

From platforms to ecosystem transformation

To be referenced as: Schlueter Langdon, C. 2025. From platforms to ecosystem transformation. Research Note (RN_DCL-Drucker-CGU_2025-04_v2), Drucker Customer Lab, Drucker School of Management, Claremont Graduate University, Claremont, CA

To repeat the past is to be doubly wrong: *“To do what has been so successful in the past is always the wrong thing; and to do more of it is to be doubly wrong. It is simply not adequate [...] to do a little better what by now almost everybody can do, and [...] is trying to do”* — Peter F. Drucker (1974)¹

Executive summary

The accelerating pace of digital transformation and global change is outpacing traditional business models, requiring companies to evolve toward more adaptive organizations. One solution is business ecosystems, which are inherently more resilient and flexible. Fortunately, technology has evolved to meet these demands. Dataspace technology enables secure, sovereign data sharing, providing the data fuel needed to drive collaboration across company boundaries and even the next level of AI success. Its decentralized architecture, much like the Internet, makes it a natural fit for ecosystem-based collaboration. With first data ecosystems, such as Catena-X, already taking shape, companies must urgently upgrade their capabilities to manage and thrive in this new environment.² The top priority? Building expertise in data sovereignty—ensuring control over critical data assets while enabling collaboration, even in competitive and uncertain scenarios.

Growing up. Getting smarter. Owning our path.

Seeds grow into trees, children grow into adults, startups evolve into companies, and economic models are growing up as well—from hunter-gatherer systems to specialization with conveyor-belt automation to platforms. Some of the world's most valuable companies have become platform businesses with two-sided markets, reshaping entire industries. Merriam Webster defines platform

¹ Drucker, P. 1974. Letter to Mr. Richard H. Jenrette of Donaldson, Lufkin & Jenrette, Inc. Correspondence from Peter Drucker (1974-06-17), Drucker Archive, Drucker Institute, Claremont Graduate University, Claremont

² The author has been involved in Catena-X, the first end-to-end, collaborative, and open data ecosystem for the automotive industry, from its inception. He wrote Deutsche Telekom into the €250 million Catena-X Consortium, contributing from the initial 15-page government proposal to the final 1,700-page agreement that unified 28 partners, including BMW, Mercedes-Benz, Volkswagen, leading suppliers like Bosch and ZF, and software vendors such as SAP. Much like DARPA funding accelerated the Internet's core technologies, the three-year (2021–2024) Catena-X Consortium leveraged government matching funds, serving as the technology incubator for today's Catena-X data ecosystem. When the project adopted an agile structure under the SAFe framework, the author took on an operational role as part of the three-member Product Management team, with overall responsibility for the design and delivery of the software—now available as an open-source reference implementation through the Eclipse Foundation's Tractus-X project

in the computing context as “an application or website that serves as a base from which a service is provided”. Popular examples include leading tech companies: Google, on one side attracting users with search and infotainment, and on the other side monetizing their attention through advertisers; Amazon, both a retailer and a marketplace for vendors (Rochet & Tirole 2006, 2003). Today, ecosystems are emerging to supplant platforms—caused by the ongoing pursuit of more profitable, adaptive, and resilient systems, now triggered by new enabling technology. While Adam Smith and Karl Marx—two of the most influential pioneers of economic system theory—held fundamentally different views on societal change, both traced its roots to technological progress (Smith 1776, Marx 1867). So, what’s changed technologically that’s prompting companies—and their investors—to move on from platforms, just as many have finally mastered them? The answer lies in a continued shift toward **decentralized systems** that offer greater flexibility and resilience: a progression from Web1 (Internet and e-commerce), through Web2 (mobile and social media), and now to Web3. That said, this may sound abstract to non-tech leaders. So, let’s start with the business case for change. We’ll then return to the technology to show how it supports evolving business needs—and outline the leadership capabilities required for effective adoption.

For an overview of the evolution from Web1 to Web3 and its business implications, please see [Data 4: Dataspace super-apps – Compendium](#)).

Overrun and outrun: Engine rebuild required – now

In short, the acceleration of change is outpacing a traditional business’s ability to adapt:

First, **technology innovation is accelerating** at an unprecedented pace. Generative AI tools like ChatGPT are breaking adoption records. Where radio took nearly 100 years to reach 90% penetration and television about 50, the internet hit 20% in just two years. ChatGPT, launched in November 2022, surpassed 100 million users in just two months. Meanwhile, the **range of technology options is expanding** rapidly. Take your next cars: once the choice was gas or diesel—now it includes battery-electric, hybrids, and hydrogen fuel cells. If that feels complex, imagine being an automotive CEO who must place bets today on technologies that won’t hit the market for four years—and stay profitable for six beyond that.

Second, the business environment is growing more volatile. Ever-longer, often byzantine global supply chains dramatically increase a company’s expose to natural disasters, geopolitical conflict, and economic instability. Disruptions in one region ripple worldwide—a factory shutdown in China can trigger shortages across Europe. The old joke about a bag of rice tipping over in China affecting Europe is now reality.

In short, innovation at “China speed,” deep global interconnectedness, and mounting uncertainty demand a new organizational model—one that sustains profitability while being inherently more adaptive and resilient.

Say hello to ecosystems

Business ecosystems are more than just partnerships—they are networks where the whole delivers more than the sum of its parts, proving that 1 + 1 can equal 3. They allow for best-of-breed solutions, true end-to-end customer journey optimization substituting own capital or debt with collaboration, even involving competitors. Their existence and superiority are not theoretical; they mirror biological ecosystems, which have long demonstrated adaptability, resilience, and superior performance in nature. Business has already built success stories by **mimicking biological**

systems, using nature as a blueprint for solving complex challenges. A prime example is GenAI, which borrows neural networks from biology to replicate biological learning. The challenge, however, lies not in the concept, but in the execution. Here too, GenAI offers a useful parallel—it took decades of evolution for the technology to deliver meaningful results, and then it suddenly exploded (Bloomberg 2025).

For a brief review, please see [Data 1: Ecosystems 2.0: Built on data – Compendium](#)).

So, what should a Board or CEO do?

What's a Board or CEO to do? (Call us, of course.) If there's only one dollar to invest, where should it go? What deserves top priority? The answer might not be immediately obvious, but it's surprisingly simple: sovereignty—or more precisely, **sovereignty protection**. Merriam-Webster defines sovereignty as “supreme power especially over a group of persons politically organized under a single governmental authority.” It is seen foundational to a nation's existence and central to how states interact under international law (Hinsley 1986). The same principle applies in the business world: for a company to thrive in an ecosystem, data sovereignty—and its protection—is essential. Strategically, that's where the first dollar should go, and it's where dataspace technology has emerged as a critical enabler. Sovereignty in business may be new, but implementing it isn't. Our proven approach—launch, prototype, refine—delivers results. It's already enabled first ecosystems built on dataspace infrastructure, as we'll highlight in the final section.

Sovereignty? See our world as an ecosystem!

While biological ecosystems can be inspiring, it is difficult to relate. Instead let's consider our world as a societal and economic ecosystem. In 2025, the world comprises 195 countries interacting in complex, dynamic ways. Some form tight alliances, like the 27-member European Union; others, like the UK, chart a more independent course. Yet even within close alliances, competition thrives. The Eurofighter Typhoon, co-developed by Germany, Italy, Spain, and the non-EU UK, competes directly with France's Rafale—despite France being an EU member. Now it is easy to see how **cooperation and competition coexist**. Sometimes competition escalates into conflict, as in Russia's invasion of Ukraine. Still, trade, negotiation, and innovation continue—just like in natural ecosystems, where adaptation is constant.

Protect your company's “memory”? Data sovereignty!

The goal is not to make companies operate like countries, but to equip them with the core capabilities needed for effective ecosystem participation. The first step in translating national dynamics to the corporate world is redefining sovereignty in a business context. While companies lack physical borders, they do have **digital perimeters**. Just as nations protect their sovereignty, companies must **safeguard data sovereignty**—the ability to control, govern, and enforce rules over their own data, even when shared externally. This ensures critical assets remain protected while enabling collaboration. With the rise of GenAI, data has even more visibly emerged as “the new oil” (attributed to Humby in Arthur 2013), even considered a factor of production in China (Shijia & Jia 2020). GenAI is impressive—but in business, it's ultimately about competition. As Michael Porter famously notes, companies must compete either through low cost or differentiation

(Porter 1985, 1979). Most have spent decades building competitive advantage through unique ways of doing business. For GenAI to amplify that advantage, its outputs must be equally differentiated. But without cats in the training data, there are no cats in the output. Training data must reflect how a business actually operates—including proprietary internal data and sensitive external data from key supply chain and market partners. The underlying challenge has been elegantly described as “memory”—proprietary data as institutional memory that, ideally, should be accessible to GenAI to deliver tailored, impactful results. Microsoft’s upgraded Copilot illustrates this shift, featuring a **personalized “memory”** that recalls user-specific details—like birthdays and hobbies—to trigger context-aware actions such as booking tickets or shopping online (Uddin & Morris 2025). Some companies are turning their data into entirely new businesses. TikTok is a well-known example (Tobin 2025). On a smaller scale, a machine tool maker that once relied on selling equipment might now generate revenue from data on machine uptime, reliability, and predictive maintenance. This makes data sovereignty essential. It requires treating **data as a product** (Crosby & Langdon 2019), governed with the same rigor as any other product and strategic asset. Effective governance must ensure (a) data quality (information content, accuracy, consistency), (b) regulatory compliance (e.g., GDPR), and (c) security (protocols to safeguard integrity and prevent breaches).

For intro to data products, please see [Data 3: Data products, digital twins – Compendium](#).

Data sovereignty with dataspace networks

Europe’s top regulator, the European Commission, together with key member state governments—including France and Germany—has taken a leading role in advancing technology for **industrial data sharing** with built-in sovereignty protection to safeguard Europe’s sizable industrial base. Drawing inspiration from the U.S. DARPA model, which was instrumental in the development of the Internet, policymakers have sponsored the incubation of a shared software stack to overcome fragmentation across 27 member states and coordinate efforts within an SME-dominated industrial landscape. This solution has taken shape as **dataspace network technology**—a system that enables cross-organizational data transactions with embedded governance (Guggenberger et al. 2025). It allows data to flow across silos and between organizations, while ensuring that providers retain full control over access and usage rights. It also offers an immediate cost advantage: instead of storing data in centralized repositories ‘just in case,’ it allows data to remain at the source and be accessed only when needed. With data volumes projected to explode, this approach may even become an obvious choice. Dataspaces also form the foundation for **data ecosystems**, powerfully complementing generative AI by providing domain-specific training data and enabling Retrieval-Augmented Generation (RAG) for more context-aware outcomes.

For the 3-layer ecosystem software stack model, see our CEO-2-pager: [Data 0: README](#).

“Nothing beats results”: Join us

We’re known for one thing: stop talking, start doing—and delivering results ([Chris as Catena-X PM](#)). So, how do we get it done? What’s the secret formula? There is none. Success comes from a clear plan and a proven process for execution:

1. **Plan:** Based on **guidelines and principles** or “laws” from the world’s leading experts, then evolved through best practices into time-tested templates.
2. **Process:** Built on scientifically validated **methods**, continuously refined through privileged participation in pioneering projects to ensure effectiveness in real-world conditions.

The Plan. We’ve distilled a proven formula for success—built on **guidelines and principles** from the world’s experts and refined through our own best-practice learnings. Our unfair advantage? We operate from the very heart of the Drucker ecosystem—the school founded by Peter Drucker, father of modern management (and [“The Guru Behind the Management Top 250 Rankings”](#) of The Wall Street Journal), alongside his legendary fellow pioneers like Stephen Covey (The 7 Habits of Highly Effective People), Tom Peters ([In Search of Excellence](#)), Charles Handy ([The Age of Unreason](#)), and Jim Collins ([Good to Great](#)). Drucker championed “leading with results,” a principle echoed in Covey’s Habit 2: begin with the end in mind. While pilot projects often carry uncertainty, outcomes are always clear, it needs to be a success story. That’s why we (a) anchor every initiative in concrete milestones, (b) work backward from the desired result, and (c) align delivery with fixed industry events—like CES in Las Vegas—to ensure launches are timely and high-impact.

Our Process. With decades of hands-on experience piloting and prototyping across the U.S., EU, and China, our process is tried, tested, and continuously refined to stay ahead of emerging technologies—from the early Internet to cloud computing, app-containerization and-servitization ... and now, dataspace. Some projects involved significant challenges, such as operating fleets of test vehicles without local homologation, using vehicle-based video cameras in China, and modifying consumer vehicles. At the core of our process excellence are proven **methods**, grounded in scientific research and sharpened through countless successful projects. These methods have also been formalized in our **Master Classes** (see [Empowering Individuals](#))—initially launched at the University of Southern California’s Marshall School of Business and now delivered at the Drucker School, as well as customized to client needs. There’s no need to reinvent the process—we can focus our energy on what matters most: the content. But don’t just take our word for it—see for yourself in the latest ecosystem case studies featuring our direct involvement.

- [Auto 6: Sustainability with Catena-X – Case study](#)
- [Auto 5: Mobility super-app disruption – Case study](#)
- [Highlights list](#)

References

Arthur, C. 2013. Tech giants may be huge, but nothing matches big data. The Guardian (2013-08-23), [link](#)

Bloomberg. 2025, March 22). Wall Street Week: Nobel Prize Winner on AI 'Existential Threat' – An Interview with Geoffrey Hinton [Video]. Bloomberg (2025-03-22), [link](#)

Chandler, A. D. 1977. The Visible Hand: The Managerial Revolution in American Business. Harvard University Press: Cambridge, MA

Crosby, L., and C. Schlueter Langdon. 2019. Data as a Product to be Managed. Marketing News, American Marketing Association (October 10th), [link](#)

Drucker, P. 1974. Letter to Mr. Richard H. Jenrette of Donaldson, Lufkin & Jenrette, Inc. Correspondence from Peter Drucker (1974-06-17), Drucker Archive, Drucker Institute, Claremont Graduate University, Claremont

Guggenberger, T. M., C. Schlueter Langdon, and B. Otto. 2025. “Data Spaces as Meta-Organisations. European Journal of Information Systems, January, doi:10.1080/0960085X.2025.2451250: 1–21, [link](#)

- Hinsley, F. H. 1986. Sovereignty (2nd ed.). Cambridge University Press: Cambridge
- Kruppa, M., and D. Seetharaman. 2024. A Godfather of AI Just Won a Nobel. He Has Been Warning the Machines Could Take Over the World – Geoffrey Hinton hopes the prize will add credibility to his claims about the dangers of AI technology he pioneered. The Wall Street Journal (2024-10-09), [link](#)
- Marx, K. 1867. Das Kapital. Kritik der politischen Ökonomie (Capital: A Critique of Political Economy). Erster Band. Buch I: Der Produktionsprozess des Kapitals (The Process of Production of Capital). Verlag von Otto Meisner: Hamburg
- Porter, M. E. 1979. How competitive forces shape strategy. Harvard Business Review (March–April): 137–145.
- Porter, M. E. 1985. Competitive Advantage: Creating and Sustaining Superior Performance. The Free Press: New York, NY.
- Rochet, J.-C., and J. Tirole. 2003. Platform Competition in Two-Sided Markets. Journal of the European Economic Association 1(4): 990-1029
- Rochet, J.-C., and J. Tirole. 2006. Two-sided markets: A progress report. The RAND Journal of Economics 37(3): 645-667
- Shijia, O., and C. Jia. 2020. New guideline to better allocate production factors. China Daily (2020-04-10), [link](#)
- Smith, A. 1776. An inquiry into the nature and causes of the wealth of nations. W. Strahan and T. Cadell: London
- Tobin, M. 2025. ByteDance Becomes A.I. Powerhouse With Data From a Billion Users. The New York Times, Technology (2025-04-12): B4
- Uddin, R., and S. Morris. 2025. Microsoft takes on rivals with new personalized AI assistant – Updated Copilot acts on users’ behalf. Financial Times, Companies & Markets (2025-04-05): 10