CDRIN

Services

Research and development projects progress through various phases that allow for the design, testing, and validation of developing technologies. Each of these stages, constituting the R&D project lifecycle, corresponds to increasing levels of technological maturity. As a result, certain types of grants are better suited to certain levels in terms of scope, duration, and budget.

Applied Research

Experimental Development

Skills Transfer

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Applied Research

From technology monitoring to proof of concept, we help you acquire new knowledge with a clear focus on meeting specific goals and needs.

Scientific Survey①② allows for the recommendation or design of practical applications based on analytical studies. Scientific research begins to lead to applied research and development with studies and recommendations on the basic properties of a technology applicable to a partner's problem.

A Proof of Concept (POC)③④ validates an idea's viability. It involves analytical and lab studies to assess individual components, followed by integration testing to verify overall functionality. Finally, the proof of concept constitutes a first iteration that integrates the elements, automates their operation or produces a final result in a new usable form.

Niveau ① : Basic principles identified
Initiation of applied research, with a focus on the fundamental properties of the technology.

Niveau ② : Technology concept and/or application formulated
Invention begins. Once basic principles are observed, practical applications can be invented. Activities are limited to analytic studies.
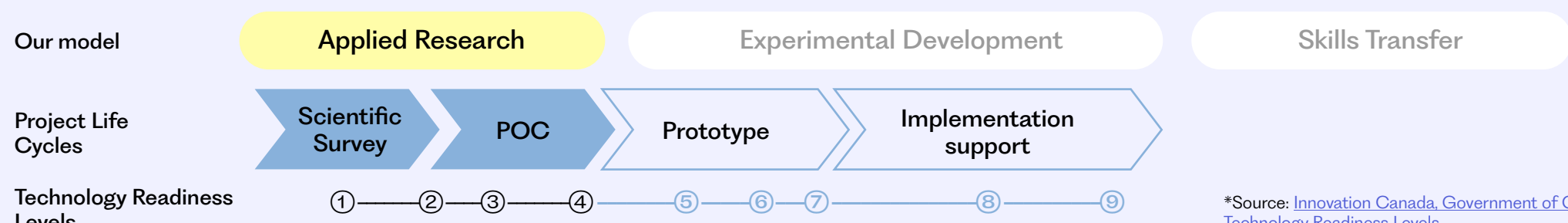
Niveau ③ : Experimental validation
Active research and development is initiated with analytical studies and/or laboratory studies. Activities might include components that are not yet integrated or representative.
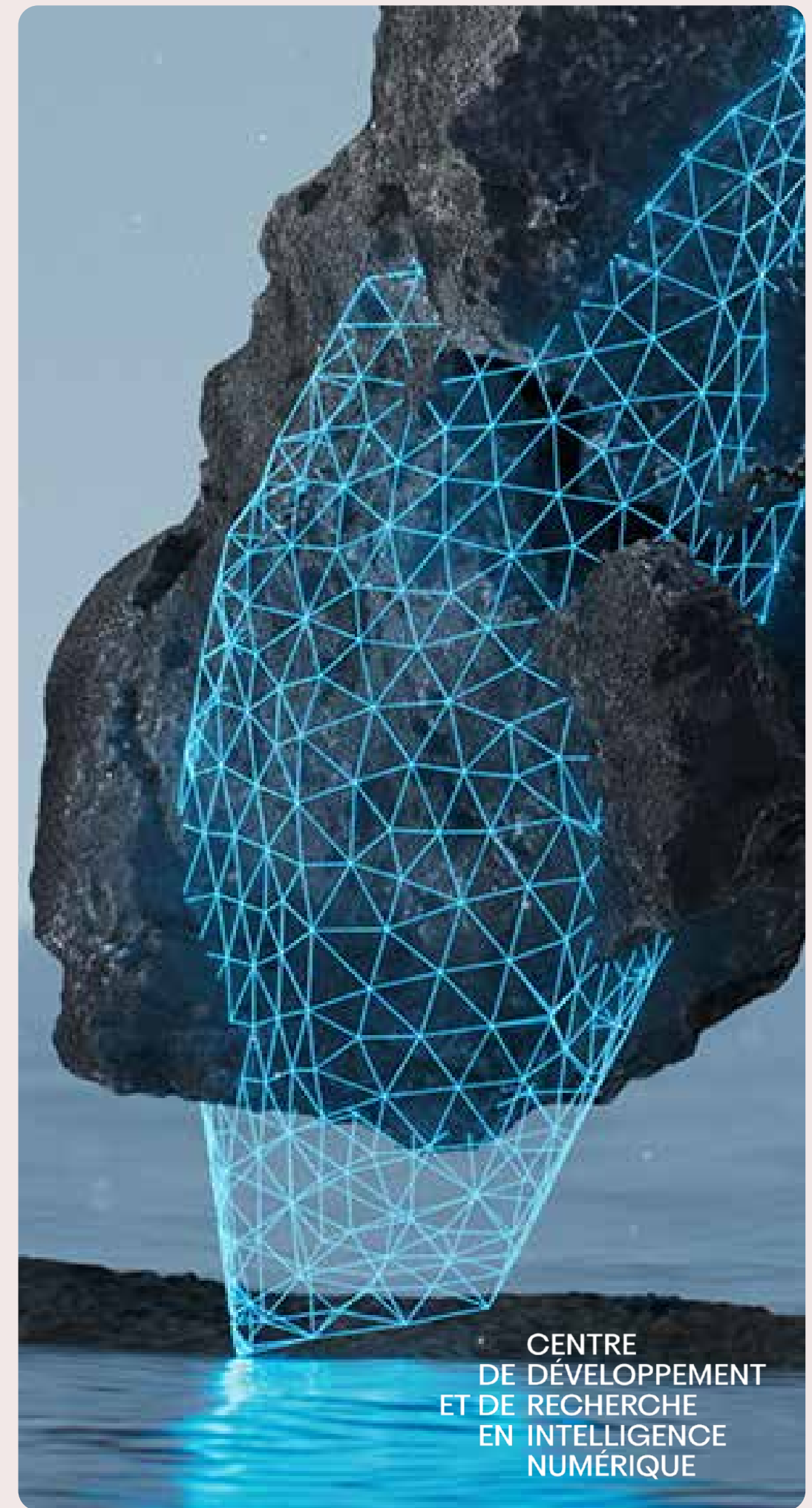
Niveau ④ : Laboratory Validation
Basic technological components are integrated and tested in the lab to validate their functionality together.

Project Life Cycles and Technology Readiness Levels
Our model, grounded in R&D project lifecycle stages and the TRL scale*, enables us to accurately assess project progress and tailor our support to your strategic objectives.

Our model	Applied Research	Experimental Development	Skills Transfer

Project Life Cycles	Scientific Survey	POC	Prototype	Implementation support

Technology Readiness Levels: ①—②—③—④—⑤—⑥—⑦—⑧—⑨

*Source: Innovation Canada, Government of Canada. Technology Readiness Levels

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Experimental Development

We prioritize experimentation, from prototyping to solution implementation, a crucial step to validate if these solutions meet your requirements.

The prototype⑤⑥⑦ possesses the complete technical qualities and operating characteristics of the solution. At this stage, projects consist of integrating, adapting, and validating the complete solution in relation to the partner's environment, until the model or prototype represents a desired configuration that can be integrated into the production environment.

Implementation support⑧⑨ involves guiding and overseeing the integration of the solution in its final form and function. At this stage, projects consist of providing in-depth support and ensuring knowledge transfer to guarantee successful operation for end users.

Niveau ⑤ : Validation in a Simulated Environment
Basic technological components are integrated and tested in a simulated environment.

Niveau ⑥ : Demonstration in a Simulated Environment
A model or prototype close to the final configuration is tested in a simulated operational environment.

Niveau ⑦ : Prototype Ready for Operational Demonstration
The prototype reaches the intended operational state and is tested in the field.
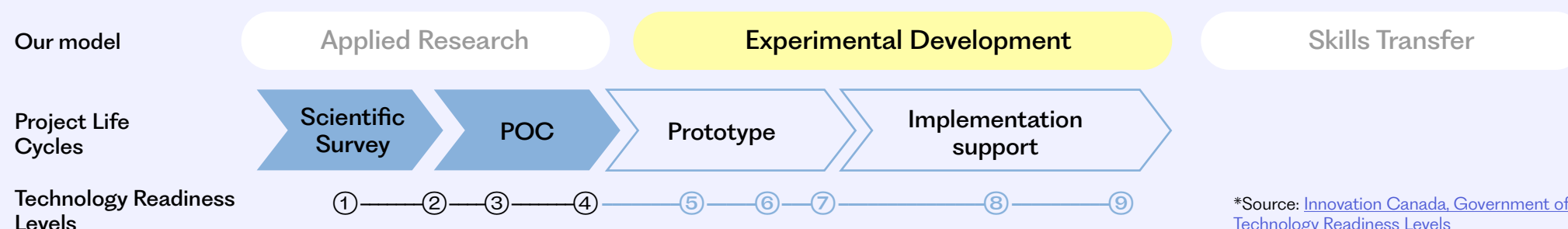
Niveau ⑧ : Technology Qualified
The technology is refined and tested in intended conditions, proving its functionality. Activities include developmental tests and evaluations to verify it meets operational requirements.

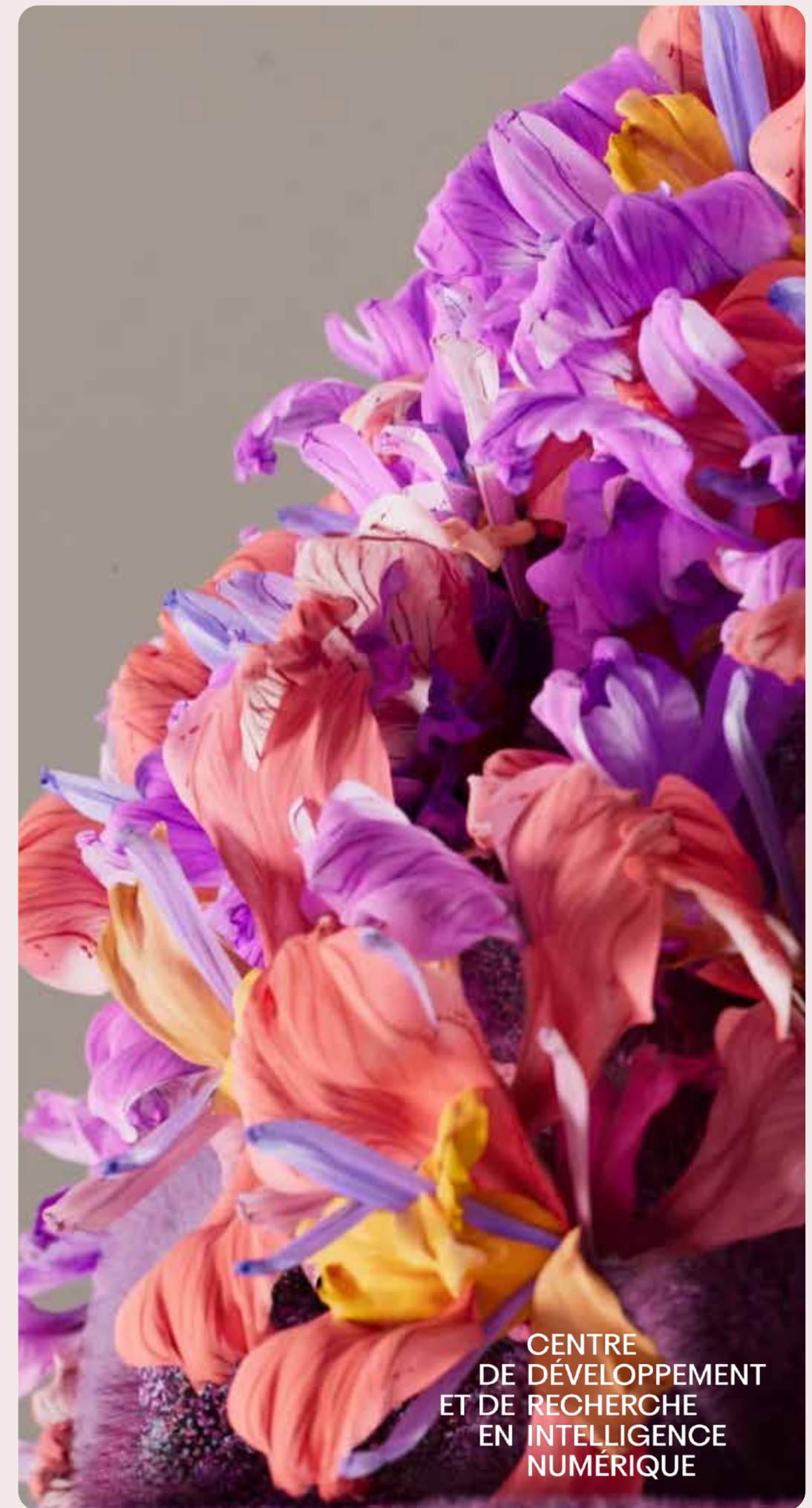**Niveau ⑨ : Operational Validation**
The technology is deployed and validated in real-life conditions. Activities include its use in operational conditions.

Project Life Cycles and Technology Readiness Levels
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Our model	Applied Research	Experimental Development	Skills Transfer

Project Life Cycles	Scientific Survey	POC	Prototype	Implementation support

Technology Readiness Levels	① — ② — ③ — ④	⑤ — ⑥ — ⑦ — ⑧ — ⑨

*Source: Innovation Canada, Government of Canada. Technology Readiness Levels

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Skills Transfer

Technology transfer involves sharing and transferring the knowledge and skills acquired during research and development activities to internal teams or external partners to ensure the dissemination and appropriation of developed innovations. For example, technology transfer to partners can take the form of training, mentoring, or detailed documentation of work and results; to the public, it can take the form of scientific publications, popularization articles, or presentations at events.

It is technology transfer that guarantees the continuity and sustainability of innovations between research, industry, and the public.

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