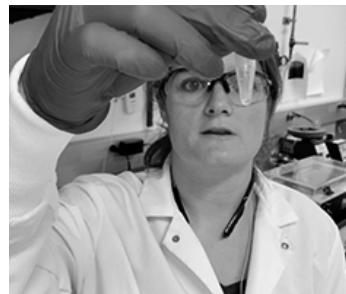
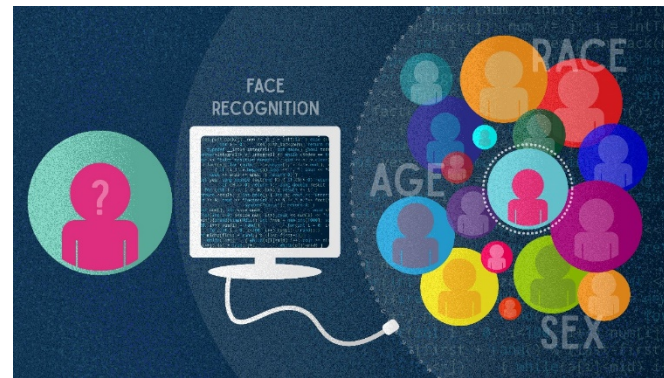
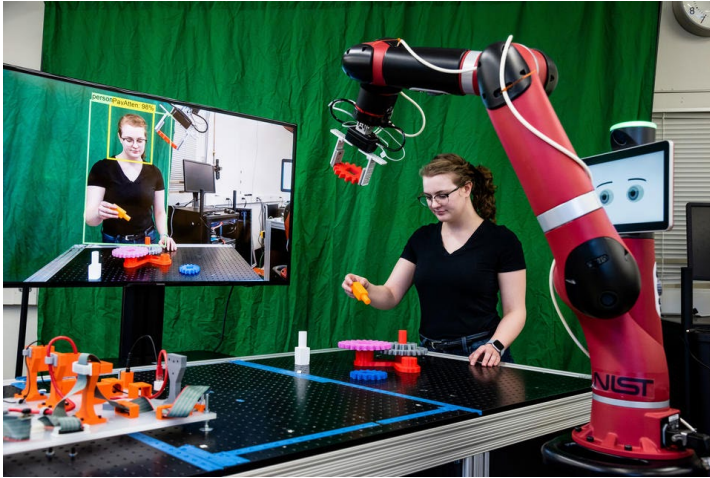


# NIST FY 2022 President's Budget Request

# NIST: Aligned with the Administration's Priorities



NIST role includes:

- Supporting national manufacturing networks, workforce development
- Driving discovery in emerging technologies - AI, quantum science, synthetic biology, and more
- Securing the supply chain through new research, measurements, standards and other tools
- Highest credibility source for science-based standards and tools for climate measurements, resilience, and clean energy

# NIST 2022 Budget Summary

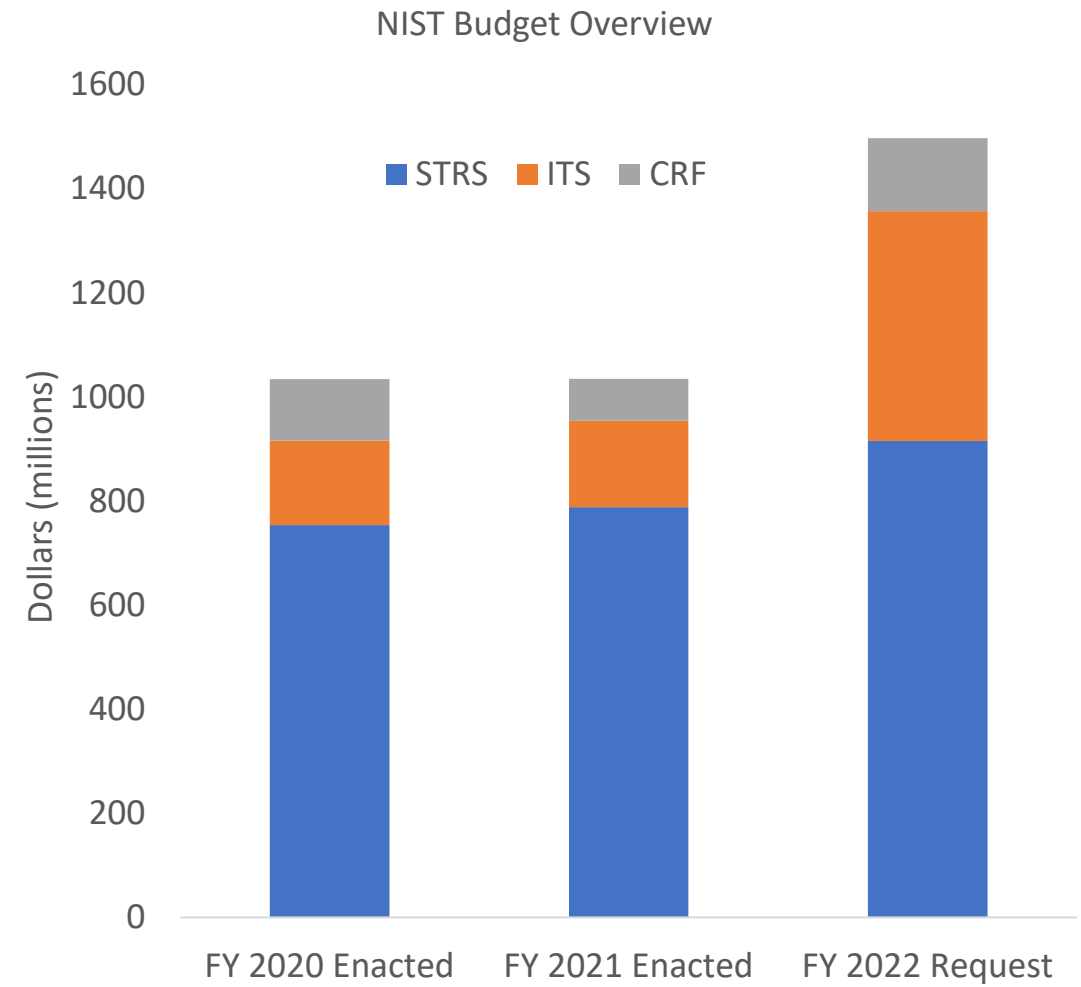


The FY 2022 budget request is an increase of **\$462.8 M** over FY 2021 enacted levels to fully fund inflationary adjustments to current programs, grow funding for nationally critical mission areas, and expand NIST's manufacturing programs.

- A **44.7% increase** from current funding

This increase positions NIST to address critical national priorities:

- Advanced Communications/5G
- Advanced Manufacturing & Semiconductors
- Artificial Intelligence
- Biotechnology
- Climate, Environment, & Energy
- Cybersecurity and Privacy
- Internet of Things
- Quantum Science
- Racial Equity
- Standards Leadership



CARES Act funding in FY 2020 and ARP Act funding in FY 2021 not shown

# Budget Summary



	FY 2020 Enacted	FY 2020** CARES Act P.L. 116-136	FY 2021 Enacted	FY 2021** ARP Act P.L. 117-2	FY 2022 President's Request	+/- over FY 2021 Enacted
<b>STRS</b>	<b>\$754.0</b>	<b>\$6.0</b>	<b>\$788.0</b>	<b>\$0.0</b>	<b>\$915.6</b>	<b>\$127.6</b>
Laboratory Programs	655.8	6.0	687.1	0.0	806.0	118.9
Corporate Services	17.3	0.0	17.5	0.0	18.1	0.6
Stds Coord & Special Pgms *	80.9	0.0	83.4	0.0	91.5	8.1
<b>ITS</b>	<b>\$162.0</b>	<b>\$60.0</b>	<b>\$166.5</b>	<b>\$150.0</b>	<b>\$441.7</b>	<b>\$275.2</b>
Hollings Mfg Ext Partnership	146.0	50.0	150.0	0.0	275.0	125.0
Manufacturing USA	16.0	10.0	16.5	150.0	166.7	150.2
<b>CRF</b>	<b>\$118.0</b>	<b>\$0.0</b>	<b>\$80.0</b>	<b>\$0.0</b>	<b>\$140.0</b>	<b>\$60.0</b>
Construc & Major Renovations	43.0	0.0	6.1	0.0	0.0	(6.1)
Saf, Cap, Maint & Maj Repairs	75.0	0.0	73.9	0.0	140.0	66.1
<b>Total, NIST Discretionary</b>	<b>1,034.0</b>	<b>66.0</b>	<b>1,034.5</b>	<b>150.0</b>	<b>1,497.3</b>	<b>462.8</b>

\* Includes Baldrige Performance Excellence Program funding from \$2.2M in FY 2020, \$2.5M in FY 2021, and \$2.6M in FY 2022.

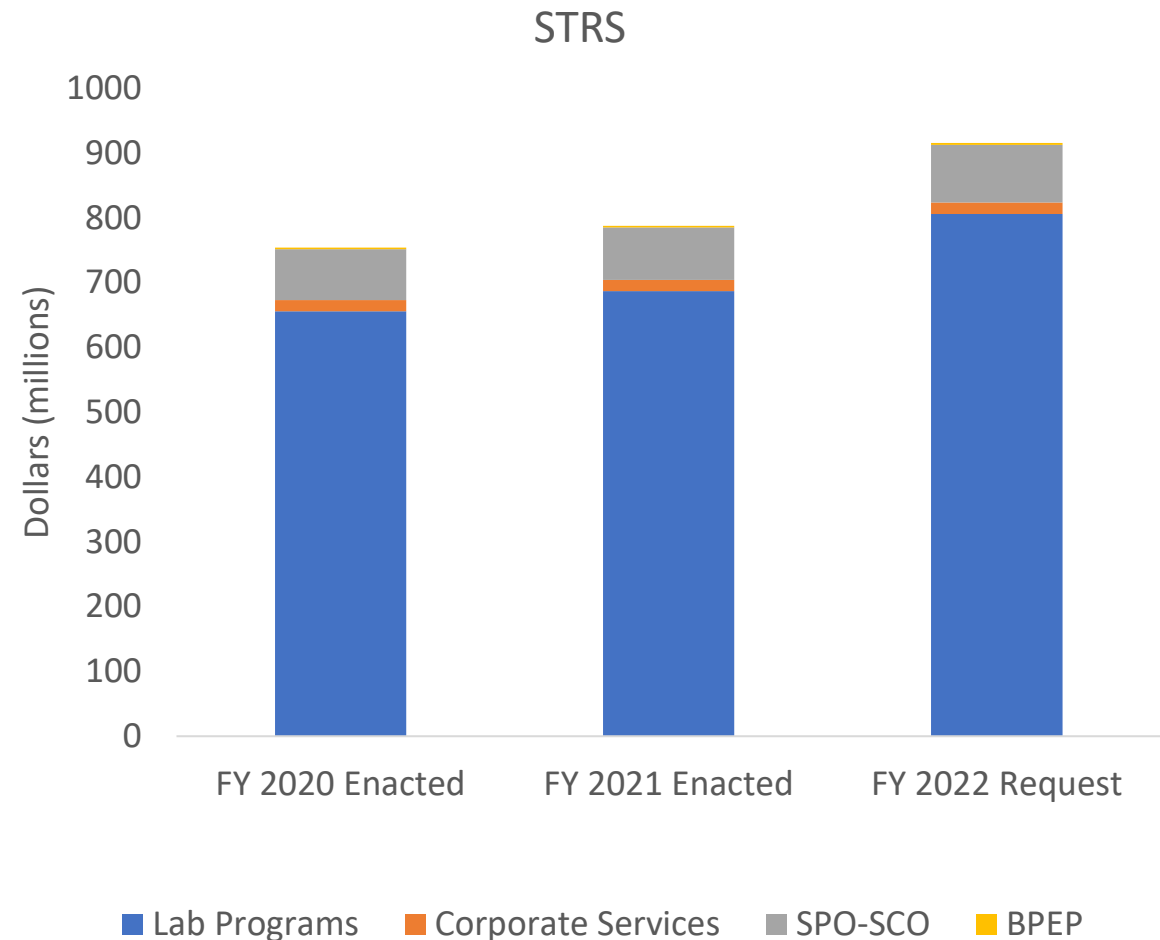
\*\* Supplemental funding of CARES Act and ARP Act are presented but not included in the increase/decrease comparison column.

# STRS: \$915.6 M (+\$127.6 M and 164 Positions)



NIST is prioritizing efforts in core mission research and key national and Administration priorities

- An **increase of 16.2% from FY 2021** levels for NIST research programs
- NIST laboratory programs provide industry, academia, and other Federal agencies with world class research capabilities in measurement science, forming the foundation of our global system of weights and measures and enable innovation



CARES Act funding in FY 2020 and  
ARP Act funding in FY 2021 not shown

# New Efforts to Ensure U.S. Leadership in Key Areas



## Climate & Energy +\$20 M

Resources to predict, measure, and manage the changing climate, and innovations for resilient energy infrastructure and intelligent buildings



## Quantum Science +\$15 M

New quantum networking grand challenge will build on NIST world-leading science, while NIST expands the Quantum Economic Development Consortium



## Artificial Intelligence +\$15 M

Leading efforts to prioritize and address key AI issues while developing training and testing tools for research domains



## Bioeconomy +\$14 M

Living Systems Foundry for safe, predictable design and control of biological systems



## Advanced Communications +\$12 M

Measurements to support wide deployment of 5G wireless and public safety leadership and engagement in standards development



## Microelectronics +\$10 M

Measurements and research to support semiconductor and microelectronics innovations



## Circular Economy +\$5 M

Measurements and research to efficiently recover plastics and other materials in the supply chain

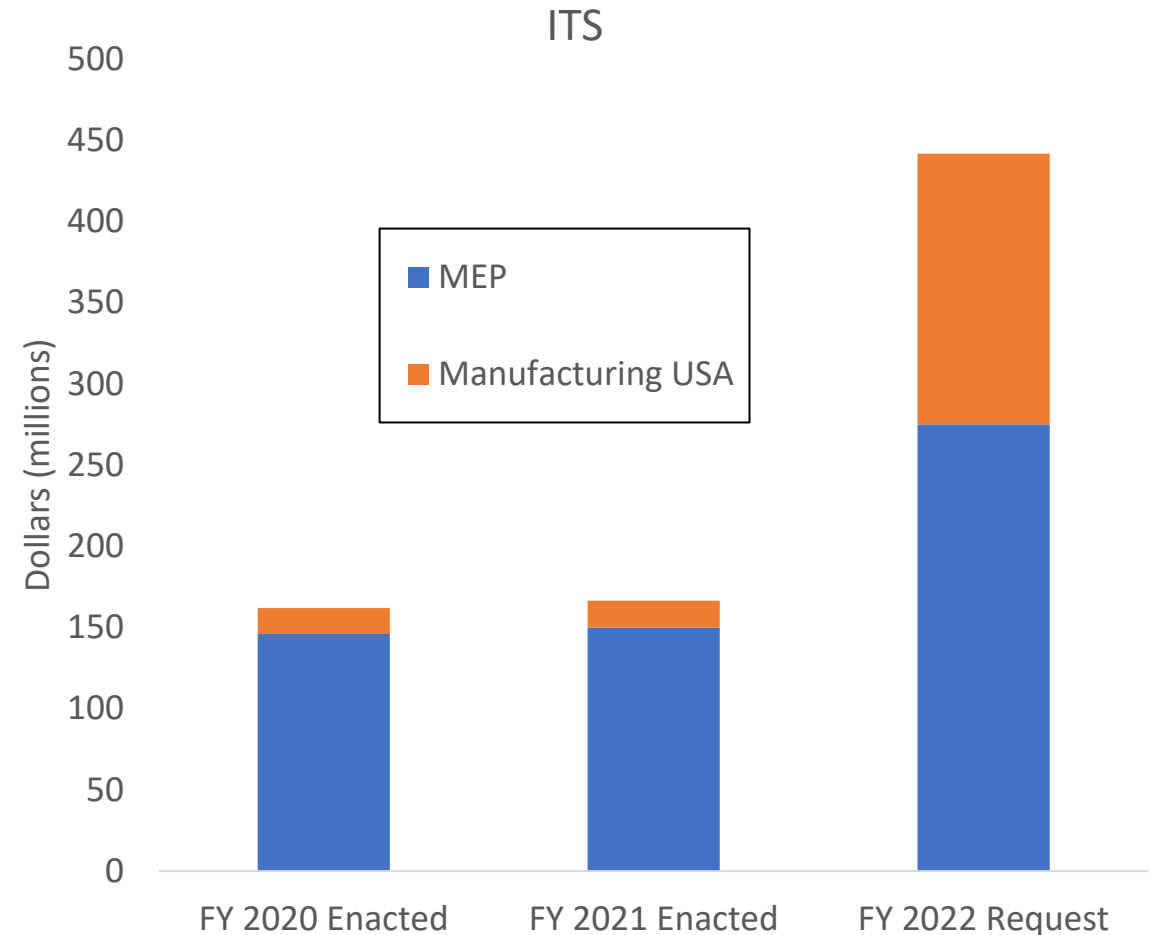


## Equity and Diversity in the Workforce +\$5.1 M

Developing pipelines for the next generation of measurement scientists

# ITS: \$441.65 M (+\$275.1 M and 63 Positions)

- The FY 2022 President’s Budget grows and strengthens the Manufacturing USA Program
  - Continues support for program coordination and network support and fully funds NIIMBL
  - Provides funding for 2 new institute
- The FY 2022 Request nearly Doubles MEP funding
  - Strengthens a network of 51 institutes in every state and Puerto Rico
  - Enables new investments to strengthen supply chains, support workforce training and promote technology adoption



CARES Act funding in FY 2020 and ARP Act funding in FY 2021 not shown

# Increase Core Funding to MEP Centers

With a 30-year track record of serving small and medium-sized manufacturers, MEP is uniquely positioned to implement the measures necessary to unlock the economic potential of manufacturing.



Image Credit: Pixabay

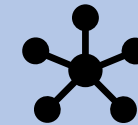
## Challenges:

- MEP Centers lack resources to serve all the needs of manufacturers in their region
- Proposed infrastructure investments demand even greater U.S. manufacturing to secure products made by American manufacturers

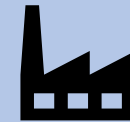
## MEP funding increase will:

- Provide direct support that enables U.S. manufacturers to:
  - adopt new technologies
  - fortify cybersecurity
  - improve processes
  - expand training
  - respond to external shocks
- Reach more manufactures regardless of geographic location
- Leverage more manufacturing stakeholders across government, industry, and academia

## Impacts:



MEP Centers will provide more services to at least 25% more manufacturers.



More materials and products will be made in America by American manufacturers.



The American manufacturing economy will be stronger and more resilient.



# New MEP Initiatives

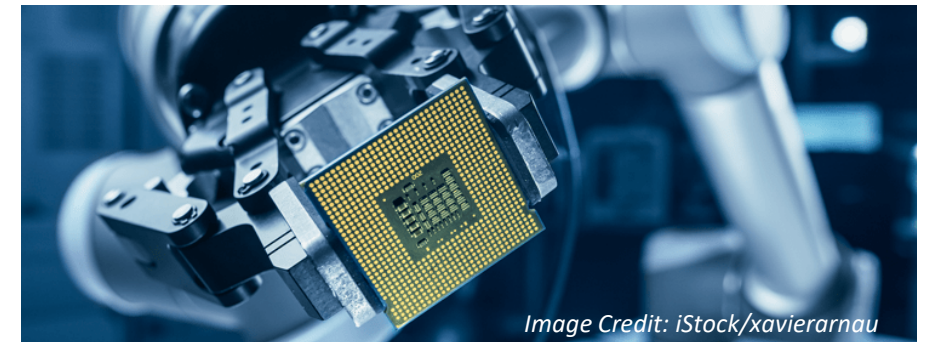
**MEP National Supply Chain Initiative** will identify and map critical supply chains, expand MEP Supplier Scouting, and increase individual manufacture resiliency.



**MEP National Workforce Development Initiative** Enhance MEP's ability to help manufactures attract a new workforce, create innovative on-ramps, and work with community leaders to overcome economic barriers.



**MEP Manufacturing Technology Demonstration Facilities** will be established in critical technology and supply chain areas to expose to and train small-to-medium sized manufacturers (SMMs) on advanced technology and expand the MEP Assisted Technology and Technical Resource (MATTR) service.

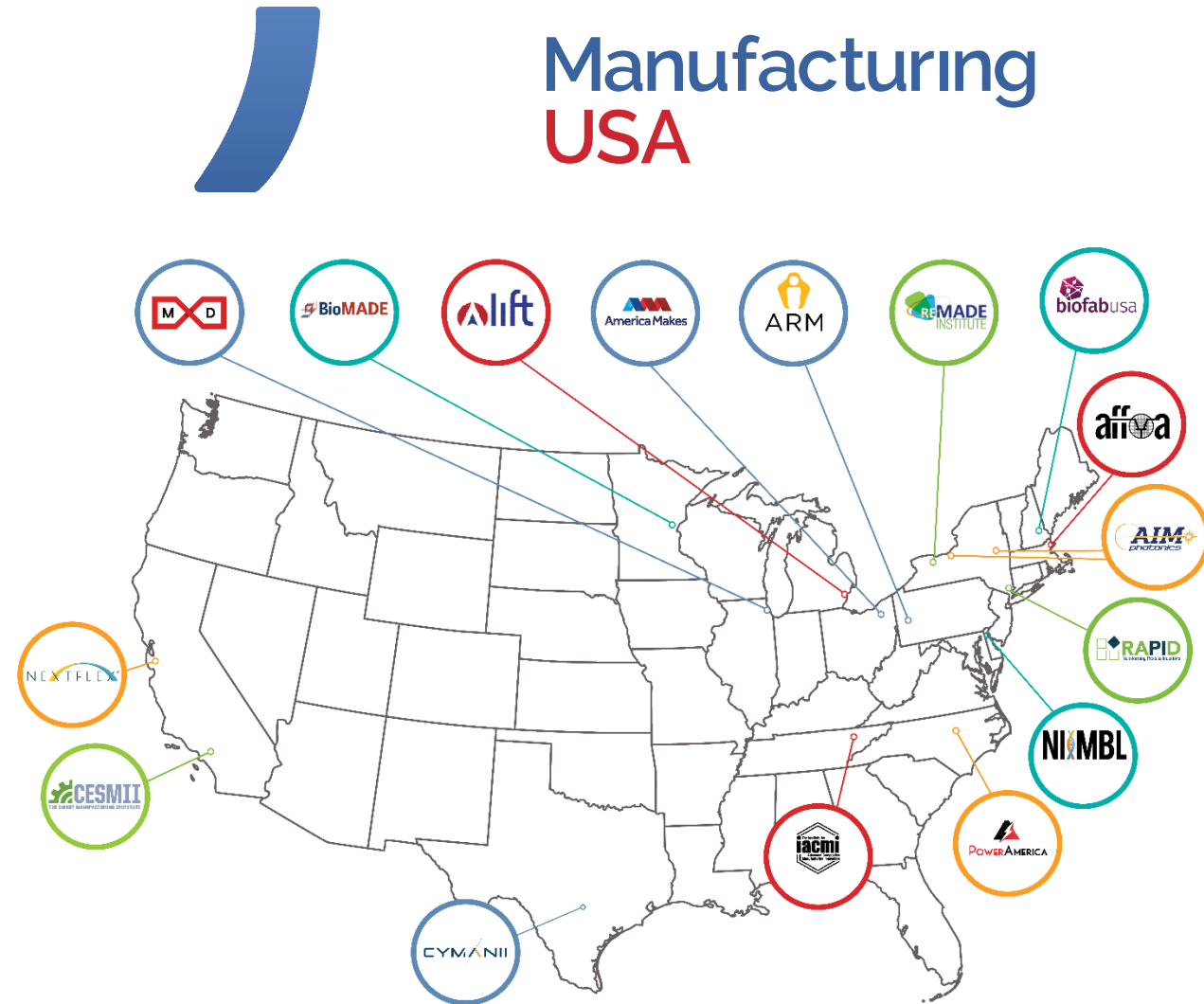
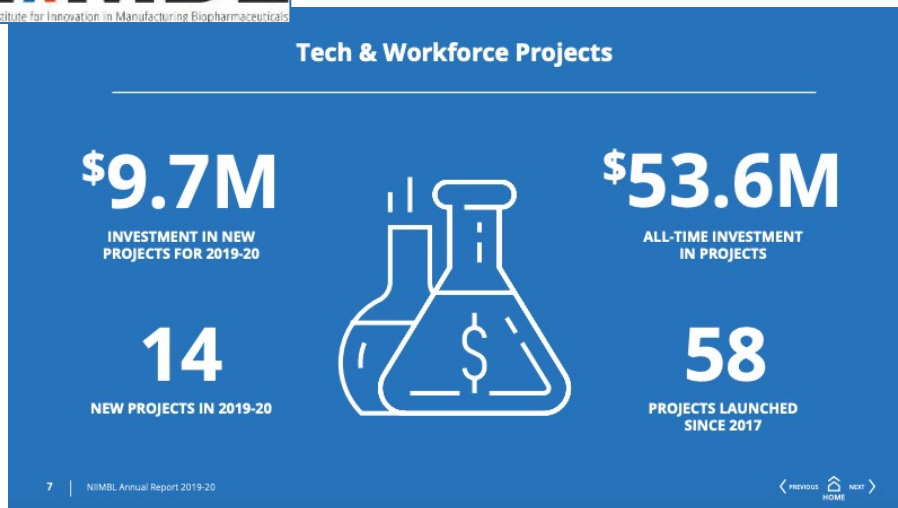


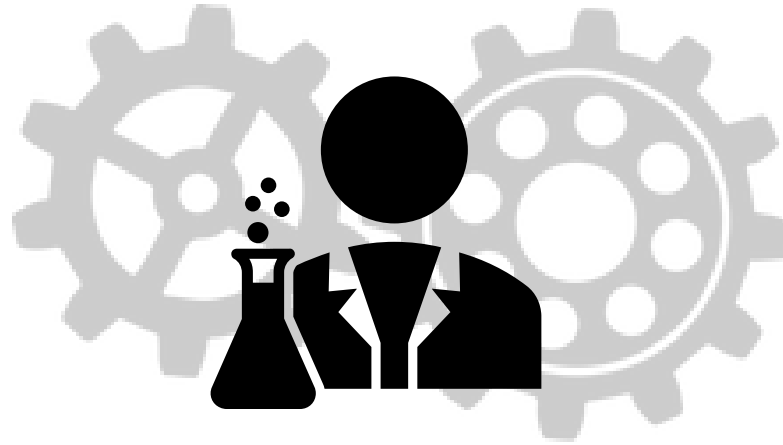
\* Funding will be equally distributed across all programs and initiatives.

# Manufacturing USA \$166.7 M (+\$150.2 M and 5 Positions)

NIST coordinates the nationwide Manufacturing USA network of 16 innovation institutes

- \$150 million will fund two additional Manufacturing USA Institutes in FY 2022
- \$16.7 million continues base support for coordination, technology roadmaps, and sponsorship of the current NIST/DOC institute NIIMBL





**MEP • MANUFACTURING  
EXTENSION PARTNERSHIP**

## Challenges

- **MFG USA:** Secure U.S. global leadership in advanced manufacturing through large-scale collaboration on technology, supply chain, and workforce development
- **MEP:** Enhance the productivity, technological performance and competitiveness of U.S. Manufacturing
- **Labs:** collaborate with industry, academia, and other government agencies to develop the measurement and standards solutions to accelerate the development of the next generation of manufacturing technologies.

## Opportunities

- Each program serves a different part of the innovation cycle

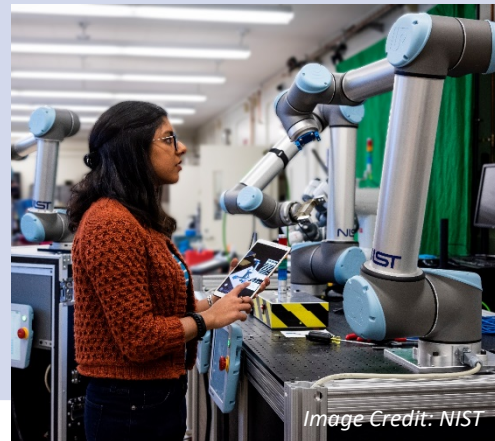


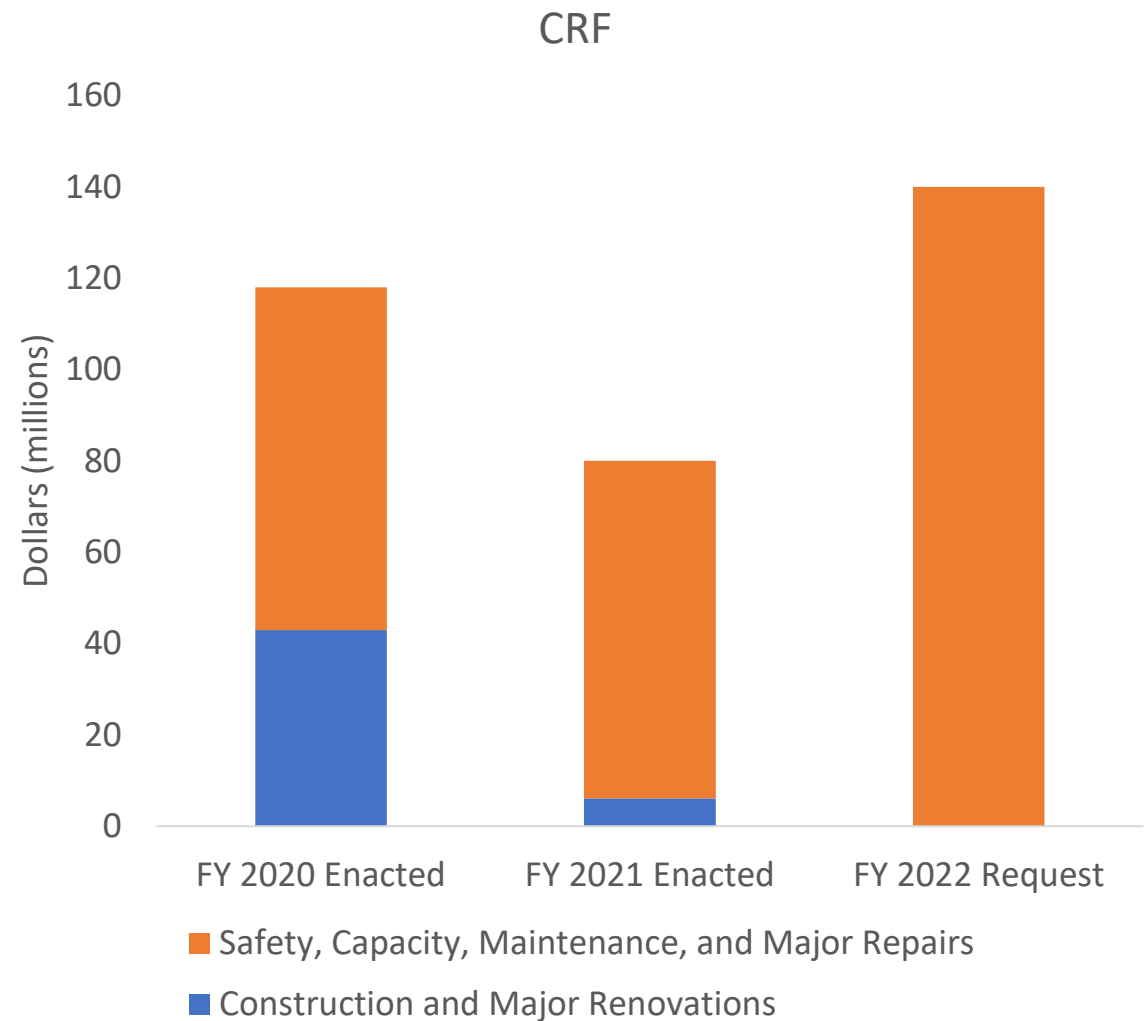
Image Credit: NIST

## Impacts

- All U.S. manufacturers have access to existing and new technology to improve their individual competitiveness
- More of the U.S. workforce will be prepared with skills needed for manufacturing in the 21st Century
- Laboratories will be better connected to manufacturing industries to develop and bring new technologies into use

# CRF: \$140.0 M (+\$60.0 M and 0 Positions)

- Supports staff salaries and recurring preventive maintenance contracts and materials
- Supports infrastructure improvements and research space enhancement, ensuring that NIST can have a leading-edge R&D program to advance U.S. innovation
- Supports addressing major utility infrastructure maintenance backlog and modernization of the IT networking infrastructure



# NDAA/CHIPS Act and DOC

- Lays out a comprehensive set of programs to:
  - Protect and extend US semiconductor technology leadership
  - Ensure a secured supply of chips for critical, non-commercial US sectors; and
  - Promote economic viability of US industry in R&D, manufacturing, and other critical parts of the semiconductor value chain.

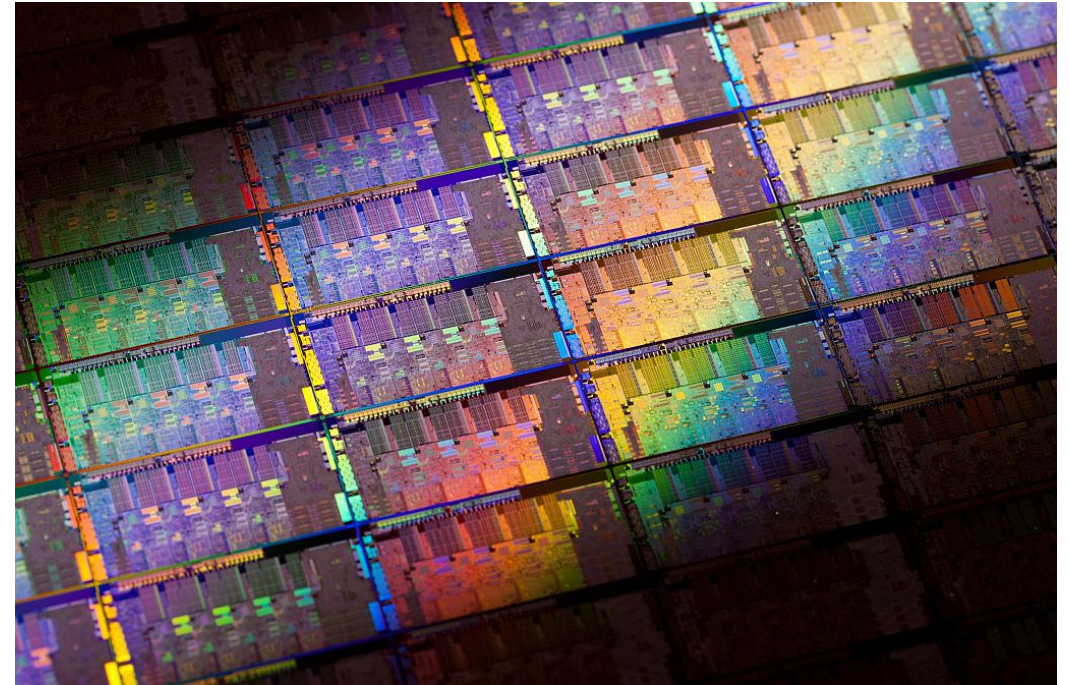
## USICA Proposes \$52B in appropriations for programs

	FY 2022	FY2023	FY2024	FY2025	FY2026
Section 9902 Incentives Program	19	5	5	5	5
Section 9906 c National Semiconductor Technology Center	2				
Section 9906 d Advanced Packaging Program	2.5	2	1.3	1.1	1.8
Section 9906 e NIST Metrology Program	0.5				
Section 9906 f Manufacturing USA Institute					

# Planning for Implementation

## Cross DOC Team Developing Plans for Implementation

- Establishment of Program Office
  - Staffing plans
- Development of NOFOs and competition processes for Incentive Program, NSTC
- Planning for cross NIST Metrology Program
- Planning for Advanced Manufacturing Institute



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# Questions