



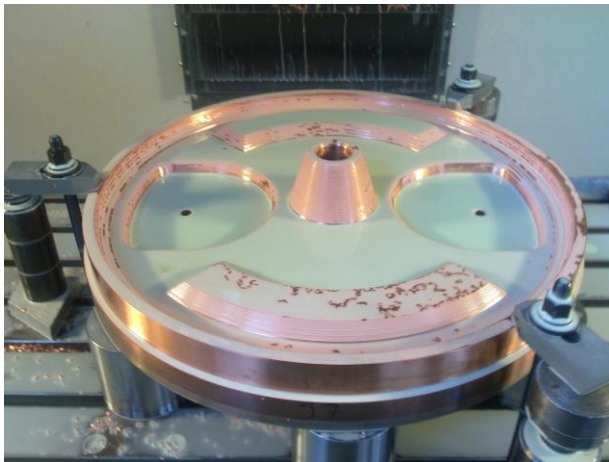
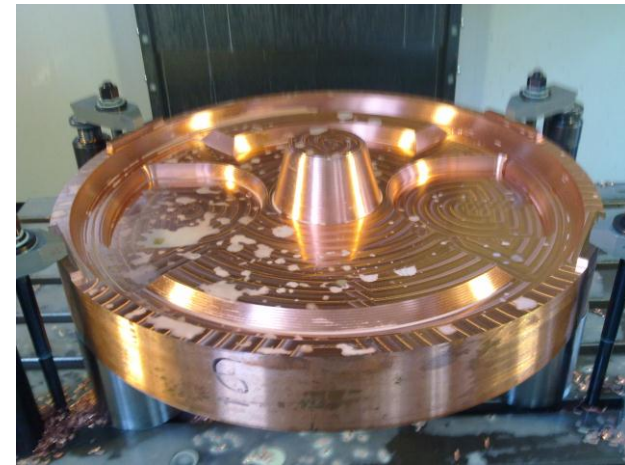
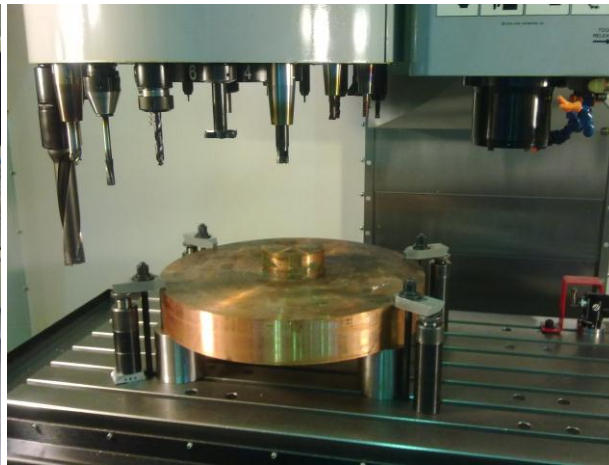
# Status of PIMS production

# Disc machining steps

## HAAS VF-3YT



1. Rough machining with allowance +1

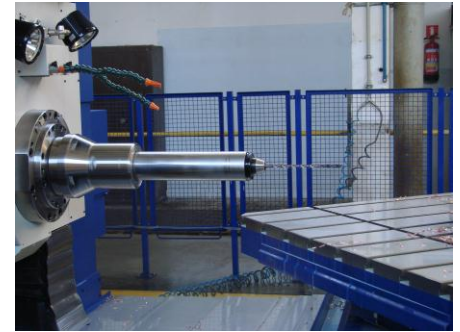


# Disc machining steps

## TOS WH-105CNC



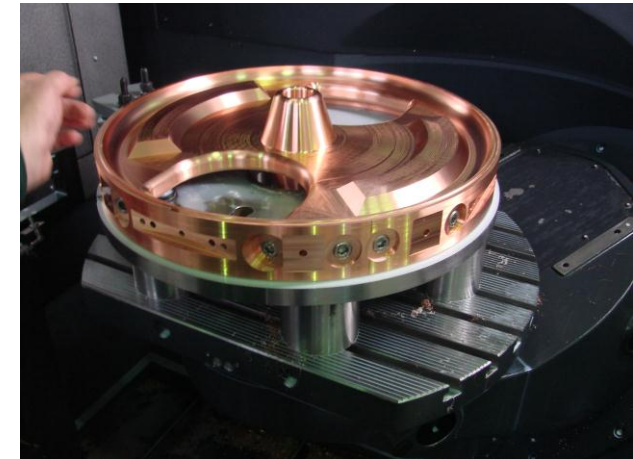
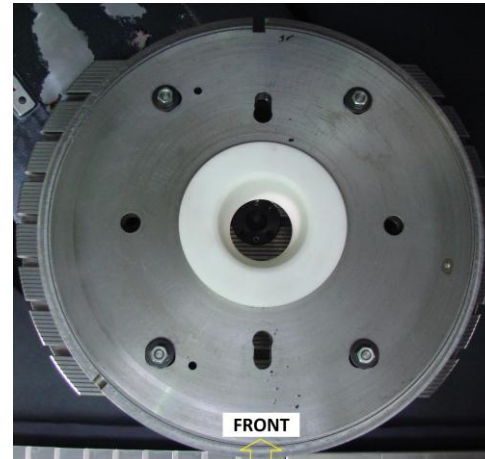
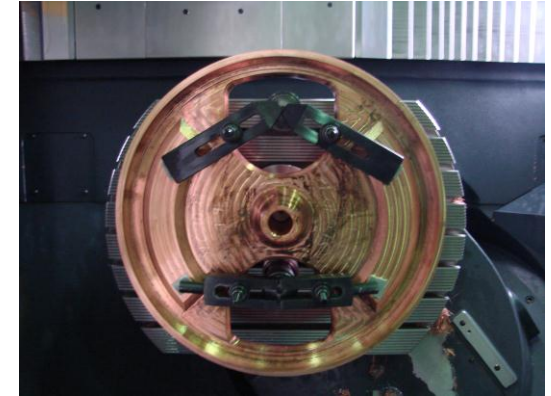
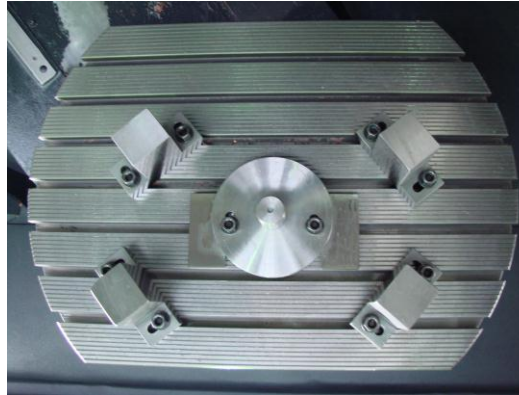
1. Bases and outside diameter semifinal machining
2. Cooling holes drilling and threading



# Disc final machining DMU70

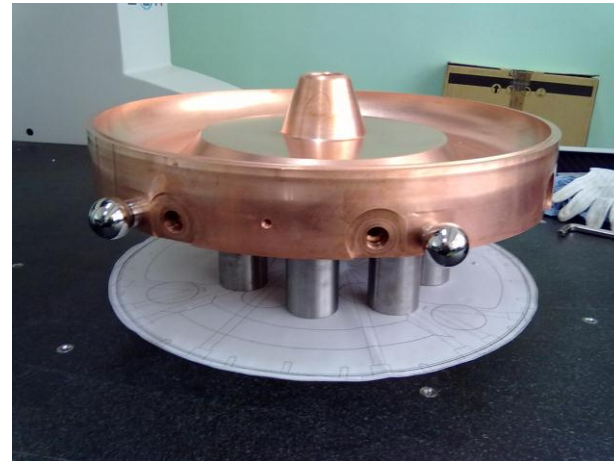


1. Slots final machining
2. Holes drilling and threading
3. Outside diameter 538,72 final machining according to drawing tolerances
4. B-side outside diameter 524,72 final machining according to drawing tolerances
5. Inside diameter 40 final machining
6. B-side inside shape final machining according to drawing tolerances
7. D-side inside shape final machining according to drawing tolerances
8. D-side outside diameter 524,72 final machining according to drawing tolerances



# Quality control

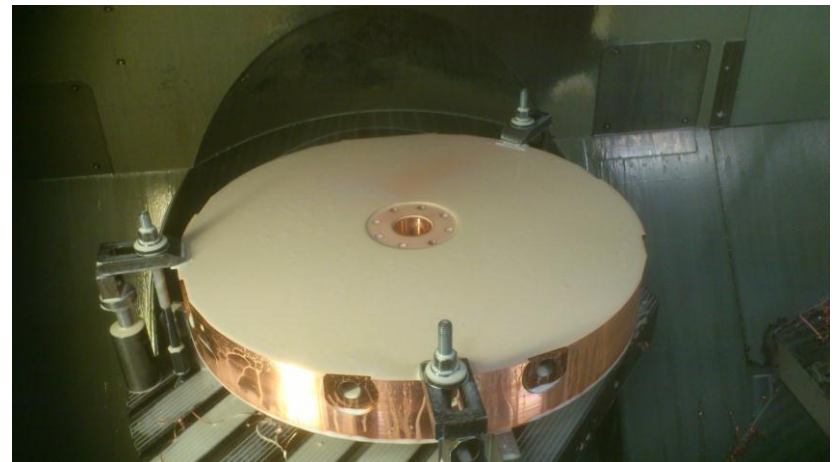
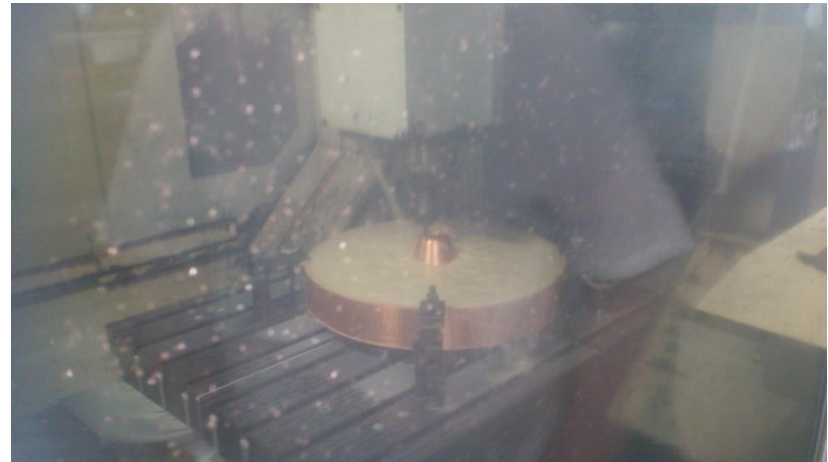
DEA Global Advantage 09.15.08



# CPL subcontractor



- DMC 100V - rough machining +2
- DMU 70 – holes drilling
- PARPAS bases and outside diameter final machining
- DMC 1035 - final machining
- DMC 100V - final machining
- DMU 70 - final machining



# CPL subcontractor





# Done work

## ZdAJ

### Disc current form

#### Rough +1

- Standard disc – 36 pcs

#### Semifinished

- Standard disc – 7 pcs (4xC, 3xG)

#### Finished

- Standard disc – 5 pcs (G2-3, 4xM)





# Done work

## ZdAJ

### Ring current form

#### Before rough

- Standard ring – 8 pcs
- Pick-up ring – 4 pcs

#### Rough +1

- Standard ring – 4 pcs
- Pick-up ring – 2 pcs

#### Prepared for welding

- Standard ring – 28 pcs
- Pick-up ring – 14 pcs

#### Welded

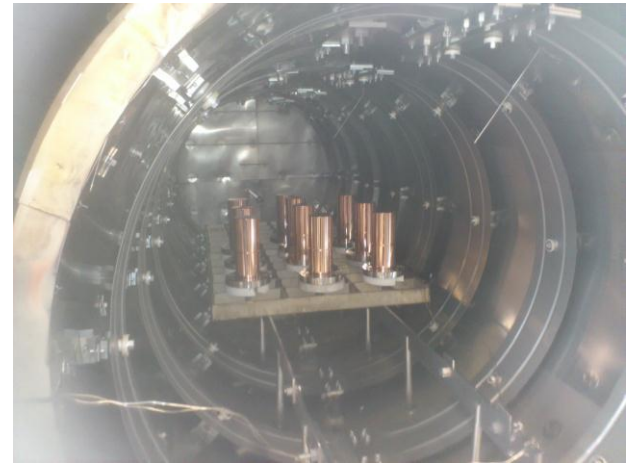
- Standard ring – 8 pcs (4M, 4N)
- Pick-up ring – 3 pcs (1M, 2N)

#### Finished

- Pick-up ring – 1 pc (M13-14)
- Pick-up ring – 1 pc (G13-14) – for short module and tests



# Done work ZdAJ



# Done work

## ZdAJ

### Auxiliary equipment

- Support spacer SPLACPMS 0003 – welded;
- Single support SPLACPMS 0004 - welded
- Double support SPLACPMS 0005 - welded
- Target support SPLHAPMS 0007 - finished



# Done work

## CPL subcontractor

### Disc and ring current form

#### Before rough

- Wave guide ring – 10 pcs

#### Rough +1

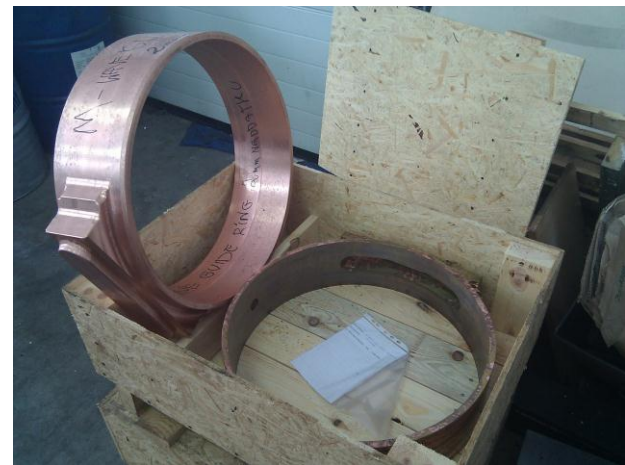
- End disc – 20 pcs
- Central disc – 20 pcs
- Wave guide ring – 2 pcs (G7-8, M7-8)

#### Semifinal +0,3

- Central disc – 3 pcs (G6-7, G8-9, M8-9)

#### Finished

- End disc – 4 pcs (2xN, 2xM)
- Central disc - 1 pcs (M6-7)



# Total final machining time of two sides: 40 hours

- Tm for one disc: 40 hours
- Standard disc quantity: 48 pcs
- Total: 1920 hours
- 1 shift 1 machine: 300 working days (60 weeks)
- 2 shifts 1 machine: 150 working days (30 weeks)
- 1 shift 2 machines: 150 working days (30 weeks)
- 2 shifts 2 machines: 75 working days (15 weeks)

# Purchase of machine CHIRON MILL FX800

- Milling/Turning technology
- Scheduled time of instalation: End of June 2013
- doubling of production capacity



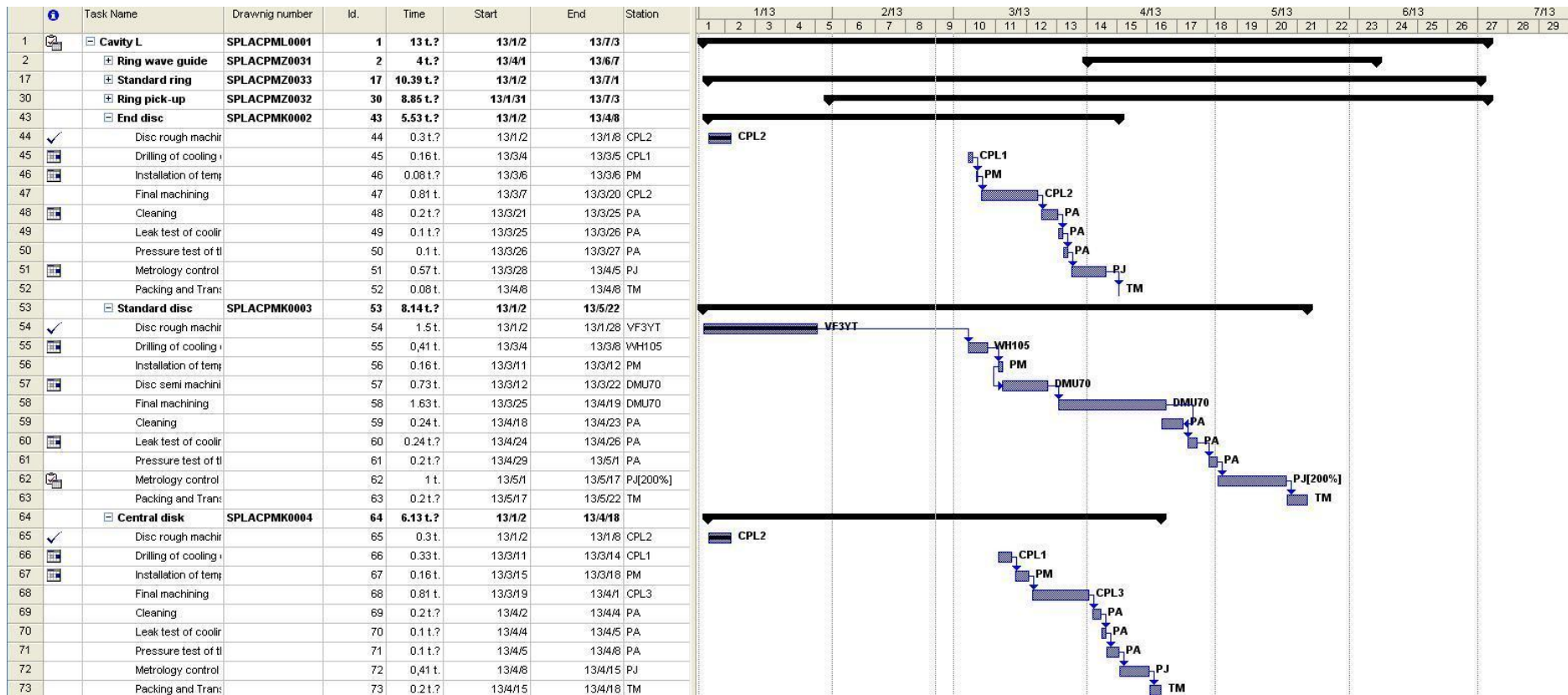
# Objectives to be implemented

1. Running second shift on crucial machines
  - Already we have adequate staff
2. Cooling holes drilling made by subcontractors – if necessary
  - It is not necessary in our opinion
3. Rough and semifinal machining made by subcontractors – if necessary
  - It is not necessary in our opinion





# Cavity L schedule



# Cavity L schedule

