Control/command

- **Initiate the discussion on C/C**
- **The architecture of C/C at Saclay**

The needs for AGATA

In term of C/C:

- **Temperature measurements**
- **Cryogenic Valves**
- **HV**
- **LV ?**
- **…**

} …and all that concerns the cryogenic process

Architecture of control command at Saclay

- Graphical User Interface
- Acquisition system
- Telealarm manager (phone, SMS, mail)

What is specific:

- The use of the FIP field bus
  - Determinist + non periodic message
  - CABTF

CABTF (Low Temperature acquisition module on FIP)

-8 or 16 temperatures probes

-Average of 10 measurements

-Digitization

-Sent on the FIP bus

-Web server integrated (configuration through the Web)

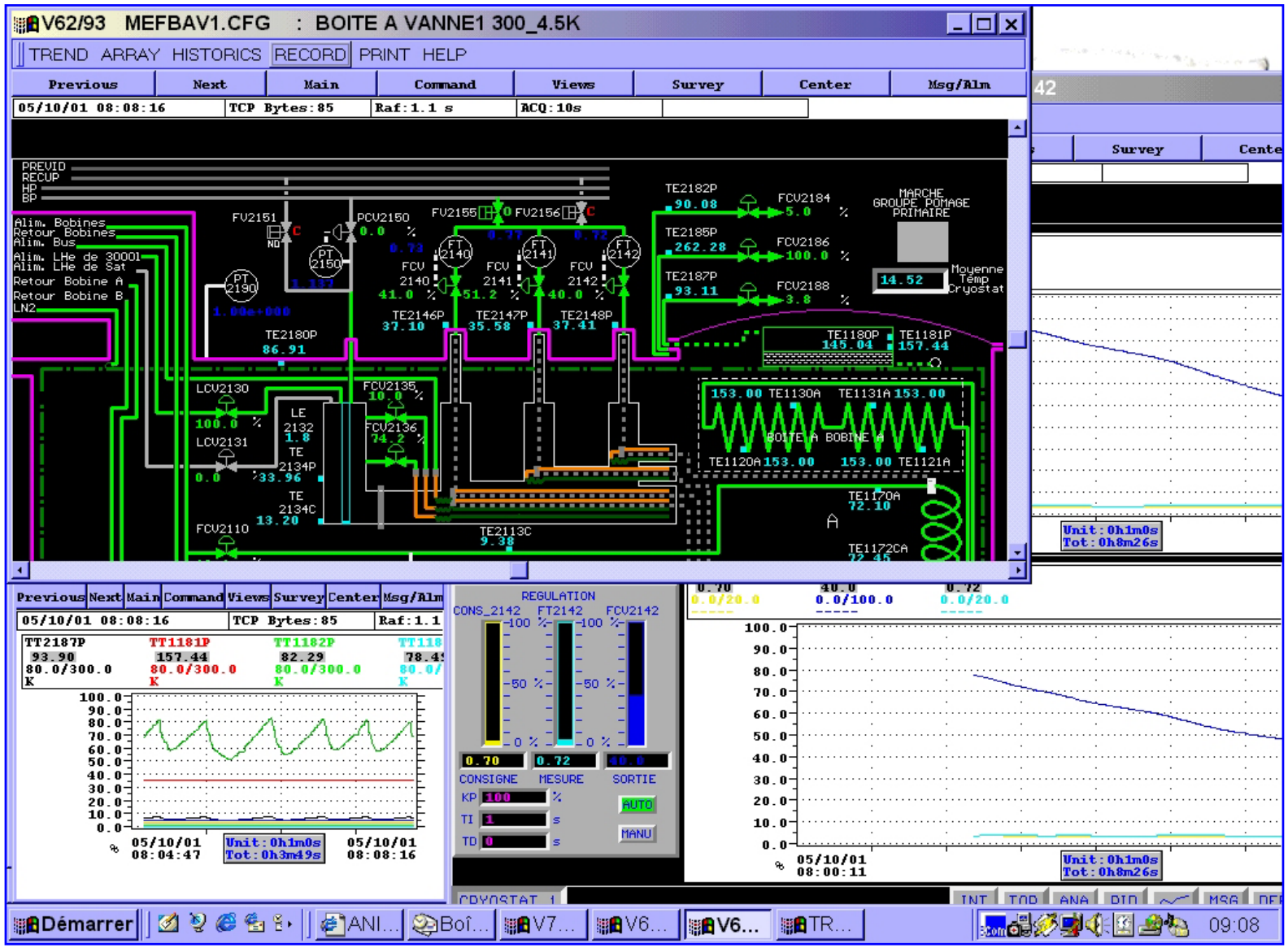
-Cost ~ 3k€ for 16 probes (less cabling and connectors and no signal condit.)

Architecture of control command

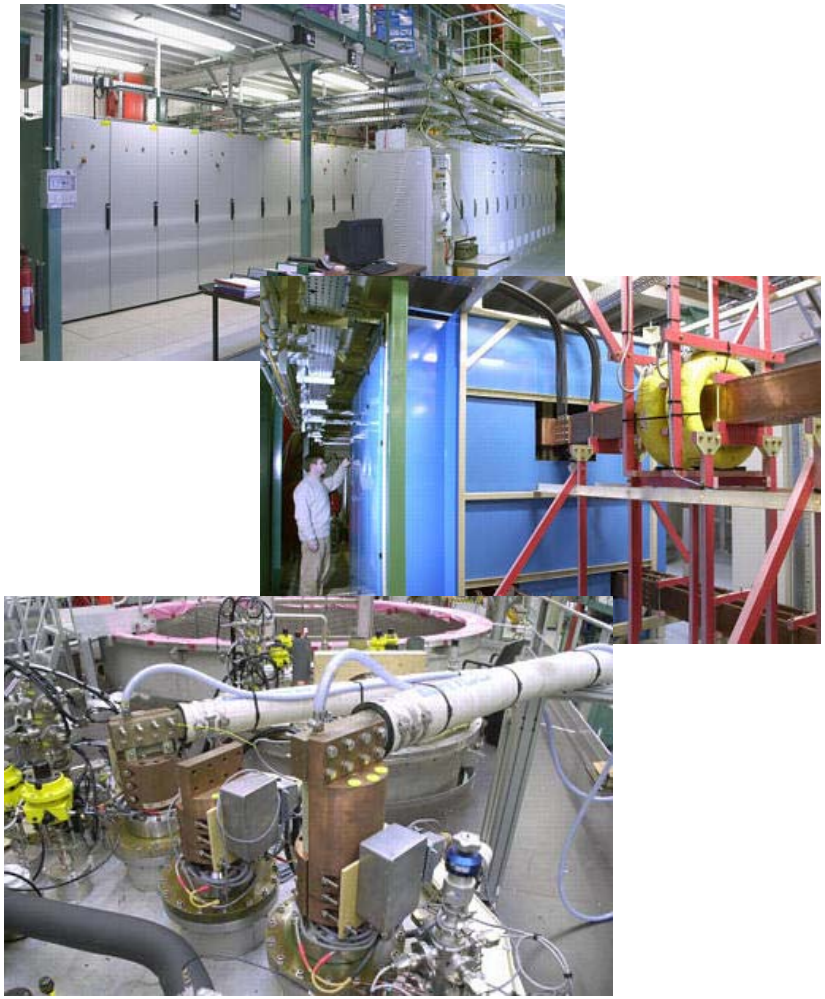
What is specific:

- The use of the FIP field bus
  - Determinist + non periodic message
  - CABTF
- Free GUI (animation description with Autocad)
- No software to develop => config. and process
- Possibility to replay the history of the process via the WEB on a remote workstation with a navigator ,no added plug in (JAVA Applet and Servlet).
- Maintenance (diagnostic with a 10 person team)

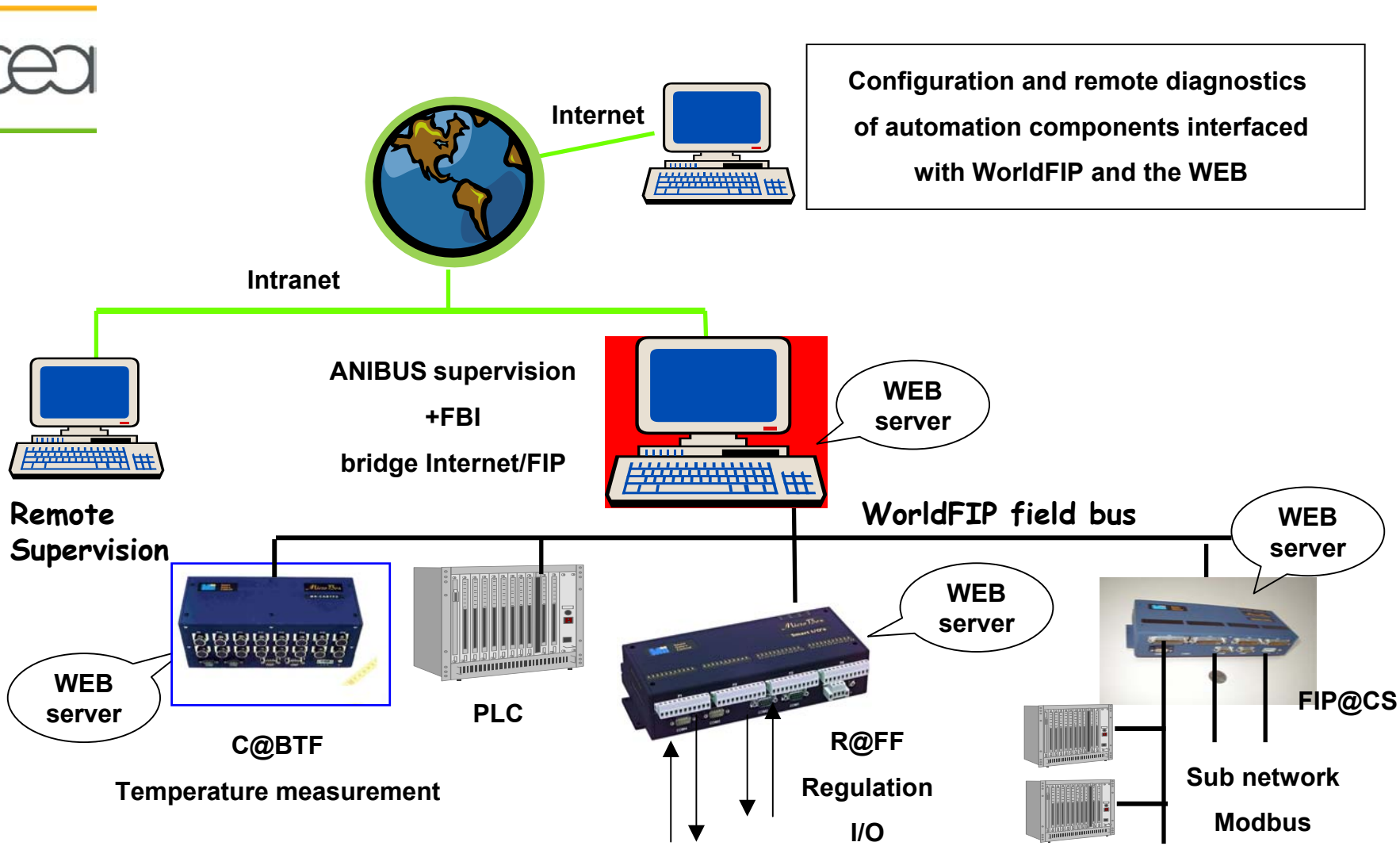
Graphical User Interface with Internet Explorer.



Cryogenic test facility W7X.

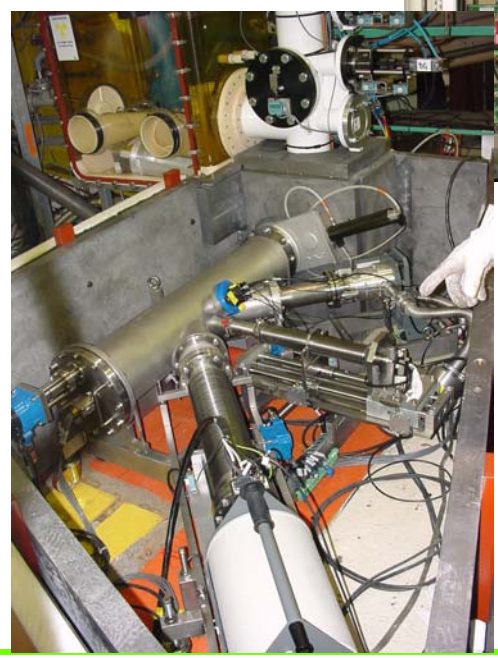


Architecture of control command



Examples of realizations

- -CLAS Target at CEBAF (USA) : filling of an H_2 target
- -Mini-Inca at ILL (Grenoble): loading and unloading of a target
- -MEGACAM and VISIR (Hawaï and Chili): IR imager and spectro



C@BTF

16 Resistor measurements from 0 to 40 kΩ
(16 Temp. measurements from 1.8 to 350 K)
(Realized by SBT/Grenoble)
Web server

FIP@CS

Concentrating mirror FIP/ModBus

For 6 sub-networks Modbus (RS485)

Web server

4 He level
Measurement rack