



Creo at the heart of Nuclear Fusion breakthrough at Lawrence Livermore National Laboratory

BOSTON - Dec. 20, 2022 - PTC (NASDAQ: PTC) today announced that its Creo® computer-aided design (CAD) and Windchill® product lifecycle management (PLM) technology has been used by Lawrence Livermore National Laboratory (LLNL) throughout the development of the National Ignition Facility (NIF) that recently achieved the breakthrough nuclear fusion reaction that generated more energy than it consumed. With more than 3.5 million components comprised of 750,000 unique part designs, the highly engineered NIF “system of systems” machine is believed to be the largest Creo and Windchill assembly ever created, and perhaps the largest assembly ever modeled in 3D CAD.

“The NIF represents an incredible feat of engineering whose breakthrough could ultimately transform access to clean energy, and the use of PTC software solutions throughout its development demonstrates the tremendous power of our technology,” said Jim Heppelmann, President and CEO, PTC. “We are thankful for the collaborative relationship we have enjoyed over the years with LLNL and the US Department of Energy (DOE) broadly, and we’re proud of the role that our technology played in the development of the NIF.”

Heppelmann has published a blog reflecting on the longstanding relationship with LLNL that led to the recent fusion developments at the NIF. In his piece, “Fusion Ignition Breakthrough: Designing the Ultimate Clean Energy Source,” Heppelmann reflects on PTC’s decades-long commitment to the NIF project, the use of PTC’s Creo and Windchill software for the modeling and design management of the NIF, and PTC’s broader commitment to sustainability, writing:

“PTC has been supporting the NIF engineering team at LLNL as a close partner for over 25 years. When I joined PTC back in 1998, the NIF had already selected our Pro/ENGINEER® CAD software, which of course is now known as Creo. A few years later, the NIF team added Windchill to the solution as their data management needs grew and grew. Over the years, PTC product teams have had many collaborative discussions with the LLNL and broader DOE representatives, who have always been challenging PTC and pushing the envelope for what our software must do to enable their highly advanced projects.”

To read Heppelmann’s full perspective piece, please click here: [Fusion Ignition Breakthrough: Designing the Ultimate Clean Energy Source.](#)



NIF ACHIEVED A BREAKTHROUGH NUCLEAR FUSION REACTION



CREATED THE LARGEST ASSEMBLY EVER MODELED IN 3D CAD



ENGINEERING THAT TRANSFORM ACCESS TO CLEAN ENERGY



ABOUT PTC (NASDAQ: PTC)

PTC enables global manufacturers to realize double-digit impact with software solutions that enable them to accelerate product and service innovation, improve operational efficiency, and increase workforce productivity. In combination with an extensive partner network, PTC provides customers flexibility in how its technology can be deployed to drive digital transformation – on premises, in the cloud, or via its pure SaaS platform. At PTC, we don't just imagine a better world, we enable it.

“THE NIF REPRESENTS AN INCREDIBLE FEAT OF ENGINEERING WHOSE BREAKTHROUGH COULD ULTIMATELY TRANSFORM ACCESS TO CLEAN ENERGY, AND THE USE OF PTC SOFTWARE SOLUTIONS THROUGHOUT ITS DEVELOPMENT DEMONSTRATES THE TREMENDOUS POWER OF OUR TECHNOLOGY

Jim Heppelmann
President and CEO, PTC

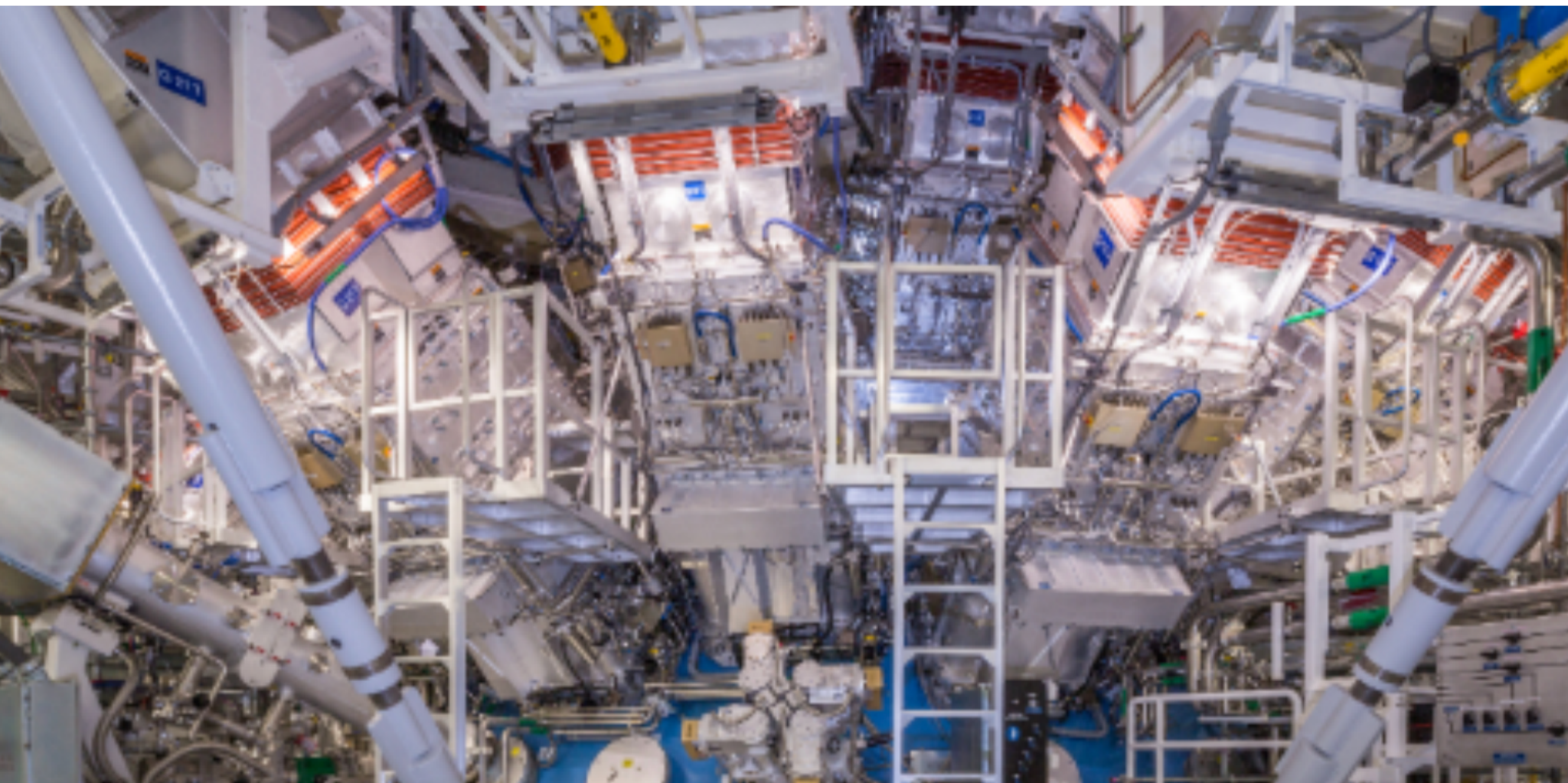


Image courtesy of Lawrence Livermore National Laboratory