

# Inprentus Awarded Contract to Provide 6 Diffraction Gratings for X-ray Optics at The Advanced Light Source, Berkeley, CA

*Inprentus manufactures the world's most advanced diffraction gratings for x-ray applications, offering unparalleled efficiency and high resolving power*

CHAMPAIGN, IL, UNITED STATES,  
December 31, 2024 /

[EINPresswire.com/](https://www.EINPresswire.com/) -- Inprentus has

been awarded a \$427,300 contract to

provide Lawrence Berkeley National Lab's Advance Light Source (ALS) with 6 diffraction gratings for its facility upgrade, 2 for the COSMIC beamline, and 4 for the MAESTRO beamline.



This large and vitally important synchrotron grating subcontract from the Lawrence Berkeley National Lab allows Inprentus to help strengthen the nation's experimental capabilities"

*Subha Kumar, Chief  
Operating Officer of Inprentus*

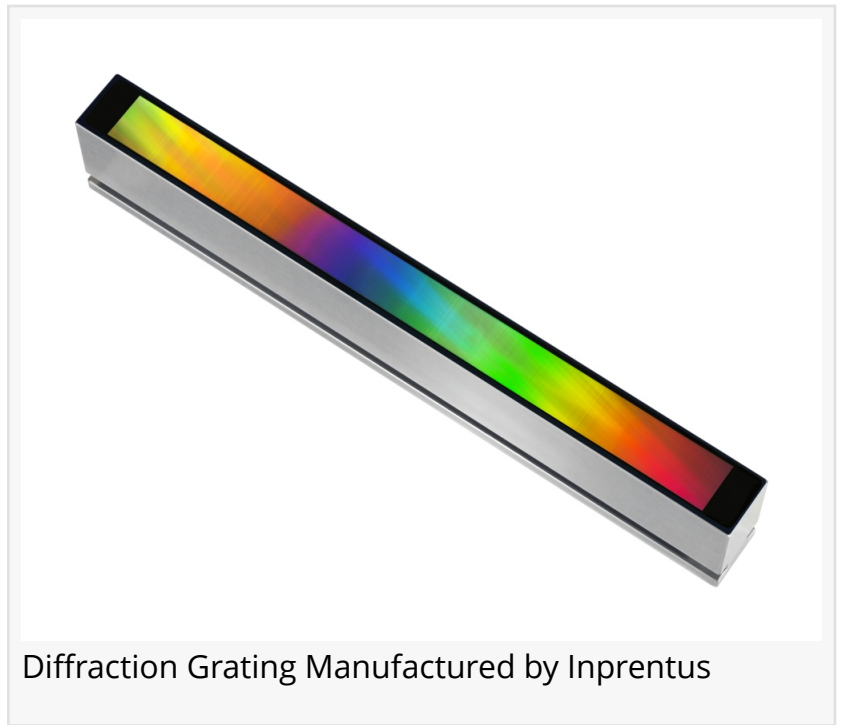
The upgraded ALS will occupy the same facility as the current ALS, replacing the existing electron storage ring and leveraging \$500 million in existing ALS infrastructure and experimental systems. Recent accelerator physics breakthroughs now enable the production of highly focused beams of soft x-ray light that are at least 100 times brighter than those of the existing ALS. The upgraded facility will produce bright, steady beams of high-energy light to probe matter with unprecedented detail. Applying this technology at the ALS will help enable a better understanding of and development of new materials and chemical systems needed to advance our energy, economic, and national security needs in the 21st century,

securing the United States' world scientific leadership for decades to come.

To allow users to take full advantage of the source's state of the art upgraded capabilities, the ALS requires advanced cutting-edge optics. The cutting-edge variable line spacing (VLS) blazed gratings, provided by Inprentus, will be part of beamline optical instrumentation. Inprentus' differentiating capability to produce a blaze angle of less than 2 degrees across the grating, as well as providing the highest efficiency and resolving power and an ultra-low blaze angle to

accommodate grazing optics with a large beam footprint, were important factors in the choice to award Inprentus with this contract.

"The Inprentus team has dedicated many years of planning and scientific excellence into qualifying for this mammoth project. We are excited to take on this challenge and have already started delivering the gratings way ahead of schedule. That is why Inprentus is sought-after in the gratings industry - we have lowered the barrier for radiation hard, scientifically complex, master diffraction gratings with high-performance deliverables, in addition to our industry-leading fast turn-around time. We will continue to expand on this excellence," explained Jeff MacDonald, Inprentus CEO.



" This large and vitally important synchrotron grating subcontract from the Lawrence Berkeley National Lab allows Inprentus to help strengthen the nation's experimental capabilities," said Subha Kumar, Inprentus Chief Operating Officer. "This huge upgrade project underscores the Department of Energy's commitment to investing in the Nation's scientific research infrastructure. We are proud that our ground-breaking diffraction gratings are part of a broader national effort to advance next-generation innovations and enable American scientific achievements."

#### The Advanced Light Source at Lawrence Berkeley National Laboratory

The Advanced Light Source is a Department of Energy-funded synchrotron facility that provides users from around the world access to the brightest beams of soft x-rays, together with hard x-rays and infrared, for scientific research and technology development in a wide range of disciplines. The ALS mission is to advance science for the benefit of society by providing world-class synchrotron light source capabilities and expertise to a broad scientific community.

The Beamline COSMIC (Coherent Scattering and Microscopy with Soft X-Rays) uses coherent imaging with soft x-rays to maximize coherent flux for brightness-limited experiments, such as scanning microscopy, while also providing energy resolution suitable for near-edge x-ray absorption spectroscopy. This beamline is well-suited to the study of chemical, magnetic, and morphological phases of nanomaterials.

MAESTRO (Quantum Materials Growth and Electronic Structures) is a beamline dedicated to the

determination of electronic structure of materials at the mesoscopic (100-10000) length scale and uses spatially-resolved angle-resolved photoemission spectroscopy (ARPES) to investigate the electronic band structure of materials.

Inprentus Inc.

Inprentus designs, manufactures and [characterizes high-performing blazed diffraction gratings solutions](#). Our gratings achieve high levels of customization, efficiency, resolving power, stray light, radiation-hardness, ease of replication, and are engineered to surpass optical performance goals. We accomplish this by integrating our innovative ruling technique with complex engineering to provide a manufacturing process with unsurpassed flexibility, precision, accuracy, and yield. [We apply our technology and expertise to solve current challenges](#) in advanced materials research for synchrotrons and free-electron lasers, defense, spectroscopy masters, EUV and DUV semiconductor manufacturing, space research, and augmented reality waveguide applications. Proudly located in the Midwest of the USA, the [Inprentus team truly exemplifies](#) an unwavering belief in the power of can-do creativity, perseverance, and excellence.

Cynthia Ottemann

Inprentus, Inc

+1 217-239-9862

[email us here](#)

Visit us on social media:

[Facebook](#)

[X](#)

[LinkedIn](#)

---

This press release can be viewed online at: <https://www.einpresswire.com/article/772908947>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2024 Newsmatics Inc. All Right Reserved.