

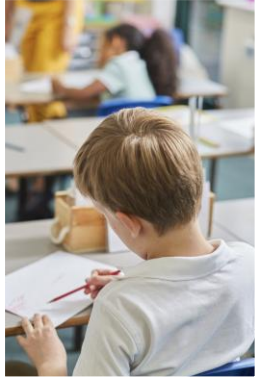
Polish Digital Resilience Agenda 2040
a model of strategic preparedness
for the antinomies of digitalisation.

Scenario: Phoenix from the ashes

**strategic area: Education, schooling and science
science**

Innovation scenario without institutions

The main paradox



What's on the decline?

- Public education
- Public universities (0 in the Shanghai Top 100 by 2040)
- The prestige of the teaching profession (42nd place in terms of trust)



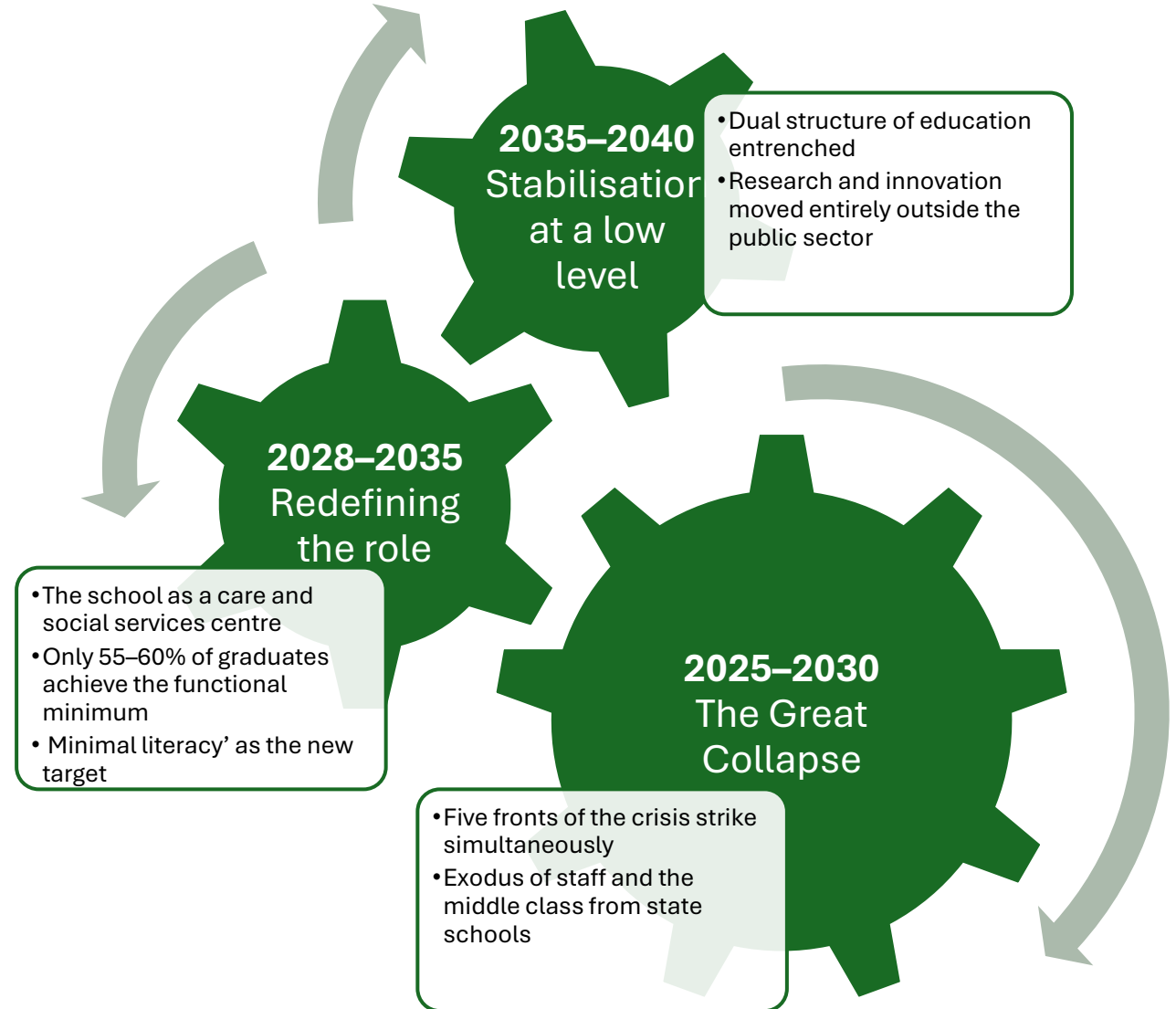
What's on the rise?

- Corporate R&D centres
- Start-up clusters
- „Lone wolves” with AI and low-code tools

"The innovation economy can emerge despite - not because of - the public education system."

Paradox:
The same country - two parallel trajectories

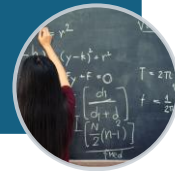
Three phases of transformation system



Anatomy of the Great Disruption: 5 Crisis Fronts (2025–2030)

- Average age of teachers: 52 (2027)
- Outflow: 15–20,000 per year, inflow: only 3–5,000
- Cumulative shortfall: 80–100,000 vacancies by 2030
- Competence of new staff –30% compared to their predecessors

Staffing crisis



- Education spending: stagnating at 4.5–4.8% of GDP
- Teachers' salaries: 65–70% of the national median
- 60% of school buildings are in need of modernisation

Financial crisis



- PISA results: a drop of 25–35 points (\approx a regression of 1–1.5 years of schooling)
- 40% of pupils are functionally illiterate
- Polarisation: 10% maintain their standards thanks to their parents

The skills crisis



- Commercial educational platforms: growth from 45% to 70% of users (2028–2035)
- For one-third of pupils in urban areas, school is merely a 'place to be'

Digital competition



- The teaching profession: 42nd in the trust rankings (2030)
- 40–50% of the middle class are sending their children to alternative educational pathways
- State schools are becoming ghettos for the lower classes

Social crisis



Non-institutional innovation ecosystem: 3 pillars

Pillar 1: Corporate R&D Centres

150–200 laboratories by 2040 — replacing universities

Salaries 2–3 times higher than in the public sector

Examples: CD Projekt, Allegro ML Lab, Docplanner Health-Tech

Knowledge: protected by trade secrets (risk of closure)

Pillar 2: Startup Clusters

Locations: Warsaw, Kraków, Wrocław, the Tri-City,

Sectors: Fintech and AI, Gaming, Biotech, Logistics,

Potential: approx. 2,500 companies

Knowledge: from GitHub, ArXiv, open source — global, not local

Pillar 3: „Lone wolves”

Low-code, no-code tools + AI

A single person creates value that used to require entire teams

Hyper-connected globally, independent of local institutions

Social structure 2040: three worlds without social mobility

	Class A: Innovators	Class B: Performers	Class C: Excluded
Participation	8–12%	50–55%	33–40%
Income	250–350% of the median	~median	35–55% of the median
Path	Corporate R&D, startups, solopreneurs	Routine services, threat of automation	Social transfers, passivity
Promotion	Only playable within the class	Uncertain	Statistically impossible

Four system voltages

Tension	Description	Risk
Closing knowledge	Corporate innovations protected by patent instead of published	The state is losing control over key technologies
Regulatory asymmetry	Private sector: deregulation and regulatory sandboxes. Universities: reporting = 30% of researchers' time	The "two-speed system" perpetuates the advantage of private cars
Brain drain	40-50% of graduates, 60-70% of PhD students in key fields emigrate or move to foreign corporations	Sterilization of the talent base
Oligarchy	Without mobility, advancement is only possible through inheritance of status	Risk of social unrest and political destabilization

Two final variants

Without intervention – the oligarchic model

- Superficial stability,
- Lack of control over technology,
- Wasting of talent.

With intervention – the reform model

- Doubling of teachers' salaries,
- An AI tutor for every pupil,
- Education vouchers,
- „Robot tax”,
- Polish Fraunhofer Institutes.



Strategic recommendations

Doubling teachers' salaries — halting the exodus and restoring the profession's prestige

A personal AI tutor for every pupil — democratising individualised learning (not just for the elite)

Education vouchers for gifted pupils from poorer families — restoring social mobility

A 'robot tax' — redistributing the profits of automation to an education fund

Public research institutes — a model combining science and business whilst maintaining open access to knowledge

Bottom line: a race against time

"Poland is soaring technologically like a phoenix, but it risks that its social foundations will remain in ashes."

Unanswered questions:

- Is the success of the 8-12% of the elite the success of the nation?
- Is innovation without knowledge diffusion sustainable?

Final Diagnosis: The scenario is not a success – it is a warning that a country that is both innovative and socially ruined is possible. A country that does not control key technologies. An economy that cannot turn the success of the elite into prosperity for the majority.



Ministerstwo Nauki
i Szkolnictwa Wyższego



Polish Digital Society

<http://cyfryzacja.org>

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Postscript: one-page script

It is an ambivalent scenario - neither triumph nor disaster, but something deeply disturbing: economic success on the ruins of society. The titular Phoenix rises - but from the ashes of a public system that has burned down. And this is the central paradox: Poland is building an innovative economy despite, not thanks to, the education system.

The mechanism is as follows: when public education and universities plunge into a systemic crisis, three private ecosystems take over their functions - corporate R&D laboratories, startup clusters and "lone wolves" hyperconnected with global knowledge. Innovation does not disappear - it escapes from public institutions to private enclaves.

The narrative unfolds in three acts: first, the Great Crash (2025–2030)—five fronts of crisis simultaneously crushing public education. Potem Redefinicja (2028–2035) — szkoła przestaje być miejscem nauki, staje się placówką opiekuńczo-socjalną. Wreszcie Stabilizacja (2035–2040) — nowy porządek krystalizuje się w trójklasowe, sztywne społeczeństwo bez wind między piętrami.

The scenario leaves an unanswered question: Does the Phoenix rise for everyone or only for the elite 8-12%? The documentary ends with a race between elite innovation and the degradation of the public sphere - and a warning that society's foundations may remain in ashes forever.