FDCA
FINNISH DATA CENTER ASSOCIATION

Confederation of Finnish Industries

UNLOCKING FINLAND'S DATA CENTER POTENTIAL

FACTS ON INVESTMENTS PLANS AND FUTURE OPPORTUNITIES

TABLE OF CONTENTS

This publication summarizes the Finnish Data Center Market Study and Impact Assessment Report, conducted by Ramboll and commissioned by the Finnish Data Center Association (FDCA) together with the Confederation of Finnish Industries (EK), and published in September 2025. It presents the report's key findings and conclusions in a concise format.

For full analysis, background data, and references, please refer to Ramboll's original report.

FINLAND EMERGING AS NEW LEADING EUROPEAN DATA CENTER INDUSTRY HUB

Finland is emerging as one of the most attractive locations for data centers in Europe, due to several factors:

- **Clean and competitive electricity:** Over half of Finnish electricity is renewable, with the third lowest wholesale electricity price in Europe.
- **Robust infrastructure:** Reliable electricity transmission grid, high availability of grid connections, strong telecommunications, and opportunities to utilize waste heat in district heating networks.
- **Climate and location:** Cool climate to support energy-efficient cooling; ample land and former industrial sites suitable for data center development.
- **Economic and societal benefits:** Multi-billion-euro investments, employment impacts, and stable tax revenues for municipalities and the state.

Data centers can enhance Finland's competitiveness, attract new technology companies and research organizations, generate sustainable tax revenue for municipalities, and support the green transition by utilizing waste heat and renewable energy.

Presently, Finland possesses a unique opportunity to become a leader in digital infrastructure in Europe.

Based on current data center investments, capacity is expected to increase significantly in the coming years. However, international demand – especially for AI, automation, and real-time data processing – indicates even greater growth potential. The pace of investment in Finland could even exceed the European average.

By allocating resources to the industry's development, Finland can position itself as both a safe and stable investment destination and a key solution provider for the climate and sustainability challenges of the global digital economy.

DATA CENTER MARKET HOLDS HUGE POTENTIAL

Growing data volumes, driven by digitalization, AI, and cloud services, are increasing the demand for data centers and energy-efficient processing. More data center investments are expected in Finland, but since they are not yet public, their impact cannot be evaluated in detail.

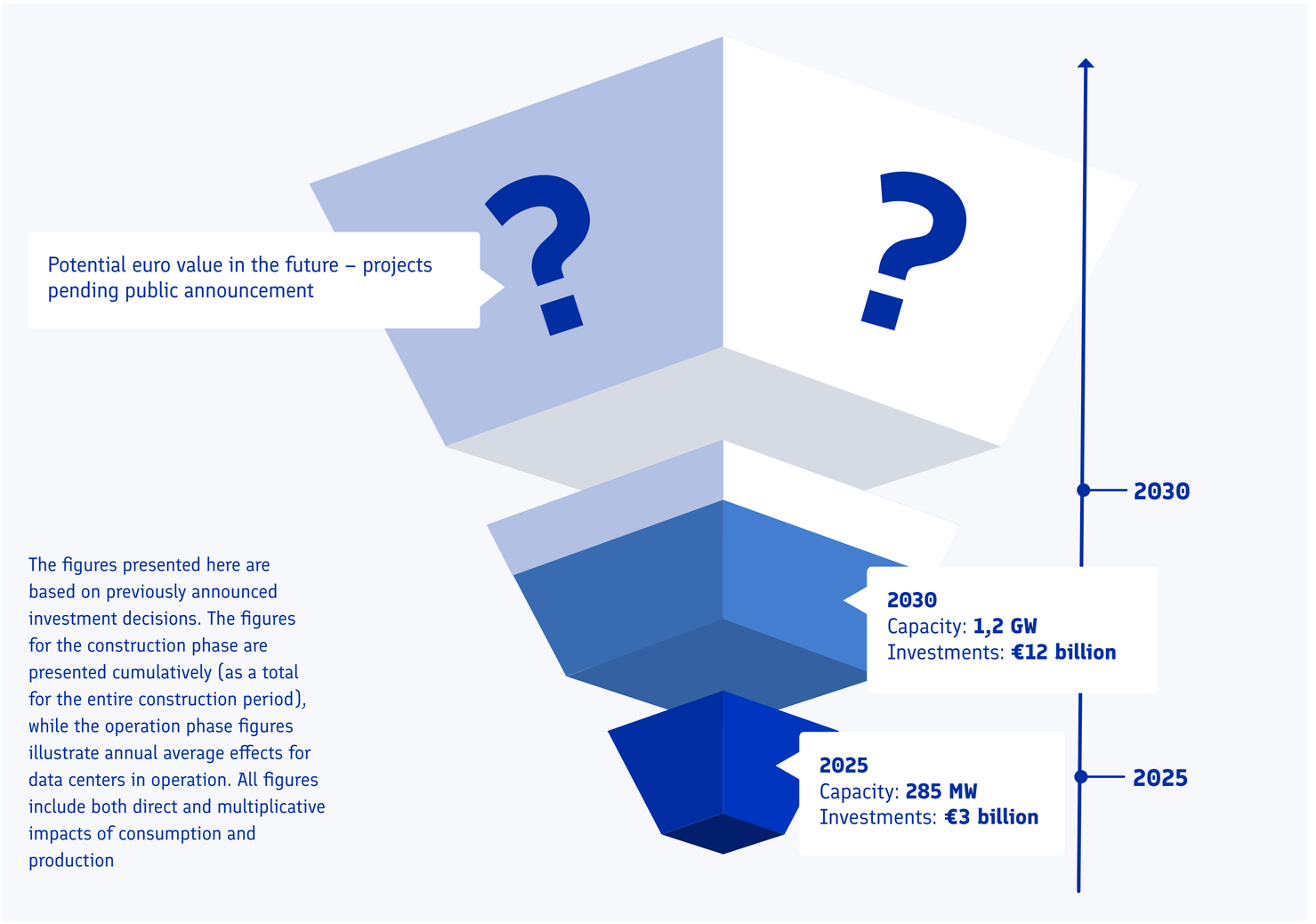
However, according to expert assessments, the market potential is far greater than what the currently announced projects indicate. Estimates suggest that the total potential of the Finnish data center market exceeds €30 billion, including investments, ecosystem benefits, and the multiplicative effects of construction, operations, and related activities.

2030

Annual total impact of the operation phase (2030)	Employment	9.900 FTE
	Output	€5.7 billion
Cumulative total impact of the construction phase (2025–2030)	Employment	44.000 FTE
	Taxes	€ 1.7 billion

2025

Annual total impact of the operation phase (2025)	Employment	2.400 FTE
	Output	€1.4 billion
Cumulative total impact of the construction phase (2025)	Employment	11.000 FTE
	Taxes	€0.4 billion



The figures presented here are based on previously announced investment decisions. The figures for the construction phase are presented cumulatively (as a total for the entire construction period), while the operation phase figures illustrate annual average effects for data centers in operation. All figures include both direct and multiplicative impacts of consumption and production

ECONOMIC IMPACTS OF THE DATA CENTER INDUSTRY

The data center industry has a significant impact on Finland's economy. Data center construction, maintenance, and infrastructure offer multi-billion-euro business opportunities, creating jobs, generating tax revenue, and ensuring competitiveness.

Impacts are two-fold:

1. **Direct impacts** are generated by data center operations (turnover, employment, taxes) once the data center is operational. During the construction phase, a data center has no direct economic impact, as it has neither business activity nor staff at that point.

2. **Multiplicative impacts** stem from increased economic activity in other industries due to data center investments and operations (output, gross value, taxes, employment).

Impacts are affected by the data center's lifecycle stage:

1. **The construction phase** yields a significant impact. It is already economically significant and projected to grow substantially by 2030. In all scenarios, cloud data centers are the largest source of impact.

2. **The operation phase** shows a clear increase in employment, revenue, output, gross value added, and tax revenue by 2025 and 2030. Cloud data centers have a significantly greater impact compared to colocation or private data centers. Tax impacts span municipal, VAT, property, and corporate taxes.

FINANCIAL IMPACTS OF THE DATA CENTER INDUSTRY

The effects of the data center industry on the Finnish economy are substantial and continue to grow rapidly. The industry already generates billions of euros and significant tax revenue in terms of both direct and multiplicative impact.

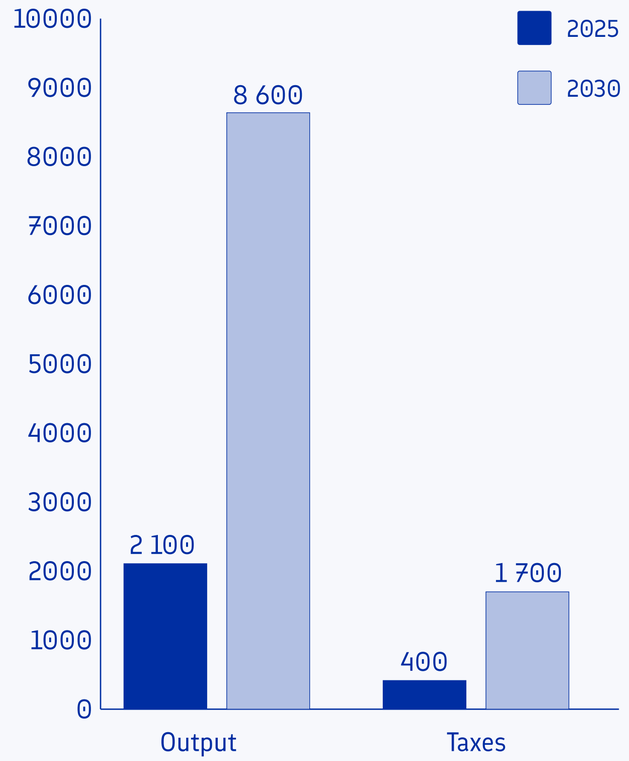
The financial impact is expected to multiply by 2030: the industry's turnover is expected to reach several billion euros, and tax revenue is expected to rise from hundreds of millions to billions. This positions data centers as **one of the fastest-growing sectors in the Finnish economy**, underlining their importance for state and municipality finances.

Thus, the role of data centers is not limited to individual investments – they generate lasting economic value and strengthen vitality across Finland.

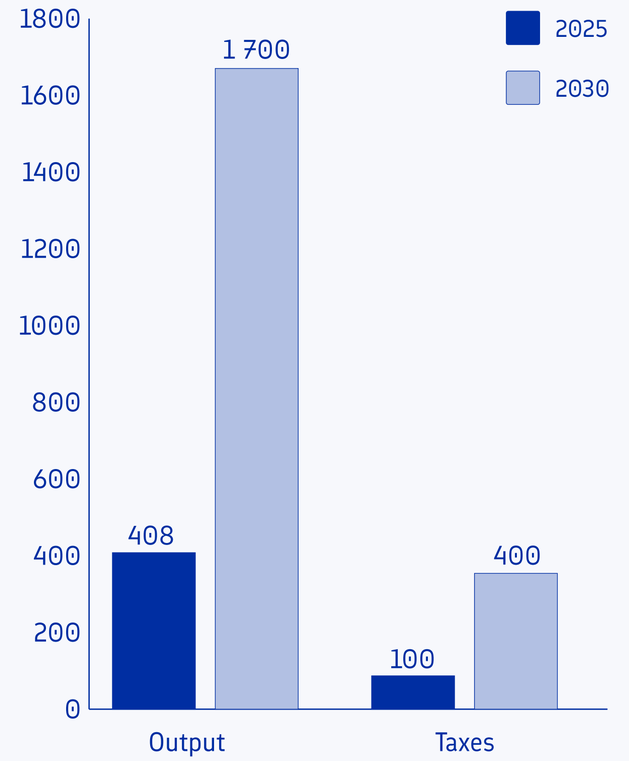
Taxes generated through multiplicative effects include product and production taxes, municipal tax, VAT, corporate tax, property tax, and income tax.

***Note:** The assessment includes construction phase CAPEX investments (excluding servers) and operating and maintenance costs (OPEX) during the operation phase. The assessment does not include server equipment or cloud service purchases. CAPEX refers to capital expenditures and taxation for the construction period, while OPEX refers to ongoing annual expenses during the operational phase.

CONSTRUCTION PHASE:
Cumulative multiplicative impacts (M€)*



OPERATION PHASE:
Annual multiplicative impacts (M€)*



DATA CENTER INDUSTRY PROVIDES A DIVERSE TAX BASE

The tax impact of data centers extends well beyond direct tax revenues:

1. **Employment:** Employee wages generate municipal and income taxes.
2. **Local consumption:** Wages drive demand for housing, services, and retail, multiplying tax revenues and strengthening local economies.
3. **Multiplicative impacts:** Each data center job generates additional work and tax revenue through subcontracting, construction, energy, logistics, and services.
4. **Welfare impact:** With tax revenues, municipalities can fund schools, daycare, and public transport – tangible benefits for residents.

- **Property tax:** Data centers provide municipalities with a significant source of property tax revenue. Large facilities and new investments bring stable and increasing tax revenue to municipalities.
- **Corporate tax:** The total revenue is notable but varies due to investment cycles and depreciation practices. The most substantial revenue is typically realized years after the initial investment.
- **Income taxes:** Data center employees pay municipal and income taxes, and their salaries generate an uptick in consumer spending. This supports regional economies and further increases tax revenue.
- **VAT:** Significant tax revenue is generated by the construction and operation of data centers alongside the expenditure by employees and subcontractors.
- Although annual fluctuations occur, data centers consistently generate a substantial tax footprint — one that is expected to expand further with new investments.

Example: Google's subsidiary, Tuike Finland Oy, paid an average of €20 million per year in various taxes (corporate, payroll, and property) from 2018 to 2023, illustrating the long-term impact, even if annual figures fluctuate.

EMPLOYMENT IMPACTS OF THE DATA CENTER INDUSTRY

The construction of data centers creates broad employment effects that reach far beyond the construction site. The project employs designers, engineers, builders, installers, as well as logistics companies, machinery and equipment manufacturers, and local service providers spanning from accommodation and restaurants to retail.

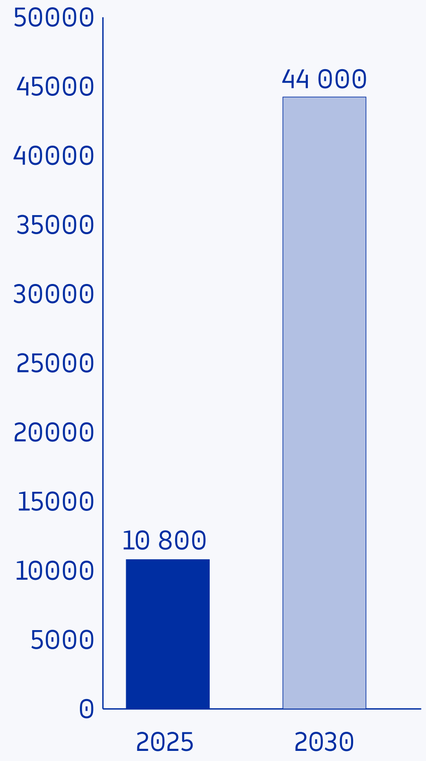
Each euro invested circulates through multiple sectors of the economy, often making the construction phase the region's single largest employment-generating investment.

Once operational, the employment effects of a data center become permanent and stable. Generally, centers operate with a relatively small staff, but their operations require a vast network of external workers and service providers, including energy supply, maintenance, IT services, security, and sanitation. They create a steady stream of demand across many sectors.

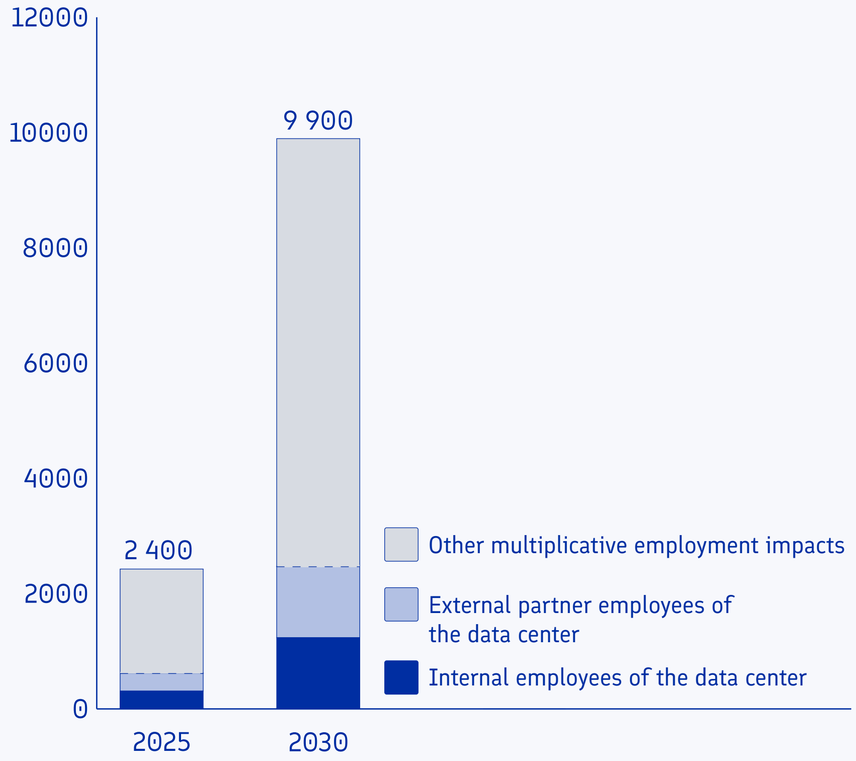
It is estimated that the internal employees and external partner workforce employed by a data center is equal in number.

Data centers are surrounded by a permanent value chain, which solidifies employment and strengthens business year after year, to a degree that is much higher than the mere number of jobs at a data center would suggest.

CONSTRUCTION PHASE:
Cumulative multiplicative employment impact (FTE)



OPERATION PHASE:
Annual total employment impacts (FTE)



DATA CENTERS EMPLOY A WIDE RANGE OF PROFESSIONALS

Data center design involves engineers, architects, consultants, and other professionals. Construction requires personnel for various tasks, including construction, electrical, HVAC, and installation work, as well as supervision.

Local businesses support data center experts and builders by providing catering, accommodation, retail, and leisure services.

Data centers support employment across energy production, distribution, and waste heat utilization, with roles spanning construction, operation, maintenance, and planning.

Transport and logistics professionals, as well as machinery and equipment manufacturers, serve the data center needs of both the construction and operation phases.

The data center staff includes technicians, facility engineers, developers, IT specialists, customer service representatives, sales personnel, finance professionals, and company management.

In addition to its own staff, a data center employs a wide range of external personnel, including expert services, property maintenance, and security services.

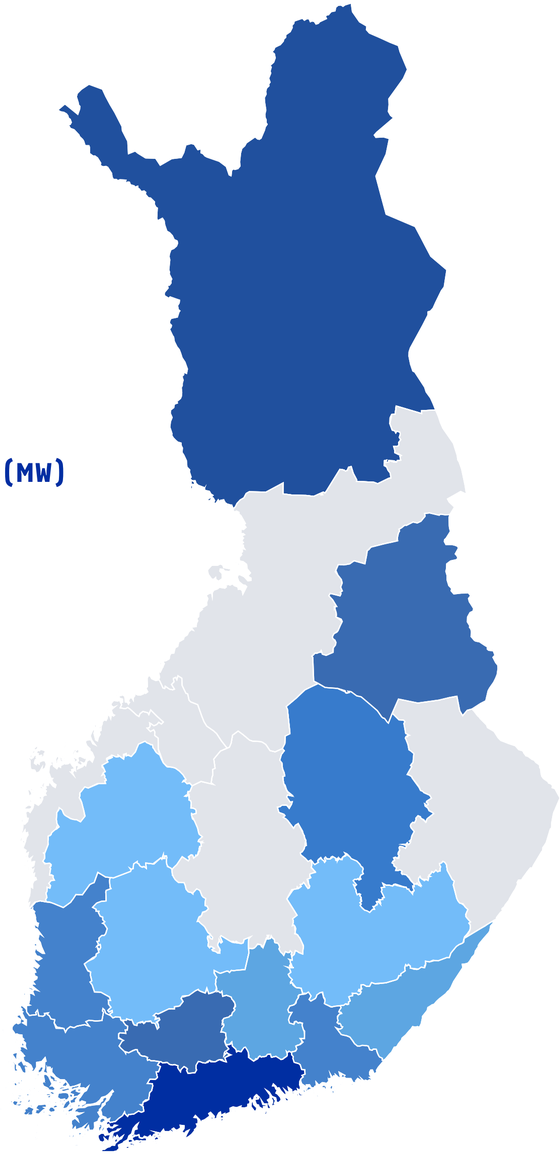
THE FUTURE OUTLOOK OF DATA CENTER INVESTMENTS

Finland is viewed as an increasingly attractive location for data centers. This has resulted in numerous investment plans at various stages of development. The total volume of publicly announced investment plans is 3.4 GW, and while not all projects will move forward, many are expected to take shape.

GEOGRAPHICAL DISTRIBUTION OF ANNOUNCED DATA CENTER INVESTMENTS (MW)

Unlike existing data centers, future investment plans are spread across a wider area of Finland. As data centers grow in size, factors such as plot availability and grid capacity become more important.

Although Uusimaa leads in the number of investment plans, only about 270 MW of capacity is planned for the Helsinki, Espoo, and Vantaa area.

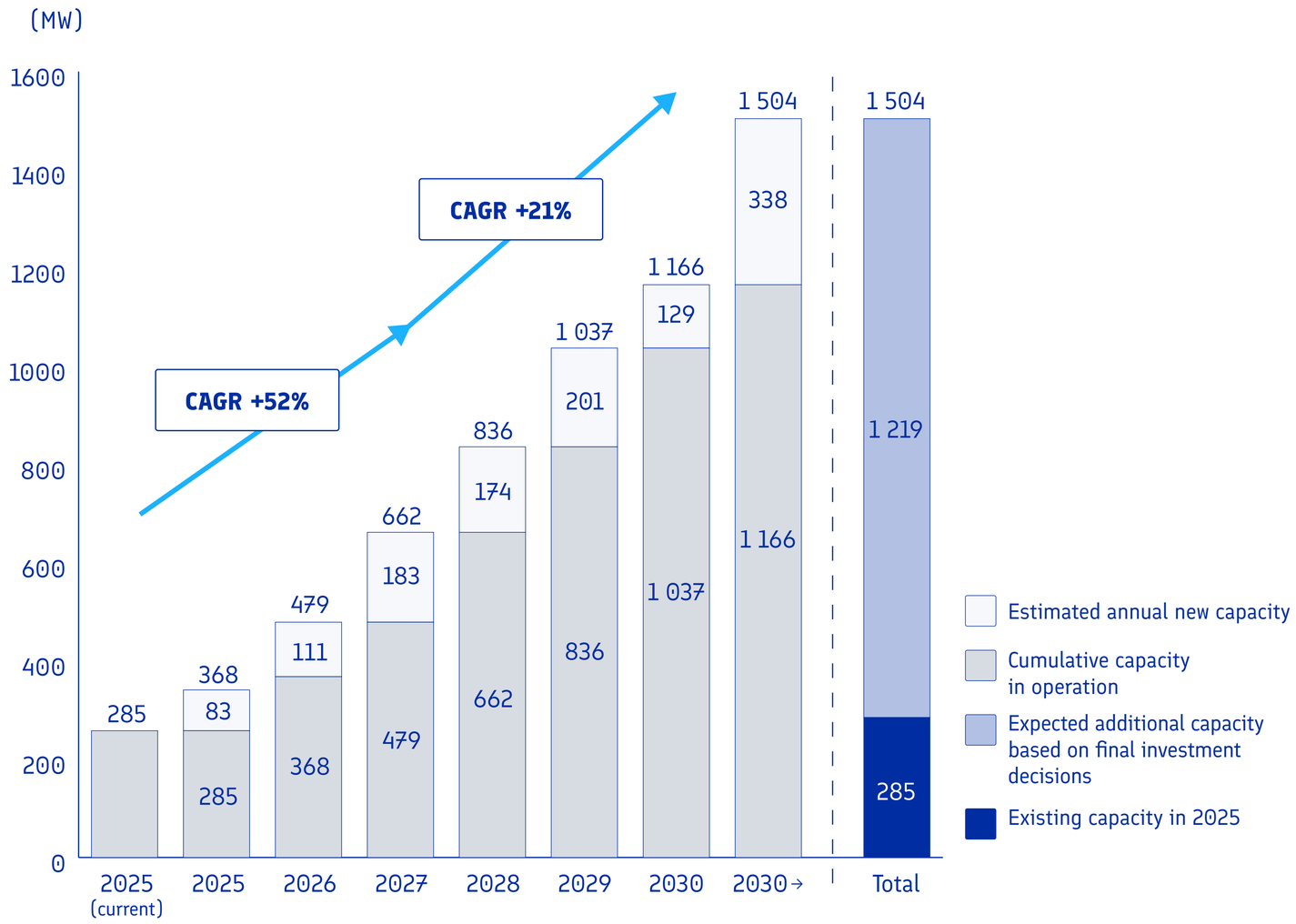


Aside from Helsinki, the Kouvola and Kajaani regions are attracting data center investments.

Estimated planned capacity (MW)

1 880

EXPECTED DATA CENTER CAPACITY GROWTH BASED ON PUBLICLY ANNOUNCED INVESTMENT DECISIONS



NOTE: The illustration only includes announced data center investment plans with a capacity of 1 MW or greater. CAGR from the current situation to 2027 is calculated for a two-year period.

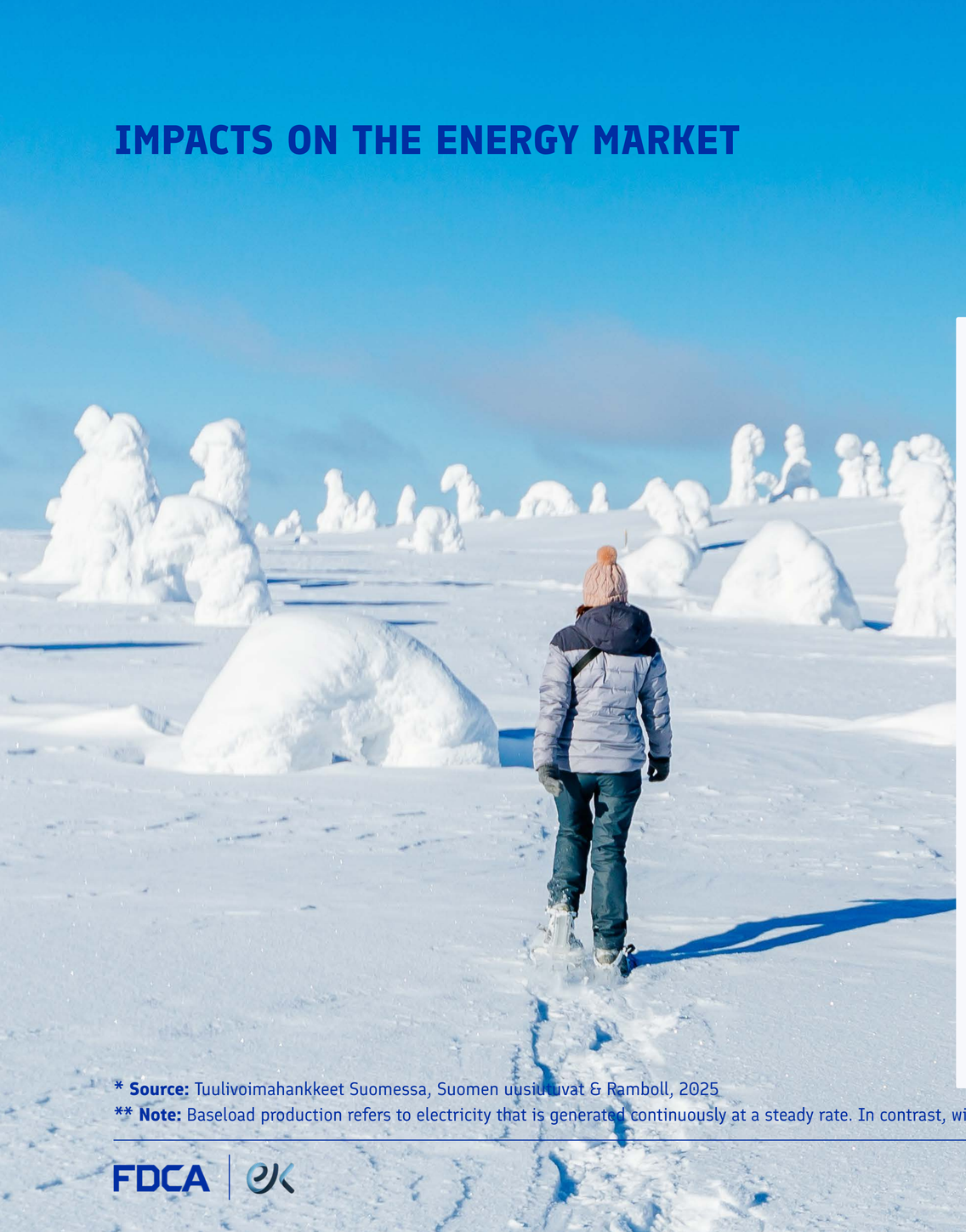
Data center capacity is growing rapidly – with even greater potential.

Based on finalized investment decisions, Finland's data center capacity is expected to grow by 52% annually until 2027 and continue at approximately a 21% annual growth rate thereafter. This means capacity will be doubled by 2027 and exceed 1.5 GW by 2030.

However, these figures only reflect confirmed growth. The combined capacity of all announced investment plans exceeds 3.4 GW. Whether these come to fruition or not depends on project-specific conditions and the investment landscape.

Finland has an exceptional opportunity to emerge as a leader in European data center industry – how much of this potential is seized depends on the stability of the investment environment, regulation, and energy policy.

IMPACTS ON THE ENERGY MARKET



Investments in renewable energy support the transition to cleaner electricity production, as major data center operators finance projects and sign long-term power purchase agreements (PPAs) for renewable energy.

Finland's cold climate boosts energy efficiency, as residual heat can be reused in district heating networks, provided there is a network and an operator nearby willing and able to recover the heat. Outdoor air can also be used directly for cooling most of the year.

Utilizing residual heat enables data centers to serve as platforms for local heat-requiring services and industrial processes.

The high share of renewables in Finland increases frequency deviations in the electricity transmission grid, increasing the need to strengthen stability and resilience. Data centers designed with this in mind can utilize their backup power equipment and develop flexible solutions that have significant potential to support the stability of electrical systems.

Growing electricity consumption increases demand in the electricity market. On the other hand, growing demand accelerates investments in electricity production, which balances the market at equal pace as data centers are being built. There is significantly more renewable energy production capacity ready to be built than there are data center plans. There are about ten times as many wind power projects in the permitting process (a total of about 50 GW*, corresponding to about 20 GW of baseload production**) compared to announced data center investment plans (max 3.4 GW).

* **Source:** Tuulivoimahankkeet Suomessa, Suomen uusiutuvat & Ramboll, 2025

** **Note:** Baseload production refers to electricity that is generated continuously at a steady rate. In contrast, wind power production fluctuates depending on wind conditions.

ENVIRONMENTAL IMPACTS

Many international and domestic data center operators in Finland are committed to net-zero targets. Finland's low-carbon electricity mix enables many data centers to operate entirely on renewable electricity. The electricity demand from data centers (via PPAs) is a significant driver for new wind power projects in Finland. PPAs of large tech companies have helped de-risk projects and provide stable demand.

Finland's renewable electricity production means data centers will be less dependent on fossil fuels, alleviating concerns that operational energy use might increase reliance on non-renewable sources and greenhouse gas emissions.

Finland's climate supports energy efficiency and lower PUE (Power Usage Effectiveness) values due to a long free cooling season, also providing increased opportunities for residual heat utilization.

Residual heat from data centers can be utilized in district heating and industrial processes when a network and an operator are willing and able to recover the heat. The EU Energy Efficiency Directive requires that new or significantly refurbished data centers over 1 MW assess the potential for heat recovery, reducing emissions and adding value to local communities.

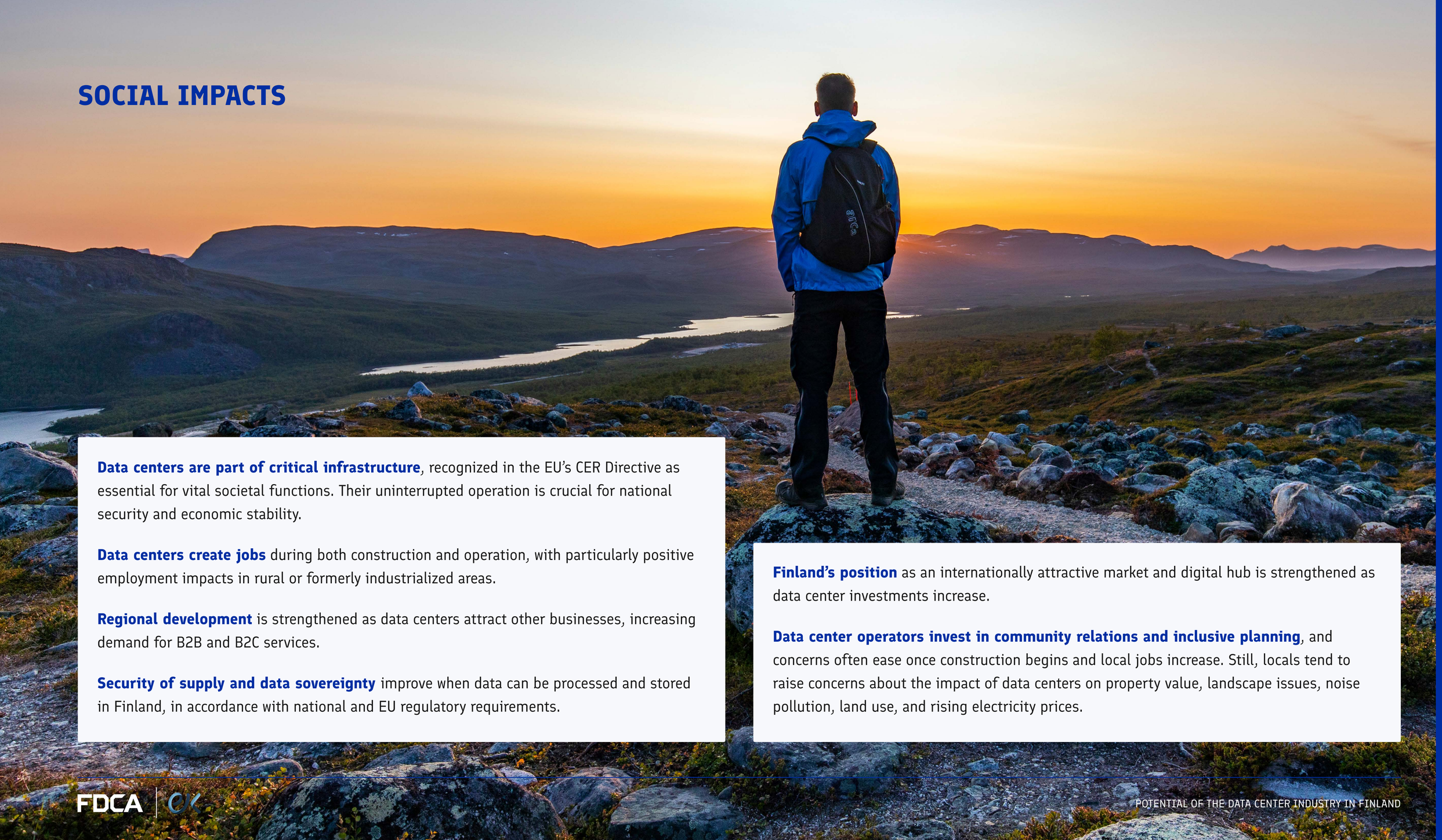
Environmental impact assessment (EIA) is mandatory in Finland for certain data center projects, which ensures environmental impacts are systematically reviewed as early as the planning stage.

The environmental effects of construction can be reduced by using existing buildings or pre-built locations. However, the construction of new centers consumes natural resources and causes emissions, particularly through the use of concrete and steel, which affects land use and local ecosystems.

Electronics recycling and reuse can create new business opportunities for Finland and support the EU's goal of strengthening critical raw material value chains. The amount of electronic waste is growing quickly due to rapid technological development and increasing demand for computing power.

General discussion in Finland revolves around many of these concerns. Most of them are not unique to data centers but rather apply to energy-intensive industries across a broad spectrum.

SOCIAL IMPACTS



Data centers are part of critical infrastructure, recognized in the EU's CER Directive as essential for vital societal functions. Their uninterrupted operation is crucial for national security and economic stability.

Data centers create jobs during both construction and operation, with particularly positive employment impacts in rural or formerly industrialized areas.

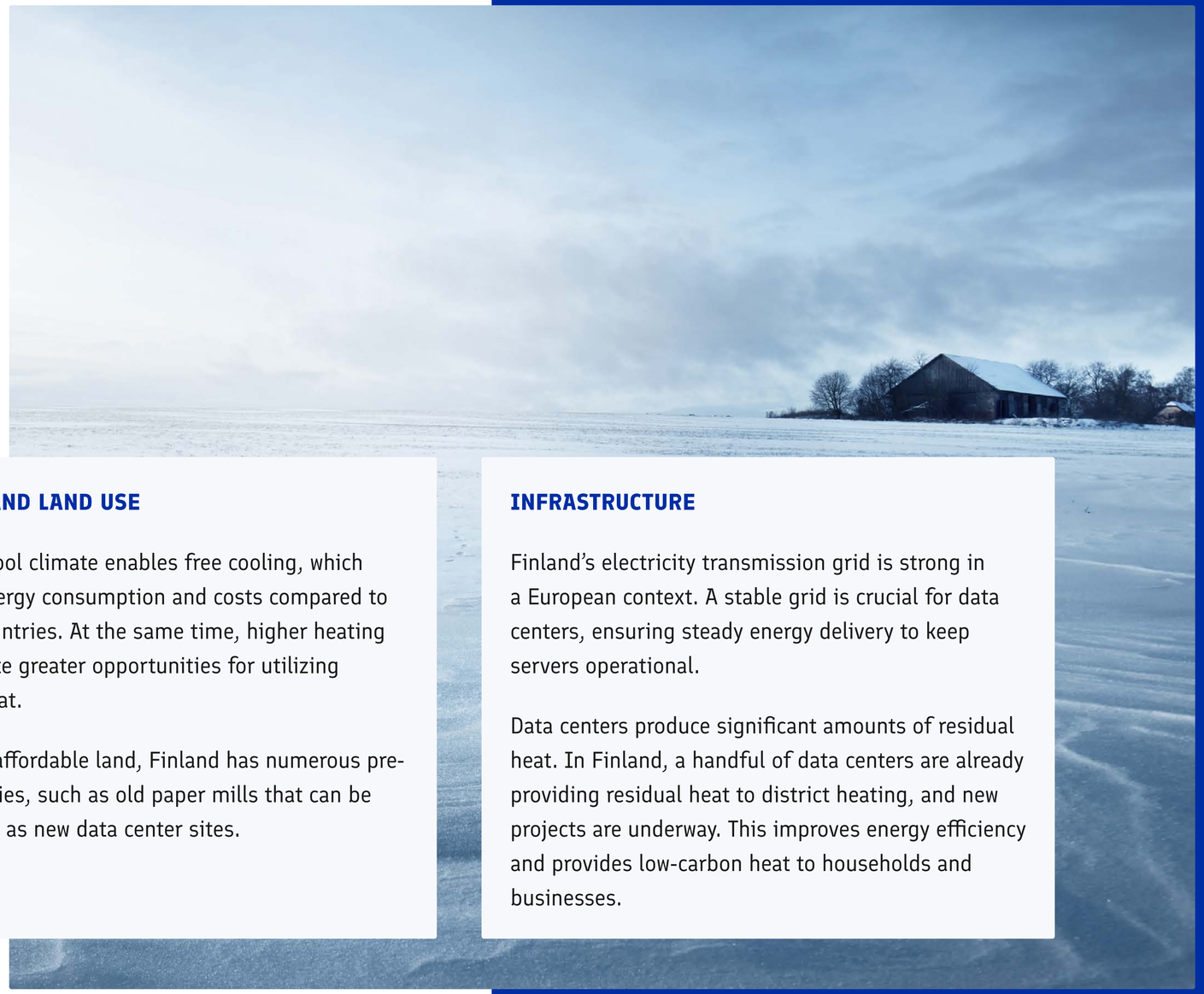
Regional development is strengthened as data centers attract other businesses, increasing demand for B2B and B2C services.

Security of supply and data sovereignty improve when data can be processed and stored in Finland, in accordance with national and EU regulatory requirements.

Finland's position as an internationally attractive market and digital hub is strengthened as data center investments increase.

Data center operators invest in community relations and inclusive planning, and concerns often ease once construction begins and local jobs increase. Still, locals tend to raise concerns about the impact of data centers on property value, landscape issues, noise pollution, land use, and rising electricity prices.

FINLAND’S STRATEGIC ADVANTAGES



CLEAN AND AFFORDABLE ENERGY

Approximately 56% of Finland’s electricity is generated from renewable sources, and up to 95% is CO_2-neutral.

Finland has the third-lowest average wholesale electricity price in Europe, making it an attractive investment destination, as the electricity price significantly affects operating costs.

CLIMATE AND LAND USE

Finland’s cool climate enables free cooling, which reduces energy consumption and costs compared to warmer countries. At the same time, higher heating needs create greater opportunities for utilizing residual heat.

Alongside affordable land, Finland has numerous pre-built facilities, such as old paper mills that can be repurposed as new data center sites.

INFRASTRUCTURE

Finland’s electricity transmission grid is strong in a European context. A stable grid is crucial for data centers, ensuring steady energy delivery to keep servers operational.

Data centers produce significant amounts of residual heat. In Finland, a handful of data centers are already providing residual heat to district heating, and new projects are underway. This improves energy efficiency and provides low-carbon heat to households and businesses.

MARKET UNCERTAINTIES

POLITICAL PREDICTABILITY

Data center projects are long-term investments that necessitate a stable and predictable regulatory framework.

Finland offers a predictable business environment, supported by political stability, low corruption, and an independent judiciary. Clear regulations, consistent decision-making, and efficient administration make Finland an attractive destination for both domestic and international companies.

Although Finland's political situation is generally stable, debate over changing the electricity tax classification for data centers has increased uncertainty among investors.

Should the electricity tax be raised, Finland will lose its position as one of the most affordable electricity areas in the Nordics, potentially redirecting investments to competing countries.

ELECTRICITY PRICE

Data centers contribute to increased total electricity consumption, which has raised concerns about rising electricity prices.

Rising prices could limit Finland's competitiveness and attractiveness for data center investments.

However, growing demand also drives new investments in electricity production. According to Fingrid, growing demand and rising prices can incentivize new investments in electricity production, supporting long-term market balance.

GRID CAPACITY

Finland's transmission grid is strong, but regional differences in supply and demand can limit data center investments.

Fingrid has implemented temporary restrictions on new connections (exceeding 10 MW) in Southern Finland, mainly areas around Helsinki, Turku, and Tampere, effective until 2027.

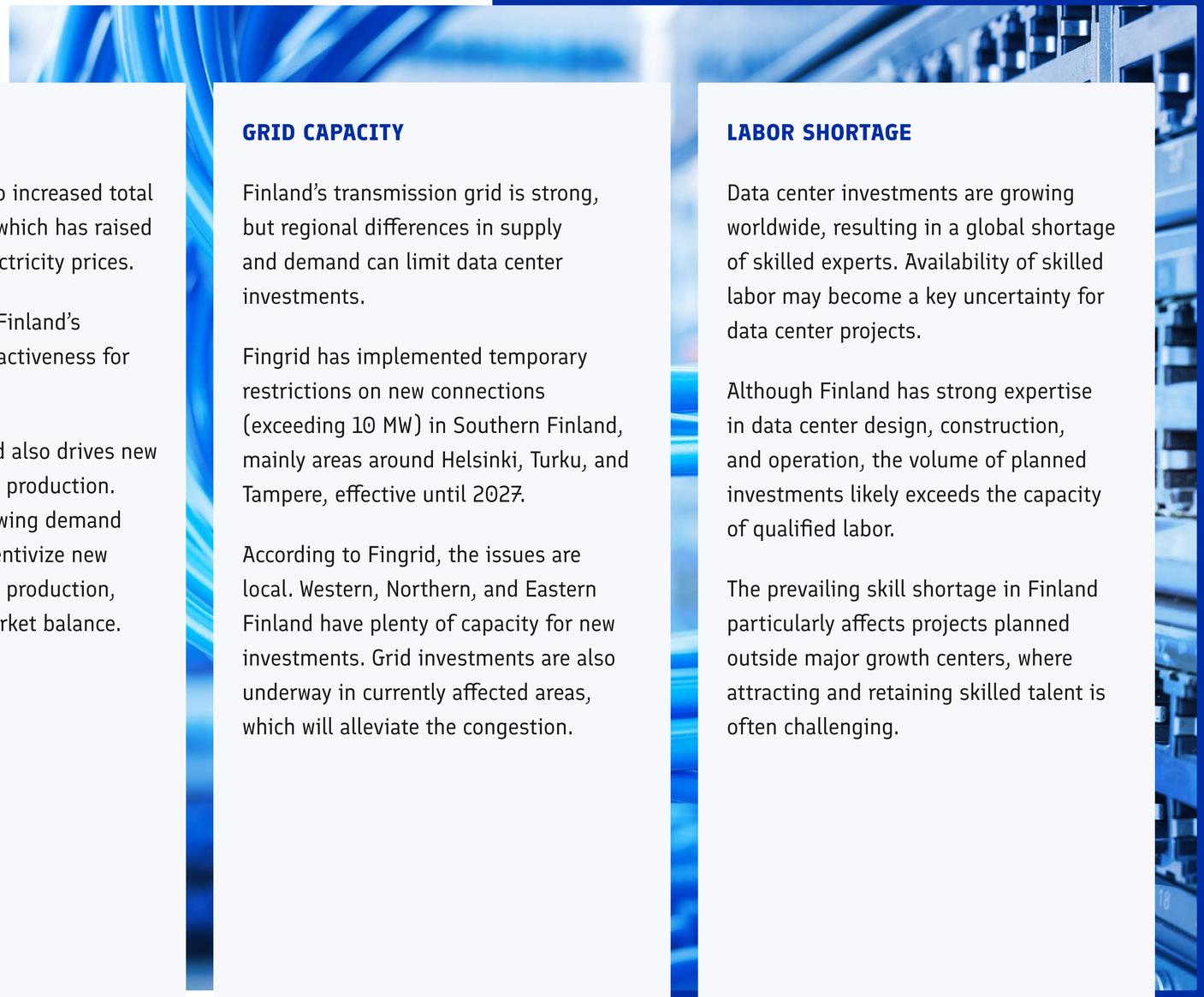
According to Fingrid, the issues are local. Western, Northern, and Eastern Finland have plenty of capacity for new investments. Grid investments are also underway in currently affected areas, which will alleviate the congestion.

LABOR SHORTAGE

Data center investments are growing worldwide, resulting in a global shortage of skilled experts. Availability of skilled labor may become a key uncertainty for data center projects.

Although Finland has strong expertise in data center design, construction, and operation, the volume of planned investments likely exceeds the capacity of qualified labor.

The prevailing skill shortage in Finland particularly affects projects planned outside major growth centers, where attracting and retaining skilled talent is often challenging.



WHAT IS A DATA CENTER?

Data centers are critical IT infrastructure facilities where essential data for digital services is stored and processed. They ensure the security, continuity, and scalability of all digital services. For utilizing AI, data centers are indispensable, providing the required computing power and infrastructure for processing data.

COLOCATION DATA CENTERS

Colocation data centers are physical facilities operated by service providers, where organizations rent space for their own IT equipment.

The organization owns and manages the equipment, but the data center operator provides the space, electricity, cooling, telecommunications, and physical security.

CLOUD DATA CENTERS

Cloud data centers sell capacity services to customer organizations on a usage basis. The customer does not need to own the equipment; the cloud service provider manages the hardware, software, and data.

Major cloud platform providers, such as the FAANG companies (Facebook/Meta, Apple, Amazon, Netflix, and Google), build this type of large data centers.

PRIVATE DATA CENTERS

Private data centers are built and operated by companies for their own IT and data processing needs.

These are usually smaller than colocation or cloud data centers and are used by individual organizations to support internal operations.

WHY ARE DATA CENTERS IMPORTANT?

Foundation of a digital society

Data centers enable the services, storage, and computing for a digital society. Without data centers, everyday services would stop.

Digital resilience

Domestic data centers improve service continuity, resilience, and security.

Sustainability drives development

As major energy consumers, data centers drive the development of renewable energy, residual heat recovery and utilization, and innovative cooling solutions – all drivers for the green transition.

AI as a new driver

Generative AI, cloud services, automation, and real-time analytics require massive computing power, increasing demand for data centers.

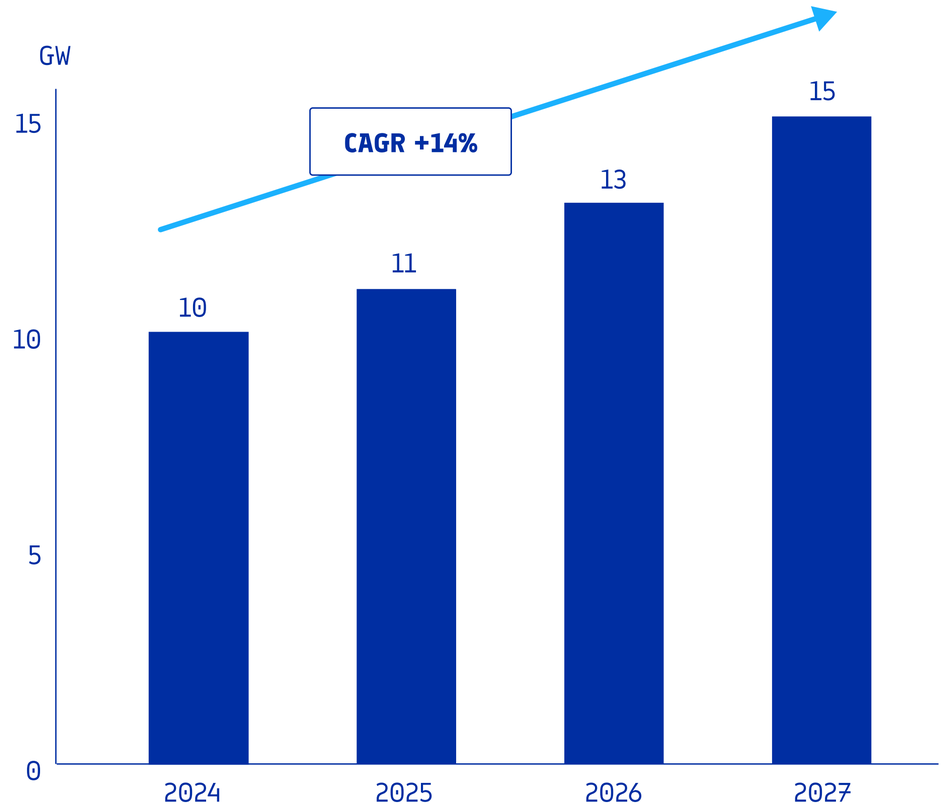
Significant economic potential for Finland

Data centers bring multi-billion-euro investments, tax revenues, and jobs, strengthening Finland's digital competitiveness.

Changing market

New investors and builders are entering the market, accelerating growth and diversifying the sector.

CAPACITY FORECAST OF EMEA DATA CENTERS, 2024–2027

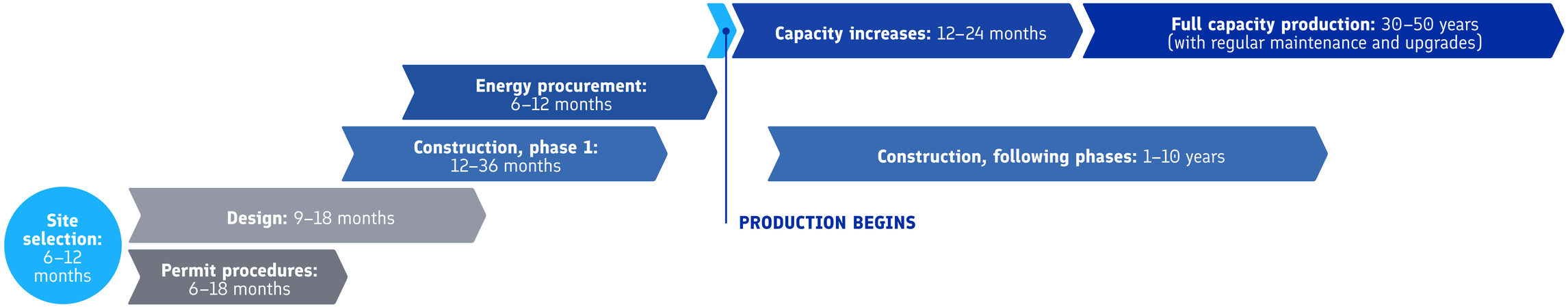


According to JLL's (an international property sector company) model, the demand for data center capacity is expected to grow by 50% between 2024 and 2027 in the EMEA region (Europe, the Middle East, and Africa). Data centers are also on the European Commission's agenda: the target is to triple the European capacity during the next 5–7 years to strengthen digital infrastructure and increase strategic self-sufficiency.

THE DATA CENTER LIFECYCLE

The project durations for data centers vary greatly, and the construction phase typically spans several years. In large, phased hyperscale data centers, the entire project can take a considerable amount of time to complete.

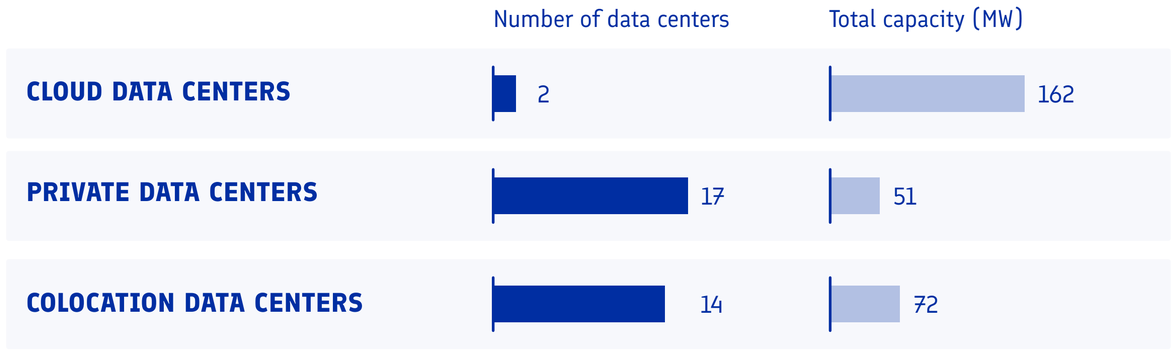
After completion, a data center can operate at full capacity for several decades, typically ranging from 30 to 50 years. However, operation requires regular reinvestment in cooling systems, electrical technology, and servers.

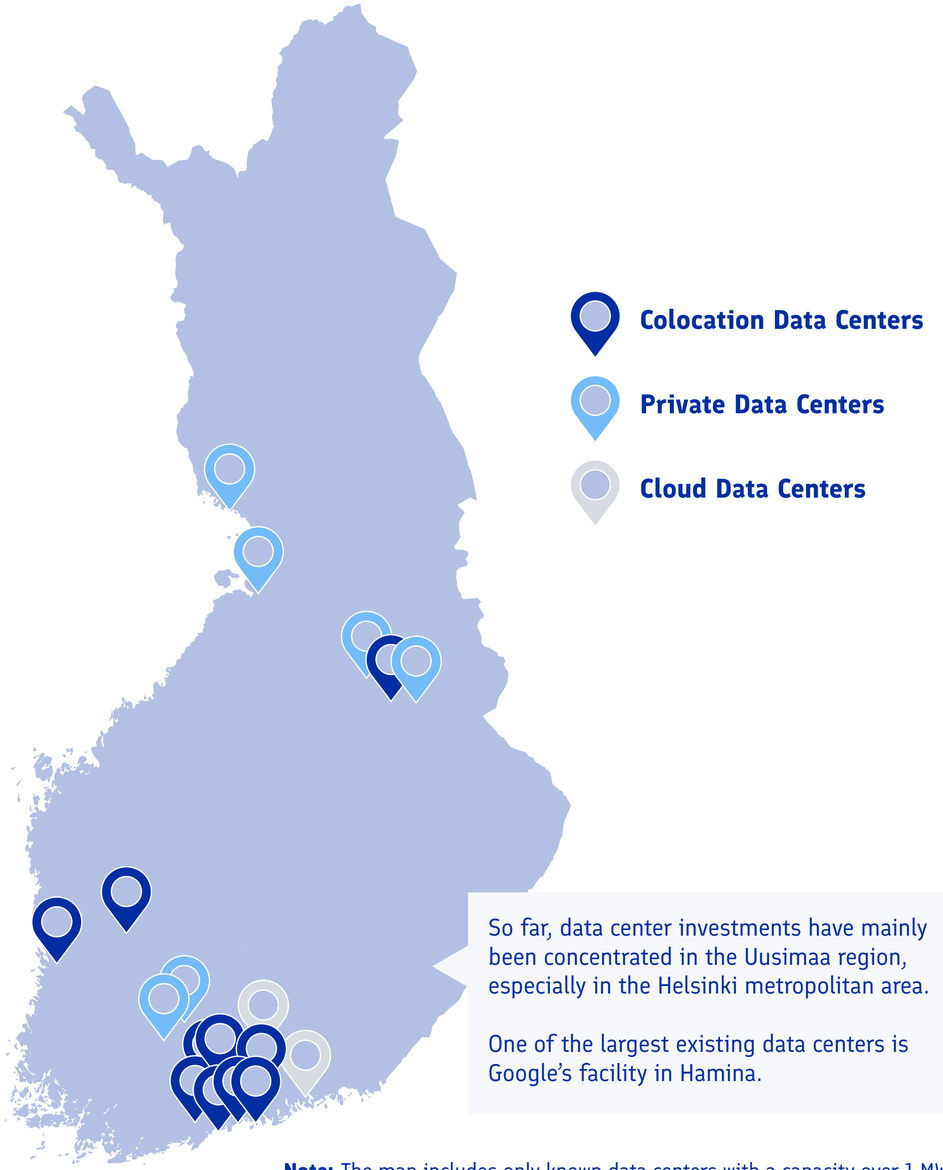


- **Site Selection:** Based on buildability studies, including power availability, fiber connectivity, zoning, and environmental impact assessment.
- **Permission Procedures:** Requires official approval, zoning permits, environmental permits, and utility connection approval.
- **Design:** Includes architectural, structural, HVAC, electrical, cooling, environmental, landscape, traffic safety, and sustainability planning.
- **Construction:** Includes the core and the shell of the data center, HVAC, electrical, cooling, backup power, automation systems, and data center interiors.
- **Energy Procurement:** Negotiating PPAs and securing grid connection.
- **Capacity Ramp-up:** In large projects, full operational capacity is reached gradually over several years.
- **Full Capacity Production:** Typically lasts several decades, with regular maintenance and upgrades.

CURRENT STATE OF THE DATA CENTER INDUSTRY

- **The total data center capacity in Finland is currently about 285 MW.**
- Most data centers in Finland are colocation centers. However, cloud data centers account for the majority of total capacity as they are generally larger in size.
- The key players are overseas companies, excluding some local telecom companies that operate their own colocation centers.
- Overall demand for data centers is expected to grow with the adoption of generative AI, both in Finland and globally. This growth in demand is reflected in the increasing size and power density of data centers.
- The market structure is also changing, as new players such as real estate developers are entering the market.
- As the size of data centers increases, new locations are being sought in regions outside central urban areas – locations with available space and strong electricity networks.
- Investors are particularly interested in former industrial sites, as these often already have robust transmission connections, industrial zoning in place, and plenty of space.





So far, data center investments have mainly been concentrated in the Uusimaa region, especially in the Helsinki metropolitan area.

One of the largest existing data centers is Google's facility in Hamina.

Note: The map includes only known data centers with a capacity over 1 MW.

INVESTORS IN THE DATA CENTER INDUSTRY

COMPANIES BUILDING FOR THEIR OWN NEEDS

In Finland, the most significant investment plans are related to internal projects by large companies, such as hyperscale data centers. **Investment decisions for data centers built for a company's own needs typically progress faster and with a higher certainty**, as plans don't need to be accommodated to account for third parties such as lessees.

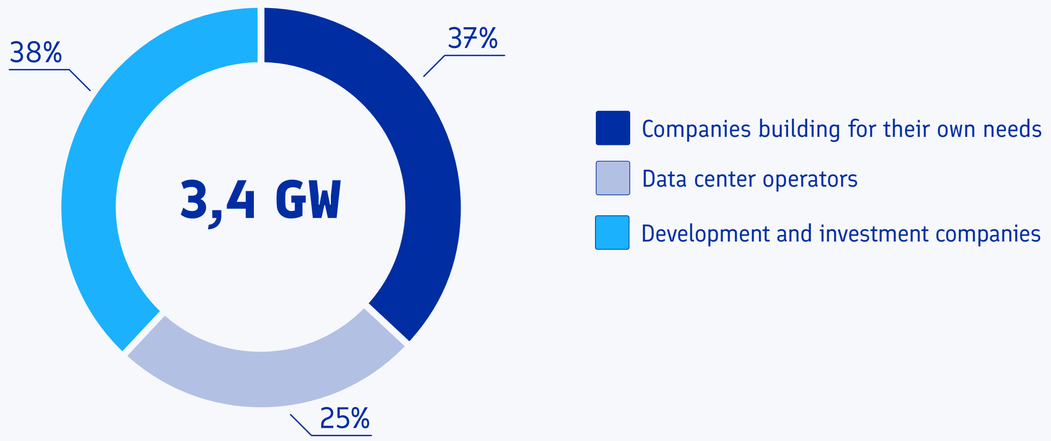
DATA CENTER OPERATORS

Data center operators, such as colocation providers, build and manage data centers to lease capacity to customers. The customer base may consist of a single large tenant or several smaller ones. Although operators are often experienced, **the realization of investments depends on finding sufficient end-users**. Demand for colocation data centers is, however, on the rise.

DEVELOPMENT AND INVESTMENT COMPANIES

Development companies aim to sell the data center project once a certain stage of development has been reached. **The realization of such investments is more uncertain and slower**, as finalization requires reaching agreements with external stakeholders.

PLANNED INVESTMENTS (GW)



- Looking at known data center investment plans in Finland, nearly two-thirds are led by operators and development companies. The completion of these investments is uncertain, as end users are rarely secured beforehand.
- Data center projects built for a company's own needs have, on average, progressed further than other investment plans. Of the projects that have reached a final investment decision, about 65% follow this implementation model.

FDCA

FINNISH DATA CENTER ASSOCIATION

Confederation of Finnish Industries