https://www.hpc4mfg.llnl.gov

HPC4Mfg Program Webinar

Advancing Innovation: National labs partner with US Manufacturers to increase innovation and energy efficiency

Robin Miles, HPC4Mfg Project Manager

Lawrence Livermore National Laboratory

BERKELEY LAB

OAK RIDGE National Laboratory

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HPC can help infuse innovation into US Manufacturing to bring advanced products to market and save on energy

Apply High Performance Computing (HPC) capabilities and expertise at the national labs to increase US Manufacturing innovation and energy efficiency

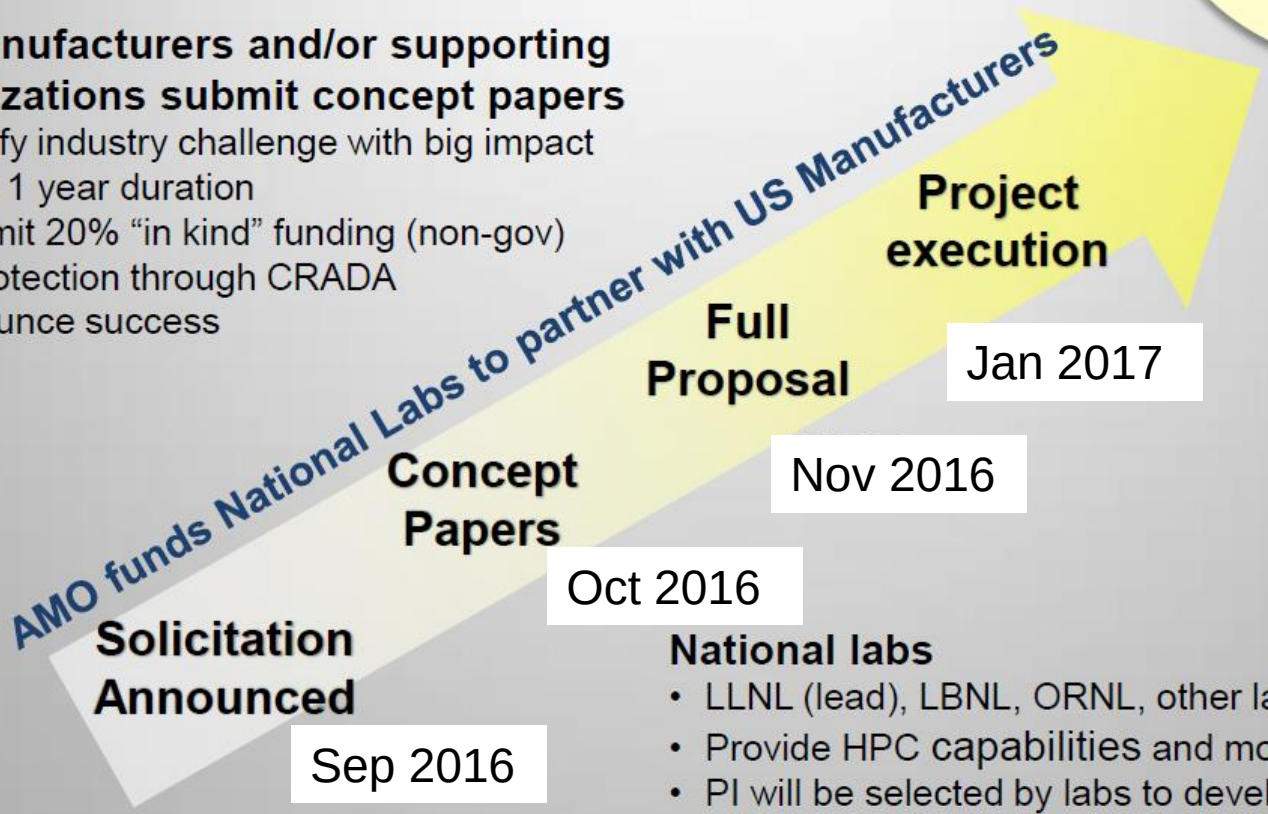
De-risk the adoption of HPC into the US Manufacturing Industry

HPC4Mfg enables partnership between the National Labs and US Manufacturing

Increase Energy Efficiency - Advance Clean Energy Technologies

US Manufacturers and/or supporting organizations submit concept papers

- Identify industry challenge with big impact
- Up to 1 year duration
- Commit 20% "in kind" funding (non-gov)
- IP Protection through CRADA
- Announce success



National labs

- LLNL (lead), LBNL, ORNL, other labs join in future calls
- Provide HPC capabilities and mod / sim expertise
- PI will be selected by labs to develop full proposal
- < $300k DOE funding per project; ~ 10 projects
- DOE Model Short Form CRADA

US Manufacturing losing market share and large energy consumer

A limited number of Phase II projects may be considered

Program Details: Eligibility and Funding

- Eligibility for call
  - Companies manufacturing in the US
  - Manufacturing-supporting organization
  - US Universities with strong tie to industry
- Who can be funded from the program
  - LLNL, LBNL, ORNL
  - In limited amounts, US Universities
- Industry participant cost share
  - At least 20% of project funding
  - Can be used to support internal staff
  - Source can not be other federal funding
  - Waiver available for qualified universities

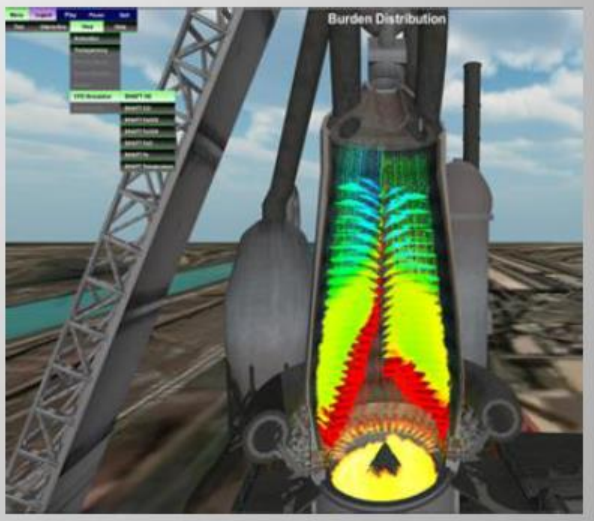
Reducing coke usage in steel-making could save $900 million per year

- **Industry partner: Purdue Calumet (steel-manufacturing consortium)**

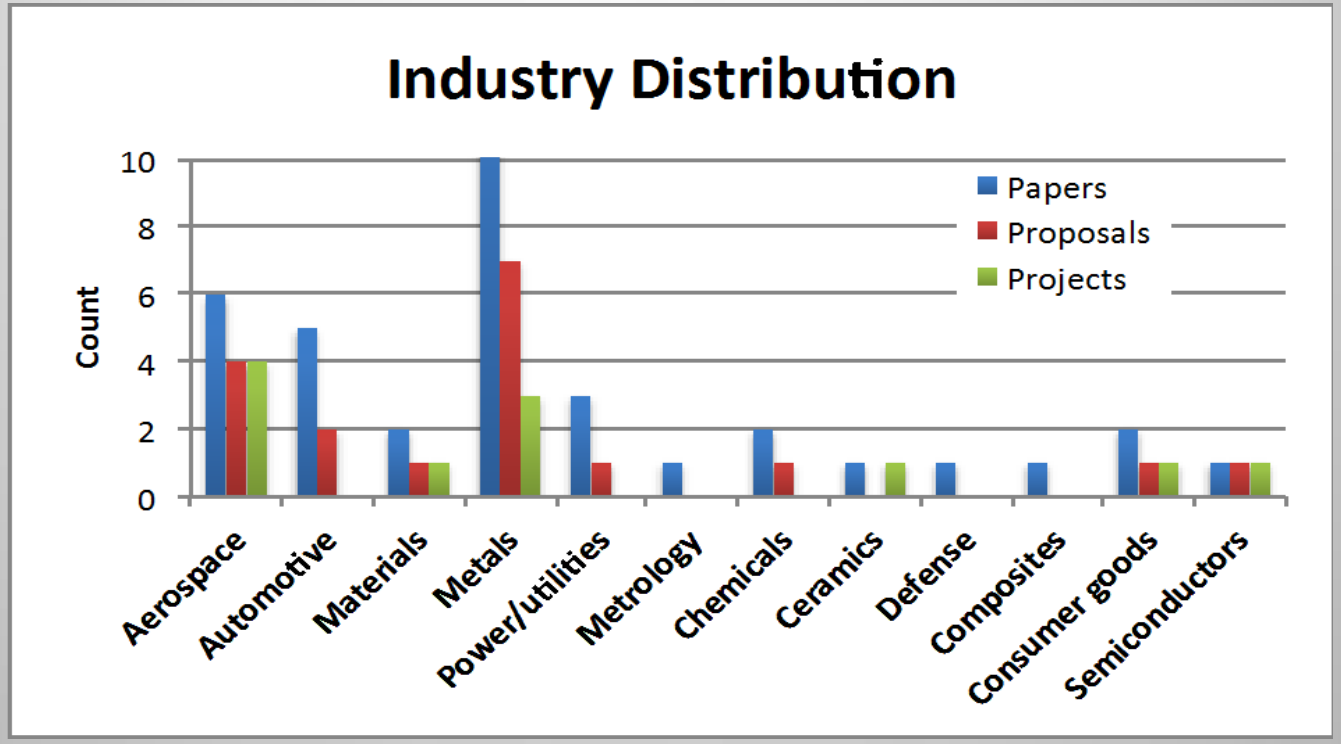
- Carbon – rich natural gas and coke are used in large quantities in steel production. Molten iron production optimization will reduce carbon loads to the environment and process costs.

- LLNL researchers improve blast furnace models and run a series of simulations of complex reactive flows through particles of coke and iron ore. These simulations identify furnace conditions with reduced coke utilization.

- Optimized blast furnace processes could save $900 million/year industry-wide by reducing coke consumption.



… and our results to date…



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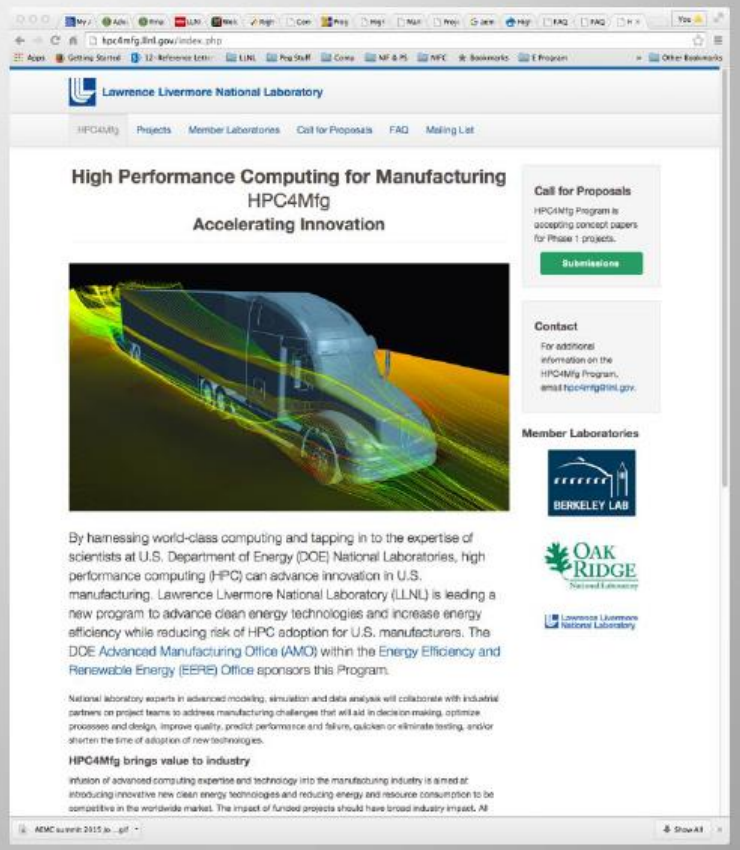
For more information on the HPC4Mfg Program

- Access hpc4mfg.llnl.org
- Join the hpc4mfg-info@llnl.gov distribution list via the web to receive program announcements
- Contact hpc4mfg@llnl.gov



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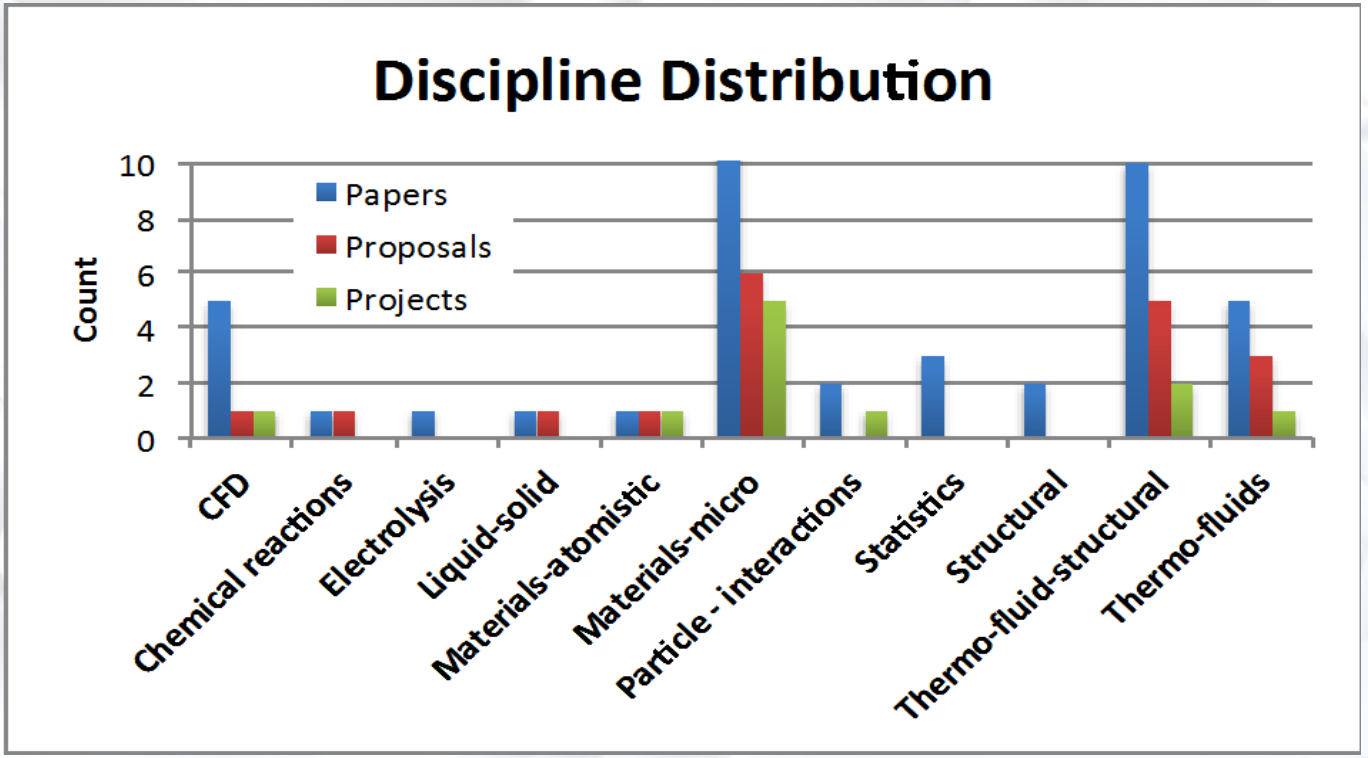
HPC 4 MANUFACTURING

… and our results to date…



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