



Report to the Board of Directors: Proposed Strategic Direction

May 23, 2011



KAM
Enterprises

EXECUTIVE SUMMARY

Introduction

Founded in 1938 by Arthur Arndt, Arndt Industries (AI) is a privately owned Canadian company headquartered in Brandon, Manitoba, that designs and produces equipment and systems for a variety of customers in the manufacturing and distribution sectors. AI operates three companies and has found success through its ability to build and maintain long-standing customer and supplier relationships. AI has had a positive brand in delivering customized quality by consistently providing high quality that meets specific customer demands.

The demand for industrial machinery depends on overall industrial activity as well as on the health of specific sectors. Recent economic fluctuations have had a negative effect on business.

As the economy begins to recover, companies are starting to invest in capital. In order to remain competitive in the market, AI must develop a strategic plan to capture the opportunities for growth and to achieve its goal of exceeding \$500M in sales by 2015.

Strategic Issues

The strategic issues raised at AI's board meeting include:

- Geographic expansion to South America (Peru)
- Development of a new product—the environmentally friendly Genset locomotive (in-house development or joint venture opportunity)
- Acquisition of TB Mining surface division

Recommendation on Strategic Issues

Based on a qualitative and quantitative analysis of each of the strategic issues, it is recommended that AI:

- Expand into South America (Peru), and
- Create Arndt Mining Products Ltd. (acquire TB Mining surface division)

In addition, as per the board's request, this report includes a proposed succession plan and recommended revisions to the shareholder agreement.

Operational Issues

Operational issues raised at AI's board meeting include:

- Powder-coating (in-house or outsourcing)
- Information technology (updates; implementing systems)
- Transfer pricing policy
- Lawsuit in Engineering Products division

Recommendations on Operational Issues

Based on an analysis of each of the operational issues, it is recommended that AI:

- Outsource powder-coating
- Implement a CRM system
- Establish a transfer pricing policy (one has been recommended)
- Settle the lawsuit out of court for \$2.5M

Overall, it is recommended that AI adopt new mission and vision statements that refer to competing in the global market and creating a mining division. To begin implementation of these recommendations, a detailed action plan is provided in this report.

Expected Outcomes

The calculated NPV of share price valuation of AI's stock is \$276,680. Overall, it is expected that the recommendations will grow the value of AI's business. The recommended strategic and operational plans for AI will require capital investments of \$34.35M and onetime expenses of \$3.85M in 2011. To ensure sufficient funds for these investments and costs, AI should borrow \$38.2M from the bank at 7.5% for 15 years. The new strategic direction will maximize AI's sustainable growth and profitability, and will assist the company in achieving its goal of exceeding \$500M in sales by 2015.

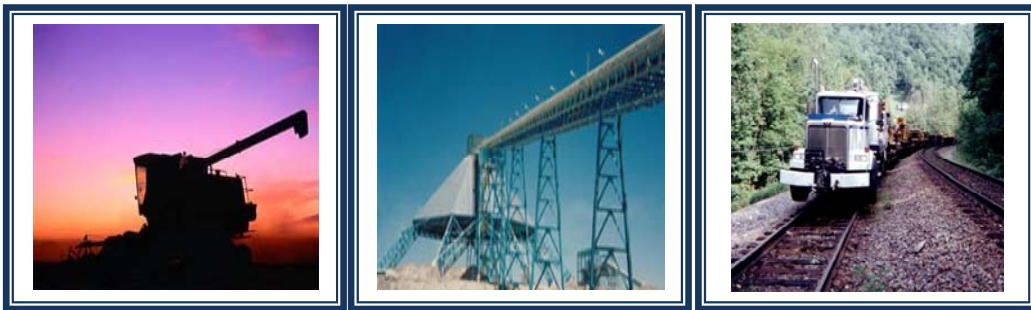
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INTRODUCTION



ARNOLD INDUSTRIES

INTRODUCTION

Recent economic downturns have forced AI to forgo expansion opportunities and have consequently slowed the pace of AI's growth. With an improving economy and the need for growth, AI is looking for options to improve its revenue.

The purpose of this report is to evaluate for AI's board of directors the current business direction and major business opportunities, and provide a recommended course of action.

The scope of this evaluation includes a situational analysis, an analysis of alternatives, recommendations on alternatives, operating recommendations, an implementation plan, a strategy map, and a financial forecast.

SITUATIONAL ANALYSIS



ARNOLD INDUSTRIES

CURRENT STRATEGY

AI's mission statement is as follows:

Arndt Industries (AI) is committed to manufacturing innovative, quality products through its diverse subsidiaries: Arndt Agricultural Products Ltd., Arndt Engineered Products Ltd., and Arndt Road Rail Products Ltd.

This mission statement addresses the company's purpose and objectives, but fails to state the company's target market or strategic positioning. A vision statement should be created to express well-defined long-term strategic goals and direction for the company.

Competitive Advantage

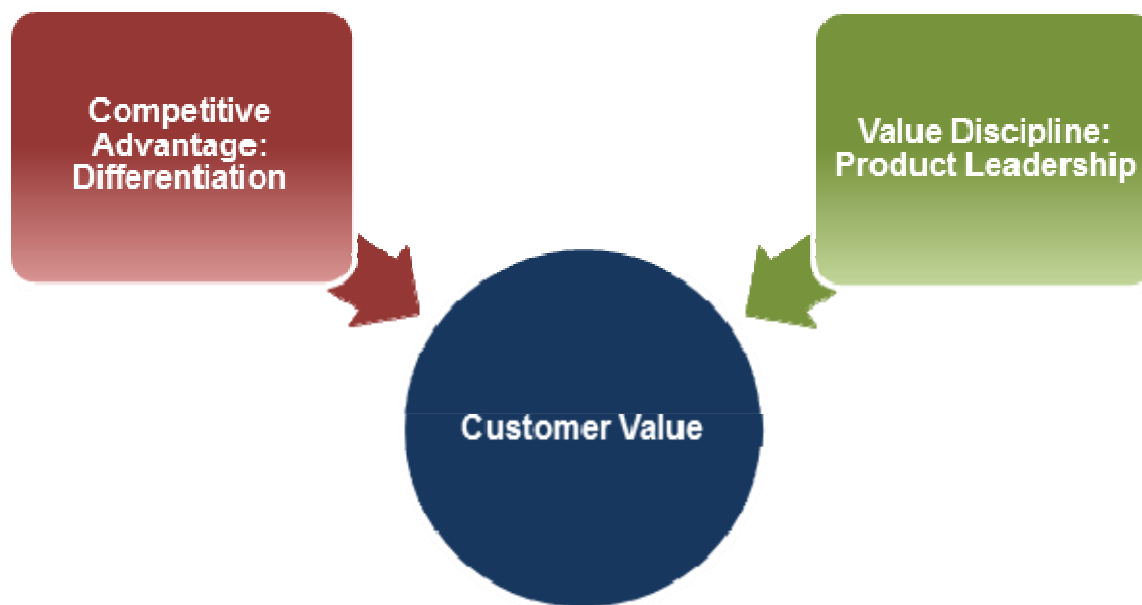
Two ways to achieve a competitive advantage are 1) through differentiation and 2) through low cost.¹ AI has achieved differentiation through its R&D initiatives, resulting in customizable and quality product offerings.

Value Discipline

To achieve customer value, AI must display superiority in 1) operational excellence, 2) customer intimacy, or 3) product leadership.² AI has achieved product leadership discipline by identifying customers' perceived values and developing products that have exceeded customer expectations. AI has successfully developed innovative products that provide solutions to the limitations of other products on the market. In addition, AI has been able to quickly move from R&D to the production and successful commercialization of new products (see Figure 1).

1 CMA Canada. "Value Chain Analysis for Assessing Competitive Advantage." In *Management Accounting Guidelines: Strategic Performance Measurement*. CMA Canada, 1999.

2 Treacy, Michael and Fred Wiersema. "Customer Intimacy and Other Value Disciplines." *Harvard Business Review*, 1992.

Figure 1: Arndt Industries Value Discipline

Challenges

SEE APPENDIX A FOR SITUATIONAL ANALYSIS

The industry's relationship with the economic environment, the uncertainty of economic recovery, and the resulting disruptions to financial markets are impairing both AI and its customers. Financing options have been limited as the global financial crisis has left financial institutions taking fewer risks with loans. AI's ability to expand is restricted due to the capital-intensive nature of the business and its projects. Customers have been unable to secure financing to cover the purchase of heavy machinery. In addition, recent lags in production quality have damaged the AI brand.

STAKEHOLDER PREFERENCES

Table 1: Stakeholder Preferences

STAKEHOLDERS	PREFERENCES
Board	<ul style="list-style-type: none"> • Know the financial implications of settling lawsuit • Achieve a 10% rate of return
Catherine Arndt, Chair of Board	<ul style="list-style-type: none"> • Create a succession plan • Divest shares • Make changes to shareholder agreement
Edward Arndt, Board Member	<ul style="list-style-type: none"> • Divest shares
Richard Arndt, Board Member	<ul style="list-style-type: none"> • Divest shares
Clare Arndt, CEO of RP	<ul style="list-style-type: none"> • Ensure funds for capital expenditures over the next 3 years [\$1.0M, \$2.25M, \$2.0M] • Create an environmentally friendly locomotive
Dominique Dupuis, CEO of EP	<ul style="list-style-type: none"> • Ensure funds for capital expenditures over the next 3 years [\$5.0M, \$3.5M, \$1.0M] • Acquire TB Mining surface division
David Arndt, CEO of AP	<ul style="list-style-type: none"> • Ensure funds for capital expenditures over the next 3 years [\$2.0M, \$1.5M, \$2.5M] • Implement powder-coating • Expand into new markets
John Arndt, Retired	<ul style="list-style-type: none"> • Divest shares; sell to immediate family • Valuation of shares
Bank	<ul style="list-style-type: none"> • Meet covenants
Customers	<ul style="list-style-type: none"> • Receive quality products & services (on-time delivery of durable products)

TARGETS AND CONSTRAINTS

Common Stakeholder Targets:

- Exceed \$500M in sales by 2015.
- Achieve a return-on-investment of 10% (projects evaluated using 10% Cost of Capital).

General Constraints:

- Consensus is required to revise agreements.
- Corporate office must approve all external financing related to continuous investment.
- Capital investments over \$1.5M must be purchased with debt instead of through an operating line of credit, and must be approved by corporate office.

Bank Covenants:

1. Operating line of credit of \$2.5M; each division must maintain a current ratio above 1.5:1 and a maximum debt-to-equity ratio of 1.75:1.
2. Loan of \$50M at annual rate of 7.5% that must be repaid in 15 to 25 years; organization must maintain a maximum ratio of debt to tangible net worth of 2:1, a minimum current ratio of 1.5:1, and return-on-assets above 10%.
3. Long-term loans for expansion must be renegotiated every five years.

EXTERNAL ANALYSIS

SEE APPENDIX A FOR SITUATIONAL ANALYSIS

Economic Overview

Global Economy

- GDP increases in 2010 are indicative of a global economic recovery.
- AI's current markets are experiencing gradual increases in real GDP over 2010.
- Potential new markets exist, e.g., in India, Peru, etc., where there is strong GDP growth (Table 2).

Table 2: Real GDP Outlook by Country (annual % change)³

	2000 - 2009	2010 Estimate	2011 Forecast	2012 Forecast
Canada	2.1	3.1	3.1	2.6
U.S.	1.8	2.9	2.9	2.7
U.K.	2.7	1.3	1.4	1.7
Australia	3.0	3.0	3.8	3.5
China	10.2	10.3	9.5	9.7
India	7.2	8.7	8.5	8.8
Chile	3.6	5.2	6.0	5.5
Peru	5.1	8.8	7.0	7.2

Canadian Economy

- Canadian real GDP grew 3.3% in Q4 of 2010 after expanding 1.8% in Q3.
- Real GDP in the U.S. grew 2.8% in Q4.⁴

3 Scotia Capital. "Global Forecast Update." Accessed April 9, 2011 from http://www.scotiacapital.com/English/bns_econ/forecast.pdf

4 Statistics Canada. "Canadian Economic Accounts." Accessed March 26, 2011 from <http://www.statcan.gc.ca/daily-quotidien/110228/dq110228a-eng.htm>

- The largest contributing sectors to Canadian GDP growth are mining, and oil and gas extraction (increase of 2.4% in October, compared to a decrease of 0.6% in manufacturing sector⁵).
- Canada is expected to experience robust economic growth over the next four years.⁶

Provincial Economy

- Real GDP increases in 2010 across Canada indicate economic recovery.⁷
- Estimates show Manitoba's real GDP expanded by 2.4% in 2010 and is forecast to continue to grow through 2012⁸ (Table 3).

Table 3: Real GDP Outlook by Province in Canada (annual % change)⁹

Province	2000-2009	2010 Estimate	2011 Forecast	2012 Forecast
NL	3.1	5.2	4.8	2.5
PEI	1.7	2.6	2.1	2.1
NS	1.7	1.9	2.0	2.0
NB	1.8	2.0	1.9	2.2
PQ	1.8	2.9	2.4	2.6
ON	1.7	3.0	2.8	2.3
MB	2.1	2.4	2.8	2.5
SK	1.6	2.3	4.6	3.3
AB	2.7	3.5	4.4	3.3
BC	2.5	3.2	3.0	3.1

5 Statistics Canada. "Gross Domestic Product by Industry." Accessed March 26, 2011 from <http://www.statcan.gc.ca/daily-quotidien/101223/dq101223a-eng.htm>.

6 Conference Board of Canada. "Canadian Outlook Long-Term Economic Forecast: 2010." Accessed March 26, 2011 from <http://www.conferenceboard.ca/documents.aspx?did=3503>.

7 Scotia Capital. "Global Forecast Update." Accessed April 9, 2011 from http://www.scotiacapital.com/English/bns_econ/forecast.pdf.

8 Government of Manitoba. "Manitoba Economic Highlights." Accessed March 26, 2011 from <http://www.gov.mb.ca/finance/pdf/highlights.pdf>.

9 Scotia Capital. "Global Forecast Update." Accessed April 9, 2011 from http://www.scotiacapital.com/English/bns_econ/forecast.pdf.

Population Trends

- Manitoba posted the fastest demographic growth in Canada in Q4 2010 (an increase of over 0.3% compared to an overall increase in Canada of 0.1%).
- Immigration was the principal factor in the demographic growth; immigration to Manitoba, Saskatchewan and Alberta was higher than the national average.¹⁰
- More favourable immigration will help population growth remain steady in Manitoba over the forecast period.¹¹

Labour

- Employment edged upwards in February, showing total gains over the past three months of 115,000¹² additional workers employed.
- Manitoba's employment rate rose 1.9%, outpacing the national increase of 1.4%.
- The average unemployment rate in Manitoba was 5.4%, almost half of the Canadian average of 8.0%.¹³
- Between February 2010 and February 2011, Manitoba's labour force increased by 1.8% (ranked second nationwide¹⁴).

10 Statistics Canada. "Canada's Population Estimates." Accessed March 26, 2011 from <http://www.statcan.gc.ca/daily-quotidien/110324/dq110324b-eng.htm>.

11 Conference Board of Canada. "Provincial Outlook Long-Term Economic Forecast: 2010." Accessed March 26, 2011 from <http://www.conferenceboard.ca/documents.aspx?did=3529>.

12 Statistics Canada. "Latest Release from the Labour Force Survey." Accessed March 26, 2011 from <http://www.statcan.gc.ca/subjects-sujets/labour-travail/lfs-epa/lfs-epa-eng.htm>.

13 Scotia Group. "Global Economic Research." Accessed April 9, 2011 from http://www.scotiacapital.com/English/bns_econ/forecast.pdf.

14 Statistics Canada. "Labour Force Characteristics by Province" (2011, March 11)." Accessed March 26, 2011 from [http://www.statcan.gc.ca/subjects-sujets/labour-travail/lfs-epa/t110311a4\(3\)-eng.htm](http://www.statcan.gc.ca/subjects-sujets/labour-travail/lfs-epa/t110311a4(3)-eng.htm).

Ethical Issues

- Bribery of foreign officials has led to governments passing new legislation including the *Corruption of Foreign Public Officials Act* (Canada) and the *Foreign Corrupt Practices Act* (U.S.).
- Legislation addresses concerns that widespread bribery discourages trade of quality products, fair competitive practices, and economic development.¹⁵
- The Canadian legislation restricts organizations, including foreign subsidiaries, from offering benefits or influencing foreign officials in order to gain a competitive advantage in conducting business.¹⁶
- Companies charged under the *Act* may be fined and risk facing charges under the *Criminal Code*.¹⁷

Value Chain

SEE APPENDIX B FOR INDUSTRY VALUE CHAIN

- Businesses show an increased upstream focus on developing long-term supplier relationships, and increased emphasis on strategic partnerships to minimize costs and manage risks.¹⁸
- Manufacturing processes are increasingly outsourced, allowing manufacturers to achieve flexibility, responsiveness and scalability.
- Suppliers are seen as a source for innovation and cost minimization; outsourcing to suppliers results in lower labour costs.

15 Morrison, Mark, Paul Schabas, and Tony Wong. "Canada's Corruption of Foreign Public Officials Act: What You Need to Know and Why." Accessed April 2, 2011 from <http://www.blakes.com/english/view.asp?ID=3437>.

16 Ibid.

17 Ibid.

18 Kallner, Jonathan. "Reshaping the Supply Chain: New Opportunities for Canadian Manufacturers." KPMG LLP, 2010.

- Greater supplier collaboration has resulted in changes to operating activities within the value chain; manufacturers are able to react swiftly to demand swings, allowing them to revise production schedules and maintain lower inventory at dealers; for example, manufacturers have vertically integrated with steel producers, who produce finished parts rather than supplying manufacturers with raw goods; vertical integration results in improved technologies and knowledge sharing between manufacturers and supplier.¹⁹
- Firms are able to focus more on innovation and knowledge, product development, and manufacturing processes; this results in increased concentration on core competencies and a streamlined value chain.

Environmental Regulations

- Concerns about the global environment have resulted in strict emissions regulations.
- The transportation sector is considered a significant emitter of air pollution in Canada; the sector emitted 54% of all nitrogen oxides emissions in 2008.²⁰
- Transport Canada is expected to implement regulations with the *Railway Safety Act* (RSA) to align with U.S. Environmental Protection Agency (EPA) regulations to reduce emissions from locomotives and marine diesel engines; this will result in substantial benefits to public health and welfare and to the environment.²¹
- Canadian companies doing business in the U.S. will be required to comply with EPA environmental standards as they apply to U.S. railroads; the new standards will result in substantial replacement and rebuilding costs.²²

19 Warrian, Peter and Celine Mulhern. *The New (Economy) Steel: Learning at the Regional and Firm Levels*. Munk Centre for International Studies, University of Toronto, 2001.

20 Transport Canada. "The Development of Canadian Locomotive Emissions Regulations," 2010.

21 U.S. Environmental Protection Agency. "Regulatory Announcement." 2011. U.S.EPA, 2011. Accessed April 9, 2011 from <http://www.epa.gov/nonroad/420f08004.htm>.

22 Industry Canada. "Railway Equipment Manufacturing." Industry Canada, 2010. Accessed March 8, 2011 from <http://www.ic.gc.ca/eic/site/remipmf.nsf/eng/ti01007.html>.

Peru

Geographic Advantages

- Peru neighbours Brazil and Chile, and borders the Pacific Ocean and the Amazon River in the middle of the country,²³ encouraging sales networks in South America and other international markets.
- The area hosts abundant mineral resources in the Andes mountain range.²⁴

Economy Overview

- The economy of Peru has improved considerably²⁵ (Figure 2).
- Industrial production grew by 8.5% in 2010²⁶ as a result of higher demand and increased production capability.
- Peru has a high underemployment rate (8.1% in 2009 and 6.7% in 2010);²⁷ the excess labour force (0.58M in 2010)²⁸ results in lower labour costs.
- Peru has large external debts: US\$33.29B at December 31st, 2010.²⁹

23 IndependenceDay.com. "Economy of Peru." Accessed March 12, 2011 from <http://www.123independenceday.com/peru/economy.html>

24 Central Intelligence Agency. "The World Factbook – South America: Peru – Economy: Peru (March 3, 2011)." Accessed March 12, 2011 from <https://www.cia.gov/library/publications/the-world-factbook/geos/pe.html>

25 IndependenceDay.com. "Economy of Peru." Accessed March 12, 2011 from <http://www.123independenceday.com/peru/economy.html>

26 Central Intelligence Agency. "The World Factbook – South America: Peru – Economy: Peru (March 3, 2011)." Accessed March 12, 2011 from <https://www.cia.gov/library/publications/the-world-factbook/geos/pe.html>

27 Ibid.

28 Ibid.

29 Ibid.

Figure 2: Economic Growth of Peru³⁰

	2002-06	2007	2008	2009	2010
% Increase	>4%	9%	9%	<1%	8%

Investment Opportunities

- Peru has signed trade deals with the U.S., Canada, Singapore, and China; has concluded negotiations with the European Union; and has begun trade talks with Korea, Japan, and others.³¹
- The U.S.-Peru Trade Promotion Agreement (PTPA) has opened the way to greater trade and investment between the two economies.³²
- The Canada-Peru Free Trade Agreement will promote business transactions between the two economies.³³
- The lower tax rate in Peru (30%) and the statutes on income taxes, remittances, and other issues have remained unchanged for the past ten years.

Currency Fluctuation

- The exchange rate fluctuates every year (Figure 3).

Figure 3: \$1 USD to PEN³⁴

	2006	2007	2008	2009	2010
USD to PEN	3.2742	3.1731	2.9100	3.0115	2.8178

30 Ibid.

31 Ibid.

32 Ibid.

33 Government of Canada. "Peru Free Trade Agreement." Accessed May 22, 2010 from <http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/andean-andin/can-peru-perou.aspx>.

34 Ibid.

Environmental Threats

- Deforestation and pollution resulting from oil production and mining are widespread in Peru.³⁵
- Mining workers are exposed to a high risk of accident as well as to health problems; water pollution is widespread; soil is polluted with animal waste due to agricultural activities.³⁶

Other Factors

- In 2004, Peru signed treaties with Canada to avoid double-taxation on income tax and tax on equity.³⁷
- Peru is a member of the World Trade Organization (WTO) and a signatory party to Trade-Related Aspects of Intellectual Property Rights (TRIPS).³⁸
- As government regulations change frequently, they are difficult to predict and prepare for.³⁹

35 Citizen.org. "The Peru, Colombia, Panama – U.S. Trade Agreement." Accessed March 12, 2011 from http://www.citizen.org/documents/Peru2pgFactSheet_FINAL.pdf

36 World Bank. *World Development Report 2008: Agriculture for Development*. World Bank, 2008, p. 189.

37 KPMG. "Investment in Peru 2010." March 31, 2010, p. 13.

38 Ibid., p. 47.

39 Ibid., p. 3.

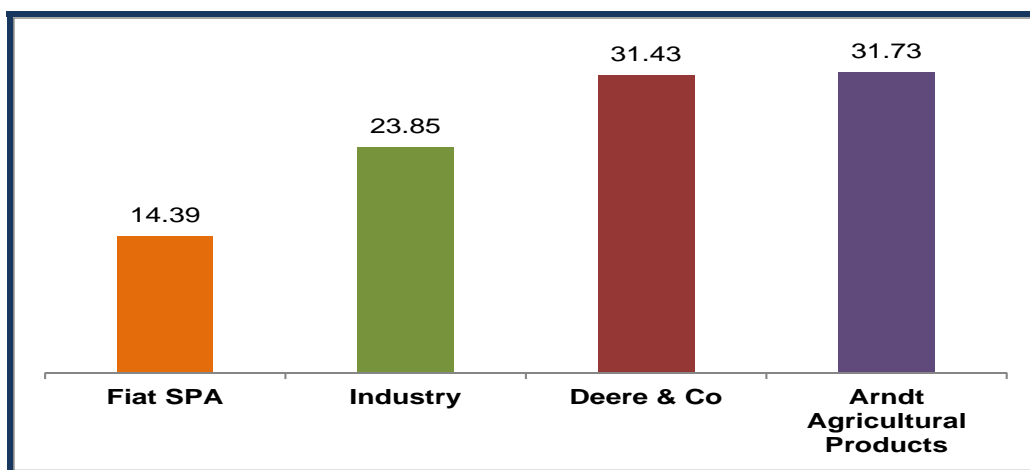
AGRICULTURAL PRODUCTS DIVISION (“AP”)

- Strong industry-wide sales were achieved in Q4 2010.⁴⁰
- Shifts towards energy-efficient equipment have increased competition.

Industry Performance

- A common trend is that top performers emphasize cost control.⁴¹
- Industry studies reveal that top performers have well-defined cost structures and diligent methodologies for comparing actual costs to budgeted costs.⁴²
- AP has tied with or out-performed the top performing firms in 2010.

Figure 4: Gross Profit Margin 2010^{43/44/45}



40 “Strong Economy Sparks Farmer Buying Spree.” *Farm Equipment*. Accessed April 15, 2011 from <http://www.farm-equipment.com/pages/Industry-News---Strong-Economy-Sparks-Farmer-Buying-Spree.php>.

41 Russell, George and George Keen, Currie Management Consultants. “Benchmarking the Best: How Top Dealers Compare Their Performance.” Accessed May 21, 2011 from <http://www.farm-equipment.com/pages/Feature-Articles---PFP-How-Top-Dealers-Compare-Their-Performance.php>.

42 Ibid.

43 Google Finance. “CNH Global N.V. (ADR).” Accessed April 19, 2011 from <http://www.google.com/finance?q=CNH>.

44 Google Finance. “Deere & Company.” Accessed April 19, 2011 from <http://www.google.com/finance?q=NYSE%3ADE>.

45 Google Finance. “Fiat SpA.” Accessed April 19, 2011 from <http://www.google.com/finance?q=BIT%3AF>

Farming Industry

- As the agricultural sector booms, demand for agricultural equipment increases.
- A decrease of 9.6% in the number of farmers operating in Manitoba was seen between 2001 and 2006; each year, more farmers leave the industry with an inadequate number of replacements entering.⁴⁶
- The 2011 floods had a negative impact on the Manitoba farming industry.⁴⁷
- The U.S. Department of Agriculture predicts long-term growth in the agricultural industry in response to a growing global demand for food.⁴⁸

Energy Efficiency

- As energy costs increase, the demand for energy efficient machinery grows.
- Consumers have expressed interest in both short- and long-term energy efficiency specifications in agricultural equipment; this shift opens potential opportunities to secure a name as trusted producers of energy efficient equipment.⁴⁹

46 Stalcup, Larry. "Used Equipment Harder to Find." *Farm Equipment*. Accessed April 18, 2011 from <http://www.farm-equipment.com/pages/Industry-News---Used-Equipment-Harder-to-Find.php>.

47 Kives, Bartley. "Farmer's Hopes Washing Away - Flooded Fields Another Blow to Beleaguered Food Industry." *Winnipeg Free Press*, April 16, 2011. Accessed April 19, 2011 from <http://www.winnipegfreepress.com/special/flood/assini-boine/farmers-hopes-washing-away-119967924.html>.

48 United States Department of Agriculture. "USDA Agricultural Projections to 2020" p.1. Accessed April 17, 2011 from http://www.usda.gov/oce/commodity/archive_projections/USDAgriculturalProjections2020.pdf.

49 Gustafson, Coal. "New Energy Economics - How Energy Efficient is Agriculture – Lifecycle Analysis Part II." *Farm Equipment*. Accessed April 12, 2011 from <http://www.farm-equipment.com/pages/Industry-News---New-Energy-Economics-How-Energy-Efficient-is-Agriculture---Lifecycle-Analysis-Part-II.php>

Used Equipment Sales

- As a result of historical high levels of used equipment sales and strong crops in 2010 causing many farmers to delay retirement, the supply of used equipment is minimal; this is good news for agricultural equipment manufacturers, who can expect to see increased sales due to the unavailability of used equipment.⁵⁰

⁵⁰ Stalcup, Larry. "Used Equipment Harder to Find." *Farm Equipment*. Accessed April 18, 2011 from <http://www.farm-equipment.com/pages/Industry-News---Used-Equipment-Harder-to-Find.php>.

ENGINEERED PRODUCTS DIVISION (“EP”)

- The demand for engineered products fluctuates based on the performance of the mining industry, the agricultural sector, and the consumer products manufacturing sector.
- The worldwide credit crisis has negatively impacted the above industries as companies have delayed capital investments or have opted for in-house production instead of outsourcing work.
- As the global economy recovers, the industry remains optimistically conservative.

Material-Handling Equipment

- Demand for material-handling equipment is increasing in the power, mining, and manufacturing industries; equipment is needed to reduce inventory and to improve order-to-delivery cycles.⁵¹
- Developing countries with high economic growth rates are experiencing increased demand for industrial products and consumer goods.⁵²
- There is a need for equipment that can simplify material-handling operations, customer delivery, and distribution and that will allow buyers to deal with more volume with less complexity.
- The consumer products manufacturing industry has demonstrated a focus on cost containment and sustainability; it has also created a demand for greener and more efficient technologies.⁵³
- R&D and quicker innovation are essential to gaining and maintaining a competitive advantage.

51 Commodity Online. “Global Demand for Material Handling Systems Rising.” Accessed April 19, 2011 from <http://www.commodityonline.com/news/Global-demand-for-material-handling-systems-rising-24361-3-1.html>.

52 “Material Equipment Handling Expertise.” Accessed April 19, 2011 from “<http://www.ducker.com/industry/material-handling-equipment-industry-expertise>”

53 Ibid.

Food-Processing Equipment

- The industry is expected to grow as demand for processed foods rises.⁵⁴
- Demand exists for customized high quality equipment that can increase outputs.⁵⁵
- Demand for domestic food products in rural communities has increased in recent years.⁵⁶
- As demand increases in rural communities, so does the demand for processing and packaging equipment, especially within rural communities throughout India.⁵⁷

Mining Equipment

- Demand is directly correlated with worldwide demand for mined materials.
- The industry is growing at an annual rate of 3% to 4%; this rate is expected to increase in future years.⁵⁸
- Global mining demand is predicted to grow 4% per year between 2009 and 2013.⁵⁹
- Other factors affecting the industry include government regulations, environmental constraints, interest rates, and the availability of credit.

54 Stevens, Lorelee. "Orders Rising for Food Processing Equipment." *North Bay Business Journal*. Accessed April 19, 2011 from <http://www.northbaybusinessjournal.com/24449/orders-rising-for-food-processing-equipment>.

55 "Specially Manufactured Equipment Ensures Success." *Quality Assurance Magazine*. Accessed April 19, 2011 from <http://www.qualityassurancemag.com/qa-case-study-unitherm-custom-built-food-processing-equipment.aspx>.

56 "Business Thriving on Rural Market." *The Pak Banker*. Accessed April 19, 2011 from "<http://proquest.umi.com.myaccess.library.utoronto.ca/pqdlink?did=2271384951&sid=21&Fmt=3&clientId=12520&RQT=309&VName=PQD>."

57 Ibid.

58 "Sneak Peak in the Mining Equipment Industry." *Rothman Research*. Accessed April 8, 2011 from <http://www.marketwire.com/press-release/Sneak-Peek-in-the-Mining-Equipment-Industry-1280452.htm>.

59 "World Mining Equipment Industry Outlook." *PR Log*. Accessed April 19, 2011 from <http://www.prlog.org/10413621-worldwide-mining-equipment-industry-outlook.html>.

- Many acquisitions have taken place in recent years;⁶⁰ smaller mining companies are attractive to larger ones as they provide specialties in equipment design and production that save on R&D and allow for product diversification.
- The strong performance of mining equipment manufacturers in India and China has increased industry competition.
- Demand for mining equipment in China is forecasted to increase by 7% annually throughout 2013.⁶¹
- Differentiation is a key factor for remaining competitive within this industry; factors such as special-use equipment, quality, efficiency, and safety are key considerations for buyers.⁶²
- While a high debt-to-capital ratio is generally disfavored, some top companies have debt-to-capital ratio as high as 70 to 80%.⁶³

60 "Construction & Mining Equipment Industry Assessment." *International Trade Administration*. Accessed April 19, 2011 from http://trade.gov/mas/manufacturing/OAAI/Assess_Construction_MiningEq.asp.

61 "Demand for Mining Equipment in China to Grow Over 7 Percent Annually Through 2013." *Aggregate Research*. Accessed April 19, 2011 from <http://www.aggregateresearch.com/articles/18451/Demand-for-Mining-Equipment-in-China-to-grow-over-7-percent-annually-through-2013.aspx>.

62 "Top 5 Companies in the Construction and Farm Machinery Industry with Relatively High Debt-to-Capital Ratios." Accessed May 21, 2011 from <http://www.mysmartrend.com/news-briefs/news-watch/top-5-companies-construction-farm-machinery-industry-relatively-high-debt-cap>.

63 Ibid.

ROAD RAIL PRODUCTS DIVISION (“RP”)

- The Canadian railway industry has been successful in establishing a competitive international position.
- Over the past 15 years, the market share for every subsector has improved.
- The Canadian industry appears well positioned to maintain and increase its share in a growing transportation equipment market.⁶⁴
- The railway industry performed well despite the decline in the global economy due to the 2008 credit crisis (Table 4).
- Freight transportation represents the single largest revenue source.⁶⁵

**Table 4: Distribution of Operating Revenues and Expenses – Rail Industry Canada
(000’s)⁶⁶**

	2005	2006	2007	2008	2009
Operating Revenues	9,822	1,097	10,521	10,995	9,409
Freight Revenues	8,759	9,343	9,435	9,880	8,346
Passenger Revenues	282	294	291	304	271
All Other Operating Revenues	780	758	793	811	791
Operating Expenses	7,507	7,788	7,989	8,628	7,782
Ways and Structures Expenses	1,311	1,340	1,459	1,592	1,494
Equipment Expenses	1,440	1,466	1,507	1,441	1,395
Rail Operating Expenses	3,217	3,386	3,622	4,215	3,062
General Expenses	1,537	1,595	1,399	1,379	1,830

64 Industry Canada. “Railway Equipment Manufacturing.” 2010. Accessed March 8, 2011 from <http://www.ic.gc.ca/eic/site/remi-pmf.nsf/eng/ti01007.html>.

65 Statistics Canada. “Railway Carriers, Operating Statistics. (February 24, 2010).” Accessed March 29, 2011 from <http://www40.statcan.gc.ca/l01/cst01/trad46a-eng.htm>

66 Statistics Canada. “Rail in Canada 2008.” June, 2010. Accessed March 23, 2011 from <http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=52-216-X&lang=eng>

- In contrast to the increase in the operating ratio, the industry’s debt-equity ratio decreased five percentage points to 0.55 in 2008 (Table 5), indicating that rail carriers reduced the proportion of debt used to finance their assets.
- The industry debt-asset ratio decreased by two percentage points to 0.36 in 2008 (Table 5), implying that 36% of the industry’s assets were financed through creditors.

Table 5: Financial Ratios – Canadian Rail Industry⁶⁷

	Operating Ratio	Debt-to-Asset Ratio	Debt-to-Equity Ratio
2008	0.78	0.36	0.55
2007	0.76	0.38	0.60
2006	0.75	0.40	0.68
2005	0.76	0.40	0.67
2004	0.78	0.39	0.60

Competitive Positioning

- The level of R&D associated with the Canadian transportation equipment manufacturing sector is highly dependent on the U.S. market.
- “Buy America” legislation⁶⁸ inhibits Canadian manufacturers from investing in R&D in Canada to develop new products because manufacturers have limited access to the U.S. market.⁶⁹

67 Statistics Canada. “Rail in Canada 2008.” June, 2010. Accessed March 23, 2011 from <http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=52-216-X&lang=eng>.

68 Government of Canada. “The Buy American Act and Buy America Provisions.” June, 2010. Accessed April 7, 2011 from <http://www.canadainternational.gc.ca/sell2usgov-vendreaugouvusa/procurement-marches/buyamerica.aspx?lang=eng>.

69 Industry Canada. “Railway Equipment Manufacturing.” 2010. Accessed March 8, 2011 from <http://www.ic.gc.ca/eic/site/remi-pmf.nsf/eng/ti00137.html>.

Major Trends

- It is important for this industry's future that access to markets is great enough to allow for economies of scale in both production and development activities.
- Canadian companies must continue to develop and maintain a combination of system design capabilities, technological expertise, competitive pricing, and the financial strength to bid on and participate in large projects.⁷⁰

Locomotives Demand

North America ("NA")

- Demand for locomotives in NA has been strong in recent years.⁷¹
- Canadian locomotive production has grown significantly.⁷²
- U.S. and Canadian railroads have invested capital in renewing fleets and embracing higher horsepower locomotives and newer technologies.⁷³

International

- Developing countries are an area of potential growth for locomotive builders; these countries tend to seek NA locomotive power as NA locomotives are more robust and require less maintenance.⁷⁴
- In China and India, both air and rail traffic are growing.⁷⁵

70 Industry Canada. "Railway Equipment Manufacturing." 2010. Accessed March 8, 2011 from <http://www.ic.gc.ca/eic/site/remi-pmf.nsf/eng/ti01007.html>.

71 Industry Canada. "Railway Equipment Manufacturing." 2010. Accessed March 8, 2011 from <http://www.ic.gc.ca/eic/site/remi-pmf.nsf/eng/ti00127.html>.

72 Ibid.

73 Ibid.

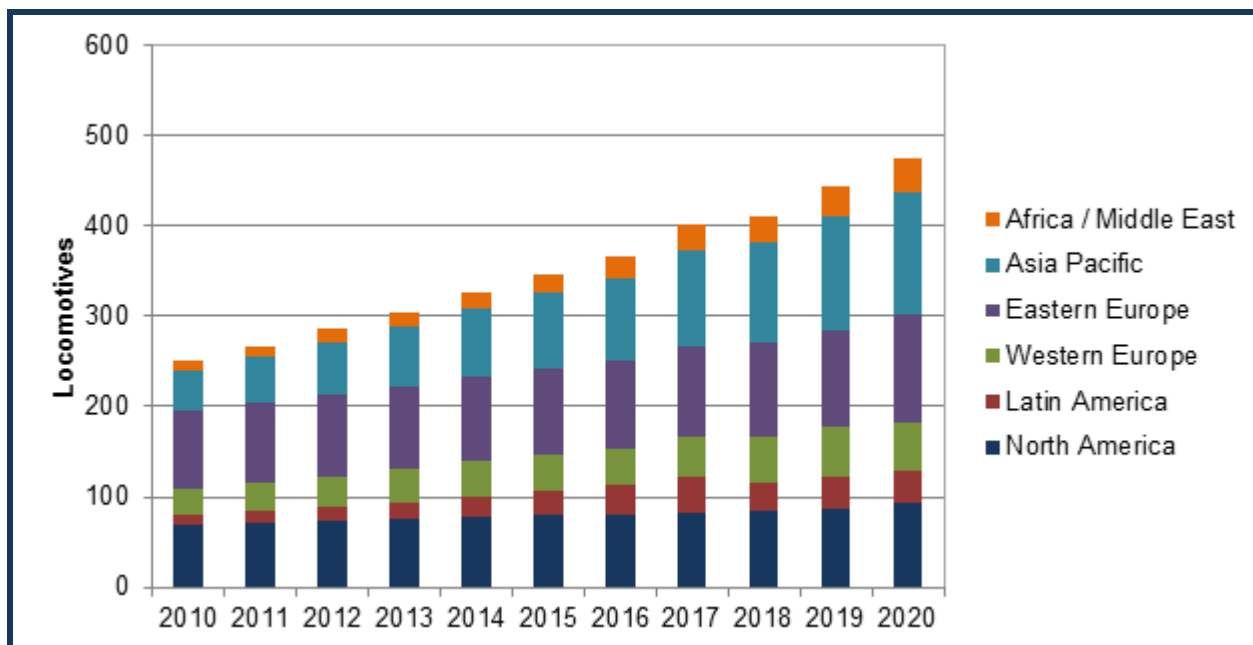
74 Ibid.

75 Industry Canada. "Railway Equipment Manufacturing." 2010. Accessed March 8, 2011 from <http://www.ic.gc.ca/eic/site/remi-pmf.nsf/eng/ti01008.html>

Generator Set (“Genset”) Locomotive

- Genset locomotive technology switches between multiple small diesel engines to provide power rather than using the traditional single large diesel engine
- Smaller EPA Tier III engines are used off-road, and Tier II engines are railroad compliant.⁷⁶
- Genset locomotives are expected to expand into the market at a rate of 6.7% compounded annual growth between 2010 and 2020 with sales increasing from 250 to 475 during this period⁷⁷ (Figure 5).

Figure 5: Genset Locomotive Sales



- Competing technologies include hybrid and all-electric locomotives.
- The market for hybrid locomotives is expected to grow at a compounded annual growth rate of 25.4% between 2015 and 2020.⁷⁸

76 Genesee & Wyoming Inc. “Genset’ Locomotives.” 2010. Accessed April 10, 2011 from http://www.gwrr.com/about_us/community_and_environment/gwi_green/Genset_locomotives.be

77 Hurst, David and Clint Wheelock. “Hybrid Locomotives”, 2010. Accessed April 10, 2011 from <http://www.pikeresearch.com/research/hybrid-locomotives>

INTERNAL ANALYSIS

SEE APPENDIX A FOR SITUATIONAL ANALYSIS

AI is 100% family owned and operated. Family members have demonstrated their dedication to the success of AI through their ownership stake in AI, their years of experience with AI, and their pursuit of education and professional qualifications to best serve AI.

AI has an excellent reputation in the manufacturing industry, both with its customers and suppliers. By securing competitive pricing from suppliers and by offering customized designs and solutions to customers, AI has successfully grown each of its divisions. AI has access to a substantial amount of previously unused capacity that, if put to effective use, could help AI grow to meet its 2015 sales targets.

Along with its strengths, AI also has some weaknesses that must be noted. Despite historically high levels of customer satisfaction, the number of complaints related to product quality and delivery times has increased, especially within the EP division. The occurrence of bottlenecks and defects resulting from out-dated technologies is increasing.

KEY SUCCESS FACTORS & KEY RISKS

Equipment Manufacturing Industry KSF

- Brand Image: securing market share on brand quality and brand image
- Customer Value: offering value-added products that meet customer needs

AI KSF

- Relationships: building and maintaining long-standing customer and supplier relationships
- Customization and Quality: consistently providing high quality products that meet specific customer demands

Equipment Manufacturing Industry KR

- Economic Fluctuations: impacts of the performance of related industries drives demand for products
- Access to Labour: lower number of individuals entering into trades required for production

AI KR

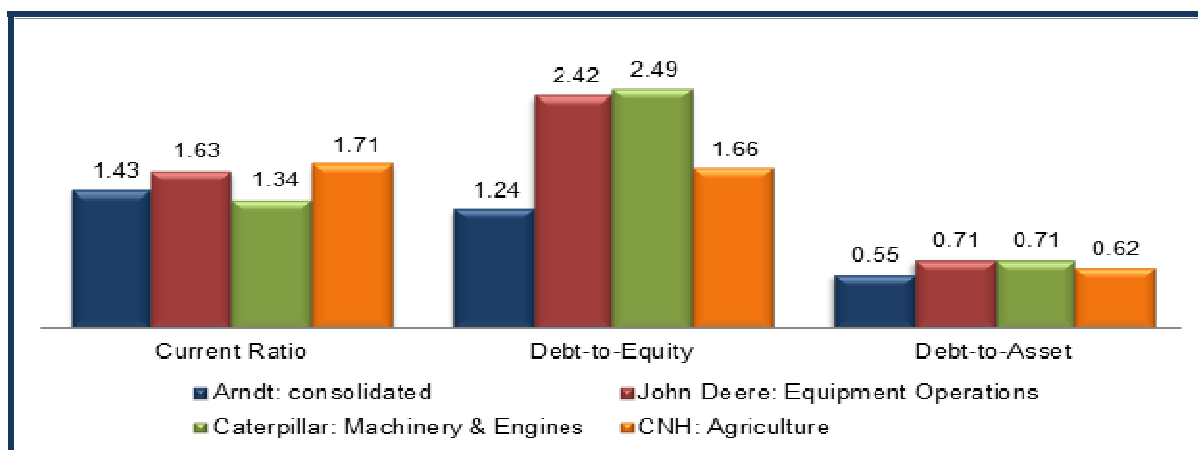
- Obsolescence: competitor technologies superseding AI product offerings
- Pricing: competition on price as well as on quality

FINANCIAL ANALYSIS

RATIO ANALYSIS

SEE APPENDIX C FOR CALCULATIONS

Figure 6: Ratio Analysis^{79/80/81}



AI's consolidated current ratio increased from 1.14 to 1.43 between 2009 and 2010 due to an increase in receivables from the AP division and a decrease in short-term liabilities from all divisions. The current ratio of AI falls below the ratio of 1.5 required by the financial institution to access its line of credit and \$50M loan.

AI's quick ratio is low (below 1.00); quick and current ratios indicate that AI is not in a position to fund its short-term cash requirements without additional borrowing.

AI is highly leveraged with \$1.2 of debt for every dollar of equity. This is the norm within a capital-intensive industry such as manufacturing.

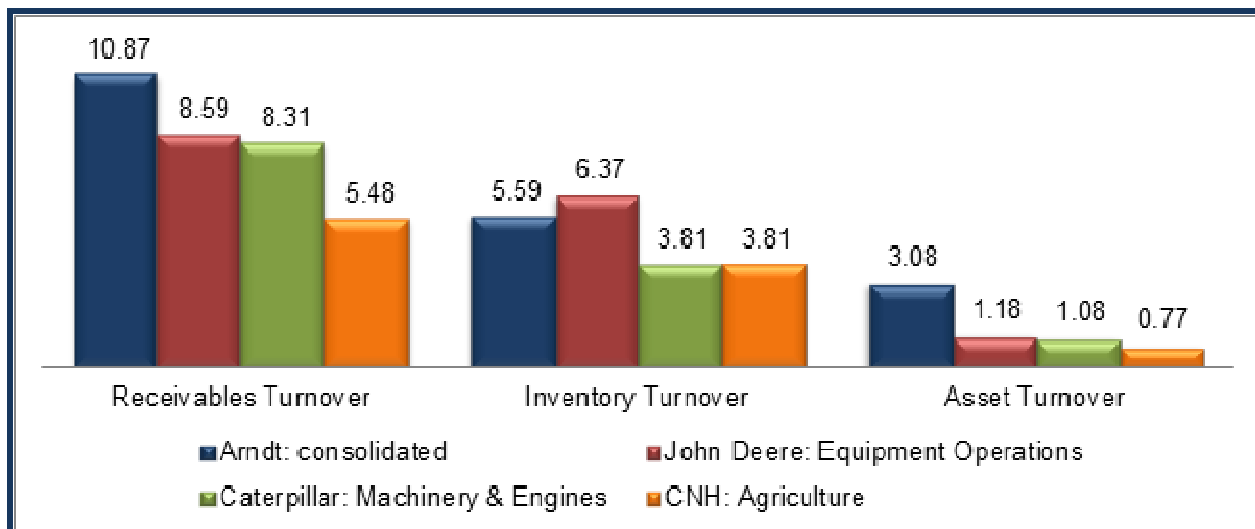
79 Caterpillar Inc. "Annual report." 2010. Accessed April 15, 2010 from <http://www.caterpillar.com/investors/financial-information/sec-filings>.

80 CNH Global N.V. "Annual report." 2010. Accessed April 15, 2010 from <http://investors.cnh.com/phoenix.zhtml?c=61651&p=irol-reportsAnnual>.

81 Deere & Company. "Annual report." 2010. Accessed from http://www.deere.com/en_US/docs/Corporate/investor_relations/pdf/financialdata/reports/2011/2010annualreport.pdf

AI's debt-to-asset ratio indicates that 55% of its assets are financed through debt. This is lower than the debt-to-asset ratio of AI's major competitors (62% and 71%).

Figure 7: Activity Ratios^{82/83/84}



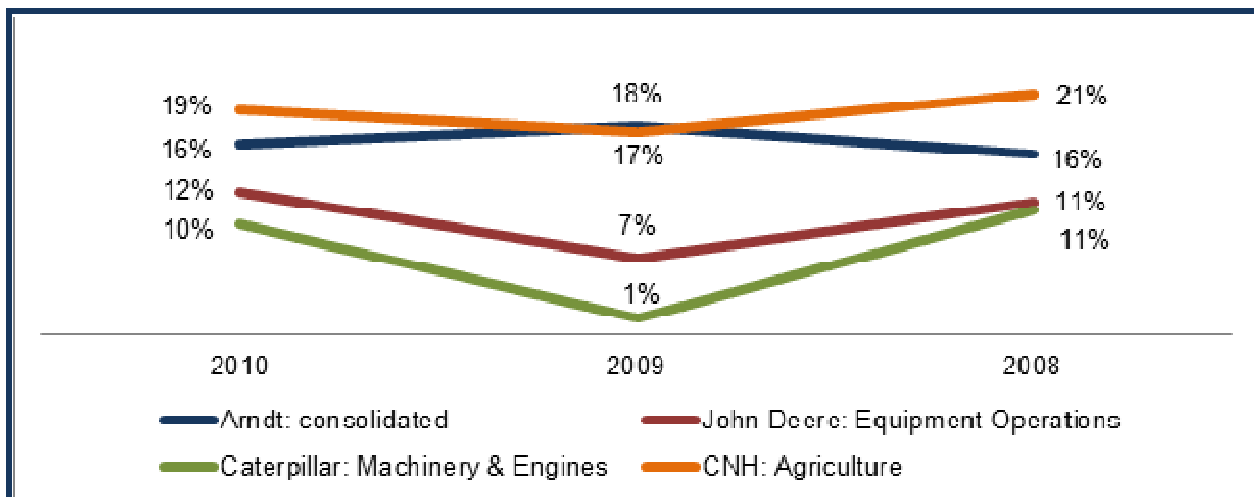
AI's consolidated receivables have increased dramatically year-over-year, largely as a result of the AP division's increase in the collection period of its credit sales from 30 days to 44 days between 2009 and 2010. Overall, AI maintains stronger activity ratios than its main competitors. The receivables-turnover ratio for AI is greater than the receivables-turnover of its competitors. AI generates greater sales per asset dollar than its competitors do.

82 Caterpillar Inc. "Annual report." 2010. Accessed April 15, 2010. from <http://www.caterpillar.com/investors/financial-information/sec-filings>.

83 CNH Global N.V. "Annual report." 2010. Accessed April 15, 2010 from <http://investors.cnh.com/phoenix.zhtml?c=61651&p=irol-reportsAnnual>.

84 Deere & Company. "Annual report." 2010. Accessed from http://www.deere.com/en_US/docs/Corporate/investor_relations/pdf/financialdata/reports/2011/2010annualreport.pdf

Figure 8: Operating Profit Margin^{85/86/87}



AI strengthened its gross profit margin between 2007 and 2010 by controlling the cost of goods sold comparative to the increase in sales. As illustrated in Figure 8, the operating profit margin remained stagnant during the same period as administrative costs at the RP division have outpaced the growth in sales.

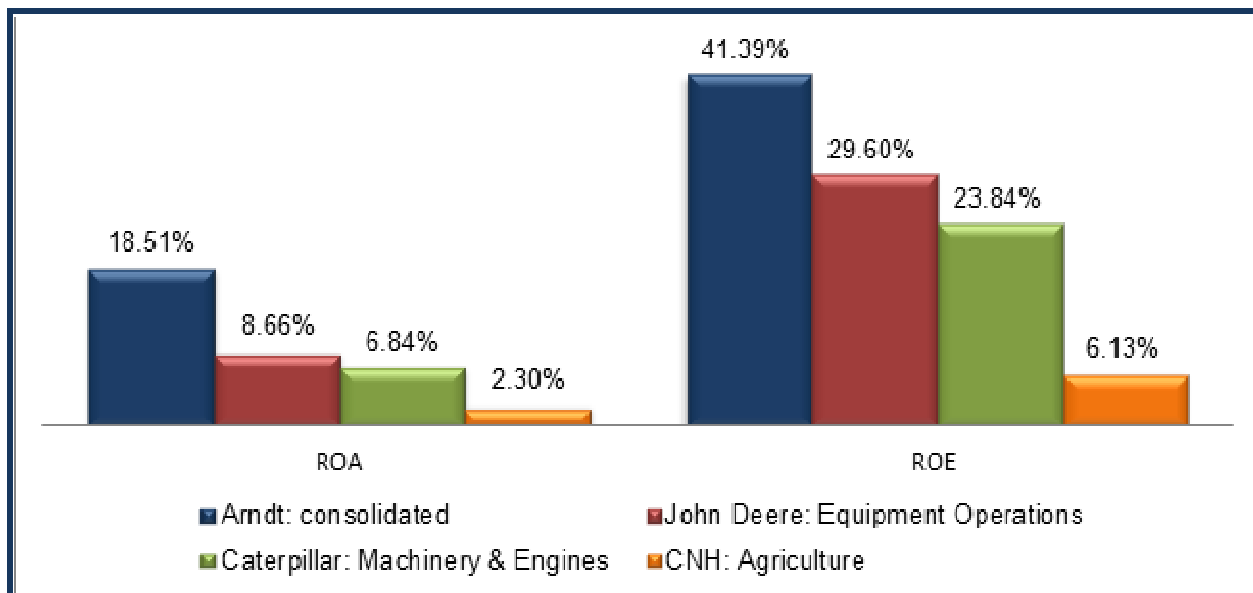
For AI to reach its target of \$500M in sales by 2015, consolidated sales need to increase by 25% (5% per year). Growth in sales from 2007 to 2010 was 13% (4.3% per year).

85 Caterpillar Inc. "Annual report." 2010. Accessed April 15, 2010. from <http://www.caterpillar.com/investors/financial-information/sec-filings>.

86 CNH Global N.V. "Annual report." 2010. Accessed April 15, 2010 from <http://investors.cnh.com/phoenix.zhtml?c=61651&p=irol-reportsAnnual>.

87 Deere & Company. "Annual report." 2010. Accessed from http://www.deere.com/en_US/docs/Corporate/investor_relations/pdf/financialdata/reports/2011/2010annualreport.pdf.

Figure 9: Return-on-assets and Return-on-equity^{88/89/90}



AI's return-on-assets and return-on-equity for 2010 were 18.51% and 41.39%, respectively. These figures indicate that AI is operating with higher levels of efficiency than its competitors as illustrated in Figure 9.

In summary, AI is operating at a more efficient rate than its competitors. Unfortunately, despite efficiencies, AI's financials indicate an inability to pay off its short-term liabilities and meet the required debt covenants. AI must meet these debt covenants in order to fund its operations and facilitate growth.

89 Caterpillar Inc. "Annual report." 2010. Accessed April 15, 2010 from <http://www.caterpillar.com/investors/financial-information/sec-filings>.

90 CNH Global N.V. "Annual report." 2010. Accessed April 15, 2010 from <http://investors.cnh.com/phoenix.zhtml?c=61651&p=irol-reportsAnnual>.

91 Deere & Company. "Annual report." 2010. Accessed from http://www.deere.com/en_US/docs/Corporate/investor_relations/pdf/financialdata/reports/2011/2010annualreport.pdf.

CAPACITY ANALYSIS

AI currently measures its capacity utilization by sales. The current sales and capacity percentages were used to calculate the capacity of each of AI's divisions. The forecasted sales (at an annual growth rate of 4.5%) for the next five years (Table 6) were measured to ensure that they would not exceed capacity during the next five years. Each of the divisions continued to increase their utilization, but none reached a total capacity of 100%.

Table 6: Capacity Analysis

Year	2010	2011	2012	2013	2014	2015
AP Sales	168,203	176,086	184,010	192,290	200,943	209,985
AP Capacity	53%	55%	58%	61%	63%	66%
EP Sales	127,800	133,551	139,561	145,841	152,404	159,262
EP Capacity	56%	59%	61%	64%	67%	70%
RP Sales	103,559	108,219	113,089	118,178	123,496	129,053
RP Capacity	63%	66%	69%	72%	75%	79%

Capacity = (Current Year Subtotal Sales/2010 Subtotal Sales) X 2010 Division capacity %

FINANCING AVAILABLE

SEE APPENDIX D SECTION A – FINANCING AVAILABLE FOR CALCULATIONS

AI has put a hold on new projects due to the uncertainty created by the U.S. financial crisis. However, the crisis has run its course, and global economies are improving.

There are several debt and equity financing options available⁹¹ to AI. A noted stakeholder concern is losing equity control; therefore, debt financing presents itself as the more appropriate option.

Debt capital is quicker to obtain and cheaper than equity capital,⁹² but also carries substantial risk. AI has a \$50M loan available at 7.5%. The following conditions exist on the loan:

1. Minimum return-on-assets of 10% (after-tax income and total assets)
2. Maximum ratio of debt-to-tangible net worth of 2:1
3. Minimum current ratio of 1.5:1

Therefore, the maximum available bank loans would be \$44,060,000, considering these conditions as per the calculations in [Appendix D](#).

91 Rath, Tiare. "Debt and Equity Financing: Two Options for Financing Your Small Business." Accessed May 2, 2011 from <http://sbinformation.about.com/od/creditloans/a/debtequity.htm>.

92 Reddy, Chakradher (Elite Mergers and Acquisitions). "Financing Options for Mid Market Companies." *M&A Advisor*. Accessed May 21, 2011 from http://articles.elitemanda.com/Financing_Options_For_Mid_Market_Companies.htm.

ALTERNATIVES ANALYSIS



STRATEGIC ALTERNATIVES

Strategic Issues

Table 7: Strategic Issues

STRATEGIC CATEGORY	TYPE	ISSUE
Corporate	Major	<ul style="list-style-type: none"> • Lagging performance of EP • Ineffective profit-sharing metrics
	Minor	<ul style="list-style-type: none"> • Pending lawsuit
Business	Major	<ul style="list-style-type: none"> • Foreign currency risks
		<ul style="list-style-type: none"> • Complaints on quality and delivery times • Loss of dealership agreements
		<ul style="list-style-type: none"> • Lack of CRM system
	Minor	<ul style="list-style-type: none"> • Transfer pricing
Functional/Operational	Major	<ul style="list-style-type: none"> • Excess capacities • Reliance on bidding system to secure contracts
		<ul style="list-style-type: none"> • High turnover rates (welding trades)
	Minor	<ul style="list-style-type: none"> • Redundant positions across divisions • Redundant information system per division
		<ul style="list-style-type: none"> • Ethical concerns regarding bribery

Strategic Alternatives

As AI begins to plan for the future, a variety of strategic alternatives have presented themselves. AI has the opportunity to:

- Expand into South America (Peru)
- Develop locomotives using Genset technologies
- Acquire TB Mining’s surface mining division

GEOGRAPHIC EXPANSION: PERU

SEE APPENDIX E FOR QUANTITATIVE ANALYSIS

Benefits

- Positive NPV and IRR for both mid- and optimistic-scenarios; ideal payback as the operation will commence in year two
- Revenues of about \$42M in 2015 for mid-scenario
- Potential for sales networks in South America and other international markets
- Stable government conducive to foreign investment, including free trade agreement with the U.S
- Abundant mineral resources in the Andes mountain areas; opportunity for mining in energy market
- Existing free trade agreements between Peru and Canada and Peru and the U.S.

Figure 10: Scenarios Outlook – 10-years, 10% ROI

	Conservative	MID	Optimistic
NPV	(4,171,000)	805,740	5,782,000
Nominal Payback	8.87-years	6.69-years	5.71-years

Drawbacks

- Negative NPV and 0% IRR for conservative-scenario
- Risks of lower quality in the assembly of products
- Significant upfront investment: \$11,250,000 for the assembly plant
- Reduction in profitability due to currency fluctuations; strong Canadian dollar would affect export products
- Government regulations change frequently (difficult to predict and prepare for)
- Environmental threats: deforestation, pollution, and health risks

GENSET LOCOMOTIVE: GENERAL ASSESSMENT

Benefits

- Creates additional revenues to meet 2015 sales target (over \$500M)
- Meets stakeholder preferences and increases brand image as innovator
- Sales of freight rail equipment is expected to grow internationally
- Strong world-wide demand exists for Genset locomotives
- Genset technologies comply with pending emissions standards

Drawbacks

- There is a risk that the development of Genset technologies will be unsuccessful
- Competing technologies are already being developed
- Demand is weak in Western Europe and Japan
- The majority of the Genset market is controlled by large global organizations
- “Buy American” legislation restricts access to U.S. markets

GENSET LOCOMOTIVE: IN-HOUSE DEVELOPMENT

SEE APPENDIX F FOR QUANTITATIVE ANALYSIS

Benefits

- Positive NPV and IRR for both mid- and optimistic-scenarios; payback period is less than eight years
- Revenue in 2015 is forecasted between \$21M and \$12.8M; these revenues will contribute to meeting target

Drawbacks

- Negative NPV and no payback under conservative-scenario
- A large initial cash outlay of \$12M is required, and production will not begin until the third year of development; this is a high risk investment
- An investment of \$7.5M is required to increase capacity

Figure 11: Scenarios Outlook – 10 years, ROI 10%

	Conservative	MID	Optimistic
NPV	(9,362,000)	878,000	16,818,000
Nominal Payback	+10-years	7.3-years	5.36-years

GENSET LOCOMOTIVE: JOINT VENTURE DEVELOPMENT

SEE APPENDIX G FOR QUANTITATIVE ANALYSIS

Benefits

- Positive NPV and IRR for both mid- and optimistic-scenarios; payback within seven years
- Revenue in 2015 is forecasted between \$39.6M and \$23.8M; a joint venture will provide additional sales compared to in-house development
- Mitigates risk for AI; Energy Locomotives (“EL”) has successfully developed the environmentally friendly locomotive market and has already begun R&D in Genset locomotive technology
- Faster cycle time between development and production
- AI maintains majority control of the joint venture (80%) and can take full control in ten years
- Joint venture will allow elimination of “Buy American” trade barriers

Drawbacks

- Genset locomotives produced by the joint venture will compete with EL’s hybrid locomotives; the joint venture will provide EL with the cash flow to continue as a going concern
- A large initial cash outlay of \$5M is required, and production will not begin until second year of development; this is a high-risk investment
- EL requires a 2.5% commission on all sales

Figure 12: Scenarios Outlook – 10 years, 10% ROI

	Conservative	MID	Optimistic
NPV	(5,701,000)	1,642,000	12,155,000
Nominal Payback	+10-years	6.52-years	5.56-years

ACQUISITION OF TB MINING SURFACE DIVISION

SEE APPENDIX H FOR QUANTITATIVE ANALYSIS

Benefits

- Positive NPV for all scenarios; payback within seven years
- Will generate revenues of over \$40M in 2015 for mid-scenario
- Reputation of TB's products is excellent; products will complement AI's brand image
- Mining sector growth could lead to international expansion
- TB plant is operating at only 70% capacity; therefore, room exists to expand
- Acquisitions would result in synergies leading to higher custom engineering sales
- Recovering economy will lead to increased capital investments in this sector
- Opportunity exists to increase R&D and therefore to increase sales with new products

Drawbacks

- Inherited employees may not adjust to the acquisition
- AI has only three years of experience in the mining equipment sector
- An AI customer encountered problems with a TB project manager
- The option to increase capacity would be costly, requiring an additional \$3.5M investment in equipment along with increased regular capacity investments
- Regular capital investments will be required from 2012 to 2015 [~ \$1M/year]
- TB's bad debt expense has almost doubled from 2009 to 2010 [\$269K to \$506K]
- TB has low cash levels and recently took out over \$1M on a line of credit

Figure 13: Scenario Outlook, 10 years 10% ROI

	Conservative	MID	Optimistic
NPV	1,052,000	2,585,000	4,117,000
Nominal Payback	6.91-years	6.48-years	6.10-years

OPERATIONAL ALTERNATIVES

In addition to the strategic alternatives, one key operational alternative must be considered: how to address the use of powder-coating technologies.

POWDER-COATING

SEE APPENDIX I FOR QUANTITATIVE ANALYSIS

Benefits

- Elimination of airborne emissions and hazardous wastes
- Decreased costs for direct materials and labour
- Shorter turnaround times

Drawbacks

- Difficult to apply in thin coats; only thick coats maintain a smooth appearance⁹³
- Powder-coating breaks down after five to ten years of exposure to UV rays⁹⁴

93 Pennisi, Mario S. "What is Powder Coating?" Accessed May 20, 2011 from <http://www.finishing.com/Library/pennisi/powder.html>

94 Ibid

POWDER-COATING: IN-HOUSE

Benefits

- Annual savings of \$50,000 per year for AP in purchasing in-house powder-coating machinery compared to outsourcing
- Shorter turnaround times with in-house option
- Ability to serve multiple divisions with in-house powder-coating
- Control over quality and lead time
- Reduction of idle capacity

Drawbacks

- Negative NPV if in-house powder-coating machinery is purchased for AP
- Increase in AI labour costs
- \$1.8M investment in equipment and training costs

POWDER-COATING: OUTSOURCED

Benefits

- Positive NPV if all divisions switch to outsourcing powder-coating
- Outsourced option can do the work for 5.25% of direct materials cost and will produce products within two days approximately 80% of the time
- Will allow for focus on core competencies
- Will allow for innovation of powder-coating technology in cooperation with supplier

Drawbacks

- No control over delivery times; outside supplier is reliable only 80% of the time
- Suppliers may increase price year-over-year

RECOMMENDATIONS



EVALUATION CRITERIA

The strategic alternatives were evaluated by considering the environmental analysis, stakeholder preferences, and the balanced score card presented in [Appendix J](#).⁹⁵

The four alternatives are ranked from 1 to 4 for each category, with 1 being the highest rank and 4 the lowest. The lowest total score is the highest ranked alternative.

The evaluation criteria as illustrated on the next page in [Figure 14](#) are as follows:

Sales and Positive NPV: Alternatives with higher sales that will enable AI to reach its \$500M target received higher-ranking scores.

Become an Innovative Supplier: Alternatives that will expand AI's customer base and product offerings received higher-ranking scores.





Leverage Strengths and Core Competencies: Alternatives that will leverage AI's core competencies and strengths to expand operations received higher scores.

Risk: Risk levels are assessed based on current knowledge and on AI's known strengths.

Build a Culture for Innovation: The impact on future opportunities for innovation is assessed as higher for Peru and TB Mining and lower for Genset technologies, which provides only short-term opportunities for innovation.

⁹⁵ Kaplan, Robert S. "The Balanced Scorecard for Public-Sector Organizations." Harvard Business School, Article Reprint Number B9911C.

Figure 14: Evaluation Criteria

	Peru	Genset JV	Genset In-house	TB Mining
Sales	3	2	4	1
Positive NPV	1	2	3	4
Become an Innovative Supplier	2	4	3	1
Leverage Strengths & Core Competencies	1	2	4	3
Risk	1	3	4	2
Build a Culture for Innovation	2	4	3	1
Total	10 	17 	21 	12 
	AP, EP, RP	RP	RP	EP

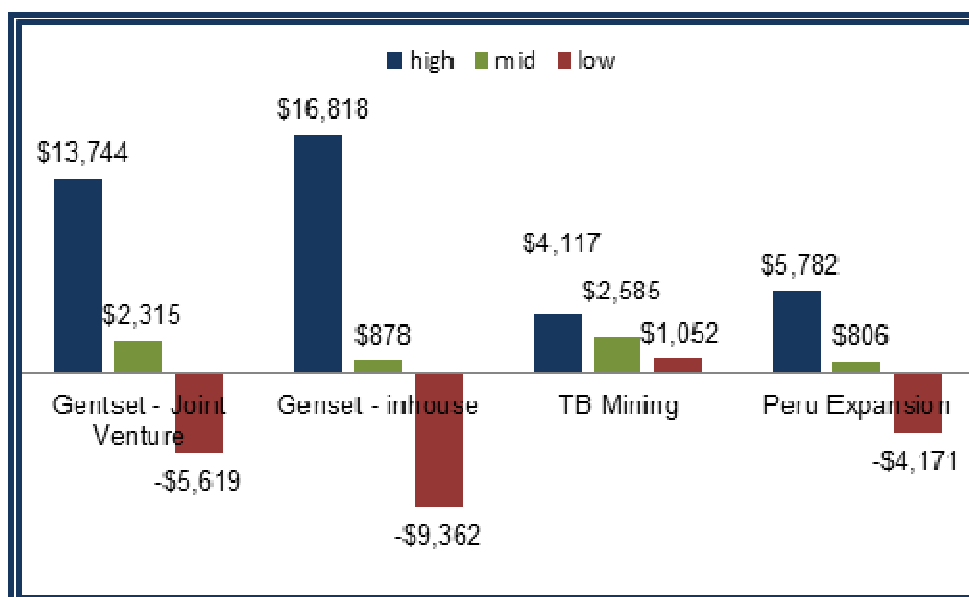
STRATEGIC ALTERNATIVES RECOMMENDATION

From the analysis of external opportunities and threats, internal strengths and weaknesses, and the benefits and drawbacks for each strategic alternative identified, it is recommended that AI pursue:

- **Expansion into Peru; and**
- **Creation of Arndt Mining Products Ltd. (“MP”) via purchase of TB Mining surface division**

These opportunities, combined, will allow AI to achieve its sales growth targets while adding value to AI. Figure 15 outlines the NPV of each strategic alternative’s scenario analysis.

Figure 15: Strategic Alternative Situational Analysis (000’s)



Expansion into Peru will allow AI to take advantage of growth in South America by setting up operational activities in a fast-growing Peruvian economy. The acquisition of TB Mining’s surface mining division will provide AI further opportunity to take advantage of the growing mining industry in the Andes mountains. To mitigate the risks of

operating in Peru, AI can establish controls similar to those used in AI's Canadian operations, including controls related to the manufacturing process and those that limit environmental concerns.

Acquisition of TB Mining surface division aligns with AI's philosophy and commitment to innovation and quality. Furthermore, it will allow AI to grow its mining operations and take advantage of the increasing demand for mining equipment in emerging markets.

Developing Genset locomotive technology is not recommended due to the risk of project failure as there is no guarantee that either an in-house or joint venture development team can develop the technology. Furthermore, development that is already underway of next generation hybrid technology may reduce growth opportunities for Genset locomotives. Finally, the market for Genset locomotives is already occupied by large, international organizations.

OVERCOMING DRAWBACKS

Suggestions for overcoming the drawbacks of each alternative are reviewed below.

Peru

Currency Fluctuation: Have the assembly plant in Peru work in both U.S. and Peruvian currencies and exercise judgement to effectively hedge fluctuations.

Start-up Costs: Secure additional financing.

Quality Concerns: Develop quality standards and policies and perform quality audits to ensure all staff members are aware of corporate standards.

Governmental Standards: Work with public figures to stay informed and prepared for policy changes.

Environmental Threats: Comply with local environmental standards to minimize risks and impacts on the environment

Arndt Mining Products (“MP”)

Turnover: determine a compensation package that works for both AI and TB employees.

Experience: Work with senior staff to integrate knowledge and experience.

Capacity: Optimize capacity across MP and AI.

MP Cash Position: AI holds a strong cash position which will compensate for MP’s cash insufficiencies

OPERATIONAL ALTERNATIVES RECOMMENDATION: POWDER COATING

AI should engage all divisions to switch to powder-coating over conventional-coating as this will improve the quality of materials and reduce costs. AI should outsource the powder-coating process for all divisions. By vertically integrating its processes with the supplier, AI can achieve flexibility and scalability in its manufacturing processes while working with the supplier to innovate on the service.

Having identified a satisfactory external service provider currently used by EP, AI should consider negotiating a long-term agreement to accommodate additional services brought in by all three divisions. Due to the potential risks faced by AI dealing with only one supplier, it is recommended that AI identify competing suppliers in the region.

It is not recommended that AI purchase powder-coating machinery as this would provide minimal cost benefits.

CAPACITY RECOMMENDATIONS

Considering the sales of the Peru subsidiary allocated to each of the three original divisions, the forecasted sales for the next five years (Table 8) were measured to ensure that capacity would not reach 100%.

In looking at the capacity of MP, it is apparent that it far exceeds the present capacity (Table 8). However, when looking at the \$7.25 million being invested in equipment (resulting in increased capacity) in the next five years, it can be assumed that capacity will more than double because the current fair market value of MP equipment is only \$2.975 million.

Therefore, with an investment of \$7.25 million in property, plant and equipment for MP, capacity will not be an issue.

Table 8: Capacity Recommendations Calculations

Year	2010	2011	2012	2013	2014	2015
AP Sales	168,203	176,086	184,010	192,290	200,943	209,985
Peru subsidiary Sales Allocated to AP	0	0	691	3,019	7,647	11,304
Sub-total Sales	168,203	176,086	184,701	195,309	208,590	221,289
AP Capacity	53%	55%	58%	62%	66%	70%
EP Sales	127,800	133,551	139,561	145,841	152,404	159,262
Peru subsidiary Sales Allocated to EP	0	0	868	5,623	16,720	25,368
Sub-total Sales	127,800	133,551	140,429	151,464	169,124	184,630
EP Capacity	56%	59%	62%	66%	74%	81%
RP Sales	103,559	108,219	113,089	118,178	123,496	129,053
Peru subsidiary Sales Allocated to RP	0	0	369	2,539	7,441	11,575
Sub-total Sales	103,559	108,219	113,458	120,717	130,937	140,628
RP Capacity	63%	66%	69%	73%	80%	86%
TB Mining/MP Sales	21,075	11,563	26,329	35,580	46,605	51,563
TB Mining/MP Capacity	70%	38%	87%	118%	155%	171%

Capacity = (Current Year Subtotal Sales/2010 Subtotal Sales) X 2010 Division capacity %

FINANCING RECOMMENDATIONS

SEE APPENDIX D FOR CALCULATIONS

The recommended strategic and operational plans for AI will require capital investments of \$34.35M and one-time expenses of \$3.85M in 2011.

Capital investments include:

- \$11.25M for the Peru expansion
- \$10M to acquire TB Mining surface division and create Arndt Mining Products Ltd.
- \$8.5M for capital expenditures for AP, EP, RP and MP divisions
- \$1.6M in operational improvements

One-time expenses include:

- MP acquisition costs of \$1M to be spread among the profitable divisions
- \$2.5M to settle the lawsuit; this will be charged to EP
- \$0.35M in setup costs for the Peru expansion and MP

To ensure sufficient funds for required investments and costs, AI should borrow \$38.2M from the bank at 7.5% for 15 years. The loan will be allocated to the divisions as follows: \$7.75M to AP; \$12.7M to EP; \$5.75M to RP; and \$12M to MP. To ensure funds for MP capital expenditures of \$7.25M between 2011 and 2015, additional borrowing of \$3M will be taken on in 2012 and 2014. Due to AI's highly leveraged position and the high bank interest rate of 7.5%, it is recommended that the additional loan and current outstanding loan be paid off as swiftly as possible. As all long-term debt is renegotiated every five years, AI can look to pay down debt balances by 2015.

MISSION AND VISION

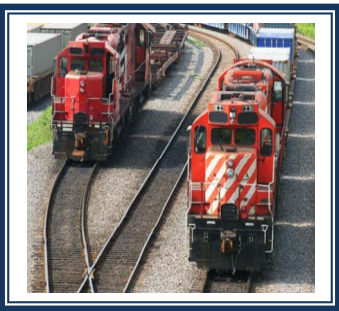
AI is shifting its focus to provide a more customer-specific approach by expanding into new markets and investing in R&D. It is recommended that the mission statement be revised to capture these changes:

Arndt Industries (AI) is committed to competing in the global marketplace by producing high quality, innovative, customer-tailored products to the manufacturing and distribution industries through its diverse subsidiaries: Arndt Agricultural Products Ltd., Arndt Engineered Products Ltd., Arndt Road Rail Products Ltd., and Arndt Mining Products Ltd.

Implied vision:

The global supplier of choice for industrial machinery and equipment in the manufacturing and distribution industries.

IMPLEMENTATION



STRATEGIC ISSUES

PERU EXPANSION

Project Management

AI should hire an experienced Project Manager with experience in overseeing set-ups in international markets. The Project Manager should report to Barry Arndt and the VP of Peru subsidiary.

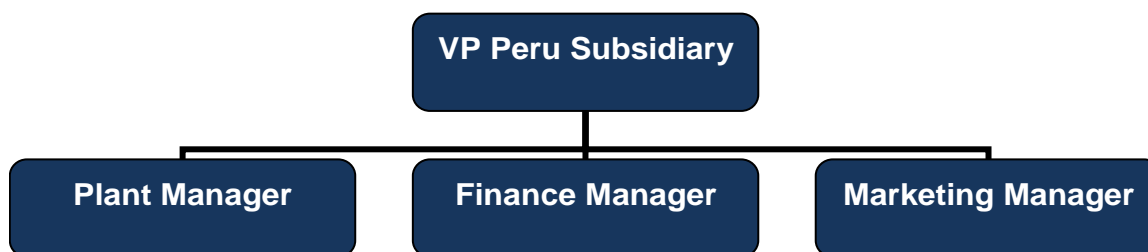
Laws and Regulations

Since foreign investment does not require prior government authorization in Peru, AI could invest capital in Peru immediately. Once investments have been made, the assembly plant must be registered with the Peruvian Private Investment Promotion Agency. The plant will need to sign Legal Stability Agreements with the Peruvian state.⁹⁶

Management Structure

The plant would be called the “Peru Subsidiary.” Figure 16 highlights the proposed management structure.

Figure 16: Management Structure



97 KPMG. “Investment in Peru 2010.” KPMG. March 31, 2010. p. 11

Finance and Accountancy

Financial Reporting

Financial reports should be prepared under IFRS, which is consistent with AI's reporting standards. IFRS is further discussed under operational issues.

Auditing

Monthly internal auditing should be performed to ensure that the main business risks are managed properly and the general internal control framework is operating efficiently.⁹⁷ An audit will be performed by an external accounting firm at each year end.

Internal Control

The plant would use the same internal control system as other divisions. During the first year, the system needs to be tested to ensure it fits the culture and environment in Peru.

Information System (IS)

The plant would use a separate IS tailored to its specific needs and integrated with the new internal control system. During the first year, the system should be tested, followed by appropriate modifications. IT costs are included in the estimated investment.

Human Resources

Human capital is required to operate the Peru subsidiary. Given that access to skilled workers is a Key Risk of the industry, \$300,000 has been budgeted to work with a recruiter familiar with locating and hiring workers; \$100,000 has been allocated for executive hires, and \$200,000 for hiring and training non-executive staff (sales, marketing, admin).

97 Griffiths, David. "Risk-Based Internal Auditing-An Introduction." 15 March 2006. Accessed May 9, 2011 from http://www.internalaudit.biz/files/introduction/Internalauditv2_0_3.pdf.

Marketing and Sales

Corporate will provide detailed product information on the company website as well as subsidies for international marketing events and networking. The Marketing Manager and Marketing Assistant in Peru should be familiar with the local culture, environment, and networks.

TB MINING SURFACE DIVISION ACQUISITION

Management Structure

As experience will be an asset during the transition, the division should maintain the current management team. This option is also preferred in order to forestall the negative morale that would inevitably result from immediate downsizing. During the first year, Human Resources should evaluate management performance and review management structure to determine if the number of staff is appropriate.

Functionality

It is recommended that each division of AI have its own project team, responsible for all inter-company projects. When doing business with other divisions, MP should report to the relevant VPs of other divisions.

Process and Procedure

It is recommended that post-acquisition AI maintain the processes and procedures currently used in TB Mining's surface division, as long as they are aligned with AI's policies.

SHAREHOLDER AGREEMENT

A revised shareholder agreement has been proposed and is provided in Appendix L. Significant changes are highlighted below in Table 9.

Table 9: Shareholder Agreement Revisions

Proposed Change	Rationale
Shares can be sold to external parties	Several shareholders are looking to divest shares; this change will ensure that many selling options are available to them.
	Allows shares to be provided to executive staff and board members who are not members of the Arndt family; compensation is tied to performance.
	A maximum of 30% of shares can be held by non-family members; this ensures that control remains within the Arndt family
Board members to be elected by all shareholders	The number of shareholders increasing; there will no longer be a four-person 25% ownership structure, where each person can appoint two members.
Changes to shareholder agreements require 70% approval	This is a reasonable percentage given the increasing number of shareholders; 70% represents the minimum number of shares to be held by Arndt family members.

SUCCESSION PLAN

Succession Planning Practices

Some business advisors state that it may take anywhere from five to ten years to properly prepare for succession.⁹⁸ AI does not currently have a formal succession plan for the board. This needs to be addressed because four board members are expected to exit over the next few years.

Recent studies have argued for the use of Quality Function Deployment (QFD) principles in succession planning.⁹⁹ QFD is an approach that transforms user demands into design quality.¹⁰⁰ Incorporating the QFD framework creates a more holistic approach to succession planning.¹⁰¹ [Appendix M](#) provides a scorecard to be used in evaluating candidates to serve on the board.

Another key consideration in selecting board members should be *social capital*.¹⁰² The underlying principle is that director selection should be made with the individual's contribution to the group's social capital in mind.

98 Jenkin, Cara. "Charting a Path to Future Success." *The Advertiser*, April 23, 2011.

99 Ip, Barry. "Planning and Controlling Business Succession Planning Using Quality Function Deployment." *Total Quality Management*, Vol. 20, No. 4, April 2009, pp. 363-379.

100 Akao, Yoji. "Development History of Quality Function Deployment: The Customer Driven Approach to Quality Planning and Deployment." Minato, Tokyo 107 Japan: Asian Productivity Organization, pp. 339.

101 Ip, Barry. "Planning and Controlling Business Succession Planning Using Quality Function Deployment." *Total Quality Management*, Vol. 20, No. 4, April 2009, pp. 363-379.

102 Yangmin, Kim and A. Alber Canella Jr.. "Toward a Social Capital Theory of Director Selection." *Corporate Governance*, Vol. 16, No. 4, July 2008, pp. 282-293.

AI Board Member Candidates

Six family members currently employed by AI are identified as potential board candidates. Table 10 identifies the ideal time period for these candidates to begin their board service, based on the principles of social capital.¹⁰³

External Board Member Candidates

AI's board has traditionally consisted solely of members of the Arndt family, but it could be advantageous for the firm to begin to include some non-family members on the board. The succeeding board should be comprised predominantly of Arndt family members, but also include industry professionals who can bring new insight to the governance process.

Table 10: AI Family Board Member Candidates

Title	Division	Time Period	Social Capital Rationale
Advisory (Brent)	EP	1-3 years	Has worked with all divisions; has a strong understanding of linkages between divisions
			Has played an advisory role to the company; potentially has many contacts within a large network
VP, Marketing	AI	1-3 years	Has many external contacts related to position
			Is the logical replacement for Christine (holds similar social capital)
VP, Marketing and Sales	EP	3-5 years	Has valuable sales connections
VP, Finance	AI	3-5 years	Has strong financial knowledge of all divisions
Controller	AP	5-10 years	Is a potential board member, assuming advancement to the executive level and an expanding network over the next 5-10 years
Controller	AI	5-10 years	Is a potential board member, assuming advancement to the executive level and an expanding network over the next 5-10 years

103. Citrin, James M. and Dayton Ogden. "Succeeding at Succession." *Harvard Business Review*, November 2010.

DIVIDEND POLICY

AI should use a semi-residual dividend policy, whereby profits are first allocated to ensure that new projects and expansion are possible. AI must ensure that financing is available, bank covenants are met, and each division has adequate cash for operations. The residual profits will be distributed as dividends up to 40% of profit for the year.

SHARE PRICE

A valuation of the stock has been completed using a discounted cash flow methodology. Details are provided in [Appendix N](#). The mid-range calculation has been deemed as reasonable and is detailed in below.

Table 11: Share Price Valuation

Moderate Valuation (in '000)								
Discount Rate 10%	0 2010	1 2011	2 2012	3 2013	4 2014	5 2015	6 2016 on	
Net Income	\$ 24,819	\$ 21,709	\$ 25,825	\$ 33,739	\$ 49,788	\$ 62,234	\$ 64,101	
Dividends	\$ 10,000	\$ 9,000	\$ 10,000	\$ 13,000	\$ 20,000	\$ 25,000	\$ 25,640	
Number of Shares	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
Earnings Per Share	\$ 24.82	\$ 21.71	\$ 25.83	\$ 33.74	\$ 49.79	\$ 62.23	\$ 38.46	
Growth in Income							3.0%	
PV of Dividends/Share	\$ 10.00	\$ 8.18	\$ 8.26	\$ 9.77	\$ 18.18	\$ 15.52	\$ 206.76	
NPV (Share Price)	\$						276.68	

PROFIT-SHARING AND PERFORMANCE MEASURES

Performance measures should be revised to align with bank covenants, thus increasing the current ratio to 1.5:1 and including a return on asset of 10%. Aligning performance measures with bank covenants will minimize the risk of loan calls from the bank by ensuring that the divisions have benefits to meet the covenants.

Table 12: Performance Metrics

Division	Metric	Target	Overall Impact on Bonus
AP	Gross margin	30%	30%
	Profit margin (before taxes and corporate allocation)	10%	20%
	Return-on-asset	10%	20%
	Current ratio	1.50:1	15%
	Debt-to-equity ratio	1.50:1	15%
EP	Gross margin	24%	30%
	Profit margin (before taxes and corporate allocation)	5%	20%
	Return-on-asset	10%	20%
	Current ratio	1.50:1	15%
	Debt-to-equity ratio	1.50:1	15%
RP	Gross margin	25%	30%
	Profit margin (before taxes and corporate allocation)	10%	20%
	Return-on-asset	10%	20%
	Current ratio	1.50:1	15%
	Debt-to-equity ratio	1.50:1	15%
MP	Gross margin	27%	30%
	Profit margin (before taxes and corporate allocation)	10%	20%
	Return-on-asset	10%	20%
	Current ratio	1.50:1	15%
	Debt-to-equity ratio	1.50:1	15%

OPERATIONAL ISSUES

INFORMATION TECHNOLOGY

Customer Relationship Management (CRM) System

It is recommended that AI create a CRM system that adapts the business to the needs of customers.¹⁰⁴ CRM would help AI gain insight into customer behaviours and modify business operations to ensure that customers are best served.¹⁰⁵

The implementation comprises six stages: collecting information, storing information, accessing information, analyzing customer behavior, marketing more effectively, and enhancing the customer experience.¹⁰⁶

Just-In-Time (JIT) System

The Agricultural Products division should continue using JIT inventory management to improve efficiencies and ensure the on-time delivery of products. However, it is recommended that the EP and RP divisions not use JIT, as ordering in bulk would be more cost effective. The relevant production coordinator or supervisor is responsible for ordering raw materials and ensuring goods delivery. On-time delivery is crucial to address the recent loss of customers due to late delivery of orders.

104 "Customer Relationship Management—Why CRM?" *Business Link*. Accessed May 9, 2011 from <http://www.businesslink.gov.uk/bdotg/action/detail?itemId=1075422931&type=RESOURCES>

105 Ibid.

106 Ibid.

Job Costing System

It is recommended that the EP and RP divisions improve the current system rather than build their own spreadsheets to bid on each specific job, a practice that wastes time and labour.

AI could consult an external ERP expertise company to purchase a customized ERP solution at a cost of about \$100,000¹⁰⁷ that will integrate AI's CRM, JIT, Job Costing, and other systems. The benefit of an integrated IT system is that it supports effective communication and sharing of information among divisions.

107 Top10ERP.org. "ERP Software Systems Index for Manufacturing." Accessed May 12, 2011 from <http://www.top10erp.org/erp-software-comparison-job-shop---shop-floor-mfgmode-130>.

INTERNAL CONTROLS

Based on the recommendations of the Committee of Sponsoring Organizations of the Treadway Commission (COSO),¹⁰⁸ it is recommended that AI establish an internal control system. The direct cost of the system is estimated to be \$1M.¹⁰⁹ The controller for each division should be responsible for integrating existing accounting controls into the new internal control system.

Ethics: Bribery

AI should establish internal policies and procedures against bribery and corruption, especially as AI expands internationally to areas where bribery is more common. Management should review operational results regularly to ensure the success of the Peru expansion and the operation's alignment with local laws and regulations. AI should also become a member of TRACE, a non-profit organization that pools resources to provide anti-bribery compliance solutions.¹¹⁰

108 "Internal Control: The Value of a Wider Business-led Approach." *CMA Magazine*, November 2006.

109 ResearchStock.com. "The Trickle Down of SOX.". Accessed May 4, 2011 from <http://www.researchstock.com/cgi-bin/rview.cgi?c=bulls&rsrc=RC-20050311-F>.

110 TRACE International Inc. "What is TRACE?" N.p., n.d. Web. 8 May 2011.

CORPORATE GOVERNANCE

The members of AI's board of directors have diverse backgrounds that can be used to further develop the governance structure within AI. The audit committee must be active in overseeing the financial reporting process as this will help ensure accurate financial reporting.¹¹¹

111 "Corporate Governance: The Role of Internal Control, Management Control." *CMA Canada*, July 1999.

ENGINEERING TECHNOLOGY

As out-dated technology has caused bottlenecks, it is recommended that the EP division invest in updating its engineering technology. The pro-forma financial statements have incorporated the estimated capital expenditures for the next three years. Updating the equipment will also reverse declining quality levels and lead to a decrease in warranty claims.

MARKETING AND SALES

AI should create a formal strategic marketing plan to reflect the new strategic business direction. It is recommended that the VPs of Marketing and Sales for each division collaborate and agree on a strategic plan to reflect the changes in AI. Marketing and sales pertaining to Peru have been noted above and should be integrated as part of this plan. Goals should focus on:

Environmental Scanning

Quarterly market research should be conducted to detect trends in the manufacturing industry, including economic outlook and currency fluctuations. AI should also continue to obtain benchmarking information on how its brand compares with the brands of its competitors.

Website

AI's website should be updated to include the Peru subsidiary and MP. The URL for the updated site should be sent to all existing and potential distributors and customers.

Network/Customer Relations

Gathering feedback through surveys or through information obtained through discussion boards would be valuable. AI should also assess if its customers feel that AI delivers on its value proposition and, where applicable, if customers receiving customized orders are satisfied.

HUMAN RESOURCES

Each division is internally managed, while the corporate office is responsible for determining pay rates. Dedicated HR leadership and support from the corporate office would ensure consistency of practice across the organization. It is recommended that AI's HR function invest in developing company-wide standards and policies.

Performance Management

Regular annual performance evaluations should be performed by divisional managers within corporate to measure and address the criteria set out in the Balanced Score Card. SMART objectives¹¹² should be incorporated into performance evaluations. Goals and objectives unique to the divisions should be incorporated into evaluations.

Employee Satisfaction and Internal Communication

It is recommended that AI conduct bi-annual surveys to obtain feedback from employees on job satisfaction and areas of concern. Quarterly town hall meetings should be held to inform employees about how the company is performing and how all employees are contributing to AI's success.

Labour Force and Resourcing

Although AI has had relatively low turnover, issues were noted in the welding trades. It is recommended that corporate HR and the EP division recruit skilled trades-people from around the world. AI should contact recruiters and post notices in online job forums for this industry.

113 <http://www.career-intelligence.com/management/SmartGoals.asp>. Accessed on May 20, 2011.

ORGANIZATIONAL STRUCTURE

Aside from the organizational changes noted for the Peru subsidiary and the acquisition of TB Mining surface division (noted above), one additional minor recommendation related to organization structure is made:

Research and Development

It is recommended that HR look into the SR&ED functions to determine if a full-time employee is required for each division. Perhaps this function could be consolidated within the corporate Office, and one or two employees could oversee SR&ED for all AI divisions.

TRANSFER PRICING

The current transfer pricing practices of AI have caused divisions to shop externally instead of purchasing within the AI family and have also decreased the ability of AI to obtain the best prices for inputs through economy of scale. Since the primary goal is to increase AI's overall earnings and not to increase divisional earnings, AI should always look at the input costs saving and charge 10% for markup because buying from external suppliers (2% to 5%), even at 5% lower costs, ends up costing AI more (Table 13).

AI should implement policies to ensure that the maximum benefit is achieved and that the divisions are not trying to compete, resulting in a negative ending position for AI. The policy below should ensure that AI maximizes profit and complies with taxation requirements for transfer pricing internationally.¹¹³

Table 13: Transfer Pricing

Purchasing Internally			Purchasing externally			
Costs	Transfer markup	Total	5%			
100.00%	X 15.00%	= 115.00%	decreased	5.00%	=	109.25%

New Policy

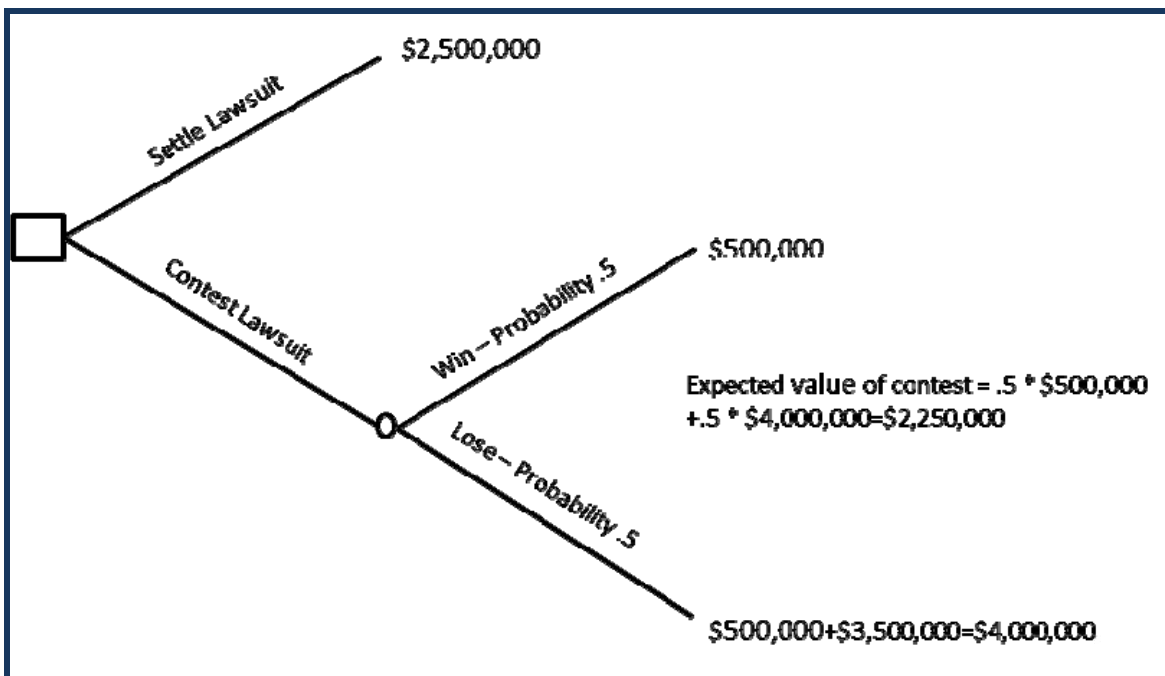
All transfer between divisions should be at a 10% markup. If external suppliers are used, they must be 10% cheaper than the transfer price. Divisions must notify each other if external suppliers are used.

114 Hill, Dale C. "Transfer Pricing 101". *CMA Management*. March 2007.

LAWSUIT

EP should accept an out-of-court settlement in the litigation for faulty equipment supplied to a client. Doing so would limit monetary costs to \$2.5M while proceeding with the court process may end up costing as much as \$4M. Furthermore, an out-of-court settlement should restrict brand damage by ensuring that the matter is resolved swiftly and does not grow into a public relations issue. It may display concern for client satisfaction and may result in retention of future business.

Figure 17: Lawsuit Decision Tree



IFRS¹¹⁴

As of January 1, 2011, publicly accountable profit-oriented enterprises in Canada were required to follow International Financial Reporting Standards. To operate and compete in the global capital centres, businesses cannot afford to retain a “made in Canada” set of reporting standards. The changeover in 2011 poses challenges for corporate Canada but, in the long run, it will be beneficial to implement the most useful and cost-effective financial reporting system.¹¹⁵

Transiting to IFRS may encompass four phases: impact assessment, planning, implementation, and post-implementation review.¹¹⁶ AI adopted IFRS in 2009. It is recommended that AI review and evaluate the current system used for gathering IFRS data and ensure that it is adequate. This effort should eventually have positive impacts on financial reporting, budgeting, information systems, and performance measurement.¹¹⁷ It is also recommended that AI assess any potential impacts, identify the differences, define the system requirements, conduct a feasibility analysis, plan by defining changes to management accounting policies, and prepare for implementation and training if necessary.¹¹⁸

114 “IFRS Bridging Manual.” *CMA Ontario*. Accessed on May 3, 2011 from

http://www.cma-ontario.org/multimedia/Ontario/IFRS_Bridging_Manual_Final_Ontario.pdf,

115 “Canadian Accounting Standards Changeover to IFRSs: January 1, 2011.” *Accounting Standards Board of Canada*. May 2009.

116 Khoury, Sam and Vaani Maharay. “IFRS: Managing the Conversion, Sam Khoury and Vaani Maharay. *CMA Management*. August/September 2009.

117 Shaw, Colin. “IFRS: A Perfect Storm of Collateral Impacts for CMAs.” *CMA Management*, August/September 2008.

118 Khoury, Sam and Vaani Maharay. “IFRS: Managing the Conversion, Sam Khoury and Vaani Maharay. *CMA Management*. August/September 2009.

FOREIGN CURRENCY

It is recommended that AI continue using current currency hedging to mitigate or reduce any losses due to international trade.¹¹⁹ Hedging costs are the difference in price between buying and selling the hedge,¹²⁰ which depends on the market interest rate and exchange rate. It is recommended that the finance departments of AI review the corporate and divisional derivative instruments on a monthly basis.

120 "A Beginner's Guide to Hedging." *Investopedia*. 2011. Accessed May 4, 2011 from <http://www.investopedia.com/articles/basics/03/080103.asp>.

121 "A Hedging Scenario." *Oanda FXConsulting*. 2011. Accessed May 4, 2011 from <http://fxconsulting.oanda.com/discover/hedging-scenario#costs>.

ACTION PLAN

The following steps are recommended to ensure the success of AI's strategic direction. The action plan provided in Appendix K includes details on functional area, the action, who should be responsible, estimated costs, and estimated timelines.

SEE APPENDIX K FOR DETAILED ACTION PLAN

Short-term (0-3 months)

- Obtain financing from bank
- Initiate expansion of Peru subsidiary
- Initiate acquisition of TB Mining surface division
- Negotiate terms with powder-coating company
- Hire a project manager to oversee Peru expansion and TB Mining surface division acquisition
- Formalize mission and vision statements

Mid-term (4-12 months)

- Monitor set-up of Peru subsidiary
- Recruit and train staff for Peru subsidiary
- Initiate implementation of IT internal control and ERP systems
- Develop strategic marketing plan and update website
- HR to conduct management and employee performance reviews
- Settle lawsuit

Long-term (1 + year)

- Evaluate performance of Peru subsidiary and MP
- Monitor implementation of IT systems

STRATEGY MAP



ARNOLD INDUSTRIES

BALANCED SCORECARD¹²¹ AND STRATEGY MAP¹²²

SEE *APPENDIX J* FOR BALANCED SCORECARD

SEE *APPENDIX O* FOR STRATEGY MAP

The AI balanced scorecard is a comprehensive tool used to evaluate and identify quantitative and qualitative aspects important to the company's growth and success. The four aspects considered include Financial, Customer, Internal Process, and Learning and Growth. The strategy map is built on these same aspects.

The strategy map provides a dynamic view of each balanced scorecard category and shows how each area affects and is related to the others. It also demonstrates how each process should contribute to the achievement of the company's goals. The balanced scorecard and strategy map are important communication tools for AI's divisions to understand how each division relates to the company as a whole while at the same time focusing on achieving excellence within the division.

121 "Applying the Balanced Scorecard." In *Management Accounting Guidelines: Strategic Performance Measurement*, CMA Canada, 1999.

122 Armitage, Howard M. and Cameron Scholey. "Using Strategy Maps to Drive Performance." In *Management Accounting Guidelines*, CMA Canada, 2006.

FINANCIAL PROJECTIONS

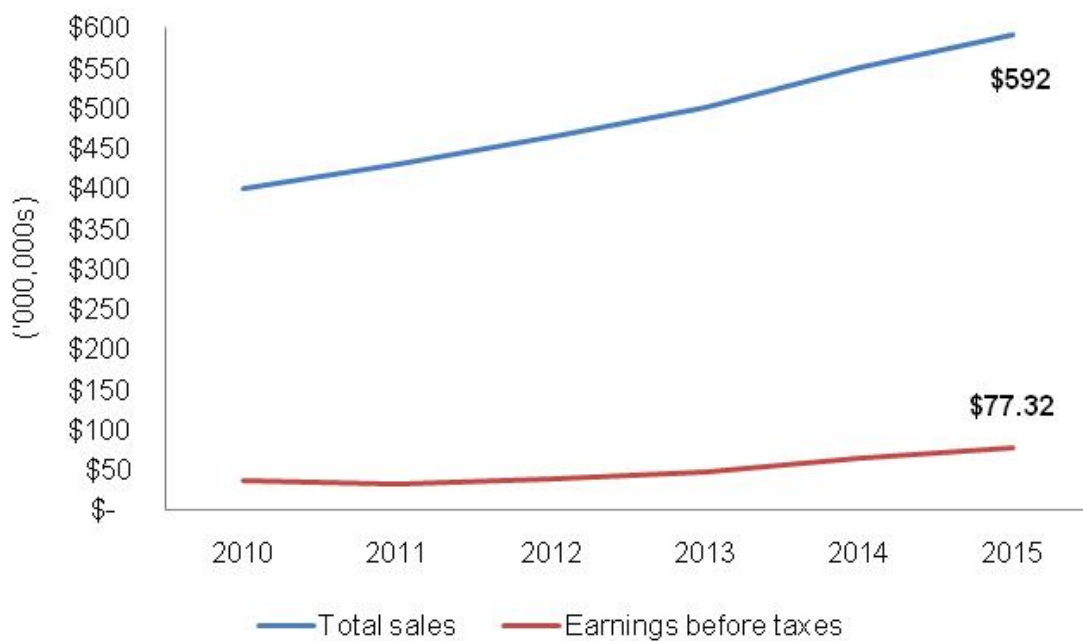


FINANCIAL PROJECTIONS

SEE APPENDICES P, Q, AND R FOR PRO-FORMA STATEMENTS

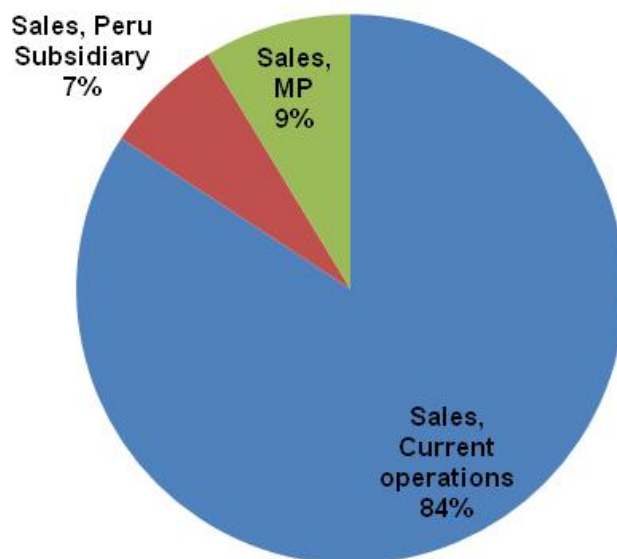
By implementing the recommendations, AI will meet its target of \$500M in revenue by 2015. Revenue will grow by 48% from 2010 to 2015, and earnings before taxes will grow by 113% during the same period.

Figure 18: Projected Sales and Revenues (000,000's)



Revenue from the Peru operations and MP will provide over 15% of total revenue by 2015. Under the revised profit-sharing measures, profit-sharing will increase to \$7.9M and dividend payouts to \$25M by 2015.

Figure 19: Sales Breakdown



Debt covenants from the bank should not be an issue on the consolidated AI figures as the pro-forma statements forecast a steadily growing return-on-assets, debt to tangible net worth, and current ratio. Cash balances should see significant growth as Peru operations begin, with over \$100M in cash outstanding anticipated by 2015 and an outstanding bank debt of \$40M.

Based on the pro-forma statements, AI should be in a position to make the continued capital investments that are so critical in the industry and should be able to seek future growth opportunities.

CONCLUSION



ARNOLD INDUSTRIES

CONCLUSION

As AI grows and expands into new markets, decisions need to be made about AI's business opportunities. This report evaluated AI's strategic and operational opportunities and issues and recommends:

- Expand into South America (Peru);
- Create Arndt Mining Products Ltd. (acquire TB Mining surface division);
- Outsource powder-coating;
- Implement a CRM system;
- Establish a transfer pricing policy (one has been recommended); and
- Settle the lawsuit out of court for \$2.5M

By following these recommendations, AI will be able to best leverage its mandate as noted in the revised mission and implied vision statements. The expected outcome is that AI will maximize sustainable growth and profitability, and meet stakeholders' goals of exceeding \$500M in sales by 2015.

APPENDICES

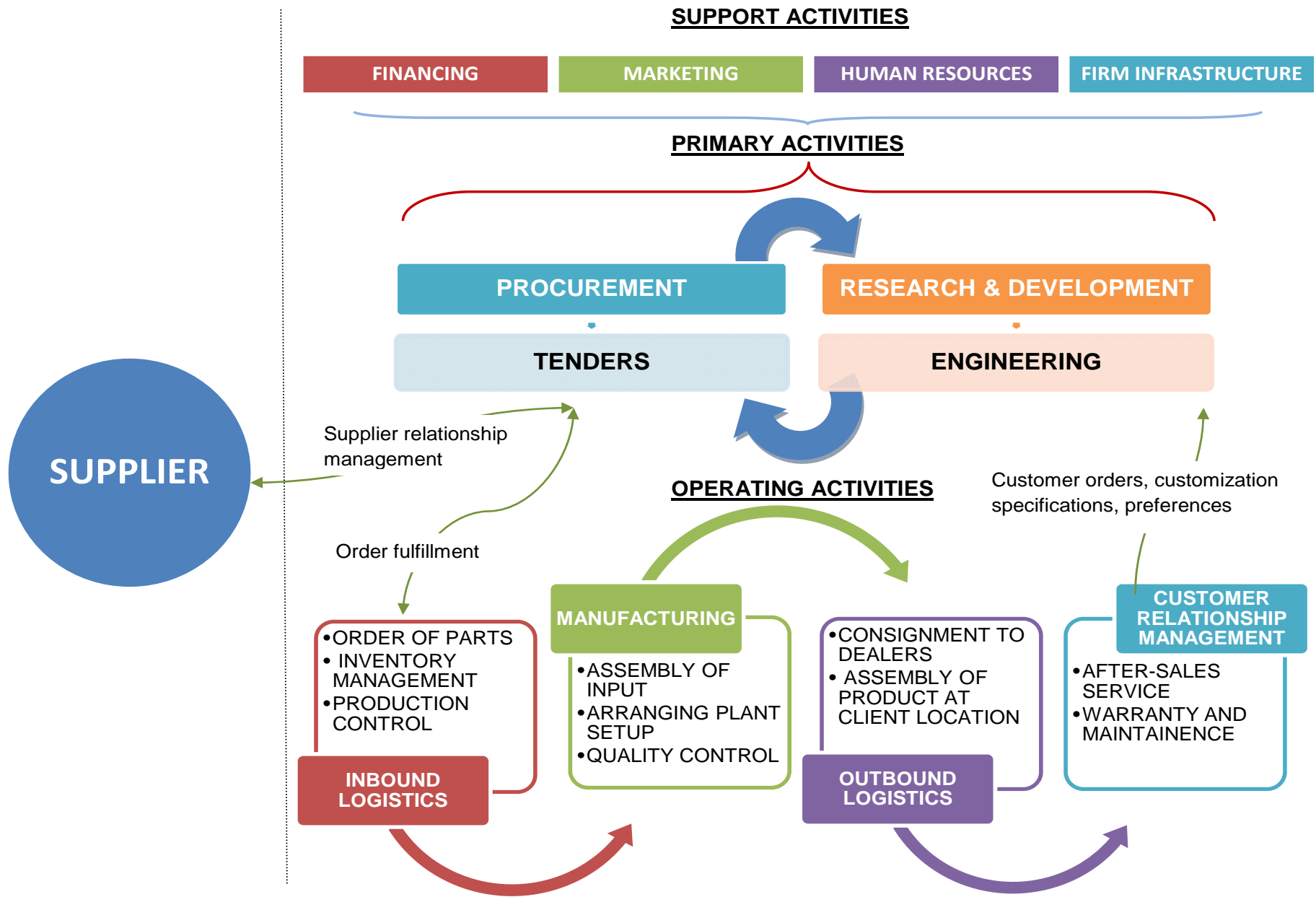
APPENDIX A
SITUATIONAL ANALYSIS

Strengths	Division
CCPC: Tax breaks (shareholders capital gain exemption upon disposition) & credits (SR&ED)	AI
Company Website: AI utilizes website to distribute information on product offerings	AI
Pricing Agreements: Relationship with steel supplier allows AI to secure the resource at a competitive price	AI
Staff Competencies: Family members employed with AI are well-educated in their fields	AI
Customer Satisfaction: Product differentiation has lead to high levels of customer satisfaction	ALL
Information Systems: Each division makes use of a specialized information system	ALL
Insurance Coverage: With \$25 million in coverage, AI is well protected in the event of a lawsuit	ALL
Low Employee Turnover: Generally, each division experiences low employee turnover	ALL
R&D Tax Credits: Each division is proactive in researching R&D tax credits to aid in cost reduction	ALL
Brand Image: EP and RP divisions able to leverage their brand image to secure contracts	EP & RP
Standard Costing: Use of standard costing has historically been accurate for AP division	AP
Six Sigma: AP can identify and remove defects in the manufacturing process	AP
Dealership Agreements: 123 global dealership agreements secure representation in the global marketplace	AP
Weaknesses	Division
CRM System: AI lacks a CRM system	AI
Profit Sharing Metrics: Some management staff believe the profit sharing metrics are too harsh	AI
Redundancy of Admin Staff: Several administrative staff functions are present within each division (e.g., R&D)	AI
Shareholder Agreements: The current shareholder agreement impedes AI's ability to alter the ownership structure	AI
Specialized Information Systems: Information systems are duplicated across divisions	AI
Capacity: All divisions of AI host excess capacity	ALL
Currency Risks: AI is susceptible to swings in price due to currency fluctuations. EP/RP has experienced losses from job costing	ALL
Bribes: AP utilized bribes to move product more quickly over the border	AP
Consignment Sales: Dealers are increasingly reliant on consignment sales; this has a negative impact on cash flows	AP
Cancelled Dealership Agreements: Two dealership agreements were cancelled as a result of improper billing of warranties	AP
Engineered Product Quality: Quality levels of EP have been declining resulting in increased warranty provisions	EP
Internal Pricing: Other divisions are dissatisfied with the internal pricing of Engineered Products	EP
Law-suit: Involvement in a lawsuit could have a negative impact on image and cash flows	EP
Lost Customers: Customers have been lost due to late deliveries	EP
Outdated Engineering Technology: EP is experiencing bottlenecks and repairs due to outdated technology	EP
Welding Staff Turnover: Difficulty retaining staff in the welding trades	EP

APPENDIX A
SITUATIONAL ANALYSIS

Opportunities	Division
Energy Credits: Government has issued a variety of incentives and credits to high volume electricity users	AI
Expansions: Low labour costs and relaxed government policies in South America make it a good location to expand into	AI
Demand for Replacement Parts: Replacement parts market continues to grow within developing countries	AP
Increased Demand: Forecast for demand for agricultural equipment: annual growth of approximately 4.5% through to 2014	AP
New Markets: Developing countries seeing a need to replace human capital with fixed capital	AP
Rising Food Costs: Rise in food costs has resulted in increased demand for efficient and cost-effective agricultural equipment	AP
Conveyor Industry: CEMA reported a 51% increase in December 2010 (compared to December 2009)	EP
Increased Demand: Demand for mechanization and for productive and safe equipment is on the rise	EP
Living Standards: Rising living standards in developing countries calls for food processing equipment	EP
Mining Sector Growth: Mining in India and Canada is experiencing 3%-4% annual growth	EP
Developing Nations: Emerging nations are either revitalizing or starting up their own railway networks	RP
Free Trade Agreement: Due to FTA, tariffs have been eliminated on most urban transit and rail equipment	RP
Freight Rail: Opportunities for the sale of freight rail equipment will continue to grow internationally	RP
Government Financing: Government financing & export insurance is provided by export financing institutions	RP
Green Market: Demand for environmentally friendly products is increasing	RP
Locomotive Demand: Demand for locomotives in North America has been strong in recent years	RP
Threats	Division
Currency Fluctuations: Currency fluctuations create potential losses on foreign currency transactions	AI
Increased Global Competition: China & India have an increased presence in manufacturing-related industries	AI
Rising Energy Costs: Rising energy costs increase expenses in the manufacturing environment	AI
Socio Political Issues: The local government of Peru is difficult to predict	AI
Cost Competition: China is the world's largest supplier of agricultural equipment through their competitive pricing	AP
Environmental Constraints: Greenhouse gasses & other environmental factors place constraints on manufacturers	AP
Free Trade: US & Western Europe will be adversely impacted by continuing trends in favour of free trade	AP
Legislative Issues: Legislation like cap & trade models greatly impact the manufacturing environment	AP
Environmental Constraints: It is becoming costly to comply with government environmental constraints	EP
Maintenance/Repairs: Highly specialized manufacturing industries have high maintenance and repair costs	EP
Buy American Legislation: "Buy American" legislation poses limitations for Canadian firms seeking a U.S. customer base	RP
Differing Standards: Varying safety standards make it difficult for international suppliers to serve all needs	RP
Rebuilding and Replacement Costs: Replacement costs to meet environmental standards are high	RP

**APPENDIX B
VALUE CHAIN**



APPENDIX C
FINANCIAL ANALYSIS

Formula		2010 IFRS	2009 IFRS	2009 C-GAAP	2008 C-GAAP	2007 C-GAAP	Comments
Profitability Ratios							
Gross Profit Margin	Gross profit / Sales	28.28%	25.61%	25.77%	20.50%	22.47%	Improving Gross Profit Margin due to cost efficiencies at AP and RP divisions; growth of Cost of Goods Sold at EP
Operating Profit Margin	Operating profit / Sales	16.34%	17.94%	17.67%	15.57%	16.04%	Operating profit remains stagnant across all divisions as Selling, General and Administrative costs have increased
Net Profit Margin	Net income / Sales	6.20%	3.46%	3.63%	2.07%	2.95%	Improving Net Profit Margin due to growth at AP and RP divisions; net income from EP division have increased
Return on assets	Net income / Total assets	18.51%	9.98%	11.09%			Improved efficiencies of asset usage to gain income; growth year to year the result of increased sales at EP division
Return on Equity	Net income / Equity	41.39%	27.77%	33.59%			Improvements in net income earned per dollar of equity from all divisions; reflective of improving industry.
Liquidity Ratios							
Current Ratio	Current assets / Current liability	1.43	1.14				AI is in better position to pay off its current liabilities in 2010 than in 2009; increase is not reflective of AP division's
Quick Ratio	Cash + receivables / Current liabilities	0.72	0.53				AI is not in position to pay off its current liabilities with its cash and receivables; significant amount of assets held in
Debt to Tangible Net	Total liabilities/(Total assets - total	1.25	1.82				There is more debt held than tangible assets, including capital assets; AI is within bank covenants as of 2010.
Leverage							
Debt to Total assets	Debt / Total assets	0.55	0.64				Similar rates by all divisions, it reflects AI's ability to pay off debt with growth in assets.
Debt to Equity	Debt / Equity	1.24	1.78				Creditors have more investment in the company than investors, specifically in the EP division, a negative sign,
Activity Ratios							
Receivables Turnover	Total sales / Average receivables	10.87	10.93				# of days to receive cash from sales, the high rate is reflective in the nature of products sold as these are large
Days of Sales Outstanding	365 days / Receivables turnover	33.59	33.40				
Inventory Turnover	Total cost of goods sold / Average	5.59	5.56				High rate is indicative of significant assets stuck in inventory; the high rate is considered as AI maintains a low
Days of Inventory on	365 days / Inventory turnover	65.29	65.65				
Asset Turnover	Total sales / Average total assets	3.08	2.97				Sales per dollar of assets; small growth reflects investments in assets have paced the growth of sales.

APPENDIX D
FINANCING ANALYSIS

A. FINANCING AVAILABLE			
Financing Available: ('000s):			
Loan from Bank			\$50,000
Debt to Tangible Net Worth (Maximum 2:1)			
Current Debt to Tangible Net Worth			<u>1.25:1</u>
Total Assets Excludes Liabilities and Intangible Assets	A		\$59,082
Total Liabilities Allowed	B=A x 2		118,164
Present Liabilities	C		74,104
Maximum Bank Loans Available	D=B-C		<u>\$44,060</u>
B. FINANCING ALL ALTERNATIVES			
Financing Required: ('000s):			
Peru			\$11,250
TB Mining			14,500
Genset locomotives in-house (note 1)			12,000
In-house powder coating			1,815
Lawsuit (settlement)			2,500
IT Investment			100
Capital Expenditures - Engineering (note 2)			5,000
Capital Expenditures - Agricultural (note 2)			2,000
Capital Expenditures - Railroad (note 2)			1,000
Internal Control System			1,500
HR - Hiring and Training costs			200
Marketing & Communications			80
Project Manager for Peru			75
Total Financing Required	E		<u>\$52,020</u>
Excess/(Shortage)	F=D-E		<u>\$ (7,960)</u>
C. FINANCING RECOMMENDATIONS			
Financing Required: ('000s):			
Peru			\$11,250
TB Mining			14,500
Lawsuit (settlement)			2,500
IT investment			100
Capital Expenditures - Engineering (note 2)			5,000
Capital Expenditures - Agricultural (note 2)			2,000
Capital Expenditures - Railroad (note 2)			1,000
Internal Control System			1,500
HR - Hiring and Training costs			200
Marketing & Communications			80
Project Manager for Peru			75
Total Financing Required	G		<u>\$38,205</u>
Excess/(Shortage)	H=D-G		<u>\$5,855</u>

Notes:

1. There are two options for Genset Locomotive development. To be conservative, use in-house since it requires more capital investments.
2. These capital expenditures are required by the CEO of each division.

APPENDIX E
PERU EXPANSION ANALYSIS (MID SCENARIO)

(CONSERVATIVE AND OPTIMISTIC SCENARIOS EVALUATED USING SAME METHODOLOGY)

(in 000's)	0	1	2	3	4	5	6	7	8	9	10
Land	\$ (3,250)	Useful Life		RRR	10%						
Bulding	\$ (3,000)	40		NPV	\$ 805.74						
Equipment	\$ (3,500)	15		Payback	6.69						
Upfront costs	\$ (1,500)			IRR	1%						
Total setup costs	\$ (11,250)										
Agricultural			\$ 885	\$ 3,870	\$ 9,803	\$ 14,492	\$ 15,216	\$ 15,977	\$ 16,776	\$ 17,615	\$ 18,496
Materials Handling & Food Processing			\$ 500	\$ 3,084	\$ 9,279	\$ 13,793	\$ 14,482	\$ 15,206	\$ 15,967	\$ 16,765	\$ 17,603
Engineering			\$ 369	\$ 2,539	\$ 7,441	\$ 11,575	\$ 12,154	\$ 12,762	\$ 13,400	\$ 14,070	\$ 14,773
Road Rail			\$ -	\$ 282	\$ 1,313	\$ 2,043	\$ 2,145	\$ 2,252	\$ 2,365	\$ 2,483	\$ 2,607
Total Sales			\$ 1,754	\$ 9,775	\$ 27,836	\$ 41,902	\$ 43,997	\$ 46,197	\$ 48,507	\$ 50,932	\$ 53,479
Transfer from Canada (note 3)											
Agricultural	= A x 78%		\$ (691)	\$ (3,019)	\$ (7,647)	\$ (11,304)	\$ (11,869)	\$ (12,462)	\$ (13,085)	\$ (13,740)	\$ (14,427)
Materials Handling & Food Proces	= A x 78%		\$ (390)	\$ (2,405)	\$ (7,237)	\$ (10,758)	\$ (11,296)	\$ (11,861)	\$ (12,454)	\$ (13,077)	\$ (13,731)
Engineering	= A x 72%		\$ (265)	\$ (1,828)	\$ (5,358)	\$ (8,334)	\$ (8,751)	\$ (9,188)	\$ (9,648)	\$ (10,130)	\$ (10,637)
Road Rail	= A x 72%		\$ -	\$ (203)	\$ (945)	\$ (1,471)	\$ (1,544)	\$ (1,621)	\$ (1,703)	\$ (1,788)	\$ (1,877)
Total Transfer from Canada			\$ (1,346)	\$ (7,455)	\$ (21,187)	\$ (31,867)	\$ (33,460)	\$ (35,133)	\$ (36,890)	\$ (38,734)	\$ (40,671)
Direct Materials Costs	= A x 2.5%		\$ (44)	\$ (244)	\$ (696)	\$ (1,048)	\$ (1,100)	\$ (1,155)	\$ (1,213)	\$ (1,273)	\$ (1,337)
Direct Labour Costs (note 4)											
Agricultural	= A x 3.2% x 30%		\$ (9)	\$ (37)	\$ (94)	\$ (139)	\$ (146)	\$ (153)	\$ (161)	\$ (169)	\$ (178)
Materials Handling & Food Proces	= A x 3.2% x 30%		\$ (5)	\$ (30)	\$ (89)	\$ (132)	\$ (139)	\$ (146)	\$ (153)	\$ (161)	\$ (169)
Engineering	= A x 6.3% x 30%		\$ (7)	\$ (48)	\$ (141)	\$ (219)	\$ (230)	\$ (241)	\$ (253)	\$ (266)	\$ (279)
Road Rail			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Transfer from Canada			\$ (20)	\$ (115)	\$ (324)	\$ (490)	\$ (515)	\$ (541)	\$ (568)	\$ (596)	\$ (626)
Selling, Administrative & General	= A x 10%		\$ (175)	\$ (978)	\$ (2,784)	\$ (4,190)	\$ (4,400)	\$ (4,620)	\$ (4,851)	\$ (5,093)	\$ (5,348)
Sales incentives (note 5)	= A x %		\$ (44)	\$ (244)	\$ (418)						
Depreciation - Building (note 6)			\$ (75)	\$ (75)	\$ (75)	\$ (75)	\$ (75)	\$ (75)	\$ (75)	\$ (75)	\$ (75)
Depreciation - Equipment (note 6)			\$ (233)	\$ (233)	\$ (233)	\$ (233)	\$ (233)	\$ (233)	\$ (233)	\$ (233)	\$ (233)
EBIT			\$ -	\$ (184)	\$ 430	\$ 2,120	\$ 3,999	\$ 4,215	\$ 4,441	\$ 4,678	\$ 4,927
Taxes (note 7)			\$ -	\$ (129)	\$ (636)	\$ (1,200)	\$ (1,264)	\$ (1,332)	\$ (1,403)	\$ (1,478)	\$ (1,557)
Net Income, FV			\$ -	\$ (184)	\$ 301	\$ 1,484	\$ 2,799	\$ 2,950	\$ 3,108	\$ 3,275	\$ 3,449
Net cash inflow (outflow), mid	\$ (11,250)	\$ -	\$ 125	\$ 610	\$ 1,792	\$ 3,108	\$ 3,258	\$ 3,417	\$ 3,583	\$ 3,758	\$ 3,941
NPV, mid	\$ (11,250)	\$ -	\$ 67	\$ 458	\$ 1,224	\$ 1,930	\$ 1,839	\$ 1,753	\$ 1,672	\$ 1,594	\$ 1,519

1. Sales anticipated to grow at 5% after 2016

2. Exchange rate on Peruvian sales set at \$2.86PEN/\$1 CAD; Other sales at \$0.94USD/\$1 CAD

3. Transfer of work in progress inventory; transfer costs used the highest percentage of estimated percentage of sales

4. Labour costs in Peru as assumed 30% of Canadian wages

5. Sales incentive, 5% of sales in year 1, 2.5% in year 2, 1.5% in year 3

6. Straight line method for building and equipment depreciation of 40 and 15 years

APPENDIX F
GENSET IN-HOUSE ANALYSIS (MID SCENARIO)

(CONSERVATIVE AND OPTIMISTIC SCENARIOS EVALUATED USING SAME METHODOLOGY)

(in 000's)	0	1	2	3	4	5	6	7	8	9	10
Setup costs											
Locomotive frames	\$ (500)	\$ (700)	\$ (900)								
Capital equipment	\$ (1,000)	\$ (2,000)	\$ (1,000)								
Salaries and wages		\$ (1,600)	\$ (1,200)	\$ (1,000)							
Materials and supplies		\$ (500)	\$ (1,000)	\$ (600)							
Total setup costs	\$ (1,500)	\$ (4,800)	\$ (4,100)	\$ (1,600)							
Additional investment									\$ (7,500)		
Sales (units) A				2	7	10	21	21	21	21	21
Price / unit B				\$ 1,625	\$ 1,675	\$ 1,675	\$ 1,975	\$ 1,975	\$ 1,975	\$ 1,975	\$ 1,975
Production costs / unit (note 5) C				\$ 1,250	\$ 1,281	\$ 1,313	\$ 1,346	\$ 1,380	\$ 1,415	\$ 1,450	\$ 1,486
Revenue = AXB			\$ -	\$ 3,250	\$ 11,725	\$ 16,750	\$ 41,475	\$ 41,475	\$ 41,475	\$ 41,475	\$ 41,475
Production costs = CXA	\$ -	\$ -	\$ -	\$ (1,600)	\$ (8,967)	\$ (13,130)	\$ (28,266)	\$ (28,980)	\$ (29,715)	\$ (30,450)	\$ (31,206)
Gross profit	\$ -	\$ -	\$ -	\$ 1,650	\$ 2,758	\$ 3,620	\$ 13,209	\$ 12,495	\$ 11,760	\$ 11,025	\$ 10,269
Depreciation (note 6)	\$ -	\$ (100)	\$ (380)	\$ (604)	\$ (583)	\$ (467)	\$ (373)	\$ (299)	\$ (239)	\$ (191)	\$ (153)
Selling & admin costs (note 7)	\$ -	\$ (175)	\$ (250)	\$ (1,250)	\$ (1,000)	\$ (2,010)	\$ (4,977)	\$ (4,977)	\$ (4,977)	\$ (4,977)	\$ (4,977)
EBT	\$ -	\$ (275)	\$ (630)	\$ (204)	\$ 1,175	\$ 1,143	\$ 7,859	\$ 7,219	\$ 6,544	\$ 5,857	\$ 5,139
Tax credits, ITC (note 8)											
Federal	\$ 300	\$ 852	\$ 400	\$ 212							
Provincial (Manitoba)	\$ 300	\$ 852	\$ 400	\$ 212							
Total tax credits, ITC	\$ 600	\$ 1,704	\$ 800	\$ 424							
Tax (note 3)	\$ (197)	\$ (469)	\$ (56)	\$ (72)	\$ (385)	\$ (375)	\$ (2,578)	\$ (2,369)	\$ (2,147)	\$ (1,922)	\$ (1,686)
Net Income	\$ 403	\$ 960	\$ 114	\$ 148	\$ 789	\$ 768	\$ 5,280	\$ 4,851	\$ 4,397	\$ 3,935	\$ 3,453
Net cash flow, FV	\$ (1,097)	\$ (3,740)	\$ (3,606)	\$ (848)	\$ 1,373	\$ 1,235	\$ 5,654	\$ (2,351)	\$ 4,636	\$ 4,126	\$ 3,606
Net cash flow, PV	\$ (1,097)	\$ (3,400)	\$ (2,980)	\$ (637)	\$ 937	\$ 767	\$ 3,191	\$ (1,206)	\$ 2,163	\$ 1,750	\$ 1,390
	NPV	Payback	IRR								
MID SCENARIO	\$ 878	7.73	12%								

Assumptions:

1. If EBT is positive tax is considered carryforward.
2. CCA on equipment is assumed class 8
3. Tax rate = 33%, as rate for 2010 year ending for AI consolidated
4. Inflation rate would be the same
5. Production cost / unit increases 2.5% annually beginning year 4
6. Depreciation at 20% of net book value
7. Selling & admin costs increase by 12% annually beginning year 5
8. Investment Tax Credit rate at 20% of eligible scientific research & experimental development
9. Year 7 will see additional investment of \$7.5 for capacity restrictions

required rate of return	10%
tax rate	33%
CCA class 8 rate - M&E	20%
Investment Tax Credit rate	20%

APPENDIX G
GENSET JOINT-VENTURE ANALYSIS (MID SCENARIO)

(CONSERVATIVE AND OPTIMISTIC SCENARIOS EVALUATED USING SAME METHODOLOGY)

(in 000's)	0	1	2	3	4	5	6	7	8	9	10
Setup costs											
Initial investment	\$ (5,000)										
Capital equipment	\$ (3,000)	\$ (1,000)									
Materials and supplies		\$ (750)	\$ (1,000)								
Total setup costs	\$ (8,000)	\$ (1,750)	\$ (1,000)								
Additional investment A						\$ (3,250)					
Sales (units) B			2	5	11	18	23	23	23	23	23
Price / unit C			\$ 1,550	\$ 1,650	\$ 1,650	\$ 1,750	\$ 2,025	\$ 2,025	\$ 2,025	\$ 2,025	\$ 2,025
Production costs / unit (note 5)			\$ 1,250	\$ 1,250	\$ 1,281	\$ 1,313	\$ 1,346	\$ 1,380	\$ 1,415	\$ 1,450	\$ 1,486
Revenue = BXA			\$ 3,100	\$ 8,250	\$ 18,150	\$ 31,500	\$ 46,575	\$ 46,575	\$ 46,575	\$ 46,575	\$ 46,575
Production costs = CXA	\$ -	\$ -	\$ (2,500)	\$ (6,250)	\$ (14,091)	\$ (23,634)	\$ (30,958)	\$ (31,740)	\$ (32,545)	\$ (33,350)	\$ (34,178)
Commissions (note 9)	\$ -	\$ -	\$ (78)	\$ (206)	\$ (454)	\$ (788)	\$ (1,164)	\$ (1,164)	\$ (1,164)	\$ (1,164)	\$ (1,164)
Gross profit	\$ -	\$ -	\$ 522	\$ 1,794	\$ 3,605	\$ 7,078	\$ 14,453	\$ 13,671	\$ 12,866	\$ 12,061	\$ 11,233
Depreciation (note 6)	\$ -	\$ (300)	\$ (640)	\$ (612)	\$ (490)	\$ (392)	\$ (313)	\$ (251)	\$ (201)	\$ (160)	\$ (128)
Selling & admin costs (note 7)	\$ -	\$ (500)	\$ (750)	\$ (990)	\$ (2,178)	\$ (3,780)	\$ (5,589)	\$ (5,589)	\$ (5,589)	\$ (5,589)	\$ (5,589)
EBT	\$ -	\$ (800)	\$ (868)	\$ 192	\$ 937	\$ 2,906	\$ 8,551	\$ 7,831	\$ 7,076	\$ 6,312	\$ 5,516
Total tax credits, ITC	\$ 208	\$ 56	\$ 56	\$ 480	\$ 800						
Tax (note 3)	\$ (68)	\$ 244	\$ 266	\$ (220)	\$ (570)	\$ (954)	\$ (2,805)	\$ (2,569)	\$ (2,322)	\$ (2,071)	\$ (1,810)
Net income, FV	\$ 140	\$ (500)	\$ (546)	\$ 452	\$ 1,167	\$ 1,953	\$ 5,745	\$ 5,262	\$ 4,755	\$ 4,241	\$ 3,706
Net cash flow, AI 80%, F	\$ (6,288)	\$ (1,560)	\$ (724)	\$ 851	\$ 1,326	\$ (724)	\$ 4,847	\$ 4,410	\$ 3,964	\$ 3,521	\$ 3,068
Net cash flow, PV	\$ (6,288)	\$ (1,418)	\$ (598)	\$ 639	\$ 906	\$ (450)	\$ 2,736	\$ 2,263	\$ 1,849	\$ 1,493	\$ 1,183

	NPV	EL Buyout, PV	Net NPV	Payback	IRR
MID SCENARIO	\$ 2,315	\$ 674	\$ 1,642	6.52	14%

Notes:

1. If EBT is positive tax is considered carryforward.
2. CCA on equipment is assumed class 8
3. Tax rate = 33%, as rate for 2010 year ending for AI consolidated
4. Inflation rate would be the same
5. Production cost / unit increases 2.5% annually beginning year 4
6. Depreciation at 20% of net book value
7. Selling & admin costs increase by 12% annually beginning year 5
8. Investment Tax Credit rate at 20% of eligible scientific research & experimental development, for federal and provincial (Manitoba), see References
9. Commissions are 2.5% of sales to Energy Locomotive
10. At the end of 10 years, AI has the option to buyout EL 20% ownership; buyout rate is based on perpetuity of year 10 net income at rate of return of 10%
11. Year 5 will see additional investment of \$3.25M for capacity restrictions

required rate of return	10%
Tax Rate	33%
CCA class 8 rate - M&E	20%
Investment Tax Credit rate	20%

APPENDIX H
TB MINING SURFACE DIVISION ACQUISITION ANALYSIS (MID SCENARIO)

(CONSERVATIVE AND OPTIMISTIC SCENARIOS EVALUATED USING SAME METHDODOGY)

(in 000's)	0	1	2	3	4	5	6	7	8	9	10
Purchase price	\$ (10,000)										
Acquisition costs	\$ (1,000)										
Total purchase costs	\$ (11,000)										
Capital investments		\$ (3,500)	\$ (750)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (5,000)				
Sales (note 1) A											
Safety Equipment		\$ 1,875	\$ 2,075	\$ 2,150	\$ 2,350	\$ 2,750	\$ 2,885	\$ 4,471	\$ 4,690	\$ 4,920	\$ 5,161
Shovels		\$ 7,500	\$ 7,500	\$ 10,000	\$ 13,000	\$ 16,000	\$ 16,784	\$ 17,606	\$ 18,469	\$ 19,374	\$ 20,323
Services		\$ 13,750	\$ 15,500	\$ 17,500	\$ 20,500	\$ 22,500	\$ 23,603	\$ 24,759	\$ 25,972	\$ 27,245	\$ 28,580
Gross margins (note 2) = A X %											
Safety Equipment		\$ 478	\$ 529	\$ 548	\$ 599	\$ 701	\$ 736	\$ 1,140	\$ 1,196	\$ 1,255	\$ 1,316
Shovels		\$ 2,025	\$ 2,025	\$ 2,700	\$ 3,510	\$ 4,320	\$ 4,532	\$ 4,754	\$ 4,987	\$ 5,231	\$ 5,487
Services		\$ 3,781	\$ 4,263	\$ 4,813	\$ 5,638	\$ 6,188	\$ 6,491	\$ 6,809	\$ 7,142	\$ 7,492	\$ 7,859
Selling & admin costs											
interest expense (note 3)		\$ (75)	\$ (51)	\$ (30)	\$ (15)	\$ (3)					
selling, gen \$ admin (note 4) = A X 13%		\$ (2,904)	\$ (3,149)	\$ (3,723)	\$ (4,502)	\$ (5,180)	\$ (5,433)	\$ (5,881)	\$ (6,169)	\$ (6,472)	\$ (6,789)
depreciation (note 6)	\$ -	\$ -	\$ (355)	\$ (647)	\$ (536)	\$ (446)	\$ (373)	\$ (314)	\$ (267)	\$ (228)	\$ (196)
R&D (note 4) = A X 2.2%		\$ (499)	\$ (542)	\$ (640)	\$ (774)	\$ (891)	\$ (934)	\$ (1,011)	\$ (1,061)	\$ (1,113)	\$ (1,168)
bad debt exp (note 4) = A X 1.3%		\$ (311)	\$ (337)	\$ (399)	\$ (482)	\$ (555)	\$ (582)	\$ (630)	\$ (661)	\$ (693)	\$ (727)
Total selling & admin costs		\$ (3,789)	\$ (4,433)	\$ (5,439)	\$ (6,309)	\$ (7,074)	\$ (7,323)	\$ (7,837)	\$ (8,158)	\$ (8,506)	\$ (8,880)
Additional sales, net exp (note 7) = A X %			\$ 280	\$ 1,322	\$ 2,398	\$ 2,300	\$ 1,930	\$ 522	\$ 548	\$ 575	\$ 603
EBT	\$ -	\$ 2,495	\$ 2,663	\$ 3,944	\$ 5,836	\$ 6,434	\$ 6,365	\$ 5,388	\$ 5,715	\$ 6,047	\$ 6,386
Taxes (note 8)	\$ -	\$ (787)	\$ (840)	\$ (1,244)	\$ (1,840)	\$ (2,029)	\$ (2,007)	\$ (1,699)	\$ (1,802)	\$ (1,907)	\$ (2,014)
Net Income	\$ -	\$ 1,708	\$ 1,824	\$ 2,700	\$ 3,996	\$ 4,406	\$ 4,358	\$ 3,689	\$ 3,913	\$ 4,140	\$ 4,372
Net cash flow, FV	\$ (11,000)	\$ (1,792)	\$ 1,428	\$ 2,347	\$ 3,532	\$ 3,851	\$ (269)	\$ 4,003	\$ 4,180	\$ 4,368	\$ 4,569
Net cash flow, PV	\$ (11,000)	\$ (1,629)	\$ 1,180	\$ 1,764	\$ 2,412	\$ 2,391	\$ (152)	\$ 2,054	\$ 1,950	\$ 1,852	\$ 1,761
		NPV	Payback	IRR							
MID SCENARIO	\$ 2,585	6.48	14%								

1. Sales growth at 4.9% starting year 6; Safety Equipment sales increase 55% year 7 from R&D investment \$5M year 6	required rate of return	10%
2. Gross margin based on 25.5% for Safety Equipment, 27% for Shovels, 27.5% for Services	tax rate	32%
3. Based on paydown of current outstanding loans only	Depreciation rate - building	4%
4. Expenses based on % of sales as per average of 2005 to 2010 TB Mining expenses	Depreciation rate - machinery	20%
5. R&D expenses forecast based on % of sales as per average of 2010 and 2009 TB Mining R&D expenses		
6. Building \$2,850 depreciating at 4% of net book value; Equipment, \$2,975 depreciating at 20% of net book value		
7. increases from purchase of TB Mining begin 2012 at 5% of sales, 2013 at 20%, 2014 at 30%, 2015 at 25%, 2016 at 20% and 5% after, gross margin 22.3%		
8. Tax rate = 32%, as rate for 2010 year ending for TB Mining		
9. Inflation rate would be the same		
10. Year 1 will see additional investment of \$3.5M as plant capacity will reach 75%		

APPENDIX I
POWDER-COATING ANALYSIS

(in 000's)	Year	0	0 - 5	6 - 10	11 - 15
Setup costs					
Equipment		\$ (1,750)			
Facility reorganization		\$ (50)			
Training		\$ (15)			
Total setup costs		\$ (1,815)			
Scenario 1 vs Scenario 2: switching from current to inhouse powder coating					
Net savings from inhouse (note 5)			\$ 6,792	\$ 8,464	\$ 10,547
Depreciation			\$ (583)	\$ (583)	\$ (583)
EBT			\$ 6,208	\$ 7,880	\$ 9,964
Tax (note 6)			\$ (2,037)	\$ (2,585)	\$ (3,269)
Total savings (loss) net of tax			\$ 4,171	\$ 5,295	\$ 6,695
CCA			\$ 1,105	\$ 434	\$ 142
Net cash flow, FV	\$ (1,815)		\$ 5,860	\$ 6,312	\$ 7,420
Net cash flow, PV	\$ (1,815)		\$ 4,423	\$ 2,958	\$ 2,153
Total		\$ NPV 7,719	Payback 1.63	IRR 63%	
Scenario 1 vs Scenario 3: switching from current to outsourcing powder coating					
Net savings from outsourcing (note 5)			\$ 6,912	\$ 8,613	\$ 10,734
Tax (note 6)			\$ (2,268)	\$ (2,826)	\$ (3,522)
Net cash flow, FV			\$ 4,644	\$ 5,787	\$ 7,212
Net cash flow, PV	\$ -		\$ 3,492	\$ 2,702	\$ 2,091
Total		\$ NPV 8,284	Payback -	IRR N/A	
Scenario 3 vs Scenario 2: switching from outsourcing to inhouse powder coating					
Net savings from inhouse (note 5)			\$ 274	\$ 342	\$ 426
Depreciation			\$ (583)	\$ (583)	\$ (583)
EBT			\$ (309)	\$ (241)	\$ (157)
Tax (note 6)			\$ 101	\$ 79	\$ 52
Total savings (loss) net of tax			\$ (208)	\$ (162)	\$ (106)
CCA			\$ 1,105	\$ 434	\$ 142
Net cash flow, FV	\$ (1,815)		\$ 1,481	\$ 855	\$ 620
Net cash flow, PV	\$ (1,815)		\$ 1,130	\$ 410	\$ 182
Total		\$ NPV (92)	Payback 6.67	IRR 9%	

Required Rate of Return	10%
Tax Rate	33%
CCA class 8 rate - M&E	20%

Note:

1. No salvage value at the end of the equipment useful life due to market uncertainty.
2. CCA on equipment is assumed class 8
3. Tax rate = 33%, as rate for 2010 year ending for AI consolidated
4. Inflation rate would be the same
5. Annual savings (losses) would increase 4.5% every year
6. If EBT is negative, tax is considered carryforward.
7. If division will not have savings from using the other coating method in 2010, it is not considered in NPV calculation.

APPENDIX J
BALANCED SCORECARD

Perspective	Objectives	Measures
FINANCIAL	Sales	>\$500M by 2015
	Rate of Return	10%
	Bank covenant	Current Ratio of 1.5:1 Debt: Equity of 1.75:1
	Bank loan	Return-on-assets of 10% Debt: Tangible net worth of 2:1 Current Ratio of 1.5:1
	Cost Improvements	Positive NPV
CUSTOMER	Deliver On-Time	On-time-delivery %
	Continue Image of Trusted Supplier and Enhance Customer Relationships	Customer Retention New customers from word-of-mouth
	Customization and Quality	Customer Defects>Returns
	Become Innovative Supplier	(\$/%) Sales New Products (\$/%) Sales New Technology Products
PROCESS	Leverage strengths & core competencies	Positive NPV with Synergies
	Upgrade Equipment	New Assets over Next 3-years
	Maintain Supplier Relationships	Savings from Supplier Cost Reduction
	Understand Customer Needs	# Hours with Key Customers # Plans Jointly Developed with Customers
	Build International and Domestic Network	# New Distributors Units Sold Through Distributors
	Excel at Product Development	(\$/%) Sales from R&D Time-to-Market
LEARNING & GROWTH	Enhance Workforce Efficiency	Non-redundant Positions (Corporate and Divisional)
	Leverage information Technology	Customer Databases CRM availability Process Improvement (JIT) Tools
	Build a Culture for Innovation	Employee Survey # of Best Practices Shared

APPENDIX K ACTION PLAN

Functional Area	Action	Division ^A	Responsibility	Cost	Kick Off	Complete
Strategic Management	-Review and revise mission and vision statement	AI	Board of Directors and Executive Mgmt	Cost of Business	Immediately	Aug-2011
	-Review and revise shareholder agreement including dividend policy	AI	Board of Directors	Cost of Business	Oct-2011	Nov-2011
	-Evaluate the share value and initiate the succession plan	AI	Board of Directors	Cost of Business	Immediately	Jul-2011
Strategic Initiatives	-Communicate with local regulation agencies of Peru and sign off relevant agreements (legal procedures)	Peru	Elizabeth and Barry	\$1,500,000 ^C	Jun-2011	Aug-2011
	-Documentation, company policies and reporting	Peru	Barry	Cost of Business	Aug-2011	Oct-2011
	-Communicate with local banks and set up bank accounts	Peru	Barry	Cost of Business	Nov-2011	Dec-2011
	-Acquire TB Mining's surface division (legal procedures)	MP	Dominique	\$11,000,000 ^D	Jul-2011	Aug-2011
	--Contact bank and sign contract for loan to AI and review bank covenants	AI	Barry and Board of Directors	Cost of Business	Jun-2011	Jul-2011
Project Initiatives	-Communicate with external powder-coating outsourcing company and sign off contract	AP,EP,RP	David, Dominique, Clare	Cost of Business	Jun-2011	Aug-2011
	-Review and revise powder-coating outsourcing contract annually	AP,EP,RP	David, Dominique, Clare	Cost of Business	Jun-2012	Ongoing
	-Surface division Capacity investment	MP	Dominique and CEO of MP	\$7,250,000 ^E	Jul-2011	Jul-2015
	-Surface division R&D investment	MP	Dominique and CEO of MP	\$5,000,000 ^E	Jan-2016	Dec-2016
Due Diligence	-Review surface division's financial records and confirm all material facts in regards to the sale	MP	VP of Finance of EP	Cost of Business	Jun-2011	Aug-2011
	-Surface division machinery and equipment inspection and quality inspection	MP	VP of Operations and VP of Manufacturing of EP	Cost of Business	Jun-2011	Aug-2011
Infrastructure	-Purchase land, build the facility and buy equipments	Peru	Barry and Board of Directors	\$9,750,000 ^C	Jun-2011	Nov-2011
Financial Management	-Review corporate and divisional derivate instruments	AI	VPs of Finance of Each Division ^B	Cost of Business	Jul-2011	Ongoing
	-Conduct short-term annual budget and forecast on new strategic initiatives	AI	VPs of Finance of Each Division ^B	Cost of Business	Jun-2011	Aug-2011
Financial Reporting	-Review IFRS adoptions for each division and new strategic initiatives	AI	VPs of Finance of Each Division ^B	Cost of Business	Jun-2011	Ongoing
IT	-Internal Control system kick off, installation, testing and modification	AI	IT Manager and VPs of Each Division ^B	\$1,500,000 ^F	Sep-2011	May-2012
	-ERP solution(CRM, JIT, Job Costing, etc) kick off, installation, testing and modification	AI	IT Manager and VPs of Each Division ^B	\$100,000 ^G	Sep-2011	May-2012
Human Resources	-Hire recruiter to hire Executive Team	Peru	Corporate HR Manager	\$500,000 ^H	Jun-2011	Aug-2011
	-Hire recruiter to hire employees and start employee training	Peru	Corporate HR Manager	\$200,000 ^I	Sep-2011	Nov-2011
	-recruit skilled tradespeople from other part of world	EP	Corporate and EP HR Managers	Cost of Business	Jun-2011	Aug-2011
	-Develop performance targets based on Balanced Score Card	AI	Corporate HR & Divisional Managers	Cost of Business	Jul-2011	Dec-2011
	-Communicate revised Mission and Vision once complete by Board/Mgmt	AI	Corporate HR & Divisional Managers	Cost of Business	Sep-2011	Sep-2011
	-Annual employee performance review and evaluation	AI	Relevant Supervisor/Senior Management	Cost of Business	Nov-2011	Ongoing
	-Annual management performance review and evaluation	AI	CEOs and Board of Directors	Cost of Business	Nov-2011	Ongoing
Project Manager	-Oversee the development in Peru (reports to Corporate Office)	Peru	Corporate HR Manager	\$100,000 ^J	Jul-2011	Jul-2012
Marketing & Communications	-Marketing Manager and Assistant - build network/awareness in Peru	Peru	Marketing Manager	Cost of Business	Jul-2011	Ongoing
	-Develop formal marketing and networking plan to reflect changes in AI	AI	VP Marketing and Sales	Cost of Business	Jul-2011	Oct-2011
	-Update website and enhance AI website with new developments	AI	Marketing and Communications team	Cost of Business	Sep-2011	Ongoing
	-Communicate expansion and new TB product line to existing customers	AI	Marketing and Communications team	Cost of Business	Sep-2011	Jan-2012
Legal	-Settle the law suit	EP/AI	Dominique and Elizabeth	\$2,500,000 ^K	Sep-2011	Oct-2011

Notes:

A. AI includes AP, EP, RP, MP, Peru subsidiary and corporate office.

B. Each Division includes AP, EP, RP, and MP.

C. See Appendix E. \$1,500,000 is the upfront costs and \$9,750,000 is the rest of total set up costs.

D. See Appendix H. \$11,000,000 is the total purchase costs.

E. See Appendix H. \$7,250,000 is the capital investments from year 2011 through 2015. \$5,000,000 is the capital investment in year 2016.

F. See Appendix R Note U.

G. See Appendix R Note U.

H. See Appendix P Note K.

I. See Appendix P Note K.

J. See Appendix P Note K.

K. See Appendix P. \$2,500,000 is the lawsuit settlement costs.

APPENDIX L
SHAREHOLDERS AGREEMENT

1. Selling/gifting of shares:
 - a. Shares can be freely sold or gifted within the original 25% ownership structure. This means that succeeding generations of a family unit can freely sell and/or gift shares amongst themselves.
 - b. Shares can be sold among the entire Arndt family ownership group, but members of the originating 25% ownership family have the first right of refusal.
 - c. Shares can be freely sold to external parties if:
 - i. At least 70% of the total shares remain within the Arndt family, or;
 - ii. The sale is approved by at least 75% of the shareholders, and;
 - iii. In the case of both (i) and (ii), Arndt family members have the first right of refusal
2. Each shareholder has one vote.
3. Board:
 - a. Candidates for appointment to the Board may be brought forth by any shareholder or Board member.
 - b. Shareholders will vote on each appointment to the Board – each shareholder has one vote.
 - c. The Chair of the Board is appointed for a three-year term and cannot serve as chair for more than two consecutive terms,
 - d. The Board meets at least quarterly and generally monthly.
4. The annual dividend is determined by the Board no later than three months after the fiscal year end.
5. Appointments to the CEO position within AI and within each Arndt company must be approved by the majority of the Board.
6. Amendments to the shareholder agreement require the approval of at least 70% of the owners.

APPENDIX M
SUCCESSION PLANNING SCORECARD¹²³

Competency	Ability in this area (1 = weak, 5 = strong)	Importance in current business (1 = weak, 5 = strong)	Ability Rating X Importance
Knowledge/skill in Agricultural Products			
Knowledge/skill in Engineered Products			
Knowledge/skill in Road Rail products			
Knowledge and expertise in purchasing			
Knowledge and expertise in sales			
Knowledge and expertise in customer service			
Knowledge/skill in technical matters			
Contacts within the industry (social capital ¹²⁴)			
Total Score			

123 Ip, Barry. "Planning and Controlling Business Succession Planning Using Quality Function Deployment." *Total Quality Management*, Vol. 20, No. 4, April 2009, pp. 363-379.

124 Yangmin, Kim and Alber A. Canella Jr., "Toward a Social Capital Theory of Director Selection." *Corporate Governance*, Vol. 16, No. 4, July 2008, pp. 282-293.

APPENDIX N
SHARE PRICE CALCULATION

Conservative Zero Growth Valuation (in'000)							
Discount Rate 10%	0 2010	1 2011	2 2012	3 2013	1 2014	5 2015	6 2016 on
Net Income	\$ 24,819	\$ 21,709	\$ 25,825	\$ 33,739	\$ 49,788	\$ 62,234	\$ 62,234
Dividends	\$ 10,000	\$ 9,000	\$ 10,000	\$ 13,000	\$ 20,000	\$ 25,000	\$ 24,894
Number of Shares	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Earnings Per Share	\$ 24.82	\$ 21.71	\$ 25.83	\$ 33.74	\$ 49.79	\$ 62.23	\$ 62.23
Growth in Income							0%
PV of Dividends/Share	\$ 10.00	\$ 8.18	\$ 8.26	\$ 9.77	\$ 18.18	\$ 15.52	\$ 140.52
NPV (Share Price)							\$ 210.44

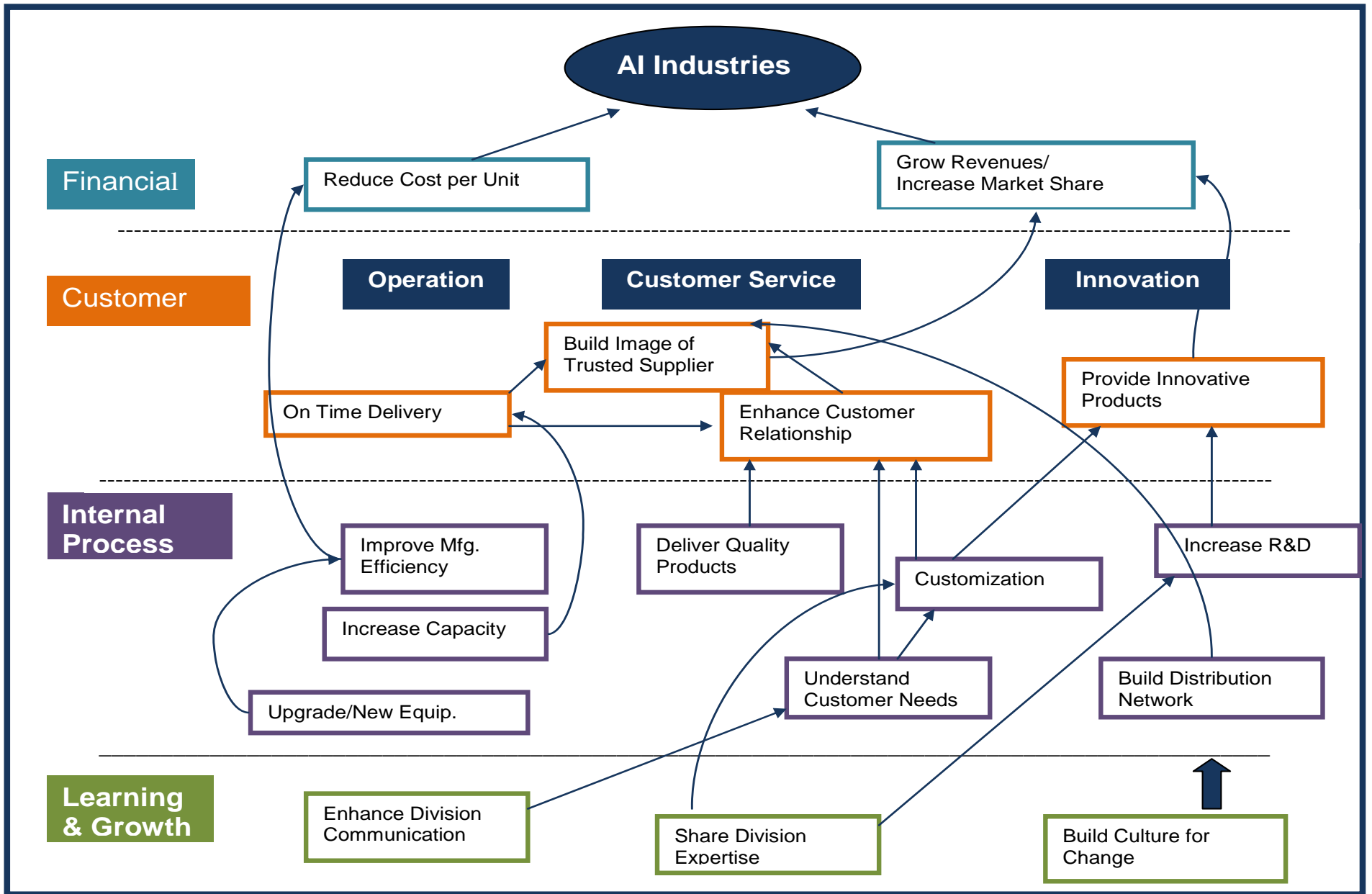
Moderate Valuation (in '000)							
Discount Rate 10%	0 2010	1 2011	2 2012	3 2013	1 2014	5 2015	6 2016 on
Net Income	\$ 24,819	\$ 21,709	\$ 25,825	\$ 33,739	\$ 49,788	\$ 62,234	\$ 64,101
Dividends	\$ 10,000	\$ 9,000	\$ 10,000	\$ 13,000	\$ 20,000	\$ 25,000	\$ 25,640
Number of Shares	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Earnings Per Share	\$ 24.82	\$ 21.71	\$ 25.83	\$ 33.74	\$ 49.79	\$ 62.23	\$ 38.46
Growth in Income							3.0%
PV of Dividends/Share	\$ 10.00	\$ 8.18	\$ 8.26	\$ 9.77	\$ 18.18	\$ 15.52	\$ 206.76
NPV (Share Price)							\$ 276.68

Optimistic Valuation (in '000s)							
Discount Rate 10%	0 2010	1 2011	2 2012	3 2013	1 2014	5 2015	6 2016 on
Net Income	\$ 24,819	\$ 21,709	\$ 25,825	\$ 33,739	\$ 49,788	\$ 62,234	\$ 65,035
Dividends	\$ 10,000	\$ 9,000	\$ 10,000	\$ 13,000	\$ 20,000	\$ 25,000	\$ 26,014
Number of Shares	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Earnings Per Share	\$ 24.82	\$ 21.71	\$ 25.83	\$ 33.74	\$ 49.79	\$ 62.23	\$ 39.02
Growth in Income							4.5%
PV of Dividends/Share	\$ 10.00	\$ 8.18	\$ 8.26	\$ 9.77	\$ 18.18	\$ 15.52	\$ 266.98
NPV (Share Price)							\$ 336.90

Assumptions:

- Rate of return for shareholders set to AI required return (10%)
- Assumed continued payout of 40% dividend into perpetuity
- moderate growth of 3.0% (between zero growth and optimistic growth)
- Optimistic growth of 4.5% (deemed reasonable to achieve 5 year sales target, but optimistic to sustain into perpetuity)

**APPENDIX O
STRATEGY MAP**



APPENDIX P INCOME STATEMENT

Consolidated income statement, year ended December 31, ('000s), (IFRS)							
		2010	2011	2012	2013	2014	2015
		Actual	Pro-forma	Pro-forma	Pro-forma	Pro-forma	Pro-forma
Sales							
Current operations	A	\$399,862	\$417,856	\$436,660	\$456,309	\$476,843	\$498,300
Peru	C	0	0	1,754	9,775	27,836	41,902
MP	D,E	0	11,563	26,329	35,580	46,605	51,563
Total sales		399,862	429,419	464,743	501,664	551,284	591,765
Cost of goods sold							
Direct materials							
Current operations	A	193,855	201,316	210,374	219,840	229,732	240,070
Peru	C	0	0	44	244	696	1,048
MP	D,E	0	8,420	18,885	24,554	31,481	35,198
Total direct materials		193,855	209,736	229,303	244,639	261,909	276,315
Salaries and benefits	F	74,260	77,801	81,603	86,408	91,526	95,590
Utilities	G	5,216	5,480	5,741	6,055	6,383	6,659
Engineering	G	5,192	5,816	6,077	6,350	6,636	6,935
Travel	G	3,454	3,573	3,735	3,902	4,078	4,261
Loss (gain) on foreign currency exchange	H	62	0	0	0	0	0
Depreciation and amortization	G	4,762	4,594	5,445	5,727	5,646	4,607
Total cost of goods sold		286,801	307,000	331,904	353,082	376,177	394,367
Selling, general and administration	C,D,I						
Wages and benefits		29,131	32,867	35,979	38,030	40,353	42,643
Office and miscellaneous		6,898	7,109	7,428	7,762	8,111	8,476
Marketing		8,542	8,115	8,505	8,981	9,476	9,883
Professional fees		2,690	2,629	2,747	2,870	3,000	3,135
Interest and bank charges	F	1,168	2,018	3,544	3,398	3,106	3,051
Research & development	F	5,110	5,888	6,433	6,797	7,208	7,614
Depreciation and amortization	F	451	508	1,193	1,510	1,423	1,359
Bad debts	F	4,276	7,645	8,164	8,577	9,029	9,486
Warranty and after-sales support	F,J	7,204	8,357	8,733	9,127	9,537	9,966
Peru, selling, general and administration		0	0	219	1,222	3,201	4,190
Implentation costs, wages and benefits	K		300	50	0	0	0
Lawsuit settlement		0	2,500	0	0	0	0
Acquisition costs - TB Mining surface division	L	0	1,000	0	0	0	0
Other expenses (income)		(136)	(84)	(63)	26	119	106
Total selling, general and administration		65,334	78,850	82,932	88,300	94,563	99,908
Corporate sharing		7,918	8,528	9,235	10,062	11,034	12,187
Profit sharing	M	2,884	2,595	2,773	3,567	5,571	7,987
Earnings before Taxes		36,925	32,445	37,898	46,653	63,939	77,316
Income taxes, foreign	N	0	0	0	129	636	1,200
Income taxes, Canada	O	12,115	10,736	12,073	12,785	13,515	13,882
Profit for this year		\$24,810	\$21,709	\$25,825	\$33,739	\$49,788	\$62,234
Consolidated statement of changes in equity, at December 31, ('000s), (IFRS)							
		2010	2011	2012	2013	2014	2015
Balance at January 1		\$45,030	\$59,840	\$72,549	\$88,374	\$109,113	\$138,902
Profit for this year		24,810	21,709	25,825	33,739	49,788	62,234
Payments of dividends	P	(10,000)	(9,000)	(10,000)	(13,000)	(20,000)	(25,000)
Balance at December 31		\$59,840	\$72,549	\$88,374	\$109,113	\$138,902	\$176,136

APPENDIX Q
BALANCE SHEET

Consolidated statement of financial position, at December 31, ('000s), (IFRS)

		2010	2011	2012	2013	2014	2015
		Actual	Pro-forma	Pro-forma	Pro-forma	Pro-forma	Pro-forma
Assets							
Non-current							
Property, plant and equipment (net)							
Current operations		46,702	51,201	52,475	51,693	45,468	40,256
Peru	C	0	11,250	10,942	10,633	10,325	10,017
MP	D,P	0	10,825	11,221	11,573	12,038	12,592
Total property, plant and equipment (net)		46,702	73,276	74,637	73,900	67,831	62,865
Intangible assets	R	859	1,500	1,500	1,500	1,500	1,500
Total non-current		47,561	74,776	76,137	75,400	69,331	64,365
Current							
Cash		2,896	23,167	28,926	42,483	74,201	110,303
Receivables	G	40,413	43,363	46,876	50,541	55,438	59,449
Inventory	S	36,111	39,048	42,666	45,475	48,594	51,205
Other current assets		7,063	8,293	8,293	8,293	8,293	8,293
Total current		86,483	113,871	126,761	146,792	186,526	229,250
Total assets		\$ 134,044	\$ 188,647	\$ 202,899	\$ 222,192	\$ 255,857	\$ 293,614
Equities and liabilities							
Capital and reserves							
Retained earnings							
Current operations		59,840	72,357	86,989	102,174	117,183	132,524
Peru	C	0	(161)	514	5,162	18,393	38,617
MP	D	0	353	871	1,777	3,326	4,995
Total retained earnings		59,840	72,549	88,374	109,113	138,902	176,136
Issued capital		100	100	100	100	100	100
Total Equity		59,940	72,649	88,474	109,213	139,002	176,236
Long-term borrowings	T	13,746	47,787	44,887	40,263	39,352	35,629
Current liabilities							
Line of credit		2,200	0	0	0	0	0
Accounts payable and accrued liabilities	G	41,820	48,259	48,678	52,686	58,180	62,642
Other liabilities		0	2,229	2,051	2,051	2,051	2,051
Provisions		12,800	12,800	12,800	12,800	12,800	12,800
Current portion of long-term debt	T	3,538	4,922	6,009	5,179	4,472	4,257
Total current liabilities		60,358	68,211	69,538	72,716	77,503	81,750
Total liabilities		74,104	115,998	114,425	112,978	116,855	117,378
Total equity and liabilities		\$134,044	\$188,647	\$202,899	\$222,192	\$255,857	\$293,614
Debt covenants:							
Current Ratio: 1.5:1	V	1.43	1.67	1.82	2.02	2.41	2.80
Return on Assets: 10%	W	18.51%	11.51%	12.73%	15.18%	19.46%	21.20%
Debt to tangible Net Worth: 2:1	X	1.25	1.63	1.32	1.05	0.85	0.67

APPENDIX R CASH FLOW STATEMENT

Consolidated statement of cash flows, year ended December 31, ('000s), (IFRS)

	2010 Actual	2011 Pro-forma	2012 Pro-forma	2013 Pro-forma	2014 Pro-forma	2015 Pro-forma
Cash flows from operating activities						
Profit (loss) for this year	\$24,810	\$21,709	\$25,825	\$33,739	\$49,788	\$62,234
Adjustments for:						
Depreciation and amortization	5,213	5,101	6,638	7,237	7,069	5,966
	<u>30,023</u>	<u>26,811</u>	<u>32,463</u>	<u>40,977</u>	<u>56,857</u>	<u>68,201</u>
Movements in working capital:						
Decrease/(increase) in receivables	(7,237)	(2,950)	(3,513)	(3,665)	(4,897)	(4,012)
Decrease/(increase) in inventory	(2,867)	(2,937)	(3,618)	(2,809)	(3,120)	(2,611)
Decrease/(increase) in other current assets	(1,262)	(1,230)	0	0	0	0
Decrease/(increase) in intangible assets	42	(641)	0	0	0	0
Increase/(decrease) in line of credit	(575)	(2,200)	0	0	0	0
Increase/(decrease) in payable and liabilities	(7,914)	6,439	419	4,008	5,495	4,462
Increase/(decrease) in other liabilities	0	2,229	(178)	0	0	0
Increase/(decrease) in provisions	4,270	0	0	0	0	0
Net cash generated by operating activities	<u>14,480</u>	<u>25,521</u>	<u>25,572</u>	<u>38,511</u>	<u>54,336</u>	<u>66,040</u>
Cash flows from investing activities						
Payments for property, plant and equipment	(641)	(8,000)	(7,250)	(5,500)		
Payments for property, plant and equipment - MP		(3,500)	(750)	(1,000)	(1,000)	(1,000)
Payments for Peru expansion		(11,250)				
Acquisition of TB Mining surface division assets (n		(7,325)				
Payments for operational improvements		(1,600)				
Net cash generated/(used in) operating activities	<u>(641)</u>	<u>(31,675)</u>	<u>(8,000)</u>	<u>(6,500)</u>	<u>(1,000)</u>	<u>(1,000)</u>
Cash flows from financing activities						
Proceeds from borrowings		38,200	3,000		3,000	
Repayment of borrowings	(2,085)	(2,774)	(4,814)	(5,454)	(4,617)	(3,939)
Dividends paid to owners	(10,000)	(9,000)	(10,000)	(13,000)	(20,000)	(25,000)
Net cash borrowing/(paid) financing activities	<u>(12,085)</u>	<u>26,426</u>	<u>(11,814)</u>	<u>(18,454)</u>	<u>(21,617)</u>	<u>(28,939)</u>
Net increase/(decrease) in cash	1,754	20,272	5,759	13,557	31,718	36,102
Cash at beginning of the year	1,142	2,896	23,167	28,926	42,483	74,201
Cash at end of the year	<u>\$2,896</u>	<u>\$23,167</u>	<u>\$28,926</u>	<u>\$42,483</u>	<u>\$74,201</u>	<u>\$110,303</u>

Notes

- A Sales and direct materials from current operations based on 4.5% annual increase between 2011 and 2015.
B Direct materials includes savings from powder coating outsource, refer to Appendix I
C Refer to Appendix H for Peru sales and costs data
D Refer to Appendix G for MP sales and costs data
E TB Mining surface division acquisition completed July 1, 2011; MP earnings reflected from date of acquisition
F Costs include for Peru and MP operations
G Based on historical average percentage of sales for IFRS 2009 and 2010 statements
H Due to uncertainty of fluctuations, no projections were made to gain/loss on foreign exchange
I Unless otherwise stated, expenses under "selling, general and administration" are based on historical percentage of sales
J Warranty expenses estimated at 2% of sales
K \$250,000 HR hiring costs (Peru), \$100,000 project manager (Peru); refer to Appendix X
L Acquisition costs are considered one time expenses
M Based on revised profit measure structure
N Income taxes, Peru operations are based on 30% of earnings before taxes
O Income taxes, Canada operations based on 32.81% of earnings before taxes
P 40% of profit rounded to nearest thousand; 2011 dividends reduced to meet bank covenants
Q TB Mining surface division capital assets at fair value on acquisition date
R Includes goodwill of \$641,000 from acquisition of TB Mining surface division
S Based on historical average percentage of cost of goods sold for IFRS 2009 and 2010 statements
T All new debt acquired from 2011 is considered repaid within 15 years at 7.5%
U Operational improvement costs: \$1.5M for internal controls and \$0.1M for IT systems
V Current assets / current liabilities
W Net income / Total assets
X Total liabilities/(Total assets - total liabilities - intangible assets)

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