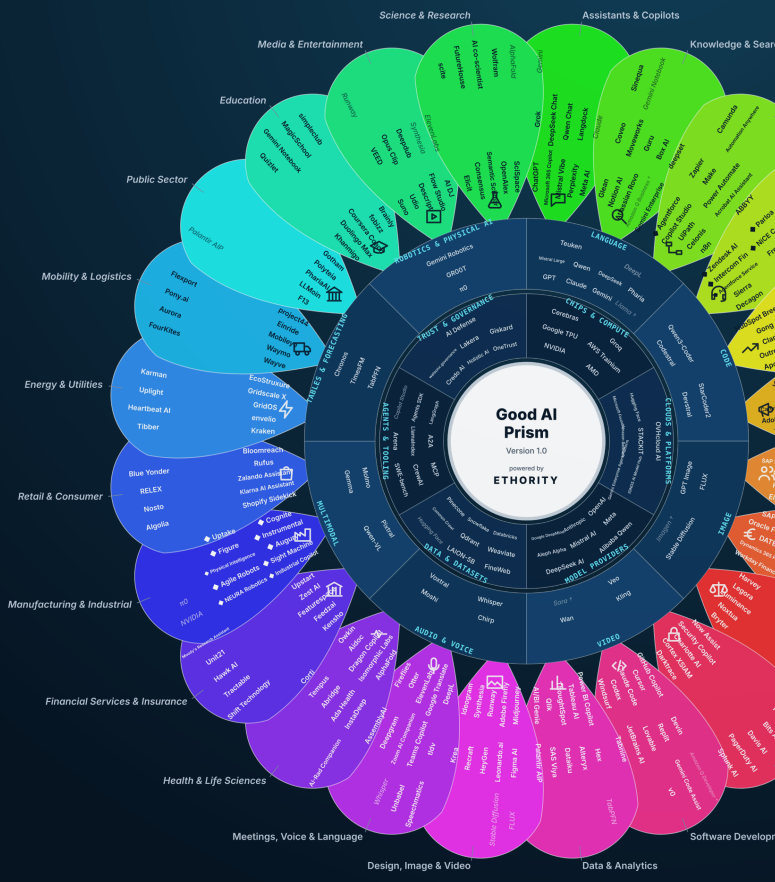
ETHORITY
AI BUSINESS OPERATING SYSTEM



GOOD AI PRISM · STUDY 2026/27 · FOR GOVERNMENTS, PAYERS AND CARE PROVIDERS

AI for care in ageing societies

How clinics and long-term care can use AI and robotics to give time back to care, what China, Japan, the Nordics, the US and Germany are doing, and what it means for public budgets.

3.6×
growth of China's population aged 80+ by 2050: 37.6 to 135.1 million

690,000
care workers missing in Germany by 2049 in the status-quo scenario

82%
of Swedish municipalities offer digital night supervision at home

Created by Sten Franke with a people and governance lens by Severin L. Wilson · October 2026

AT A GLANCE

The care gap is the defining service challenge of the decade

Every country in this study is ageing faster than its care workforce can grow. AI and robotics will not replace carers; used well, they give carers time back, keep older people safe at home for longer and help public budgets carry the load.

The study combines UN population projections with official care statistics and programme data from China, Japan, Denmark, Sweden, Norway, Finland, the United States and Germany. It maps 34 vendors in clinical AI and care technology, shows where the evidence is strong and where it is still thin, and sets out an agenda for governments, payers and providers.

31.2%
of China's population will be 65+ in 2050, up from 15.0% in 2025 (UN WPP 2024)

79
people aged 65+ per 100 of working age in Japan by 2050 (UN WPP 2024)

5.7m
people in need of care in Germany; 86% are cared for at home (Destatis, 2023)

308.5m
people insured under China's long-term care insurance pilots in 2025, up from 187.9m (NHSA)

760,500
openings a year for home health and personal care aides in the US to 2035 (BLS)

5.8m
nurses short worldwide in 2023; 1 in 7 nurses is foreign-born (WHO)

About this study

Population figures are UN World Population Prospects 2024, medium variant, calculated from the UN data package. Care, cost and programme figures name their source and date; national definitions differ and are not combined. Vendor facts come from vendor or public sources; evidence is labelled as independent or vendor-linked. Not legal or medical advice.

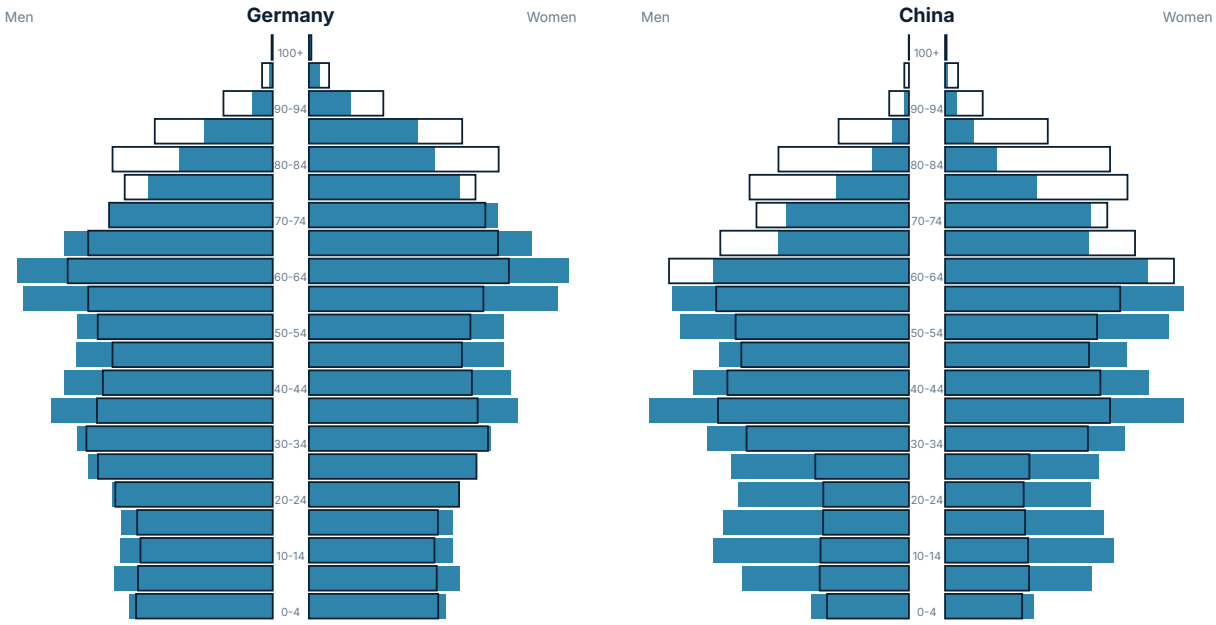
THE DEMOGRAPHIC TURN

Two pyramids, one direction

Germany is already old; China is ageing at a speed no other large country has seen. Between 2025 and 2050 China’s share of people aged 65+ doubles from 15.0% to 31.2% and overtakes Germany’s 30.3%. In both countries the fastest-growing group is the oldest: Germany’s population aged 80+ rises from 6.2 to 10.2 million, China’s from 37.6 to 135.1 million. That is the group that needs most care.

Exhibit 1 · Population by age and sex, 2025 and 2050

Bars: 2025 · outline: 2050 · men left, women right · scaled per country



UN World Population Prospects 2024, medium variant, 1 July; ETHORITY calculation from the UN data package

EIGHT COUNTRIES COMPARED

Japan leads the ageing curve, China catches up fastest

The old-age dependency ratio counts people aged 65+ per 100 people aged 20–64. It rises everywhere. Japan reaches 79 by 2050, Germany 58 and China 56, close to the European level. The Nordics and the United States age more slowly, which gives them time that Germany and China do not have.

Exhibit 2 · Ageing in eight countries, 2025 and 2050

COUNTRY	65+ 2025	65+ 2050	80+ 2025	80+ 2050	RATIO 2025	RATIO 2050
Japan	30.1%	37.5%	10.7%	15.8%	55.6	79.2
Germany	**24.0%**	**30.3%**	**7.4%**	**13.1%**	**41.7**	**58.2**
Finland	24.4%	28.3%	6.5%	11.0%	43.8	52.3
China	**15.0%**	**31.2%**	**2.7%**	**10.8%**	**23.5**	**56.2**
Norway	19.2%	26.9%	5.0%	10.1%	32.7	49.4
Sweden	21.0%	25.8%	6.4%	9.8%	37.2	46.8
Denmark	21.3%	25.6%	6.0%	10.1%	37.0	46.8
United States	18.6%	23.2%	4.3%	8.6%	32.2	41.7
World	10.5%	16.4%	2.1%	4.7%	18.4	29.1

UN World Population Prospects 2024, medium variant; ETHORITY calculation

THE COST OF CARE

Care budgets are under pressure everywhere

OECD projects public long-term care spending to almost double to 2.8% of GDP across its members by 2050. Germany's social long-term care insurance already spends more than it collects: revenue of €73.3 billion against spending of €73.8 billion in 2025, a federal loan of €3.2 billion for 2026 and an expected deficit of almost €5 billion in 2027. Japan's care insurance cost ¥12.1 trillion in FY2024 for 7.2 million people certified as needing care. The US Medicaid programme spent $228.6 billion on long-term services and supports in 2023, two thirds of it on home and community care. China is building a national long-term care insurance within about three years.

2.8% of GDP
projected public long-term care spending across the OECD by 2050, almost double today (OECD, Apr 2026)

€3.2bn
federal loan to Germany's social care insurance for 2026; deficit of almost €5bn expected in 2027 (GKV-Spitzenverband)

¥12.1trn
cost of Japan's care insurance in FY2024 for 7.2 million people certified as needing care (MHLW)

$228.6bn
US Medicaid spending on long-term services and supports in 2023; 64% for home and community care (CMS)

0.3%
planned contribution rate of China's national long-term care insurance, to be built in about three years (State Council, Mar 2026)

17%
of all employment in Norway would be in health and care by 2040, up from 12.9% in 2024 (Meld. St. 11, Jun 2026)

THE WORKFORCE GAP

Not enough hands, everywhere

The shortage of carers is the hardest constraint. Germany may miss 280,000 to 690,000 care workers by 2049. Japan needs 570,000 more care workers by FY2040. Norway projects a gap of 42,400 full-time posts by 2040, when health and care would employ 17% of all workers. The US expects 760,500 openings a year for home health and personal care aides. Worldwide, WHO counts a shortage of 5.8 million nurses, and one nurse in seven is foreign-born, which makes rich countries dependent on recruitment from poorer ones.

Germany	**280,000–690,000**	care workers missing by 2049, trend and status-quo scenarios (Destatis, Jan 2024)
Japan	**+570,000**	care workers needed by FY2040 against FY2022 (MHLW, Jul 2024)
Norway	**42,400 FTE**	gap in health and care by 2040 (Meld. St. 11, Jun 2026)
United States	**760,500 a year**	openings for home health and personal care aides to 2035 (BLS)
World	**5.8 million**	nurses short in 2023, falling to 4.1 million by 2030 (WHO, May 2025)

AI IN CLINICS

China leads on scale, Denmark on evidence

China deploys fastest. Public reports counted 261 hospitals running the DeepSeek-R1 model on their own servers within the first ten weeks of 2025. A national plan of November 2025 aims for AI-assisted diagnosis to be universal in primary care by 2030 and routine in grade-II hospitals and above. The national regulator had approved 154 AI medical devices by mid-2025, 123 of them in the highest risk class.

Denmark shows what careful evaluation looks like. In the Capital Region, AI in breast-cancer screening cut the number of screening reads by a third while detecting more cancers with fewer false alarms. In the US, 71% of acute-care hospitals use predictive AI in their health record; in Germany 18% of hospital physicians report AI use in their hospital.

Exhibit 3 · AI in breast-cancer screening, Capital Region of Denmark

Before and after AI-supported screening; about 119,000 women

Screening reads	Cancer detection rate	False-positive rate
−33.5%	**0.70% → 0.82%**	**2.39% → 1.63%**

Lauritzen et al., Radiology 311(3), Jun 2024, doi 10.1148/radiol.232479 (peer-reviewed, before-and-after cohort; workload counts reading events)

261
hospitals in China ran DeepSeek-R1 locally within ten weeks in 2025 (medRxiv preprint, public reports)

154
AI medical devices approved in China by mid-2025, 123 in the highest class (JMIR, 2026)

2030
target year for AI-assisted diagnosis in all Chinese primary care (NHC, Nov 2025)

71%
of US acute-care hospitals use predictive AI in the health record (ASTP/ONC, 2024)

AI IN LONG-TERM CARE

Where AI gives time back to carers

In long-term care, AI works in the background: it writes the care record from speech, watches over residents at night, dispenses medicines and keeps older people company. The independent evidence is still thin. The table shows what has been measured and who measured it.

USE	EXAMPLE	MEASURED RESULT	EVIDENCE
Speech documentation in nursing homes	voize, Germany	−15 minutes per morning shift (−28%), 44 nurses in 14 homes	Pre-post study, vendor-affiliated author (JMIR, 2026)
Fall detection with smart lights	Nobi, in 79 care homes in England	32% fewer falls	Independent evaluation (Lancaster University, NHS)
Medication robot at home	Evondos, Finland	Home visits −89% to −92%; doses taken on time 97.7–99.0%	Non-randomised trial (BMC HSR, 2023); Finnish HTA (2019)
Digital night supervision	82% of Swedish municipalities	Effects "highly individual"; organisation matters more than technology	National regulator survey (Socialstyrelsen, 2025)
Companion robot	ElliQ, New York State, about 900 units	Loneliness reduced in self-reports	State agency report (NYSOFA)
Care robots and jobs	Japanese nursing homes	More monitoring robots linked to more caregivers and lower turnover	Peer-reviewed (Labour Economics, 2025)

FIVE COUNTRY MODELS

Five ways to put AI into care

China	**STATE-LED SCALE** National AI plan for health (Nov 2025), elder-care robot pilot 2025–27 with 32 projects, long-term care insurance for 308.5 million people, silver-economy policy (2024).
Japan	**PAY FOR PRODUCTIVITY** Fee bonus per resident for homes using monitoring, intercoms and digital records (2024); ¥9.7bn subsidy for care technology (FY2025).
Nordics	**MUNICIPAL WELFARE TECHNOLOGY** Sweden 82% night supervision, Norway 78% of municipalities with welfare technology, Finland medication robots, Denmark a legal basis for AI in elder care (proposed from Jul 2026).
United States	**PAYER AND MARKET** Hospital-at-home waiver to 2030, new remote-monitoring codes (2026), AI nurse agents and ambient documentation at scale, contested AI in prior authorisation.
Germany	**INSURANCE-LED CATCH-UP** Hospital digitisation fund (€4.3bn), care digitalisation subsidy (40%, up to €12,000 per provider), law to cap care documentation (Nov 2025), digital care apps not yet listed.

THE VENDOR MAP

34 vendors across clinical AI and care technology

The vendor landscape follows the country models: Chinese platform and robotics companies grow with state programmes, Nordic vendors with municipal procurement, US companies with venture capital and payers, Japanese industrial groups with subsidies. Germany contributes documentation AI and large medtech.

Clinical AI and large models · 6

DeepSeek CN · Epic US · iFlytek Healthcare CN · Ping An Good Doctor CN · ScreenPoint Medical NL · Tencent Hunyuan CN

Documentation for doctors and nurses · 5

Abridge US · Dragon Copilot (Microsoft) US · Gosta Labs FI · Tandem Health SE · voize DE

Patient-facing agents and triage · 2

Corti DK · Hippocratic AI US

Monitoring, fall detection and telecare · 7

Careium SE · Kepler Vision NL · Nobi BE · Paramount Bed JP · Sensio NO · Tunstall UK · Vayyar IL

Medication robots · 1

Evondos FI

Companion and therapy robots · 2

ElliQ (Intuition Robotics) IL · PARO JP

Care, rehab and service robotics · 10

AgiBot CN · Cyberdyne JP · Fourier CN · FUJI (Hug) JP · Keenon Robotics CN · Panasonic (Resyone) JP · RobotGym CN · Siasun CN · Toyota (HSR) JP · UBTech CN

Home-care operations · 1

AlayaCare CA

Research pack, 22 Oct 2026 · vendor and public sources · names alphabetical within segment, not a ranking · extension research set for this study, not admitted to the Wave 1 market snapshot; overlaps with other maps, counts not additive

THE RULES

Rules that shape AI in care

European Union	AI Act: transparency since Aug 2026; eligibility for public assistance and health services high-risk from Dec 2027 (Annex III 5a); AI in medical devices high-risk from Aug 2028.
Denmark	Bill giving an explicit legal basis for AI in elder care: decision-support profiling, speech technology and documentation help (in force proposed 1 Jul 2026).
Germany	Care digitalisation subsidy (§8(8) SGB XI) until 2030; law of Nov 2025 caps care documentation and eases approval of digital care apps.
China	AI may not replace physicians in diagnosis; class III imaging AI needs clinical validation; elder-care robots tested in at least 200 homes or 20 institutions each.
Japan	Care fee schedule rewards technology use per resident; national list of priority care technologies revised for 2025.
United States	Insurers may use algorithms to assist coverage decisions but must decide on the individual patient (CMS, 2024); AI prior authorisation pilot in six states under review by Congress.

What the rules mean for a project

Across jurisdictions the direction is the same: AI may support care and coverage decisions, but a person decides, residents and patients are informed, and data stays protected. Projects that build this in from the first pilot avoid rework later.

CONCLUSIONS

What the evidence adds up to

Ageing societies will not find enough carers. AI and robotics can give time back to care, if they are chosen on evidence, governed well and measured in hours returned. Six conclusions for decisions now.

1 **Treat AI in care as workforce policy**

Evidence. Germany may miss 280,000 to 690,000 care workers by 2049, Japan needs 570,000 more by FY2040, and WHO counts 5.8 million missing nurses.

What to do. Set targets in hours returned to care and plan every project with the staff who will use it. · The workforce gap

2 **Start where time is lost**

Evidence. Speech documentation saved 15 minutes per morning shift in German nursing homes; 82% of Swedish municipalities supervise nights digitally; smart lights cut falls by 32% in English care homes.

What to do. Measure a baseline, then pilot documentation and night supervision first. · AI in long-term care

3 **Ask for independent evidence**

Evidence. Much of the evidence in long-term care is vendor-linked or self-reported; Denmark and Sweden show what public evaluation looks like.

What to do. Fund evaluation with every purchase and publish the results. · AI in clinics; AI in long-term care

4 **Pay for productivity**

Evidence. Japan rewards care homes that use monitoring and digital records with a fee bonus; China scales through state programmes; the Nordics through municipalities.

What to do. Link payment to documented productivity and outcomes, not to the purchase of technology. · Five country models

5 **Keep a human decision**

Evidence. The EU AI Act treats eligibility for public assistance and health services as high-risk from Dec 2027; US insurers must decide on the individual patient; China bars AI from replacing physicians in diagnosis.

What to do. Keep a person accountable for every care-level, coverage and treatment decision. · The rules

6 **Use AI to protect care budgets**

Evidence. OECD expects public long-term care spending to almost double to 2.8% of GDP by 2050; Germany’s care insurance needs a federal loan in 2026.

What to do. Target AI at what keeps people at home and healthy for longer, where budgets gain most. · The cost of care

THE PROBLEM

Care is not short of technology. It is short of time, hands and decisions that hold.

Providers, payers and governments face the same question: which AI gives carers time back, which is safe for residents and patients, and how to prove it to boards, regulators and families.

THE PROBLEM	WHAT WE SEE IN THE EVIDENCE	WHAT IT COSTS
Not enough hands	Every country in this study is ageing faster than its care workforce can grow; rich countries recruit carers from poorer ones.	**Care not delivered, overtime and burnout.**
Paperwork eats care time	Documentation, rostering and reporting take hours from every shift.	**Less time with residents and patients.**
Thin, vendor-linked evidence	Few independent studies; results often self-reported or vendor-affiliated.	**Purchases that do not deliver; lost trust.**
Fragmented funding and procurement	Subsidies, insurers, municipalities and providers each pay for parts of a solution.	**Pilots that never scale.**
Rules and trust	AI Act, data protection, residents' rights and staff participation apply together.	**Delays, resistance and rework.**

The question behind every project

What should improve, which options are credible, what evidence is missing, what implementation requires, and who owns the outcome?

HOW ETHORITY HELPS

From AI ambition to care time you can measure

ETHORITY helps care providers, payers and public bodies choose, govern and prove AI: from independent market evidence to decisions that can be defended and outcomes that can be measured in hours returned to care.

01
Discover
Find and qualify the opportunity: options, evidence, constraints and rules.

02
Create
Design and build the solution with your data, systems and people.

03
Run
Operate it responsibly, with owners, controls and support.

04
Improve
Measure against the objective and adjust.

05
Grow
Turn what was learned into new capability and value.

WHERE A PROJECT CAN BEGIN

AI opportunity case
One use, such as documentation, night supervision or rostering, assessed against evidence, cost and rules. It ends in a clear decision: pilot, redesign, expand or stop.

Vendor and evidence due diligence
Good AI Prism research profiles and comparisons, including the 34 vendors in this study, with a structured check of claims and evidence.

AI estate audit
An inventory of AI and care technology across sites and services, with owners, risks, costs and overlaps.

Governance and readiness
Each use mapped to the AI Act, data protection, residents' rights and staff participation, with proportionate controls.

AI literacy for carers and managers
Role-based training for nurses, aides and managers, with named overseers for alerts and decisions.

From pilot to operation
A pilot charter with baseline, threshold and stop conditions, then building and running the solution on ETHORITY's AI Business Operating System.

Who we work with

Care providers and hospital groups, home-care services, insurers and payers, municipalities and ministries, care technology vendors and investors.

Start with one question. Talk to us: sten@ethority.ai · severin@ethority.ai · ethority.ai/ai-prism-study

THE AGENDA

What governments, payers and providers can do now

Governments

- Make AI in care a workforce policy, not an IT project: measure hours returned to care.
- Give a clear legal basis for AI in care, as Denmark proposes, with patient and staff rights.
- Fund evaluation, not only purchase: publish results as Sweden and Denmark do.

Payers and insurers

- Pay for outcomes that matter: safer nights, fewer falls, longer life at home.
- Reward documented productivity, as Japan's fee bonus does.
- Keep a human decision on every coverage or care-level decision.

Care providers

- Start where staff lose most time: documentation and night supervision.
- Involve carers and residents from day one; train and name accountable overseers.
- Count saved time only when it flows back into care.

WORKFORCE LENS

When agendas change quickly, the people side breaks first: half-adopted tools, skills that lag the system, employees who were not involved, and decisions no one owns. Plan adoption, training, employee participation and accountable oversight as part of every staged commitment, not after it.

Severin L. Wilson, workforce lens in the Good AI Prism Market Study 2026/27

PRACTICAL APPENDIX

Seven questions before AI enters a care home or a home-care round

Use these questions with providers, staff, residents and families before a pilot starts.

QUESTION	WHAT TO ASK	EVIDENCE TO REQUEST
Purpose	Which task loses most time today, and what should improve?	Baseline of time, quality and incidents
Evidence	Who measured the result, in which setting, and was it independent?	Study or evaluation report
Residents' rights	How are consent, dignity and privacy protected, including at night?	Information and consent process
Staff	Were carers involved, trained and, where required, the works council consulted?	Participation record, training plan
Data	Which data is collected, where is it stored, and who can see it?	Data protection impact assessment, contract terms
Oversight	Who acts on alerts and suggestions, and who decides?	Named roles, escalation rules
Measurement	How will hours returned, falls, quality and satisfaction be counted?	Measurement plan, review dates

PILOT CHARTER: AGREE IT BEFORE THE PILOT STARTS

Scope and duration
Process, users, volume and weeks

Success threshold
The result that justifies scaling

Quality controls
Who reviews what, how errors are recorded

Budget ceiling
Total spend, including integration and review

Stop conditions
Results or incidents that end it early

Decision date and owner
When go or stop is decided, and by whom

A pilot without a threshold and a stop condition cannot fail, and so cannot prove anything. ETHORITY recommendation, derived from the evidence in this publication.

ABOUT ETHORITY

From understanding markets to building AI capability

ETHORITY connects market intelligence, research and practical delivery to help organisations put AI to work. It is built as an AI1st organisation: humans and AI agents work on one AI Business Operating System, with the research, engineering and operations to build and run AI after the pilot. Its roots lie in the digital intelligence business Sten Franke founded in 2005, which combined monitoring, research and advisory work to help organisations understand changing markets.

The Good AI Prism is the entry point: research profiles, documented relationships and comparisons help users investigate their options. Advisory, governance and transformation work connect those options with an organisation's objectives, data, systems, people and operating conditions.

SELECTED REFERENCES AND PARTNERS SINCE 2005

Bosch · Bayer · BMW · Siemens · Mercedes-Benz · Coca-Cola · Deutsche Bank · T-Mobile · Telefónica o2 · DHL · EDEKA · AIDA Cruises

Selected historical references and partners from the group's market-intelligence and advisory heritage, in projects or through former group companies.

METHOD

Population data: UN World Population Prospects 2024, medium variant, calculated by ETHORITY from the UN data package. Care, cost, workforce and programme figures from official statistics, ministries, regulators and peer-reviewed studies as cited; where a figure rests on a secondary relay this is noted in the source register. Vendor set: 34 vendors from public and vendor sources, extending the Good AI Prism 2026/27 dataset. Not legal or medical advice.

MAIN SOURCES

- UN World Population Prospects 2024 (data package)
- OECD, Future long-term care expenditure trajectories, Apr 2026
- Destatis: care statistics 2023; care worker projection, Jan 2024
- BMG and GKV-Spitzenverband: finances of social care insurance 2025–2027
- NBS China, population 2025; NHSA long-term care insurance bulletins 2024–2025; State Council opinions 2024 and 2026; NHC AI+healthcare opinions, Nov 2025; MIIT/MCA robot pilot 2025
- MHLW Japan: care insurance FY2024; care workforce need, Jul 2024; care technology subsidies FY2025
- Socialstyrelsen 2025–2026; Helsedirektoratet 2024; Meld. St. 11 (2025–2026); Danish elder-care AI bill, Nov 2025
- CMS NHE and Medicaid LTSS 2023; BLS; ASTP/ONC data brief 80
- WHO, State of the World's Nursing 2025
- Lauritzen et al., Radiology 2024; Kajander-Unkuri et al., BMC HSR 2023; Schwabe et al., JMIR 2026; Lancaster University and NHS evaluation of Nobi

ETHORITY
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FROM BUSINESS AMBITION TO AI THAT WORKS

Put AI to work, with evidence.

ETHORITY helps organisations choose, govern and prove AI: from independent market evidence to decisions that can be defended and outcomes that can be measured.

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STUDY REPOSITORY AND UPDATES

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THE ETHORITY STUDY SUITE

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02	**Put AI to Work: The Good AI Prism Market Study 2026/27** Germany–US focus · EN and DE	
03	**Good AI Prism sector briefs 2026/27** HR & Workforce · Health & Life Sciences · Financial Services & Insurance · Public Sector · Education · Energy & Utilities · Mobility & Logistics · Global EN and DE	
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06	**The Social Media Prisma 2009–2025** Historic paper · EN and DE	

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