ALCOA INC.
Form 10-K
February 19, 2015

**UNITED STATES**

**SECURITIES AND EXCHANGE COMMISSION**

**WASHINGTON, D.C. 20549**

**FORM 10-K**

[ x ] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF

THE SECURITIES EXCHANGE ACT OF 1934

**For The Fiscal Year Ended December 31, 2014**

**OR**

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d)

OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number 1-3610

# ALCOA INC.

(Exact name of registrant as specified in its charter)

| Pennsylvania | 25-0317820 |
|---|---|
| (State of incorporation) | (I.R.S. Employer Identification No.) |

**390 Park Avenue, New York, New York 10022-4608**

(Address of principal executive offices) (Zip code)

**Registrant s telephone numbers:**

**Investor Relations---------- (212) 836-2674**

**Office of the Secretary------- (212) 836-2732**

**Securities registered pursuant to Section 12(b) of the Act:**

| Title of each class | Name of each exchange on which registered |
|---|---|
| Common Stock, par value $1.00 per share | New York Stock Exchange |
| Depositary Shares, each representing a 1/10$^{th}$ ownership interest in a share of 5.375% Class B Mandatory Convertible Preferred Stock, Series 1, par value $1.00 per share | New York Stock Exchange |

**Securities registered pursuant to Section 12(g) of the Act: None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes__ No ü.

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes __ No ü .

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months, and (2) has been subject to such filing requirements for the past 90 days. Yes ü No __.

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ü No __.

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ü]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer, and smaller reporting company in Rule 12b-2 of the Exchange Act.

Large accelerated filer [ü] Accelerated filer [ ] Non-accelerated filer [ ] Smaller reporting company [ ]

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes __ No ü.

The aggregate market value of the outstanding common stock, other than shares held by persons who may be deemed affiliates of the registrant, as of the last business day of the registrant s most recently completed second fiscal quarter was approximately $17 billion. As of February 13, 2015, there were 1,222,248,058 shares of common stock, par value $1.00 per share, of the registrant outstanding.

**Documents incorporated by reference.**

Part III of this Form 10-K incorporates by reference certain information from the registrant s definitive Proxy Statement for its 2015 Annual Meeting of Shareholders to be filed pursuant to Regulation 14A (Proxy Statement).

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**Note on Incorporation by Reference**

In this Form 10-K, selected items of information and data are incorporated by reference to portions of the Proxy Statement. Unless otherwise provided herein, any reference in this report to disclosures in the Proxy Statement shall constitute incorporation by reference of only that specific disclosure into this Form 10-K.

**PART I**

**Item 1. Business.**

**General**

Formed in 1888, Alcoa Inc. is a Pennsylvania corporation with its principal office in New York, New York. In this report, unless the context otherwise requires, Alcoa or the Company means Alcoa Inc. and all subsidiaries consolidated for the purposes of its financial statements.

The Company s Internet address is http://www.alcoa.com. Alcoa makes available free of charge on or through its website its annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after the Company electronically files such material with, or furnishes it to, the Securities and Exchange Commission (SEC). The information on the Company s Internet site is not a part of, or incorporated by reference in, this annual report on Form 10-K. The SEC maintains an Internet site that contains these reports at http://www.sec.gov.

**Forward-Looking Statements**

This report contains (and oral communications made by Alcoa may contain) statements that relate to future events and expectations and, as such, constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include those containing such words as anticipates, believes, estimates, expects, forecast, hopes, outlook, projects, should, targe likely result, or other words of similar meaning. All statements that reflect Alcoa s expectations, assumptions or projections about the future other than statements of historical fact are forward-looking statements, including, without limitation, forecasts concerning aluminum industry growth or other trend projections, anticipated financial results or operating performance, and statements about Alcoa s strategies, objectives, goals, targets, outlook, and business and financial prospects. Forward-looking statements are subject to a number of known and unknown risks, uncertainties and other factors and are not guarantees of future performance. Actual results, performance or outcomes may differ materially from those expressed in or implied by those forward-looking statements. For a discussion of some of the specific factors that may cause Alcoa s actual results to differ materially from those projected in any forward-looking statements, see the following sections of this report: Part I, Item 1A. (Risk Factors), Part II, Item 7. (Management s Discussion and Analysis of Financial Condition and Results of Operations), including the disclosures under Segment Information and Critical Accounting Policies and Estimates, and Note N and the Derivatives Section of Note X to the Consolidated Financial Statements in Part II, Item 8. (Financial Statements and Supplementary Data). Alcoa disclaims any intention or obligation to update publicly any forward-looking statements, whether in response to new information, future events or otherwise, except as required by applicable law.

**Overview**

Alcoa is a global leader in lightweight metals engineering and manufacturing. Alcoa s innovative, multi-material products, which include aluminum, titanium, and nickel, are used worldwide in aircraft, automobiles, commercial transportation, packaging, building and construction, oil and gas, defense, consumer electronics, and industrial applications.

Alcoa is also the world leader in the production and management of primary aluminum, fabricated aluminum, and alumina combined, through its active participation in all major aspects of the industry: technology, mining, refining, smelting, fabricating, and recycling. Aluminum is a commodity that is traded on the London Metal Exchange (LME) and priced daily. Sales of primary aluminum and alumina represent approximately 40% of Alcoa s revenues. The price of aluminum influences the operating results of Alcoa.

Alcoa is a global company operating in 30 countries. Based upon the country where the point of sale occurred, the United States and Europe generated 51% and 27%, respectively, of Alcoa s sales in 2014. In addition, Alcoa has investments and operating activities in, among others, Australia, Brazil, China, Guinea, Iceland, Russia, and Saudi Arabia, all of which present opportunities for substantial growth. Governmental policies, laws and regulations, and other economic factors, including inflation and fluctuations in foreign currency exchange rates and interest rates, affect the results of operations in these countries.

Alcoa s operations consist of four worldwide reportable segments: Alumina, Primary Metals, Global Rolled Products, and Engineered Products and Solutions.

**Description of the Business**

Information describing Alcoa s businesses can be found on the indicated pages of this report:

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The following tables and related discussion of the Company s Bauxite Interests, Alumina Refining and Primary Aluminum Facilities and Capacities, Global Rolled Products, Engineered Products and Solutions and Corporate Facilities provide additional description of Alcoa s businesses. The Alumina segment primarily consists of a series of affiliated operating entities referred to as Alcoa World Alumina and Chemicals (AWAC). Alcoa owns 60% and Alumina Limited owns 40% of these individual entities. For more information on AWAC, see Exhibit Nos. 10(a) through 10(f)(1) to this report.

**Bauxite Interests**

Aluminum is one of the most plentiful elements in the earth s crust and is produced primarily from bauxite, an ore containing aluminum in the form of aluminum oxide, commonly referred to as alumina. Aluminum is made by extracting alumina from bauxite and then removing oxygen from the alumina. Alcoa processes most of the bauxite that it mines into alumina. The Company obtains bauxite from its own resources and from those belonging to the AWAC enterprise, located in the countries listed in the table below, as well as pursuant to both long-term and short-term contracts and mining leases. During 2014, Alcoa consumed 40.8 million metric tons (mt) from AWAC and its own resources and 8.2 million mt from entities in which the Company has an equity interest. In addition, AWAC sold 1.6 million mt of bauxite to third parties. Tons of bauxite are reported as bone dry metric tons (bdmt) unless otherwise stated. See the glossary of bauxite mining related terms at the end of this section.

The Company has access to large bauxite deposit areas with mining rights that extend in most cases more than 20 years from the date of this report. For purposes of evaluating the amount of bauxite that will be available to supply as

feedstock to its refineries, the Company considers both estimates of bauxite resources as well as calculated bauxite reserves. Bauxite resources represent deposits for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence based on the amount of exploration sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. Bauxite reserves represent the economically mineable part of resource deposits, and include diluting materials and allowances for losses, which may occur when the material is mined. Appropriate assessments and studies have been carried out to define the reserves, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. Alcoa employs a conventional approach (including additional drilling with successive tightening of the drill grid) with customized techniques to define and characterize its various bauxite deposit types allowing Alcoa to confidently establish the extent of its bauxite resources and their ultimate conversion to reserves.

The table below only includes the amount of proven and probable reserves controlled by the Company. While the level of reserves may appear low in relation to annual production levels, they are consistent with historical levels of reserves for the Company s mining locations. Given the Company s extensive bauxite resources, the abundant supply of bauxite globally and the length of the Company s rights to bauxite, it is not cost-effective to invest the significant resources necessary to establish bauxite reserves that reflect the total size of the bauxite resources available to the Company. Rather, bauxite resources are upgraded annually to reserves as needed by the location. Detailed assessments are progressively undertaken within a proposed mining area and mine activity is then planned to achieve a uniform quality in the supply of blended feedstock to the relevant refinery. Alcoa believes its present sources of bauxite on a global basis are sufficient to meet the forecasted requirements of its alumina refining operations for the foreseeable future.

**Bauxite Resource Development Guidelines**

Alcoa has developed best practice guidelines for bauxite reserve and resource classification at its operating bauxite mines. Alcoa s reserves are declared in accordance with Alcoa s internal guidelines as administered by the Alcoa Ore Reserves Committee (AORC). The reported ore reserves set forth in the table below are those that Alcoa estimates could be extracted economically with current technology and in current market conditions. Alcoa does not use a price for bauxite, alumina, or aluminum to determine its bauxite reserves. The primary criteria for determining bauxite reserves are the feed specifications required by the customer alumina refinery. In addition to these specifications, a number of modifying factors have been applied to differentiate bauxite reserves from other mineralized material. Alcoa mining locations have annual in-fill drilling programs designed to progressively upgrade the reserve and resource classification of their bauxite.

**Alcoa Bauxite Interests, Share of Reserves and Annual Production[1]**

| Country | Project | Owners Mining Rights (% Entitlement) | Expiration Date of Mining Rights | Probable Reserves (million bdmt) | Proven Reserves (million bdmt) | Available Alumina Content (%) $AvAl_2O_3$ | Reactive Silica Content (%) $RxSiO_2$ | 2014 Annual Production (million bdmt) |
|---|---|---|---|---|---|---|---|---|
| Australia | Darling Range Mines ML1SA | Alcoa of Australia Limited (AofA)[2] (100%) | 2024 | 43.1 | 117.8 | 33.1 | 0.9 | 31.4 |
| Brazil | Poços de Caldas | Alcoa Alumínio S.A. (Alumínio)[3] (100%) | 2020[4] | 0.1 | 1.3 | 40.0 | 4.8 | 0.5 |
| | Juruti[4] | | 2100[4] | 7.8 | 26.0 | 47.8 | 4.2 | 4.8 |
| | RN101, RN102, RN103, RN104, #34 | Alcoa World Alumina Brasil Ltda. (AWA Brasil)[2] (100%) | | | | | | |
| Suriname | Coermotibo and Onverdacht | Suriname Aluminum Company, L.L.C. (Suralco)[2] (55%) N.V. Alcoa Minerals of Suriname (AMS)[5] (45%) | 2033[6] | 2.2 | - | 39.0 | 4.7 | 2.7 |
| **Equity interests:** | | | | | | | | |
| Brazil | Trombetas | Mineração Rio do Norte S.A. (MRN)[7] (18.2%) | 2046[4] | 3.1 | 12.8 | 49.4 | 4.6 | 3.3 |
| Guinea | Boké | Compagnie des Bauxites de Guinée (CBG)[8] (22.95%) | 2038[9] | 40.1 | 21.7 | $TAl_2O_3$[10] 49.5 | $TSiO_2$[10] 1.7 | 3.4 |
| Kingdom of Saudi Arabia | Al Ba itha | Ma aden Bauxite & Alumina Company (25.1%)[11] | 2037 | 33.8 | 19.7 | TAA[12] 49.4 | $TSiO_2$[12] 8.7 | 0.2 |

1 This table shows only the AWAC and/or Alcoa share (proportion) of reserve and annual production tonnage.

2 This entity is part of the AWAC group of companies and is owned 60% by Alcoa and 40% by Alumina Limited.

3 Alumínio is owned 100% by Alcoa.

4 Brazilian mineral legislation does not establish the duration of mining concessions. The concession remains in force until the exhaustion of the deposit. The Company estimates that (i) the concessions at Poços de Caldas will last at least until 2020, (ii) the concessions at Trombetas will last until 2046 and (iii) the concessions at Juruti will last until 2100. Depending, however, on actual and future needs, the rate at which the deposits are exploited and government approval is obtained, the concessions may be extended to (or expire at) a later (or an earlier) date.

5 Alcoa World Alumina LLC (AWA LLC) owns 100% of N.V. Alcoa Minerals of Suriname (AMS). Suralco and AMS are parts of the AWAC group of companies which are owned 60% by Alcoa and 40% by Alumina Limited.

[6] The mining rights in the Onverdacht and Coermotibo areas where Suralco has active mines extend until 2033. Bauxite within these areas will likely be exhausted in the near future. During 2015, Suralco will be mining from both reserves and resources. Alcoa has decided not to develop a mine at the Nassau Plateau based on current refinery cost and market conditions.

[7] Alumínio holds an 8.58% total interest, AWA Brasil holds a 4.62% total interest and AWA LLC holds a 5% total interest in MRN. MRN is jointly owned with affiliates of Rio Tinto Alcan Inc., Companhia Brasileira de Alumínio, Companhia Vale do Rio Doce, BHP Billiton Plc (BHP Billiton) and Norsk Hydro. Alumínio, AWA Brasil, and AWA LLC purchase bauxite from MRN under long-term supply contracts.

[8] AWA LLC owns a 45% interest in Halco (Mining), Inc. (Halco). Halco owns 100% of Boké Investment Company, a Delaware company, which owns 51% of CBG. The Guinean Government owns 49% of CBG, which has the exclusive right through 2038 to develop and mine bauxite in certain areas within a 10,000 square-mile concession in northwestern Guinea.

[9] AWA LLC has a bauxite purchase contract with CBG that expires in 2029. Before that expiration date, AWA LLC expects to negotiate an extension of the contract as CBG will have concession rights until 2038. The CBG concession can be renewed beyond 2038 by agreement of the Government of Guinea and CBG should more time be required to commercialize the remaining economic bauxite within the concession.

[10] Guinea Boké: CBG prices bauxite and plans the mine based on the bauxite qualities of total alumina ($TA_2O_3$) and total silica ($TSiO_2$).

[11] Ma aden Bauxite & Alumina Company is a joint venture owned by Saudi Arabian Mining Company (Ma aden) (74.9%) and AWA Saudi Limited (25.1%). AWA Saudi Limited is part of the AWAC group of companies and is owned 60% by Alcoa and 40% by Alumina Limited.

[12] Kingdom of Saudi Arabia Al Ba itha: Bauxite reserves and mine plans are based on the bauxite qualities of total available alumina (TAA) and total silica ($TSiO_2$).

Qualifying statements relating to the table above:

**Australia Darling Range Mines:** Huntly and Willowdale are the two active mines in the Darling Range of Western Australia. The mineral lease issued by the State of Western Australia to Alcoa is known as ML1SA and its term extends to 2024. The lease can be renewed for an additional twenty-one year period to 2045. The declared reserves are as of December 31, 2014. The amount of reserves reflect the total AWAC share. Additional resources are routinely upgraded by additional exploration and development drilling to reserve status. The Huntly and Willowdale mines supply bauxite to three local AWAC alumina refineries.

**Brazil Poços de Caldas:** Declared reserves are as of December 31, 2014. Tonnage is total Alcoa share. Additional resources are being upgraded to reserves as needed.

**Brazil Juruti RN101, RN102, RN103, RN104, #34:** Declared reserves are as of December 31, 2014. All reserves are on Capiranga Plateau. Declared reserves are total AWAC share. Declared reserve tonnages and the annual production tonnage are washed product tonnages. The Juruti mine s operating license is periodically renewed.

**Suriname Suralco:** The declared reserves are as of December 31, 2014.

**Kingdom of Saudi Arabia Al Ba itha:** The Al Ba itha Mine began production during 2014. Declared reserves are as of December 31, 2014, and based on the SRK reserves update report issued in April 2014. The proved reserves have been decremented for 2014 mine production. The declared reserves are located in the South Zone of the Az Zabirah Bauxite Deposit. The reserve tonnage in this declaration is AWAC share only (25.1%).

**Brazil Trombetas-MRN:** Declared reserves have been estimated by MRN for December 31, 2014. The CP Report for December 31, 2014 will be issued on February 28, 2015. Declared and annual production tonnages reflect the total for Alumínio and AWAC shares (18.2%). Declared tonnages are washed product tonnages.

**Guinea Boké-CBG:** The CP Report for December 31, 2014 reserves is expected to be issued in March 2015. The declared reserves are based on export quality bauxite reserves. Declared tonnages reflect only the AWAC share of CBG s reserves. Annual production tonnage is reported based on AWAC s 22.95% share. Declared reserves quality is

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reported based on total alumina ($TAl_2O_3$) and total silica ($TSiO_2$) because CBG export bauxite is sold on this basis. Additional resources are being routinely drilled and modeled to upgrade to reserves as needed.

The following table provides additional information regarding the Company s bauxite mines:

| Mine & Location | Means of Access | Operator | Title, Lease or Options | History | Type of Mine Mineralization Style | Power Source | Facilities, Use & Condition |
|---|---|---|---|---|---|---|---|
| Australia Darling Range; Huntly and Willowdale. | Mine locations accessed by roads. Ore is transported to refineries by long distance conveyor and rail. | Alcoa | Mining lease from the Western Australia Government. ML1SA. Expires in 2024. | Mining began in 1963. | Open-cut mines.<br><br>Bauxite is derived from the weathering of Archean granites and gneisses and Precambrian dolerite. | Electrical energy from natural gas is supplied by the refinery. | Infrastructure includes buildings for administration and services; workshops; power distribution; water supply; crushers; long distance conveyors. |
| Brazil Poços de Caldas. Closest town is Poços de Caldas, MG, Brazil. | Mine locations are accessed by road. Ore transport to the refinery is by road. | Alcoa | Mining licenses from the Government of Brazil and Minas Gerais. Company claims and third-party leases. Expire in 2020. | Mining began in 1965. | Open-cut mines.<br><br>Bauxite derived from the weathering of nepheline syenite and phonolite. | Commercial grid power. | Mines and facilities are operating.<br>Mining offices and services are located at the refinery.<br><br>Numerous small deposits are mined by contract miners and the ore is trucked to either the refinery stockpile or intermediate stockpile area. |
| Brazil Juruti Closest town is Juruti located on the Amazon River. | The mine s port at Juruti is located on the Amazon River and accessed by ship.<br><br>Ore is transported from the mine site to the port by Company owned rail. | Alcoa | Mining licenses from the Government of Brazil and Pará. Mining rights do not have a legal expiration date. See footnote 4 to the table above. | The Juruti deposit was systematically evaluated by Reynolds Metals Company beginning in 1974.<br><br>Alcoa merged Reynolds into the Company in 2000. | Open-cut mines. Bauxite derived from weathering during the Tertiary of Cretaceous fine to medium grained feldspathic sandstones. | Electrical energy from fuel oil is generated at the mine site. Commercial grid power at the port. | Mines and facilities are operating.<br>At the mine site: Fixed plant facilities for crushing and washing the ore; mine services offices and workshops; power generation; water supply; stockpiles; rail sidings. |
| | | | Operating licenses for the mine, washing plant and RR have been renewed with validity until 2018. | Alcoa then executed a due diligence program and expanded the exploration area. | The deposits are covered by the Belterra clays. | | At the port: Mine and rail administrative offices and services; port control facilities with stockpiles and ship loader. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Operating license for the port remains valid until the government agency formalizes the renewal. | Mining began in 2009. | | | Mine and port facilities are operating. |
| Suriname | Coermotibo and Onverdacht. Mines are located in the districts of Para and Marowijne. | The mines are accessed by road. Ore is delivered to the refinery by road from the Onverdacht area and by river barge from the Coermotibo area. | Alcoa Brokopondo Concession from the Government of Suriname. Concessions formerly owned by a BHP Billiton (BHP) subsidiary that was a 45% joint venture partner in the Surinamese bauxite mining and alumina refining joint ventures. AWA LLC acquired that subsidiary in 2009. After the acquisition of the subsidiary, its name was changed to N.V. Alcoa Minerals of Suriname.<br><br>Expires in 2033. | Alcoa became active in Suriname in 1916 with the founding of the Suriname Bauxite Company.<br><br>Bauxite was first exported in 1922. The Brokopondo Agreement was signed in 1958.<br><br>As noted, Suralco bought the bauxite and alumina interests of a BHP subsidiary from BHP in 2009. | Open-cut mines.<br><br>At one of the mines, the overburden is dredged and mining progresses with conventional open-cut methods. The protoliths of the bauxite have been completely weathered. The bauxite deposits are mostly derived from the weathering of Tertiary Paleogene arkosic sediments. In some places, the bauxite overlies Precambrian granitic and gneissic rocks which have been deeply weathered to saprolite. Bauxitization likely occurred during the middle to late Eocene Epoch. | Commercial grid power. | In the Onverdacht mining areas, the bauxite is mined and transported to the refinery by truck. In the Coermotibo mining areas, the bauxite is mined, stockpiled and then transported to the refinery by barge. Some of the ore is washed in a small beneficiation plant located in the Coermotibo area. The main mining administrative offices, services, workshops and laboratory are located at the refinery in Paranam. The ore is crushed at Paranam and fed into the refining process.<br><br>The mines and washing plant are operating. |

| Mine & Location | Means of Access | Operator | Title, Lease or Options | History | Type of Mine Mineralization Style | Power Source | Facilities, Use & Condition |
|---|---|---|---|---|---|---|---|
| Brazil MRN<br>Closest town is Trombetas in the State of Pará, Brazil. | The mine and port areas are connected by sealed road and company owned rail.<br><br>Washed ore is transported to Porto Trombetas by rail.<br><br>Trombetas is accessed by river and by air at the airport. | MRN | Mining rights and licenses from the Government of Brazil.<br><br>Concession rights expire in 2046. | Mining began in 1979.<br><br>Major expansion in 2003. | Open-cut mines.<br><br>Bauxite derived from weathering during the Tertiary of Cretaceous fine to medium grained feldspathic sandstones.<br><br>The deposits are covered by the Belterra clays. | MRN generates its own electricity from fuel oil. | Ore mined from several plateaus is crushed and transported to the washing plant by long-distance conveyors.<br><br>The washing plant is located in the mining zone.<br><br>Washed ore is transported to the port area by company-owned and operated rail.<br><br>At Porto Trombetas the ore is loaded onto customer ships berthed in the Trombetas River. Some ore is dried and the drying facilities are located in the port area.<br><br>Mine planning and services and mining equipment workshops are located in the mine zone.<br><br>The main administrative, rail and port control offices and various workshops are located in the port area.<br><br>MRN s main housing facilities, the city , are located near the port. |
| Guinea CBG<br>Closest town to the mine is Sangaredi. | The mine and port areas are connected by | CBG | CBG Lease expires in 2038. The lease is renewable in 25-year increments. CBG s | Construction began in 1969. | Open-cut mines.<br><br>The bauxite deposits within the CBG lease are of two | The company generates its own electricity from fuel oil at both Kamsar and Sangaredi. | The mines, port and all facilities are operating.<br>Mine offices, workshops, power generation and water supply for the mine and company mine city are located at Sangaredi. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Closest town to the port is Kamsar. The CBG Lease is located within the Boké, Telimele and Gaoual administrative regions. | sealed road and company-operated rail. Ore is transported to the port at Kamsar by rail. There are air strips near both the mine and port. These are not operated by the company. | | rights are specified within the Basic Agreement and Amendment 1 to the Basic Agreement with the Government of Guinea. | First export ore shipment was in 1973. | general types. TYPE 1: In-situ laterization of Ordovician and Devonian plateau sediments locally intruded by dolerite dikes and sills. TYPE 2: Sangaredi type deposits are derived from clastic deposition of material eroded from the Type 1 laterite deposits and possibly some of the proliths from the TYPE 1 plateaus deposits. | | The main administrative offices, port control, railroad control, workshops, power generation and water supply are located in Kamsar. Ore is crushed, dried and exported from Kamsar. CBG has company cities within both Kamsar and Sangaredi. The mines, railroad, driers, port and other facilities are operating. |
| Kingdom of Saudi Arabia Al Ba itha Mine. Qibah is the closest regional centre to the mine, located in the Qassim province. | The mine and refinery are connected by road and rail. Ore is transported to the refinery at Ras Al Khair by rail. | Ma aden Bauxite & Alumina Company | The current mining lease will expire in 2037. | The initial discovery and delineation of bauxite resources was carried out between 1979 and 1984. The southern zone of the Az Zabirah deposit was granted to Ma aden in 1999. Construction of the mine was 83% complete by year-end 2014. Bauxite production began during the second quarter of 2014. | Open-cut mine. Bauxite occurs as a paleolaterite profile developed at an angular unconformity between underlying late Triassic to early Cretaceous sediments (parent rock sequence Biyadh Formation) and the overlying late Cretaceous Wasia Formation (overburden sequence). | The company generates electricity at the mine site from fuel oil. | The mine includes fixed plants for crushing and train loading; workshops and ancillary services; power plant; and water supply. There is a company village with supporting facilities. Mining operations commenced in 2014. |

*Kingdom of Saudi Arabia Joint Venture*

In December 2009, Alcoa and Saudi Arabian Mining Company (Ma aden) entered into a joint venture to develop a fully integrated aluminum complex in the Kingdom of Saudi Arabia. In its initial phases, the complex includes a bauxite mine with an initial

capacity of 4 million bdmtpy; an alumina refinery with an initial capacity of 1.8 million mtpy; an aluminum smelter with an initial capacity of ingot, slab and billet of 740,000 mtpy; and a rolling mill with initial capacity of 380,000 mtpy. The mill will produce a variety of sheet products.

The refinery, smelter and rolling mill are located within the Ras Al Khair industrial zone on the east coast of the Kingdom of Saudi Arabia. First hot metal from the smelter was produced on December 12, 2012, and the smelter produced 600,000 mt in 2014. Since mid-2014, the smelter has been operating at full capacity.

The first hot coil from the rolling mill was produced in the fourth quarter of 2013. The mine s first bauxite was shipped in the second quarter of 2014 and construction of the mine was 83% complete at year end. The refinery became fully operational and produced its first alumina from Saudi Arabia bauxite in the fourth quarter of 2014.

Total capital investment is expected to be approximately $10.8 billion (SAR 40.5 billion). Ma aden owns a 74.9% interest in the joint venture. Alcoa owns a 25.1% interest in the smelter and rolling mill, with the AWAC group holding a 25.1% interest in the mine and refinery. For additional information regarding the joint venture, see the Equity Investments section of Note I to the Consolidated Financial Statements in Part II, Item 8. (Financial Statements and Supplementary Data).

*Jamaica Jamalco*

In December 2014, AWAC completed the sale of its 55% ownership stake in the Jamalco bauxite mine to Noble Group Ltd. after receiving all regulatory approvals. AWAC will continue as Jamalco s managing operator for three years under a compensated service agreement and employees remain employed by Jamalco.

**Glossary of Bauxite Mining Related Terms**

| Term | Abbreviation | Definition |
|---|---|---|
| Alcoa Ore Reserves Committee | AORC | The group within Alcoa, which is comprised of Alcoa geologists and engineers, that specifies the guidelines by which bauxite reserves and resources are classified. These guidelines are used by Alcoa managed mines. |
| Alumina | $Al_2O_3$ | A compound of aluminum and oxygen. Alumina is extracted from bauxite using the Bayer Process. Alumina is a raw material for smelters to produce aluminum metal. |
| AORC Guidelines | | The Alcoa guidelines used by Alcoa managed mines to classify reserves and resources. These guidelines are issued by the Alcoa Ore Reserves Committee (AORC). |
| Available alumina content | $AvAl_2O_3$ | The amount of alumina extractable from bauxite using the Bayer Process. |
| Bauxite | | The principal raw material (rock) used to produce alumina. Bauxite is refined using the Bayer Process to extract alumina. |
| Bayer Process | | The principal industrial means of refining bauxite to produce alumina. |
| Bone dry metric ton | bdmt | Tonnage reported on a zero moisture basis. |
| Coermotibo | | The mining area in Suriname containing the deposits of Bushman Hill, CBO Explo, Lost Hill and Remnant. |
| Competent Persons Report | CP Report | JORC compliant Reserves and Resources Report. |
| Juruti RN101, RN102, RN103, RN104, #34 | | Mineral claim areas in Brazil associated with the Juruti mine, within which Alcoa has the mining operating licenses issued by the state. |

| Term | Abbreviation | Definition |
|---|---|---|
| ML1SA | | The Mineral lease issued by the State of Western Australia to Alcoa. Alcoa mines located at Huntly and Willowdale operate within ML1SA. |
| Onverdacht | | The mining area in Suriname containing the deposits of Kaaimangrasi, Klaverblad, Lelydorp1 and Sumau 1. |
| Open-cut mine | | The type of mine in which an excavation is made at the surface to extract mineral ore (bauxite). The mine is not underground and the sky is viewable from the mine floor. |
| Probable reserve | | That portion of a reserve, i.e. bauxite reserve, where the physical and chemical characteristics and limits are known with sufficient confidence for mining and to which various mining modifying factors have been applied. Probable reserves are at a lower confidence level than proven reserves. |
| Proven reserve | | That portion of a reserve, i. e. bauxite reserve, where the physical and chemical characteristics and limits are known with high confidence and to which various mining modifying factors have been applied. |
| Reactive silica | $RxSiO_2$ | The amount of silica contained in the bauxite that is reactive within the Bayer Process. |
| Reserve | | That portion of mineralized material, i.e. bauxite, that Alcoa has determined to be economically feasible to mine and supply to an alumina refinery. |
| Resources | | Resources are bauxite occurrences and/or concentrations of economic interest that are in such form, quality and quantity that are reasonable prospects for economic extraction. |
| Silica | $SiO_2$ | A compound of silicon and oxygen. |
| Total alumina content | $TAl_2O_3$ | The total amount of alumina in bauxite. Not all of this alumina is extractable or available in the Bayer Process. |
| Total available alumina | TAA | The total amount of alumina extractable from bauxite by the Bayer Process. This term is commonly used when there is a hybrid or variant Bayer Process that will refine the bauxite. |
| Total silica | $TSiO_2$ | The total amount of silica contained in the bauxite. |

**Alumina Refining Facilities and Capacity**

Alcoa is the world s leading producer of alumina. Alcoa s alumina refining facilities and its worldwide alumina capacity are shown in the following table:

**Alcoa Worldwide Alumina Refining Capacity**

| Country | Facility | Owners (% of Ownership) | Nameplate Capacity[1] (000 MTPY) | Alcoa Consolidated Capacity[2] (000 MTPY) |
|---|---|---|---|---|
| Australia | Kwinana | AofA[3] (100%) | 2,190 | 2,190 |
| | Pinjarra | AofA (100%) | 4,234 | 4,234 |
| | Wagerup | AofA (100%) | 2,555 | 2,555 |
| Brazil | Poços de Caldas | Alumínio[4] (100%) | 390[5] | 390 |

| Country | Facility | Owners (% of Ownership) | Nameplate Capacity[1] (000 MTPY) | Alcoa Consolidated Capacity[2] (000 MTPY) |
|---|---|---|---|---|
| | São Luís (Alumar) | AWA Brasil[3] (39%)<br>Rio Tinto Alcan Inc.[6] (10%)<br>Alumínio (15%)<br>BHP Billiton[6] (36%) | 3,500 | 1,890 |
| Spain | San Ciprián | Alúmina Española, S.A.[3] (100%) | 1,500[7] | 1,500 |
| Suriname | Suralco | Suralco[3] (55%) AMS[8] (45%) | 2,207[9] | 2,207 |
| United States | Point Comfort, TX | AWA LLC[3] (100%) | 2,305[10] | 2,305 |
| TOTAL | | | 18,881 | 17,271 |

1 Nameplate Capacity is an estimate based on design capacity and normal operating efficiencies and does not necessarily represent maximum possible production.

2 The figures in this column reflect Alcoa s share of production from these facilities. For facilities wholly-owned by AWAC entities, Alcoa takes 100% of the production.

3 This entity is part of the AWAC group of companies and is owned 60% by Alcoa and 40% by Alumina Limited.

4 This entity is owned 100% by Alcoa.

5 As a result of the decision to fully curtail the Poços de Caldas smelter, management initiated a reduction in alumina production at this refinery. The capacity that is operating at this refinery is producing at an approximately 45% output level.

6 The named company or an affiliate holds this interest.

7 The capacity that is operating at this refinery is producing at an approximately 95% output level.

8 AWA LLC owns 100% of N.V. Alcoa Minerals of Suriname (AMS). AWA LLC is part of the AWAC group of companies and is owned 60% by Alcoa and 40% by Alumina Limited.

9 The Suralco alumina refinery has approximately 876,000 mtpy of idle capacity. Additionally, the capacity that is operating at this refinery is producing at an approximately 85% output level.

10 The Point Comfort alumina refinery has approximately 340,000 mtpy of idle capacity.

As of December 31, 2014, Alcoa had approximately 1,216,000 mtpy of idle capacity against total Alcoa Consolidated Capacity of 17,271,000 mtpy.

In December 2014, AWAC completed the sale of its 55% ownership stake in the Jamalco alumina refinery to Noble Group Ltd. after receiving all regulatory approvals. As noted above, AWAC will continue as Jamalco s managing operator for three years under a compensated service agreement and employees remain employed by Jamalco.

As noted above, Alcoa and Ma aden have been developing an alumina refinery in the Kingdom of Saudi Arabia. Initial capacity of the refinery will be 1.8 million mtpy. As noted above, the refinery became fully operational and produced its first alumina from Saudi Arabia bauxite in the fourth quarter of 2014. For additional information regarding the joint venture, see the Equity Investments section of Note I to the Consolidated Financial Statements in Part II, Item 8. (Financial Statements and Supplementary Data).

In November 2005, AWA LLC and Rio Tinto Alcan Inc. signed a Basic Agreement with the Government of Guinea that sets forth the framework for development of a 1.5 million mtpy alumina refinery in Guinea. In 2006, the Basic Agreement was approved by the Guinean National Assembly and was promulgated into law. The Basic Agreement was originally set to expire in November 2008, but was extended to November 2015. Pre-feasibility studies were completed in 2008. Additional feasibility study work was completed in 2012. Alcoa continued its evaluation of the project in 2014.

In September 2006, Alcoa received environmental approval from the Government of Western Australia for expansion of the Wagerup alumina refinery to a maximum capacity of 4.7 million mtpy, a potential increase of over 2 million mtpy. This approval had a term of 5 years and included environmental conditions that must be satisfied before Alcoa could seek construction approval for the project. The project was suspended in November 2008 due to global economic conditions and the unavailability of a secure long-term energy supply in Western Australia. These constraints continue and as such the project remains under suspension. In May 2012, the Government of Western Australia granted Alcoa a 5 year extension of the original environmental approval. There were no material developments in 2014.

In 2008, AWAC signed a cooperation agreement with Vietnam National Coal-Minerals Industries Group (Vinacomin) in which they agreed to conduct a joint feasibility study of the Gia Nghia bauxite mine and alumina refinery project located in Vietnam s Central Highlands. The cooperation between AWAC and Vinacomin on Gia Nghia is subject to approval by the Government of Vietnam. If established, the Gia Nghia venture is expected to be 51% owned by Vinacomin, 40% by AWAC and 9% by others. There were no material developments in 2014.

**Primary Aluminum Facilities and Capacity**

The Company s primary aluminum smelters and their respective capacities are shown in the following table:

**Alcoa Worldwide Smelting Capacity**

| Country | Facility | Owners (% Of Ownership) | Nameplate Capacity[1] (000 MTPY) | Alcoa Consolidated Capacity[2] (000 MTPY) |
|---|---|---|---|---|
| Australia | Portland | AofA (55%) | | |
| | | CITIC[3] (22.5%) | | |
| | | Marubeni[3] (22.5%) | 358 | 197[4,5] |
| Brazil | Poços de Caldas | Alumínio (100%) | 96 | 96[6] |
| | São Luís (Alumar) | Alumínio (60%) | | |
| | | BHP Billiton[3] (40%) | 447 | 268[6] |
| Canada | Baie Comeau, Québec | Alcoa (100%) | 280[7] | 280 |
| | Bécancour, Québec | Alcoa (74.95%) | | |
| | | Rio Tinto Alcan Inc.[8] (25.05%) | 413 | 310 |
| | Deschambault, Québec | Alcoa (100%) | 260 | 260 |
| Iceland | Fjarðaál | Alcoa (100%) | 344 | 344 |
| Norway | Lista | Alcoa (100%) | 94 | 94 |
| | Mosjøen | Alcoa (100%) | 188 | 188 |
| Spain | Avilés | Alcoa (100%) | 93[9] | 93 |
| | La Coruña | Alcoa (100%) | 87[9] | 87 |
| | San Ciprián | Alcoa (100%) | 228 | 228 |
| United States | Evansville, IN (Warrick) | Alcoa (100%) | 269 | 269 |
| | Massena West, NY | Alcoa (100%) | 130 | 130 |
| | Rockdale, TX | Alcoa (100%) | 191[10] | 191 |
| | Ferndale, WA (Intalco) | Alcoa (100%) | 279[11] | 279 |
| | Wenatchee, WA | Alcoa (100%) | 184[12] | 184 |
| TOTAL | | | 3,941 | 3,497 |

[1] Nameplate Capacity is an estimate based on design capacity and normal operating efficiencies and does not necessarily represent maximum possible production.

[2] The figures in this column reflect Alcoa s share of production from these facilities.

[3] The named company or an affiliate holds this interest.

[4] This figure includes the minority interest of Alumina Limited in the Portland facility, which is owned by AofA. From this facility, Alcoa takes 100% of the production allocated to AofA.

[5] The Portland smelter has approximately 30,000 mtpy of idle capacity.

[6] In 2013, Alcoa temporarily curtailed 34,000 mtpy at the Poços de Caldas smelter and 97,000 mtpy at the Alumar smelter. In the first quarter of 2014, management initiated the temporary curtailment of the remaining 62,000 mtpy at the Poços de Caldas smelter and an additional 85,000 mtpy at the Alumar smelter. The process of curtailing this additional capacity began in March 2014 and was completed by the end of May 2014. In the 2014 third quarter, an additional 12,000 mtpy was curtailed at the Alumar smelter.

[7] In mid-May 2013, in connection with the announcement of a revised modernization plan schedule for the Baie-Comeau smelter, Alcoa stated that it would permanently close the plant s two Soderberg potlines. The closure, which was completed in August 2013, involved 105,000 mtpy of capacity and was part of the 460,000 mtpy of smelting capacity Alcoa announced was under review in May 2013.

[8] Owned through Rio Tinto Alcan Inc. s interest in Pechiney Reynolds Québec, Inc., which is owned by Rio Tinto Alcan Inc. and Alcoa.

[9] The Avilés and La Coruña smelters have approximately 64,000 mtpy of idle capacity combined.

[10] The Rockdale smelter has been fully curtailed since the end of 2008.

[11] The Intalco smelter has approximately 49,000 mtpy of idle capacity.

[12] The Wenatchee smelter has approximately 41,000 mtpy of idle capacity.

As of December 31, 2014, Alcoa had approximately 665,000 mtpy of idle capacity against total Alcoa Consolidated Capacity of 3,497,000 mtpy.

In May 2013, Alcoa announced that management would review 460,000 mtpy of smelting capacity over a 15-month period for possible curtailment. This review was aimed at maintaining Alcoa s competitiveness despite falling aluminum prices and would focus on the highest-cost smelting capacity and those plants that have long-term risk due to factors such as energy costs or regulatory uncertainty. As part of this review during the remainder of 2013, management initiated the permanent shutdown of 146,000 mtpy of combined capacity at the Baie Comeau smelter (see footnote 7 above) and the Massena East smelter in New York, as well as a temporary curtailment of 131,000 mtpy of capacity in Brazil (see footnote 6 above). All of these actions were completed in 2013.

In June 2013, Alcoa announced its intention to permanently close the Fusina, Italy smelter. The closure was in addition to the 460,000 mtpy of operating smelting capacity that the company announced was under review in May 2013.

During the first quarter of 2014, the Company initiated three additional actions, resulting in the permanent shutdown of 274,000 mtpy of capacity and the temporary curtailment of 147,000 mtpy of capacity. The permanent shutdowns were comprised of the remaining capacity (84,000 mtpy) at the Massena East smelter and the full capacity (190,000 mtpy) at the Point Henry smelter in Australia. The remaining capacity of the Massena East smelter represented two Soderberg potlines that were no longer competitive. This shutdown was completed by the end of the 2014 first quarter. For the Point Henry smelter, the Company determined that the smelter had no prospect of becoming financially viable. The shutdown of the Point Henry smelter was completed in August 2014.

In the third quarter of 2014, management approved the permanent shutdown of the Portovesme smelter (150,000 mtpy) in Italy, which has been idle since November 2012. This decision was made because the fundamental reasons that made the Portovesme smelter uncompetitive remained unchanged, including the lack of a viable long-term power solution.

In the fourth quarter of 2014, Alcoa sold its 50.3% interest (115,000 mtpy) in the Mount Holly smelter in Goose Creek, South Carolina, to Century Aluminum Company.

As a result of the above-described actions, the Massena East, Mount Holly, Point Henry and Portovesme smelters have not been included in the table above.

As noted above, Alcoa and Ma  aden have developed an aluminum smelter in the Kingdom of Saudi Arabia. The smelter has an initial capacity of ingot, slab and billet of 740,000 mtpy. First hot metal was produced on December 12, 2012, and the smelter produced 600,000 mt in 2014. Since mid-2014, the smelter has been operating at full capacity.

In November 2014, Alcoa completed the sale of an aluminum rod plant located in Bécancour, Québec, Canada to Sural Laminated Products. This facility takes molten aluminum and shapes it into the form of a rod, which is used by customers primarily for the transportation of electricity. In conjunction with this transaction, Alcoa entered into a multi-year agreement with Sural Laminated Products to supply molten aluminum for the rod plant.

In 2014, Alcoa and the Brunei Economic Development Board agreed to extend for four years an existing Memorandum of Understanding (MOU) to enable more detailed studies into the feasibility of establishing a modern, gas-powered aluminum smelter in Brunei Darussalam to follow a period of strategic assessment of global market conditions.

In 2007, Alcoa and Greenland Home Rule Government entered into an MOU regarding cooperation on a feasibility study for an aluminum smelter with a 360,000 mtpy capacity in Greenland. The MOU also encompasses a hydroelectric power system and related infrastructure improvements, including a port. In November 2014, following new elections in Greenland, the new parliament began a review of framework legislation affecting large scale developmental projects. Once completed, the impact of the review on the economic feasibility of the proposed integrated hydro system-aluminum smelter will be evaluated.

**Global Rolled Products**

The principal business of the Company s Global Rolled Products segment is the production and sale of aluminum plate, sheet, and specialty foil. This segment includes sheet and plate used in aerospace, automotive, brazing, commercial transportation, consumer electronics, building and construction and other industrial markets. This segment also includes rigid container sheet, which is sold directly to customers in the food and beverage packaging markets.

The Company s $300 million expansion of its Tennessee Operations continued and the $300 million expansion of its Davenport Works, Iowa plant was completed in 2014. Both expansions will support the manufacture of high strength aluminum automotive sheet. Also in 2014, Alcoa announced a $190 million investment at its Davenport Works facility to expand its product offerings in the aerospace and industrial markets through the installation of technology that will enhance the performance of thick aluminum and aluminum-lithium plate in various applications such as wing ribs and fuselage frames. Construction on the project will begin in 2015 with first customer production expected to begin in 2017.

Also in 2014, Alcoa announced a $40 million investment in its Itapissuma, Brazil rolling mill to increase production of specialty foils for aseptic and flexible packages. Initial work for the expansion is underway and commissioning is expected to begin in 2016.

In December 2014, Alcoa sold its facilities in Amorebieta and Alicante (Spain) and Castelsarrasin (France), as well as the associated research and development facility in Alicante to Atlas Holdings LLC.

Alcoa permanently closed its two rolling mills in Australia located in Geelong, Victoria and in Yennora, New South Wales in the fourth quarter of 2014. The two rolling mills served the domestic and Asian can sheet markets, which have been impacted by excess capacity.

In September 2014, Alcoa announced a long-term contract to supply aluminum sheet and plate products to Boeing, the world s largest aerospace company and leading manufacturer of commercial jetliners and defense, space and security systems. The multiyear contract, valued at more than $1 billion, is the largest ever between the two companies.

In September 2014, Alcoa and China Power Investment Corporation (CPI) temporarily suspended joint venture activities undertaken by the joint venture, which the parties had established in 2012, so that CPI could focus on its merger with the State Nuclear Power Technology Corporation. This includes suspension of the integration of three Alcoa businesses (a facility in Kunshan, China that manufactures brazing sheet; a facility in Qinhuangdao, China that manufactures beverage can sheet and sheet for commercial transportation; and a fastener facility in Suzhou, China). The joint venture company, Alcoa CPI Aluminum Investment Co. Ltd, is majority owned by Alcoa and headquartered in Shanghai, China.

In December 2014, Alcoa unveiled breakthrough manufacturing technology, the Alcoa Micromill™, that will manufacture the most advanced aluminum sheet on the market. The Alcoa-patented Micromill process changes the microstructure of the metal, allowing the production of an aluminum alloy for automotive applications that has 40 percent greater formability and 30 percent greater strength than the incumbent aluminum used today while meeting stringent automotive surface quality requirements. Additionally, automotive parts made with Micromill material will be twice as formable and at least 30 percent lighter than parts made from high strength steel. The Micromill will enable the next generation of automotive aluminum products, and equip Alcoa to capture growing demand.

As noted above, Alcoa and Ma aden have developed a rolling mill in the Kingdom of Saudi Arabia. The rolling mill, which is 74 acres under one roof, is operational and will manufacture a variety of sheet products.

In 2014, Alcoa bought out the 30% interest in the Kunshan brazing sheet facility for $28 million from its partner, Shanxi Yuncheng Engraving Group, and the parties terminated the joint venture in August 2014. Alcoa also reached agreement on the terms of sale for its remaining minority interest (17.96%) in Yunnan Xaoxin Aluminum Foil joint venture for approximately $15 million. The sale is awaiting approval by the China Securities Regulatory Commission.

**Global Rolled Products Principal Facilities**

| | | Owners[1] (% Of Ownership) | |
|---|---|---|---|
| **Country** | **Location** | | **Products** |
| Brazil | Itapissuma | Alcoa (100%) | Specialty Foil |
| China | Kunshan | Alcoa (100%) | Sheet and Plate |
| | Qinhuangdao[2] | Alcoa (100%) | Sheet and Plate |
| Hungary | Székesfehérvár | Alcoa (100%) | Sheet and Plate/Slabs |
| Italy | Fusina | Alcoa (100%) | Sheet and Plate |
| Russia | Belaya Kalitva | Alcoa (100%) | Sheet and Plate |
| | Samara | Alcoa (100%) | Sheet and Plate |
| United Kingdom | Birmingham | Alcoa (100%) | Plate |
| United States | Davenport, IA | Alcoa (100%) | Sheet and Plate |
| | Danville, IL | Alcoa (100%) | Sheet and Plate |
| | Newburgh, IN | Alcoa (100%) | Sheet |
| | Hutchinson, KS | Alcoa (100%) | Sheet and Plate |
| | Lancaster, PA | Alcoa (100%) | Sheet and Plate |
| | Alcoa, TN | Alcoa (100%) | Sheet |
| | Texarkana, TX | Alcoa (100%) | Sheet and Plate[3] |
| | San Antonio, TX | Alcoa (100%) | Micromill |

1 Facilities with ownership described as Alcoa (100%) are either leased or owned by the Company.

2 Leased property or partially leased property.

3 The Texarkana rolling mill facility has been idle since September 2009 due to a continued weak outlook in common alloy markets.

**Engineered Products and Solutions**

This segment represents Alcoa s downstream operations and includes titanium, super alloy investment, and aluminum castings; fasteners; aluminum wheels; integrated aluminum structural systems; architectural extrusions; and forgings and hard alloy extrusions. These products, which are used in the aerospace, automotive, building and construction, commercial transportation, power generation, and industrial markets, are sold directly to customers and through distributors.

Alcoa completed the acquisition of Firth Rixson, a global leader in aerospace jet engine components, in fourth quarter 2014. In addition to manufacturing jet engine rings, Firth Rixson manufactures a full range of forged complex shapes and is a supplier of integrated nickel ingot. Firth Rixson has five locations in the United States (Rochester, NY; Fontana, CA; Rancho Cucamonga, CA; Verdi, NV, and Savannah, GA) and eight locations outside of the United States (United Kingdom, Hungary and China).

In December 2014, Alcoa announced a definitive agreement to acquire TITAL, a privately held company based in Germany. TITAL is a leader in titanium and aluminum structural castings for aircraft engines and airframes. In addition, TITAL is a leader in process technology. The deal is expected to close in first quarter 2015.

Also in December 2014, Alcoa announced plans to double its high-technology coating capacity at its Whitehall, Michigan facility. The $17 million investment will position the Company to further capture growing demand for advanced jet engine parts. In 2014, Alcoa commenced an expansion at its Hampton, Virginia facility to create the capability to employ a new process technology that improves jet engine blades. This $25 million investment will add equipment for a new production line and modify existing machinery to produce the blades. It is expected to be complete by the fourth quarter of 2015.

In 2014, Alcoa completed construction of a $100 million greenfield facility adjacent to its Lafayette, Indiana plant, which expands Alcoa s aluminum lithium capabilities. The facility can produce more than 20,000 mt of aluminum lithium and is capable of casting round and rectangular ingot for rolled, extruded, and forged applications. Alcoa completed expanding aluminum lithium production at its Technical Center in Alcoa Center, PA in the third quarter of 2012. In June 2013, Alcoa also completed its expansion at its Kitts Green plant in the United Kingdom, creating additional aluminum lithium casting capacity.

Also in 2014, Alcoa broke ground on its $100 million aerospace expansion at its La Porte, Indiana facility where it will produce nickel-based superalloy jet engine parts. The new 320,000-square-foot facility will expand Alcoa s reach from structural engine components for business and regional jets to large commercial aircraft, including narrow- and wide-body and military airplanes. Construction is expected to be complete by the fourth quarter of 2015.

Alcoa invested $13 million to expand its wheel manufacturing plant in Europe, to meet growing demand for its lightweight, durable, low-maintenance aluminum truck wheels. Construction on the production line expansion began in January 2014, and was completed on schedule in January 2015.

Alcoa and VSMPO-AVISMA Corporation signed a cooperation agreement in October 2013, which will allow the companies to meet growing demand for high-end titanium and aluminum products for aircraft manufacturers worldwide. Once operational, the new joint venture will focus on manufacturing high-end aerospace products, such as landing gear and forged wing components, at Alcoa s plant in Samara, Russia. The definitive Shareholders Agreement was executed by the parties on July 16, 2014, and the deal is expected to close in 2015, with the joint venture expected to become operational in 2016.

As discussed above, the joint venture between Alcoa and CPI, which the parties created in November 2012 to produce high-end fabricated aluminum products in China, is currently suspended.

In July 2014, Alcoa announced a 10-year, $1.1 billion agreement with Pratt & Whitney, a division of United Technologies Corp., for state-of-the-art jet engine components.

**Engineered Products and Solutions Principal Facilities**

| Country | Facility | Owners[1] (% Of Ownership) | Products |
|---|---|---|---|
| Australia | Oakleigh | Alcoa (100%) | Fasteners |
| Canada | Georgetown, Ontario[2] | Alcoa (100%) | Aerospace Castings |
| | Laval, Québec | Alcoa (100%) | Aerospace Castings |
| | Lethbridge, Alberta | Alcoa (100%) | Architectural Products |
| | Pointe Claire, Québec | Alcoa (100%) | Architectural Products |
| | Vaughan, Ontario[2] | Alcoa (100%) | Architectural Products |
| China | Suzhou[2] | Alcoa (100%) | Fasteners and Rings |
| France | Dives-sur-Mer | Alcoa (100%) | Aerospace and Industrial Gas Turbine Castings |
| | Evron | Alcoa (100%) | Aerospace and Specialty Castings |
| | Gennevilliers | Alcoa (100%) | Aerospace and Industrial Gas Turbine Castings |
| | Guérande[2] | Alcoa (100%) | Architectural Products |
| | Lézat-sur-Lèze[2] | Alcoa (100%) | Architectural Products |
| | Merxheim[2] | Alcoa (100%) | Architectural Products |
| | Montbrison | Alcoa (100%) | Fasteners |
| | St. Cosme-en-Vairais[2] | Alcoa (100%) | Fasteners |
| | Toulouse | Alcoa (100%) | Fasteners |
| | Us-par-Vigny | Alcoa (100%) | Fasteners |
| | Vendargues[2] | Alcoa (100%) | Architectural Products |
| Germany | Hannover[2] | Alcoa (100%) | Extrusions |
| | Hildesheim-Bavenstedt[2] | Alcoa (100%) | Fasteners |
| | Iserlohn | Alcoa (100%) | Architectural Products |
| | Kelkheim[2] | Alcoa (100%) | Fasteners |
| Hungary | Eger | Alcoa (100%) | Forgings |
| | Nemesvámos | Alcoa (100%) | Fasteners |
| | Székesfehérvár | Alcoa (100%) | Aerospace and Industrial Gas Turbine Castings and Forgings |
| Japan | Jōetsu City[2] | Alcoa (100%) | Forgings |
| | Nomi | Alcoa (100%) | Aerospace and Industrial Gas Turbine Castings |
| Netherlands | Harderwijk[2] | Alcoa (100%) | Architectural Products |
| Mexico | Ciudad Acuña[2] | Alcoa (100%) | Aerospace Castings/Fasteners |
| | Monterrey | Alcoa (100%) | Forgings |
| Morocco | Casablanca[2] | Alcoa (100%) | Fasteners |
| | Casablanca[2] | Alcoa (67%)<br>Ahmed Hattabi (33%) | Architectural Products |
| Russia | Belaya Kalitva[3] | Alcoa (100%) | Extrusions and Forgings |
| | Samara[3] | Alcoa (100%) | Extrusions and Forgings |
| South Korea | Kyoungnam | Alcoa (100%) | Extrusions |
| Spain | Irutzun[2] | Alcoa (100%) | Architectural Products |

| | | Owners[1] | |
|---|---|---|---|
| **Country** | **Facility** | **(% Of Ownership)** | **Products** |
| United Kingdom | Darley Dale | Alcoa (100%) | Forgings |
| | Ecklesfield | Alcoa (100%) | Ingot Castings |
| | Exeter[2] | Alcoa (100%) | Aerospace and Industrial Gas Turbine Castings and Alloy |
| | Glossop | Alcoa (100%) | Ingot Castings |
| | Ickles | Alcoa (100%) | Ingot Castings |
| | Leicester[2] | Alcoa (100%) | Fasteners |
| | Meadow Hall | Alcoa (100%) | Forgings |
| | Provincial Park | Alcoa (100%) | Forgings |
| | Redditch[2] | Alcoa (100%) | Fasteners |
| | River Don | Alcoa (100%) | Forgings |
| | Runcorn | Alcoa (100%) | Architectural Products |
| | Telford | Alcoa (100%) | Fasteners |
| United States | Springdale, AR[2] | Alcoa (100%) | Architectural Products |
| | Chandler, AZ | Alcoa (100%) | Extrusions |
| | Tucson, AZ[2] | Alcoa (100%) | Fasteners |
| | Carson, CA[2] | Alcoa (100%) | Fasteners |
| | City of Industry, CA[2] | Alcoa (100%) | Fasteners |
| | Fontana, CA | Alcoa (100%) | Rings |
| | Fullerton, CA[2] | Alcoa (100%) | Fasteners |
| | Newbury Park, CA | Alcoa (100%) | Fasteners |
| | Rancho Cucamonga, CA | Alcoa (100%) | Rings |
| | Savannah, GA | Alcoa (100%) | Forgings |
| | Sylmar, CA | Alcoa (100%) | Fasteners |
| | Torrance, CA | Alcoa (100%) | Fasteners |
| | Visalia, CA | Alcoa (100%) | Architectural Products |
| | Branford, CT | Alcoa (100%) | Aerospace Coatings |
| | Winsted, CT | Alcoa (100%) | Aerospace Machining |
| | Eastman, GA | Alcoa (100%) | Architectural Products |
| | Lafayette, IN | Alcoa (100%) | Extrusions |
| | LaPorte, IN | Alcoa (100%) | Aerospace and Industrial Gas Turbine Castings |
| | Baltimore, MD[2] | Alcoa (100%) | Extrusions |
| | Whitehall, MI | Alcoa (100%) | Aerospace/Industrial Gas Turbine Castings Coatings/Ti Alloy and Specialty Products |
| | Dover, NJ | Alcoa (100%) | Aerospace and Industrial Gas Turbine Castings and Alloy |
| | Kingston, NY[2] | Alcoa (100%) | Fasteners |
| | Massena, NY | Alcoa (100%) | Extrusions |

 