Digital Technology Adoption Pilot Program

DTAPP PPATN

Programme pilote d'adoption des technologies numériques

Boost your Productivity Through Technology Adoption

Delivered by NRC-Industrial Research Assistance Program

nrc.gc.ca/irap/dtapp

National Research Council Canada | Conseil national de recherches Canada

Canada

DTAPP

Digital Technology Adoption Pilot Program

Digital Technology Adoption Pilot Program

Presented by: Jean Léger

Date: February 6, 2012

What is DTAPP?

The Digital Technology Adoption Pilot Program (DTAPP):

- Is a component of the Government of Canada's overall Digital Economy Strategy
  - to accelerate digital technology adoption and investment in Canada, which lags the U.S. and many other developed countries in this regard
  - to consequently boost productivity of SMEs in all business sectors
- An $80 million pilot program that will run until March 31, 2014
- Is delivered by the National Research Council of Canada Industrial Research Assistance Program and its teams of Industrial Technology Advisors

Who is NRC-IRAP?

- The National Research Council provides integrated science and technology solutions in areas of critical importance to Canada.
- Industrial Research Assistance Program (NRC-IRAP) provides small- and medium-sized enterprises (SMEs) technical and business advisory services and financial assistance to support technology projects through all stages of the innovation-commercialization process.
- For over 60 years, NRC-IRAP has been supporting SMEs across the country in their technology innovation efforts, and has become internationally recognized as a best-practice government organization.

DTAPP
Digital Technology Adoption Pilot Program

DTAPP Objective

Increase the productivity and competitiveness of SMEs across Canada through the adoption of digital technologies.

Issues and Barriers Surrounding DTAPP Adoption

- Common barriers SMEs may need to overcome to succeed in their digital technology adoption plans include:
- Unclear how technology adoption can benefit their firm
- Short-term issues take precedence over longer-term vision, strategy and plan
- Resistance to change and aversion to taking on risk
- Lack of readily available information
- Lack of appropriate human resources, advice & support
- Numerous economic challenges

How DTAPP Helps SMEs Overcome Barriers to Adoption

DTAPP works with SMEs to overcome these barriers by helping firms to:

- create a longer-term vision, strategy and plan where there is a clear role for digital technology in improving productivity
- Validate and quantify the benefits of adopting digital technologies (and the operational improvements and productivity gains that can be realized)
- analyze their operations, in a whole-lifecycle-process approach, to understand what changes can be implemented to maximize the benefits of adopted digital technology
- access to other sources of expertise and financing
- resolve human resource challenges through funding, where appropriate

DTAPP Overview – Program Components

1. **Supporting and accelerating the adoption** of digital technologies

Offering **advisory services** and **financial assistance**

Engaging colleges and other organizations

2. **Improving understanding** of the link between digital technologies and productivity

Assessing successes and failures in overcoming barriers to adoption

Deriving lessons learned and best practices

3. **Raising awareness** of the benefits and importance of adopting these technologies

Raising awareness of DTAPP among SMEs, colleges and partners

Disseminating lessons learned and best practices to SMEs

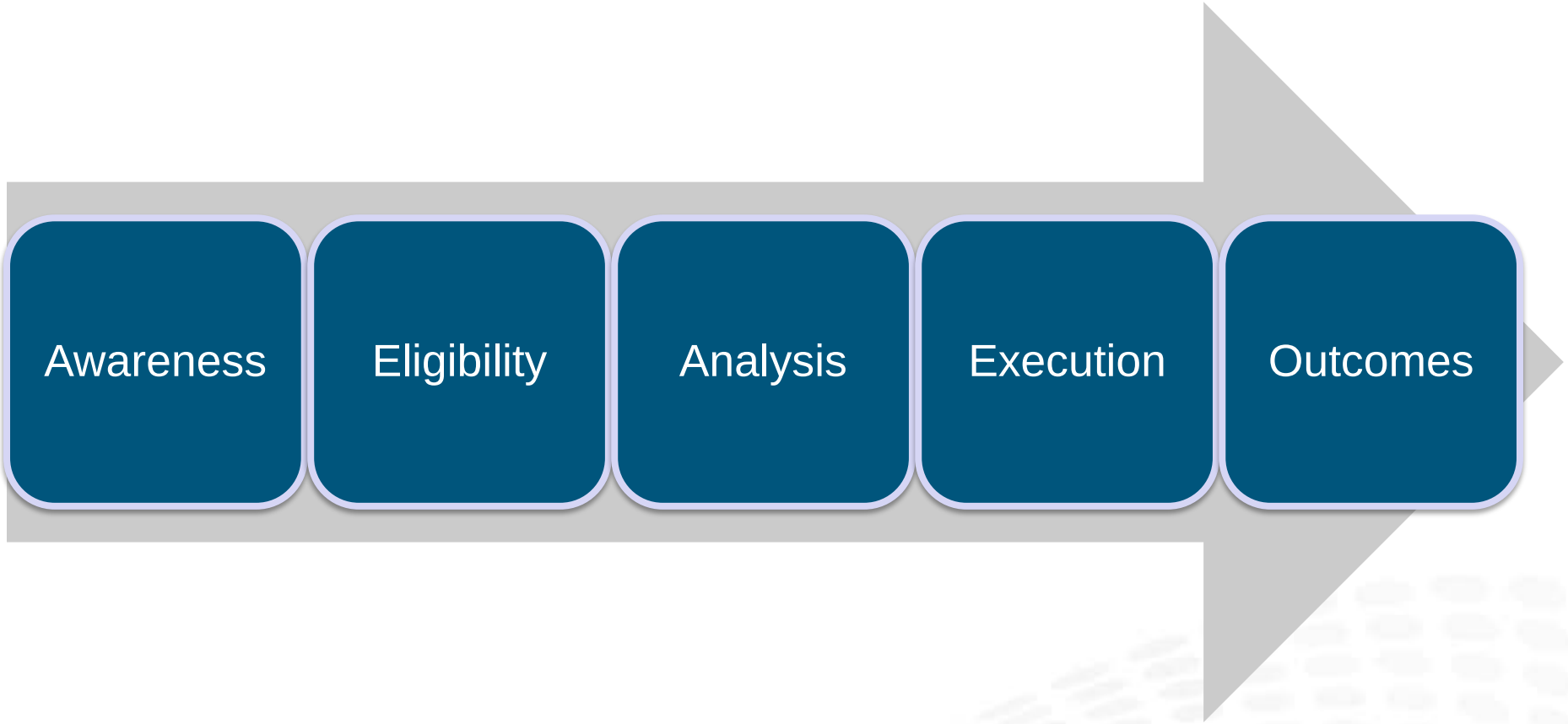
DTAPP Delivery

IRAP Industrial Technology Advisors (ITAs) with specialized expertise:

- provide advisory and diagnostic services to SMEs
- work with the client to assess the firm's current situation and identify risks to the successful adoption of digital technology and appropriate mitigating strategies
- work with the client throughout the adoption project to help ensure successful implementation
- measure the impact of digital technology adoption on the SME's productivity

Lessons learned and best practices are shared with the broader SME community in Canada

How IRAP will Deliver DTAPP



DTAPP
Digital Technology Adoption Pilot Program

Areas of Technology Included in DTAPP

Design, Engineering and Virtual Manufacturing

- CAD, virtual manufacturing, simulation technologies, etc.

Business Systems

- Electronic work order management, warehouse management systems, computerized maintenance management systems, etc.

Plant Systems

- Robotics and automation, automated inspection, test & repair, human/machine interfaces, etc.

Information and Communications Technologies

- Inter-company networks, wireless communications for production, document imaging and management, etc.

Other Digital Technologies

DTAPP

Digital Technology Adoption Pilot Program

Firm Eligibility

- The firm must be willing to engage with NRC-IRAP
- Basic eligibility criteria:
  - Incorporated, for-profit company operating in Canada
  - 500 employees or fewer
  - Growth-oriented SME

The firm must be willing to pursue the adoption of digital technologies to improve their productivity

The firm must be willing to make necessary changes

How Colleges and Other Organizations Can Support Your Technology Adoption Plans

- Each DTAPP team of Industrial Technology Advisors (ITAs) has extensive relationships with colleges and organizations across the country that have the skills, programs, facilities and capacities to support DTAPP clients and their digital technology adoption plans.
- Depending on your plans and needs, the ITAs can refer your firm to colleges or organizations with the requisite capabilities.
- Funding can be provided to contract for:
  - Expertise
  - Facility use
  - Testing
  - Training
- Colleges are also a source of qualified graduates for hire.

DTAPP Funding Rules: What Costs Are Eligible for Firms?

Costs eligible for DTAPP funding:

- Labour
- Contractors
- Travel
- Training
- Hiring of recent college graduates (as part of an adoption process)

- Note: Computer hardware and off-the-shelf software are *not* eligible

DTAPP Eligibility for Colleges

A college must:

- Show it can catalyze community engagement/awareness to enable SMEs to adopt digital technologies; **or**
- Provide an expert technical, information, or business service to SMEs to help them adopt digital technologies; **or**
- Possess the potential to promote awareness of its digital technologies adoption expertise and build its capacity in digital technologies adoption

ITAs may be located within colleges to facilitate networking, linkages and access to the program.

DTAPP Eligibility for Organizations

Not-for-profit organizations can participate in DTAPP if they can:

- catalyze community engagement/awareness to SMEs of the benefits of adopting digital technologies and the resulting improvements in productivity
- provide technology adoption:
  - Knowledge,
  - Services, or
  - Facilities

  … to individual SMEs or a group of SMEs to help them adopt digital technologies

Contact Us

To engage with DTAPP: www.nrc.gc.ca/irap/dtapp

Call our toll-free number:

1-855-453-3940

DTAPP
Digital Technology Adoption Pilot Program

Appendix: Examples of DTAPP Engagements

To better understand how DTAPP can help with your digital technology adoption plans, we have provided some examples and case studies.

Example of Technology Adoption

Boomerang Kids Consignment Shop Inc. – New business processes

- New business processes for consignment to support customer self-service (customized kiosks for use in retail stores and online access).
- Improved access to information for sellers and customers, faster customer service, and overall improved and faster resale processes.
- Significant benefits for Boomerang Kids franchisees, including higher productivity and profitability through improved efficiency and increased sales.

Boomerang Kids, Ottawa, On

DTAPP
Digital Technology Adoption Pilot Program

Example of Technology Adoption

Adoption of ICT in Welding

- In 2006, Industry Canada produced a Technology Road Map on welding that described the poor performance of welding in Canada. An ITA saw the opportunity to assist SMEs to improve their performance by adopting ICT Technologies.
- The ITA and different experts set up a step-by-step methodology to successfully implement automation technology in welding departments.
- A methodology and tools were developed and a QC-based community college was chosen to deliver the pilot.
  - Results: implementation of LEAN Welding practices in the firm, product redesign, changes in methods and new plant layouts, followed by adoption of digital technology (robotics, vision, etc.).
- After the completion 2009, the methodology was extended in 2010 to a group of 38 firms across Canada. The ITA is in the process of transferring the methodology and the tools to Canadian Welding Bureau (CWB) for national deployment with IRAP's support.

Examples of DTAPP Engagement

Firm A has limited exposure to digital technologies. Its processes are primarily non-automated.

- DTAPP analysis and assessment can recommend where they can achieve the greatest benefits from digital technology adoption.
- The firm may participate in technology adoption workshops or events at colleges to increase their knowledge of digital technologies.
- Hiring a college graduate might be an appropriate way to facilitate a first adoption project.

Examples of DTAPP Client Engagement

Firm B is an advanced manufacturing firm looking to integrate a system to monitor the temperature of materials and automatically shut down the process when the temperature exceeds a critical level.

- DTAPP engagement will assist the firm in identifying appropriate technologies and vendors
- It can enable the firm to analyze the impact of the potential change on their business processes and training needs
- A funded project could support the integration of the new system, including customization of software

Types of DTAPP Technologies/Firms

Case Study #1: Soil Test Cell – Automated Test Cell

- 20 employees
- Digital technology: process automation for measurement (pressure, temperature, relative humidity & soil variables)
- Impact on productivity:
  - Decrease in number of test reruns (increasing capacity of existing equipment)
  - Decrease in person hours/test (enabling the addition of new equipment and expanding testing capacity)

Case Studies (cont.)

Case Study #2: ACME Plating – Vision-Based Temperature Monitor

- 75 Employees
- Digital technology: system monitor
- Impact on productivity:
  - Elimination of lost production due to fire/temperature incidents
  - Preventative maintenance control – detection of warm spots before they turn hot

Case Studies (cont.)

Case Study #3: Web.tv – WEB Cast Tracking

- 25 employees (newer firm)
- Digital technology: HR & project management
  Resource tracking
- Impact on productivity:
  - Data allowed management to implement changes that reduced the overall time to produce each webcast
  - Allowed the firm to analyze profitability by channel and individual clients and tighten the scope of work in contracts, reducing the number of “out of scope” activities

DTAPP

Digital Technology Adoption Pilot Program

Thank You