

# Scale and Secure: Powering Europe's Digital Sovereignty

Enabling scalable, efficient data centre growth to support EU's digital economy and long-term competitiveness



**“We have a shared responsibility to develop our future digital infrastructure in a way that is both efficient and sustainable. This requires a holistic, system level perspective. When solutions are aligned across sectors, they can effectively support the EU's broader objectives for climate neutrality, resilience, and competitiveness.”**

Isabelle Kemlin, RISE, Business and Innovation Executive

## Policy brief

This paper outlines practical solutions and policy frameworks to enable the efficient, responsible and long-term sustainable development of Europe's digital infrastructure. These solutions focus on improving system performance at scale, including:

- Advanced cooling technologies
- Hydronic optimisation and smart pumping systems
- Water circularity and non-potable water use
- Excess heat reuse for district heating and industry
- Efficient heat transfer and thermal optimisation

**“Efficiency must be the default for data centre growth. Clear and predictable policy frameworks should guide decisions and speed up investment in proven systems that reduce water and energy consumption. That way we support responsible growth that safeguards local resources.”**

Inge Delobelle, CEO, Grundfos Industry division

These approaches are most effective when implemented together, balancing both energy (PUE) and water (WUE) performance while enabling integration with wider energy and heat systems. By prioritising efficiency, heat and water reuse, and

system integration, Europe can turn resource constraints into a competitive advantage.

Scaling these solutions requires policy frameworks that enable deployment, investment and system integration at pace. With the right policies, Europe can expand digital infrastructure while strengthening energy security, reducing environmental impact and enhancing long-term competitiveness.

Together, these insights provide a roadmap for scaling digital infrastructure while safeguarding Europe's critical resources.



The full report  
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# Unlocking digital growth through smarter resource efficiency

Data centres are essential infrastructure for Europe's digital economy, powering AI, cloud computing and critical services. They are increasingly strategic assets that intersect with energy security, water resilience, industrial competitiveness and technological sovereignty. However, data centres are resource intensive, and their rapid growth is placing increasing pressure on Europe's energy systems, water resources and local infrastructure. As demand accelerates, Europe faces a dual challenge: scaling digital capacity while maintaining competitiveness and safeguarding critical resources.

**“Data centres are becoming a vital part of modern society, significantly increasing demand for energy and water. However, the challenge is not whether data centres should be built but how they are built and how to operate them efficiently through intelligent solutions.”**

**Bent Jensen**, CEO,  
Grundfos Commercial Building Services division

These pressures are already visible. Data centres currently account for around 3% of EU electricity demand, potentially rising to 7-9% by 2030, while cooling systems can represent ~38% of total facility energy use and require significant volumes of water. In large facilities, daily cooling demand can reach approximately 11,000-19,000 cubic metres of water, equivalent to the daily use of tens of thousands of households.

At the centre of this challenge is the interdependent relationship between electricity and water use — known as the water-energy nexus. Some cooling approaches reduce energy demand but increase water consumption, while others reduce water use but increase electricity demand. As a result, improving efficiency is not about optimising a single metric, but about balancing both across the full system.

*This paper was developed by Grundfos, with contributions from Alfa Laval.*

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