

ELECTIONREADY

SIMPLIFYING THE ELECTORAL PROCESS

Electoral Commission Case Study

The Building of the Navantis Election Software Suite
for a Canadian Provincial Electoral Commission

Managing the elections
process with accuracy,
integrity and agility

ELECTIONREADY

THE CLIENT

Our Client is a non-partisan Agency of the Provincial Legislative Assembly, working under the direction of the Chief Electoral Officer.

Our client is charged with administering provincial elections, the by-elections & referenda (electoral events), the leadership contests of the province's provincially registered political parties (under the provisions of the Election Act and Representation Act), and the election finance requirements associated with those events (as per the Election Finances Act).

Our client employs approximately 70 permanent staff members. The organization also recruits, hires and trains an additional 70,000 workers and Poll Officials on a temporary basis, to staff and administer election events – a 1000% growth over regular operations.

Our client must be ready to respond to an election call by the Chief Electoral Officer at any time. Election events can include provincial elections, by-elections and referendums.

Numerous workflows and business processes are executed in preparation of an election event. Some of these preparations include:

- Preparing the List of Electors through a variety of mechanisms, including elector-initiated changes, partner data streams and door-to-door confirmations,
- Establishing Polling Divisions,
- Recruiting and training Returning Officers (supervisors of each Electoral District),
- Mailing Notice of Registration Cards (NRC) to electors
- Collecting and reporting candidate and campaign finance details.

When the election event is called, our client must recruit, hire and train 70,000 temporary employees to staff and manage the event. In order to manage this effectively, each Returning Office (the local 'branch office' in each Electoral District) is responsible for tasks specific to staffing, supplies and location management.

Additionally, our client is responsible for recording, reconciling, auditing and publicizing candidate and campaign finances in compliance with the Election Finances Act.

During non-election event times, its regular tasks include maintaining the Permanent Register of Electors, establishing and developing information partnerships, reconciling election event budgets and finances and ensuring election event preparedness.

CLIENT'S KEY CHALLENGES PRE-ERSS

- Improve hiring and training of staff to ramp up for elections
- Better serve voter demand and respond to legislative changes
- Implement real-time operational indicators
- Repair data and process quality, automate its management
- Build enhanced tools to manage, automate the election process
- Integrate pre-election, election day and post-election business functions
- Automate workflows to improve accuracy and efficiencies
- Advance data collection and improve quality of the voter list
- Improve communication between the candidates, parties, election operations, media and public
- Improve control of & visibility into activities in electoral districts
- Improve insight into spending, ballot auditing, party finances
- Replace several outdated, un-integrated, distributed legacy apps which did not meet these challenges

DELIVERED BUSINESS VALUE

- A single authoritative source of accurate elector data: data cleansing duplication management
- Streamlined management of pre-election, election day and post-election business processes to manage information & people effectively, reduce risk
- Increased efficiencies, improved collaboration, consistent workflow
- Massive scalability: enables scaling from x0 to x0,000 employees in weeks, can scale to handle any size electorate
- Real-time reporting and tracking, better visibility to manage field operations and provide election results
- GIS integration and visualization for boundary definitions, location and voter list management
- Streamlined Interconnected systems to turn data into meaningful knowledge
- Financial accountability to comply with provincial legislation
- Public transparency, accuracy to establish and maintain trust, credibility

SOLUTION APPROACH

- Highly disciplined project management to deliver large number of project components
- Deployed multiple complete user & business acceptance testing cycles—to ensure system integrity & functionality
- Phased delivery of solution components to improve overall project efficiency
- Global development team for faster project delivery

Navantis' **ELECTIONREADY** Solutions Suite (ERSS) is a comprehensive, integrated, web-based, centrally managed solution proven in 1 provincial and 3 by-elections which takes preparing for and running an election event to another level by bringing process, information, relationships and people together. ERSS allows Electoral Commissions to easily evolve and adapt to changes in legislation, technology and opportunity to deliver a truly seamless election event management system that provides insight and knowledge through real-time tracking and reporting.

THE SITUATION

Our client is unique in that it must function as both a large and small organization—it expands and contracts depending on whether or not it is currently managing or preparing for an election event.

This variability in size and function has caused a number of operational challenges: business processes and information for key areas of the organization were not interconnected. As well, some of those processes were not optimized or even automated several departments were still relying on paper-based workflows and spreadsheet-based reporting.

While our client knew it was time to make some changes, it was a challenging task to imagine what a comprehensive election management solution would look like. As Navantis worked with the many client business unit subject matter experts to develop the solution suite, it became clear there were several specific, existing conditions to address.

INFORMATION SILOS

Many departments – including the team maintaining the Permanent Register of Electors, Election Finances, Corporate Services, Operations and Human Resources – had individual custom-built systems that did not connect or ‘talk’ to each other. Our client’s lack of

integrated/centralized systems and processes meant that, as a whole, its ability to prepare quickly and effectively for an election event was limited. Some departments had their own separate systems and processes, and reporting in these areas was not assessed contextually. As well, some business areas were relying heavily on manual paperwork and desktop applications to manage important pieces of information. The organization recognized the need for an integrated system that would bring the disparate pieces together, in order to better manage election events and to assess voting—and Elector—related patterns over time.

DATA QUALITY AND INTEGRITY

The integrity of election event results depends on the provision that one person, living at one address, can cast one vote. Maintaining an accurate voter list, without duplicates or errors, is essential to the validity of the electoral process. As part of its overall system and process re-engineering, our client needed to create a clean voter list that accurately represents the province’s electors. Our client was interested in improving the quality of their elector data and the process by which information was collected, and developed the voter list management solution to meet this challenge.

The province’s Permanent Register of Electors is the master list of names of those eligible to vote. Using the List Management Module, the aggregated list is derived and regularly updated with data inputs from multiple information sources and partners. Because these sources inevitably contain duplicate names, or similar data with different formats, ERSS accurately

consolidates the externally-derived lists and ‘cleanses’ the data, providing a highly accurate voter list with which to run a provincial election.

ERSS’s List Management capability is not only used to determine potential voters—it is also used to determine Electoral District staffing and locations and provides the foundation on which many election-related decisions are made.

‘FIELD OFFICE’ REPORTING AND ACCOUNTABILITY

During an election event, our client operates on a business model comparable to that of a head office with a number of branches. Our client manages a central headquarters and 107 Electoral Districts—each represented by a local Returning Office. The election event headquarters must have a comprehensive, real-time view of the activities of each Electoral District.

Historically, the Electoral Districts did not have an automated means of reporting to headquarters or sharing information. Headquarters was often not aware of the state of readiness or preparedness of a given district, nor was it privy to the district’s budget and expenses. Limited automated reporting and limited controls on spending were in place.

As a result, it was determined that a new system must facilitate real-time, accurate reporting, communication between headquarters and the Returning Office, as well as between the Returning Office and the individual polling locations.

THE SOLUTION OVERVIEW

The election management system delivered to our client is a collection of integrated applications to manage the business of running an election event.

In order to meet our client's business needs, certain existing processes could not be used as the foundation for the new solution as the existing systems were disparate, out-dated and inefficient. Navantis was instrumental in assisting our client in re-engineering system-related workflows and processes to streamline operations, improve information accuracy and reporting. The ERSS is functionally divided into five distinct areas with multiple processes and workflows for each.

ELECTOR LIST MANAGEMENT

Elector Data lies at the heart of the ERSS. It is what makes this solution unique to the election event process, and drives the activities of election or referendum day. It is also interconnected with the ESRI-GIS, a geospatial informational tool that allows our client to accurately map out the elector population over a particular territory—which is critical to event planning, staffing and resourcing.

This module is populated by the permanent register of electors and provides mechanisms for authorized users to revise this list up to the day of the election event. On the event day itself, manual revisions are made at each polling location. Important functionality of this module

includes list additions/edits/deletions and advanced printing and reporting functions. Additionally, Notice of Voter Registration Cards are produced and printed from this module.

EVENT MANAGEMENT AND OPERATIONS

Managing an election event requires extensive planning and organizing of staff, locations and materials, as there are 107 Electoral Districts and hundreds of Polling Divisions, staffed by almost 70,000 temporary, newly-hired employees. The operations module of the ERSS manages numerous HR-related tasks, including resume management, payroll, T4 production and training. Additionally, it manages the ordering, re-ordering and tracking of election event supplies and materials.

This module also contains sophisticated event reporting, scheduling & management capabilities, which includes real-time executive key performance indicators (KPIs) and reporting, call centre management as well as system configuration.

ELECTION FINANCES ACT COMPLIANCE

An important mandate of our client is to oversee candidate and campaign finances to ensure compliance with the Elections Finance Act (EFA). The EFA requires that candidates and their parties register with our client and provide their financial filings. They must also report all contributions (donations) over \$50, and account for their spending of all contributions. This information is collected, reviewed and disclosed to other governing bodies and the general public.

PUBLIC ACCESS

The public-facing website is an important component of the overall solution. It reinforces our client's position as a fiscally and legislatively responsible organization committed to effectively managing election events in a transparent manner. Features of the public website include candidate and campaign finance disclosure, real-time and historical election results, commerce and self-service components, and election event information.

EMPLOYEE PORTAL

Most election event employees work within their own Electoral District under the supervision of the local Returning Officer. Reliable, real-time communication between headquarters and the field locations is imperative. The Returning Office must be able to access support and place orders, and headquarters must be able to respond to requests and assess event readiness.

This portal allows employees—particularly the Returning Officers—to independently manage their resources within a given budget. They are responsible for all tasks related to operating their numerous polling stations, including location rental contracts and fees, location set-up and signage, ordering and distributing supplies, organizing, staffing the event, data entry and reporting.

THE APPROACH

Navantis was hired in 2005 to build an integrated, browser-based software application to assist in the management of the agency's head office and field operations. We were subsequently asked in 2006 to create additional enhancements to specific modules of ERSS. In 2007, and later to create an online Learning Management System (LMS) to support the training of election day staff, which was used successfully in the October 2007 General Election.

COLLABORATIVE DESIGN

Our client has decades of experience managing election events in the province. Key Subject Matter Experts provided a great wealth of knowledge and information to Navantis, which was elicited during a series of Joint Application Design Sessions, resulting in detailed functional design documents. These were iterated a number of times until they accurately reflected all relevant business processes.

DISCIPLINED PROJECT MANAGEMENT

Managing such a large-scale initiative required a highly disciplined professional project management approach. Stringent project governance, change control processes, as well as Subject Matter Expert buy-in and sign-off were the key success factors of this approach.

MULTIPLE FULL TESTING CYCLES

Rigorous Quality Assurance practices and testing were conducted and integrated with the clients external software testing firm for the User Acceptance Testing phase. This testing phase validated the system against

the original specifications. Once that cycle was complete, our client conducted Business Acceptance Testing, to further test system functionality against business process and workflow requirements. Typically, only one or two UAT cycle is deployed for most software application implementations, however a project of this size and scale required multiple full cycles to ensure system quality, functionality and integrity.

PHASED IMPLEMENTATION

The ERSS was deployed in several consecutive phases. This provided several advantages:

- Improved quality control, as testing and quality assurance were performed for each phase
- Improved project planning, as successful completion of milestones heralds a smoother implementation for subsequent phases.
- Timeline optimization, as early-stage data cleansing provided the foundational information for future phases of system deployment.

GLOBAL PROJECT TEAM

With a full software development team in Sri Lanka, Navantis used a round-the-clock software development approach. On many occasions, a component was developed in Toronto during the day, tested in Sri Lanka overnight and ready for further development in Canada in the morning. The development lifecycle was dramatically shortened due to the efficiency of maintaining an overseas development office.

THE TECHNOLOGY

The Election Management System includes the use of the following key technologies:

- Microsoft SQL Server
- Microsoft .NET Framework
- Microsoft Windows Server
- Microsoft Sharepoint Server

Additional components include:

- Additional Components:
- ESRI GIS
- Microsoft BizTalk Server
- Microsoft Dynamics Server

The application was built using an industry-standard three-tier architecture using Microsoft SQL Server, the Microsoft .NET Framework and a variety of advanced server platforms from Microsoft, including Microsoft Windows Server, Microsoft SharePoint Portal Server.

In addition to these Microsoft foundation technologies, the ESRI Geographic Information System (GIS) was used to introduce spatial information into the election management platform, allowing for geographic zoning and other database operations that require accurate territorial information.

Other additional components include Microsoft BizTalk Server and Microsoft Dynamics Server which was used to provide financial and HR management capabilities, and extended to integrate with the public website and field systems, to underpin the recruiting and staff management functionality.

THE RESULTS

The new election management system has provided our client with the foundation on which to maintain that trust, by allowing the organization to continue to run election events with integrity, accuracy and agility.

An election event can only be deemed successful when the process and results can be trusted by the public to accurately reflect their choices. The new election management system has provided our client with the foundation on which to maintain that trust, by allowing the organization to continue to run election events with integrity, accuracy and agility.

The ERSS created tremendous business value for our client by providing:

- Accurate data to create the vital elector lists
- Streamlined processes to manage information and people efficiently and effectively
- Interconnected systems to turn data into meaningful knowledge
- Real-time tracking and reporting to better manage field operations
- Financial accountability to comply with provincial legislation
- Public transparency to establish and maintain trust.

Our client has been pleased by the functionality of these modules and believes that they could be successfully used by other jurisdictions.

It is their intention to continue to use these modules as the foundation for managing their operations in the next general election and other future electoral events.

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To learn more about our Elections Management System, please visit our expanded website at:

www.electionready.com

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