



The HPC Innovation Excellence Award Application

The HPC Innovation Excellence Awards recognize noteworthy achievements by users of high performance computing (HPC), which includes simulation, AI and other advanced analytics, quantum computing and other methods and technologies. The program's main goals are to:

- Recognize HPC-enabled innovations in science, engineering, and data analytics, including both public sector advances in science and public or private sector returns on investment (ROI).
- Showcase HPC accomplishments in various environments such as traditional HPC centers, enterprise data centers, and cloud computing platforms as well as quantum computing.
- Help convey the broad benefits of adopting HPC.
- Demonstrate the value of HPC to funding organizations, elected officials, and investors.
- Expand public understanding of and support for HPC.

By HPC, we mean technical computing that includes modeling and simulation, computational analysis, machine/deep learning, artificial intelligence, or quantum computing. HPC is used in supercomputing facilities to support science, engineering, and data analytics; enterprise data centers to support business operations and research; departments and business units of organizations; and in third-party (external) cloud environments.

Criteria for the Awards

Hyperion Research and the HPC User Forum Steering Committee welcome award entries from anywhere in the world.

- Achievements are based on the results of applying HPC to scientific, engineering or business problems. The main criterion is the value on the achievement.
- Awards are given for actual achievements, rather than just plans to achieve something in the future.
- Achievements can date back as far as five (5) years.
- Submissions must demonstrate a positive impact on science, medicine, engineering, data science, computer science, business success (revenue growth, cost savings, increased profits or job growth), the HPC community, or society at large.
 - Awards may be given to applications that show significant incremental advancements rather than major breakthroughs. For example, improvements over a number of years in HPC modeling of materials and plasma physics have enabled the design of experimental reactors for controlled thermonuclear fusion and the re-examination of approaches which were previously considered unfeasible.
- The achievement cannot be based simply on using newer HPC technologies, such as solving a problem faster with more capable processors/accelerators or lowering data center PUE by installing new cooling technologies. However, a combination of fundamental algorithmic changes and underlying hardware technology that provides a unique enhancement in capability is acceptable (e.g., implementation of weather codes on GPUs to enable 1-2 km global weather modeling).
- Creating innovative technologies or methods is a welcome achievement as long as their value is being proven in the community/broader society.
- Documentation/references/attestations are requested in order to facilitate the evaluation and award process. This could include references from end users.

Contact Information:

Name	<input type="text"/>
Company	<input type="text"/>
Job Title	<input type="text"/>
Address	<input type="text"/>
City/Town	<input type="text"/>
State/Province	<input type="text"/>
ZIP/Postal Code	<input type="text"/>
Country	<input type="text"/>
Email address	<input type="text"/>
Phone number	<input type="text"/>

1) What is the name (or title) of this project or accomplishment or innovation?

2) Briefly describe the VALUE of the research/project/accomplishment/innovation (including why it's important to the world or to your organization, e.g., discovered something new, did something for the first time, found a new way to predict things, figured out how to make something work better, saved money or made a lot of money, etc.):

3) Which industry or sector best fits your organization?

- Bio & Life sciences, pharmaceutical, biological, life sciences, healthcare, drug discovery, bioinformatics, genomics, etc.
- CAE, manufacturing, e.g., aerospace, automotive, consumer products, etc.
- Chemical engineering, chemical design, development, and production
- Mechanical design e.g., CAD
- DCC, entertainment, digital content creation, 3D animation, advanced graphics, gaming, visualization, etc.
- Financial or economic modeling, pricing, risk management, modeling, business intelligence, etc.
- EDA, electronic design and analysis
- IT, computers, HPC systems, IT services, ISV, cloud provider, etc.

- Geosciences, energy, petroleum, oil and gas, seismic, reservoir simulation, alternative energy, power distribution, etc.
- Weather/climate
- Transportation and logistics, traffic management, pattern recognition, linear programming, etc.
- Retail, marketing, and related BI
- Telecommunications
- Government
- Academia
- Other (please specify)

4) Overall, what was the primary innovation/ROI area that this project provided to your organization?

- Helped Us Make Better Products
- Major Scientific Breakthrough
- Cost Savings
- Created A New Approach
- Discovered Something New
- Helped Society
- Other (please specify)

5) Did this accomplishment generate financial ROI, Innovation or both?

- Financial ROI
- Innovation only (skip to Q8)
- Both

6) What are (or is expected to be) THE TOTAL REVENUES/SALES from this project/program/discovery in USD?

- \$1 to \$100,000
- \$100,000 to \$250,000
- \$250,000 to \$500,000
- \$500,000 to \$750,000
- \$750,000 to \$1 million

- \$1 million to \$2.5 million
- \$2.5 million to \$5 million
- \$5 million to \$10 million
- \$10 million to \$25 million
- \$25 million to \$50 million
- \$50 million to \$75 million
- \$75 million to \$100 million
- \$100 million to \$200 million
- \$200 million to \$500 million
- \$500 million to \$1 billion
- Over \$1 billion

7) What are (or will be) the TOTAL PROFITS or COST SAVINGS from this project/program/discovery in USD?

- \$1 to \$100,000
- \$100,000 to \$250,000
- \$250,000 to \$500,000
- \$500,000 to \$750,000
- \$750,000 to \$1 million
- \$1 million to \$2.5 million
- \$2.5 million to \$5 million
- \$5 million to \$10 million
- \$10 million to \$25 million
- \$25 million to \$50 million
- \$50 million to \$75 million
- \$75 million to \$100 million
- \$100 million to \$200 million
- \$200 million to \$500 million
- \$500 million to \$1 billion
- Over \$1 billion

8) What was general category of the innovation?

- Basic Research, including major discoveries and pioneering breakthroughs
- Applied Research, including incremental innovations and process improvements

9) How would you rate the IMPORTANCE this innovation compared to all other innovations in this field over the last ten years, using a scale of 1 to 5, with 5 being the highest:

- 5 (One of the top 2 to 3 innovations in the last decade)
- 4 (One of the top 5 innovations in the last decade)
- 3 (One of the top 10 innovations in the last decade)
- 2 (One of the top 25 innovations in the last decade)
- 1 (One of the top 50 innovations in the last decade)

10) How would you rate the IMPACT of this innovation to multiple organizations, using a scale of 1 to 6, with 6 being the highest:

- 6 It is useful to over 50 organizations
- 5 It is useful to 10 to 49 organizations
- 4 It is useful to 6 to 9 organizations
- 3 It is useful to 2 to 5 organizations
- 2 It is only useful to 1 organization
- 1 It is recognized ONLY by experts in the field

11) HPC INVESTMENTS — What was the total HPC Investment for the project in USD?

Note: only count or estimate the portion that was used for this project, and specifically for HPC resources -- include only the direct system costs, e.g. hardware, software, applications, interconnects, and storage used to accomplish this achievement -- If you used external HPC system resources, please include only the direct costs that you paid or the estimated value in order to accomplish this achievement.

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- \$75 million to \$100 million
- \$100 million to \$200 million
- \$200 million to \$500 million
- \$500 million to \$1 billion
- Over \$1 billion

12) Did this project/program/discovery create any new full-time equivalent jobs?

- No
- Yes - If so, about how many full-time equivalent jobs were created?

Please submit completed this application to Cary Sudan

- **Email:** csudan@hyperionres.com
- **Fax:** (508) 570-9638