Taking on the Challenge of IT Management in a Global Business Context: The Alcan[1] Case – Part B[2, 3]

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Montreal, January 2007 – After ten months as Vice-President of Corporate Information Technologies (IT),[8] Robert Ouellette was appointed Chief Information Officer at Alcan. After he assumed his new function in March 2006, he conducted a detailed analysis of the IT situation at Alcan and proposed a major shift in the way the company managed its IT services. The current IT governance model, which had not been revised for several years, was now totally outdated. IT services were managed like separate fiefs: each business group had its own IT strategy and its own model for financing initiatives.

IT Management in a Global Business Context: A Plan for Alcan

"We need to move from a culture of decentralization to a culture of distributed collaboration."

As Vice-President, Corporate IT, Robert Ouellette had begun outlining the future of IT management at Alcan. His priority was to build a solid, competent team that could give him the support he needed. In the absence of clear direction and a specific mandate, the IT management team was floundering. He identified the key people within the organization, and then added some new collaborators from very different backgrounds. Of the eight people on his IT management

team, four were new recruits to Alcan. The team's first challenge was to build cohesion, develop a common vision and find effective ways of working together. This groundwork was needed to set up a solid management team that would be able to provide support for the major projects that would transform the organization.

Robert decided that the next step would be to identify and formulate the main management principles that would guide the entire reorganization of the IT function at Alcan (see Figure 1). The management team established principles based on value added (business value), the importance of human resource development, reduced diversity in the technological park, economies of scale, reuse, purchase of software packages, and infrastructure management. These principles were integrated into strategic planning and coloured all decisions and actions taken.

Figure 1
Alcan IT Principles
(Source: *Alcan IT Strategic Plan* 2008-2010, v1.1b, June 11, 2007, acetates 39-40)

1. We are innovative and proactive in the use of technology to enable, deliver and sustain business value.

2. We continually develop our people, our skills and our competencies.

3. We reduce diversity, complexity and leverage economies of scale.

4. We make information reusable, shared, protected, consistent and compliant.

5. We reuse before we buy; we buy and integrate before we build.

6. We manage infrastructure like a utility: secure, reliable, standard, available and at best cost.

The IT management team then prepared a blueprint for the new orientations in IT management. This first strategic general IT plan was focused on a tight alignment between IT and the business strategy and the creation of a shared service centre. This plan, which was submitted in the spring of 2007 and developed in cooperation with all business groups, including the IT group at head office, established and communicated a common vision of IT management enterprise-wide.

Equally important, this new plan laid the foundations for applying the shared-services philosophy that was endorsed by Alcan but never fully implemented. According to this new method, the management of services that were common to all business groups would be done by a central organizational unit supported by internal billing mechanisms. In the case of IT services, as well as financial services and human resources, this centralization of shared services would promote economies of scale, shared competencies, consolidation, standardization, reuse and low-cost access to expertise. Before such services could be set up, the activities to be integrated first had to be determined and the roles and responsibilities of the various stakeholders (the central IT function, the shared service centre and the business groups) in managing IT services redefined.

In addition to creating shared service centres, the new strategic plan demonstrated IT senior management's desire to better integrate IT services with corporate strategies. The plan proposed to set up a governance structure that would clearly identify the stakeholders' role in IT

management, reduce technological diversity and complexity, develop preferred partnerships with global service suppliers, and continuously improve information security. In concrete terms, it would define and develop an effective corporate architecture and technological infrastructure capable of meeting the changing needs of each of the business groups while continuing to support legacy systems. The strategic IT plan formalized Alcan's desire to repatriate the management of its IT services and obtain the necessary tools to manage them on a global basis.

Alcan senior management, satisfied with the proposed IT orientations and the results obtained in such a short period of time, recognized the need to coordinate the activities of the various stakeholders affected by the implementation of shared services (IT, finances and human resources). It was for that reason that, in January 2007, the new Vice-President IT was appointed Alcan's Chief Information Officer, making him responsible for global IT management and the coordination of shared-service activities.

The governance model for IT management and implementation

The new distributed collaboration model that Alcan wanted to implement would put an end to the unchallenged autonomy of the business groups and require a new governance structure (see Figure 2). This new structure clearly defined the roles and responsibilities of each stakeholder, in particular, the role of the central IT group and of the business groups in achieving the objective of global IT management.

In this model, the CIO was directly responsible for his management team (at the top of the organization chart in Figure 2) and shared services (at the bottom). Senior IT management thus consisted of the CIO and his four main associates: the Enterprise Architecture Director, Chief Information Security Officer Director, Performance Management Director, and Strategic IT Programs Director. The Corporate IT Director reported directly to the new CIO. At the bottom of the chart are the two shared service centres (one for Infrastructure and the other, for Application) that also reported directly to senior IT management.

In the centre are the IT Directors of the various business groups. Under Alcan's usual decentralization policy, each group had its own IT director/VP (the titles varied depending on the group) who was responsible for IT management within his group and accountable solely to his group's head management. Under the new governance model, the four IT directors/VPs report to the head management of their group (75%) and also to the CIO (25%). This change alone constituted a veritable revolution in IT management at Alcan. It meant that, in addition to the mandate of their business group, IT directors were now responsible for achieving the company's global objectives. IT directors/VPs retained control of local IT management, but used shared services for delivery of common services. The shared service centres now acted as outsourcers or internal consultants for the business groups.

Figure 2
New IT Governance Structure
(Source: *IT Shared Services Overview*, September 19, 2007, acetate 3)
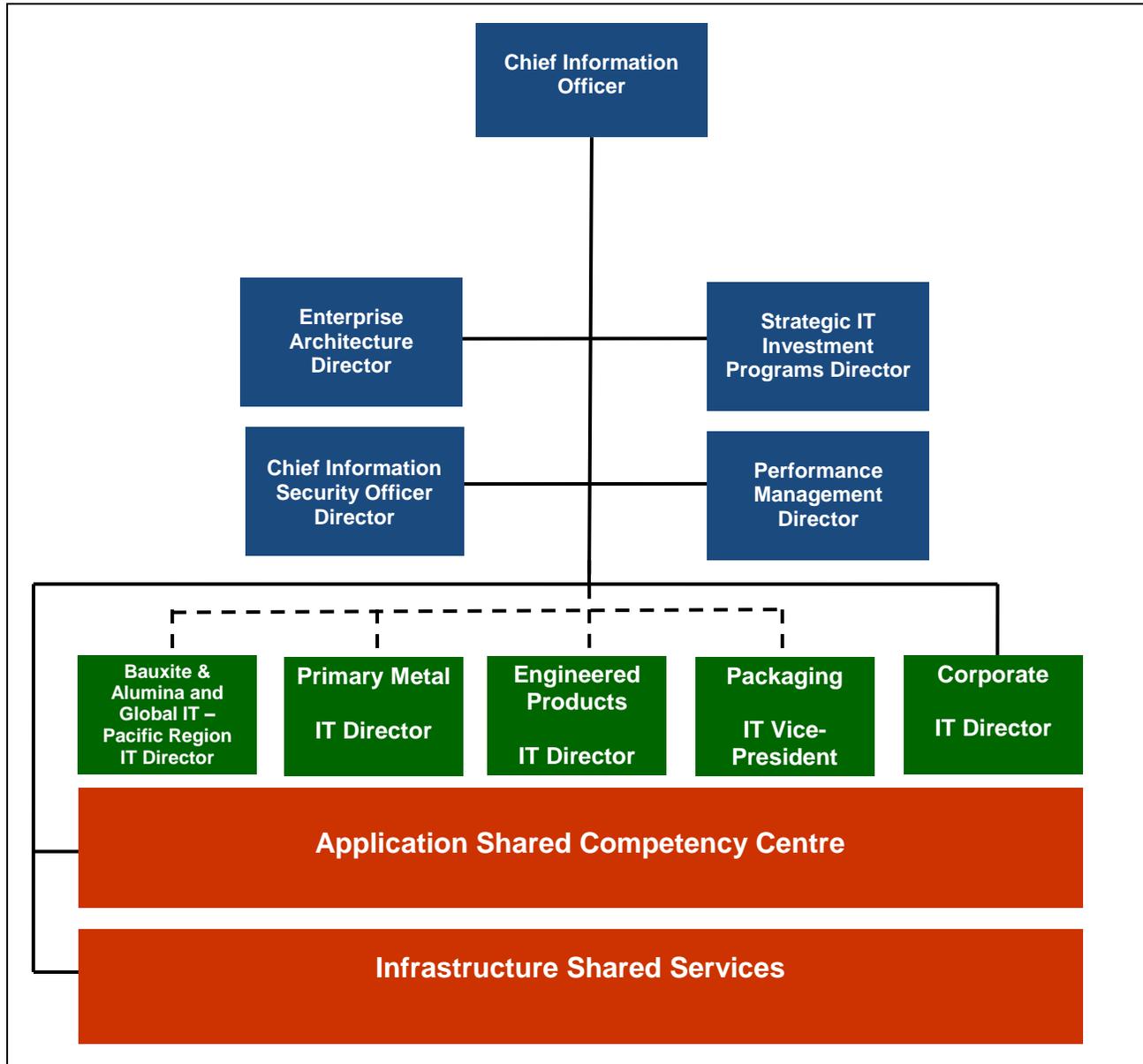
In addition to establishing internal functioning, it was also necessary to redefine the authority structure that connected the various groups within the IT function as well as outside of it in order to create greater cohesion between Alcan's business objectives and the strategic technological objectives (See Figure 3).

Figure 3
New Governance Structure for IT Management at Alcan – Decision-Making Bodies
(Source: Adapted from *Alcan IT, The Power of Partnership, IT Governance*, v1.2, August 13, 2007, slide 20)

	Members	Frequency
Executive Committee	• President and Chief Executive Officer of Alcan • Executive Vice-President and Chief Financial Officer • Executive Vice-President – Corporate Development and Chief Legal Officer • Senior Vice-President – Human Resources • Senior Vice-President – Investor and Corporate Relations • President and Chief Operating Officer – Engineered Products • President and Chief Operating Officer – Primary Metal • President and Chief Operating Officer – Packaging • President and Chief Operating Officer – Bauxite & Alumina	Annually
Audit Committee	• Made up of a number of members of the Board of Directors	Semi-annually
IT Council (ITC)	• President and Chief Operating Officer – Engineered Products • Executive Vice-President and Chief Financial Officer • Chief Information Officer	Quarterly
IT Leadership Committee (ITLC)	• Chief Information Officer • Director – Infrastructure Shared Services • Director – Application Shared Competency Centre • IT Director – Bauxite & Alumina • IT Director – Primary Metal • IT Vice-President - Packaging • IT Vice-President – Engineered Products • IT Director – Corporate	Bi-monthly

The CIO is ultimately accountable to the CFO. At least once a year, the CIO met with the Alcan Executive Committee to report on his operations. To support him at the senior management level, an IT Council was created, made up of the CIO, a President representing the business groups (currently the President of Engineered Products) and the Chief Financial Officer. All ideas advanced by the CIO were discussed by this council before being presented to the Executive Committee. The IT Council met four times a year.

To ensure the business groups had a platform and hear what they had to say, Robert also created the IT Leadership Committee, which brought together the IT Directors of the business groups and shared services twice a month in order to take stock of current initiatives and better plan for future projects. All irritants were duly noted, solutions identified and, when possible, implemented. Finally, twice a year, IT senior management met with the company's internal Audit Committee, the group with the final say on rules and processes governing the production and presentation of financial information. This committee assessed IT risk management, particularly

with respect to best internal control practices dictated by legislation and regulatory bodies (such as the Sarbanes-Oxley Act, for example), and those ensuring business sustainability and continuity (backup plans for critical applications, for example). The committee drafted recommendations as needed and monitored their implementation.

The major orientations of the IT strategic plan

> It's always the same debate; there's no such thing as the perfect model. It's a question of balance: if you're too centralized, you lose contact with the day-to-day reality of your operations. If you're too decentralized, you gain in terms of operational performance, but you lose in global efficiency. Effective management is a balancing act.

In addition to developing management principles and instituting a new governance structure, the strategic plan defined priorities for the coming period.

So, in accordance with the shared service vision, services used by all the business groups would be centralized and provided by shared service centres. According to Alcan executives, this strategy would promote the development of expertise, connections among projects, optimal use of specialists, reuse, negotiations with suppliers, standardization of practices and norms, and generalized economies of scale. While supporting the individual and ongoing development of the business groups without disrupting their activities, the implementation strategy was aimed at progressively shifting responsibilities, applications, infrastructure, personnel and processes to the shared service centres.

At the core of the plan was senior management's desire to regain control of its outsourcing strategy, which was monopolizing a large part of its budget. In the past, faced with mismatched and poorly managed internal teams, large consulting and tech firms simply assumed leadership. A new IT management team and major restructuring of activities combined with global skills development encouraged Alcan to take back control in this area. Internal teams would now be mandated to reflect, plan and make important choices affecting IT organization. Suppliers would work with an internal team that was more experienced, more demanding and more competent – not just in terms of content, but partnership management as well. In order to disrupt daily operations as little as possible, these changes were implemented progressively as service contracts were renewed, new people were hired and employees' competencies improved through training.

The first strategic IT plan affected four priority areas: (1) creation of an enterprise architecture, (2) management of the technological infrastructure, (3) management of applications, and (4) management of IT investments.

1. Creation of an enterprise architecture

One of the new Vice-President's first mandates was to organize the enterprise technology architects. "It was total chaos. There was no coordination between the near/offshore groups whose operations significantly affected the others. The whole thing needed to be reorganized." So Robert hired a new Enterprise Architecture Director with the mandate to design the standardized technologies and practices on which all new development within the company would be based.

The new director identified the enterprise architects currently working for the company, analyzed their competencies, and created seven new positions to be filled on his team. Three high-potential architects were identified and transferred to the team.

The new team's first task was to identify the common technological objectives of the major projects that were currently underway. Then, based on its findings, the team drew up a list of fourteen priority foundation blocks. With a view to reducing technological diversity and standardizing methods, these blocks represented elements used by more than two business groups that were pertinent to the uniformity of future applications and those currently being developed – in other words, common platforms or applications on which future technological developments would be based. These blocks included, for example, Information Exchange Infrastructure, Enterprise Portal, Document Management, Identification and Access Management, Business Intelligence, Knowledge Management, and Web Services Platform. The team began by focusing on the blocks that IT Management considered to be the most urgent: Exchange Infrastructure and Enterprise Portal. In addition to outlining the main concepts with respect to technologies, standards and norms, and determining prices and responsibilities, the team was also mandated to provide the technological solution for each block.

An example: one of the important aspects of the Information Exchange Infrastructure block was data exchange in an SAP environment. Due to the ever-growing number of independent SAP implementations in the various business groups, there was already extensive diversity in the ways the groups organized data transfers (in-house products, various supplier platforms and SAP platforms) between modules, between modules and the outside, and between modules and other Alcan systems. This exponential increase in work methods required a growing number of skills… and suppliers. After analyzing the problem, the architecture team selected one platform (the original SAP product) and developed the necessary standard tools for data transfer. All future applications and those currently being developed would then be required to integrate the standard tools into their interfaces.

The leadership of this team, reporting to IT senior management, was located in Montreal. Team members based in Montreal and Voreppe (France) worked closely with Infrastructure Shared Services and the new Application Shared Competency Centre. Once a block had been defined, developed, tested and was ready to be used by the groups, its management would be transferred to one of the two shared-service centres, depending on the domain it most directly affected.

2. Technology infrastructure management

Alcan's technology infrastructure was imposing, to say the least. With an annual budget of close to $76 million, there were 400 sites to be linked, six major data processing centres to be managed, 3,000 servers and 31,500 PCs (including almost 9,000 laptops) to be maintained, almost 30,000 voicemail boxes to be managed and 3,700 support calls/month to be answered! The result was unprecedented diversity and an overabundance of partners.

Although the vocations of the business groups were different, their needs in terms of technology infrastructure were relatively comparable. According to the Chief Information Officer:

> The infrastructure was the easiest thing to repatriate to a shared-service centre because the groups' needs were very similar. Everyone wanted a network, a message handling system, data processing centres, servers and workstations. And they wanted them to perform well, be reliable and not cost much to run.

In 2003, following the Pechiney acquisition, Alcan had already started to implement an infrastructure standardization plan, but the strategic plan wanted to go farther. "From an infrastructure point of view, it was easy. We just had to consolidate and standardize what we'd started." The objective was to reduce the diversity and complexity of the technological installations by standardizing the networks, servers and workstations. To do that, we created Infrastructure Shared Services.

> Naturally, we had to sell the idea to the business groups, but once Primary Metal, one of the major groups, finally agreed, everyone else didn't have much choice but to get onboard. As far as we were concerned, Primary Metal was our point of no return. Once they were in, we were committed.

They started with the network, which was extremely complex. Successive acquisitions had left the company with clusters of interdependent sites. For access purposes, several sites were linked to the master site, which was linked to another master site, which finally provided access to a core network. Service on these networks was provided by various suppliers: although big names in the sector (MCI, Bell, Equant and Vidéotron) played a major role, there was a plethora of small, local suppliers as well. As acquisitions and sales multiplied, so did the clusters – to such an extent that the company was forced to deal with major network instabilities. The removal of even one of the links in the network could have unpredictable consequences that were difficult to control: "It was like trying to manage a game of pick-up sticks!"

Less diversity affected not only technology, but also the suppliers with whom the company did business. IT senior management started by negotiating a contract with a single supplier for the network: Orange Business Services (part of the France Télécom group), that offered services worldwide through various partnerships. Since nothing is ever simple, however, Alcan also had to negotiate with Telstra, which had virtual monopoly in Australian telecommunications, in order to provide service in that territory, which was not served by Orange Business Services. Once these agreements had been reached, Alcan progressively transferred all its sites to the new network. Based on the same line of reasoning, the message management contract was awarded to IBM, which managed the system from its sites in Toronto and Montpellier (France).

The data processing centre situation was even more complex. Alcan's six data processing centres were operated by as many companies: CGI in Saguenay, IBM in Toronto, CGI in Montreal, T-Systems in Paris, and T-Systems and HP in Germany. Even if Robert wanted to move quickly to consolidate some of these centres, contractual obligations prevented him from doing so without paying heavy indemnities. The agreements, which remained in effect until 2009, had to be respected.

> As far as the data processing centres were concerned, there was no point in rushing into things. Waiting until 2009 to do the changeover gave us time to plan a global strategy, find the best partner and prepare a solid transition plan. Everything had to be done without affecting the groups' operations, which was no easy task.

According to the CIO, the ideal solution would be to use only two data processing centres for the entire organization. This would reduce complexity without overly increasing system vulnerability, as each centre could be the mirror site of the other.

With the aim of regaining control of activities (even outsourced activities), a team was set up within the Infrastructure Shared Services group in Voreppe, France. The 78 people in the group were basically repatriated from the business groups. To better meet local needs, IT senior management also set up regional groups in Voreppe, Montreal, Saguenay, Shanghai and, eventually, Brisbane (in Australia).

> Before, we were just managing contracts. It didn't take long, however, before things exceeded our people's technological expertise and they no longer had the capacity to understand what they were managing. So we rebuilt a team of specialists. Now, not only could we manage our contracts, but we could also plan our needs, better evaluate performance, solve problems with our partners, and work toward the global development of our infrastructure. Once again, we were running the show.

To effectively manage all its activities, the Infrastructure Shared Service group set up the Information Technology Infrastructure Library (ITIL), which it then used to identify best practices in IT infrastructure management and operations. Drawing its inspiration from ITIL, the centre managed its support services by technical domain and its service delivery by process. The result was improved performance and better control of service quality. In France, the group took first prize at the 2006 IT Service Management Forum for the excellence of its ITIL process implementation, coming in ahead of such industry giants as Airbus, Carrefour and GE Capital.

3. Application management

Like everything else, all the information systems were planned, created and maintained within each of the business groups. Several SAP platform initiatives were going on at the same time: these parallel operations on the same technological platform created enormous pressure on the organization's competencies in this area. Each of the projects used SAP variants, which increased the complexity, required wider expertise, and complicated transfers and information reuse, as well as updates and future implementation of new versions. This problematic diversity was not limited to these specific projects, but found its way into almost all the applications used at Alcan. There were, for example, over 400 different applications for financial management alone. Apart from making it virtually impossible to access information easily, this diversity significantly increased application management costs (in terms of maintenance, operations, training, updates, etc.). Technological diversity also entailed the management of multiple partnerships.

In order to reorganize global application management, IT senior management created the Application Shared Competency Centre with the aim of consolidating everything related to the development, creation, delivery, maintenance and monitoring of applications under one management. According to this model, everything connected to the management, planning and analysis of needs remained under the auspices of the business groups (all administrative applications, including generic SAP applications). Then, when they were ready for technological development, the Application Shared Competency Centre took over. The idea was to repatriate critical mass applications to the Application Shared Competency Centre and leave those used for the specific needs of one group with that group (MES applications). "It had to make economic

sense." Given the diversity of the business groups, it was considered preferable to let each one consolidate the management of its MES applications.

While the transfer of the infrastructure to Infrastructure Shared Services was relatively uncomplicated, the same could not be said for the applications.

> The infrastructure was seen as a commodity. As far as the groups were concerned, if someone could provide them with the same service at a lower cost and they didn't have to worry about it, great. Applications were another story altogether. The groups reacted immediately, afraid that if they relinquished the development of their applications, they would lose control of their systems. This phase entailed a lot of very long discussions with group senior managements.

Instead of playing the heavy and imposing the change by decree of senior management, Robert decided that it would be wiser to proceed by increments. He gradually organized the central management of applications until it became indispensable. This strategy worked well with the business groups: since they were quite independent at a technological level, they grew to appreciate the opinion and expertise that centralized management could give them.

> You have to remember that I was relatively new to the scene as well; I didn't have answers to all the questions. It wasn't as if the applications centre was completely functional. The basic principles were easy to establish, but in terms of day-to-day operations, we had to start from the ground up. Proceeding step by step allowed us to develop and implement methods so that we could test and refine them.

After negotiating with the business groups, it was agreed that the maintenance of several applications, including those being developed on the SAP platform, would be repatriated to the shared application centre.

> Although many people thought this was an odd decision, I personally believe that we tend to underestimate the importance of maintenance in organizations. To achieve effective maintenance, you have to know your systems and business processes inside out. You have to build relationships with all your key people.

The central group thus began to assume control of maintenance, quickly adding the supervision of all new SAP initiatives. As the legacy applications were integrated into the SAP platform, new applications were placed under the responsibility of the shared competency centre. "It was a gradual, painless transfer."

The Application Shared Competency Centre was a centre that used the services of offshore resources. Service in the Americas was provided out of major centres in Montreal and Chicago, where there were 17 internal people and 55 outside consultants and contract workers. A similar group based in Voreppe and Gennevillier (close to Paris) provided services for the rest of the world. This group consisted of 73 internal people and 53 outside consultants and contract workers. Finally, as for infrastructure, several tasks related to development, testing, maintenance and surveillance were outsourced. IT senior management opted for a hybrid model: "nearshore" (neighbouring countries) and "offshore" (overseas countries). Thus, a great deal of work was done in Accenture centres in Bratislava (the capital of Slovakia) and Hyderabad (in India). The company had chosen to maintain a site in Europe to facilitate communication with the Europeans,

who were often less comfortable working in English, and to work in a common (or similar) time zone, all based on an attractive cost structure. Accenture decided where the work would be done.

> Alcan started by making an agreement that promised a certain result at a given price. As far as I was concerned, Accenture could have part of the work done in China if they felt like it. I just wanted to make sure that users could be served in English, French or German.

The purpose of this shared competency centre was to obtain a global overview of the company's information systems, make the most use of people's competencies and encourage reuse.

> We just finished a project! We took an SAP model that contained basic modules that came from Tomago[1] Aluminium in Australia. Then we transferred it to Voreppe[2] so we could migrate to a new version of SAP using a mixed team from Voreppe and Accenture consultants in France and India. The model was then implemented at Sohar Aluminium, in the Sultanate of Oman,[3] by a mixed team from Sohar, Voreppe and Accenture in Bombay. Alcan owns 20% of Sohar Aluminium. Finally, through our Application Shared Competency Centre, we signed a five-year contract with Sohar to support their new system. An Accenture centre in Hyderabad, India, actually that looks after that. To get that contract we had to bid on the support project just like any other outside supplier.

Even if Alcan's IT function did not identify itself as a service supplier for outside companies, this collaboration underlined Alcan's interest in the affairs of Sohar Aluminium.

Since Alcan had chosen SAP for its basic technological platform, this meant that, over the long term, all new initiatives would be managed like an SAP integrated development project. Alcan wanted to migrate to a global template that could standardize architecture while proving the necessary flexibility to meet the needs of all of the business groups.

> When companies say that they run on SAP, you'd think that they would be integrated and be able to exchange information easily. Nothing could be further from the truth! Generally speaking, the SAP instances they've implemented are so different that it's as if, at the central level, they had installed completely different systems.

The plan therefore provided for the migration of all current SAP instances, as well as all the old legacy systems, to this new platform. A team of specialists would look after the new implementations and could work in collaboration with local teams. This migration would have to be carried out without disrupting any of the business groups' activities. A detailed implementation plan for this objective had yet to be drawn up.

4. IT investment management

There was no doubt that all this reorganization of IT management stemmed from Alcan's need for greater IT management visibility. All major projects that affected more than one entity or concerning central services in one way or another could no longer be carried out independently. Under the direction of strategic investment programs, therefore, IT senior management set up a

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[1] Tomago is a city on the east coast of Australia, about 164 km north of Sydney.

[2] Voreppe is a city in southwestern France, just north of Grenoble.

[3] The Sultanate of Oman is a small country (population 2.3 million) in the Middle East, on the southeast coast of the Arabian Peninsula. It borders the United Arab Emirates on the northwest, Saudi Arabia on the west and Yemen on the southwest. It is the site of large oil reserves that provide energy for Sohar's aluminium smelters.

strategic project office to closely monitor all IT projects valued at $2 million and over. The office would evaluate project proposals to ensure that methodologies (planning, risk management, control and follow-up plan, etc.) were respected. Although the operational management of these projects would remain under the responsibility of the business groups, the project office would keep a very close eye on all major projects.

To orchestrate the management of IT projects, the plan also made provisions for global management of IT human resources. Alcan wanted to harmonize position titles, competencies and roles, and to establish global succession plans, etc. in order to make the best use of the competencies of the teams already established worldwide.

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Robert reflected on his accomplishments. He had covered a lot of ground in just over a year! The plan was ambitious, but the objectives were sound and the potential benefits, significant. He had the ear and the support of the Executive Committee. The shared-services concept had gotten off to a good start in the area of infrastructure management and integrated application development management. The good relationships between the CIO and the business groups (the result of Robert's ten years as a consultant), the credibility and experience of the new central IT team, and the results obtained to date convinced the business groups to get onboard. When Robert arrived, the central IT group had often been the last to find out about IT initiatives in the business groups. Now, the groups were more proactive, asking the competence centres for assistance in planning their IT projects. It must be said, however, that the changes to date had affected only the least controversial aspects (of IT services). The global implementation of the new IT management philosophy would entail even greater changes in uncharted territories. The transformation of the former Pechiney IT group had raised a great deal of concern because of the requirements of French labour laws. How would the organization and senior management react? What about the business groups? Ever the skilful strategist, Robert was planning the next steps. What new challenges awaited the CIO in implementing his new IT management model?

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