

Rescale and Microsoft Azure donate supercomputing resources to help researchers combat global pandemic



Challenge: the entire world is scrambling to find a cure for COVID-19

Researchers are working around the clock to develop test kits and vaccines for COVID-19, but their simulations require immense computing power which can be prohibitive based on cost and location.

Solution: free supercomputing resources delivered from the cloud

Rescale and Microsoft Azure have launched a new program to immediately offer high performance computing (HPC) resources to researchers for free, enabling them to work and collaborate from anywhere.

Results: a fighting chance in the battle against a global pandemic

With access to HPC resources, researchers have new hope in the fight against COVID-19.

As COVID-19 spreads, researchers, engineers and scientists are in a race against time. To fight this pandemic, scientists worldwide are running countless computer simulations to develop test kits and—hopefully—a vaccine. Unfortunately, these researchers often face barriers to running large-scale simulations including budget constraints and physical proximity to the necessary computing resources.

Rescale, Microsoft Azure, and additional tech partners have come together to remove these barriers and give scientists a fighting chance. This new initiative, entitled "[Tech Against COVID](#)", offers high performance computing (HPC) resources to anyone working in the fight against COVID-19 free of charge. This partnership goes beyond tech rivalries. It's no longer about companies competing with companies – it's about humanity competing with time.

"Leading cloud companies need to pitch in, and we have the responsibility to help in any way we can. Rescale is making every effort working closely with our cloud provider partners to eliminate bottlenecks and costs so researchers achieve breakthroughs faster."

— Joris Poort, CEO, Rescale

Why do researchers need supercomputers?

For decades, bioscience and pharmaceutical companies have been using HPC to develop and validate new solutions and drugs. **Right now, there are four main areas where researchers can leverage HPC in the fight against COVID-19.**

1. Modeling outbreak scenarios with large-scale simulations to help researchers forecast the virus' spread and inform public health policies. To learn more, visit:

- a) The Washington Post's simulation models: [Why outbreaks like coronavirus spread exponentially, and how to "flatten the curve"](#)
- b) [Metabiota Risk Report No. 3: February 25, 2020 Monitoring and risk analytics for the 2019 novel coronavirus \(COVID-19\) epidemic](#)

2. Accelerating test kit development by allowing researchers to computationally design kits mapped to the genetic data model of COVID-19. To learn more, visit:

- a) Seegene: [How this South Korean company created coronavirus test kits in three weeks](#)

3. Identifying gene variations that impact one's ability to fight COVID-19 to help researchers find new ways to combat the disease and identify those people who are most at-risk. To learn more, visit:

- a) Bionano: [Bionano Genomics Will Be Used in Research Identifying Gene Variants that Contribute to Coronavirus Disease Susceptibility](#)

4. Accelerating vaccine development by allowing researchers to run simulations and discover ways of inhibiting the virus' replication. To learn more, visit:

- a) Junmei Wang: [Fast Identification of Possible Drug Treatment of Coronavirus Disease -19 \(COVID-19\) Through Computational Drug Repurposing Study](#)

Supercomputers are essential in the fight against COVID-19, and by making these resources available to researchers for free, Rescale, Microsoft Azure, and their partners are providing the scientific community with the tools they need to win in a race against time.

"We're inspired to team up with Rescale in the fight against time to help provide answers to address COVID-19. To enable researchers and organizations to develop new therapeutics and vaccines faster, we're working together to accelerate the availability of Microsoft Azure supercomputers in the cloud."

— Greg Moore, Corporate Vice President, Microsoft Health

Why are these supercomputers hosted in the cloud?

There are a few reasons why cloud-based HPC resources are ideal for researchers.

1. **Anyone can use them, regardless of their location**

Traditional supercomputers require users to physically access them which simply isn't possible for most researchers, particularly during a pandemic when travel is restricted. Cloud-based supercomputers, on the other hand, can be used by anyone with an internet connection.

2. **Better collaboration, faster ramping up**

With a turnkey platform from Rescale and powerful computing resources from Microsoft Azure, researchers can rapidly run simulations in the cloud without setup time or IT teams. This means scientists around the world can get to work faster and collaborate in real-time.

3. **Unlimited data storage**

As you can imagine, it takes a **tremendous amount of data** to model a pandemic. Managing this volume of data would be near impossible with traditional computing methods, but in the cloud, researchers can ingest, model, store, and analyze as much data as they need. This ensures that scale is no longer an issue.

I'm a scientist – where do I sign up?

If you are a scientist, researcher, or someone who might be able to support accelerated COVID-19 research, please visit techagainstcovid.com or reach out to the support team at support@techagainstcovid.com. They will respond quickly and explore how they can best support you.

I'm not a scientist – can I still help?

Yes, absolutely. Everyone is going to have to work together to fight this pandemic. The best things you can do to help are:

1. **Stay home, stay healthy**

You can dramatically slow the spread of COVID-19 by keeping your family healthy and by not interacting with others. If you must leave the house for essential tasks like grocery shopping, practice good hygiene and stay 6 feet away from others.

2. **Donate to organizations that are making an impact**

The [World Health Organization](https://www.who.int) (WHO) is leading the global effort against COVID-19, supporting countries to prevent, detect, and respond to the pandemic. You can donate to their Response Fund [here](#).

- a) If you would like to make an impact in your community, consider donating to local foodbanks [here](#).

3. **Keep calm and carry on**

In times of uncertainty and fear, adopting a calm mindset can make a big difference for you and those around you. Remember: we will get through this by working together and making smart decisions.

