

**LCFOA Technology  
Working Group  
Breakout Session  
Report: Cryomodules**

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## ■ Format was an Open Discussion

### ■ Question: What would motivate industry to participate in cryomodule development?


#### □ Answer: An invitation.

- Participation in cryomodule assembly should occur as soon as possible---this means with the first cryomodule assembly at FNAL
- Will help identify areas in the assembly process that might be improved
- Money--- it is not expected that significant participation by industry will come for free



**Ed Bonnema (Meyer Tool) started a chart on the white board that looked like this:**

<b>RF Stuff</b>	<b>Non-RF Stuff</b>
<ul style="list-style-type: none"><li>-Hi Tech</li><li>-Pushing the envelope</li><li>-50% of CM cost, dominated cavity and power coupler costs</li></ul>	<ul style="list-style-type: none"><li>- Not Hi Tech</li><li>-Design for Mfg.</li><li>-50% of CM cost, half hardware and half touch labor</li></ul>

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- **Question: Is the present cryomodule design (Type III+, Type IV, XFEL, etc.) the right design for the ILC, or is a significant departure from this design warranted?**

- Proposal: Conduct a design review using U.S. industrial experts to evaluate the basic design and the assembly process.**

- **Type IV (T4CM) Cryomodule Design**

- Proposal: Get industry involved early in the design process in order to benefit from their experience. It is too late (or at least much less effective) if industry is not involved until after the design is completed.**



- **General Comment (not criticism)**

- **U.S. industry is not actively engaged with the ILC program at this time (attendance of semi-annual LCFOA meetings does not constitute engagement) but they would like to be**