

Society 6.0

The Sun Will Rise on the European Union

Abstract

Society 6.0 is inspired by Japan's Society 5.0 concept and encompasses a growing vision for harnessing the potential of technology to enable human flourishing. Yet a liberal Society 6.0 for Europe is not a straightforward extension of Japan's Society 5.0, even where it borrows the same cyber-physical infrastructure vocabulary. The Society 6.0 conceptual framework enables liberalism for the new digital age, to counter 'technofeudalism' and 'digital authoritarianism'. The science fiction author William Gibson once said, 'the future is already here – it is just not evenly distributed'. While the diffusion, development, and applications of new technologies is ongoing, now is the time to articulate a Society 6.0 approach that can combine these various efforts to ensure that liberal values are preserved in civil rights, economic structures, and political relations.



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As AI, automation, digital identities, advanced data infrastructures, and emerging technologies become increasingly interconnected, questions of governance, citizenship, economic organisation, and democratic resilience can no longer be treated separately.

Introduction

As artificial intelligence (AI) goes mainstream, other emerging technologies, such as quantum computing and the blockchain (or trends related to infrastructure-as-a-service and edge computing) are compelling a rethinking of key societal systems. The ongoing digitalisation of numerous aspects of human life in the economic, social, political, and cultural spheres is generating a paradigm shift. Naturally, this creates both opportunities and challenges.

What Europe needs, therefore, is a broader vision for how it wants to integrate technologies into its society, so that they can work in harmony. Europe does not have to completely re-invent the wheel in order to do. When it comes to integrating technologies to the benefit of its society, Japan has already developed a model ('Society 5.0') that addresses this and that we can learn from and build upon.

The challenge is not technological innovation itself, but the absence of a coherent political and institutional framework for governing it. Europe has developed important regulatory responses, including the General Data Protection Regulation (GDPR), the Digital Services Act, the Digital Markets Act, and the AI Act. Yet these initiatives remain largely sectoral. They regulate specific technologies, markets, or risks rather than articulating a comprehensive vision of the kind of society digital transformation should serve and advance. As AI, automation, digital identities, advanced data infrastructures, and emerging technologies become increasingly interconnected, questions of governance, citizenship, economic organisation, and democratic resilience can no longer be treated separately.

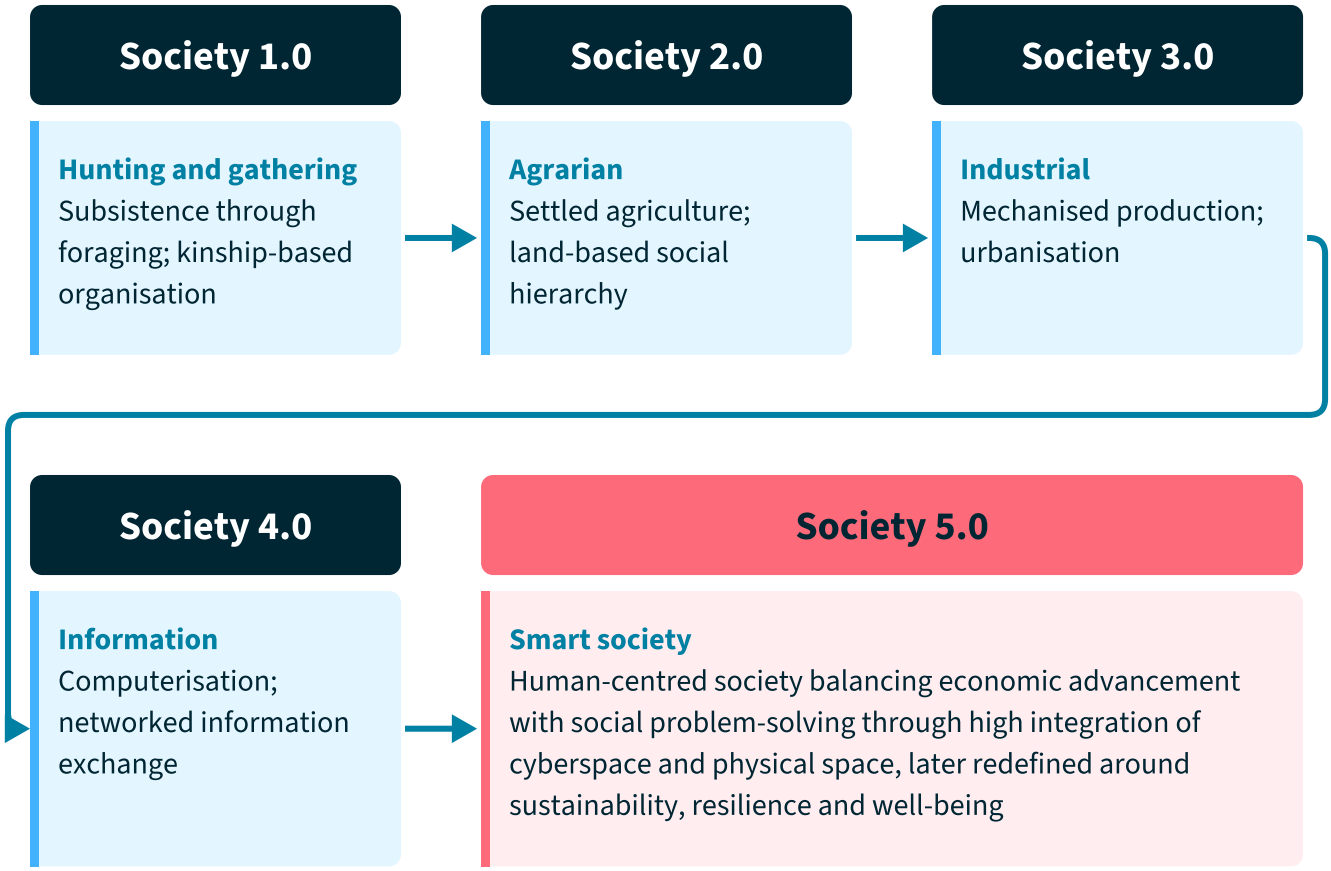
While the diffusion, development, and applications of new technologies is ongoing, now is the time for Europe to articulate a Society 6.0 approach that can marshal and join various existing efforts to ensure that liberal values are preserved in civil rights, economic and political relations, and other key areas. This paper attempts to take some first steps, by first analysing how Japan managed this challenge.



The antecedents of Society 6.0

About ten years ago, the Japanese government presented Society 5.0 as a comprehensive framework for the utilisation of digital technologies and new capabilities in automation. The ambition was to generate solutions to problems such as growing inequality, social anomie, the rise of parasocial relationships, the fall in family formation, and the growing economic and societal burden of caring for an ageing society. For the Japanese government, Society 5.0 sprang from Industry 4.0, an established and primarily economic perspective on automation, digitalisation, and labour structures in the context of industry. Figure 1 traces this evolution in Japanese policymakers' thinking.

Figure 1: From Society 1.0 to Society 5.0.[1]



[1] Cabinet Office, Government of Japan (2016/2021), 'Society 5.0', https://www8.cao.go.jp/cstp/english/society5_0/index.html.

While the Basic Plans that introduced the term 'Society 5.0', later policy layers gave it institutional weight. Keidanren, Japan's largest business federation, operationalised the concept for the private sector in its 2018 proposal 'Society 5.0: Co-Creating the Future', redefining it as an 'Imagination Society' and mapping action across ten domains, from healthcare to agriculture, tied explicitly to the UN Sustainable Development Goals.[2] The Ministry of Economy, Trade and Industry took a similar approach to industrial policy through its 'Connected Industries' strategy, prioritising five fields – mobility, manufacturing and robotics, infrastructure safety, smart living, and biotechnology. At its core was the idea that data sharing across firms would enable new forms of innovation and productivity.[3]

Institutionally, a 2020 amendment to the National Strategic Special Zones Act created the 'Super City' designation, allowing the prime minister to grant regulatory exceptions directly to municipalities that secured resident approval for a shared data-linking platform. A year later, Japan established the Digital Agency under the slogan 'Government as a Startup'. The agency brought together previously fragmented digital functions and recruited around one fifth of its staff from the private sector.[4]

Society 5.0 moves beyond digitalisation. A smart city upgrades municipal services with technology, whereas Society 5.0 aims to integrate those services into a human-centred socioeconomic system, naming resilience, safety, security, sustainability, and individual well-being as the objectives and treating AI, Internet of Things (IoT), robotics, and digital twins only as the means.[5]

Whether the implementation of this vision is working remains contested, even within Japanese policy circles. Most flagship projects remain government-designated and centrally coordinated, sitting closer to a state-orchestrated 'super-smart society' than to a genuinely citizen-led digital society. This top-down approach is the main difference from Society 6.0; for example, the framework proposed below highlights individual data ownership over centralised administration (see the sections titled 'Moving towards Society 6.0: A conceptual framework' and 'A liberal vision for Europe under Society 6.0'). Aizuwakamatsu's opt-in data model is the one exception that proved the rule: registration for smart services grew from roughly a fifth of residents at launch towards the stated

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2 Keidanren (2018), 'Society 5.0: Co-Creating the Future', https://www.keidanren.or.jp/en/policy/2018/095.html.

3 Ministry of Economy, Trade and Industry, Government of Japan (n.d.), 'Connected industries', https://www.meti.go.jp/english/policy/mono_info_service/connected_industries/index.html.

4 Law Library of Congress (2020), 'Japan: "Super City" law enacted', *Global Legal Monitor*, 18 August, https://www.loc.gov/item/global-legal-monitor/2020-08-18/japan-super-city-law-enacted/; Digital Agency, Government of Japan (2022), *Digital Agency activity report 2021/09-2022/08*, available at https://www.digital.go.jp/assets/contents/node/basic_page/field_ref_resources/ed91c288-7d40-4a9b-9d86-1007f256ada6/7256b4fc/20230210_en_annual_report_01.pdf.

5 Digital Agency, Government of Japan, *Digital Agency activity report*.

target of 70%, precisely because participation is structured as consent rather than default enrolment.[6]

Aizuwakamatsu was conceived explicitly as a response to depopulation following the 2011 earthquake and tsunami, with residents who opt into sharing health, energy, and other personal data in exchange for services ranging from targeted local incentives to individualised elderly care.[7] Smart agriculture is built on the fact that the average Japanese farmer is over 67 years old, and demonstration projects combining autonomous, GPS-guided tractors with drone and Earth-observation crop diagnostics had reached 205 regions by March 2023.[8] Eldercare technologies close the loop between the two, with government-backed robotics research funding wearable assistance and monitoring systems designed to ease the burden on a shrinking caregiver workforce.[9]

Society 5.0 approaches have not remained confined to Japan. Table 1 describes a small set of comparable Asian programmes.

Table 1: Society 5.0-adjacent programmes elsewhere in Asia.[10]

Region/programme	Core focus	Relation to the Society 5.0 approach
Singapore – Smart Nation (2014, refreshed as Smart Nation 2.0)	Digital identity (SingPass), sensor platforms, whole-of-government services	A structural analogue, since it is explicitly assessed on 'humane' as well as technological dimensions
South Korea – Korean New Deal/Digital New Deal (2020)	'Data Dam' public–private data platform, 5G rollout, AI-based public services, smart hospitals	Shares Japan's demographic urgency and pairs digital infrastructure investment with an explicit social safety-net pillar

6 Japan Local Government Centre, London (n.d.), 'Japan's "Super City" plans', https://www.jlgc.org.uk/en/news_letter/japans-super-city-plans/.

7 Japan Local Government Centre, London, 'Japan's "Super City" plans'.

8 Ministry of Agriculture, Forestry and Fisheries, Government of Japan (n.d.), 'Smart agriculture', https://www.maff.go.jp/e/policies/tech_res/smaagri/robot.html; Asia Pathways (Asian Development Bank Institute) (2023), 'Japan guides the way on smart farming technology adoption', January, https://www.asiapathways-adbi.org/2023/01/japan-guides-the-way-on-smart-farming-technology-adoption/.

9 Japan Science and Technology Agency (n.d.), 'MIRAI program: Full-scale research', https://www.jst.go.jp/mirai/en/program/full-scale.html.

10 Smart Nation and Digital Government Group, Prime Minister's Office, Singapore (n.d.), 'Smart nation Singapore', https://www.smartnation.gov.sg/; International Energy Agency (2020), 'Korean New Deal: Digital New Deal, Green New Deal and stronger safety net', https://www.iea.org/policies/11514-korean-new-deal-digital-new-deal-green-new-deal-and-stronger-safety-net; OpenGov Asia (2020), 'Malaysia 5.0: Reinventing Malaysia's digital economy', 9 November, https://opengovasia.com/malaysia-5-0-reinventing-malaysias-digital-economy/; Association of Southeast Asian Nations (n.d.), 'ASEAN Smart Cities Network', https://asean.org/our-communities/asean-smart-cities-network/.

Malaysia – Malaysia 5.0 (alongside the MyDigital blueprint)	Fintech and IoT platforms for rural and smallholder inclusion	The most direct terminological borrowing from Japan, applied mainly to rural and financial inclusion
ASEAN (regional) – ASEAN Smart Cities Network (established 2018)	26 pilot cities coordinating action plans with external partners including Japan and South Korea	A regional coordination layer rather than a national programme, importing Society 5.0-adjacent practice through bilateral technical support

None of these programmes uses the Society 5.0 label with Japan's institutional precision, but each is built on the idea that cyber-physical infrastructure can meet demographic and social pressure that labour market and welfare policy alone have not resolved.

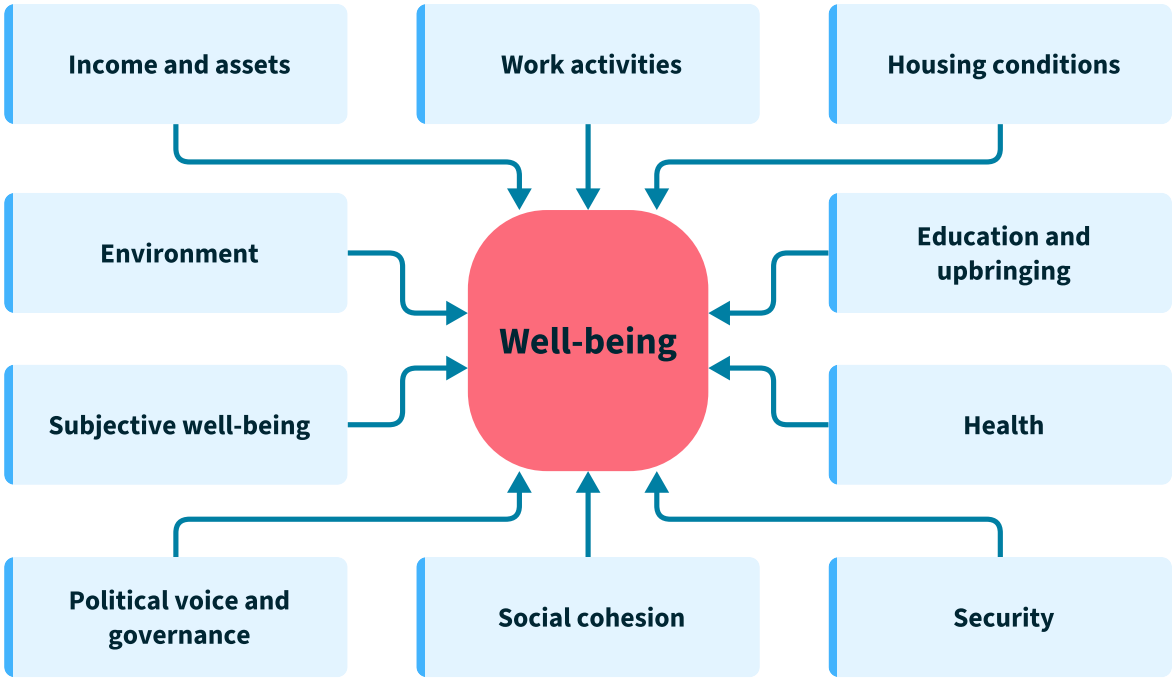
Moving towards Society 6.0: A conceptual framework

Society 6.0 was more than a rebranding exercise. It reflected growing recognition that Society 5.0 lacked a clear discussion of values and of what constitutes a desirable society. As these questions became more important, different visions emerged, not all of which were compatible with liberalism.

Šarotar Žižek, Mulej, and Potočnik proposed a 'society of well-being' centred on social, economic, and environmental welfare.[11] Drawing on Mulej's dialectical systems theory and the 'economy for the common good', they contrasted this model with neoliberalism. Many of its principles (freedom, rule of law, pluralism, anti-monopoly) are compatible with liberalism but this vision is anti-market and interventionist. It is useful in tracing ten dimensions of well-being across economic, social, and environmental aspects, as seen in Figure 2.

11 S. Šarotar Žižek, M. Mulej, and A. Potočnik (2021), 'The Sustainable Socially Responsible Society: Well-Being Society 6.0', *Sustainability*, 13(16), 9186. https://doi.org/10.3390/su13169186.

Figure 2: Dimensions of well-being.[12]



Ruth Houbertz and other theorists envision a cooperative Society 6.0 movement (Society 6.0 – Bewegung für Menschen und Umwelt eG) that aligns human needs, environmental protection, and sustainable economic frameworks.[13] Its views of independence and freedom as prerequisites for developing and sharing ideas are compatible with liberalism but lack conceptual tools for actual implementation. This paper represents a first step towards dealing with the policy practicalities for achieving a liberal Society 6.0.

It should be noted that there exists a corresponding Industry 6.0,[14] which is a manufacturing and technology paradigm based on ubiquitous distributed intelligence, hyper-customer-centric production, and real-time value chain integration enabled by AI and IoT, but it has nothing to say on important social questions or human well-being.

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12 Figure adapted from Šarotar Žižek, Mulej, and Potočnik, 'The Sustainable Socially Responsible Society'.

13 R. Houbertz et al. (2026), 'Why Society 6.0?', available at https://web.archive.org/web/20230627170425/https://society-6.de/wp-content/uploads/2021/06/Why-Society6.0-EN.pdf.

14 A. Verma, V. K. Prasad, A. Kumari, P. Bhattacharya, G. Srivastava, K. Fang, W. Wang, and T. R. Gadekallu (2025), 'Industry 6.0: Vision, Technical Landscape, and Opportunities', *Alexandria Engineering Journal*, 130, 139–174; A. H. Gomaa (2026), 'Transforming Manufacturing from Industry 4.0 to Industry 6.0: A Comprehensive Review, Gap Analysis, and Strategic Framework', *Interdisciplinary Systems for Global Management*, 1(1), 29–51.

A liberal Society 6.0 for Europe is not a straightforward extension of Japan's Society 5.0, even where it borrows the same cyber-physical infrastructure vocabulary. Table 2 sets out what we would view as the main points of divergence across governance, data, technology regulation, market structure and the citizen's own role, drawing also from statements in specific European legislation.

Table 2: Comparison of Japan's Society 5.0 and a liberal Society 6.0 for Europe.[15]

Dimension	Japan's Society 5.0	A liberal Society 6.0 for Europe
Primary driver	Social harmony and economic efficiency, addressing an acknowledged demographic crisis	Individual liberty, market fairness, and democratic resilience under digitalisation
Governance model	Top-down, state-designated pilots coordinated by the Cabinet Office	Multi-level governance combining EU-level regulation, Member State sandboxes, and municipal implementation
Data governance	Public–private data pooling through shared 'City OS' platforms	Data sovereignty and explicit, revocable consent (GDPR, eIDAS 2.0)
AI and technology regulation	Non-binding social principles guiding human-centric AI	Binding law with risk-based enforcement (EU AI Act)
Market structure	Close alignment between government ministries and large industrial federations	Competitive open markets, interoperability mandates, and regulatory sandboxes open to small and medium-sized enterprises (SMEs)
Role of the citizen	Participant and beneficiary of state-designed services	Rights-holder and co-creator with a right to contest automated decisions

15 Keidanren, 'Society 5.0'; European Union (2024c), Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence (Artificial Intelligence Act); European Union (2016), Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data (General Data Protection Regulation); European Union (2024a), Regulation (EU) 2024/1183 of the European Parliament and of the Council of 11 April 2024 amending Regulation (EU) No 910/2014 as regards establishing the European Digital Identity Framework (eIDAS 2.0); European Union (2022), Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector (Digital Markets Act).

If Society 6.0 is intended to strengthen liberal democracy, its success cannot be measured only in technological or economic terms. A fully functioning Society 6.0 must demonstrate its capacity to enhance democratic resilience, as described in the four-dimension framework of Croissant and Lott.[16]

Table 3: The framework of democratic resilience drawn by Croissant and Lott from the V-Dem electoral data (Episodes of Regime Transformation; ERT).[17]

Dimension	What it captures	Indicator examples
Macro-institutional capacity	Strength and independence of formal state institutions	Judicial independence; checks and balances
Civil society and civic culture	Robustness of civil society and distribution of societal power resources	Associational density; independent media reach
Political actors	Behaviour and commitments of elites and parties	Elite commitment to democratic norms
Political community and trust	Citizens' degree of institutional trust and sense of shared belonging	Trust in representative and well-ordered institutions; confidence in democracy

Digitalisation in practice is not value-neutral: efficiency, accessibility, quality, profit, and sustainability are themselves value choices embedded in technology design. Privacy, autonomy, security, equal treatment, and democracy have been described as the five liberal values most directly tested by digitalisation.[18]

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16 A. Croissant and L. Lott (2025), 'Democratic Resilience in the Twenty-First Century: Search for an Analytical Framework and Explorative Analysis', *Political Studies*, 74(3). https://doi.org/10.1177/00323217251345779.

17 The Episodes of Regime Transformation (ERT) dataset is accessible at https://www.v-dem.net/data/ert-dataset; Croissant and Lott, 'Democratic Resilience in the Twenty-First Century', https://v-dem.net/media/publications/WP_149.pdf.

18 European Liberal Forum (2024b), *Digitalisation and liberal values*, available at https://liberalforum.eu/publication/digitalisation-and-liberal-values/.

A liberal vision for Europe under Society 6.0

The development of Society 6.0 is a collective and ongoing endeavour, not a set blueprint. Its vision should be for a Union that anticipates technological change and challenges and rises to meet them without compromising on core liberal values. These values should be emphasised as an advantage and basis for the well-being of the Union's citizens, not a concession on efficiency and competitiveness. The details of Society 6.0 should remain open to debate. At a minimum, however, it should promote citizen data sovereignty, democratic resilience, accountable and transparent AI systems, and forms of urban development that balance efficiency, legitimacy, the preservation of cultural heritage, and environmental sustainability.

None of these are mere wishful thinking. Table 4 sets out the eight dimensions that are already grounded in EU law, a Member State pilot, or a comparable democracy's practice. Each is compatible with liberalism through open markets, individual rights, and institutional accountability, rather than command-and-control administration.

Table 4: The eight dimensions of a liberal Society 6.0 for Europe.

Dimension	Core liberal idea	Key instruments
Anticipatory governance over bureaucratic inertia	Regulate before harms materialise, not after	OECD Agile Regulatory Governance; mandatory Member State AI sandboxes; sunset clauses
Digital sovereignty and individual data ownership	Citizens own and move their own data	eIDAS 2.0/EU Digital Identity Wallet; X-Road interoperability; DMA data-access obligations
The well-being economy via open single markets	Well-being funded by growth, not redistribution alone	Single Market in services; negative income tax; portable benefits accounts
Human-centric hybrid intelligence ecosystems	Workforce moves with technology rather than being displaced by it	Individual Learning Accounts; portable retraining-income accounts; EU apprenticeship system

Whole-of-society democratic resilience	Resilience distributed across state and society	Taiwan's civic-tech model; Estonia's X-Road and E-Residency; Nordic–Baltic total defence
Bio-digital infrastructure and smart cities	Cities built for both efficiency and legitimacy	EU Mission for Climate-Neutral and Smart Cities; Local Digital Twin Toolbox; zoning reform
Techno-civil rights and algorithmic due process	Automated decisions remain contestable	GDPR Article 22; AI Act Article 86; specialised judicial chambers
The circular commons and sovereign supply chains	Materials return to service instead of becoming waste	Digital Product Passport; Battery Passport; Critical Raw Materials Act

Anticipatory governance comes first, since European policymakers have generally reacted to digital technologies only once problems have already manifested at scale, by which point interest groups have already adapted to existing arrangements. Regulatory change then faces strong resistance from actors whose interests are tied to the status quo. As the American journalist Upton Sinclair put it, 'it is difficult to get a man to understand something, when his salary depends on his not understanding it'. The ongoing tensions over the EU's proposed Chat Control framework illustrate the challenge. Faced with legitimate concerns about online child sexual abuse, policymakers have been drawn towards large-scale scanning requirements for private communications, prompting an intense debate over whether privacy protections should be built into data infrastructures from the outset or preserved through subsequent exemptions and safeguards. Whatever one's position on the proposal itself, the controversy demonstrates how difficult it becomes to redesign digital systems once institutional and political actors have become invested in a particular technological solution and discourse settles on opposing or supporting that particular solution, rather than comparing alternatives on their merits.[19]

The Organisation for Economic Co-operation and Development (OECD) has formalised anticipatory governance as a framework,[20] and the EU AI Act already

[19] Euronews (2026), 'Chat Control 1.0 passed the European Parliament: Through the back door', https://www.euronews.com/next/2026/07/10/chat-control-10-passed-the-european-parliament-through-the-back-door.

[20] OECD (2024), *Framework for anticipatory governance of emerging technologies* (OECD Science, Technology and Industry Policy Papers No. 165). https://doi.org/10.1787/0248ead5-en.

mandates a regulatory sandbox in every Member State.[21] A liberal Society 6.0 could add mandatory sunset clauses on new digital regulation, treat national sandboxes as parallel experiments across Member States, and give legislatures their own independent technology-foresight capacity, modelled on parliamentary budget offices.

Anticipatory institutions matter because of what they will increasingly govern. An economy built on personal data needs ownership, not just control, that sits with the individual. eIDAS 2.0 and the EU Digital Identity Wallet already put principles of self-sovereign identity into EU law,[22] though current implementation still ties users to specific national wallet providers.[23] Estonia's X-Road shows what a finished architecture looks like: a decentralised, peer-to-peer data-exchange layer, the development of which coincided with Estonia's rise to second in the UN E-Government Development Index.[24] A liberal Society 6.0 would equip the Wallet with interoperable, provider-independent credential storage, and use the Digital Markets Act's existing gatekeeper interoperability obligations to foster data portability without new legislation.[25]

Sovereignty over one's own data is one half of individual agency; sharing in the prosperity digitalisation creates is the other. A parallel institutional movement, the Wellbeing Economy Governments partnership, already links well-being to concrete instruments such as New Zealand's Wellbeing Budget and Finland's basic income pilot.[26] A liberal Society 6.0 could fund this largely through completing the Single Market in services rather than new spending, extending Milton Friedman's negative income tax,[27] and providing portable benefits accounts that travel with gig and platform workers across employers and Member States.

It is also necessary that the workforce moves with technology, rather than being displaced by it. The EU's 2022 Individual Learning Accounts already create portable training entitlements for atypical and platform workers, though uptake remains well below the EU's own 2030 digital-skills targets.[28] In place of the 'robot tax' that the European Parliament considered and dropped in 2017,[29] a

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21 OECD, *Framework for anticipatory governance*.

22 OECD, *Framework for anticipatory governance*.

23 N. Sitouah, M. Esposito, and F. Bruschi (2026), 'Self-Sovereign Identity and eIDAS 2.0: An Analysis of Control, Privacy, and Legal Implications, *arXiv*. https://arxiv.org/abs/2601.19837.

24 e-Estonia (2026b), 'X-Road', https://e-estonia.com/solutions/interoperability-services/x-road/.

25 e-Estonia, 'X-Road'.

26 Scottish Government (n.d.). Wellbeing Economy Governments (WEGo). https://www.gov.scot/groups/wellbeing-economy-governments-wego/.

27 M. Friedman (1962), Capitalism and Freedom (Chicago: University of Chicago Press).

28 European Council (2022), *Council Recommendation of 16 June 2022 on individual learning accounts (2022/C 243/03)*, 16 June.

29 European Parliament (2017), *Report with recommendations to the Commission on civil law rules on*

liberal Society 6.0 would add portable retraining-income accounts, deregulate occupational licensing across Member States, and build an EU-wide rapid-track apprenticeship system for digital skills, treating labour mobility as the answer to technological unemployment.

A workforce this adaptable still needs defending, since digitalisation also gives authoritarian politics new reach across borders. Taiwan and Estonia already offer two working templates for a whole-of-society response: Taiwan's g0v, vTaiwan, and JOIN platforms build civic capacity from the ground up,[30] while Estonia's X-Road, E-Residency, and Data Embassy integrate resilience into state architecture.[31] Mapped onto the Croissant and Lott resilience framework (Table 3), the two models complement each other. A liberal Society 6.0 would extend the Nordic–Baltic total-defence doctrine into cyber and information resilience,[32] support decentralised social media protocols as a market alternative to platform monopolies, and develop a civilian cyber reserve corps to provide a mobilisable force against online aggression.

That same resilience has to be woven into the physical fabric of European cities, not only their institutions. The EU has already launched dedicated initiatives for this purpose: the Mission for Climate-Neutral and Smart Cities aims to deliver 100 climate-neutral cities by 2030, backed by the Local Digital Twin Toolbox, NetZeroCities, and citizen-data projects such as GEO-C's Open City Toolkit.[33] But the binding constraint on smart cities is rarely technological. It is institutional. Zoning and permitting reform, not digital infrastructure, determines whether green retrofits and smart grids can be built at the pace required. A liberal Society 6.0 would liberalise zoning as a prerequisite, use price signals as a self-regulation mechanism (such as the congestion pricing of the Stockholm model), and let cities compete for green and AI investment.

None of this counts for much if citizens feel that their lives are at the whims of autonomous decision-making systems running these complex systems, or of the

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robotics (2015/2103(INL)), 16 February.

30 European Democracy Hub (2022), 'Exploring worldwide democratic innovations: Taiwan', https://europeandemocracyhub.epd.eu/exploring-worldwide-democratic-innovations-taiwan/.

31 e-Estonia (2026a), 'e-Residency', https://e-estonia.com/solutions/e-identity/e-residency/; S. Marak (2025), 'X-Road technology: A digital backbone of Estonia's cyber security and DPI', Future Shift Labs, 29 March, https://futureshiftlabs.com/x-road-technology-a-digital-backbone-of-estonias-cyber-security-and-dpi/.

32 A. Adamson and M. Ålander (2026), 'Nordic-Baltic total defence: Easier said than done' Heinrich Böll Stiftung, 13 January, https://www.boell.de/en/2026/01/13/nordic-baltic-total-defence-easier-said-done; K. Alexander (2025), 'Total defence in comparative perspective: Lessons from Finland, Sweden, Switzerland, and Singapore', Institute for Security and Development Policy, December 15, https://www.isdp.eu/total-defence-in-comparative-perspective-lessons-from-finland-sweden-switzerland-and-singapore/.

33 European Commission (n.d.a), 'Citizen-centred approach to smart cities (GEO-C)', https://projects.research-and-innovation.ec.europa.eu/en/projects/success-stories/all/citizen-centred-approach-smart-cities.

companies and government organisations that utilise them. A liberal vision requires that citizens retain the right to contest the decisions various algorithms make for or about them. A number of frameworks are in place to advance principles for AI governance that are pertinent here (transparency, accountability, reliability, among others), including the EU's efforts to ensure 'ethical and trustworthy AI',[34] GDPR Article 22,[35] along with the AI Act's Article 86,[36] establish rights to human intervention, explanation, and contestation, but the exemptions in Article 22(2) leave a significant share of loan, insurance, and employment-screening decisions outside the general prohibition. A liberal Society 6.0 could close that gap with a quality threshold for human review, competitive private auditing on the financial-audit model, specialised judicial chambers for cases of harm caused by algorithms, and whistleblower protections for AI-safety officers.

The same due-process logic should extend to how the economy treats the materials it consumes. The data infrastructure required for a circular economy has already been put in place by the Digital Product Passport,[37] the Battery Passport,[38] and the Critical Raw Materials Act.39 Germany's Catena-X data space is now building this kind of infrastructure specifically for the automotive supply chain,[40] while Amsterdam's Circular Strategy shows what city-level demand for it looks like.[41] But a passport is a transparency record, not a market. A liberal Society 6.0 would build an actual tradeable market for secondary materials on top of that data layer, redesign Extended Producer Responsibility around market-based pricing, and use private blockchain systems to verify exchanges of secondary materials. Table 5 lists European living labs and projects already putting pieces of Society 6.0 into practice.

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34 European Parliamentary Research Service (2020), *European framework on ethical aspects of artificial intelligence, robotics and related technologies* (PE 654.179), September, available at https://www.europarl.europa.eu/RegData/etudes/STUD/2020/654179/EPRS_STU(2020)654179_EN.pdf.

35 European Commission, 'Citizen-centred approach'; Court of Justice of the European Union (2023), Judgment in Case C-634/21, SCHUFA Holding (Scoring) 7 December.

36 Future of Life Institute (n.d.), 'Article 86: Right to Explanation of Individual Decision-Making', https://artificialintelligenceact.eu/article/86/.

37 European Union (2024d), Regulation (EU) 2024/1781 of the European Parliament and of the Council of 13 June 2024 establishing a framework for the setting of ecodesign requirements for sustainable products (Ecodesign for Sustainable Products Regulation).

38 European Union (2023), Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries (Battery Regulation).

39 European Union (2024b), Regulation (EU) 2024/1252 of the European Parliament and of the Council of 11 April 2024 establishing a framework for ensuring a secure and sustainable supply of critical raw materials (Critical Raw Materials Act).

40 Catena-X Automotive Network (n.d.), 'Why: Understanding the Catena-X data space', https://catenax-ev.github.io/docs/operating-model/why-understanding-the-catena-x-data-space.

41 City of Amsterdam (n.d.), 'Circular economy', https://www.amsterdam.nl/en/policy/circular-economy/.

Table 5: European projects and living labs currently testing Society 6.0-compatible safeguards.[42]

Project	Domain	What it demonstrates
SEISMEC	Human-centric industrial AI (17 pilots, 14 countries)	Workers set the operational limits on AI tools rather than being monitored by them; edge processing keeps biometric data off management servers
STAR	Safe and trusted human–AI collaboration in manufacturing	Explainable AI and mandatory human-override rights for shop-floor safety and routing decisions
SURE5.0	SME transition to Industry 5.0 (mobility, aerospace, electronics)	Cascade funding and acceleration programmes helping SMEs adopt human-centric, sustainable production
BRIDGES 5.0	Human-centred, sustainable, and resilient economy for SMEs	Co-design with works councils and trade unions before deploying shop-floor technology
VTT Human-Centric AI Living Lab (Finland)	Industrial IoT and smart manufacturing	Federated learning keeps worker data on-site; interfaces pre-audited against Finnish labour law
Brainport Eindhoven & AI Innovation Center (Netherlands)	High-tech manufacturing, with ASML and Philips	Privacy-by-design computer vision; mandatory ethical assessment board before deployment
EU Mission for Climate-Neutral and Smart Cities	Urban infrastructure	100 climate-neutral smart cities targeted by 2030, selected from 377 applicants[43]

42 Erasmus University Rotterdam (2026), 'Shifting the industrial paradigm: SEISMEC leads the way toward Industry 5.0', https://www.eur.nl/en/news/shifting-industrial-paradigm-seismec-leads-way-toward-industry-50-humans-centre-ai-development; European Commission, CORDIS (n.d.a), 'Safe and Trusted Human Centric Artificial Intelligence in Future Manufacturing Lines (STAR)', https://cordis.europa.eu/project/id/956573; European Commission, CORDIS (n.d.b), 'SURE5.0', https://cordis.europa.eu/project/id/101057369; BRIDGES 5.0 (n.d.), 'Towards a human-centred, sustainable and resilient economy', https://bridges5-0.eu/.

43 European Commission (n.d.a), 'EU mission: Climate-neutral and smart cities', https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/climate-neutral-and-smart-cities_en.

CPaaS.io	EU–Japan smart-city data platform	Cross-border cyber-physical data infrastructure, with use cases validated in cities in both regions
Amsterdam Circular Strategy	Urban circular economy	First city to commit to 100% circularity by 2050; its Circular Monitor tracks material flows to guide interventions
GEO-C	Citizen-centred smart cities (Germany, Portugal, Spain)	Open City Toolkit lets citizens shape urban digital services and control how their data are used

We have sketched a liberal vision applied consistently: anticipate before regulating, let individuals and markets hold the data and decisions that command-and-control administration would otherwise centralise, and keep every automated or institutional power contestable by the citizens it affects. Across the examples discussed, a common set of instruments repeatedly emerges: regulatory sandboxes, living labs, interoperable data infrastructures, portable individual entitlements, and transparent certification systems. These show how innovation can be encouraged while preserving competition, accountability, and individual rights. That is what a Society 6.0 in the European Union could look like in practice. The next section sets this vision against what happens when the same technologies are instead captured by a different political logic.

The alternative

As seen in the US turn against free trade (or the previously existing highly liberal managed trade), opposition to immigration, and the proliferation of anti-liberal discourses and programmes, purely economic and technical targets are insufficient to ensure liberalism prevails in the present context. Stronger alternative models exist beyond the budding Western illiberalism, although these present their own dangers because of the temptation to adopt illiberal frameworks in partial response to their proponents' argument that liberalism has failed. Roberts and Oosterom stress that digital authoritarian practices are not confined to authoritarian regimes, and liberal democracies must hold themselves to the same standard that they would apply to others.[44]

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44 T. Roberts and M. Oosterom (2025), 'Digital Authoritarianism: A Systematic Literature Review', *Information Technology for Development*, 31(4), 860–884. https://doi.org/10.1080/02681102.2024.2425352.

Schlumberger et al. have traced the contours of this digital authoritarianism and how it may evolve in the future,[45] with totalitarian trajectories cited as a potential result of the digital panopticons that some states are gaining the ability to implement and to help others to implement. The authors themselves explain that their framework is non-exhaustive, and this should be taken as a warning. When digital authoritarianism is not challenged (whether directly or through an appropriate competing liberal framework), it is likely to spawn further 'innovation'. Digitalisation can transform the underlying mechanisms through which states gather information, shape behaviour, and influence beliefs, extending rather than replacing the classical pillars of legitimation, repression, and co-optation. The implication for Europe is straightforward: a liberal Society 6.0 cannot be defined solely by the technologies it adopts, but by the institutional safeguards, individual rights, and democratic accountability that govern their use.

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Conclusions

Society 6.0 provides a useful liberal toolkit through which Europe can stop merely reacting to the digital transformation and instead start shaping it. Our central argument is that digitalisation is not politically neutral. In this paper, we have traced the intellectual roots of Society 6.0, built a conceptual framework distinguishing it from its predecessors, and drawn from that framework eight non-exhaustive dimensions for putting a liberal Society 6.0 into practice. We have also set out digital authoritarianism as the illiberal alternative against which this vision should be judged. The five core liberal values (privacy, autonomy, security, equal treatment, democracy) identified by the European Liberal Forum (ELF) as key to the European liberal project can be mapped onto the domains proposed earlier in this paper (see 'A liberal vision for Europe under Society 6.0').

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45 O. Schlumberger, M. Edel, A. Maati, and K. Saglam (2023), 'How Authoritarianism Transforms: A Framework for the Study of Digital Dictatorship', *Government and Opposition*, 59, 761–783. https://doi.org/10.1017/gov.2023.20.

Through market-based approaches, decentralisation, anticipatory governance, and ecological stewardship, Society 6.0 builds on its compatibility with other approaches to realise a comprehensive liberal vision for human flourishing in the upcoming digital era. Society 6.0 therefore should not be understood as a prediction of Europe's future, but as an option for how that future is governed. If Europe wishes to remain both prosperous and free in the digital age, it must move beyond viewing technology policy as a narrow regulatory exercise. The challenge is ultimately political: to ensure that technological progress supports thriving communities, democratic resilience, and individual liberty. That is the promise of a liberal Society 6.0.

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The European Liberal Forum (ELF) is the official political foundation of the European Liberal Party, the ALDE Party. Together with 56 member organisations, we work all over Europe to bring new ideas into the political debate, to provide a platform for discussion, and to empower citizens to make their voices heard. Our work is guided by liberal ideals and a belief in the principle of freedom. We stand for a future-oriented Europe that offers opportunities for every citizen. ELF is engaged on all political levels, from the local to the European. We bring together a diverse network of national foundations, think tanks and other experts. In this role, our forum serves as a space for an open and informed exchange of views between a wide range of different EU stakeholders.

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DOI: 10.53121/ELFPP44

ISSN 2736-5816

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