

# Hyphae

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## Project Details

With energy resources and infrastructure increasingly challenged to meet the coming impacts of climate change and natural disasters, Hyphae aims to make the grid more resilient and flexible with microgrids. By providing an Autonomous Power Interchange System (APIS), Hyphae automatically and efficiently distributes locally-produced renewable energy over a DC grid then to interconnect with AC Grids. With resilient, physical peer-to-peer microgrid energy trading, even the most remote communities will be able to store and distribute energy autonomously without connecting to large-scale power stations or electrical distribution networks.

As the world races to develop and build microgrids that are resilient and flexible, an open-source, automated microgrid controller and a physical peer-to-peer trading platform like Hyphae will allow for faster innovation while decreasing costs for everyone.

Three distinguishing features:

- Flexible grid expansion: Because power interchange is autonomous, the microgrid can be expanded flexibly, without having to redesign the system from the ground up.
- Effective use of renewables: Because the physical peer-to-peer power interchange balances supply and demand between decentralized power generators and decentralized power storage equipment, it is possible to use renewable energy effectively despite fluctuations in the amount of power generated.
- Resilience: Because of these characteristics, it is possible to build a power system with high resilience.

Through working with contributors, we would like to expand Hyphae to add features and functionality that will enable a flexible approach to microgrids. In particular, the Hyphae Technical Steering Committee (TSC) welcomes collaboration with hardware partners to ensure an entirely interoperable system.

**More Project Details Coming Soon!**