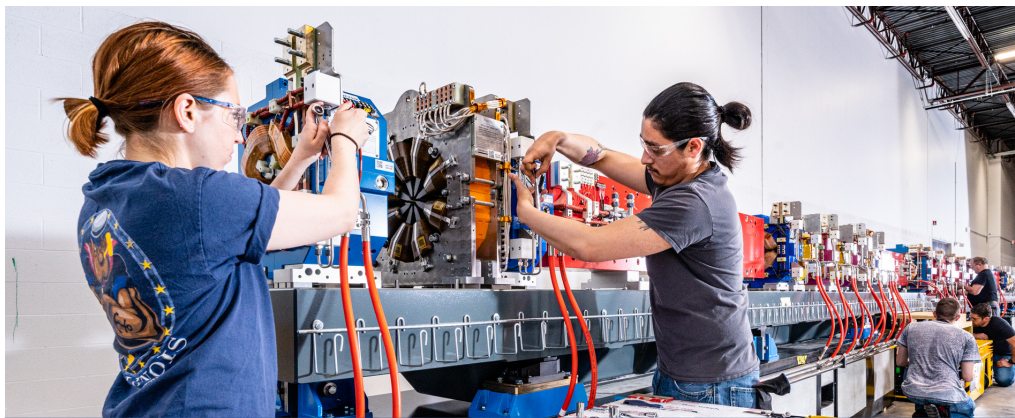


UPGRADING THE ADVANCED PHOTON SOURCE

As a year-long shutdown begins, Argonne prepares to transform the Advanced Photon Source into a storage-ring-based light source of the future.



APS Upgrade staff work on a mock-up of one of the 40 sectors that will comprise the new APS storage ring.

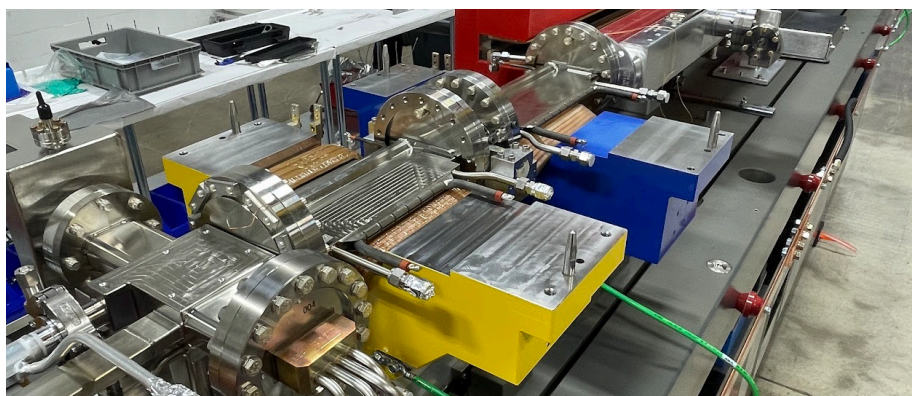
The Advanced Photon Source (APS) is one of the most productive X-ray light sources in the world. It was constructed in the early 1990s and saw first light in 1995. Though it remains a world leader in hard X-ray science, the APS, a U.S. Department of Energy (DOE) Office of Science user facility at DOE's Argonne National Laboratory, is about to undergo an extensive upgrade that will increase the brightness of its beams by up to 500 times.

The APS Upgrade Project will see the original storage ring replaced with a multi-bend achromat lattice that will generate brighter and more coherent X-ray beams. This project will require a year-long shutdown of the APS, which begins on **April 17, 2023**. During this time, the new storage ring – constructed from 1,321 powerful electromagnets, thousands of power supplies and controls, and a massive vacuum system – will be installed. Seven new feature beamlines will be built, and key infrastructure constructed for another two. Additionally, improvements will be made to nearly every existing APS beamline, preparing the world scientific community to open up new doors of discovery when the upgraded APS comes back online in 2024.

Key Specifications

Beam energy	6 GeV
Beam current	200 mA
Horizontal emittance	41.7 pm
Vertical emittance	4.2 pm
Injection type	Swap-out

Follow the APS Upgrade Project at
aps.anl.gov/APS-Upgrade



A new vacuum system being installed in a magnet module for the upgraded APS storage ring.

Argonne National Laboratory is a U.S. Department of Energy (DOE) laboratory managed by UChicago Argonne, LLC

The Advanced Photon Source is a U.S. DOE Office of Science User Facility operated for the DOE Office of Science by Argonne National Laboratory under Contract No. DE-AC02-06CH11357



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