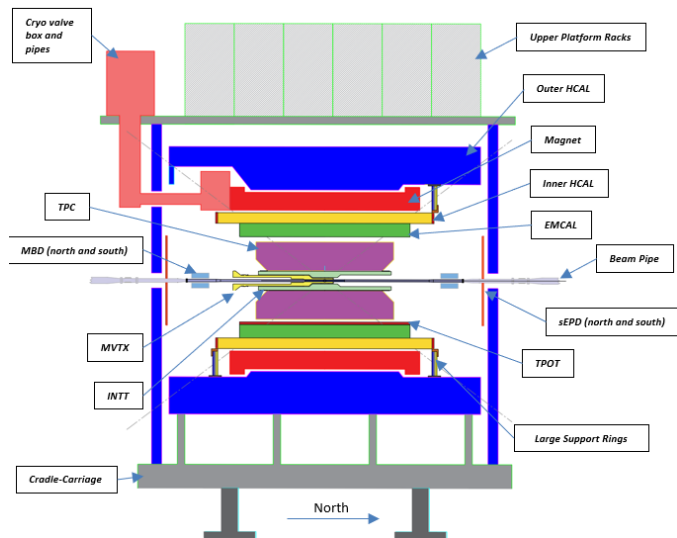
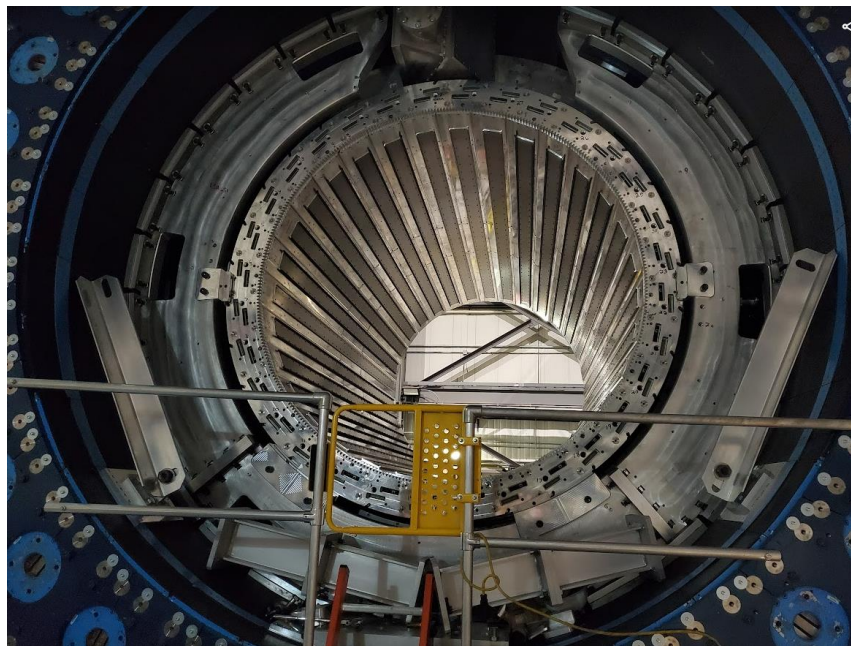


sPHENIX PMG

Construction Update, 6/23/22

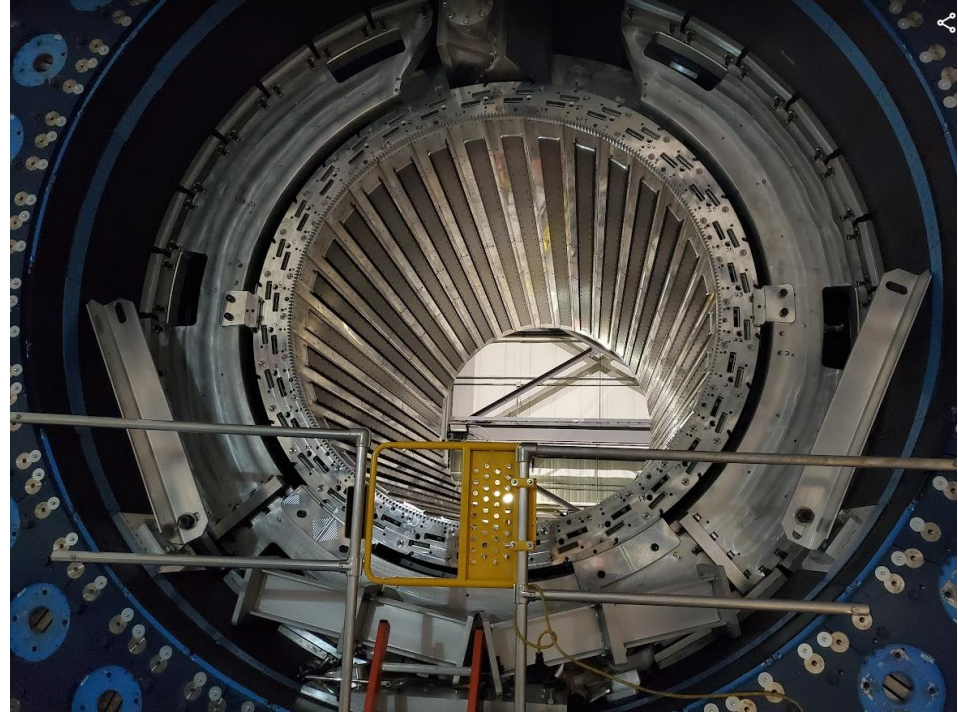


This is a simplified 2D model of sPHENIX highlighting the nested detector structures and magnet return steel construction.





Initial installation of the south pole tip doors is complete. The north pole tip doors will be in place by 6/24. This will allow for the completion of the upper platform.



The Inner HCAL is installed. EMCAL installation can start when there is floor space and crane availability in the 1008 AH.



The sPHENIX magnet “cold box” arrived and will be installed when the upper platform is completed.



Completion of the IR west wall stairwell is a prerequisite for rolling sPHENIX into the IR. The west stairwell, which provides access to the sPHENIX L2 and L3 platforms and the cryogenics mezzanine, will be complete by 7/1.

What is needed to roll sPHENIX into the IR?



	Roll-in Prerequisite	Notes
1	Install Inner HCAL	<ul style="list-style-type: none">• Complete. EMCAL install will start ASAP.
2A	Initial install of the pole tip doors	<ul style="list-style-type: none">• Done by Friday 6/24
3	Complete the upper (L3) platform	<ul style="list-style-type: none">• Done by Friday 7/1
2B	Test pole tip motion	<ul style="list-style-type: none">• Need complete upper platform• Test after July 4th holiday
4	Install major magnet components on the upper platform <i>Valve box and cold box</i>	<ul style="list-style-type: none">• Need complete upper platform to install• Transport valve box from 912 to 1008 starting week of June 27th (next week)
5	Install on-carriage trapped infrastructure <i>Cable tray and racks that can't be installed in IR</i>	<ul style="list-style-type: none">• %75 complete• Will be complete before 8/8 roll-in date
6	Install IR trapped infrastructure <i>West stairwell, cable tray and piping, other...</i>	<ul style="list-style-type: none">• %75 complete• Will be complete before 8/8 roll-in date

Other Notes

1. Overtime and weekend work is being used to accelerate installation and get to roll-in as soon as possible.
2. We continue to get very good support from CA-D technicians, riggers, survey, and other team members. The new CA-D liaison engineer, Marianna Albanese, has gotten up to speed quickly and has had a real impact on the sPHENIX project.

Other progress since the last sPHENIX PMG



System	Progress
Magnet Mapping	We are meeting with the CERN mapping team bi-weekly. The SOW between BNL and CERN is complete and sets the stage for getting a contract in place. Mapping is scheduled for late September and we are discussing earlier shipment of the apparatus to avoid shipping issues and allow time for testing.
sPHENIX beam line	The sPHENIX beam line had to be redesigned and is now centered around use of the spare STAR Al-Be pipe. The conventional beam line pipes and all the beam line supports are out for fabrication.
EMCAL	EMCAL installation is ready to start and work permit has been approved . We want to install as many sectors as possible in the 1008 AH but need to prioritize pole tip, platform, and magnet cryo equipment installation in the limited AH space. <i>EMCAL installation in the AH is important to start but is not a prerequisite for rolling into the IR.</i>
TPC	sPHENIX technician Carter Biggs has been assigned to help the SBU team complete TPC assembly. TPC installation tooling fabrication is near completion in the SBU shop.
Cabling	All cables for the oHCAL, iHCAL, and EMCAL are in-hand. The cables are going to be sorted and bundled in the 912 tent. Georgia State is sending students this summer to help get all these bundles together. oHCAL and iHCAL cabling will start once we get the upper platform cryo work and EMCAL work started.

sPHENIX Construction Schedule



Sequential Build Steps	Location	Start	End	M-22	J-22	J-22	A-22	S-22	O-22	N-22	D-22	J-23	F-23	M-23
Platforms, Pole Tip Doors, Carriage Adjustments <i>Installation of the pole tip doors is a key prerequisite for roll-in and magnet mapping</i>	AH	5/23/22	8/5/22		Platforms and pole tip doors	Door motion, align carriage								
AH On-carriage detector infrastructure <i>Install as much detector infrastructure as possible, focus on trapped items</i>	AH	5/23/22	6/10/22		Racks, cable tray, HCAL cabling									
Magnet enabling infrastructure on upper platform <i>Start install of the valve box, cold box, piping, etc...</i>	AH	6/27/22	8/5/22											
Install the iHCAL Barrel <i>Includes construction and dismantling of the iHCAL install structures</i>	AH	5/23/22	6/10/22											
Start EMCAL installation <i>Install as much as possible, Several rows are left out until after magnet mapping.</i>	AH	6/13/22	8/5/22											
IR Infrastructure Installations Before Roll-In <i>Several tasks including the west stairwell, ECW piping, cryo infrastructure, HVAC upgrades</i>	IR	5/23/22	8/5/22											
Move sPHENIX To the IR <i>sPHENIX moves west and north to final IR position</i>	AH/IR	8/8/22	8/12/22											
Continue installing magnet enabling infrastructure <i>Magnet cooldown, power and control testing</i>	IR	8/15/22	9/23/22											
EMCAL, TPC install structures, TPOT install in IR <i>TPOT installed last in order to use TPC installation structures</i>	IR	8/15/22	11/11/22											
Magnet Mapping after USI approval <i>USI approval submitted by 6/1/22 → approval needed for magnet mapping</i>	IR	9/26/22	10/14/22											
Install the TPC <i>Installation structure already in place for TPOT</i>	IR	11/14/22	12/9/22											
Beam Pipe, INTT, and MVTX install <i>INTT supports → beam pipe and bake → INTT → MVTX</i>	IR	12/12/22	1/27/23											
MBD and sEPD Install <i>MBD north → sEPD north → MBD south → sEPD south</i>	IR	1/9/23	2/21/23											
Detector Infrastructure On- and Off-carriage <i>Racks, cabling, water and gas piping, safety systems, and other infrastructure</i>	IR	Present	2/21/23											
Control Room and Rack Room Infrastructure <i>Hardware and software for safety systems, experimental control, and DAQ</i>	1008	Present	2/21/23											
IRR, ARR. And other commissioning activities <i>IRR → 12/16/22, ARR → 1/13/23</i>	Other	12/16/22	2/21/23											

Roll-in Prerequisites as of 6/10/22

1. West stairwell in IR
2. Trapped on-carriage infrastructure
3. Complete platforms
4. Pole tip doors
5. Inner HCAL → COMPLETE
6. Magnet valve box

USI approval for magnet mapping
Downstream RHIC magnet, cryo work, "blue snake"

For Planning → FY23 RHIC RUN 2/22/23