Engineering 2.0: A Perspective from NSF

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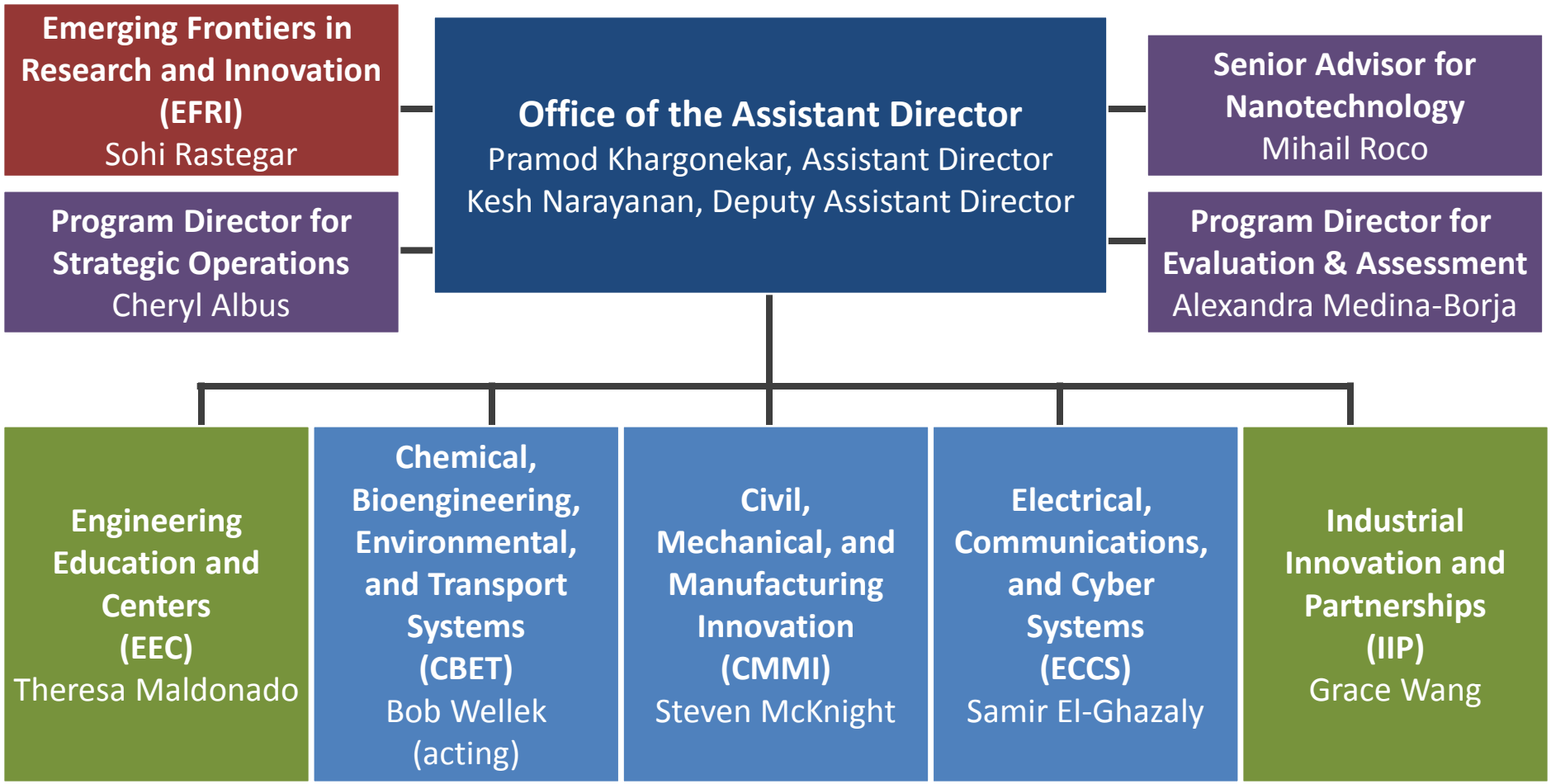


ENG Mission and Vision

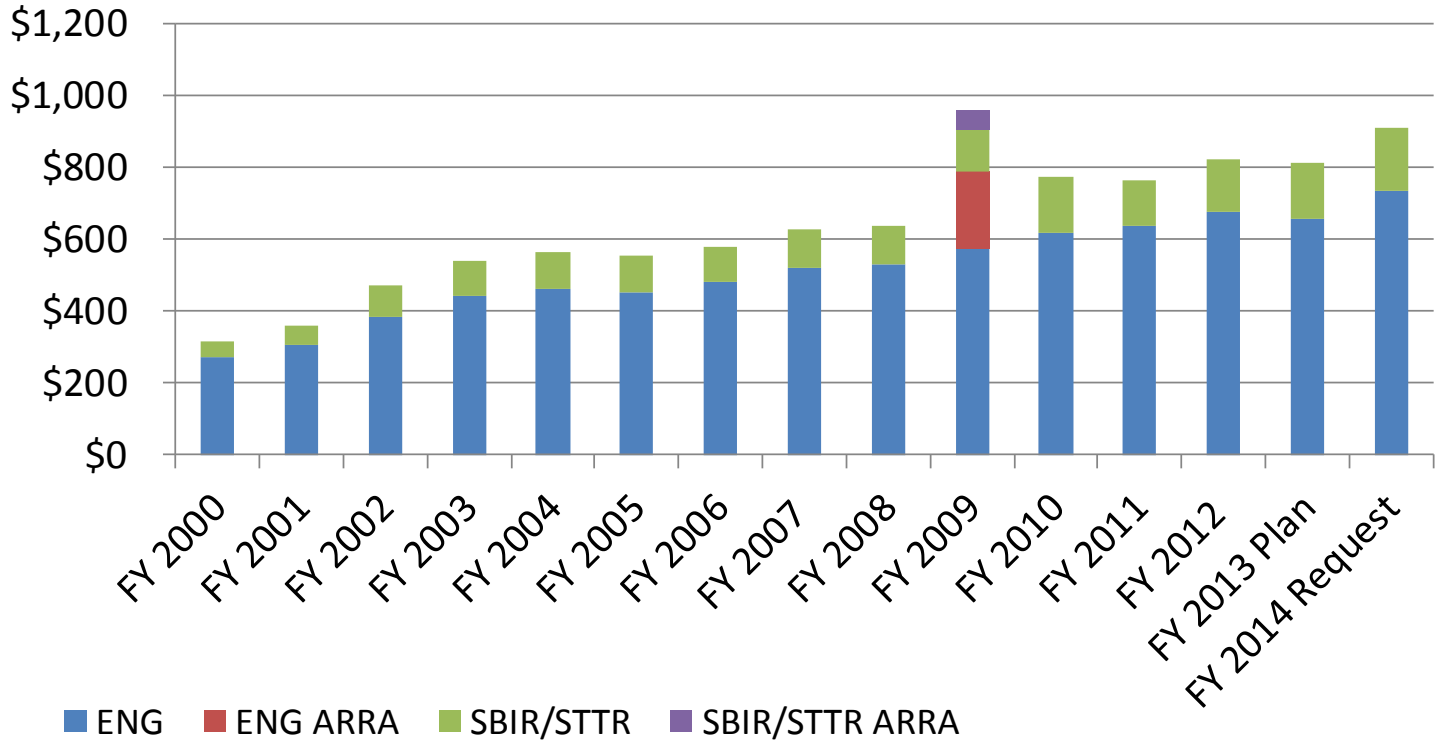
- Mission: To enable the engineering and scientific communities to advance the frontiers of engineering research, innovation, and education, in partnership with the engineering community, and in service to society and the nation.

- Vision: ENG will be a global leader in identifying and catalyzing fundamental engineering research, innovation, and education.

NSF Directorate for Engineering (ENG)



ENG and SBIR/STTR Budgets ($M)



Imagining Engineering 2.0

- Vital and essential role for engineering to enable a prosperous, exciting, secure, healthy and sustainable future
- Ambitious, specific, but achievable grand challenges to stimulate the imagination, creativity, and ingenuity of the engineering community leading to dramatic advances
- Mutually reinforcing roles for fundamental, translational, and applied research
- Seamless transitions and feedback loops between research and innovations and practical realizations
- Engineering education innovations to overcome stubborn, long-standing problems in retention, diversity, and K-12

Larger Context

- Complex connections between economic growth, competitiveness, employment, and sustainability
- Energy system changes – natural gas, renewables
- Interacting infrastructure systems – smart and resilient
- Changing paradigms in manufacturing
- Service sector – quality, productivity, performance
- Global flows of components, products, services, knowledge, people

NSF ENG Strategy

- Attract, stimulate, catalyze and challenge research communities to think big, enable transformational advances, and expand national innovation capacity
- Portfolio balance between fundamental, applied and translational as well as small, medium and large projects
- New approaches to address engineering education challenges
- Collaborate and partner within and outside NSF to maximize opportunity for the engineering research and education community to address major national priorities