

# Plans of Cavity Production Facility at KEK

Seiya Yamaguchi, KEK

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# Purpose of Cavity Production Facility at KEK

- Cavity manufacturer in Japan is only MHI at this time.
- High-gradient performance is not enough. Although distinction between fabrication and processing is necessary, fabrication is imperfect (ununiform bead width, pit/bump).
- Cost is high.
- We started collaborative research with other vendors.
- We will work with these vendors (inc.MHI) using this Facility.
- We expect
  - reveal limiting factors of HG performance
  - quick feed back this knowledge to fabrication at vendors
  - establish cavity manufacturing procedure for mass production
  - cost down by competition

# Building for Cavity Production Facility

STF



old PS energy center



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画像取得日: 2007年4月30日 36°09'07.94" N 140°04'32.11" E 標高

## Slide 3

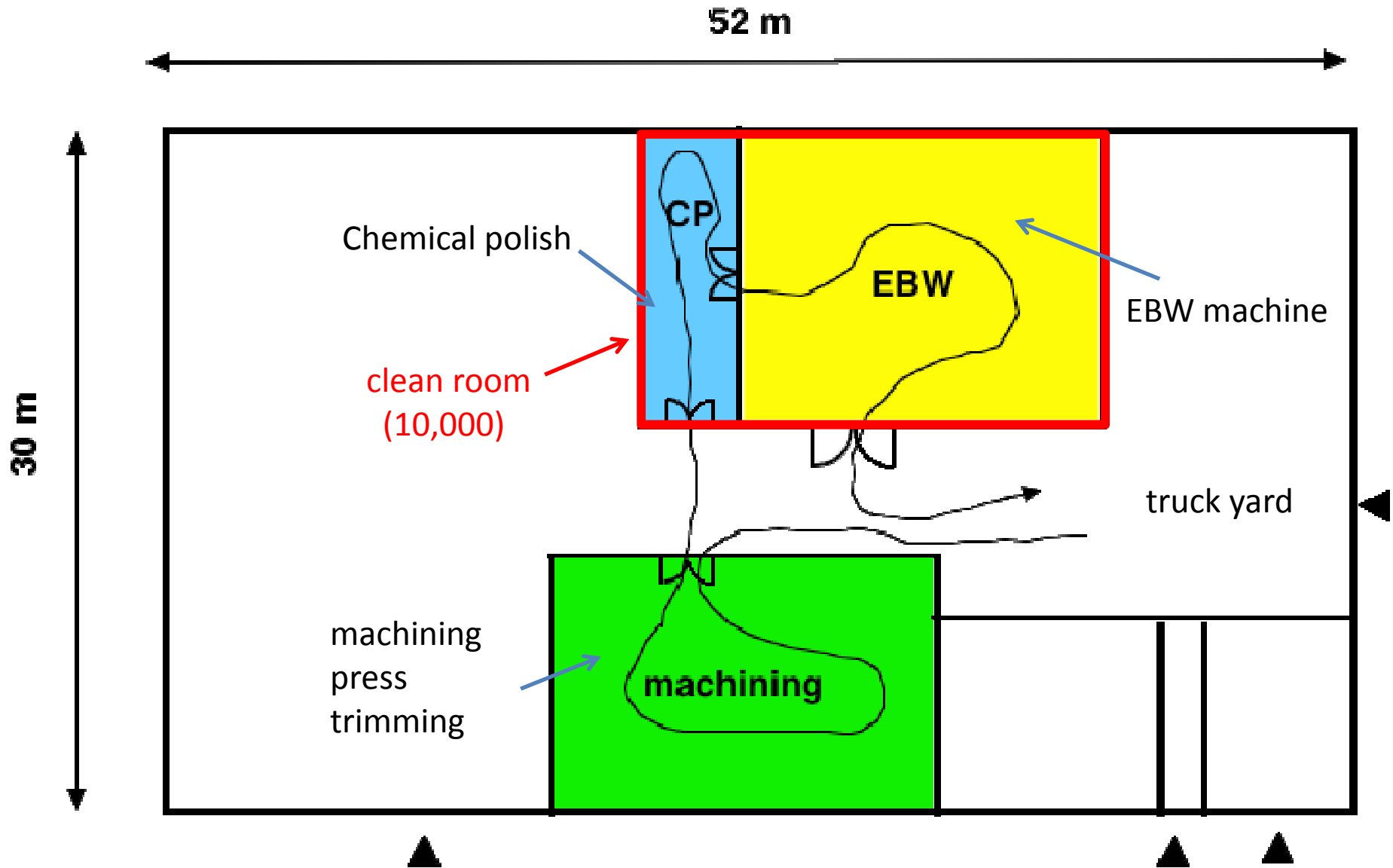
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**SY1**

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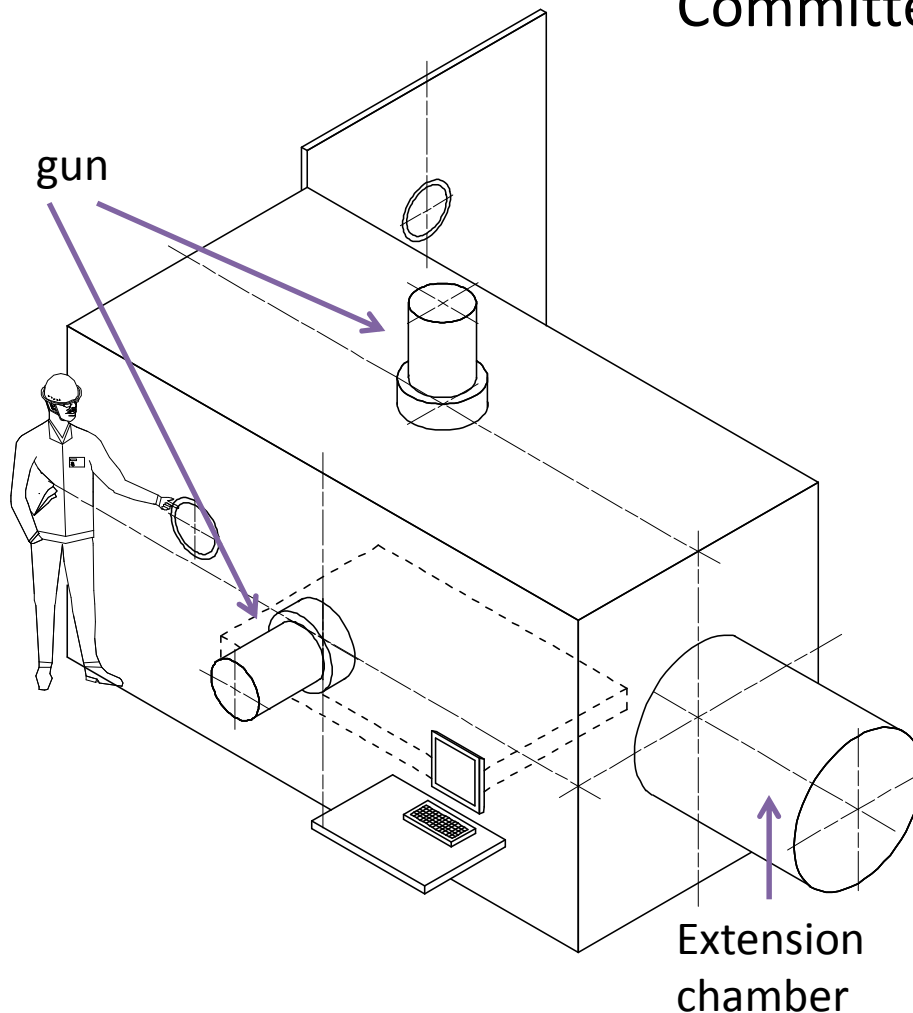
Seiya Yamaguchi, 9/18/2009

# Future Cavity Production Facility (draft scheme)



# Specification of EBW machine

Committee on EBW (June, 09~)



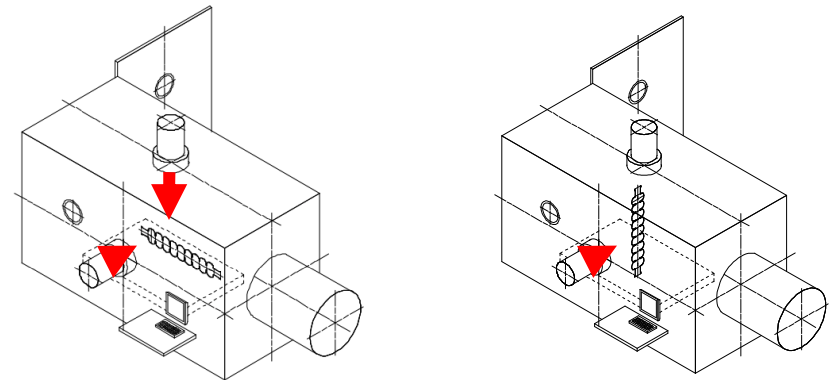
- $\text{Power}_{\text{max}}$
- $\text{HV}_{\text{max}}$
- Gun slide
- Rotary device
- Vacuum pump performance
- Monitor
- Software

# Scenario for EBW process

## 1) Establish conditions for EBW.

HV, current, beam size, speed, vacuum, inner/outer, positioning/direction, etc.

(KEK has 3 experienced people)



## 2) Establish fabrication procedure of 9-cell cavity.

## 3) Improve fabrication efficiency.

- application of multi cavities and/or road lock system.

- automatic operation system.

## 4) Demonstrate capability for mass production.

# Time Schedule of Cavity Production Facility (tentative)

