



Synchrotron Light Research Institute
(Public Organization)



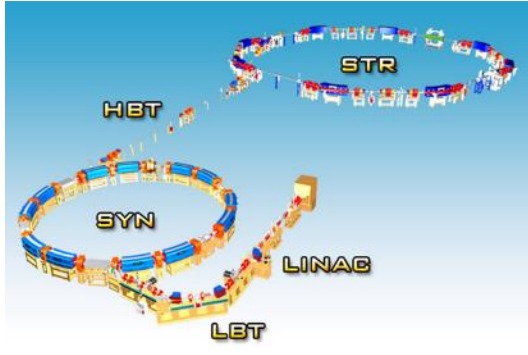
www.slri.or.th



Industrial related Activities of SLRI

Thai-CERN Meeting
18 February 2022

Synchrotron & Thailand Frontier Science



Light Source



High Energy Particle



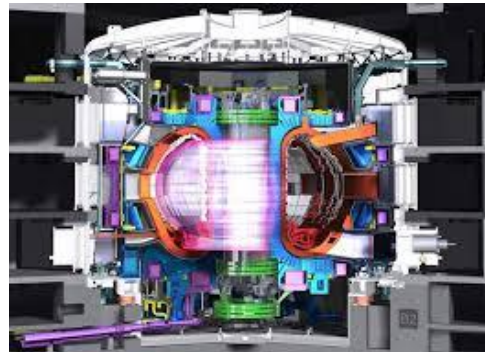
Ion Beam Therapy



Astronomy



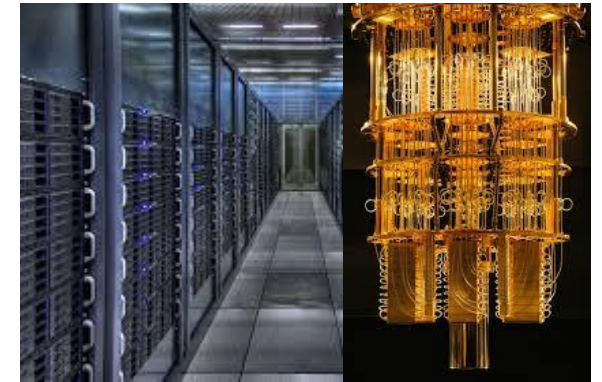
Particle Detector



Plasma Fusion

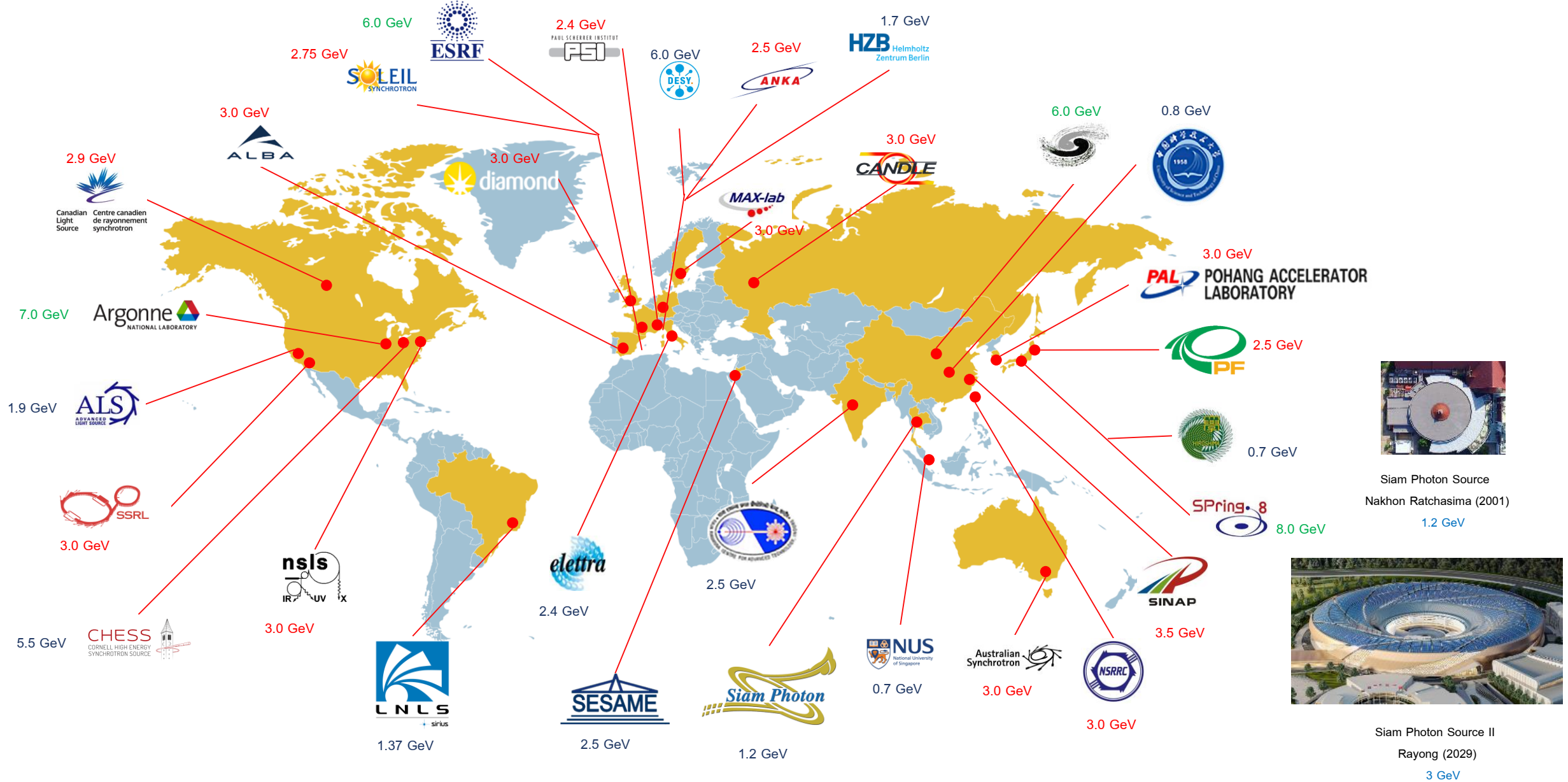


Space



Computing

Synchrotron Light Sources around the World



Siam Photon Source
Nakhon Ratchasima (2001)
1.2 GeV



Siam Photon Source II
Rayong (2029)
3 GeV

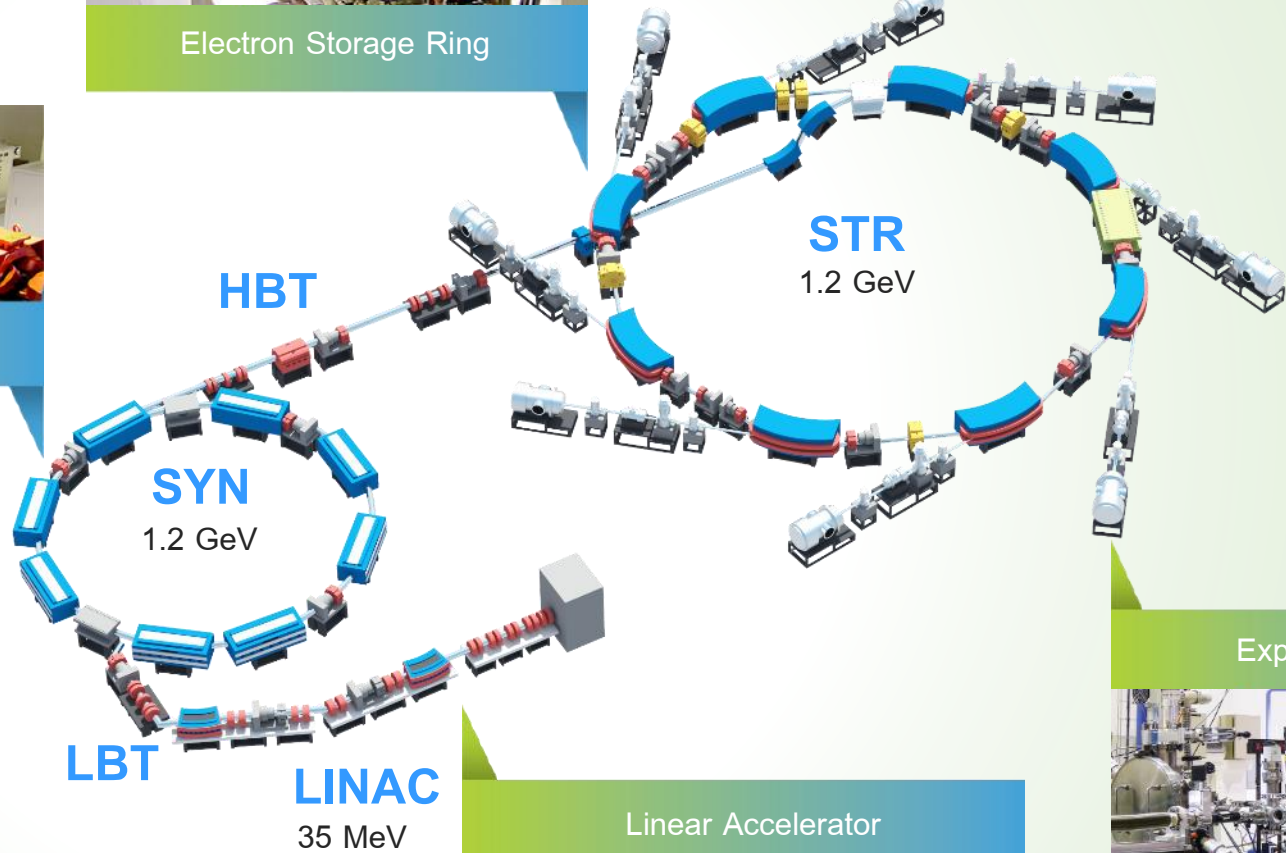
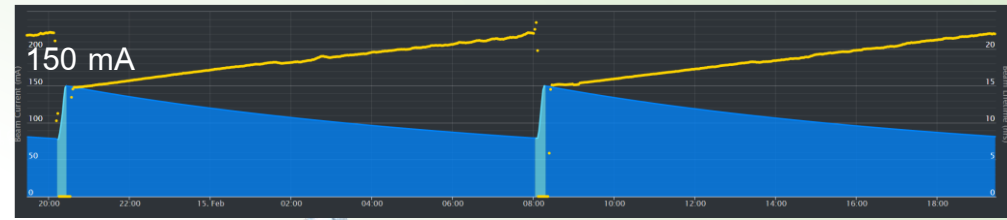
Siam Photon I 1.2 GeV



Booster Synchrotron



Electron Storage Ring



Linear Accelerator



Experiment Station

IR Spectroscopy

Photoemission Spectroscopy

X-ray Fluoresce

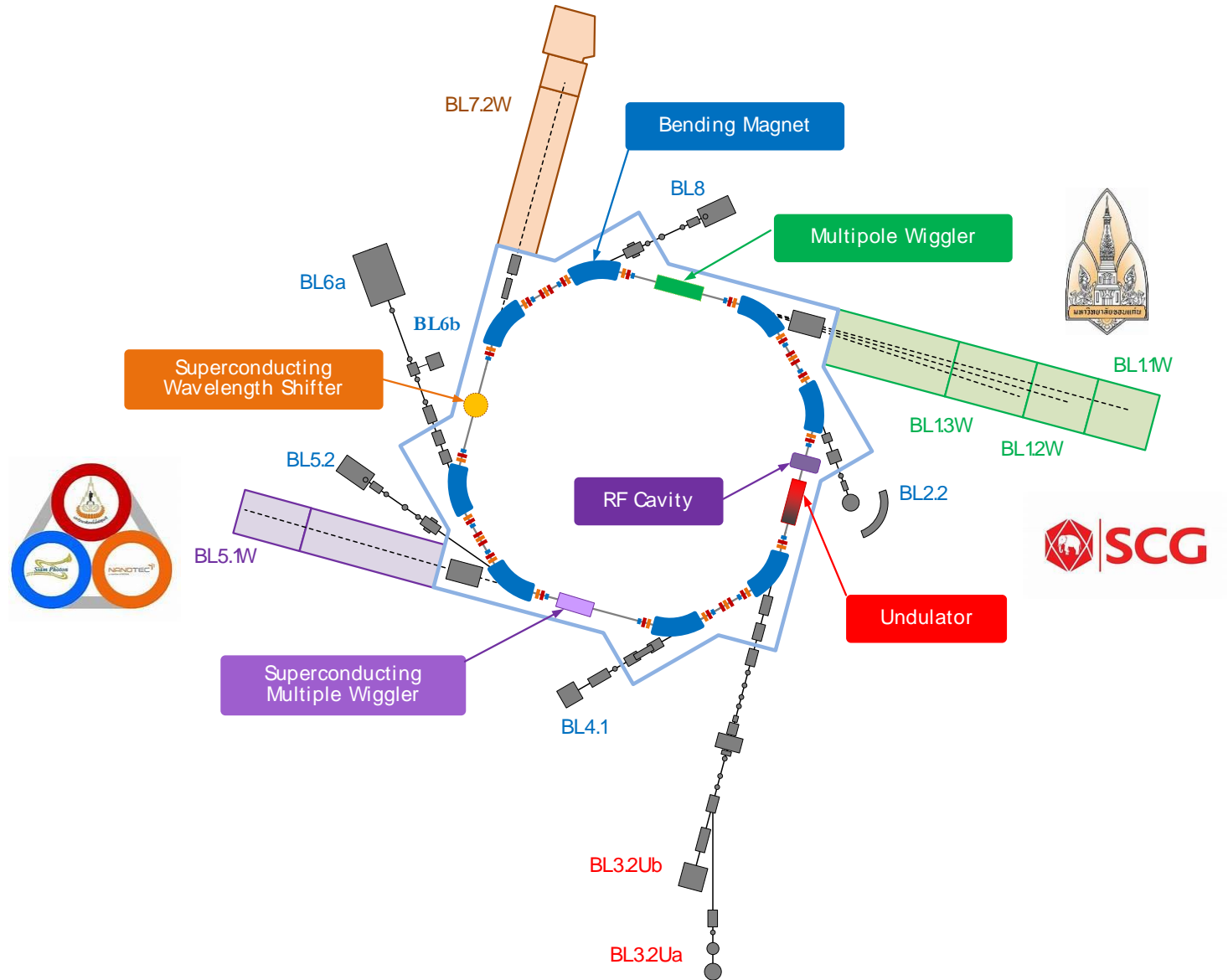
Lithography

X-ray Diffraction

X-ray Scattering

Micro Tomography

X-ray Absorption



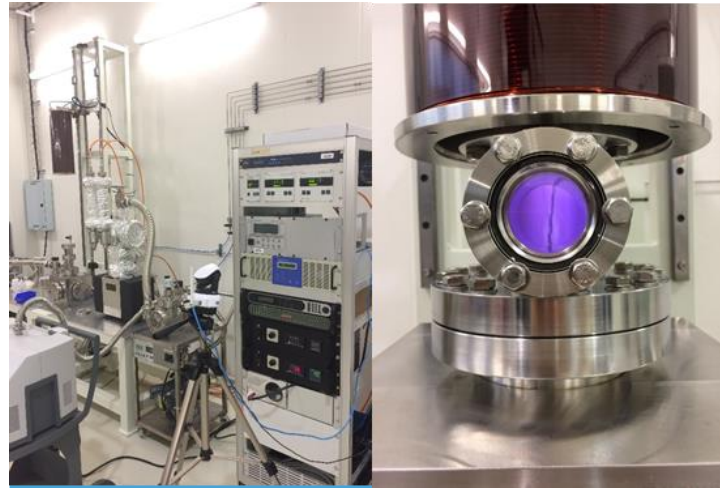
Industrial Users



SLRI's Accelerator Key Technology



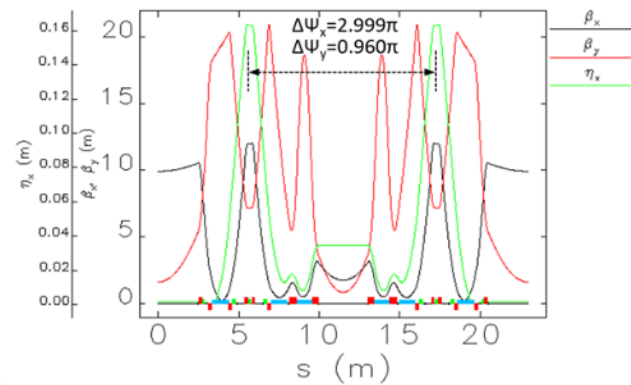
Magnet : $B = 1 - 6 \text{ T}$



Ultra High Vacuum (UHV) : $P = 10^{-10} \text{ torr}$



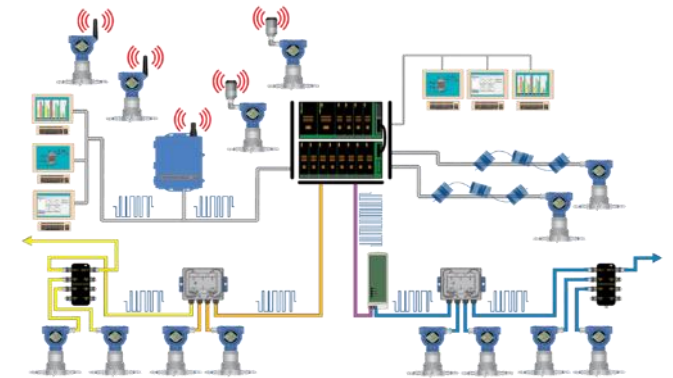
Cryogenic : $T = 4.5 \text{ K}$



Beam Optics



Radio Frequency (RF) System



Control System



MADE IN THAILAND : Advanced Manufacturing Capability





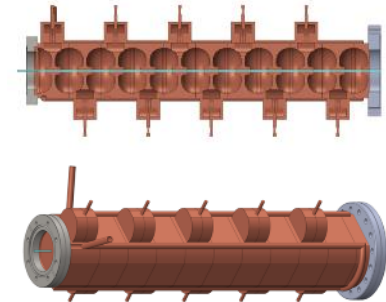
Example of SLRI Instrumentation



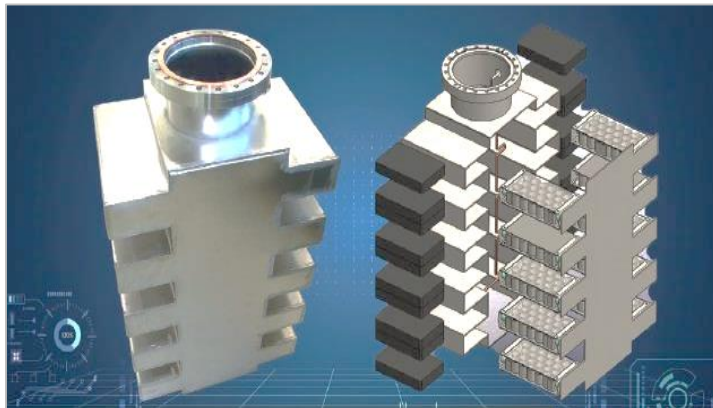
Industrial Thin Film Coater



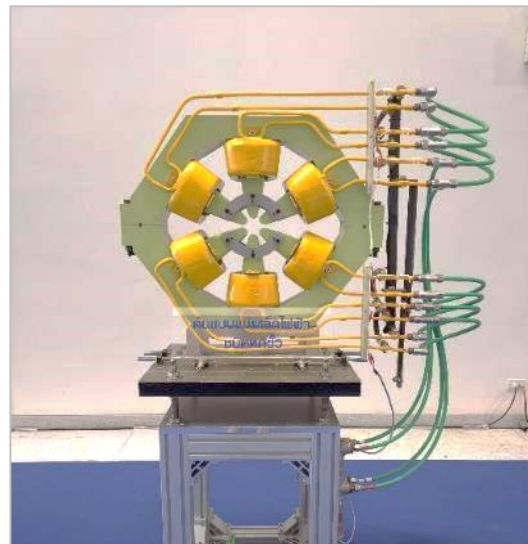
Industrial Thin Film Coater



LINAC structure



UHV Pump



Magnet



Thermal Vacuum Chamber

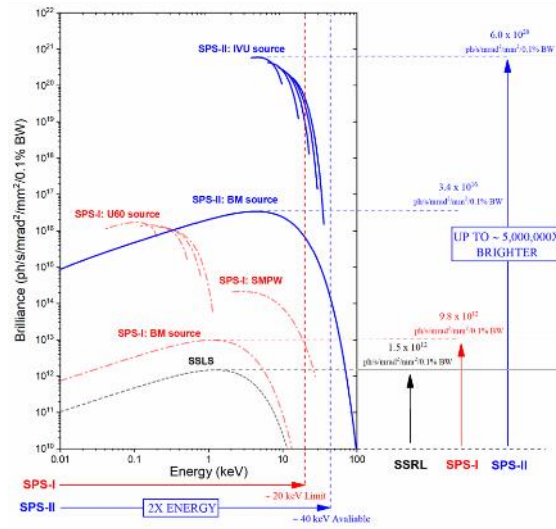


แบบห้องแยกโรค ความดันลบ สำหรับโรงพยาบาลสนาม

Negative Pressure Isolation Room
for Field Hospital



New Facility Siam Photon Source II 3.0 GeV 4th Generation



รังสีเอกซ์พลังงานสูง
ลำแสงสว่างจ้า
ลำแสงเล็กระดับไมโคร/นาโน



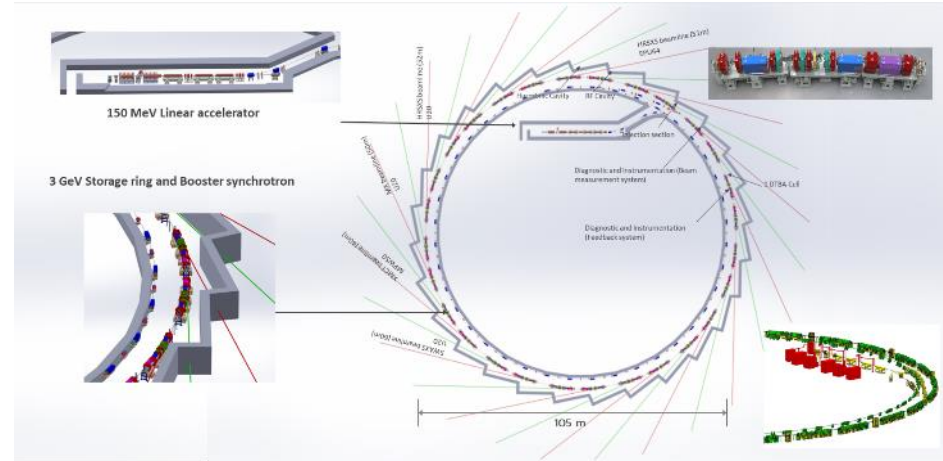
EECi-Rayong 3.0 GeV

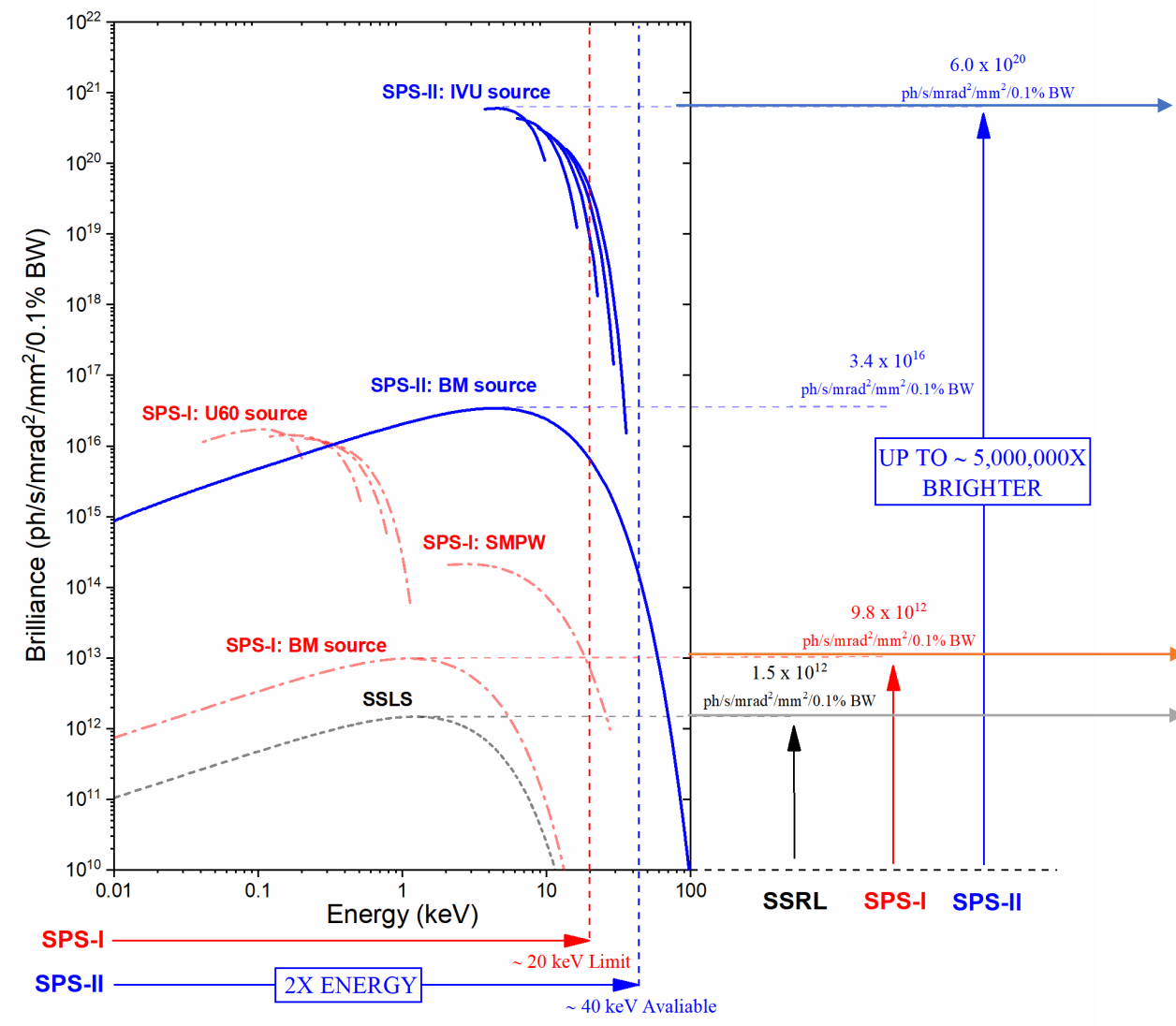


Korat 1.2 GeV



Singapore 0.7 GeV





รังสีเอ็กซ์พลังงานสูง
 ลำแสงสว่างจ้า
 ลำแสงเล็กระดับไมโคร/นาโน



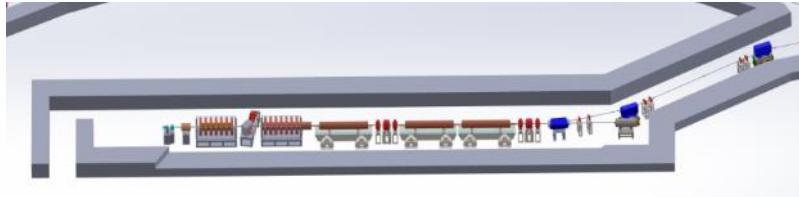
EECi-Rayong 3.0 GeV



Korat 1.2 GeV

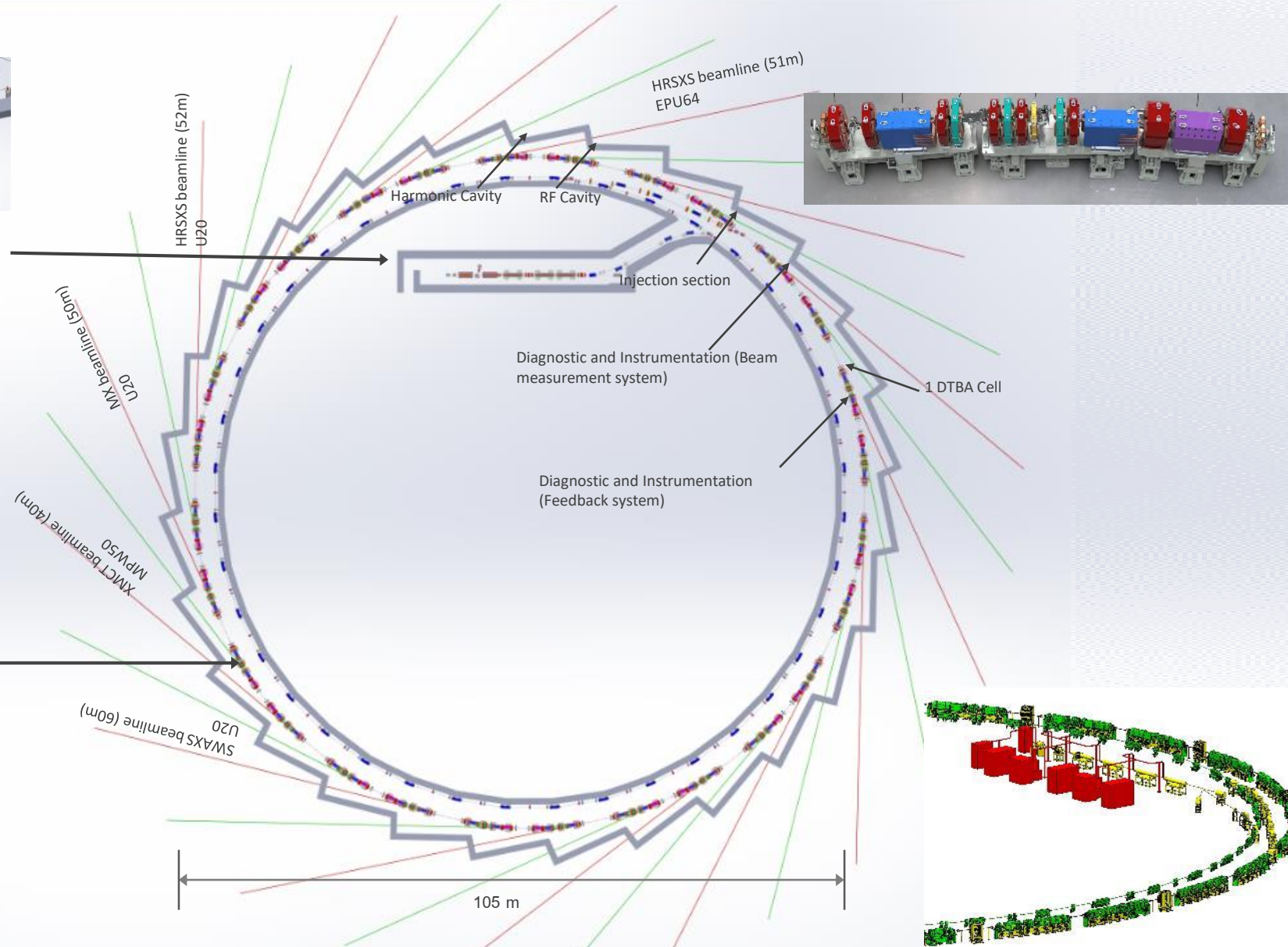
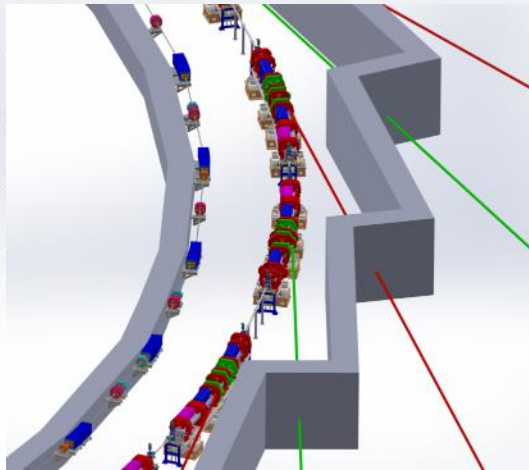


Singapore 0.7 GeV

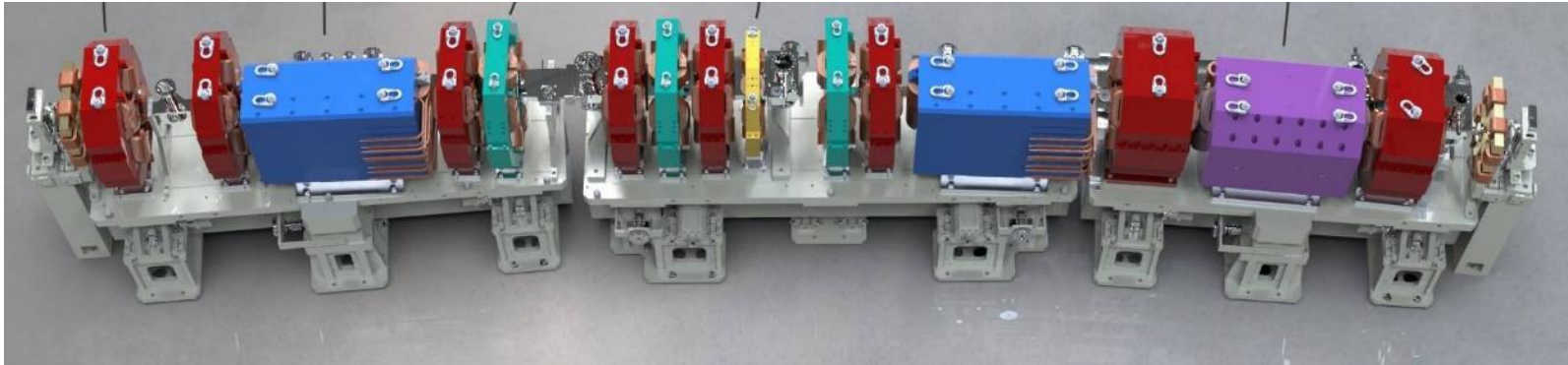


150 MeV Linear accelerator

3 GeV Storage ring and Booster synchrotron



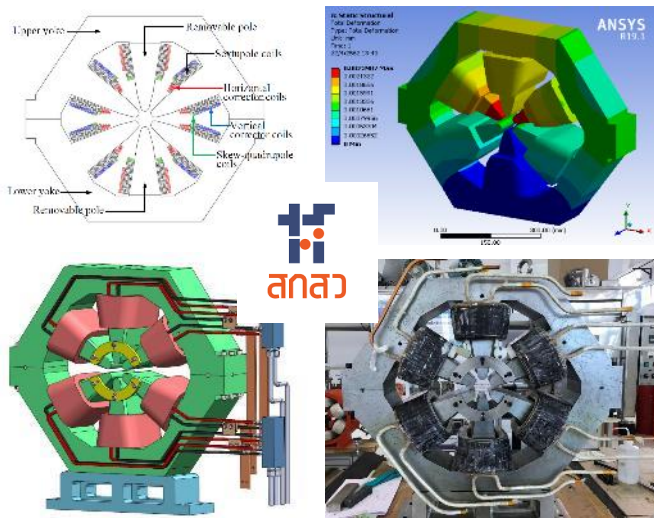
Made in Thailand : Domestic Content > 50%



16 Magnet Prototypes
20 micron precision

Storage Ring UHV Chamber Prototypes

Girder Prototypes
50 micron precision



ขอบคุณครับ
Thank You



13th
INTERNATIONAL
PARTICLE
ACCELERATOR
CONFERENCE

12 - 17 June 2022

- ◆ Organizing Committee Chair
Prapong KLYSUBUN, SLRI, Thailand
- ◆ Scientific Program Committee Chair
Hitoshi TANAKA, RIKEN, Japan
- ◆ Local Organizing Committee Chair
Porntip SUDMUANG, SLRI, Thailand

IMPACT FORUM
Muangthong Thani
Bangkok, Thailand

Registration & abstract
submission opens
November 2021

IPAC 2022
will be
ONSITE !!!



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