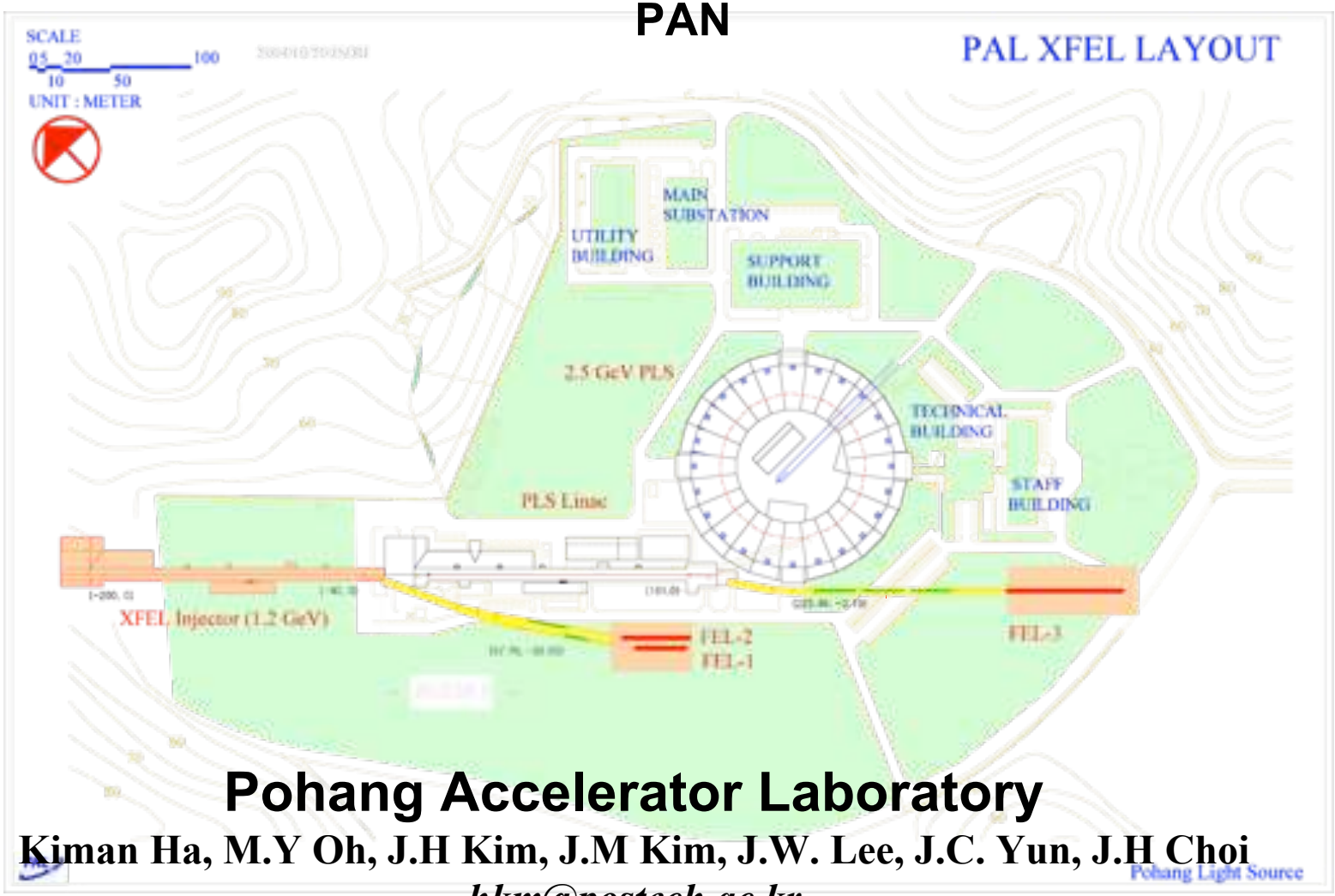
The status of PLS EPICS application

EPICS collaboration meeting 2004 Dec 8 - 10 , 2004 RICOTTI, Tokai, JAPAN



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Outline

-Present status of PLS
-New project PAL-XFEL
-Summary

Feedback status

This has been a big issue at PLS, with epics based control system
BPM, PS, ID's are necessary elements of the feedback operation

-November, Orbit feedback operation started for user service.

-Orbit stability with feedback

- **short term (1 hour) : < 1 μm**
- **long term (12 hours) : < 3 μm**

-22 sets of V and H corrector PS are involved for orbit feedback

EPICS status

-Most control system upgraded to EPICS

- Power Supply
- BPM
- RF
- Modulator
- ID control

Hardware platforms

-VME

- MVME5110 – 15 , BPM, Corrector, RF Operation
- MVME5500 for RTEMS test

-PC Windows

- Quad MPS, Beam current, ID

-PC Linux

- Kicker, Septum

- Power MAC G4

- Epics PV monitoring Web Server

Used epics software toolkit

-Matlab CA: Global orbit feedback
-Ca : Operator panel, correction utility
-MEDM : Operator panel
-EDM : Operator panel
-Gateway
-Web based PV monitoring
    >mySQL
    >PHP
    >GNU plot
-Oracle based Web server

More upgrade plan and testing

-LINUX IOC kernel upgrade 2.6

-RTEMS MVME5500 IOC tested

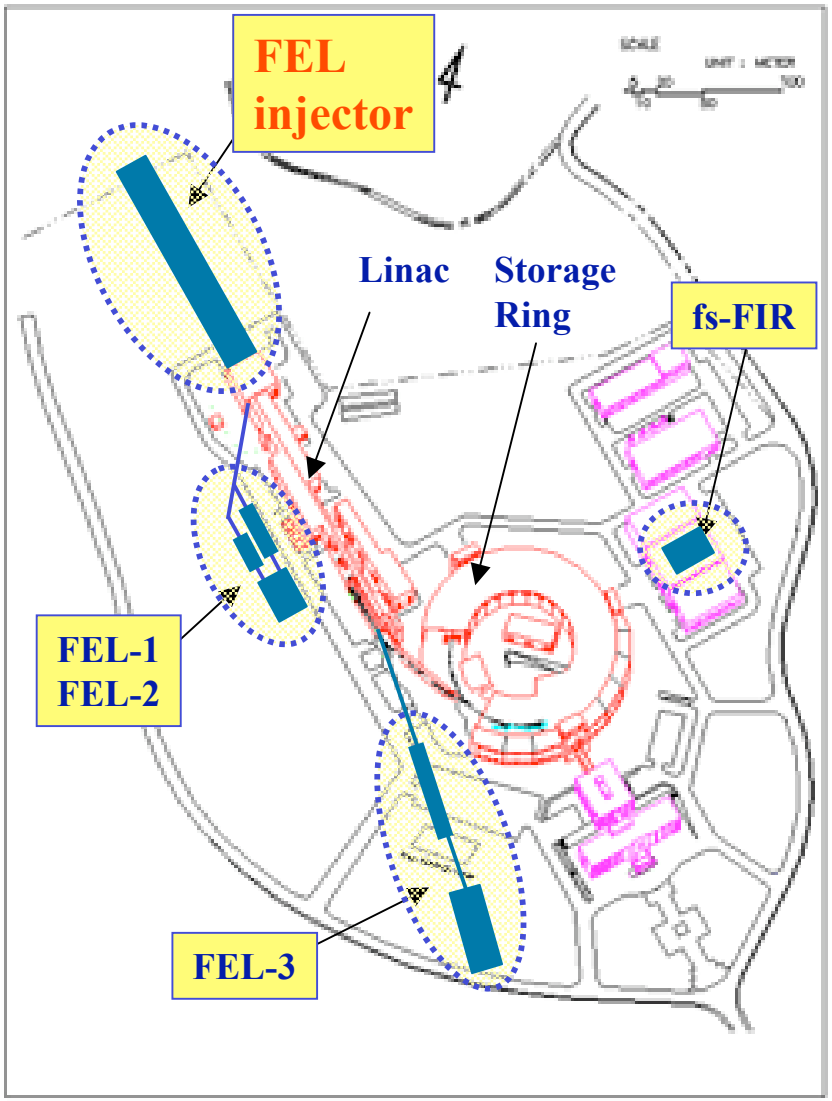
>Environment ready

>BSP(from kate Feng) and example IOC tested at MVME5500

>AsynDriver 4.0 tested

E2050B with HP3458 GPIB

PAL-XFEL layout



- PAL XFEL Project
  - Period: 2005-2009
  - Budget: 80 M$
- SASE FEL
  - Energy: 0.7 - 3 GeV
  - FEL-1: 10~50 nm
  - FEL-2: 2 ~ 5 nm
  - FEL-3: 0.1 ~ 0.3 nm

Status for PAL-XFEL

-October, established task force team for XFEL design
-Review of construction budget
-Review of Beam line
-Review of Linac Microwave
-Review of Diagnostics
-Review of Safety

XFEL control system status

We are collecting FEL control system applications from LCLS, DESY,..

-Timing
-Modulator
-Power Supply
-BPM
-Diagnostic

Summary

- PLS, successfully upgraded to epics based control system
  - ➢Easily accessible by high level users
  - ➢Very stable control and feedback

-PAL-XFEL project will require highly enhanced hardware and software