Bringing America's economy back **requires confidence**

Siemens USA is Working to Reopen America

SIEMENS

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As we face the most difficult phase of the pandemic, Siemens is focused on keeping people connected to healthcare and vital services. Yet as a national vaccine rollout begins, we also see an opportunity to take steps forward.

We've been listening to the experts and engaging with science. Siemens and Siemens Healthineers have worked quickly to develop building, infrastructure and healthcare technologies that can be deployed as part of a holistic, comprehensive approach to reopening the nation. These steps will also enduringly increase safety, efficiency, cost savings and productivity.

In this brochure, you will learn more about Siemens' work in three vital areas:

• Technology to create safer indoor spaces:
From enabling physical distancing to purifying the air, new technologies can be deployed to improve the health and safety of the spaces in which we work, learn, receive healthcare, and access vital services. The upgrades even produce energy and cost savings.

• Keeping manufacturing facilities online and local government services running:
Real-time locating apps and systems help to maintain social distancing and, if needed, perform contact tracing. Low-code apps make government processes virtual and more accessible for delivering more expedient services to the community.

• Antibody testing supporting national vaccine rollout:
Siemens Healthineers manufactures a robust portfolio of antibody testing here in the U.S. that can help maximize limited vaccine resources and assess the effectiveness of wide scale vaccination programs. Workers at facilities in Massachusetts and Delaware can domestically produce approximately 50 million tests per month.

Hospitals

Schools

Transit systems

FIRST VITAL AREA:

Technology to Create **Safer Indoor Spaces**

COVID-19 science tells us that the virus spreads most easily indoors. Instead of being higher risk areas, how can these spaces be transformed into a frontline for defense?

Our team has focused on reinventing indoor air management systems by leveraging an ozone-free, indoor air purification solution. The technology is installed in HVAC systems and works by flooding the air with positive and negative ions that neutralize COVID-19 and all types of pathogens, mold, and both airborne and surface contaminants.

These solutions have been verified in testing and are now being used by 150+ local government offices, schools, and universities around the U.S., as well as in other environments being converted for emergency medical use.

Students and faculty can stay on campus and learn in the classroom

Siemens has worked with Molloy College in Rockville Centre, NY to finance and install new air purification systems in its three residential halls. The college, with more than 5,000 students, used $1 million in CARES Act funding from a Town of Hempstead grant to purchase air purification technology that has been installed in the buildings' existing HVAC systems and linked with individual monitoring units in each dorm room.

Siemens is also working with the City of Gloucester, MA to deploy the same solution on 250 mechanical ventilation systems for the School District comprised of a high school, middle school, one preschool and five elementary schools serving a population of approximately 3,000 students, teaching staff and administration.

Protecting seniors in nursing homes

Siemens Financial Services is providing a long-term funding solution to the Troy, NY-based Van Rensselaer Manor Nursing Facility, aiding in the installation of clean air and UV technologies such as Needlepoint Bipolar Ionization and Violet Defense.

Fact About Indoor Air Quality

We spend 90% of our lives indoors. Airborne contaminants, like mold, mildew, and bacteria put our health at risk, because they can penetrate deep in the lungs. Pollutants can be 2-5 times higher indoors than outdoors.

Hospitals equipped with critical infrastructure and technology to combat COVID-19

Partnering with the U.S. Army Corps of Engineers, and Haugland Energy, our team, in just three weeks, supplied critical power equipment to build two temporary facilities in Westchester County, NY to accommodate increased COVID-19 patient census. Tents were constructed in the parking lot, and the community center was transformed into a low-pressure environment, critical to fighting respiratory diseases and keeping caregivers safe. The facility operating systems were designed to be monitored and controlled remotely to further reduce the risk to support personnel. To date, we have provided standardized power systems and building technologies solutions for seven hospitals and eight temporary healthcare facilities in 13 states, delivering our solutions in record time.

Interior of a modular healthcare facility in White Plains, NY, where Siemens supplied critical infrastructure technologies.

SECOND VITAL AREA:

Keeping Manufacturing **Facilities Online** and Local Governments Running

Siemens experts have innovated to support COVID-19 crisis response teams, manufacturers, and suppliers to keep operations and supply chains up and running. One of the repeated challenges in COVID-19 response efforts is the shortage of first responder safety gear (PPE) and medical devices. Siemens software and automation hardware has been applied to help significantly increase manufacturing throughput for these critical items. These tools can be used in any existing or new manufacturing facility to increase production capacity or used when switching existing production lines to produce biopharmaceuticals, PPE or medical devices.

Helping manufacturing employees work safely
Siemens' real time locating systems (RTLS) support essential workers in maintaining social distancing on a factory floor while aiding in contact tracing if employee infection does occur. In a Siemens facility in Houston, our team deployed RTLS to protect employees as they perform vital job functions and services requiring that they interact indoors. This technology is linked to personnel badges, triggering a flashing light for employees who are too close to each other while also monitoring interactions to alert staff of a potential exposure if COVID-19 infection is identified.

Coordinating emergency supplies and mass production across facilities
Additive manufacturing expertise from Siemens was applied to create an online "order-to-delivery" collaboration platform that unites manufacturers, suppliers, and technology partners to coordinate and accelerate supplies and critical parts. To comply with social distancing guidelines, collaboration and augmented reality solutions enable remote experts to be virtually in the plant to minimize on-site resources and keep the production line operating at peak performance.

Digitizing government processes to expedite financial housing relief for the community
As a result of COVID-19, government services and processes have had to go virtual. In San Antonio, TX due to unexpected rates of unemployment, there was an increase in the number of San Antonians who could no longer afford to pay their rents or mortgages. They needed immediate assistance from the City. Mendix, a Siemens company, was utilized by Kinetech to help San Antonio deploy a low-code app that made the process of applying for housing assistance more efficient and accessible to residents. Because the app did not require skills of highly trained developers, it was launched in less than two weeks, meaning the City could immediately speed up approval of applications to a matter of days — not months.

Siemens RTLS supports essential workers in maintaining social distancing.

THIRD VITAL AREA:

Antibody Testing to Improve the Efficacy of a National Vaccine Rollout

Siemens Healthineers supports the nation's healthcare system by producing antibody tests to help assess vaccine effectiveness.

As the national COVID-19 vaccine roll-out continues, antibody testing can support the assessment of vaccine effectiveness, which should play a key role in promoting public health. Siemens Healthineers supports measuring antibodies in relation to vaccine use for establishing a threshold for immunity, confirming an antibody response after vaccination, and tracking antibody levels following vaccination.

Siemens Healthineers antibody tests are available across the U.S. on the largest installed base of laboratory testing equipment, with high throughput, fast turn-around time, and substantial capacity for manufacturing. In fact, approximately 50 million test kits per month can be manufactured in our Massachusetts and Delaware facilities.

Antibody testing can also be used to enhance public trust in our nation's efforts to defeat the virus. Tracking antibody levels in months 1, 3, 6 and 9 following vaccination and annually will help to understand how effective the different vaccines are and how long the antibodies last. To further support this effort, Siemens Healthineers has collaborated with The Centers for Disease Control and Prevention (CDC) to standardize and determine antibody levels necessary for virus neutralization, with the goal of better understanding immunity.

Numerous tests claim to detect COVID-19 antibodies, but many are not highly accurate. Siemens Healthineers' antibody tests have higher than 99.5% specificity, which helps minimize false positives and is in line with CDC guidelines for testing low prevalence populations*.

The Siemens Foundation, Siemens Healthineers and Siemens employees have donated more than $5.4 million to address the COVID-19 pandemic in the United States, including $2.13 million to 20 community health centers, $500,000 to the National Governors Association's Reskilling and Recovery Network, and nearly $3 million in funding and COVID-19 testing technologies to Testing for America to support the safe reopening of Historically Black Colleges and Universities (HBCUs) across the country.

The latter effort enabled Delaware State University to perform 35,000 tests, testing students twice weekly, to provide in-person instruction during the pandemic. Testing and guidance for testing protocols will reach an additional seven HBCU campuses and inform a testing playbook to support more schools to reopen campuses in the spring semester.

*Interim Guidelines for COVID-19 Antibody Testing | CDC, sourced February 4, 2021

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In association with

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For more information about Siemens COVID-19 capabilities work please visit:

usa.siemens.com/reopening

siemens-healthineers.com/en-us/clinical-specialities/critical-care

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