



“Alcoa has this quaint notion that when earnings go up, shareholders should get a direct benefit.”

David Pauly  
Bloomberg

“Alcoa is years ahead of its competitors in pursuing the most effective business strategy in the industry.”

Thomas Van Leeuwen  
Credit Suisse First Boston

“Alcoa is the premier company by a long shot, and they continue to demonstrate their strength, notwithstanding weakness in the commodity market.”

James Rudolph  
Fahnstock & Co.

“One of the things others have noted that is a very important asset for Alcoa is that we do what we say.”

Paul O’Neill  
Chairman, Alcoa

1998  
Annual  
Report

“There is still a lot to do, but I believe that 1998 was a watershed year for Alcoa.”

Alain Belda  
President, Alcoa



“Where we are now is a result of a continuing accumulation of improvements that we’ve been working on for a long time...building the wall one brick at a time.”

Paul O’Neill, Chairman, Alcoa

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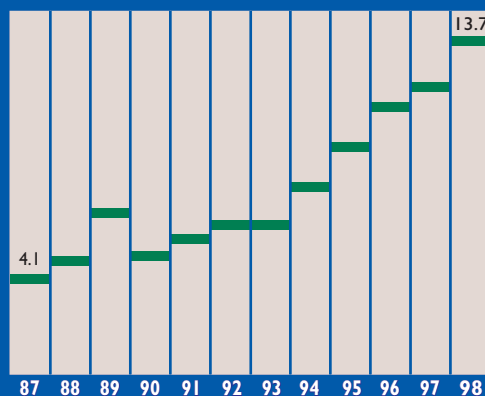
**Alcoa at a Glance**

- World’s leading producer of primary aluminum, fabricated aluminum, and alumina.
- Active in all major segments of the industry: mining, refining, smelting, fabricating, and recycling.
- Providing customers in the packaging, automotive, aerospace, construction and other markets with a variety of fabricated and finished products.
- Nonaluminum businesses include packaging machinery, vinyl siding, plastic bottles and closures, and electrical distribution systems for cars and trucks.
- Vital statistics: 24 business units, 103,500 employees, 215 operating locations in 31 countries, \$15.3 billion in revenues
- Values. Alcoa’s values begin with integrity, respect for our people, their safety and health, and for the environment within which we live and work. We are committed to maintaining our values wherever we operate around the world, and to striving for excellence in everything we do.

Front Cover:  
Manuel Plaza  
San Ciprián, Spain

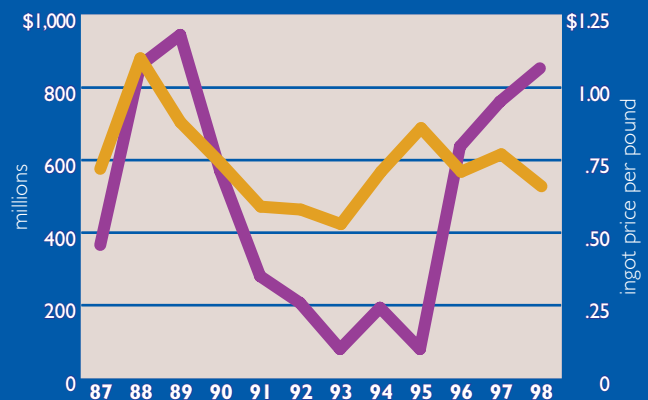
Back Cover:  
Hua Ya Quan  
Shanghai, China

**Value Continues to Climb...**  
Market Value of Common Stock



billions of dollars

**...Even When Ingot Prices Fall**



Net Income (excluding special items)  
Aluminum Ingot Price (*Metals Week*)

# Financial and Operating Highlights

(dollars in millions, except share amounts)

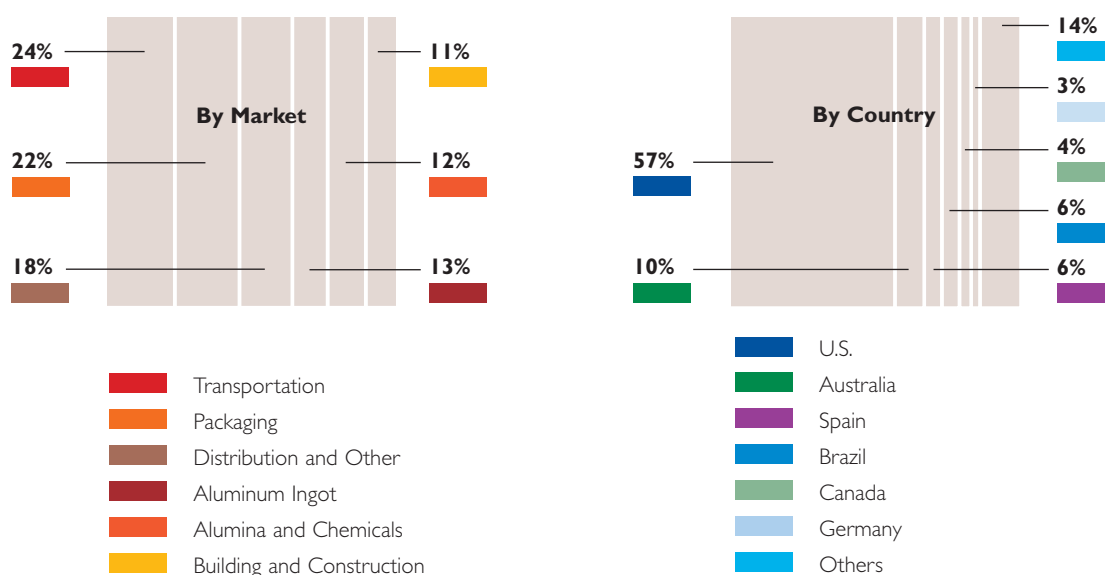
	1998	1997	% change
Sales	\$15,339.8	\$13,319.2	15
Income from operations	1,091.3	1,073.0	2
Net income*	853.0	805.1	6
Per common share:‡			
Basic earnings	2.44	2.33	5
Diluted earnings	2.42	2.31	5
Dividends paid	.75	.488	54
Book value	16.36	12.97	26
Total assets	17,462.5	13,070.6	34
Capital expenditures	931.8	912.4	2
Cash flow from operations	2,196.7	1,887.6	16
Return on average shareholders' equity†	16.3%	18.1%	(10)
Debt as a percent of invested capital	32%	25%	28
Interest coverage ratio	7.4	9.4	(21)
Current assets/liabilities ratio	1.5 to 1	1.8 to 1	—
Price/earnings (P/E) ratio	15.4	15.2	1
Shipments of aluminum products (000 metric tons)	3,951	2,956	34
Number of shareholders	119,000	95,800	24
Average common shares outstanding (000)	349,114	344,452	1
Number of employees	103,500	81,600	27

\* Includes net gains of \$43.9 in 1997

† Without the above, the return on equity was 17.1% in 1997.

‡ All per-share amounts have been restated to reflect the two-for-one stock split declared on January 8, 1999.

## 1998 Revenues: \$15.3 Billion



Alcoans,  
from the top:  
Papp Zoltán  
Székesfehérvár,  
Hungary  
Tony Colling  
Wagerup, Australia  
Xu Yún Hua  
Shanghai, China  
Troy Barnett  
Lafayette, Ind.  
Vera Kelly  
Davenport, Iowa  
Daniel Fernandez  
Amorebieta, Spain  
Nancy Brown  
Pittsburgh, Pa.  
Brett Mamham  
Wagerup, Australia





Paul O'Neill, Alcoa chairman and chief executive officer, in the atrium of the recently completed Alcoa Corporate Center.

## To Alcoa Shareholders

**Earnings in 1998 totaled \$853 million with revenues of \$15.3 billion and a return on equity of 16.3%.**

It was a good year for Alcoa by these standard financial measures – especially so because the results were achieved in spite of a 20% year-to-year price decline for aluminum ingot.

But the truly great news behind the 1998 financial results is the progress we have made over the last decade in raising Alcoa's underlying value-generating capability, which shows through in the 1998 results.

We are confident we can continue to improve our performance capability and, accordingly, when we announced fourth quarter 1998 and full-year results we also announced we would increase the dividend by 50%, split the stock two for one, and renew our share repurchase program.

### **Foundations for Success**

In assessing our performance in 1998, you might very well attribute our success to the two major acquisitions we completed in the year – Inespal, the Spanish aluminum company that brought with it \$1 billion in revenues and 4,000 employees, and Alumax, the \$3 billion sales company with 15,000 employees and 70 operating locations.

Certainly, both are important additions to the Alcoa system, bringing excellent people, adding capability to serve more customers worldwide, contributing technology, product lines and earnings.

But to see our success in individual milestone events is to miss the important transformation that has occurred in our company.

Wall Street financial analysts are fascinated by the change and often ask: how have you done this, and how long will it take for the competition to catch up?

## Brick by Brick

In answer, we liken what we have been doing to the construction of a brick wall. We began laying the first course of our brick wall twelve years ago with the articulation of the Alcoa values and the concentration on our highest internal priority – achieving an injury-free workplace.

We have added layer on layer to our brick wall over the last twelve years:

- Learning from benchmarking the best practices in the world and systematically implementing those practices.
- Creating a business unit structure in 1991, de-emphasizing top-down, command and control management while providing many more leadership positions in the company, sharpening responsibility and accountability, and tying our worldwide operations together with telecommunications and computers.
- Setting up worldwide technology development and transfer mechanisms to insure we invent good ideas and practices once and then speed their implementation everywhere they are applicable.
- Setting out people as the linchpin to our system and striving to deliver our ideal that every Alcoan be treated with dignity and respect.
- Constantly scanning the world to be sure that if there are opportunities for affiliations, joint ventures or outright acquisitions we are there, ready to expand our ability to serve customers with our products and technology while creating added value for shareholders.
- Creating leading and lagging indicators for each aspect of our individual business unit plans and action steps to achieve our goals. In that sense, our business unit plans set out what we expect to achieve – not what we hope for.
- In the most recent period, codifying our efforts into what we call the Alcoa Business System and the Alcoa Production System and deploying the ideas to every employee.

We do not believe other companies can skip the steps we have taken and, therefore, we have a time advantage which we are seeking to expand by speeding up our own pursuit of excellence in everything we do. And yet, with all we have done, we believe we are in the foothills of our potential. We can't even see the top of the mountain from where we are now.

## A Fundamental Goal

The most global leading indicator of our progress is performance against our goal of achieving an injury-free workplace. (A goal that encompasses 103,500 people at end of year 1998 as compared to 55,000 in 1987.) This goal is important in its own right. No one wants to be hurt at work, and a cardinal principle of our company is that no one *should* be hurt at work.

To deliver this goal it is necessary to do all of the things that are required to accomplish any important goal. First, there needs to be a vision, and then – communication – measurement – diagnosis – consequences – rewards and penalties – remediation – implementation – learning – and, finally, repetition of the improvement cycle.

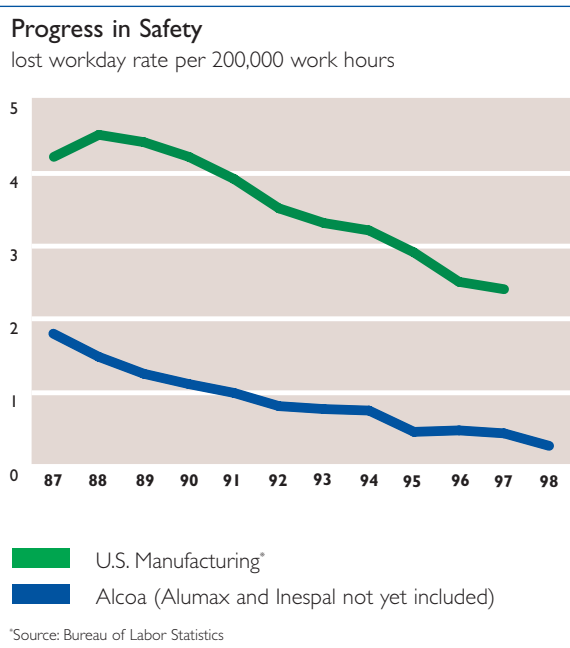
We believe that since safety is a natural, shared value, progress in safety is an indicator that we are a learning organization and therefore more likely to achieve the other goals we have.

When we first stated this goal in 1987 there were many doubters. In many of our workplaces there is hot metal, lots of moving equipment, opportunities for every kind of industrial incident.

At that time we were in the best one-third of industrial companies in the U.S. as measured by lost workday cases. The average lost workday rate in 1987 was about five cases per 100 work years while Alcoa's rate was 1.86 per 100 work years.



Alcoans,  
from the top:  
Kevin Hubertz  
Lafayette, Ind.  
Quintin Bowles  
Wagerup, Australia  
Begoña Zufin  
Amorebieta, Spain  
L.C. Clark  
Cleveland, Ohio  
Szántó Laszló  
Székesfehérvár,  
Hungary  
Velma Brown  
Cleveland, Ohio  
Mauro Zoboli  
Modena, Italy  
José Antônio Cavalcante  
Itapissuma, Brazil



### Safety as an Indicator

Since 1987, we have made steady progress in moving toward zero safety incidents in the workplace. In 1998, our lost workday rate was .27 – an 85% improvement over the industry-leading rate we began with in 1987 and a 33% improvement over the .40 rate of 1997.

In the last six months, the lost workday rate has declined to .18.

You should expect the future to be even better, in safety performance, in growth, in earnings performance, and in the creation of shareholder value.

- Alcoans,  
from the top:
- Iñaki Rapha-Wood  
Amorebieta, Spain
  - Michele Kurland  
Cleveland, Ohio
  - Rosey Mays  
Lafayette, Ind.
  - Jack Hawker  
Davenport, Iowa
  - Ron Hoffman  
Pittsburgh, Pa.
  - Steve Hanna  
Davenport, Iowa
  - Gino Pisconeri  
Wagerup, Australia
  - Raj Reddy  
Cleveland, Ohio

### Changing of the Guard

This will be my last annual report letter to shareholders as I will step down as chief executive officer at the annual meeting on May 7. We announced this intention at our 1998 annual meeting, indicating that Alain Belda will become chief executive officer at that time. I will continue as nonexecutive chairman of the board until January 1, 2001 when I will have attained the mandatory retirement age of 65.

It is my intention not only to resign as chairman at that time but also to leave the Alcoa Board of Directors so that the active management won't have to worry about what the "old boy" thinks.

I believe Mr. Belda and the leadership team we have created together will lead the company to levels of achievement that are unexampled in our industry and that, during their stewardship, Alcoa will reach our objective of being the benchmark company in world industry.

One of the great privileges in life is having the opportunity to make a difference. Alcoa's Board of Directors has given me that opportunity, and I, in turn, have done my best to give this priceless gift to each of Alcoa's employees. Their response is demonstrated in our progress and our future potential. My thanks and appreciation for our shared journey to all who call themselves Alcoans.

To the directors who have served since 1987: I am grateful for their friendship, their counsel, their wisdom, their ideas and most of all for their constructive challenge, which is the mark of a great Board of Directors, which they are.

Paul H. O'Neill  
Chairman and Chief Executive Officer  
February 11, 1999

## Alcoa Corporate Center

“The new Alcoa headquarters is a visual triumph. But it was not built to be beautiful. Every decision in its creation has a business purpose...”

Trish Hall, *The New York Times*

Alcoa moved its corporate center to a six-story aluminum and glass structure on Pittsburgh's North Shore. Its wave-form glass facade opens the entire building to the river, the city, and the southern sky. Inside is an open office environment designed to encourage chance encounters and informal discussions. “We went from a building with 31 floors and hundreds of private, closed-door offices to a much more open environment,” said Chairman Paul O’Neill. “It’s a place where people matter. The entire building is your office, and within the building everyone works collaboratively.”

8  
9  
News

**Profitable Growth**

“Alcoa’s strategy of aggressively reducing costs and aggressively making acquisitions is a winning combination.”

J. Clarence Morrison, Prudential Securities

Two years ago, Alcoa’s business unit presidents agreed to a revenue target of \$20 billion by the year 2000. Today, that ambitious goal is clearly within reach. In February, Alcoa acquired Inespal, Spain’s state-owned aluminum producer, and in July completed a \$3.8 billion merger with Alumax. These two expansions followed acquisition of the Italian state aluminum company and the second half of Alcoa Kőfém in Hungary, where Alcoa operations have since been further enlarged. Since October, Alcoa agreed to acquire an extrusion plant and distribution facilities in Spain and a bright sheet products plant in France.

In the meantime, internal growth has continued in worldwide operations such as Alcoa World Alumina, Alcoa Closure Systems International, and the fiber-optics business of Alcoa Fujikura. Less profitable operations at several locations have been sold or closed. Prospective acquisitions that did not meet Alcoa standards were declined. The idea is not just growth – it’s *profitable* growth.

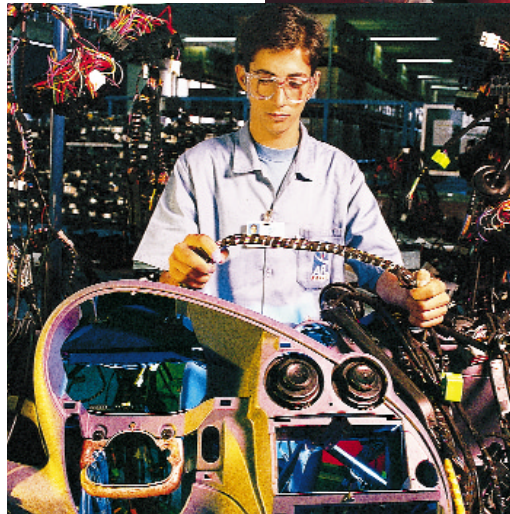
Each of Alcoa’s recent expansions heralds good news for the bottom line.



Keith Swankier (top) and Joe Allen stretch-forming architectural aluminum at Kawneer, part of the Alumax merger.



Manuel Plaza in the new solid-liquid calcination plant at the San Ciprián refinery in Spain.

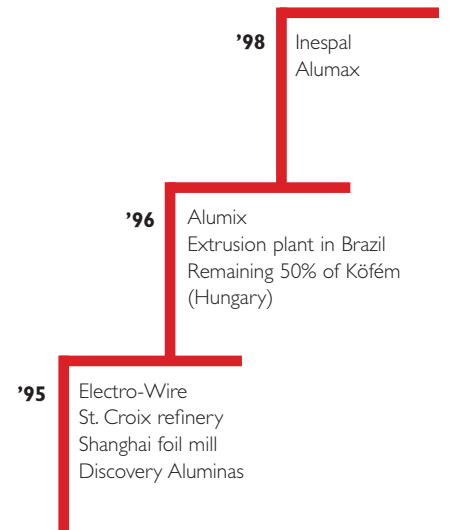


Samuel William de Sales installs a wire harness at Alcoa Fujikura in Brazil.



Marc Dufresne at the Alumax smelter in Deschambault, Quebec.

**Acquisitions:  
1995-1998**





## Alcoa's the Name

Effective January 1, 1999, Aluminum Company of America officially changed its name to Alcoa Inc. The company's stock symbol remains AA. "The new identity reflects the global scope of Alcoa," explained Chairman Paul O'Neill. "We operate at 215 locations in 31 countries around the world, and more than half of our employees are based outside of the U.S." He pointed out that the name "Alcoa" has been used around the world since 1929 to identify the company's products, services, literature and advertising. "We are now making it official," he said.

## Big Wheels in Hungary

By September of 1998, just a year after start-up, the Alcoa Wheel Products Europe forged truck wheel plant at Székesfehérvár, Hungary was operating at close to full capacity and planning an expansion for 1999. The plant supplies European demand for Alcoa's heavy-duty forged truck and bus wheels and exports to Brazil and Australia. Producers of large trucks and buses such as Mercedes-Benz, Volvo and Scania use Alcoa wheels both for appearance and for the benefits of weight reduction.



## Cleveland Tops a Million

Alcoa Forged Products' automotive wheel plants in Cleveland were humming throughout 1998, supplying forged wheels for light truck programs such as Ford's F-250 pickup. Production hit a record 1.3 million wheels, a 44% increase over 1997 output. Cleveland's customer base for forged light truck wheels included all of Detroit's "Big 3."

## 'Best Managed'

*Industry Week* magazine named Alcoa one of the world's 100 best managed companies for 1998. The magazine highlights companies who have consistently demonstrated superior financial performance and investment in the future. Among its comments about Alcoa: "Already the world's #1 aluminum manufacturer, Alcoa has a goal to be seen as a 'local producer everywhere in the world.' Alcoa is concentrating on...systems for learning, teaching about, and operating the business."



## Embossed Cans Multiply

Registered embossed cans using new technology developed by Alcoa Packaging Equipment (APE) are having a real impact in the beer and soft drink packaging markets. Already, these innovative can designs have come to market with such leading brands as Budweiser, Budweiser World Cup, Sprite, Stella Artois, Grolsch, Michelob, and Michelob Light. Another major brewer is readying an introduction, and various beer and soft drink labels are under development. The number of commercial labels is expected to double in 1999. APE has begun to sell embossed packaging machines and is developing new labels at a record pace – about 80% beer, 20% soft drink. (See following newsbrief)

## Award Winning Package

The Stella Artois embossed lager can was awarded the Best in Metals award by the Metal Packaging Manufacturers Association in London in November. It won both the Innovative and Supreme Gold awards for manufacturer Nacanco and designer Whitbread Research. The can's look was achieved with no extra weight using an embossing process developed by Alcoa Packaging Equipment. Technical consultant Ted Silverman described the aluminum can as a feat of engineering excellence: "Both in technical and marketing terms, this is an exceptional can. The level of fine surface embossing is extremely impressive, and to have achieved this lightweight design is a major industry development which is bound to have a widespread impact on the beverage can sector in future years."

## Belda Named to Alcoa's Board

Alain J. P. Belda, 55, Alcoa's president and chief operating officer, was elected to the Alcoa Board of Directors in September. He will become president and chief executive officer in May 1999. At that time, Paul O'Neill will relinquish the position of chief executive officer and will become non-executive chairman. January 1, 2001, Belda will become chairman of Alcoa when O'Neill retires from the company and from the Alcoa board.

## Safe in Jamaica

Jamalco received six of the seven 1998 Jamaica Mining and Industry awards for safety performance in mining and ore processing. In the competition's 23-year history, this is the first time that one company has received so many awards. Jamalco has also beaten the national record for the number of hours worked without a serious accident – 5,177,600 work hours without a lost workday – erasing the long-standing national record of 4,503,604.



## Fueling the Space Shuttle

SMD Powder, a part of Alcoa's Primary Metals business unit, was awarded the Space Shuttle contract for the next five years from Thiokol, which produces the shuttle's rocket boosters. This new award followed a successful seven-year supply contract for the 1991-1998 Space Shuttle launches. Approximately 400,000 pounds of aluminum powder is consumed during each launch. Thiokol also awarded SMD Powder a #1 rating – their highest rating for service, quality and safety.

## Cutback at Eastalco

Alcoa reduced primary aluminum production at Eastalco Works in Frederick, Maryland, by 30,000 metric tons per year (mtpy). The adjustment was made at the 174,000-mtpy facility as former Alumax facilities were being integrated into the Alcoa worldwide system. Approximately 150 salaried and hourly employees took early retirement or were laid off. Eastalco is a joint venture between Alcoa and a Japanese consortium led by Mitsui & Co. Ltd. There was no change in Alcoa's total primary aluminum output, as offsetting increases at other plants kept total primary aluminum production at current levels. Alcoa has had 450,000 mtpy of primary aluminum capacity idled since 1994.

## Bright Products in France

Alcoa and Pechiney have signed a letter of intent for Alcoa to acquire the bright products business of Pechiney's Rhenalu rolling plant, located at Catelsarrasin near Toulouse, France. The business will become part of the flat-rolled products segment of Alcoa Europe. Bright products include lighting fixtures, decorative applications, and cosmetic packaging. Pechiney Rhenalu is the aluminum mill products division of the Pechiney Group.

## Aluminium for Future Generations

Together with six other large European aluminum producers, Alcoa Europe is participating in a long-term program to improve the image of Europe's aluminum industry. The program is called "Aluminium for Future Generations." A survey showed the need to convey the industry's key messages to its main stakeholders in a coherent way, especially with regard to environmental issues. The program focuses on two key issues: recyclability and wise use of energy. Besides Alcoa Europe, participants include Alcan Aluminium, Alusuisse-Lonza, Hoogovens Aluminium, Hydro Aluminium, Pechiney, and VAW Aluminium.



aided economic recovery  
service improved  
lead time reduced  
linchpin pull system  
costs are reduced

inventory down  
new approach  
improvements in f  
adding value  
customer service

## Alcoa Production System

# “The Alcoa Production System... marks the beginning of a major sea-change in fabricated metals manufacturing.”

Amy Gassman, Goldman Sachs

The manufacturing component of the Alcoa Business System is the Alcoa Production System (APS) – an integrated approach to value creation. Its basic premises: 1. Produce for use, not for inventory. 2. Eliminate waste. 3. Recognize that people are the linchpin of the system.

APS seeks a “pull” system, producing what the customer wants – when it’s wanted – rather than a “push” to churn out maximum volume. For the customer, APS is a way of adding value without adding cost, thus helping to make Alcoa the supplier of choice. Among the first-year achievements of Alcoans applying APS:

- At Alcoa Mill Products in Davenport, Iowa, an economic impact of \$134 million through 1998. Cold mill inventory down 88%. Flow days reduced by 50%.

- In Primary Metals, inventories cut by 17%. At Wenatchee, Wash., customer lead time reduced from six weeks to just eight days, inventory down 50%. Anode inventories cut by 20% in Australia and 50% in Brazil.
- At Forged Products, output of forged wheels improved by 46%, inventory down from 60-day to 30-day supply, and flow time cut from eight weeks to four.
- In the Massena, N.Y. fabricating operations, production of automotive forge stock up from 900 pieces per hour to 3,748. Work-in-process inventory reduced from 285,000 to 45,000 pounds.

Alcoans at many locations are achieving dramatic results through the use of the Alcoa Production System.

Alcoans, from left:  
John Lloyd  
Cleveland, Ohio  
Ann Ngo  
Davenport, Iowa  
Gabriele Sala  
Modena, Italy  
Robyn Allingham  
Wagerup, Australia  
Jáder da Silva  
Itapissuma, Brazil





From its original business in aluminum bottle caps, Alcoa CSI adapted to a shifting market and became the leading supplier of plastic closures.



New developments – Left: A boom in bottled water and sports drinks. Alcoa supplies the caps. Right: Alcoa is spearheading the emerging move to embossed beverage cans.



Right: One of the leading manufacturers of vinyl siding is now an aluminum company: Alcoa.

## Adaptability

We don't expect the market to come to Alcoa. Whatever it takes, Alcoa will go to the market.

Ten years ago, Alcoa led the world in aluminum closures for beverage bottles, but plastic closures were catching on. Alcoa Closure Systems International (CSI) swiftly acquired and enhanced the leading-edge technology in plastic closures and progressively rolled it out into 16 countries – in 1998 expanding into Central America and the Caribbean. Now CSI has become the world's largest supplier of plastic closures.



It's a good example of how Alcoa adapts to changes in global markets. In beverage containers, Alcoa was in the vanguard that led aluminum beverage cans from zero to nearly 100% of the U.S. market – and the recycling systems to make aluminum cans the environmental choice as well. Now the aluminum can is gaining market power with embossed surfaces. Alcoa is pioneering the technology, even making the machines to emboss the cans. In building products – adapting to changes in the market – Alcoa is now one of the largest producers of vinyl siding. In automotive design, Alcoa is at the center of an aluminum revolution. We don't expect the market to come to Alcoa. Whatever it takes, Alcoa will go to the market.

## Alcoa + Alumax

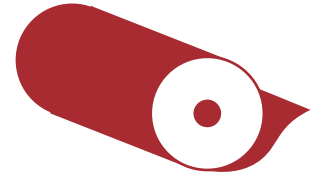
Stockholders of Alumax Inc. voted at a special meeting in July to approve the Alumax merger with Alcoa. Alcoa and Alumax had entered into a definitive agreement on March 8 under which Alcoa would acquire all outstanding shares of Alumax for a combination of cash and stock. The transaction was valued at approximately \$3.8 billion: \$1.5 billion cash, \$1.3 billion stock, and \$1 billion in assumed debt. The combined company has 103,500 employees, with 215 operating locations in 31 countries.

## Outstanding Director

Alcoa Chairman Paul O'Neill was named one of Corporate America's Outstanding Directors by *Director's Alert*, a monthly news report for corporate board members and CEOs. Molly Butler Hart, the publication's executive director, commented on the selection: "Paul is unusually perceptive in assessing situations, and he brings this skill to the boards on which he serves. During his 11 years at Alcoa, the company has quadrupled its market value. In addition, he had 15 years of high-level Washington service. This background gives him unique credibility in the boardroom."

## Record Year for Foil

In 1998, Alcoa Foil Products racked up its largest shipment year ever. Volume was driven by a healthy economy, unusually hot weather, and establishment of supplier relationships with aggressively growing customers. Among major foil markets, the heat exchanger industry continues to operate at record levels, as an unusually warm spring and summer depleted inventories. Growth in the formed container market, where Alcoa's customers are the industry leaders, outpaced GDP growth. In automotive products, Alcoa Foil Products teamed up with a major Tier-1 supplier and showed double-digit growth for the year.

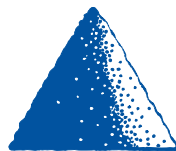


## Technology Teams

Alcoa has formed seven Technology Management Review Boards (TMRB) to guide strategic technology development as part of the Alcoa Business System (ABS). Five of these teams are formed around Alcoa's core manufacturing processes of refining, smelting, flat-rolled products, extrusions, and chemicals. Two others are market-driven TMRBs, supporting automotive and aerospace research and development. Each TMRB develops a technology strategy for its area of responsibility and manages a portfolio of projects. Ensuring the global transfer of technology is also part of the mission, as is nurturing core capabilities needed to support the strategic technology plan and to enhance Alcoa's competitive prowess.

## New Product at San Ciprián

The Alcoa refinery at San Ciprián in Spain has developed a new alumina product (SC-1) with a low specific surface area of 11-13 square meters per gram (versus 65 per gram for smelter grade alumina). This and other SC-1 characteristics qualify it as a feedstock for value-added alumina chemicals produced at Alcoa plants in Rotterdam and Ludwigshafen and for customers in the refractory, ceramics, and catalyst industries. The product was developed with the technical support of Alcoa's Point Comfort, Texas refinery. Since last July, the SC-1 alumina has been in full-scale production at San Ciprián.

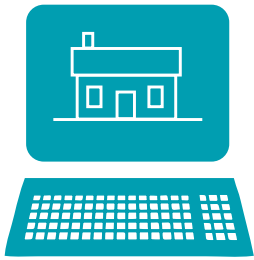


## Leveraging an Asset

In Jamaica a 25-year quicklime supply contract was signed with Rugby Cement Co. Rugby will build a \$20 million lime kiln facility on Jamalco's site, buy power and oil, and lease the Jamalco limestone quarry. Construction should commence in the first quarter of 1999, with lime supply scheduled for June 2000. For Jamalco, this is a significant cost and capital reduction initiative.

## Rescue at Sea

An Alcoa ship, the *Marlin*, bound for Suriname, encountered a sinking boat in the Caribbean. Eight Cuban refugees were rescued and ultimately transferred to the U.S. Coast Guard Cutter *Vigorous*. Alcoa owns five vessels in use around the world for the transportation of alumina between refineries and smelters.



## Alcoahomes.com

Alcoa Building Products (ABP) released a new section to its web site, [Alcoahomes.com](http://Alcoahomes.com). The new section, ProSpec®, is a resource for the building and remodeling professional. It offers a detailed list of Alcoa-brand exterior products with line drawings, key specifications, and warranty information. For the architect, ProSpec provides downloadable specifications on vinyl siding products in three-part architectural format. The site also features a Color Guide for choosing color schemes. Editors of *Building Products* magazine voted [Alcoahomes.com](http://Alcoahomes.com) one of the Top 50 Web Sites of 1998. Additions for 1999 will include ContractorNet, a list of siding contractors that install Alcoa products; architectural specifications on metal siding products; and downloadable CAD drawings for vinyl and metal products. As a part of its brand strategy, ABP also offers a web site for the Mastic brand of vinyl siding, [Mastic.com](http://Mastic.com).

## Steel's Woes Hit Chemicals

Alcoa Industrial Chemicals was impacted by European and North American steel production cutbacks in the second half of 1998. While steel consumption remained strong in those economies, rising imports driven by the Asian economic slowdown squeezed domestic steelmaking, thus reducing the need for alumina refractory products. At the same time, low oil prices through 1998 depressed demand for adsorbent and catalyst products.

## In Praise of Land Care

Alcoa World Alumina's Land Care project is described as "... one of the longest running programs in social responsibility in Australia" by *Tomorrow*, the Stockholm-based global environment magazine. "By working with land owners, sustainable farming groups and local government agencies," the article states, "Land Care has become one of Australia's largest and most successful corporate-sponsored demonstrations of land renewal through community action."



## Extrusions for Cessna

Alcoa Engineered Products, Pioneer Aluminum, and Cessna have forged agreements which guarantee that Alcoa will supply hard-alloy aluminum extrusions through 2004 in support of business jet travel. Alcoa is the leading supplier of extrusions for fuselages, wings, and tail sections in the general aviation and business jet markets as well as in development of higher-strength, fatigue-resistant aluminum alloys for commercial and business aircraft.

## How to Frame 10 Acres of Windows

Alcoa Alumínio participated in the inauguration of one of the newest major urban developments in Rio de Janeiro: the 200,000 square meter shopping/cinema/restaurant complex called "Downtown." Located in the Barra da Tijuca area, the complex uses 340 metric tons of Alumínio's soft-alloy aluminum extrusions to frame 40,000 square meters (equivalent to four hectares or 10 acres) of window glass. Alumínio implemented just-in-time delivery of the aluminum extrusions for on-site fabrication.

## Vernon Plant Sold

Alcoa sold its cast aluminum plate business based in Vernon, Calif. to Century Aluminum Company. Alcoa was required to sell the business under the terms of its agreement with the U.S. Department of Justice that cleared the way for the company to acquire Alumax Inc.

## Environment

# Alcoa believes that future growth and success have their roots in the fundamental values of an organization.

Alcoa carries its values wherever in the world it goes – not only business standards but health, safety, and environmental standards as well.

This principle is at the core of our due diligence process. It's not only the right thing to do, it's also one of the keys to successful acquisitions and partnerships, which form stronger bonds when based on mutual respect.

A few current examples: *(Some of these are covered in detail elsewhere in News98.)*



In Hungary, Alcoa implemented standards such as above-ground chemical tanks and asbestos removal even though not required by regulations. In Australia, Alcoans work to preserve the unique jarrah forests and have won international acclaim for their Land Care projects. In Drunen, Alcoa Nederland invented the means to conserve both energy and environment. They take coated aluminum bottle caps, recycle the aluminum for new caps, and recycle the coatings as energy to drive the process. And in Cleveland, an Alcoa forging plant developed new lubricants in order to curtail the use of volatile organic compounds. These are a few examples among hundreds from all around the Alcoa world.



## Growth in Telecom Services

Alcoa Fujikura Ltd. (AFL) made three acquisitions during 1998 to support its growing telecommunications business segment:

- MinTel, headquartered in Norcross, Ga., servicing BellSouth
- QCS, headquartered in Richmond, Va., servicing Bell Atlantic
- TICS, headquartered in Charlotte, N.C., providing networking products and services throughout the southeastern U.S.

AFL has also opened a new plant in Allentown, Pa. to serve the growing opto-electronics business in the northeast and mid-Atlantic states. This facility connects and packages fiber-optic lasers that are used to boost optical signals in telecommunication networks.

## Beating the Bandwidth

Explosive growth in telecommunication and Internet traffic has created the need for much higher fiber-optic bandwidth capacity than has been available until now. Anticipating this trend, AFL was first in the market with high fiber count (432 fiber) ADSS aerial cable and the world's highest fiber count (288 fiber) optical ground wire. These products offer telecommunication customers more than a 100% increase in bandwidth capacity compared with existing products. AFL expects that over 30% of 1999's aerial cable volume will come from high fiber count applications. New customers include long-distance telephone providers as well as local telephone carriers.

## Good Report Card



Iowa Governor Terry Branstad named Alcoa's Davenport Works as the A+ Company of the Year. Alcoa swept the competition, beating out 1,500 other companies. Criteria included economic impact (to the community), innovative workforce development, technology application and innovative product development.

## Brotherhood Award

John LaFevre, vice president of human resources for Alcoa Building Products, received the Dr. Martin Luther King Jr. Brotherhood Award from the Tri-County NAACP in Ohio. The award is in recognition of outstanding contributions toward upward mobility of African Americans. It was presented at the annual Martin Luther King Recognition Dinner.



## On Boeing's Team

Boeing Commercial Airplane Group awarded major supply positions in a 10-year contract to Alcoa Mill Products and Alcoa Engineered Products as part of Boeing's new "lean" procurement strategy. One service provider, Thyssen, Inc., will handle the global logistics for Alcoa and a few other selected aluminum companies for all of Boeing's aluminum flat-rolled products and small and intermediate extrusions. Boeing will buy metal directly from the Alcoa mills, which will ship to TMX, a Thyssen subsidiary, for delivery to Boeing's external suppliers and internal parts shops.

## Innovation in Aerospace

A new thick plate, developed by Alcoa at Davenport, Iowa, and Alcoa Technical Center near Pittsburgh, in collaboration with Lockheed Martin Tactical Aircraft Systems, has been recognized as one of the 100 most technologically significant products of the year by *R&D Magazine*. In the past, R&D 100 awards have gone to such inventions as the ATM and the fax machine. Aircraft parts made from the new plate, 2097-T861, are more reliable, can withstand more fatigue-cracking damage and last longer than parts made with other alloys. Results: safer aircraft and lower maintenance costs. The plate products are being retrofitted in F-16 aircraft.





The Audi A8, with a sturdy space frame developed by Audi and Alcoa, was chosen best luxury sedan by *Automobile Magazine* and won a double five-star rating from NHTSA.

## Safety

**Audi and Alcoa demolished the assumption that the only way to get safer was to get heavier.**

For the second straight year, *Automobile Magazine* named the Audi A8 the best luxury sedan. Editors chose one vehicle in each class which they considered to be the best built, designed, engineered, and most drivable. Audi A8 is the first and *only* member of the premium luxury class to earn the dual five-star safety rating for both driver and front seat passenger under the National Highway Traffic Safety Administration (NHTSA) New Car Assessment Program. Audi and Alcoa demolished the assumption that the only way to get safer was to get heavier. Instead, the A8 employs a revolutionary aluminum space frame body technology – created in partnership with Alcoa – 40% lighter than a traditional steel frame, yet it surrounds driver and passengers

with an enormously strong safety cage. It also has six airbag supplemental restraints as standard equipment. For Alcoa – whose number one internal priority is safety – the landmark NHTSA rating was especially

sweet. It sets a standard for safe cars of the future.

Working to improve safety – on the road, or in the workplace – is second nature to Alcoans. For over a decade, safety has been Alcoa's number one internal priority.

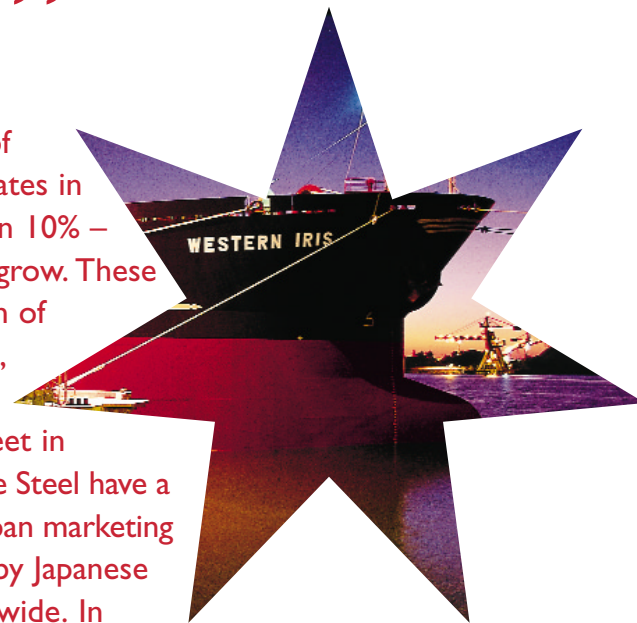




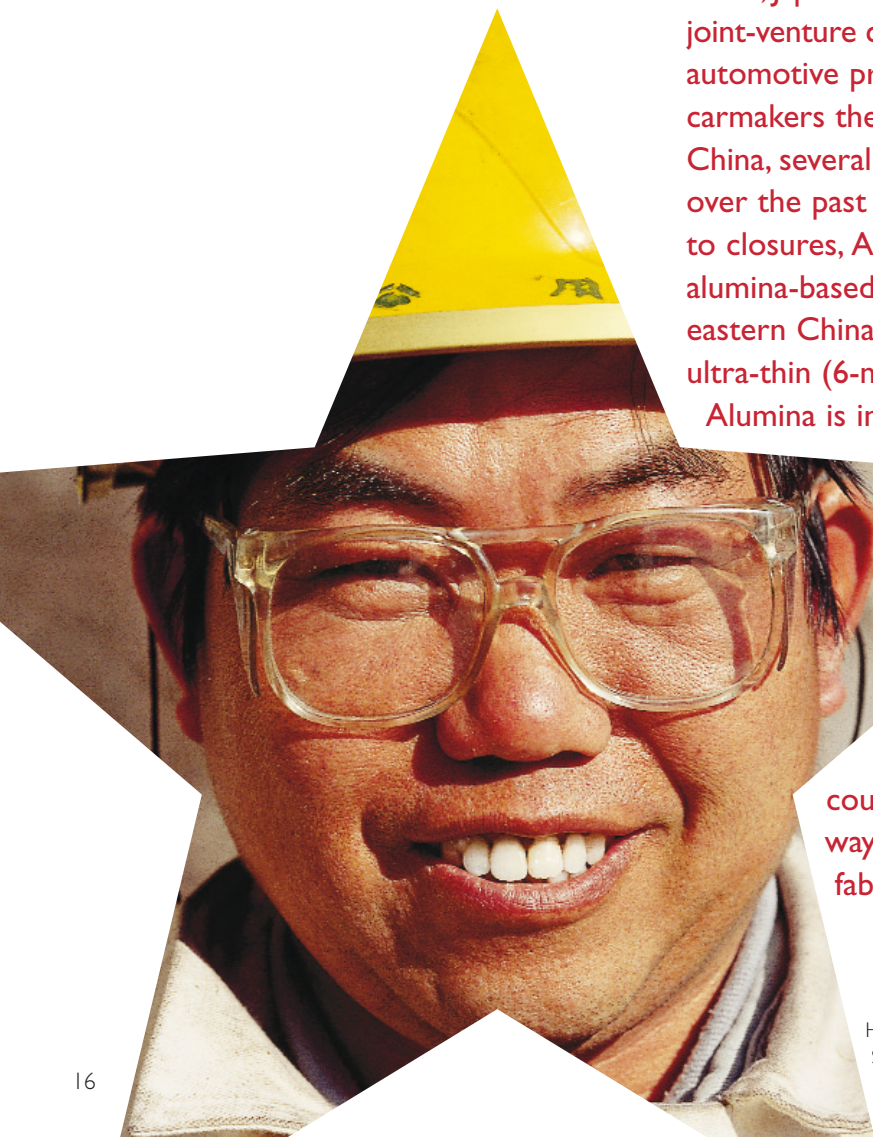
## Pacific Rim

“Alcoa will grow its business in Asia. It’s the third largest market in the world. Not expanding there is not an option.”

Alain Belda, President, Alcoa



Currently, the proportion of Alcoa’s business that originates in Asian operations is less than 10% – a number that will have to grow. These activities include production of closures in Japan and China, alumina chemicals in two Japanese plants, and can sheet in Moka, Japan. Alcoa and Kobe Steel have a joint-venture company in Japan marketing automotive products used by Japanese carmakers there and worldwide. In China, several joint ventures have been developed over the past four years with local partners. In addition to closures, Alcoa plants in China are producing alumina-based refractories, and two plants – one in eastern China and another in the west – are making ultra-thin (6-micron) aluminum foil. Alcoa World Alumina is in its third year of an historic contract to ship 400,000 mt of alumina to China annually for 30 years. Alcoa Fujikura Ltd. supplies aerial fiber-optic cable for large Chinese electric and telecommunications lines. And in China as well as several other Asian countries, feasibility studies are now underway to consider new refining, smelting, and fabricating facilities.



Hua Ya Quan  
Shanghai, China

## In Case of Emergency...

In September, an explosion and fire at Esso Australia's Longford gas processing plant cut off all gas supplies to Victoria, threatening to halt operations at Alcoa's Point Henry smelter. Alcoans there avoided a very expensive shutdown by designing, fabricating, and installing an alternative, diesel-fueled firing system – all in the space of 48 hours. Meanwhile, Kaal Australia – a 50/50 partnership of Alcoa and Kobe Steel Ltd. – had to halt can sheet production for two weeks at its Point Henry rolling mill due to the gas disruption but still managed to take care of its customers. Contingency supply arrangements plus a safety buffer stock, husbanded to meet customer needs during a planned week-long maintenance shutdown, enabled the mill to continue deliveries during the gas crisis. Kaal produces about 170,000 mt per year of rolled products from two mills in Australia. The second mill, at Yennora, near Sydney, was unaffected by the gas outage.

## Framing for Sprint

The new 3.9 million square foot Sprint corporate campus, now under construction in Kansas City, will use Kawneer's custom 451T Framing for the window systems of its first six buildings. Sprint's campus is the largest corporate project currently underway in the U.S. Kawneer's aluminum products for the first phase are worth approximately \$2 million and could lead to \$4 million in additional business over the next three years.



## Aerial Cable in China

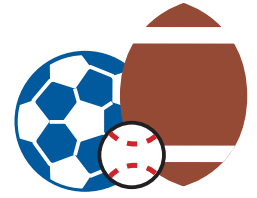
AFL's Telecommunications Division will supply 440km of All Dielectric Self Supporting fiber-optic cable (ADSS) in the People's Republic of China. The order was issued by the Northeast Power Administration Bureau for installation in its Liaoxi project – the first segment of a large aerial fiber-optic system covering three provinces. The Telecommunications Division has been active in China for several years, having introduced the ADSS concept to Chinese power utilities and telecommunications organizations.

## The Best of Perth

Alcoa World Alumina's Kwinana Refinery was named Perth's Best Large Industry as part of the inaugural Perth Action Awards sponsored by the Keep Australia Beautiful Council. The assessment process took account of Kwinana's performance with respect to waste minimization, energy and water conservation, plant aesthetics, pollution control and community education and involvement.

## Clones to the Rescue

Dieback is a major plant disease that kills many jarrah forest plants in Western Australia, where Alcoa mines bauxite. In an innovative effort to combat this problem, the Alcoa Environmental Department has collaborated with the state conservation agency and two universities to propagate jarrah clones with a high resistance to dieback through tissue culturing. Clonal plants are expensive, but dieback resistance has been found to be a highly heritable trait; so two plantations of cloned varieties have been established to produce seed. About 1,700 trees have been started near the Pinjarra refinery plus 1,500 trees at the Huntly mine. Alcoa will manage the seed orchards with technical input from their three partners, and the first seed supplies should be available in 2002.



## Winning in New Ballparks

Kawneer – the architectural products group that joined Alcoa as part of the Alumax merger – will supply architectural products to seven major sports facilities in the U.S., including Cleveland Browns Football Stadium in Cleveland, Ohio; Miller Park Stadium in Milwaukee, Wis.; Pepsi Center in Denver, Colo.; and Memorial Stadium renovation in Lincoln, Neb. In 1998, they supplied product to the new NFL stadium at Camden Yards for the Baltimore Ravens. In addition to curtain wall, entrance, and framing products, Kawneer developed a new product in 1998 called Stadia View™ Slider, a narrow-profile sliding door system designed for use on luxury stadium boxes where appearance matters. The new product has already been specified for two large stadium projects. Kawneer leads the market in architectural aluminum products and related engineering expertise for college, professional, and Olympic sports facilities.

## Technology

# In the Alcoa Business System, everyone in the company is a potential innovator.

Consumers will find 1998 Alcoa innovations in the automobiles they drive, the planes they fly, the tractor trailers delivering goods to their stores, the lighting fixtures that brighten their way, the lithographic sheet used to print their newspapers and magazines, and the CDs their teenagers play and play and play. During the year, Alcoa received 86 U.S. patents, the highest number awarded since 1987. Alcoa pursues patent protection in appropriate jurisdictions worldwide and maintains as trade secrets many innovative processes that provide competitive advantage. In the Alcoa Business System, everyone in the company is a potential innovator. Some of their current projects:

- A new alloy plate to help make aircraft safer, more durable and more reliable
- Stunning embossed cans, now starting to impact beer and soft drink markets
- Cloning of disease-resistant trees to protect Australia's unique jarrah forest
- A new grade of alumina with significantly lower surface area
- 100% closed-loop recycling of coated aluminum closures
- A technology to remove sulfur and nitrogen compounds from gasoline



Thanks to creative Alcoans: Above, exciting new designs in embossed cans and, left, regenerating Australia's jarrah forest.



Alcoa innovators developed right, a new grade of alumina at the San Ciprián refinery and, far right, a new alloy plate for aircraft like the F-16.





## An Alloy in Orbit

Alcoa's Massena, N.Y., Operation's 7075-T651 aluminum alloy made its way to outer space in 1998. During the space walk on the U.S. Space Shuttle *Discovery* in November, astronauts connected two sections of the space station with Amphenol connectors machined from 7075-T651 aluminum alloy. Amphenol manufactures electrical connectors for the aerospace, defense, and communications industries.

## Spanish Acquisition

Alcoa signed a definitive agreement with Reynolds Metals to buy Reynolds' aluminum extrusion plant in Irurzún, Spain. Included in the agreement is a distribution operation for architectural systems, which has warehouses in several Spanish cities. The Irurzún plant has the capacity to produce 22,000 metric tons per year of soft-alloy extrusions for use primarily in industrial and residential building applications throughout Europe.



## Litho Sheet Thrives on APS

As a result of the implementation of Alcoa Production System tools and rapid-flow manufacturing, Alcoa's Davenport (Iowa) Works has reduced lithographic sheet flow time from 45 days to 23 days, reduced inventory, and raised on-time delivery performance to a record 98%.

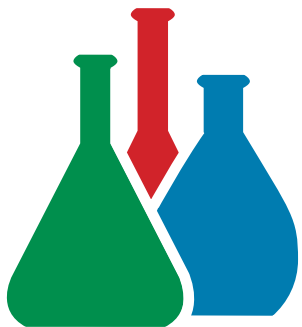
## Growth Markets for Closures

Alcoa CSI has reached new supply agreements with major juice and sports drink companies to provide wide-diameter closures. This volume supports CSI's expansion plans for wide-diameter capacity in North America. Several new packages with Alcoa's V38mm closure were introduced on a regional basis last fall, and plans call for national deployment during 1999. Juice is a target growth market for CSI in 1999-2000, including expansion into the promising single-serve juice segment.

In another fast growing market segment – sports closures for the water industry – CSI's new Sports-Lok® closure enjoys strong demand from leading bottlers. Sports-Lok closures help customers to achieve manufacturing efficiencies, and they're popular with consumers.

## New Capping Machine

Alcoa Packaging Machinery (APM) locations in Randolph, New York and Viernheim, Germany teamed up to develop the Series 7000 capping machine – a high-performance machine designed to meet the needs of large-scale bottling operations. The design is based on principles of the Alcoa Production System (APS) along with input from customer focus groups worldwide. Modular subassemblies are designed and engineered to be manufactured in an APS-style "pull" system – low or no waste, low inventory, and manufactured to demand. Major benefits to bottlers are significantly reduced maintenance and downtime plus flexibility of package and process. Test locations at major beverage filling customers have led to a number of orders for 1999 delivery.



## Packaging in Argentina

Alcoa Aluminio's packaging segment acquired the rights to produce PET preforms for beverage containers in Ushuaia, Argentina, the capital of Tierra del Fuego. Installation of PET injection-molding machinery is expected to occur early in 1999. The Argentine beverage industry has grown dramatically in the 1990s, attracting new bottlers, and PET bottles have captured much of the market share formerly held by glass containers. Alcoa has been the largest PET bottle producer in Argentina since 1997.



## To Build a Better Truck

In Mexico, Alcoa Extruded Construction Products (AECP) has developed a better way to serve customers who build truck bodies for beverage companies. Starting from the specific needs identified with the customer, AECP develops an aluminum truck body system, typically of extrusions, castings, and sheet. Then the elements for each truck body are delivered in the form of a kit, complete with instructions and ready to assemble. Leading manufacturers Suma and Reco in Mexico City have found that this system eliminates cutting operations and material waste, and it allows quicker delivery to their customers. Aluminum is gaining ground in Mexico's transportation market because of its combination of strength with light weight and the resulting energy savings and emissions reduction.

## Eco-Friendly Lubricants

Alcoa Forged Products' (AFP) new facility in Cleveland has successfully implemented an environment-friendly lubrication system for the wheel forging process, including the blocking/finishing/flaring operation. It's a technological achievement prompted by two concerns: environmental issues related to volatile organic compounds (VOCs) – a precursor to ozone and smog – and the surface quality of the forging. VOCs were reduced by 85%, and surface quality improved due to a reduction in lubricant buildup on the forging. AFP is planning to transfer the technology to other portions of its business.

## A Tougher Alloy for Fuselages

Airbus partner DaimlerChrysler has selected Alcoa alloy 2524 for use on their newest and largest aircraft, the A340-600. The improved fatigue and toughness properties of 2524 alloy make possible a lighter-weight fuselage structure. Airbus is now considering 2524 for use on other aircraft such as the much larger A3XX.

**2524**  
ALLOY

## Meet the Customer

Alcoa Building Products (ABP) has developed a program called "Meet the Customer." Warehouse and distribution employees accompany the products they ship to a customer's plant and observe how their shipments are unloaded, stacked, or handled. Then a dialogue with the customer explores for ways to improve safety, increase efficiency and save money for both parties. Alcoa participants write up their observations both for the customer and for their own sales group. Basic purpose of the program is to become and remain the supplier of choice by increasing the value of ABP products and services to the customer.

## Truck Fleets Convert to Alcoa Wheels

During 1998, Contract Freighters, Inc., Frozen Food Express Industries and Rocor Transportation trucking companies changed their wheel specification on new truck orders from steel wheels to "Bright and Light" forged Alcoa wheels. They joined a growing number of large trucking companies who have converted to Alcoa forged wheels to save weight and improve the appearance of their fleets.

## Giant Wing Design

A joint British Aerospace (BAe), Alcoa team is working together on wing design of the new A3XX, intended to be the world's largest passenger jet. At a length of 135 feet and a thickness at the root of almost eight feet, the wing structure poses unique design and engineering challenges. In light of a potential composite outer wing application, BAe and Alcoa have joined forces on an integrated product design team to demonstrate to Airbus the overwhelming merits of an all-metallic wing.

## Innovative Environmentalists

Alcoa is one of five companies singled out by the Houston Advanced Research Center (HARC) as corporations with innovative environmental strategies. These five case studies framed a symposium held by HARC at the Center for Global Studies in consultation with the National Research Council's Board on Sustainable Development. The study of Alcoa focused on measures the company has taken to address greenhouse gas emissions, reduce the use of fossil fuels, and mitigate the environmental impact of mining activities. The case study authors noted that Alcoa integrates these environmental programs into its global business strategy. Other case studies involved Royal/Dutch Shell, Ford Motor Company, Enron, and Formosa Plastics Corporation.

## Alcoa in Cyberspace

In the expanding world of electronic commerce, Alcoa will enhance its customer relations by building interfaces into its information sources and providing customers with tools for navigating and receiving key business data. Currently, 17 Alcoa business units, interacting electronically with some 1,500 trading partners, generate over 1,100 transactions a day through Electronic Data Interchange (EDI). To support and strengthen these efforts, Alcoa has formed a team dedicated to electronic business solutions. The Alcoa eBusiness team's first project is a secured Internet site that allows Alcoa customers to accept and view invoices on-line as well as exchange daily reports that historically have been faxed.



## Alcoa and Ferrari

# Building aluminum frames at the fabled Scaglietti Works.

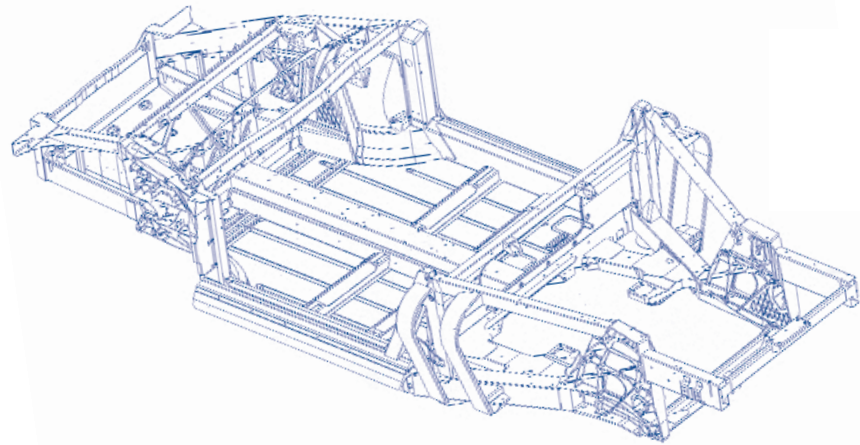
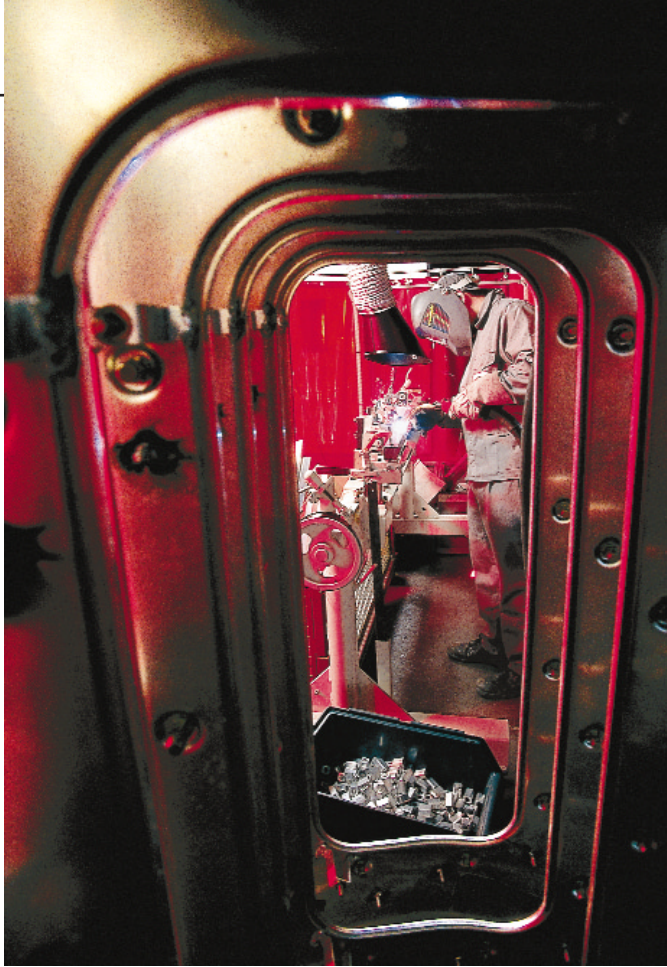
Alcoa Automotive Structures (AAS) has worked closely with Ferrari on development of the aluminum body structure for the 360 Modena – just launched at the 1999 Geneva Auto Show.

The collaboration has also been extended into manufacturing, with an assembly operation inside the Scaglietti Works in Modena, Italy. From extruded components made in the AAS plant in Soest, Germany; sand castings from Ferrari's manufacturing base in Maranello, Italy; and sheet components made in Italy with Alcoa auto body sheet, the high-performance 360 Modena body structure is produced on a special line before moving across to Ferrari's final assembly production line.

An exciting assignment – especially when it's for a legendary carmaker, known the world over for technical sophistication and extreme performance.







An isometric CAD view of the high-performance frame structure built by Alcoa with Ferrari for the 360 Modena.

Left: Welding of a subassembly for the Ferrari frame.

In Ferrari's Scaglietti Works, Andrea Regattieri, far left, operates a robotic riveting machine. Left: Adriano Galli and Gabriele Sala deliver a completed frame structure through the door to Antonio Zini and Emer Giovanardi.



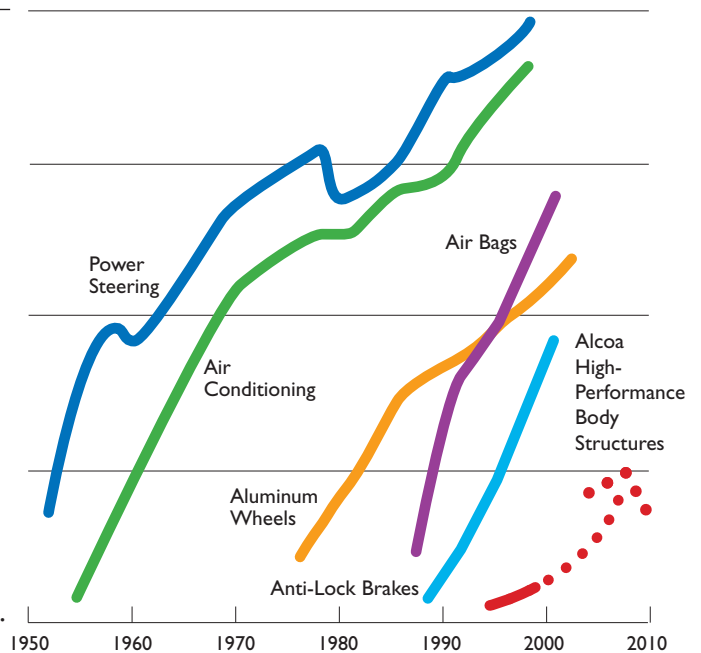
Plymouth Prowler



Audi A8

## How Breakthroughs Break Through

When major improvements are developed for cars, they usually begin as premium features on a few luxury models. As manufacturing technology brings down costs, the breakthrough can break through to become available in a wide range of cars. That's the drama now unfolding in the case of the high-performance aluminum body structures Alcoa has helped to develop for the Audi A8, Plymouth Prowler and Ferrari 360 Modena.



## Costcutting

# Objective: Save \$1.1 billion in costs by the turn of the century.

In mid-1998 Alcoa set a new target: to save \$1.1 billion in costs by January 1, 2001. "Our goal is to generate \$800 million in operating improvements in our existing businesses," said Chairman Paul O'Neill. "In addition, we expect to achieve \$300 million in savings from efficiency opportunities as a result of our merger with Alumax."

Each of Alcoa's business units is committed to achieving the necessary running rates. "This aggressive, turn-of-the-century target will require us to step up the pace of our performance," said O'Neill. "We must integrate and leverage our global franchise while working with customers to maximize the value we bring to the marketplace."

**\$1.1  
BILLION**

**COST IMPROVEMENT**

Light truck wheels ready for shipment from an Alcoa Forged Products plant in Cleveland – one of many locations where Alcoans are achieving significant cost reductions.



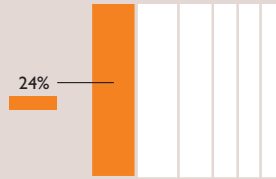
## Financial and Corporate Data

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# Trends in Alcoa's Major Markets

## Transportation

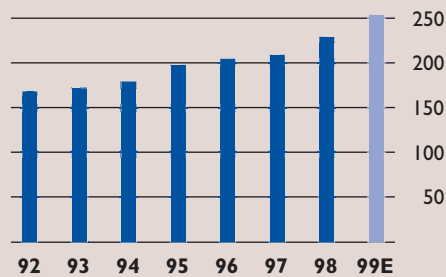
\$3.7 billion



- Aluminum shipments to the automotive sector grew by \$400 million in 1998, fueled by acquisitions as well as internal growth.
- Aluminum use by automakers in North America, western Europe and Japan over the next 10 years is expected to rise by 52% to 4.7 million mt, reports metals and mining consultancy Brook Hunt. Areas of growth include body parts, engine blocks and safety systems.

### Growth in Automobile Aluminum Content

lbs. per vehicle, North America

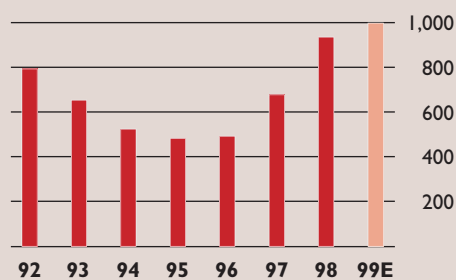


Source: American Metal Market

- In North America, from 1996 to 1999, aluminum use in brakes, drivelines, chassis and suspensions rose 46%, in steering systems 47% and closure panels 65% (Drucker Research Co.).

### Commercial Airplane Build Rate

50-seat and larger jets

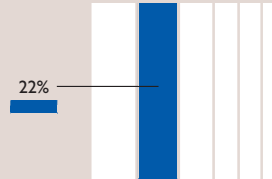


Source: Industry Sources

- Aerospace extrusion production by Alcoa Engineered Products in 1998 was 35% higher than any prior peak, due to more extrusions being used in aircraft, a broader product line and high aircraft build rates.

## Packaging

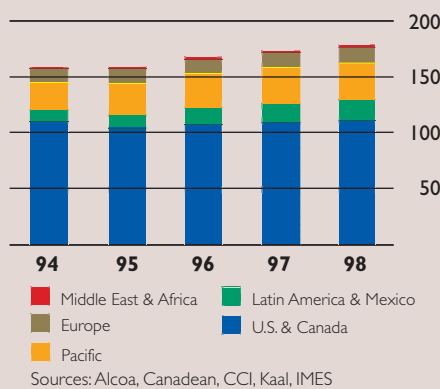
\$3.3 billion



- Alcoa's packaging revenues are primarily from sales of beverage can sheet, followed by plastic and aluminum closures, foil products and packaging machinery.

### Aluminum Beverage Can Demand

billions of cans



Sources: Alcoa, Canadean, CCI, Kaal, IMES

- Total U.S. aluminum beverage can shipments in 1998 grew 2.2% from 1997, to nearly 103 billion units. Soft-drink cans rose for the fourth consecutive year, by 4.6%, while beer cans fell 2.4%.
- In Mexico, the world's 6th largest can market, demand rose 7% in 1998, the second consecutive year of record production and sales growth.
- Nearly one billion embossed aluminum beer and soft-drink cans will be produced in 1999, up from 200 million in 1997. Alcoa Packaging Equipment developed and builds the machinery canmakers use to create these innovative packages.
- Alcoa Closure Systems International expanded its presence in the growing Latin American market in 1998 with the opening of new plants in Mexico and Costa Rica.

## Distribution and Other

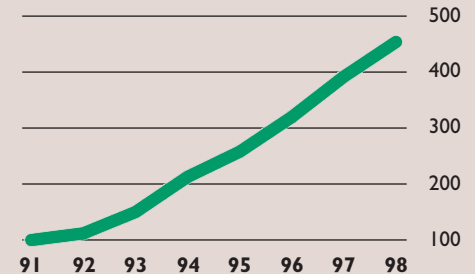
\$2.8 billion



- Most of the revenues in this market are from sales of aluminum extrusions, sheet and plate to distributors. Revenues, aided by acquisitions, increased 28% over 1997.
- "Other" includes sales of products and services for the telecommunications industry, computer memory disks and magnesium.

### Alcoa Revenue Growth from the Telecommunications Industry

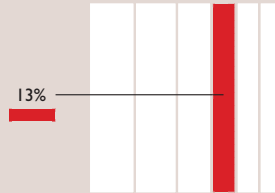
1991 = 100



- To support the telecommunications market's need for increased capacity and speed, Alcoa Fujikura in 1998 acquired MinTel, in Norcross, Ga.; QCS, in Richmond, Va. and TICS, in Charlotte, N.C. – all providers of telecom networking products and services. It also opened a new plant in Allentown, Pa.

## Aluminum Ingot

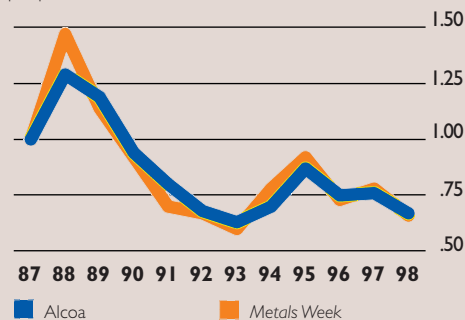
\$2.0 billion



- Aluminum ingot is an internationally produced, priced and traded commodity whose principal trading market is the London Metal Exchange, or LME.

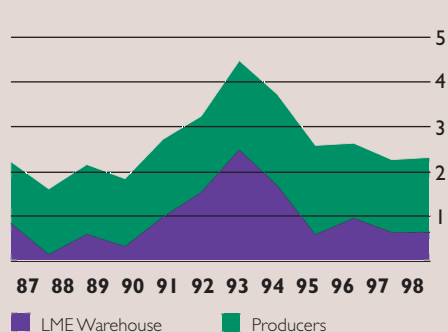
### Average Ingot Prices

per pound, in 1998 dollars



### Worldwide Aluminum Ingot Inventory

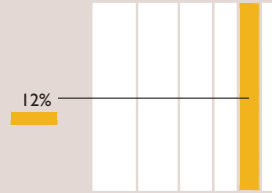
millions of metric tons



- Alcoa produces aluminum ingot primarily for further fabrication into higher-value products. Ingot shipments to third parties in 1998 were 35% of total aluminum shipments.
- Worldwide primary aluminum capacity is estimated at 24.7 million mt per year (James F. King). With the acquisitions of Inespal and Alumax, Alcoa added 1.1 million mt of capacity, which now totals 3.2 million mt.
- Since 1994, due to oversupply of aluminum ingot worldwide, Alcoa has kept idle 450,000 mt of primary aluminum capacity.

## Alumina and Chemicals

\$1.8 billion

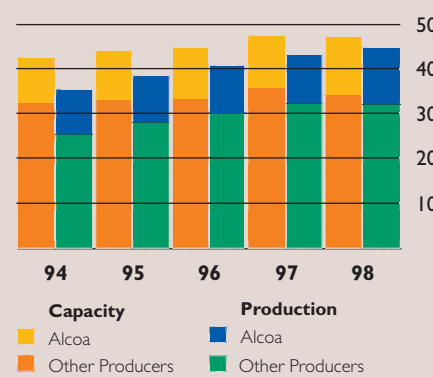


- Alcoa is the world's largest, and a low-cost producer of alumina, the white, powdery substance refined from bauxite ore. Alumina is used to produce aluminum and alumina-based chemicals.

- Alcoa has the broadest reach of any alumina producer, with refineries in Australia, North and South America, and now Europe with a plant at San Ciprián, Spain.

### Worldwide Alumina Capacity and Production

millions of metric tons

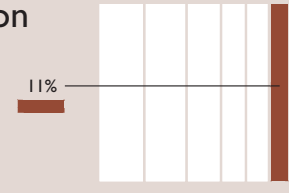


Source: IPAI, Alcoa

- In 1998, Alcoa World Alumina sold about 56% of its 12.8 million mt of consolidated alumina production to third parties. Shipments to Alumax, a former customer, are now internal.
- European and North American steel production cutbacks in 1998, caused by rising imports from Asia, squeezed demand for Alcoa Industrial Chemicals' alumina refractory products.

## Building and Construction

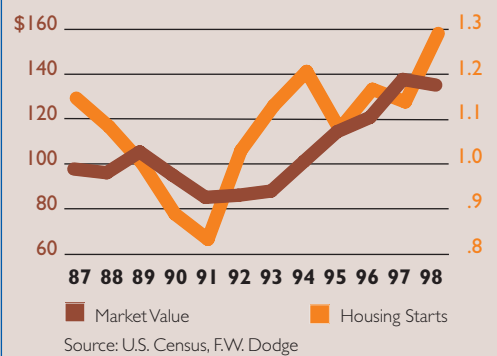
\$1.7 billion



- Alcoa's revenues in this market are from an array of fabricated aluminum products for commercial and residential applications, and vinyl siding for new homes and remodeling. 1998 revenues were nearly 30% greater than 1997, in part due to acquisitions.

### U.S. Commercial Construction Market Value and Single-Family Housing Starts

billions of dollars, millions of houses

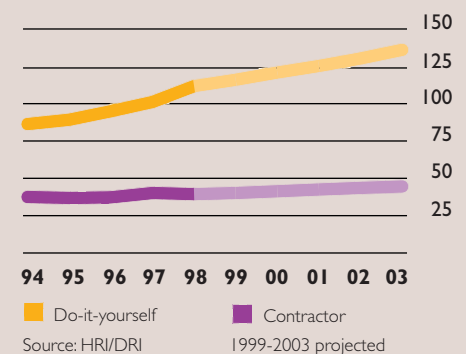


Source: U.S. Census, F.W. Dodge

- The architectural aluminum market has been strong in recent years. Growth at Kawneer Company, an architectural products leader integrated with Alcoa as part of the Alumax merger, has outpaced the market.
- More than 75% of all U.S. homes are over 15 years old, and 56% are over 25 years old, providing opportunities for growth in Alcoa's vinyl and aluminum building products businesses.

### U.S. Home Improvement Expenditures

billions of 1998 dollars



Source: HRI/DRI

1999-2003 projected

- Alcoa Building Products remains one of the leading producers of vinyl siding in the U.S., going to market with the Alcoa and Mastic® brands.

## Selected Financial Data

(dollars in millions, except per-share amounts and ingot prices)

	1998	1997	1996	1995	1994
Sales	\$15,339.8	\$13,319.2	\$13,061.0	\$12,499.7	\$ 9,904.3
Income before extraordinary loss *	853.0	805.1	514.9	790.5	443.1
Extraordinary loss †	—	—	—	—	(67.9)
Net income*	853.0	805.1	514.9	790.5	375.2
Basic earnings per common share ‡					
Before extraordinary loss †	2.44	2.33	1.47	2.22	1.24
Net income	2.44	2.33	1.47	2.22	1.05
Diluted earnings per common share ‡					
Before extraordinary loss †	2.42	2.31	1.46	2.20	1.23
Net income	2.42	2.31	1.46	2.20	1.04
Alcoa's average realized price per pound for aluminum ingot	.67	.75	.73	.81	.64
Average U.S. market price per pound for aluminum ingot ( <i>Metals Week</i> )	.66	.77	.71	.86	.71
Cash dividends paid per common share ‡	.75	.488	.665	.45	.40
Total assets	17,462.5	13,070.6	13,449.9	13,643.4	12,353.2
Long-term debt (noncurrent)	2,877.0	1,457.2	1,689.8	1,215.5	1,029.8

\* Includes net after-tax gains of \$43.9 in 1997, and net after-tax charges of \$122.3 in 1996, \$10.1 in 1995 and \$50.0 in 1994. See Note D to the financial statements for additional detail. Also included in 1994 is a gain of \$300.2 related to the Alcoa/WMC transaction.

† The extraordinary loss relates to the early retirement of debentures.

‡ All per-share amounts have been restated to reflect the two-for-one stock split declared on January 8, 1999.

## Results of Operations

(dollars in millions, except share amounts and ingot prices; shipments in thousands of metric tons (mt); all per-share amounts have been restated to reflect the two-for-one stock split declared on January 8, 1999)

### Earnings Summary

Alcoa's 1998 financial highlights include:

- > Net income of \$853, 6% above 1997;
- > Aluminum shipments of 3,951 mt, up 34% over 1997;
- > Revenues of \$15,340, driven by the record volumes noted above; and
- > Return on average shareholders' equity of 16.3%.

Improved financial results for 1998 relative to 1997 were the result of higher volumes, aided in part by the Alumax and Inespal acquisitions, and continued operating improvements. Partially offsetting these positive factors were lower overall aluminum and alumina prices and the impact of higher debt levels.

Alcoa's financial results for 1997 also were strong, as summarized below:

- > Net income of \$805 (\$761 before special items) was 56% above 1996;
- > Aluminum shipments of 2,956 mt were the second highest in company history and 4% above 1996;
- > Revenues of \$13,319 increased 2% from 1996; and
- > Return on average shareholders' equity rose 56% to 18.1%.

Alcoa's 1997 financial performance came in spite of the fact that fabricated aluminum and alumina prices were lower than 1996 and well below historic highs. Revenues increased 2% above 1996 levels, as higher volumes more than offset the loss of revenues related to the sale of noncore businesses.

### Segment Information

In 1998, Alcoa adopted SFAS 131, "Disclosures about Segments of an Enterprise and Related Information." Alcoa's operations consist of four worldwide segments: Alumina and chemicals, Primary metals, Flat-rolled products and Engineered products. Alcoa's management reporting system measures the after-tax operating income (ATOI) of each segment. Nonoperating items, such as interest income, interest expense, foreign exchange gains/losses and minority interest, are excluded from segment profit. In addition, certain expenses, such as corporate general administrative expenses, depreciation and amortization on corporate assets and certain special items, are not included in segment results. Segment assets exclude cash, cash equivalents, short-term investments and all deferred taxes. Segment assets also exclude corporate items such as fixed assets, LIFO reserve, goodwill allocated to corporate and other amounts.

Segment ATOI totaled \$1,303 in 1998 compared with \$1,265 in 1997 and \$858 in 1996. See Note O to the financial statements for additional information. The following discussion provides shipment, revenue and ATOI data for each segment for the years 1996 through 1998.

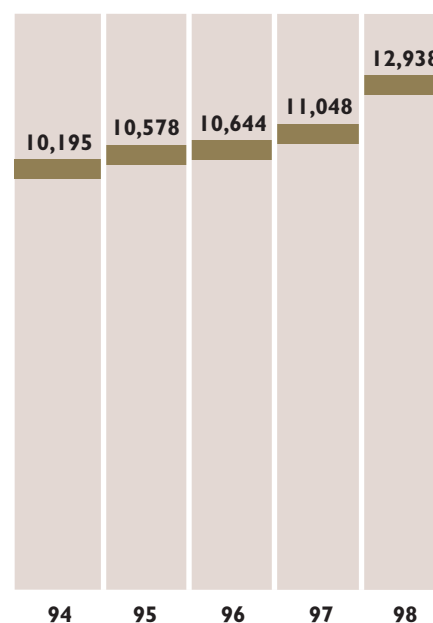
## Revenues by Segment

billions of dollars



## Alumina Production

thousands of metric tons



## I. Alumina and Chemicals

	1998	1997	1996
Third-party alumina shipments (mt)	7,130	7,223	6,406
Third-party sales	\$1,847	\$1,978	\$1,963
Intersegment sales	832	634	617
After-tax operating income	318	302	340

This segment's activities include the mining of bauxite, which is then refined into alumina. The alumina is then sold to internal and external customers worldwide or is processed into industrial chemical products. Approximately two-thirds of the third-party sales from this segment are derived from alumina. In 1998, third-party sales of alumina fell 14% from 1997, as realized prices fell 13% and shipments fell 1%. Lower third-party shipments, as well as higher intersegment sales in 1998, were a direct result of the Alumax acquisition. Previously, sales of alumina to Alumax were classified as third-party revenues; these sales are now recorded as intersegment. Including intersegment sales, shipments were up in 1998. Third-party revenues from alumina in 1997 were 5% higher than 1996, as a 13% increase in shipments was partially offset by lower realized prices.

Third-party sales of alumina-based chemical products were unchanged compared with 1997, as higher shipments, aided by acquisitions, were offset by lower prices. In 1997, third-party sales from these products fell 3% from 1996, as lower volumes offset higher realized prices.

Despite lower prices, segment ATOI in 1998 rose 5% over 1997. Lower operating costs and the impact of the Inespal acquisition were partly offset by lower realized prices. In 1997, ATOI was \$302, down 11% from 1996. The decrease was the result of lower earnings from alumina operations, which were negatively impacted by lower realized prices. The effect of lower alumina prices was partially offset by lower labor costs, improved productivity and improved results from Alcoa's chemicals operations.

In 1997, Alcoa World Alumina and Chemicals (AWAC) received an advance payment of \$240 related to a long-term alumina supply contract with Sino Mining Alumina Ltd (SMAL). The contract entitles SMAL to purchase 400,000 mt of alumina per year for thirty years. SMAL has the option to increase its alumina purchases as its needs grow. Per-ton payments also are made under the terms of the agreement.

In 1997, AWAC announced a 440,000 mt expansion of its Wagerup alumina refinery in Western Australia. Construction is expected to be complete in the 1999 second quarter.

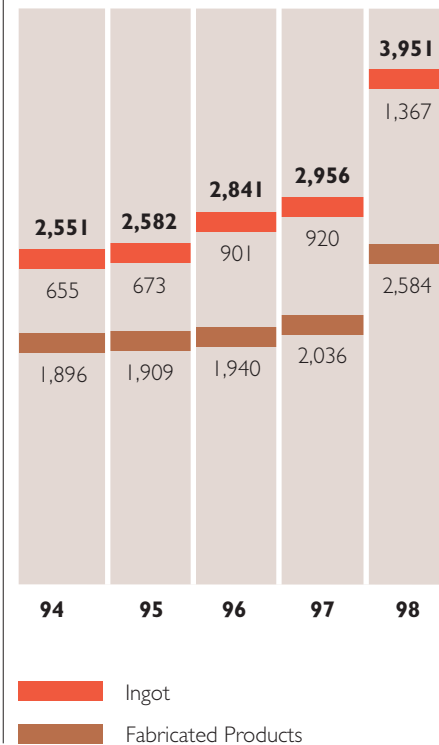
## II. Primary Metals

	1998	1997	1996
Third-party aluminum shipments (mt)	1,392	940	976
Third-party sales	\$2,105	\$1,600	\$1,580
Intersegment sales	2,283	1,966	1,900
After-tax operating income	331	417	313

This group's focus is Alcoa's worldwide smelter system. Primary metals receives alumina from the alumina and chemicals segment

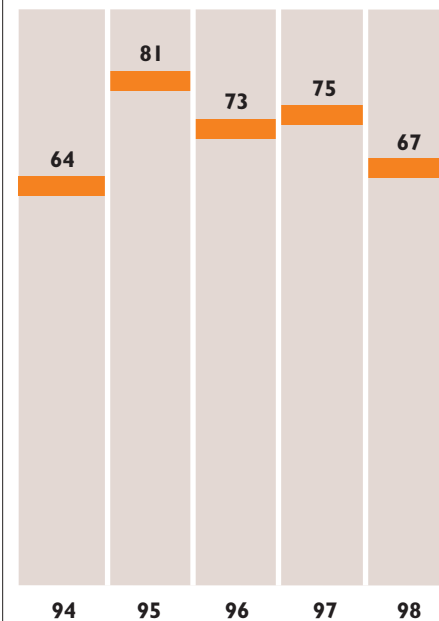
## Aluminum Product Shipments

thousands of metric tons



## Average Realized Ingot Price

cents per pound





and produces aluminum ingot to be used by a variety of Alcoa's other segments, as well as sold to outside customers. In addition to ingot, powder and scrap are also sold by this segment. Aluminum ingot produced by Alcoa and used internally is transferred to other segments at prevailing market prices. Third-party sales of ingot, which make up the majority of this segment's revenues, rose 32% from 1997. The increase was the result of additional revenues from the smelting operations of acquired companies, which were partially offset by an 11% decline in realized prices. In 1997, third-party ingot sales increased 5% over 1996, as prices climbed 3% and shipments rose 2%.

Alcoa's average realized price for ingot in 1998 was 67 cents per pound, compared with 75 cents in 1997 and 73 cents in 1996. This compares with average prices on the London Metal Exchange (LME) of 63 cents per pound in 1998, 74 cents in 1997 and 70 cents in 1996.

Alcoa operated its worldwide smelting system at 88% of rated capacity in 1998 and, since 1994, has had 450,000 mt of smelting capacity idle.

Intersegment sales increased in 1998, relative to 1997, due to acquisitions. Alumax and Inespal sourced the majority of their metal needs internally, driving the increase in intersegment sales.

Primary metals ATOI fell 21% in 1998 from 1997, as lower metal prices more than offset the effect of acquired companies. Lower operating costs in 1998 helped ease the decline, muting the impact of lower prices. ATOI in 1997 rose 33% over 1996, as higher ingot prices and shipments, along with lower costs, resulted in improved performance.

### III. Flat-Rolled Products

	1998	1997	1996
Third-party aluminum shipments (mt)	1,764	1,469	1,359
Third-party sales	\$4,900	\$4,188	\$4,082
Intersegment sales	59	53	21
After-tax operating income	306	268	160

This segment's principal business is the production and sale of aluminum sheet, plate and foil. This segment includes rigid container sheet (RCS), which is used to produce aluminum beverage cans, and mill products used in the transportation and distributor markets. Slightly less than half of the third-party shipments and sales in this segment are derived from the sale of RCS, while an additional one-third is obtained from mill products. Other flat-rolled products, such as foil, comprise the remainder of this segment. Third-party sales from this segment in 1998 increased 17% over 1997, as the impact from acquisitions was partially offset by a 2% decline in prices. In 1997, third-party sales rose 3% over 1996, as an 8% increase in shipments more than offset lower prices.

Third-party sales from RCS were essentially unchanged in 1998 from 1997, as were shipments and prices. For the industry as a whole, 1998 shipments of beverage cans by can manufacturers rose 2.2% from 1997. RCS sales in 1997 were down 4% from the previous year, primarily due to the 1996 sale of Alcoa of Australia's (AofA) rolled products division, which resulted in a 29,500 mt loss of ship-

ments for 1997 relative to 1996. Prices were down slightly from 1996, due to lower underlying metal prices.

Third-party sales from mill products were up 21% over 1997. Shipments, aided by acquisitions, increased 23%, while prices fell 2%. Overall mill products prices were lower, as lower volumes of higher priced transportation-related products were offset by higher volumes of lower value-added products. 1997 third-party sales increased 11% from 1996 as a result of a 10% increase in shipments.

This segment incurred a special item charge in 1996 totaling \$26. The net charge related to severance costs for employees who voluntarily left the company and for permanent layoff costs.

ATOI for flat-rolled products rose 14% in 1998, as increases from mill products and foil were offset by declines in RCS. RCS ATOI was down, as higher costs for labor and services reduced margins. Mill products ATOI rose, as acquisitions and higher prices for products used in the transportation market offset losses related to the production and sale of computer memory disks. ATOI in 1997 rose 68% from 1996, as the U.S. RCS business and Alcoa's mill products operations benefited from strong demand and lower costs.

### IV. Engineered Products

	1998	1997	1996
Third-party aluminum shipments (mt)	729	441	456
Third-party sales	\$3,110	\$2,078	\$1,869
Intersegment sales	11	9	15
After-tax operating income	184	100	46

This segment includes hard and soft alloy extrusions, aluminum forgings and wire, rod and bar. These products serve the transportation, construction and distributor markets. Third-party shipments were up 65% from 1997, driving a 50% increase in third-party sales. Acquisitions and higher shipments of forged wheels were responsible for the increase in shipments. Average realized prices for engineered products for the 1998 period fell 10%, to \$1.93 per pound, primarily due to the addition of the Alumax extrusion businesses in the 1998 third quarter. These businesses produce primarily soft alloy extrusions, which have a lower value-added, resulting in a reduction in average realized prices. Third-party sales in 1997 rose 11% from 1996, as prices rose 14%.

Third-party sales of extruded products were up 65% from 1997, as shipments, aided by acquisitions, increased 91% from 1997 levels. Partially offsetting higher shipments were lower soft alloy prices. In 1997, extruded products revenues increased 12% from 1996, as shipments increased 19%, but prices fell 6%. Prices for hard alloy extrusions were up 7% from 1996; however, lower prices for soft alloy extrusions in the U.S. and in parts of Europe more than offset the increases.

Forged wheel sales in 1998 rose 32% from 1997, as shipments, up 38%, continue to rise. A portion of the increase is due to Alcoa's new wheel facility in Hungary, which began operations in September 1997. This facility is operating at capacity, as European demand

for forged wheels continues to be strong. Also contributing to the increase in shipments were higher sales of forged automotive wheels, driven by strong demand for sport utility vehicles and light trucks. Shipments in 1997 rose 21% from 1996, generating an 18% increase in revenues.

Engineered products' 1998 ATOI rose 84% over the comparable 1997 period. The increase was due to acquired companies, a gain on the sale of Alcoa's interest in Alcotec, a wire fabricator, and improved operating results from European extrusion facilities. Also contributing to the increase were higher shipments of forged wheels. Results in 1997 more than doubled those recorded in 1996. Higher revenues from extruded products and wire, rod and bar, along with improved ATOI from European operations, drove the increase. Also adding to the rise in ATOI was improved performance related to forged aerospace products.

#### V. Other

	1998	1997	1996
Third-party aluminum shipments (mt)	66	106	50
Third-party sales	\$3,362	\$3,458	\$3,567
Intersegment sales	—	—	—
After-tax operating income	165	177	(.9)

This category includes Alcoa Fujikura Ltd. (AFL), which produces electrical components for the automotive industry along with telecommunications products. In addition, Alcoa's aluminum and plastic closures operations and Alcoa's residential building products operations are included in this group. Third-party sales from this segment were down 3% from 1997, as higher sales of automotive electrical components were more than offset by the loss of revenues from the sale of Alcoa Alumínio's cable business in late 1997. A similar drop in third-party sales was experienced by this segment in 1997 versus 1996, as improved results from automotive electrical components were more than offset by the loss of revenues from the sale of certain noncore businesses.

Third-party sales at AFL increased 7% in 1998, due to higher volumes, while prices declined slightly. This came on top of an 18% volume related revenue gain in 1997, compared with 1996. Closures revenues for 1998 fell 1% when compared with 1997, partially reversing a 15% increase in 1997 over 1996.

This segment incurred a special item gain of \$71 in 1997. The gain was the result of the sale of various businesses, a majority interest in Alcoa's Brazilian cable business, and land in Japan. In 1996, this segment had a special item charge of \$104. The net charge relates to the Alcoa Electronic Packaging (AEP) shutdown, along with severance costs for employees who voluntarily left the company and for permanent layoff costs.

Segment ATOI fell 7% from 1997, as improved results at AFL, along with a gain from the sale of Alcoa's Australian gold operations, were more than offset by special item gains in 1997 versus no special items in 1998. After-tax operating income in 1997 increased \$178

from 1996, due to improved performance by AFL. Also contributing to the turnaround were special items, which resulted in gains in 1997 versus a substantial loss in 1996.

#### Special Items

There were no special items recorded in 1998. Special items in 1997 resulted in a net gain of \$96 (\$44 after tax and minority interests, or 13 cents per basic share). The fourth quarter sale of a majority interest in Alcoa's Brazilian cable business and land in Japan generated gains of \$86. In addition, the sale of equity securities resulted in a gain of \$38, while the divestiture of noncore businesses provided \$25. These gains were partially offset by charges of \$53, related to environmental and impairment matters.

Included in 1996 income from operations was a charge of \$199 (\$122 after tax and minority interests, or 35 cents per basic share) consisting of several items. A net severance charge of \$96, which included pension and OPEB curtailment credits of \$75, related to incentive costs for employees who voluntarily left the company and for permanent layoff costs. In addition, the shutdown of AEP resulted in a charge of \$65, related primarily to asset write-downs. Impairments at various manufacturing locations added another \$38 to special items in 1996.

#### Costs and Other Income

**Cost of Goods Sold** — Cost of goods sold rose \$1,649, or 16%, to \$11,805 in 1998. This followed a 2% increase to \$10,156 in 1997 from 1996. The 1998 increase was primarily due to higher volumes of \$1,800, which related primarily to acquired companies. Offsetting a portion of the acquisition-driven increases were cost and operating improvements approaching \$200. The \$190 increase in 1997, relative to 1996, was due to \$175 of higher volumes partially offset by the absence of costs associated with divested businesses. Additionally, higher material costs of \$155 were nearly offset by cost improvements of \$140.

**Selling and General Administrative Expenses** — S&GA expenses increased 15% to \$769 in 1998. However, as a percentage of revenue, S&GA was unchanged from 1997 at 5%. The higher 1998 S&GA total was a result of acquisitions, partially offset by cost reductions. These expenses totaled \$671 in 1997, down \$38 or 5% from 1996. The decrease was the result of lower salary compensation costs resulting from a reduction in the number of employees at U.S. aluminum operations. Additionally, lower costs resulting from the divestiture of noncore businesses also had a positive impact.

**Research and Development Expenses** — R&D expenses of \$128 in 1998 were down 10% from 1997 on top of a 13% decline in 1997 from 1996. A reduction in R&D personnel was primarily responsible for lower spending on research in the metals, castings, closures and alumina businesses.

**Interest Expense** — Interest expense rose \$57 to \$198 in 1998 from 1997. The increase was the result of 1998 borrowings of over \$1,850, the proceeds of which were used primarily to fund acquisitions.

Interest expense increased \$7 in 1997 from 1996 as a result of the full-year effect of Alumínio's 1996 debt offering and higher debt levels in 1997 at Alcoa of Australia.

**Income Taxes** — Alcoa's effective tax rate in 1998 was 32%, three percentage points below the statutory rate of 35%. The lower rate is primarily due to lower taxes on foreign income.

Alcoa's effective tax rate in 1997 was 33%, two percentage points below the statutory rate of 35%. The lower rate is primarily due to the favorable tax effect of certain special items.

The 1996 effective tax rate was 33.3% and differs from the statutory rate due to the recognition of a tax benefit resulting from reversal of the valuation allowance on deferred tax assets at Suriname Aluminum Company, partially offset by state taxes on income.

**Other Income/Foreign Currency** — Other income declined to \$150 in 1998, an 8% decrease from 1997. The majority of the change was due to increased losses from marking-to-market certain aluminum commodity contracts. Lower interest income also contributed to the decline. Offsetting a portion of these negative factors were \$21 of increased gains related to asset sales, \$8 of higher equity income, and a positive swing in foreign exchange. Other income totaled \$163 in 1997, more than double the 1996 amount. Reduced losses from marking-to-market aluminum commodity contracts and higher equity and interest income were responsible for the improvement.

Exchange gains (losses) included in other income were \$(3.7) in 1998, \$(9.8) in 1997 and \$3.1 in 1996. The total impact on net income, after taxes and minority interests, was \$(8.0) in 1998, \$6.9 in 1997 and \$(.3) in 1996.

## Risk Factors

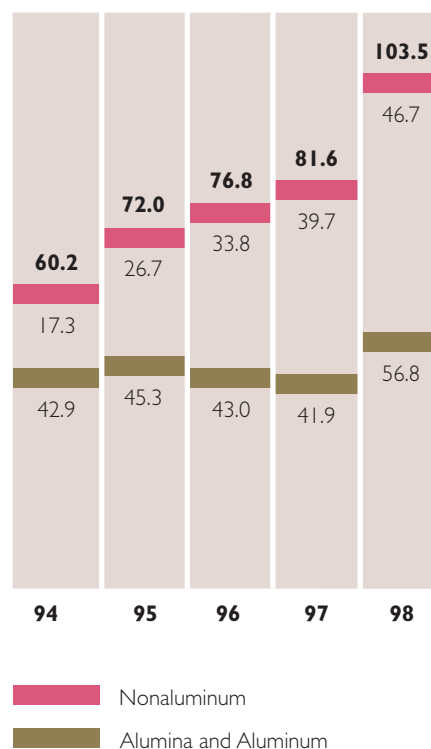
In addition to the risks inherent in its operations, Alcoa is exposed to financial, market, political and economic risks. The following discussion, which provides additional detail regarding Alcoa's exposure to the risks of changing commodity prices, foreign exchange rates and interest rates, includes forward-looking statements that involve risk and uncertainties. Actual results could differ materially from those projected in these forward-looking statements.

**Commodity Price Risks** — Alcoa is a leading global producer of aluminum ingot and aluminum fabricated products. As a condition of sale, customers often require Alcoa to commit to fixed-price contracts that sometimes extend a number of years into the future. Customers will likely require Alcoa to enter into similar arrangements in the future. These contracts expose Alcoa to the risk of fluctuating aluminum prices between the time the order is accepted and the time that the order ships.

In the U.S., Alcoa is net metal short and is subject to the risk of higher aluminum prices for the anticipated metal purchases required to fulfill the long-term customer contracts noted above. To hedge this risk, Alcoa enters into long positions, principally using futures and options. Alcoa follows a stable pattern of purchasing metal; therefore, it is highly likely that anticipated metal requirements will be met. At December 31, 1998 and 1997, these contracts totaled

## Number of Employees

in thousands at year end



approximately 933,000 mt and 1,084,000 mt, respectively. These contracts act to fix the purchase price for these metal purchase requirements, thereby reducing Alcoa's risk to rising metal prices.

A hypothetical 10% change from the 1998 year-end, three-month LME aluminum ingot price of \$1,244 per mt would result in a pretax gain or loss to future earnings of \$110 related to all of the futures and options contracts noted above. However, it should be noted that any change in the value of these contracts, real or hypothetical, would be significantly offset by an inverse change in the value of the underlying metal purchase transactions.

Earnings were selected as the measure of sensitivity due to the historical relationship between aluminum ingot prices and Alcoa's earnings. The hypothetical change of 10% was calculated using a parallel shift in the existing December 31, 1998 forward price curve for aluminum ingot. The price curve takes into account the time value of money, as well as future expectations regarding the price of aluminum ingot. The model also assumes there will be no aluminum smelter capacity restarted by Alcoa.

The futures and options contracts noted above are with credit-worthy counterparties and are further supported by cash, treasury bills or irrevocable letters of credit issued by carefully chosen banks.

The expiration dates of the options and the delivery dates of the futures contracts noted above do not always coincide exactly with the dates on which Alcoa is required to purchase metal to meet its contractual commitments with customers. Accordingly, some of the futures and options positions will be rolled forward. This may result in significant cash inflows if the hedging contracts are "in-the-money" at the time they are rolled forward. Conversely, there could be significant cash outflows if metal prices fall below the price of contracts being rolled forward.

In addition to the above noted aluminum positions, Alcoa had 29,000 mt and 259,000 mt of futures and options contracts outstanding at year-end 1998 and 1997, respectively, that cover long-term, fixed-price commitments to supply customers with metal from internal sources. Accounting convention requires that these contracts be marked-to-market, which resulted in after-tax charges to earnings of \$45 in 1998, \$13 in 1997 and \$57 in 1996. A hypothetical 10% change in aluminum ingot prices from the year-end 1998 level of \$1,244 per mt would result in a pretax gain or loss of \$3 related to these positions. The hypothetical gain or loss was calculated using the same model and assumptions noted earlier.

Alcoa also purchases certain other commodities, such as gas and copper, for its operations and enters into futures contracts to eliminate volatility in the prices of such products. None of these contracts are material. For additional information on financial instruments, see Notes A and T to the financial statements.

**Foreign Exchange Risks** — Alcoa is subject to significant exposure from fluctuations in foreign currencies. As a matter of company policy, foreign currency exchange contracts, including forwards and options, are sometimes used to limit the risk of fluctuating exchange rates. A hypothetical 10% change in applicable 1998 year-end forward rates would result in a pretax gain or loss of approximately

\$135 related to these positions. However, it should be noted that any change in value of these contracts, real or hypothetical, would be significantly offset by an inverse change in the value of the underlying hedged item. The model assumes a parallel shift in the forward curve for the applicable currencies and includes the foreign currency impacts of Alcoa's cross-currency interest rate swaps. See Notes A and T for information related to the accounting policies and fair market values of Alcoa's foreign exchange contracts at December 31, 1998 and 1997.

In early 1999, Brazil experienced a devaluation of its currency, the real. Based on information currently available, Alcoa does not believe that the devaluation will have a material impact on Alcoa's 1999 results of operations.

**Interest Rate Risks** — Alcoa attempts to maintain a reasonable balance between fixed- and floating-rate debt and uses interest rate swaps and caps to keep financing costs as low as possible. At December 31, 1998 and 1997, Alcoa had \$3,489 and \$1,952 of debt outstanding at effective interest rates of 6% and 7%, respectively, after the impact of interest rate swaps and caps is taken into account. A hypothetical change of 10% in Alcoa's effective interest rate from year-end 1998 levels would increase or decrease interest expense by \$21. The interest rate effect of Alcoa's cross-currency interest rate swaps has been included in this analysis. For more information related to Alcoa's use of interest rate instruments, see Notes A and T.

**Risk Management** — All of the aluminum and other commodity contracts, as well as the various types of financial instruments, are straightforward and are held for purposes other than trading. They are used primarily to mitigate uncertainty and volatility, and principally cover underlying exposures.

Alcoa's commodity and derivative activities are subject to the management, direction and control of the Strategic Risk Management Committee (SRMC). SRMC is composed of the chief executive officer, the president, the chief financial officer and other officers and employees that the chief executive officer may select from time to time. SRMC reports to the board of directors at each of its scheduled meetings on the scope of its derivative activities.

**Material Limitations** — The disclosures, with respect to aluminum prices and foreign exchange risk, do not take into account the underlying anticipated purchase obligations and the underlying transactional foreign exchange exposures. If the underlying items were included in the analysis, the gains or losses on the futures and options contracts may be offset. Actual results will be determined by a number of factors that are not under Alcoa's control and could vary significantly from those disclosed.

## Environmental Matters

Alcoa continues to participate in environmental assessments and cleanups at a number of locations, including at operating facilities and adjoining properties, at previously owned or operated facilities and at Superfund and other waste sites. A liability is recorded

for environmental remediation costs or damages when a cleanup program becomes probable and the costs or damages can be reasonably estimated. For additional information, see Notes A and U to the financial statements.

As assessments and cleanups proceed, the liability is adjusted based on progress in determining the extent of remedial actions and related costs and damages. The liability can change substantially due to factors such as the nature and extent of contamination, changes in remedial requirements and technological changes. Therefore, it is not possible to determine the outcomes or to estimate with any degree of accuracy the ranges of potential costs for certain matters. For example, there are issues related to Alcoa's Massena, New York, and Pt. Comfort, Texas plant sites that allege natural resource damage or off-site contaminated sediments, where investigations are ongoing. Based on these facts, it is possible that results of operations in a particular period could be materially affected by certain of these matters. However, based on facts currently available, management believes that the disposition of these matters will not have a materially adverse effect on the financial position or liquidity of the company.

Alcoa's remediation reserve balance at the end of 1998 was \$217.0, of which \$84.6 was classified as a current liability, and reflects the most probable costs to remediate identified environmental conditions for which costs can be reasonably estimated. About 20% of this balance relates to Alcoa's Massena, New York plant site and 16% relates to Alcoa's Pt. Comfort, Texas plant site. Remediation expenses charged to the reserve were \$63 in 1998, \$64 in 1997 and \$72 in 1996. These include expenditures currently mandated, as well as those not required by any regulatory authority or third party.

Included in annual operating expenses are the recurring costs of managing hazardous substances and environmental programs. These costs are estimated to be about 2% of cost of goods sold.

## Liquidity and Capital Resources

(dollars in millions, except share amounts)

### Cash from Operations

Cash from operations rose 16% in 1998 to \$2,197, versus \$1,888 in 1997. The increase was primarily the result of higher earnings, a reduction in deferred hedging gains and lower working capital requirements. Partially offsetting these items was \$240 of cash received in 1997 related to a long-term alumina supply agreement.

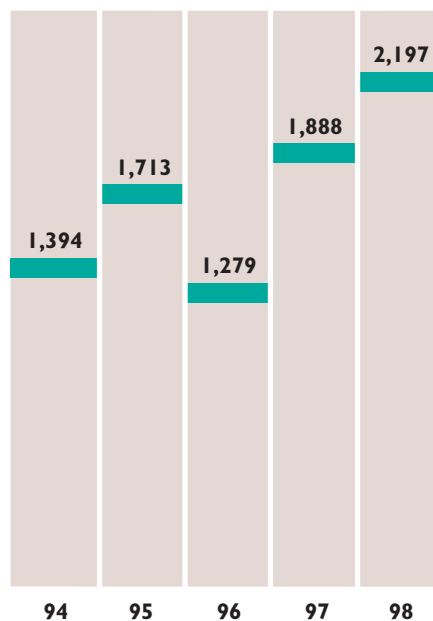
Lower working capital requirements for 1998 provided net cash inflows of \$269, which was \$175 higher than 1997. The decrease in working capital requirements was essentially due to lower levels of receivables and inventories, partially offset by a decrease in accounts payable and accrued expenses.

### Financing Activities

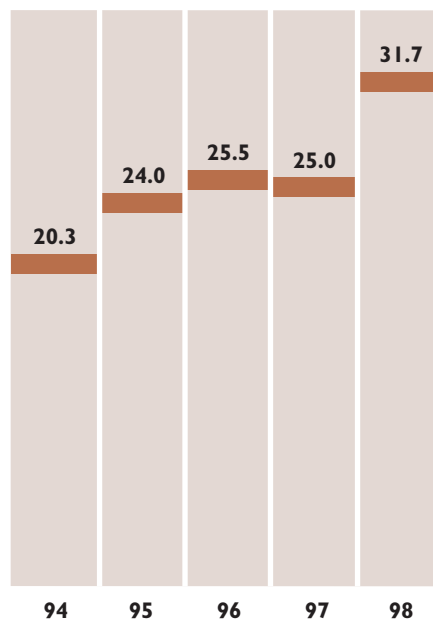
Financing activities used \$280 of cash in 1998, versus \$989 in the 1997 period. The primary reason for the lower use of funds was the issuance of debt to fund acquisitions. In 1998, Alcoa issued \$1,100

### Cash from Operations

millions of dollars



### Debt as a Percent of Invested Capital



of commercial paper, \$250 of term debt due in 2018, \$200 of term debt due in 2005 and \$300 of thirty-year bonds due in 2028. Partially offsetting these borrowings were net payments of \$350 on commercial paper and the repayment of \$950 of Alumax debt. In the 1998 third quarter, Alcoa entered into a new \$2,000 revolving-credit facility. The facility is comprised of a 364-day \$1,000 facility and a five-year \$1,000 facility. The revolving-credit facilities are used to support the Alcoa and AofA commercial paper programs.

Alcoa used \$365 of cash in 1998 to repurchase 9,774,600 shares of the company's common stock at an average price of \$37.35 per share. In 1997, Alcoa used \$604 to repurchase 16,154,534 shares of common stock. Stock purchases in 1998 and 1997 were partially offset by \$87 and \$203, respectively, of stock issued for employee stock option plans.

Dividends paid to shareholders were \$265 in 1998, an increase of \$95 over 1997. The difference was due to Alcoa's variable dividend program, which paid out 25 cents per share in addition to the base dividend of 50 cents per share in 1998. There was no variable dividend in 1997. In early January 1999, Alcoa's board of directors increased the base dividend and the threshold for payment of the variable dividend by 50%, to 75 cents per share and \$2.25 per share, respectively. This will result in a quarterly dividend of 20.125 cents per share for 1999, a 7% increase from the 1998 quarterly dividend of 18.75 cents per share. Alcoa's variable dividend program provides for the distribution in the following year of 30% of Alcoa's annual earnings in excess of \$2.25 per share.

Dividends paid and return of capital to minority interests totaled \$222 in 1998, a decline of \$121 from the prior year. The decrease is a result of AWAC and AofA returning funds to their investors in 1997. Of the \$343 cash outflow in 1997, \$206 relates to payments made by AofA, while a payment of \$96 was made by AWAC.

Payments on long-term debt during 1997 exceeded additions by \$218. During the 1997 fourth quarter, AFL issued a \$250 five-year term loan and entered into a \$250 five-year, revolving-credit facility. Higher short-term borrowings in 1997 relative to 1996 were a result of higher borrowings at Alcoa Italia.

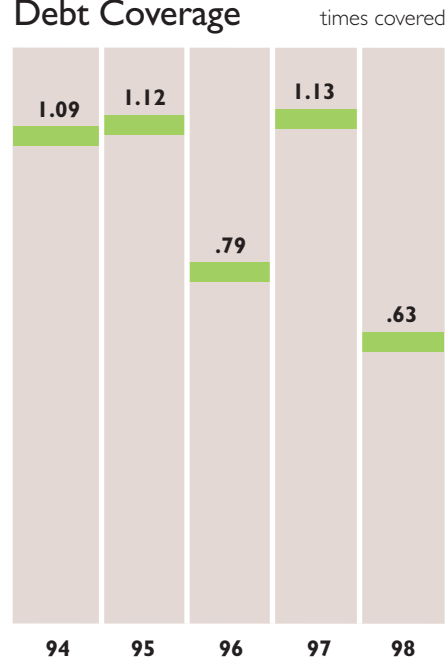
Debt as a percentage of invested capital was 31.7% at the end of 1998, compared with 25.0% for 1997 and 25.5% for 1996.

## Investing Activities

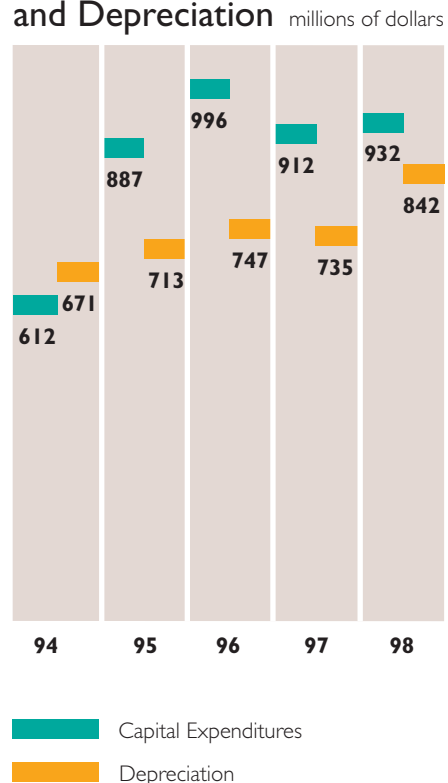
Cash used for investing activities during 1998 totaled \$2,377, compared with \$679 in 1997. Capital expenditures totaled \$932, compared with \$912 in 1997 and \$996 in 1996. Of the total expenditures in 1998, 29% related to capacity expansion, including alumina production in Australia and automotive sheet production in the U.S. Also included are costs of new and expanded facilities for environmental control in ongoing operations totaling \$105 in 1998, \$94 in 1997 and \$68 in 1996.

Alcoa used \$1,463 in 1998 for acquisitions, notably the Alumax and Inespal transactions. Alcoa also added \$126 to its investments in 1998, primarily to acquire a stake in the Norwegian metals producer, Elkem. Acquisitions accounted for \$302 of investing cash

## Free Cash Flow to Debt Coverage



## Capital Expenditures and Depreciation



outflows during 1996 and included the purchase of Alumix in Italy and Alcan's extrusion operations in Brazil.

In 1998, Alcoa received \$55 from the sale of its specialty chemical, Alcotec wire, Vernon cast plate and Australian gold operations. Asset sales in 1997 generated \$265 and included the Caradco, Arctek, Alcoa Composites, Norcold, Dayton Technologies and Richmond, Indiana facilities. Also included was the sale of a majority interest in Alcoa's Brazilian cable business.

## Year 2000 Issue

Alcoa, like other businesses, is facing the Year 2000 issue. The Year 2000 issue arises from the past practice of utilizing two digits (as opposed to four) to represent the year in some computer programs and software. If uncorrected, this could result in computational errors as dates are compared across the century boundary.

As a basic materials supplier, the vast majority of the products produced and sold by Alcoa are unaffected by Year 2000 issues in use or operation since they contain no microprocessors.

Alcoa is addressing the Year 2000 issue through a formal program that reports to the company's chief information officer. Alcoa's methodology encompasses four phases: Awareness/Inventory; Assessment; Remediation and Compliance Testing. Ongoing leadership is provided by a Global Program Office, which is directly linked into Alcoa's business units and resource units, including the newly acquired Alumax facilities. The Global Program Office provides processes and tools to the business units and monitors progress through systematic reporting and on-site verification reviews in cooperation with the company's internal auditors. Progress is reported regularly to the company's senior executives and to the Audit Committee of Alcoa's board of directors.

Internally, computer- and microprocessor-based systems, such as mainframe, minicomputer and personal computer systems and the software they utilize, have been assessed. Operational support, process control, facilities, infrastructure and mechanical systems are being addressed as well. These systems assist in the control of Alcoa's operations by performing such functions as maintaining manufacturing parameters, monitoring environmental conditions and assisting with facilities management and security. Many of these systems rely on software or contain embedded electronic components that could be affected by Year 2000 compliance issues. Since many of these systems are common across operating locations, information sharing and efficiencies have been realized in the Year 2000 efforts. Priority for any required remediation efforts has been assigned based on the criticality of the system or business process affected.

As of December 31, 1998, the remediation phase has been completed for 90% of Alcoa's critical components with 86% of all critical components having completed compliance testing. Individual exceptions providing for completion during 1999 have been approved by business unit and resource unit management and reviewed by the Year 2000 Global Program Office and the chief information officer. These, along with all other critical systems, will be specifi-

cally addressed within Alcoa's contingency planning process. Alcoa does not believe that this limited rescheduling will adversely affect its overall Year 2000 readiness. It is presently expected that compliance testing will be completed for 99% of critical systems by the third quarter.

Alcoa relies on numerous third-party vendors and suppliers for a wide variety of goods and services, including raw materials, telecommunications and utilities such as water and electricity. Many of the company's operating locations would be adversely affected if these supplies and services were curtailed as a result of a supplier's Year 2000 noncompliance. Alcoa has surveyed its vendors and suppliers using questionnaires and, based on the response and significance to the company's operations, may initiate follow-up meetings. If Alcoa concludes that a third-party trading partner presents a substantial risk of a Year 2000 based business disruption, an effort will be made to resolve the issue. If necessary, a new provider of the affected goods or services will be qualified and secured. Communication with suppliers and other third parties regarding Year 2000 issues is a continuing process.

Alcoa and certain of its trading partners utilize electronic data interchange (EDI) to effect business communications. The company's EDI system software has been upgraded to support transactions in a Year 2000 compliant format. Migration of EDI transactions to this new format will occur as existing EDI transaction formats are modified by Alcoa and its EDI trading partners on a case-by-case basis. Some Alcoa customers have indicated that they will not modify EDI transaction sets but will rely on other techniques to achieve Year 2000 capability.

Alcoa's Year 2000 program utilizes on-site verification of Year 2000 efforts at its various operating locations. Using audit-like techniques, the Year 2000 Global Program Office and the company's internal auditors verify that business and resource units have followed the prescribed processes and methodologies and also sample local Year 2000 readiness. Each of Alcoa's business units will receive at least one verification audit during 1999 with more than sixty reviews planned.

Based on current information, Alcoa believes that the most likely worst case scenario to result from a Year 2000 failure by Alcoa, its suppliers or customers would be a short-term reduction in manufacturing capability at one or more of Alcoa's operations and a temporary limitation on Alcoa's ability to deliver products to customers. Based on internal efforts and formal communications with third parties, Alcoa does not believe that Year 2000 issues are likely to result in significant operational problems or have a material adverse impact on its consolidated financial position, operations or cash flow. Nonetheless, failures of suppliers, third-party vendors or customers resulting from Year 2000 issues could result in a short-term material adverse effect.

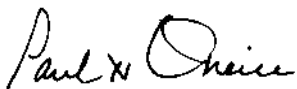
In 1998, Alcoa incurred \$38 of direct costs in connection with its Year 2000 program. These costs include external consulting costs and the cost of hardware and software replaced as a result of Year 2000 issues. Direct costs for 1999 are estimated to be between \$35 and \$60.

## Management's Report to Alcoa Shareholders

The accompanying financial statements of Alcoa and consolidated subsidiaries were prepared by management, which is responsible for their integrity and objectivity. The statements were prepared in accordance with generally accepted accounting principles and include amounts that are based on management's best judgments and estimates. The other financial information included in this annual report is consistent with that in the financial statements.

The company maintains a system of internal controls, including accounting controls, and a strong program of internal auditing. The system of controls provides for appropriate procedures that are consistent with high standards of accounting and administration. The company believes that its system of internal controls provides reasonable assurance that assets are safeguarded against losses from unauthorized use or disposition and that financial records are reliable for use in preparing financial statements.

Management also recognizes its responsibility for conducting the company's affairs according to the highest standards of personal and corporate conduct. This responsibility is characterized and reflected in key policy statements issued from time to time regarding, among other things, conduct of its business activities within the laws of the host countries in which the company operates and potentially conflicting outside business interests of its employees. The company maintains a systematic program to assess compliance with these policies.



Paul H. O'Neill  
Chairman of the Board and  
Chief Executive Officer

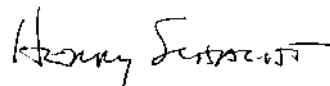


Richard B. Kelson  
Executive Vice President and  
Chief Financial Officer

## Audit Committee Report

The Audit Committee of the Board of Directors, which is composed of five independent directors, met seven times in 1998.

The Audit Committee oversees Alcoa's financial reporting process on behalf of the Board of Directors. In fulfilling its responsibility, the committee recommended to the Board the reappointment of PricewaterhouseCoopers LLP as the company's independent public accountants. The Audit Committee reviewed with the Vice President–Audit and the independent accountants the overall scope and specific plans for their respective audits. The committee reviewed with management Alcoa's annual and quarterly reporting process, and the adequacy of the company's internal controls. Without management present, the committee met separately with the Vice President–Audit and the independent accountants to review the results of their examinations, their evaluations of the company's internal controls, and the overall quality of Alcoa's financial reporting.



Henry B. Schacht  
Chairman, Audit Committee

## Independent Accountant's Report

To the Shareholders  
and Board of Directors  
Alcoa Inc. (Alcoa)

In our opinion, the accompanying consolidated balance sheet and the related consolidated statements of income and shareholders' equity and of cash flows present fairly, in all material respects, the financial position of Alcoa at December 31, 1998 and 1997, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 1998, in conformity with generally accepted accounting principles. These financial statements are the responsibility of Alcoa's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with generally accepted auditing standards which require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.



600 Grant St., Pittsburgh, Pa.  
January 8, 1999



## Statement of Consolidated Income

Alcoa and subsidiaries

(in millions, except per-share amounts)

For the year ended December 31	1998	1997	1996
<b>Revenues</b>			
Sales (O)	\$15,339.8	\$13,319.2	\$13,061.0
Other income, principally interest	149.6	162.5	67.4
	<b>15,489.4</b>	<b>13,481.7</b>	<b>13,128.4</b>
<b>Costs and Expenses</b>			
Cost of goods sold	11,804.8	10,155.8	9,966.0
Selling, general administrative and other expenses	768.8	670.6	708.8
Research and development expenses	128.4	143.2	165.5
Provision for depreciation, depletion and amortization	842.4	734.9	747.2
Special items (D)	—	(95.5)	198.9
Interest expense (S)	197.9	140.9	133.7
Taxes other than payroll taxes	142.3	130.1	126.6
	<b>13,884.6</b>	<b>11,880.0</b>	<b>12,046.7</b>
<b>Earnings</b>			
Income before taxes on income	1,604.8	1,601.7	1,081.7
Provision for taxes on income (P)	513.5	528.7	360.7
Income from operations	1,091.3	1,073.0	721.0
Minority interests	(238.3)	(267.9)	(206.1)
<b>Net Income</b>	<b>\$ 853.0</b>	<b>\$ 805.1</b>	<b>\$ 514.9</b>
<b>Earnings per Share (M)</b>			
Basic	\$ 2.44	\$ 2.33	\$ 1.47
Diluted	\$ 2.42	\$ 2.31	\$ 1.46

The accompanying notes are an integral part of the financial statements.

# Consolidated Balance Sheet

Alcoa and subsidiaries

(in millions)

December 31	1998	1997
<b>Assets</b>		
Current assets:		
Cash and cash equivalents (includes cash of \$131.1 in 1998 and \$100.8 in 1997) (T)	\$ 342.2	\$ 800.8
Short-term investments (T)	39.4	105.6
Receivables from customers, less allowances: 1998 – \$61.4; 1997 – \$36.6	2,163.2	1,581.2
Other receivables	171.0	216.4
Inventories (E)	1,880.5	1,312.6
Deferred income taxes	198.0	172.3
Prepaid expenses and other current assets	230.8	228.0
<b>Total current assets</b>	<b>5,025.1</b>	<b>4,416.9</b>
Properties, plants and equipment (F)	9,133.5	6,666.5
Goodwill, net of accumulated amortization of \$179.3 in 1998 and \$153.5 in 1997 (C)	1,414.1	487.6
Other assets (H and T)	1,889.8	1,499.6
<b>Total Assets</b>	<b>\$17,462.5</b>	<b>\$13,070.6</b>
<b>Liabilities</b>		
Current liabilities:		
Short-term borrowings (weighted average rate of 4.8% in 1998 and 6.3% in 1997) (T)	\$ 431.0	\$ 347.7
Accounts payable, trade	1,044.3	811.7
Accrued compensation and retirement costs	553.2	436.0
Taxes, including taxes on income	431.3	334.2
Other current liabilities	627.4	375.7
Long-term debt due within one year (G and T)	181.1	147.2
<b>Total current liabilities</b>	<b>3,268.3</b>	<b>2,452.5</b>
Long-term debt, less amount due within one year (G and T)	2,877.0	1,457.2
Accrued postretirement benefits (Q)	1,840.1	1,749.6
Other noncurrent liabilities and deferred credits (I)	1,587.1	1,271.2
Deferred income taxes	358.1	281.0
<b>Total liabilities</b>	<b>9,930.6</b>	<b>7,211.5</b>
<b>Minority Interests (A and J)</b>	<b>1,476.0</b>	<b>1,439.7</b>
Contingent liabilities (L)	—	—
<b>Shareholders' Equity</b>		
Preferred stock (N)	55.8	55.8
Common stock (B and N)	394.7	178.9
Additional capital (B)	1,675.9	578.1
Retained earnings	5,305.1	4,717.3
Treasury stock, at cost	(1,028.7)	(758.0)
Accumulated other comprehensive loss	(346.9)	(352.7)
<b>Total shareholders' equity</b>	<b>6,055.9</b>	<b>4,419.4</b>
<b>Total Liabilities and Equity</b>	<b>\$17,462.5</b>	<b>\$13,070.6</b>

The accompanying notes are an integral part of the financial statements.

# Statement of Consolidated Cash Flows

Alcoa and subsidiaries

(in millions)

For the year ended December 31	1998	1997	1996
<b>Cash from Operations</b>			
Net income	\$ 853.0	\$ 805.1	\$ 514.9
Adjustments to reconcile net income to cash from operations:			
Depreciation, depletion and amortization	856.2	753.6	764.2
Change in deferred income taxes	109.5	83.2	120.3
Equity earnings before additional taxes, net of dividends	(2.9)	(30.9)	(6.6)
Noncash special items	—	(95.5)	168.3
Gains from investing activities—sale of assets	(32.0)	—	—
Book value of asset disposals	36.6	42.2	61.8
Minority interests	238.3	267.9	206.1
Other	(22.5)	(5.2)	(8.5)
Changes in assets and liabilities, excluding effects of acquisitions and divestitures:			
Reduction in receivables	144.7	12.0	42.7
Reduction in inventories	100.5	52.5	87.8
(Increase) reduction in prepaid expenses and other current assets	22.7	(25.6)	(40.3)
Increase (reduction) in accounts payable and accrued expenses	(68.0)	81.5	(181.1)
Increase (reduction) in taxes, including taxes on income	68.6	(26.5)	27.4
Cash received on long-term alumina supply contract	—	240.0	—
Reduction in deferred hedging gains	(50.6)	(113.3)	(264.5)
Net change in noncurrent assets and liabilities	(57.4)	(153.4)	(213.6)
<b>Cash from operations</b>	<b>2,196.7</b>	<b>1,887.6</b>	<b>1,278.9</b>
<b>Financing Activities</b>			
Net additions (reduction) to short-term borrowings	(75.6)	142.5	(140.7)
Common stock issued and treasury stock sold	87.2	203.0	41.4
Repurchase of common stock	(365.1)	(603.5)	(317.2)
Dividends paid to shareholders	(265.2)	(170.4)	(234.2)
Dividends paid and return of capital to minority interests	(222.0)	(342.5)	(173.2)
Additions to long-term debt	2,030.8	519.8	916.2
Payments on long-term debt	(1,469.9)	(738.2)	(627.1)
<b>Cash used for financing activities</b>	<b>(279.8)</b>	<b>(989.3)</b>	<b>(534.8)</b>
<b>Investing Activities</b>			
Capital expenditures	(931.8)	(912.4)	(995.7)
Acquisitions, net of cash acquired (K)	(1,462.9)	—	(302.3)
Sale of assets	55.2	265.2	82.8
Sale of (additions to) investments	(125.9)	51.7	(58.8)
Changes in minority interests	32.6	14.2	(34.2)
Repayment from (loan to) WMC	—	—	121.8
Changes in short-term investments	66.2	(87.3)	(11.7)
Other	(10.4)	(10.0)	(10.0)
<b>Cash used for investing activities</b>	<b>(2,377.0)</b>	<b>(678.6)</b>	<b>(1,208.1)</b>
<b>Effect of exchange rate changes on cash</b>	<b>1.5</b>	<b>(17.0)</b>	<b>6.5</b>
Net change in cash and cash equivalents	(458.6)	202.7	(457.5)
Cash and cash equivalents at beginning of year	800.8	598.1	1,055.6
<b>Cash and cash equivalents at end of year</b>	<b>\$ 342.2</b>	<b>\$ 800.8</b>	<b>\$ 598.1</b>

The accompanying notes are an integral part of the financial statements.

## Statement of Shareholders' Equity

Alcoa and subsidiaries

(in millions, except share amounts)

December 31	Comprehensive income	Preferred stock	Common stock	Additional capital	Retained earnings	Treasury stock	Accumulated other comprehensive income/(loss)	Total shareholders' equity
<b>Balance at end of 1995</b>		\$55.8	\$178.9	\$ 637.1	\$3,800.1	\$ (138.9)	\$ (88.3)	\$4,444.7
Comprehensive income — 1996:								
Net income — 1996	\$514.9				514.9			514.9
Other comprehensive income/(loss), net of tax:								
Minimum pension liability, net of \$1.9 tax expense	3.5							
Unrealized translation adjustments	(8.9)							
Realized translation adjustments	(5.2)							
Unrealized gains on securities, net of \$12.6 tax benefit	23.4						12.8	12.8
Comprehensive income	<u>\$527.7</u>							
Cash dividends: Preferred @ \$3.75 per share					(2.1)			(2.1)
Common @ \$.665 per share					(232.1)			(232.1)
Treasury shares purchased						(317.2)		(317.2)
Stock issued: compensation plans				(45.2)	1.8	84.8		41.4
<b>Balance at end of 1996</b>		55.8	178.9	591.9	4,082.6	(371.3)	(75.5)	4,462.4
Comprehensive income — 1997:								
Net income — 1997	\$805.1				805.1			805.1
Other comprehensive income/(loss), net of tax:								
Minimum pension liability, net of \$2.3 tax benefit	(4.2)							
Unrealized translation adjustments	(249.6)							
Unrealized gains on securities, net of \$7 tax expense	1.3							
Gains on securities included in net income, net of \$13.3 tax benefit	(24.7)						(277.2)	(277.2)
Comprehensive income	<u>\$527.9</u>							
Cash dividends: Preferred @ \$3.75 per share					(2.1)			(2.1)
Common @ \$.488 per share					(168.3)			(168.3)
Treasury shares purchased						(603.5)		(603.5)
Stock issued: compensation plans				(13.8)		216.8		203.0
<b>Balance at end of 1997</b>		55.8	178.9	578.1	4,717.3	(758.0)	(352.7)	4,419.4
Comprehensive income — 1998:								
Net income — 1998	\$853.0				853.0			853.0
Other comprehensive income/(loss), net of tax:								
Minimum pension liability, net of \$3.0 tax benefit	(5.6)							
Unrealized translation adjustments	11.4						5.8	5.8
Comprehensive income	<u>\$858.8</u>							
Cash dividends: Preferred @ \$3.75 per share					(2.1)			(2.1)
Common @ \$.75 per share					(263.1)			(263.1)
Treasury shares purchased						(365.1)		(365.1)
Stock issued: Alumax acquisition			18.4	1,302.4				1,320.8
Stock issued: compensation plans				(7.2)		94.4		87.2
Stock issued: two-for-one split (B)			197.4	(197.4)				—
<b>Balance at end of 1998</b>		\$55.8	\$394.7	\$1,675.9	\$5,305.1	\$(1,028.7)	\$(346.9)*	\$6,055.9

\* Comprised of unrealized translation adjustments of \$(331.3) and minimum pension liability of \$(15.6)

## Share Activity (B)

(number of shares)

	Preferred stock	Common stock		
		Issued	Treasury	Net outstanding
<b>Balance at end of 1995</b>	557,649	357,845,166	(5,217,106)	352,628,060
Treasury shares purchased			(10,805,000)	(10,805,000)
Stock issued: compensation plans			3,196,218	3,196,218
<b>Balance at end of 1996</b>	557,649	357,845,166	(12,825,888)	345,019,278
Treasury shares purchased			(16,154,534)	(16,154,534)
Stock issued: compensation plans			7,686,508	7,686,508
<b>Balance at end of 1997</b>	557,649	357,845,166	(21,293,914)	336,551,252
Treasury shares purchased			(9,774,600)	(9,774,600)
Stock issued: Alumax acquisition		36,850,760		36,850,760
Stock issued: compensation plans			3,181,666	3,181,666
<b>Balance at end of 1998</b>	557,649	394,695,926	(27,886,848)	366,809,078

The accompanying notes are an integral part of the financial statements.

## Notes to Consolidated Financial Statements

(dollars in millions, except share amounts)

### A. Summary of Significant Accounting Policies

**Principles of Consolidation.** The consolidated financial statements include the accounts of Alcoa and companies more than 50% owned. Investments in other entities are accounted for principally on an equity basis.

The consolidated financial statements are prepared in conformity with generally accepted accounting principles and require management to make certain estimates and assumptions. These may affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements. They may also affect the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates upon subsequent resolution of identified matters.

**Inventory Valuation.** Inventories are carried at the lower of cost or market, with cost for a substantial portion of U.S. and Canadian inventories determined under the last-in, first-out (LIFO) method. The cost of other inventories is principally determined under the average-cost method. See Note E for additional detail.

**Amortization of Intangibles.** The excess purchase price over the net tangible assets of businesses acquired is reported as goodwill in the consolidated balance sheet. Goodwill and other intangibles are amortized on a straight-line basis over not more than 40 years. The carrying value of goodwill and other intangibles is evaluated periodically in relation to the operating performance and future undiscounted cash flows of the underlying businesses. Adjustments are made if the sum of expected future net cash flows is less than book value. See Note H for additional information.

**Environmental Expenditures.** Expenditures for current operations are expensed or capitalized, as appropriate. Expenditures relating to existing conditions caused by past operations, and which do not contribute to future revenues, are expensed. Liabilities are recorded when remedial efforts are probable and the costs can be reasonably estimated. The liability may include costs such as site investigations, consultant fees, feasibility studies, outside contractor and monitoring expenses. Estimates are not discounted or reduced by potential claims for recovery. Claims for recovery are recognized when received. The estimates also include costs related to other potentially responsible parties to the extent that Alcoa has reason to believe such parties will not fully pay their proportionate share. The liability is periodically reviewed and adjusted to reflect current remediation progress, prospective estimates of required activity and other factors that may be relevant, including changes in technology or regulations. See Note U for additional information.

**Financial Instruments and Commodity Contracts.** Alcoa enters into long-term contracts to supply fabricated products to a number of its customers. To hedge the market risk of changing prices for purchases or sales of metal, Alcoa uses commodity futures and options contracts.

Gains and losses related to transactions that qualify for hedge accounting, including closed futures contracts, are deferred and reflected in cost of goods sold when the underlying physical transaction takes place. The deferred gains or losses are reflected on

the balance sheet in other current and noncurrent liabilities or assets. If future purchased metal needs are revised lower than initially anticipated, the futures contracts associated with the reduction no longer qualify for deferral and are marked-to-market. Mark-to-market gains and losses are recorded in other income in the current period.

The effectiveness of the hedge is measured by a historical and probable future high correlation of changes in the fair value of the hedging instruments with changes in value of the hedged item. If correlation ceases to exist, hedge accounting will be terminated and gains or losses recorded in other income. To date, high correlation has always been achieved.

Alcoa also enters into futures and options contracts that cover long-term, fixed-price commitments to supply customers with metal from internal sources. These contracts are marked-to-market, and the gains and losses from changes in market value of the contracts are recorded in other income in the current period. This resulted in after-tax losses of \$44.5 in 1998, \$12.7 in 1997 and \$57.1 in 1996.

Alcoa also attempts to maintain a reasonable balance between fixed- and floating-rate debt, using interest rate swaps and caps, to keep financing costs as low as possible. If the requirements for hedge accounting are met, amounts paid or received under these agreements are recognized over the life of the agreements as adjustments to interest expense. Otherwise, the instruments are marked-to-market, and the gains and losses from changes in the market value of the contracts are recorded in other income in the current period.

Upon early termination of an interest rate swap or cap, gains or losses are deferred and amortized as adjustments to interest expense of the related debt over the remaining period covered by the terminated swap or cap.

Alcoa is subject to exposure from fluctuations in foreign currencies. To manage this exposure, Alcoa uses foreign exchange contracts. Gains and losses on contracts that meet the requirements for hedge accounting are deferred and included in the basis of the underlying transactions. Contracts that do not meet these requirements are marked-to-market in other income each period.

Cash flows from financial instruments are recognized in the statement of cash flows in a manner consistent with the underlying transactions. See Note T for additional detail.

**Properties, Plants and Equipment.** Properties, plants and equipment are recorded at cost. Depreciation is recorded principally on the straight-line method at rates based on the estimated useful lives of the assets, averaging 33 years for structures and between five and 25 years for machinery and equipment. Profits or losses from the sale of assets are included in other income. Repairs and maintenance are charged to expense as incurred. Interest related to the construction of qualifying assets is capitalized as part of the construction costs.

Depletion is taken over the periods during which the estimated mineral reserves are extracted. See Notes F and S for additional detail.

**Revenue Recognition.** Alcoa recognizes revenue when title passes to the customer.

**Stock-Based Compensation.** Alcoa accounts for stock-based compensation in accordance with the provisions of APB Opinion No. 25, "Accounting for Stock Issued to Employees," and related interpretations. Accordingly, compensation cost is not required to be recognized on options granted. Disclosures required with respect to alternative fair value measurement and recognition methods prescribed by Statement of Financial Accounting Standard (SFAS) No. 123, "Accounting for Stock-Based Compensation," are presented in Note N.

**Foreign Currency.** The local currency is the functional currency for Alcoa's significant operations outside the U.S., except in Brazil and Canada, where the U.S. dollar is used as the functional currency. The determination of the functional currency for Alcoa's Brazilian and Canadian operations is made based on the appropriate economic and management indicators.

**Recently Adopted Accounting Standards.** Alcoa has adopted SFAS No. 131, "Disclosures about Segments of an Enterprise and Related Information," which was issued in June 1997. SFAS No. 131 establishes standards for disclosures about products and geographic areas. In addition, it requires the disclosure of segment information on the same basis that is used internally for evaluating performance and allocating resources. Accordingly, Alcoa reports four segments, consisting of Alumina and chemicals, Primary metals, Flat-rolled products and Engineered products. Segment information for 1996 and 1997 has been restated to meet the requirements of SFAS No. 131. See Note O to these financial statements for the required disclosures.

In February 1998, SFAS No. 132, "Employers Disclosures about Pensions and Other Postretirement Benefits," was issued. The implementation of SFAS No. 132 revised certain footnote disclosure requirements related to pension and other retiree benefits. See Note Q to these financial statements for the revised disclosures.

**Recently Issued Accounting Standards.** In June 1998, the Financial Accounting Standards Board issued SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities." The standard requires that entities value all derivative instruments at fair value and record the instruments on the balance sheet. The standard also significantly changes the requirements for hedge accounting. The standard is required to be adopted by Alcoa for the first quarter of 2000. The company believes that the adoption of the standard will have a material impact on its financial statements. Upon adoption, Alcoa's aluminum, foreign exchange and interest rate derivative contracts as well as certain underlying exposures will be recorded on the balance sheet at fair value. Management is currently assessing the details of the standard and is preparing a plan of implementation.

A new Statement of Position (SOP) was issued by the American Institute of CPAs in April 1998. The SOP, "Reporting on the Costs of Start-up Activities," requires that costs incurred to open a new facility, introduce a new product, commence a new operation or

other similar activities be expensed as incurred. Management does not believe that this SOP, which will be adopted for 1999, will have a material impact on Alcoa's financial statements.

**Reclassification.** Certain amounts in previously issued financial statements were reclassified to conform to 1998 presentations.

## B. Common Stock Split

On January 8, 1999, the board of directors declared a two-for-one common stock split, distributed on February 25, 1999 to shareholders of record at the close of business on February 8, 1999. In this report, all per-share amounts and number of shares have been restated to reflect the stock split. In addition, an amount equal to the one dollar par value of the shares issued at December 31, 1998 has been transferred from additional capital to common stock.

## C. Acquisitions

In July 1998, Alcoa acquired Alumax Inc. (Alumax) for approximately \$3,800, consisting of cash of approximately \$1,500, stock of approximately \$1,300 and assumed debt of approximately \$1,000. Alumax operates over 70 plants and other manufacturing facilities in 22 states, Canada, Western Europe and Mexico.

The following unaudited pro forma information for the years ended December 31, 1998 and 1997 assumes that the acquisition of Alumax had occurred at the beginning of each respective year. Adjustments that have been made to arrive at the pro forma totals include those related to acquisition financing, the amortization of goodwill, the elimination of transactions between Alcoa and Alumax and additional depreciation related to the increase in basis that resulted from the transaction. Tax effects from the pro forma adjustments noted above have been included at the 35% U.S. statutory rate.

December 31 (unaudited)	1998	1997
Net sales	\$16,766.3	\$16,160.2
Net income	875.5	770.2
Earnings per share:		
Basic	2.36	2.02
Diluted	2.35	2.00

The pro forma results are not necessarily indicative of what actually would have occurred if the transaction had been in effect for the periods presented, are not intended to be a projection of future results and do not reflect any cost savings that might be achieved from the combined operations.

In February 1998, Alcoa completed its acquisition of Inespal, S.A. of Madrid, Spain. Alcoa paid approximately \$150 in cash and assumed \$260 of debt and liabilities in exchange for substantially all of Inespal's businesses. The acquisition included an alumina refinery, three aluminum smelters, three aluminum rolling facilities, two extrusion plants and an administrative center.

In 1996, Alcoa made various acquisitions totaling \$302. They include the purchase of Alumix, Italy's state-owned integrated aluminum producer, and Alcan's extrusion operations in Brazil.

Alcoa's acquisitions have been accounted for using the purchase method. The purchase price has been allocated to the assets acquired and liabilities assumed based on their estimated fair market values. Any excess purchase price over the fair market value of the net assets acquired has been recorded as goodwill. In the case of the Alumax acquisition, the allocation of the purchase price resulted in goodwill of approximately \$945, which will be amortized over a forty-year period. Operating results have been included in the statement of consolidated income since the dates of the acquisitions. Had the Inespal acquisition, and those made in 1996, occurred at the beginning of each respective year, net income for the year would not have been materially different.

#### D. Special Items

Special items in 1997 resulted in a gain of \$95.5 (\$43.9, or 13 cents per basic share, after tax and minority interests). The fourth quarter sales of a majority interest in Alcoa's Brazilian cable business and land in Japan generated gains of \$85.8. In addition, the sale of equity securities resulted in a gain of \$38.0, while the divestiture of noncore businesses provided \$25.0. These gains were partially offset by charges of \$53.3, related primarily to environmental and impairment matters.

Special items in 1996 consisted of a charge totaling \$198.9 (\$122.3, or 35 cents per share, after tax and minority interests). A net severance charge of \$95.5, which includes pension and OPEB curtailment credits of \$75.0, relates to incentive costs for employees who voluntarily left the company and for permanent layoff costs. The shutdown of Alcoa Electronic Packaging resulted in an additional charge of \$65.4, related primarily to asset writedowns. Impairments at various manufacturing locations added another charge of \$38.0.

#### E. Inventories

December 31	1998	1997
Finished goods	\$ 418.2	\$ 314.9
Work in process	591.7	433.0
Bauxite and alumina	346.5	263.9
Purchased raw materials	361.1	197.3
Operating supplies	163.0	103.5
	<b>\$1,880.5</b>	<b>\$1,312.6</b>

Approximately 55% of total inventories at December 31, 1998 were valued on a LIFO basis. If valued on an average-cost basis, total inventories would have been \$702.8 and \$769.8 higher at the end of 1998 and 1997, respectively.

#### F. Properties, Plants and Equipment, at Cost

December 31	1998	1997
Land and land rights, including mines	\$ 283.7	\$ 221.2
Structures	4,560.5	3,898.1
Machinery and equipment	12,649.3	10,482.8
	<b>17,493.5</b>	<b>14,602.1</b>
Less: accumulated depreciation and depletion	9,091.0	8,587.5
	<b>8,402.5</b>	<b>6,014.6</b>
Construction work in progress	731.0	651.9
	<b>\$ 9,133.5</b>	<b>\$ 6,666.5</b>

#### G. Long-Term Debt

December 31	1998	1997
Commercial paper, variable rate, (5.4% average rate)	\$ 745.2	—
5.75% Notes payable, due 2001	244.1	\$ 248.8
6.125% Bonds, due 2005	200.0	—
6.50% Bonds, due 2018	250.0	—
6.75% Bonds, due 2028	300.0	—
Bank loans, 7.5 billion yen, due 1999, (4.4% fixed rate)	78.0	78.0
Tax-exempt revenue bonds ranging from 3.4% to 6.6%, due 2000–2012	152.5	130.5
Alcoa Fujikura Ltd. Variable-rate term loan, due 1999–2002 (5.5% and 6.1% average rate)	230.0	250.0
Alcoa Aluminio 7.5% Notes, due 2008	387.7	395.2
Variable-rate notes, due 1999–2001 (6.6% and 6.9% average rates)	40.5	97.3
Alcoa of Australia Euro-commercial paper, variable rate, (5.4% and 5.7% average rates)	250.0	225.3
Other subsidiaries	180.1	179.3
	<b>3,058.1</b>	<b>1,604.4</b>
Less: amount due within one year	181.1	147.2
	<b>\$2,877.0</b>	<b>\$1,457.2</b>

The amount of long-term debt maturing in each of the next five years is \$181.1 in 1999, \$72.0 in 2000, \$368.2 in 2001, \$229.8 in 2002 and \$1,029.6 in 2003.

In 1998, Alcoa issued \$300 of thirty-year bonds due in 2028, \$250 of term debt due in 2018 and \$200 of term debt due in 2005. Alcoa also issued \$1,100 of commercial paper, a portion of which has since been repaid. The proceeds from these borrowings were used to fund acquisitions and for general corporate purposes.

In 1998, Alcoa entered into a new \$2.0 billion revolving-credit facility, which expires in equal amounts in August 1999 and August 2003. Under this agreement, certain levels of consolidated net worth must be maintained while commercial paper balances are outstanding.

In 1997, Alcoa Fujikura issued a \$250 term loan and entered into a five-year, \$250 revolving-credit agreement. The proceeds of the term loan were used to repay existing debt. These agreements require Alcoa Fujikura to maintain certain financial ratios.

In 1996, Alcoa Aluminio (Aluminio) issued \$400 of export notes. The agreement requires Aluminio to maintain certain financial ratios.

A portion of the commercial paper issued by Alcoa and the Euro-commercial paper issued by Alcoa of Australia (AofA) is classified as long-term debt because it is backed by the revolving-credit facility noted above.

## H. Other Assets

December 31	1998	1997
Investments, principally equity investments	\$ 586.2	\$ 464.7
Intangibles, net of accumulated amortization of \$139.0 in 1998 and \$104.0 in 1997	127.3	119.8
Noncurrent receivables	66.8	83.9
Deferred income taxes	504.8	387.9
Deferred charges and other	604.7	443.3
	<u>\$1,889.8</u>	<u>\$1,499.6</u>

## I. Other Noncurrent Liabilities and Deferred Credits

December 31	1998	1997
Deferred hedging gains	\$ 55.2	\$ 101.6
Deferred alumina sales revenue	228.0	235.9
Environmental remediation	124.1	170.3
Deferred credits	335.5	161.3
Other noncurrent liabilities	844.3	602.1
	<u>\$1,587.1</u>	<u>\$1,271.2</u>

The deferred hedging gains are associated with metal contracts and will be reflected in future earnings concurrent with the hedged revenues or costs.

## J. Minority Interests

The following table summarizes the minority shareholders' interests in the equity of consolidated subsidiaries.

December 31	1998	1997
Alcoa of Australia	\$ 376.3	\$ 390.7
Alcoa Aluminio	366.0	387.7
Alcoa Alumina and Chemicals	290.2	320.9
Alcoa Fujikura	232.6	182.7
Other majority-owned companies	210.9	157.7
	<u>\$1,476.0</u>	<u>\$1,439.7</u>

## K. Cash Flow Information

Cash payments for interest and income taxes follow.

	1998	1997	1996
Interest	\$198.8	\$145.9	\$136.4
Income taxes	371.0	342.5	265.8

The details of cash payments related to acquisitions follow.

	1998	1997	1996
Fair value of assets	\$ 5,511.0	—	\$365.2
Liabilities	(2,554.6)	—	(62.4)
Stock issued	(1,320.9)	—	—
Cash paid	1,635.5	—	302.8
Less: cash acquired	172.6	—	.5
Net cash paid for acquisitions	<u>\$ 1,462.9</u>	<u>—</u>	<u>\$302.3</u>

## L. Contingent Liabilities

Various lawsuits, claims and proceedings have been or may be instituted or asserted against Alcoa, including those pertaining to environmental, product liability and safety and health matters. While the amounts claimed may be substantial, the ultimate liability cannot now be determined because of the considerable uncertainties

that exist. Therefore, it is possible that results of operations or liquidity in a particular period could be materially affected by certain contingencies. However, based on facts currently available, management believes that the disposition of matters that are pending or asserted will not have a materially adverse effect on the financial position of the company.

Aluminio is currently party to a hydroelectric construction project in Brazil. Total estimated construction costs are \$600, of which the company's share is 24%. In the event that other participants in this project fail to fulfill their financial responsibilities, Aluminio may be liable for its pro rata share of the deficiency.

AofA is party to a number of natural gas and electricity contracts that expire between 2001 and 2022. Under these take-or-pay contracts, AofA is obligated to pay for a minimum amount of natural gas or electricity even if these commodities are not required for operations. Commitments related to these contracts total \$163 in 1999, \$166 in 2000, \$162 in 2001, \$158 in 2002, \$156 in 2003 and \$2,125 thereafter. Expenditures under these contracts totaled \$171 in 1998, \$219 in 1997 and \$229 in 1996.

## M. Earnings Per Share

Basic earnings per common share (EPS) amounts are computed by dividing earnings after the deduction of preferred stock dividends by the average number of common shares outstanding. Diluted EPS amounts assume the issuance of common stock for all potentially dilutive equivalents outstanding. See Note N for additional information.

The details of basic and diluted earnings per common share follow.

	1998	1997	1996
Net income	\$853.0	\$805.1	\$514.9
Less: preferred stock dividends	2.1	2.1	2.1
Income available to common stockholders	\$850.9	\$803.0	\$512.8
Weighted average shares outstanding	349,113,644	344,451,592	348,667,048
Basic EPS	\$ 2.44	\$ 2.33	\$ 1.47
Effect of dilutive securities:			
Shares issuable upon exercise of dilutive outstanding stock options	2,502,992	3,267,850	3,692,430
Fully diluted shares outstanding	351,616,636	347,719,442	352,359,478
Diluted EPS	\$ 2.42	\$ 2.31	\$ 1.46

## N. Preferred and Common Stock

**Preferred Stock.** Alcoa has two classes of preferred stock. Serial preferred stock has 557,740 shares authorized, with a par value of \$100 per share and an annual \$3.75 cumulative dividend preference per share. Class B serial preferred stock has 10 million shares authorized (none issued) and a par value of \$1 per share.

**Common Stock.** There are 600 million shares authorized at a par value of \$1 per share. As of December 31, 1998, 38,670,464 shares of common stock were reserved for issuance under the long-term stock incentive plan.



Stock options under the long-term stock incentive plan have been and may be granted, generally at not less than market prices on the dates of grant, except for the 25 cents per-share options issued as a payout of earned performance share awards. The stock option program includes a reload or stock continuation ownership feature. Stock options granted have a maximum term of 10 years. Vesting occurs one year from the date of grant and six months for options granted under the reload feature.

Alcoa's net income and earnings per share would have been reduced to the pro forma amounts shown below if compensation cost had been determined based on the fair value at the grant dates.

	1998	1997	1996
Net income:			
As reported	\$853.0	\$805.1	\$514.9
Pro forma	815.0	755.5	472.2
Basic earnings per share:			
As reported	2.44	2.33	1.47
Pro forma	2.33	2.19	1.35
Diluted earnings per share:			
As reported	2.42	2.31	1.46
Pro forma	2.31	2.17	1.34

The weighted average fair value of options granted was \$5.73 per share in 1998, \$5.90 per share in 1997 and \$4.02 per share in 1996.

The fair value of each option is estimated on the date of grant or subsequent reload using the Black-Scholes pricing model with the following assumptions:

	1998	1997	1996
Average risk-free interest rate	5.2%	6.1%	5.7%
Expected dividend yield	2.1	1.3	2.2
Expected volatility	25.0	25.0	25.0
Expected life (years):			
Stock options that are not reloaded	2.5	2.5	3.0
Stock options that are reloaded	1.5	1.0	1.0

The transactions for shares under options were:

	1998	1997	1996
Outstanding, beginning of year:			
Number	21,097,450	20,067,884	17,099,286
Weighted average exercise price	\$31.67	\$25.87	\$21.92
Granted:			
Number	11,799,080	12,775,614	17,401,354
Weighted average exercise price	\$34.37	\$36.07	\$28.15
Exercised:			
Number	(5,986,190)	(11,424,352)	(14,322,006)
Weighted average exercise price	\$30.13	\$26.40	\$23.95
Expired or forfeited:			
Number	(281,346)	(321,696)	(110,750)
Weighted average exercise price	\$36.49	\$31.70	\$25.71
Outstanding, end of year:			
Number	26,628,994	21,097,450	20,067,884
Weighted average exercise price	\$33.00	\$31.67	\$25.87
Exercisable, end of year:			
Number	13,755,508	10,411,112	8,693,586
Weighted average exercise price	\$30.47	\$26.73	\$23.30
Shares reserved for future options	11,393,256	17,797,060	9,311,870

The following tables summarize certain stock option information at December 31, 1998:

Options outstanding:

Range of exercise price	Number	Weighted average remaining life	Weighted average exercise price
\$ 0.25	322,036	employment career	\$ 0.25
13.14–19.70	1,007,162	1.7	17.42
19.71–29.56	2,957,476	6.0	24.71
29.57–44.47	22,342,320	7.0	35.27
	26,628,994	6.6	33.00

Options exercisable:

Range of exercise price	Number	Weighted average exercisable price
\$ 0.25	322,036	\$ 0.25
13.14–19.70	1,007,162	17.42
19.71–29.56	2,957,476	24.71
29.57–37.28	9,468,834	34.68
	13,755,508	30.47

## O. Segment and Geographic Area Information

Alcoa is primarily a producer of aluminum products. Its segments are organized by product on a worldwide basis. Alcoa's management reporting system evaluates performance based on a number of factors; however, the primary measure of performance is the after-tax operating profit of each segment. Nonoperating items such as interest income, interest expense, foreign exchange gains/losses and minority interest are excluded from segment profit. In addition, certain expenses such as corporate general administrative expenses, depreciation and amortization on corporate assets and certain special items are not included in segment results. Segment assets exclude cash, cash equivalents, short-term investments and all deferred taxes. Segment assets also exclude corporate items such as fixed assets, LIFO reserves, goodwill allocated to corporate and other amounts.

The accounting policies of the segments are the same as those described in the Summary of Significant Accounting Policies (Note A). Transactions between segments are established based on negotiation between the parties. Differences between segment totals and Alcoa's consolidated totals for line items not reconciled are primarily due to allocations to corporate.

Alcoa's products are used primarily by packaging, transportation (including aerospace, automotive, rail and shipping), building and construction, and industrial customers worldwide. Total exports from the U.S. were \$1,283.1 in 1998, compared with \$1,207 in 1997 and \$1,015 in 1996. Alcoa's reportable segments follow.

**Alumina and Chemicals.** This segment's activities include the mining of bauxite, which is then refined into alumina. The alumina is then sold to internal and external customers worldwide, or processed into industrial chemical products. The alumina operations of Alcoa World Alumina and Chemicals (AWAC) comprise the majority of this segment.

**Primary Metals.** This group's focus is Alcoa's worldwide smelter system. Primary metals receives alumina from the alumina and chemicals segment and produces aluminum ingot to be used by other Alcoa segments, as well as sold to outside customers.

**Flat-Rolled Products.** This segment's primary business is the production and sale of aluminum sheet, plate and foil. This segment includes the aggregation of rigid container sheet (RCS), which is used to produce aluminum beverage cans, and mill products used in the transportation and distributor markets.

**Engineered Products.** This segment includes the aggregation of hard and soft alloy extrusions, aluminum forgings and wire, rod and bar. These products serve primarily the transportation, construction and distributor markets.

**Other.** This category includes Alcoa Fujikura Limited, which produces electrical components for the automotive industry along with telecommunication products. In addition, Alcoa's aluminum and plastic closure operations and Alcoa's residential building products operations are included in this group.

Segment information	Alumina and chemicals	Primary metals	Flat-rolled products	Engineered products	Other	Total
<b>1998</b>						
Sales:						
Third-party sales	\$1,847.2	\$2,104.8	\$4,900.2	\$3,110.0	\$3,361.8	\$15,324.0
Intersegment sales	832.1	2,282.6	58.6	10.9	—	3,184.2
Total sales	\$2,679.3	\$4,387.4	\$4,958.8	\$3,120.9	\$3,361.8	\$18,508.2
Profit and loss:						
Equity income (loss)	\$ .6	\$ 27.0	\$ 8.2	\$ (.4)	\$ 9.8	\$ 45.2
Depreciation, depletion and amortization	158.9	175.6	190.2	88.4	154.5	767.6
Special items	—	—	—	—	—	—
Income tax	173.8	174.3	126.0	84.5	106.8	665.4
After-tax operating income	317.7	331.0	305.5	183.5	165.1	1,302.8
Assets:						
Capital expenditures	\$ 275.1	\$ 164.3	\$ 152.0	\$ 105.0	\$ 143.2	\$ 839.6
Equity investment	50.3	149.9	69.2	—	146.0	415.4
Total assets	3,081.8	5,340.9	3,512.8	2,427.4	2,245.6	16,608.5
<b>1997</b>						
Sales:						
Third-party sales	\$1,977.7	\$1,600.0	\$4,187.5	\$2,077.5	\$3,457.9	\$13,300.6
Intersegment sales	634.0	1,965.8	52.7	9.2	—	2,661.7
Total sales	\$2,611.7	\$3,565.8	\$4,240.2	\$2,086.7	\$3,457.9	\$15,962.3
Profit and loss:						
Equity income (loss)	\$ .2	\$ 23.0	\$ 7.2	\$ (.4)	\$ 11.6	\$ 41.6
Depreciation, depletion and amortization	174.6	129.5	173.0	66.2	155.9	699.2
Special items loss (gain)	4.2	(2.9)	(1.5)	(2.3)	(70.6)	(73.1)
Income tax	167.8	224.4	123.1	47.7	103.8	666.8
After-tax operating income	301.8	417.4	268.4	99.9	177.3	1,264.8
Assets:						
Capital expenditures	\$ 201.0	\$ 137.3	\$ 158.9	\$ 148.6	\$ 128.3	\$ 774.1
Equity investment	51.4	140.2	61.0	1.2	123.6	377.4
Total assets	3,027.3	2,333.6	2,785.5	1,469.2	2,284.2	11,899.8
<b>1996</b>						
Sales:						
Third-party sales	\$1,962.8	\$1,579.8	\$4,082.1	\$1,868.6	\$3,567.0	\$13,060.3
Intersegment sales	617.1	1,899.6	21.2	14.9	—	2,552.8
Total sales	\$2,579.9	\$3,479.4	\$4,103.3	\$1,883.5	\$3,567.0	\$15,613.1
Profit and loss:						
Equity income	\$ .7	\$ 16.8	\$ .4	—	\$ 13.0	\$ 30.9
Depreciation, depletion and amortization	167.4	138.5	187.7	\$ 63.7	171.0	728.3
Special items	7.5	3.1	25.7	10.7	103.6	150.6
Income tax	167.2	161.8	87.2	28.8	25.3	470.3
After-tax operating income (loss)	339.7	313.2	160.0	46.2	(.9)	858.2
Assets:						
Capital expenditures	\$ 295.4	\$ 92.4	\$ 160.8	\$ 139.7	\$ 219.5	\$ 907.8
Equity investment	141.1	141.7	62.4	1.3	82.9	429.4
Total assets	3,399.4	2,565.1	2,796.3	1,300.3	2,564.3	12,625.4

The following reconciles segment information to consolidated totals.

	1998	1997	1996
<b>Sales:</b>			
Total sales	\$18,508.2	\$15,962.3	\$15,613.1
Elimination of intersegment sales	(3,184.2)	(2,661.7)	(2,552.8)
Other revenues	15.8	18.6	.7
Consolidated sales	\$15,339.8	\$13,319.2	\$13,061.0
<b>Net income:</b>			
Total after-tax operating income	\$ 1,302.8	\$ 1,264.8	\$ 858.2
Elimination of intersegment (profit) loss	(15.7)	11.6	(7.8)
Unallocated amounts (net of tax):			
Interest income	63.5	67.2	63.5
Interest expense	(128.6)	(91.7)	(86.5)
Minority interest	(238.3)	(267.9)	(206.1)
Mark-to-market losses	(44.5)	(12.7)	(57.1)
Corporate expense	(196.6)	(171.9)	(160.4)
Other	110.4	5.7	111.1
Consolidated net income	\$ 853.0	\$ 805.1	\$ 514.9
<b>Assets:</b>			
Total assets	\$16,608.5	\$11,899.8	\$12,625.4
Elimination of intersegment receivables	(377.7)	(286.5)	(274.9)
Unallocated amounts:			
Cash, cash equivalents and short-term investments	381.6	906.4	616.6
Deferred tax assets	702.8	560.2	638.3
Corporate goodwill	479.7	—	—
Corporate fixed assets	315.0	326.0	263.0
LIFO reserve	(702.8)	(769.8)	(753.7)
Other	55.4	434.5	335.2
Consolidated assets	\$17,462.5	\$13,070.6	\$13,449.9

Geographic information for revenues, based on country of origin, and long-lived assets follows:

	1998	1997	1996
<b>Revenues:</b>			
United States	\$ 8,728.4	\$ 7,189.4	\$ 7,245.9
Australia	1,469.7	1,874.5	1,918.9
Spain	965.0	44.4	43.9
Brazil	934.4	1,160.6	1,135.5
Canada	573.6	404.1	350.7
Germany	553.5	580.0	623.2
Other	2,115.2	2,066.2	1,742.9
	\$15,339.8	\$13,319.2	\$13,061.0
<b>Long-lived assets:</b>			
United States	\$ 6,725.6	\$ 4,132.8	\$ 4,173.2
Australia	1,441.3	1,453.3	1,781.0
Brazil	967.1	1,046.7	1,138.6
Canada	890.2	1.9	1.9
Germany	212.6	201.2	232.6
Other	1,023.6	852.8	766.4
	\$11,260.4	\$ 7,688.7	\$ 8,093.7

## P. Income Taxes

The components of income before taxes on income were:

	1998	1997	1996
U.S.	\$ 594.8	\$ 707.5	\$ 419.0
Foreign	1,010.0	894.2	662.7
	\$1,604.8	\$1,601.7	\$1,081.7

The provision for taxes on income consisted of:

	1998	1997	1996
<b>Current:</b>			
U.S. federal*	\$159.0	\$172.1	\$ 3.5
Foreign	218.9	273.8	217.0
State and local	26.1	(.4)	19.9
	404.0	445.5	240.4
<b>Deferred:</b>			
U.S. federal*	81.2	81.7	143.1
Foreign	24.5	(3.5)	(34.8)
State and local	3.8	5.0	12.0
	109.5	83.2	120.3
<b>Total</b>	<b>\$513.5</b>	<b>\$528.7</b>	<b>\$360.7</b>

\* Includes U.S. taxes related to foreign income

Reconciliation of the U.S. federal statutory rate to Alcoa's effective tax rate follows.

	1998	1997	1996
U.S. federal statutory rate	35.0%	35.0%	35.0%
Taxes on foreign income	(4.1)	(.2)	(3.0)
State taxes net of federal benefit	.7	(.2)	1.7
Other	.4	(1.6)	(.4)
<b>Effective tax rate</b>	<b>32.0%</b>	<b>33.0%</b>	<b>33.3%</b>

The components of net deferred tax assets and liabilities follow.

	1998		1997	
	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
December 31				
Depreciation	—	\$ 880.5	—	\$ 840.4
Employee benefits	\$ 868.6	—	\$ 789.5	—
Loss provisions	207.7	—	186.3	—
Deferred income/expense	124.4	103.3	128.9	113.0
Tax loss carryforwards	192.5	—	156.0	—
Tax credit carryforwards	4.9	—	—	—
Other	67.9	46.3	72.6	51.1
	1,466.0	1,030.1	1,333.3	1,004.5
Valuation allowance	(134.7)	—	(103.5)	—
	\$1,331.3	\$1,030.1	\$1,229.8	\$1,004.5

Of the total deferred tax assets associated with the tax loss carryforwards, \$66.2 expires over the next 10 years and \$126.3 is unlimited. A substantial portion of the valuation allowance relates to these carryforwards because the ability to generate sufficient foreign taxable income in future years is uncertain.

The cumulative amount of Alcoa's share of undistributed earnings for which no deferred taxes have been provided was \$1,528.0 at December 31, 1998. Management has no plans to distribute such earnings in the foreseeable future. It is not practical to determine the deferred tax liability on these earnings.

## Q. Pension Plans and Other Postretirement Benefits

Alcoa maintains pension plans covering most U.S. employees and certain other employees. Pension benefits generally depend on length of service, job grade and remuneration. Substantially all benefits are paid through pension trusts that are sufficiently funded to ensure that all plans can pay benefits to retirees as they become due.

Alcoa maintains health care and life insurance benefit plans covering most eligible U.S. retired employees and certain other

retirees. Generally, the medical plans pay a stated percentage of medical expenses, reduced by deductibles and other coverages. These plans are generally unfunded, except for certain benefits funded through a trust. Life benefits are generally provided by insurance contracts. Alcoa retains the right, subject to existing agreements, to change or eliminate these benefits.

The table below reflects the status of Alcoa's pension and post-retirement benefit plans.

December 31	Pension benefits			Postretirement benefits	
	1998	1997	1996	1998	1997
<b>Change in benefit obligation</b>					
Benefit obligation at beginning of year	\$4,700.3	\$4,534.9		\$ 1,675.1	\$ 1,559.8
Service cost	118.8	95.4		17.8	17.8
Interest cost	317.8	304.6		111.9	104.7
Amendments	8.1	.8		.8	2.0
Actuarial losses	164.8	167.2		30.5	96.1
Alumax acquisition	473.3	—		148.2	—
Divestitures	(46.6)	(7.9)		(4.8)	(3.5)
Benefits paid	(332.6)	(337.0)		(117.0)	(101.2)
Exchange rate	(10.1)	(57.7)		(.3)	(.6)
Benefit obligation at end of year	\$5,393.8	\$4,700.3		\$ 1,862.2	\$ 1,675.1
<b>Change in plan assets</b>					
Fair value of plan assets at beginning of year	\$5,100.8	\$4,335.2		\$ 88.3	\$ 75.1
Actual return on plan assets	600.5	1,042.0		11.6	13.2
Alumax acquisition	428.4	—		—	—
Divestiture	(50.1)	(10.3)		—	—
Employer contributions	47.2	113.7		—	—
Participants contributions	11.3	12.3		—	—
Benefits paid	(350.6)	(316.4)		—	—
Administrative expenses	(16.6)	(15.8)		—	—
Exchange rate	(12.8)	(59.9)		—	—
Fair value of plan assets at end of year	\$5,758.1	\$5,100.8		\$ 99.9	\$ 88.3
<b>Funded status</b>					
Unrecognized net actuarial loss	364.3	400.5		(1,762.3)	(1,586.8)
Unrecognized net prior service cost (credit)	(789.2)	(785.9)		(47.6)	(82.3)
Unrecognized transition obligation	90.4	126.3		(150.8)	(185.5)
Unrecognized transition obligation	1.9	4.5		—	—
Net amount recognized	\$ (332.6)	\$ (254.6)		\$ (1,960.7)	\$ (1,854.6)
<b>Amount recognized in the balance sheet consists of:</b>					
Prepaid benefit	58.5	26.4		—	—
Accrued benefit liability	(424.7)	(310.6)		(1,960.7)	(1,854.6)
Intangible asset	9.3	14.0		—	—
Accumulated other comprehensive income	24.3	15.6		—	—
Net amount recognized	\$ (332.6)	\$ (254.6)		\$ (1,960.7)	\$ (1,854.6)

The components of net periodic benefit costs are reflected below.

December 31	Pension benefits			Postretirement benefits		
	1998	1997	1996	1998	1997	1996
<b>Components of net periodic benefit costs</b>						
Service cost	\$ 118.8	\$ 95.4	\$ 101.7	\$ 17.8	\$ 17.8	\$ 19.3
Interest cost	317.8	304.6	291.0	111.9	104.7	104.4
Expected return on plan assets	(390.6)	(346.2)	(324.1)	(8.0)	(6.8)	(5.8)
Amortization of prior service cost (benefit)	48.3	36.7	34.5	(34.0)	(34.2)	(40.9)
Recognized actuarial (gain) loss	(7.2)	.7	1.0	(5.2)	(3.4)	(3.2)
Amortization of transition obligation	1.6	1.4	2.3	—	—	—
Net periodic benefit costs	\$ 88.7	\$ 92.6	\$ 106.4	\$ 82.5	\$ 78.1	\$ 73.8

The aggregate benefit obligation and fair value of plan assets for the pension plans with benefit obligations in excess of plan assets were \$754.3 and \$445.0, respectively, as of December 31, 1998, and \$383.3 and \$179.3, respectively, as of December 31, 1997. The aggregate pension accumulated benefit obligation and fair value of plan assets with accumulated benefit obligations in excess of plan assets were \$500.8 and \$287.1, respectively, as of December 31, 1998, and \$179.0 and \$26.3, respectively, at December 31, 1997.

Weighted average assumptions used to determine plan liabilities and expense follow.

December 31	1998	1997	1996
Discount rate	6.50%	6.75%	7.00%
Expected long-term return on plan assets	9.00	9.00	9.00
Rate of compensation increase	5.00	5.00	5.00

For measurement purposes, a 6.75% annual rate of increase in the per capita cost of covered health care benefits was assumed for 1999. The rate was assumed to decrease gradually to 5.0% in 2004 and remain at that level thereafter.

Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plan. A one percentage point change in assumed health care cost trend rates would have the following effects:

	1% increase	1% decrease
Effect on total of service and interest cost components	\$ 10.7	\$ (9.1)
Effect on postretirement benefit obligations	139.8	(120.8)

Alcoa also sponsors a number of defined contribution pension plans. Expenses were \$57.3 in 1998, \$47.2 in 1997 and \$44.4 in 1996.

## R. Lease Expense

Certain equipment, warehousing and office space and oceangoing vessels are under operating lease agreements. Total expense for all leases was \$129.6 in 1998, \$110.9 in 1997 and \$95.4 in 1996. Under long-term operating leases, minimum annual rentals are \$81.5 in 1999, \$60.3 in 2000, \$47.7 in 2001, \$30.1 in 2002, \$16.5 in 2003 and a total of \$40.4 for 2004 and thereafter.

## S. Interest Cost Components

	1998	1997	1996
Amount charged to expense	\$197.9	\$140.9	\$133.7
Amount capitalized	13.2	9.0	5.3
	\$211.1	\$149.9	\$139.0

## T. Financial Instruments

The carrying values and fair values of Alcoa's financial instruments at December 31 follow.

	1998		1997	
	Carrying value	Fair value	Carrying value	Fair value
Cash and cash equivalents	\$ 342.2	\$ 342.2	\$ 800.8	\$ 800.8
Short-term investments	39.4	39.4	105.6	105.6
Noncurrent receivables	66.8	66.8	83.9	83.9
Short-term debt	612.1	612.1	494.9	494.9
Long-term debt	2,877.0	2,902.1	1,457.2	1,456.3

The methods used to estimate the fair values of certain financial instruments follow.

### Cash and Cash Equivalents, Short-Term Investments and Short-Term Debt.

The carrying amounts approximate fair value because of the short maturity of the instruments. All investments purchased with a maturity of three months or less are considered cash equivalents.

**Noncurrent Receivables.** The fair value of noncurrent receivables is based on anticipated cash flows and approximates carrying value.

**Long-Term Debt.** The fair value is based on interest rates that are currently available to Alcoa for issuance of debt with similar terms and remaining maturities.

Alcoa holds or purchases derivative financial instruments for purposes other than trading. Details of the significant instruments follow.

**Foreign Exchange Contracts.** The company enters into foreign exchange contracts to hedge its significant firm and anticipated purchase and sale commitments denominated in foreign currencies. These contracts cover periods commensurate with known or expected exposures, generally within 24 months, and are principally unsecured foreign exchange contracts with carefully selected banks. The market risk exposure is essentially limited to risk related to currency rate movements. Unrealized losses on these contracts at December 31, 1998 and 1997 were \$36.0 and \$84.9, respectively.

The table below reflects the various types of foreign exchange contracts Alcoa uses to manage its foreign exchange risk.

	1998		1997	
	Notional amount	Market value	Notional amount	Market value
Forwards	\$2,845.3	\$(57.8)	\$2,235.8	\$(102.7)
Purchased options	51.8	1.2	232.5	(42.1)
Written options	27.1	(.1)	202.1	40.3

The notional values summarized above provide an indication of the extent of the company's involvement in such instruments but do not represent its exposure to market risk. Alcoa utilizes written options mainly to offset or close out purchased options.

The following table summarizes by major currency the contractual amounts of Alcoa's forward exchange and option contracts translated to U.S. dollars at December 31 rates. The "buy" amounts represent

the U.S. dollar equivalent of commitments to purchase foreign currencies, and the “sell” amounts represent the U.S. dollar equivalent of commitments to sell foreign currencies.

	1998		1997	
	Buy	Sell	Buy	Sell
Australian dollar	\$1,750.7	\$210.6	\$1,492.0	\$291.3
Canadian dollar	230.3	129.3	7.1	1.1
Dutch guilder	134.9	22.5	111.9	18.1
Japanese yen	109.3	14.0	68.2	12.1
Deutsche mark	21.9	69.0	36.5	151.2
Pound sterling	29.8	69.7	62.3	115.3
Other	35.0	35.7	38.1	63.5
	\$2,311.9	\$550.8	\$1,816.1	\$652.6

**Interest Rate Swaps.** Alcoa manages its debt portfolio by using interest rate swaps and options to achieve an overall desired position of fixed and floating rates. As of December 31, 1998, the company had the following interest rate swap contracts outstanding:

- > Four interest rate swap contracts relating to Alcoa’s 5.75% notes that mature in 2001. The swaps convert \$175 notional amount from fixed rates to floating rates and mature in 2001.
- > Four basis swap contracts on \$175 notional amount relating to Alcoa’s outstanding commercial paper. These swaps mature in 1999.
- > Five interest rate swap contracts relating to Alcoa Fujikura’s variable rate loan. These agreements convert the variable rate to a fixed rate on a notional amount of \$218 and mature in 2002.

In addition to the above, Aluminio has a number of interest rate swap contracts, relating to deposit accounts, that primarily convert local currency floating rates to dollar fixed rates, on a notional amount of \$276.

Alcoa utilizes cross-currency interest rate swaps to take advantage of international debt markets while limiting foreign exchange risk. At year-end 1998, Alcoa had in place foreign currency forward contracts to effectively convert the principal payment due in 1999 on its ¥7.5 billion loan to a U.S. dollar obligation on a notional amount of \$78. Alcoa also had in place ¥2.5 billion of cross-currency interest rate swaps that effectively convert U.S. dollar-denominated debt into liabilities in yen based on Japanese interest rates.

Based on current interest rates for similar transactions, the fair value of all interest rate swap agreements is not material.

Credit and market risk exposures are limited to the net interest differentials. The net payments or receipts from interest rate swaps are recorded as part of interest expense and are not material. The effect of interest rate swaps on Alcoa’s composite interest rate on long-term debt was not material at the end of 1998 or 1997.

Alcoa is exposed to credit loss in the event of nonperformance by counterparties on the above instruments, but does not anticipate nonperformance by any of the counterparties.

For further information on Alcoa’s hedging and derivatives activities, see Note A.

## U. Environmental Matters

Alcoa continues to participate in environmental assessments and cleanups at a number of locations, including at operating facilities and adjoining properties, at previously owned or operated facilities and at Superfund and other waste sites. A liability is recorded for environmental remediation costs or damages when a cleanup program becomes probable and the costs or damages can be reasonably estimated. See Note A for additional information.

As assessments and cleanups proceed, the liability is adjusted based on progress in determining the extent of remedial actions and related costs and damages. The liability can change substantially due to factors such as the nature and extent of contamination, changes in remedial requirements and technological changes. Therefore, it is not possible to determine the outcomes or to estimate with any degree of accuracy the ranges of potential costs for certain matters. For example, there are issues related to the Massena, New York, and Pt. Comfort, Texas sites that allege natural resource damage or off-site contaminated sediments, where investigations are ongoing. The following discussion provides additional details regarding the current status of these two sites.

**Massena/Grasse River.** Sediments and fish in the Grasse River adjacent to Alcoa’s Massena, New York plant site contain varying levels of polychlorinated biphenyl (PCB). Alcoa has been identified by the U.S. Environmental Protection Agency (EPA) as potentially responsible for this contamination and, since 1989, has been conducting investigations and studies of the river under order from the EPA issued under the Comprehensive Environmental Response, Compensation and Liability Act.

During 1998, Alcoa continued to perform studies and investigations on the Grasse River. In addition, Alcoa proposed to submit the report of remedial alternatives to EPA in phases, as additional information is obtained from these ongoing studies and investigations. In October 1998, Alcoa submitted the first of these phased reports, consisting of a summary of results of certain river and sediment studies performed over the past several years. Based on these studies, Alcoa has proposed to EPA that pilot scale tests be performed to assess the feasibility of performing certain sediment covering techniques. The costs of these pilot scale tests have been fully reserved. The results of these tests and other related field pilot studies should permit the development of the remaining phases of the remedial alternative report. Alcoa is awaiting EPA approval for these pilot tests.

Based on the above, the costs to complete a remedy related to this site currently cannot be estimated since they will depend on the remedial method chosen. Alcoa is also aware of a natural resource damage claim that may be asserted by certain federal, state and tribal natural resource trustees at this location.

## Supplemental Financial Information

**Pt. Comfort/Lavaca Bay.** In 1990, Alcoa began discussions with certain state and federal natural resource trustees concerning alleged releases of mercury from its Pt. Comfort, Texas facility into the adjacent Lavaca Bay. In March 1994, EPA listed the “Alcoa (Point Comfort)/Lavaca Bay Site” on the National Priorities List and, shortly thereafter, Alcoa and EPA entered into an administrative order on consent under which Alcoa is obligated to conduct certain remedial investigations and feasibility studies. In accordance with this order, Alcoa recently submitted a draft remedial investigation and a draft baseline risk assessment to EPA. Alcoa expects to submit a draft feasibility study during 1999. In addition, Alcoa recently commenced construction of the EPA-approved project to fortify an offshore dredge disposal island. The probable and estimable costs of these actions are fully reserved. Additional costs to complete a remedy currently cannot be estimated since they will depend on the extent of remediation required, if any, the remedial method chosen and the time frame to complete any remediation activity. Since the order with EPA, Alcoa and the natural resource trustees have continued efforts to understand natural resource injury and ascertain appropriate restoration alternatives. That process is expected to be completed within the next 12 to 24 months.

Based on the above, it is possible that results of operations in a particular period could be materially affected by certain of these matters. However, based on facts currently available, management believes that the disposition of these matters will not have a materially adverse effect on the financial position or liquidity of the company.

Alcoa’s remediation reserve balance at the end of 1998 and 1997 was \$217.0 and \$243 (of which \$84.6 and \$72.7 were classified as a current liability), respectively, and reflects the most probable costs to remediate identified environmental conditions for which costs can be reasonably estimated. About 20% of the 1998 balance relates to the Massena plant site and 16% of the 1998 balance relates to the Pt. Comfort plant site. Remediation expenses charged to the reserve were \$63 in 1998, \$64 in 1997 and \$72 in 1996. They include expenditures currently mandated, as well as those not required by any regulatory authority or third party.

Included in annual operating expenses are the recurring costs of managing hazardous substances and environmental programs. These costs are estimated to be about 2% of cost of goods sold.

### Quarterly Data (unaudited)

(dollars in millions, except per-share amounts)

1998	First	Second	Third	Fourth	Year
Sales	\$3,445.1	\$3,587.0	\$4,108.9	\$4,198.8	\$15,339.8
Income from operations	279.7	269.5	266.2	275.9	1,091.3
Net income	209.9	207.1	217.7	218.3*	853.0
Earnings per share:					
Basic	.63	.62	.61	.59	2.44
Diluted	.62	.62	.61	.59	2.42

\*The 1998 fourth quarter included an after-tax credit of \$31.6 related to changes in the LIFO index.

1997	First	Second	Third	Fourth	Year
Sales	\$3,231.1	\$3,432.0	\$3,357.5	\$3,298.6	\$13,319.2
Income from operations	220.8	276.0	286.4	289.8	1,073.0
Net income	159.1	207.6	228.1	210.3*	805.1
Earnings per share:					
Basic	.46	.60	.66	.62	2.33
Diluted	.45	.59	.65	.61	2.31

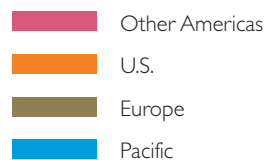
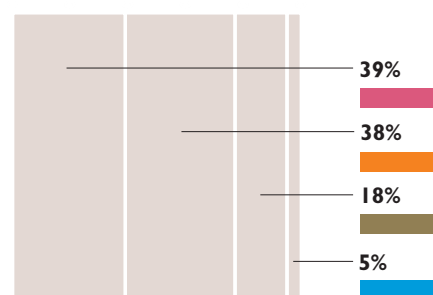
\*The 1997 fourth quarter included an after-tax credit of \$19.1 related to changes in the LIFO index.

### Number of Employees (unaudited)

	1998	1997	1996
Other Americas	40,900	36,200	29,800
U.S.	38,900	27,200	28,900
Europe	18,200	11,900	12,500
Pacific	5,500	6,300	5,600
	103,500	81,600	76,800

### Employees by Geographic Area

1998: 103,500



## 11-Year Summary of Financial and Other Data

(dollars in millions, except per-share amounts and ingot prices)

	For the year ended December 31	1998	1997	1996
<b>Operating Results</b>	Sales	\$15,339.8	\$13,319.2	\$13,061.0
	Other income (loss)	149.6	162.5	67.4
	Cost of goods sold	11,804.8	10,155.8	9,966.0
	Selling, general administrative and other expenses	768.8	670.6	708.8
	Research and development expenses	128.4	143.2	165.5
	Depreciation and depletion	842.4	734.9	747.2
	Special items—(income) expense	—	(95.5)	198.9
	Interest expense	197.9	140.9	133.7
	Taxes on income	513.5	528.7	360.7
	Other taxes	142.3	130.1	126.6
	Income from operations	1,091.3	1,073.0	721.0
	Minority interests	(238.3)	(267.9)	(206.1)
	Extraordinary losses and accounting changes*	—	—	—
	Net income (loss)	853.0	805.1	514.9
	Alcoa's average realized price per pound for aluminum ingot	.67	.75	.73
Average U.S. market price per pound for aluminum ingot ( <i>Metals Week</i> )	.66	.77	.71	
<b>Dividends Declared</b>	Preferred stock	2.1	2.1	2.1
	Common stock	263.1	168.3	232.1
<b>Financial Position</b>	Working capital	1,756.8	1,964.4	1,907.8
	Properties, plants and equipment	9,133.5	6,666.5	7,077.5
	Other assets (liabilities), net	(481.4)	(1,314.6)	(1,222.6)
	Total assets	17,462.5	13,070.6	13,449.9
	Long-term debt (noncurrent)	2,877.0	1,457.2	1,689.8
	Minority interests	1,476.0	1,439.7	1,610.5
	Shareholders' equity	6,055.9	4,419.4	4,462.4
<b>Common Share Data</b> (dollars per share)	Basic earnings per share	2.44	2.33	1.47
	Diluted earnings per share	2.42	2.31	1.46
	Dividends declared	.75	.488	.665
	Book value (based on year-end outstanding shares)	16.36	12.97	12.77
	Price range: High	40%	44 <sup>13</sup> / <sub>16</sub>	33 <sup>1</sup> / <sub>8</sub>
	Low	29	32 <sup>1</sup> / <sub>16</sub>	24 <sup>1</sup> / <sub>16</sub>
	Shareholders (number)	119,000	95,800	88,300
	Average shares outstanding (thousands)	349,114	344,452	348,667
<b>Operating Data</b> (thousands of metric tons)	Alumina shipments	7,130	7,223	6,406
	Aluminum product shipments:			
	Primary	1,367	920	901
	Fabricated and finished products	2,584	2,036	1,940
	Total	3,951	2,956	2,841
	Primary aluminum capacity:			
	Consolidated	3,159	2,108	2,101
	Total, including affiliates' and others' share of joint ventures	3,984	2,652	2,642
	Primary aluminum production:			
	Consolidated	2,471	1,725	1,708
Total, including affiliates' and others' share of joint ventures	3,158	2,254	2,240	
<b>Other Statistics</b>	Capital expenditures	\$932	\$912	\$996
	Number of employees	103,500	81,600	76,800
	Pretax profit on revenues (%)	10.4	11.9	8.2
	Return on average shareholders' equity (%)	16.3	18.1	11.6
	Return on average invested capital (%)	13.8	15.5	11.0

\* Reflects the cumulative effects of the accounting changes for postretirement benefits and income taxes in 1992



1995	1994	1993	1992	1991	1990	1989	1988
\$12,499.7	\$ 9,904.3	\$ 9,055.9	\$ 9,491.5	\$ 9,884.1	\$10,710.2	\$10,910.0	\$9,795.3
155.2	487.2	93.0	96.9	97.1	160.3	249.6	(27.8)
9,360.1	7,845.7	7,187.0	7,339.1	7,444.8	7,606.2	7,338.3	6,527.7
707.6	632.7	603.6	586.8	579.8	592.3	540.8	485.0
141.3	125.8	130.4	212.2	251.9	220.3	182.4	167.4
712.9	671.3	692.6	682.4	697.9	689.9	638.3	623.2
16.2	79.7	150.8	251.6	330.9	414.4	—	—
119.8	106.7	87.8	105.4	153.2	184.7	178.3	208.4
445.9	219.2	(10.3)	132.3	192.8	404.0	829.7	635.6
126.8	107.1	105.6	112.3	111.2	105.3	84.4	83.4
1,024.3	603.3	201.4	166.3	218.7	653.4	1,367.4	1,036.8
(233.8)	(160.2)	(196.6)	(143.9)	(156.0)	(358.2)	(422.5)	(175.4)
—	(67.9)	—	(1,161.6)	—	—	—	—
790.5	375.2	4.8	(1,139.2)	62.7	295.2	944.9	861.4
.81	.64	.56	.59	.67	.75	.92	.96
.86	.71	.53	.58	.59	.74	.88	1.10
2.1	2.1	2.1	2.1	2.1	2.2	2.5	2.5
160.4	142.3	140.2	136.8	151.2	264.9	240.4	114.7
2,089.5	1,599.7	1,609.6	1,083.0	1,546.0	1,706.3	1,594.9	1,307.9
6,929.7	6,689.4	6,506.8	6,415.8	6,586.1	6,747.0	6,658.6	6,415.0
(1,749.6)	(1,572.3)	(1,710.9)	(1,733.6)	(701.9)	(413.7)	(137.2)	(317.8)
13,643.4	12,353.2	11,596.9	11,023.1	11,178.4	11,413.2	11,540.6	10,537.5
1,215.5	1,029.8	1,432.5	855.3	1,130.8	1,295.3	1,316.3	1,524.7
1,609.4	1,687.8	1,389.2	1,305.6	1,362.0	1,581.0	1,533.1	1,244.9
4,444.7	3,999.2	3,583.8	3,604.3	4,937.4	5,163.3	5,266.9	4,635.5
2.22	1.05	.01	(3.35)	.18	.85	2.67	2.44
2.20	1.04	.01	(3.33)	.18	.84	2.59	2.38
.45	.40	.40	.40	.445	.765	.68	.325
12.45	11.04	9.98	10.35	14.35	15.05	14.86	12.94
30 $\frac{1}{6}$	22 $\frac{1}{6}$	19 $\frac{5}{6}$	20 $\frac{3}{6}$	18 $\frac{1}{4}$	19 $\frac{1}{6}$	19 $\frac{15}{6}$	13 $\frac{1}{6}$
18 $\frac{7}{6}$	16 $\frac{1}{6}$	14 $\frac{3}{4}$	15 $\frac{1}{4}$	13 $\frac{7}{6}$	12 $\frac{7}{6}$	13 $\frac{13}{6}$	9 $\frac{11}{6}$
83,600	55,200	55,300	55,200	55,800	56,300	56,500	58,400
356,036	355,764	350,692	341,896	339,936	344,816	353,216	352,808
6,407	6,660	5,962	5,468	4,898	5,024	5,106	4,925
673	655	841	1,023	1,179	1,179	960	796
1,909	1,896	1,739	1,774	1,657	1,545	1,619	1,708
2,582	2,551	2,580	2,797	2,836	2,724	2,579	2,504
1,905	1,905	1,905	1,905	1,903	1,903	1,907	1,756
2,428	2,428	2,428	2,428	2,498	2,498	2,420	2,231
1,506	1,531	1,770	1,903	1,919	1,870	1,876	1,814
2,037	2,067	2,315	2,446	2,511	2,395	2,391	2,250
\$887	\$612	\$757	\$789	\$850	\$851	\$876	\$866
72,000	60,200	63,400	63,600	65,600	63,700	60,600	59,000
11.6	7.9	2.1	3.1	4.1	9.7	19.7	17.1
18.5	9.9	.1	(26.7)	1.2	5.7	19.1	20.2
15.9	9.3	4.3	(14.0)	4.2	9.7	19.2	16.2

# Alcoa Worldwide Operations

Country	Companies	Location	Aerospace Components	Alumina	Alumina Chemicals	Auto Body Structure Design	Auto Components, Assemblies	Bauxite Mining	Building Products	Can Reclamation	Castings, Forgings	Closures, Machinery	Electrical Products	Extrusions, Tube	Foil Products	Packaging Machinery	Primary Aluminum	Sheet, Plate	Wire, Rod, Bar	Other*
Argentina	Alusud Argentina S.A. Industrial y Comercial	Buenos Aires										■								■
	Ferosear S.A. Industrial y Comercial	La Plata											■							
Australia	Alcoa World Alumina – Australia	Huntly, Willowdale						■												
		Kwinana, Pinjarra		■	■															
		Point Henry																■		
		Portland†																■		
		Wagerup		■																
		Australian Fused Materials Pty Limited†	Rockingham			■														
		Kaal Australia Pty Limited†	Point Henry																■	
		Yennora													■			■		
Bahrain	Gulf Closures WL.L.†	Manama										■								
Brazil	Alcoa Alumínio S.A.	Barueri										■								■
		Itapissuma							■				■	■						■
		Lages										■								■
		Poços de Caldas		■	■			■					■							■
		Queimados																		■
		Salto			■															
		São Caetano, Turbarão, Utinga												■						
		Sorocaba							■					■						
		AFL do Brasil Ltda.	Itajubá					■					■							
		Consórcio de Alumínio do Maranhão	São Luis		■														■	
	Mineração Rio do Norte S.A.†	Trombetas						■												
Canada	Alcoa Fujikura Ltd.	Owen Sound					■													
	Aluminerie de Bécancour Inc.	Bécancour																		■
	Aluminerie Luralco, Inc.	Deschambault																		■
	DBM Industries, Ltd.	Montreal																		■
	Kawneer Company Canada Ltd.	Lethbridge							■											
	Scarborough							■												
Chile	Alusud Embalajes Chile Ltda.	Santiago									■									
China	Alcoa Shanghai Aluminum Products Co., Ltd.	Shanghai																		■
	Asian-American Packaging Systems Co., Ltd.	Tianjin										■								
	Qingdao Alcoa Co., Ltd.	Qingdao			■															
	Yunnan Xinmeilu Aluminum Fabrication Co., Ltd.	Kunming														■				
Colombia	Alusud Embalajes Colombia Ltda.	Bogota									■									■
Costa Rica	Alcoa CSI de Centro America S.A.	San José									■									
France	Kawneer France S.A.	Lezat-sur-Lèze, Vendargues							■											
Germany	Alcoa Automotive Structures GmbH	Esslingen, Soest				■	■													
	Alcoa Chemie GmbH	Ludwigshafen			■															
	Alcoa Deutschland GmbH	Viernheim, Worms am Rhein										■								
	Alcoa Extrusions Hannover GmbH & Co. KG	Hannover	■											■						
	Kawneer Deutschland GmbH	Mönchengladbach							■											
	Michels GmbH & Co., KG	Cologne, Herzebrock					■						■							
		St. Vit					■						■							
	Stribel GmbH	Frickenhausen					■					■								
Guinea	Halco (Mining), Inc.†	Sangaredi						■												

\* Includes aluminum paste, particle, flake and atomized powder, ceramics, magnesium, memory disks, PET preform bottle production, die-casting machinery, systems and components for appliances, and telecommunications  
† Ownership of 50% or less

<i>Country</i>	<i>Companies</i>	<i>Location</i>	<i>Aerospace Components</i>	<i>Alumina</i>	<i>Alumina Chemicals</i>	<i>Auto Body Structure Design</i>	<i>Auto Components, Assemblies</i>	<i>Bauxite Mining</i>	<i>Building Products</i>	<i>Can Reclamation</i>	<i>Castings, Forgings</i>	<i>Closures, Machinery</i>	<i>Electrical Products</i>	<i>Extrusions, Tube</i>	<i>Foil Products</i>	<i>Packaging Machinery</i>	<i>Primary Aluminum</i>	<i>Sheet, Plate</i>	<i>Wire, Rod, Bar</i>	<i>Other*</i>
Hungary	AFL/Michels GmbH	Enying, Mor, Salgotarjan					■						■							
		Székesfehérvár, Veszprem					■						■							
	AFL/Stribel GmbH	Mor					■						■							
	Alcoa-Köfém KFT	Székesfehérvár							■					■				■		
	Alcoa Wheel Products — Europe	Székesfehérvár									■									
	CSI Hungary Manufacturing and Trading, L.L.C.	Székesfehérvár										■								
India	Alcoa-ACC Industrial Chemicals Limited	Falta			■															
Ireland	AFL Ireland Ltd.	Dundalk					■						■							
Italy	Alcoa Italia S.p.A.	Bolzano, Feltre, Fossanova													■					
		Fusina															■	■		
		Iglesias, Mori												■						
		Portovesme															■			
	Alcoa Italia S.p.A. Automotive Structures	Modena					■													
Jamaica	Alcoa Minerals of Jamaica, L.L.C.	Clarendon		■				■												
Japan	Alcoa Kasei Limited	Naoetsu			■															
	KSL Alcoa Aluminum Company, Ltd. (Kaal)†	Moka																■		
	Moralco Limited	Iwakuni City			■															
	Shibazaki Seisakusho Limited	Nogi										■								
Mexico	Alcoa Fujikura Ltd.	Acuña, Juárez, Monterrey					■						■							
		Piedras Negras, Torreón					■						■							
	Alumax Extrusions Mexico, S.A. de CV.	Monterrey												■						■
	Alcoa CSI de Mexico en Ensenada, S.A. de CV.	Ensenada										■								
	Alcoa CSI de Mexico en Saltillo, S.A. de CV.	Saltillo										■								
Morocco	Kawneer Maroc S.A.	Casablanca						■												
Netherlands	Alcoa Chemie Nederland BV.	Rotterdam			■															
	Alcoa Moerdijk BV.	Moerdijk			■															
	Alcoa Nederland BV.	De Lier							■											
		Drunen					■		■					■				■	■	
		Geldermalsen, Giessen							■											
		Zwijndrecht							■											
	Alumax Extrusions BV.	Roermond												■						
Alumax Recycling BV.	Kerkrade												■							
Norway	A-CMI †	Lista					■				■									
	Elkem Aluminium ANS †	Lista, Mosjøen																■		
Peru	Alusud Peru S.A.	Lima										■								■
Poland	Kawneer Polska Sp.z.o.o.	Warsaw							■											
Russia	Alcoa CSI Vostok Ltd.	Lyubachany										■								
Singapore	ACAP Singapore Pte Ltd.	Singapore			■															
Spain	Alcoa CSI España, S.A.	Barcelona										■								
	Alcoa Inespal, S.A.	Alicante, Amorebieta													■					
		Avilés, La Coruña															■			
		La Coruña (Arteixo), Noblejas												■						
		Sabiñánigo													■					
		San Ciprián			■	■												■		
	Extrusion de Aluminio, S.A.	Valls											■							

*Operations listings continue on next page.*

<i>Aerospace Components</i>	<i>Alumina</i>	<i>Alumina Chemicals</i>	<i>Auto Body Structure Design</i>	<i>Auto Components, Assemblies</i>	<i>Bauxite Mining</i>	<i>Building Products</i>	<i>Can Reclamation</i>	<i>Castings, Forgings</i>	<i>Closures, Machinery</i>	<i>Electrical Products</i>	<i>Extrusions, Tube</i>	<i>Foil Products</i>	<i>Packaging Machinery</i>	<i>Primary Aluminum</i>	<i>Sheet, Plate</i>	<i>Wire, Rod, Bar</i>	<i>Other*</i>
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# Alcoa Worldwide Operations

continued

Country	Companies	Location	Aerospace Components	Alumina	Alumina Chemicals	Auto Body Structure Design	Auto Components, Assemblies	Bauxite Mining	Building Products	Can Reclamation	Castings, Forgings	Closures, Machinery	Electrical Products	Extrusions, Tube	Foil Products	Packaging Machinery	Primary Aluminum	Sheet, Plate	Wire, Rod, Bar	Other*	
Suriname	Suriname Aluminum Company, L.L.C.	Moengo						■													
		Paranam		■				■									■				
United Kingdom	Alcoa Extruded Products (UK) Limited	Swansea											■								
	AFL U.K. Ltd.	Dagenham				■						■									
	Alcoa Manufacturing (G.B.) Limited	Swansea															■				
	Alcoa Systems (UK) Limited	Stratford-on-Avon							■												
	Alumax Extrusions Limited	Mid Glamorgan											■								
	Kawneer U.K. Limited	Runcorn							■												
United States	Alcoa	Alcoa, Tenn.; Evansville, Ind.								■							■	■			
		Badin, N.C.															■	■		■	
		Baton Rouge, La.; Bauxite, Ark.			■																
		Cleveland, Ohio				■					■										
		Danville, Ill.																	■		
		Davenport, Iowa; Hutchinson, Kansas	■																■		
		Hawesville, Ky.													■						
		Lafayette, Ind.	■											■							
		Lebanon, Pa.													■				■		
		Leetsdale, Pa.			■																
		Massena, N.Y.												■				■		■	
		Mobile, Ala.; Vidalia, La.			■																
		New Kensington, Pa.																			■
		Point Comfort, Texas		■	■																■
		Rockdale, Texas																	■		■
		Wenatchee, Wash.																■			
	Alcoa Alumina & Chemicals, LLC	Dalton, Ga.; Fort Meade, Fla.			■																
	Alcoa Automotive Structures, Inc.	Alcoa Center, Pa.; Northwood, Ohio				■	■														
		Southfield, Mich.				■															
	Alcoa Brite Products, Inc.	Norcross, Ga.					■		■												
	Alcoa Building Products, Inc.	Denison, Texas; Gaffney, S.C.								■											
		Princeville, Ill.; Sidney, Ohio								■											
		Stuarts Draft, Va.								■											
	A-CMI †	Fruitport, Mich.; Hawesville, Ky.					■				■										
	Alcoa Closure Systems International, Inc.	Crawfordsville, Ind.											■								
		Indianapolis, Ind.											■								
		Olive Branch, Miss.											■								
	Alcoa Fujikura Ltd.	Brentwood, Tenn.; Charlotte, N.C.					■							■							
		Dearborn, Mich.; Del Rio, Texas					■							■							
		El Paso, Texas; Houston, Miss.					■							■							
		Mattawan, Mich.; Nashville, Tenn.					■							■							
		New Boston, Mich.; San Antonio, Texas					■							■							
Shelbyville, Ky.; Spartanburg, S.C.						■							■								
	Traverse City, Mich.					■						■									
Alcoa Memory Products, Inc.	Sidney, Ohio																		■		
Alcoa Packaging Machinery, Inc.	Englewood, Colo.; Randolph, N.Y.														■				■		
Alumax of South Carolina, Inc.	Goose Creek, S.C.															■					

\* Includes aluminum paste, particle, flake and atomized powder, ceramics, magnesium, memory disks, PET preform bottle production, die-casting machinery, systems and components for appliances, and telecommunications  
† Ownership of 50% or less



## Directors

**Alain J. P. Belda**, 55, president and chief operating officer of Alcoa since January 1997; elected vice chairman in 1995 and executive vice president in 1994; president of Alcoa Aluminio S.A. from 1979 to March 1994; president–Latin America in August 1991. Director since 1998.

**Kenneth W. Dam**, 66, Max Pam Professor of American and Foreign Law, University of Chicago Law School; president and chief executive officer of the United Way of America 1992; vice president for law and external relations of IBM 1985-1992; Deputy Secretary of State 1982-1985; provost of the University of Chicago 1980-1982. Director since 1987.

**Joseph T. Gorman**, 61, chairman and chief executive officer of TRW Inc., a global company serving the automotive and space and defense markets, since 1988; chief operating officer 1985-1988; president 1985-1991. Director since 1991.

**Judith M. Gueron**, 57, president of Manpower Demonstration Research Corporation (MDRC), a nonprofit research organization, since 1986; executive vice president for research and evaluation 1978-1986; prior to MDRC, director of special projects and studies and a consultant at the New York City Human Resources Administration. Director since 1988.

**Sir Ronald Hampel**, 66, chairman of Imperial Chemical Industries PLC, a diversified chemicals manufacturer, since 1995, and a director since 1985; deputy chairman and chief executive 1993-1995; chief operating officer 1991-1993. Director since 1995.

**Hugh M. Morgan**, 58, managing director and chief executive officer; WMC Limited, an Australian mining and minerals processing company since 1986 and its chief executive officer since 1990; executive director of WMC from 1976 to 1986. Director since 1998.

**John P. Mulroney**, 63, former president and chief operating officer of Rohm and Haas Company, a specialty chemicals manufacturer; retired in 1998; director and group vice president and corporate business director 1982-1986. Director since 1987.

**Paul H. O'Neill**, 63, chairman of the board and chief executive officer of Alcoa since 1987; president and director of International Paper Company 1985-1987 and officer 1977-1985. Director since 1986.

**Henry B. Schacht**, 64, director and senior advisor of Lucent Technologies Inc., a communications systems and technology company, since February 1996; chairman from 1977-1995 and chief executive officer of Cummins Engine Company, Inc. 1973-1994. Director since 1994.

**Franklin A. Thomas**, 64, consultant, TFF Study Group, a nonprofit institution focusing on South Africa; president of The Ford Foundation 1979-1996; president and chief executive officer of Bedford Stuyvesant Restoration Corporation 1967-1977. Director since 1977.

**Marina v.N. Whitman**, 63, professor of Business Administration and Public Policy, University of Michigan; vice president and group executive, public affairs and marketing staffs of General Motors Corporation (GMC) 1985-1992; vice president and chief economist of GMC 1979-1985; member of the President's Council of Economic Advisers 1972-1973. Director since 1994.

## Board Committees

### The Audit Committee

Reviews the performance of the independent public accountants, makes recommendations, reviews audit plans, audit results and findings of the internal auditors and the independent accountants, reviews the environmental audits and monitors compliance with Alcoa business conduct policies.

Kenneth W. Dam  
Judith M. Gueron  
Henry B. Schacht (chairman)  
Franklin A. Thomas  
Marina v.N. Whitman

### The Compensation Committee

Determines the compensation of Alcoa officers and performs specified functions under company compensation plans.

Kenneth W. Dam  
Joseph T. Gorman  
John P. Mulroney  
Franklin A. Thomas (chairman)

### The Executive Committee

Has been granted the authority of the Board in the management of the company's business and affairs. It meets principally when specific action must be taken between Board meetings.

Kenneth W. Dam  
Paul H. O'Neill (chairman)  
Franklin A. Thomas

### The Nominating Committee

Reviews the performance of incumbent directors and the qualifications of nominees proposed for election to the Board and makes recommendations to the Board with regard to nominations for director.

Joseph T. Gorman  
Sir Ronald Hampel  
John P. Mulroney (chairman)  
Franklin A. Thomas

### Pension and Savings Plan Investment Committee

Reviews and makes recommendations to the Board concerning the investment management of the assets of Alcoa's retirement plans and principal savings plans.

Joseph T. Gorman (chairman)  
Judith M. Gueron  
Sir Ronald Hampel  
Franklin A. Thomas  
Marina v.N. Whitman

## Officers

(As of February 8, 1999)

### Paul H. O'Neill

Chairman of the Board and Chief Executive Officer

### Alain J.P. Belda

President and Chief Operating Officer

### George E. Bergeron

Executive Vice President – Allied Products

### Linda B. Burke

Tax Counsel

### William F. Christopher

Vice President – Alcoa and President, Alcoa Forged Products

### Michael Coleman

Vice President – Alcoa and President, Alcoa Rigid Packaging

### John W. Collins III

Vice President – Alcoa and President, Alcoa Mill Products

### Denis A. Demblowski

Secretary and Senior Counsel

### Janet F. Duderstadt

Counsel and Assistant Secretary

### Earnest J. Edwards

Senior Vice President and Controller

### Richard L. Fischer

Executive Vice President – Chairman's Counsel

### Ronald A. Glah

Vice President – Alcoa and President – Alcoa Closure Systems International

### L. Patrick Hassey

Vice President – Alcoa and President, Alcoa Europe

### Jeffrey R. Hennion

Assistant Treasurer – Corporate Finance

### Patricia L. Higgins

Vice President and Chief Information Officer

### Robert S. Hughes II

Vice President – Alcoa and Chairman, President and CEO, Alcoa Fujikura Ltd.

**Barbara S. Jeremiah**

Vice President – Corporate Development

**Richard B. Kelson**

Executive Vice President and Chief Financial Officer

**Kathleen L. Lang**

Assistant Secretary

**Frank L. Lederman**

Vice President and Chief Technical Officer

**Timothy J. Leveque**

Vice President – Alcoa and President, Alcoa Asia Ltd.

**Joseph R. Lucot**

Assistant Controller

**L. Richard Milner**

Vice President – Alcoa and President, Alcoa Automotive

**Raymond B. Mitchell**

Assistant Controller

**Joseph C. Muscari**

Vice President – Audit

**William J. O'Rourke**

Vice President – Alcoa Business Support Services

**Joseph C. Pellegrino**

Vice President – Pension Fund Investments and Analysis

**G. John Pizzey**

Vice President – Alcoa and President, Alcoa World Alumina

**Russell W. Porter, Jr.**

Assistant General Counsel

**Lawrence R. Purtell**

Executive Vice President – Environment, Health and Safety and General Counsel

**Alan C. Renken**

Vice President – Alcoa and President, Alcoa Primary Metals

**James B. Savage**

Assistant Controller

**Robert F. Slagle**

Executive Vice President – Human Resources and Communications

**Paul D. Thomas**

Vice President – Alcoa and President, Alcoa Engineered Products

**G. Keith Turnbull**

Executive Vice President – Alcoa Business System

**Robert G. Wennemer**

Vice President and Treasurer

**John M. Wilson**

Assistant General Counsel

**Russell C. Wisor**

Vice President – Government Affairs

## Glossary

**Alloy** A substance with metallic properties, composed of two or more chemical elements of which at least one is a metal. More specifically, aluminum plus one or more other elements, produced to have certain specific, desirable characteristics.

**Alumina** Aluminum oxide produced from bauxite by an intricate chemical process. It is a white powdery material that looks like granulated sugar. Alumina is an intermediate step in the production of aluminum from bauxite and is also a valuable chemical on its own.

**Aluminum foil** A flat-rolled product, rectangular in cross section, of thickness from 0.006" to 0.00025".

**Aluminum plate** A flat-rolled product, rectangular in cross section, of thickness not less than 0.250" and with sheared or sawed edges.

**Aluminum sheet** A rolled product, flat or coiled, rectangular in cross section, with thickness less than 0.250" but not less than 0.006" and with slit, sheared or sawed edges.

**Aluminum SpaceFrame™** An integrated structure of aluminum castings and extruded parts that forms the primary body frame of a new generation of automobiles.

**Anodizing** An electrochemical process for applying a protective or decorative coating to metal surfaces.

**Bauxite** An ore from which alumina is extracted and from which aluminum is eventually smelted. Bauxite usually contains at least 45% alumina. About four pounds of bauxite are required to produce one pound of aluminum.

**Casting** The process of forming molten metal into a particular shape by pouring it into a mold and letting it harden.

**Engineered product** A basic aluminum fabricated product that has been mechanically altered to create special properties for specific purposes; forgings and extrusions are examples of engineered products.

**Extrusion** The process of shaping material by forcing it to flow through a shaped opening in a die.

**Fabricate** To work a material into a finished state by machining, forming or joining.

**Flat-rolled products** Aluminum plate, sheet or foil products made by passing ingot through pairs of rolls. By moving the rolls closer together and passing the ingot between them, the thickness is reduced and the length is increased.

**Forging** A metal part worked to predetermined shape by one or more processes such as hammering, pressing or rolling.

**Hydrate** An aluminum oxide with three molecules of chemically combined water.

**Ingot** A cast form suitable for remelting or fabricating. An ingot may take many forms: some may be 30 feet long and weigh 15 tons; others are notched or specially shaped for stacking and handling.

**London Metal Exchange (LME)** The international trading body that facilitates the worldwide open market buying and selling of metals.

**Magnesium** A light, silvery, moderately hard metallic element used in processing metals and chemicals, and in alloying aluminum to give it desired metallurgical properties.

**Metric ton (mt)** A unit of mass and weight equal to 1,000 kilograms, or 2,204.6 pounds.

**Mill products** Metal that has been fabricated into an intermediate form before being made into a finished product. The most common fabricating processes for aluminum are rolling, extruding, forging and casting. Example: aluminum sheet, a mill product, is used to make beverage cans, a finished product.

**Pot** In aluminum production: the electrolytic reduction cell, commonly called a "pot," in which alumina dissolved in molten cryolite is reduced to metallic aluminum. A series of cells connected electrically is called a potline.

**Smelt** To fuse or melt ore in order to extract or refine the metal it contains.

## Business Units

### Alcoa Asia Ltd.

**Timothy J. Leveque**, President  
Hong Kong, China

Regional management and business development, including sales and marketing services for other Alcoa businesses

### Alcoa Automotive Structures

**Timothy S. Mock**, President  
Alcoa Center, Pennsylvania

Design and manufacture of high-performance aluminum automotive body structures ranging from components to fully assembled bodies

### Alcoa Building Products, Inc.

**Larry G. Gold**, President  
Sidney, Ohio

Coated aluminum, vinyl extruded, and injection molded building products

### Alcoa Closure Systems International

**Ronald A. Glah**, President  
Indianapolis, Indiana

Plastic and aluminum closures (bottle caps), plastic bottles, and services and supplies for packaging markets

### Alcoa Engineered Products

**Paul D. Thomas**, President  
Lafayette, Indiana

Aluminum extruded shapes, tube, rod and bar for use in aerospace, road, rail and marine transportation, machinery and equipment, recreational products, electrical applications and other durable goods

### Alcoa Europe

**L. Patrick Hassey**, President  
Lausanne, Switzerland

Strategic, commercial, operational and regional leadership for Alcoa's primary, flat-rolled, extrusion and end products, and Kawneer businesses in Europe

### Alcoa Europe Extrusions and End Products

**Ricardo E. Belda**, Vice President and President, Alcoa Nederland B.V.  
Milan, Italy

Aluminum extrusions, window systems, and end products for the building, transportation, general distribution, industrial, commercial, and aerospace markets

### Alcoa Europe Flat-Rolled Products

**Leandro Guillén Barba**, President and President, Alcoa Inespal, S.A.  
Madrid, Spain

Aluminum sheet, plate and foil for the industrial, transportation, lithographic, lighting, food and pharmaceutical markets

### Alcoa Europe, Kawneer

**Michel Lavite**, Executive Vice President and President, Kawneer Europe  
Brussels, Belgium

Aluminum architectural systems for the building and construction industry

### Alcoa Europe Primary Metals System

**Giuseppe Toia**, President and Managing Director, Alcoa Italia S.p.A.  
Milan, Italy

Primary aluminum ingot, billets and rolling slab

### Alcoa Extruded Construction Products

**Kenneth R. McElheny**, President  
Plant City, Florida

Painted, anodized, mill finish aluminum extrusions, bath enclosures and stadium seating systems for the building and construction markets

### Alcoa Foil Products

**Ralph Matera**, President  
Lebanon, Pennsylvania

Aluminum thin sheet, foil and laminated materials used in applications for automotive, appliance, building and construction, machinery and equipment, and packaging markets

### Alcoa Forged Products

**William F. Christopher**, President  
Cleveland, Ohio

Forged structural parts for aerospace and other commercial applications, and wheels for the truck and automotive industries

### Alcoa Fujikura Ltd.

**Robert S. Hughes II**, Chairman, President and CEO  
Brentwood, Tennessee

Automotive electrical/electronic systems, electronic components, and specialty fiber-optic products for automotive and telecommunications markets, and wire products for the electrical market

### Alcoa Industrial Chemicals

**Peter J. Bailey**, President  
Charlotte, North Carolina

Alumina and other inorganic chemical products for refractory, adsorbent and catalyst, ceramic and abrasive, polymer and water treatment markets

### Alcoa Mill Products

**John W. Collins III**, President  
Davenport, Iowa

Aluminum sheet and plate for aerospace and other transportation, machinery and equipment, building and construction, communications and other industries

### Alcoa Packaging Equipment

**David W. Groetsch**, President  
Englewood, Colorado

Engineered equipment solutions for the packaging industry and other high production manufacturing processes

### Alcoa Primary Metals

**Alan C. Renken**, President  
Knoxville, Tennessee

Primary metal products produced in North America for various aluminum, magnesium and powder markets and applications

### Alcoa Rigid Packaging

**Michael Coleman**, President  
Knoxville, Tennessee

Aluminum sheet for beverage and food cans, and can recycling

### Alcoa World Alumina

**G. John Pizzey**, President  
Pittsburgh, Pennsylvania

Strategic, commercial and operational leadership of Alcoa's global bauxite and alumina activities

### Alcoa World Alumina – Atlantic

**John M. Sibly**, President  
Pittsburgh, Pennsylvania

Bauxite mining and alumina refining in Jamaica and Suriname, bauxite mining in Guinea, and alumina refining in the United States and the Virgin Islands

### Alcoa World Alumina – Australia

**B. Michael Baltzell**, President  
Perth, Western Australia

Bauxite mining, alumina refining, alumina chemicals and aluminum smelting

### Kawneer Company

**Denny P. Goode**, President  
Norcross, Georgia

Engineered architectural aluminum products and systems including entrances, framing, windows and curtain walls for commercial building markets

### Latin America and Alcoa Alumínio S.A.

**Fausto P. Moreira**, President  
São Paulo, Brazil

Bauxite mining, alumina refining, aluminum smelting and fabricating for various markets and applications; plastic closures, bottles and labels



## Shareholder Information

### Annual Meeting

The annual meeting of shareholders will be at 9:30 a.m. on Friday, May 7, 1999 at the DoubleTree Hotel Pittsburgh.

### Company News

Call 1-800-522-6757 (in the U.S. and Canada) or 1-402-990-6397 (all other calls) toll-free 24 hours a day for Alcoa's latest quarterly earnings report and other company news announcements. Reports may be requested by voice, fax or mail. This information, including current Alcoa stock quotes and SEC filings, also may be accessed through the Internet at <http://www.alcoa.com>.

Copies of the annual report, *Alcoa Update*, and Forms 10-K and 10-Q may be requested through the Internet, by calling the toll-free numbers, or by writing to Corporate Communications at the corporate center address.

### Investor Information

Security analysts and investors may write to Edgar M. Cheely, Jr., Director – Investor Relations, at the corporate center address or call him at 1-412-553-2451.

### Other Publications

For a report of contributions and programs supported by Alcoa Foundation, write Alcoa Foundation at the corporate center address or call 1-412-553-2348.

For a report on Alcoa's environmental, health and safety performance, write Alcoa EHS Department at the corporate center address.

### Dividends

Alcoa's objective is to pay common stock dividends at rates competitive with other investments of equal risk and consistent with the need to reinvest earnings for long-term growth. To support this objective, Alcoa pays a base quarterly dividend of 18.75 cents per common share. Alcoa also pays a variable dividend that is linked directly to financial performance. The variable dividend is 30% of Alcoa's annual earnings over \$2.25 a share. This is calculated annually and paid quarterly, together with the base dividend, to shareholders of record at each quarterly distribution date.

### Dividend Reinvestment

The company offers a Dividend Reinvestment and Stock Purchase Plan for shareholders of Alcoa common and preferred stock. The plan allows shareholders to reinvest all or part of their quarterly dividends in shares of Alcoa common stock. Shareholders also may purchase additional shares under the plan with cash contributions. The company pays brokerage commissions and fees on these stock purchases.

### Direct Deposit of Dividends

Shareholders may have their quarterly dividends deposited directly into their checking, savings or money market accounts at any financial institution that participates in the Automated Clearing House (ACH) system.

### Percent Return on Shareholders' Equity



There's a wealth of information about Alcoa – its values, dimensions, business units, products, processes, and financial performance – at our website: [www.alcoa.com](http://www.alcoa.com). Rated for content, speed, navigation and design, it was ranked in the top five among Dow Jones Industrial companies by the Dow Jones Business Directory.

### Shareholder Services

Shareholders with questions on account balances, dividend checks, reinvestment or direct deposit, address changes, lost or misplaced stock certificates, or other shareholder account matters may contact Alcoa's stock transfer agent, registrar and dividend disbursing agent:

First Chicago Trust Company      Telephone Response Center:  
 Shareholder Services Group      1-800-317-4445  
 P.O. Box 2500                      Outside U.S. and Canada:  
 Jersey City, NJ 07303-2500      1-201-324-0313

Internet address: <http://www.fctc.com>  
 E-mail address: [FCTC@delphi.com](mailto:FCTC@delphi.com)  
 Telecommunications Device for the Deaf (TDD): 1-201-222-4955

For shareholder questions on other matters related to Alcoa, write to Denis Demblowski, Office of the Secretary, at the corporate center address or call 1-412-553-4707.

### Stock Listing

Common: New York Stock Exchange, The Electronical Stock Exchange in Switzerland and exchanges in Brussels, Frankfurt and London

Preferred: American Stock Exchange  
 Ticker symbol: AA

### Quarterly Common Stock Information

Quarter	1998*			1997*		
	High	Low	Dividend	High	Low	Dividend
First	\$39 <sup>1</sup> / <sub>16</sub>	\$32 <sup>2</sup> / <sub>16</sub>	\$.1875	\$38 <sup>1</sup> / <sub>8</sub>	\$32 <sup>1</sup> / <sub>8</sub>	\$.1125
Second	39 <sup>11</sup> / <sub>16</sub>	31 <sup>3</sup> / <sub>8</sub>	.1875	39 <sup>3</sup> / <sub>8</sub>	32 <sup>3</sup> / <sub>8</sub>	.1250
Third	37	29	.1875	44 <sup>13</sup> / <sub>16</sub>	37 <sup>7</sup> / <sub>16</sub>	.1250
Fourth	40 <sup>1</sup> / <sub>8</sub>	33 <sup>3</sup> / <sub>8</sub>	.1875	42	33	.1250
Year	\$40 <sup>1</sup> / <sub>8</sub>	\$29	\$.75	\$44 <sup>13</sup> / <sub>16</sub>	\$32 <sup>1</sup> / <sub>8</sub>	\$.4875

\* Adjusted to reflect two-for-one stock split declared January 8, 1999

### Common Share Data

	Estimated number of shareholders*	Average shares outstanding (000)†
1998	119,000	349,114
1997	95,800	344,452
1996	88,300	348,667
1995	83,600	356,036
1994	55,200	355,764

\* These estimates include shareholders who own stock registered in their own names and those who own stock through banks and brokers.

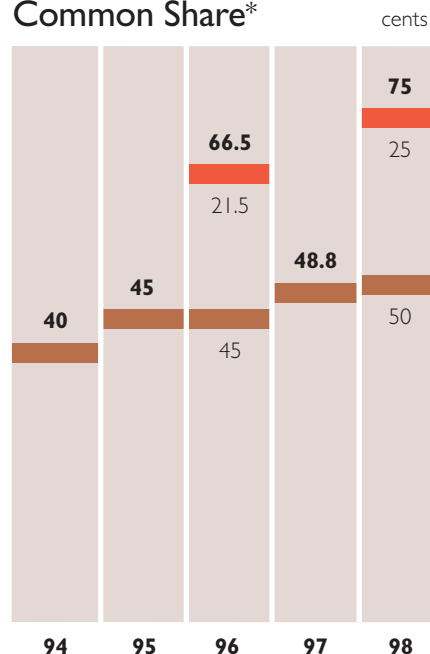
† Adjusted to reflect two-for-one stock split declared January 8, 1999

### Corporate Center

Alcoa  
 201 Isabella St. at 7th St. Bridge  
 Pittsburgh, PA 15212-5858  
 Telephone: 1-412-553-4545  
 Fax: 1-412-553-4498  
 Internet: <http://www.alcoa.com>

Alcoa Inc. is incorporated in the Commonwealth of Pennsylvania.

### Dividends Paid per Common Share\*



Variable  
 Base  
 \* Adjusted to reflect two-for-one stock split in February 1995 and February 1999

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“Our safety performance was already at a world leading level when we started working on it 11 years ago. Since then, we’ve improved it by 85%.”

Paul O’Neill  
Chairman, Alcoa



“The Alcoa Business System and Alcoa Production System... provide the company with the platform and infrastructure to sustain top-line growth through acquisitions, and bottom-line growth by continuous cost reduction and performance improvements.”

Leanne Baker/John Rutledge  
Salomon Smith Barney

“The company continues to display an almost unique aptitude to grow its earnings in a dismal metal price environment.”

Richard Aldrich  
Lehman Brothers Inc.

