

Shorting our security-

Financing the companies that make nuclear weapons



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INTERNATIONAL CAMPAIGN TO
ABOLISH NUCLEAR WEAPONS

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Utrecht, June 2019

There remains a marked lack of official information available in the public domain about the use, production, transfer and stockpiling of nuclear weapons, as well as about investments in companies that produce nuclear weapons. PAX has strived to achieve the highest level of accuracy in reporting. The information in this report reflects official information available in the public domain known to PAX. We welcome comments, clarifications, and corrections from governments, companies, financial institutions and others, in the spirit of dialogue, and in the common search for accurate and reliable information on this subject. If you believe you have found an inaccuracy, or if you can provide additional information, please contact: snyder@paxforpeace.nl

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And all those who work tirelessly to stigmatize, outlaw and eliminate nuclear weapons.

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Notes

Certain figures in this report may not tally exactly due to rounding. Furthermore, certain percentages in this document have been calculated using rounded figures.

About PAX

PAX means peace. Together with people in conflict areas and concerned citizens worldwide, PAX works to build just and peaceful societies across the globe. PAX brings together people who have the courage to stand for peace. Everyone who believes in peace can contribute. We believe that all these steps, whether small or large, truly matter and will contribute to a just and peaceful world.

About ICAN

ICAN is a global campaign coalition working to mobilize people in all countries to inspire, persuade and pressure their governments to sign and ratify the nuclear prohibition treaty banning nuclear weapons. ICAN is comprised of more than 400 partner organisations in over 100 countries. More information about ICAN can be found at: www.ICANw.org

About Profundo

Profundo is an economic research consultancy analysing commodity chains, financial institutions and corporate social responsibility issues. It works predominantly for environmental, human rights and development organisations in the Netherlands and abroad. www.profundo.nl

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Renan Kamikoga on Unsplash

Introduction

Every investment represents a choice.

Every investment is an opportunity to build towards a better future. For the investor, it is a chance to increase income, prepare for the future, generate wealth. For the companies that receive the investments it is a chance to generate the capital to retain the edge in the market, to develop new concepts, to get to the next level.

Every investment is based on an analysis. Is the risk worth the reward? Is this company one with good operating practice? Is this company going to give the kind of return that will satisfy clients, collaborators, consumers? Is this a good investment or a poor one?

There is a growing shift in the analysis of risk and return. Risk analysis that is solely focused on delivering the highest possible financial returns, is no longer enough. In a world that is facing existential threats, other factors are part of fulfilling an institution's fiduciary duty and must be considered when making investment decisions. With trillions of dollars of wealth moving steadily into the sustainability market, investments cannot only do well, they must also do good.

This report examines investments made in companies that are involved in the nuclear weapons industry. The report shows that the number of investors continues to drop, yet the amount of money invested is increasing. Overwhelmingly, this is due to the increased investments in Boeing. The data on Boeing was gathered in January 2019 and does not reflect changes to Boeing securities after the 737 MAX crashes in Indonesia in October 2018 and Ethiopia in March 2019 and the grounding of 737 MAX aircraft around the world in March 2019. However, the share price at the time of this publication is similar to the information gathered in January. The increase in the total amount invested in Boeing is due mostly to the rising share price of Boeing that started late 2016: Boeing has seen a roughly 40% share price appreciation since the publication of our previous report.

The number of those choosing to invest in companies associated with the production of nuclear weapons continues to drop, while the total amounts invested keep rising. With all nuclear armed countries seeking to develop new weapons and millions of dollars in contracts with nuclear weapon producing companies, short term financial gains are assumed by many investors. However, this risks shorting global security for the long term.

Investment is changing. Investors are increasingly seeking opportunities to grow their wealth while contributing to the global good. This report shows how nearly one hundred financial institutions have ended their relationship with the nuclear weapons industry since late 2017. At the same time, other financial institutions have begun to finance companies that produce (key components for) nuclear weapons. It is significant to note that nearly one third of all financial institutions listed in the previous update of this research no longer have any investments at all, demonstrating that there are options in the market to allow any investor to both do well, and do good.

Susi Snyder
Utrecht, June 2019

Why we do this report

Nuclear weapons remain the most destructive weapons ever designed. Weapons designed to devastate cities, to annihilate armies, and to vaporize populations. In July 2017, the majority of the world rejected these weapons thoroughly and unequivocally with the adoption of the Treaty on the Prohibition of Nuclear Weapons. Now, not only are nuclear weapons indiscriminate, inhumane and immoral, they are prohibited by an international treaty.

We made [Don't Bank on the Bomb](#) because everyone can do something about the nuclear weapon threat. The private sector is quite heavily involved in the production of nuclear weapons- either as a company producing key components of the bombs, or through the financial sector. There are banks, pension funds and insurance companies around the world investing in companies building the worst weapons ever designed.

Don't Bank on the Bomb provides a pathway for action for those who would choose the end of nuclear weapons. With the Don't Bank on the Bomb project we want to stop the production of nuclear weapons by limiting or ending investments into their producers and engaging the financial sector to strengthen the stigma against them.

There's been this growing move, really in the last decade since the 2008 global financial crisis, that puts more attention into where money is invested. It is estimated that about 25% of all wealth on the planet today is invested in a socially responsible way.

Socially responsible investments factor in key indicators and build societal norms. Environmental, Social, Governance (ESG) criteria and ESG funds are among the fastest growing within the sector. They emphasize the importance of avoiding corruption, of assessing environmental impact from operations and supply chains, and of preventing gross human rights violations. Increasingly, ESG criteria is also looking at weapons and ways to avoid exposure to the companies that produce inhumane or indiscriminate weapons.

Avoiding exposure to the companies involved in weapons of mass destruction should be a simple task, yet many of the biggest companies involved in the nuclear weapon industry are also engaged in other less life-threatening activities. Companies like Boeing and Airbus are not known for their nuclear armed missile production, yet these activities contribute to the ongoing retention of nuclear weapons by less than ten countries.

Don't Bank on the Bomb does not list every single investment into the companies listed as part of the nuclear weapon industry. The report does not include investments made by governments, universities, or churches, only financial institutions. This selection of financial institutions is limited by a reporting threshold. Only share and bond holdings larger than 0.5% of the total number of outstanding shares of the nuclear weapon producing companies are listed. The reason for this is practical: a threshold of 0.1% for example would have resulted in a report profiling nearly 3,000 financial institutions, with mostly minuscule investments. Instead, this report focuses on the institutional investors that choose every day where to put their clients' money.

Contents

Introduction.....	3
Why we do this report.....	4
Summary findings	6
\$748 billion invested in top nuclear weapon producers:	6
Comparison to previous analysis shows 42% increase in financing	6
Top 10 investors.....	7
Total number of investors	7
Countries with financial institutions investing.....	8
Methodology.....	11
Scope	11
Definitions	11
Sources.....	12
Limitations of the report	12
Analysis per type of investment	13
Shareholding.....	13
Loans	14
Bondholding	15
Issuances	16
Per producer investments	17
Aecom.....	18
Aerojet Rocketdyne	22
Airbus	25
BAE Systems.....	28
Bechtel	31
Boeing.....	33
BWX Technologies.....	37
Fluor	40
General Dynamics.....	43
Honeywell International.....	46
Huntington Ingalls Industries.....	49
Jacobs Engineering.....	52
Larsen and Toubro	55
Lockheed Martin.....	57
Northrop Grumman	60
Safran.....	63
Serco	66
Thales.....	69
Full investments table.....	72
Notes	90

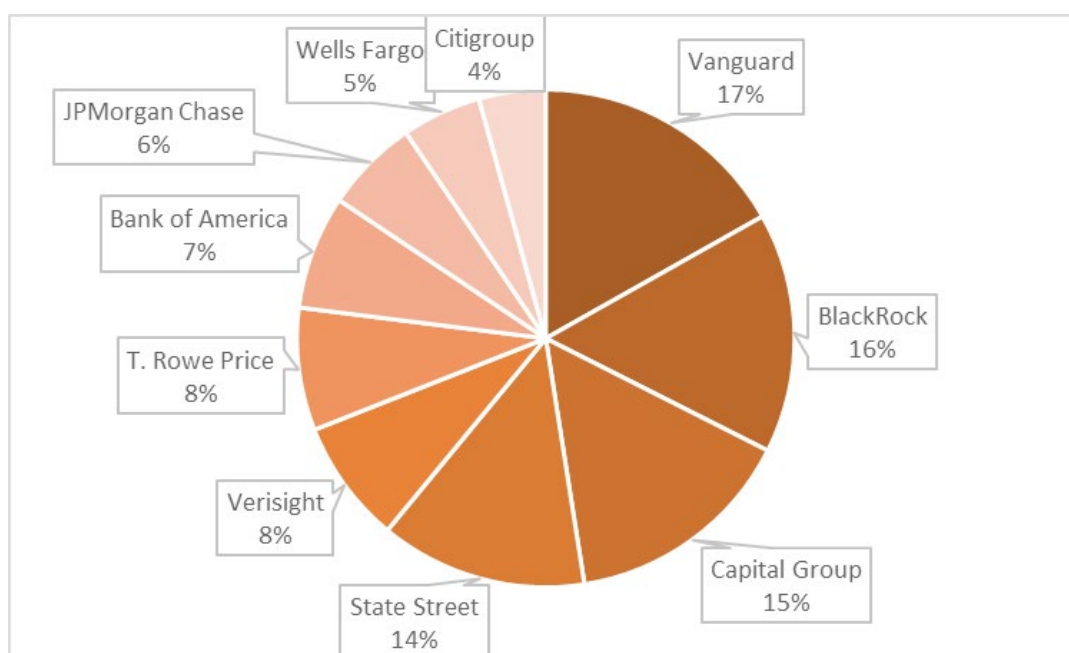
Summary findings

\$748 billion invested in top nuclear weapon producers:

When examining the top companies involved in the nuclear weapon industry, we found over 748 billion USD invested in these companies by 325 financial institutions between January 2017 and January 2019. This reflects investments in the top 18 nuclear weapon producing companies, and is a snapshot provided for comparison purposes. The overall investments found of companies associated with the production of nuclear weapons is much greater, totalling more than 900 billion USD invested in 28 companies. These investments do not include loans that have expired or matured as of 1 January 2019 and reflect a threshold of 0.5% outstanding stocks and bonds.

More than half of all investments were made by ten financial institutions: Vanguard, BlackRock, Capital Group, State Street, Verisight (now known as Newport Group), T. Rowe Price, Bank of America, JPMorgan Chase, Wells Fargo, and Citigroup.

This chart shows the percentage of overall investments that each of the top 10 financial institutions holds.



Comparison to previous analysis shows 42% increase in financing

The total amount invested increased by 42% from US\$ 325 billion in the previous report to US\$ 748 in this report. The most significant changes were increases in investments in Boeing (192%) and Thales (300%), while investments in Bechtel and Serco dropped.

The amount of outstanding stock for Boeing has increased dramatically in the past year. In the last report, total Boeing shareholding amounted to US\$ 59,650 million, whereas this report is showing total outstanding Boeing shares in the amount of US\$ 254,296 million. The financial research period for this report concluded before the latest Boeing 737Max airplane crash, and the subsequent challenges the company faced. Boeing ended 2018 with earnings of \$10.46 billion or \$17.85 per share on revenue of \$101.13 billion, and Boeing continues to capitalise on contracts for drones and planes, as well as for other technologies (including nuclear missiles). The

increase in the total amount invested in Boeing is due mostly to the rising share price of Boeing that started late 2016: Boeing has seen a roughly 40% share price increase since the publication of our previous report.

When examining the overall comparison excluding Boeing, there is still an increase in the overall amount of money invested, but it is not nearly so dramatic: 494 billion in 2019 vs 438 billion in 2018, a change of only 13%.

Top 10 investors

The top ten total investors remain from the United States. All figures are in US\$ Millions.

Name	2019 report	2018 report	Change	% Change
Vanguard	66,048	35,267	30,781	87%
BlackRock	61,200	38,381	22,819	59%
Capital Group	59,096	36,739	22,357	61%
State Street	52,835	33,370	19,465	58%
Verisight (now known as Newport Group, formerly Evercore)	31,509	13,712	31,509	130%
T. Rowe Price	31,234	8,896	22,338	251%
Bank of America	29,033	25,851	3,182	12%
JPMorgan Chase	23,962	29,679	-5,717	-19%
Wells Fargo	20,261	13,497	6,764	50%
Citigroup	17,017	16,489	0,528	3%

Total number of investors

There were a total of 325 Financial institutions from 28 countries found with investments. This is fewer financial institutions than in the previous report, however, the financial institutions come from more countries. Of the financial institutions investing, 90 of them are new, and were not previous investors. Together they invested US\$ 107,821 million. However, 94 institutions appear to have ended any significant financial relationships with nuclear weapon producers. These institutions were previously shown with at least US\$ 55,507 million in investments.

The ten largest investors that no longer have investments in the named companies are:

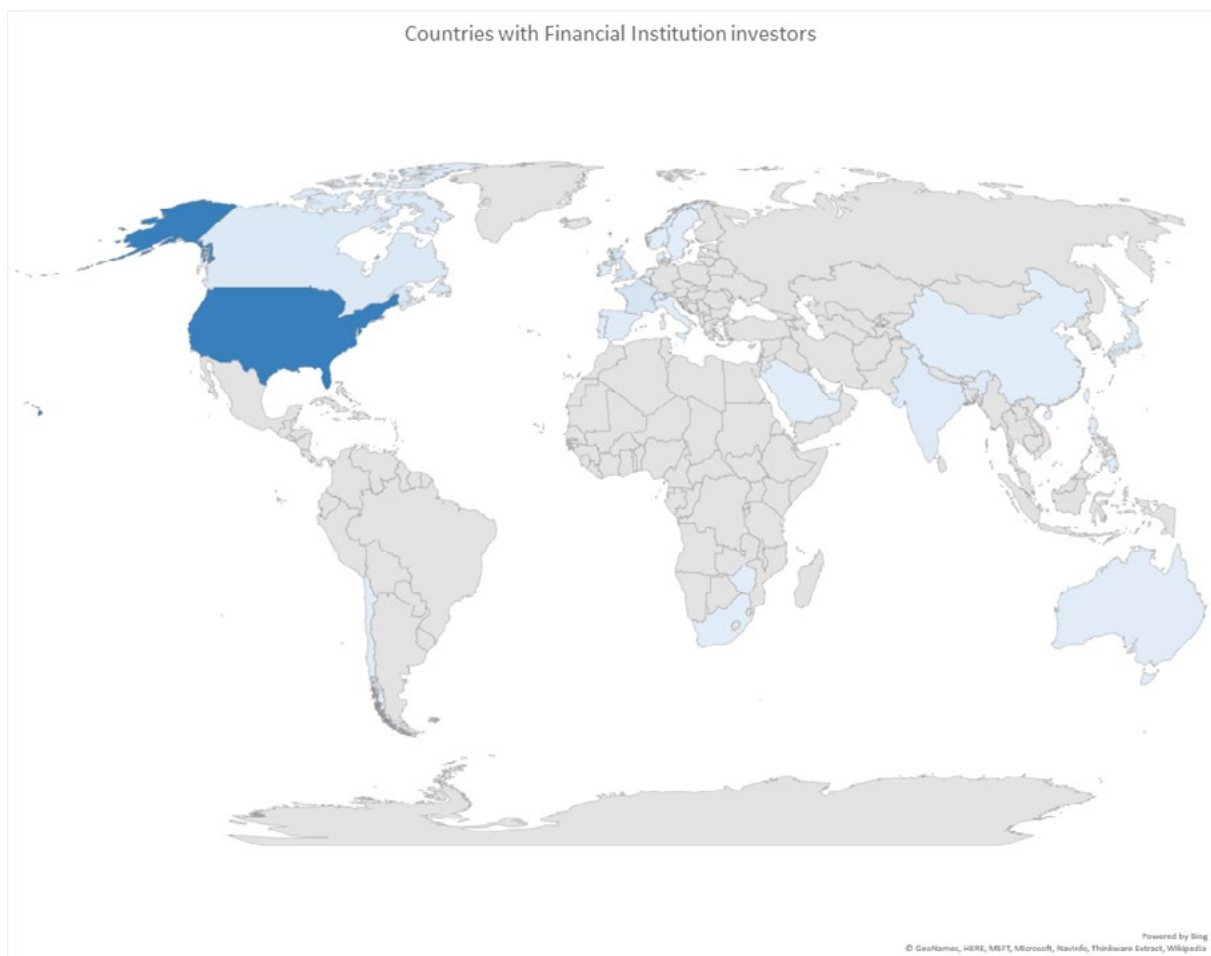
Financial Institution	Country	US\$ Millions
Children's Investment Fund Management	UK	1,469
Marathon Asset Management	Canada	635
William Blair & Company	USA	474
Mackie Research Financial	USA	223
Discovery Capital Management	USA	174
ABP	Netherlands	104
Blue Harbour Group	USA	97
Manning & Napier	UK	82
Teacher Retirement System of Texas	USA	73
Glenmede	USA	70

The ten new investors with the highest investments:

Financial Institution	Country	\$US Millions
Unum Group	USA	31,508.7
WBC Holdings	USA	20,260.8
SMBC Group	Japan	8,201.5
Dassault Family	France	6,772.5
Janus Henderson	United Kingdom	6,104.9
United Overseas Bank	Singapore	4,314.4
AXA Equitable	USA	3,733.7
Point72 Asset Management	USA	3,546.3
Strategic Income Management	USA	2,704.8
Development Bank of Japan	Japan	1,973.0

Countries with financial institutions investing

28 countries host the headquarters of financial institutions with investments in companies associated with the production of nuclear weapons. This is three more than in the previous report.



The following chart illustrates the changes in the number of financial institutions per country, as well as the change in the values of their investments between the previous report and this one.

	2019	2018	Change	Amount US\$ mln (2019)	Amount US\$ mln 2018	Amount Change	%change
Australia	4	4	0	4,506	5,046	(540)	-11%
Bahamas	0	1	-1	-	82	(82)	-100%
Belgium	1	2	-1	33	61	(28)	-46%
Canada	12	13	-1	24,154	18,135	6,019	33%
Chile	1	0	1	20	-	20	
China	5	5	0	1,245	1,186	59	5%
Denmark	1	1	0	260	226	34	15%
France	16	14	2	40,949	29,762	11,187	38%
Germany	11	10	1	11,759	10,368	1,391	13%
India	15	23	-8	13,068	13,214	(146)	-1%
Ireland	1	1	0	43	35	8	24%
Israel	1	1	0	57	106	(49)	-46%
Italy	2	2	0	1,966	2,075	(109)	-5%
Japan	8	7	1	25,576	18,559	7,017	38%
Netherlands	2	3	-1	934	1,227	(293)	-24%
Norway	1	1	0	715	944	(229)	-24%
Philippines	1	0	1	33	-	33	
Portugal	1	0	1	33	-	33	
Saudi Arabia	1	1	0	828	581	247	43%
Singapore	2	2	0	758	980	(222)	-23%
South Africa	1	0	1	150	-	150	
Spain	6	6	0	9,848	7,135	2,713	38%
Sweden	1	1	0	206	197	9	4%
Switzerland	4	3	1	8,983	4,797	4,186	87%
Taiwan	10	11	-1	495	574	(79)	-14%
United Arab Emirates	2	2	0	1,325	668	657	98%
United Kingdom	27	26	1	31,573	33,930	(2,357)	-7%
United States	187	189	-2	568,880	375,845	193,035	51%
Zimbabwe	1	0	1	44	-	44	

In the previous report, the Bahamas also had financial institutions connected to the nuclear weapon industry. That is no longer the case: there are now zero institutions from the Caribbean represented.

Total investments per producer

The table below shows the difference in the total amount invested for each nuclear weapon producer, with all figures in US\$ Millions.

Producing Company	2019 report	2018 report	Difference	% Change
Aecom	19,048	20,101	(1,054)	-5%
Aerojet Rocketdyne	4,791	2,685	2,107	78%
Airbus	44,455	30,691	13,764	45%
BAE Systems	22,814	25,986	(3,172)	-12%
Bechtel	4,000	7,000	(3,000)	-43%
Boeing	254,296	87,010	167,286	192%
BWX Technologies	8,987	5,865	3,122	53%
Fluor	17,465	18,276	(812)	-4%
General Dynamics	72,630	45,437	27,193	60%
Honeywell	78,397	86,806	(8,408)	-10%
Huntington Ingalls Industries	12,568	9,915	2,653	27%
Jacobs Engineering (includes CH2M Hill)	15,563	11,616	3,947	34%
Larsen & Toubro	14,855	15,905	(1,050)	-7%
Lockheed Martin	77,543	79,118	(1,575)	-2%
Northrop Grumman (includes Orbital ATK)	53,023	52,507	516	1%
Safran	24,661	18,105	6,556	36%
Serco	2,265	3,653	(1,389)	-38%
Thales	21,080	5,269	15,811	300%
Grand Total	748,440	525,945	222,495	42%

Note that there were some changes to the nuclear weapon associated companies included in the previously update of this report. Orbital ATK was acquired by Northrop Grumman and CH2M Hill was acquired by Jacobs Engineering. In providing a comparison to the previous analysis therefore, the data from Orbital ATK included in the 2018 report has been added to the 2018 total for Northrop Grumman.

Methodology

Scope

For this report, investments in a list of 18 nuclear weapon companies were investigated. The list of 18 producers is based on extensive research into the private companies involved in the nuclear weapons industry as published in the April 2018 report “Producing Mass Destruction”.¹ The investment information for other producers is available on the Don’t Bank on the Bomb website.

The 18 companies most heavily involved in the nuclear weapons industry are included in this report. These are also the same companies as listed in the 2018 report update, with the note that the 2018 report listed 20 nuclear weapon producers. However, CH2M Hill and Orbital ATK were acquired by Jacobs Engineering and Northrop Grumman respectively, who themselves were already listed as nuclear weapon producers as well. That leaves the 18 key companies included in this report.

The report shows investments in those nuclear weapon producers at the group level, regardless of the other activities of the company or the percentage of turnover it derives from nuclear weapons-related activities. All of these financial links are included, because it is impossible for a financial institution to be sure that the financial services it provides to a company will not be used to produce (key components of) nuclear weapons. There is no way to prevent a company from legally reallocating capital within a group. Clauses in a general corporate loan contract that prohibit companies from using borrowed or invested funds to manufacture nuclear weapons, or that restrict a company’s use of the financing to civilian projects will not prevent the money from being used to manufacture nuclear weapons.

In this report, we have focussed on the financial institutions which were found to have the most significant financing relationships with one or more of the selected nuclear weapon companies. To select these financial institutions, the following criteria are used:

- All financial institutions involved in underwritings of share and bond issuances for one or more of the companies since January 2017;
- All financial institutions which own at least 0.5% of the outstanding shares or bonds of at least one of the companies based on the latest date available until 1 June 2018.

All loans outstanding during the research period are included, not just new loans provided. This provides a fuller picture of the overall investments in nuclear weapons producing companies. Therefore, also included in the current study are loans and credit facilities of which the closing date lies before January 2017, but that mature after September 2019.

All figures presented in the report are in US\$ millions. Commas are used as thousands separators, points to indicate decimals. Total might have adjusted due to rounding.

Definitions

Financial Institutions are companies “engaged in the business of dealing with financial and monetary transactions such as deposits, loans, investments, and currency exchange”.² Financial institutions are listed at the parent group level, and the total amounts listed include any investments found for the financial institution’s subsidiaries.

Investments include loans and other forms of credits (commercial banking), underwriting of share and bond issuances (investment banking), investments in shares and bonds (asset management) and other financial services. These investments can be made by financial institutions on their own behalf or on behalf of third parties.

Sources

The information is retrieved from annual reports, stock exchange filings and other publications of the companies concerned, archives of trade magazines, local newspapers and the financial press as well as specialized financial databases (Thomson ONE, Bloomberg).¹

Limitations of the report

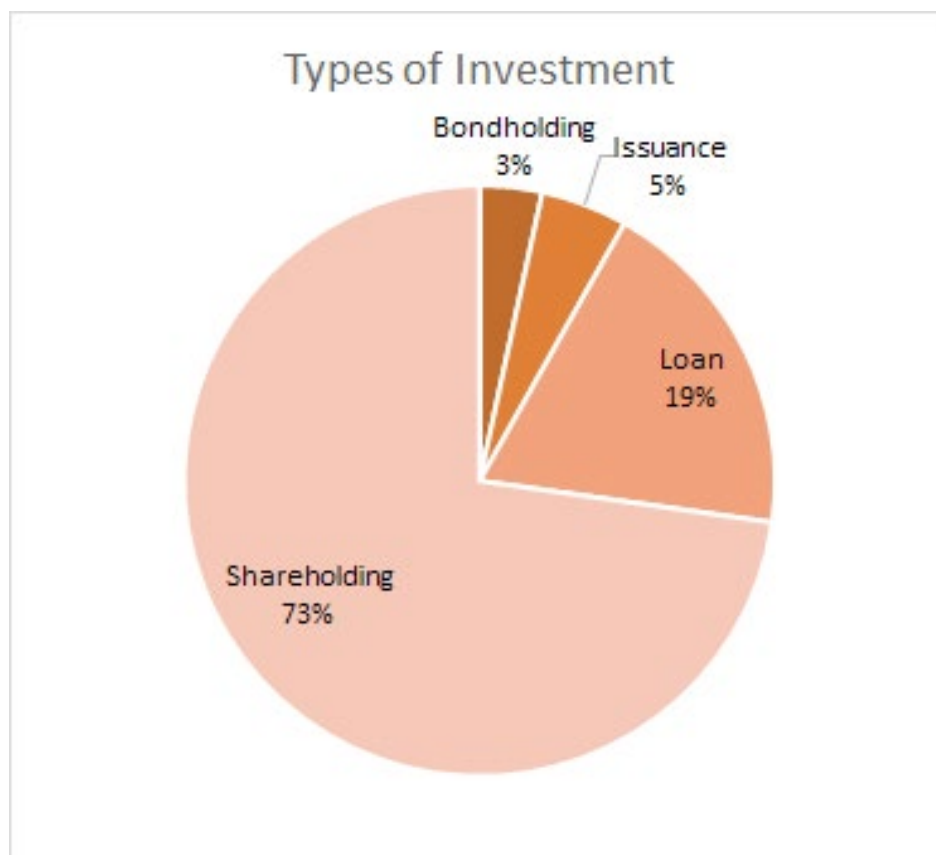
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This selection of financial institutions is limited by a reporting threshold. Only share and bond holdings larger than 0.5% of the total number of outstanding shares of the nuclear weapon producing companies are listed. The reason for this is practical: a threshold of 0.1% for example would have resulted in a report profiling nearly 3,000 financial institutions, with mostly minuscule investments.

The information is also limited to information available in the public domain. Although the sources on which the information is based are reputable and well-known, they are themselves not comprehensive. The numbers provided in the report are therefore a conservative estimation of the total global investments in the nuclear weapons industry.

¹ Stock exchange filings for US companies are mostly derived from 10K-Wizard, a commercial variant of the free Edgar database. This database contains information that the companies provided to the US Securities and Exchange Commission (SEC). Other sources used include the Thomson ONE database, Bloomberg database and archives from EuroWeek and other trade journals.

Analysis per type of investment



This report covers shareholding, loans (including revolving credit facilities), bondholding and share and bond issuances. There is significantly more money invested through the shares, or stocks, of companies than any other type of investment.

Shareholding

Owning shares of a company is also known as owning stock. Many individuals are exposed to shareholding through pension plans, retirement accounts (like 401k), or insurance policies. There are also countless low-cost online brokerages now available, opening the stock market to individuals regardless of their overall net worth. Shares (or stocks) are issued by companies to raise money- either to grow the business or to begin new projects. Shareholders can vote in company meetings, receive dividends (profit) if and when they are distributed, and of course shareholders can choose to sell their shares at any time and for any reason.

Significant shareholders in nuclear weapon producers

Overall, shareholding accounts for a majority (73%) of the investments identified in this report, with more than US\$ 544,704 million held by 156 financial institutions. All but one (Bechtel) of the producing companies in this report have outstanding shares. The following table shows how much is invested in shares in each company, with indicative percentage of the total investment reflected in this report. Note that this report covers significant shareholding, which is identified as owning more than 0.5% of all outstanding shares.

Producing company	Value of outstanding shares (US\$ mln)
Aecom	3,869
Aerojet Rocketdyne	2,580
Airbus	32,154
BAE Systems	15,132
Boeing	230,039
BWX Technologies	5,145
Fluor	5,835
General Dynamics	41,575
Honeywell	57,197
Huntington Ingalls Industries	7,083
Jacobs Engineering	7,338
Larsen & Toubro	13,816
Lockheed Martin	58,957
Northrop Grumman	36,277
Safran	14,771
Serco	949
Thales	11,987
Total	544,705

The single largest shareholder in the report is Vanguard, which has over US\$ 30 billion in shares in Boeing. In fact, the five largest individual shareholders all have Boeing stock, and Boeing shares account for over 30% of the total investments in this report.

The amount of outstanding stock for Boeing has increased dramatically in the past year. In the last report, total Boeing shareholding amounted to US\$ 59,650 million, whereas this report is showing total outstanding Boeing shares in the amount of US\$ 230,039 million. The financial research period for this report concluded before the latest Boeing 737Max airplane crash, and the subsequent challenges the company is facing. Boeing ended 2018 with earnings of \$10.46 billion or \$17.85 per share on revenue of \$101.13 billion, and Boeing continues to capitalise on contracts for drones and planes, as well as for other technologies (including nuclear missiles).

Loans

The most well understood way for companies to raise money is through loans. Banks make loans to companies for a variety of reasons, including general corporate purposes. This report reflects current outstanding loans-including those that were arranged before the start of the research period (January 2017), but excluding those that expired or matured before January 2019. This is meant to provide the fullest possible picture of the relationships between the financial sector and the producing companies.

Often a group of banks will work together to issue loans in a loan syndicate. In many cases, the total value of a loan or issuance is known, as well as the number of banks that participate in this loan or issuance. However, the amount that each individual bank commits to the loan or issuance has to be estimated. This research uses a two-step method to calculate this amount. The first uses the ratio of an individual institution's management fee to the management fees received by all institutions.

$$\text{((individual participant attributed fee) / (sum of all participants attributed fees) * principal amount)}$$

When the fee is unknown for one or more participants in a deal, the second method is used, called the 'book ratio'. The book ratio (see formula below) is used to determine the commitment distribution of bookrunners

and other managers.

(number of participants – number of bookrunners)/ (number of bookrunners)

Loans comprise 19% or US\$ 142,606.5 million of the overall types of investment in this report. 115 financial institutions are involved in loans to the nuclear weapon producing companies. Citigroup is the biggest loaner, itself accounting for 2% or US\$ 15,332.5 million of the overall investments in this report including two of the biggest loans (to Boeing and Honeywell respectively).

The top ten financial institutions with total outstanding loans in the report.

Bank	Country	Amount in US\$ Millions
Citigroup	USA	15,332.5
Bank of America	USA	13,771.6
Wells Fargo	USA	9,975.6
JPMorgan Chase	USA	9,968.7
Mitsubishi UFJ Financial	Japan	8,934.1
BNP Paribas	France	8,220.4
Mizuho Financial	Japan	5,092.4
Société Générale	France	4,864.8
Crédit Agricole	France	3,980.8
Scotiabank	Canada	3,589.5

The top ten biggest individual loans in the report.

Bank	Country	Producing company	Amount US\$ Millions
Citigroup	United States	Boeing	4,776.3
Citigroup	United States	Honeywell	4,239.7
Société Générale	France	Thales	3,585.1
Bank of America	United States	General Dynamics	3,390.6
Wells Fargo	United States	General Dynamics	3,047.1
JPMorgan Chase	United States	General Dynamics	2,816.0
Bank of America	United States	Fluor	2,033.8
BNP Paribas	France	Fluor	2,033.8
Mitsubishi UFJ Financial	Japan	Fluor	2,033.8
Wells Fargo	United States	Jacobs Engineering	1,758.9

Bondholding

Companies find various ways to raise money including by issuing debt, known as bonds. Bondholders usually receive a set amount of interest on top of the principle they've invested. Most bonds last for a set period and are issued through financial institutions (see issuances below).

Bondholding accounts for about 3% or US\$ 25,553 million of overall investments reflected in the report.

Significant bondholders in nuclear weapon producing companies

Vanguard is the largest single bondholder in the report, with US\$ 1,782.1 million in outstanding holdings.

The top ten bondholders in the report, with the amount of outstanding bonds (US \$ million)

Bank	Country	Amount US\$ Millions
Vanguard	USA	1,782.1
TIAA	USA	1,766.3
New York Life Insurance	USA	1,489.6
State Farm	USA	1,429.9
Northwestern Mutual Life Insurance	USA	1,148.1
Nationwide Mutual Insurance	USA	1,020.2
Prudential Financial (US)	USA	1,012.9
MetLife	USA	957.6
BlackRock	USA	948.2
Allianz	Germany	840.0

Issuances

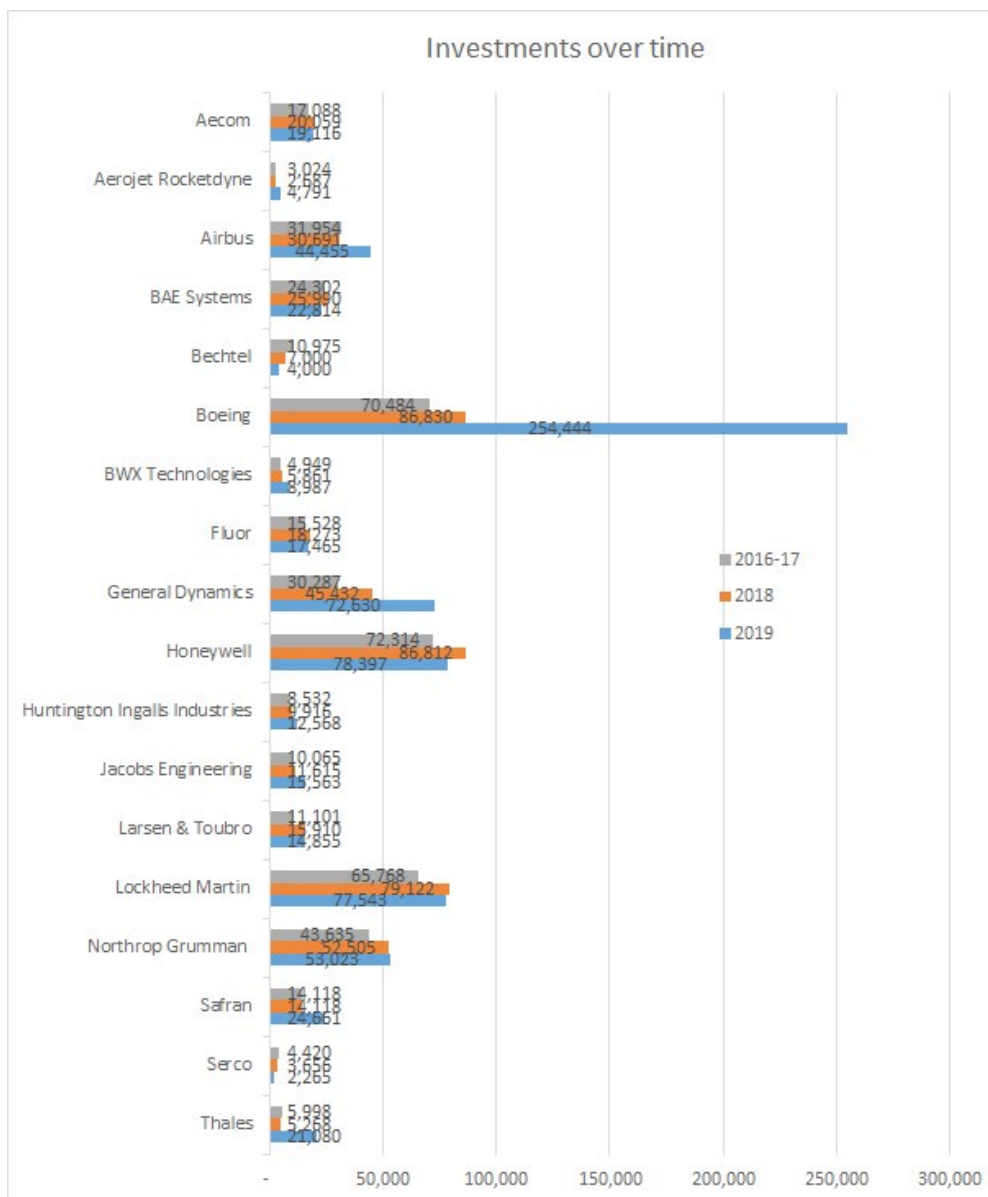
Companies work with financial institutions to issue bonds or stocks. Bond issuances offer a company the ability to generally pay less interest than traditional loans, as well as avoid restrictions that might be associated with loans. Stock issuances are an opportunity for companies to raise money by spreading ownership across a larger number of investors. Investment banks, or corporate services at banks, play the bridging role between the stock or bond buyer and the company that is looking to raise money. If a company decides to raise funds through a stock or bond issuance, one or more investment banks will serve as underwriters. This means the banks will guarantee the issuance by buying a certain number of shares – or bonds – at a predetermined price and re-selling them.

Issuances comprise about 5% or US\$ 35,567 million of the overall investments identified in this report. JP Morgan Chase holds the single largest bond issuance, with US\$ 3,258.8 in issuances for Northrop Grumman.

The top ten financial institutions with issuances in the report.

Bank	Country	Issuances US\$ millions
JPMorgan Chase	USA	4,285.4
Bank of America	USA	2,741.5
Wells Fargo	USA	2,710.2
Société Générale	France	1,915.7
Lloyds Banking Group	United Kingdom	1,798.4
Mizuho Financial	Japan	1,732.4
Mitsubishi UFJ Financial	Japan	1,709.1
Citigroup	USA	1,684.2
Royal Bank of Canada	Canada	1,618.5
Goldman Sachs	USA	1,538.8

Per producer investments

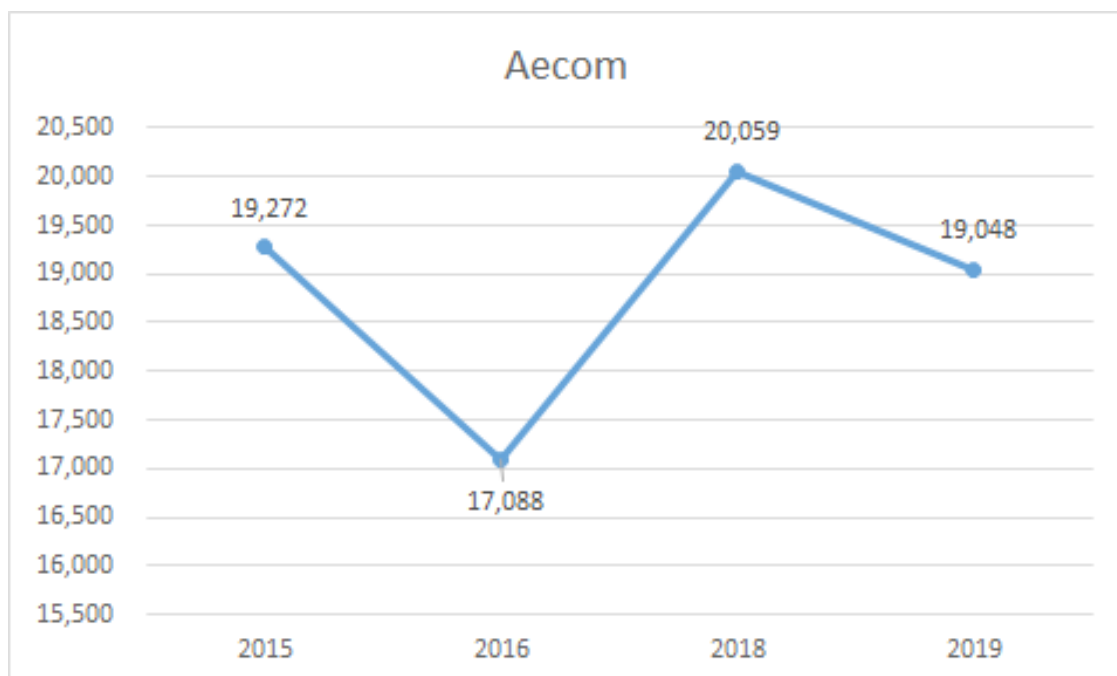


In order to provide comparisons with previous years, this report includes financial data for 18 companies associated with the production of nuclear weapons. There are many more companies involved, and investment information for 10 further nuclear weapon producers is available on the Don't Bank on the Bomb website. These companies were chosen because they are representative of the types of investments as well as of the types of work done to manufacture and maintain key components for nuclear arsenals. In the previous report, financial information was provided for 20 companies. CH2M Hill was acquired by Jacobs Engineering, and

Orbital ATK was acquired by Northrop Grumman. Investment information for 18 companies is therefore provided to allow for comparisons with previous years.

More detailed information is available on the website about the investments in these companies, in addition, more about the individual investors is also available on request.

Aecom



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

98 financial institutions from 16 countries invest a total of US\$ 19,115.9 million in Aecom. The financial institutions come from the following countries: Australia, Canada, China, France, Germany, India, Ireland, Japan, Libya, Spain, Switzerland, Taiwan, United Kingdom, United States, and Zimbabwe.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	1,128.1	6%
Issuance	999.1	5%
Loan	13,119.7	69%
Shareholding	3,869.0	20%

About the company

Aecom is involved in work at the Lawrence Livermore National Laboratory, where it is involved in research, design, development and production of nuclear weapons,³ including the life extension program of the B61 nuclear bomb⁴ and of the W80-1 nuclear warhead for air-launched cruise missiles.⁵ Aecom has held this US\$ 45.5 million (€ 40.1 million) per year contract since 2007.

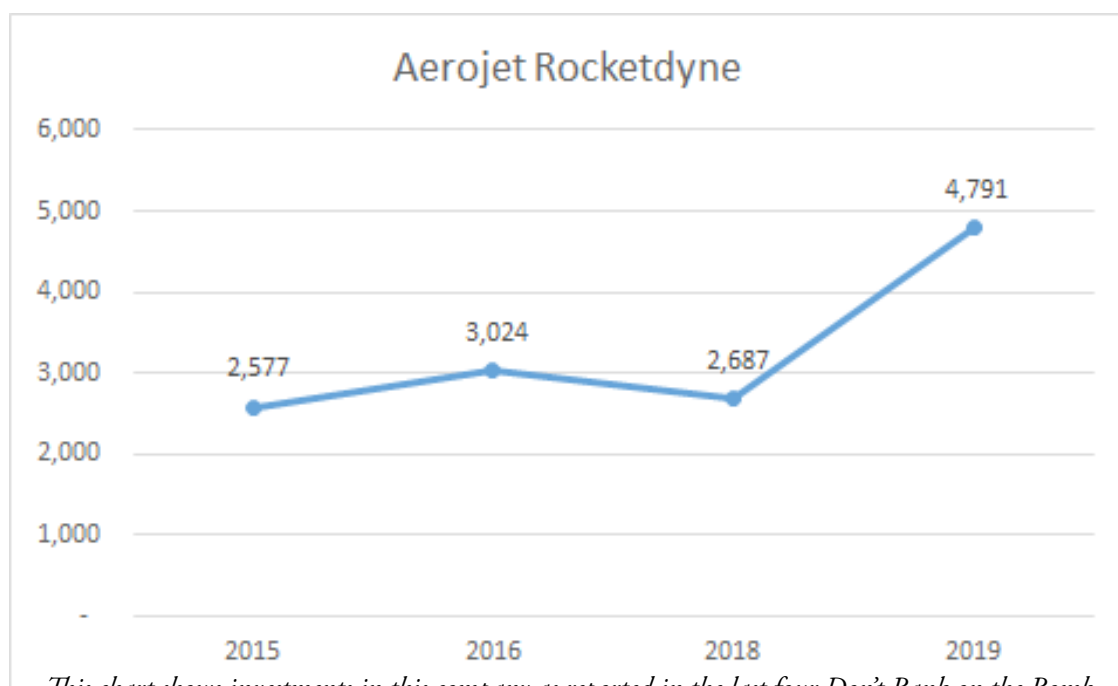
Investor list

Investor	Country	Amount (US\$ mln)
Aetna	USA	12.6
Allianz	Germany	136.2
Allstate	USA	40.9
ANZ	Australia	28.1
ASB Hawaii	USA	10.0
Aviva	United Kingdom	20.0
AXA	France	13.3
AXA Equitable	USA	53.5
Banco Bilbao Vizcaya Argentaria (BBVA)	Spain	526.9
Banco de Sabadell	Spain	73.6
Bank of America	USA	1,828.0
Bank of East Asia	China	15.0
Bank of Ireland	Ireland	43.4
Bank of New York Mellon	USA	70.2
Barclays	United Kingdom	264.1
BB&T	USA	28.1
BlackRock	USA	463.2
BMO Financial Group	Canada	283.6
BNP Paribas	France	1,699.7
BOK Financial	USA	43.6
Capital One Financial	USA	226.6
Cathay General Bancorp	USA	43.6
Central Bank of Libya	Libya	68.1
Central Pacific Financial Corporation	USA	6.0
Chang Hwa Commercial Bank	Taiwan	20.0
Charles Schwab	USA	33.1
Citigroup	USA	201.5
Comerica	USA	53.1
Commerzbank	Germany	100.5
Crédit Agricole	France	819.3
Crédit Mutuel CIC Group	France	43.6
Dimensional Fund Advisors	USA	156.3
E.SUN Financial	Taiwan	53.6
Fidelity Investments	USA	854.8
Fifth Third Bancorp	USA	176.1
First Financial Holding	Taiwan	25.0
First Hawaiian	USA	96.2
First Midwest Bancorp	USA	43.6
First Trust Advisors	USA	25.8
FirstBank	USA	15.0
Franklin Resources	USA	15.9
Geode Capital Management	USA	51.2
Goldman Sachs	USA	61.3
Greenhaven Associates	USA	43.6

Investor	Country	Amount (US\$ mln)
Guggenheim Capital	USA	11.0
HSBC	United Kingdom	526.9
Industrial and Commercial Bank of China	China	64.6
Invesco	United Kingdom	117.5
JPMorgan Chase	USA	704.8
Land Bank of Taiwan	Taiwan	20.0
Legg Mason	USA	137.6
Liberty Mutual Insurance	USA	14.6
Lloyds Banking Group	United Kingdom	91.5
Lord, Abnett & Co	USA	35.0
Luminus Management	USA	97.0
Lyrical Asset Management	USA	153.0
Macquarie Group	Australia	13.2
Manulife Financial	Canada	196.9
Mega Financial	Taiwan	61.6
Mitsubishi UFJ Financial	Japan	1,250.3
Mizuho Financial	Japan	370.5
Morgan Stanley	USA	188.5
Munich Re	Germany	43.0
New Jersey Department of the Treasury	USA	42.8
New York Life Insurance	USA	71.8
Northern Trust	USA	67.2
Northwestern Mutual Life Insurance	USA	32.2
Old Mutual	United Kingdom	45.3
PNC Financial Services	USA	62.9
Power Financial Corporation	Canada	25.7
Primecap Management	USA	623.0
Prudential (UK)	United Kingdom	18.2
Pzena Investment Management	USA	79.2
Raymond James Financial	USA	43.6
Scotiabank	Canada	1,557.6
SMBC Group	Japan	508.9
Standard Chartered	United Kingdom	53.1
State Bank of India	India	83.6
State Street	USA	152.0
State Teachers Retirement System of Ohio	USA	35.6
Stifel Financial	USA	20.0
Strategic Income Management	USA	12.3
SunTrust	USA	445.9
Taiwan Business Bank	Taiwan	20.0
Taiwan Cooperative Financial	Taiwan	20.0
Thrivent Financial	USA	46.1
TIAA	USA	188.0
Toronto-Dominion Bank	Canada	327.0
UBS	Switzerland	17.1
Unum Group	USA	20.0
US Bancorp	USA	140.9

Investor	Country	Amount (US\$ mln)
Vanguard	USA	462.3
Voya Financial	USA	28.7
Wedge Capital Management	USA	39.8
Wells Fargo	USA	689.9
Westpac	Australia	50.0
ZB Financial	Zimbabwe	43.6
Zions Bancorporation	USA	56.5

Aerojet Rocketdyne



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

64 financial institutions from 8 countries made approximately US\$ 4,791.5 million available to this company. The financial institutions come from: Australia, Canada, France, Germany, Japan, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	61.3	1%
Loan	2,150.0	45%
Shareholding	2,580.2	54%

About the company

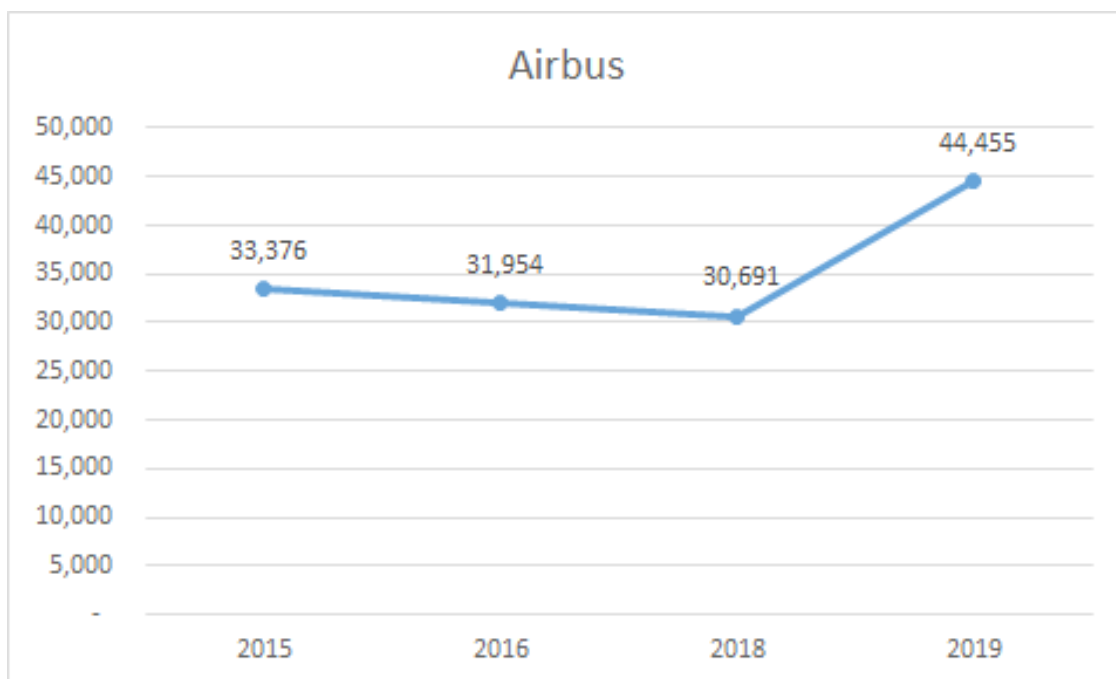
Aerojet Rocketdyne is involved in maintaining the propulsion systems for Minuteman III Intercontinental Ballistic Missiles for the US, under a US\$ 28.9 million (€ 25.5 million) contract initially awarded in 2013. It also produces propulsion systems for the Trident II (D5) missiles for the US and UK.⁶ Aerojet Rocketdyne is also a subcontractor on the new Ground Based Strategic Deterrent for the US arsenal. In 2018, Aerojet Rocketdyne secured an additional five-year contract for US\$ 20 million (€ 17.6 million) for solid boost technology that will be applied to the next generation of weapons systems.⁷

Investor list

Investor	Country	Amount (US\$ mln)
Affiliated Managers Group	USA	15.5
Allianz	Germany	2.5
Ameriprise Financial	USA	42.2
Apollo Global Management	USA	50.0
Arovid Associates	USA	42.1
Bank of America	USA	632.0
Bank of New York Mellon	USA	48.1
BB&T	USA	36.9
Beach Point Capital Management	USA	50.0
BlackRock	USA	412.4
BPCE Group	France	28.7
Calamos Investments	USA	5.0
Capital Group	USA	77.2
Capital One Financial	USA	45.6
Carillon Tower Advisers	USA	18.0
Cathay General Bancorp	USA	37.2
Citigroup	USA	20.0
Citizens Financial Group	USA	82.5
Deutsche Bank	Germany	28.9
Dimensional Fund Advisors	USA	82.6
Fidelity Investments	USA	3.6
Fifth Third Bancorp	USA	82.5
Geode Capital Management	USA	23.0
GGCP	USA	286.8
Goldman Sachs	USA	16.4
Hotchkis & Wiley Capital Management	USA	14.2
Invesco	United Kingdom	6.2
JPMorgan Chase	USA	102.5
Jupiter Fund Management	United Kingdom	6.0
KeyCorp	USA	82.5
Legg Mason	USA	22.2
Lord, Abbett & Co	USA	10.5
M&T Bank	USA	36.9
Macquarie Group	Australia	2.5
Millennium Management	USA	19.5
Mitsubishi UFJ Financial	Japan	102.5
Morgan Stanley	USA	56.9
New York Life Insurance	USA	13.7
NewSouth Capital Management	USA	111.5
Northern Trust	USA	31.2
Opus Corporate Finance LLP	United Kingdom	37.2
Principal Financial Group	USA	19.9
Prudential (UK)	United Kingdom	13.8
Raymond James Financial	USA	70.4

Investor	Country	Amount (US\$ mln)
Regions Financial	USA	82.5
Reinhart Partners	USA	27.3
Renaissance Technologies	USA	18.6
Rothschild Group	France	24.8
Royal Bank of Canada	Canada	102.5
SMBC Group	Japan	57.2
SSI Investment Management	USA	1.9
State Street	USA	118.9
Steel Partners Holdings	USA	142.1
SunTrust	USA	142.5
T. Rowe Price	USA	240.9
TIAA	USA	23.6
US Bancorp	USA	122.5
Vanguard	USA	250.0
Verisight	USA	57.3
Victory Capital	USA	78.1
Wellington Management	USA	127.7
Wells Fargo	USA	173.7
Winslow Asset Management	USA	24.7
Zions Bancorporation	USA	45.6

Airbus



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

66 financial institutions from 15 countries invest a total of US\$ 44,455.1 million in this company. The financial institutions come from: Australia, Canada, China, Denmark, France, Germany, Italy, Japan, Netherlands, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	1,379.0	3%
Issuance	1,500.0	3%
Loan	9,422.4	21%
Shareholding	32,153.7	72%

About the company

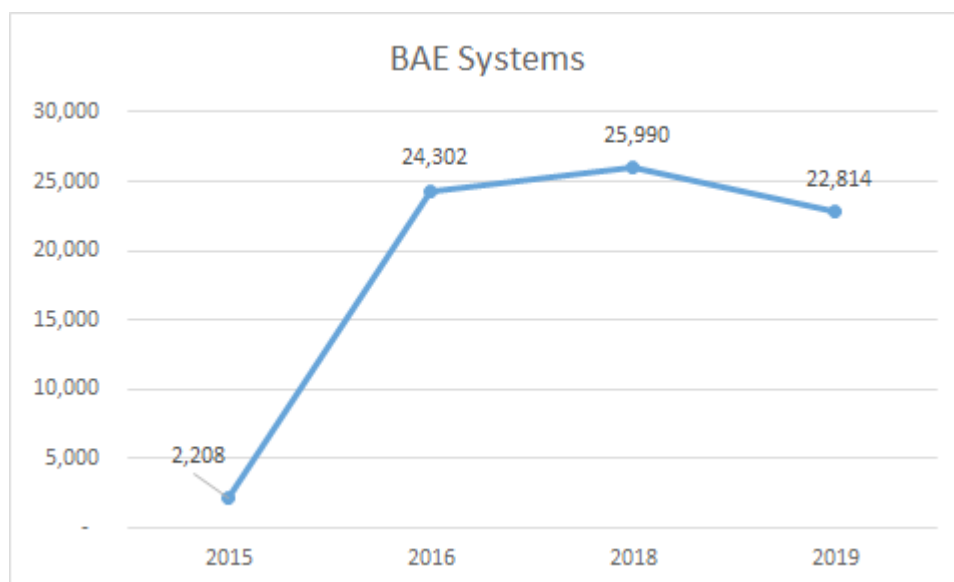
Airbus is a Netherlands based company involved in the ongoing maintenance and development of several nuclear armed missiles for the French nuclear arsenal through ArianeGroup, a joint venture with the French company Safran.⁸ Airbus is also part of the joint venture MBDA that supplies medium-range air to surface missiles, also for the French arsenal.⁹

Investor list

Investor	Country	Amount (US\$ mln)
Allstate	USA	43.0
American Equity Investment Life Holding	USA	60.1
American International Group (AIG)	USA	78.2
ANZ	Australia	115.1
Artisan Partners	USA	408.2
Banco Bilbao Vizcaya Argentaria (BBVA)	Spain	331.4
Bank of America	USA	265.1
Barclays	United Kingdom	331.4
BayernLB	Germany	115.1
BlackRock	USA	1,990.0
BNP Paribas	France	845.8
BPCE Group	France	454.6
Capital Group	USA	15,182.6
Citigroup	USA	481.4
Commerzbank	Germany	494.5
Commonwealth Bank of Australia	Australia	115.1
Crédit Agricole	France	2,571.6
Crédit Mutuel CIC Group	France	331.4
Credit Suisse	Switzerland	115.1
Danske Bank	Denmark	115.1
DBS	Singapore	115.1
Deutsche Bank	Germany	1,171.4
Development Bank of Japan	Japan	300.0
DZ Bank	Germany	115.1
EADS ESOP (Airbus Employees)	France	1,542.4
Fisch Asset Management	Switzerland	41.1
Goldman Sachs	USA	265.1
Greenhaven Associates	USA	550.0
HSBC	United Kingdom	481.4
IKB Deutsche Industriebank Aktiengesellschaft	Germany	163.2
Industrial and Commercial Bank of China	China	115.1
ING Group	Netherlands	115.1
JPMorgan Chase	USA	349.9
KfW	Germany	115.1
Landesbank Baden-Württemberg (LBBW)	Germany	115.1
Landesbank Hessen-Thüringen	Germany	115.1
Liberty Mutual Insurance	USA	68.1
Lloyds Banking Group	United Kingdom	115.1
Manulife Financial	Canada	81.0
MassMutual Financial	USA	1,054.2
Mitsubishi UFJ Financial	Japan	331.4
Mizuho Financial	Japan	644.5
Morgan Stanley	USA	265.1
New York Life Insurance	USA	73.4

Investor	Country	Amount (US\$ mln)
Northwestern Mutual Life Insurance	USA	40.6
Primecap Management	USA	2,287.6
Principal Financial Group	USA	43.7
Prudential Financial (US)	USA	55.7
Royal Bank of Canada	Canada	265.1
Royal Bank of Scotland	United Kingdom	331.4
Santander	Spain	331.4
Skandinaviska Enskilda Banken	Sweden	115.1
SMBC Group	Japan	481.4
Sociedad Estatal de Participaciones Industriales	Spain	3,219.0
Société Générale	France	1,362.6
Standard Chartered	United Kingdom	115.1
State Farm	USA	43.0
TIAA	USA	480.8
Toronto-Dominion Bank	Canada	115.1
Travelers	USA	55.2
UBS	Switzerland	265.1
UniCredit	Italy	356.1
Vanguard	USA	1,488.4
Voya Financial	USA	42.1
Westpac	Australia	115.1
White Mountains Insurance	United Kingdom	97.0

BAE Systems



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

76 financial institutions from 11 countries invest a total of US\$ 22,814.1 million in this company. The financial institutions come from: Australia, Canada, France, Germany, Japan, Netherlands, Sweden, Switzerland, United Arab Emirates, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	2,225.6	10%
Loan	5,456.4	24%
Shareholding	15,132.1	66%

About the company

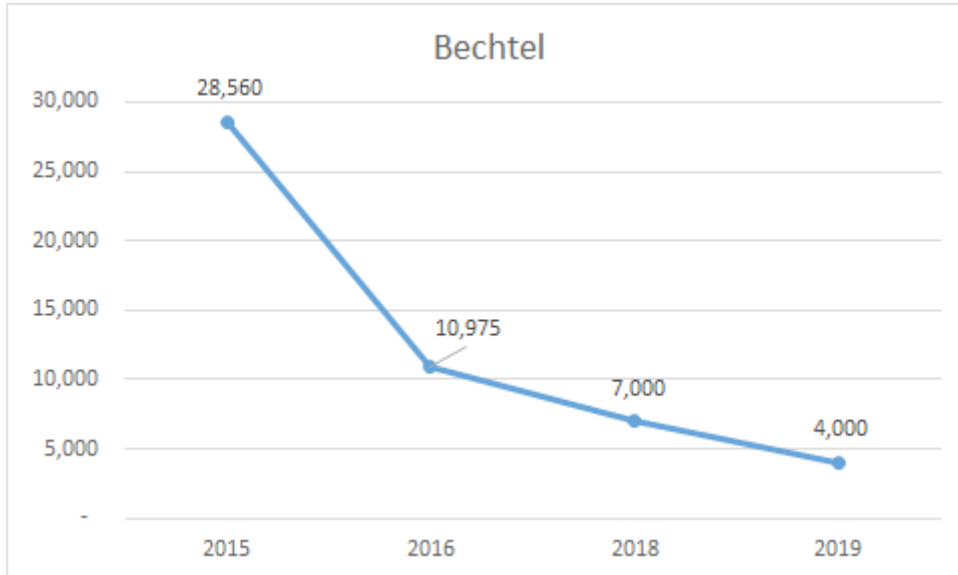
BAE Systems has a maximum value US\$ 368.7 million (€ 328 million) contract originally from October 2014 that will run until 2021 that is paid by the US and UK governments for key components for Trident II (D5) missiles.¹⁰ BAE also has a US\$ 951.4 million (€ 830.8 million) contract from the US Air Force for Minuteman III Intercontinental Ballistic Missile (ICBM) system, which will run until 2022.¹¹ BAE is also involved in the French arsenal directly, through MBDA Systems, developing the medium-range air-to-surface missile ASMPA and its successor, ASN4G.¹² In July 2017, BAE got a new US\$ 45.2 million (€ 39.6 million) modification to an existing contract for development work on the Ground Based Strategic Deterrent (GBSD) intercontinental ballistic missile replacement programme.¹³

Investor list

Investor	Country	Amount (US\$ mln)
Aegon	Netherlands	29.0
Allianz	Germany	124.6
Allstate	USA	102.2
American Equity Investment Life Holding	USA	40.3
American Financial Group	USA	32.7
American International Group (AIG)	USA	69.3
American United Mutual Insurance	USA	33.0
Ameriprise Financial	USA	292.1
ANZ	Australia	90.5
AXA	France	1,283.1
AXA Equitable	USA	196.6
Bank of America	USA	90.5
Bank of New York Mellon	USA	510.2
Barclays	United Kingdom	1,094.4
BlackRock	USA	1,710.1
BNP Paribas	France	90.5
Capital Group	USA	2,237.0
Carlyle Group	USA	59.6
Citigroup	USA	762.7
CNO Financial Group	USA	32.2
Commerzbank	Germany	90.5
Crédit Agricole	France	90.5
Crédit Mutuel CIC Group	France	90.5
Deutsche Bank	Germany	324.6
Fidelity Investments	USA	338.1
First Abu Dhabi Bank	United Arab Emirates	901.3
Franklin Resources	USA	1,667.9
Goldman Sachs	USA	90.5
Guggenheim Capital	USA	29.5
Invesco	United Kingdom	1,416.3
JPMorgan Chase	USA	90.5
Jupiter Fund Management	United Kingdom	117.6
Legal & General	United Kingdom	362.8
Legg Mason	USA	39.2
Liberty Mutual Insurance	USA	61.3
Lloyds Banking Group	United Kingdom	90.5
Loews Corporation	USA	29.7
LSV Asset Management	USA	163.5
Macquarie Group	Australia	98.7
Majedie Asset Management	United Kingdom	170.8
Manulife Financial	Canada	38.2
Marathon Asset Management (UK)	United Kingdom	144.3
MassMutual Financial	USA	48.6
MetLife	USA	98.8
Mitsubishi UFJ Financial	Japan	1,171.5

Investor	Country	Amount (US\$ mln)
Mizuho Financial	Japan	90.5
Morgan Stanley	USA	90.5
New York Life Insurance	USA	88.5
Northern Trust	USA	810.8
Northwestern Mutual Life Insurance	USA	84.0
Pacific Asset Management	USA	42.4
Principal Financial Group	USA	32.0
Prudential (UK)	United Kingdom	296.9
Royal Bank of Canada	Canada	90.5
Royal Bank of Scotland	United Kingdom	90.5
Schroders	United Kingdom	165.2
Silchester International Investors	United Kingdom	759.2
Skandinaviska Enskilda Banken	Sweden	90.5
SMBC Group	Japan	90.5
Société Générale	France	90.5
Standard Life Aberdeen	United Kingdom	366.2
State Farm	USA	105.0
State Street	USA	338.7
Sun Life Financial	Canada	73.9
The Hartford	USA	69.8
Thrivent Financial	USA	29.5
TIAA	USA	128.5
Toronto-Dominion Bank	Canada	223.1
Travelers	USA	30.6
UBS	Switzerland	159.8
Unum Group	USA	43.0
Vanguard	USA	737.6
Waddell & Reed Financial	USA	37.2
Wellington Management	USA	688.7
Wells Fargo	USA	90.5
White Mountains Insurance	United Kingdom	133.0

Bechtel



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

Nine (9) financial institutions from five (5) countries invest a total of US\$ 4,000 million in this company. The financial institutions come from: France, Japan, Saudi Arabia, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Loan	4,000.0	100%

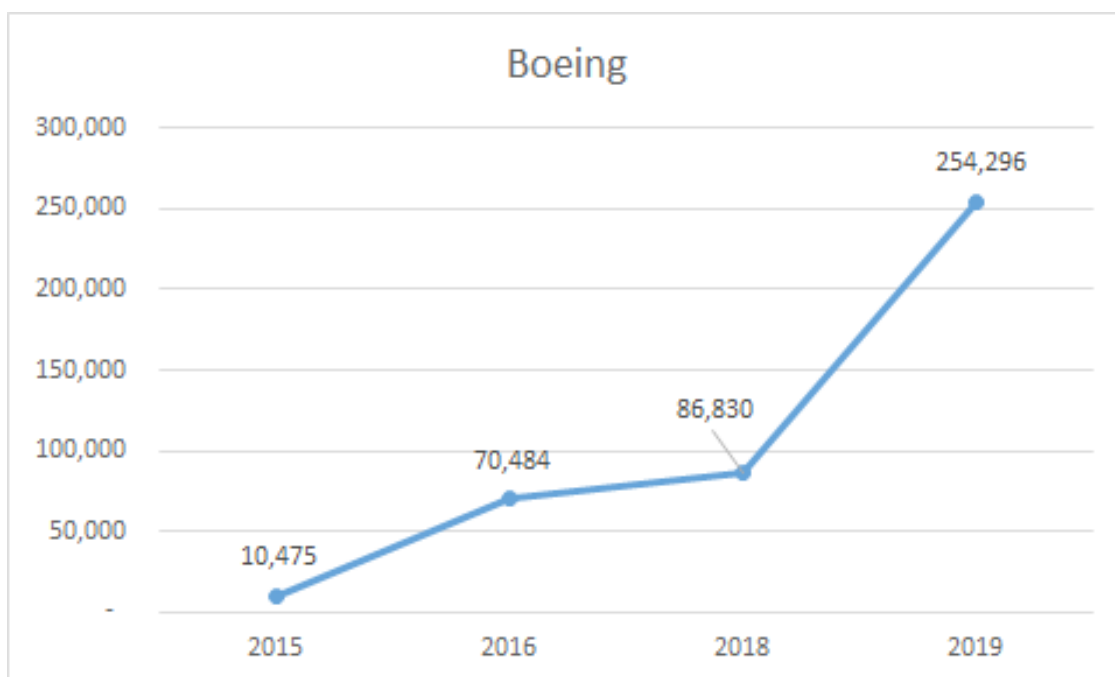
About the company

Bechtel is a family run company involved in nuclear weapon development at the Lawrence Livermore National Laboratory, the Y-12 Complex, and the Pantex Plant. Bechtel currently has approximately US\$ 1,174 million (€ 1,035 million) in outstanding contracts at these facilities. Bechtel is also involved in one of the new nuclear weapons under design in the US, the Ground Based Strategic Deterrent, though their exact contract amount is unclear.¹⁴

Investor list

Investor	Country	Amount (US\$ mln)
Bank of America	USA	828.3
BNP Paribas	France	1,280.3
Citigroup	USA	828.3
Crédit Agricole	France	228.3
JPMorgan Chase	USA	228.3
Mitsubishi UFJ Financial	Japan	150.0
Riyad Bank	Saudi Arabia	150.0
Royal Bank of Scotland	United Kingdom	228.3
SMBC Group	Japan	78.3

Boeing



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

111 financial institutions from 17 countries invest a total of US\$ 254,443.9 million in this company. The financial institutions come from: Australia, Canada, China, France, Germany, India, Italy, Japan, Libya, Netherlands, Saudi Arabia, Singapore, Spain, Switzerland, United Arab Emirates, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	3,047.7	1%
Issuance	3,000.0	1%
Loan	18,356.9	7%
Shareholding	230,039.3	90%

About the company

Boeing is building new nuclear weapons for the US. These include a 2017 contract for US\$ 349.2 million (€ 297 million) for the Ground Based Strategic Deterrent,¹⁵ to replace the Minuteman III ICBMs. Boeing is also involved in the Long-Range Standoff weapon development and has been awarded several contracts since 2017 for this new nuclear weapon, valued at US\$ 344.5 million (€ 304 million).¹⁶

Boeing holds several contracts related to the US long-range nuclear Minuteman Intercontinental Ballistic Missiles (ICBM). Boeing currently has contracts valued at over US\$ 703.3 million (€ 620 million) for key components for the Minuteman system. One of these contracts includes the development of 'kill switches' to cause the missile to self-destruct after launch.¹⁷

Boeing received a new US\$ 26.7 million (€ 23.0 million) contract from the US and UK for Trident II (D5) work in October 2018.¹⁸ This is in addition to existing outstanding contracts for work related to the system valued at over US\$ 88.9 million (€ 79.0 million).¹⁹

Boeing is also producing the tail-kit assembly for the new B61 bombs. More than half of all these bombs are currently deployed by the US in five European countries (Belgium, Germany, Italy, the Netherlands and Turkey). The US\$ 185 million (€ 163 million) in contracts will mean the new B61-12 bombs are ready for use by May 2019.²⁰ It is yet unclear when the new bombs will be delivered to their European locations. Other companies are currently modifying the storage facilities in the host countries.

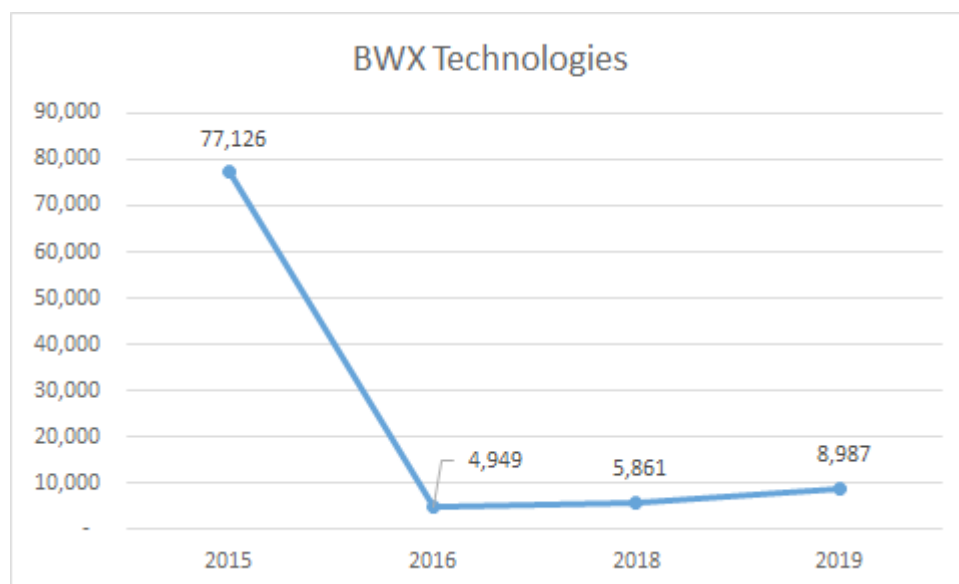
Investor list

Investor	Country	Amount (US\$ mln)
Abu Dhabi Investment Council	United Arab Emirates	50.0
Academy Securities	USA	30.6
Aegon	Netherlands	102.6
Allianz	Germany	126.6
Allstate	USA	145.4
American Century Investments	USA	2,163.3
American International Group (AIG)	USA	66.6
Ameriprise Financial	USA	2,403.3
ANZ	Australia	224.7
Apto Partners	USA	16.0
AQR Capital Management	USA	1,832.8
AXA Equitable	USA	1,675.8
Banco Bilbao Vizcaya Argentaria (BBVA)	Spain	339.5
Bank of America	USA	4,511.8
Bank of China	China	258.5
Bank of New York Mellon	USA	4,015.2
Barclays	United Kingdom	519.2
BayernLB	Germany	258.5
BlackRock	USA	25,381.5
Blaylock Beal Van	USA	9.2
BMO Financial Group	Canada	1,152.1
BNP Paribas	France	502.6
Canara Bank	India	10.0
Capital Group	USA	18,447.0
Capital One Financial	USA	100.0
CastleOak Securities	USA	9.2

Investor	Country	Amount (US\$ mln)
Central Bank of Libya	Libya	148.3
Charles Schwab	USA	1,680.9
Citigroup	USA	4,975.0
CL King & Associates	USA	9.2
Commerzbank	Germany	313.4
Crédit Agricole	France	381.9
Credit Suisse	Switzerland	408.9
DBS	Singapore	268.6
Deutsche Bank	Germany	2,301.1
Dimensional Fund Advisors	USA	1,114.3
Divine Capital Markets	USA	4.5
Drexel Hamilton	USA	10.7
Eaton Vance	USA	2,069.5
Fidelity Investments	USA	6,348.8
First Abu Dhabi Bank	United Arab Emirates	188.5
Franklin Resources	USA	1,305.5
Geode Capital Management	USA	4,497.9
Goldman Sachs	USA	3,428.7
Great Pacific Securities	USA	12.7
Guzman & Co	USA	11.3
ICICI Bank	India	327.8
Industrial and Commercial Bank of China	China	236.0
Intesa Sanpaolo	Italy	178.3
Janus Henderson	United Kingdom	4,574.6
JPMorgan Chase	USA	5,452.5
Lebenthal Holdings	USA	13.5
Legal & General	United Kingdom	1,597.5
Legg Mason	USA	130.5
Lloyds Banking Group	United Kingdom	338.8
Loop Capital	USA	41.1
Macquarie Group	Australia	137.4
Manulife Financial	Canada	66.1
MBS	USA	10.7
MetLife	USA	139.5
MFR	USA	16.0
Mischler Financial Group	USA	10.7
Mitsubishi UFJ Financial	Japan	529.0
Mizuho Financial	Japan	660.5
Morgan Stanley	USA	3,404.2
Nationwide Mutual Insurance	USA	65.0
Neuberger Berman	USA	1,204.7
New York Life Insurance	USA	193.5
New York State Common Retirement Fund	USA	1,074.7
Northern Trust	USA	4,840.7
Northwestern Mutual Life Insurance	USA	177.3
Orix Corporation	Japan	1,618.3
Penserra Capital Management	USA	19.5

Investor	Country	Amount (US\$ mln)
Power Financial Corporation	Canada	1,993.4
Principal Financial Group	USA	1,336.4
Prudential (UK)	United Kingdom	74.1
Prudential Financial (US)	USA	6,403.7
R. Seelaus & Co	USA	4.9
Riyad Bank	Saudi Arabia	467.1
Royal Bank of Canada	Canada	2,147.8
Royal Bank of Scotland	United Kingdom	125.0
Santander	Spain	417.7
SAR Holding	USA	12.5
Schweizerische Nationalbank	Switzerland	1,314.2
Siebert Brandford Shank Financial	USA	6.0
Siebert Cisneros Shank & Co	USA	5.2
SMBC Group	Japan	562.1
Société Générale	France	378.5
Standard Chartered	United Kingdom	224.7
State Bank of India	India	198.3
State Farm	USA	148.8
State Street	USA	20,355.3
Sumitomo Mitsui Trust	Japan	1,613.0
SunTrust	USA	337.5
T. Rowe Price	USA	23,291.6
Telsey Advisory Group	USA	17.1
TIAA	USA	4,889.7
Toronto-Dominion Bank	Canada	1,695.2
Travelers	USA	111.4
Tribal Capital Markets	USA	14.6
UBS	Switzerland	3,398.8
United Overseas Bank	Singapore	76.4
US Bancorp	USA	481.9
Vanguard	USA	31,486.6
Verisight	USA	23,897.1
Voya Financial	USA	72.6
Wellington Management	USA	1,560.8
Wells Fargo	USA	3,794.9
Westpac	Australia	524.6
White Mountains Insurance	United Kingdom	73.5
Williams Capital Group	USA	41.1

BWX Technologies



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

67 financial institutions from seven (7) countries invest a total of US\$ 8,986.9 million in this company. The financial institutions come from: Australia, Canada, France, Japan, Spain, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	210.3	2%
Issuance	400.0	4%
Loan	3,231.4	36%
Shareholding	5,145.2	57%

About the company

BWX Technologies has a new US\$ 76 million (€ 70.8 million) contract for Trident II (D5) components for the US and UK navies.²¹ BWXT also got a US\$ 505 million (€ 427.5 million) contract to prepare for additional US nuclear materials production for nuclear weapons, this will initially be Tritium production, but there are also plans to produce additional nuclear materials in the near term.²²

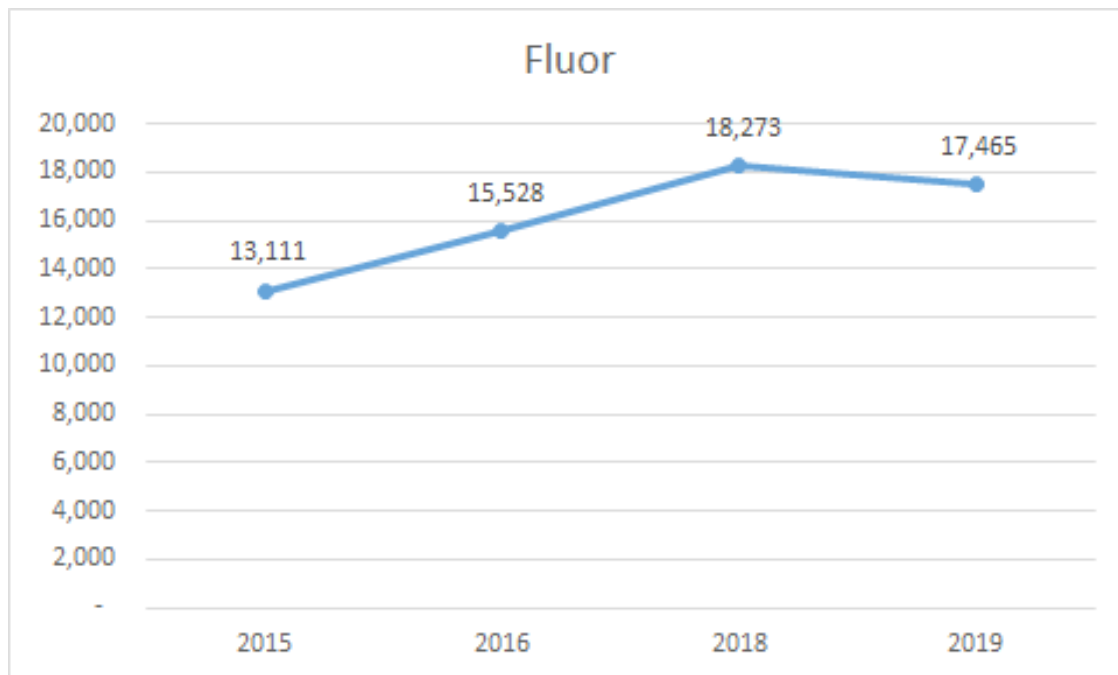
BWXT is also involved in the partnership that oversees the Lawrence Livermore National Laboratory, including the life extension program of the B61 nuclear bomb²³ and of the W80-1 nuclear warhead for air-launched cruise missiles.²⁴ The partnership receives US\$ 45.5 million (€ 37.6 million) a year for this work.²⁵

Investor list

Investor	Country	Amount (US\$ mln)
Affiliated Managers Group	USA	239.9
Alkeon Capital Management	USA	75.9
Allstate	USA	2.7
Ameriprise Financial	USA	77.4
Artisan Partners	USA	241.4
AXA	France	5.2
Baird	USA	45.9
Banco Bilbao Vizcaya Argentaria (BBVA)	Spain	91.0
Bank of America	USA	333.9
Bank of New York Mellon	USA	62.0
Baron Capital	USA	34.6
BB&T	USA	136.2
BlackRock	USA	404.4
BNP Paribas	France	326.4
BPCE Group	France	44.4
Brown Advisory Management	USA	321.4
Capital Group	USA	439.3
Cardinal Capital Management (US)	USA	41.2
Carillon Tower Advisers	USA	23.4
Charles Schwab	USA	43.5
Citizens Financial Group	USA	103.3
Crédit Agricole	France	186.0
Denver Investments	USA	3.3
Dimensional Fund Advisors	USA	48.0
Eaton Vance	USA	13.9
FBR & Co	USA	1.1
Fidelity Investments	USA	84.3
Franklin Resources	USA	129.4
Geode Capital Management	USA	54.9
Guggenheim Capital	USA	2.8
Hancock Whitney	USA	45.0
Invesco	United Kingdom	84.9
Janus Henderson	United Kingdom	122.0
JPMorgan Chase	USA	355.6
Kelso & Company	USA	91.4
KeyCorp	USA	70.1
Legg Mason	USA	8.2
Lincoln Peak Capital Management	USA	47.8
Macquarie Group	Australia	2.2
Mitsubishi UFJ Financial	Japan	91.0
Morgan Stanley	USA	70.7
New York Life Insurance	USA	16.0
New York State Common Retirement Fund	USA	32.4
Nomura	Japan	2.2
Northern Trust	USA	146.5

Investor	Country	Amount (US\$ mln)
Pacific Asset Management	USA	9.9
Payden & Rygel	USA	2.2
PNC Financial Services	USA	303.9
Principal Financial Group	USA	75.9
Prudential Financial (US)	USA	50.6
Regions Financial	USA	168.4
Scotiabank	Canada	135.6
SMBC Group	Japan	40.0
State Street	USA	136.8
Stifel Financial	USA	39.2
Strategic Income Management	USA	15.4
Sun Life Financial	Canada	12.4
T. Rowe Price	USA	790.2
TIAA	USA	37.9
Toronto-Dominion Bank	Canada	330.0
Travelers	USA	10.2
US Bancorp	USA	330.0
Vanguard	USA	553.0
Victory Capital	USA	40.7
WBC Holdings	USA	467.1
Wellington Management	USA	72.3
Wells Fargo	USA	562.1

Fluor



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

71 financial institutions from 12 countries invest a total of US\$ 17,464.8 million in this company. The financial institutions come from: Australia, Canada, China, France, Germany, Italy, Japan, Netherlands, Spain, Taiwan, United Kingdom, And the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	529.9	3%
Issuance	600.0	3%
Loan	10,500.0	60%
Shareholding	5,834.9	33%

About the company

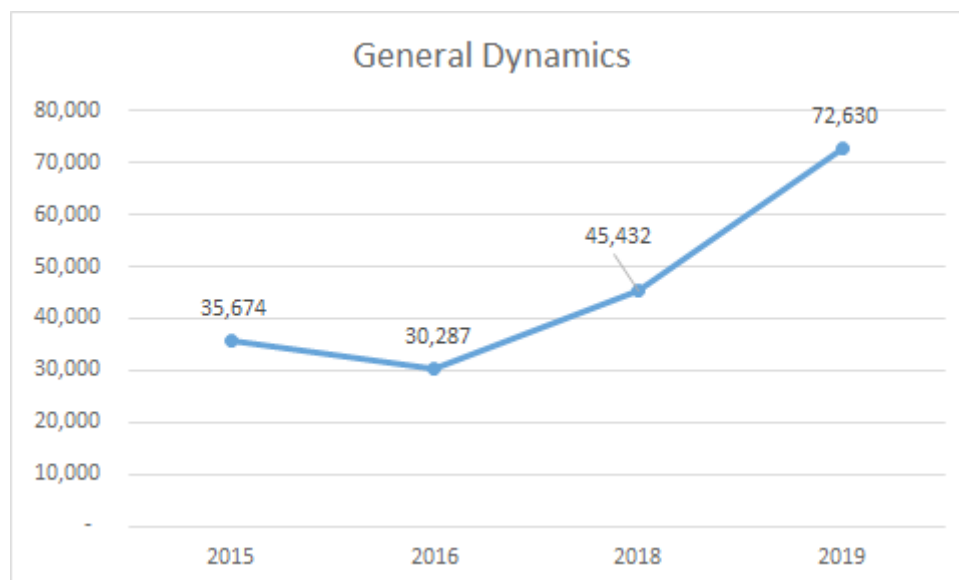
Fluor is involved at several US nuclear weapons enterprise facilities. Through a joint venture, Savannah River Nuclear Solutions (SRNS), it has a US\$ 8 billion (€ 7.1 billion) contract for efforts related to key components for the W88 Alt 370 program, the nuclear warhead deployed on the Trident II (D5).²⁶

Investor list

Investor	Country	Amount (US\$ mln)
Academy Securities	USA	12.0
Allianz	Germany	109.3
Alyeska Investment Group	USA	80.5
American Financial Group	USA	12.0
American International Group (AIG)	USA	13.2
American National Insurance	USA	36.8
American United Mutual Insurance	USA	41.3
ANZ	Australia	70.0
Ariel Capital Holdings	USA	62.9
Artisan Partners	USA	304.6
Auto-Owners Insurance	USA	12.6
Bank of America	USA	2,360.5
Bank of New York Mellon	USA	202.8
Barclays	United Kingdom	375.7
BlackRock	USA	577.0
BNP Paribas	France	2,129.8
Caisse de dépôt et placement du Québec	Canada	124.2
Carlyle Group	USA	40.9
Cathay Financial	Taiwan	24.5
Charles Schwab	USA	56.7
Citadel	USA	185.9
Citigroup	USA	840.7
Comerica	USA	6.0
Crédit Agricole	France	206.0
Dimensional Fund Advisors	USA	123.2
DZ Bank	Germany	189.3
Eaton Vance	USA	98.5
Fidelity Investments	USA	307.2
Franklin Resources	USA	200.4
Geode Capital Management	USA	104.7
Goldman Sachs	USA	249.3
HSBC	United Kingdom	375.7
ING Group	Netherlands	497.7
Intesa Sanpaolo	Italy	100.0
Invesco	United Kingdom	89.2
Jacobs Levy Equity Management	USA	49.3
Janus Henderson	United Kingdom	69.0
Legal & General	United Kingdom	44.3
Legg Mason	USA	691.0
Letko Brosseau & Associates	Canada	48.4
Lloyds Banking Group	United Kingdom	206.0
Loews Corporation	USA	10.0
MetLife	USA	18.5
Mitsubishi UFJ Financial	Japan	2,098.7
Mizuho Financial	Japan	70.0

Investor	Country	Amount (US\$ mln)
Modern Woodmen of America	USA	25.0
Morgan Stanley	USA	49.7
National Western Life Group	USA	30.0
Northern Trust	USA	86.0
Old Republic International	USA	23.4
Orix Corporation	Japan	69.5
Pacific Asset Management	USA	12.5
Pacific Century Group	China	12.5
Point72 Asset Management	USA	48.2
Prudential Financial (US)	USA	8.5
Raymond James Financial	USA	74.6
Regions Financial	USA	347.7
Santander	Spain	145.0
Scotiabank	Canada	206.0
SMBC Group	Japan	206.0
Sound Shore Management	USA	130.4
Standard Chartered	United Kingdom	206.0
State Farm	USA	69.7
State Street	USA	338.0
Sun Life Financial	Canada	62.8
TIAA	USA	115.7
United Services Automobile Association	USA	20.0
US Bancorp	USA	375.7
Vanguard	USA	876.1
Wells Fargo	USA	287.3
Westpac	Australia	112.0

General Dynamics



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

84 financial institutions from 16 countries invest a total of US\$ 72,629.6 million in this company. The financial institutions come from: Australia, Canada, Chile, China, France, Germany, India, Japan, Philippines, Portugal, Saudi Arabia, Spain, Taiwan, United Arab Emirates, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	2,677.1	4%
Issuance	8,500.0	12%
Loan	19,877.7	27%
Shareholding	41,574.8	57%

About the company

General Dynamics has a number of contracts related to key components for the UK & US Trident II (D5) systems. An initial US\$ 30.6 million (€ 28.2 million) contract awarded in 2015 has been modified repeatedly (including five times between November 2017 and December 2018) bringing the total contract value to over US\$ 174.4 million (€ 155.6 million).²⁷ Another General Dynamics subsidiary, General Dynamics Electric Boat, received a maximum dollar value of US\$ 46.5 (€ 43.4 million) contract in September 2017 for integration

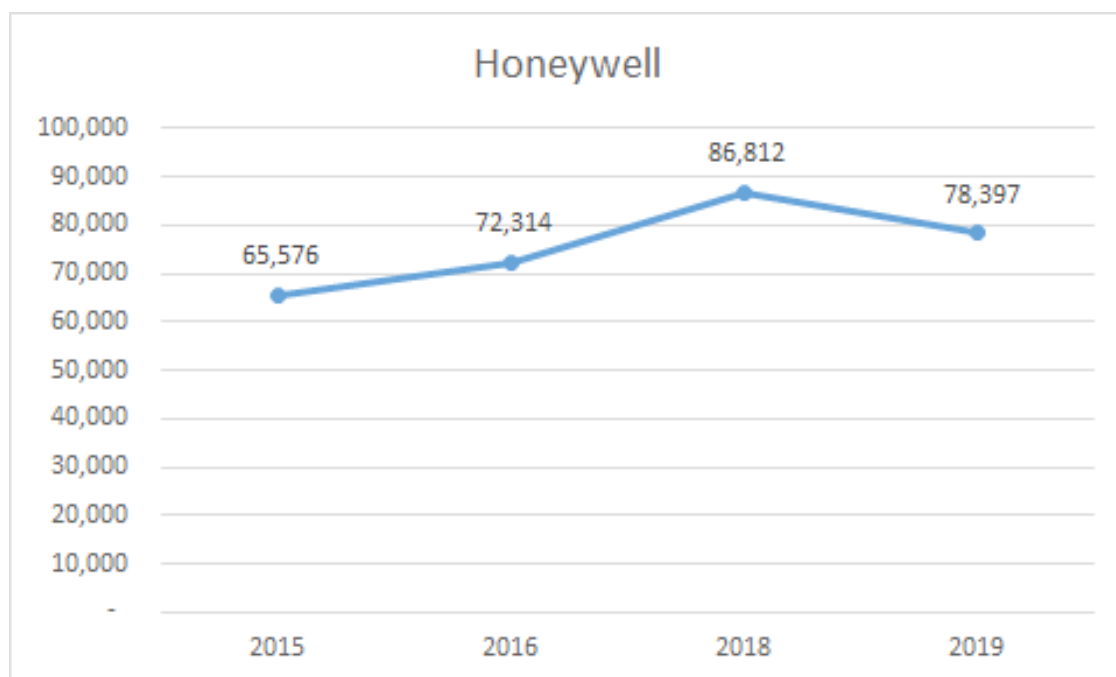
work for United Kingdom Strategic Weapon Support System kit manufacturing for the Columbia class ballistic missile submarines.²⁸ In 2018 this contract was modified significantly, first in April for US\$ 126.2 million (€ 102.4 million),²⁹ and again for US\$ 480.6 million (€ 414 million) in September 2018.³⁰

Investor list

Investor	Country	Amount (US\$ mln)
Academy Securities	USA	75.0
Allstate	USA	165.8
American Family	USA	101.0
Ameriprise Financial	USA	536.3
ANZ	Australia	41.8
Apple Financial Holdings	USA	100.4
Aristotle Capital Management	USA	314.0
Banco Bilbao Vizcaya Argentaria (BBVA)	Spain	2,528.2
Banco de Sabadell	Spain	53.4
Bank of America	USA	6,145.0
Bank of East Asia	China	59.1
Bank of New York Mellon	USA	641.9
Bank of Philippine Islands	Philippines	33.3
Barclays	United Kingdom	33.3
BlackRock	USA	3,664.6
Blaylock Beal Van	USA	76.3
Caisse de dépôt et placement du Québec	Canada	558.7
Caixa Geral de Depósitos	Portugal	33.3
Capital Group	USA	5,384.6
Capital One Financial	USA	275.9
Cathay General Bancorp	USA	8.1
Chang Hwa Commercial Bank	Taiwan	20.1
Citigroup	USA	207.6
Citizens Financial Group	USA	106.9
Crédit Mutuel CIC Group	France	223.7
CTBC Financial Holding	Taiwan	33.3
Deutsche Bank	Germany	68.6
Drexel Hamilton	USA	76.3
E.SUN Financial	Taiwan	33.3
Empresas Juan Yarur	Chile	19.7
Farallon Capital Management	USA	362.5
Fidelity Investments	USA	1,639.2
Fifth Third Bancorp	USA	302.8
First Abu Dhabi Bank	United Arab Emirates	21.8
First Financial Holding	Taiwan	32.1
FirstMerit	USA	33.3
Franklin Resources	USA	781.3
Fuyo General Lease	Japan	214.1
Geode Capital Management	USA	679.3
Goldman Sachs	USA	207.6
Guggenheim Capital	USA	64.2
Hua Nan Financial	Taiwan	46.2

Investor	Country	Amount (US\$ mln)
Invesco	United Kingdom	1,027.4
Janus Henderson	United Kingdom	452.1
JPMorgan Chase	USA	4,776.1
Liberty Mutual Insurance	USA	58.8
Lloyds Banking Group	United Kingdom	2,054.9
Longview Asset Management	USA	6,690.0
MassMutual Financial	USA	58.8
Mega Financial	Taiwan	60.2
Mitsubishi UFJ Financial	Japan	1,958.0
Mizuho Financial	Japan	1,572.2
Nationwide Mutual Insurance	USA	161.5
New York Life Insurance	USA	215.5
Northern Trust	USA	728.2
Northwestern Mutual Life Insurance	USA	145.1
Old Mutual	United Kingdom	563.6
People's United Financial	USA	73.5
PNC Financial Services	USA	399.6
Prudential Financial (US)	USA	113.2
Raymond James Financial	USA	27.5
Regions Financial	USA	265.2
Riyad Bank	Saudi Arabia	21.8
Royal Bank of Canada	Canada	2,071.0
Royal Bank of Scotland	United Kingdom	21.8
Scotiabank	Canada	630.3
SMBC Group	Japan	512.1
State Bank of India	India	113.7
State Farm	USA	330.3
State Fund	USA	92.0
State Street	USA	2,540.6
Stifel Financial	USA	3.9
SunTrust	USA	302.8
The London Company of Virginia	USA	388.5
Toronto-Dominion Bank	Canada	257.5
Travelers	USA	111.2
Union Bankshares	USA	6.8
US Bancorp	USA	532.1
Vanguard	USA	4,778.1
Verisight	USA	4,274.3
Wellington Management	USA	2,529.7
Wells Fargo	USA	5,563.4
Williams Capital Group	USA	75.0
Woodforest Financial	USA	66.8

Honeywell International



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

63 financial institutions from 13 countries invest a total of US\$ 78,397.5 million in this company. The financial institutions come from: Australia, Canada, China, Denmark, France, Germany, Italy, Japan, Singapore, Spain, Switzerland, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	2,057.8	3%
Issuance	1,642.4	2%
Loan	17,500.0	22%
Shareholding	57,197.3	73%

About the company

Honeywell International manages and operates the National Security Campus (NSC) (formerly Kansas City Plant), the facility responsible for producing an estimated 85% of the non-nuclear components for US nuclear weapons³¹ under a five year US\$ 900 million (€ 817.4 million) contract awarded in July 2015.³² It is also a co-owner of Savannah River Nuclear Solutions (SRNS) which has a US\$ 8 billion (€ 7.1 billion) contract for efforts related to key components for the W88 Alt 370 program, the nuclear warhead deployed on the Trident II (D5).³³ Honeywell is also associated with other US nuclear weapons enterprise facilities, including

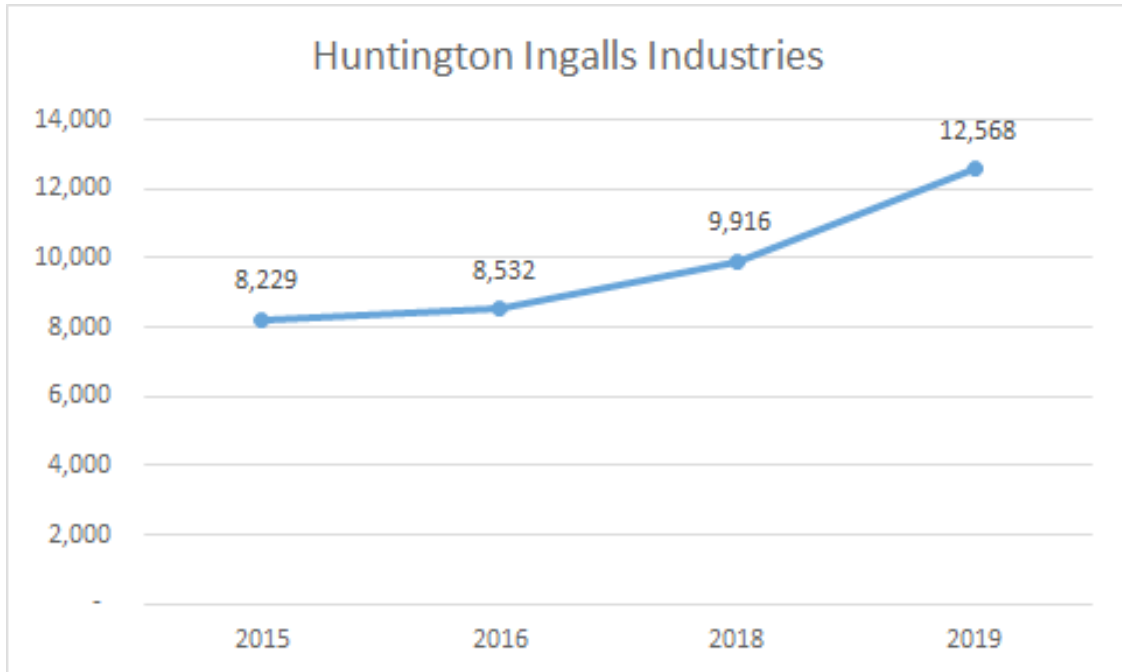
an outstanding US\$ 5 billion (€ 4.6 billion) contract³⁴ for the Nevada National Security Site and a US\$ 2.6 billion (€ 2.5 billion) contract for the Sandia National Laboratory. Both facilities are responsible for warhead production, testing, and design. Also, Honeywell received new contracts in 2018 valued at US\$ 19.0 million (€ 16.2 million) for the PIGA guidance instrument for the Minuteman III.³⁵

Investor list

Investor	Country	Amount (US\$ mln)
Allianz	Germany	147.4
Ameriprise Financial	USA	1,722.0
ANZ	Australia	145.0
AXA Equitable	USA	936.6
Banco Bilbao Vizcaya Argentaria (BBVA)	Spain	297.0
Bank of America	USA	4,324.3
Bank of China	China	145.0
Bank of New York Mellon	USA	1,696.9
Barclays	United Kingdom	1,455.9
BayernLB	Germany	145.0
BlackRock	USA	7,882.2
BNP Paribas	France	297.0
CIBC	Canada	85.0
Citigroup	USA	4,479.7
Crédit Agricole	France	145.0
Danske Bank	Denmark	145.0
DBS	Singapore	225.0
Deutsche Bank	Germany	1,789.9
DZ Bank	Germany	825.6
Fidelity Investments	USA	970.1
Franklin Resources	USA	1,111.1
Geode Capital Management	USA	1,491.8
Goldman Sachs	USA	2,489.6
HSBC	United Kingdom	297.0
Industrial and Commercial Bank of China	China	297.0
Intesa Sanpaolo	Italy	205.0
JPMorgan Chase	USA	3,684.3
Lazard	United Kingdom	766.2
Legg Mason	USA	1,167.5
Lloyds Banking Group	United Kingdom	60.0
Loop Capital	USA	12.0
Macquarie Group	Australia	136.6
MetLife	USA	129.7
Mitsubishi UFJ Financial	Japan	272.4
Mizuho Financial	Japan	297.0
Morgan Stanley	USA	2,674.3
Nationwide Mutual Insurance	USA	133.0
New York Life Insurance	USA	216.6
Northern Trust	USA	1,692.8
Northwestern Mutual Life Insurance	USA	82.0
Power Financial Corporation	Canada	762.7

Investor	Country	Amount (US\$ mln)
Prudential Financial (US)	USA	122.4
Royal Bank of Canada	Canada	1,050.5
Royal Bank of Scotland	United Kingdom	297.0
Santander	Spain	145.0
Scotiabank	Canada	145.0
SMBC Group	Japan	297.0
Société Générale	France	297.0
Standard Chartered	United Kingdom	297.0
State Farm	USA	280.0
State Fund	USA	87.0
State Street	USA	5,167.8
T. Rowe Price	USA	3,176.7
TIAA	USA	2,107.5
Toronto-Dominion Bank	Canada	297.0
UBS	Switzerland	1,319.8
UniCredit	Italy	145.0
US Bancorp	USA	297.0
Vanguard	USA	8,947.4
Verisight	USA	3,280.1
Wellington Management	USA	2,242.2
Wells Fargo	USA	1,875.2
Westpac	Australia	685.7

Huntington Ingalls Industries



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

71 financial institutions from seven (7) countries invest a total of US\$ 12,567.8 million in this company. The financial institutions come from: Canada, China, Germany, Japan, Switzerland, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	1,059.9	8%
Issuance	600.0	5%
Loan	3,825.0	30%
Shareholding	7,082.9	56%

About the company

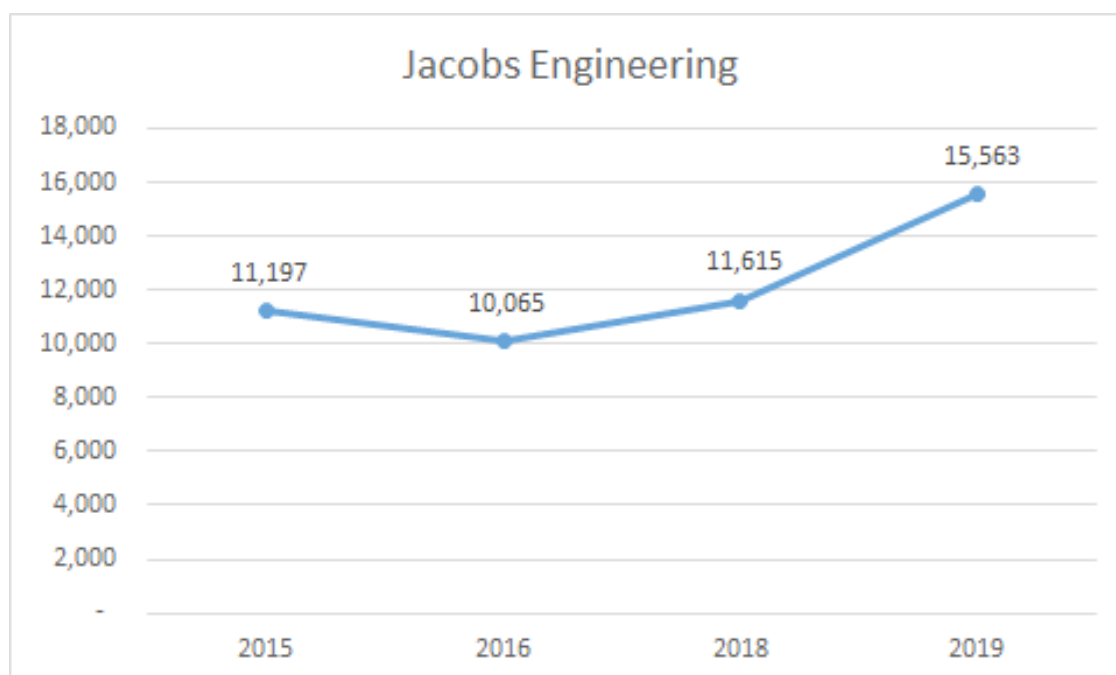
Huntington Ingalls Industries took over the management and operations for the Los Alamos National Laboratory in 2018 with a five-year contract with an estimated value of US\$ 2.5 billion (€ 2.2 billion) annually.³⁶ Huntington Ingalls Industries will be providing “personnel, systems, tools and corporate reachback in the areas of pit production, plutonium manufacturing, production scale-up and nuclear operations and manufacturing”.³⁷ Huntington Ingalls Industries is also part of a US\$ 5 billion (€ 4.6 billion) contract at the Nevada National Security Site,³⁸ and the US\$ 8 billion (€ 7.1 billion) contract at the US Department of Energy’s Savannah River Site and Savannah River National Laboratory in South Carolina.³⁹

Investor list

Investor	Country	Amount (US\$ mln)
Affiliated Managers Group	USA	168.8
AJO	USA	101.6
Allianz	Germany	40.9
Allstate	USA	40.5
American Equity Investment Life Holding	USA	31.4
American International Group (AIG)	USA	7.9
American United Mutual Insurance	USA	29.9
Ameriprise Financial	USA	6.8
AQR Capital Management	USA	565.5
AXA Equitable	USA	6.2
Bank of America	USA	781.3
Bank of New York Mellon	USA	134.3
BB&T	USA	166.1
BlackRock	USA	927.2
BMO Financial Group	Canada	113.8
Capital One Financial	USA	166.1
Charles Schwab	USA	63.2
Cigna	USA	19.9
Cincinnati Financial	USA	8.0
Citizens Financial Group	USA	32.9
Credit Suisse	Switzerland	12.9
Denver Investments	USA	14.5
Dimensional Fund Advisors	USA	85.5
Eagle Financial Bancorp	USA	12.9
East Side Capital	USA	71.0
Federated Investors	USA	9.6
Fidelity Investments	USA	1,042.0
First Horizon	USA	64.9
Franklin Resources	USA	79.0
Geode Capital Management	USA	155.0
Goldman Sachs	USA	151.1
Guardian Life Insurance Company of America	USA	25.0
Guggenheim Capital	USA	6.9
Invesco	United Kingdom	139.6
Janus Henderson	United Kingdom	79.0
JPMorgan Chase	USA	503.6
Legal & General	United Kingdom	58.2
LSV Asset Management	USA	75.4
Manulife Financial	Canada	75.5
Marshall Wace	United Kingdom	66.8
MetLife	USA	10.0
Mitsubishi UFJ Financial	Japan	173.1
Mizuho Financial	Japan	577.1
Nationwide Mutual Insurance	USA	184.7
New Jersey Department of the Treasury	USA	47.1

Investor	Country	Amount (US\$ mln)
New York Life Insurance	USA	38.7
Northern Trust	USA	169.4
Old Republic International	USA	15.8
Orix Corporation	Japan	139.0
Pacific Asset Management	USA	40.0
Pacific Century Group	China	14.4
PNC Financial Services	USA	166.1
Principal Financial Group	USA	38.0
Prudential (UK)	United Kingdom	9.5
Prudential Financial (US)	USA	7.2
Regions Financial	USA	32.9
Scotiabank	Canada	427.1
Siemens	Germany	114.1
State Street	USA	836.3
Sun Life Financial	Canada	19.9
SunTrust	USA	32.9
Thrivent Financial	USA	172.0
TIAA	USA	181.3
Toronto-Dominion Bank	Canada	166.1
Travelers	USA	32.9
UBS	Switzerland	110.6
Unum Group	USA	6.0
US Bancorp	USA	427.1
Vanguard	USA	1,329.9
Waddell & Reed Financial	USA	10.8
Wells Fargo	USA	897.2

Jacobs Engineering



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

63 financial institutions from nine (9) countries invest a total of US\$ 15,563.0 million in this company. The financial institutions come from: Australia, Canada, France, Germany, Japan, South Africa, Spain, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	300.1	2%
Issuance	700.0	4%
Loan	7,225.0	46%
Shareholding	7,337.9	47%

About the company

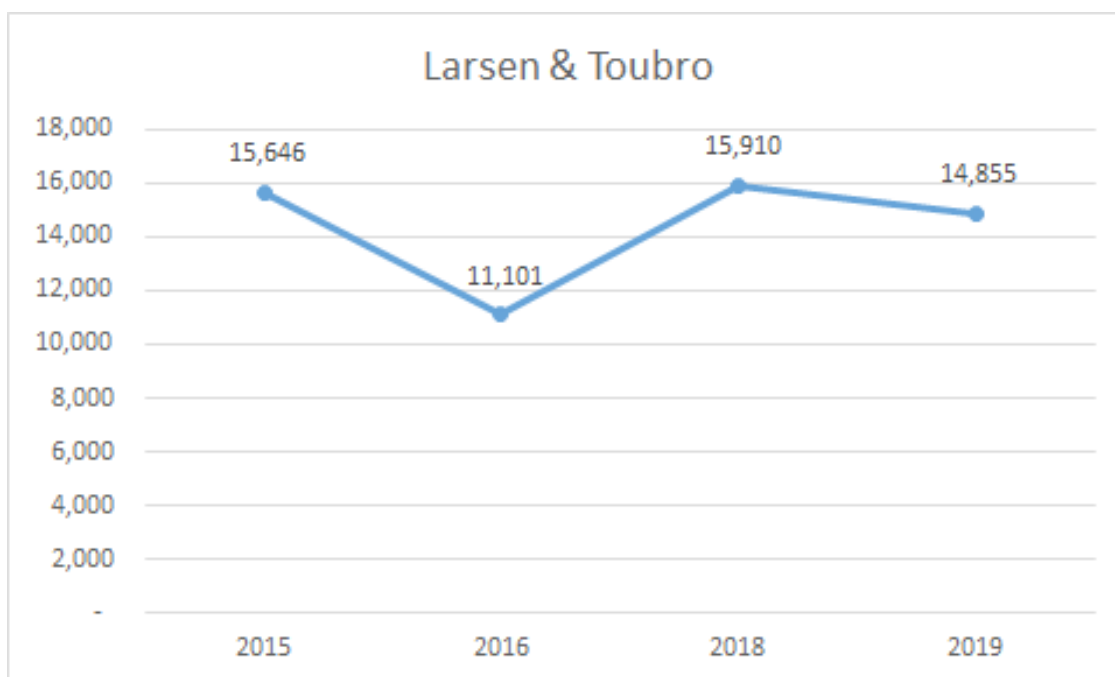
Jacobs Engineering is part of the UK Atomic Weapons Establishment, which currently has a 25-year £ 25.4 billion (€29.6 billion) contract for maintenance of the UK Trident arsenal.⁴⁰ Jacobs was also part of the group that took over management and operations of the Nevada National Security Site in 2017 under a 10-year US\$ 5 billion (€ 4.6 billion) contract.⁴¹ Jacobs Engineering has also acquired CH2M Hill, another company previously listed as a nuclear weapon producer.

Investor list

Investor	Country	Amount (US\$ mln)
Alyeska Investment Group	USA	139.8
American Century Investments	USA	101.2
American Equity Investment Life Holding	USA	17.0
American United Mutual Insurance	USA	23.0
ANZ	Australia	95.1
Artisan Partners	USA	167.7
AXA Equitable	USA	139.0
Banco Bilbao Vizcaya Argentaria (BBVA)	Spain	166.7
Bank of America	USA	593.1
Bank of New York Mellon	USA	71.5
Barclays	United Kingdom	200.0
BlackRock	USA	650.3
BMO Financial Group	Canada	40.3
BNP Paribas	France	1,271.5
Cacti Asset Management	USA	50.8
Charles Schwab	USA	55.5
CI Financial	Canada	275.0
Citadel	USA	187.1
Citizens Financial Group	USA	141.7
Deutsche Bank	Germany	7.7
Dimensional Fund Advisors	USA	192.4
Fidelity International	United Kingdom	123.4
Fidelity Investments	USA	343.4
Fiera Capital	Canada	4.0
Fifth Third Bancorp	USA	75.0
Focus Financial Partners	USA	101.4
Geode Capital Management	USA	121.8
Goldman Sachs	USA	222.4
HSBC	United Kingdom	279.2
Invesco	United Kingdom	84.1
Investec Group	South Africa	134.0
JPMorgan Chase	USA	127.0
Legg Mason	USA	17.0
Lloyds Banking Group	United Kingdom	75.0
Lord, Abbett & Co	USA	147.4
M&T Bank	USA	200.0
Madison Investment	USA	100.2
MetLife	USA	24.0
Millennium Management	USA	63.8
Mitsubishi UFJ Financial	Japan	503.8
Modern Woodmen of America	USA	10.0
Morgan Stanley	USA	87.8
Northern Trust	USA	209.8
Primecap Management	USA	635.7
Principal Financial Group	USA	35.0

Investor	Country	Amount (US\$ mln)
Prudential Financial (US)	USA	2.7
Royal Bank of Canada	Canada	80.1
Royal Bank of Scotland	United Kingdom	279.2
Ruane, Cunniff & Goldfarb	USA	480.1
Scotiabank	Canada	792.5
Securian	USA	4.5
Select Equity Partners	USA	102.2
SMBC Group	Japan	20.2
Southern Farm Bureau Life Insurance	USA	4.0
State Farm	USA	75.0
State Street	USA	796.3
Toronto-Dominion Bank	Canada	551.3
Travelers	USA	15.0
Unum Group	USA	20.0
US Bancorp	USA	595.9
Vanguard	USA	1,062.9
Wells Fargo	USA	2,341.5
White Mountains Insurance	United Kingdom	27.9

Larsen and Toubro



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

26 financial institutions from six (6) countries invest a total of US\$ 14,855.5 million in this company. The financial institutions come from: China, India, Japan, Norway, Taiwan, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Issuance	792.4	5%
Loan	246.8	2%
Shareholding	13,816.3	93%

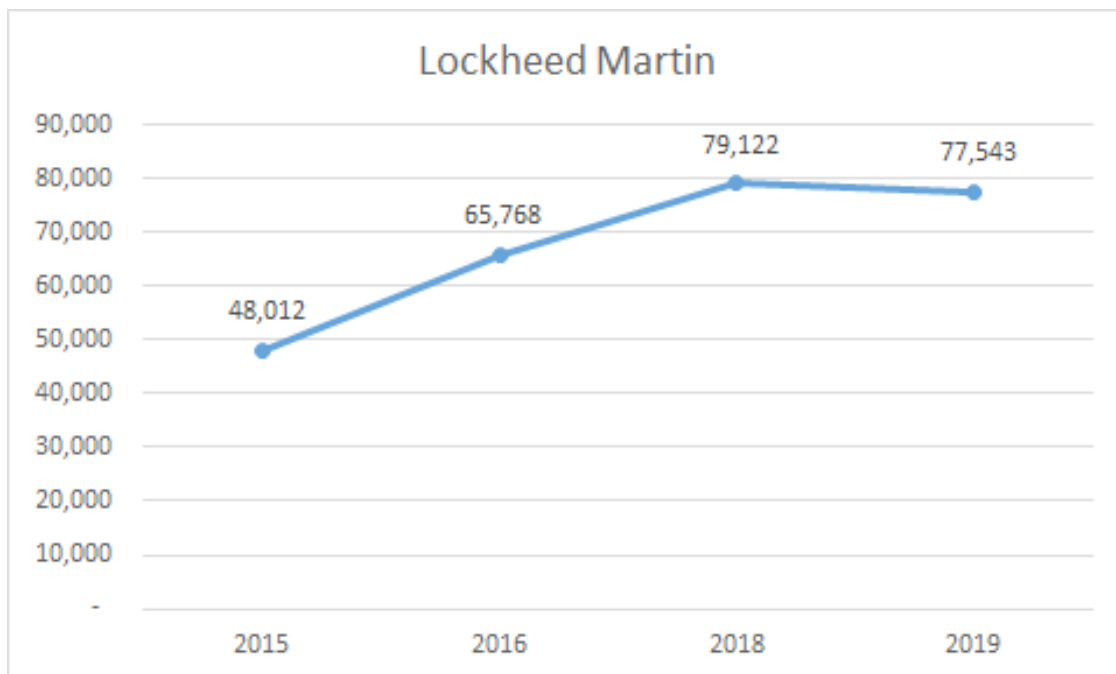
About the company

Larsen and Toubro are involved in producing key components for the Indian nuclear arsenal. These include the launcher system for the nuclear-capable Prithvi II missile.⁴² It is also involved in the Dhanush, the ship-based variant of the Prithvi-II.⁴³

Investor list

Investor	Country	Amount (US\$ mln)
Aditya Birla Group	India	161.5
Axis Bank	India	50.6
BlackRock	USA	639.2
Cathay Financial	Taiwan	23.4
CITIC	China	28.0
Citigroup	USA	236.1
Dimensional Fund Advisors	USA	170.7
DSP Group	India	159.8
Franklin Resources	USA	200.5
General Insurance Corporation of India	India	434.6
Housing Development Finance Corporation	India	1,160.9
ICICI Bank	India	1,080.4
JM Financial	India	50.6
Kotak Mahindra Bank	India	218.7
L&T Employees Welfare Foundation	India	3,017.7
L&T Finance Holdings	India	190.4
Life Insurance Corporation of India	India	4,319.0
Mizuho Financial	Japan	100.0
Morgan Stanley	USA	213.6
Nomura	Japan	294.7
Norwegian Government Pension Fund - Global	Norway	289.5
Reliance Group	India	413.8
SMBC Group	Japan	123.4
State Bank of India	India	583.2
Unit Trust of India	India	436.9
Vanguard	USA	258.4

Lockheed Martin



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

61 financial institutions from 10 countries invest a total of US\$ 77,542.7 million in this company. The financial institutions come from: Australia, Canada, France, Italy, Japan, Netherlands, Saudi Arabia, Switzerland, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	5,507.7	7%
Issuance	1,577.5	2%
Loan	11,500.0	15%
Shareholding	58,957.5	76%

About the company

Lockheed Martin has outstanding Trident II (D5) contracts valued at approximately US\$ 6,550.1 million (€5,730.4 million). Of these US\$ 918.9 million (€ 801.9) were awarded in between March 2018 and January 2019. Lockheed also has at least US\$ 495 million (€ 413.6 million) in outstanding contracts related to the Minuteman III ICBM. It is also involved in a US\$ 900 million (€ 764.2 million) research and design contract for the new US the Air Force Long-Range Standoff (LRSO) missile.⁴⁴

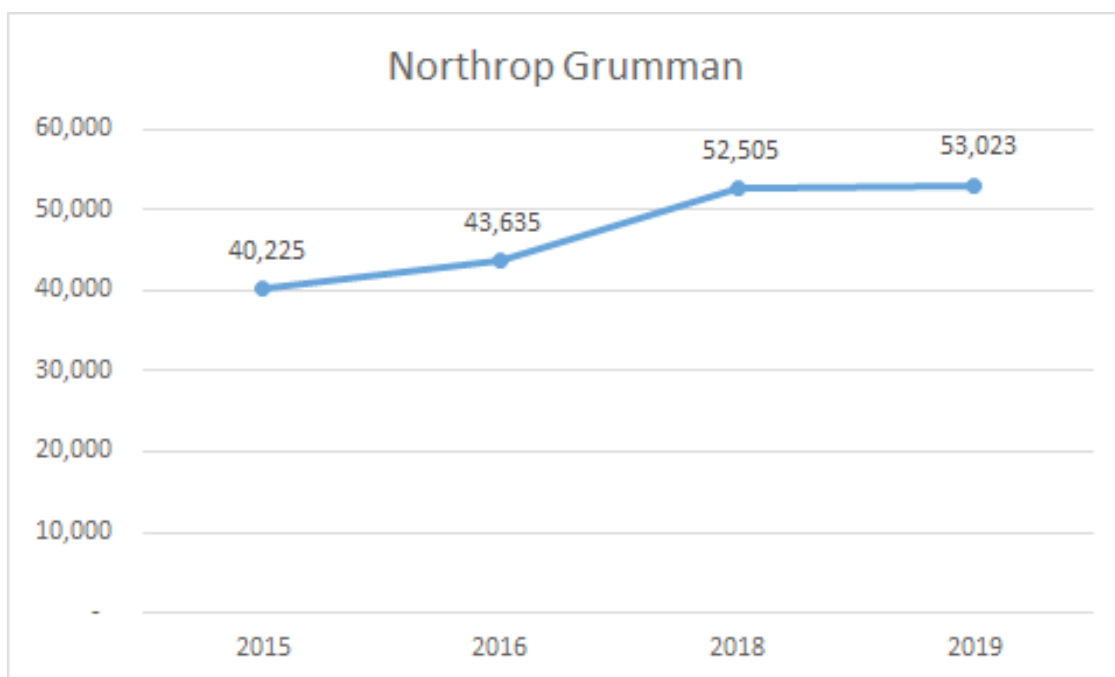
Lockheed Martin's nuclear weapon associated activities aren't limited to US missile production alone. It is also part of the 25-year £ 25.4 billion (€29.6 billion) contract for the UK Atomic Weapons Establishment.⁴⁵

Investor list

Investor	Country	Amount (US\$ mln)
Aegon	Netherlands	189.3
Allstate	USA	175.4
American Family	USA	105.4
American International Group (AIG)	USA	269.9
Ameriprise Financial	USA	1,157.5
ANZ	Australia	257.7
Bank of America	USA	4,750.0
Bank of New York Mellon	USA	754.1
Barclays	United Kingdom	282.7
BlackRock	USA	6,229.4
Capital Group	USA	9,392.6
Charles Schwab	USA	853.1
Citadel	USA	497.1
Citigroup	USA	1,756.3
Crédit Agricole	France	704.2
Crédit Mutuel CIC Group	France	85.0
Fidelity Investments	USA	919.2
Geode Capital Management	USA	944.8
Goldman Sachs	USA	304.2
Guardian Life Insurance Company of America	USA	77.5
Guggenheim Capital	USA	160.1
JPMorgan Chase	USA	1,756.3
Legg Mason	USA	209.7
Liberty Mutual Insurance	USA	80.4
Lloyds Banking Group	United Kingdom	711.9
Macquarie Group	Australia	169.5
Manulife Financial	Canada	80.7
MassMutual Financial	USA	769.4
MetLife	USA	177.8
Mitsubishi UFJ Financial	Japan	317.7
Mizuho Financial	Japan	1,914.0
Morgan Stanley	USA	1,366.0
Nationwide Mutual Insurance	USA	214.8
New York Life Insurance	USA	173.1
Northern Trust	USA	1,433.1
Northwestern Mutual Life Insurance	USA	304.4
Principal Financial Group	USA	88.5
Prudential (UK)	United Kingdom	129.4
Prudential Financial (US)	USA	351.7
Riyad Bank	Saudi Arabia	189.2
Royal Bank of Canada	Canada	892.4
Royal Bank of Scotland	United Kingdom	85.0

Investor	Country	Amount (US\$ mln)
SMBC Group	Japan	242.7
State Farm	USA	245.7
State Street	USA	16,005.5
Sun Life Financial	Canada	975.3
The Hartford	USA	85.5
Thrivent Financial	USA	107.8
TIAA	USA	1,224.9
Toronto-Dominion Bank	Canada	267.7
Travelers	USA	87.6
Two Sigma Investments	USA	564.8
UBS	Switzerland	979.2
UniCredit	Italy	517.7
Unum Group	USA	85.6
US Bancorp	USA	746.9
Vanguard	USA	7,785.4
Waddell & Reed Financial	USA	602.6
Wellington Management	USA	4,048.8
Wells Fargo	USA	1,572.0
Western & Southern Financial	USA	116.5

Northrop Grumman



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

71 financial institutions from 12 countries invest a total of US\$ 53,022.5 million in this company. The financial institutions come from: Australia, Canada, France, Germany, India, Israel, Italy, Japan, Switzerland, United Arab Emirates, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	2,862.6	5%
Issuance	8,250.0	16%
Loan	5,633.3	11%
Shareholding	36,276.6	68%

About the company

Northrop Grumman is currently handing over responsibilities to BAE Systems as the prime contractor for the Minuteman III ICBM system. This process began in 2013, but there have been repeated 'bridge' contracts valued at over US\$ 165.0 million (€ 128.3 million),⁴⁶ most recently in September 2018. Now the handover process is expected to be complete in April 2019.⁴⁷

Although Northrop Grumman is no longer the prime ICBM contractor, it still has additional US ICBM related contracts including those it took over when it acquired Orbital ATK. These additional contracts were mostly awarded in 2015, with a total value of approximately US\$ 1,852.9 million (€ 1,642.9 million).⁴⁸ Northrop Grumman, via ATK Launch Systems, was also awarded another Minuteman related contract for US\$ 86.4 million (€ 74.5 million) in September 2018.⁴⁹

Northrop Grumman is also involved in the Trident II (D5) systems for the US and the UK, with outstanding contracts valued at approximately US\$ 531.3 million (€ 493.2 million). Many of these Trident II (D5) related production activities are meant to conclude in 2020.⁵⁰

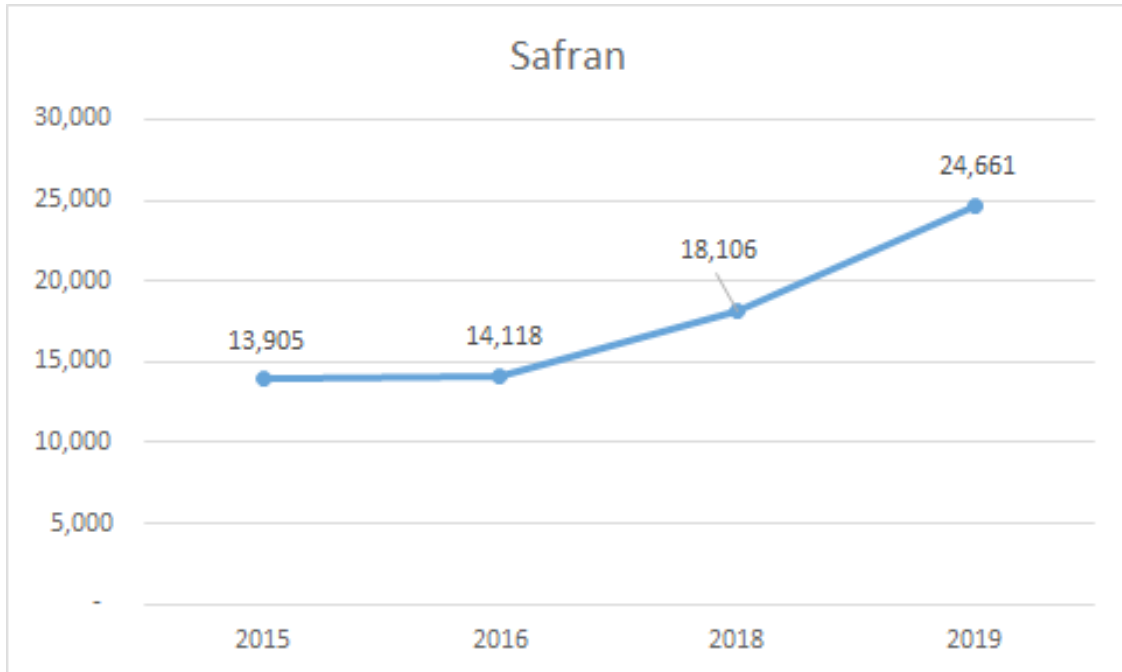
Northrop Grumman is also connected to the nuclear weapons facilities at the Pantex and Y-12 through a US\$ 446 million (€ 326.5 million) contract to the Consolidated Nuclear Services (CNS) joint venture.⁵¹

Investor list

Investor	Country	Amount (US\$ mln)
Academy Securities	USA	33.0
Allianz	Germany	106.9
Allstate	USA	72.2
American Family	USA	116.8
American International Group (AIG)	USA	103.1
Ameriprise Financial	USA	637.2
ANZ	Australia	136.6
AQR Capital Management	USA	539.2
AXA Equitable	USA	714.0
Bank Hapoalim	Israel	56.8
Bank of America	USA	1,516.5
Bank of New York Mellon	USA	687.5
BB&T	USA	56.8
BlackRock	USA	4,192.8
Blaylock Beal Van	USA	33.0
BNP Paribas	France	301.6
Capital Group	USA	3,404.7
Citigroup	USA	1,277.1
Comerica	USA	16.7
Credit Suisse	Switzerland	775.9
Deutsche Bank	Germany	301.6
Drexel Hamilton	USA	33.0
DZ Bank	Germany	395.0
Eastern Bank	USA	56.8
Fidelity Investments	USA	2,242.2
Fifth Third Bancorp	USA	73.5
First Abu Dhabi Bank	United Arab Emirates	54.1
First Niagara Financial	USA	56.8
Franklin Resources	USA	404.0
Geode Capital Management	USA	617.7
Goldman Sachs	USA	1,108.8
Guggenheim Capital	USA	91.3
Janus Henderson	United Kingdom	478.4
JPMorgan Chase	USA	4,771.1

Investor	Country	Amount (US\$ mln)
KeyCorp	USA	73.5
Legg Mason	USA	98.6
Lloyds Banking Group	United Kingdom	528.4
Macquarie Group	Australia	880.9
MetLife	USA	225.3
Mischler Financial Group	USA	33.0
Mitsubishi UFJ Financial	Japan	429.4
Mizuho Financial	Japan	528.4
Morgan Stanley	USA	379.2
Nationwide Mutual Insurance	USA	257.0
New York Life Insurance	USA	216.8
Northern Trust	USA	612.5
Northwestern Mutual Life Insurance	USA	166.9
People's United Financial	USA	56.8
PNC Financial Services	USA	73.5
Power Financial Corporation	Canada	462.4
Prudential Financial (US)	USA	75.0
Regions Financial	USA	56.8
Scotiabank	Canada	136.6
SMBC Group	Japan	210.1
State Bank of India	India	56.8
State Farm	USA	132.5
State Street	USA	6,028.7
Sun Life Financial	Canada	1,498.4
SunTrust	USA	184.7
Synovus Financial Corporation	USA	56.8
T. Rowe Price	USA	3,479.2
TIAA	USA	1,336.4
UniCredit	Italy	303.2
Unum Group	USA	77.5
US Bancorp	USA	264.4
Vanguard	USA	4,539.3
Waddell & Reed Financial	USA	335.1
Wellington Management	USA	1,210.5
Wells Fargo	USA	2,413.1
White Mountains Insurance	United Kingdom	108.5
Williams Capital Group	USA	33.0

Safran



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

51 financial institutions from eight (8) countries invest a total of US\$ 24,661.3 million in this company. The financial institutions come from: Australia, Canada, France, Germany, Japan, Spain, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	1,976.3	8%
Issuance	5,169.9	21%
Loan	2,744.2	11%
Shareholding	14,770.9	60%

About the company

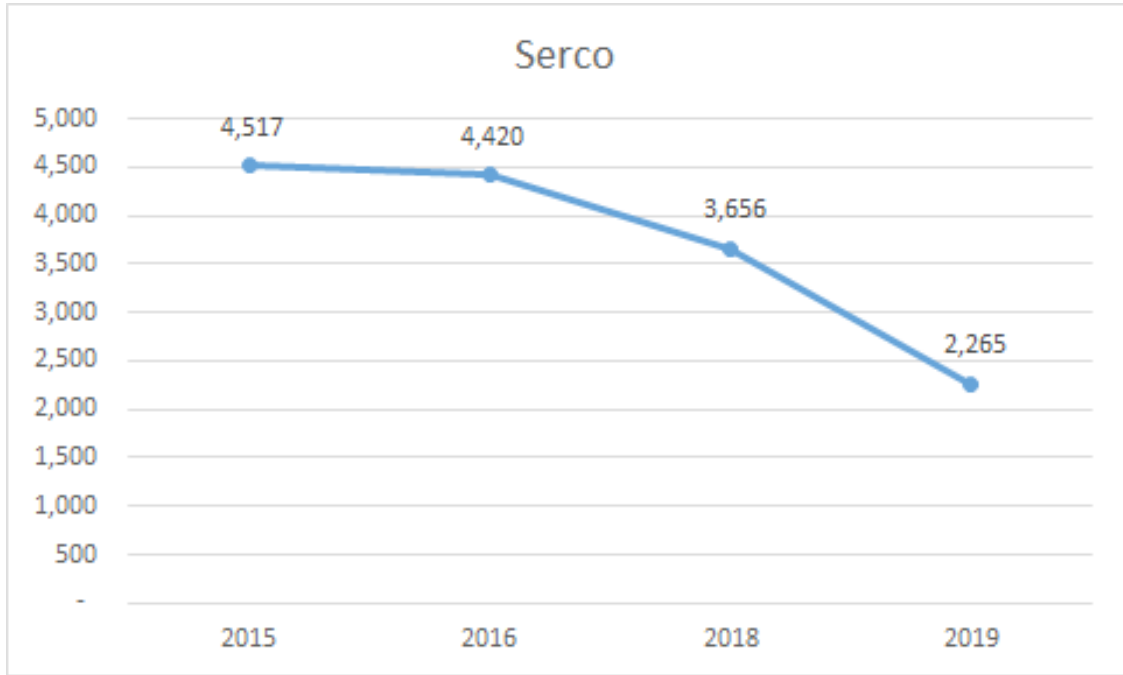
Safran is a French company and two of their subsidiaries (Snecma and Sagem) are developing key components for the M51 missiles for the French nuclear weapons arsenal.⁵² Safran is also part of the joint venture with Dutch company Airbus, responsible for ongoing production and maintenance of the missile system overall.⁵³ This joint venture is also contracted to carry out the 2019 budgeted tasks of the French Ministry of Defence for three deliveries of upgraded ASMPAs after 2019.⁵⁴

Investor list

Investor Parent	Country	Amount (US\$ mln)
Affiliated Managers Group	USA	820.5
Allianz	Germany	127.4
Ameriprise Financial	USA	30.0
Aviva	United Kingdom	60.0
BlackRock	USA	4,492.3
BNP Paribas	France	784.2
BPCE Group	France	1,053.6
Capital Group	USA	4,220.1
Carmignac Gestion	France	36.6
Citigroup	USA	950.3
Commerzbank	Germany	137.4
Crédit Agricole	France	1,409.0
Crédit Mutuel CIC Group	France	493.3
Davis Selected Advisers	USA	266.4
Deutsche Bank	Germany	763.5
Fidelity Investments	USA	386.0
Groupama	France	68.5
Guardian Life Insurance Company of America	USA	35.0
Guggenheim Capital	USA	19.7
HSBC	United Kingdom	137.4
Janus Henderson	United Kingdom	329.9
JPMorgan Chase	USA	300.2
Lazard	United Kingdom	354.4
Legg Mason	USA	20.0
Macif	France	50.7
Macquarie Group	Australia	75.0
MassMutual Financial	USA	75.0
MetLife	USA	115.5
Mitsubishi UFJ Financial	Japan	487.6
Modern Woodmen of America	USA	25.0
Morgan Stanley	USA	479.0
National Life Group	USA	20.0
New York Life Insurance	USA	101.4
Northwestern Mutual Life Insurance	USA	77.0
Oddo BHF	France	342.6
Power Financial Corporation	Canada	20.0
Principal Financial Group	USA	23.0
Prudential Financial (US)	USA	556.6
Rouvier Associés	France	18.9
Royal Bank of Scotland	United Kingdom	137.4
Santander	Spain	487.6
SMBC Group	Japan	283.5
Société Générale	France	2,282.3
Sun Life Financial	Canada	40.7
TIAA	USA	75.0

Investor Parent	Country	Amount (US\$ mln)
United Services Automobile Association	USA	35.0
Unum Group	USA	20.0
Vanguard	USA	1,122.7
Voya Financial	USA	25.0
Wellington Management	USA	369.0
WoodmenLife	USA	20.0

Serco



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

60 financial institutions from 15 countries invest a total of US\$ 2,264.6 million in this company. The financial institutions come from: Australia, Belgium, Canada, France, Germany, Italy, Japan, Singapore, South Africa, Spain, Switzerland, Taiwan, United Arab Emirates, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	243.6	11%
Loan	1,071.7	47%
Shareholding	949.2	42%

About the company

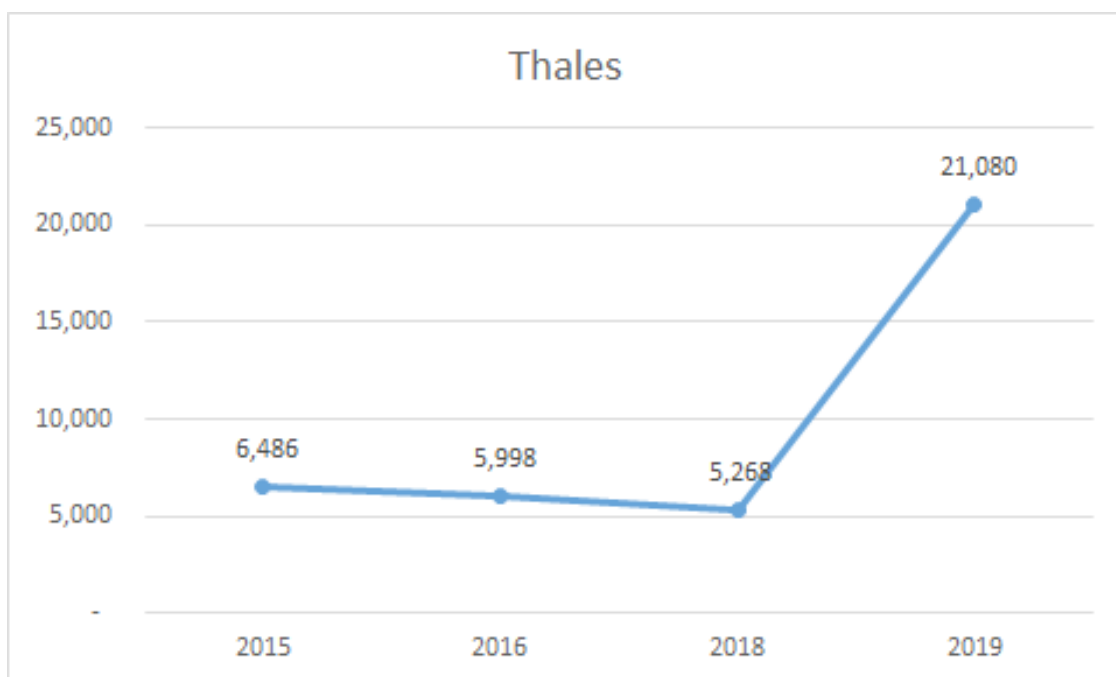
Serco is a UK company involved in management and operations of the UK Atomic Weapons Establishment (AWE) under 25-year contract (1999 to 2024) valued at £ 25.4 billion (€29.6 billion).⁵⁵

Investor list

Investor	Country	Amount (US\$ mln)
Allianz	Germany	15.0
ANZ	Australia	32.9
Aviva	United Kingdom	6.0
AXA	France	14.4
AXA Equitable	USA	12.0
Bank of America	USA	72.9
Barclays	United Kingdom	252.4
BlackRock	USA	65.3
Cathay Financial	Taiwan	2.0
Commerzbank	Germany	32.9
Commonwealth Bank of Australia	Australia	72.9
Crédit Agricole	France	72.9
Cuna Mutual Group	USA	1.6
DBS	Singapore	72.9
Fidelity International	United Kingdom	91.9
First Abu Dhabi Bank	United Arab Emirates	32.9
Franklin Resources	USA	27.7
Fundación Bancaria Ibercaja	Spain	10.8
Guardian Life Insurance Company of America	USA	12.0
Guggenheim Capital	USA	2.7
HSBC	United Kingdom	72.9
Intesa Sanpaolo	Italy	84.3
Intrinsic Value Investors	United Kingdom	39.5
Investec Group	South Africa	16.4
JPMorgan Chase	USA	72.9
Jupiter Fund Management	United Kingdom	24.1
KBC Group	Belgium	32.9
Landesbank Hessen-Thüringen	Germany	32.9
Legal & General	United Kingdom	29.1
Legg Mason	USA	12.4
Lloyds Banking Group	United Kingdom	38.9
Magallanes	Spain	16.7
Majedie Asset Management	United Kingdom	70.0
Marathon Asset Management (UK)	United Kingdom	73.0
MassMutual Financial	USA	40.4
MetLife	USA	18.6
Mitsubishi UFJ Financial	Japan	72.9
Mizuho Financial	Japan	8.7
Modern Woodmen of America	USA	11.2
MSD Partners	USA	66.9
Nationwide Mutual Insurance	USA	4.1
New York Life Insurance	USA	10.8
Northwestern Mutual Life Insurance	USA	38.6
Odey Asset Management	United Kingdom	13.1
Orbis Group	United Kingdom	68.3

Investor	Country	Amount (US\$ mln)
Pacific Asset Management	USA	3.0
Prudential Financial (US)	USA	14.9
Royal Bank of Scotland	United Kingdom	72.9
RWC Partners	United Kingdom	59.3
Santander	Spain	14.3
Serco Group Employee Benefit Trust	United Kingdom	11.7
SMBC Group	Japan	32.9
Southern Farm Bureau Life Insurance	USA	3.6
Standard Life Aberdeen	United Kingdom	8.2
State Street	USA	20.2
Sun Life Financial	Canada	21.4
UBS	Switzerland	64.6
Unum Group	USA	8.8
Vanguard	USA	29.3
Voya Financial	USA	26.0

Thales



This chart shows investments in this company as reported in the last four Don't Bank on the Bomb reports, all figures in US\$ millions.

Total investments

28 financial institutions from 10 countries invest a total of US\$ 21,080.2 million in this company. The financial institutions come from: Australia, France, Germany, Italy, Japan, Norway, Spain, United Arab Emirates, United Kingdom, and the United States.

These investments take the following form:

Type of investment	Amount (US\$ mln)	% per type
Bondholding	285.5	1%
Issuance	1,845.5	9%
Loan	6,962.4	33%
Shareholding	11,986.9	57%

About the company

According to the French Ministry of Defence, **Thales** is one of MBDA's subcontractors supplying medium-range air-to-surface missile ASMPA to the French air force.⁵⁶

Investor list

Investor	Country	Amount (US\$ mln)
ANZ	Australia	76.4
Aviva	United Kingdom	153.8
Bank of New York Mellon	USA	134.0
Barclays	United Kingdom	229.7
BlackRock	USA	1,518.1
BNP Paribas	France	437.8
BPCE Group	France	942.8
Capital Group	USA	311.1
Commerzbank	Germany	152.9
Crédit Agricole	France	973.8
Crédit Mutuel CIC Group	France	229.5
Dassault Family	France	6,772.5
Fidelity Investments	USA	221.2
First Abu Dhabi Bank	United Arab Emirates	76.4
Groupe La Francaise	France	42.0
HSBC	United Kingdom	805.9
JPMorgan Chase	USA	686.6
Mitsubishi UFJ Financial	Japan	729.3
New York Life Insurance	USA	59.6
Norwegian Government Pension Fund - Global	Norway	425.5
Royal Bank of Scotland	United Kingdom	152.9
Santander	Spain	652.7
SMBC Group	Japan	76.4
Société Générale	France	3,790.5
T. Rowe Price	USA	255.9
Thales Employees Stock Ownership Plan	France	755.8
UniCredit	Italy	76.4
Vanguard	USA	340.7

Full investments table

The summary table shows how much money, in millions of US Dollars, each of the listed financial institution made available to the listed nuclear weapon producing companies between January 2017 and January 2019. It does not list the types of financing, though that information is available upon request. The types of financing could include loans (including revolving credit facilities), investment banking (including underwriting share and bond issuances), and ownership of at least 0.5% of the outstanding shares or bonds of at least one of the companies.

All figures presented below are in US\$ Millions. Commas are used as thousands separators in the total column. Total might have adjusted due to rounding.

Investor	Country	Total	Aecom	Aerojet Rocketdyne	Airbus	BAE Systems	Bechtel
Abu Dhabi Investment Council	UAE	50					
Academy Securities	USA	150.6					
Aditya Birla Group	India	161.5					
Aegon	Netherlands	320.9				29	
Aetna	USA	12.6	13				
Affiliated Managers Group	USA	1,244.7		16			
AJO	USA	101.6					
Alkeon Capital Management	USA	75.9					
Allianz	Germany	936.7	136	3		125	
Allstate	USA	788.1	41		43	102	
Alyeska Investment Group	USA	220.3					
American Century Investments	USA	2,264.6					
American Equity Investment Life Holding	USA	148.8			60	40	
American Family	USA	323.2					
American Financial Group	USA	44.7				33	
American International Group (AIG)	USA	608.1			78	69	
American National Insurance	USA	36.8					
American United Mutual Insurance	USA	127.1				33	
Ameriprise Financial	USA	6,904.8		42		292	
ANZ	Australia	1,314	28		115	91	
Apollo Global Management	USA	50		50			
Apple Financial Holdings	USA	100.4					
Apto Partners	USA	16					
AQR Capital Management	USA	2,937.5					
Ariel Capital Holdings	USA	62.9					
Aristotle Capital Management	USA	314					
Arovid Associates	USA	42.1		42			
Artisan Partners	USA	1,122			408		

	Boeing	BWX Technologies	Fluor	General Dynamics	Honeywell	Huntington Ingalls Industries	Jacobs Engineering	Larsen & Toubro	Lockheed Martin	Northrop Grumman	Safran	Serco	Thales
	50												
	31		12	75						33			
								161					
	103								189				
		240				169					820		
						102							
		76											
	127		109		147	41				107	127	15	
	145	3		166		41			175	72			
			80				140						
	2163						101						
						31	17						
				101					105	117			
			12										
	67		13			8			270	103			
			37										
			41			30	23						
	2403	77		536	1722	7			1158	637	30		
	225		70	42	145		95		258	137		33	76
				100									
	16												
	1833					566				539			
			63										
				314									
		241	305				168						

Investor	Country	Total	Aecom	Aerojet Rocketdyne	Airbus	BAE Systems	Bechtel	
ASB Hawaii	USA	10	10					
Auto-Owners Insurance	USA	12.6						
Aviva	UK	239.8	20					
AXA	France	1,315.9	13			1283		
AXA Equitable	USA	3,733.7	53			197		
Axis Bank	India	50.6						
Baird	USA	45.9						
Banco Bilbao Vizcaya Argentaria (BBVA)	Spain	4,280.8	527		331			
Banco de Sabadell	Spain	127	74					
Bank Hapoalim	Israel	56.8						
Bank of America	USA	29,032.9	1828	632	265	91	828	
Bank of China	China	403.5						
Bank of East Asia	China	74.1	15					
Bank of Ireland	Ireland	43.4	43					
Bank of New York Mellon	USA	9,028.8	70	48		510		
Bank of Philippine Islands	Philippines	33.3						
Barclays	UK	5,038.9	264		331	1094		
Baron Capital	USA	34.6						
BayernLB	Germany	518.6			115			
BB&T	USA	424.1	28	37				
Beach Point Capital Management	USA	50		50				
BlackRock	USA	61,200.1	463	412	1990	1710		
Blaylock Beal Van	USA	118.4						
BMO Financial Group	Canada	1,589.9	284					
BNP Paribas	France	9,967.3	1700		846	91	1280	
BOK Financial	USA	43.6	44					
BPCE Group	France	2,524		29	455			
Brown Advisory Management	USA	321.4						
Cacti Asset Management	USA	50.8						
Caisse de dépôt et placement du Québec	Canada	682.9						
Caixa Geral de Depósitos	Portugal	33.3						
Calamos Investments	USA	5		5				
Canara Bank	India	10						
Capital Group	USA	59,096.3		77	15183	2237		
Capital One Financial	USA	814.3	227	46				
Cardinal Capital Management (US)	USA	41.2						
Carillon Tower Advisers	USA	41.4		18				
Carlyle Group	USA	100.5				60		
Carmignac Gestion	France	36.6						
CastleOak Securities	USA	9.2						
Cathay Financial	Taiwan	49.9						

	Boeing	BWX Technologies	Fluor	General Dynamics	Honeywell	Huntington Ingalls Industries	Jacobs Engineering	Larsen & Toubro	Lockheed Martin	Northrop Grumman	Safran	Serco	Thales
			13								60	6	154
		5										14	
	1676				937	6	139			714		12	
								51					
		46											
	339	91		2528	297		167						
				53									
										57			
	4512	334	2360	6145	4324	781	593		4750	1516		73	
	259				145								
				59									
	4015	62	203	642	1697	134	72		754	688			134
				33									
	519		376	33	1456		200		283			252	230
		35											
	259				145								
		136				166				57			
	25382	404	577	3665	7882	927	650	639	6229	4193	4492	65	1518
	9			76						33			
	1152					114	40						
	503	326	2130		297		1271			302	784		438
		44									1054		943
		321											
							51						
			124	559									
				33									
	10												
	18447	439		5385					9393	3405	4220		311
	100			276		166							
		41											
		23											
			41										
											37		
	9												
			24					23				2	

Investor	Country	Total	Aecom	Aerojet Rocketdyne	Airbus	BAE Systems	Bechtel	
Cathay General Bancorp	USA	88.9	44	37				
Central Pacific Financial Corporation	USA	6	6					
Chang Hwa Commercial Bank	Taiwan	40.1	20					
Charles Schwab	USA	2,786	33					
CI Financial	Canada	275						
CIBC	Canada	85						
Cigna	USA	19.9						
Cincinnati Financial	USA	8						
Citadel	USA	870.1						
CITIC	China	28						
Citigroup	USA	17,016.7	201	20	481	763	828	
Citizens Financial Group	USA	467.3		82				
CL King & Associates	USA	9.2						
CNO Financial Group	USA	32.2				32		
Comerica	USA	75.7	53					
Commerzbank	Germany	1,322.3	101		495	91		
Commonwealth Bank of Australia	Australia	188			115			
Crédit Agricole	France	7,788.4	819		2572	91	228	
Crédit Mutuel CIC Group	France	1,497	44		331	91		
Credit Suisse	Switzerland	1,312.9			115			
CTBC Financial Holding	Taiwan	33.3						
Cuna Mutual Group	USA	1.6						
Danske Bank	Denmark	260.1			115			
Dassault Family	France	6,772.5						
Davis Selected Advisers	USA	266.4						
DBS	Singapore	681.6			115			
Denver Investments	USA	17.8						
Deutsche Bank	Germany	6,757.4		29	1171	325		
Development Bank of Japan	Japan	300			300			
Dimensional Fund Advisors	USA	1,973	156	83				
Divine Capital Markets	USA	4.5						
Drexel Hamilton	USA	119.9						
DSP Group	India	159.8						
DZ Bank	Germany	1,525.1			115			
E.SUN Financial	Taiwan	86.9	54					
EADS ESOP (Airbus Employees)	France	1,542.4			1542			
Eagle Financial Bancorp	USA	12.9						
East Side Capital	USA	71						
Eastern Bank	USA	56.8						
Eaton Vance	USA	2,181.9						
Empresas Juan Yarur	Chile	19.7						

	Boeing	BWX Technologies	Fluor	General Dynamics	Honeywell	Huntington Ingalls Industries	Jacobs Engineering	Larsen & Toubro	Lockheed Martin	Northrop Grumman	Safran	Serco	Thales
				8									
				20									
	1681	43	57			63	56		853				
							275						
					85								
						20							
						8							
			186				187		497				
								28					
	4975		841	208	4480			236	1756	1277	950		
		103		107		33	142						
	9												
			6							17			
	313										137	33	153
												73	
	382	186	206		145				704		1409	73	974
				224					85		493		230
	409					13				776			
				33									
					145							2	
													6772
											266		
	269				225							73	
		3				14							
	2301			69	1790		8			302	763		
	1114	48	123			86	192	171					
	5												
	11			76						33			
								160					
			189		826					395			
				33									
						13							
						71							
										57			
	2070	14	98										
				20									

Investor	Country	Total	Aecom	Aerojet Rocketdyne	Airbus	BAE Systems	Bechtel	
Farallon Capital Management	USA	362.5						
FBR & Co	USA	1.1						
Federated Investors	USA	9.6						
Fidelity International	UK	215.2						
Fidelity Investments	USA	15,700.1	855	4		338		
Fiera Capital	Canada	4						
Fifth Third Bancorp	USA	709.9	176	82				
First Abu Dhabi Bank	UAE	1,275.1				901		
First Financial Holding	Taiwan	57.1	25					
First Hawaiian	USA	96.2	96					
First Horizon	USA	64.9						
First Midwest Bancorp	USA	43.6	44					
First Niagara Financial	USA	56.8						
First Trust Advisors	USA	25.8	26					
FirstBank	USA	15	15					
FirstMerit	USA	33.3						
Fisch Asset Management	Switzerland	41.1			41			
Focus Financial Partners	USA	101.4						
Franklin Resources	USA	5,922.6	16			1668		
Fundación Bancaria Ibercaja	Spain	10.8						
Fuyo General Lease	Japan	214.1						
General Insurance Corporation of India	India	434.6						
Geode Capital Management	USA	8,742.2	51	23				
GGCP	USA	286.8		287				
Goldman Sachs	USA	8,595	61	16	265	91		
Great Pacific Securities	USA	12.7						
Greenhaven Associates	USA	593.6	44		550			
Groupama	France	68.5						
Groupe La Francaise	France	42						
Guardian Life Insurance Company of America	USA	149.5						
Guggenheim Capital	USA	388.3	11			30		
Guzman & Co	USA	11.3						
Hancock Whitney	USA	45						
Hotchkis & Wiley Capital Management	USA	14.2		14				
Housing Development Finance Corporation	India	1,160.9						
HSBC	UK	2,976.5	527		481			
Hua Nan Financial	Taiwan	46.2						
ICICI Bank	India	1,408.2						
IKB Deutsche Industriebank Aktiengesellschaft	Germany	163.2			163			

	Boeing	BWX Technologies	Fluor	General Dynamics	Honeywell	Huntington Ingalls Industries	Jacobs Engineering	Larsen & Toubro	Lockheed Martin	Northrop Grumman	Safran	Serco	Thales
				363									
		1											
						10							
							123					92	
	6349	84	307	1639	970	1042	343		919	2242	386		221
							4						
				303			75			74			
	189			22						54		33	76
				32									
						65							
										57			
				33									
							101						
	1305	129	200	781	1111	79		200		404		28	
												11	
				214									
								435					
	4498	55	105	679	1492	155	122		945	618			
	3429		249	208	2490	151	222		304	1109			
	13												
											68		
													42
						25			78		35	12	
		3		64		7			160	91	20	3	
	11												
		45											
								1161					
			376		297		279				137	73	806
				46									
	328							1080					

Investor	Country	Total	Aecom	Aerojet Rocketdyne	Airbus	BAE Systems	Bechtel	
Industrial and Commercial Bank of China	China	712.8	65		115			
ING Group	Netherlands	612.8			115			
Intesa Sanpaolo	Italy	567.7						
Intrinsic Value Investors	UK	39.5						
Invesco	UK	2,965.3	118	6		1416		
Investec Group	South Africa	150.4						
Jacobs Levy Equity Management	USA	49.3						
Janus Henderson	UK	6,104.9						
JM Financial	India	50.6						
JPMorgan Chase	USA	23,962.1	705	102	350	91	228	
Jupiter Fund Management	UK	147.7		6		118		
KBC Group	Belgium	32.9						
Kelso & Company	USA	91.4						
KeyCorp	USA	226.1		82				
KfW	Germany	115.1			115			
Kotak Mahindra Bank	India	218.7						
L&T Employees Welfare Foundation	India	3,017.7						
L&T Finance Holdings	India	190.4						
Land Bank of Taiwan	Taiwan	20	20					
Landesbank Baden-Württemberg (LBBW)	Germany	115.1			115			
Landesbank Hessen-Thüringen	Germany	148.1			115			
Lazard	UK	1,120.6						
Lebenthal Holdings	USA	13.5						
Legal & General	UK	2,092				363		
Legg Mason	USA	2,554	138	22		39		
Letko Brosseau & Associates	Canada	48.4						
Liberty Mutual Insurance	USA	283.2	15		68	61		
Life Insurance Corporation of India	India	4,319						
Lincoln Peak Capital Management	USA	47.8						
Lloyds Banking Group	UK	4,311.1	92		115	91		
Loews Corporation	USA	39.7				30		
Longview Asset Management	USA	6,690						
Loop Capital	USA	53.1						
Lord, Abnett & Co	USA	192.8	35	10				
LSV Asset Management	USA	238.9				163		
Luminus Management	USA	97	97					
Lyrical Asset Management	USA	153	153					
M&T Bank	USA	236.9		37				
Macif	France	50.7						
Macquarie Group	Australia	1,516	13	2		99		
Madison Investment	USA	100.2						

	Boeing	BWX Technologies	Fluor	General Dynamics	Honeywell	Huntington Ingalls Industries	Jacobs Engineering	Larsen & Toubro	Lockheed Martin	Northrop Grumman	Safran	Serco	Thales
	236				297								
			498										
	178		100		205							84	
												40	
		85	89	1027		140	84						
							134					16	
			49										
	4575	122	69	452		79				478	330		
								51					
	5452	356		4776	3684	504	127		1756	4771	300	73	687
												24	
												33	
		91											
		70								74			
								219					
								3018					
								190					
												33	
					766						354		
	14												
	1598		44			58						29	
	131	8	691		1167		17		210	99	20	12	
			48										
				59					80				
								4319					
		48											
	339		206	2055	60		75		712	528		39	
			10										
				6690									
	41				12								
							147						
						75							
							200						
											51		
	137	2			137				170	881	75		
							100						

Investor	Country	Total	Aecom	Aerojet Rocketdyne	Airbus	BAE Systems	Bechtel	
Magallanes	Spain	16.7						
Majedie Asset Management	UK	240.8				171		
Manulife Financial	Canada	538.5	197		81	38		
Marathon Asset Management (UK)	UK	217.3				144		
Marshall Wace	UK	66.8						
MassMutual Financial	USA	2,046.3			1054	49		
MBS	USA	10.7						
Mega Financial	Taiwan	121.8	62					
MetLife	USA	957.6				99		
MFR	USA	16						
Millennium Management	USA	83.4		20				
Mischler Financial Group	USA	43.7						
Mitsubishi UFJ Financial	Japan	10,668.6	1250	102	331	1172	150	
Mizuho Financial	Japan	6,833.5	370		645	91		
Modern Woodmen of America	USA	71.2						
Morgan Stanley	USA	9,325.4	188	57	265	91		
MSD Partners	USA	66.9						
Munich Re	Germany	43	43					
National Life Group	USA	20						
National Western Life Group	USA	30						
Nationwide Mutual Insurance	USA	1,020.2						
Neuberger Berman	USA	1,204.7						
New Jersey Department of the Treasury	USA	89.9	43					
New York Life Insurance	USA	1,489.6	72	14	73	89		
New York State Common Retirement Fund	USA	1,107.1						
NewSouth Capital Management	USA	111.5		112				
Nomura	Japan	297						
Northern Trust	USA	10,828.3	67	31		811		
Northwestern Mutual Life Insurance	USA	1,148.1	32		41	84		
Norwegian Government Pension Fund - Global	Norway	715						
Oddo BHF	France	342.6						
Odey Asset Management	UK	13.1						
Old Mutual	UK	608.9	45					
Old Republic International	USA	39.2						
Opus Corporate Finance LLP	UK	37.2		37				
Orbis Group	UK	68.3						
Orix Corporation	Japan	1,826.8						
Pacific Asset Management	USA	107.7				42		
Pacific Century Group	China	26.9						
Payden & Rygel	USA	2.2						

	Boeing	BWX Technologies	Fluor	General Dynamics	Honeywell	Huntington Ingalls Industries	Jacobs Engineering	Larsen & Toubro	Lockheed Martin	Northrop Grumman	Safran	Serco	Thales
												17	
												70	
	66					76			81				
												73	
						67							
				59					769		75	40	
	11												
				60									
	140		19		130	10	24		178	225	116	19	
	16												
							64						
	11									33			
	529	91	2099	1958	272	173	504		318	429	488	73	729
	660		70	1572	297	577		100	1914	528		9	
			25				10				25	11	
	3404	71	50		2674		88	214	1366	379	479		
												67	
											20		
			30										
	65			161	133	185			215	257		4	
	1205												
						47							
	194	16		216	217	39			173	217	101	11	60
	1075	32											
		2						295					
	4841	147	86	728	1693	169	210		1433	613			
	177			145	82				304	167	77	39	
								289					426
											343		
												13	
				564									
			23			16							
												68	
	1618		70			139							
		10	13			40						3	
			13			14							
		2											

Investor	Country	Total	Aecom	Aerojet Rocketdyne	Airbus	BAE Systems	Bechtel	
Penserra Capital Management	USA	19.5						
People's United Financial	USA	130.4						
PNC Financial Services	USA	1,006.1	63					
Point72 Asset Management	USA	48.2						
Power Financial Corporation	Canada	3,264.1	26					
Primecap Management	USA	3,546.3	623		2288			
Principal Financial Group	USA	1,692.4		20	44	32		
Prudential (UK)	UK	541.8	18	14		297		
Prudential Financial (US)	USA	7,762.3			56			
Pzena Investment Management	USA	79.2	79					
R. Seelaus & Co	USA	4.9						
Raymond James Financial	USA	216	44	70				
Regions Financial	USA	953.5		82				
Reinhart Partners	USA	27.3		27				
Reliance Group	India	413.8						
Renaissance Technologies	USA	18.6		19				
Riyad Bank	Saudi Arabia	828.1					150	
Rothschild Group	France	24.8		25				
Rouvier Associés	France	18.9						
Royal Bank of Canada	Canada	6,699.9		102	265	91		
Royal Bank of Scotland	UK	1,821.4			331	91	228	
Ruane, Cunniff & Goldfarb	USA	480.1						
RWC Partners	UK	59.3						
Santander	Spain	2,193.6			331			
SAR Holding	USA	12.5						
Schroders	UK	165.2				165		
Schweizerische Nationalbank	Switzerland	1,314.2						
Scotiabank	Canada	4,030.7	1558					
Securian	USA	4.5						
Select Equity Partners	USA	102.2						
Serco Group Employee Benefit Trust	UK	11.7						
Siebert Brandford Shank Financial	USA	6						
Siebert Cisneros Shank & Co	USA	5.2						
Siemens	Germany	114.1						
Silchester International Investors	UK	759.2				759		
Skandinaviska Enskilda Banken	Sweden	205.6			115	91		
SMBC Group	Japan	3,822.8	509	57	481	91	78	
Sociedad Estatal de Participaciones Industriales	Spain	3,219			3219			
Société Générale	France	8,201.5			1363	91		
Sound Shore Management	USA	130.4						

	Boeing	BWX Technologies	Fluor	General Dynamics	Honeywell	Huntington Ingalls Industries	Jacobs Engineering	Larsen & Toubro	Lockheed Martin	Northrop Grumman	Safran	Serco	Thales
	20												
				74						57			
		304		400		166				74			
			48										
	1993				763					462	20		
							636						
	1336	76				38	35		88		23		
	74					9			129				
	6404	51	9	113	122	7	3		352	75	557	15	
	5												
			75	28									
		168	348	265		33				57			
								414					
	467			22					189				
											19		
	2148			2071	1051		80		892				
	125			22	297		279		85		137	73	153
							480						
												59	
	418		145		145						488	14	653
	13												
	1314												
		136	206	630	145	427	792			137			
							5						
							102						
												12	
	6												
	5												
						114							
	562	40	206	512	297		20	123	243	210	284	33	76
	379				297						2282		3791
			130										

Investor	Country	Total	Aecom	Aerojet Rocketdyne	Airbus	BAE Systems	Bechtel	
Southern Farm Bureau Life Insurance	USA	7.6						
SSI Investment Management	USA	1.9		2				
Standard Chartered	UK	895.9	53		115			
Standard Life Aberdeen	UK	374.4				366		
State Bank of India	India	1,035.7	84					
State Farm	USA	1,429.9			43	105		
State Fund	USA	179						
State Street	USA	52,834.9	152	119		339		
State Teachers Retirement System of Ohio	USA	35.6	36					
Steel Partners Holdings	USA	142.1		142				
Stifel Financial	USA	63.1	20					
Strategic Income Management	USA	27.7	12					
Sumitomo Mitsui Trust	Japan	1,613						
Sun Life Financial	Canada	2,704.8				74		
SunTrust	USA	1,446.2	446	142				
Synovus Financial Corporation	USA	56.8						
T. Rowe Price	USA	31,234.5		241				
Taiwan Business Bank	Taiwan	20	20					
Taiwan Cooperative Financial	Taiwan	20	20					
Telsey Advisory Group	USA	17.1						
Thales Employees Stock Ownership Plan	France	755.8						
The Hartford	USA	155.3				70		
The London Company of Virginia	USA	388.5						
Thrivent Financial	USA	355.4	46			30		
TIAA	USA	10,789.2	188	24	481	129		
Toronto-Dominion Bank	Canada	4,230.2	327		115	223		
Travelers	USA	454			55	31		
Tribal Capital Markets	USA	14.6						
Two Sigma Investments	USA	564.8						
UBS	Switzerland	6,315	17		265	160		
UniCredit	Italy	1,398.5			356			
Union Bankshares	USA	6.8						
Unit Trust of India	India	436.9						
United Overseas Bank	Singapore	76.4						
United Services Automobile Association	USA	55						
Unum Group	USA	280.8	20			43		
US Bancorp	USA	4,314.4	141	122				
Vanguard	USA	66,048	462	250	1488	738		
Verisight	USA	31,508.7		57				
Victory Capital	USA	118.8		78				
Voya Financial	USA	194.4	29		42			

	Boeing	BWX Technologies	Fluor	General Dynamics	Honeywell	Huntington Ingalls Industries	Jacobs Engineering	Larsen & Toubro	Lockheed Martin	Northrop Grumman	Safran	Serco	Thales
							4					4	
	225		206		297							8	
	198			114				583		57			
	149		70	330	280		75		246	133			
				92	87								
	20355	137	338	2541	5168	836	796		16006	6029		20	
		39		4									
		15											
	1613												
		12	63			20			975	1498	41	21	
	338			303		33				185			
										57			
	23292	790			3177					3479			256
	17												756
									85				
				389									
						172			108				
	4890	38	116		2107	181			1225	1336	75		
	1695	330		257	297	166	551		268				
	111	10		111		33	15		88				
	15												
									565				
	3399				1320	111			979			65	
					145				518	303			76
				7									
								437					
	76												
			20								35		
						6	20		86	77	20	9	
	482	330	376	532	297	427	596		747	264			
	31487	553	876	4778	8947	1330	1063	258	7785	4539	1123	29	341
	23897			4274	3280								
		41											
	73										25	26	

Investor	Country	Total	Aecom	Aerojet Rocketdyne	Airbus	BAE Systems	Bechtel	
Waddell & Reed Financial	USA	985.7				37		
WBC Holdings	USA	467.1						
Wedge Capital Management	USA	39.8	40					
Wellington Management	USA	12,849.7		128		689		
Wells Fargo	USA	20,260.8	690	174		91		
Western & Southern Financial	USA	116.5						
Westpac	Australia	1,487.5	50		115			
White Mountains Insurance	UK	439.9			97	133		
Williams Capital Group	USA	149.1						
Winslow Asset Management	USA	24.7		25				
Woodforest Financial	USA	66.8						
WoodmenLife	USA	20						
ZB Financial	Zimbabwe	43.6	44					
Zions Bancorporation	USA	102	56	46				

	Boeing	BWX Technologies	Fluor	General Dynamics	Honeywell	Huntington Ingalls Industries	Jacobs Engineering	Larsen & Toubro	Lockheed Martin	Northrop Grumman	Safran	Serco	Thales
						11			603	335			
		467											
	1561	72		2530	2242				4049	1211	369		
	3795	562	287	5563	1875	897	2341		1572	2413			
									116				
	525		112		686								
	73						28			109			
	41			75						33			
				67									
											20		

Notes

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