



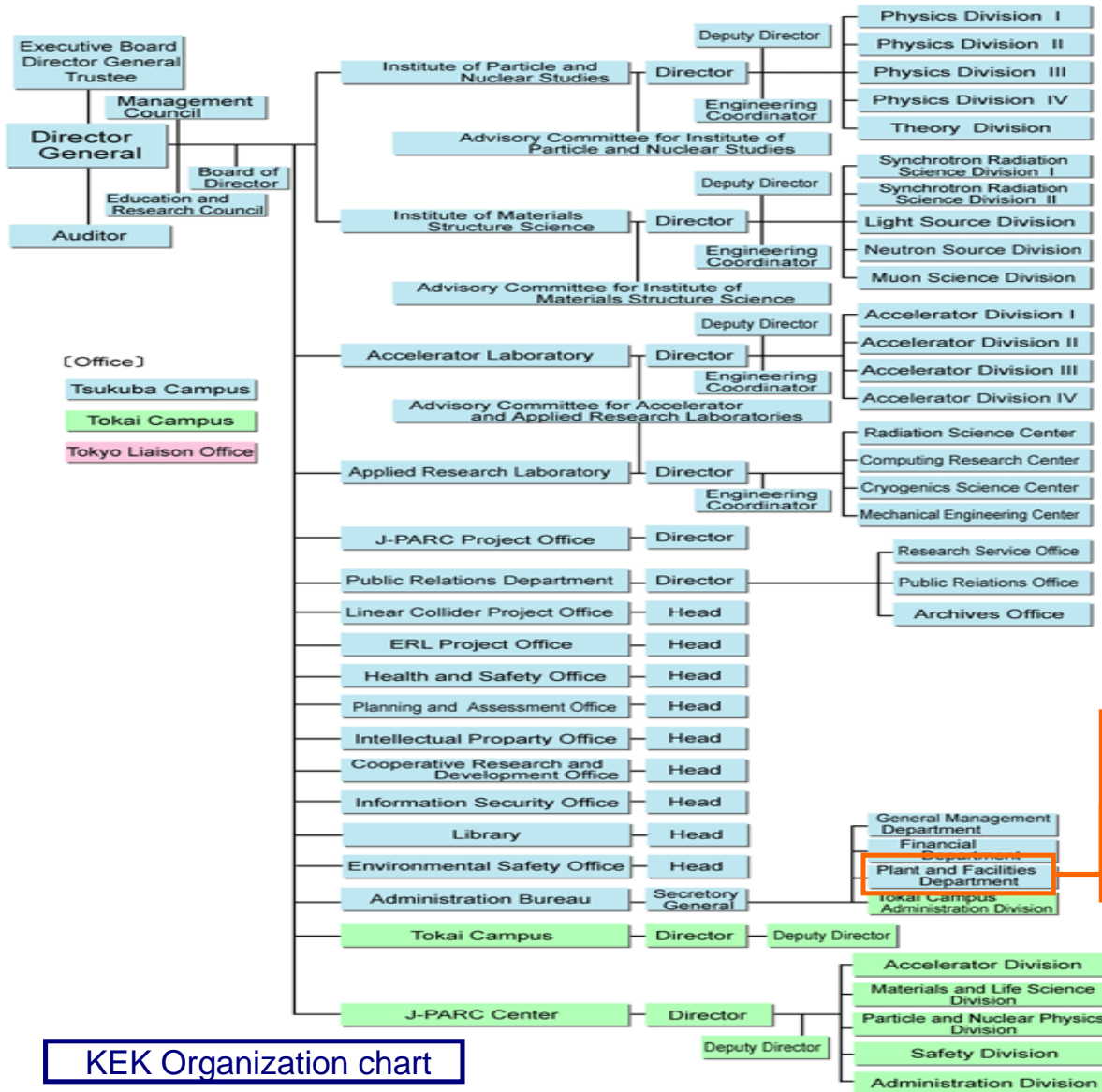
# KEK Plant and Facilities Department

Sep.2007 ILC CFS Asian Kickoff Meeting

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# KEK Organization



KEK Organization chart

Planning and Construction Division

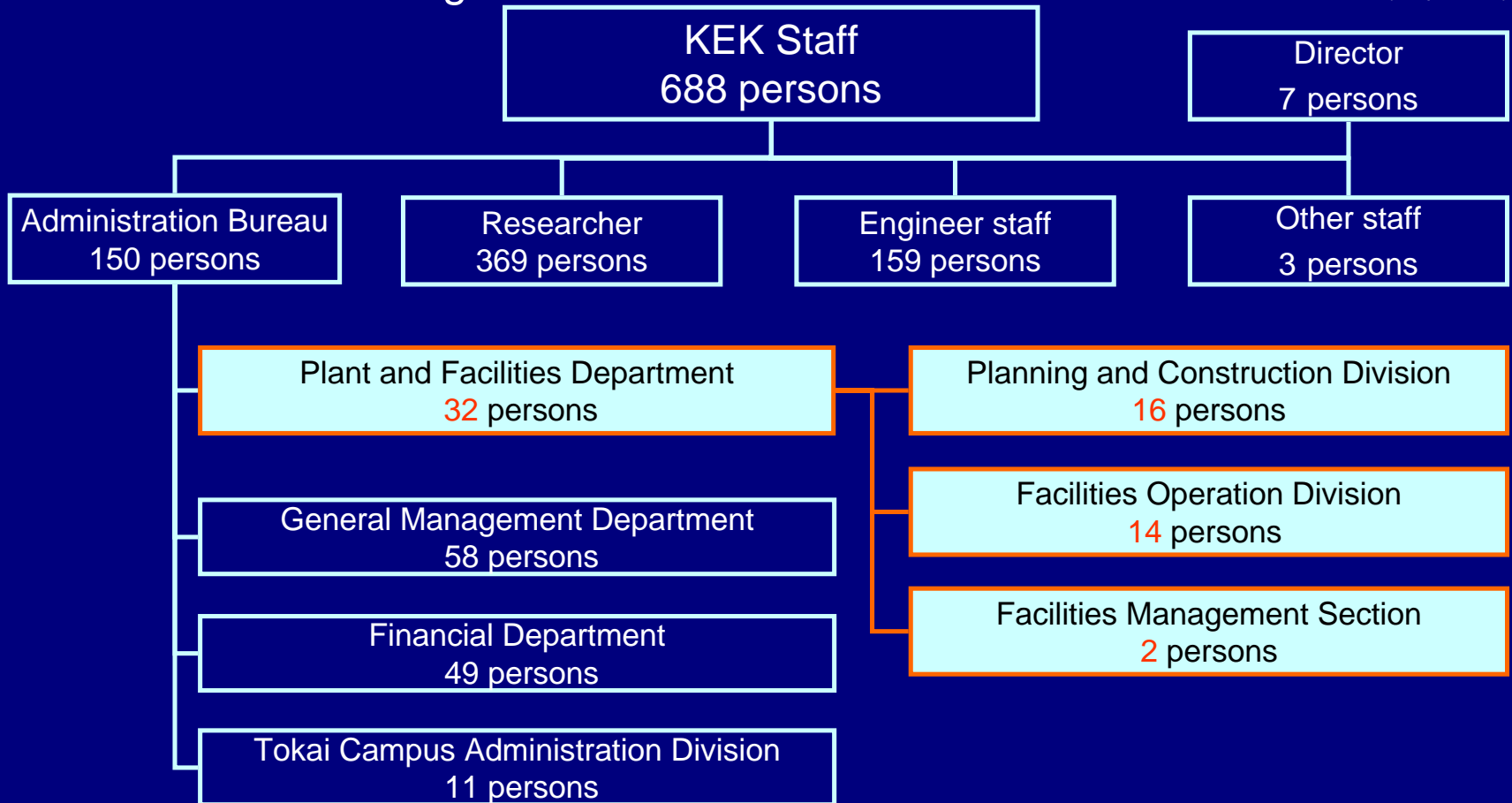
Facilities Operation Division

Facilities Management Section

# Organization of the Plant and Facilities Department

## KEK Personnel Organization

(1.Apr.2007)



# Scope of Services of the Department

## Plant and Facilities Department

### Planning and Construction Division

- General Administration, Coordination and external affairs.
- Budgeting
- Planning, Design and Construction Management for Building, Civil and Environment.

### Facilities Operation Division

- Planning, Design and Construction Management for Facilities.
- Facilities Operation and Maintenance.

### Facilities Management Section

- Facilities Management and Efficiency Promotion.
- Space and Energy Management.

# Activity at Tsukuba Campus

## Tsukuba Campus data

Site area : 1,531,285 m<sup>2</sup>

Power : 70,980KW

Proton Linac  
( Superconducting Test  
Facility)

1999 Construction Start  
2000 Completion

TRISTAN / PF-AR

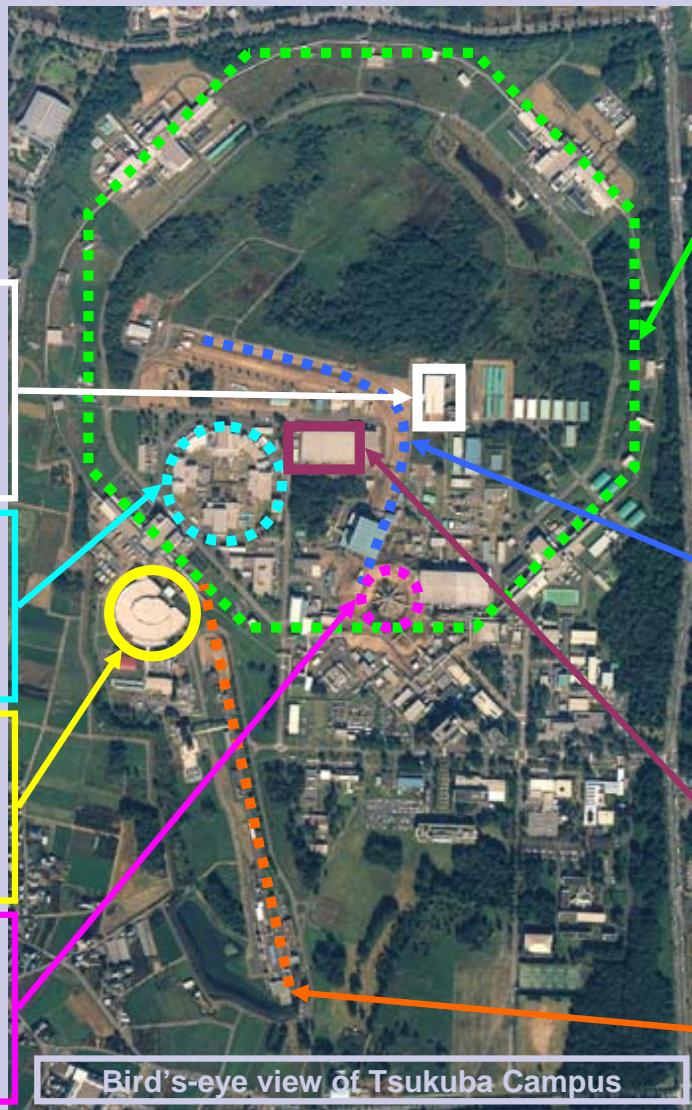
1981 Construction Start  
1987 Completion  
1987 Experiment Start

PF

1978 Construction Start  
1983 Completion  
1983 Experiment Start

PS

1971 Construction Start  
1977 Completion  
1977 Experiment Start



TRISTAN / KEKB  
(TRISTAN)

1981 Construction Start  
1987 Completion  
1987 Experiment Start

(KEKB)

1988 Construction Start  
1993 Completion  
1993 Experiment Start

K2K

1996 Construction Start  
1999 Completion  
1999 Experiment Start

Assembly Hall

( Accelerator Test Facility)  
1983 Construction Start  
1983 Completion

Electron Linac Tunnel

1978 Construction Start  
1983 Completion

Bird's-eye view of Tsukuba Campus



# Activity at Tsukuba Campus

## PS (Proton Synchrotron)

### Tunnel data

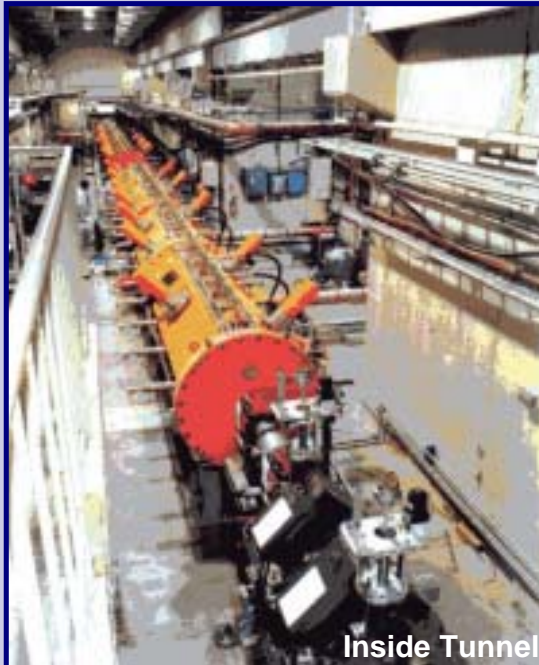
Circumference : 340m

Structure : RC

Section : 4.8 m x 4 m

Foundation : Pile

Total Cost : 17 Billion yen



# Activity at Tsukuba Campus

## Electron Linac

### Tunnel data

Length : 423 m

Structure : RC

No. of Story : +1 -1

Foundation : Pile





# Activity at Tsukuba Campus

## PF (Photon Factory)

### Building data

Total Floor Area : 12,010 m<sup>2</sup>

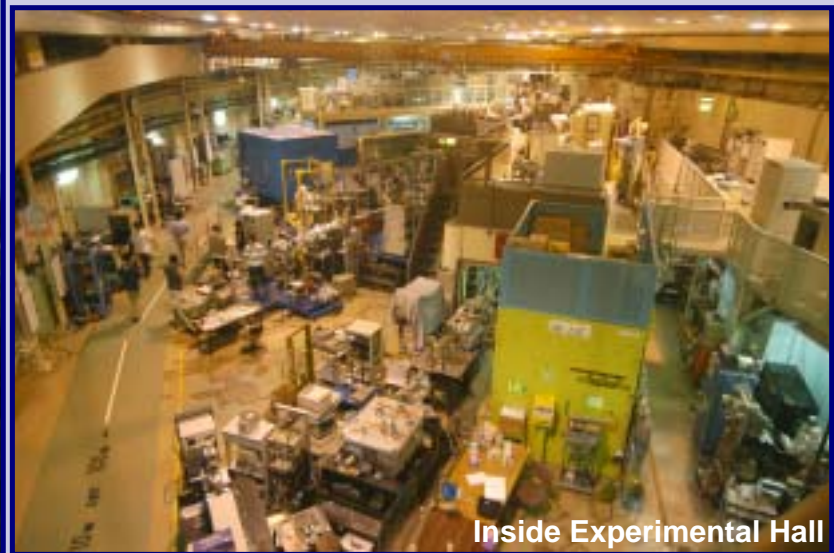
Beam Line Circumference : 187 m

Structure : RC

No. of Story : 2

Foundation : Pile

Total Cost : 20 Billion yen



# Activity at Tsukuba Campus

## TRISTAN / KEKB

### Tunnel data

Circumference : 3 Km

Structure : RC

Section : 6 m × 8.7 m

Foundation : Pile

Total Cost : 125 Billion yen



Inside Tunnel



At Nikko hall Feb.1984



Feb.1984

# Activity at Tsukuba Campus

## TRISTAN / PF-AR (PF-Advanced Ring For X-rays)

### Tunnel data

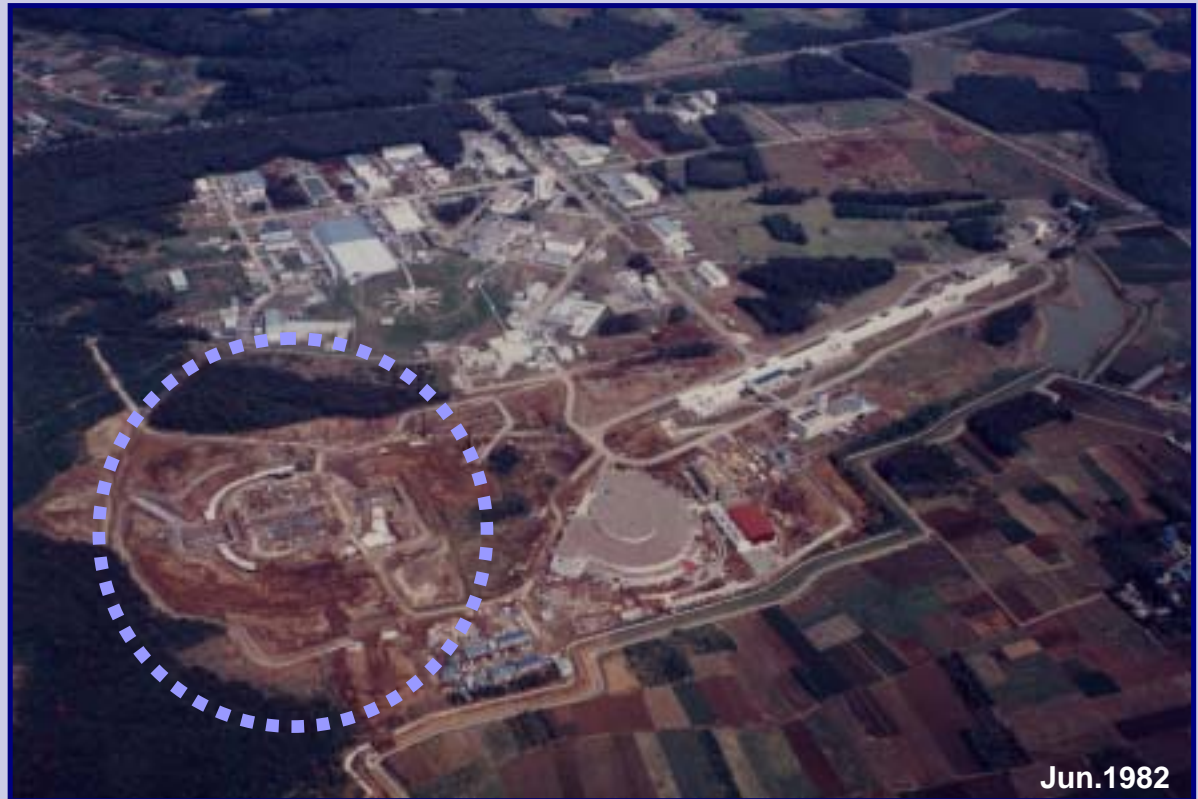
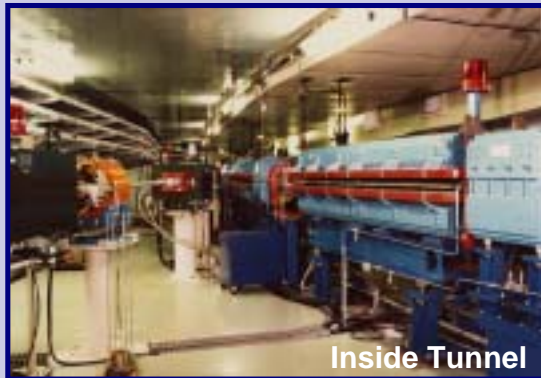
Circumference : 350m

Structure : RC

Section : 2.6 m × 4 m

Foundation : Pile

Total Cost : 7 Billion yen





# Activity at Tsukuba Campus

## Assembly Hall ( Accelerator Test Facility)

### Building data

Total Floor Area : 6,007 m<sup>2</sup>

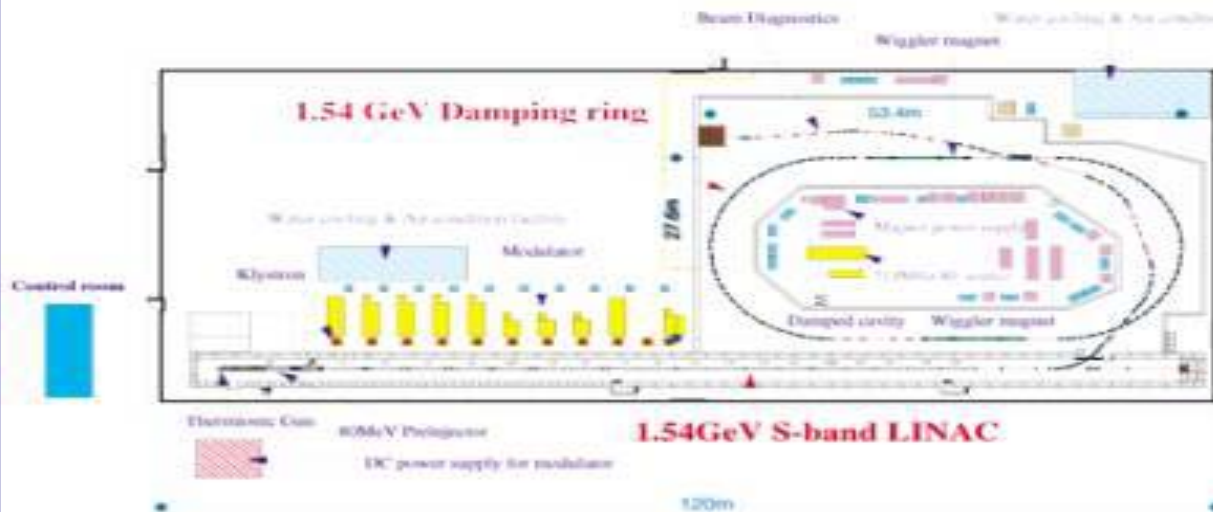
Structure : S

No. of Story : 1

Foundation : Pile



### Accelerator Test Facility for JLC



# Activity at Tsukuba Campus

## K2K (Neutrino Beam Line)

### Primary Proton Beam Line

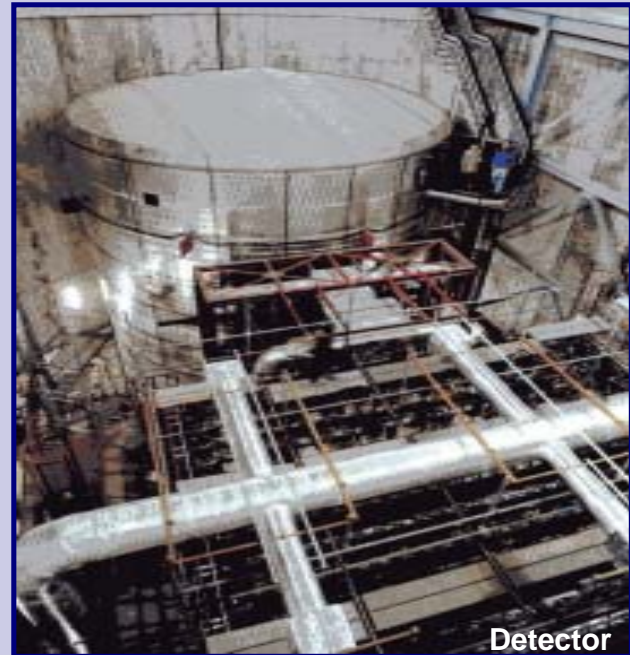
Length : 254 m  
Structure : RC  
Section : 6 m × 5.5 m  
Foundation : Pile



Inside Tunnel

### Neutrino Monitor

Depth : 16 m  
Diameter : 24.1 m  
Construction Methods :  
Continuous Underground Wall  
Foundation : Raft Foundation



Detector



# Activity at Tsukuba Campus

## Proton Linac ( Superconducting Test Facility)

### Building data

Total Floor Area : 2,078 m<sup>2</sup>

Structure : S,RC

No. of Story : +1 -1

Foundation : Pile



Inside Experimental Hall



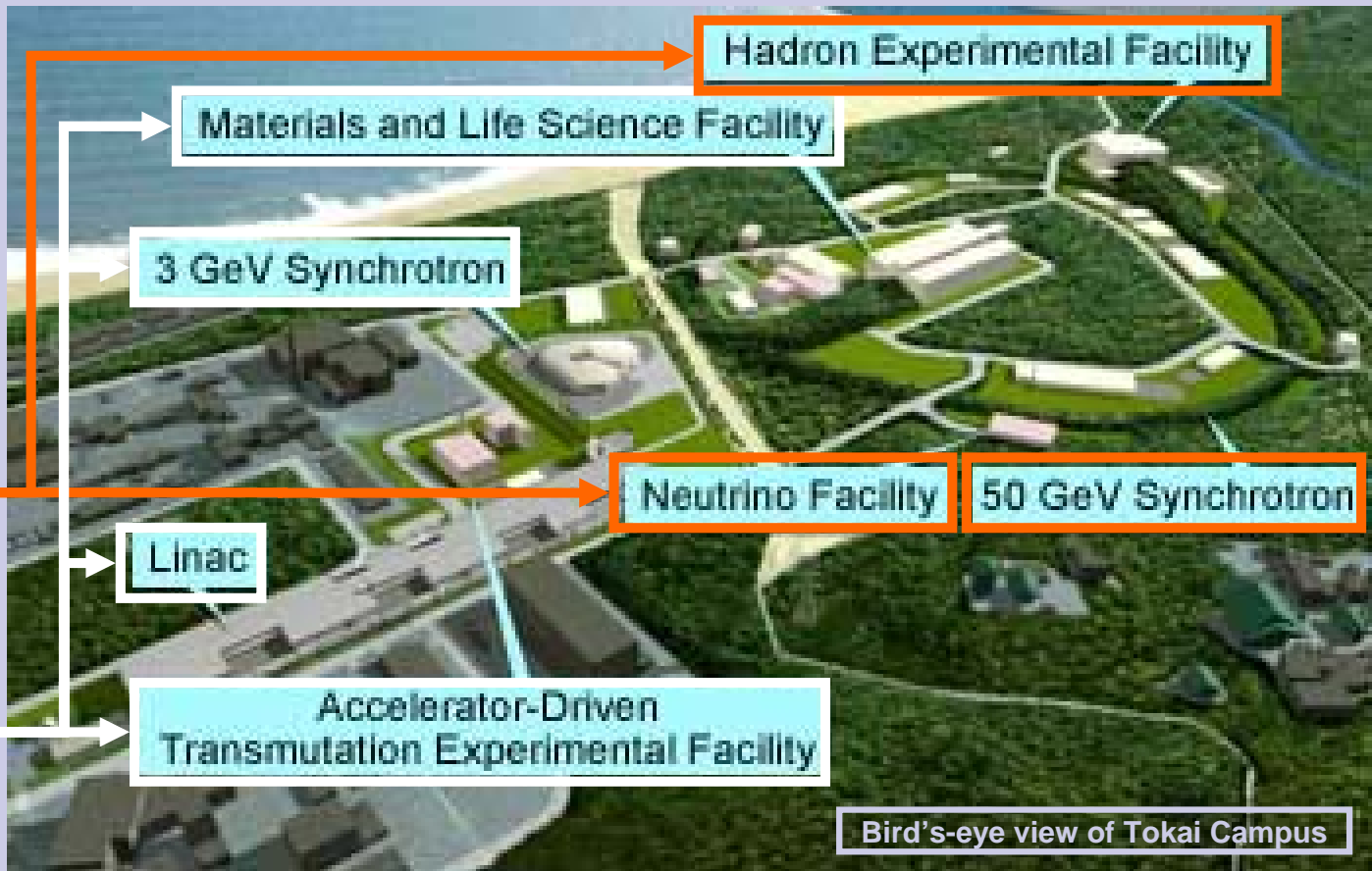
Inside Tunnel

# Activity at Tokai Campus

J-PARC (Japan Photon Accelerator Research Complex) has been discussed and proposed by KEK and JAEA.

2001 Construction start

2009 Planned completion date



Handled  
by KEK

Handled  
by JAEA

Hadron Experimental Facility

Materials and Life Science Facility

3 GeV Synchrotron

Neutrino Facility

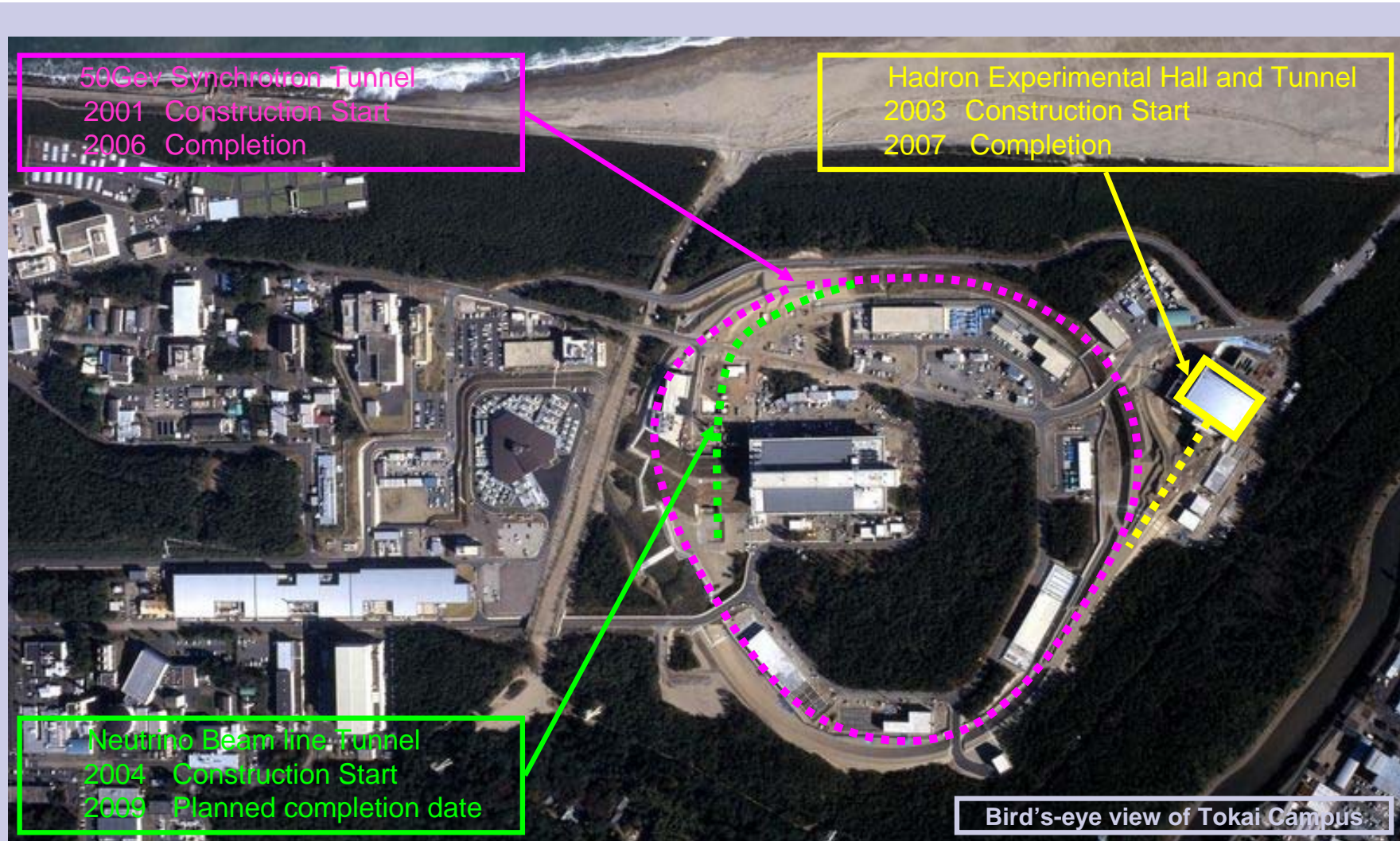
50 GeV Synchrotron

Linac

Accelerator-Driven  
Transmutation Experimental Facility

Bird's-eye view of Tokai Campus

# Activity at Tokai Campus





# Activity at Tokai Campus

## 50Gev Synchrotron Tunnel

### Tunnel data

Circumference : 1.6km

Section : 6 m × 5 m ~ 3.5 m × 5 m

Structure : RC (90,000 m<sup>3</sup>)

Construction Methods : Open cut

Foundation : Pile (1,151 Piles)

Soil Excavation Volume : 330,000 m<sup>3</sup>



# Activity at Tokai Campus



## 50Gev Synchrotron Tunnel





# Activity at Tokai Campus

## Hadron Experimental Hall and Tunnel

### Tunnel data

Length : 135 m

Section : 7 m × 24 m

Construction Methods :  
Open cut

Foundation : Pile (238 Piles)



### Build dates

Total Floor Area :

3,443 m<sup>2</sup>

Construction Methods :  
Open cut

Foundation : Pile (170 Piles)



# Activity at Tokai Campus

## Neutrino Beam Line Tunnel

### Primary Proton Beam Line

(Preparation Section ~ Final Focusing Section)

Length : 238 m

Section : 3.5 m × 6 m

Construction Methods : Open cut

Foundation : Pile (91 Piles)

### Target Station

Length : 34 m

Dimension : 21.2 m × 34 m × D 27.4 m

Construction Methods : Open cut

Foundation : Pile (126 Piles)

### Decay Volume (Dump)

Length : 84 m

Section : 5 m × 3 m

~ 2.9 m × 2.3 m

Construction Methods : Open cut

Foundation : Raft Foundation

### Neutrino Monitor

Depth : 35.7 m

Diameter : 17.5 m

Construction Methods : Continuous

Underground Wall

Foundation : Raft Foundation

# Activity at Tokai Campus

## Neutrino Beam Line Tunnel Construction

