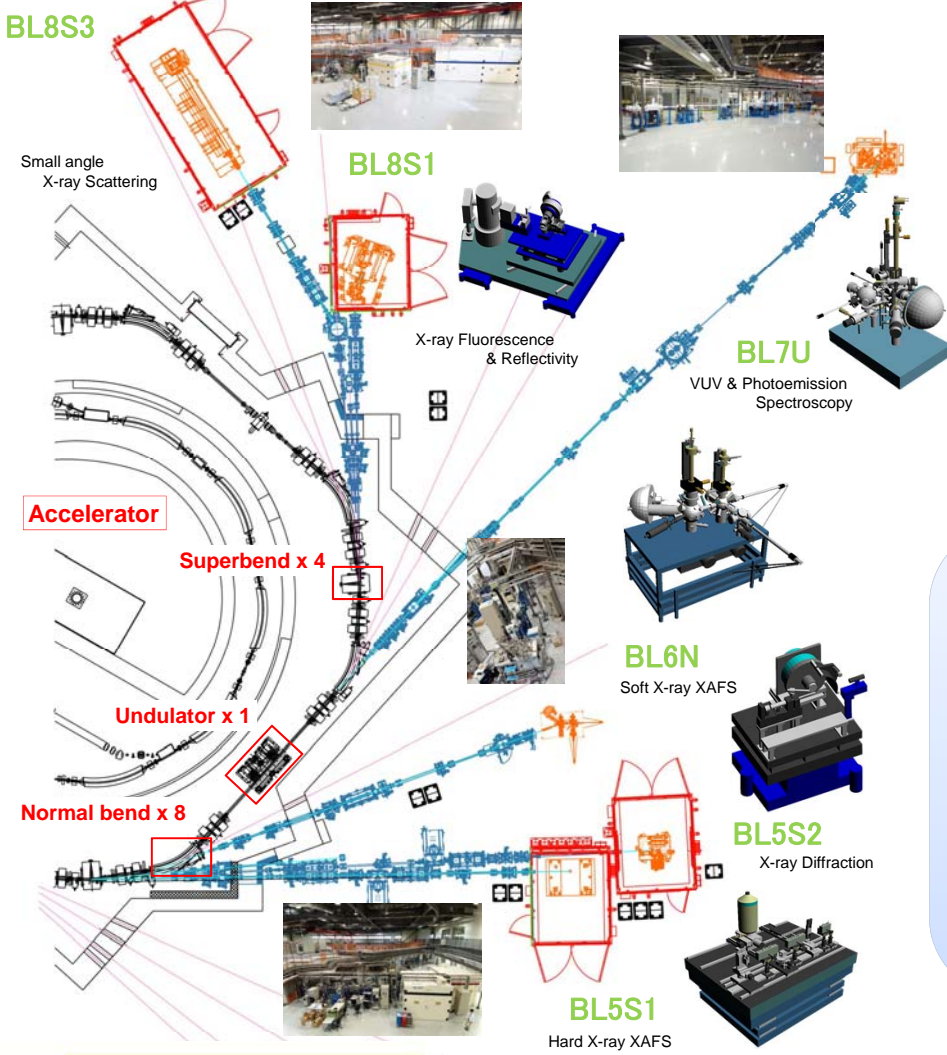
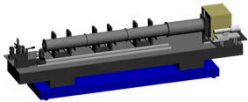


Present Status of the Central Japan Synchrotron Radiation Facility

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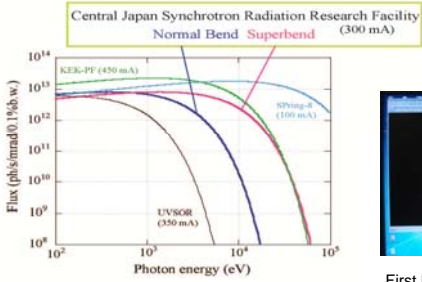


Management Teams
 This facility will be used also for industrial research and development. Aichi Science & Technology Foundation is responsible for the operation and management, and Nagoya University Synchrotron Radiation Research Center is responsible to run the facility and support the users technically and scientifically.

Construction Schedule

2009	Design of the building and equipments
2010 - 2011	Building construction
2011 Oct	Building of the accelerators
2011 Dec - 2012	Building of the 6 beamlines
2012 Feb - July 18	Commissioning of accelerators First Light
2013 -	Service Start
In several years	Top-up operation will be started

Summary
 A new synchrotron radiation facility, Central Japan Synchrotron Radiation Facility is now being constructed at Aichi area. The project was proposed by Nagoya University and has been conducted by the local government, universities and industries around Aichi prefecture. Aim of the facility is to provide synchrotron radiation not only for basic researches but also for engineering and industrial researches. Construction of the facility started in 2010. The synchrotron accelerator was installed and is presently undergoing commissioning since April, 2012. The first light was observed from the storage ring on July 18, 2012. The light source accelerator complex consists of a 1.2 GeV compact electron storage ring and a full energy injector for top-up operation. The key equipments of the accelerator are four 5 T superconductive bending magnets. Although the acceleration energy of the storage ring is relatively low, synchrotron radiation from the superconductive bending magnet reaches hard X-ray region. The six beamlines have been installed and is under commissioning. Those are Beamlines for a hard X-ray XAFS, a soft X-ray XAFS, a soft X-ray to ultraviolet spectroscopy, a small angle scattering, X-ray diffraction, and an X-ray fluorescence analysis. The service will start from the 2013.



First light image from the storage ring (July 18 2012).

Parameters of Accelerators

Storage ring	
Electron energy	1.2 GeV
Circumference	72 m
Current	> 300 mA
Natural emittance	53 nrad
RF frequency	499.654 MHz
Harmonics number	120
Energy spread	8.41x10 ⁻³
Magnetic lattice	Triple Bend Cell x 4
Booster synchrotron ring	
Electron energy	50 MeV - 1.2 GeV
Circumference	48 m
Natural emittance	~ 220 nrad
RF frequency	499.654 MHz
Repetition rate	~ 1 Hz
Injector linac	
Beam energy	> 50 MeV
Charge per pulse	> 1 nC
Pulse length	1ns
RF frequency	2.856 MHz

Six beamlines constructed in the first phase

Beamlines	Energy Range (keV)	Flux (photons/sec)	Energy Resolution (E/ΔE)
Hard X-ray XAFS (BL5S1)	5 - 20	1x10 ¹¹	7,000 @ 12 keV
Soft X-ray XAFS (BL6N)	0.85 - 6	7x10 ¹⁰	2,000 @ 3 keV
VUV & Photoemission Spectroscopy (BL7U)	0.03 - 0.85	1x10 ¹³	10,000 @ 200 eV
Small angle X-ray Scattering (BL8S1)	8.2	7x10 ¹⁰	2,000 @ 8.2 keV
X-ray Diffraction (BL5S2)	5 - 20	1x10 ¹¹	7,000 @ 12 keV
X-ray Fluorescence & Reflectivity (BL8S3)	5 - 20	1x10 ¹¹	2,000 @ 12 keV

We are planning new beamlines including X-ray diffraction for protein crystallography, LIGA and infra-red.



Central Japan Synchrotron Radiation Facility

