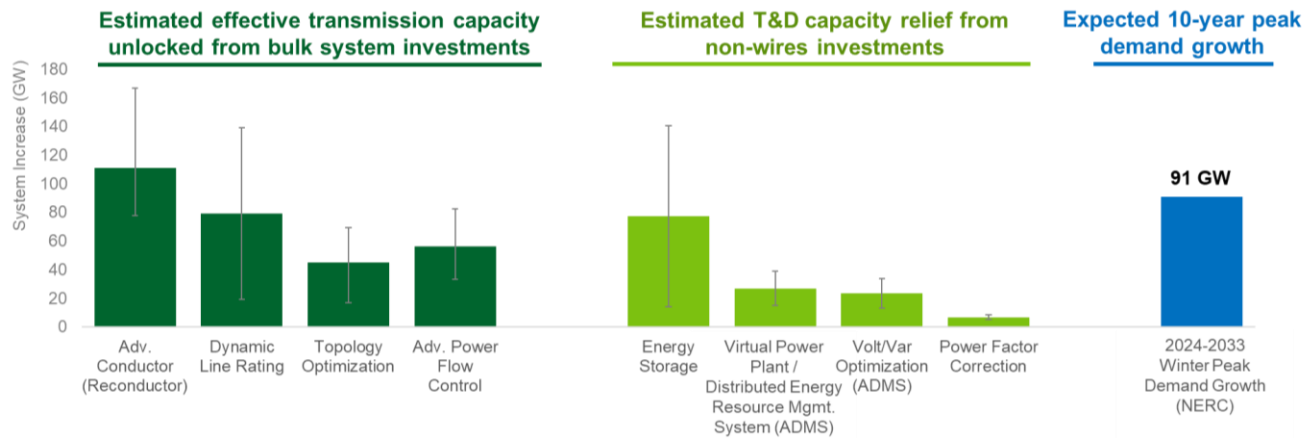




# Innovative Grid Deployment

Multiple advanced grid solutions are **commercially available today** to help grid operators and regulators address **near-term capacity and reliability priorities** and **modernize the grid**—without increasing costs for ratepayers.

- Deploying these solutions today could increase effective T&D capacity to support **20-100 GW of incremental peak demand** when installed individually, while improving reliability, resilience, and affordability.
- With at least **91 GW of peak demand growth** expected within the next decade, these advanced grid solutions are an important bridge to address near-term needs while new infrastructure is built.
- Most solutions could be deployed on the existing grid in **under 3-5 years** and at **lower cost** and greater value than conventional approaches.
- Deployment is underway, but **adoption at scale and associated industry know how is lagging** largely due to a lack of industry incentives and prioritization.



Note: Represents system capacity benefits of deploying technologies to their full techno-economic potential, overnight and individually. Significant additional capacity potential possible when installed in strategic combinations.

## Scope of Innovative Grid Deployment Liftoff Report\*

- 1. Advanced transmission technologies**  
(e.g., advanced conductors, point-to-point high voltage direct current)
- 2. Situational awareness and system automation**  
(e.g., Advanced Distribution Management Systems (ADMS) and advanced ADMS applications, substation automation and digitization)
- 3. Grid-enhancing technologies and applications**  
(e.g., dynamic line rating, topology optimization, advanced power flow control, energy storage, virtual power plants)
- 4. Foundational systems**  
(e.g., communications technologies, system digitization)

- ✓ Transmission and distribution system
- ✓ Existing rights-of-way infrastructure
- ✓ Commercially-available, advanced grid solutions

\*See report for full list of twenty technologies in scope

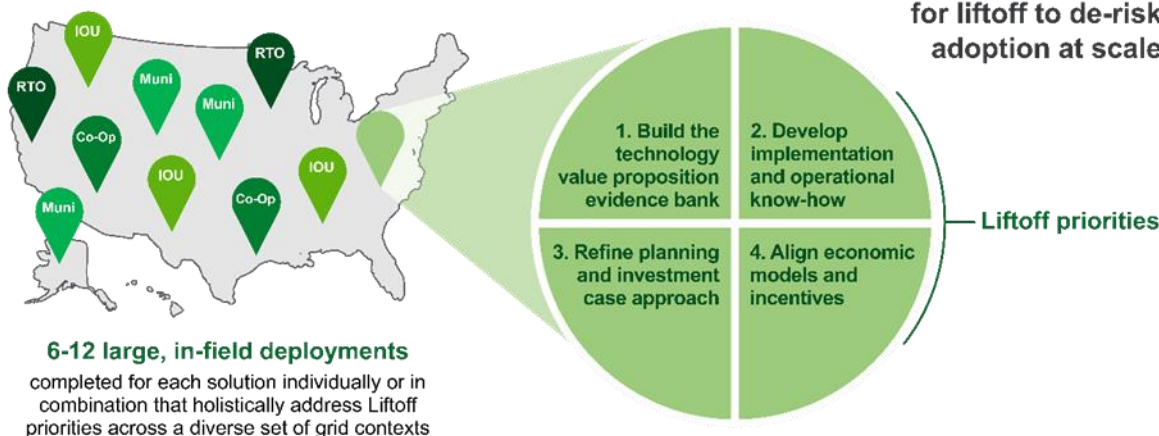
## Pathway to Liftoff

Liftoff will be achieved when utilities and regulators comprehensively value and integrate these advanced grid solutions as part of core grid investment, planning, and operations.

### Achieving Liftoff within 3-5 years

Deploy no regrets solutions today...

...that simultaneously address four priorities for liftoff to de-risk adoption at scale



## Priority actions to pursue today

Industry stakeholders can start acting today—taking advantage of unprecedented federal investment and policy incentives—to accelerate deployment of advanced grid solutions that unlock meaningful near-term value and long-term compounding benefits.

Stakeholders	Potential priority actions to pursue today ( <i>not exhaustive</i> )
<b>Grid operators &amp; utilities</b>	<ul style="list-style-type: none"> <li>• Deploy “no regrets” solutions to address grid hotspots and support liftoff</li> <li>• Transparently share deployment outcomes and best practices</li> <li>• Develop grid modernization strategies using emerging best practices</li> </ul>
<b>Regulators &amp; governance boards</b>	<ul style="list-style-type: none"> <li>• Revamp grid modernization strategies and planning processes by adopting current best practices</li> <li>• Require consideration of advanced grid solutions in current planning and investment processes</li> <li>• Align utility incentive structures with the value of advanced grid solutions</li> <li>• Develop efficient cost recovery mechanisms</li> </ul>
<b>State &amp; Federal Policymakers</b>	<ul style="list-style-type: none"> <li>• Collaborate with regulators to ensure advanced grid solutions are considered in current processes</li> <li>• Establish clear policy goals to inform grid investments at the state level</li> <li>• Coordinate multi-stakeholder grid modernization collaborations</li> </ul>
<b>Solution Providers</b>	<ul style="list-style-type: none"> <li>• Proactively articulate and value technology benefits</li> <li>• Share performance risk for proven but sub-scale solutions</li> <li>• Integrate advanced grid solutions into core services</li> </ul>