



MASSACHUSETTS
TECHNOLOGY
COLLABORATIVE

COVID-19
Manufacturing Emergency Response Team
Of Massachusetts

“MERT”

October 2020



MASSACHUSETTS
TECHNOLOGY
COLLABORATIVE

OUR MISSION

We strengthen the competitiveness of the tech and innovation economy
by driving strategic investments, partnerships, and insights
that harness the talent of Massachusetts.



MASSACHUSETTS
TECHNOLOGY
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masstech.org



THE INNOVATION INSTITUTE

at the MassTech Collaborative

C MassCyberCenter
at the MassTech Collaborative

MeHI
MASSACHUSETTS
eHEALTH INSTITUTE



at the MassTech
Collaborative

MBI

MASSACHUSETTS
BROADBAND INSTITUTE



at the MassTech
Collaborative

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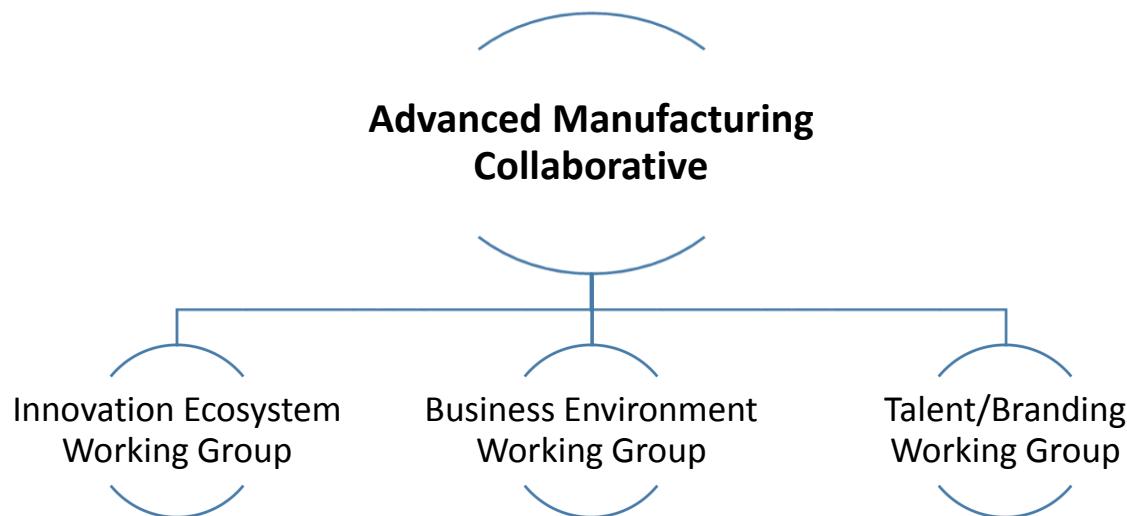
MASSACHUSETTS CENTER for
ADVANCED MANUFACTURING



at the MassTech
Collaborative

MASSACHUSETTS
TECHNOLOGY
COLLABORATIVE

Co-Chairs:
Executive Branch
Industry



~30 members:

- **Government:**
 - Executive Branch
 - Legislature
 - Quasi-Gov
- **Industry**
 - SMEs
 - OEMs
 - Start ups / Incubators/Accelerators
 - Associations
- **Academia**
 - R&D
 - Higher Ed

The Boston Globe

THURSDAY, MARCH 12, 2020

OUTBREAK NOW A PANDEMIC

As WHO makes declaration, infectious disease experts issue dire warnings, local firms, colleges shift operations

By Felice J. Preyer
GLOBE STAFF

The World Health Organization on Wednesday declared that the novel coronavirus spreading across six continents can now be called a pandemic, and President Trump announced he was sharply restricting travel from Europe to the United States in an attempt to limit the spread of the dis-

ease.

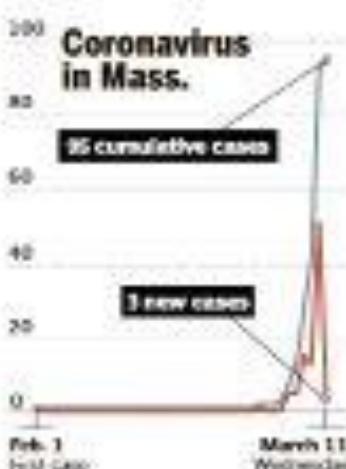
Massachusetts cases of the coronavirus increased slightly to 95 Wednesday, from 92 the day before, and the number of state residents who have been subject to quarantine topped 1,000. Worldwide, the number of cases are more than 120,000 while the number of deaths exceed 4,300.

Trump's announcement was

a sharp departure from his earlier attempts to downplay the threat. He blamed Europe for not acting quickly enough and contended that US clusters were "seeded" by European travelers.

"We made a lifecaving move with early action on China," Trump said in a rare Oval office address. "Now we must take

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THE WORKPLACE



NBA suspends its season

By Adam Himmelsbach
GLOBE STAFF

The NBA on Wednesday night suspended the season indefinitely after Utah Jazz center Rudy Gobert tested positive for the coronavirus, a virtually unprecedented move during unprecedented times.

In suspending the season until further notice, the NBA became the first US sports

league to halt its season since the wake of the Sept. 11, 2001, terrorist attacks. The move comes as other sports are weighing their options amid the outbreak.

A person with knowledge of the situation said the Jazz player who tested positive was Gobert. The person spoke to the Associated Press on condition of anonymity.

NBA, Page D4

THE SCHOOLS

Parents on edge over health fears

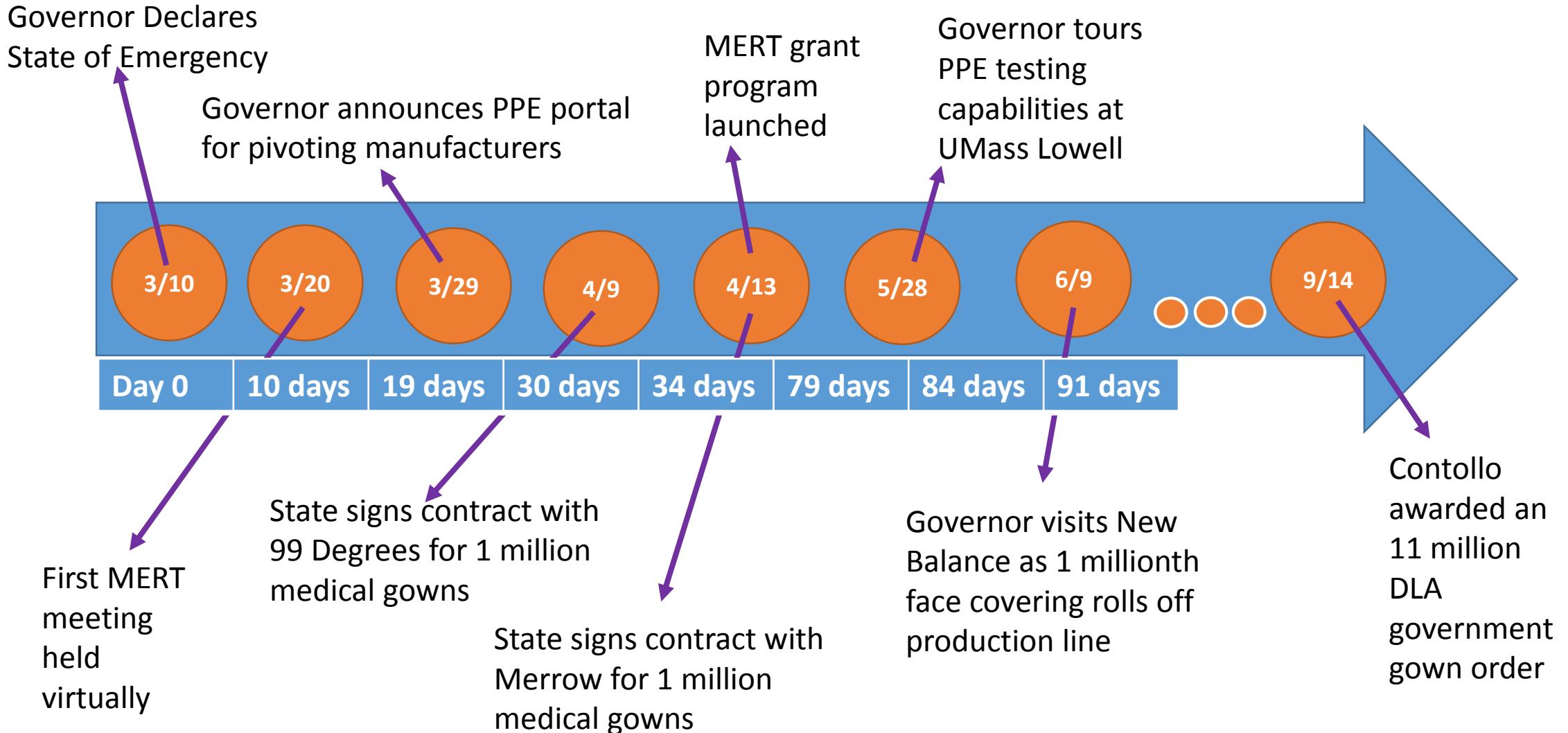
Manufacturing Emergency Response Team (MERT)

MISSION:

Mobilize, organize and operationalize critical path work streams necessary for MA manufacturers to pivot their operations to produce needed materials in response to COVID-19 pandemic.

Mission accomplished by activating the Advanced Manufacturing Collaborative (AMC) – the network, the infrastructure that was in place, and ready to respond.

Timeline of Selected MERT Accomplishments



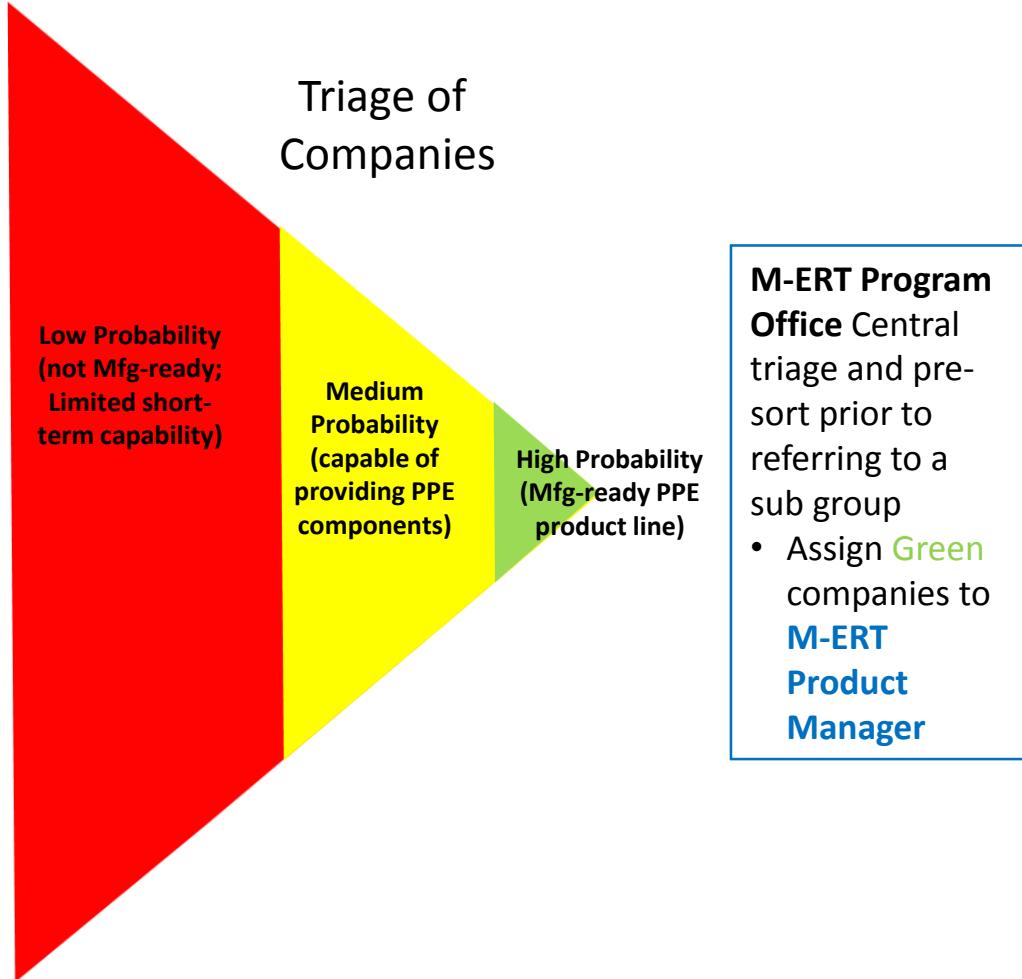
Manufacturing Emergency Response Team (MERT)

MERT HQ



- *Clear mandate from Governor's COVID-19 Command Center to focus on PPE in short supply;*
- *First meeting held via Zoom on March 20;*
- *AMC put call out to 35 individuals with invitation to forward to others who can assist;*
- *50+ people show up;*
- *Strength of network ensured needed expertise landed on day one;*
- *Sustained meeting schedule 3x per week for almost 20 weeks with 50 – 60 people participating.*

PPE Portal and Readiness to Pivot: *To date 940 companies have come through the MERT PPE portal with 558 from Massachusetts*



M-ERT Supporting Resources

Product Managers:

- PPE
- Sanitizers
- Ventilators
- Nasal Swabs

Manufacturing Subgroup:

- Guidance on kitting, labeling, packaging, assembly, sterilization status, etc.
- All types of manufacturing and products; woven, non-woven, piece parts, textiles, 3D printing, etc.
- Product quarterbacks for Ventilators, Textiles, Sanitizers, Faceshields, Masks, etc.

Regulations and Testing Subgroup:

- FDA approvals and other regulatory performance requirements
- Physical specs and requirements for products
- Rapid Design Testing and vetting (against the above)
- Product testing of manufacturing products

- Market Ready

About 50 companies made it through the MERT gauntlet and have produced 12 million pieces of PPE at last count.

State signs contract with 99 Degrees in Lawrence, MA



99Degrees



Example Requirements for a State Contract:

- ✓ Product test results;
- ✓ FDA/EUA certifications;
- ✓ Confirmed delivery schedules.

State signs contract with Merrow in Fall River, MA

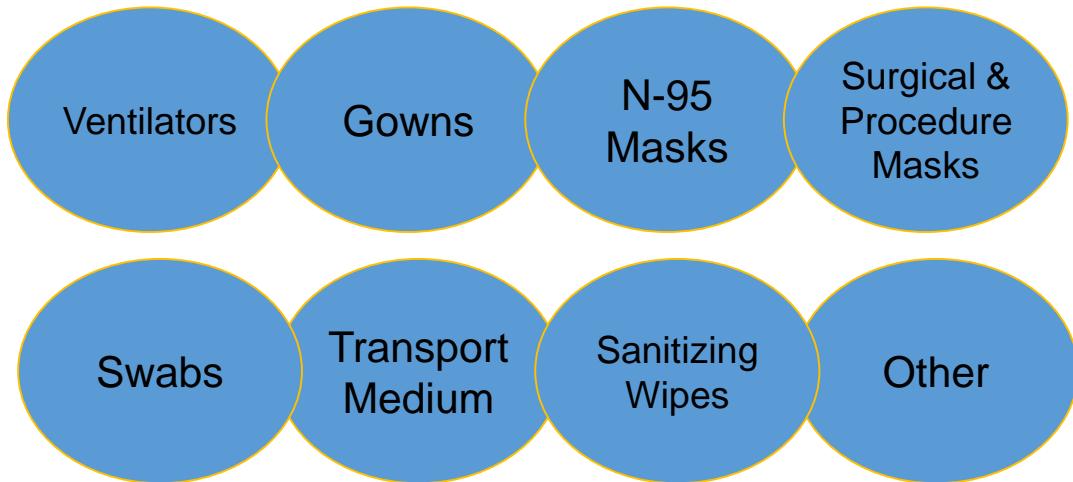
MERROW®



*Each contract for 1 million
medical gowns.*

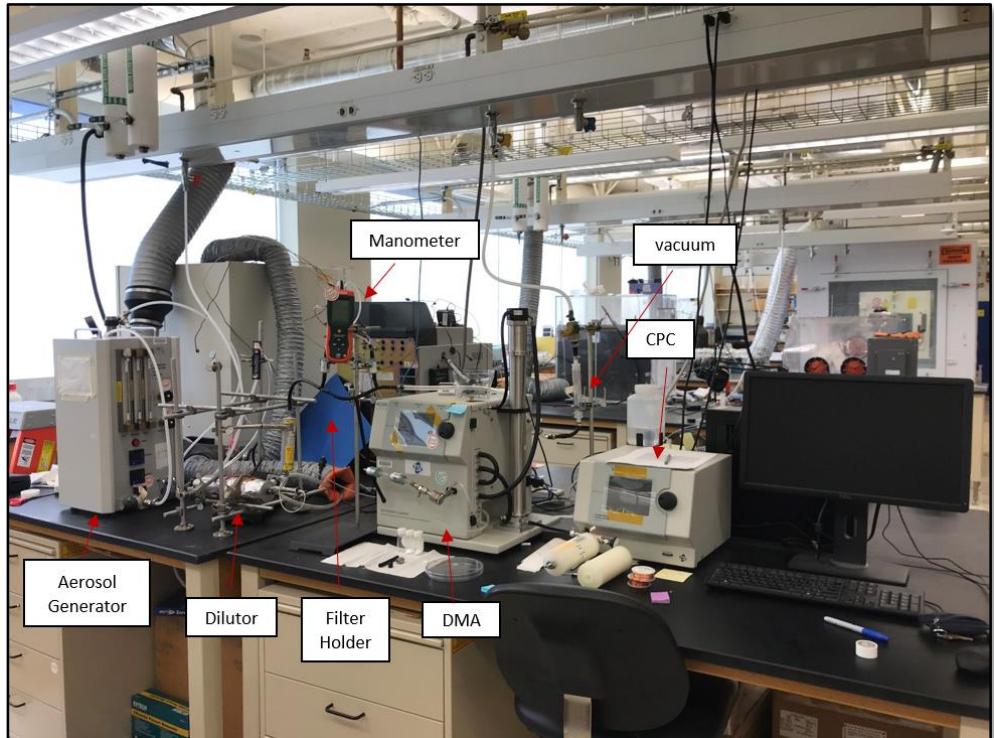
MERT Grant Program

The Manufacturing Emergency Response Funding is a partnership between a number of state agencies, and investments aligned with priorities identified by COVID -19 Command Center as being in short supply.



- **89 Applications Received**
- **\$53.6M Total Requests**
- **29 Applications Approved to Contract**
- **\$16M in Awards**

PPE Testing Infrastructure



Rutledge Aerosol Testing Lab



UMass Lowell



- Set up PPE testing infrastructure in collaboration with local laboratories (MIT, MITLL, UMass Lowell)
- Thousands of respirators tested to date
- Testing findings leading to informed decisions for State and National agencies, hospitals, and manufacturers developing new PPE

Testing performed as of August 2020

Filtration efficiency (N95s, KN95s etc)

- MIT Department of Chemical Engineering – 657 tests
- MIT Lincoln Laboratory - 986 tests
- UMass Lowell – 819 tests



Liquid barrier penetration (surgical masks)

- MIT Lincoln Laboratory - 928 tests
- UMass Lowell – 336 tests



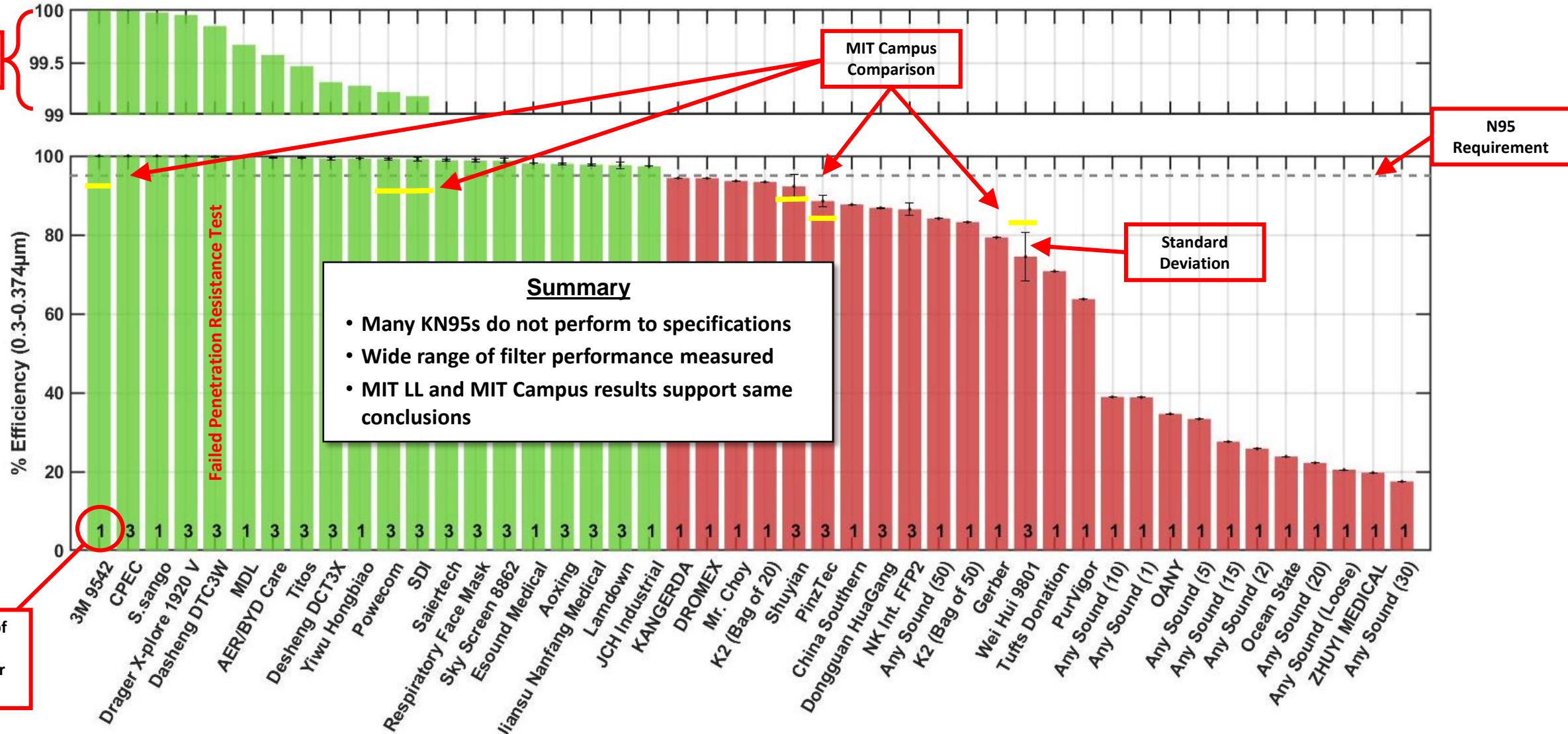
Gowns

- UMass Lowell - 132 tests



Filter Testing Results Summary for KN95s

MIT Lincoln Laboratory and MIT Campus



One Millionth Mask Rolls off Press at New Balance



The New England Journal of Medicine

“Correspondence” COVID-19 Notes – Published May 6, 2020

The NEW ENGLAND JOURNAL of MEDICINE

CORRESPONDENCE

COVID-19 NOTES

To rapidly communicate short reports of innovative responses to Covid-19 around the world, along with a range of current thinking on policy and strategy relevant to the pandemic, the Journal has initiated the Covid-19 Notes series.

Opening Up New Supply Chains

The Covid-19 pandemic has forced health care providers to dramatically increase their use of swabs, protective gear, ventilators, and other medical devices. This rapid increase in demand, coupled with the destabilizing effect of the crisis on society and the global economy, has disrupted normal sources of supply and led to critical shortages. Such shortages threaten the ability of clinicians and public health officials to conduct

medical-devices/emergency-situations-medical-devices/emergency-use-authorizations#covid19ppe). Retooling, ordering new materials, and establishing markets for new products is risky and expensive, so companies needed guidance to address uncertainties regarding the level of demand to expect for products and the corresponding amount of capital investment required for new equipment and their workforce. The M-ERT also faced un-

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NSF Future Manufacturing Networks Grant: Rapid-Execution for Scaling Production Of Needed Designs (RESPOND)

Massachusetts Awarded 'Future of Manufacturing' Grant from National Science Foundation

*Project RESPOND Will Help Massachusetts Manufacturers Pivot
Operations to Address Crises*

*\$500,000 Grant Builds on the Success of the Massachusetts
Manufacturing Emergency Response Team*

BOSTON – Today, the National Science Foundation (NSF) announced a new 'Future of Manufacturing' grant of \$499,955 awarded to a collaboration of Massachusetts organizations, which will help the region's manufacturers pivot their operations to address emerging crises.

The project, called 'Rapid Execution for Scaling Production Of Needed Designs' or RESPOND, will create a diverse network of transdisciplinary stakeholders across academia and state government that will support and sustain critical 'super nodes' that will boost communication between organizations, help accelerate product development, and drive increased manufacturing capacity to address crises like the ongoing COVID-19 pandemic.

