



ILC-HiGrade Meeting
Cavity-Treatment at CEA Saclay
(WP6)

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Characteristics of EP at Saclay

Generalities

- Choice for Vertical configuration
- Design of the set-up subcontracted
- Design phase almost completed
- 2d call for tender for assembly of the set-up

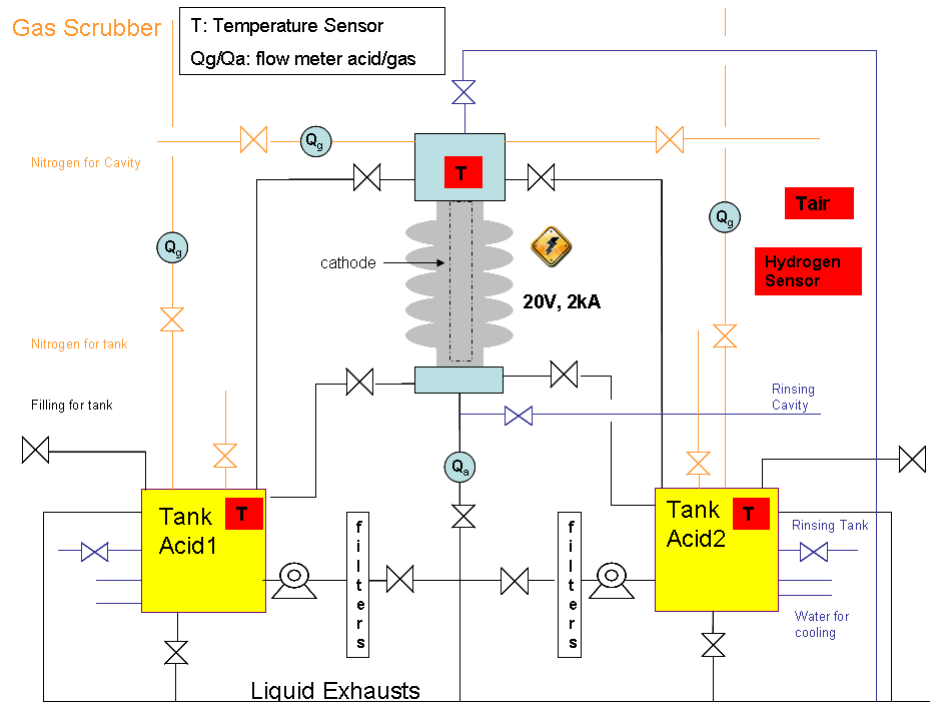
Details concerning the design phase

- « Auxitec Ingénierie » chosen after call for tender
- PID, materials, specifications, suppliers, 3D-drawings
- Evaluation of the cost for the set-up (+/- 20%)
- Two configurations might be contemplated:
 - **Set-up with one tank for acid storage**
 - **Set-up with two tanks: possibility to mix different surface treatments**



Technical Progress of Vertical Set-up

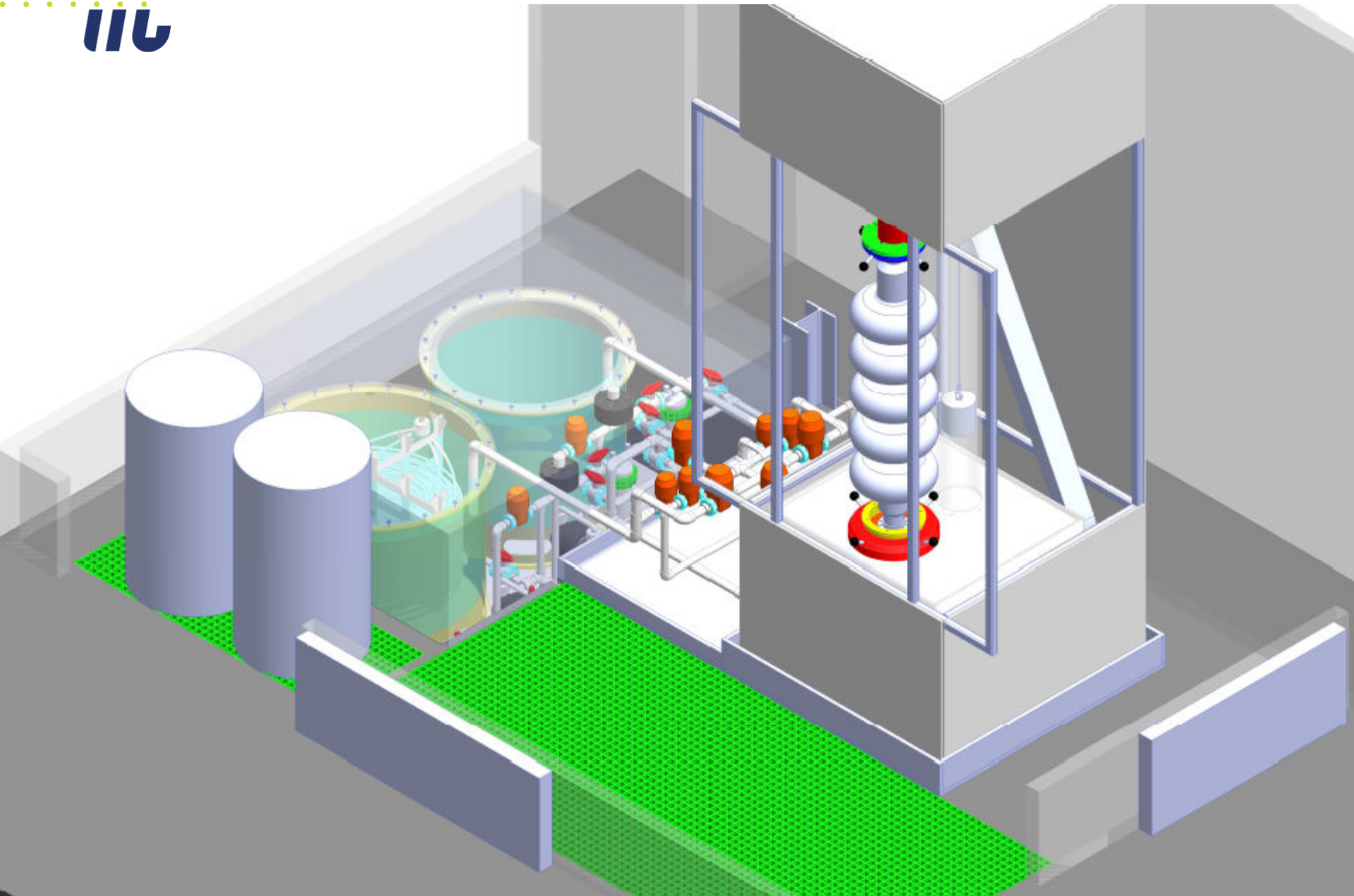
Simplified PID of the set-up

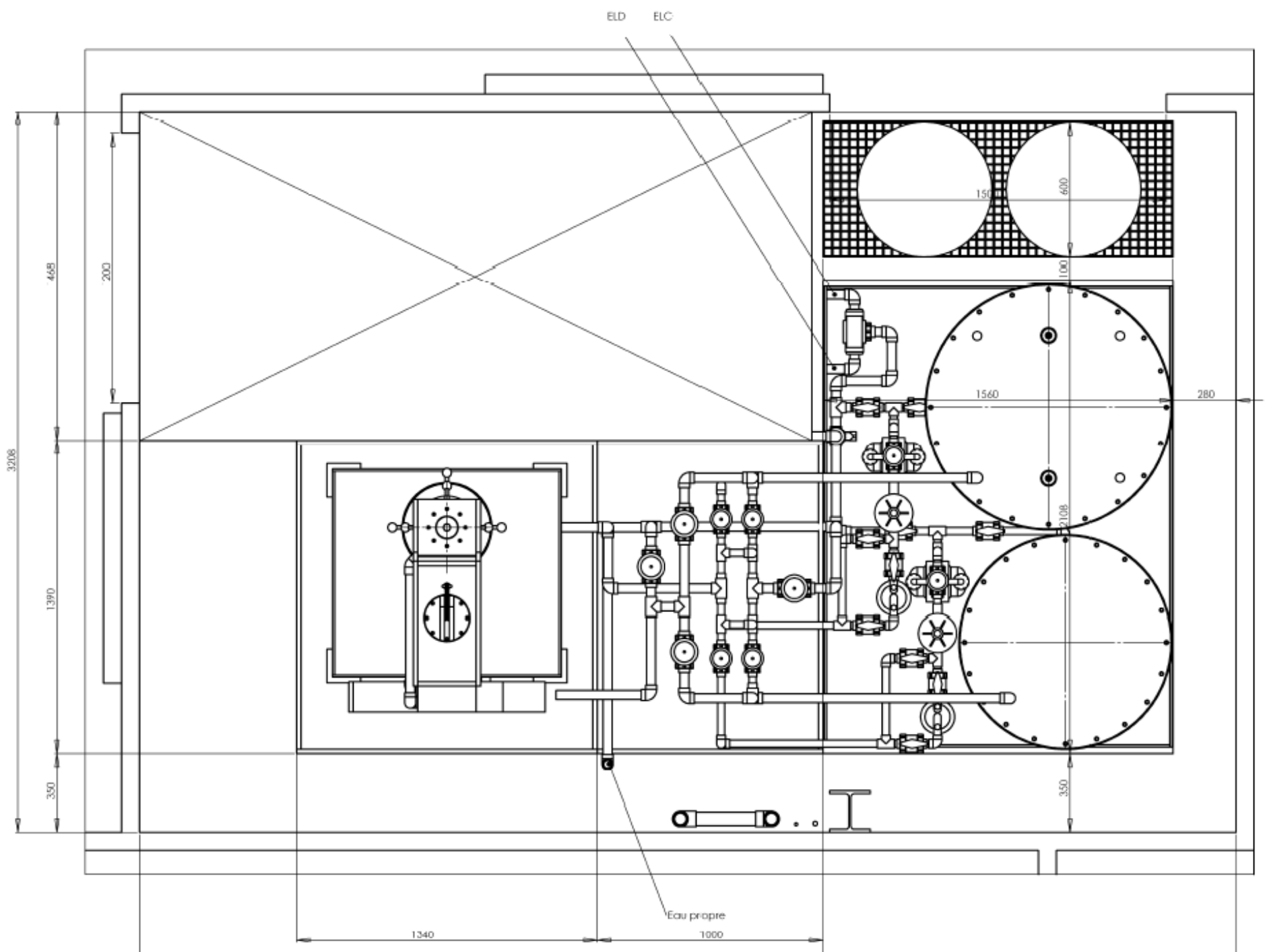


Main advantages:

- Easy operation
- Safe process
- Low floor surface

We intend to develop a reference machine for the electro-polishing of elliptical superconductive cavities.



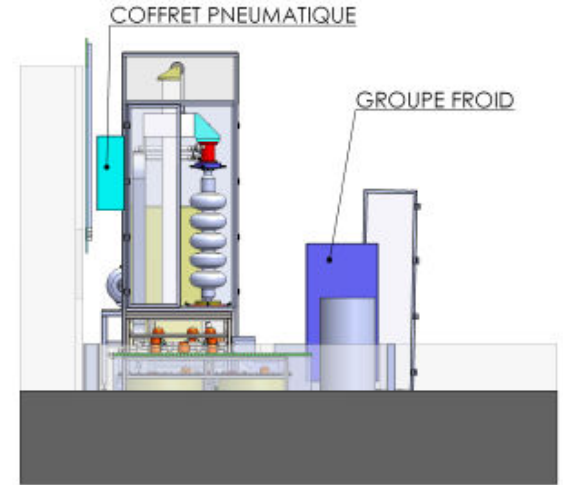
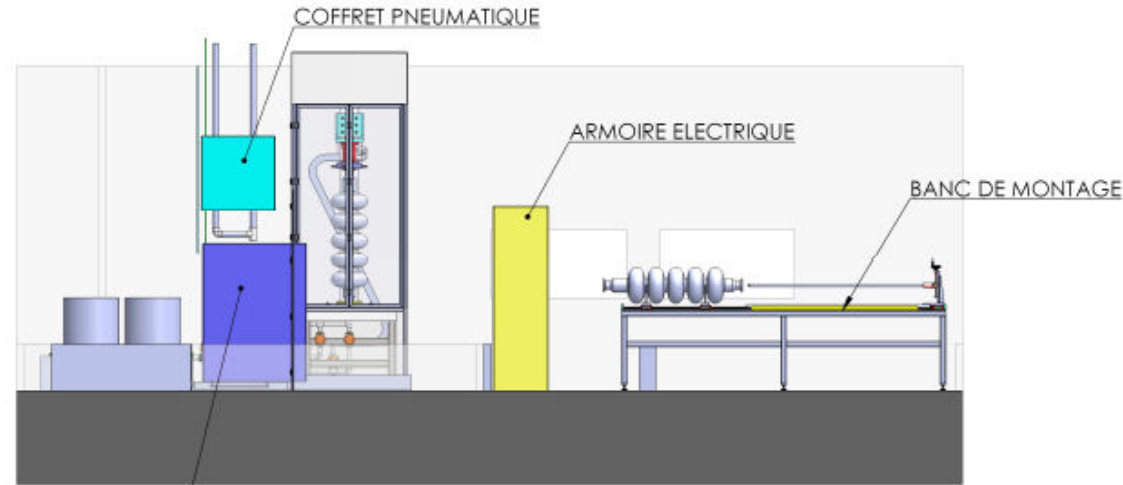




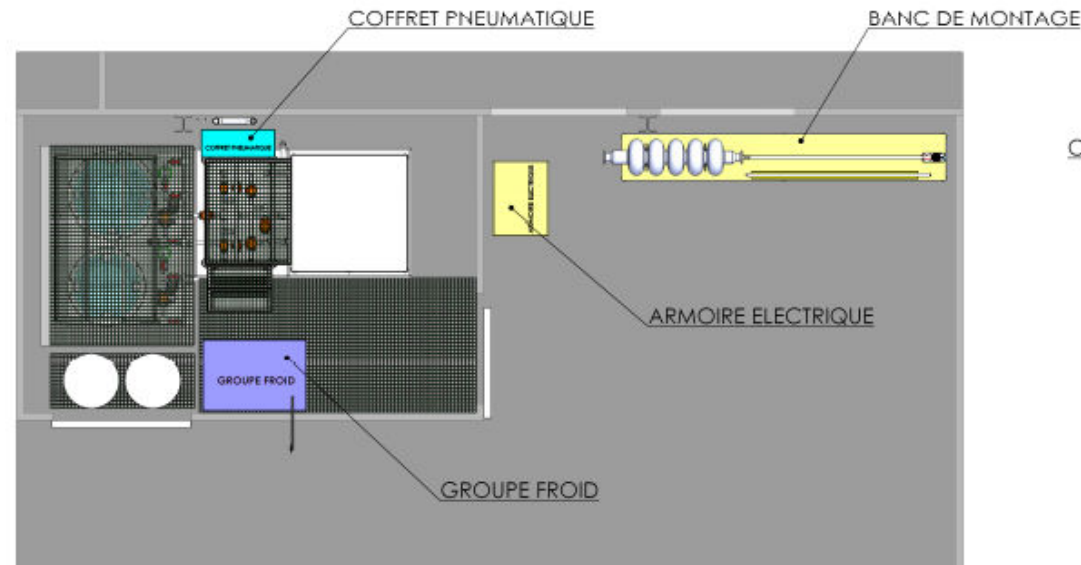
Characteristics of the set-up

- Automated Process
 - Data Monitoring (temperature, intensity, voltage, flowrate)
 - Acid flowrate: 0-40 L/min
 - Power Supply: 0-20V 1500A (tbc)
 - Nearly all piping in PFA
 - Hydrogen diluted in Nitrogen flow
 - Cathode introduced in horizontal configuration
- need for a dedicated bench

View of the set-up and of the preparation area



GROUPES FROID



COFFRET PNEUMATIQUE

BANC DE MONTAGE

ARMOIRE ELECTRIQUE

GROUPES FROID



Schedule for 2010

EP Set-Up

- Call for tender for the assembly of the set-up
- Commissioning at Saclay
- 2 possible configurations for the set-up: with two tanks or one tank.
- Possible treatments (with the « two-tank configuration »):
 - **Bulk EP**
 - **Final EP**
 - **Flash BCP**
 - **Ethanol Rinse**

Preparation of Vertical Tests of 9-Cell Cavities

- Modification of cryostat for tests of Tesla-Shape 9-Cell cavities
- Development of quench location technique by 2d sound measurements
- Sensors supplied by Cornell

- New Cleanroom devoted to XFEL assembly.
→Former cleanroom might be used for HPR and assembly of ILC Hi-Grade cavities before VT



Schedule for 2011

Treatment and VT of cavities. Details?

- Number of cavities to be electro-polished / tested?
- Nature of the treatment?
 - Bulk EP?
 - Light EP?
 - HPR + Test?