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Executive Summary

Digital sovereignty starts with resilient software architecture

Digital sovereignty means preserving your company's ability to act – even when political, legal, or economic conditions change.

What does digital sovereignty mean?

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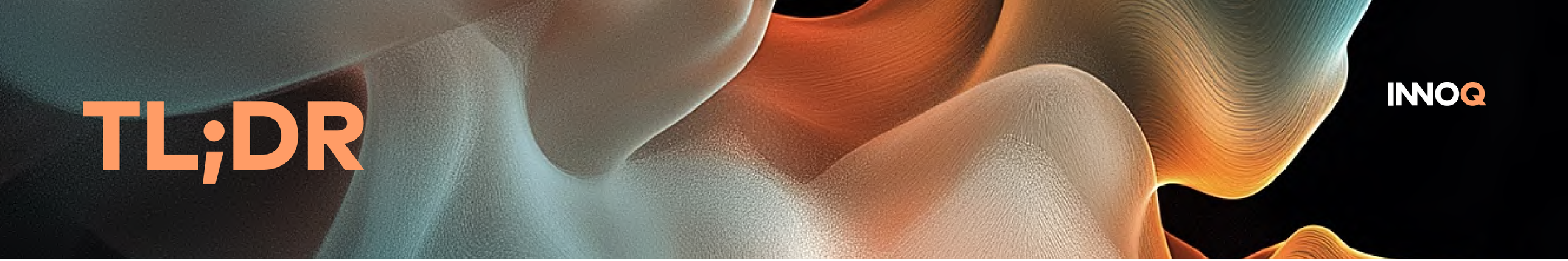
Digital sovereignty means preserving your company's ability to act – even when political, legal, or economic conditions change. It means deliberately deciding which digital technologies you own, operate, and control – and where you accept dependencies on third parties.

In a connected world, full digital sovereignty isn't achievable. The point isn't total independence – it's an intentional trade-off. Every company has to define for itself how far its digital sovereignty needs to reach to stay operational when crisis hits.



Key Takeaways

- **Make sovereignty part of your architecture strategy:** It determines whether your company can keep operating when the unexpected happens and strengthens your business continuity.
- **Choose dependencies deliberately:** Make-or-buy, operating model, vendor selection – sovereignty means having options, not cutting yourself off.
- **Know your alternatives:** Alternative options reduce cost risk.
- **Use AI on your own terms:** Differentiate by use case. Where do you need US models, and where are open-weights alternatives enough?
- **Invest in team capability, not just technology:** Sovereignty comes from the ability to solve problems.
- **Build compliance into the architecture:** Whether it is GDPR, NIS2, DORA, or KRITIS, organizations that anchor data control and portability in their software architecture can respond flexibly to new requirements.

Who is this for?

Digital sovereignty affects multiple levels of your organization. Depending on who owns which decisions, the levers are different.

Strategic decision-makers

CTO, CIO, executive management:
You oversee IT strategy, vendor relationships, and compliance, with the goal of keeping the business resilient as conditions change. Digital sovereignty reduces risk, strengthens your negotiating position, and provides a solid foundation for regulatory compliance.

Architecture Leaders

Enterprise architects, architecture teams:
You shape your company's architecture strategy – a key lever for digital sovereignty. From multi-cloud and integration patterns to data sovereignty, your decisions need to stay scalable, maintainable, and aligned with business goals.

Delivery

Head of IT, engineering:
Digital sovereignty starts with in-house expertise – your focus is on practical implementation, capability building, and incremental change without disruption.

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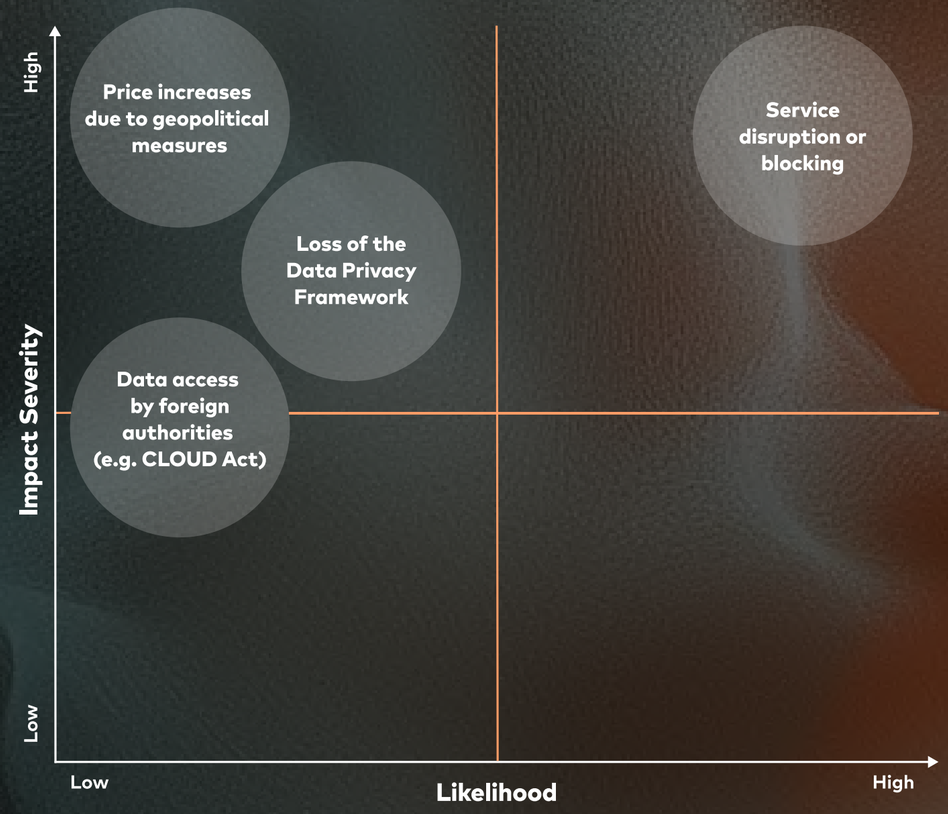
Do you know your dependencies?

Over the past few years, European companies have outsourced large parts of their IT landscape to US cloud providers. The advantages were compelling. But those decisions also created dependencies that are now turning into risks.



Legend

Service disruption or blocking:
Worst case: complete loss of access to email, file storage, and business-critical applications. Low probability, but potentially existential.

Price increases due to geopolitical measures:
Incremental cost increases that are difficult to mitigate at higher levels of vendor lock-in. Microsoft alone has raised cloud prices by up to 70 % since 2023.

Data access by foreign authorities (e.g. CLOUD Act)
US law allows government access to data held by US providers – regardless of hosting location. Risks: GDPR penalties and loss of customer trust.

Loss of the Data Privacy Framework:
Removes the legal basis for EU–US data transfers – fallback to SCCs or phase-out of US services. Not an overnight change – CJEU rulings take time.

Where to take action

Digital sovereignty does not come from a single measure.
The seven areas below show where architecture decisions
make a concrete difference.

1. Build robust software architecture

Sovereignty starts with the structure of your systems. If you want to manage dependencies, you need a software architecture in which individual parts can change or be replaced independently.

Bounded contexts divide systems along business boundaries – each context stays self-contained and communicates through clearly defined interfaces. **Shared architectural principles** keep these building blocks compatible and interchangeable.

The Outcome: An architecture that can adapt to new requirements, vendor changes, or regulatory shifts.

2. Create transparency

You can only reduce dependencies you can see – technically and from a business perspective.

A **Software Bill of Materials (SBOM)** surfaces external dependencies on the technical side; a **capability map** ties them back to your business capabilities.

The Outcome: A clear view of which business capabilities rely on which vendors and systems.

3. Avoid vendor lock-in

Digital sovereignty means making conscious decisions about where standard solutions are sufficient and where custom development is necessary – and choosing providers in ways that keep switching feasible.

Make-or-buy decisions come down to three questions: Does this software differentiate you in the market? How much control could you lose? And how easily can you switch vendors? When evaluating vendors, look beyond cost – criticality, lock-in potential, and geopolitical resilience matter just as much.

The Outcome: You take on dependencies deliberately – and keep your options open.

4. Create technical options

You cannot avoid dependencies, but you can isolate them. The goal is not autarky. It is freedom of choice.

Data sovereignty starts with knowing where your sensitive data lives and who can access it. Multi-cloud and hybrid strategies open up your options. Containerization with Kubernetes improves **portability** – but doesn't eliminate your dependencies on cloud services like storage or IAM. **Open source** delivers transparency and auditability, but requires in-house expertise to maintain and secure it.

The Outcome: Real technical flexibility – without sacrificing performance.

5. Use AI on your own terms

AI is moving into business processes. Anyone using it should understand the dependencies involved.

Chinese and US models alike limit your control over your data. **Open-weights alternatives** like Mistral run on your own infrastructure and cover many standard tasks.

The Outcome: Invest in expertise today – and tomorrow you'll pick your providers on your own terms.

6. Build team capability

The best architecture decisions are worth little if you do not have the people to implement and evolve them.

Three levers: lean structures that keep you responsive, clear goals that let teams own their architecture decisions, and investment in expertise – not just technology.

The Outcome: sovereignty becomes a lasting capability – not a one-time project.

7. Build compliance and resilience into your architecture

Regulatory requirements for IT systems are increasing. At the same time, organizations need to stay operational when disruptions occur. Software architecture is a critical lever in making that possible.

GDPR, NIS 2, DORA, KRITIS – when you build data sovereignty and portability into your architecture, you can adapt to new regulations without major rework. Documented dependencies and tested migration paths keep you **operational** when a vendor goes down.

The Outcome: compliance and resilience are baked into your architecture.

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Digital sovereignty is achievable – we show you how!

We support you on your path to digital sovereignty, wherever you are today.

GIL BRETH
Senior Consultant at INNOQ

Stage 1

Sovereignty Check

You know your dependencies. We help you assess what they mean.

What we do:

- Assess your current dependencies and the risks they create
- Identify concrete alternatives and realistic migration scenarios
- Highlight immediate actions that can have a significant impact with limited effort

Outcome: You know which dependencies are critical, what alternatives are available, and what to tackle first.

Effort: 3-5 person-days

Get in touch

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Stage 2

Target State and Action Plan

Based on the initial assessment, we work with you to define a robust target state that is methodologically sound and grounded in your reality.

What we do:

- Analyze technical, legal, and organizational risks in depth
- Evaluate alternatives systematically: technical feasibility, migration effort, cost, and organizational impact
- Develop a prioritized action plan with concrete implementation options

Outcome: You get a decision-making foundation that is strategically sound and technically feasible.

Effort: 2-4 weeks

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Stage 3

Implementation Support

We help you implement the identified alternatives step by step, both technically and organizationally.

What we do:

- Select and integrate alternative technologies
- Embed them in your architecture with a focus on operations, security, and scalability
- Enable your teams through governance, change support, and knowledge transfer

Oucome: Your architecture evolves step by step toward greater flexibility and control, without disruptive change.

Effort: Varies depending on the scope of the measures

Get in touch

INNOQ

For over 25 years, our consultants have been advising both mid-sized companies and large enterprises – implementing IT systems of all shapes and sizes.

Our expertise is grounded in years of hands-on experience in software architecture and development, platform operations, infrastructure, and digital product development.

We don't see **technology as an end in itself**,
but as an **enabler for solving real-world problems.**

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We're here to help

Strategic Support: What's the best way forward? Which approach best aligns with your business goals?

Development: Complete or partial implementation of your IT project by one or more interdisciplinary expert teams.

Team Augmentation: A team of experienced professionals will support you – either leading the effort or integrated into your own team structure – to tackle strategic, architectural, and technical challenges.

Consulting and Workshops: We work with you to shape a tailored strategy for your IT initiative. In targeted workshops – such as Quality Storming and Big Picture Event Storming – we help uncover untapped potential.

Reviews: Our experts take a close look at your organization and systems. You'll gain valuable insights and honest feedback – with clear, actionable recommendations.