

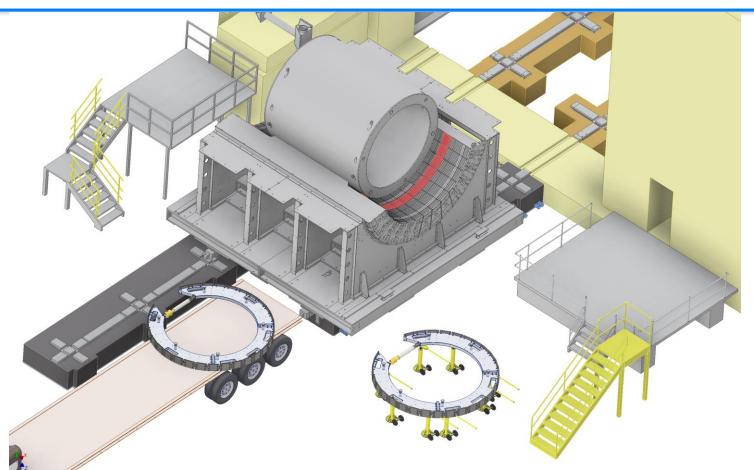
sPHENIX PMG Engineering and Construction Update Sept 23, 2021





Next sPHENIX construction steps: Land cryostat, Install Large Support Rings





Construction Status



1. 1008 IR track upgrade

A. Complete by Nov 1

2. Preparing for magnet installation

- A. Aligning and repositioning sPHENIX
- B. Work planning approvals for $912 \rightarrow 1008$ move and installation

3. Large support ring installation in early November

- A. Feder and Pontieri visiting Streck's next week to inspect LSR parts
- B. Delivery to BNL mid-October, then assembly in 912

4. Shield wall replacement early November

- A. 2 week pause
- B. Shuffling sPHENIX with magnet and LSRs

5. Carriage and platform construction

- A. Carriage columns and main beams from Streck's 1/7/22, Pole Tip Doors 1/18/22
- B. Carriage/platform construction runs in parallel with iHCAL factory and barrel fabrication

6. iHCAL factory and barrel fabrication

A. See next slide

iHCAL Assembly Schedule → Need to keep things moving

sPHENIX can not move into IR at end of FY22 run until iHCAL is inserted



What	Where	Pre-Reqs	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22		
Sector Factory Sector's "burned in" and ready for barrel build	912	Sector 1-8 Started Sept 21'			Final 8 iHCA	AL sectors arrive	sectors arrive • Aggressive/optimistic schedule shown					
		Sector 9-16	• Aggressive/optimistic • Deploy sPHENIX techs • time in 1008 and contin						chs when there is	down		
		Sector 17-24						dditional support.				
		Sector 25-32							SP			
Barrel Fabrication and Installation Components	Streck's	Barrel End Rings and attachments	since summer	21'					ŦĘ			
		W27X94 North and South Slider Beams W27X94 L-shaped lifter				ի			-			
				By end of 21'					<u>a</u>			
		A-Frame Weldment		By end of 21'			Actuals based o	based on				
	SBU Xometry	Sled		By end of 21'	1 1 1		vendor feedback		to			
	Benfield	Gear Motor	Due by late	r November			Need to get st ordered!!	anchions	77			
	TBD	Stanchions		TBD, not o	dered yet							
Barrel Fabrication	912	Build the iHCAL barrel				7-8	weeks					
Barrel Insertion	1008	Install Stanchions and South Slider, North blocks				L _C	TBD					
		Transport, Insert iHCAL	Base 1/11	eline iHCAL in 1/22	stall	0	1 1 1	TBD				

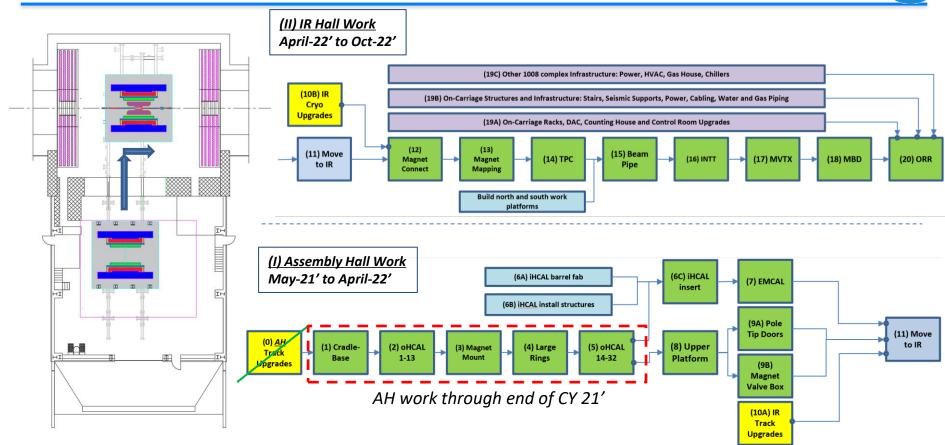
1&F Mechanical Engineering Design Tasks to Go spheres

- Seismic restraints for carriage in IR (Hock(CAD), Mills(CAD))
- **iHCAL** installation **stanchions** (Feder, Scheblein, DeMino(ATRO), Ruggiero) Done!
- iHCAL local air cooling system (Brenton (ATRO))
- EMCAL installation tooling and install fixture testing (Cacace, DeMino(ATRO))
- **TPC supports** and installation structures (Miraval(ATRO), Ruggiero, Runyan(ATRO)) → FDR late October
- Magnet Mapping supports and infrastructure (DeMino(ATRO) Feder, Haggerty) → CERN meeting 10/6
- INTT-MVTX-Beam Pipe-MBD integrated supports, installation tools and structures (Bates-MIT, Breton(ATRO), Feder, Cacace, Ruggiero)
- INTT installation fixture and tooling (RIKEN scope, Cacace)
- Beam pipe bake control and precautions, thermal analysis (CAD Vacuum group, Runyan(ATRO))
- On-carriage water and gas distribution piping (Feder, Hamblen, Pisani, Puleo(CAD))
- On-carriage cable routing and cable trays, pipe supports (Feder, Hamblen, Puleo(CAD))
- 1008 HVAC and cooling water distribution (Vasquez, Chan(CAD))



sPHENIX Assembly Sequence



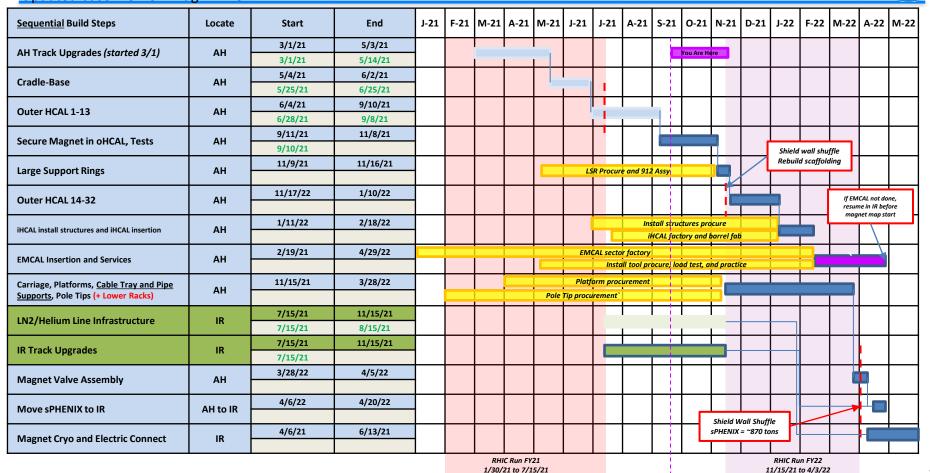


sPHENIX AH Installation Schedule

9/10/21 6/28/21 9/8/21



Updated baseline from Aug 21' PCR



sPHENIX *IR* Installation Schedule





