Priority Activities for NIST Innovation and Industry Services

Presentation for the Visiting Committee on Advanced Technology

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National Institute of Standards and Technology
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NIST Mission and IIS

To promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life

NIST IIS promotes the NIST mission and "OneNIST" Vision by:

Broadening and deepening our internal connections with one another, and

Expanding and leveraging our external connections

Legislative Authorities

Manufacturing Extension Partnership

- Public Law 100-418: Omnibus Trade and Competitiveness Act of 1988 creates Manufacturing Extension Partnership program to help U.S. manufacturers.
- Public Law 114-329: American Innovation and Competitiveness Act of 2017 reauthorized MEP with 1:1 cost share and Centers re-competition after 10 years of consecutive funding.

Office of Advanced Manufacturing

- Public Law 113-235: Revitalize American Manufacturing Innovation Act of 2014 established the Manufacturing USA program, network of institutes, and NIST program office
- Public Law 115-232: Global Leadership in Advanced Manufacturing Act of 2019 significantly expands NIST authorities and responsibilities, including flexibility to continue sponsoring institutes after startup period

Technology Partnerships Office

- Public Law 96-517 Bayh-Dole Act of 1980 and regulated under 37 CFR 401, 404, 501 and E.O. 12591 and 10096 promote the use of the patent system to achieve practical application of inventions from federally funded research
- Public Law 96-480 Stevenson-Wydler Act of 1980 as amended in 1986, defines technology transfer at federal labs

Baldrige Performance Excellence Program

- Public Law 100-107: The Malcolm Baldrige National Quality Improvement Act of 1987, as amended in 1995 to add health care and education and in 2006 to add nonprofits

IIS Summary – People and Budget

Manufacturing Extension Partnership

$146 million NIST
$180 million non-federal co-investment

60 NIST staff, **1,400** non-federal staff, **600** Board members

Office of Advanced Manufacturing

NIIMBL: **$10** million NIST, **$31** million non-federal co-investment

Mfg USA Network: **$6** million NIST for Program Management [14 Institutes, $169 million other federal, $313 non-federal co-investment, 476 Institute staff] **13** NIST staff

Technology Partnerships Office

$6 million STRS, **$3.6** million IS, **$3.8** million SBIR
$13.5 million total NIST

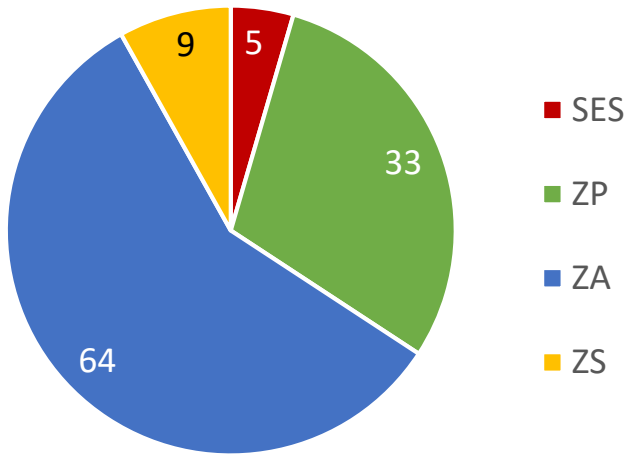
24 NIST staff

Baldrige Performance Excellence Program

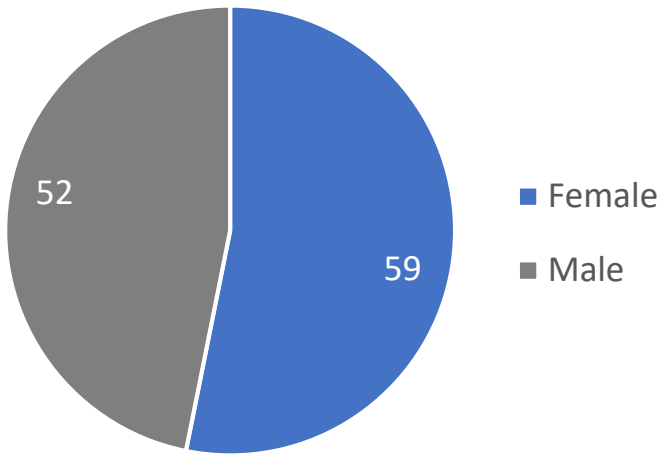
$2.2 million NIST
$2.8 million in revenues, fees, foundation support

14 NIST staff, **500** non-federal volunteers

IIS Staff by Positions



IIS Staff by Gender



IIS Leadership

Manufacturing Extension Partnership

Carroll Thomas: Director
22 years industry; 18 years NIST; 2 years SBA Assoc. Administrator, MBA (Johns Hopkins University)
Open: Deputy
Anticipate new deputy starting March 2020

J. Chancy Lyford: Division Chief, External Affairs and Evaluation
15 years Capitol Hill (Senator Dale Bumpers/Senate Small Business Committee); 17 years SBA; 5 years NIST MEP; BA (Oxford)

Kevin McIntyre: Division Chief, Financial Mgmt and Center Operations
15 years Treasury; 9 years NIST (includes 7 years NIST MEP); 7 years industry; MBA (George Washington University)

Office of Advanced Manufacturing

Mike Molnar: Director
27 years industry; 8 years NIST; MBA (Notre Dame), MS (Wisconsin)

Frank W. Gayle: Deputy
11 years industry; 24 years MML, 6 years NIST OAM; Sc.D. (MIT)

Margy Phillips: Assoc. Director
5 years industry, 9 years Captain USAF, 22 years MEP, ATP, MML, MS (Wright State); MBA (WNEC), JD (Capital Univ.)

Robert Rudnitsky: Assoc. Director
3 years State Dept., 10 years industry, 10 years NIST
Ph.D. in Physics (Stanford), B.A. Political Science (Yale)

Technology Partnerships Office

Paul Zielinski: Director
12 years NIST, 11 years EPA, 8 years DOE, Army (4/12), past Chair FLC
MS Civil Engineer (Maryland), MBA Entrepreneurship (NCU)

Courtney Silverthorn: Deputy
6 years NIST, 4 years Frederick National Laboratory, 1 year NCI
PhD Pharmacology (Johns Hopkins), MS Leadership (WUSTL)

Mary-Deirdre Coraggio: Director Technology Discovery
23 years NIST, 17 years Navy; MLS (Pratt Institute)

Baldrige Performance Excellence Program

Bob Fangmeyer: Director
29 years NIST (BPEP and HR); Former small business owner and/or manager; MBA (Maryland)

Vacant: Deputy

Jacqueline DesChamps: Support Services Supervisor
20 years experience in business and health care; 22 years NIST/BPEP; MPA (Maryland)

Jamie Ambrosi: Marketing Team Leader; 21 years NIST; MBA (Maryland)

Christine Schaefer: Education Team Leader; 15 years NIST; MPP (G-town)

BPEP 2020 Major Activities and Connections

Key Strategic Initiatives for 2020

- Redesign of Award evaluation process – streamline, simplify, shorten cycle time, and increase value-add
- Communities of Excellence – 18 communities in a learning collaborative; New Baldrige Award category?
- New presidential award for workforce education and training excellence (E.O. 13801 and 13845)
- Working with MEP to recognize adoption of Industry 4.0 technology trends and share best practices

Internal Connections

- NIST leadership leveraging Baldrige framework and visits with award recipients
- Collaborating with ITL on cybersecurity excellence
- Collaborating with MEP on Industry 4.0/ advanced manufacturing excellence

External Connections

- 130 Baldrige Executive Fellows
- Thousands of Examiners, Judges and Overseers
- 30 state/regional Baldrige programs
- Global community of ~100 excellence programs

	Total
Award Recipients	129
Award Applicants	1,700
Examiners Trained	8,000
Conference attendees	26,000
State Programs	30
State Applicants	22,000
State Examiners	55,000
State Conferees	52,000

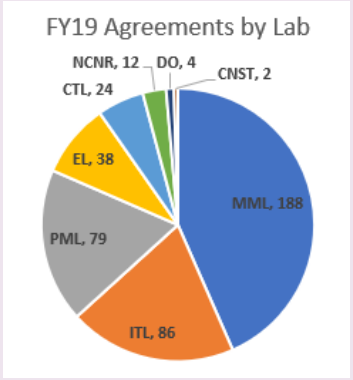
TPO 2020 Major Activities and Connections

Key Strategic Initiatives for 2020

- Leading interagency efforts to develop legislative updates to the Stevenson-Wydler Act and streamline implementing regulations of the Bayh-Dole Act
- iEdison reporting system for extramural inventions being rebuilt at NIST and supported by TPO
- Strengthening awareness of NIST technology transfer, including training and workshops; improve outreach and technology discovery for NIST

Internal Connections

- 433 total agreements in FY19, averaged 1.7 agreements executed per business day
- 257 inventions disclosed (FY15-19)
- Commercialization and entrepreneurship workshops by EIRs/PIF for NIST staff
- Agreements and inventions routed through ServiceNow
- Economic analysis: Fire Safety Research, NCNR, Materials Genome Initiative



N-STEP: 8 active awards TMAP: 4 awards

NIST CRADAs and licenses resulted in $25.8M in income from FY15-19

External Connections

- Maryland Economic Ecosystem events to showcase neuro and cyber technologies at MD federal labs
- Small businesses make up 47% of NIST licensees and 33% of NIST Research CRADA partners
- NSTC and CAP Goal Leadership to implement ROI findings
- Economic analysis: Federal Technology Transfer, GPS, IoT

	FY15-19
New Research CRADAs	597
Total New CRADAs*	12,244
SBIR Awards	101
New Licenses	68

*Includes laboratory accreditation, materials transfer, and calibration services