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

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Montreal, March 2006. Robert Ouellette, an IT consultant and engineer by training in his early forties, has just accepted the position of Vice-President[8] of Corporate Information Technologies (IT) at Alcan. His first mandate is to prepare a full report on IT management methods at Alcan. The IT governance model has not been reviewed in several years, despite Alcan's many acquisitions and diversified worldwide activities.

Alcan: A Truly Global Enterprise

Alcan,[9] whose head office is in Montreal (the Maison Alcan is located on the corner of Sherbrooke and Stanley streets), has 68,000 employees and operating facilities in 61 countries. The enterprise has four major business groups (Primary Metal, Engineered Products, Packaging and Bauxite & Alumina) that generated annual revenues of the order of US$23.6 billion in 2006. The groups contribute fairly equally to revenues,[10] except for the Bauxite & Alumina group, whose contribution is much greater (see Figure 1).

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[1] This case reflects the situation at Alcan in the summer of 2007.

[2] Translation from French of "Relever le défi de la gestion des TI dans un contexte d'affaires mondial : Le cas d'Alcan – Partie A," case deposited under number 9 65 2009 004.

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[8] Title used by Alcan

[9] Data are taken from: Alcan (2007). Alcan Corporate Overview, www.alcan.com

[10] Source: Alcan (2006). Annual Review, www.alcan.com

Alcan creates and sells a wide variety of products, including bauxite, smelter-grade alumina, sheet ingot, extrusion billet, wire ingot, forging stock, beverage can sheet, automobile iron, aluminium recycling services, fabricated products such as wire and cable, and flexible and speciality packaging, just to name a few. Like all major players in its sector (see Appendix 1). Alcan is highly vertically integrated. The company owns eight mines and deposits, seven alumina refineries and seven speciality alumina plants, a transport network that includes port and rail facilities, 26 aluminium smelters, 12 electric power plants, 17 laminated product plants, 49 engineered product plants and 180 packaging material plants (see Appendix 2).

Figure 1
Income Distribution by Business Group
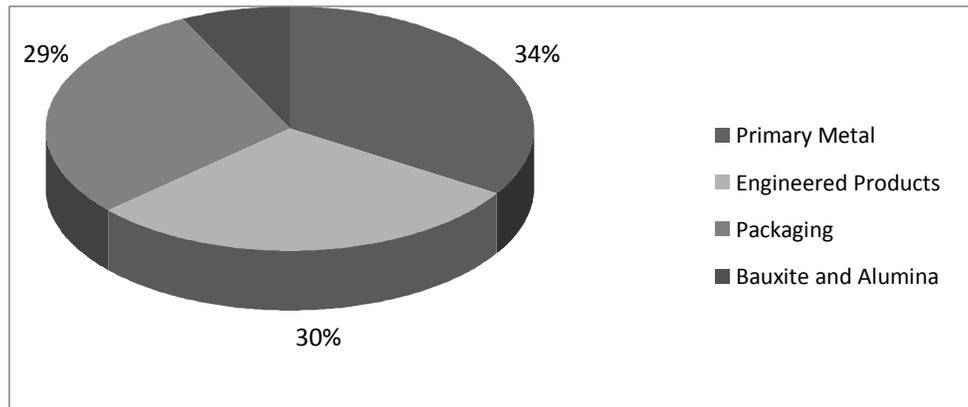
IT Management: The Current Situation

The position of Director – Corporate IT has been vacant for almost a year (since April 2005). During that time, pressure has been mounting to improve corporate leadership in the area of IT management and to participate in a significant cost-cutting exercise across the company's support functions. This situation has pushed Alcan's senior management to give greater priority to information technologies: the company has therefore decided to create the position of Vice-President – Corporate IT reporting to Michael Hanley, Executive Vice-President and Chief Financial Officer (see the organization chart in Appendix 3).

Thus it was that Robert Ouellette joined Alcan in January 2006 as Vice-President – Corporate IT. He was no stranger to Alcan, as he had done various consulting jobs for the company as part of a large international consulting firm. He knew he would be facing a serious challenge.

> During the interview process, I realized that the role hadn't really been clearly defined. I explained to my future superior that I was less interested in the solely corporate aspect of IT, since the bulk of IT activities were carried out within the business groups. I explained that I intended to get involved in all the IT files I judged to be important, at both the business group and corporate levels. We agreed on that right away. The way I see it, the IT function should be managed as a coordinated function across the entire company.

In the past, based on a culture of decentralization, responsibility for IT at Alcan had always been shared among the various business groups. Apart from certain basic services like networking and

message handling, Alcan's IT management system was highly decentralized. Every business group was completely independent, with its own strategic IT plan, infrastructure choices based on its specific needs, and IT applications and services. Each group had its own IT organization that pursued its objectives based on the group's needs and orientation. Groups' needs, like their activities, were highly diversified. Over the years, this culture of autonomy had been reinforced by mergers and acquisitions.

> Our IT people have never been asked to agree or cooperate with each other: their mandate has always been to meet the specific needs of their own business group.

Robert was fully aware that this context was not propitious to his vision of IT management and the way he intended to carry out his new role, but he had the advantage of being on a first-name basis with many of the people who managed IT services within each of the business groups.

> The day I took the position, I called each of the IT managers in all of the business groups. Thanks to my consulting work, I had become pretty good friends with some of them over the years. I knew them all well, except for the IT leader of the Packaging group, who had just joined the team.

Administratively speaking, none of these IT resources reported to him. So, in the beginning, he acted like an internal consultant, getting involved in all the important and/or problematic IT files. He took advantage of the fact that his role wasn't clearly defined to create one for himself and take it from there.

> If push came to shove, I knew that the CFO had a lot of credibility in the organization, and that I could count on his support if drastic measures had to be taken.

So he got moving.

One of the first things Robert did was to analyze IT costs. He actually had already questioned his boss, Michael Hanley, on the total amount invested in IT services at Alcan. Since IT activities were so decentralized, he expected a very approximate figure; instead, he received a very precise answer:

> "Alcan spends $200 million on IT." I was surprised that he could give me an answer so quickly, but I told him that, unfortunately, that was impossible given the lack of a global cost overview. I was sure that it was closer to somewhere between $275 and $300 million. After all those years of consulting for Alcan, I knew that if costs really were in the order of $200 million, the system would have come down around our ears long ago. The phone would have rung off the hook! Because of the fragmentation of systems, infrastructure and resources, we would never have had sufficient capacity. But when I told him that, he immediately said, "That's impossible! There's no way we spend $300 million on IT." So that's when I said, "Look, I can't prove it to you today, but I'm going to do a detailed analysis." I knew it was important that his perception of things be realigned before I could move on to do what I wanted to do.

Shortly thereafter, Robert came back with the amount he had verified: about $295 million annually! An in-depth analysis showed that IT costs were documented in several places at the local level. Within a single business group, for example, since IT human resources did not all report to the same IT unit, the result was a wide variety of methods of recording those costs. In certain cases, Robert noticed that IT costs were included in the groups' operating expenses, thus ending up in cost of goods sold. These disparate practices were keeping head office from getting

a complete picture of the real IT expenses. The $200 million figure from the CFO was accurate… in terms of what made its way to senior management. But there was another $100 million that was flying under the radar. Robert and his boss agreed that "whether we like it not, that money's spent!"

Robert reflected on the issues underlying the current situation. Not only was it virtually impossible to identify the actual amount the organization was investing in IT, it was equally impossible for IT governance at head office to set and monitor priorities. His first task would be to put IT management in order at every level across the entire organization.

A 360° diagnosis

Robert observed that the management and use of information technologies at Alcan was excessively complex. Over the years – particularly the last five – the company's multiple acquisitions had created a diversified, fragmented IT environment that had had a negative effect on the effectiveness and efficiency of business processes. For example, Alcan had to work with over 1,000 information systems, over 400 of which handled financial data. "To tell you the truth, we're still counting!" In addition to the heroic manual effort required to produce financial and management information, this technological mish-mash made the management and application of government regulations (like the Sarbanes-Oxley Act, for example) much more costly. Many major IT initiatives were underway in the various business groups, including several projects to implement the SAP integrated software package, without any apparent intergroup coordination.

> When I arrived, we realized that there were three major SAP implementation projects going on in various places throughout the organization. When you look at them separately, it doesn't seem like a big deal, but together they represented an investment of $500 million. Three mega-projects like that put enormous pressure on resources. There's a limit to SAP expertise, after all.

In addition, IT projects and initiatives that affected processes that were common to the four business groups (finance and procurement, for example) were inadequately coordinated. Evaluation of project risk, including planned transformations, seemed insufficient. And, finally, internal expertise (including SAP, project management and management of service level agreements) appeared inadequate, given the scope of the projects currently underway in the four business groups and at head office.

The Corporate IT[1] function: an overview

At the time of Robert Ouellette's hiring, about 900 people worked in IT at Alcan, both in the business units and at head office. Since the company was also a major consumer of IT services, however, about 80% of its total annual IT budget was spent on outside services from consulting and outsourcing firms, as well as on equipment and software. In March 2006, the Corporate IT function, in whose organization Robert was particularly interested, was made up of a total of 136 resources spread over 12 different sites (see Appendix 4).

The structure of this group (see Figure 2) was based on five sectors of responsibility: the groups in charge of corporate applications (financial and other), the Architecture Planning group, the

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[1] Term used by Alcan.

Information Systems Solution group, the Infrastructure Planning group and the Shared Infrastructure Services group.

Figure 2
Organization Structure of the Corporate IT Function
(Source: *Corporate IT – 1ˢᵗ Month Assessment*, April 2006, acetate 21)
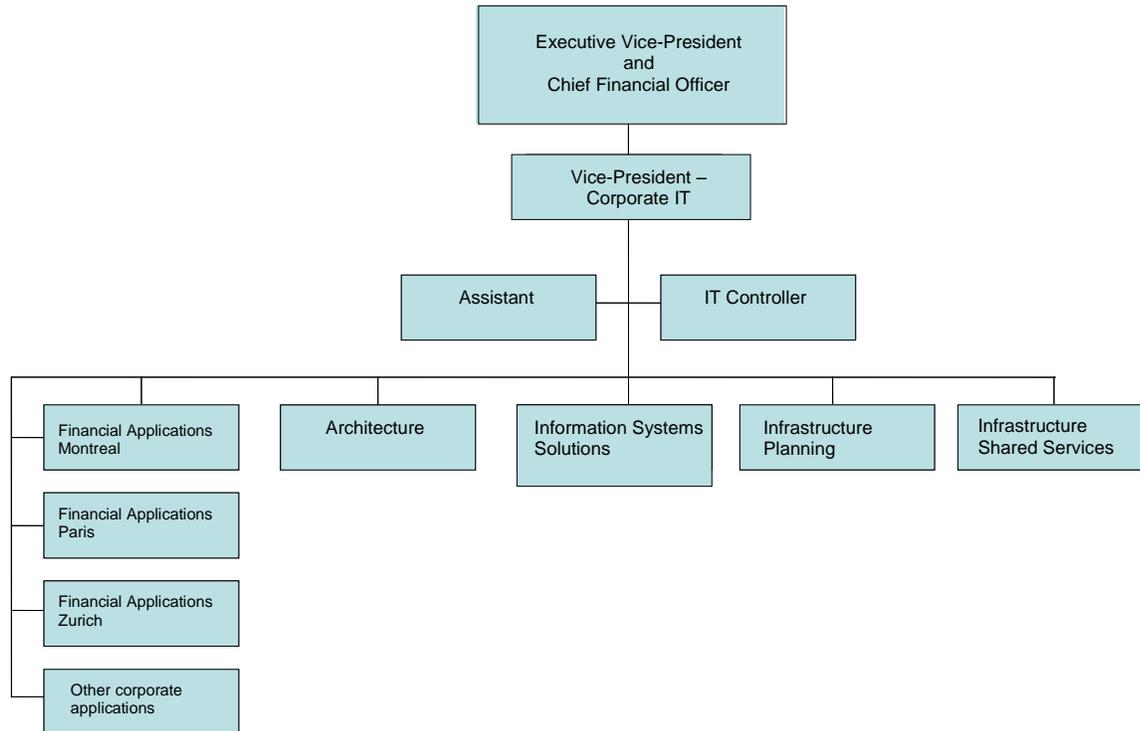
The groups concerned with the development and support of corporate applications (financial and other) included 14 resources divided among Montreal, Paris, Singen and Zurich. These resources were extremely disparate with no centralized management. According to Robert's analysis, this group showed no sign of any form of coordinated leadership for corporate financial applications. Consequently, there existed no overall architecture for those applications. Various supply strategies were used for project delivery and application management, and there was no consolidated overview of needs and requests. Since the competencies of this group were not aligned with current projects, there was no option but to resort to outside expertise.

The Architecture group consisted of three resources with highly technical skills (Web technologies and middleware) that corresponded to those of the Infrastructure Planning and Shared Infrastructure Services groups. This group was therefore not equipped to take full responsibility for all the layers of architecture of applications and information management.

The Information Systems Solutions group was made up of 60 resources distributed among five different cities: Voreppe, Paris, Warmley, Neuf Brisach and Issoire. Primarily SAP-oriented (project delivery and application management), this group focused mainly on the needs of the former Pechiney and the major SAP implementation project in the Engineered Products group.

The Infrastructure Planning group had 16 resources in six different sites: Montreal, Chicago, Voreppe, Kingston, Warmley and Saguenay. This group was primarily involved in planning improvements to the technological infrastructure and the technical architecture design for new applications. This group's skills corresponded to those of the Architecture and Shared Infrastructure Services groups.

The Infrastructure Shared Services group had 40 resources located in six different sites: Montreal, Chicago, Voreppe, Paris, Warmley and Singen. This group was responsible for the operation of the common infrastructure components, such as global network, e-mail and data processing centres. It also provided workstation support and collaboration tools.

This fairly convoluted structure clearly illustrated the challenges of IT management in a context of multiple acquisitions and incomplete integrations over the previous decade. Following the acquisition of Pechiney, for example, Alcan found itself with two infrastructure groups. Since the groups had not been integrated at that time, the situation still existed. Because of their recognized skill in operations, Pechiney resources were assigned to that area; Alcan resources were redirected towards infrastructure planning. The result was that former Alcan people did the planning and former Pechiney people put those plans into execution – which led to difficulties in coordinating efforts, a lack of skill and knowledge (particularly in the area of planning), and a lot of generalized frustration for IT management within each of the business groups. So Robert decided to complete the integration process, letting five people go, some of whom had been with Alcan for 20 years. This daring move provided convincing evidence that senior management was fully committed to the new orientations of IT management, marking the beginning of the definition of the new global organizational structure of IT management at Alcan.

First results

A few months after his arrival, Robert noticed the first signs of some promising developments. The first was that IT services, as well as the institution of shared services, were now on senior management's list of priorities. Also, a few business groups were making efforts to reduce system diversity: the Engineered Products and Packaging groups had adopted an SAP strategy. Significant progress was also being made in standardizing and consolidating the IT infrastructure, particularly with respect to global network and e-mail.

A more in-depth analysis of IT management processes revealed, however, that a major transformation was called for. Despite Alcan's many acquisitions, the IT governance model had not been revised in several years, with the result that IT services were still being managed like separate fiefs. For the same reason, the funds allocated to IT were systematically under-evaluated, with little indication of their business value. How could an accurate picture of IT costs within the organization be obtained? Without being able to track real costs, how could Alcan know if it was getting a fair return on its IT investments? Moreover, since certain infrastructure costs (premises, for example) were not charged to IT, how could an accurate idea of the costs of services offered internally be obtained for the purposes of comparative analysis? This type of under-evaluation was also preventing management from making informed, fair decisions on the outsourcing of certain services.

There also seemed to be a problem with respect to internally available skills, which were sometimes insufficient and poorly aligned with needs. IT competencies were not identified, evaluated or compensated in the same way by the various business groups, and competency deficiencies were palliated by outside resources, consultants or contract workers. Robert also noticed that, in the case of several projects, Alcan had abdicated its leadership responsibility – and control – of its IT resources:

> There were outside people who did it for us – to the point that when we wanted to understand what was happening at Alcan, we were dependent on outside consultants to tell us. It didn't make any sense.

Finally, Robert's evaluation showed that the management of IT projects lacked rigour. Several projects had been delivered late or over budget.

In this context, what would be the ideal characteristics and advantages of a new IT organization and governance model at Alcan?

2010-06-21

Appendix 1
Some Background on the Aluminium Industry

In 1889, Charles Martin Hall had just discovered and patented a new, inexpensive procedure for extracting aluminium from bauxite and alumina. With a group of industrialists, he founded the Pittsburgh Reduction Company, which was renamed the Aluminum Company of America in 1907 (Alcoa, 2002). Alcoa's operations took off during the Second World War, when the demand for aluminium for aircraft skyrocketed. To support the war effort, the American government constructed a series of aluminium smelters whose operation it entrusted to Alcoa. By the end of the war, the company had a virtual monopoly, accounting for 60% of all the aluminium produced in the United States.

Alcan appeared on the scene in 1902 as a Canadian subsidiary of the Pittsburgh Reduction Company. Initially called the Aluminum Company of Canada (ACOC), it became a wholly independent company in the early 1950s (Alcan, 2003). This transformation was the result of a decision by Manhattan's Federal Judge John C. Knox on a celebrated antitrust case that pitted Alcoa against the U.S. Justice Department (*Time Magazine*, 1950). In the post-war period, the sale of government-owned excess production capacities of aluminium sparked heated debate, which led to the U.S. market being split among three major players: Alcoa (50.9% of total production), Reynolds (30.9%) and Kaiser Aluminum & Chemical Corporation (18.2%). In his judgement, satisfied with the level of competition, Judge Knox refused to allow Alcoa to be broken up, but ordered it to dispose of its Canadian holdings in the sector, as its Canadian subsidiary had become the second-largest company in the sector. Alcoa thus relinquished its title of ownership to Aluminum Limited, which became the parent company of Alcan, the name it had taken in 1944.

The years that followed saw strong growth in Alcan's processing capacity as the company pursued aggressive expansion in many countries, including Australia, Britain, Brazil and India. During this period, Alcan targeted vertical integration by investing in bauxite mines and alumina plants in Africa, Brazil and Australia. During the 1980s, Alcan merged with British Aluminium and made a series of acquisitions, including the Alusuisse Group Ltd., and created Alcan Taihan Aluminum Limited in Korea to serve the vigorously expanding Asian market. In 1987, Alcan merged with its parent company and chief operating unit Aluminium Limited to become Alcan Inc.

The collapse of the Soviet Union in the 1990s had a disastrous effect on the global aluminium market. To compensate for a perilous financial position, the annual production of the former Soviet Union went from about 250,000 metric tonnes to 1.2 million tonnes. The market was glutted, resulting in an enormous downward pressure on prices, which plummeted from $1.65 a pound in 1988 to as low as 53¢ a pound in 1993 (Binet, Guiard and Jaclot, 2000). To make matters worse, the global recession seriously depressed the entire aluminium industry.

In reaction to this major market decline, all of the industry's major players were forced to revise their growth strategies, which sparked a spate of consolidation and restructuring as each tried to trim its operating costs and boost their plants' energy production (Funding Universe, 2007). The

first major transaction was the absorption of the independent producer Alumax by Alcoa in 1998, followed by buyout of Reynolds in 1999. At almost the same time, Alcan acquired Alusuisse, VAW Flexible Packaging (FlexPac), Baltek and Uniwood/Fome Cor. In 2001, Alcan joined a Chinese joint venture and acquired France's Pechiney, thereby gaining access to an electrolytic process reputed to be the best in the industry.

The aluminium sector is highly vertically integrated. This is primarily because, at a technical level, the processing of bauxite (aluminium ore) and alumina is very sensitive to the chemical properties of the raw material, requiring case-by-case adjustment. Since very high production capacities are needed to reach a break-even point and electrolytic processes are extremely energy-consuming, companies must have access to stable, abundant, inexpensive supplies of energy (Binet, Guiard and Jaclot, 2000).

The beginning of the new millennium saw a major market recovery with rapid economic expansion (and increased demand for aluminium), particularly in Asia and Western Europe. Since then, global production of primary aluminium has risen steadily at an annual rate of 4.5%, reaching 31.8 million tonnes in 2005, for a production increase of over 35% since 1999.

World consumption of aluminium exceeded 44 million metric tonnes in 2005, representing an annual economic activity in the order of US$300 billion. Aluminium is lightweight, strong, heat conducive, corrosion resistant and infinitely recyclable, making it indispensable to a wide range of semi-finished goods – laminated, rolled, extruded, drawn, cast and forged products – that are subsequently transformed into finished products (consumer goods) for such markets as transportation, construction, packaging, electricity, engineering, machinery and equipment.

In this new business context, North America has to import close to 975,000 tonnes of aluminium every year to satisfy domestic demand. Quebec aluminium smelters are highly competitive, however: at $1,090/tonne, it is more economical to produce aluminium in Quebec than elsewhere in the world, where the average cost is US$1,370. In August 2007, the global market price of aluminium reached US$2,520 per tonne, its highest level in the previous ten years (Industry Canada, 2005).

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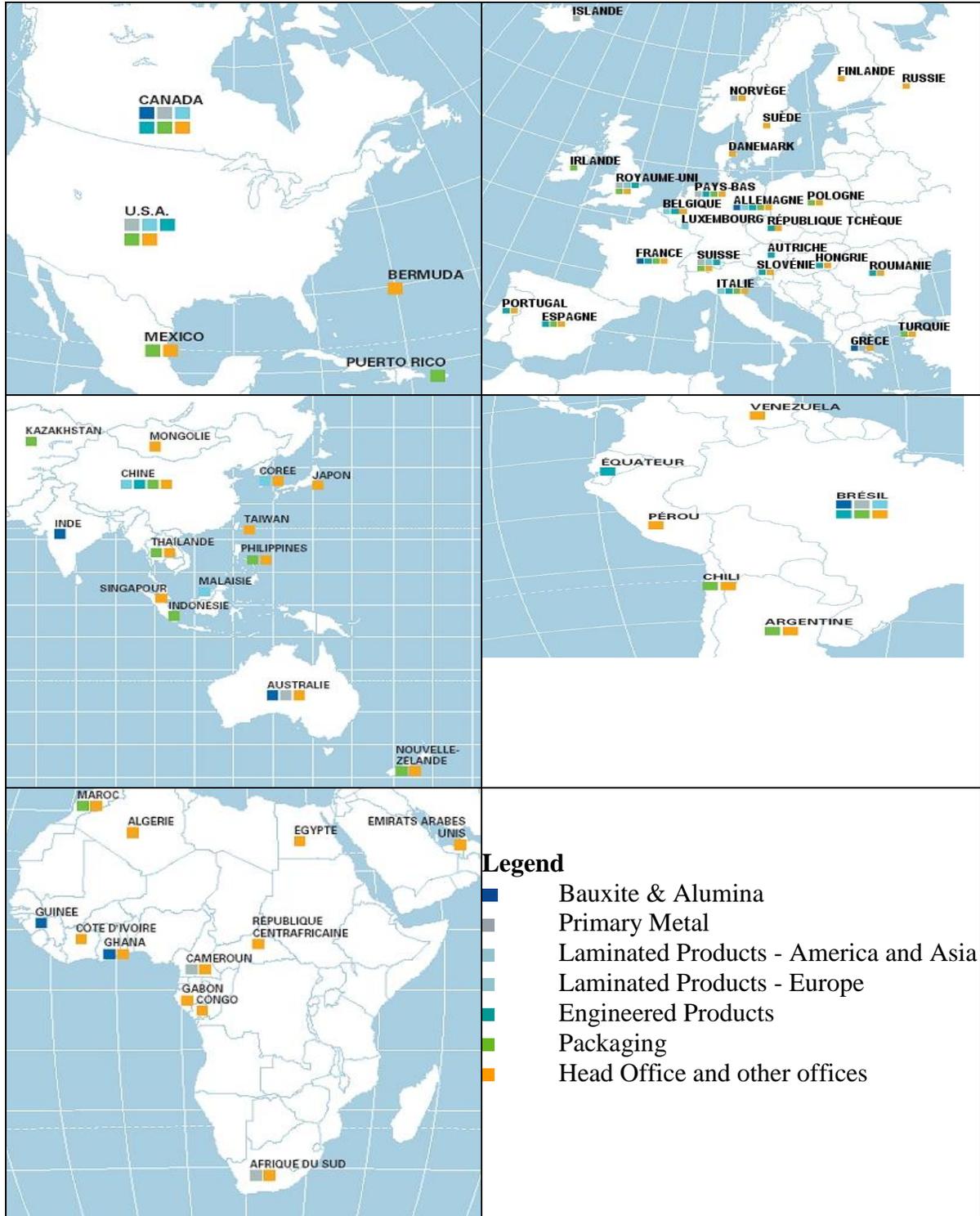
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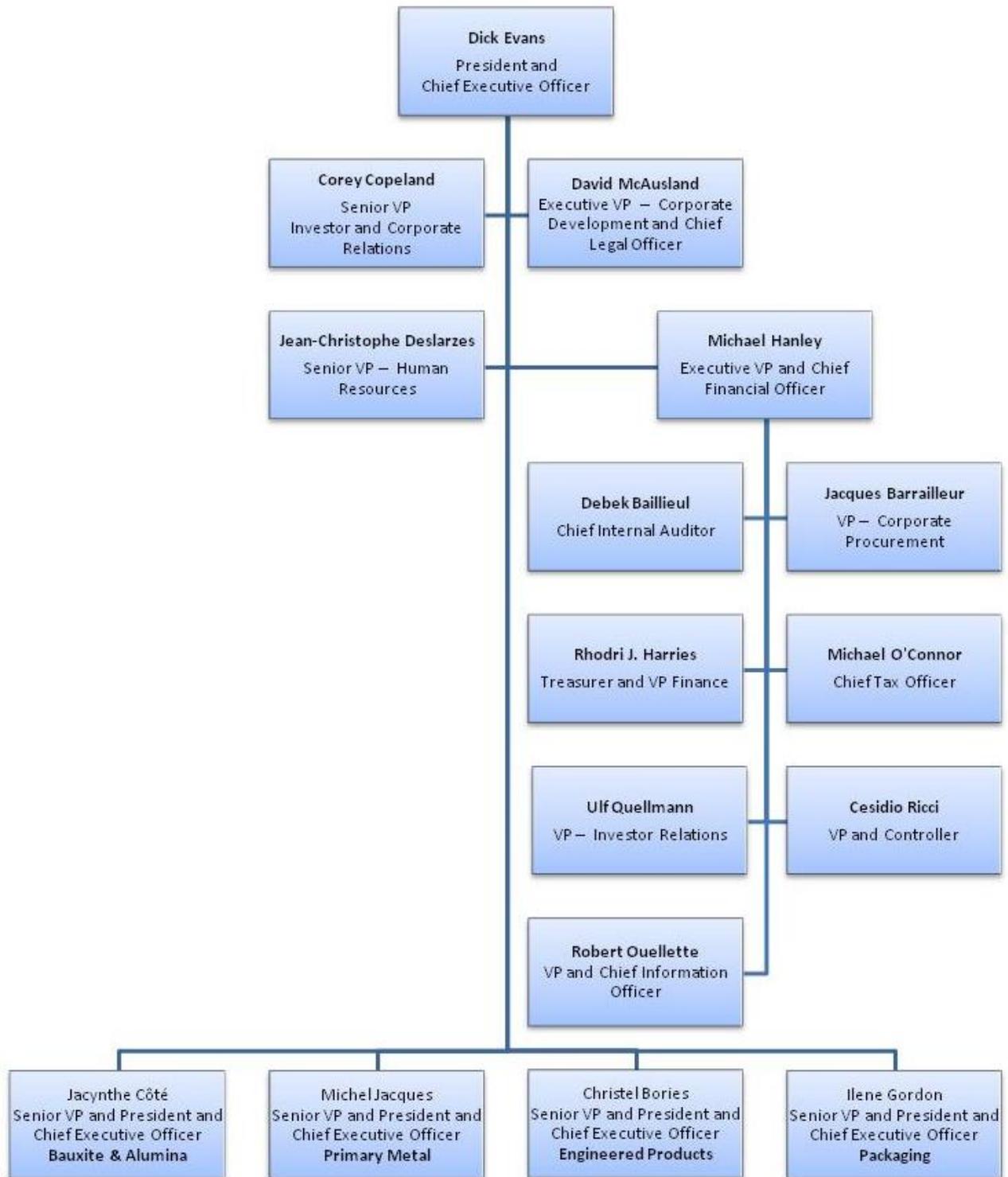
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Appendix 2
Alcan's Global Activities
(Adapted from presentation at the *CIO Executive Summit* – December 2006, acetate 6)

Legend

- Bauxite & Alumina
- Primary Metal
- Laminated Products - America and Asia
- Laminated Products - Europe
- Engineered Products
- Packaging
- Head Office and other offices

Appendix 3
Alcan Organization Chart – 2007

Appendix 4
Personnel by Location – Corporate IT function

(Source of data: *Corporate IT – 1st Month Assessment*, April 2006, acetate 22)

Location	Management*	Financial applications (Montreal, Paris and Zurich)	Other corporate applications	Archi-tecture	IS Solutions	Infrastructure planning	Infrastructure shared services	*Total*
Montreal	3	3	6			9	6	**27**
Chicago						2	1	**3**
Voreppe, France				3	23	2	21	**49**
Paris		1			30		4	**35**
Warmley, England					1	1	7	**9**
Neuf Brisach, France					5			**5**
Issoire, France					1			**1**
Kingston, Ontario						1		**1**
Saguenay						1		**1**
Singen, Germany			2				1	**3**
Zurich, Switzerland		2						**2**
Grand total	3	6	8	3	60	16	40	**136**

*The Management group includes the Executive Vice-President and Chief Financial Officer (Michael Hanley), the Corporate Vice-President, IT (Robert Ouellette) and the IT Controller.