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# eVinci™ Microreactor I Westinghouse Nuclear

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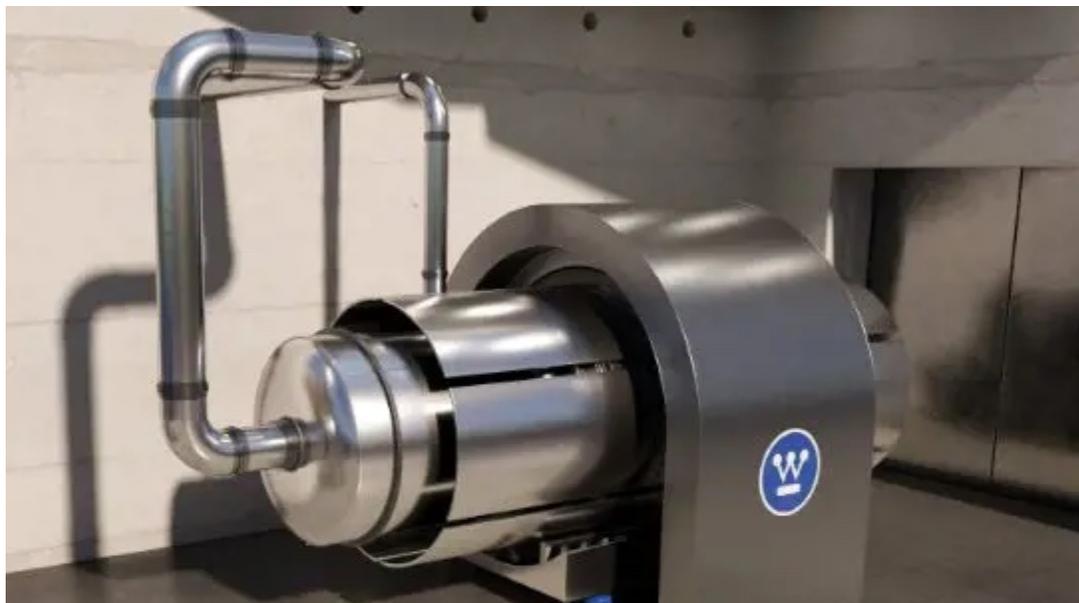
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**Westinghouse is currently developing the eVinci™ Microreactor, a next-generation, micro-modular reactor for decentralized remote applications.**

The eVinci microreactor's innovative design combines new technologies with 60+ years of commercial nuclear design and engineering, creating a cost-competitive and resilient source of power with superior reliability and minimal maintenance. Its small size allows for transportability and rapid, on-site deployment in contrast to plants requiring large amounts of construction. eVinci can produce **5MWe with a 15MWth core design**. The reactor core is designed to run for **eight or more full-power years before refueling**.

**eVinci Microreactor Key Benefits**

- Reliable energy source in all weather conditions, temperatures, and locations.
- Fully factory-assembled and transportable in shipping containers via rail, barge, and truck.
- Above-ground installation requires minimum ground disruption with less than a 2-acre footprint.
- Minimal onsite personnel required for operation/maintenance/security.
- Seamless, reliable pairing with wind, solar, and hydro with grid forming or grid following capabilities.
- Ability to immediately load-follow and load-shed within milliseconds.
- Can provide process heat for district heating or high-grade heat for industrial applications.
- Flexible energy with scale-up and scale-down capabilities.

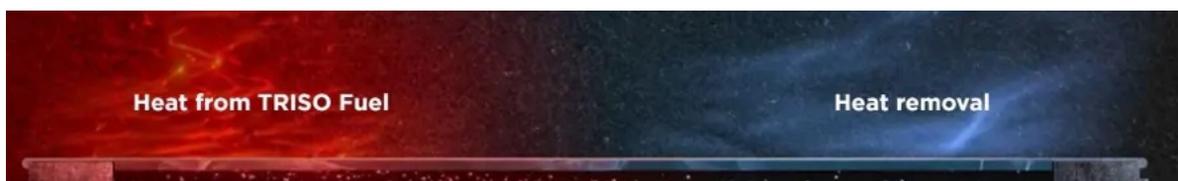




## Heat Pipe Technology

Westinghouse has developed and continues to advance heat pipe technology and manufacturing processes through design, analysis tools, and test capabilities, with our recent success in manufacturing the first ever 12-foot nuclear-grade heat pipe.

- Allows for greatly simplified design and eliminates numerous components needed in active systems.
- Significantly increases reliability and eliminates failure modes and additional systems associated with active systems.
- Eliminates risk from high system pressures and loss of coolant accidents.
- Eliminates flow-induced corrosion and vibration, typical of forced flow systems.
- Enables prototypic life testing at operating temperatures.





## Environmental Benefits

- Completely emissions-free baseload power for 8+ years.
- Built above ground and requires no water for cooling or operation.
- Spent fuel returned to the manufacturer or DGR long-term storage.
- Each eVinci microreactor will reduce up to 55,000 tons of CO<sub>2</sub>/year.

## Passive Safety

The eVinci is designed with diverse and redundant safety features, from accident-tolerant fuel to passive heat removal.

- **Heat pipes** - Passive heat transport devices eliminating the need for reactor coolant and associated systems and cooling water. They are self-regulating and based on proven technology.
- **TRISO fuel** - 19.75% enriched fuel is structurally more resistant to neutron irradiation, corrosion, oxidation, and high temperatures than traditional reactor fuels.

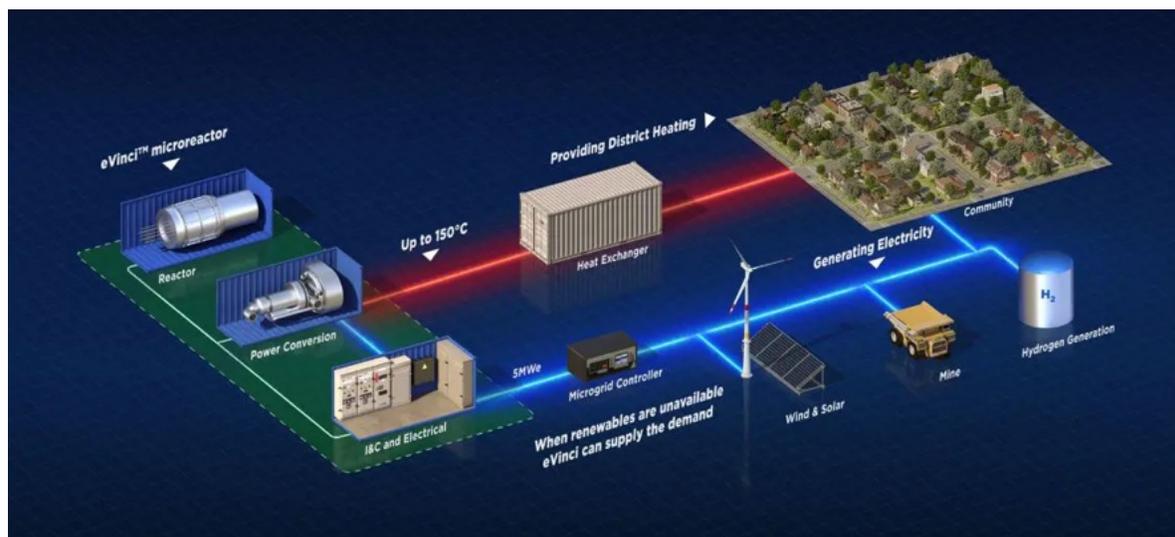
- **Shut Down Rods** - Inserted during transport as well as providing defense-in-depth shutdown capabilities.
- **Control Drums** - Adjust reactivity and ensure safer operation. If the reactor is shut down, the control drums passively rotate to the off position or shutdown state.
- **PHS (Passive Heat Removal System)** - Decay heat removal via natural convection and radiation heat transfer. The core transfers heat to the canister which provides safe and reliable heat convection removal to the atmosphere without the need for operator actions.
- **Remote Monitoring** - The Instrumentation and Control system uses the ALS v2 platform, a Westinghouse-developed, owned, and tested system.



## Key Applications

The 5MWe microreactor can easily scale up and scale down as industrial operation grows or reaches the end of life. The transportability allows the eVinci microreactor to be delivered to where power and heat are needed.

- Remote or Edge of Grid Communities
- Mining Operations
- Industrial Process Heat
- District Heating
- Hydrogen Generation
- Research Reactors
- Critical Infrastructure
- Strategic Military Installations
- Data Centers



## The eVinci Technology Hub

Meeting our customers' rapidly evolving growth demands requires our organization to think differently, work with greater speed and agility, and consider innovative approaches to collaboration.



We are proud to announce the selection of 51 Bridge Street in Etna, Pennsylvania, as our eVinci microreactor accelerator and standalone technology hub. 51 Bridge Street's heritage dates to its origins in 1902, when it opened its doors at the height of Pittsburgh's steel production legacy. Since then, this location has been a central pillar of the Pittsburgh community.





The accelerator hub will bring together all eVinci staff under one roof. In addition, this site has enough square footage to host all our manufacturing plus extra space to grow both on the business side and a larger facility for further manufacturing, testing, and equipment. 51 Bridge Street will be the key facility for manufacturing all heat pipes for the nuclear demonstration unit as well as commercial units in the future.

