

Innovation Skills Development Initiative



Guide To Preparing The Technical Skills Development Plan



Atlantic Canada
Opportunities
Agency

Agence de
promotion économique
du Canada atlantique

Canada



1 Background

What is innovation?

According to the Conference Board of Canada, innovation is: “a process through which economic value is extracted from knowledge through the generation, development and implementation of ideas to produce new or significantly improved products or processes.”

Innovation is not just about being well-managed, creative, diligent and resourceful. Innovation is foremost an economic activity involving the intent to commercialize new or significantly improved products or processes.

Successful innovation results in dramatically increased productivity and return on investment and has been shown in studies by organizations such as the Organisation for Economic Cooperation and Development (OECD) to be directly related to wealth creation.

The importance of innovation skills

Innovation has clearly been driving the significant expansion in the knowledge-based economy. However, availability of highly-qualified human resources is cited both in the literature and by innovation experts in the region as the number one constraint to innovative activity. Innovation skills issues are increasingly complex and skills requirements are rapidly changing as the region undergoes a transition to an economy that is increasingly driven by innovation, technology and rapid growth in the knowledge-based sectors. The level of skills is not only rising rapidly in high-tech industries, but in all sectors, including the resource-based industries.

Success factors for innovation

There are a number of factors that help drive successful innovation, including:

- work processes that support innovation in areas such as new product development, R&D, finance and partnering;
- knowledge related to innovation areas (for example: licensing);
- know-how (tacit knowledge for completing a task);
- leadership that supports passion and innovation, provides incentives for risk taking, supports team activities;
- a learning and training culture that enables an organization to learn and acquire what it does not know; and
- skills and competencies.



2. Technical Skills Development Plan Outline

Please complete the following sections 1 through 6 in order to provide ACOA with sufficient information to assess your proposal for support under the Innovation Skills Development Initiative. You may utilize the Technical Skills Development Plan Template or complete a narrative format.

Section 1 – Firm Profile

Legal Name of Business:
Type of Ownership:
Nature of Innovative Products/Services (Please identify Markets,
Key Clients and Competition)

ABC Company sample is provided to assist you with this section.

Section 2 – Business Objectives

Please describe your business objectives in respect to increasing your innovation capacity. In other words, what are you looking to achieve by applying for support under the Innovative Skills Development Initiative? Some examples may include adding more value to an existing product line, adding new innovative products using cutting-edge technology, reacting to business opportunities within the global market place, enhancing research and development capacity for increased sales.

ABC company sample is provided to assist you with this section.

Section 3 and 4 – Skill Gaps and Related Training and Skill Development Requirements

In **Section 3**, please identify the key areas that impact on your ability to carry out your innovation plan (referred to as *Task Areas*); the *Skill Gaps* that would prevent you from obtaining your innovation objectives; and, your preferred approach to remediate the gaps you have identified. There are a number of options you can use to address skill gaps, such as: training and skills development of current workforce; recruitment of skilled graduates; recruitment of experts or experienced managers. The following definitions are provided to assist you in identifying your skill and competency gaps.

“**Skills**” refer to the mastery of technique and knowledge for completing a specific task at a specified level of proficiency. For example, drafting skills include measuring and drawing; managerial skills include writing and forecasting. Skills are generally teachable via training and are often transferable from one domain to another.

“**Competencies**” describe how we are expected to apply our knowledge, skills and behaviours to achieve specific results. Competencies encompass skill sets, values, attitudes, knowledge and know-how. Competencies develop over time and can be accelerated by coaching and mentoring.

In **Section 4**, please identify which employees require training and skill development in order for you to meet your innovation objectives; the timing for the training to occur; the priority for the training (one being the highest priority); the expected outcomes; and, the estimated costs.

Completing this section of your plan will ensure you have the skill sets to meet all your current and future innovation requirements. Specifically, you will improve your ability to:

- review your current human resource requirements with respect to innovation skill gaps;
- evaluate the risk/benefits of each option for addressing skill gaps; and,
- select the best strategy for addressing skill gaps.

ABC company sample is provided to assist you with these sections.



Section 5 – Recruitment of Experts, Experienced Managers or Skilled Graduates

In some cases, it may not be possible to remedy skill gaps through training and development programs. In those instances, it may be more productive to hire an expert, an experienced manager or a recent skilled graduate to fill identified skill gaps.

Please outline your company's requirements for an expert, an experienced manager or a recent skilled graduate.

An ABC Company example is provided to assist you with this section.

Section 6 – Short/Long Term Benefits

In this section, please describe both the short-term and long-term measurable benefits of your innovation proposal. Some examples may include new market penetration, adding more value and innovation to an existing product line, developing a new product line, increased export sales, increased expenditures in Research and Development, reducing overhead through innovation.

Note:

You will be required to revise your Business Plan to reflect the objectives of your innovation proposal.



3.

Technical Skills Development Plan Template

Section 1 – Firm Profile

ABC Company Profile	Your Firm's Profile
<p><i>ABC Company</i> Your Town, Atlantic Canada</p> <p>Name, address, telephone number of contact person: John Smith, CEO/President</p>	
<p>Description/Type/Ownership</p> <ul style="list-style-type: none"> • This is an incorporated company. 60% ownership rests with the CEO and the remainder with private investors. • In the past two years, ABC has received IRAP funding for R&D on promising new product lines. • ABC currently employs 50 people with an annual payroll of approximately \$2 million. 	
<p>Nature of Innovative Product/Service</p> <ul style="list-style-type: none"> • ABC invented and commercialized a Lens Processing System, sold to laboratories worldwide. • This lens processing system automates the production of contact lenses from the lens prescription. 	
<p>Product Complexity <i>(either in terms of technology, production processes, marketing, etc.)</i></p> <p><i>Complex</i> – several core technologies need to be integrated and customized.</p>	



Section 1 – Firm Profile (Cont'd)

ABC Company Profile	Your Firm's Profile
Markets <i>(Product/Service)</i>	
<ul style="list-style-type: none"> • The lens processing system is currently being marketed in the USA. ABC has installed twenty systems to date in the USA. • The lens processing system sells for approximately \$250,000 per unit and current orders are for 10 units. Final negotiations are underway for the sale of an additional five units. ABC has experienced consistent sales to select customers in all target markets including major companies. 	
Key Clients <i>Wal-Mart</i> <i>Sears</i> The lens processing system is sold as a complete, integrated solution for going from prescription to finished contact lenses.	
Competition The key competitor is Aulrick Inc. in Austria. Its machines are identical to ABC's, as are the price points. The competitive distinction is in the 7/24 customer service provided by Aulrick.	



Section 2 – Statement of Business Objectives

ABC Company Sample

Business Objectives	Tasks	Potential Human Resource Impact
(1) Implement the “ <i>design innovation</i> ” needed to revolutionize the way in which the lens processing system is developed.	<p>Conduct customer focus groups and on-line surveys re: product features</p> <p>Provide an on-going mechanism to allow customers to define and prioritize product features for the next generation of lens machines within 6 months.</p>	<p>No internal experience with on-line surveys or focus groups</p> <p>Need someone with experience in “<i>design innovation</i>” to spearhead this initiative.</p>
(2) Refine the technology to extend the lens processing system to produce soft and hard contact lens within one year	<p>Scan the world-wide marketplace for components of the technology needed to produce soft lens</p> <p>Source the technology via business partners and/or internal R&D; integrate and customize the technologies leading to a working prototype</p>	<p>The current R&D managers do not have the background to manage this initiative.</p>

Your Firm's Statement of Business Objectives

Your Business Objectives	Your Firm's Tasks	Potential Human Resource Impact



Section 3 – Skill Gaps

ABC Company Sample

Task Area	Skill Gaps	Notes
Concept Generation and Validation	Fostering Creativity Idea Filtering and Management	Existing staff have gotten stuck in “ways we have always done things around here.” A lot of excitement and ideas about new product features but many ideas get lost in the shuffle
Product Design and Specifications	Design Innovation	See notes in (1) Business Objectives above
R&D	Advanced Technology and Science Skills	Skills needed for technology related to production of soft contact lenses

There are a number of options for addressing these skill gaps, including: Training and Skills Development of Current Work Force
Recruitment of Experts and Experienced Managers
Recruitment of Skilled Graduates

Your Firm's Skill Gaps and Your Approach

Task Area	Skill Gaps	Your Approach	Notes



Section 4 – For Skill Gaps addressed by Training and Skills Development

ABC Company Sample

Employee Name	Training	Timing	Priority (1-3)	Expected Outcomes	Estimated Costs
Entire 3-person R&D staff	Three-day in-house workshop from the Creative People Company on creative problem solving	October 2003	2	Increase in the R&D groups' ability and motivation to participate in the bold new approaches needed for design innovation	\$6,000
Research Supervisor: Heather Thompson	Two-day course in Chicago from the Idea Company on idea filtering and management	November 2003	1	Increase in the number of creative ideas that make their way into new product features	\$8,000

Your Firm's Skill Gaps addressed by Training and Skills Development

Employee Name	Training	Timing	Priority (1-3)	Expected Outcomes	Estimated Costs



Section 5 – For Skill Gaps addressed by Recruitment of Experts, Experienced Managers or Skilled Graduates

ABC Company Sample

Position/Role	Expert or Experienced Manager? Recent Graduate?	Rationale	Qualifications	Key Performance Objectives	Estimated Costs
R&D Manager	Expert	Not realistic to train existing staff to develop needed competencies in a short period	Proven competencies in design innovation and soft lens technologies	<p>Implement customer-driven product design initiative within 6 months</p> <p>Research and source the needed technologies for production of soft lenses within 4 months</p>	\$80,000 per year (benefits included)

Your Firm's Skill Gaps addressed by by Recruitment of Experts, Experienced Managers or Skilled Graduates

Position/Role	Expert or Experienced Manager? Recent Graduate?	Rationale	Qualifications	Key Performance Objectives	Estimated Costs



Section 6 – Short and Long-Term Benefits

Benefits of Project	Short-Term <i>(6 - 18 months)</i>	Long-Term <i>(2 - 5 years)</i>	Notes

Innovation Skills Development Initiative



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