

Extend. Expand. Exemplify.

The SGCI team continues to offer its services AND brings you a new Center of Excellence to Extend Access, Expand the Community, and Exemplify Good Practices for CI through Science Gateways.



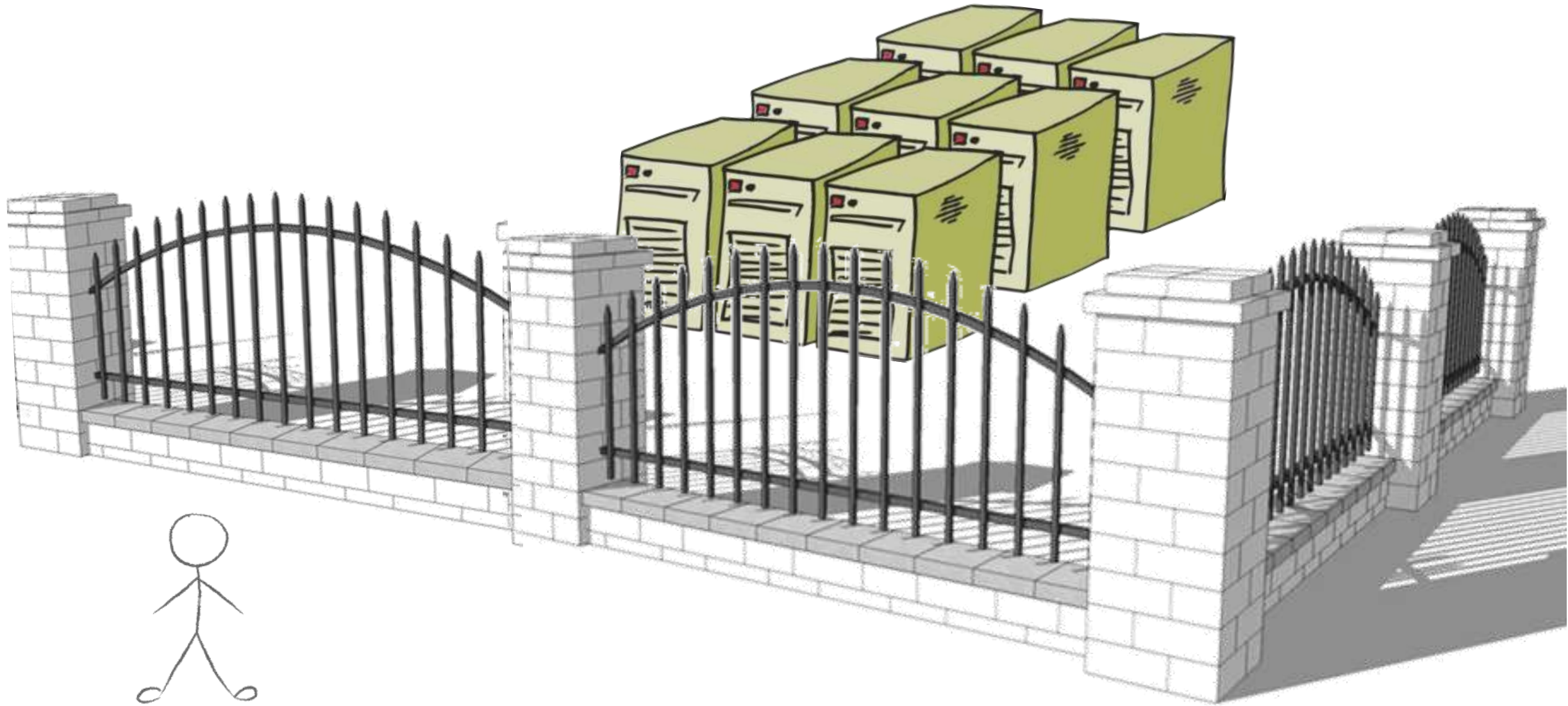
Impact of (Geo)AI on National Compute Resources

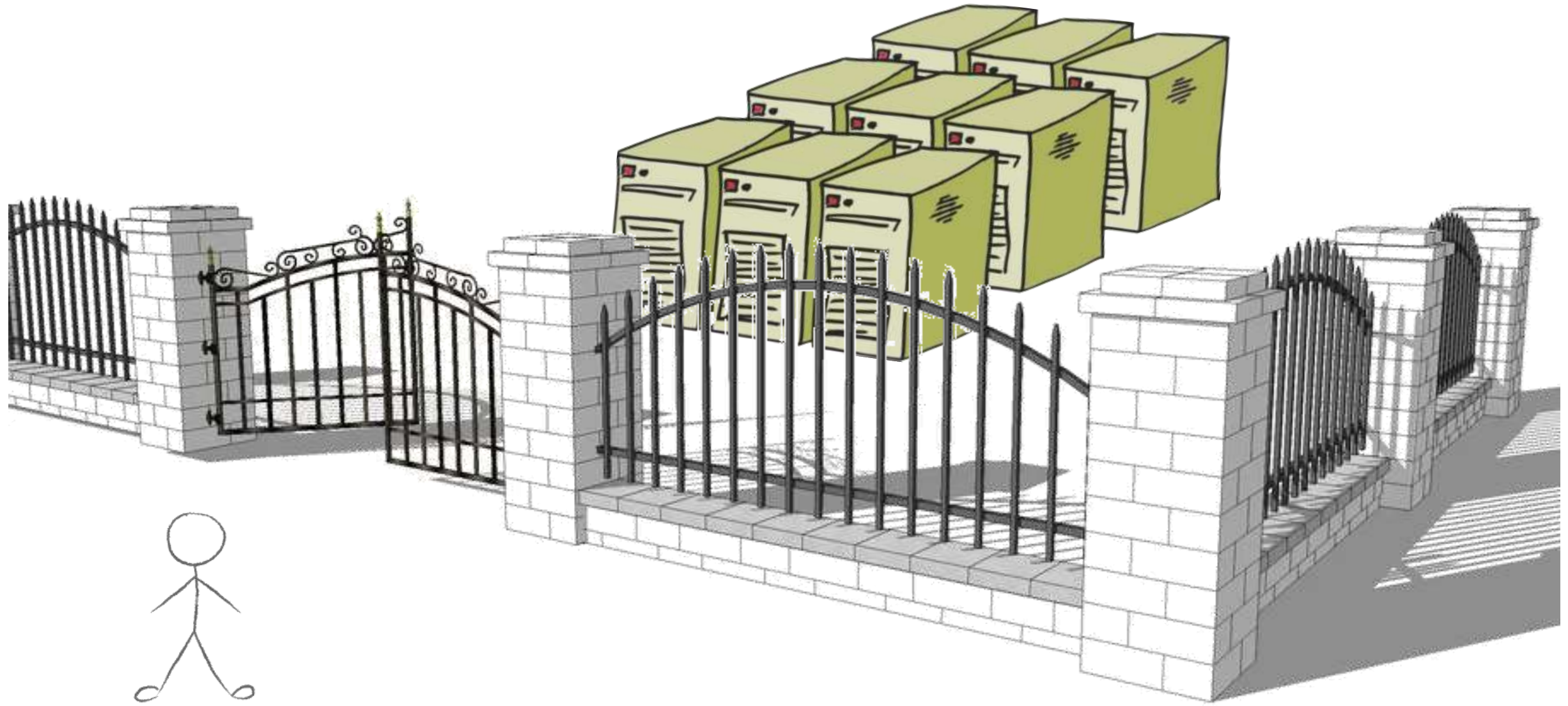
Michael Zentner
Division Director, Sustainable Scientific Software
Director, SGX3 Center of Excellence for Science Gateways
San Diego Supercomputer Center
University of California, San Diego

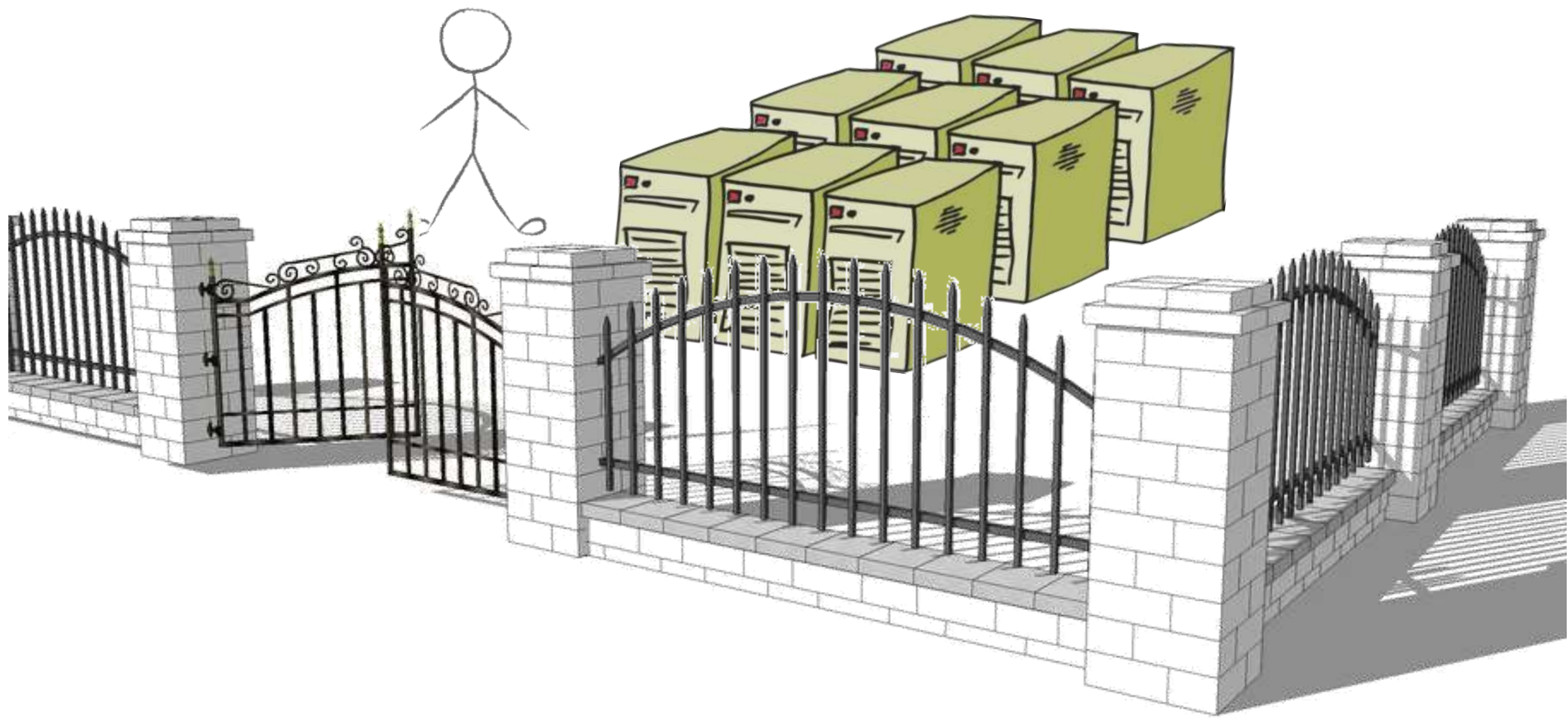


NSF awards
1547611
2231406











The NSF-Funded Center of
Excellence for Science Gateways

- Consulting Services
 - UX
 - Architecture
 - Gap Analysis
 - Sustainability
 - Science Gateway Construction and Operation
- Community Building
 - Workforce Development
 - Conference (Pittsburgh October 30-November 1)
 - Sustainability Focus Week & Jumpstart (September 12-14)
 - Domain Specific Roadshow
- Suggesting the Future – Blueprint Factories
- help@sciencegateways.org

Schrödinger

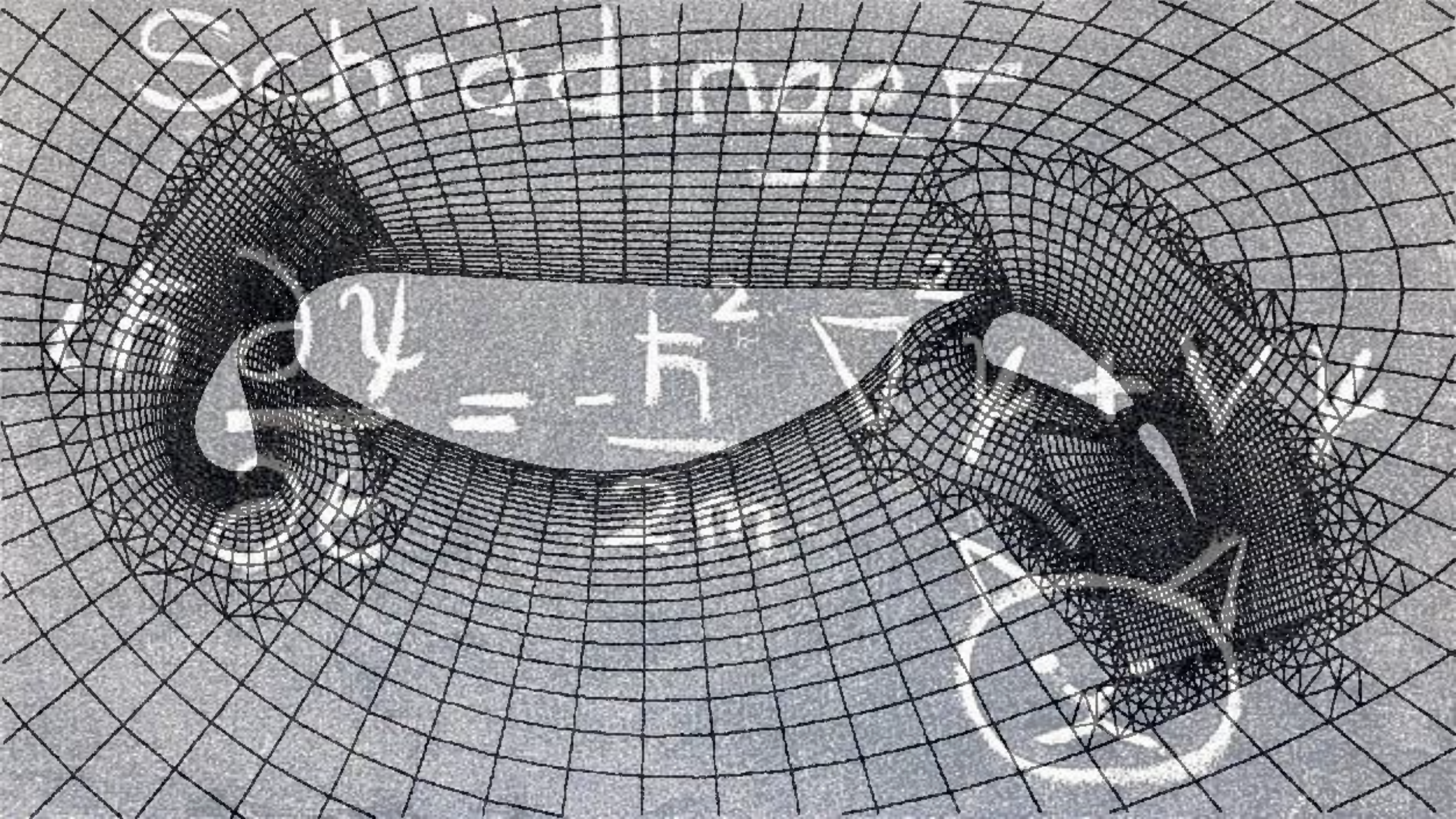
$$i\hbar \frac{\partial \psi}{\partial t} = -\frac{\hbar^2}{2m} \nabla^2 \psi + V \psi$$



Schrödinger

$$i\hbar \frac{\partial \psi}{\partial t} = -\frac{\hbar^2}{2m} \nabla^2 \psi + V \psi$$





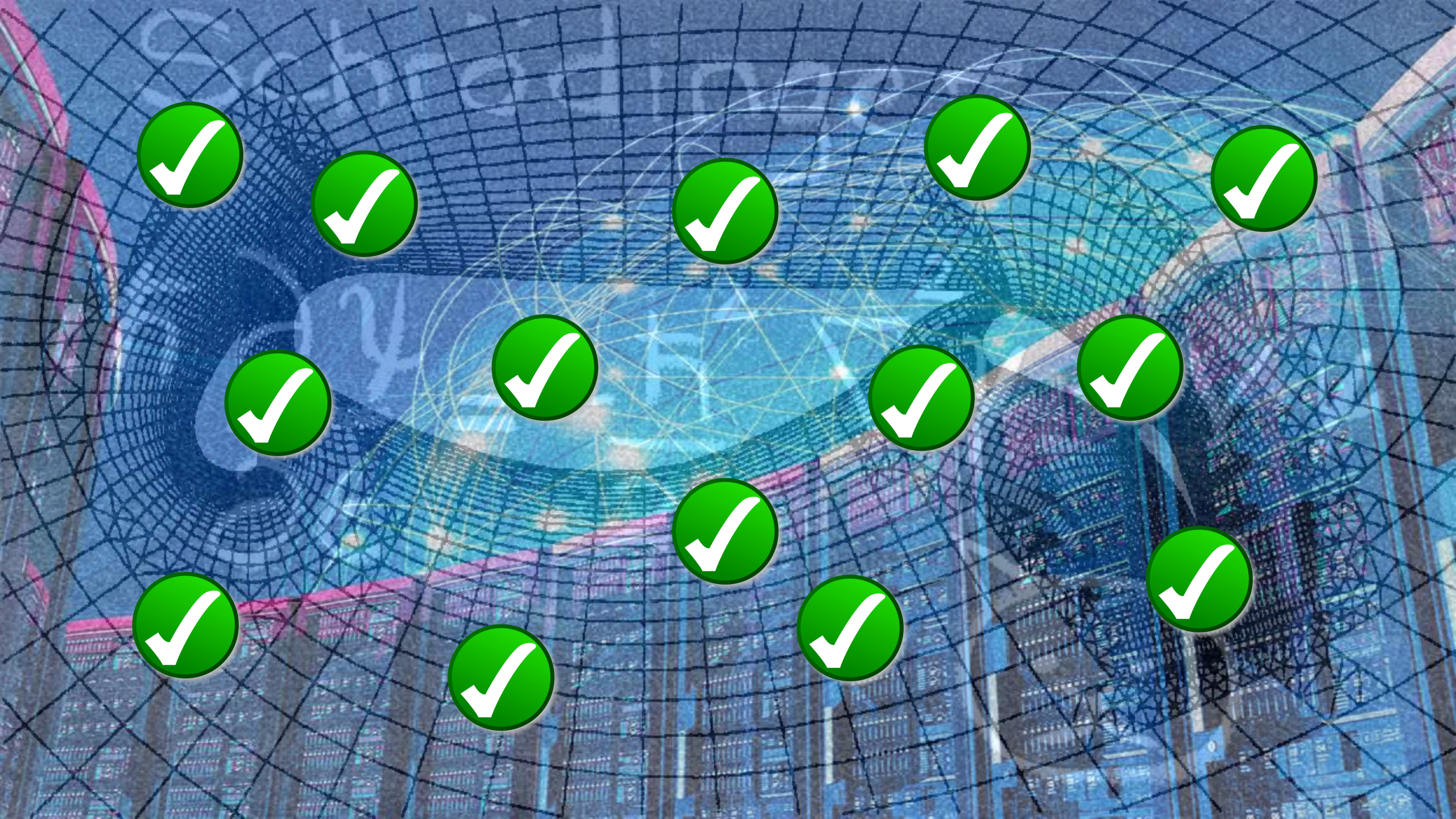


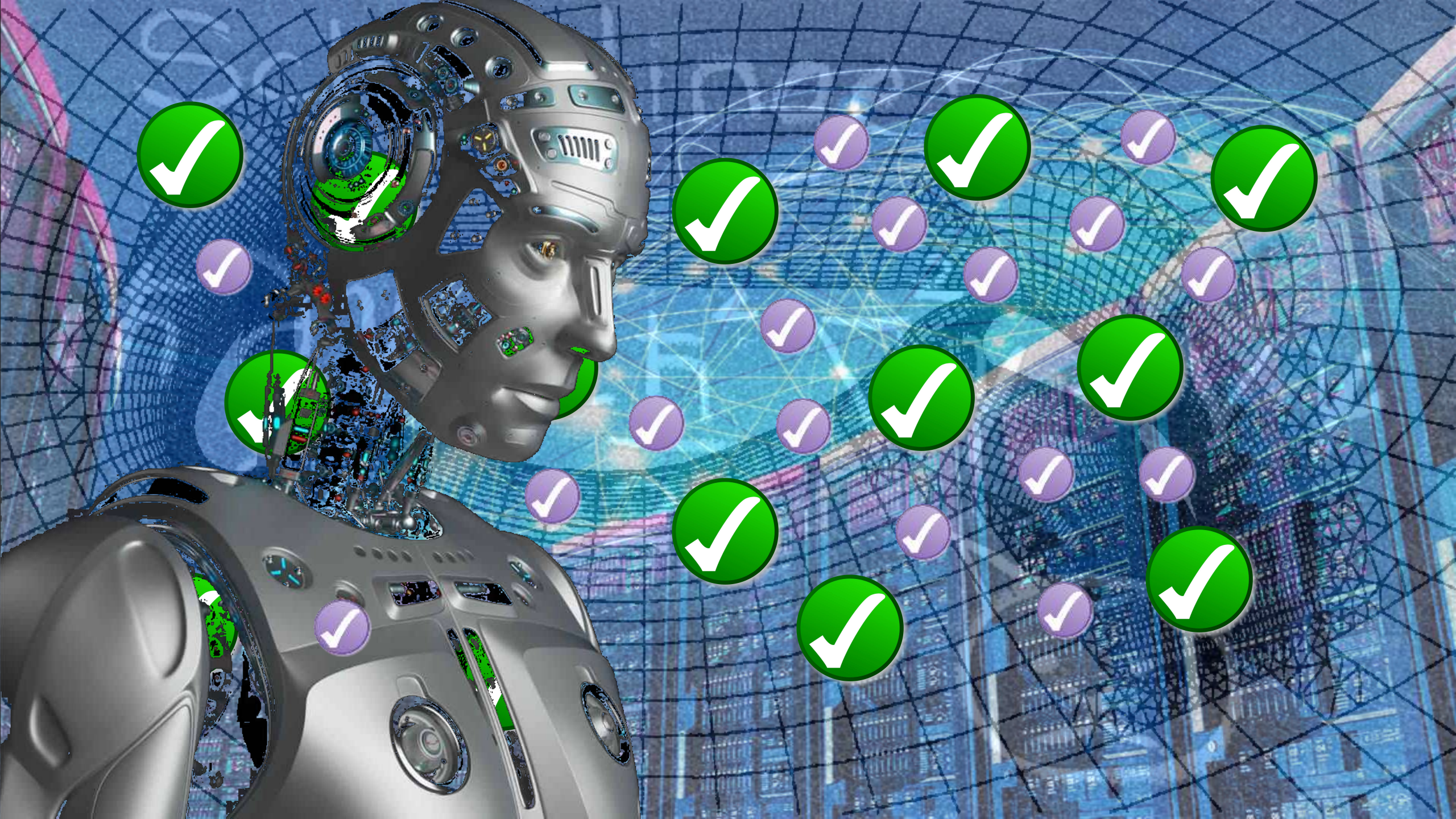


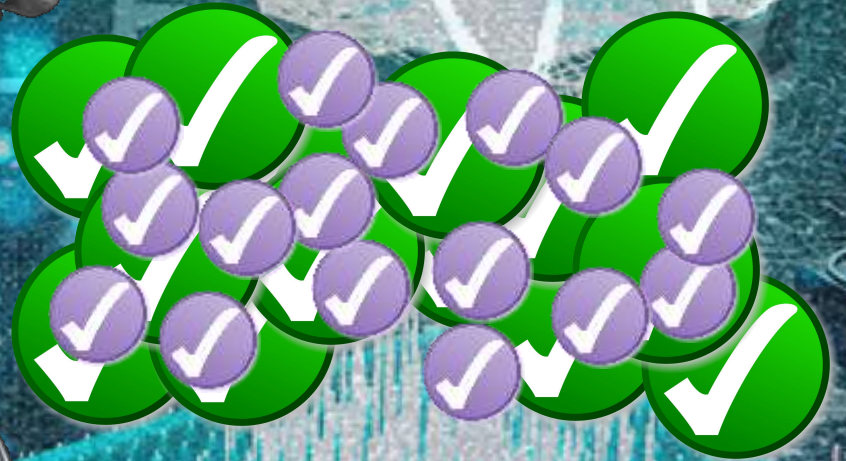
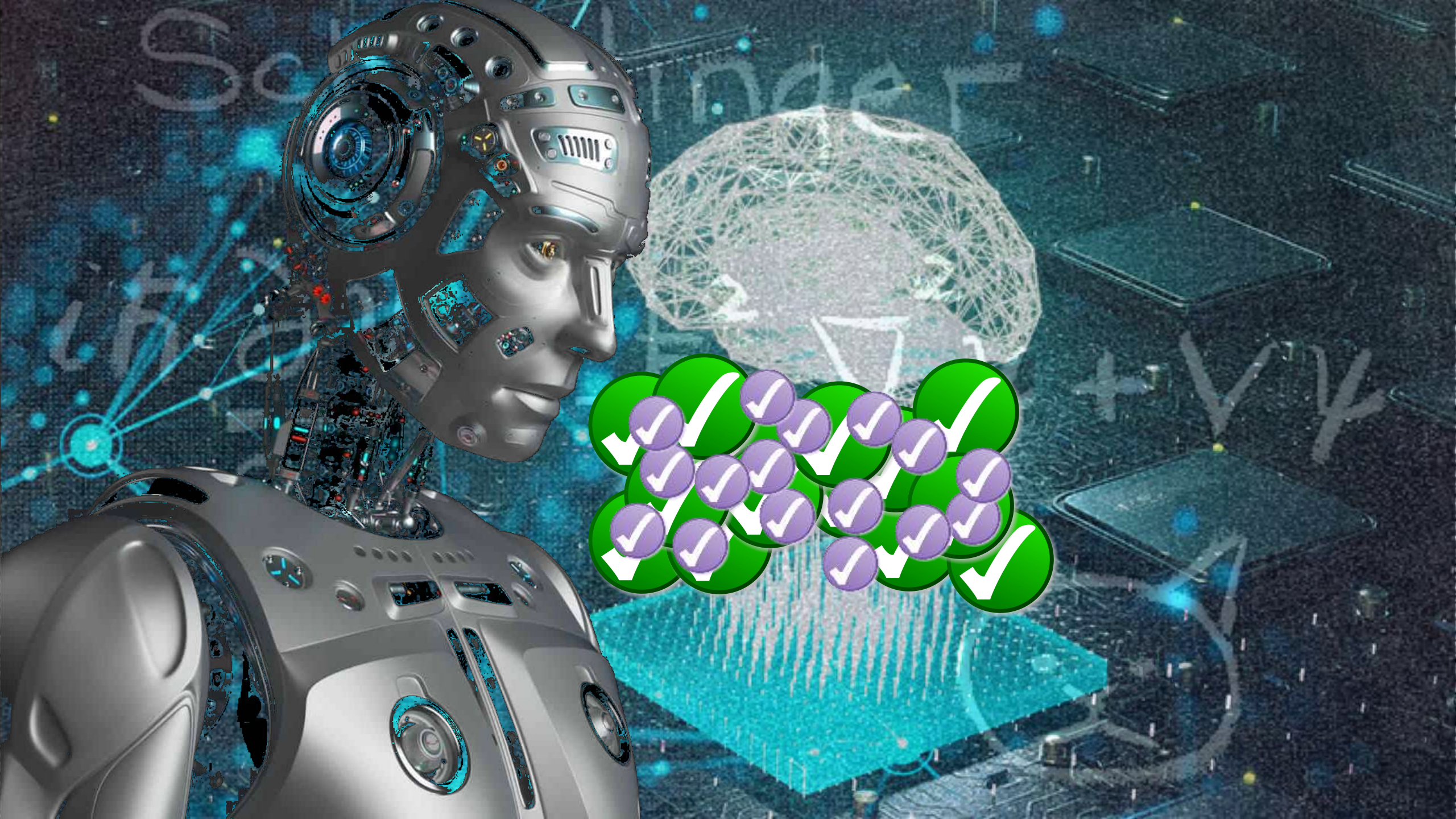


**Just how
many
people do
this?**

**700+ Simulation Tools
~1,000,000 Simulations Annually**







SOCIAL MEDIA

DATA

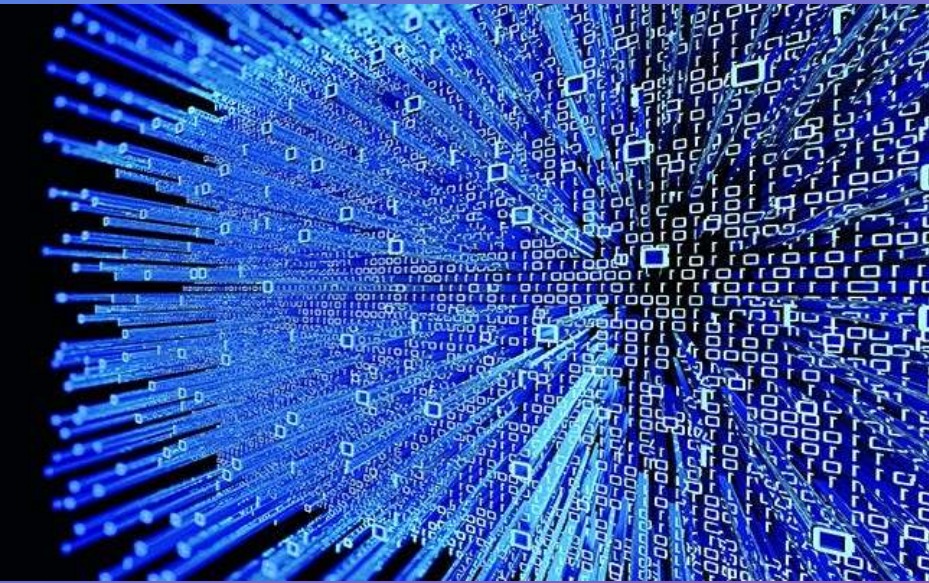




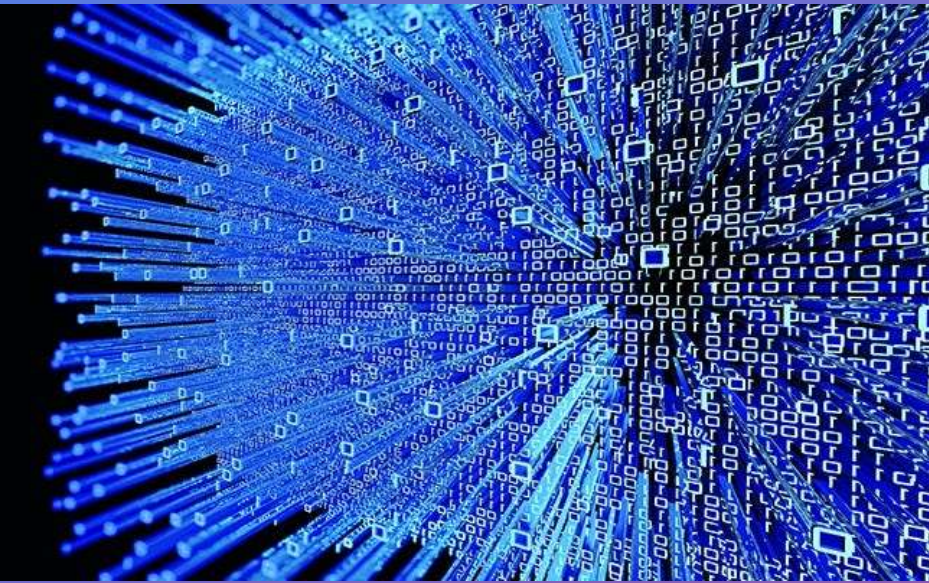
So What?



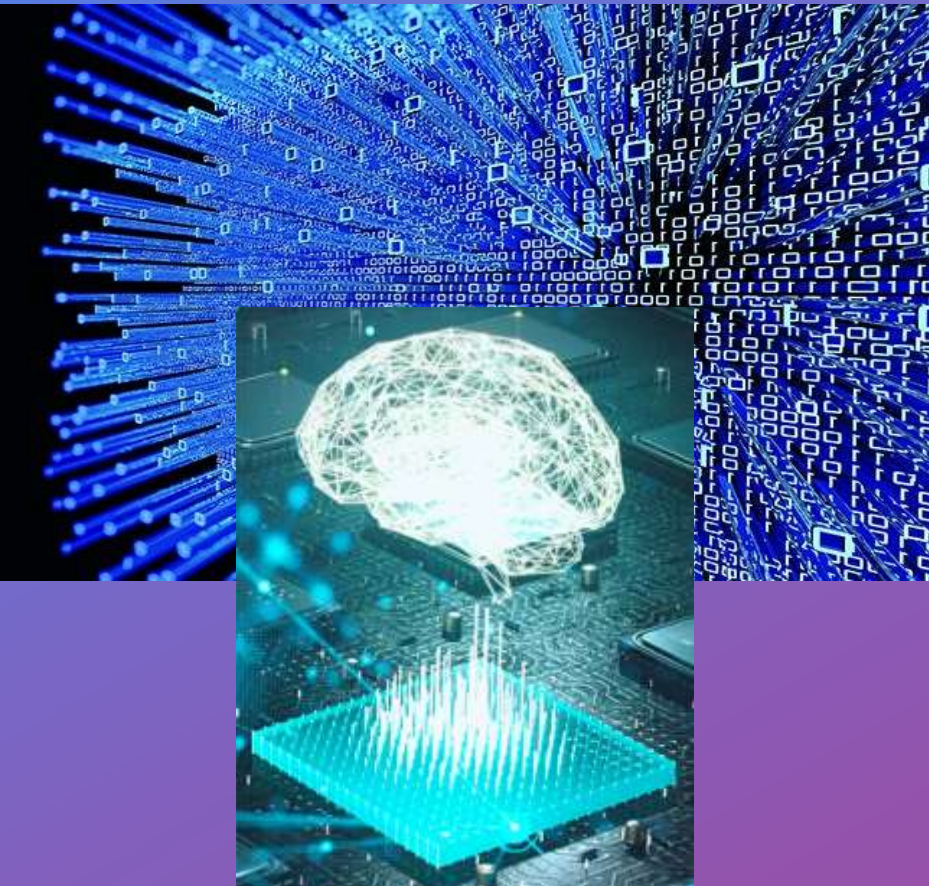
So What?



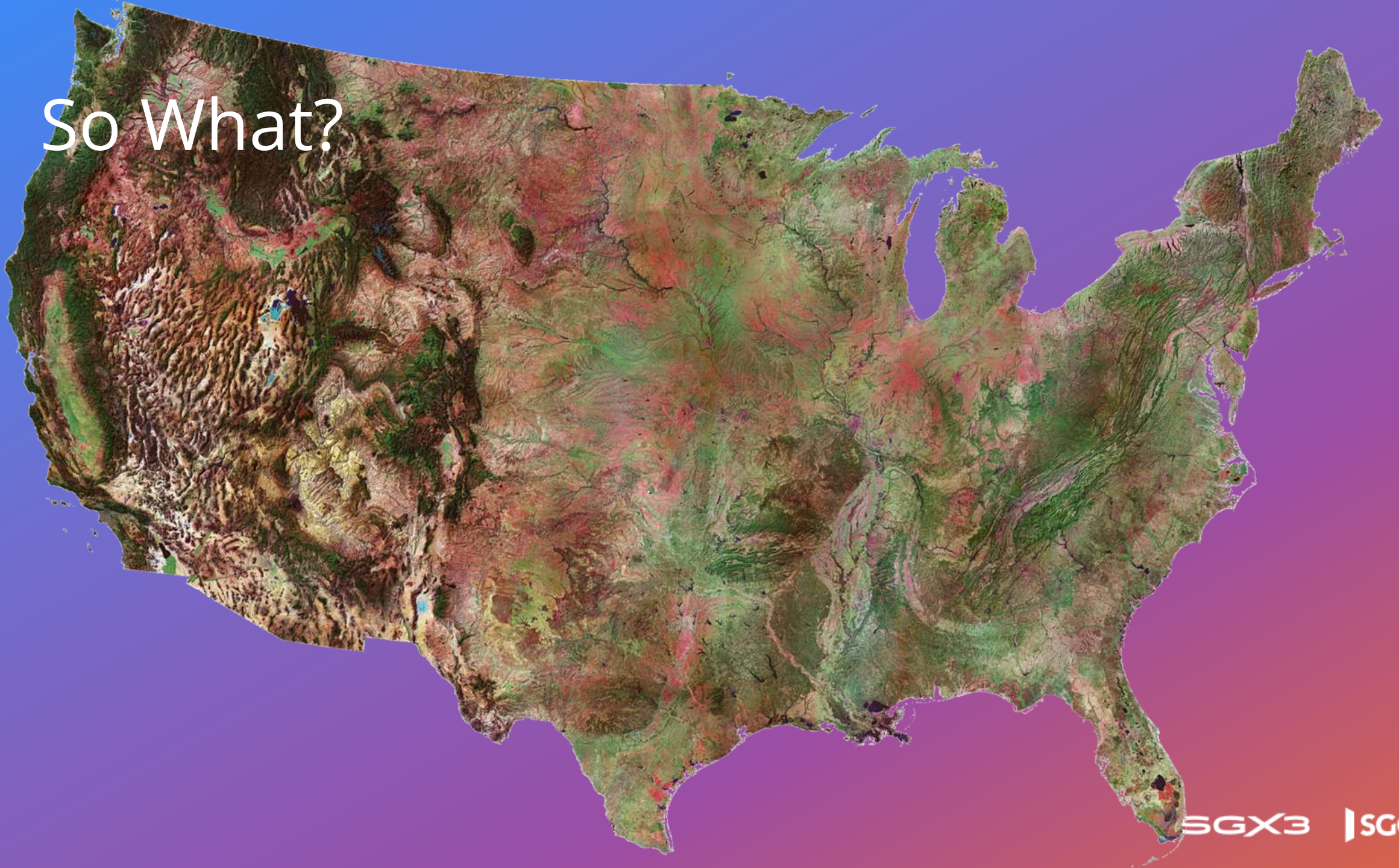
So What?



So What?



So What?



SGX3

SGCI

So What?



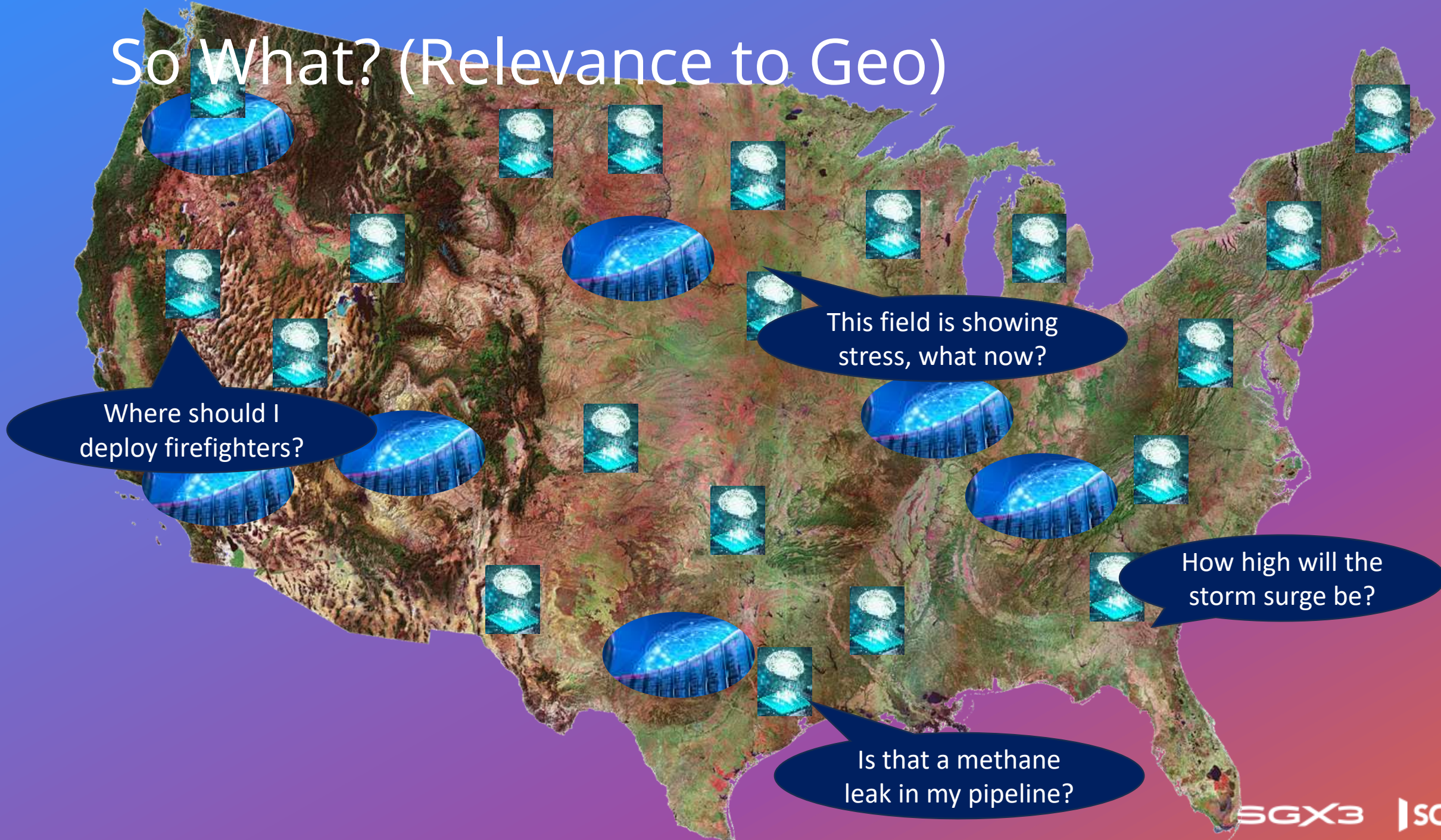
So What?



So What?



So What? (Relevance to Geo)



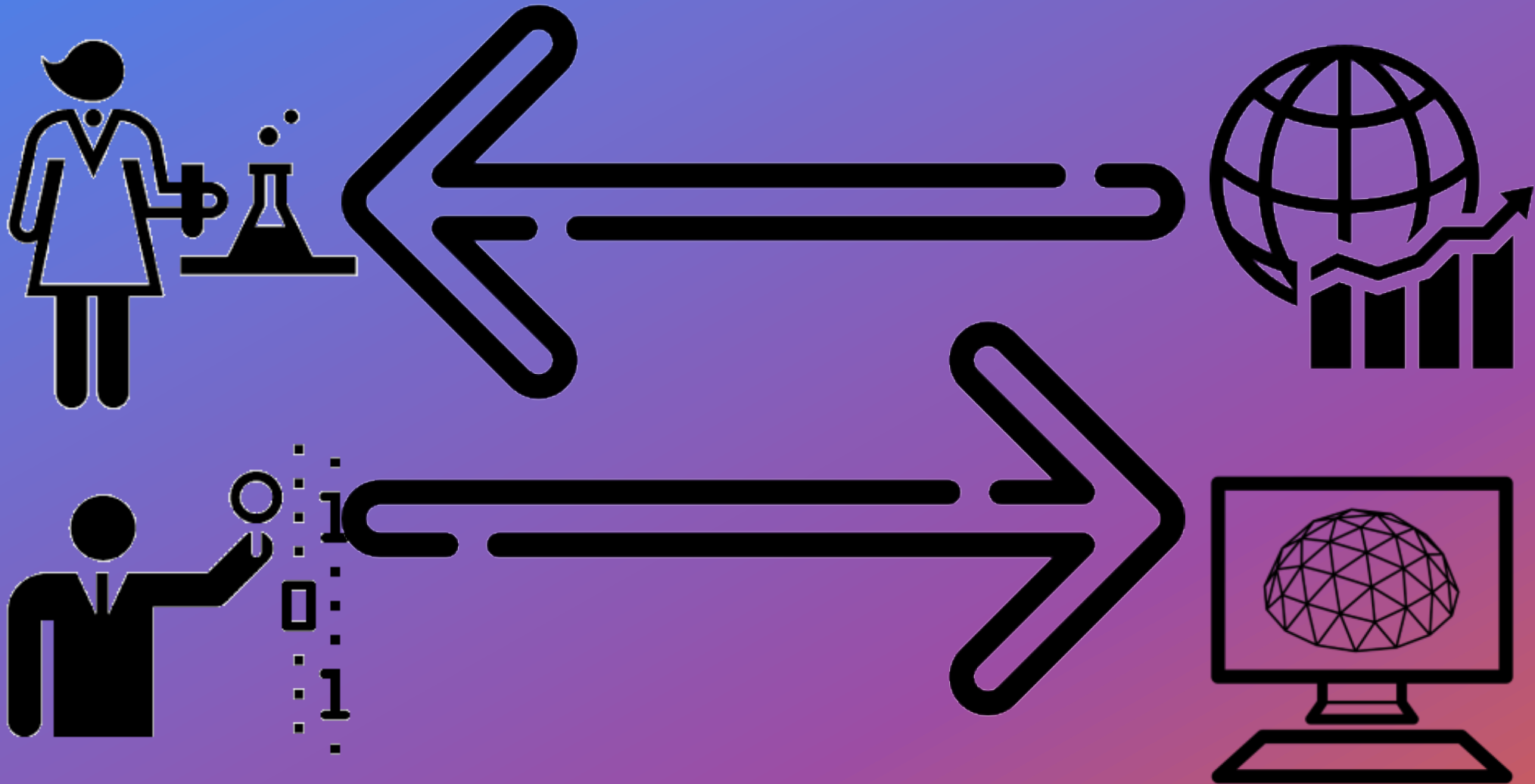
Where should I
deploy firefighters?

This field is showing
stress, what now?

How high will the
storm surge be?

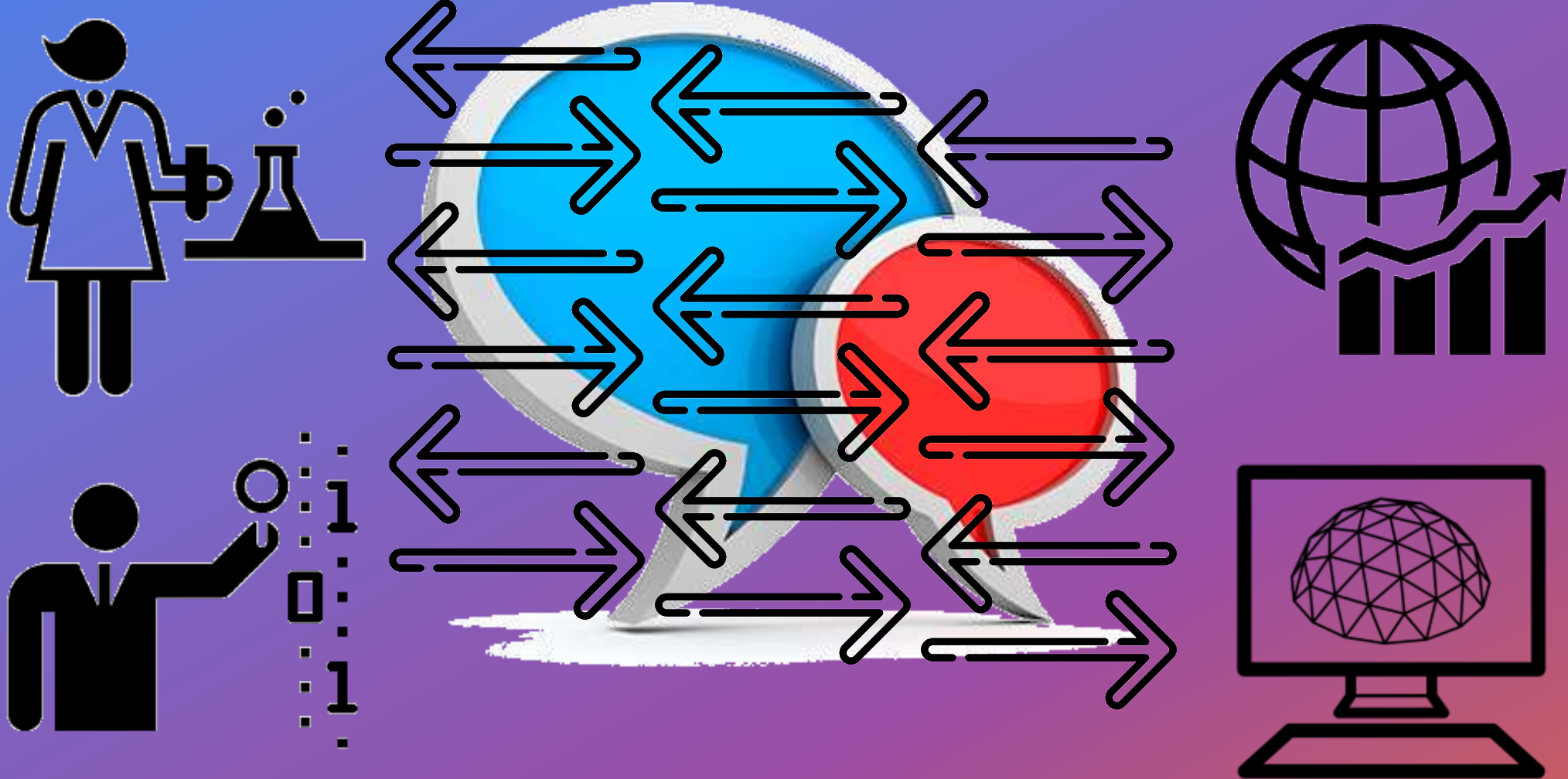
Is that a methane
leak in my pipeline?

So What?



So What?

Conversations with Data and Models!



So What?

Conversations = Understanding



BUT WAIT

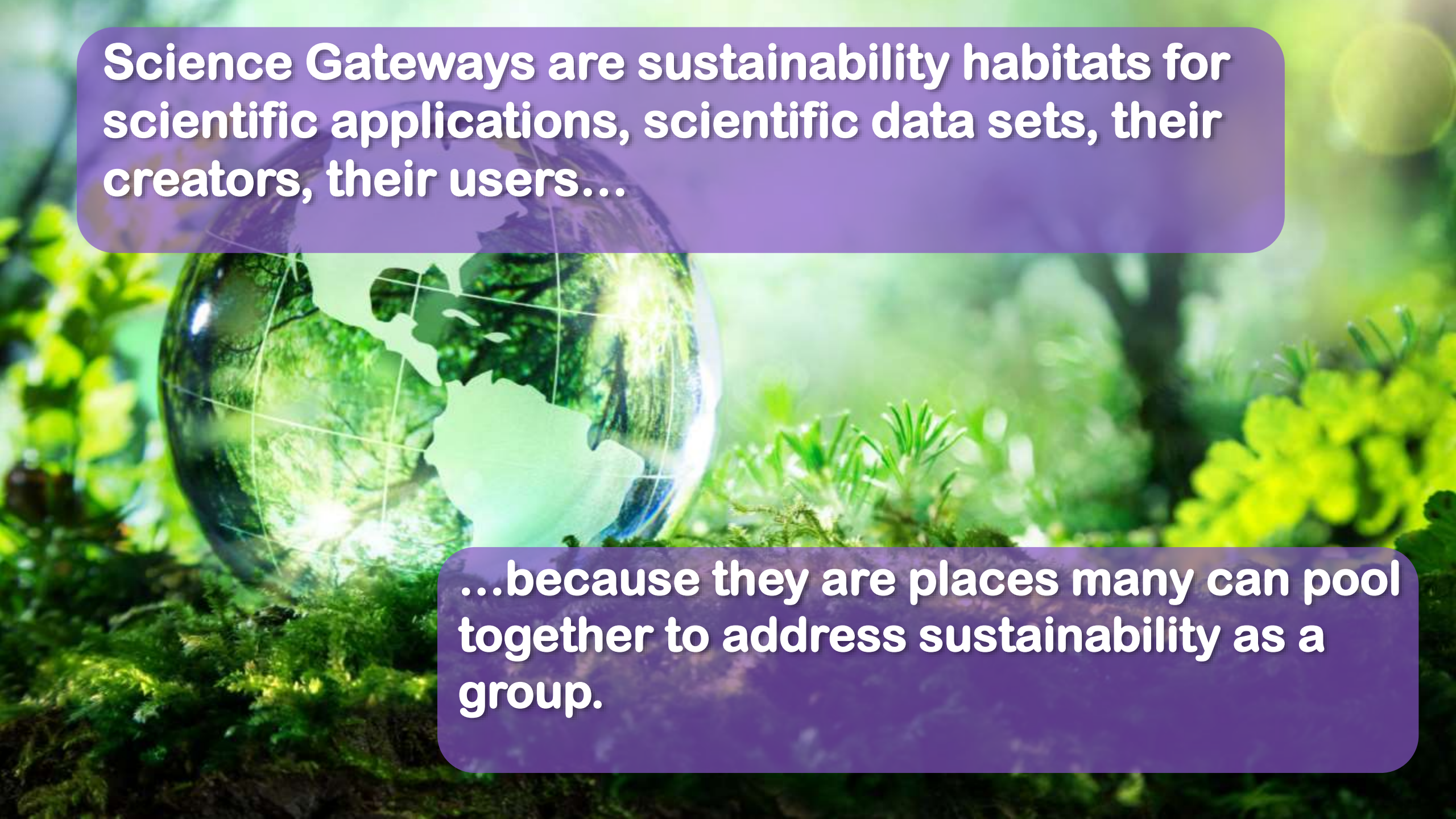


THERE'S MORE

**Science Gateways are
engines of Broader
Impact...**

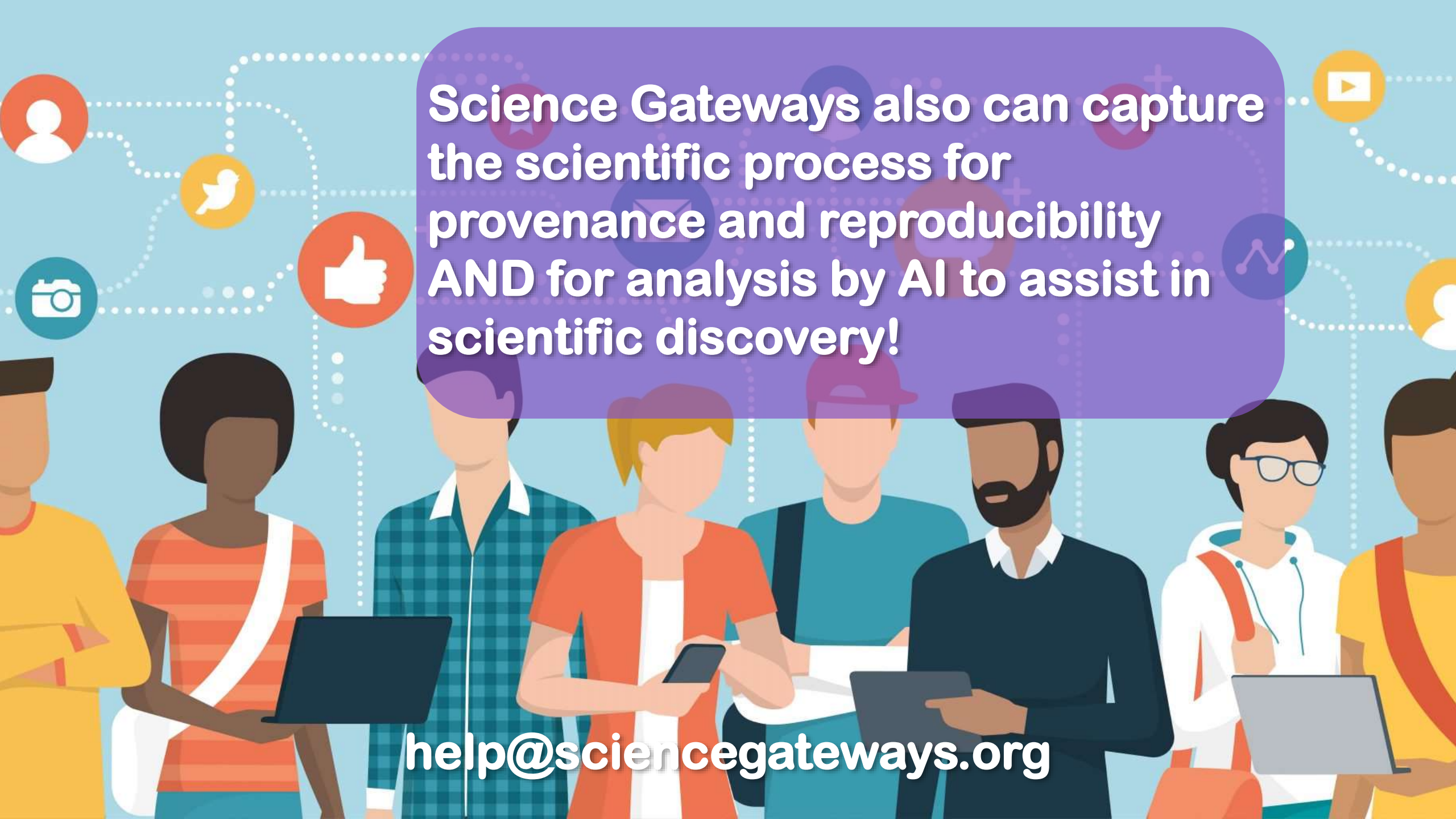


**...because they democratize
access and engage large,
diverse audiences.**

A glass globe of the Earth is the central focus, resting on a bed of vibrant green moss. The globe is transparent, showing the continents and oceans, and is surrounded by lush green foliage and sunlight filtering through the trees in the background. The scene is bright and natural, symbolizing sustainability and environmental science.

Science Gateways are sustainability habitats for scientific applications, scientific data sets, their creators, their users...

...because they are places many can pool together to address sustainability as a group.



Science Gateways also can capture
the scientific process for
provenance and reproducibility
AND for analysis by AI to assist in
scientific discovery!

help@sciencegateways.org