LongevityTech: Technology Enabling Strategy in the Longevity Economy

Horizoning™

Spotlight on Frontier Technologies 2026

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Executive Summary

The Shift Businesses Can't Ignore

Longer lives are reshaping how societies work, consume, plan, and invest. Healthcare remains essential, yet the conditions that sustain long-term wellbeing are created far beyond medicine. Housing quality, mobility systems, workplace safety, digital services, financial tools, materials processing, and infrastructure resilience all influence how people live and age.

This widens longevity from a health topic into a cross-sector economic opportunity. Every industry UniCredit serves, from consumer markets to heavy industry, now plays a role in shaping long-term capability, security, and quality of life.

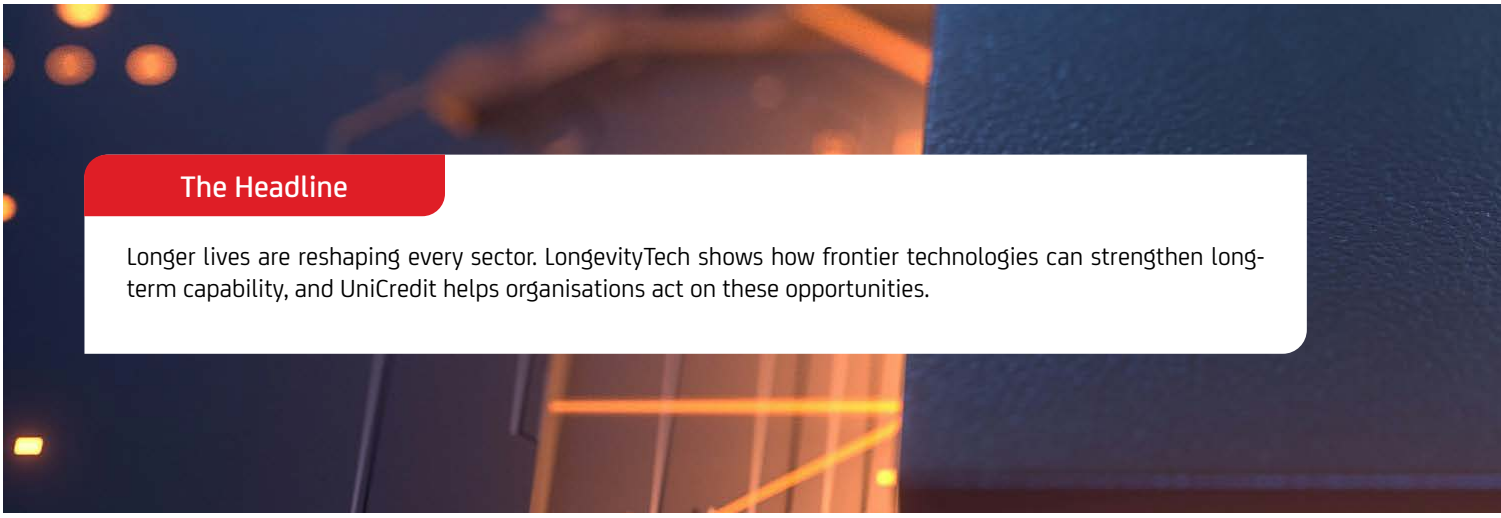
What This Means for Organisations

Organisations are increasingly expected to deliver products and services that remain safe, clear, and reliable across extended lifecycles. Competitive advantage is shifting toward companies that:

- maintain performance over time,
- design for diverse life stages,
- reduce avoidable risk,
- and adapt operations to demographic change.

These expectations cascade through value chains. Manufacturers demand cleaner and more durable inputs. Material suppliers face pressure to minimise ecological harm because downstream sectors depend on stable environmental conditions. Service providers must ensure clarity, accessibility, and trust as customer needs evolve.

Longevity is becoming a market signal that influences procurement, regulation, investment, and partnership decisions.



The Headline

Longer lives are reshaping every sector. LongevityTech shows how frontier technologies can strengthen long-term capability, and UniCredit helps organisations act on these opportunities.

What LongevityTech Provides

Technology is only one component of an effective longevity strategy, yet it plays a foundational role. It enables organisations to anticipate changing needs, reduce friction for customers and staff, maintain capability across ageing populations, and deliver services that remain reliable over long timeframes.

For this report, we have highlighted four frontier technologies that are especially influential in shaping long-life markets, though they are not the only ones businesses may draw upon. Together, they form the basis of what we refer to as LongevityTech, the coordinated use of technologies that strengthen long-term organisational and societal capability.

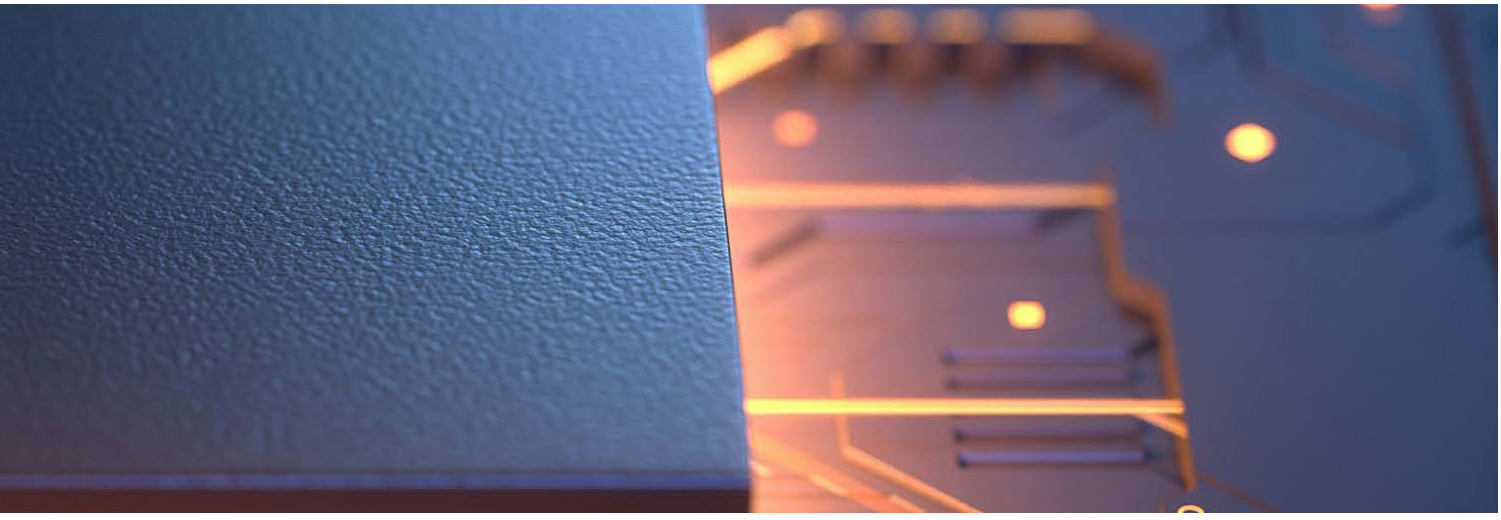
- Artificial Intelligence – improves foresight, clarity, and decision support
- Robotics – enhances physical capability, safety, and operational stability
- Quantum Technologies – advances modelling, optimisation, and long-term planning
- Next Generation Controls – enables more adaptive, intuitive, and inclusive interaction

These technologies matter because they strengthen long-term value creation, not because they are novelties.

What This Document Provides

This report gives organisations a practical structure to understand their role in the longevity economy and identify where strategic investment can create long-term value. It provides:

- clear explanations of the frontier technologies shaping long-life markets,
- case studies showing how these technologies create value across industries,
- framing that helps organisations understand how longevity shifts demand, risk, and operational expectations,
- guidance on how frontier technologies strengthen long-term capability, resilience, and customer confidence,
- perspectives designed for every sector UniCredit serves, including materials, energy, logistics, industrials, finance, property, consumer markets, and digital services.



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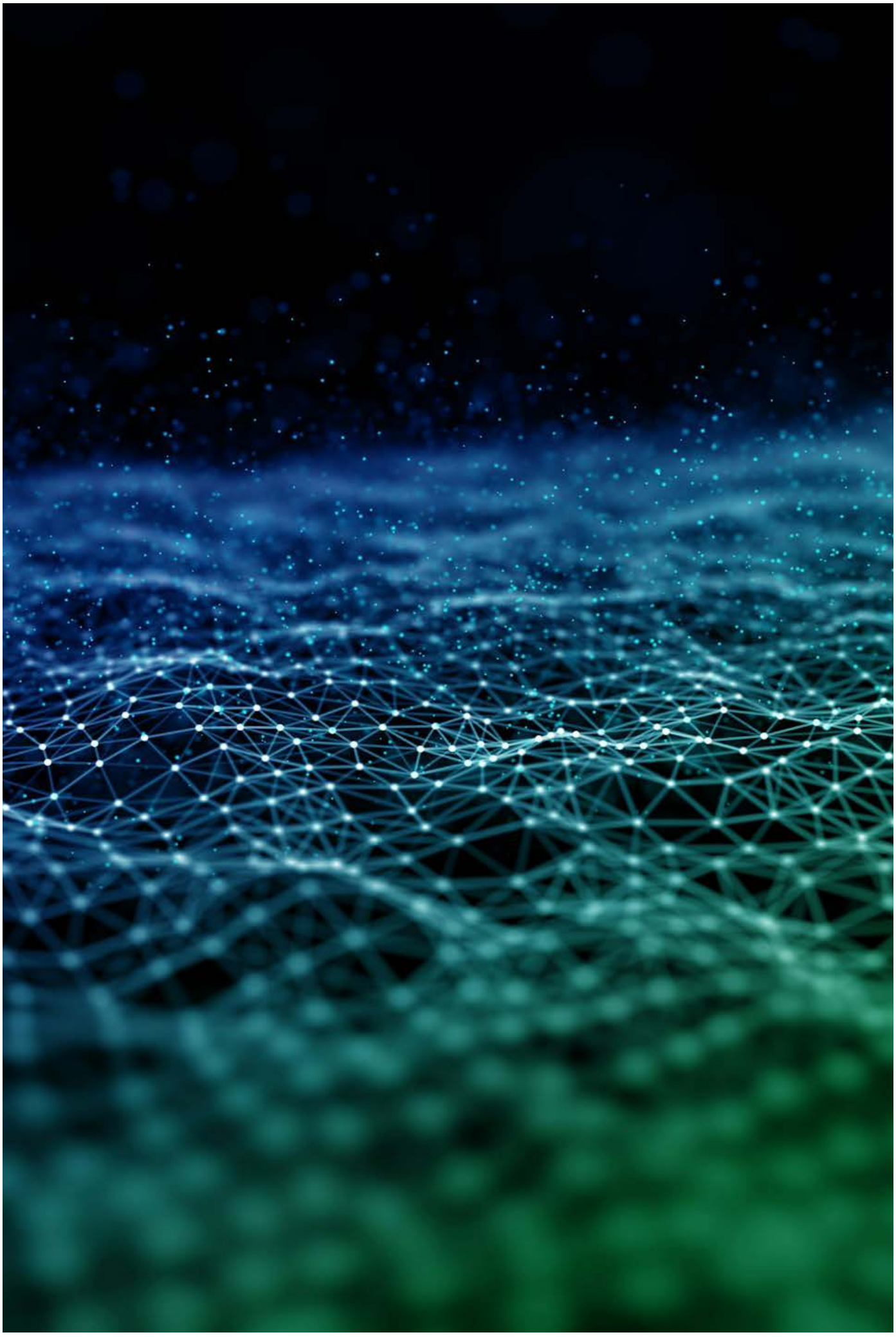


LongevityTech

A system for unlocking business value in the longevity economy.

Healthcare remains central to longer lives, yet the full potential of longevity depends on the wider systems[1] that shape how people live, work, move, and age. Housing, energy, mobility, workplaces, material extraction, manufacturing, and financial infrastructures all influence long-term wellbeing. This broader view shows longevity as a cross sector economic opportunity[2]. Every organisation, whether consumer facing or operating deep within supply chains, contributes to the conditions that allow people to remain healthier and more capable for longer.

As populations age, expectations are rising for products and services that remain safe, clear, and reliable across extended lifecycles. This shift affects whole value chains. Consumer facing companies must design for changing cognitive and physical needs. Manufacturers require resilient and lower impact materials. Extraction firms are expected to minimise ecological harm and prevent toxic overspill[3], since these factors shape the stability, reputation, and regulatory exposure of downstream industries. Energy and logistics providers must deliver continuous and predictable services that support ageing populations. Longevity is becoming a commercial signal that influences procurement, partnership choices, and investment strategies across sectors.

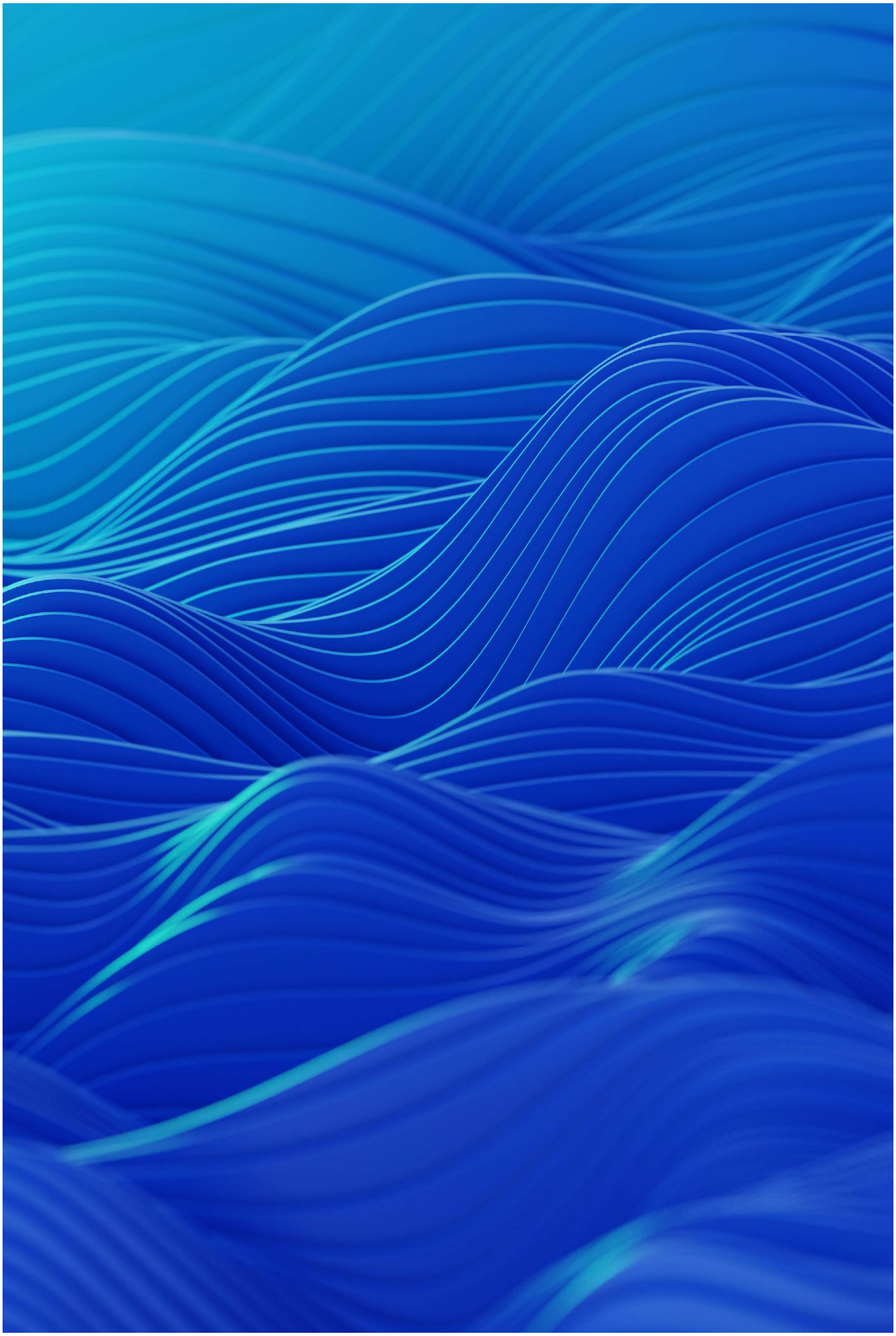
Technology is one component of how organisations respond. When aligned with broader strategy, it reduces friction, strengthens trust, improves clarity, and maintains capability over time. Without this alignment, digital systems risk adding complexity rather than value. Used well, technology supports[4] the wider goal of creating systems that help people live well for longer.

LongevityTech describes the coordinated use of technologies that reinforce these aims. Artificial intelligence enhances forecasting and decision support. Robotics strengthens physical capability, precision, and safety across industries ranging from clinical care to logistics and extraction. Quantum technologies promise new approaches to optimisation in materials science, financial modelling, and infrastructure planning. Next generation controls improve how people interact with complex environments, making them easier and safer to use. When deployed in isolation, these technologies can create fragmentation. When aligned, they create systems that offer continuity, accessibility, and resilience over long lifecycles.

This reframes value creation. Innovation is no longer defined only by speed or novelty but by alignment between intelligence, infrastructure, and human need. Consider clinical devices that adapt in real time, mobility systems that respond to driver fatigue, extraction processes that protect ecosystems over decades, or financial tools that help people plan confidently across long life courses. These examples show how value emerges from integrated systems that support stability, capability, and trust.

For organisations, the opportunity is twofold. First, to understand how their products, services, and operations contribute to longevity outcomes, whether directly through customer experience or indirectly through upstream reliability and environmental performance. Second, to use technology, design, and governance to strengthen that contribution. Companies that embed longevity into strategy will be better positioned to reduce operational risk, build long-term trust, attract investment, and compete in markets shaped by ageing populations.

LongevityTech provides a practical framework for this shift. It helps organisations understand where frontier technologies can strengthen capability and how interconnected systems can support longer-lived markets. As you move through this document, you will explore these technologies in detail and use the diagnostic toolkit to evaluate where investment could create meaningful long-term value.



The Four Pillars Of LongevityTech

The technological capabilities that support strategy for longer lived markets.

Technology is now one of the main ways organisations act on their longevity strategy. On its own, however, technology does not guarantee better outcomes. Its impact depends on how it behaves inside the organisation and in people's everyday lives. The Four Pillars of LongevityTech describe the qualities that make technology fit for longer lived markets. They set out what systems need to do if they are to support long-term human capability and business resilience.

Each pillar is built on a simple idea, technology only creates value when it builds confidence, reduces effort, anticipates change, and adapts to real conditions. Together, the pillars give organisations a practical test. They help teams identify where current systems fall short and where frontier technologies, such as AI, robotics, quantum tools, next generation controls, and advanced data infrastructure, can strengthen long-term performance, safety, and inclusion.

1. Trust & Transparency

Technology earns its place in longevity strategies when people can see how it works and why it makes certain decisions. Trust grows when systems behave consistently, explain their logic in clear terms, and handle data with care.

Internally, this reduces uncertainty, strengthens governance, and supports accountable decision making over long timeframes. Externally, it reassures customers, partners, and regulators that the tools shaping their choices are working in their interests. Trust becomes a stabilising asset, supporting relationships that outlast any single product cycle.

2. Continuity & Connectivity

Longer lives depend on systems that keep working as conditions change. Technologies need to connect across teams, partners, and platforms, and continue to operate even as organisations scale, update infrastructure, or restructure around new demands.

Internally, this creates operational stability and protects against fragmentation as systems accumulate over time. Externally, it ensures that services remain predictable and accessible for people whose needs shift across life stages. Continuity allows organisations to build offerings that endure, rather than solutions that quickly expire or become obsolete.

3. Insight & Interpretation

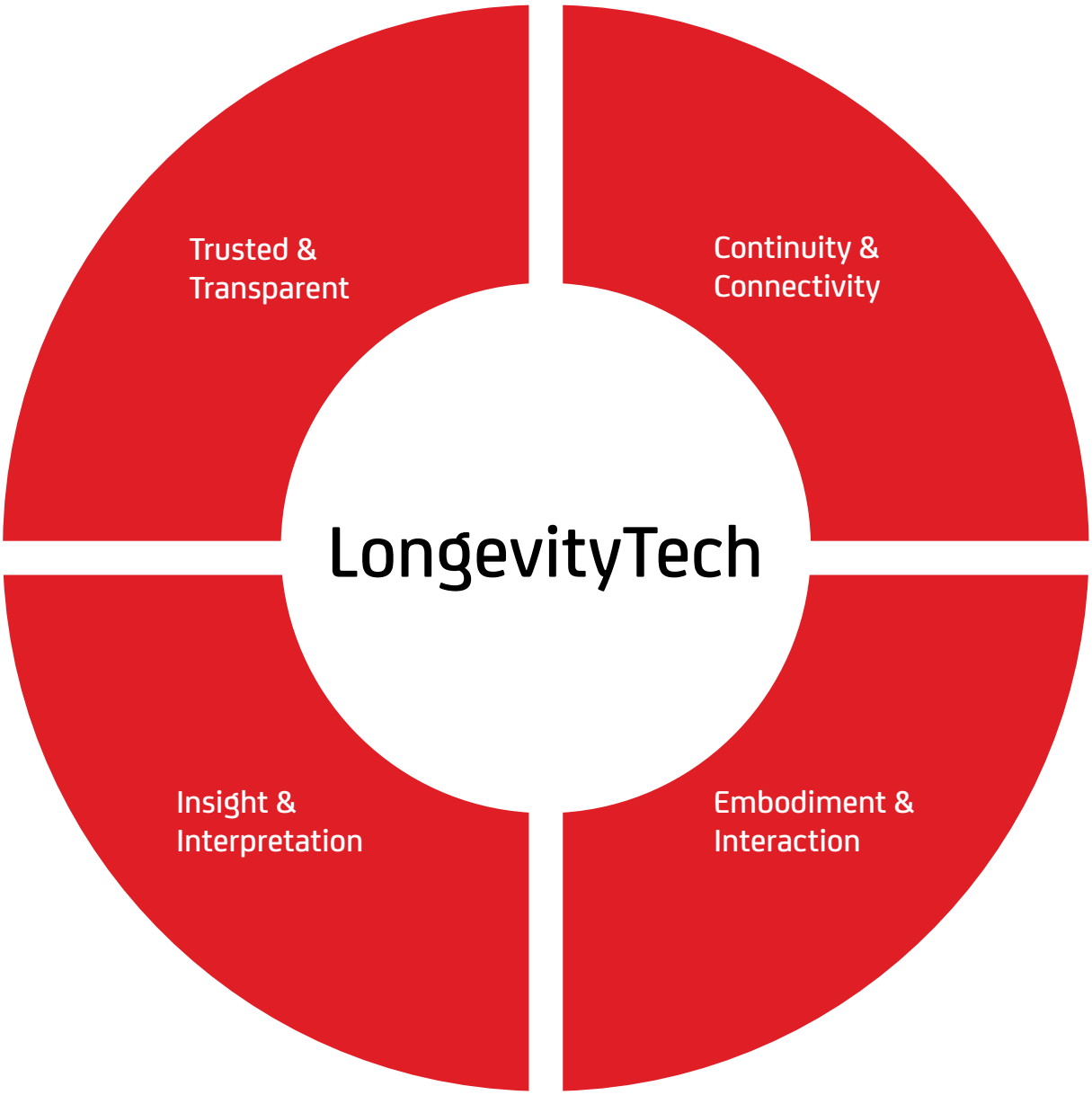
Data only matters when it deepens understanding and leads to better decisions. Insightful technologies help organisations look further ahead, spot risks and opportunities earlier, and support people across longer lifecycles.

Internally, this improves planning, resource allocation, and risk management, particularly in capital intensive or highly regulated sectors. Externally, it enables support that feels timely, relevant, and proportionate, from early intervention services to adaptive pricing and protection. Interpretation turns information into action, giving organisations the clarity needed to handle complex, long-term realities with confidence.

4. Embodiment & Interaction

Technology is most powerful when it is experienced as natural to use. Systems that adapt to different abilities, environments, and moments in life help people stay independent, safe, and connected.

Internally, this strengthens workforce capability by reducing physical and cognitive strain and by making tools usable for staff of different ages and profiles. Externally, it leads to products, spaces, and services that feel intuitive and inclusive, whether in a factory, a clinic, a vehicle, or a home. Embodied and responsive technologies keep people engaged with the systems around them, whatever their age or circumstance.



For Businesses

Consider which of these structural questions you can answer with confidence:

- **Trust & Transparency:** Can customers see how your systems make decisions and protect their data?
- **Continuity & Connectivity:** Are your platforms designed to remain compatible across future technologies and partnerships?
- **Insight & Interpretation:** Do you turn data into foresight that prevents disruption or decline?
- **Embodiment & Interaction:** Are your products designed around human comfort, inclusion, and long-term usability?

How UniCredit helps you act on them

We combine deep sector expertise with a strong understanding of emerging technologies, enabling us to support clients in navigating evolving financing needs and the implications of AI. Our broad sector and geographic coverage provides a cross-industry perspective, allowing us to transfer insights across sectors and markets, and identify opportunities others may overlook.

Frontier Technologies

New Capabilities, New Possibilities

This chapter introduces the frontier technologies shaping how organisations operate, compete, and create value in the longevity economy. These technologies are already influencing how businesses manage complexity, protect systems, maintain assets, and design services that remain reliable over extended lifecycles. They are not isolated innovations, but practical tools that help organisations respond to longer lives, ageing workforces, and rising expectations for continuity and trust.

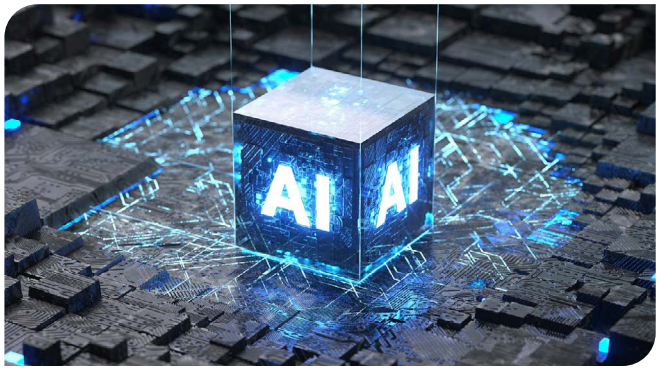
The purpose of this section is not to encourage adoption for its own sake. Instead, it helps organisations understand where specific technologies can strengthen the strategic capabilities set out earlier in the report. Different technologies address different pressures. Some improve foresight and decision quality. Others stabilise physical operations or expand accessibility and usability. The value lies in selecting and combining them where they reinforce long-term resilience, rather than layering complexity onto existing systems.

Across sectors, four frontier technology domains stand out for their maturity, relevance, and cross-industry impact. Together, they form the core of LongevityTech, the technological layer that supports longevity-led strategy. When applied thoughtfully, these technologies help organisations reduce friction, protect performance, and adapt to changing human needs over time. When applied poorly, they risk fragmentation and short-term gains that erode trust.

This chapter provides a concise introduction to each frontier. The pages that follow explain what each technology enables, why it matters in a longevity context, and where it can deliver the greatest strategic benefit. The aim is to support informed decision making, helping organisations recognise where investment can strengthen long-term capability, stability, and value creation.

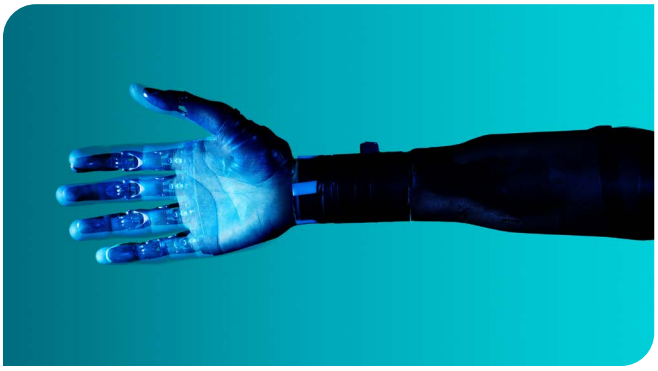
Strategic Direction

Frontier technologies are not about novelty or speed. They are tools for strengthening systems that must endure. UniCredit supports clients in understanding where these technologies align with longevity strategy, and in structuring the capital, partnerships, and governance needed to deploy them responsibly and effectively over the long term.



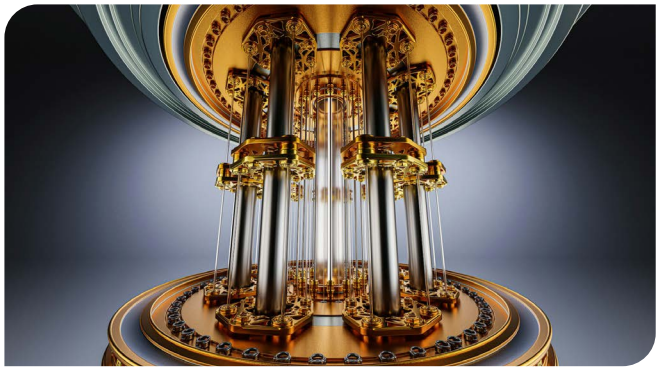
Frontier 01: Artificial Intelligence

AI interprets data, improves prediction, and automates decisions. It reduces friction, enhances clarity, and supports responsive services that adapt to people's changing needs across longer lifecycles.



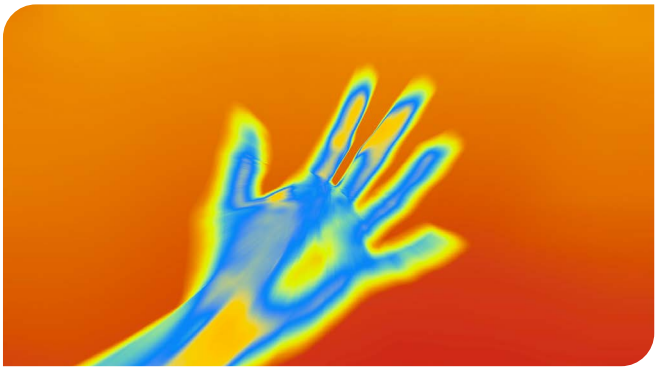
Frontier 02: Robotics

Robotics supports safer work, enhances precision, and improves daily living through assistive devices. It strengthens resilience, protects workers, and expands capability for consumers and organisations across longer, varied lifecycles.



Frontier 03: Quantum Technologies

Quantum technologies enhance modelling, optimisation, and security. They support better forecasting, protect long lived data, and help organisations plan and operate effectively as system complexity and lifecycles expand.

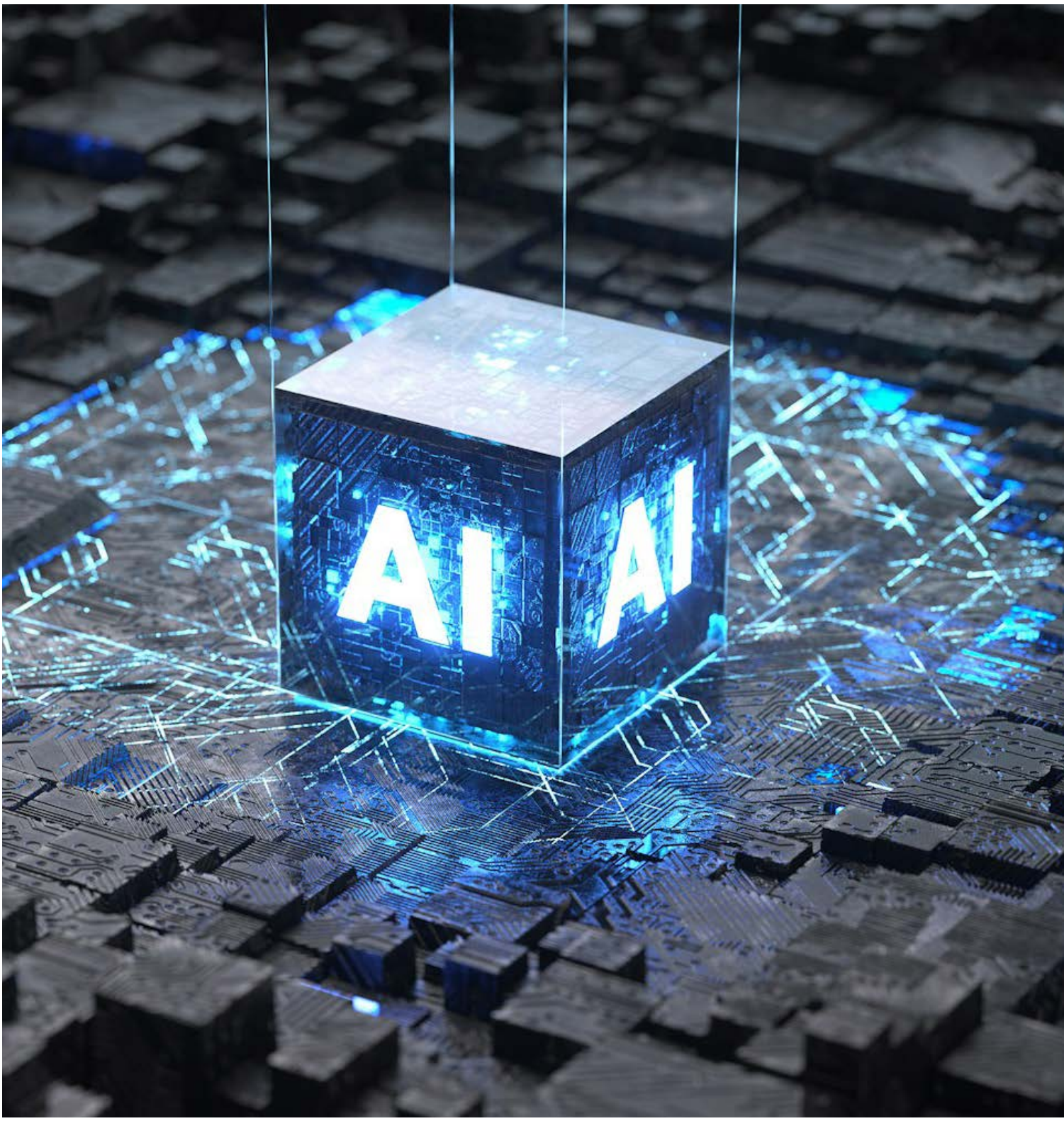


Frontier 04: Next Generation Controls

Next generation controls widen how people interact with technology. They improve accessibility, reduce effort, and create intuitive, responsive systems that remain usable across diverse needs and longer lives.

Artificial Intelligence

The Interpretive Infrastructure of Longevity



Artificial Intelligence

The Interpretive Infrastructure of Longevity

Artificial intelligence is emerging as the cognitive infrastructure[5] of the longevity economy. While public debate often centres on automation, productivity gains, or health prediction, these capture only fragments of what AI enables. At its core, AI strengthens the interpretive capacity of the systems people depend on throughout longer lives. It turns complexity into clarity, data into foresight, and fragmented signals into actionable understanding. In doing so, it supports the continuity, stability, and adaptability that longer-living populations require.

AI enhances human capability across entire ecosystems. It processes patterns that are too subtle, too fast, or too multidimensional for human teams to detect. This interpretive strength helps organisations identify emerging risks[6], reduce operational strain, and make better decisions across extended timescales. It supports ageing workforces by reducing cognitive burden and improving decision accuracy. It supports customers by translating complexity into personalised, comprehensible guidance across life stages. And it strengthens infrastructures by predicting failure points before disruption occurs.

The most significant opportunities appear upstream, where AI quietly shapes the foundations of modern economies. In logistics, it stabilises supply chains exposed to volatility. In energy, it enables predictive management of grids and renewable networks. In finance, it clarifies long-term planning for individuals and institutions[7]. In healthcare, it assists with early detection and personalised treatment. These are not isolated innovations, but interconnected intelligence systems supporting longer, more varied working and living lives.

A new wave of techniques is accelerating this shift. Multimodal learning[8] allows AI to combine images, signals, language, and behavioural data to form a more complete picture of human and environmental conditions. Neurosymbolic AI[9] blends statistical learning with reasoning, improving explainability. Causal inference[10] helps organisations distinguish meaningful drivers of health or business outcomes from noise. Time-series analysis enables early detection of subtle changes in behaviour, physiology, or operations. Together, these approaches form the basis of Large Biological Models[11], systems capable of learning from diverse biological and behavioural datasets to understand why individuals age differently and how interventions might extend healthy years.

This evolution marks the transition from Narrow AI, which performs single tasks at speed, to broader forms of intelligence that operate across contexts and modalities. Yet the value of these systems will depend on how they are designed and governed. Longevity demands clarity, fairness, and adaptability. AI must be transparent enough for people to trust its decisions[12], flexible enough to support users across changing life stages, and robust enough for businesses to rely on over long timeframes.

AI becomes most powerful when it acts as a partner in cognition, not a silent authority. Systems that guide rather than dictate, that clarify rather than obscure, and that enhance human judgement rather than replace it will define the next era of collaboration between people and machines. The aim is not to automate life, but to support everyday decisions that add up to healthier, more secure, and more confident living.

As AI becomes more deeply embedded in finance, mobility, healthcare, energy, manufacturing, and public services, its role in sustaining long-term resilience will only grow. Intelligent systems will maintain continuity in the background, strengthen critical infrastructures, and support people as they navigate longer working lives and more complex personal decisions. In this way, AI becomes part of the interpretive layer of the longevity economy, supporting wellbeing, stability, and capability across decades.

Artificial intelligence in the longevity context is not about prediction alone. It is about building systems that remain clear, supportive, and adaptive across longer lifetimes, enabling organisations to create value not only today, but over the many tomorrows that longer living societies will experience.

For Businesses

Where could AI improve clarity or reduce complexity for customers across long lifecycles?

Consider financial planning, mobility decisions, healthcare navigation, or identity management.

Which operational areas rely on manual judgement that AI could support with earlier insight?

Think fraud detection, risk scoring, maintenance forecasting, or workforce scheduling.

How can AI reduce strain on ageing or overstretched teams?

Look for tasks with high cognitive load, repetitive analysis, or fragmented data streams.

How will AI strengthen the long-term resilience of your products, services, and infrastructure?

Focus on continuity, predictability, and decision support over decades, not quarters.

Opportunities in Practice

Customer Services and Daily Life
AI systems that simplify complex financial, health, or mobility decisions, reducing cognitive stress and supporting confident choices as people move through longer life stages.

Operations and Infrastructure
Predictive intelligence that reduces downtime, extends asset life, and strengthens the reliability of networks and supply chains that ageing populations depend on.

Workforce and Capability
Adaptive learning and support tools that keep employees productive, safe, and engaged across extended careers, including neurodiverse and ageing workers.

Supply Chains and Environmental Systems
AI that improves traceability, reduces waste, and enhances environmental performance, supporting more sustainable living conditions and long-term organisational resilience.

Evidencing Stats

88%

of companies worldwide now use AI in at least one area of their operations[13].

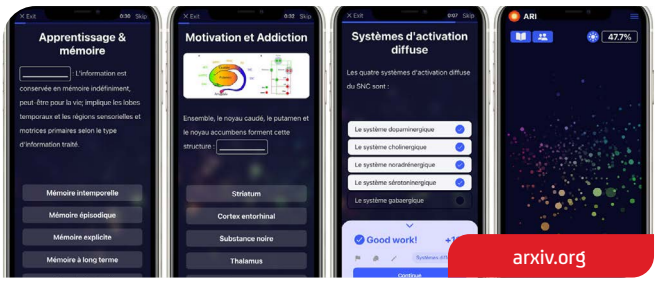
MCKINSEY, 2025

$813.78B

dollars by 2030: the projected global AI market, up from 244.23 billion dollars in 2025[14].

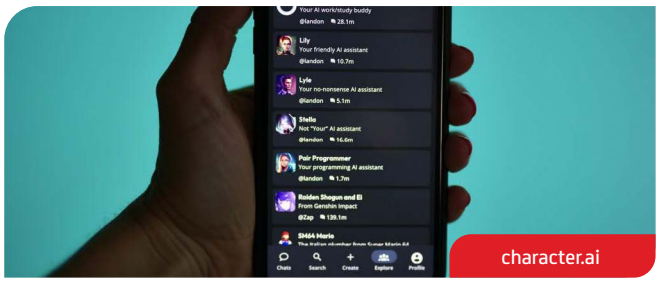
STATISTA, 2025

Artificial Intelligence Case Studies



UniDistance AI Tutor

A Swiss higher-education platform using generative AI to deliver personalised tutoring and adaptive learning. It analyses student progress and emotional tone to tailor support, showing how AI can extend learning capacity across a lifetime.



Character.AI

Conversational agents that simulate dialogue and companionship. They demonstrate how emotional AI can address isolation, stress, and cognitive decline, increasingly important in ageing societies.

Earth AI

Earth AI applies artificial intelligence to decades of geological data to pinpoint precise mineral hot zones, cutting unnecessary drilling and land disturbance. Its low-impact drilling system reduces water waste and soil disruption, making exploration more efficient and environmentally considerate.

EverestLabs RecycleOS

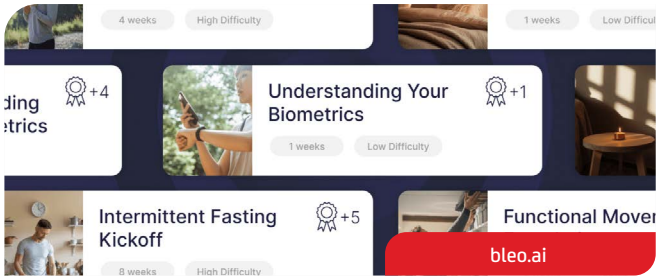
EverestLabs uses AI-driven vision systems and robotic sorters to recover recyclables with high accuracy, reducing landfill waste and improving safety. Its real-time data helps facilities optimise operations, creating more efficient and environmentally considerate recycling infrastructure.

What These Cases Show:

- AI is becoming an interpretive layer that turns complex data into clearer decisions.
- It strengthens resilience by spotting risks earlier and improving operational precision.
- AI enhances human capability in learning, care, and judgement.
- It enables cleaner, more efficient systems by reducing waste and manual error.
- Its impact grows when embedded in trusted data and governance structures.

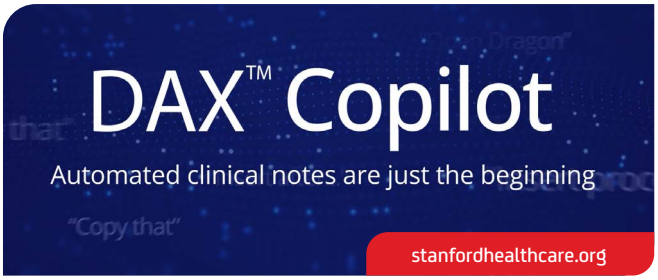
AI in Biomedical Longevity

AI is accelerating prevention, diagnosis, and personalised care by integrating clinical, genetic, and behavioural data. These advances strengthen health stability, enable earlier intervention, and improve care pathways across the life course. While these innovations sit within the medical domain, their impact extends across the wider longevity economy. More stable health trajectories reduce workforce disruption, reshape insurance and financial planning, and influence expectations for clarity, fairness, and accessibility in every sector. Biomedical AI is therefore one contributor to longevity outcomes, complementing the broader technologies and systems highlighted in this report.



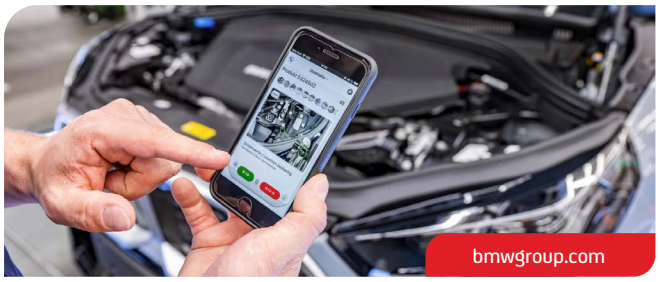
Longr blēo

Longr's blēo uses AI to transform health and lifestyle data into personalised longevity guidance. By analysing individual patterns and biomarkers, it delivers tailored recommendations that help users optimise daily behaviours, identify potential risks earlier, and take a more proactive approach to maintaining long-term health and wellbeing.



Stanford Healthcare: DAX Copilot

Stanford Health Care uses the DAX Copilot system to automate clinical note taking. It captures doctor patient conversations, converts them into structured medical documentation and integrates it into the record, reducing administrative load and allowing clinicians to focus more on care quality and patient interaction.



BMW AI-Powered QC

BMW Group uses its in-house AI innovations such as AIQX and Car2X to turn vehicles on the production line into connected, self-analysing participants. The systems detect assembly errors, monitor audio and visual quality in real time, and instantly alert staff to anomalies, resulting in faster, more reliable manufacturing and higher vehicle quality.

Darktrace Antigena Autonomous Cyber-Defence

Darktrace uses self learning AI to monitor an organisation's entire digital environment, including network, cloud, endpoints and identity. It spots small shifts in behaviour to detect new and unknown cyber threats, then triggers rapid autonomous responses that strengthen overall cybersecurity resilience.

The Takeaway

AI strengthens longevity across entire business ecosystems, not only through customer facing tools but across supply chains, operations, and infrastructure. It enhances foresight, reduces friction, and supports systems that remain capable, connected, and valuable throughout longer, more varied lifetimes.

Artificial Intelligence
Frontier Readiness Diagnostics

Artificial intelligence is becoming a core component of the longevity economy, shaping how organisations understand risk, personalise services, and manage complexity across long lifecycles. These prompts help organisations diagnose where AI can meaningfully improve clarity, reduce burden, or strengthen long term resilience.

Data and Problem Definition

Do you have a clear business problem where AI could improve prediction, interpretation, or coordination?

If not, start with defining decisions that rely heavily on manual judgement, fragmented data, or repeated estimation.

Data Quality and Interoperability

Are your data sources complete, consistent, and connected across teams or systems?

If they are not, AI will amplify noise rather than insight. Strong data governance and interoperability are essential foundations.

Workflow and Workforce Fit

Would AI reduce cognitive load, administrative pressure, or risk exposure for staff?

Look for pain points involving repetitive decisions, high information volume, or complex routing.

Data and Sensing Foundations

Could AI improve clarity or reduce friction for customers across long lifecycles?

For example, personalised planning, adaptive guidance, behavioural insight, or simplified onboarding.

AI and Long-Horizon Financial Planning

AI is reshaping how individuals and institutions plan across longer lifecycles. Predictive modelling, personalised scenario analysis, and automated portfolio adjustments now support decisions that once relied on static assumptions about retirement, care costs, and lifespan. These systems integrate spending patterns, health indicators, and market dynamics to help people understand long-term risks and maintain financial stability over extended lives. As quantum optimisation matures, these models will manage greater complexity, enhancing long-term planning rather than replacing human oversight.

What Your Sector Can Do With Artificial Intelligence

Consumer, Healthcare and Retail

AI can support personalised guidance, reduce decision fatigue, and adapt services to changing needs across longer lifecycles.

Financial Institutions

AI strengthens fraud mitigation, simplifies planning, enhances risk scoring, and supports regulatory alignment through interpretable models.

Industrials

Predictive AI systems optimise maintenance, reduce downtime, and improve production quality. Simulation tools help organisations plan more resilient operations.

Natural Resources, Utilities and Infrastructure

AI supports asset monitoring, demand forecasting, safety assessments, and environmental modelling, improving long term continuity and risk management.

Technology, Media and Telecoms

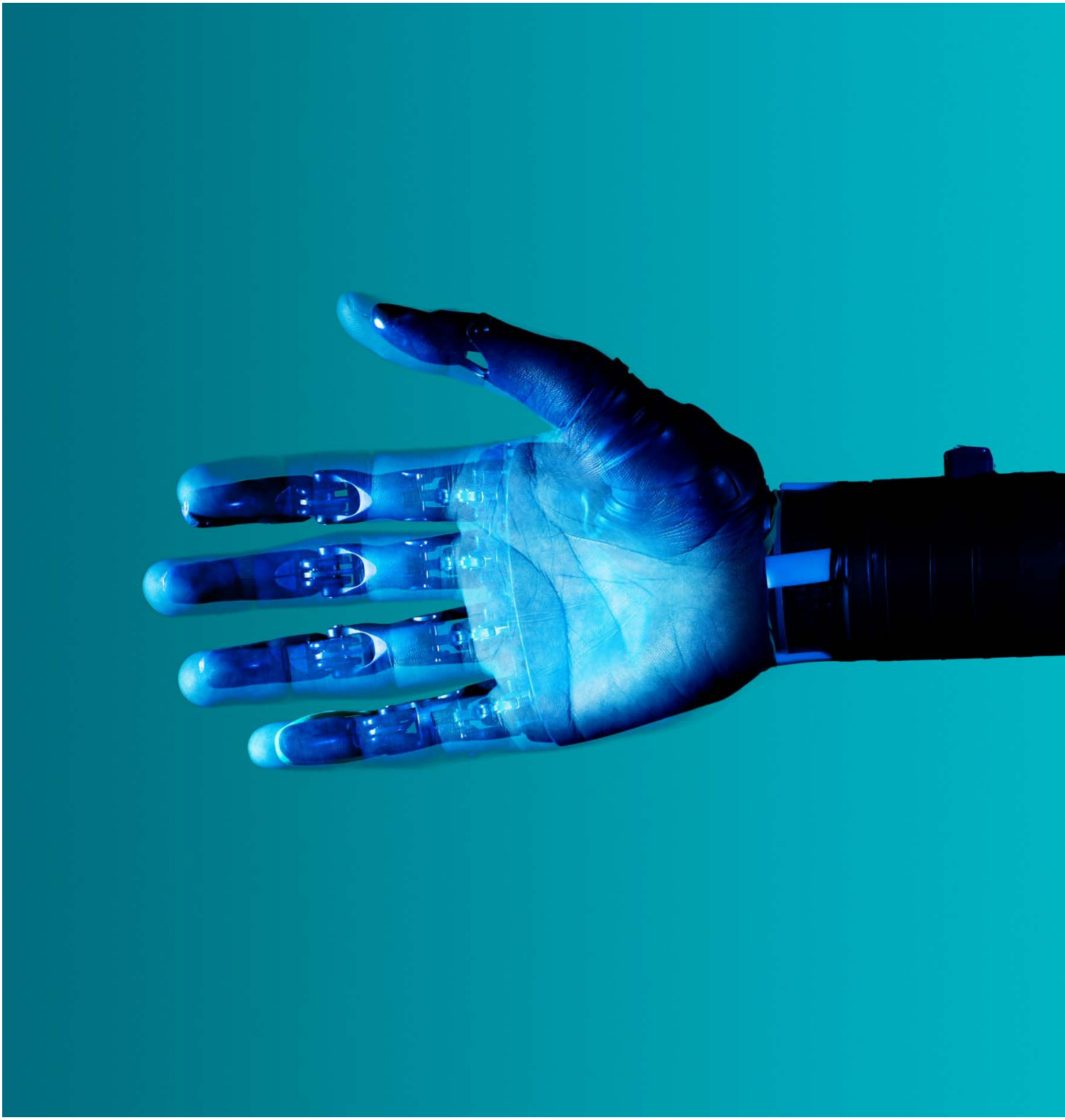
AI is central to platform innovation, personalisation engines, cybersecurity, and next generation cloud services.

How UniCredit Can Help

UniCredit supports clients across sectors through its strong sector expertise and cross-industry perspective, including in the context of artificial intelligence. By addressing financing needs and supporting organisations as they adapt to evolving market conditions, we can help strengthen resilience, enhance decision-making, and enable sustainable long-term growth.

Robotics

The Physical Infrastructure of Longevity



Robotics

The Physical Infrastructure of Longevity

Robotics is becoming one of the core infrastructures of the longevity economy. While AI strengthens interpretation, robotics strengthens the physical world[15]. Motors, sensors, materials[16], and control systems combine to extend strength, precision, and endurance across every sector. In practice, this physical intelligence[17] supports human capability and stabilises the systems that people depend on throughout longer lives.

Robotics now reaches far beyond industrial automation. It secures energy networks by inspecting turbines[18] and solar fields, reduces risk in hazardous extraction environments[19], assists in the manufacture of essential goods, and supports clinical and rehabilitation settings where reliability is critical. These applications create continuity in the background, maintaining the assets, supply chains, and infrastructures that underpin healthier and more secure living.

The value of robotics lies in how it redistributes physical and cognitive effort. Strength is transferred to exoskeletons that reduce injury risk. Vigilance is transferred to drones that detect faults before they escalate. Accuracy is transferred to robotic arms that maintain production quality over decades. Mobility is supported by rehabilitation systems that help people recover safely. These gains accumulate over time, improving safety, productivity, and wellbeing across entire life and business cycles.

Robotics should be understood as an ecosystem. Batteries[20], actuators, sensing systems, power electronics, materials science, and embedded AI[21] together form the architecture that allows robots to move with precision and adapt to varied environments. This ecosystem is also where significant economic opportunity sits, particularly for businesses not directly involved in consumer technology. A company that increases safety in mining, stabilises logistics networks, enables greener manufacturing, or supports energy resilience is contributing meaningfully to the longevity economy.

As populations age, this redistributive capability becomes increasingly valuable. Robotics can reduce the physical burden on ageing workforces, support longer and safer careers, and maintain the continuity of essential services. It strengthens the infrastructures that allow societies to function smoothly over time, from mobility and housing to energy and healthcare. For many organisations, robotics will become less of a choice and more of a strategic requirement to remain reliable in a world built around longer lives.

The most impactful robotic systems will be those that work alongside people. Systems that help workers stay safe, skilled, and productive. Systems that give clinicians more time with patients. Systems that maintain assets quietly in the background. In this sense, robotics becomes a partner in capability, enabling both people and businesses to endure, adapt, and thrive across extended time horizons.

Robotics in the longevity economy is not about replacement. It is about stability, protection, and shared capacity. It supports both human wellbeing and economic resilience, forming the physical foundation that allows longer lives to be lived with confidence.

For Businesses

Which activities require consistent, high precision performance over long timeframes?

Think assembly, quality control, maintenance, or repetitive handling in logistics and manufacturing.

How could robotics extend the lifespan of critical assets or infrastructure?

Look at inspection, fault detection, predictive repair, and remote monitoring across energy, transport, or utilities.

Do your systems capture the data and conditions robots need to operate effectively?

Evaluate sensing, interoperability, workflow design, and integration with existing platforms.

Where might robotics improve customer experience in daily life or service environments?

Consider assistive robots in care settings, in-home mobility support, delivery robots, or consumer-facing service automation.

Where might physical intelligence stabilise service delivery as demand patterns shift over longer lifecycles?

Focus on continuity in manufacturing, healthcare support, field operations, and essential public services.

Opportunities in Practice

Energy and Infrastructure

Inspection and maintenance robots that reduce downtime, prevent failures, and protect workers in demanding environments.

Manufacturing and Logistics

Collaborative robots that improve output quality, reduce injury, and stabilise throughput across long production cycles.

Healthcare and Rehabilitation

Assistive systems, lifting aids, and exoskeletons that support mobility, reduce strain, and enable longer, safer clinical and care careers.

Construction and Field Operations

Autonomous surveying, welding, and site monitoring tools that enhance accuracy and remove workers from hazardous conditions.

Consumer Learning and Personal Betterment

Skill-building robots, rehabilitation companions, and interactive learning devices that support cognitive development, physical progression, and personal confidence across all life stages.

Evidencing Stats

$476B

dollars by 2035, rising from 74.1 billion dollars in 2024, is the projected growth of the global robotics market[22].

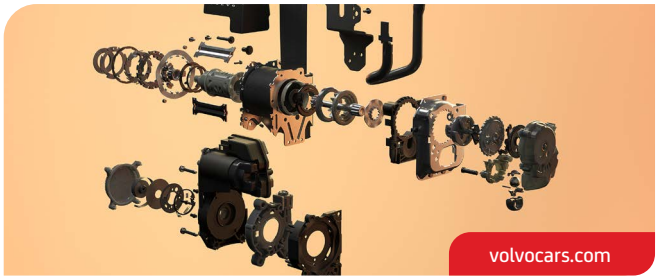
MARKET RESEARCH FUTURE, 2024

80%

of people will engage with smart robots daily by 2030, up from less than 10% today[23].

GARTNER, 2024

Robotics
Case Studies



Volvo

Volvo's multi-adaptive safety belt uses real-time sensor data to adjust restraint force to occupant size, posture and crash severity. Expanding from three to eleven force profiles, it delivers safer, more personalised protection and evolves through over-the-air updates.

CivBots

Civ Robotics' autonomous surveying robots mark thousands of points per day with high precision, reducing rework and unnecessary machinery movement. Their accuracy cuts fuel use, limits site disturbance and lowers transport needs for surveyors, creating a more resource-efficient early-stage construction process.

T-Apex

A robotic coach that analyses player performance and delivers adaptive training drills. By learning from human movement, it personalises coaching to individual needs, illustrating how robotics can sustain physical learning across life stages.

Tesla Robotaxi

Tesla's Robotaxi offers on-demand, fully electric, self-driving rides, using its autonomous software to ferry passengers without a human driver. By removing the driver, the service aims to reduce emissions, cut ride costs and transform urban mobility.

What These Cases Show:

- Robotics is becoming ambient infrastructure, not standalone machines.
- Physical intelligence is moving upstream, reshaping industries long before products reach consumers.
- Robots are expanding the boundaries of what humans can safely or sustainably do.
- Automation is shifting from task replacement to capability enhancement.
- The highest value lies in accuracy, sensing, and risk reduction, not novelty.

Renatural

With backing from Glossier and Pharrell Williams, The Renatural launched a robotics-powered wig startup that manufactures human-hair wigs in just 45 minutes, featuring polymer bases three times thinner than traditional lace and a DTC model priced at $950–$1,950.

OceanOneK

OceanOneK features immersive haptic feedback and stereoscopic vision enabling operators to remotely “see” and “touch” deep-sea environments. It successfully explored shipwrecks and aircraft up to nearly 1,000m deep, unlocking fragile sites safely.

Boston Dynamics Spot

Using a thermal-camera payload, Spot autonomously patrols industrial facilities to capture pixel-level temperature data from pumps, motors and electrical equipment. It detects overheating before failures occur, enabling predictive maintenance and reducing unplanned downtime.

1X Neo

1X NEO is a consumer-ready humanoid robot that autonomously handles household chores and offers conversational assistance. Built with soft, human-safe materials and tendon-driven actuators, it frees users from daily tasks while learning and adapting over time.

The Takeaway

Robotics is becoming core to longevity systems, strengthening the environments people depend on throughout life. Wherever precision, safety, or long-term stability matter, robotic support will increasingly extend human capability, protect ageing workforces, and sustain essential operations over time.

Robotics
Frontier Readiness Diagnostics

Robotics is becoming a core infrastructure of the longevity economy. It strengthens safety, extends capability, reduces physical strain, and stabilises supply chains across industries. These diagnostics help organisations assess where robotic systems can improve resilience, efficiency, and long term performance.

Physical Demand and Workforce Strain

Where do workers face repetitive, high force, or safety critical tasks that increase fatigue or injury risk?

If these tasks constrain retention or performance, robotics may redistribute effort while improving safety.

Workflow Stability and Precision

Do operations require consistent accuracy, high throughput, or tolerance control that is difficult to maintain manually?

If so, robotics can enhance quality and reduce rework across production cycles.

Environmental Constraints

Are there environments where human exposure is hazardous, unstable, or inefficient, such as deep infrastructure, extreme temperatures, or remote sites?

Robotics may create safer access or continuous monitoring.

Continuity Across Long Operating Lifespans

Do your assets, plants, or supply chains require uninterrupted performance over decades?

Robotics can lengthen asset life and maintain reliability through automated inspection, assisted lifting, or predictive maintenance.

What Your Sector Can Do With Robotics

Consumer, Healthcare and Retail

Robotics can support assisted independence, enhance fulfilment accuracy, and improve service reliability in environments where customer expectations are increasing.

Financial Institutions

Robotics plays a role in physical security, automated document handling, and facility operations, reducing manual load in high volume environments.

Industrials

Robotics improves productivity, precision, and workplace safety, supporting assembly, inspection, materials handling, and hazardous process operations.

Natural Resources, Utilities and Infrastructure

Autonomous and semi autonomous robots support inspection, sensing, and maintenance across energy grids, utilities, transport networks, mining sites, and environmental assets.

Technology, Media and Telecoms

Robotics drives innovation in hardware, automation platforms, logistics optimisation, and physical world data collection for AI systems.

How UniCredit Can Help

UniCredit supports organisations across sectors by combining deep industry knowledge with a broad understanding of the structural trends shaping long-term investment needs. We provide financing solutions and a cross-sector perspective to support clients as they strengthen productivity, resilience, and operational continuity over time.

Quantum Technologies

The Precision Infrastructure of Longevity

Quantum Technologies

The Precision Infrastructure of Longevity

Quantum technologies[24] are emerging as a foundation for the longevity economy[25], not because individuals will use quantum devices, but because organisations will need new forms of computation to support longer, more complex lives. Today's systems generate and process vast volumes of biological, behavioural, financial, and environmental data. Analytical capability has advanced significantly, yet important limits remain. Many challenges facing longer-lived societies[26] involve levels of interdependence, uncertainty, and dynamic change that exceed what classical computation can reliably resolve. In these contexts, more data does not automatically lead to better understanding. Quantum technologies offer a shift from accumulation to deeper comprehension[27], enabling new forms of precision, clarity, and coherence where existing systems struggle to model complexity over time.

Quantum computing is designed for the kinds of problems that define long-lived societies[28]. It can help model the ageing of assets, the fluctuations of energy grids, the behaviour of financial markets, and the interactions between biological systems over time. Where AI identifies patterns, quantum can reveal deeper relationships. It allows organisations to move beyond surface correlations to understand the underlying dynamics that shape long-term resilience.

In finance, quantum optimisation[29] could improve portfolio stability, personalise risk modelling, and strengthen fraud detection for customers navigating longer financial lives. In mobility and logistics, quantum simulation can help predict congestion and reduce emissions, improving the reliability of everyday services. In healthcare, quantum enhanced models may support drug discovery, disease progression analysis, and personalised intervention strategies that reflect the true complexity of human biology.

The value of quantum lies not in speed alone, but in quality of insight. It allows businesses to work with intricate datasets that traditional computing struggles to manage, strengthening foresight in environments where precision matters. Longer working lives, ageing infrastructures, climate volatility[30], shifting supply chains, and rising health demands all require decision-making systems that move beyond the limits of classical computation.

Quantum also enhances trust. Stronger encryption and secure communication protect the data people depend on throughout life, reducing vulnerability as digital identity, health information, and financial histories accumulate. This security becomes a form of continuity, ensuring that long-lived digital profiles remain safe across decades.

For most organisations, quantum's impact will be invisible but transformative. It will operate behind the scenes of everyday systems, improving planning horizons, stabilising operations, and enabling personalised services without increasing cognitive burden for users. For most businesses, the opportunity lies not in owning quantum technologies, but in accessing quantum enabled services that convert complexity into meaningful, long-term value.

As quantum technologies mature, they will help build infrastructures that prioritise understanding over volume, precision over speed, and insight over noise. They will support the systems that allow people to live well, from healthcare and housing to mobility and financial planning. Quantum's role in the longevity economy is to strengthen the foundations of decision-making, creating clarity where complexity has previously obscured action.

Quantum technologies do not need to be visible to deliver impact. They simply need to work quietly in favour of longer, healthier[31], and more secure lives, turning data into decisions that sustain resilience over time.

For Businesses

Where does your organisation struggle with complexity that current computing cannot resolve?

Consider optimisation, risk modelling, portfolio balancing, logistics, or asset performance across long horizons.

Which systems require stronger security as customers accumulate decades of digital, health, and financial data?

Think encryption, identity protection, fraud detection, and long-lived customer records.

Where could quantum simulation improve planning, resilience, or scenario testing?

Look at energy demand forecasting, climate exposure, capacity planning, and network reliability.

Do you have the data structures and governance required to benefit from quantum enabled services?

Evaluate data quality, interoperability, modelling standards, and long-term storage needs.

How might quantum enhanced insight improve services that support longer and more complex lifecycles?

Focus on personalised finance, adaptive healthcare, mobility reliability, and operational continuity.

Opportunities in Practice

Finance and Risk

Quantum optimisation for personalised risk modelling, fraud detection, and long-term portfolio stability.

Energy and Infrastructure

Simulations that strengthen grid resilience, forecast demand, and improve the reliability of critical assets.

Supply Chains and Logistics

Optimisation tools that reduce congestion, emissions, and volatility across global transport networks.

Healthcare and Biological Systems

Quantum enhanced modelling for drug discovery, disease progression, and personalised intervention design.

Consumer Decision Support

Behind the scenes quantum enabled computation that improves accuracy, fairness, and clarity in services customers rely on over longer lifecycles.

Evidencing Stats

$7.3B

by 2030, increasing from 1.6 billion dollars in 2025, reflects projected annual growth of 34.6% in the quantum computing technologies market[32].

Research and Markets, 2025

$44.5B

$44.5B in public funding has been committed to quantum technologies worldwide[33].

QED-C, 2025

Quantum Technologies
Case Studies

IonQ

IonQ combines quantum computing with AI to enhance generative models and LLMs. Using QGANs and quantum-machine-learning layers, their hybrid workflows generate synthetic materials data and improve tasks like sentiment analysis, especially when training data are limited.

Airbus, BMW x AWS Braket

Airbus and BMW launched a 2024 quantum computing competition to solve urgent mobility issues. Their call attracted global teams tackling materials design, aerodynamics, logistics and autonomous mobility, demonstrating quantum's potential in real-world automotive and aerospace problems.

Fort St. James Nickel

Fort St. James Nickel launched a wholly owned technology subsidiary in 2025 to develop AI and quantum computing solutions aimed at improving mineral exploration and mining. The initiative aims to accelerate discovery, optimise geology data analysis, and reduce environmental impact.

Japan Tobacco

Japan Tobacco's pharma unit used D Wave's hybrid quantum workflow to guide an LLM in designing new molecules, generating more valid, drug like candidates than classical methods and hinting at faster, quality molecule discovery.

What These Cases Show:

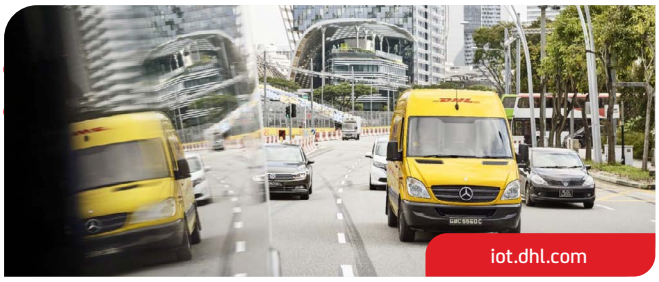
- Quantum is already being applied in real operations, not distant research.
- Its strongest value lies in optimisation, modelling, and security across complex systems.
- Businesses are exploring quantum through hybrid methods that blend classical and quantum computing.
- Early adopters span mobility, logistics, materials, pharmaceuticals, energy, and telecoms.
- Real advantage comes from using quantum to improve precision and foresight.

British Telecom

BT, Toshiba and Equinix launched the UK's first quantum-secure data-centre connection in 2024, using Quantum Key Distribution to protect sensitive traffic and offer businesses an accessible way to trial quantum-resilient security without owning specialist infrastructure.

BASF x Kipu

BASF partnered with Kipu Quantum in 2024 to test hardware specific quantum algorithms for logistics. Their approach improved robot scheduling and route planning, showing how quantum optimisation can enhance industrial supply chains before fully mature quantum hardware exists.



DHL

DHL uses quantum inspired optimisation to evaluate vast routing combinations quickly, reducing transit times, fuel consumption and network delays. The approach improves planning under changing conditions and supports a more efficient, reliable delivery operation.

D Wave x Zapata

D Wave and Zapata AI combine quantum annealing with generative AI to build hybrid quantum classical models, tackling optimisation and molecular discovery and extracting patterns classical systems miss, enabling faster insights and capable applications.

The Takeaway

Quantum technologies will sit behind the systems people rely on throughout longer lives, improving everything from secure data exchange to route planning and materials discovery. Their role is not to replace existing computing, but to enhance it, turning complex datasets into clearer decisions and more resilient operations. For businesses, the opportunity lies in preparing for quantum enabled services that strengthen long-term performance and unlock new value in the longevity economy.

Quantum Technologies
Frontier Readiness Diagnostics

Quantum technologies introduce new capabilities for modelling complexity, improving security, and generating insight across long time horizons. Their value emerges not from owning quantum hardware, but from accessing quantum enabled services that strengthen decision making, planning, and resilience. These diagnostics help organisations understand where quantum could provide strategic benefit.

Complexity Beyond Classical Limits

Do you face optimisation or forecasting problems that stretch current computing, such as long term planning, multivariable risk, or heavy simulation?

If so, quantum enhanced models may improve precision, speed, and clarity.

Sensitivity to Uncertainty and Variability

Do fluctuations in demand, asset performance, climate exposure, or supply chain dynamics create instability?

Quantum simulation can help test scenarios that classical systems struggle to model.

Cryptography and Data Security Requirements

Do you hold large volumes of personal, operational, or long lived data that must remain secure for decades?

Quantum safe encryption may be required to protect future digital identities and critical assets.

Innovation in Materials, Chemistry or Biology

Could AI improve clarity or reduce friction for customers across long lifecycles?

For example, personalised planning, adaptive guidance, behavioural insight, or simplified onboarding.

What Your Sector Can Do With Quantum Technologies

Consumer, Healthcare and Retail

Quantum enhanced modelling can support personalised health forecasting, demand prediction, and more resilient supply systems, improving reliability for consumers across longer lifecycles.

Financial Institutions

Quantum optimisation strengthens portfolio modelling, risk calculations, fraud detection, and long horizon scenario planning. Quantum safe encryption protects digital identities over decades.

Industrials

Quantum simulation accelerates materials discovery, process optimisation, energy efficiency, and fault detection. It helps plan more resilient manufacturing and maintenance cycles.

Natural Resources, Utilities and Infrastructure

Quantum technologies help forecast demand, predict network stress, model climate exposure, and optimise grid performance, improving continuity and sustainability.

Technology, Media and Telecoms

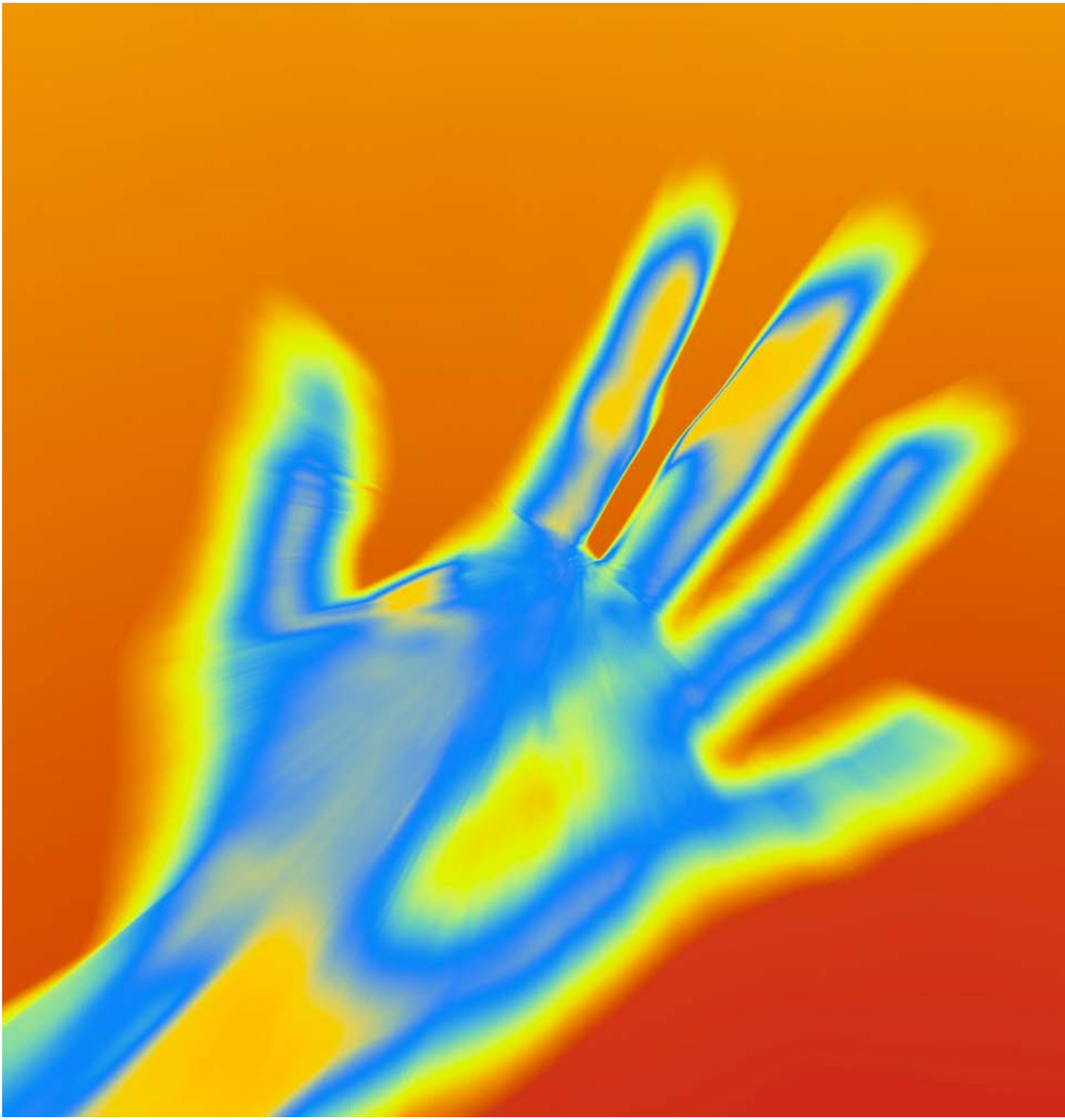
Quantum communication, encryption, and cloud based hybrid solvers create new opportunities for secure networks, advanced analytics, and platform innovation.

How UniCredit Can Help

UniCredit supports clients with a sector-driven approach and a long-term perspective on innovation and investment. We structure financing solutions and support organisations as they navigate increasing complexity, evolving risk landscapes, and technological change, while maintaining a clear focus on stability and sustainable growth.

Next Generation Controls

The Precision Infrastructure of Longevity



Next Generation Controls

The Multimodal Interface of Longevity

Next generation controls mark a shift from single channel interaction to a multimodal ecosystem[34], where technology can interpret intent, movement, sensation, and context together. For decades, most digital interaction relied on a narrow set of inputs. Buttons, keyboards, touchscreens, and voice commands asked people to adapt to machines. As populations age and technology becomes embedded in every aspect of life, this narrow model becomes restrictive. The next chapter expands interaction rather than replacing it, offering new ways for people to express control across a wider range of abilities, environments, and industries.

This new layer of interaction[35] spans muscle signals, micro facial gestures, tongue and jaw movement, neural activity, spatial audio, haptic feedback, and augmented visual guidance. These inputs do not remove manual action; they diversify it[36], allowing individuals to communicate with technology using the channels that feel most natural, available, or effective in the moment. A wearable can translate subtle muscle activity into digital command. A facial gesture can replace a touch interface. Haptic feedback can guide a robot operator through a precise sequence. AR glasses can assist a warehouse worker while keeping their hands free. The interface expands to reflect the full expressiveness of the human body.

For longevity, this matters deeply. Longer lives introduce greater diversity[37] in mobility, dexterity, cognition, and sensory experience. Systems that rely solely on touchscreens or voice risk excluding people or creating unnecessary strain. Multimodal controls support a wider spectrum of users by offering choice, flexibility, and lower effort pathways to interaction. They preserve independence for those with physical limitations[38], reduce fatigue for those working in demanding environments, and adapt to users whose abilities evolve over time. In this way, control becomes not only functional, but a contributor to wellbeing.

The business implications extend far beyond consumer products. In logistics, AR based controls reduce navigation errors and physical burden during long shifts. In manufacturing, muscle driven or gesture-based input supports precision while reducing repetitive strain. In mining and heavy engineering, multimodal systems allow operators to control machinery from safer vantage points. Telecoms can provide secure, frictionless authentication through behavioural signals rather than passwords. Healthcare environments can support rehabilitation and communication through neural or neuromuscular interfaces. Even financial services stand to benefit from low effort identity verification and adaptive accessibility features.

Across sectors, multimodal controls shift the logic of system design. Technology becomes more sensitive to human variability and environmental context. It communicates through thought, touch, vibration, sight, and sound. It works with human behaviour rather than demanding conformity to rigid interfaces. This creates safer workplaces, more inclusive services, and environments that remain usable and supportive across longer lifespans.

Next generation controls will become a foundational infrastructure for the longevity economy[39]. They sit beneath products and services, enabling people to act, communicate, and navigate with confidence across a lifetime. As interaction evolves from narrow input to multimodal expression, technology becomes more accessible, more adaptive, and more human centred. The future of control is not defined by a single interface, but by a rich ecosystem of possibilities that allow all people to engage on their own terms.

For Businesses

Where could multimodal controls reduce friction or expand accessibility for customers or employees?

Consider tasks that rely heavily on screens, fine motor precision, or repetitive input across long shifts or long lifecycles.

Which environments demand safer, lower strain, or hands free interaction?

Think warehouses, clinical settings, construction sites, control rooms, industrial plants, and transport hubs.

How might new forms of input support ageing workforces or users with diverse physical abilities?

Look at roles where experience is high but mobility, dexterity, or cognitive bandwidth may fluctuate over time.

Do your products or services rely on a single mode of interaction that could limit inclusion or efficiency?

Evaluate where muscle sensing, haptics, facial gestures, or augmented guidance could improve usability.

Where could richer sensory feedback enhance training, precision, or customer confidence?

Focus on environments where error carries safety, operational, or financial cost.

Opportunities in Practice

Industrial and Field Operations

Multimodal controls that reduce physical strain and improve precision in demanding or hazardous environments.

Logistics and Warehousing

AR assisted guidance and hands free navigation that accelerate workflow and reduce cognitive load across long shifts.

Telecoms and Digital Services

Behavioural and biometric pattern recognition that simplifies access and strengthens trust for long-term digital identities.

Healthcare and Assisted Independence

Neuromuscular and neural interfaces that support rehabilitation, communication, and daily capability for diverse users.

Consumer and Personal Development

Wearables and haptic systems that support learning, emotional regulation, and skill building across all life stages.

Evidencing Stats

$182B

the projected size of the global gesture control market by 2032, up from USD 31.05 billion in 2025, growing at a CAGR of 28.8%[40].

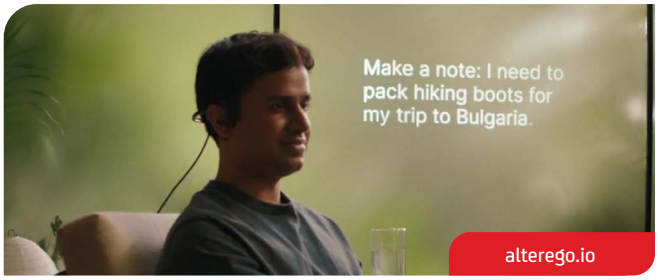
Fortune Business Insights, 2025

$506M

US$506 million is the projected size of the global brain computer interface market by 2029, up from US$262 million in 2024 at a CAGR of 14.1 percent[41].

MarketsandMarkets, 2024

Next Generation Controls
Case Studies



AlterEgo (MIT Media Lab)

A wearable system that interprets neuromuscular signals from the jaw and face to translate silent speech into digital command. It enables communication and control without touch or voice, offering new possibilities for people with speech or mobility limitations.

Neuralink

A neurotechnology interface that reads electrical activity from the brain to control external devices. Early demonstrations show how direct neural input could restore movement and independence for people with paralysis, while advancing long-term potential for thought-based interaction.

Apollo Neuro

A wearable device that delivers gentle vibrations to the skin to regulate stress and improve focus. By detecting physiological changes, it adapts its response to calm or energise users, demonstrating how cognitive sensing supports emotional longevity.

Meta Neural Wristband

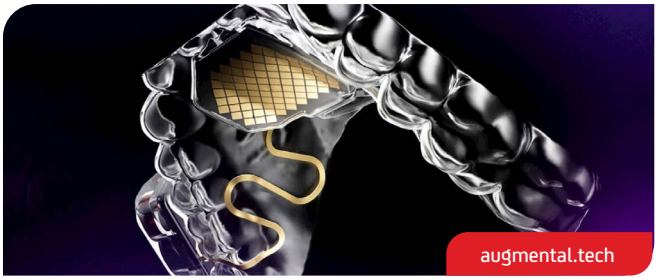
A lightweight wearable that detects muscle activity in the wrist to predict movement before it happens. It turns minute intention into seamless control, illustrating how subtle signals can replace traditional inputs entirely.

What These Cases Show:

- Controls are expanding into muscle, neural, facial, and sensory signals.
- New inputs improve accessibility and independence across life stages.
- Multimodal systems reduce physical and cognitive strain in demanding environments.
- AR, haptics, and gesture controls strengthen accuracy and real time guidance.
- These technologies enhance safety, stability, and performance across sectors.

DHL

DHL equips warehouse staff with AR smart glasses that show item locations and step by step guidance. This removes paper lists, reduces navigation errors, shortens pick times and streamlines movement, improving fulfilment accuracy performance.



Augmental

Augmental's MouthPad is a tongue controlled Bluetooth trackpad that lets users navigate phones and computers hands free. It translates subtle tongue and head movements into precise cursor actions, supporting greater digital independence for people with limited hand mobility.

HaptX

HaptX Gloves G1 use microfluidic actuators and precise motion tracking to simulate realistic touch in virtual environments. Enterprises employ them for training, robotics control and industrial simulations, accelerating skill acquisition and reducing risk in complex manual tasks.

Naqi Logix

Naqi Logix's Neural Earbuds translate subtle facial micro-gestures into digital commands, creating a hands-free, voice-free and screen-free user interface. Awarded "Best of Innovation" at CES 2026, they enable inclusive, non-invasive control of devices, robotics and smart environments.

The Takeaway

Next generation controls create more accessible, expressive, and precise ways for people to interact with technology across longer lives. By widening the spectrum of input and feedback, they support independence for individuals and improve efficiency, accuracy, and safety for businesses. This multimodal approach strengthens operations, enhances customer experience, and builds environments that remain usable and resilient over time.

Next Generation Controls
Frontier Readiness Diagnostics

Next generation controls are reshaping how people and systems interact, but adoption depends on readiness. These prompts help organisations assess where multimodal control systems can create value, reduce strain, or unlock new markets.

Input Diversity Readiness

Do your workflows or products rely on a single form of input such as touch, keyboard entry, or manual switches?

If so, you may be limiting accessibility, slowing operations, or increasing physical strain. Multimodal controls widen who can operate your systems and under what conditions.

Environment and Context Fit

Are your core settings noisy, hands busy, gloved, hazardous, fast paced, or mobility constrained?

If yes, multimodal controls can remove bottlenecks by enabling gesture, muscle, voice, or spatial inputs where traditional methods fail.

User Variability Requirements

Do your customers or workforce span different ages, abilities, physical capacities, or cognitive styles?

If so, multimodal inputs increase inclusion, reduce errors, and extend employability across long careers.

Data and Sensing Foundations

Do your current technologies capture the signals needed for multimodal control, such as movement, force, biometric cues, or ambient context?

If not, improving sensing and interoperability will be essential for adoption, and can be phased into long-term transformation plans.

What Your Sector Can Do With Next Generation Controls

Consumer, Healthcare and Retail

Next generation controls reduce friction in daily interactions and make products more accessible as customer needs evolve across life stages.

Financial Institutions

Behavioural and biometric inputs simplify authentication, reduce fraud exposure, and improve accessibility for ageing or digitally excluded clients.

Industrials

Gesture, spatial, and haptic controls improve precision in manufacturing, reduce operator strain, and shorten training times for complex machinery.

Natural Resources, Utilities and Infrastructure

Hands free and cognitively assisted controls improve safety in hazardous environments and support remote or augmented operations.

Technology, Media and Telecoms

Next generation controls offer new interface standards for devices, platforms, and digital environments.

How UniCredit Can Help

UniCredit supports organisations through its sector expertise and understanding of evolving business and technology trends. We focus on addressing financing needs and supporting clients as they adapt to changing customer and workforce requirements, helping to build more resilient, inclusive, and future-ready business models.

Helping You Innovate

Understanding Your Place in The Longevity Economy

Longevity Strategy

How organisations build strategy for longer-lived markets

Longevity Innovation is the strategic approach organisations use to create value in societies where people live, work, and consume for longer. Healthcare remains central, yet the conditions that allow people to stay healthy, capable, and secure depend on much wider systems. Housing quality, mobility access, workplace safety, energy stability, environmental stewardship, supply chain integrity, and financial resilience all shape the experience of ageing across a lifetime.

This wider view reveals longevity as a cross sector economic opportunity. Every organisation contributes to the foundations that support longer lives, whether directly through customer facing services or indirectly through upstream infrastructures. Consumer brands must ensure experiences remain usable as needs evolve. Manufacturers must produce durable, safe, and precise products. Extraction and materials companies are increasingly expected to minimise environmental impact, because ecological stability supports human wellbeing and the resilience of downstream industries. Logistics, telecoms, and utilities must maintain continuity as populations age. Longevity is becoming a commercial signal that influences procurement, partnership, and investment behaviour across entire value chains.

To respond effectively, organisations need more than isolated innovations. They need strategies that reinforce long term value creation across the enterprise. Longevity Innovation provides this structure. It helps organisations understand how extended life spans reshape demand, risk, workforce dynamics, customer journeys, and operational expectations.

Six components form the foundation of longevity led strategy:

Insight and Foresight

Understanding how longer lives reshape customer needs, workforce patterns, risk exposure, and long-term demand.

Experience and Service Design

Designing products, services, and environments that remain clear, accessible, and supportive as cognitive and physical needs evolve.

Workforce and Capability

Supporting extended careers with safe, adaptive, and inclusive work practices that sustain capability over time.

Operations and Supply Chain

Ensuring the materials, infrastructures, and upstream systems that support society can endure and adapt over long lifecycles.

Governance and Trust

Maintaining transparency, safety, data integrity, and ethical decision making across long timeframes.

Finance and Long-term Planning

Aligning business models and capital structures with extended customer journeys and long-horizon investment cycles.

To activate these components, organisations rely on three enablers:

LongevityTech

Technology that strengthens capability and continuity across all six components.

Includes AI, robotics, quantum, next generation controls, and data infrastructures that improve prediction, resilience, accessibility, and operational performance.

LongevityCulture

The mindset, values, and working practices that support long-term thinking.

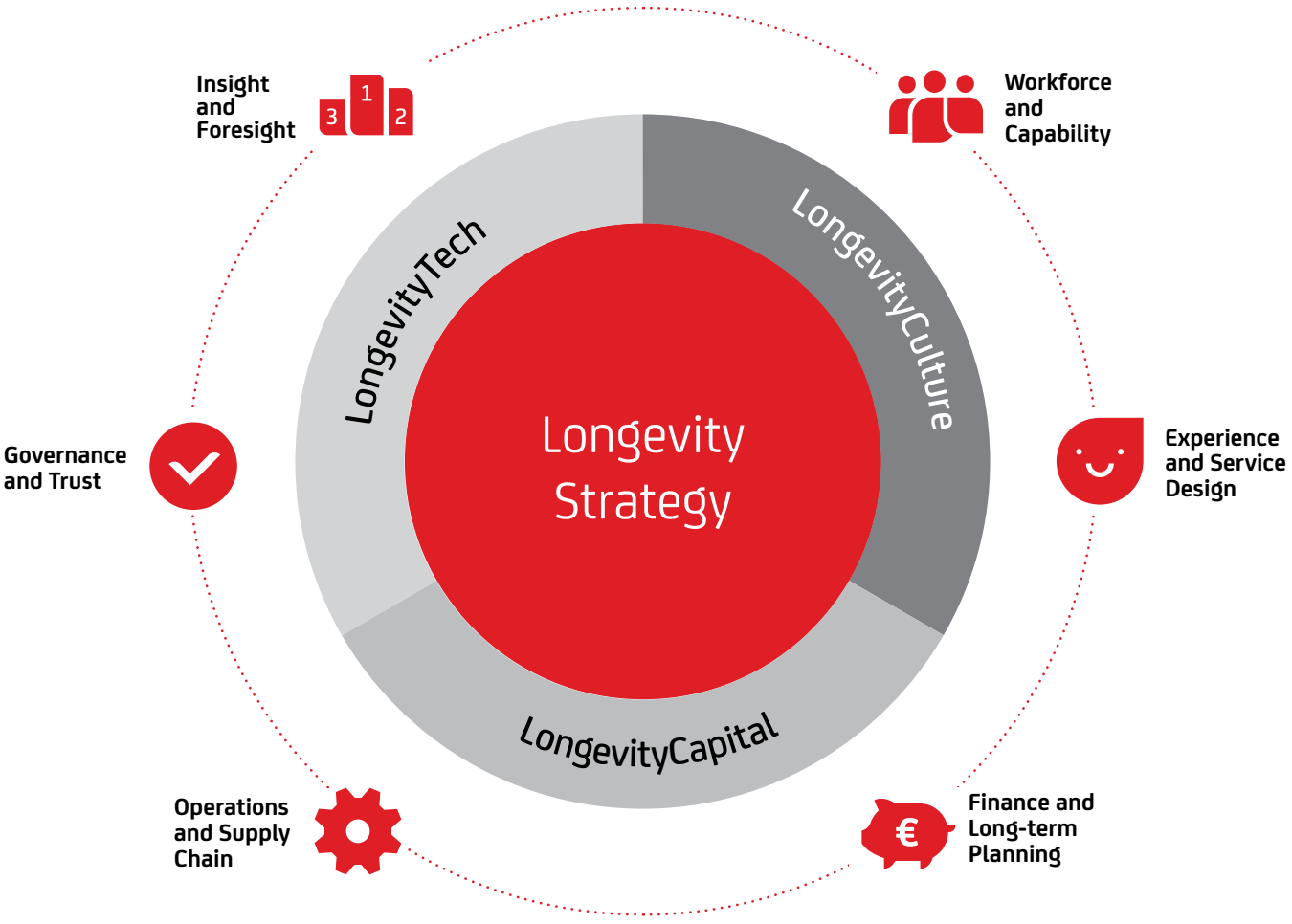
Includes life stage and needs-based approaches, systems thinking, inclusive design methods, ethical orientations, and decision norms built around prevention and clarity.

LongevityCapital

Financial models that allow organisations to act on long-term goals.

Includes resilience oriented investment, lifecycle asset planning, sustainability linked financing, preventative capital, and funding structures designed for stability over time.

Longevity Innovation provides a practical way for organisations to understand their strengths, identify areas that need reinforcement, and shape strategies that remain relevant in longer lived markets. It reframes longevity not as a demographic challenge, but as a long term value opportunity built through better systems, better decision making, and better design.



Longevity First Business **Evaluation**

What Type of Longevity Company Are You?

Longevity is not limited to healthcare, wellbeing, or consumer services. It is a system shaped by every organisation that contributes to safe environments, reliable infrastructure, sustainable materials, efficient production, trusted finance, and daily living. Whether visible to the end user or positioned deep within the supply chain, each business influences how well people can live, work, and age.

To help organisations locate their role, we identify four types of Longevity Companies. These categories are not hierarchical. They describe the structural position an organisation holds in the wider longevity economy and the kind of value it is able to create. Knowing your type makes the diagnostic work on the following pages more precise.

Longevity Providers

Organisations delivering the products and services people rely on throughout longer lives. They shape autonomy, access, and everyday wellbeing through mobility, finance, care, and smart environments.

Examples: automotive services, financial services, healthtech, housing services, mobility platforms, digital identity and authentication systems.

Longevity Enablers

Companies building the core technologies that make longevity solutions work. Their components and platforms determine the capability, reliability, and scale of downstream systems.

Examples: chip manufacturers, battery producers, robotics OEMs, sensor companies, cloud and data platforms, industrial equipment manufacturers.

Longevity Suppliers

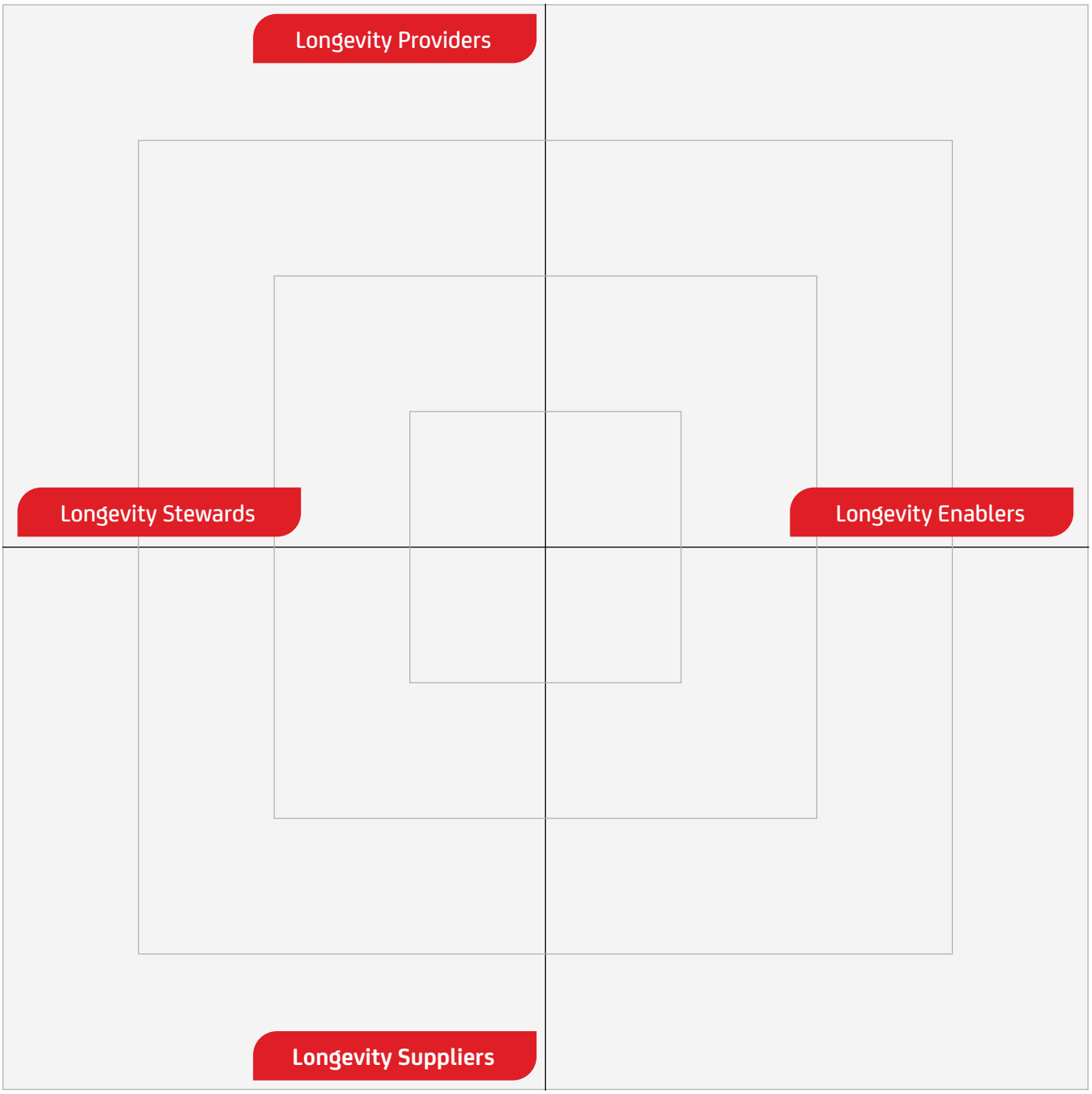
Providers of the raw materials and sustainable inputs that long-life systems depend on. Their decisions shape durability, safety, and environmental performance across value chains.

Examples: mining firms with responsible extraction, sustainable materials producers, energy storage material suppliers, chemical and materials science companies.

Longevity Stewards

Organisations operating and regulating infrastructures that support people across a lifetime. They maintain the stability, safety, and continuity of essential services and environments.

Examples: energy utilities, grid operators, logistics networks, certification bodies, data governance organisations, environmental monitoring services.



HOW TO USE THIS LENS

Step 1: Identify your position

Recognise where your organisation sits within the longevity system. Every position contributes differently to long-term quality of life.

Step 2: Assess your responsibility

Each role carries specific obligations and opportunities. Consider how your organisation influences resilience, safety, and wellbeing across the value chain.

REFLECTION PROMPTS

- Where do we sit in the longevity value chain today?
- What longevity responsibilities do we hold upstream or downstream?
- Which systemic capability is most important for our category?
- How could we expand our role to create more longevity value?

Moving Forward

How UniCredit helps organisations understand and respond to the longevity economy.

The longevity economy is reshaping how organisations plan, invest, and manage risk over time. Longer lives increase demand for systems that are resilient, reliable, and adaptable across decades, not just cycles.

Understanding the opportunity is only the first step. Delivering longevity strategies requires long-term capital, credible governance, and coordinated change across operations, supply chains, and technology infrastructure.

UniCredit supports clients as they translate longevity insight into practical, strategic action. We work across sectors to help organisations identify where change is needed, structure investment for long timeframes, and build systems that remain valuable as markets and populations evolve.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Longevity Knowledge Hub

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Acknowledgements

This report forms part of a broader series of insight-led publications and developed in partnership by UK's National Innovation Centre for Ageing (NICA) for the Longevity Economic Forum & Longevity Knowledge Hub. Community engagement and qualitative studies have been conducted by Voice® and Voice®Italia, NICA's partner organisations. Together, these reports aim to explore emerging themes and trends through the lens of healthy longevity.

A Note on LLMs

We use large language models (LLMs) as a tool to enhance our creative and analytical work. These systems help us tap into a vast pool of global information, uncovering patterns and connections that might otherwise go unnoticed. They're more than a research tool - they're part of our process for sparking ideas, challenging assumptions, and refining original thinking. We also use LLMs to assist with drafting and summarising content, always under careful human supervision. This allows us to work more efficiently while maintaining the quality and strategic thinking our clients expect. Every piece of content - whether initially drafted by our team or with AI assistance - undergoes thorough review, editing, and refinement by our experts. Importantly, we don't rely on them for cookie-cutter content. Instead, we use them as a springboard for critical thinking, ensuring every insight is carefully evaluated and tailored by our expert team.