JRA1

Milestones/Deliverables 2006

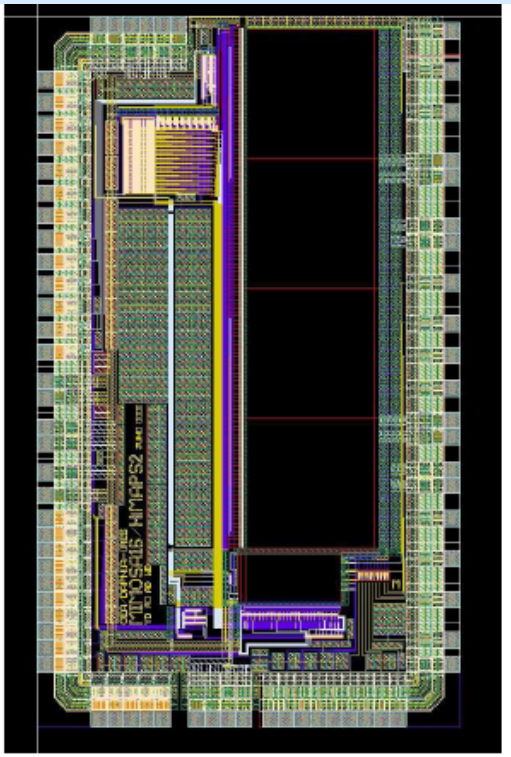
JRA1-C1

Small Digital Chip

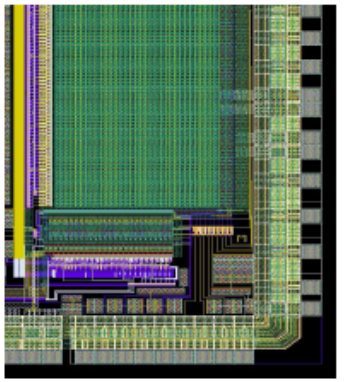
Prototype 1

Fast Column Parallel Architecture

- **MIMOSA-16 design features :**
  - Fab. via STAR engin. run (Summer '06)
  - AMS-0.35 OPTO translation of MIMOSA-8
    $\hookrightarrow \sim$ 11–16 μm epitaxy instead of $\lesssim 7\ \mu m$
  - 32 // columns of 128 pixels (pitch: 25 μm)
  - on-pixel CDS (repeated at end of each column)
  - discriminator at end of each column
  - 4 sub-arrays :
    - 2 like MIMO-8: 1.7x1.7 & 2.4x2.4μm^2 diodes
    - 1 with ionising radiation tol. pixels
    - 1 with enhanced in-pixel amplification (against noise of r.o. chain) & 4.5x4.5 μm^2 diode



$\Rightarrow$



24 col. with discri.

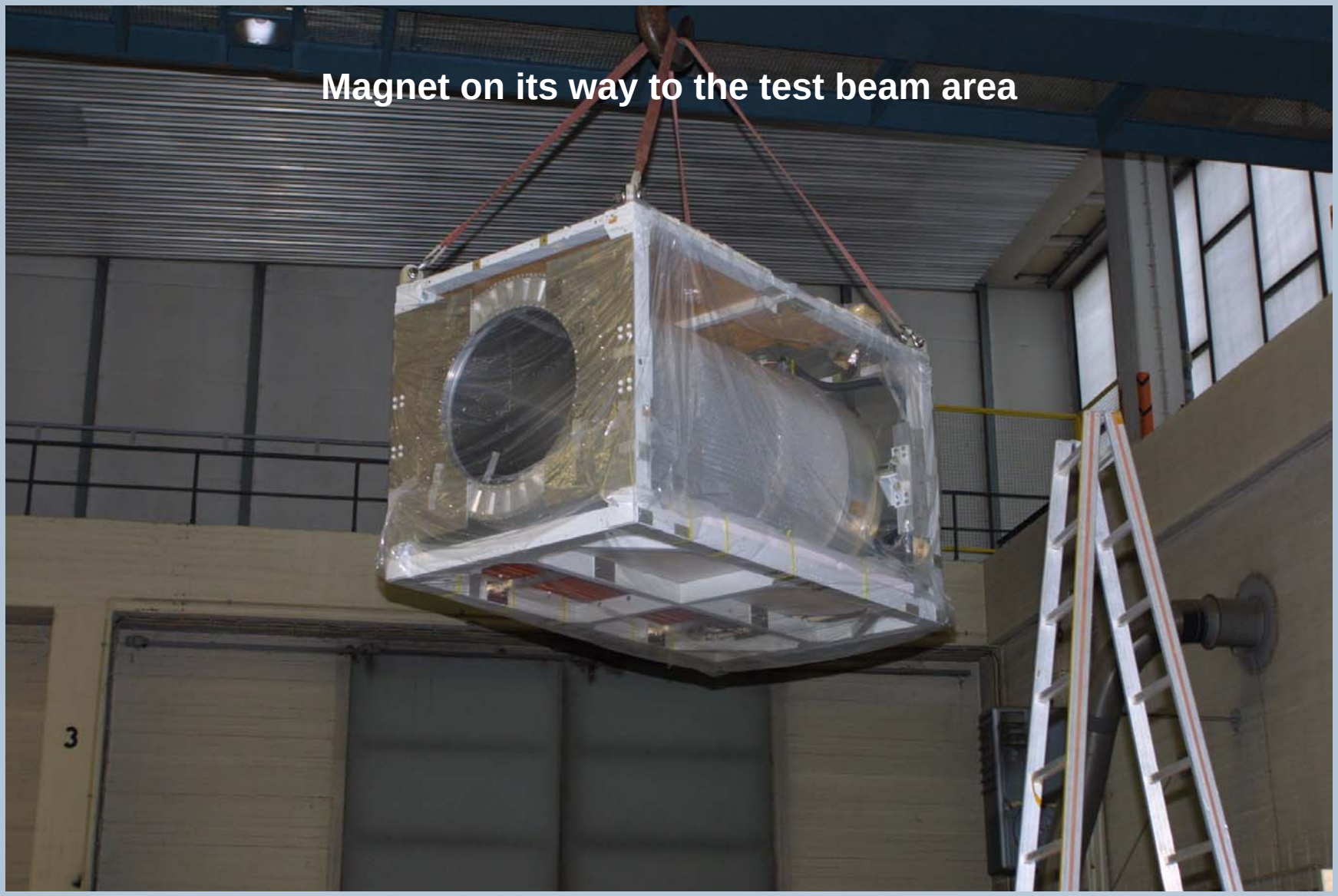
- **Status and Plans :**
  - back from foundry $<$ end Oct. '06 $\longmapsto$ lab tests $\gtrsim$ Nov. '06 (DAPNIA) $\longmapsto$ beam tests $\gtrsim$ Summer 2007
  - next generations :
    - small prototype (48+16 col. ? of 256 pixels, $\gtrsim 16\ \mu m$ pitch, optimised pixels)
    - small prototypes with ADCs replacing or downstream of discriminators

JRA1-A1

Magnet


Magnet inside its box just arrived from the airport on 30 Nov. 2006


The colleagues from Japan have arrived too

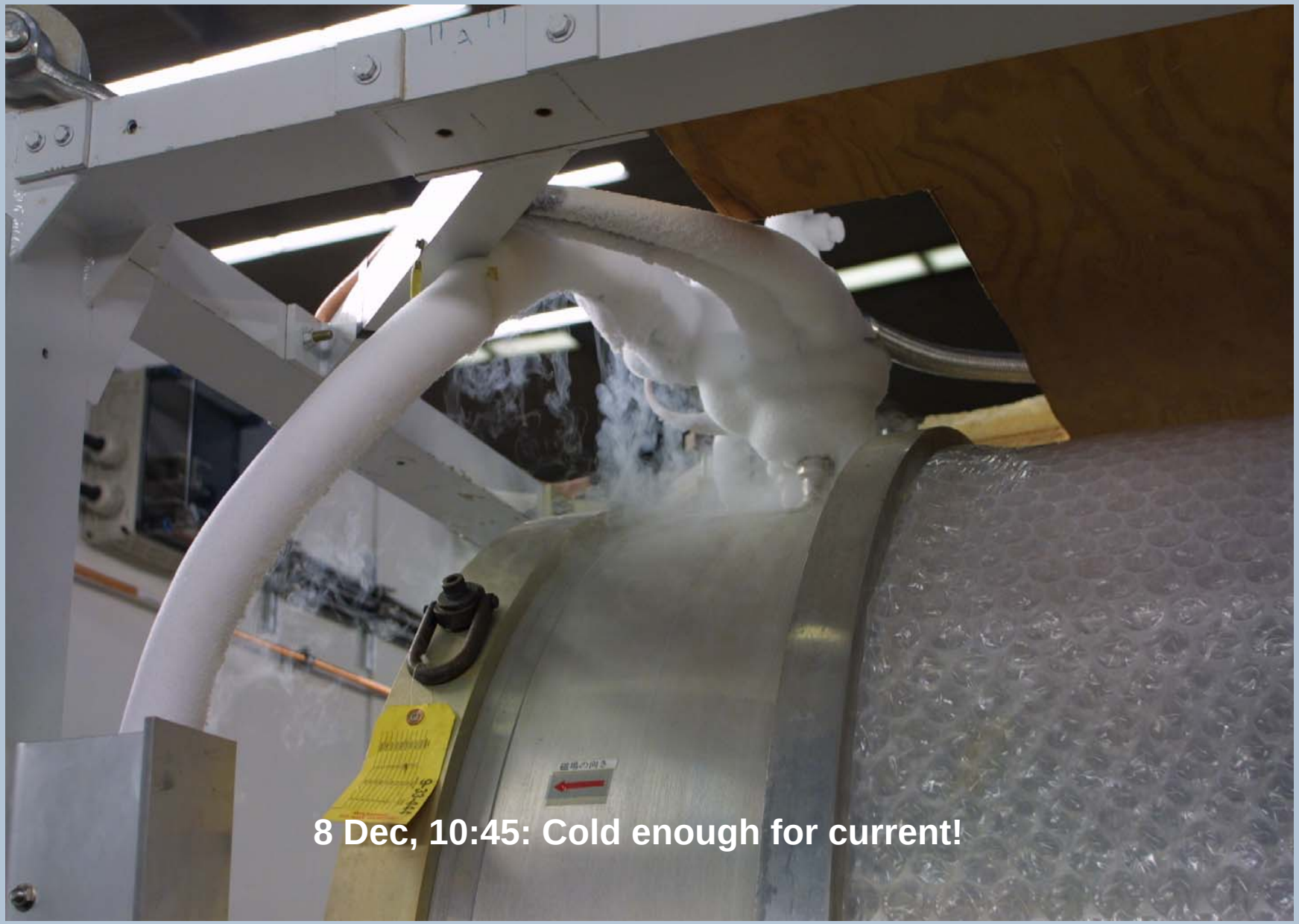

Magnet on its way to the test beam area
3


Magnet in its new home

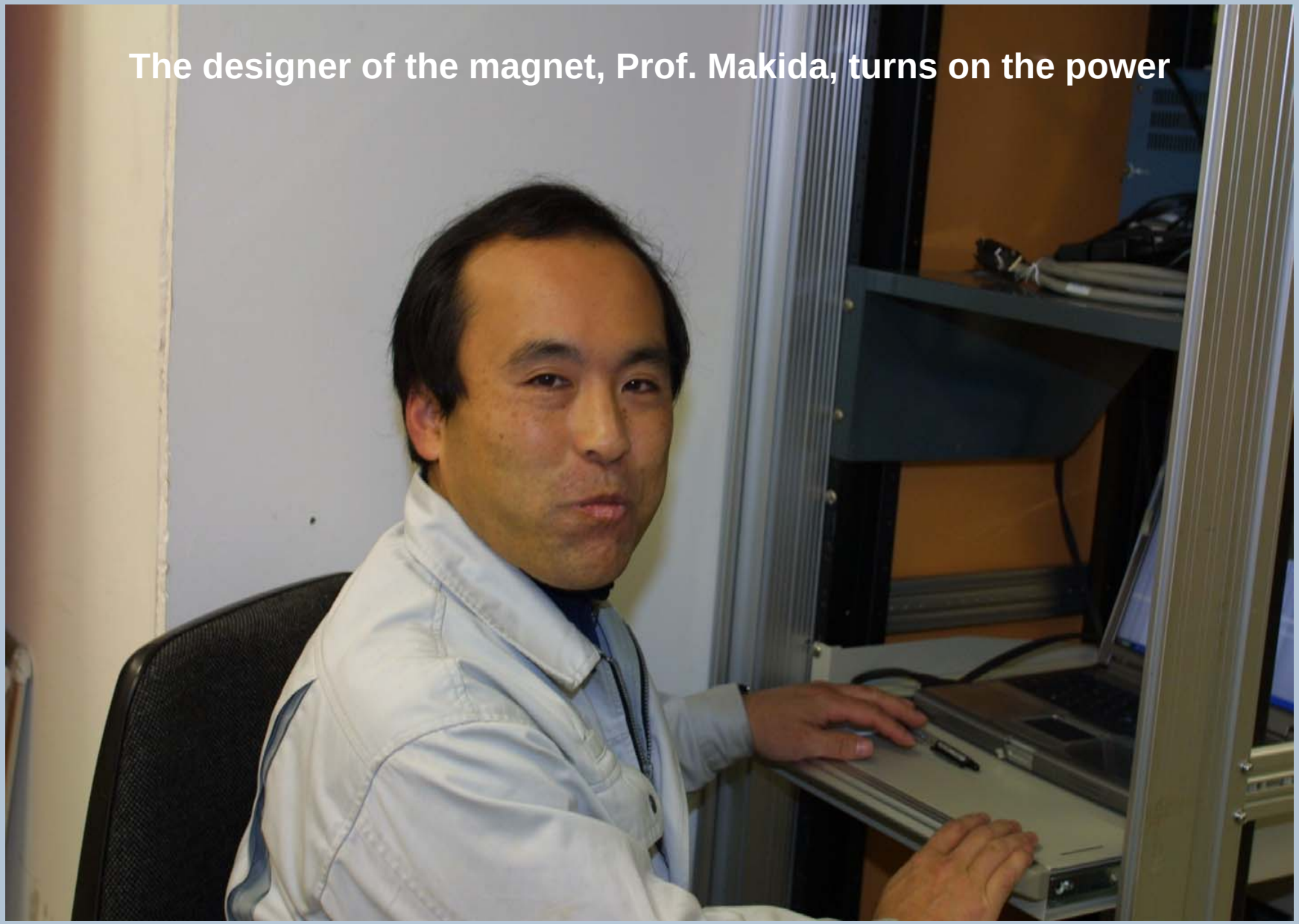
Project leader and DESY specialists discuss the connections

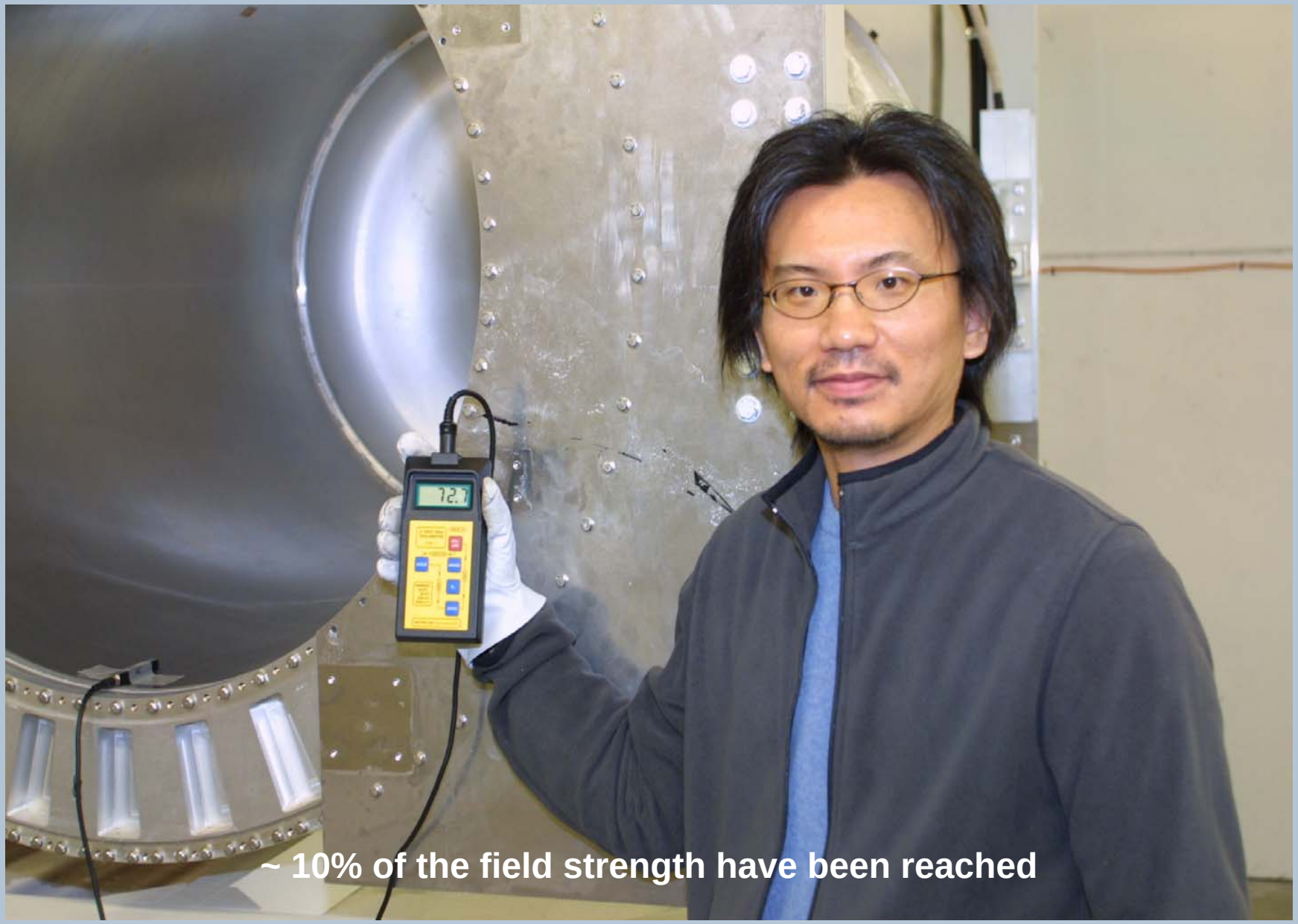

4 Dec: First delivery of liquid helium

7 Dec: Cooldown has started… liquid air can be seen around the pipe



8 Dec, 10:45: Cold enough for current!


The designer of the magnet, Prof. Makida, turns on the power



~ 10% of the field strength have been reached


10 Dec: Full field has been achieved
The KEK and DESY team