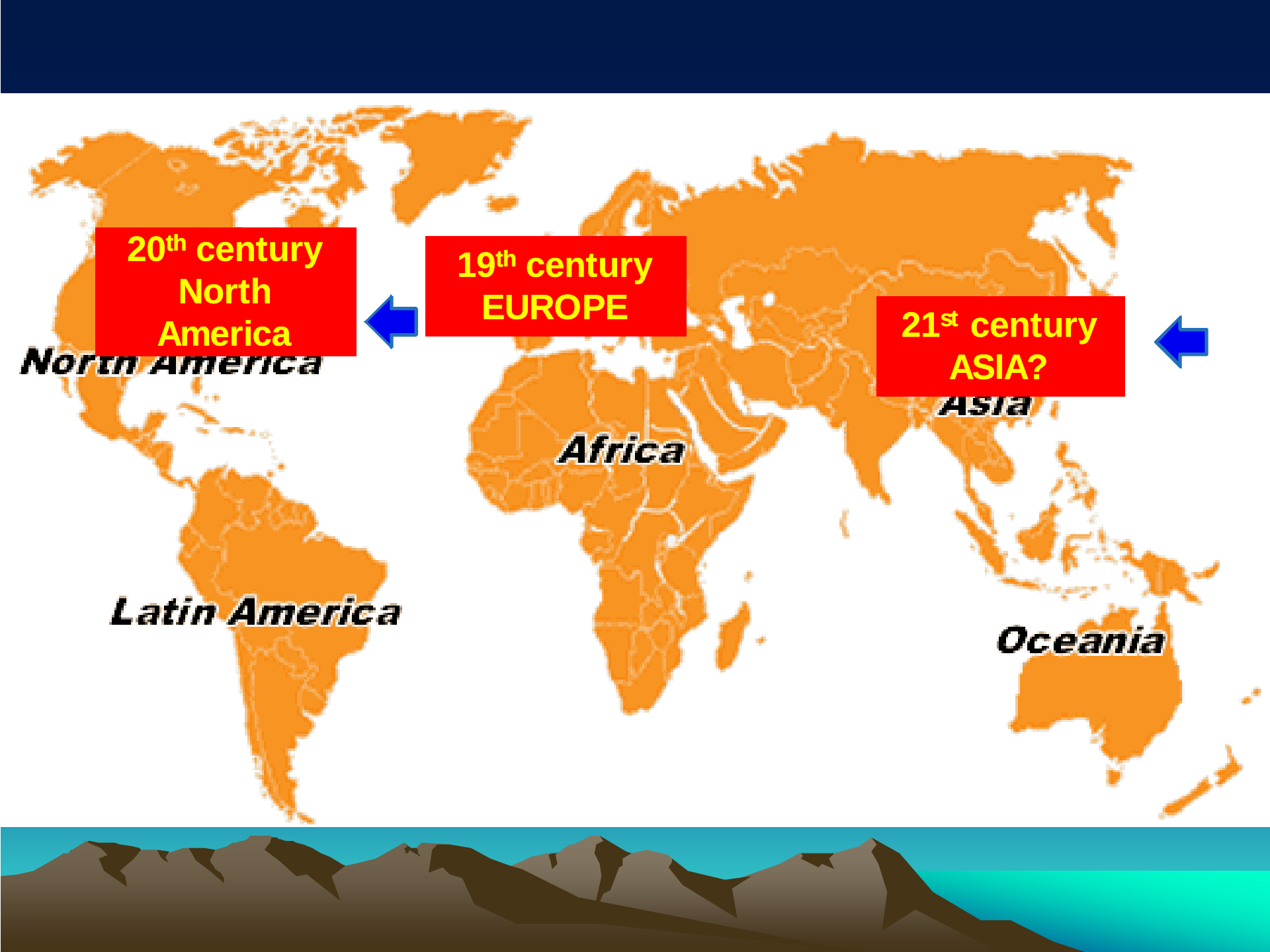


"... a university, in any worthy sense of the term, must grow from seed. It cannot be transplanted from England or Germany in full leaf and bearing. ... When the American university appears, it will not be a copy of foreign institutions, or a hot-bed plant, but the slow and natural outgrowth of American social and political habits... The American college is an institution without a parallel; the American university will be equally original."

**Charles Eliot, Harvard President
1869-1909**

"... a university, in any worthy sense of the term, must grow from seed. It cannot be transplanted from England or United States in full leaf and bearing. ... When the Asian Pacific university appears, it will not be a copy of foreign institutions, or a hot-bed plant, but the slow and natural outgrowth of Asian Pacific social and political habits... The Asian Pacific college is an institution without a parallel; the Asian Pacific university will be equally original."





**20th century
North
America**

**19th century
EUROPE**

**21st century
ASIA?**

North America

Africa

Asia

Latin America

Oceania



亞洲發展銀行

**Closing comment at Conference on
Global Financial Crisis: Industrial
Restructuring**

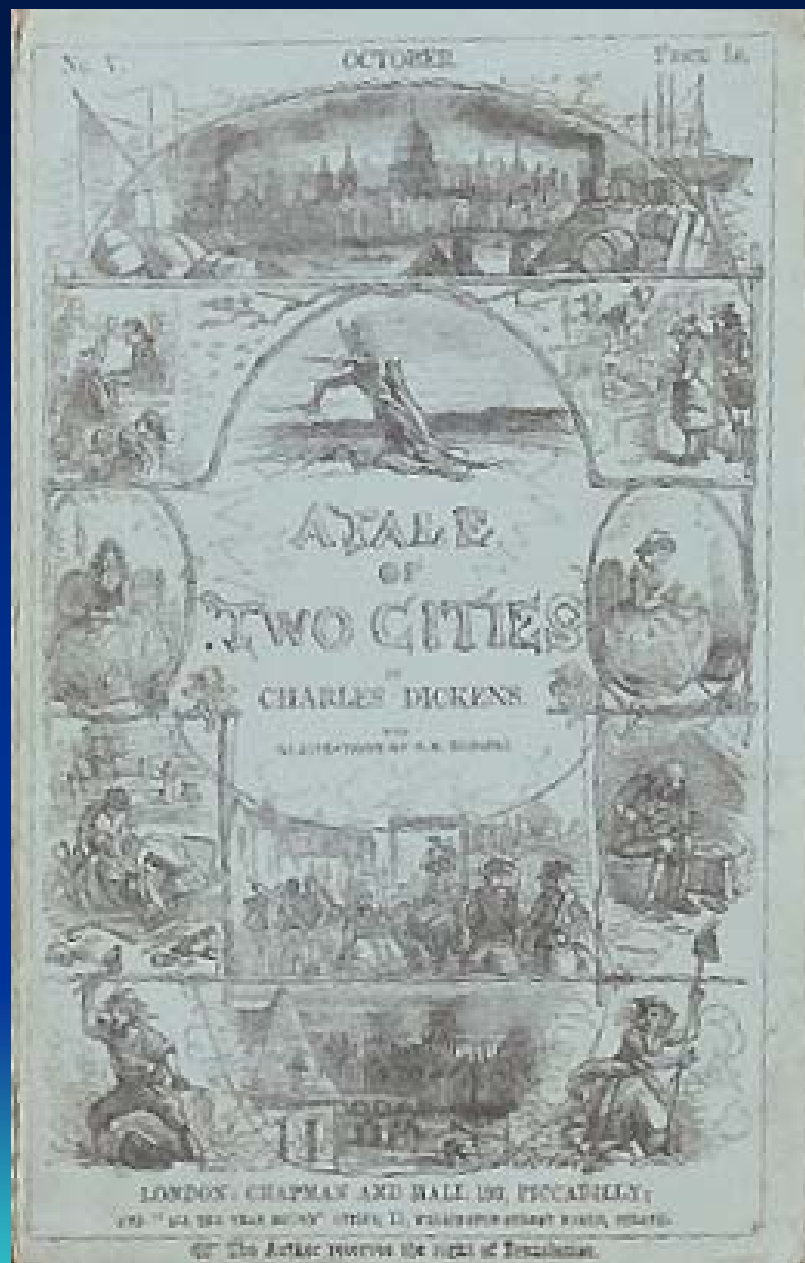
*Throughout the 20th century, Asia was psychologically “coupled” to the West, and understandably so. With superior economic and intellectual strengths, it is quite natural that Asia viewed the West as the ‘standard of excellence.’ However, after such a period as this with the West so palpably exposing its social & economic weaknesses, this may be the first time in the modern global economy that Asia can psychologically “**DECOUPLE**” from the West.*

This is not to suggest that Asia should decouple economically and intellectually from the West; rather, I am talking about a “psychological decoupling” to undo a sense of reliance on the West, without which it is unlikely that Asia will develop a deep sense of inherent self-confidence and without which the 21st century is surely not to be the
“Asian Century.”

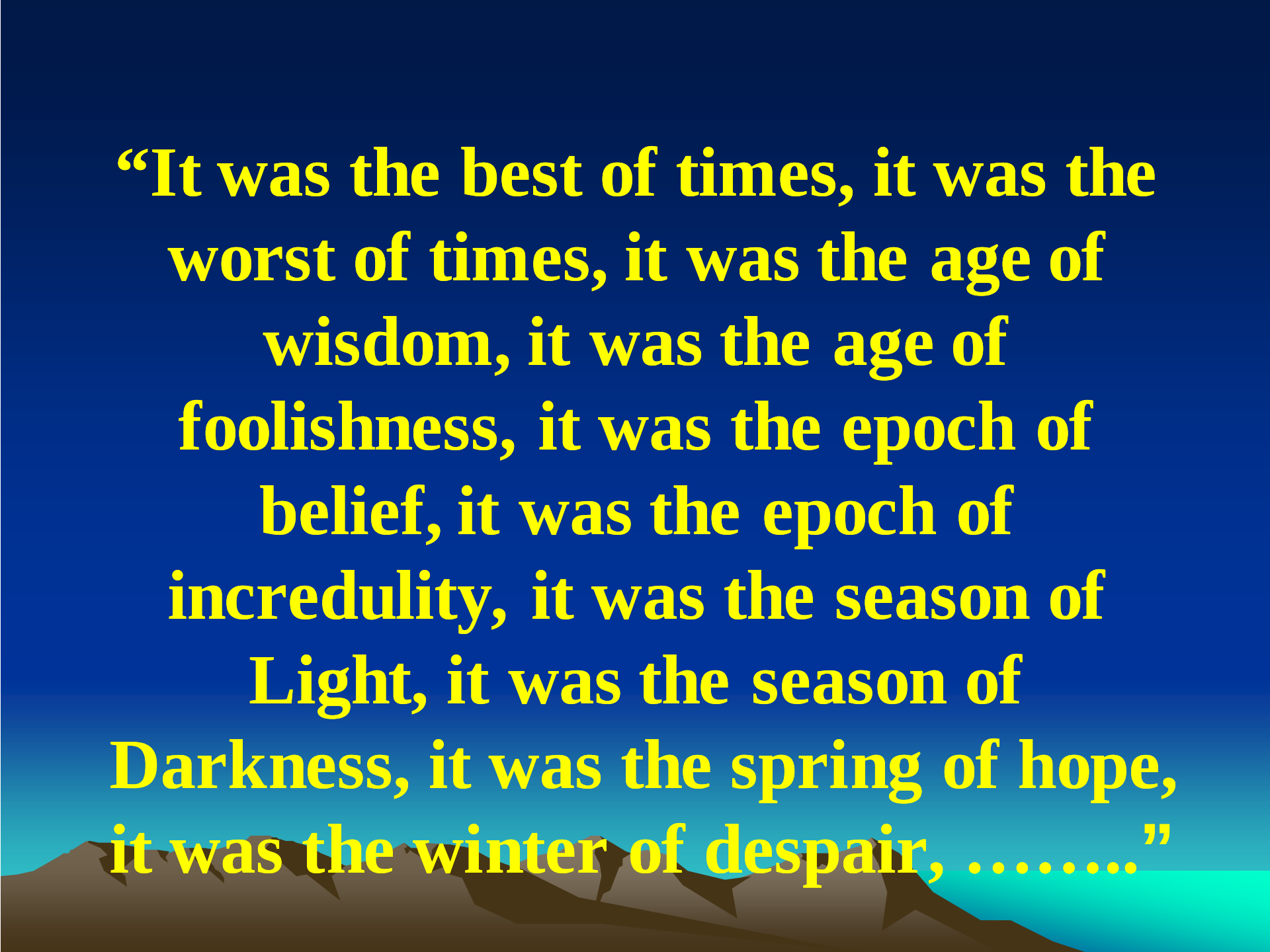




狄根斯
1812 - 1870



“It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair,”



It is truly breathtaking that more than 150 years ago, Mr. Dickens was able to portray our situation in Asia Pacific today in such vivid terms!



**As Chinese would say, I will
throw bricks and hope to
draw jades from you!**

抛砖引玉



**Thank you for
your attention.**

