



CDEX Update

ECORD Council Meeting

CDEX Manager for Science Operations, Nobu Eguchi

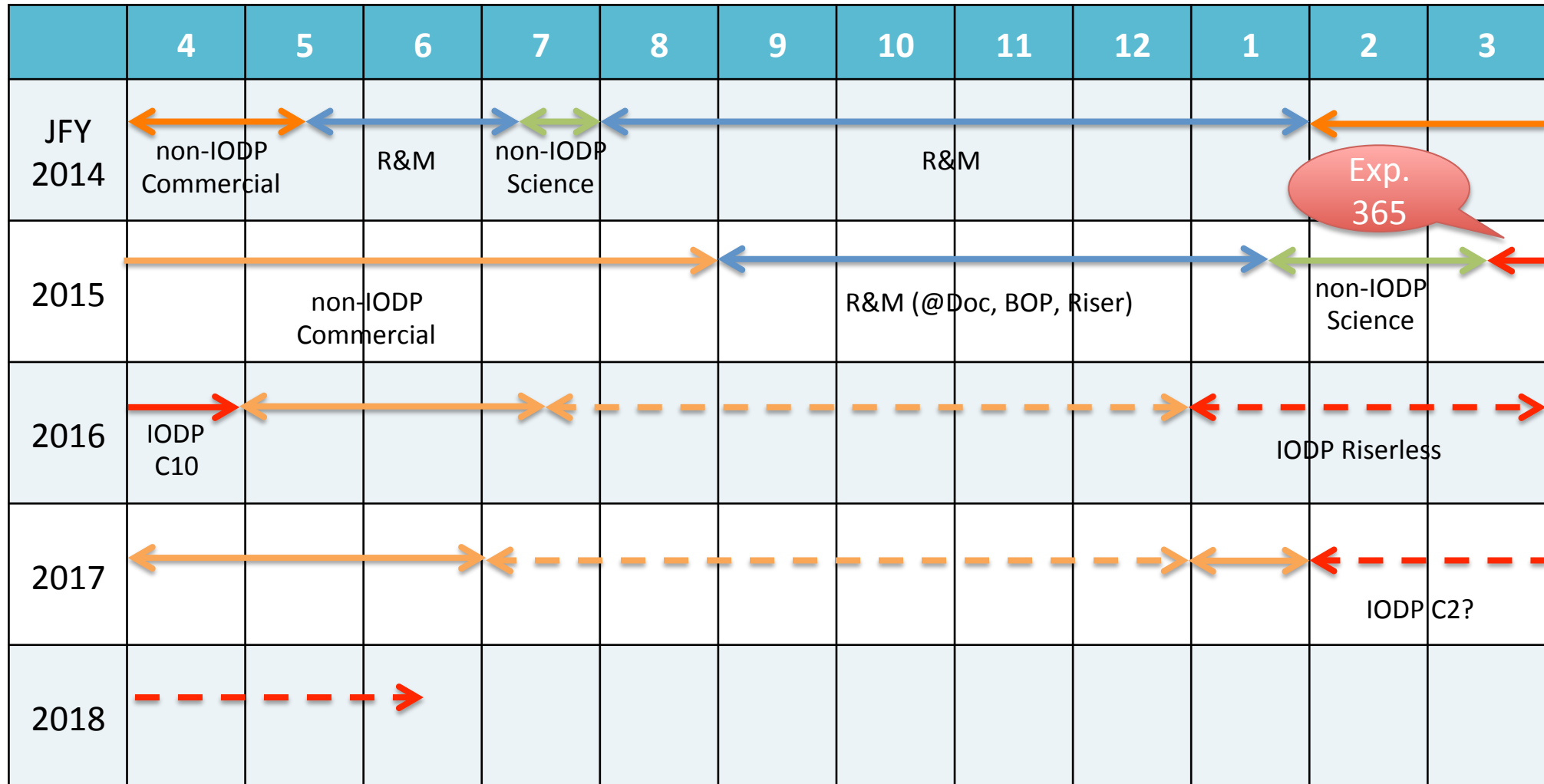


10 year Actual Performance of Chikyu Operation



	April	May	June	July	August	September	October	November	December	January	February	March
2005					Shakedown Cruise 1							
2006 (AF 98%)	R&M			Shimokita Shakedown Cruise 2				Overseas Drilling Shakedown @Kenya				
2007 (AF 79%)	DOR@Australia				Annual Survey	IODP Exp.314/315/316 NanTro SEIZE					Annual Survey	
2008 (AF 0%)		Production of Azimuth Thruster Gear Outreach Activity					Construction of Azimuth Thruster Gear			Shakedown Cruise		
2009 (AF 42%)		IODP Exp319/322 NanTro SEIZE					Shakedown Cruise		Maintenance Operation Training			
2010 (AF 48%)	Regular Inspection		Shakedown Cruise	IODP Exp.326 NanTro SEIZE C2		IODP Exp.331 Deep Hot Biosphere		IODP Exp.332 NamTro SEIZE		DOR @Japan	Tohoku Earthquake	
2011 (AF 53%)	Construction of repairing ship's bottom			DOR@Sri Lanka						DOR@Japan		
2012 (AF 89%)	IODP Exp.343 (JFAST)		R&M	Exp343 JFAST2	IODP Exp.337 Shimokita		IODP Exp.338 NanTro SEIZE C2			DOR@Japan		
2013 (AF 82%)	DOR@Japan			DOR@Japan		IODP Exp.348 NanTro SEIZE C2			Maintenance			
2014 (AF 22%)	DOR@Japan			SIP Okinawa	Maintenance					DOR@India		

Chikyū IODP Long-term Planning





CHIKYU IODP Expedition 365

NanTroSEIZE Shallow Megasplay LTBMS

Installation of riserless LTBMS into C0010 hole.

- Recovery of the GeniusPlug.
- Extending the borehole TD by ~100 m to ~656 mbsf.
- Deployment of the LTBMS.

26 March 2016 – 27 April 2016 (including 3-day port call)

Co-Chiefs, Achim Kopf and Demian Saffer



Potential Riser-less projects in FY2016 or later

- IODP Proposal 865-Full “Nankai Trough T-Limit”
 - Drill and core new boreholes in the central Nankai Trough, where anomalously high heat flow observed by ODP Leg 190 & 196.
 - Ideal targets for an in-depth examination of subseafloor microbial life close its upper T-limit.
 - 3D seismic survey data exists.
 - 1st PCT was held in 1-2 Oct., in Bremen.
- IODP Proposal 603 “NanTroSEIZE”
 - Another LTBMS installation at the toe of the Nankai trough accretionary prism.
 - Basic instruments are ready to install.

CHIKYU 5 year inspection and refurbishment plan

	Sep			Oct			Nov			Dec			Jan		
Shipyard maintenance @MHI, Yokohama				Dry dock			Wharf								
Wharf repair work @Shimizu port															
Shake down cruise															
BOP R&M @MHI, Yokohama	R&M (- 2014Sep) @Singapore,			Loading			Assemble / Stack up / Function test								
Riser R&M* @MHI, Yokohama				Loading											
Tensioner R&M @MHI, Yokohama				Maintenance			Test								

*Riser R&M is planned in May – August, 2014

Major Work Items (1/3)

- Class NK / ABS required inspections & maintenances

- 6,600 V high voltage instruments
- Navigation instruments, Radio
- Dynamic Positioning System
- Explosion proof instruments
- Water tight door/hatch
- Azimuth thruster
- Ship construction
- Main generator
- Mooring gear
- Ballast tank
- Life boat
- Crane
- Elevator
- Derrick
- CMC
- Traveling block



Major Work Items (2/3)

- 5 year certification works
 - Mud circulation facilities
 - Pipe handling facilities
 - Power swivel
 - Draw works
 - Riser
 - Tensioner
 - BOP



Major Work Items (3/3)

- Replacement of deterioration instruments
 - DCIS(Drilling Control Instrumentation System)
 - IAS (Integrated Automation System)
 - Laboratory
 - Intake exhaust facilities
 - Air conditioning facilities
 - Pump



Concepts and major themes for lab modifications:

1. Optimize for Deep Riser Drilling
 - 1.1 Efficient treatment for Cuttings
 - 1.2 Deep Drilling Samples (Lithified and igneous rocks)
 - 1.3 Deep Drilling Samples (Limit of Life)

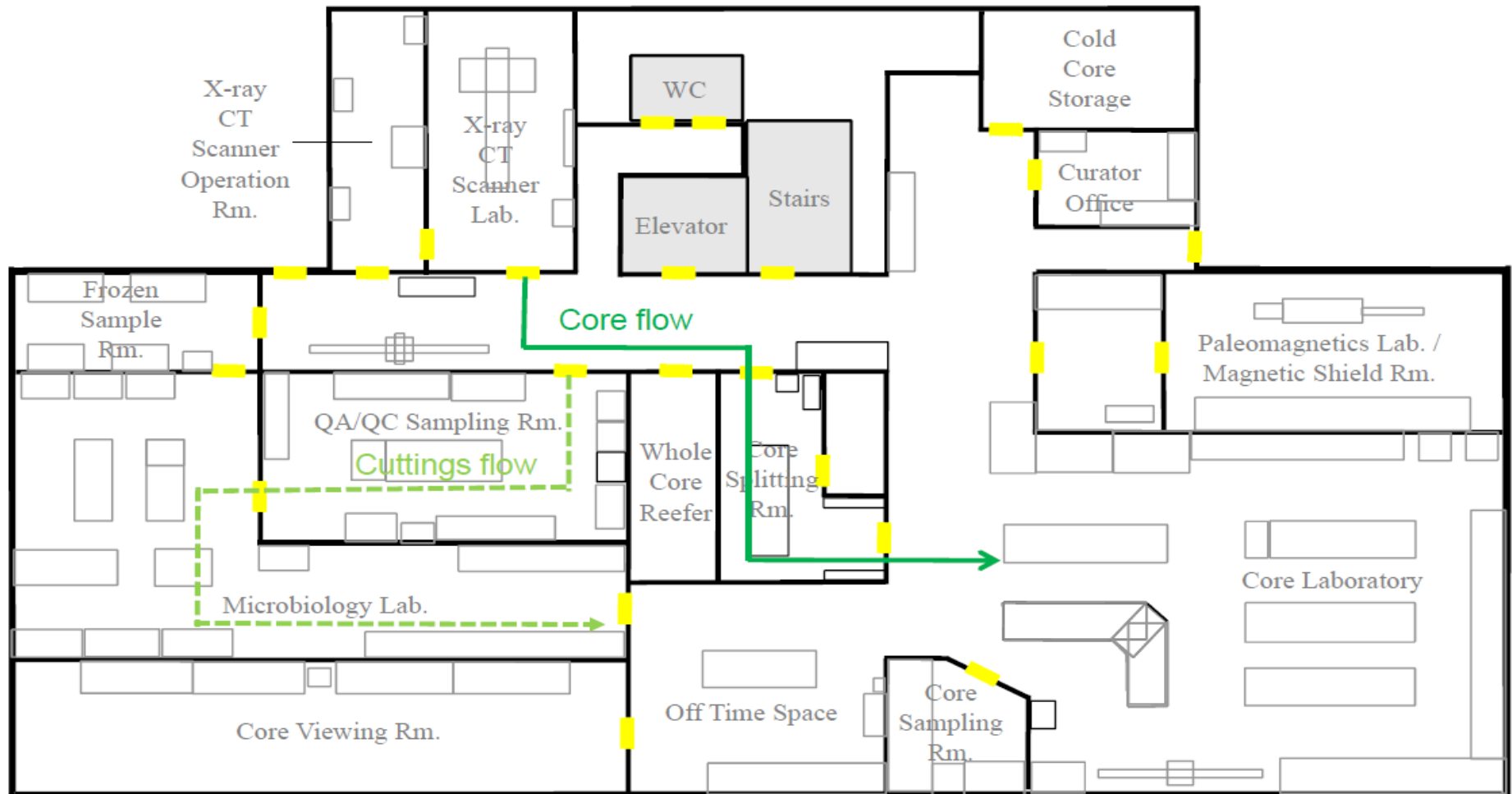
2. More Flexibility in Lab Operation
 - 2.1 Simple Path of Samples
 - 2.2 Efficient Layout in Each Area
 - 2.3 Spare Space for layout customization and Third Party Tool in each Expedition

3. Safe and Comfortable Work Environment

Core Processing Deck -Before-

Green line: Core work flow

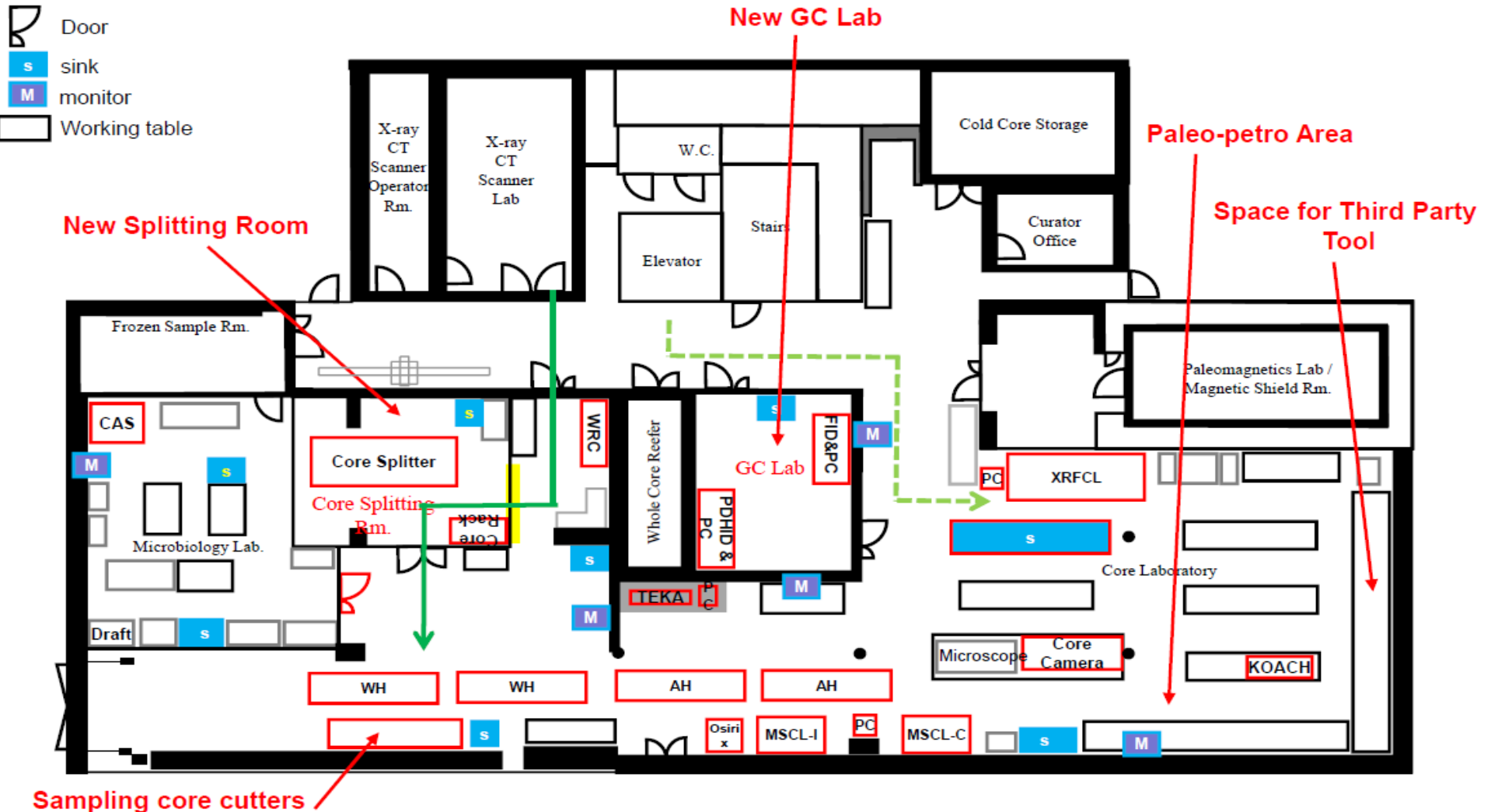
Dotted line: Cuttings work flow



Core Processing Deck -After-

Green line: Core work flow
Dotted line: Cuttings work flow

Door
s sink
M monitor
Working table



Thick black lines, square and circles indicate structurally required wall which cannot be moved.

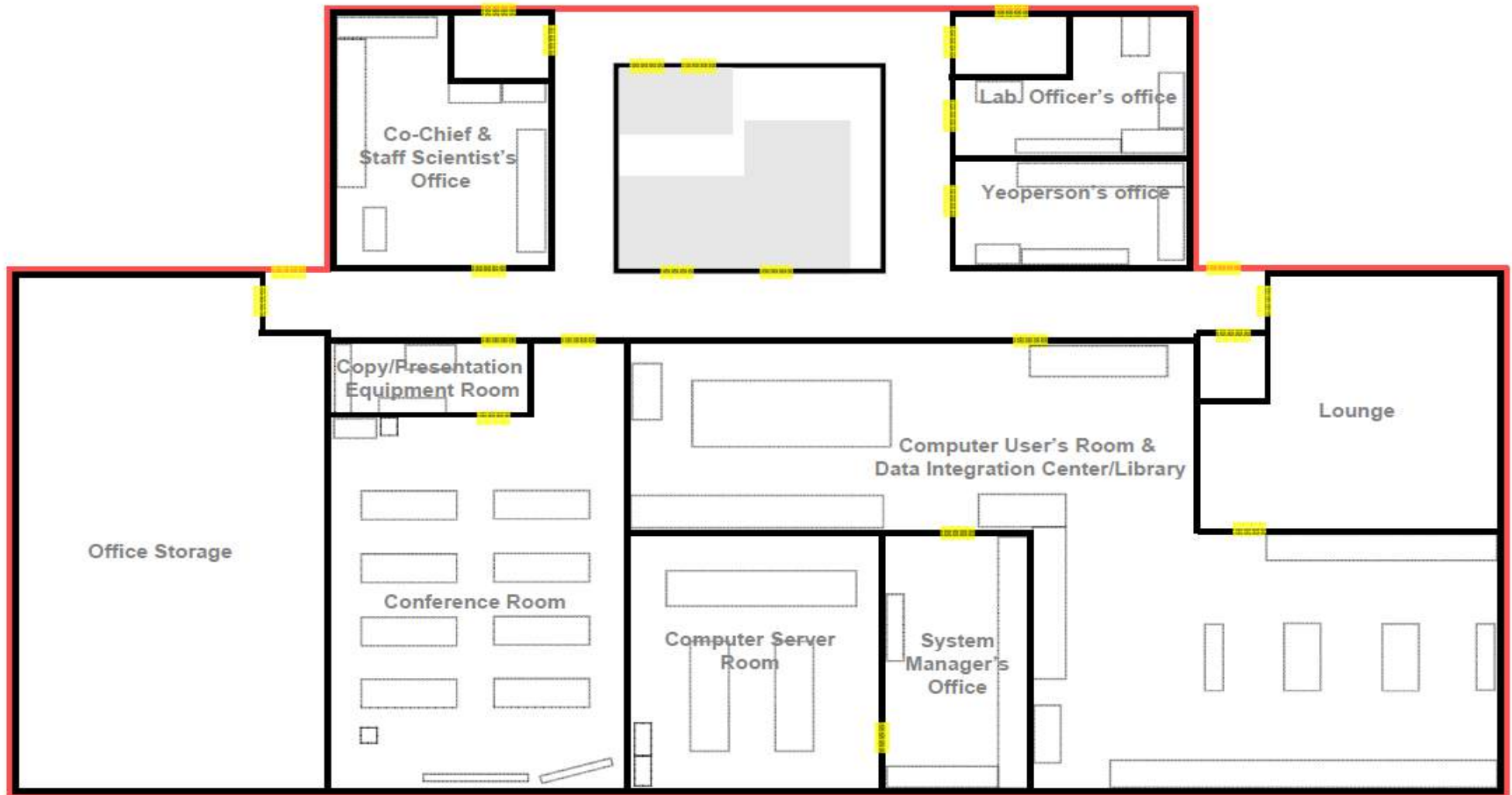
Core Viewing Room



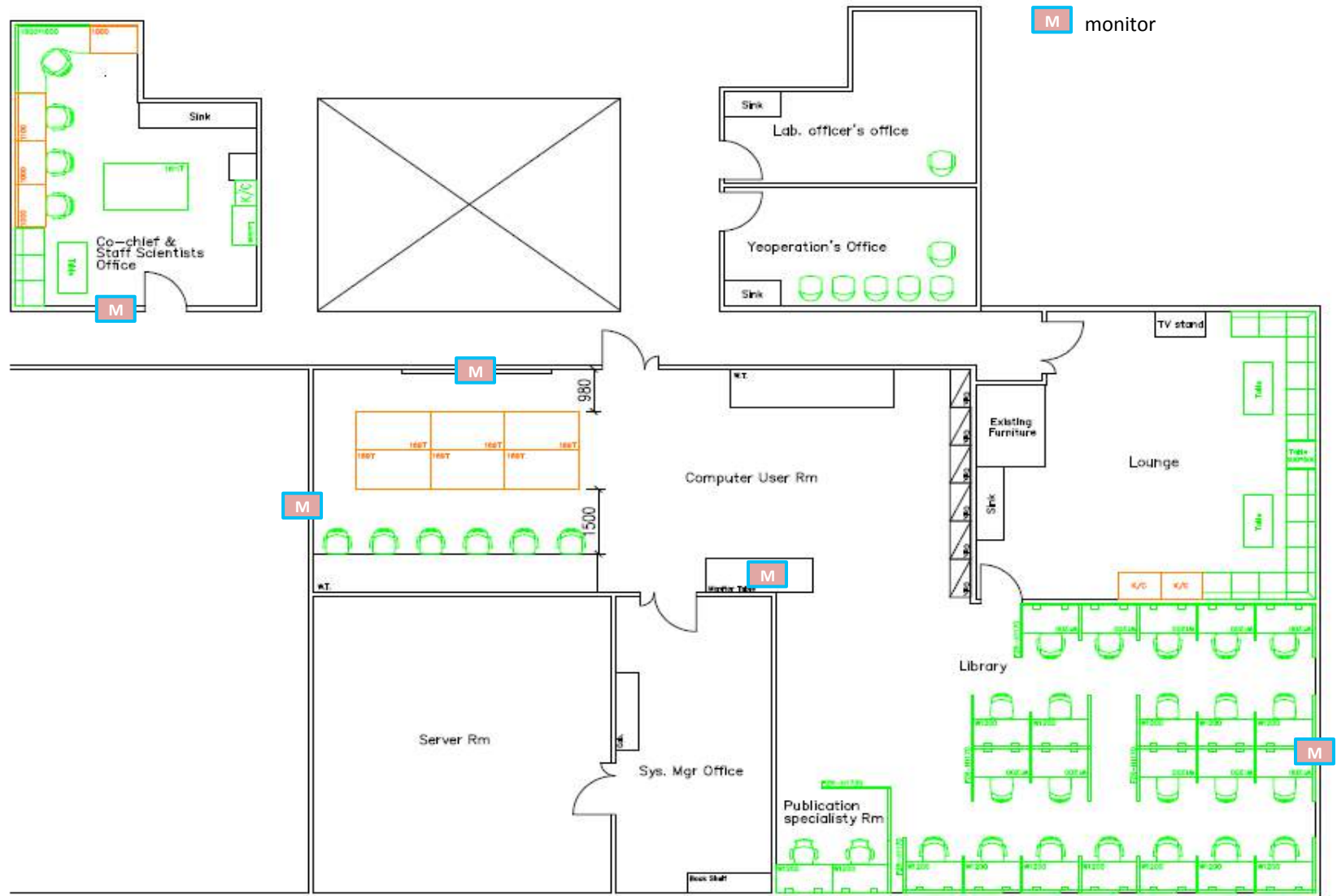
Core Lab



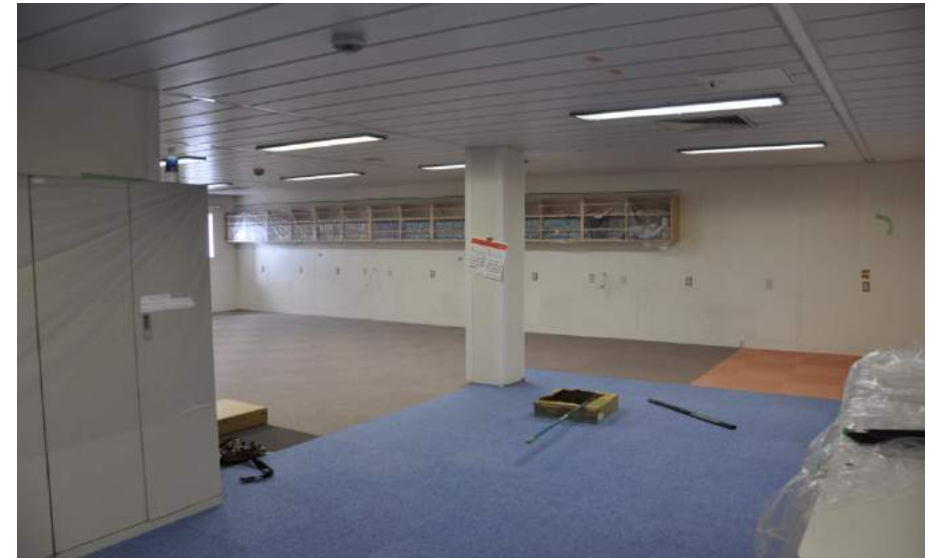
Lab Management Deck -Before-



Lab Management Deck -After-



(Walter Munk) Library





Chikyū 10th Anniversary Events

- Issue special book
 - Contributions from Drs. M. Leinen & W. Munk
 - Short summary in English will be involved
 - Publish by November
- Special Conferences & Ceremony
 - Oct. 4: Symposium for young people in Yokohama
 - Nov. 12: Symposium & Ceremony for invited people in Tokyo
- Open Ship @ Yokohama
 - Nov. 20 to invited people
 - Nov. 21-22 to the public

