



Data Centers & connectivity

The assets that enable strategic control.

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business

INTRODUCTION

Infrastructure at the center of strategic business choices

Having moved beyond the initial phase of digital transformation and into one of digital maturity, organisations are no longer asking whether to adopt digital technologies, but how to govern them over time.

Cloud services, artificial intelligence, automation, and data-driven platforms have turned digital capabilities into a structural component of economic models, public services, and industrial competitiveness. As a result, the role of data centers has returned to the center of strategic debate, not as technical facilities, but as assets that enable strategic control: the ability to operate, evolve, and choose with control, continuity, and responsibility in a regulated, interconnected, and geopolitically complex environment.

Infrastructure is no longer a commodity; it is a strategic element that shapes long-term choice.

Data centers and connectivity now represent the physical foundations upon which digital decisions are made. These infrastructures determine:

- where data resides;
- under which jurisdiction it is processed;
- the level of resilience supporting critical services;
- how reversible technological choices remain over time.

In other words, they define the degree of digital autonomy an organisation can realistically maintain.

Strategic control is the power to govern your entire technology stack, decide, adapt, and evolve on your own terms.

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CHAPTER 01

The new role of data centers in the digital economy

This shift in perspective has profoundly transformed the role of data centers.

Long perceived as a purely technical component supporting IT operations, they have become critical infrastructures for the digital economy as a whole.

The evolution of cloud models, the emergence of AI-ready workloads, the growing dependency on digital services, and the tightening of regulatory frameworks have repositioned data centers as:

- hubs of distributed digital ecosystems;
- pillars of operational continuity for enterprises and institutions;
- points of intersection between technology, regulation, sustainability, and energy.

Data centers are the foundation of every digital enterprise.

The way data centers are designed, located, and operated now has a direct impact on service quality, process resilience, and the ability to innovate without compromising **stability** or **compliance**.

This is why data centers can no longer be considered neutral containers of compute capacity. They are **strategic assets** whose characteristics shape long-term digital outcomes.

In this scenario, the very nature of data centers is evolving: there is no longer a single infrastructure model, but rather a range of infrastructures differentiated by size, function, and location.

Alongside large hyperscale campuses, edge and distributed models are emerging, designed to reduce latency, bring data closer to where it is used, and support real-time applications.

This evolution reflects a structural shift: infrastructure is no longer simply centralised capacity, but a network of interconnected nodes responding to different requirements for proximity, performance, and control.

As a result, **data center design becomes an architectural choice** that directly impacts service quality, system resilience, and the ability to govern digital operations.

This shift in role is also driving a concrete evolution in infrastructure models. Operators such as Aruba are developing data center campuses designed to support complex digital ecosystems, where compute capacity, interconnections, and energy integration are conceived as part of a single infrastructural framework.

CHAPTER 02

From compute capacity to governance capacity

For years, the evolution of digital infrastructure has been measured primarily in terms of scale: more compute power, more storage, more performance. While the demand for computational capacity continues to grow exponentially, the real shift now concerns a different dimension, the ability to govern infrastructure, not merely to scale it.

Artificial intelligence makes this tension immediately visible. AI workloads demand dense compute, proximity to data, and predictable performance. At the same time, they expose the limits of infrastructure models built solely around elasticity and abstraction. Questions of data control, auditability, security, and jurisdiction become unavoidable as experimentation gives way to production.

Yet AI is only the most visible signal. Emerging technologies such as quantum computing foreshadow even deeper structural challenges. **Cryptographic security, physical proximity, interconnection models, and integration with energy infrastructures will increasingly become foundational design variables.**

In this context, organisations face a set of intertwined challenges:

- integrating on-premise environments with private and public cloud platforms;
- managing sensitive and regulated data across distributed architectures;
- reducing exposure to technological and contractual lock-in;
- ensuring continuity of operations even under crisis conditions.

The data center emerges as a true governance platform. Poorly designed infrastructure choices generate digital debt, architectural rigidity, and dependence on opaque models.

By contrast, **infrastructures conceived with long-term vision enable progressive evolution, reversibility, and continuous adaptation.**

Data centers are no longer just places where compute happens, they are places where trust, certification, and control are established.

CHAPTER 03

Localisation, cybersecurity

The capacity to govern infrastructure materialises most clearly in the domain of digital sovereignty.

Far from being an abstract or ideological concept, sovereignty translates into very concrete operational questions: where data is physically located, which jurisdictions apply, who controls access and operations, and how audit, verification, and certification can be enforced.

For regulated sectors, public administrations, and critical services, knowing where data resides and who governs the underlying infrastructure is a non-negotiable requirement. Increasingly, private enterprises are reaching the same conclusion: data localisation is not a constraint on competitiveness, but a condition for resilience, trust, and long-term stability.

In this context, cybersecurity cannot be treated as an application layer added on top of infrastructure. It is a structural property that emerges from the combination of physical control, governance models, localisation, and resilient architectures.

Integrity is the trust layer that sustains growth.

European data centers, designed, built, and operated according to local standards and regulatory frameworks, therefore play a strategic role. They embed compliance by design, align infrastructure operations with European law, and provide the physical conditions necessary for cyber resilience and service continuity, even in increasingly unstable geopolitical environments.

Data localisation, in this sense, is not about isolation or technological protectionism. It is about accountability. It ensures that responsibility for data, services, and digital processes remains visible, auditable, and enforceable throughout the infrastructure stack.

We build and manage the full digital stack, from data center design and construction to connectivity and trust and security services.

By anchoring digital operations in infrastructures governed under European jurisdiction, organisations gain the ability to innovate while retaining control, a prerequisite for sustainable digital evolution in a regulated world.



CHAPTER 04

Sustainability: from ethical requirement to industrial factor

Sustainability has become an integral dimension of infrastructure governance. What was once treated primarily as a reputational or ethical concern has, in the context of data centers, evolved into a decisive industrial factor that directly affects reliability, scalability, and long-term economic viability.

The high energy intensity of digital infrastructures makes it impossible to address sustainability as an afterthought. Instead, it must be embedded from the earliest design stages, encompassing:

- energy-efficient architectural design;
- advanced cooling systems;
- integration of renewable energy sources;
- tight coupling between IT infrastructure and the surrounding energy ecosystem.

Sustainability is no longer reputational. It is operational, financial, and strategic.

A sustainable data center is not only one that reduces environmental impact. It is also one that offers greater operational resilience, more predictable cost structures, and stronger alignment with long-term European industrial and energy policies.

In this direction, **Aruba has adopted a green-by-design approach in the development of its data centers, integrating energy-efficiency solutions, renewable energy sources, and large-scale consumption optimisation measures from the earliest design stages.**

In this sense, sustainability becomes an indicator of infrastructure quality rather than an optional add-on. Energy availability, price stability, and provenance directly influence the capacity of data centers to scale, support emerging workloads, and remain viable over time.

By treating sustainability as a core design principle rather than a compliance exercise, data centers can support digital growth without creating hidden constraints or future trade-offs.

Beyond design itself, broadening the concept of sustainability means recognising that data centers can, and should, integrate with local communities, energy networks, and urban systems.

Overcoming the perception of data centers as disruptive elements requires a change in approach: infrastructures should no longer be imposed onto territories, but designed together with them. This implies transparency, dialogue with local communities, and the

sharing of objectives, so that economic, employment, and infrastructural benefits are clear and measurable. In this sense, social acceptance becomes an integral dimension of infrastructure quality.

From this perspective, the development of data centers is increasingly intertwined with urban and regional planning dynamics. Digital infrastructures can become drivers of regeneration and territorial enhancement. One example is IT3, Aruba's Data Center Campus in Ponte San Pietro (Bergamo), developed through the regeneration of the former industrial area that once hosted the Legler textile factory.

The location of data centers, the redevelopment of disused industrial sites, integration with local energy networks, and heat reuse systems all represent concrete opportunities to generate shared value.

Urban regeneration is no longer a secondary effect of infrastructure development; it becomes an explicit design objective.

Reliability, sustainability, and data localisation are inseparable dimensions of long-term digital value.

ARUBA'S EUROPEAN INFRASTRUCTURE AT A GLANCE

8 proprietary data centres across Europe: IT1 and IT2 in Arezzo, IT3 in Ponte San Pietro (Bergamo), IT4 in Rome, CZ1 in Ktiš (Czech Republic), complemented by more than 12 partner sites across 6 countries.

300,000 sqm of owned infrastructure, 80 MW of installed IT capacity and ANSI/TIA-942 Rated 4 certification across the Group's flagship campuses.

A pure Builder & Maker approach: direct responsibility for the entire infrastructure stack, with every facility designed, built and operated by Aruba.

More than 300 professionals and over 20 years of experience in the design, construction and operation of data centre infrastructures.

Low-latency links across all campuses, with direct peering to major Internet Exchanges, Tier-1 carriers and leading hyperscalers.

Data centres powered by 100% renewable energy, generated in part through Aruba's proprietary hydroelectric and photovoltaic plants.

+300k

ITALIAN CAMPUS
FOOTPRINT (SQM)

80MW

IT POWER CAPACITY
OF ITALIAN CAMPUSES

+300

SPECIALISTS

8

COMPANY-OWNED
DATA CENTERS ACROSS EU

evidence box

CHAPTER 05

Resilience and continuity as systemic prerequisites

Resilience is what transforms digital ambition into sustainable reality. Without it, innovation accelerates fragility rather than progress.



The convergence of energy volatility, extreme climate events, geopolitical tensions, and growing dependence on digital services has brought resilience back to the center of infrastructure strategy.

In today's digital economy, it is no longer sufficient to guarantee high levels of uptime under normal operating conditions. Organisations must design infrastructures capable of absorbing shocks, continuing to operate in degraded scenarios, and restoring full functionality rapidly when disruptions occur.

Resilience, therefore, is not a single feature or certification. It is a systemic property that emerges from the integration of:

- redundant and modular architectures;
- physical and logical security;
- clear governance and operational accountability;
- continuity of energy supply and interconnection.

Reliability is the foundation of every digital enterprise.

Within this framework, **data centers become infrastructures of strategic interest not only for individual organisations, but for the economic and social systems that increasingly depend on them.** Their ability to maintain continuity under stress conditions determines the stability of essential services, industrial processes, and public functions.

CHAPTER 06

Connectivity: from links to digital ecosystems

Resilience and governance at the data-center level cannot exist in isolation. In a world of distributed architectures, connectivity is the layer that transforms individual facilities into a coherent digital system.

As applications, data, and users become increasingly dispersed, the ability to interconnect data centers, cloud environments, service providers, enterprise sites, and digital ecosystems determines not only performance, but also security, auditability, and architectural freedom.

Connectivity shapes how data flows, how workloads are distributed, and how digital responsibilities are enforced across organisational and geographic boundaries.

Connectivity is the connection that enables digital evolution.



High-performance backbones, private interconnections, carrier-neutral environments, and secure hybrid links turn data centers into hubs of digital ecosystems rather than isolated points of compute capacity.

In this context, connectivity is no longer a supporting service; it is a structural component of infrastructure governance. Without controlled, low-latency, and jurisdictionally clear connectivity, even European data centers risk becoming fragile.

Data locality can be undermined by opaque routing, hybrid architectures can lose coherence, and regulatory assurances can weaken at the level of data movement rather than data storage.

When designed as part of the infrastructure rather than layered on top of it, connectivity enables organisations to build architectures that are distributed yet governable, flexible yet resilient.

It is through connectivity that digital infrastructures become systems capable of evolving without fragmentation.

Proximity is not only physical;
it is operational and accountable.

CHAPTER 07

The future of digital infrastructure: Europe, geopolitics, and technological discontinuity

Expanding the perspective further reveals how digital infrastructures have moved decisively into the realm of industrial policy and geopolitics.

Across Europe, data centers, connectivity, cloud, cybersecurity, and energy are increasingly treated as interdependent components of a single strategic domain.

This convergence reflects a growing awareness: digital infrastructure underpins economic competitiveness, public service continuity, and societal resilience.

As global dependencies become more visible and geopolitical tensions intensify, the location, governance, and ownership of infrastructure acquire strategic significance.

Technological discontinuities amplify this dynamic. Artificial intelligence already acts as a stress test for existing infrastructures, exposing limitations in governance, energy availability, and data control.

Looking ahead, **quantum computing** represents an even more profound challenge. Post-quantum cryptography, physical security, proximity constraints, and tight integration with energy systems will further raise the stakes of infrastructure design.

In this evolving landscape, data centers sit at the intersection of **technology, regulation, sustainability, and security**.

Infrastructure is where responsibility becomes real.

Their design and operation influence not only organisational outcomes, but also the resilience of the broader digital ecosystem.

Europe's response increasingly points toward infrastructures that are locally governed, interoperable, and open to global collaboration without surrendering accountability. This approach does not reject innovation; it seeks to anchor it in foundations capable of absorbing change.

By aligning infrastructure choices with long-term industrial and societal objectives, organisations can reduce structural dependencies while strengthening their capacity to adapt in an uncertain future.

In this scenario, **European infrastructure operators such as Aruba play a significant role in ensuring that capabilities, expertise, and control remain within the European perimeter, contributing to the development of a more autonomous and resilient digital ecosystem.**



European by nature,
secure at the core,
sustainable by vocation.

CHAPTER 08

Toward a composable and governable infrastructure model

Taken together, the forces shaping digital infrastructure, regulation, sustainability, resilience, and technological acceleration , point toward a new paradigm.

Data centers can no longer be designed as static assets optimised for a single phase of technological evolution. They must instead function as part of a composable and governable portfolio of digital foundations.

In this model, infrastructure is conceived to evolve alongside business needs, regulatory frameworks, and technological change. Modular architectures, scalable capacity, and interoperable components allow organisations to adapt incrementally rather than through disruptive reinvention. The objective is not to predict the future, but to remain structurally capable of responding to it.

The value of technology lies not in what it promises, but in what it allows you to do.

CHAPTER 09

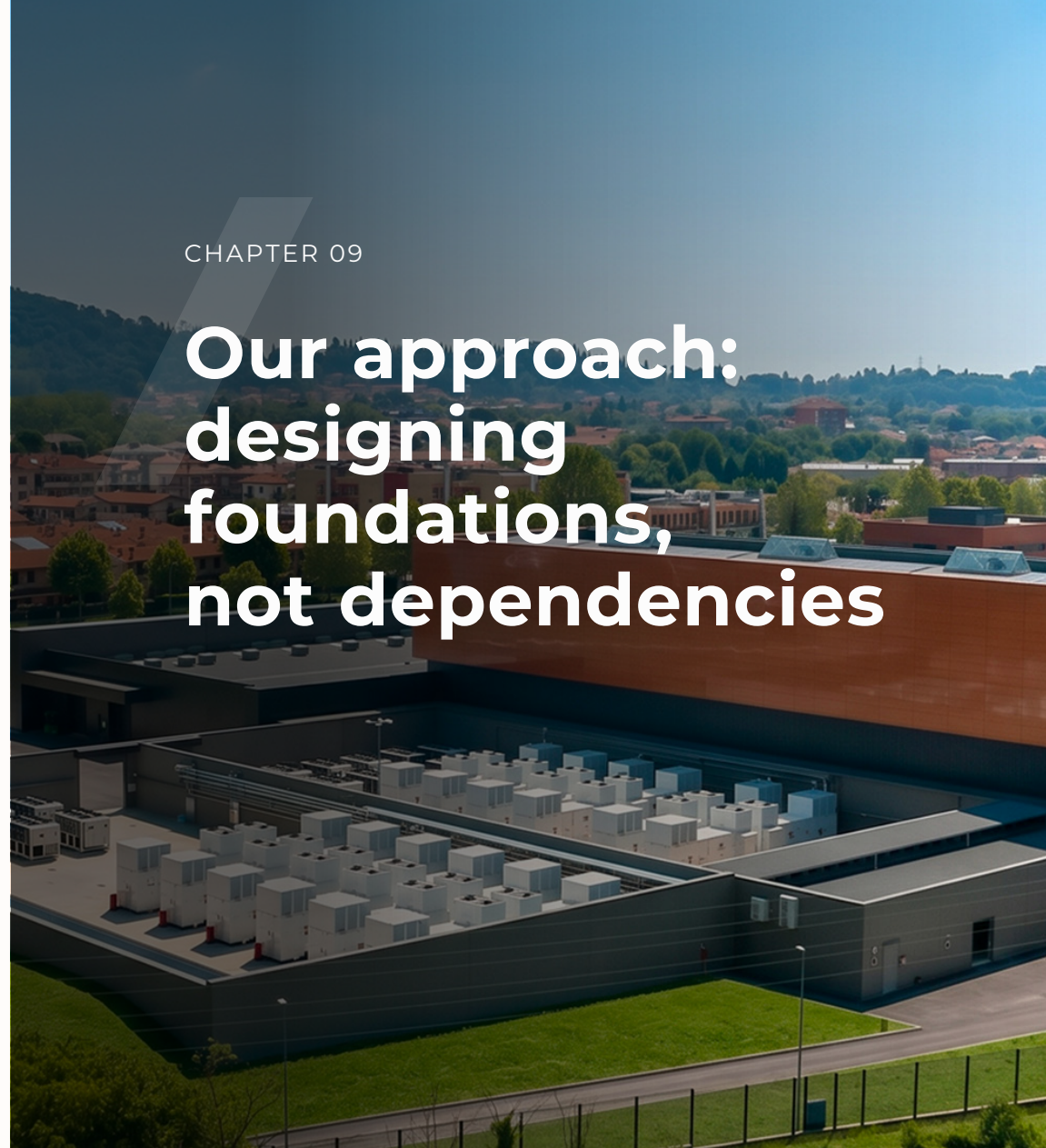
Our approach: designing foundations, not dependencies

Composable infrastructure supports the present without constraining future choices. It enables organisations to integrate new platforms, services, and workloads while preserving control over data, governance, and operational continuity. Crucially, it avoids embedding irreversible dependencies that limit strategic freedom over time.

In this context, **data centers are no longer endpoints. They act as platforms that orchestrate physical infrastructure, connectivity, security, and energy into a coherent system, one that supports innovation while maintaining accountability.**

A composable approach transforms infrastructure from a fixed cost into a strategic capability, aligning technical evolution with business intent and regulatory responsibility.

Solid foundations, freedom to evolve.



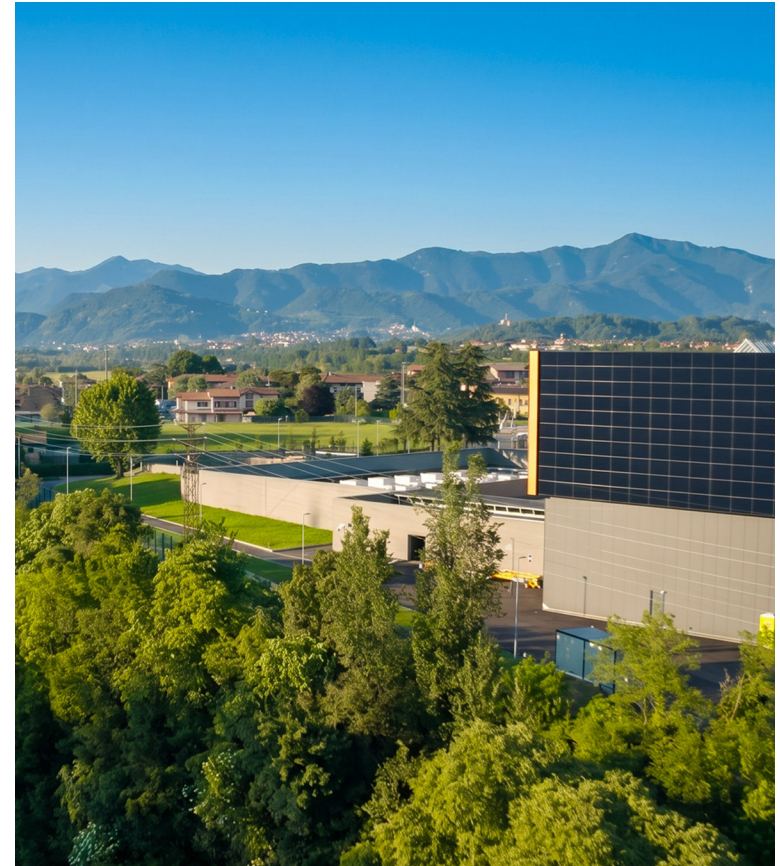
This perspective informs a clear infrastructural philosophy: the long-term value of digital infrastructure does not reside in individual components, but in the coherence of the system as a whole.

Designing foundations means prioritising architectures that are open, interoperable, and governed by design. It means integrating data centers, connectivity, cloud platforms, and security services as complementary layers rather than isolated offerings. Above all, it means accepting responsibility for the physical and operational consequences of infrastructure choices.

Rather than imposing predefined models, this approach emphasises co-design: working alongside organisations to build infrastructures that reflect real business constraints, regulatory obligations, and long-term objectives. Co-design is not about customisation for its own sake; it is about shared accountability for complexity and evolution.

By focusing on ownership, transparency, and operational continuity, infrastructure becomes a stabilising force, enabling organisations to innovate without surrendering control or accumulating hidden digital debt.

We build and manage the full digital stack, from data center design and construction to connectivity and trust and security services.



CONCLUSION

Solid ground for a world in motion

Data centers today are far more than technical facilities. They are strategic assets that shape digital autonomy, resilience, and sustainability across the economy.

In a European context increasingly defined by regulatory responsibility, geopolitical uncertainty, and technological acceleration, infrastructure choices are no longer neutral.

Building and operating data centers implies a long-term responsibility: toward organisations that entrust their critical services, toward territories and energy systems, and toward the future digital fabric of Europe itself.

Infrastructure is no longer a commodity; it is now a strategic element that shapes long-term choice.

As artificial intelligence, cybersecurity challenges, and emerging technologies continue to reshape the digital landscape, the physical foundations on which they rely will determine how much freedom organisations retain to adapt and evolve.

Reliability, sustainability, data localisation, and connectivity are not separate considerations. Together, they define the conditions under which strategic control becomes **durable** rather than temporary.

Data centers and the networks that connect them are where this control takes physical form, where **responsibility becomes real**, and where the freedom to innovate is secured for the long term.



About Aruba

Aruba, founded in 1994, is Italy's Cloud Champion and one of Europe's leading providers of digital infrastructures and platforms based on proprietary assets. The company designs and manages the entire technology stack: from the design and construction of data centers to cloud platforms, from trust and cybersecurity services to connectivity and software solutions that support digital strategies and AI-based applications.

With entirely Italian capital, Aruba serves 16 million users from over 100 countries and operates an infrastructure distributed across 8 data centers, hosting thousands of customers' IT infrastructures.



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