

*The Element of* **Possibility**™

Value Analysis Canada Conference  
Jean-François Cyr  
Vice President of Operations  
Alcoa Canada Groupe Produits  
Primaires

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Who is Alcoa?



# Three Business Units composed of World-Class Assets



BAUXITE

## Bauxite

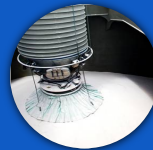
World's largest bauxite miner, benefiting from a solid position in the first quartile of the cost curb



ALUMINE

## Alumina

World's largest alumina refiner, being competitively positioned in the first quartile of the cost curb



ALUMINIUM

## Aluminum

World aluminum producer with a solid position in the second quartile of the cost curb



# A global footprint that provides access to key markets



# Raw Materials and Finished Products



Bauxite



Alumina



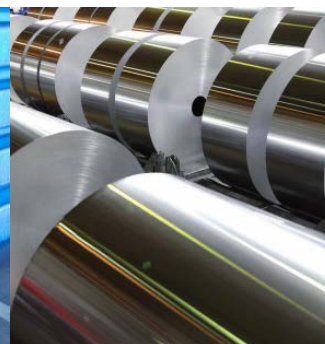
Coke



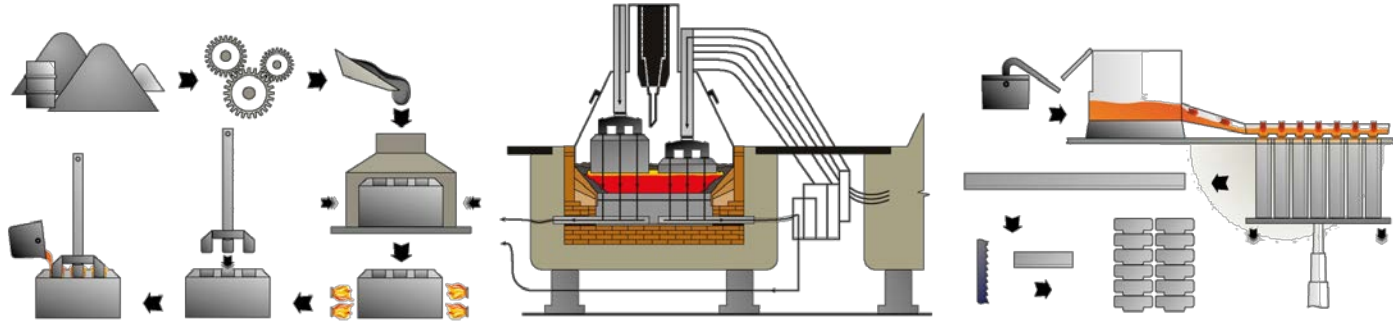
Pitch



Energy



# Aluminum Manufacturing Process



**Electrodes:**  
anode  
production

**Electrolysis:**  
liquid aluminum  
production

**Casthouse:** solid aluminum  
production

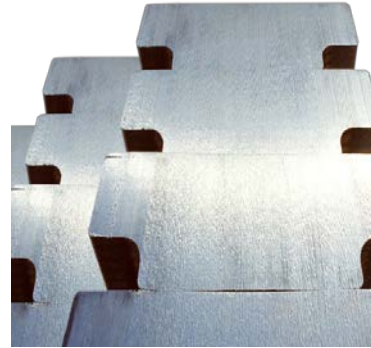
# Alcoa Canada Products from the Smelter Group



**Slab:**  
Aerospace Sector



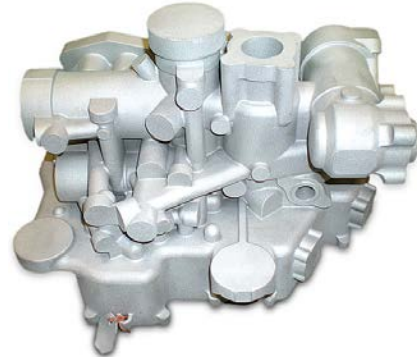
**Billet:**  
Construction  
Sector



**T-Ingot:**  
High Purity  
Automobile Sector



Our aluminum becomes...





# A strong presence in Québec where we invest almost \$100M per year of capex



- Projects managed by plants with an EPCM
- The following issues were often seen:
  - Business case unclear;
  - Plant involvement was less than optimal;
  - Over design;
  - Non capital solution analysis was missing depth;

## In 2014 we came to the conclusion that we had to upgrade our process



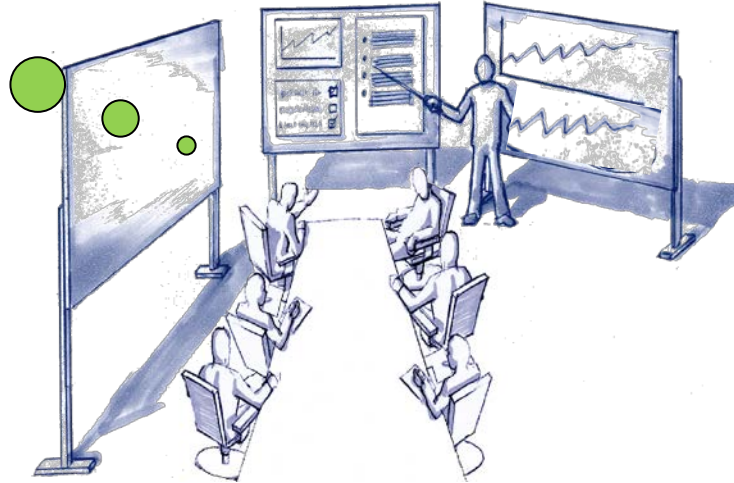
- Through different analysis, realizes a potential to improve the value of the capital investments with the implementation of different levers
- Value Analysis was chosen as one of the tools and has proven to be very efficient.

In 2014

- Official training of Value Engineering of 7 Alcoa Management
- Canadian region was chosen to start program
- Implication of people close to the process
- Full engagement of team members (Alcoa and Engineering Services Provider)
- Aim of 15 % cost avoidance with this program
- Value Improvement (VA) results a key element to obtain executive approval

In 2015 program was implemented in Europe and in 2016 for the US

**Main step of  
the FULL VA  
process**



**Mandate must be clear.**

**Experts are essential.**

**Employees close to process must be involved.**

**Workshop is crucial for future success and approval.**

- Results show that Value Analysis thinking is becoming normal practice in project management inside Alcoa

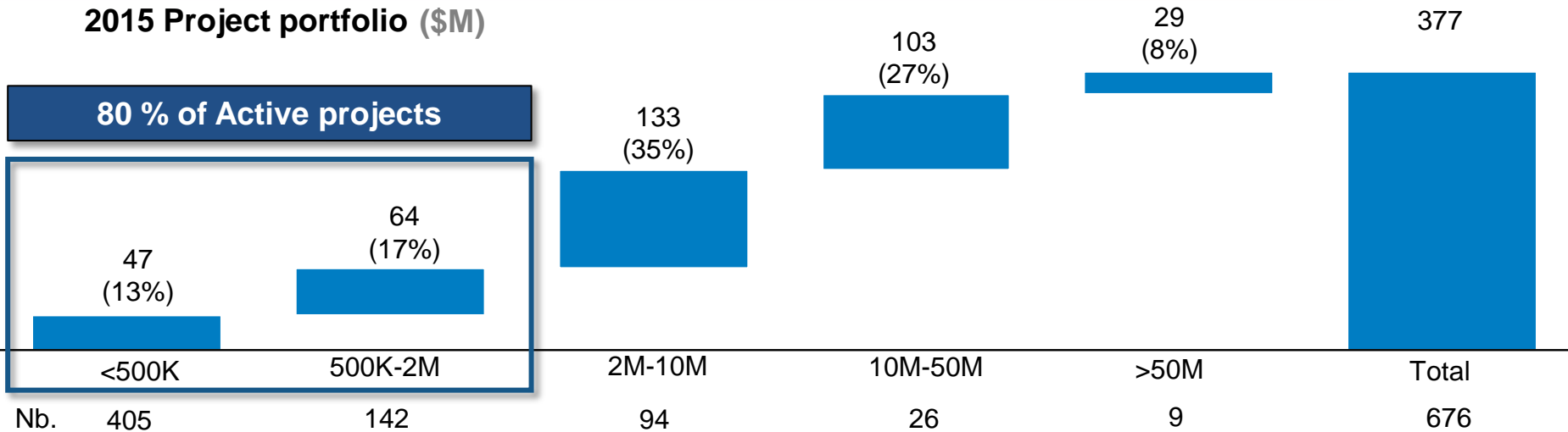
Year	Nb of VA	Forecasted cost	Cost avoidance / deferral	%
2015	8	49,0 \$	12,9 \$	26,3%
2016	26	120,6 \$	25,8 \$	21,4%
2017	16	88,7 \$	7,3 \$	8,2%
Total	50	258,3 \$	46,0 \$	17,8%



# Other elements that we are working to improve our capital process effectiveness



## 2015 Project portfolio (\$M)



- Project Segmentation (A, B, C, D) (Project cost and complexity)
- Value Analysis (projects + 500k\$)
- Approval process (adjusted to project cost)
- Emphasis on Return-seeking projects

# Project Segmentation

Objective is to produce a list of deliverables for a project that will represent the cost and the level of complexity of the project.

