Europe stands at a digital precipice, not under threat from conventional armies, but entangled in an invisible war of supply chains, algorithms, and geopolitical power plays. From the minerals that power our smartphones to the chips that dictate our future, Europe's reliance on foreign technology has become an existential vulnerability. The alarms raised by policymakers once sounded abstract, even academic—today, they are chillingly tangible.

Recent geopolitical flashpoints underscore Europe's precarious digital dependencies. When Russian tanks crossed into Ukraine, Kyiv's defenders depended not on European satellite constellations but on American-controlled Starlink satellites—access which Washington has shown willingness to leverage strategically. Europe's champion in semiconductor manufacturing, ASML, finds itself a reluctant pawn amid U.S.-China tensions, with both powers pulling levers of raw materials and critical components, placing Europe's technological sovereignty in jeopardy.

The fragmented European approach—symbolized by scattered initiatives like the European Chips Act and half-hearted cloud and AI ventures—cannot counteract a system fundamentally reliant on foreign powers. A coherent, comprehensive strategy is overdue. Enter EuroStack, a visionary yet pragmatic blueprint to secure Europe's digital autonomy, layer by interconnected layer, from raw minerals to artificial intelligence.

EuroStack embodies the urgency once reserved for coal and steel, those foundational pillars of European economic power. Today, however, strategic resources take the shape of lithium, cobalt, rare-earth metals, and silicon chips. Europe's stark dependence on external suppliers—China's dominance in rare-earths and Russia's weaponization of energy—demands immediate attention. The EU must forge alliances with resource-rich countries, invest in sustainable recycling technologies, and maintain strategic stockpiles akin to its oil reserves, ensuring these lifelines remain free from geopolitical manipulation.

But raw materials represent just the foundation. Above them lies silicon—the semiconductors that power everything from cars to critical medical devices. Europe's share of global chip production has dwindled alarmingly to just 9 percent.

With American giants controlling chip design and Asia dominating production, Europe must urgently establish its own sovereign production hubs, such as pan-European foundries in Dresden and Eindhoven. Backed by a €100 billion sovereign tech fund, Europe could reclaim technological autonomy and reduce vulnerability to external leverage.

Connectivity, another crucial layer, has been alarmingly overlooked. Europe's delayed Iris2 satellite system highlights its vulnerability—urgent acceleration and completion must become a political imperative, coupled with robust investment in secure 6G and a firm "Buy European" infrastructure policy. This isn't protectionism; it's prudence in a volatile geopolitical landscape.

The EuroStack vision integrates often-neglected areas such as the Internet of Things (IoT). Europe's world-leading engineering prowess can pivot from consumer gadgets to securing critical infrastructure, creating homegrown solutions impervious to foreign interference. Likewise, Europe's cloud strategy needs reinvigoration. Gaia-X's faltering indicates a need for decentralized, interoperable cloud ecosystems ensuring European data sovereignty, rather than continued reliance on foreign servers in Virginia or Shanghai.

Software and AI layers, too, must align with Europe's democratic values. Rather than replicating Silicon Valley's monetization of attention, Europe's robust scientific heritage positions it uniquely to develop AI applications geared toward societal benefit—predicting climate crises, enhancing healthcare, and safeguarding privacy.

Critics claim Europe's bureaucratic nature stands as a roadblock to technological advancement. Yet nations from India to South Korea, equally bureaucratic, have managed breakthroughs far exceeding Europe's incremental steps. The true obstacle isn't regulation; it's the absence of unified vision and sufficient investment. Mario Draghi's call for massive investment over regulation and Ursula von der Leyen's ambitious €800 billion defense package hint at a welcome shift in thinking.

However, digital autonomy must be central to this broader vision. Establishing a European Sovereign Tech Agency, inspired by America's DARPA, could spearhead strategic investments, drive cutting-edge AI development, and harness Europe's

industrial strengths. A comprehensive “Buy European” act could leverage public procurement to strengthen Europe’s technological fabric at every layer.

The EuroStack isn’t isolationist—it’s Europe’s essential step to preserving autonomy in a digital century increasingly dominated by U.S.-China rivalry. Europe’s leaders now face a stark choice: build the EuroStack, reclaim technological sovereignty, or risk becoming a digital colony.

The window for action is rapidly closing. Europe’s destiny—its economy, security, and very values—hang in the balance. The moment demands courage, clarity, and conviction. The EuroStack offers Europe its best, and perhaps last, chance to master its own digital future.