Session 3: Pathways to sustainable and resilient futures

How Science and Business Should Work Together for Sustainable Development

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Research outcomes from the Latvia technology transfer ecosystem study

The central question

The study reframes technology transfer as a system function: it depends on coordinated flows of knowledge, capital, decisions and responsibility.

How can science and business cooperate so that research becomes sustainable development, not only publications, patents or projects?

Source: Research group study, 2026

Evidence base of the study

The Study is grounded in a completed study of Latvia's technology transfer ecosystem.

53
semi-structured expert interviews

3
evidence streams combined

5
international conference validations

This is not a proposal in search of a problem, it is a diagnosis and reform architecture derived from empirical and comparative analysis.

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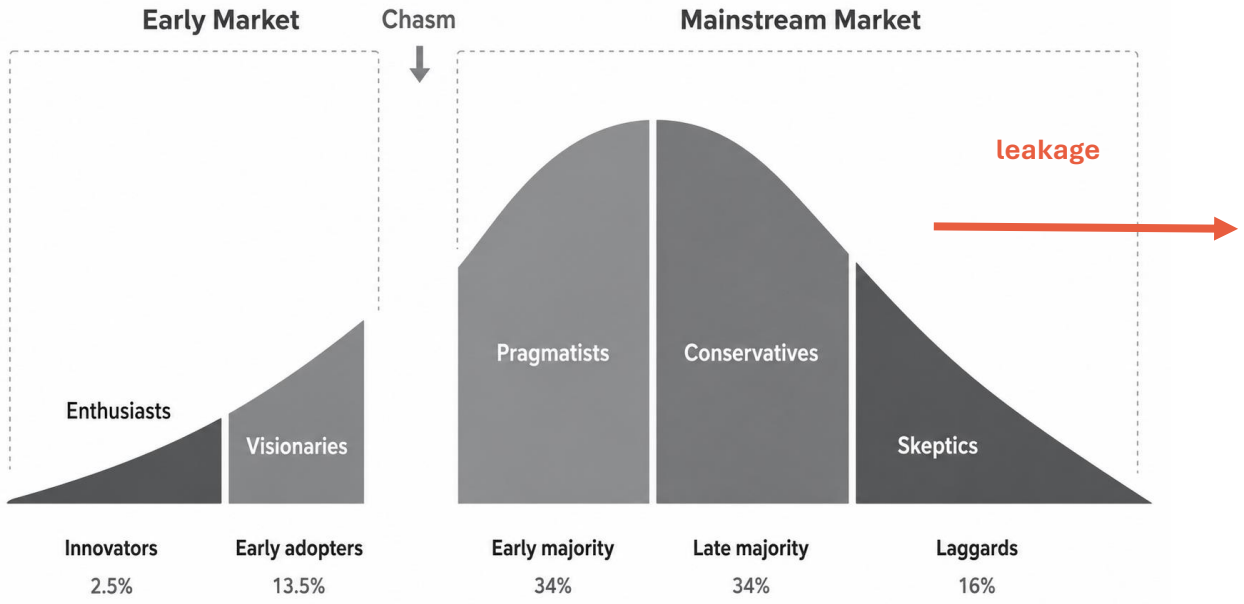
What the evidence shows

Latvia's main constraint is not the absence of instruments. It is insufficient synchronisation across governance, institutions, market signals and capital flows.

Source: Research group study, 2026

Latvia’s technology transfer paradox

Latvia has scientific potential, but the conversion mechanism is not yet sufficiently reproducible.

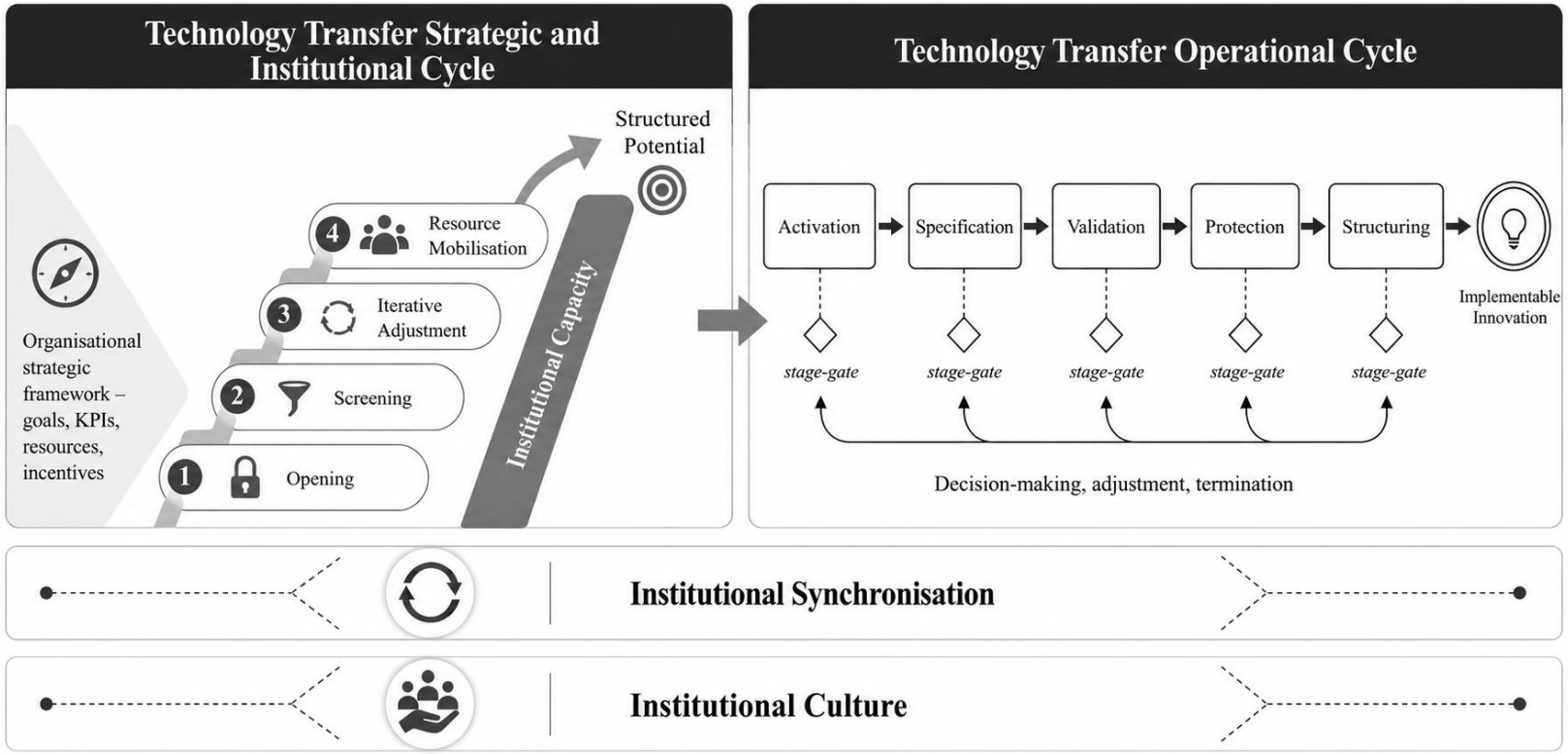


- Fragmented responsibilities
- Weak coordination mechanisms
- Unsynchronised flows of knowledge, capital and decisions
- Limited feedback from market outcomes into research capacity

For sustainable development, this means slower diffusion of useful solutions and weaker public return on research investment.

Source: Research group study, 2026

The system architecture: not a pipeline, but a governed ecosystem



Where market validation fits

It is not an activity after research is finished. It is a decision layer that shapes specification, protection, investment and partnership choices.

The architecture gives structure. Market validation gives direction.

Study principle: flexibility in institutional implementation; accountability for validated, useful outcomes.

Source: Research group study, 2026

Market validation: the practical bridge

Market validation asks four questions before the system commits major resources.

Problem	Whose problem is this, and how costly is it?
User	Who will adopt or procure the solution?
Use case	Where will it be used, under what constraints?
Route	Which route creates value: licence, spin-off, contract research, public deployment or partnership?

Validation should precede irreversible decisions on IP protection, investment intensity and partner commitments.

Source: Research group study, 2026

Science and business must meet earlier

Late cooperation tests whether a finished result can be sold. Early cooperation tests whether the result should be developed in that form at all.

Market validation zone

Source: Research group study, 2026

Role clarity: cooperation is not substitution

Science

- Generates knowledge
- Tests technical validity
- Maintains long-term depth
- Explains uncertainty

Business

- Defines operational pain
- Tests demand and adoption
- Provides scaling discipline
- Signals willingness to pay

Technology transfer function

- Translates between logics
- Manages portfolios
- Documents stage-gate decisions
- Connects partners

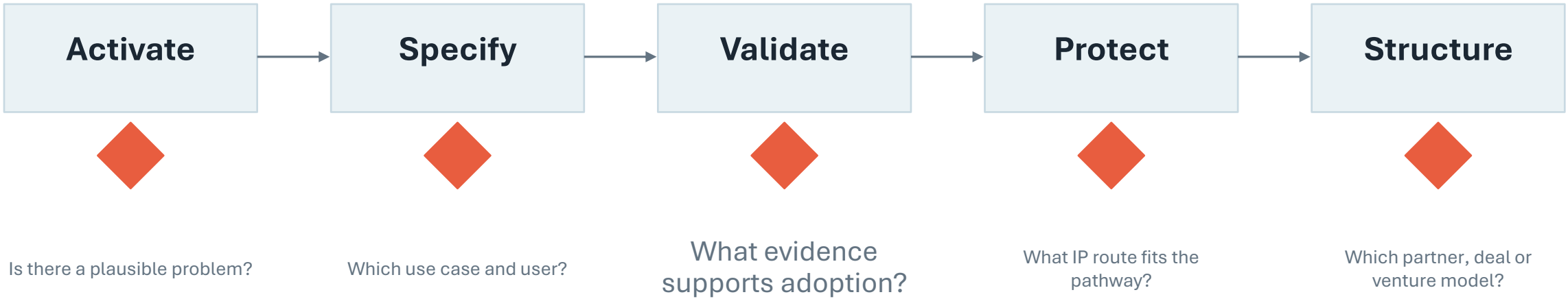
State / ecosystem

- Sets national framework
- Funds quality infrastructure
- Requires comparable data
- Protects public value

Productive collaboration preserves institutional strengths, but forces them through shared validation evidence.

Source: Research group study, 2026

Market validation inside the stage-gate process



Continue / adapt / stop decisions should be based on technical progress and market evidence together.
This prevents premature patenting, weakly grounded spin-offs and resource drift.

Source: Research group study, 2026

Portfolio logic: not every result needs the same pathway

A resilient science-business system manages many opportunities through different routes to value.

Licensing
mature IP, external scale

Spin-off
venture route, high uncertainty

Contract research
industry-defined problem

Consulting
expertise transfer

Public deployment
societal value first

Joint development
shared specification

Market validation selects the route; portfolio governance balances risk, time horizon and public value.

Source: Research group study, 2026

Why market validation strengthens sustainable development

Less waste

Resources are not locked into weakly evidenced pathways.

Faster diffusion

Useful solutions reach users, firms and public systems sooner.

Better legitimacy

Technology is shaped by real social, environmental and operational needs.

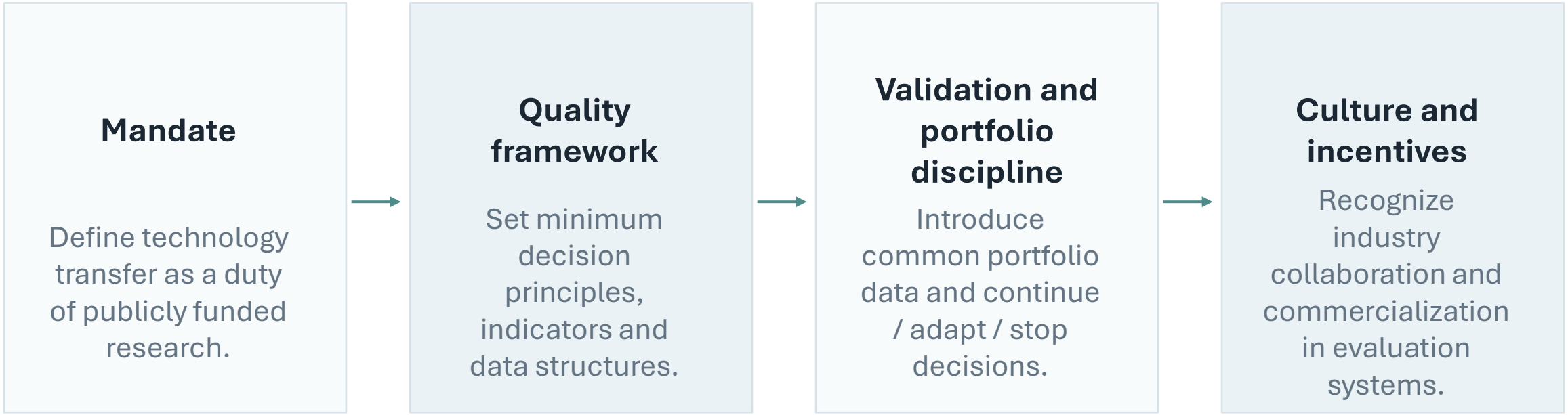
Stronger reinvestment

Economic value can return to research as capability and trust.

Sustainability is not only the topic of the technologies. It is also the quality of the system that chooses, adapts and scales them.

Source: Research group study, 2026

Implementation framework



Implementation logic: one national framework, decentralised institutional execution, mandatory validation evidence.

Source: Research group study, 2026

The strategic choice for Latvia

The choice is not between science autonomy and business relevance.

It is between two modes of organising knowledge:

Fragmented projects

Science and business meet late; outcomes depend on individual champions and chance.

Validated pathways

Science, business and policy use evidence to choose, adapt and scale routes to value.

The second mode is the route to sustainable and resilient innovation.

Source: Research group study, 2026

Sustainable innovation does not emerge when science pushes and business occasionally pulls.

It emerges when knowledge, capital, responsibility and market validation circulate through a deliberately governed system.

Thank you

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