Innovation And ROI Awards

For the Outstanding Application of HPC Computing for Business and Scientific Achievements

High performance computing (HPC) has long been recognized as a strong contributor to scientific advancement, industrial innovation, and the quality of human life. But few HPC success stories have been documented and quantified, and the relationship between investments in HPC and subsequent returns (ROI) is not well understood.

IDC has launched a program to both collect this data and recognize noteworthy achievements made through using High Performance Computing (HPC) technologies. The program's main goals are to:

- Showcase success stories involving HPC in science and industry
- Help other users better understand the benefits of adopting HPC and justify HPC investments, especially for SMBs
- Create a large database of ROI and innovation success stories to model the impact of investing in HPC
- Demonstrate the value of HPC to funding bodies and expand public support for increased HPC investments

We are interested in ROI examples from today or dating back as far as 10 years.

We encourage you to complete and submit a separate application form for each ROI / Innovation success story. Your organization likely has 100's or even 1,000's of examples, and it would be great if you could provide 3 to 5 today.

For example, many of the job runs on your HPC system support a specific product or product improvement or research project, and we are looking for just a few data points on each one. Examples include the creation of a single movie, the design of a new car engine or the design of a new water pump.

AWARD PROCESS

- How winners will be selected:
  - All submissions will receive a careful and complete review
  - Submissions must contain a clear description of the dollar value or innovation value received in order to qualify
  - Volunteers from the HPC User Forum Steering Committee will conduct an initial ranking of the submissions
  - Domain and vertical experts will be called on, as required, to assess the submissions
  - Winners will be notified in advance of any public announcement
  - All responses to these questions will be kept confidential and only summaries or averages will be reported

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APPLICATION FORM

*This form is downloaded from the website, there is also an **online form** available. IDC's HPC team is available to answer questions, including how to quantify your achievements — Feel free to contact us at: hpc@idc.com*

Background Information (This will be kept confidential):

Name: _____ Title: _____

Company/Organization: _____

Location: (City/State/Zip/Country) _____

Phone: _____ Email: _____

Basic Information

Name or title of project or accomplishment: _____

Briefly describe the overall HPC-based effort, including HPC-specific details (i.e. hardware, software, etc.) as well as a summary of the scientific or technical effort (200 words max).

- Showcasing success stories involving HPC in science and industry,
- Helping other users better understand the benefits of HPCs,
- Demonstrating the value of HPC to funding bodies, or
- Expanding public support for increased HPC investments.

EXAMPLE: BMI Corp. is using time on the massive "Jaguar" supercomputer at Oak Ridge National Laboratory to redesign the classic tractor-trailer ("semi") truck for greater fuel efficiency. (BMI has also been using the supercomputer for design work on NASCAR racing cars, a hydrogen fuel cell concept car for Ford, a new supersonic business jet, and a winglet for the Boeing MD-80 regional airplane.) Today's tractor trailers have an average drag coefficient of 0.59 and get only 5–6mpg at highway speeds of 65mph. BMI's goal in launching the Smart Truck project is to reduce the drag coefficient to 0.26. If all 1.3 million long-haul trucks operated at 0.26, the trucks would average 10mpg and the United States would save 6.8 billion gallons of diesel fuel annually, eliminate 75 million tons of CO_2, and rescue $19 billion in fuel costs. To date, the researchers have brought the drag coefficient down to 0.33, most of the way toward their goal. Running this extremely complex simulation take 1.4 years (501 days) of processor time, but the Oak Ridge supercomputer can handle the problem in just a few hours.

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Discuss how this innovation advances the state of the art in your particular scientific or technology field. (200 words max.)

Investments Required

HPC INVESTMENTS

What was the total HPC Investment for the project? _____

(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).

Did this accomplishment generate financial ROI or Innovation or both? _____

List Primary Innovation / ROI Area

___ Better Products

___ Cost Saving

___ Created New Approach

___ Discovered Something New

___ Helped Research Program

___ Helped Society

___ Major Breakthrough

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For Projects that Created a Financial ROI

What are (or is expected to be) THE FINANCIAL RETURNS from this project/program/discovery specifically...

What are (or will be) the TOTAL REVENUES? (provide a range, i.e., $1 to $100,000, $5m to 7.5m) _____

What are (or will be) the TOTAL PROFITS? _____

What are (or will be) the TOTAL COST SAVINGS? _____

For non-revenue generating organizations including universities and government entities, cost savings may be the most relevant financial metric.

If this project/program/discovery CREATED NEW JOBS, about how many full-time equivalent jobs where created?

(number of jobs created or saved) _____

How many years from the start of research was it before the first returns started? (Years): _____

For Projects that Created an Innovation

What was general category of the innovation? (check one)

___ Basic Research (including major discoveries and pioneering breakthroughs)

___ Applied Research (including incremental innovations and process improvements)

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How would you rate **THE IMPORTANCE OF** this innovation compared to all other innovations in this field over the last ten years, using a scale of 1 to 5? (check one)

___ 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)

How would you rate **THE IMPACT OF** this innovation compared to all other innovations in this field over the last ten years, using a scale of 1 to 5? (check one)

___ 5 (It had a major impact and is useful to many organizations)

___ 4 (A minor innovation that is useful to many organizations)

___ 3 (A minor innovation or only useful to 2 -3 organizations)

___ 2 (A minor innovation or only useful to 1 organization)

___ 1 (An innovation that is recognized ONLY by experts in the field)

Please fax submissions to: 1-651-222-8474
or scan and e-mail to: HPC@idc.com

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(more space if needed for answers)