

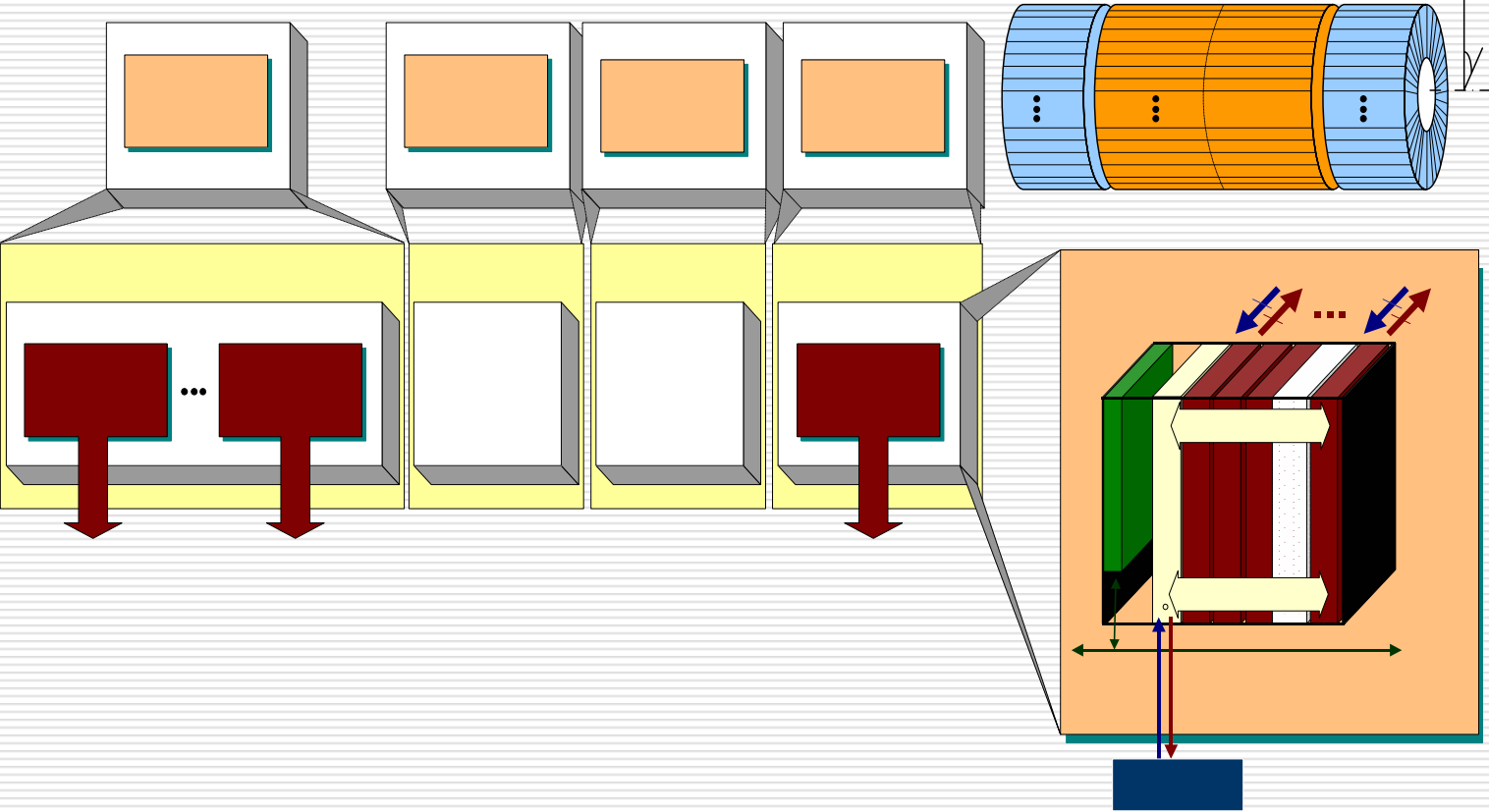
# TileCal ROD Commissioning Counting Room Installation

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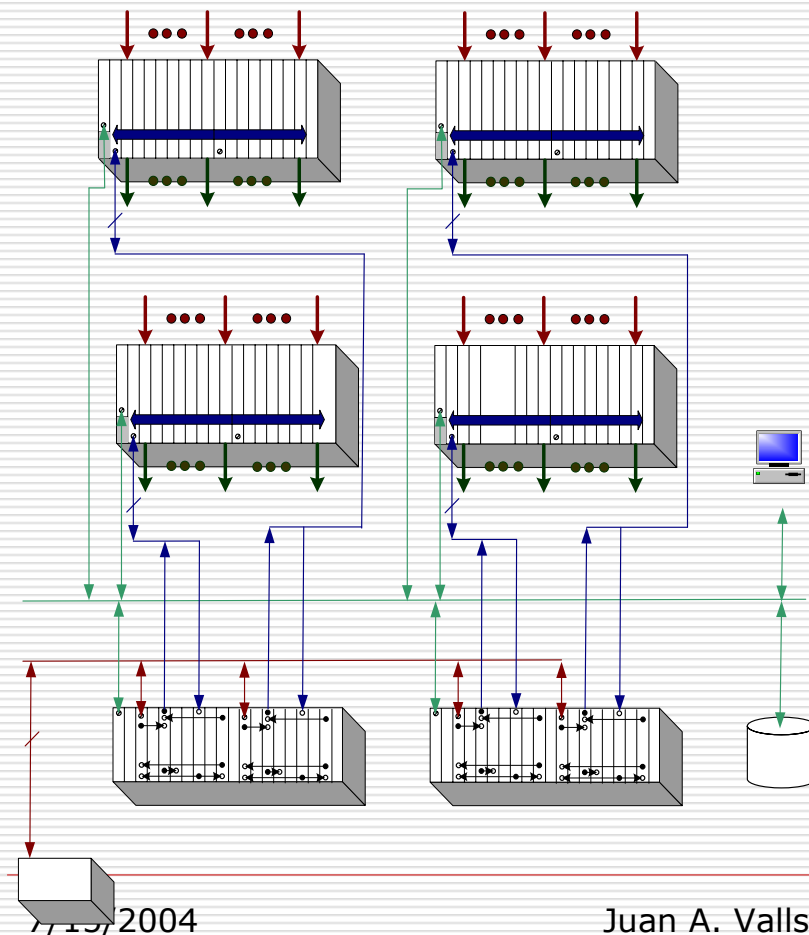
- Introduction and System Description
- ROD TileCal Production Schedule
- Reception and Preparation for Installation
- Installation and Test Procedures in UX15-USA15

Juan Valls, Jose Castelo  
IFIC - Valencia  
ASSO (LiArg+Tile) Meeting (July 2004)

# TileCal DAQ Partitions



# ROD Crates



**ROD Crate** (9U×400mm) CERN PH-ESS Group  
 LHC Wiener VME 64x  
 Fan Tray, 9 blowers, CANbus  
 Remote water-cooled PS, CANbus

- 1 P3 backplane
- 1 SBC (VP110)
- 8 RODs + with 8 TM boards each  
 (2 HOLA LSC)
- 1 TBM
- 8 miniRODs

**TTC Crate** (6U)  
 LHC Wiener VME 64x  
 Fan Tray, 3 blowers, CANbus  
 PS, air cooled, CANbus

- 1 SBC (VP110)
- 1 TTCvi
- 1 TTCex
- 1 Busy Module
- LTP

**Detector FEBs**  
 (Front panel fibres)

# ROD Racks

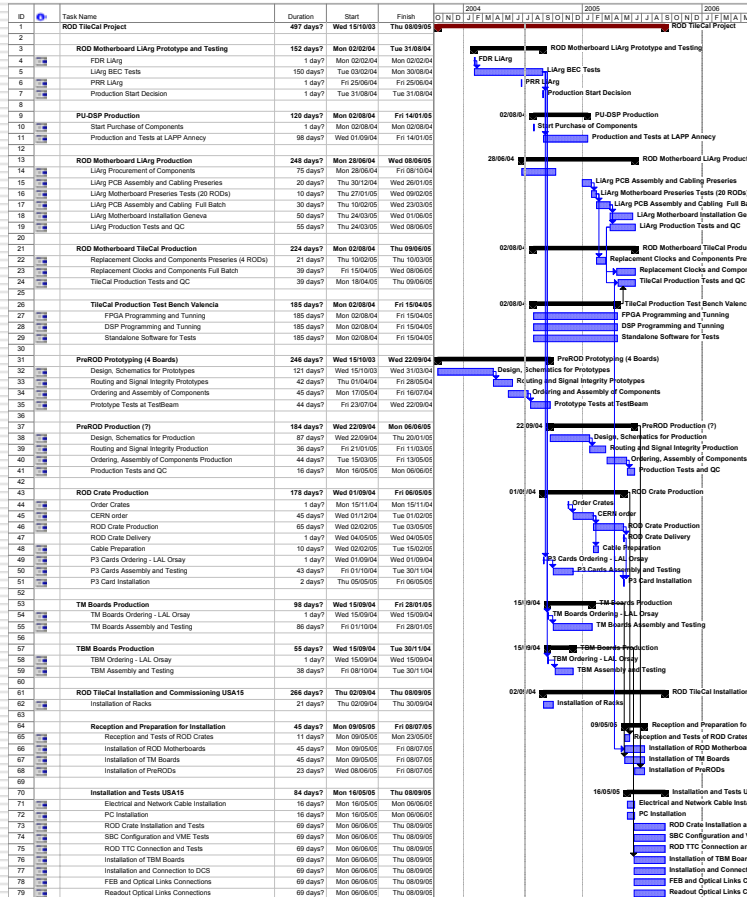
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- 14 racks assigned to TileCal in 2 rows
- 2 racks for RODs (RA1604 and RA1603)
- Each ROD rack will allocate
  - 2 ROD crates
  - 1 TTC crate
  - 1 TTC FO
  - Monitoring space for computer

## Questions Opened

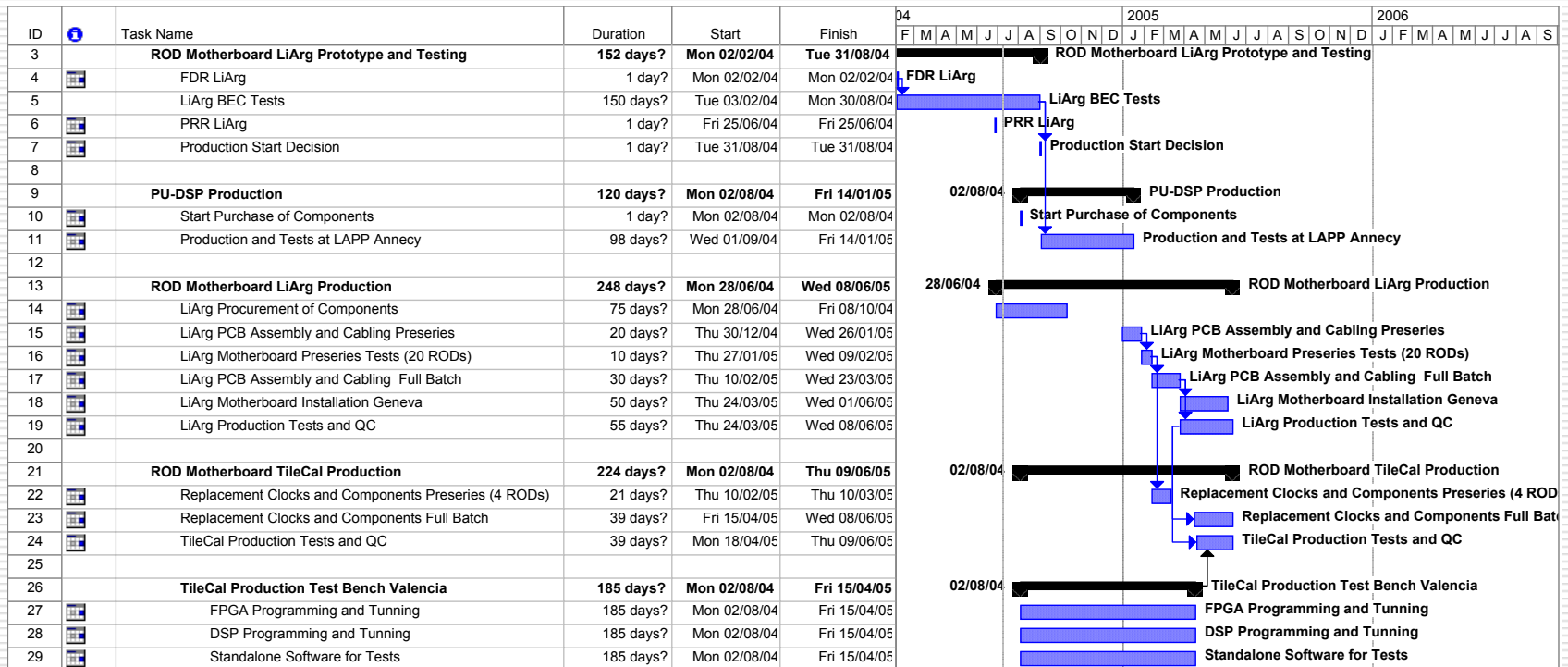
- Water Cooling System for ROD Boards  
(1U drawers on top of each ROD crate + cooling system on Rack)
- FE Links to ROD Crates  
(Patch boxes)

# ROD TileCal Project Schedule



- ROD Motherboard TileCal Production
- ROD Motherboard LiArg Production
- LiArg BEC Tests
- PU-DSP Production
- TileCal Production Testbench at Valencia
- PreROD Prototyping and Production
- ROD Crate Production, TM Boards and TBM Boards Production
- ROD TileCal Installation and Commissioning USA15
- Installation of Racks
- Reception and Preparation for Installation
- Installation and Tests USA15

# ROD Motherboard TileCal Production



# PreROD Prototyping and Production

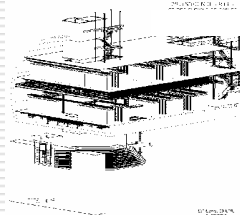
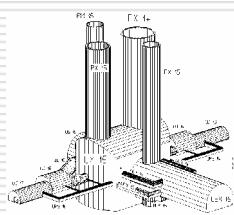
ID	Task Name	Duration	Start	Finish	2004												2005												2006											
					O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M				
31	<b>PreROD Prototyping (4 Boards)</b>	<b>246 days?</b>	<b>Wed 15/10/03</b>	<b>Wed 22/09/04</b>	PreROD Prototyping (4 Boards)																																			
32	Design, Schematics for Prototypes	121 days?	Wed 15/10/03	Wed 31/03/04	Design, Schematics for Prototypes																																			
33	Routing and Signal Integrity Prototypes	42 days?	Thu 01/04/04	Fri 28/05/04	Routing and Signal Integrity Prototypes																																			
34	Ordering and Assembly of Components	45 days?	Mon 17/05/04	Fri 16/07/04	Ordering and Assembly of Components																																			
35	Prototype Tests at TestBeam	44 days?	Fri 23/07/04	Wed 22/09/04	Prototype Tests at TestBeam																																			
36																																								
37	<b>PreROD Production (?)</b>	<b>184 days?</b>	<b>Wed 22/09/04</b>	<b>Mon 06/06/05</b>	PreROD Production (?)																																			
38	Design, Schematics for Production	87 days?	Wed 22/09/04	Thu 20/01/05	Design, Schematics for Production																																			
39	Routing and Signal Integrity Production	36 days?	Fri 21/01/05	Fri 11/03/05	Routing and Signal Integrity Production																																			
40	Ordering, Assembly of Components Production	44 days?	Tue 15/03/05	Fri 13/05/05	Ordering, Assembly of Components Production																																			
41	Production Tests and QC	16 days?	Mon 16/05/05	Mon 06/06/05	Production Tests and QC																																			

# ROD Crate Production, TM Boards Production and TBM Production

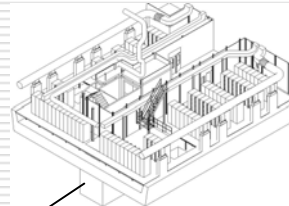
ID	Task Name	Duration	Start	Finish	2005												2006												2007		
					J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
43	<b>ROD Crate Production</b>	<b>178 days?</b>	<b>Wed 01/09/04</b>	<b>Fri 06/05/05</b>	[Gantt bar for ROD Crate Production]																										
44	Order Crates	1 day?	Mon 15/11/04	Mon 15/11/04	[Gantt bar for Order Crates]																										
45	CERN order	45 days?	Wed 01/12/04	Tue 01/02/05	[Gantt bar for CERN order]																										
46	ROD Crate Production	65 days?	Wed 02/02/05	Tue 03/05/05	[Gantt bar for ROD Crate Production]																										
47	ROD Crate Delivery	1 day?	Wed 04/05/05	Wed 04/05/05	[Gantt bar for ROD Crate Delivery]																										
48	Cable Preparation	10 days?	Wed 02/02/05	Tue 15/02/05	[Gantt bar for Cable Preparation]																										
49	P3 Cards Ordering - LAL Orsay	1 day?	Wed 01/09/04	Wed 01/09/04	[Gantt bar for P3 Cards Ordering - LAL Orsay]																										
50	P3 Cards Assembly and Testing	43 days?	Fri 01/10/04	Tue 30/11/04	[Gantt bar for P3 Cards Assembly and Testing]																										
51	P3 Card Installation	2 days?	Thu 05/05/05	Fri 06/05/05	[Gantt bar for P3 Card Installation]																										
52																															
53	<b>TM Boards Production</b>	<b>98 days?</b>	<b>Wed 15/09/04</b>	<b>Fri 28/01/05</b>	[Gantt bar for TM Boards Production]																										
54	TM Boards Ordering - LAL Orsay	1 day?	Wed 15/09/04	Wed 15/09/04	[Gantt bar for TM Boards Ordering - LAL Orsay]																										
55	TM Boards Assembly and Testing	86 days?	Fri 01/10/04	Fri 28/01/05	[Gantt bar for TM Boards Assembly and Testing]																										
56																															
57	<b>TBM Boards Production</b>	<b>55 days?</b>	<b>Wed 15/09/04</b>	<b>Tue 30/11/04</b>	[Gantt bar for TBM Boards Production]																										
58	TBM Ordering - LAL Orsay	1 day?	Wed 15/09/04	Wed 15/09/04	[Gantt bar for TBM Ordering - LAL Orsay]																										
59	TBM Assembly and Testing	38 days?	Fri 08/10/04	Tue 30/11/04	[Gantt bar for TBM Assembly and Testing]																										



# ROD TileCal Installation and Commissioning in USA15

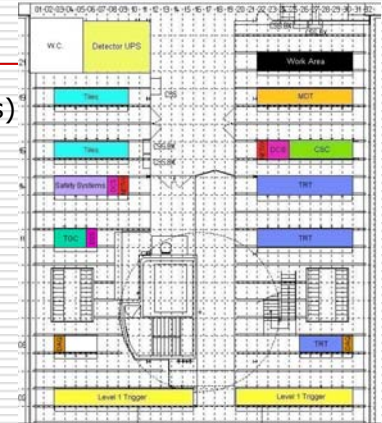


Level 1  
104 Racks



UX15 Cavern

TileCal: 14 Racks (2 Rows)  
ROD: 2 Racks (52U)



ID	Task Name	Duration	Start	Finish	2005												2006												2007								
					J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
61	<b>ROD TileCal Installation and Commissioning USA15</b>	<b>266 days?</b>	<b>Thu 02/09/04</b>	<b>Thu 08/09/05</b>	[Gantt bar for 61]																																
62	Installation of Racks	21 days?	Thu 02/09/04	Thu 30/09/04	[Gantt bar for 62]																																
63																																					
64	<b>Reception and Preparation for Installation</b>	<b>45 days?</b>	<b>Mon 09/05/05</b>	<b>Fri 08/07/05</b>	[Gantt bar for 64]																																
65	Reception and Tests of ROD Crates	11 days?	Mon 09/05/05	Mon 23/05/05	[Gantt bar for 65]																																
66	Installation of ROD Motherboards	45 days?	Mon 09/05/05	Fri 08/07/05	[Gantt bar for 66]																																
67	Installation of TM Boards	45 days?	Mon 09/05/05	Fri 08/07/05	[Gantt bar for 67]																																
68	Installation of PreRODs	23 days?	Wed 08/06/05	Fri 08/07/05	[Gantt bar for 68]																																
69																																					
70	<b>Installation and Tests USA15</b>	<b>84 days?</b>	<b>Mon 16/05/05</b>	<b>Thu 08/09/05</b>	[Gantt bar for 70]																																
71	Electrical and Network Cable Installation	16 days?	Mon 16/05/05	Mon 06/06/05	[Gantt bar for 71]																																
72	PC Installation	16 days?	Mon 16/05/05	Mon 06/06/05	[Gantt bar for 72]																																
73	ROD Crate Installation and Tests	69 days?	Mon 06/06/05	Thu 08/09/05	[Gantt bar for 73]																																
74	SBC Configuration and VME Tests	69 days?	Mon 06/06/05	Thu 08/09/05	[Gantt bar for 74]																																
75	ROD TTC Connection and Tests	69 days?	Mon 06/06/05	Thu 08/09/05	[Gantt bar for 75]																																
76	Installation of TBM Boards	69 days?	Mon 06/06/05	Thu 08/09/05	[Gantt bar for 76]																																
77	Installation and Connection to DCS	69 days?	Mon 06/06/05	Thu 08/09/05	[Gantt bar for 77]																																
78	FEB and Optical Links Connections	69 days?	Mon 06/06/05	Thu 08/09/05	[Gantt bar for 78]																																
79	Readout Optical Links Connections	69 days?	Mon 06/06/05	Thu 08/09/05	[Gantt bar for 79]																																

# Reception and Preparation for Installation (before USA15)

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## **ROD + TM Boards**

- Scheduled: 16/05/05
- Place: Bat 5 -02 (Valencia Lab at CERN) (or ?)
- Actions:
  - Unpacking and Visual Inspection
  - ATLAS Standard Labeling, Accepted Boards Into DB
  - Pre-installation Tests

## **PreRODs**

- Scheduled: 16/05/05
- Place: Bat 5 -02 (Valencia Lab at CERN) (or ?)
- Actions:
  - Unpacking and Visual Inspection, ATLAS Standard Labeling, Accepted Boards Into DB
  - Pre-installation Tests

## **ROD Crates and Power Units**

- Scheduled: 09/05/05
- Place: Bat 5 -02 (Valencia Lab at CERN) (or ?)
- Actions:
  - P3 Backplane mounting
  - Basic Tests of Crates
    - Water Leakage. Powe Up-Down Sequence
    - Booting and Configuration, Temperature and Power Consumption
    - Test Full Crate Functionality

# Installation and Tests Procedures in UX15 and USA15

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- Electrical and Network Cable Installation, PC installation

Scheduled: 16/05/05

- ROD Crate Installation and Test
- SBC Configuration and VME Tests
- ROD TTC Connection and Tests
- Installation of TBM Boards
- Installation and Connection to DCS
- FEB and Optical Link Connections
- Readout Optical Links Connections

Scheduled: 06/06/05