

# Nuclear Weapons Producers

In some nuclear-armed states – in particular the United States, the United Kingdom and France – private companies carry out the work of maintaining and modernising nuclear arsenals. This report looks at companies that are providing the necessary infrastructure to develop, test, maintain and modernise nuclear weapons. These companies are involved in producing or maintaining necessary elements to keep nuclear weapons in these arsenals. The companies described in this chapter are substantially involved in the nuclear weapons programmes of France, India, Israel, the United Kingdom and the United States and are themselves based in France, Germany, India, Italy, the Netherlands, the United Kingdom and the United States.

In other nuclear-armed countries – Russia, China, Pakistan and the Democratic People’s Republic of Korea (North Korea) – the maintenance and modernisation of nuclear forces is carried out primarily or exclusively by government agencies.

The nuclear weapons producers in this chapter were selected on the basis of a predetermined set of criteria.

- Information on investments is publicly available.
- The company is directly involved in the development, testing, production, maintenance or trade of nuclear weapons related technology, parts, products or services.
- The company’s involvement is related to warheads, or to delivery systems such as missiles, that are uniquely developed for nuclear tasks. This includes technology that is designed for ‘dual use’ (military and civilian) but excludes technology that is not designed for, but can be used in nuclear warfare. It does not include delivery platforms such as bombers and submarines.

The general definition of what constitutes a nuclear weapons producing company in this report remains unchanged, however there is a minor change in how the definition is applied. In this year’s report, a distinction is made between ‘delivery systems’ and ‘delivery platforms’. Delivery systems (missiles, rockets, missile torpedo launch installations, etc) continue to be considered ‘crucial components’ of

*Aecom (United States)*  
*Airbus Group (the Netherlands)*  
*ATK (United States)*  
*Babcock & Wilcox (United States)*  
*BAE Systems (United Kingdom)*  
*Bechtel (United States)*  
*Boeing (United States)*  
*CH2M Hill (United States)*  
*Finmeccanica (Italy)*  
*Fluor (United States)*  
*GenCorp (United States)*  
*General Dynamics (United States)*  
*Honeywell International (United States)*  
*Huntington Ingalls Industries (United States)*  
*Jacobs Engineering (United States)*  
*Larsen & Toubro (India)*  
*Leidos (United States)*  
*Lockheed Martin (United States)*  
*Northrop Grumman (United States)*  
*Raytheon (United States)*  
*Rockwell Collins (United States)*  
*Safran (France)*  
*Serco (United Kingdom)*  
*TASC (United States)*  
*Textron (United States)*  
*Thales (France)*  
*ThyssenKrupp (Germany)*  
*URS (United States)*

nuclear arsenals. Delivery platforms (submarines, bombers, fighter planes, etc) however, are excluded. The reason for this clarification is that the previous application of the definition of a producer risked leading to methodological inconsistencies. While we believe that any definition has its own debatable grey areas, this clarification sets a much clearer boundary allowing for consistent application of the definition. It is important to note that some of the companies listed are involved in numerous activities related to the production of nuclear weapons and this chapter provides information on their wider involvement which could include both delivery systems and platforms.

The resulting list of companies compiled in this report is not exhaustive. It is an attempt to identify the privately owned companies that are currently most involved in the nuclear weapon industrial complex. There are numerous other companies involved on a smaller scale or more indirectly. For example, companies involved in the production of small parts used in the assembly or maintenance of nuclear devices or delivery vehicles. In that sense, it is important to note that the total involvement of financial institutions in the nuclear weapons industry is much larger than what is identified in this report. State owned or controlled nuclear industries are sadly outside the scope of this research as well, as are companies not publicly listed. The financing of nuclear programmes in China, India, Israel, The Democratic People's Republic of Korea (North Korea), Pakistan and Russia remain largely invisible.

The initial list of nuclear weapons producers was compiled through a wide variety of sources, including financial institution exclusion lists, civil society reports, media reports, etc.

## Changes from previous reports

The first report was launched in 2012 and included 20 nuclear weapons producers. That number was expanded to 27 in 2013, and through additional research and information gathering now includes 28 companies.

In addition, some companies have changed their name. EADS is now Airbus Group; SAIC has divided into two companies, SAIC and Leidos. SAIC is no longer involved in the maintenance of nuclear arsenals, but Leidos is. Alliant Techsystems is now officially called ATK.

Bharat Electronics has been removed as the radar systems they produce for India's Defense Research and Development Organisation are not specifically designed for nuclear capable missiles.

Redhall Group was included in 2012 but has been excluded. They are a BAE Systems subcontractor and work on nuclear powered submarines but no current contracts for nuclear weapons delivery systems could be found.

Rolls-Royce was included in 2012 and 2013, but further research demonstrated that the parts they produce for the Royal Navy are not key components required for delivering Trident missiles. The stricter application of the nuclear weapons producing company definition excludes them from the 2014 report. This is also the case for Babcock International.

Raytheon, TASC and Textron have been included as research indicates recent contracts for the production of key components for nuclear weapons.

Finmeccanica was out of the 2013 report, as its earlier contracts had expired. However, new contracts bring them back into the report in 2014.

## Modernisation

Ray Acheson

All of the nuclear-armed states are modernising their nuclear arsenals, and some are continuing to expand them.<sup>1</sup> China, the Democratic People's Republic of Korea (North Korea), France, India, Israel, Pakistan, Russia, the United Kingdom, and the United States collectively possess approximately 16,300 nuclear weapons.<sup>2</sup> They are preparing to spend an estimated one trillion US\$ on nuclear weapons over the next decade.<sup>3</sup>

While the nuclear-armed states pour grossly inflated sums into nuclear weapons, the fulfilment of disarmament commitments lies fallow. France and the UK have "capped" their arsenals and Russia and the US have somewhat reduced their deployed weapons under the New Strategic Arms Reduction Treaty. However, their modernisation planning and spending undermines the idea that these governments are committed in any way to achieving disarmament. Instead, they have each normalized into their political and economic architectures "smaller but still potentially world-destroying nuclear arsenals," despite post-Cold War social and political changes that were expected to make nuclear disarmament possible.<sup>4</sup>

**China** is reportedly phasing out its older missiles and replacing them with new ones in order to increase their range and sophistication.<sup>5</sup> It is expected that after this is accomplished, China will speed up the modernisation of its sea-based strategic force.<sup>6</sup>

**France** is in the middle of a broad modernisation of its nuclear forces involving submarines, aircraft, missiles, warheads, and production facilities that will continue for another decade. The modernisation programme will ensure that it can maintain its capability until at least the 2030s.<sup>7</sup>

**India** is focusing on increasing the diversity, range, and sophistication of nuclear delivery vehicles. There are also plans to expand the nuclear weapons and missile production complex as well as the capacity to enrich uranium.<sup>8</sup>

**Israel** is continuing to "enhance" its triad of delivery systems. Nuclear weapons modernisation is related to modernisation activities in the

security sector generally, including in areas of information technology, advanced military technology, and outer space technology.

**Pakistan** has been rapidly developing and expanding its nuclear arsenal, increasing its capacity to produce plutonium, and testing and deploying a diverse array of nuclear-capable ballistic and cruise missiles.

The **Russian Federation** is retiring most of its currently operational Inter-Continental Ballistic Missiles (ICBMs) but new multiple-warhead missiles are being deployed to replace them. Russia is also upgrading its Sub Surface Ballistic Nuclear (SSBN) fleet and its strategic bomber fleet.

The **United Kingdom** is upgrading its current warheads in conjunction with the United States. Between 2015 and 2020 the UK will decide on the development of a new nuclear warhead. US modernisation of the D5 missile system will apply equally to the missiles on British submarines. If the Trident renewal programme is approved, the delivery of the first submarines will take place in 2028.

The **United States** is officially committed to modernising its nuclear bombs and warheads; the submarines, missiles, and aircraft that carry them; and the laboratories and plants that design, maintain, and manufacture nuclear weapons. US policy and budget documents all manifest an intent to keep some thousands of nuclear weapons in service for the foreseeable future, together with the capability to bring stored weapons back into service and to design and manufacture new weapons should they be desired.

The companies identified in this report are all involved in the modernisation programmes of nuclear armed states.

## Profiles of Nuclear Weapons Producers

This section provides basic information about each of the 30 identified nuclear weapons producers, including their work on nuclear weapons. Information was gathered using websites and annual reports of military companies; military and government sources; research reports; trade magazines and general press reports. The selection of the nuclear weapon companies was based on availability of information on the company's involvement in the production of nuclear weapons and the likelihood that the company is predominantly financed by financial institutions.

Each section includes information about the general type of work the company does, contact information (website and Twitter, Facebook if available), financial information about the company and details about their involvement in nuclear weapons. A list is also included showing which financial institutions invest in each producer.

### Quick guide:

#### Which companies in this report are involved in which arsenals?

France: Airbus Group (formerly EADS, the Netherlands), Safran (France), Thales (France)

India: Larsen & Toubro (India)

Israel: ThyssenKrupp (Germany)

United Kingdom: ATK (United States), BAE Systems (United Kingdom), GenCorp (United States), General Dynamics (United States), Honeywell International (United States), Jacobs Engineering (United States), Lockheed Martin (United States), Northrop Grumman (United States), Raytheon (United States), Serco (United Kingdom).

United States: Aecom (United States), ATK (United States), Babcock & Wilcox (United States), BAE Systems (United Kingdom), Bechtel (United States), Boeing (United States), CH2M Hill (United States), Finmeccanica (Italy), Leidos (United States), Lockheed Martin (United States), Fluor (United States), GenCorp (United States), General Dynamics (United States), Honeywell International (United States), Huntington Ingalls Industries (United States), Northrop Grumman (United States), Raytheon (United States), Rockwell Collins (United States), TASC (United States), Textron (United States), URS (United States)

## Aecom (United States)

### Company profile

Aecom is based in the United States and provides professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water and government.<sup>9</sup>

In the financial year ending 30 September 2013, Aecom reported revenues of US\$ 8.1 billion (€ 6 billion), resulting in an operating profit of US\$ 377 million (€ 278 million) and a net income of US\$ 239 million (€ 176 million).<sup>10</sup>

**Website:**  
www.aecom.com

**Twitter:**  
@AECOM

### Nuclear weapons

Together with partners Babcock & Wilcox, CH2M Hill and Northrop Grumman, Aecom is a joint venture partner in National Security Technologies (NSTec). The exact ownership distribution is not known. Since 2006, NSTec has managed the Nevada National Security Site (NNSS), previously known as the Nevada Test Site.<sup>11</sup> The US\$ 3.1 billion (€ 2.3 billion) contract includes operation and maintenance of over 500 facilities and laboratories as well as associated infrastructure, vehicles, and IT/communications.<sup>12</sup> The NNSS is the only US nuclear test site where subcritical tests are still taking place, and is a critical facility for the modernisation of the US nuclear arsenal. The most recent subcritical test was the Pollux test in December 2012.<sup>13</sup>

The joint venture is responsible for managing the nuclear explosives safety team, as well as support hazardous chemical spill testing, emergency response training, among other tasks.<sup>14</sup> Aecom states it specifically oversees remote field experiments, multiple laboratory operations, waste management systems, and the design and fabrication of electronic, mechanical and structural systems at the NNSS.<sup>15</sup>

### Investors

The following financial institutions have made approximately 9430 million USD available to AECOM since January 2011.

|                          |                          |  |                              |
|--------------------------|--------------------------|--|------------------------------|
| Alyeska Investment Group | Advisors                 | Mitsubishi UFJ Financial                   | RHJ International            |
| ANZ                      | E.SUN Financial          | Morgan Stanley                             | Scotiabank                   |
| AQR Capital Management   | Fidelity Investments     | Northern Trust                             | SinoPac Holdings             |
| AXA                      | First Trust Advisors     | Norwegian Government Pension Fund - Global | Standard Chartered           |
| Bank of America          | Geode Capital Management | Opus Capital Management                    | State Bank of India          |
| Bank of Communications   | Gotham Asset Management  | Polar Capital Holdings                     | State Street                 |
| Barclays                 | Grupo BBVA               | Poplar Forest Capital                      | Sumitomo Mitsui Financial    |
| BB&T Corporation         | HSBC                     | Power Financial Corporation                | Taiwan Business Bank         |
| BlackRock                | Hua Nan Financial        | Primecap                                   | Taiwan Cooperative Financial |
| BMO Financial            | JPMorgan Chase           | Principal Financial                        | Taiwan Financial Holding     |
| BNP Paribas              | Keycorp                  | Prudential Financial                       | Two Sigma Investments        |
| Central Bank of Libya    | LSV Asset Management     | Pzena Investment Management                | US Bancorp                   |
| Chiba Bank               | Lyrical Partners         |  | Vanguard                     |
| Comerica                 | Mega Financial           |  | W.T.B. Financial             |
| Country Trust Bank       |                          |  | Wellington Management        |
| Crédit Agricole          |                          |  | Wells Fargo                  |
| Dimensional Fund         |                          |  |                              |



## Airbus Group (The Netherlands)

### Company profile

Airbus Group, based in the Netherlands, engages in the manufacture and sale of commercial aircraft, civil and military helicopters, commercial space launch vehicles, missiles, military aircraft, satellites, military systems and military electronics. In May 2014, the company changed its corporate name from EADS to Airbus Group.<sup>16</sup>

In the year ending 31 December 2013, Airbus/EADS generated revenues of € 59.3 billion, resulting in an operating profit of € 2.6 billion and a net profit of € 1.5 billion.<sup>17</sup>

**Website:**  
<http://www.airbus.com/>

**Twitter:**  
[@Airbus](https://twitter.com/Airbus)

**Facebook**  
<https://www.facebook.com/AirbusGroup>

### Nuclear weapons

Airbus/EADS and its predecessor companies have been involved in the French nuclear weapons programme from the outset. The company's subsidiary Astrium is the prime contractor for development, production, deployment and maintenance services for all French nuclear missile systems. Safran, Thales, SNPE (part of Safran-subsiary Herakles) and DCNS are the main subcontractors. Airbus/EADS developed and produced the M4, M45 and M5-generations of ballistic missiles which feature multiple warheads and have a range of over 4,000 km. Astrium also developed an enhanced version, the M45, with higher-performance TN75 nuclear warheads. The M45 entered service aboard the Triomphant submarine in 1997.<sup>18</sup> The nuclear submarine Le Terrible has been equipped with the M51 since late 2010. The missile will also enter operational service aboard the other new-generation submarines, Triomphant and Téméraire, after retrofit. A second version of the missile, with new nuclear warheads, will be commissioned from 2015.<sup>19</sup> Airbus/EADS is also involved in the feasibility studies for the new class of French nuclear-capable "future submarines".<sup>20</sup>

### Investors

The following financial institutions have made approximately 24352 million USD available to Airbus Group since January 2011.

|                      |                                |                               |
|----------------------|--------------------------------|-------------------------------|
| ANZ                  | Groupe BPCE                    | Manulife Financial            |
| Bank of America      | Grupo BBVA                     | MassMutual Financial          |
| Barclays             | Grupo Santander                | Mitsubishi UFJ Financial      |
| BayernLB             | Helaba                         | Mizuho Financial              |
| BlackRock            | HSBC                           | Morgan Stanley                |
| BNP Paribas          | Industrial and Commercial Bank | Primecap                      |
| Capital Group        | of China                       | Principal Financial           |
| Citigroup            | ING Group                      | Royal Bank of Canada          |
| Commerzbank          | Intesa Sanpaolo                | Royal Bank of Scotland        |
| Commonwealth Bank of | JPMorgan Chase                 | Skandinaviska Enskilda Banken |
| Australia            | KfW                            | Société Générale              |
| Crédit Agricole      | Legg Mason                     | Sumitomo Mitsui Financial     |
| Crédit Mutuel        | Lloyds Banking Group           | Toronto-Dominion Bank         |
| Credit Suisse        |                                | UBS                           |
| DBS                  |                                | UniCredit                     |
| Deutsche Bank        |                                | Vanguard                      |
| DZ Bank              |                                | Viking Global Investors       |
| Erste Bank           |                                | Westpac Banking               |
| Goldman Sachs        |                                |                               |





## ATK (United States)

### Company profile

ATK, formerly known as Alliant Techsystems, based in the United States, supplies aerospace and military products to the US government, allied nations and prime contractors. The company's main business segments are aerospace systems, armament systems, missile products, security and sporting.<sup>21</sup>

In the financial year ending 31 March 2014, ATK reported revenues of USD 4.8 billion (€ 3.7 billion), resulting in an operating profit of USD 590 million (€ 460 million) and a net profit of USD 341 million (€ 266 million).<sup>22</sup>

**Website:**  
<http://www.atk.com/>

**Twitter:**  
@ATK

**Facebook**  
<https://www.facebook.com/ATK>

### Nuclear weapons

In November 2009, ATK received a USD 100 million (€ 67 million) contract from Lockheed Martin to produce rocket propulsion systems for all three stages of the US Navy's Trident II (D5) solid propellant, inertial guided missile system through 2013.<sup>23</sup>

ATK is also responsible for refurbishing all three solid propellant stages of the Minuteman III Intercontinental Ballistic Missile (ICBM) under the plan to keep the missiles operational until at least 2030.<sup>24</sup>

In October 2013, ATK Launch Systems was awarded a USD 49.4 million (€ 36.4 million) contract for research and development of the Medium Class Stage III motor that may be applicable to multiple future common strategic propulsion systems. This begins the development of a flight motor design that will be a direct replacement for the SR-73, which is the third stage motor on the Minuteman III ICBM. Work is expected to be completed by October 2016.<sup>25</sup>

### Investors

The following financial institutions have made approximately 5539 million USD available to ATK since January 2011.

Affiliated Managers Group  
AJO  
Allianz  
Alyeska Investment Group  
Amalgamated Bank of  
Chicago  
American Century  
Companies  
AQR Capital Management  
Arovid Associates  
Associated Banc-Corp  
Banco de Sabadell  
BancPlus  
Bank Hapoalim  
Bank of America  
Bank of America  
Bank of America  
Bank of New York Mellon  
Banner Bank  
BB&T Corporation  
BlackRock  
California First National  
Bancorp  
Cascade Bancorp

Central Pacific Financial  
Corporation  
Citigroup  
Comerica  
Crédit Mutuel  
D.E. Shaw & Co.  
Dimensional Fund Advisors  
Discovery Capital  
Management  
E.SUN Financial  
Eastern Bank  
Fidelity Investments  
Fifth Third Bancorp  
First Eagle Investment  
Management  
First Niagara Financial  
Fubon Group  
Geode Capital Management  
Goldman Sachs

Hua Nan Financial  
JPMorgan Chase  
Keycorp  
Land Bank of Taiwan  
LSV Asset Management  
Mitsubishi UFJ Financial  
Mitsubishi UFJ Financial  
Mizuho Financial  
Morgan Stanley  
Morgan Stanley  
New York State Common  
Retirement Fund  
Northern Trust  
Northern Trust  
Old Mutual  
People's United Financial  
PNC Financial Services  
Point72 Asset Management  
Raymond James Financial

Regions Financial  
Royal Bank of Canada  
Royal Bank of Canada  
Siemens Financial Services  
State Bank of India  
State Street  
Stifel Financial  
Sumitomo Mitsui Financial  
SunTrust Banks  
SunTrust Banks  
Synovus Financial  
Corporation  
The London Company of  
Virginia  
TIAA-CREF  
Trimaran Capital Partners  
Two Sigma Investments  
US Bancorp  
US Bancorp  
Vanguard  
Wells Fargo  
Wells Fargo  
Western & Southern Mutual



## Babcock & Wilcox (United States)

### Company profile

Babcock & Wilcox Company, based in the United States, provides energy technology and services primarily for the nuclear, fossil fuel and renewable power markets worldwide. The company's four business units are nuclear energy, nuclear operations, power generation and technical services.<sup>26</sup>

In the financial year ending 31 December 2013, Babcock & Wilcox reported revenues of USD 3.3 billion (€ 2.4 billion), resulting in an operating profit of USD 536 million (€ 389 million) and a net profit of USD 346 million (€ 251 million).<sup>27</sup>

#### Website:

[www.babcock.com/](http://www.babcock.com/)

#### Twitter:

@BabcockWilcox

#### Facebook

[https://www.facebook.com/  
TheBabcockWilcoxCompany](https://www.facebook.com/TheBabcockWilcoxCompany)

### Nuclear weapons

Babcock & Wilcox offers various services, including uranium processing, environmental site restoration and operating services, for a number of government-owned facilities, primarily within the US nuclear weapons complex.<sup>28</sup>

The nuclear operations division of the company engages in uranium processing as well as the manufacture of heavy-walled nuclear components and vessels.<sup>29</sup> Subsidiaries of the Technical Services Group of Babcock & Wilcox maintain several US nuclear weapons related facilities. In the Y-12 National Security Complex in Tennessee, jointly managed by Babcock & Wilcox and Bechtel National, nuclear weapons are produced and refurbished.<sup>30</sup> At the Pantex Plant in Texas, the life extension programme for the W76 warheads deployed on Trident II (D5) ballistic missiles is expected to continue through 2018 and also involves engineers, scientists and technicians from Y-12, Savannah River Site, Kansas City Plant, Los Alamos National Laboratory and Sandia National Laboratories.<sup>31</sup> At Pantex, Babcock & Wilcox is responsible for security maintenance, processing, packaging and transport of nuclear materials.<sup>32</sup>

The Lawrence Livermore (LLNL) and Los Alamos National Laboratories (LANL) are jointly managed by Babcock & Wilcox, University of California, Bechtel and URS Corporation.<sup>33</sup> The LANL contract alone has a total value of USD14 billion (€ 10 billion).<sup>34</sup>

Babcock & Wilcox, with Aecom, CH2M Hill and Northrop Grumman, is also a joint venture partner in National Security Technologies (NSTec) which manages the Nevada National Security Site (NNSS), previously known as the Nevada Test Site.<sup>35</sup>

In April 2014, Babcock & Wilcox announced that it was awarded four new incrementally funded contracts totalling USD 76.8 million (€ 55.6 million) for engineering design, fabrication and further development work on the Ohio-class submarine replacement program.<sup>36</sup> The next generation nuclear ballistic submarine (Ohio-class Replacement Program boats (ORP)) will field 16 missile tubes armed with Trident II (D5) submarine launched ballistic missiles. Under the terms of the latest START treaty, the replacement boat force will carry about 70 percent of the US strategic nuclear warheads, placing a greater emphasis on the navy over the air force's nuclear bombers and intercontinental ballistic missile (ICBM) forces.<sup>37</sup>





## Investors

The following financial institutions have made approximately 3308 million USD available to Babcock & Wilcox since January 2011.

|                             |                                       |
|-----------------------------|---------------------------------------|
| Allianz                     | Janus Capital Group                   |
| Ameriprise Financial        | JPMorgan Chase                        |
| Bank of America             | Kingstown Capital Management          |
| BB&T Corporation            | LionEye Capital Management            |
| Becker Capital Management   | Lord, Abbett & Co                     |
| BlackRock                   | Luminus Management                    |
| Blue Harbour Group          | Millennium Management                 |
| BNP Paribas                 | Mitsubishi UFJ Financial              |
| Boston Private Financial    | New Jersey Department of the Treasury |
| Burgundy Asset Management   | Northern Trust                        |
| Comerica                    | PNC Financial Services                |
| Crédit Agricole             | Reinhart Partners                     |
| D.E. Shaw & Co.             | Schroders                             |
| Fidelity Investments        | Scotiabank                            |
| Fifth Third Bancorp         | Starboard Value                       |
| First Trust Advisors        | State Street                          |
| Geode Capital Management    | Sumitomo Mitsui Financial             |
| Glenview Capital Management | T. Rowe Price                         |
| Greenlight Capital          | Toronto-Dominion Bank                 |
| Groupe BPCE                 | US Bancorp                            |
| Grupo BBVA                  | Vanguard                              |
| Hancock Holding             | Wells Fargo                           |
| Invesco                     |                                       |

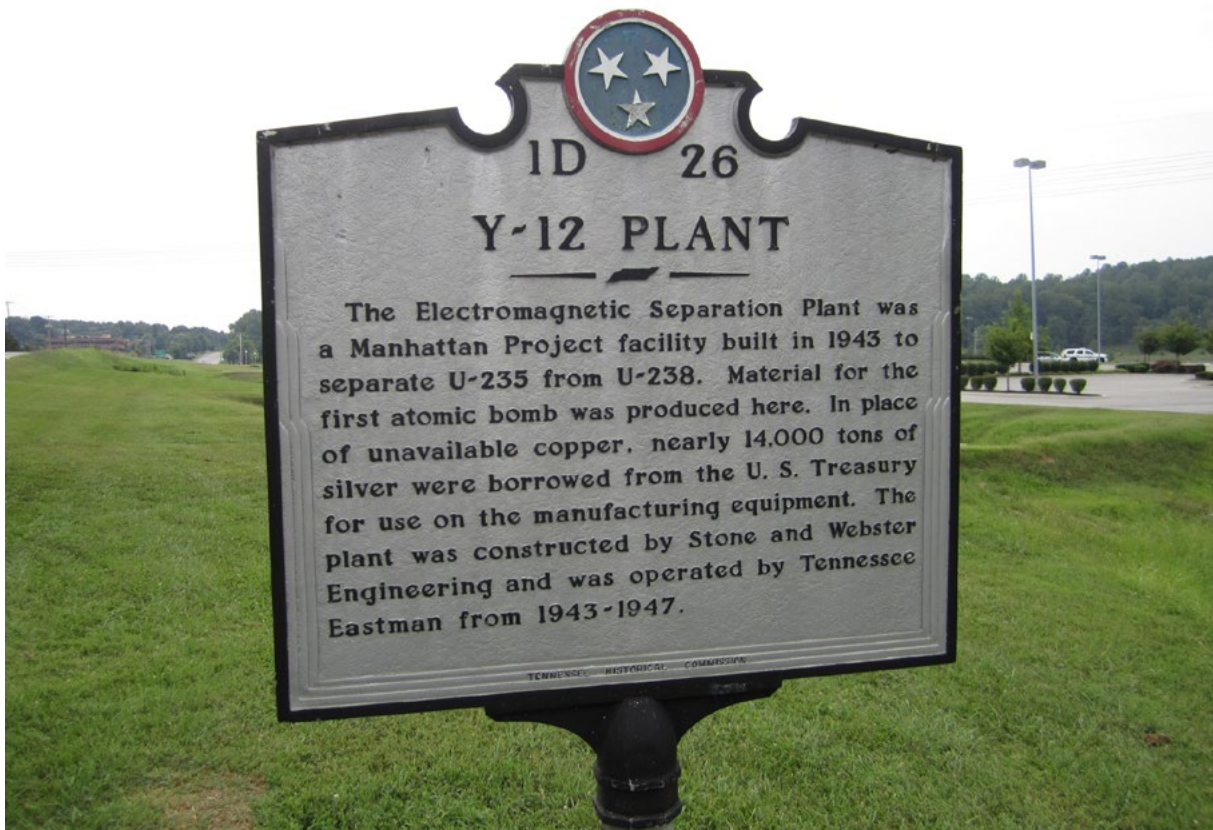


Photo courtesy of [Knoxblogs.com](http://Knoxblogs.com) by Frank Munger

## BAE Systems (United Kingdom)

### Company profile

BAE Systems, based in the United Kingdom, operates as a military, security and aerospace company worldwide. The company's main segments are electronic systems, intelligence & security, maritime, military air & services and support solutions.<sup>38</sup>

In the financial year ending 31 December 2013, BAE Systems reported revenues of £ 16.9 billion (€ 20.2 billion), resulting in an operating profit of £ 806 million (€ 965 million) and a net profit of £ 168 million (€ 201 million).<sup>39</sup>

|   |   |   |
|---|---|---|
| <b>Website:</b><br><a href="http://www.baesystems.com/">www.baesystems.com/</a> | <b>Twitter:</b><br><a href="https://twitter.com/BAESystemsplc">@BAESystemsplc</a> | <b>Facebook:</b><br><a href="https://www.facebook.com/BAESystemsplc">https://www.facebook.com/BAESystemsplc</a> |
|---|---|---|

### Nuclear weapons

In December 2013, BAE Systems Technology Solutions was awarded a US\$ 56.5 million (€ 41.7 million) contract for the US and UK Trident II (D5) strategic weapons system programmes, US guided missile submarine attack weapons system programmes, nuclear weapons security, and future concepts, with completion expected in September 2014. BAE Systems will also provide various products for the Common Missile Compartment concept development effort to ensure that the existing Trident II (D5) is compatible with the concept being pursued for the program. The maximum value, including the base period and two optional years is US\$ 171.4 million (€ 124.6 million).<sup>40</sup>

In August 2013, BAE Systems took over from Northrop Grumman as the prime contractor for Minuteman III Intercontinental Ballistic Missile (ICBM) system engineering/technical assistance support, training and development. The contract awarded by the US Air Force is worth more than US\$ 535 million (€ 403.3 million) and runs through 2021. The takeover of tasks by BAE from Northrop Grumman was completed in June 2014.<sup>41</sup>

### Investors

The following financial institutions have made approximately 20475 million USD available to BAE Systems since January 2011.

|                               |                                |                                    |                                    |
|-------------------------------|--------------------------------|------------------------------------|------------------------------------|
| Aberdeen Asset Management     | Commerzbank                    | Lincoln National Corporation       | Pacific Mutual                     |
| ABP                           | Commonwealth Bank of Australia | Lloyds Banking Group               | Prudential                         |
| Allianz                       | Crédit Agricole                | Loews Corporation                  | Prudential Financial               |
| Allstate Corporation          | Crédit Mutuel                  | LSV Asset Management               | Royal Bank of Canada               |
| American Century Companies    | Credit Suisse                  | Majedie Asset Management           | Royal Bank of Scotland             |
| American International Group  | Deutsche Bank                  | Manulife Financial                 | Schroders                          |
| Ameriprise Financial          | Epoch Investment Partners      | Marathon Asset Management          | Silchester International Investors |
| ANZ                           | Fidelity Investments           | MassMutual Financial               | Skandinaviska Enskilda Banken      |
| Artemis Investment Management | Franklin Resources             | Mercator Asset Management          | Société Générale                   |
| AXA                           | Global Atlantic Financial      | MetLife                            | State Street                       |
| Bank of America               | Goldman Sachs                  | Mitsubishi UFJ Financial           | Sumitomo Mitsui Financial          |
| Bank of New York Mellon       | Grantham, Mayo, Van Otterloo   | Mizuho Financial                   | Sun Life Financial                 |
| Barclays                      | Invesco                        | Morgan Stanley                     | Symetra Financial                  |
| BlackRock                     | JPMorgan Chase                 | National Bank of Abu Dhabi         | TIAA-CREF                          |
| BNP Paribas                   | Jupiter Fund Management        | New York Life Insurance Company    | Toronto-Dominion Bank              |
| Capital Group                 | Kuwait Investment Authority    | Northwestern Mutual Life Insurance | UBS                                |
| Citigroup                     | Legal & General                |                                    | Unum Group                         |
| CNO Financial                 | Liberty Mutual Insurance       |                                    | USS Investment Management          |
|                               |                                |                                    | Vanguard                           |
|                               |                                |                                    | Wells Fargo                        |

**BAE SYSTEMS**

## Bechtel (United States)

### Company profile

Bechtel Group, a private company based in the United States, operates as an engineering, construction and project management company. Its business units are civil infrastructure, communications, mining and metals, oil, gas and chemicals, power and US government services.<sup>42</sup>

In the financial year ending 31 December 2012, Bechtel Group reported revenues of USD 37.9 billion (€ 25.4 billion). Profits are not reported by the company.<sup>43</sup>

**Website:**  
<http://www.bechtel.com/>

**Twitter:**  
[@Bechtel](https://twitter.com/Bechtel)

**Facebook:**  
<https://www.facebook.com/bechtelcorp>

### Nuclear weapons

Bechtel's business unit US Government Services (Bechtel National) assists the US Department of Energy (DoE) in the areas of national security, scientific research and environmental clean-up. In the Y-12 National Security Complex in Tennessee, jointly managed by Bechtel National and Babcock & Wilcox, nuclear weapons are produced and refurbished.<sup>44</sup>

The Lawrence Livermore (LLNL) and Los Alamos National Laboratories (LANL), jointly managed by Babcock & Wilcox, University of California, URS Corporation and Bechtel, play an important role in the research, design, development and production of nuclear weapons.<sup>45</sup> The contract of the consortium to manage the LANL's nuclear and other operations has a total value of USD 14 billion (€ 10 billion).<sup>46</sup>

### Investors

The following financial institutions have made approximately 6475 million USD available to Bechtel since January 2011.

Bank of America  
Barclays  
BNP Paribas  
Citigroup  
Crédit Agricole

JPMorgan Chase  
Lloyds Banking Group  
Mitsubishi UFJ Financial  
Royal Bank of Scotland



## Boeing (United States)

### Company profile

Boeing, based in the United States, is the world's largest aerospace company and a leading manufacturer of jetliners and military, space and security systems. Its products and services include commercial and military aircraft, satellites, bombs and missiles, electronic and military systems, launch systems, advanced information and communication systems, and performance-based logistics and training.<sup>47</sup>

In the financial year ended 31 December 2013, Boeing reported revenues of US\$ 86.6 billion (€ 63.0 billion), resulting in an operating profit of US\$ 6.6 billion (€ 4.8 billion) and a net profit of US\$4.6 billion (€ 3.3 billion).<sup>48</sup>

**Website:**

<http://www.boeing.com/boeing/>

**Twitter:**

@Boeing

### Nuclear weapons

Since 1958, Boeing has been responsible for the development and production of the US long-range nuclear LGM-30 Minuteman Intercontinental Ballistic Missiles (ICBM) (versions I, II and III). All Minuteman I and II have been retired.<sup>49</sup> However, there are still 450 Minuteman III deployed today.<sup>50</sup>

Boeing is responsible for guidance, flight controls, secure codes, ground subsystems, weapons systems testing and engineering in this project. The modernisation programme is meant to extend the service life of Minuteman III through the year 2030.<sup>51</sup>

Since 2013, Boeing along with Lockheed Martin, Northrop Grumman and Raytheon, are under contract to conduct studies in support of the Air Force Long-Range Standoff (LRSO) missile plans. This line-up is expected to become a four-way competition to build a Long Range Standoff weapon. The Air Force and National Nuclear Security Administration have not yet chosen a nuclear warhead to go on the LRSO.<sup>52</sup> It is expected to incorporate one of three existing nuclear warhead designs: either the B61-12, the W84, or the W80-1.<sup>53</sup>



## Investors

The following financial institutions have made approximately 59302 million USD available to Boeing since January 2011.

|   |                                    |
|---|------------------------------------|
| Adage Capital Management                | Loop Capital                       |
| American Century Companies              | Manulife Financial                 |
| ANZ                                     | MetLife                            |
| AXA                                     | Mitsubishi UFJ Financial           |
| Bank of America                         | Mizuho Financial                   |
| Bank of China                           | Morgan Stanley                     |
| Bank of New York Mellon                 | National Bank of Abu Dhabi         |
| Barclays                                | Neuberger Berman                   |
| BayernLB                                | New York Life Insurance Company    |
| BlackRock                               | Northern Trust                     |
| BNP Paribas                             | Northwestern Mutual Life Insurance |
| Capital Group                           | Prudential                         |
| Citigroup                               | Prudential Financial               |
| Commerzbank                             | Riyad Bank                         |
| Crédit Agricole                         | Royal Bank of Canada               |
| Credit Suisse                           | Royal Bank of Scotland             |
| DBS                                     | Société Générale                   |
| Deutsche Bank                           | Standard Chartered                 |
| Eaton Vance                             | State Street                       |
| Epoch Investment Partners               | Sumitomo Mitsui Financial          |
| Evercore                                | T. Rowe Price                      |
| Fidelity Investments                    | TIAA-CREF                          |
| Geode Capital Management                | UBS                                |
| Goldman Sachs                           | US Bancorp                         |
| Groupe BPCE                             | Vanguard                           |
| Grupo BBVA                              | Waddell & Reed Financial           |
| Grupo Santander                         | Wells Fargo                        |
| Hartford Financial Services             | Westpac Banking                    |
| Huntington Bancshares                   | Williams Capital Group             |
| ICICI Bank                              |                                    |
| Industrial and Commercial Bank of China |                                    |
| Intesa Sanpaolo                         |                                    |
| Janus Capital Group                     |                                    |
| JPMorgan Chase                          |                                    |
| Lloyds Banking Group                    |                                    |

## CH2M Hill (United States)

### Company profile

CH2M Hill provides consulting, design, design-build, operations, and programme management services for the energy, environmental, facilities, resources, transportation and water sectors.<sup>54</sup>

In financial year 2013, CH2M Hill generated revenues of US\$ 5.9 billion (€ 4.3 billion), resulting in an operating profit of US\$ 192 million (€ 139 million) and a net profit of US\$ 118 million (€ 86 million).<sup>55</sup>

**Website:**  
[www.ch2m.com/](http://www.ch2m.com/)

**Twitter:**  
[@ch2mhill](https://twitter.com/ch2mhill)

**Facebook:**  
<https://www.facebook.com/CH2MHILL>

### Nuclear weapons

CH2M Hill, with Aecom, Babcock & Wilcox and Northrop Grumman, is a joint venture partner in National Security Technologies (NSTec). The exact ownership distribution is not known. Since 2006, NSTec manages the Nevada National Security Site (NNSS), previously known as the Nevada Test Site.<sup>56</sup> This US\$ 3.1 billion (€ 2.3 billion) contract includes the operation and maintenance of over 500 facilities and laboratories as well as the associated infrastructure, vehicles, and IT/communications.<sup>57</sup> The NNSS is the only US nuclear test site where subcritical tests are still taking place. The most recent one was the Pollux test in December 2012.<sup>58</sup>

Among other, the joint venture is responsible for managing the nuclear explosives safety team, as well as support hazardous chemical spill testing, emergency response training. CH2M Hill claims to be tasked with planning and integration for the entire site, waste management, including operating a low level radioactive disposal facility, environmental restoration of the land contaminated from many years of nuclear testing, and legal counsel.<sup>59</sup>

### Investors

The following financial institutions have made approximately 2000 million USD available to CH2M Hill since January 2011.

Bank of America  
BNP Paribas  
HSBC  
JPMorgan Chase  
Mitsubishi UFJ Financial

Northern Trust  
Royal Bank of Scotland  
US Bancorp  
Wells Fargo

# CH2MHILL®



## Finmeccanica (Italy)

### Company profile

Finmeccanica, based in Italy, develops products and services in the fields of aerospace, military, security and transportation.<sup>60</sup>

In the year ending 31 December 2013, Finmeccanica generated revenues of € 16.0 billion, resulting in an operating profit of € 46 million and a net profit of € 28 million.<sup>61</sup>

**Website:**  
[www.finmeccanica.com/](http://www.finmeccanica.com/)

**Twitter:**  
[@finmeccanicaweb](https://twitter.com/finmeccanicaweb)

### Nuclear weapons

Finmeccanica's US-subsiary DRS obtained a US\$ 25 million (€ 18.8 million) contract from the US Air Force in June 2013 for the design, development and delivery of two Transporter Erector Replacement Vehicles to support the Intercontinental Ballistic Missile (ICBM) Minuteman III-fleet.<sup>62</sup> Transporter Erectors play a critical role as the sole vehicle used for transporting, positioning and removing the Minuteman III-boosters at various US-launch facilities. It is considered a vital piece of equipment for the ICBM weapon system.<sup>63</sup>

Delivery of the first two Transporter Erectors is to be completed by November 2015. If all options are exercised by the Air Force, the total value of the Transporter Erector Replacement Program (TERP) could reach over US\$ 92 million (€ 69.3 million) for up to 26 mobile vehicles to be delivered through 2019. The operation is overseen by the Air Force Global Strike Command.<sup>64</sup>

### Investors

The following financial institutions have made approximately 5797 million USD available to Finmeccanica since January 2011.

|                                 |                           |                             |  |
|---------------------------------|---------------------------|-----------------------------|--|
| Anima                           | BNP Paribas               | Grantham, Mayo, Van         | Mediolanum                                 |
| Banca Carige                    | Citigroup                 | Otterloo                    | Mitsubishi UFJ Financial                   |
| Banca Monte dei Paschi di Siena | Commerzbank               | Grupo BBVA                  | Morgan Stanley                             |
| Banca Popolare di Sondrio       | Crédit Agricole           | Grupo Santander             | Norwegian Government Pension Fund - Global |
| Banca Popolare Emilia Romagna   | Crédit Mutuel             | Gruppo BPM                  | Royal Bank of Scotland                     |
| Bank of America                 | Deutsche Bank             | HSBC                        | Société Générale                           |
| Bank of China                   | Dimensional Fund Advisors | Intesa Sanpaolo             | Sumitomo Mitsui Financial                  |
| Barclays                        | DNCA Finance              | JPMorgan Chase              | UBI Banca                                  |
| BlackRock                       | Fidelity Investments      | Libyan Investment Authority | UniCredit                                  |
|                                 | General Electric          | Majedie Asset Management    | Vanguard                                   |
|                                 | Goldman Sachs             |                             |  |



## Fluor (United States)

### Company profile

Fluor, based in the United States, provides complex engineering, procurement, construction, and maintenance (EPCM) projects for commercial and government clients.<sup>65</sup>

In the year ending 31 December 2013, Fluor generated revenues of US\$ 27.3 billion (€ 19.3 billion), resulting in an operating profit of US\$ 1.2 billion (€ 872 million) and a net profit of US\$ 668 million (€ 485 million).<sup>66</sup>

**Website:**  
www.fluor.com

**Twitter:**  
@FluorCorp

### Nuclear weapons

Fluor is the lead partner in Savannah River Nuclear Solutions (SRNS), a joint venture with Honeywell and Newport News Nuclear (part of Huntington Ingalls).<sup>67</sup> SRNS is responsible for the management and operation of the Department of Energy's Savannah River Site and Savannah River National Laboratory in South Carolina under a US\$ 4 billion (€ 2.7 billion) five-year contract until 2013. The Department of Energy prolonged the contract in September 2012 until September 2016. The extension brings the total value of the SRNS contract to approximately US\$ 8 billion (€ 5.4 billion).<sup>68</sup>

SRNS is responsible for site management and operation, environmental management, management of the nuclear arsenal, the removal of excess nuclear materials, and environmental services. The Tritium Extraction Facility at the Savannah River Site is the only source of new tritium for the US nuclear stock. Tritium, a radioactive form of hydrogen (also called "super heavy water"), is essential for the continued operation of the US nuclear arsenal.<sup>69</sup>

### Investors

The following financial institutions have made approximately 12859 million USD available to Fluor since January 2011.

|                                   |  |                                  |  |
|-----------------------------------|--|----------------------------------|--|
| Aetna                             | Employees' Retirement System               | Impala Asset Management          | Pension Fund - Global Orix Corporation |
| Allianz                           | Carmignac Gestion                          | ING Group                        | Pacific Mutual                         |
| Allstate Corporation              | Citigroup                                  | Intesa Sanpaolo                  | Peconic Partners                       |
| American Financial Group          | Crédit Agricole                            | Invesco                          | Pekin Singer Strauss Asset Management  |
| American International Group      | Credit Suisse                              | JPMorgan Chase                   | Protective Life Corp                   |
| American National Financial Group | Crestview Partners                         | Kansas City Life Insurance Group | Prudential Financial                   |
| American United Mutual Insurance  | Fidelity Investments                       | Knights of Columbus              | Scotiabank                             |
| ANZ                               | Genworth Financial                         | Legg Mason                       | Standard Chartered                     |
| Auto-Owners Insurance             | Geode Capital Management                   | Lloyds Banking Group             | State Farm                             |
| AXA                               | Goldman Sachs                              | Mitsubishi UFJ Financial         | State Street                           |
| Bank of America                   | Grupo Santander                            | Modern Woodmen of America        | Sun Life Financial                     |
| Bank of New York Mellon           | Guardian Life Insurance Company of America | New York Life Insurance Company  | SunTrust Banks                         |
| Barclays                          | HSBC                                       | Northern Trust                   | The Travelers Companies                |
| Beck, Mack & Oliver               | Illinois Mutual Life Insurance             | Norwegian Government             | Thrivent Financial                     |
| BlackRock                         |  |                                  | TIAA-CREF                              |
| BNP Paribas                       |  |                                  | UBS                                    |
| Boston Mutual Life Insurance      |  |                                  | United Fire Group                      |
| Brown Advisory                    |  |                                  | US Bancorp                             |
| California Public                 |  |                                  | Vanguard                               |
|                                   |  |                                  | Voya Financial                         |
|                                   |  |                                  | Wells Fargo                            |

**FLUOR**<sup>®</sup>

## GenCorp (United States)

### Company profile

GenCorp, based in the United States, is engaged in aerospace and military (through subsidiary Aerojet) and real estate (Easton).<sup>70</sup>

In the financial year ending 30 November 2013, GenCorp generated revenues of US\$ 1.4 billion (€ 1.0 billion), resulting in an operating profit of US\$ 22 million (€ 16 million) and a net profit of US\$ 168 million (€ 123 million). The aerospace and military activities organized under Aerojet accounted for 99% of the revenues.<sup>71</sup>

|   |   |   |
|---|---|---|
| <b>Website:</b><br><a href="http://www.gencorp.com/">www.gencorp.com/</a> | <b>Twitter:</b><br><a href="https://twitter.com/AerojetRdyne">@AerojetRdyne</a> | <b>Facebook:</b><br><a href="https://www.facebook.com/AerojetRdyne">https://www.facebook.com/AerojetRdyne</a> |
|---|---|---|

### Nuclear weapons

Aerojet, GenCorp's aerospace and military company, has been involved in design, development and production of land-based and sea-based nuclear ballistic missile systems for 50 years.<sup>72</sup> It currently produces solid and liquid propulsion systems for the Minuteman III and Trident II (D5) nuclear missile systems.<sup>73</sup> There are 450 Minuteman III currently deployed and they are expected to stay active until at least 2030.<sup>74</sup> The submarine-launched Trident II (D5) missile is currently aboard US Ohio-class and British Vanguard-class submarines.<sup>75</sup> The US is planning to keep the Trident II missiles deployed until 2042.<sup>76</sup>

In December 2013, Aerojet was awarded a US\$ 28.9 million (€ 21.2 million) contract under the Air Force Nuclear Weapons Center Propulsion Applications Program (PAP) to develop a Medium Class Stage III motor with propulsion technologies applicable to multiple future common strategic propulsion systems. The programme aims to provide a direct replacement solution option for the Minuteman III stage III motors. Besides modernising and replacing Minuteman III, the motors are also meant to support a wide range of potential strategic propulsion systems. Work is planned to be completed by October 2016.<sup>77</sup>

### Investors

The following financial institutions have made approximately 2450 million USD available to GenCorp since January 2011.

|                                     |                                       |                                      |                             |
|-------------------------------------|---------------------------------------|--------------------------------------|-----------------------------|
| Affiliated Managers Group           | First Eagle Investment Management     | Lawson Kroeker Investment Management | Retirement System           |
| Ameriprise Financial                | Gamco Investors                       | Lazard                               | Old Mutual                  |
| AQR Capital Management              | GenCorp, Inc. Retirement Savings Plan | Legal & General                      | Oppenheimer Holdings        |
| Bank of America                     | Geode Capital Management              | Legg Mason                           | OxFORD Asset Management     |
| Bank of New York Mellon             | Glenhill Capital Management           | Lodge Hill Capital                   | Principal Financial         |
| BlackRock                           | Hartford Financial Services           | Lord, Abbett & Co                    | Regions Financial           |
| BlueMountain Capital Management     | Hirzel Capital Management             | M&T Bank Corporation                 | Royal Capital Management    |
| Capstone Investment Advisors        | Invesco                               | MFP Investors                        | Silverback Asset Management |
| Carlson Capital                     | IONIC Capital Management              | Mitsubishi UFJ Financial             | Skytop Capital Management   |
| Chesapeake Partners Management      | JPMorgan Chase                        | Morgan Stanley                       | State Street                |
| Citigroup                           | Keeley Asset Management               | New York Life Insurance Company      | Steel Partners Holdings     |
| City National Corporation           | Kennedy Capital Management            | NewSouth Capital Management          | Sun Life Financial          |
| Creative Solution Services          | Kingstown Capital Management          | Northern Trust                       | Sunrise Partners            |
| D.E. Shaw & Co.                     |                                       | NorthPointe Capital                  | SunTrust Banks              |
| Deutsche Bank                       |                                       | Ohio Public Employees                | T. Rowe Price               |
| Dimensional Fund Advisors           |                                       |                                      | TIAA-CREF                   |
| Eaton Vance                         |                                       |                                      | Tiger Management            |
| Ferguson Wellman Capital Management |                                       |                                      | US Bancorp                  |
| Fidelity Investments                |                                       |                                      | Vanguard                    |
|                                     |                                       |                                      | Water Street Capital        |
|                                     |                                       |                                      | Wells Fargo                 |
|                                     |                                       |                                      | Winslow Asset Management    |



## General Dynamics (United States)

### Company profile

General Dynamics, based in the United States, provides business aviation, land and expeditionary combat systems, armaments and munitions, shipbuilding and marine systems, and information systems, technologies, and mission-critical information systems and technology.<sup>78</sup>

In the financial year ended 31 December 2013, General Dynamics generated revenues of US\$ 31.2 billion (€ 22.7 billion), resulting in an operating profit of US\$ 3.7 billion (€ 2.6 billion) and a net profit of US\$ 2.4 billion (€ 1.7 billion).<sup>79</sup>

**Website:**  
www.generaldynamics.com/

**Twitter:**  
@GD\_AIS

### Nuclear weapons

Since 2005, General Dynamics' Advanced Information Systems (GDAIS) has been involved in a project with Honeywell International and Raytheon to stretch the lifecycle of the guidance systems of the Trident II (D5) nuclear missiles of the US Navy.<sup>80</sup> In January 2012, it obtained another US\$ 96 million (€ 75 million) contract for production and deployed-systems support of the Trident II-weapons system, with a maximum contract value of US\$ 225 million (€ 173 million) if all options are exercised.<sup>81</sup> The submarine-launched Trident II (D5) missile is currently aboard US Ohio-class and British Vanguard-class submarines.<sup>82</sup> The US are planning to keep the Trident II missiles deployed until 2042.<sup>83</sup>

In December 2013, GDAIS was awarded a US\$ 115 million (€ 84.2 million) contract for a range of engineering, development, and production activities to support to US and UK Trident II Strategic Weapons Systems. The maximum dollar value, including the base period and one option year, is US\$ 217.7 million (€ 159.4 million). Work is expected to be completed by March 2016.<sup>84</sup>

General Dynamics Electric Boat, a subsidiary of General Dynamics, built the Ohio-class nuclear submarines for the US Navy, equipped with up to 24 multiple warhead ballistic missiles (SLBMs). The strategic weapon on board is the Trident II (D5) missile.<sup>85</sup> As the website of General Dynamics Electric Boat claims, these submarines are "*the most powerful ships ever put to sea*", referring to the nuclear explosive power aboard the submarines.<sup>86</sup> In January 2013, the company was awarded a US\$ 4.6 billion (€ 3.5 billion) contract to design and develop the next-generation strategic deterrent submarine.<sup>87</sup>

### Investors

The following financial institutions have made approximately 34162 million USD available to General Dynamics since January 2011.

Abrams Bison Investments  
Aflac  
Allstate Corporation  
American Family Mutual Insurance  
Ameriprise Financial  
ANZ  
Bank of America  
Bank of New York Mellon  
Barclays  
BlackRock  
Capital Group  
Cowen  
Credit Suisse  
Evercore  
Fidelity Investments  
First Pacific Advisors  
Franklin Resources

General Electric  
Geode Capital Management  
Goldman Sachs  
Groupe BPCE  
Grupo BBVA  
Grupo Santander  
Invesco  
JPMorgan Chase  
Lazard  
Lincoln National Corporation  
Lloyds Banking Group  
Longview Asset Management  
Lord, Abbett & Co  
Marsico Capital Management  
Mitsubishi UFJ Financial

Mizuho Financial  
National Bank of Abu Dhabi  
Neuberger Berman  
New York Life Insurance Company  
Northern Trust  
Northwestern Mutual Life Insurance  
Och-Ziff Capital Management Group  
Old Mutual  
PNC Financial Services  
Power Financial Corporation  
Prudential Financial  
Riyad Bank

Royal Bank of Scotland  
Ruffer  
Sanders Capital  
Scotiabank  
State Farm  
State Street  
Sumitomo Mitsui Financial  
SunTrust Banks  
Svenska Handelsbanken  
Swiss Re  
The Travelers Companies  
TIAA-CREF  
Toronto-Dominion Bank  
US Bancorp  
Vanguard  
Wellington Management  
Wells Fargo  
Williams Capital Group

**GENERAL DYNAMICS**

## Compelling Corporate Change

*Can the people take on corporate giants and win? The mass boycott of General Electric (GE) in the 1980s was successful in putting pressure on the company to end its decades-long involvement in the nuclear weapons industry. Kelle Louaillier, the executive director of Corporate Accountability International (formerly Infact), explained how it was done in this 2012 interview with ICAN Australia.*

ICAN: WHAT INVOLVEMENT DID GE HAVE IN NUCLEAR WEAPONS PRODUCTION?

Kelle Louaillier (KL): In 1984 in the United States, thousands of companies were involved in some way in producing parts for nuclear weapons systems. GE produced more parts to more major nuclear weapons systems than any other corporation. GE was involved in the promotion of nuclear weapons to the government and in production since day one, with its role in the Manhattan Project.

Specifically, GE was responsible for the critical components, including, for example, the neutron “trigger” for every US nuclear bomb. Notably, before becoming president, Ronald Regan was a spokesman for GE.

ICAN: HOW DID YOU PUT PRESSURE ON GE TO END ITS INVOLVEMENT?

KL: Corporate Accountability International, then called Infact, organized an international grassroots campaign, including a consumer boycott of all General Electric products and services. We used the full range of tactics, from engaging more than 500 campaign-endorsing allied organizations to calling on medical professionals to stop purchasing expensive life-saving medical equipment from GE.

We produced a short documentary film, *Deadly Deception*, that was shown in movie theatres and on TV stations in more than 40 nations. Our organizing strategies focused on key corporate vulnerabilities: exposing the truth behind GE’s corporate image; creating internal conditions demanding the company move out of the nuclear weapons business, impacting sales; altering the cost–benefit ratio for GE to be in the nuclear weapons business; and more.

ICAN: HOW DID PEOPLE RESPOND? WAS THERE ANY PUBLIC RESISTANCE?

KL: Once the public began to understand industry’s role in the nuclear weapons build-up – both creating the demand for and directly providing the weapons – the campaign was met with overwhelming public support. For the campaign’s kick-off, events were held in 36 cities in 26 states, with 18 million people participating.

By 1990 four million people in the United States alone were boycotting GE. Campaign activities continued in all 50 US states, across Canada and into Western Europe. In 1989, three years into the boycott and five years into the overall campaign, GE spent four times more on brand advertising – not product advertising – to defend its brand image than in the past four years combined.

ICAN: WHEN AND WHY DID GE FINALLY DECIDE TO END ITS INVOLVEMENT?

KL: In April of 1993, General Electric completed its move out of the nuclear weapons business. GE announced this move as a “business decision” – underscoring a key approach to Corporate Accountability International’s campaigns. By altering the cost–benefit ratio (which takes years when engaging a multi-billion-dollar transnational corporation), we can all make change real.

Our international boycott of GE products cost the company over \$50 million in lost medical equipment sales. Major retail stores including Safeway and Target began stocking light bulbs made by other companies. When our campaign began, 50,000 nuclear warheads were on constant alert and the United States was building five nuclear bombs a day. At the close of the campaign, no nuclear bombs were in production on US soil. Allied organizations continue to work toward the elimination of weapons of mass destruction.

ICAN: WHAT ADVICE DO YOU HAVE FOR OTHER CAMPAIGNERS?

KL: This isn’t a numbers game: big business will always have more resources than campaigners. What we have at the core of it all is righteous truth that puts people’s lives (public health and human rights), environmental safety, and democracy ahead of corporate greed.

Think and organize with boldness: the stakes are high enough to ask people to do what might seem impossible. Be smart, be strategic, have a laser focus, be clear about what you are campaigning to achieve – and let your adversary know what is required of them. Dig in for the long haul. Keep your friends close and your adversaries closer ... there are people within these corporations making decisions: know them, expose them, and call on them to change. With enough pressure, they will.

For more information, visit [www.stopcorporateabuse.org](http://www.stopcorporateabuse.org).

## Honeywell International (United States)

### Company profile

Honeywell International, based in the United States, operates as a diversified technology and manufacturing company. The company's business units are aerospace, automation and control solutions, transportation systems and specialty materials.<sup>88</sup>

In the financial year ending 31 December 2013, Honeywell International generated revenues of US\$ 39.1 billion (€ 28.4 billion), resulting in an operating profit of US\$ 5.5 billion (€ 4.0 billion) and a net profit of US\$ 3.9 billion (€ 2.8 billion).<sup>89</sup>

|   |   |   |
|---|---|---|
| <b>Website:</b><br><a href="http://honeywell.com/">honeywell.com/</a> | <b>Twitter:</b><br><a href="https://twitter.com/Honeywell_Aero">@Honeywell_Aero</a> | <b>Facebook:</b><br><a href="https://www.facebook.com/HoneywellAero">https://www.facebook.com/HoneywellAero</a> |
|---|---|---|

### Nuclear weapons

Honeywell Federal Manufacturing & Technologies manages and operates the Kansas City Plant, a facility of the National Nuclear Security Administration (NNSA), where an estimated 85% of the non-nuclear components for US nuclear weapons are produced.<sup>90</sup> In 2010, the NNSA extended the contract with Honeywell to manage the facility for a maximum of five years.<sup>91</sup> The Los Alamos Office of the Kansas City Plant supports the manufacturing of detonator assemblies and collaborates with Los Alamos National Laboratory (LANL) to develop fiber-optic sensors to support hydrodynamic testing.<sup>92</sup>

Honeywell is co-owner of Savannah River Nuclear Solutions (SRNS), together with lead partner Fluor and Newport News Nuclear (part of Huntington Ingalls). Since 2008, SRNS has been responsible for the management and operation of the Department of Energy's Savannah River Site and Savannah River National Laboratory in South Carolina under a US\$ 4 billion (€ 2.7 billion) five-year contract. The Department of Energy prolonged the contract in September 2012 to September 2016. The extension brings the total value of the SRNS contract to approximately US\$ 8 billion (€ 5.4 billion).<sup>93</sup>

SRNS is responsible for site management and operation, environmental management, management of the nuclear arsenal, the removal of excess nuclear materials, and environmental services. The Tritium Extraction Facility at the Savannah River Site is the only source of new tritium for the US nuclear stockpile. Tritium, a radioactive form of hydrogen (also called "super heavy water"), is essential for the continued operation of the US nuclear arsenal.<sup>94</sup>

Honeywell Technology Solutions (HTSI) has a contract with the US government's Defense Threat Reduction Agency (DTRA) and is responsible for maintaining an inventory of instrumentation to monitor and record data associated with the testing on the White Sands Missile Range in New Mexico of simulated nuclear weapons and conventional weapons.<sup>95</sup>

Honeywell, with General Dynamics and Raytheon, were involved in a project to stretch the lifecycle of the Trident II (D5) nuclear missiles of the US Navy.<sup>96</sup> The company produced components for integrated circuits at its factory in Plymouth (Minnesota).<sup>97</sup> The submarine-launched Trident II (D5) missile is currently aboard US Ohio-class and British Vanguard-class submarines, which have 24 launch tubes.<sup>98</sup> The US are planning to keep the Trident II missiles deployed until 2042.<sup>99</sup>

# Honeywell



## Investors

The following financial institutions have made approximately 50718 million USD available to Honeywell International since January 2011.

|   |                                    |
|---|------------------------------------|
| Adage Capital Management                | JPMorgan Chase                     |
| Allianz                                 | Lazard                             |
| American Century Companies              | Legg Mason                         |
| American International Group            | Lincoln National Corporation       |
| Ameriprise Financial                    | Lloyds Banking Group               |
| ANZ                                     | Mitsubishi UFJ Financial           |
| Bank of America                         | Mizuho Financial                   |
| Bank of China                           | Morgan Stanley                     |
| Bank of New York Mellon                 | Northern Trust                     |
| Barclays                                | Northwestern Mutual Life Insurance |
| BlackRock                               | Old Mutual                         |
| BNP Paribas                             | Primecap                           |
| Capital Group                           | Prudential Financial               |
| Citigroup                               | Royal Bank of Canada               |
| Commonwealth Bank of Australia          | Royal Bank of Scotland             |
| Crédit Agricole                         | Scotiabank                         |
| Danske Bank                             | Société Générale                   |
| DBS                                     | Standard Chartered                 |
| Deutsche Bank                           | State Farm                         |
| DNB                                     | State Street                       |
| Evercore                                | Sumitomo Mitsui Financial          |
| Fidelity Investments                    | Sun Life Financial                 |
| Franklin Resources                      | T. Rowe Price                      |
| Gamco Investors                         | TIAA-CREF                          |
| General Electric                        | Toronto-Dominion Bank              |
| Geode Capital Management                | UBS                                |
| Goldman Sachs                           | UniCredit                          |
| Grupo BBVA                              | US Bancorp                         |
| Grupo Santander                         | Vanguard                           |
| HSBC                                    | Wellington Management              |
| Industrial and Commercial Bank of China | Wells Fargo                        |
| ING Group                               | Westpac Banking                    |
| Intesa Sanpaolo                         | White Mountains Insurance          |
| Invesco                                 | Williams Capital Group             |

## Huntington Ingalls Industries (United States)

### Company profile

Huntington Ingalls Industries (HII), based in the United States, designs, constructs and maintains nuclear and non-nuclear ships for the US Navy and Coast Guard and offers after-market services for military ships around the world.<sup>100</sup>

In the financial year ending 31 December 2013, HII generated revenues of US\$ 6.8 billion (€ 5.1 billion), resulting in an operating profit of US\$ 512 million (€ 271 million) and a net profit of US\$ 261 million (€110 million).<sup>101</sup>

#### Website:

<http://www.huntingtoningalls.com/>

#### Twitter:

@hiindustries

#### Facebook:

<http://www.facebook.com/HuntingtonIngallsIndustries>

### Nuclear weapons

Huntington Ingalls' subsidiary Newport News Nuclear is co-owner of Savannah River Nuclear Solutions (SRNS), with lead partner Fluor and Honeywell. SRNS is since 2008 responsible for the management and operation of the Department of Energy's Savannah River Site and Savannah River National Laboratory in South Carolina under a US\$ 4 billion (€ 2.7 billion) five-year contract. The Department of Energy prolonged the contract in September 2012 to September 2016. The extension brings the total value of the SRNS contract to approximately US\$ 8 billion (€ 5.4 billion).<sup>102</sup>

SRNS is responsible for site management and operation, environmental management, management of the nuclear arsenal, the removal of excess nuclear materials, and environmental services. The Tritium Extraction Facility at the Savannah River Site is the only source of new tritium for the US nuclear stock. Tritium, a radioactive form of hydrogen (also called "super heavy water"), is essential for the continued operation of the US nuclear arsenal.<sup>103</sup>

### Investors

The following financial institutions have made approximately 4759 million USD available to Huntington Ingalls Industries since January 2011.

Affiliated Managers Group  
AJO  
Allianz  
American International Group  
American United Mutual Insurance  
Ameriprise Financial  
AXA  
Bank of America  
Bank of New York Mellon  
BlackRock  
BMO Financial  
CI Financial  
Citigroup  
Credit Suisse  
D.E. Shaw & Co.  
Dimensional Fund Advisors  
Earnest Partners  
Eaton Vance  
Fidelity Investments  
Fifth Third Bancorp  
First Eagle Investment

Management  
First Trust Advisors  
Franklin Resources  
Geode Capital  
Management  
Gotham Asset  
Management  
Guardian Life Insurance  
Company of America  
Guggenheim Capital  
Hotchkis & Wiley  
Jacobs Levy Equity  
Management  
Janus Capital Group  
JPMorgan Chase  
Lord, Abnett & Co

Man Group  
Mitsubishi UFJ Financial  
Morgan Stanley  
New York Life Insurance  
Company  
New York State Common  
Retirement Fund  
Northern Trust  
Norwegian Government  
Pension Fund - Global  
Old Mutual  
Oppenheimer Holdings  
Orix Corporation  
Pennant Capital  
Management  
PNC Financial Services

Prudential Financial  
RE Investment Corporation  
Renaissance Technologies  
Royal Bank of Scotland  
Scotiabank  
Siemens Financial Services  
Smith Asset Management  
Group  
State Street  
Sumitomo Mitsui Financial  
Sun Life Financial  
SunTrust Banks  
Thrivent Financial  
TIAA-CREF  
Toronto-Dominion Bank  
Two Sigma Investments  
UBS  
Unum Group  
US Bancorp  
Vanguard  
Wedge Capital  
Management  
Wells Fargo



## Jacobs Engineering (United States)

### Company profile

Jacobs Engineering Group, based in the United States, provides professional, technical and construction services. Among its primary markets are aerospace and military, energy, oil and gas and infrastructure.<sup>104</sup>

In the financial year ending 27 September 2013, Jacobs Engineering generated revenues of US\$ 11.8 billion (€ 8.7 billion), resulting in an operating profit of US\$ 669 million (€ 495 million) and a net profit of US\$ 423 million (€ 313 million).<sup>105</sup>

#### Website:

<http://www.jacobs.com>

### Nuclear weapons

In December 2008, Jacobs Engineering acquired a one-third share in the joint venture AWE-ML, the company that manages the United Kingdom's Atomic Weapons Establishment (AWE). The other partners are Lockheed Martin and Serco.<sup>106</sup> AWE is responsible for the maintenance of warheads for the UK's nuclear arsenal, i.e. the Trident, a submarine-launched, intercontinental ballistic missile system carried by the fleet of Vanguard-class submarines.

AWE's involvement with Trident covers the entire life cycle, from initial concept to assessment, design, component manufacture and assembly, in-service support and decommissioning and disposal.<sup>107</sup> AWE-ML has a 25 year-long non-revocable contract to run AWE that expires in March 2025.<sup>108</sup>

### Investors

The following financial institutions have made approximately 6954 million USD available to Jacobs Engineering since January 2011.

|                               |                            |                              |
|-------------------------------|----------------------------|------------------------------|
| Affiliated Managers Group     | EdgePoint Investment Group | Scotiabank                   |
| Ameriprise Financial          | Fidelity Investments       | Silvercrest Asset Management |
| ANZ                           | Findlay Park Partners      | State Street                 |
| Artisan Partners              | Geode Capital Management   | Sumitomo Mitsui Financial    |
| Bank of America               | HSBC                       | T. Rowe Price                |
| Bank of New York Mellon       | Invesco                    | Thrivent Financial           |
| Barclays                      | Janus Capital Group        | Toronto-Dominion Bank        |
| BlackRock                     | Lloyds Banking Group       | Two Sigma Investments        |
| BNP Paribas                   | Lord, Abbett & Co          | US Bancorp                   |
| Calamos Asset Management      | Madison Investment         | Vanguard                     |
| Capital Group                 | Mitsubishi UFJ Financial   | Waddell & Reed Financial     |
| Carmignac Gestion             | Northern Trust             | Wellington Management        |
| Century Operating Corporation | Platinum Asset Management  | Wells Fargo                  |
| D.F. Dent & Company           | Primecap                   | William Blair & Company      |
| Dimensional Fund Advisors     | Royal Bank of Scotland     |                              |
| Eaton Vance                   | Ruane, Cunniff & Goldfarb  |                              |

The logo for Jacobs Engineering, featuring the word "JACOBS" in a bold, blue, sans-serif font with a trademark symbol.

## Larsen & Toubro (India)

### Company profile

Larsen & Toubro, based in India, is a technology, engineering, construction and manufacturing company. It has nine operating divisions, among which are heavy engineering, construction and power.<sup>109</sup>

In the financial year ending 31 March 2013, Larsen & Toubro generated revenues of Rp 627 billion (€8.9 billion), resulting in an operating profit of Rp 64.5 billion (€ 920 million) and a net profit of Rp 49.1 billion (€ 700 million).<sup>110</sup>

#### Website:

<http://www.larsentoubro.com>

#### Facebook:

<https://www.facebook.com/pages/Larsen-Toubro-Ltd/>

### Nuclear weapons

Larsen & Toubro is involved in designing and building the Advanced Technology Vessel, the future nuclear-armed submarine (SSBN) of the Indian navy. The project, with a total value of US\$ 3 billion, was initiated in 1970 and its objective is to build five nuclear submarines, each equipped with a dozen K-15 nuclear missiles.<sup>111</sup> The K-15, developed by the Defence Research and Development Organisation (DRDO) of the Indian Ministry of Defence, has a strike range of 700 km,<sup>112</sup> while the K-4, with a 3,000 km range, is also undergoing testing for launch from the SSBN.<sup>113</sup> The expected date for the sea trial has been postponed several times, now expected in the course of 2014.<sup>114</sup> Another three submarines of the same class are in different stages of construction.<sup>115</sup>

According to media reports, Larsen & Toubro is responsible for developing the launcher system for the nuclear-capable surface-to-air Akash missile system developed by India's state-owned Defence Research and Development Organisation (DRDO).<sup>116</sup>

### Investors

The following financial institutions have made approximately 10386 million USD available to Larsen & Toubro since January 2011.

|                                    |   |   |                           |
|------------------------------------|---|---|---------------------------|
| A.K. Group                         | Darashaw                                | IDFC                                      | Pension Fund - Global     |
| Abu Dhabi Investment Authority     | Deutsche Bank                           | JM Financial                              | Reliance Capital          |
| Altius Finserv Private             | Edelweiss Financial Services            | JPMorgan Chase                            | Royal Bank of Scotland    |
| ANZ                                | Equator Securities                      | Kotak Mahindra Bank                       | SPA Group                 |
| Aviva                              | Equirus Capital                         | L&T Employees Welfare Foundation          | Standard Chartered        |
| Axis Bank                          | Export Development Canada               | Life Insurance Corporation of India       | State Bank of India       |
| Barclays                           | FirstRand                               | LKP Group                                 | Sumitomo Mitsui Financial |
| BlackRock                          | General Insurance Corporation of India  | Lombard Odier Darier Hentsch              | Sumitomo Mitsui Trust     |
| Blue Cross Blue Shield Association | GIC                                     | Mata Securities India                     | TIAA-CREF                 |
| Carmignac Gestion                  | Goldman Sachs                           | Matthews International Capital Management | Trust Investment Advisors |
| Citigroup                          | Housing Development Finance Corporation | Mitsubishi UFJ Financial                  | UTI Asset Management      |
| Commonwealth Bank of Australia     | HSBC                                    | Mizuho Financial                          | Vanguard                  |
| Corpbay Financial Services         | ICAP                                    | New India Assurance                       | Viel & Cie.               |
| Credit Suisse                      | ICICI Bank                              | Norwegian Government                      | Yes Bank                  |



**LARSEN & TOUBRO**

## Leidos (United States)

### Company profile

In September 2013, US-based Science Applications International Corporation (SAIC), was split into two entities: SAIC which remains entirely devoted to government IT services, and Leidos Holding with its principal operating company Leidos, which took over national security and commercial health and engineering sectors.<sup>117</sup>

In the financial year ending 31 January 2014, Leidos reported revenues of US\$ 5.8 billion (€ 4.3 billion), resulting in an operating income of US\$ 164 million (€ 120 million) and a net profit of US\$ 166 million (€122 million).<sup>118</sup>

**Website:**  
<https://www.leidos.com/>

**Twitter:**  
[@leidosinc](https://twitter.com/leidosinc)

**Facebook:**  
<https://www.facebook.com/LeidosInc>

### Nuclear weapons

Leidos' work for the National Nuclear Security Administration (NNSA) includes technical and programmatic support for weapons maintenance, security, life extension, and weapons system modifications. Leidos supports the development and deployment of production technologies for materials, production, purchasing, and inspection and testing of replacement parts used in nuclear weapons and ballistic missiles, and for joint test assemblies.<sup>119</sup>

In October 2012, Leidos obtained a task order by the US Defense Information Systems Agency (DISA) to provide strategic command, control and communications (C3) system engineering and technical services in support of the Nuclear C3 System. The single-award contract has a one-year base period of performance, four one-year options, and a total contract value of US\$18 million (€ 14 million) if all options are exercised.<sup>120</sup>

### Investors

The following financial institutions have made approximately 1705 million USD available to Leidos since January 2011.

|  |   |   |   |
|--|---|---|---|
| Addison Clark Management Advisors Asset Management | Bank of America<br>Bank of New York Mellon<br>BlackRock | LSV Asset Management<br>MassMutual Financial<br>Mayo Capital Partners | Schroders<br>Sentry Insurance<br>Shelter Mutual Insurance |
| Allstate Corporation                               | Boston Private Financial                                | Morgan Stanley<br>National Life Group                                 | State Street  |
| American Family Mutual Insurance                   | CPP Investment Board                                    | Nationwide<br>New York Life Insurance Company                         | The Phoenix Companies<br>The Travelers Companies          |
| American International Group                       | D.E. Shaw & Co.<br>Dimensional Fund Advisors            | Northern Trust<br>Norwegian Government Pension Fund - Global          | Two Sigma Investments<br>Unum Group<br>Vanguard           |
| American National Insurance                        | First Manhattan   | Ohio National Mutual  | Winton Capital Management                                 |
| American United Mutual Insurance                   | Genworth Financial                                      | Principal Financial   | Woodmen of the World and/or Omaha                         |
| AQR Capital Management                             | Gosha Trading   | Protective Life Corp  | Woodmen Life Insurance Society                            |
| Auto-Owners Insurance                              | ING Group   | Prudential  |   |
| AXA  | Lincoln National Corporation                            | RE Investment Corporation   |   |
|  | Loews Corporation                                       |   |   |



## Lockheed Martin (United States)

### Company profile

Lockheed Martin, based in the United States, focuses on aeronautics, space systems, electronic systems and information systems. Its most important divisions are aerospace and defence, information technology and new technologies.<sup>121</sup>

In the financial year ending 31 December 2013, it generated revenues of USD 45.4 billion (€ 33 billion), resulting in an operating profit of USD 4.5 billion (€ 3.3 billion) and a net profit of USD 3.0 billion (€ 2.2 billion).<sup>122</sup>

|   |   |   |
|---|---|---|
| <b>Website:</b><br><a href="http://www.lockheedmartin.com">www.lockheedmartin.com</a> | <b>Twitter:</b><br><a href="https://twitter.com/LockheedMartin">@LockheedMartin</a> | <b>Facebook:</b><br><a href="https://www.facebook.com/lockheedmartin">https://www.facebook.com/lockheedmartin</a> |
|---|---|---|

### Nuclear weapons

Lockheed Martin is the world's largest weapons producer.<sup>123</sup> It produces and maintains a wide variety of conventional weapons around the world, as well as nuclear weapons for both the United States and the United Kingdom.<sup>124</sup>

Lockheed Martin is responsible for the construction of the Trident II (D5) nuclear missiles for the US Ohio-class submarines and the British Vanguard-class submarines.<sup>125</sup> Trident II (D5) is the only US submarine-launched intercontinental ballistic missile system still in production.<sup>126</sup> The United States is planning to keep Trident II missiles deployed until 2042.<sup>127</sup>

In September 2013, Lockheed Martin was awarded a USD 15.2 million (€ 11.4 million) contract to support the fiscal year 2014 Trident II (D5) Missile production schedule. Work is expected to be completed in September 2018.<sup>128</sup>

In November 2013, Lockheed Martin was awarded USD 8.3 million (€ 6.1 million) for new Trident II (D5) missile production, D5 life extension development and production, and D5 deployed systems support. This contract includes unexercised option items, which if exercised, will bring the contract value to USD 803.2 million (€ 594.3 million). Initial work is expected to be completed December 2014, if options are exercised work will continue to November 2018.<sup>129</sup>

In December 2013, Lockheed Martin Space Systems was awarded a USD 61.1 million (€ 44.4 million) contract for engineering services and various low-value missile test hardware. It provides for integrating the Trident II missile and re-entry strategic weapon systems subsystems into the common missile compartment for the Ohio replacement and United Kingdom (UK) successor programmes and designing a testing fixture for nozzle shield retention, and designing an integrated test facility that will be compatible with existing and new submarine fleets. Completion is expected in December 2018.<sup>130</sup>

In March 2014, Lockheed Martin Space Systems was awarded a USD 21.3 million (€ 15.5 million) contract by the US Navy Strategic Systems Programs Office to provide engineering and technical services, and deliverable materials in support of the UK Trident II Missile System until June 2016.<sup>131</sup>

In March 2014, the Department of the US Navy published a pre-solicitation for the financial year 2015 for the production of Trident II (D5) missile body and re-entry body hardware as well as services related to the support of deployed Fleet Ballistic Missile systems. The government did not publish the intent as a request for competitive proposals but with the intention to conduct negotiations only with Lockheed





Martin Space Systems Company.<sup>132</sup>

Lockheed Martin holds a 33.3% share and takes the lead in the joint venture AWE-ML, the company that manages the United Kingdom's Atomic Weapons Establishment (AWE). The other partners are Jacobs Engineering and Serco.<sup>133</sup> The AWE is responsible for the maintenance of the warheads for the country's Trident nuclear arsenal. AWE's involvement with Trident missiles covers the entire life cycle, from initial concept to assessment, design, component manufacture and assembly, in-service support and decommissioning and disposal.<sup>134</sup> AWE-ML has a 25 year-long non-revocable contract to run the AWE that expires in March 2025.<sup>135</sup>

As a member of the ICBM Prime Integration Team, Lockheed Martin is involved in the production and maintenance of the Minuteman III nuclear intercontinental ballistic missiles.<sup>136</sup> Lockheed Martin is responsible for the weapons, control and re-entry systems in this project until recently led by Northrop Grumman. The project is still ongoing with leadership awarded to BAE Systems in 2013.<sup>137</sup>

In March 2011, the company received a USD 12.5 million (€ 8.8 million) one-year contract for the refurbishment of re-entry vehicle arming and fusing assemblies for the Minuteman III missiles. According to the latest plans, these nuclear missiles will continue to be part of the US nuclear defence programme until at least 2030.<sup>138</sup>

Along with Boeing, Northrop Grumman and Raytheon, Lockheed Martin is under contract since 2013 to conduct trade studies in support of the Air Force Long-Range Standoff (LRSO) missile plans. This line-up is expected to become a four-way competition to build a Long Range Standoff weapon. The Air Force and National Nuclear Security Administration have not yet chosen a nuclear warhead to go on the LRSO.<sup>139</sup> It is expected to incorporate one of three existing nuclear warhead designs: either the B61-12, the W84, or the W80-1.<sup>140</sup> This selection process should begin in summer 2014 and last about a year, but was pushed back by three years, deferring almost \$1 billion in spending beyond financial year 2018.<sup>141</sup>

## Investors

The following financial institutions have made approximately 34358 million USD available to Lockheed Martin since January 2011.

|  |                                    |                           |
|--|------------------------------------|---------------------------|
| American International Group           | Franklin Resources                 | Prudential Financial      |
| Ameriprise Financial                   | Genworth Financial                 | Royal Bank of Canada      |
| ANZ                                    | Geode Capital Management           | Royal Bank of Scotland    |
| Bank of America                        | Goldman Sachs                      | Ruffer                    |
| Bank of New York Mellon                | Janus Capital Group                | State Street              |
| BlackRock                              | JPMorgan Chase                     | Sumitomo Mitsui Financial |
| Caisse de dépôt et placement du Québec | Lloyds Banking Group               | Sun Life Financial        |
| Capital Group                          | MassMutual Financial               | TIAA-CREF                 |
| Citigroup                              | Mitsubishi UFJ Financial           | UBS                       |
| Comerica                               | Mizuho Financial                   | Unum Group                |
| Crédit Agricole                        | Morgan Stanley                     | US Bancorp                |
| Deutsche Bank                          | Northern Trust                     | Vanguard                  |
| First Eagle Investment Management      | Northwestern Mutual Life Insurance | Veritas Asset Management  |
|  | Orix Corporation                   | Wellington Management     |
|  |                                    | Wells Fargo               |

## Northrop Grumman (United States)

### Company profile

Northrop Grumman Corporation, based in the United States, provides products, services and solutions in the military aerospace, electronics, information systems and shipbuilding sectors.<sup>142</sup>

In the financial year ending 31 December 2013, Northrop Grumman generated revenues of USD 24.7 billion (€ 17.9 billion), resulting in an operating profit of USD 3.1 billion (€ 2.2 billion) and a net profit of USD 1.9 billion (€ 1.4 billion).<sup>143</sup>

|  |   |   |
|--|---|---|
| <b>Website:</b><br><a href="http://www.northropgrumman.com">http://www.northropgrumman.com</a> | <b>Twitter:</b><br><a href="https://twitter.com/northropgrumman">@northropgrumman</a> | <b>Facebook:</b><br><a href="https://www.facebook.com/NorthropGrumman">https://www.facebook.com/NorthropGrumman</a> |
|--|---|---|

### Nuclear weapons

After acquiring the US company TRW in 2002, Northrop Grumman inherited the leadership of the ICBM Prime Integration Team. This ongoing project was initiated in 1997 and has a total value of USD 6.5 billion (€ 5 billion). Northrop Grumman and its principle partners ATK, Boeing and Lockheed Martin, were responsible for the production and maintenance of the Minuteman III nuclear Intercontinental Ballistic Missiles (ICBM). There are 450 Minuteman III still deployed today.<sup>144</sup> The 15-year contract between the Air Force and Northrop Grumman expired in August 2013, when Northrop Grumman lost its role of prime contractor to BAE systems.<sup>145</sup> To cover the time between then and the new team, the Air Force awarded Northrop Grumman a partial bridge contract worth USD 165 million (€ 128.3 million).<sup>146</sup> This bridge contract has been extended twice (for USD 9.9 million (€ 7.4 million) in September 2013<sup>147</sup> and for USD 13.7 million (€ 10.0 million) in March 2014) for sustaining engineering services for the ICBM weapon system to be completed in September 2014.<sup>148</sup>

Since 2013 Northrop Grumman along with Boeing, Lockheed Martin and Raytheon, is under contract to conduct trade studies in support of the Air Force Long-Range Standoff (LRSO) missile plans. This line-up is expected to become a four-way competition to build a Long Range Standoff weapon. The Air Force and National Nuclear Security Administration have not yet chosen a nuclear warhead to go on the LRSO.<sup>149</sup> It is expected to incorporate one of three existing nuclear warhead designs: either the B61-12, the W84, or the W80-1.<sup>150</sup> This selection process should begin in summer 2014 and last about a year, but was pushed back by three years, deferring almost \$1 billion in spending beyond financial year 2018.<sup>151</sup>

Northrop Grumman, together with partners Babcock & Wilcox, Aecom and CH2M Hill, is a joint venture partner in National Security Technologies (NSTec). Since 2006, NSTec manages the Nevada National Security Site (NNSS), previously known as Nevada Test Site.<sup>152</sup> Northrop Grumman was the managing partner, but decreased its interest in NSTec in 2011.<sup>153</sup> The exact ownership distribution is not known. This USD 3.1 billion (€ 2.3 billion) contract includes operation and maintenance of over 500 facilities and laboratories as well as the associated infrastructure, vehicles, and IT/communications.<sup>154</sup> The NNSS is the only US nuclear test site where subcritical tests are still taking place. The most recent one was the Pollux test in December 2012.<sup>155</sup>

Northrop Grumman was awarded a USD 112.9 million (€ 82.5 million) contract for ongoing support to the Trident II (D5) Underwater Launcher System and Advanced Launcher Development Program Support of the US and the UK in December 2013. It is also expected to advance and support the conduct of the technology development of cost-effective launcher subsystem architecture for the Ohio-class Replacement Program.<sup>156</sup>

## Investors

The following financial institutions have made approximately 25288 million USD available to Northrop Grumman since January 2011.

|                                   |                                   |                              |
|-----------------------------------|-----------------------------------|------------------------------|
| AJO                               | Danske Bank                       | Pacific Mutual               |
| Allianz                           | Deutsche Bank                     | Piper Jaffray                |
| Allstate Corporation              | Dimensional Fund Advisors         | PNC Financial Services       |
| American Family Mutual Insurance  | Drexel Hamilton                   | Power Financial Corporation  |
| American International Group      | DZ Bank                           | Prudential                   |
| American National Insurance       | First Eagle Investment Management | Prudential Financial         |
| Ameriprise Financial              | Franklin Resources                | Royal Bank of Scotland       |
| ANZ                               | Geode Capital Management          | Sammons Enterprises          |
| AQR Capital Management            | Goldman Sachs                     | Scotia Bond                  |
| AXA                               | Gulf Bank                         | Scotiabank                   |
| Bank of America                   | Intesa Sanpaolo                   | State Farm                   |
| Bank of New York Mellon           | Invesco                           | State Street                 |
| Barclays                          | Janus Capital Group               | Sumitomo Mitsui Financial    |
| BayernLB                          | JPMorgan Chase                    | Sun Life Financial           |
| BB&T Corporation                  | Lincoln National Corporation      | SunTrust Banks               |
| BlackRock                         | Lloyds Banking Group              | Symetra Financial            |
| BMO Financial                     | LSV Asset Management              | Taiwan Business Bank         |
| BNP Paribas                       | Macquarie Group                   | Taiwan Cooperative Financial |
| Capital Group                     | Manulife Financial                | TIAA-CREF                    |
| Capital One Financial Corporation | Mischler Financial Group          | Toronto-Dominion Bank        |
| Charles Schwab                    | Mitsubishi UFJ Financial          | UniCredit                    |
| Chubb                             | Mizuho Financial                  | US Bancorp                   |
| Citigroup                         | Morgan Stanley                    | Vanguard                     |
| CNO Financial                     | National Bank of Abu Dhabi        | Wellington Management        |
| Comerica                          | Nationwide                        | Wells Fargo                  |
| Credit Suisse                     | Northern Trust                    | Western & Southern Mutual    |
|                                   | Old Mutual                        | Williams Capital Group       |
|                                   |                                   | Winton Capital Management    |

***NORTHROP GRUMMAN***



## Raytheon (United States)

### Company profile

Raytheon is a US-based company providing mainly military electronics, mission systems integration and other capabilities in the areas of sensing and command, control, communications and intelligence systems as well as a broad range of mission support services.<sup>157</sup>

In the financial year ending 31 December 2013, Raytheon generated revenues of USD 23.7 billion (€ 17.2 billion), resulting in an operating profit of USD 2.9 billion (€ 2.1 billion) and a net profit of USD 2.0 billion (€ 1.4 billion).<sup>158</sup>

**Website:**

<http://www.raytheon.com>

**Twitter:**

@Raytheon

**Facebook:**

<https://www.facebook.com/Raytheon>

### Nuclear weapons

Since 2005, Raytheon has been involved in a project with partners Honeywell International and General Dynamics to stretch the lifecycle of the guidance systems of the Trident II (D5) nuclear missiles of the US Navy.<sup>159</sup> In January 2012, it obtained another USD 96 million (€ 75 million) contract for production and deployed-systems support of the Trident II-weapons system, with a maximum contract value of USD 225 million (€ 173 million) if all options are exercised.<sup>160</sup> The submarine-launched Trident II (D5) missile is currently aboard US Ohio-class and British Vanguard-class submarines.<sup>161</sup> The US are planning to keep the Trident II missiles deployed until 2042.<sup>162</sup>

In September 2013, Raytheon was awarded a USD 33.4 million (€ 24.8 million) contract for contractor logistic support, installation, and sustainment of Minuteman MEECN (Minimum Essential Emergency Communication Network) programme and Minuteman MEECN programme upgrade. Work is expected to be completed by September 2016.<sup>163</sup>

In December 2013, Raytheon was awarded a USD 134.4 million (€ 98.0 million) US Air Force contract to design a communications system for command and control of nuclear-armed bombers. The Global Aircrew Strategic Network Terminals Increment I (ASTN) is a multi-path communication system used to disseminate nuclear command and control messages from national-level decision authorities to geographically dispersed locations. Development is expected to be completed by December 2016, with production, installation, and sustainment options extending to December 2020.<sup>164</sup> The overall ASTN programme has a value of USD 500 million (€ 371 million).<sup>165</sup>

Along with Boeing, Lockheed Martin and Northrop Grumman, Raytheon is under contract since 2013 to conduct trade studies in support of the Air Force Long-Range Standoff (LRSO) missile plans. This line-up is expected to become a four-way competition to build a Long Range Standoff weapon. The Air Force and National Nuclear Security Administration have not yet chosen a nuclear warhead to go on the LRSO.<sup>166</sup> It is expected to incorporate one of three existing nuclear warhead designs: either the B61-12, the W84, or the W80-1.<sup>167</sup> This selection process should begin in summer 2014 and last about a year, but was pushed back by three years, deferring almost USD 1 billion in spending beyond financial year 2018.<sup>168</sup>

## Investors

The following financial institutions have made approximately 18622 million USD available to Raytheon since January 2011.

|                                  |                                    |                                   |
|----------------------------------|------------------------------------|-----------------------------------|
| Aflac                            | Invesco                            | Prudential                        |
| Allianz                          | Invest AD                          | Prudential Financial              |
| Allstate Corporation             | Janus Capital Group                | Riyad Bank                        |
| American Family Mutual Insurance | JPMorgan Chase                     | Royal Bank of Scotland            |
| American International Group     | Legg Mason                         | Sasco Capital                     |
| Ameriprise Financial             | Lincoln National Corporation       | Schafer Cullen Capital Management |
| ANZ                              | Lloyds Banking Group               | Scotiabank                        |
| AXA                              | LSV Asset Management               | State Farm                        |
| Bank of America                  | Macquarie Group                    | State Street                      |
| Bank of New York Mellon          | MassMutual Financial               | Sumitomo Mitsui Financial         |
| Barclays                         | MetLife                            | Symetra Financial                 |
| BlackRock                        | Mitsubishi UFJ Financial           | T. Rowe Price                     |
| BNP Paribas                      | Morgan Stanley                     | TIAA-CREF                         |
| Citigroup                        | New York Life Insurance Company    | UBS                               |
| Crédit Agricole                  | Northern Trust                     | Unum Group                        |
| Credit Suisse                    | Northwestern Mutual Life Insurance | US Bancorp                        |
| Deutsche Bank                    | Old Mutual                         | Vanguard                          |
| General Electric                 | Orix Corporation                   | Wellington Management             |
| Geode Capital Management         | Principal Financial                | Wells Fargo                       |
| Gulf International Bank          | Protective Life Corp               | Western & Southern Mutual         |
| Intesa Sanpaolo                  |                                    | White Mountains Insurance         |

# Raytheon

## Rockwell Collins (United States)

### Company profile

Rockwell Collins, based in the United States, provides design, production and support solutions for customers in the aerospace and military sector, such as cockpit electronics, communications, information management and simulation and training.<sup>169</sup>

During the financial year that ended 30 September 2013, Rockwell Collins reported revenues of USD 4.6 billion (€ 3.4 billion), resulting in an operating profit of USD 880 million (€ 661 million) and a net profit of USD 632 million (€ 467 million).<sup>170</sup>

|   |   |   |
|---|---|---|
| <b>Website:</b><br><a href="http://www.rockwellcollins.com">www.rockwellcollins.com</a> | <b>Twitter:</b><br><a href="https://twitter.com/RockwellCollins">@RockwellCollins</a> | <b>Facebook:</b><br><a href="https://www.facebook.com/rockwellcollins">https://www.facebook.com/rockwellcollins</a> |
|---|---|---|

### Nuclear weapons

In 2006, the US Air Force awarded a technology development contract of unknown duration to Rockwell Collins for the Minuteman Modernization Program Upgrade (MMP Upgrade). The company was selected to improve the satellite communications capacity of the Minuteman Launch Control Centers. The upgrade ensures that all Minuteman units receive Emergency Action Messages from the National Command Authority under all circumstances.<sup>171</sup>

### Investors

The following financial institutions have made approximately 6389 million USD available to Rockwell Collins since January 2011.

|                              |                              |                              |
|------------------------------|------------------------------|------------------------------|
| Affiliated Managers Group    | Capital Group                | New York Life Insurance      |
| Allstate Corporation         | D.E. Shaw & Co.              | Company                      |
| American Century Companies   | Epoch Investment Partners    | Northern Trust               |
| American Family Mutual       | Farallon Capital Management  | Norwegian Government Pension |
| Insurance                    | First Manhattan              | Fund - Global                |
| American International Group | General Electric             | Power Financial Corporation  |
| American United Mutual       | Geode Capital Management     | Principal Financial          |
| Insurance                    | Guggenheim Capital           | Protective Life Corp         |
| Ameritas Mutual              | Hartford Financial Services  | Prudential Financial         |
| Artisan Partners             | ING Group                    | StanCorp Financial           |
| Atlanta Life Financial       | Intesa Sanpaolo              | State Farm                   |
| Aviva                        | Janus Capital Group          | State Street                 |
| AXA                          | JPMorgan Chase               | The Travelers Companies      |
| Bank of New York Mellon      | Liberty Mutual Insurance     | TIAA-CREF                    |
| Bessemer                     | Lincoln National Corporation | ValueAct Holdings            |
| BlackRock                    | Madison Investment           | Vanguard                     |
| Boston Private Financial     | National Life Group          | White Mountains Insurance    |





## Safran (France)

### Company profile

Safran, based in France, is a high-tech group with three key business areas: aerospace, defence and security.<sup>172</sup> The French state has a 27.08% stake in the company.<sup>173</sup>

In 2013, Safran reported revenues of € 14.7 billion, resulting in an operating profit of € 1.5 billion and a net profit of € 1.4 billion.<sup>174</sup>

|  |   |   |
|--|---|---|
| <b>Website:</b><br><a href="http://www.safran-group.com">http://www.safran-group.com</a> | <b>Twitter:</b><br><a href="https://twitter.com/SAFRAN">@SAFRAN</a> | <b>Facebook:</b><br><a href="https://www.facebook.com/GroupeSafran">https://www.facebook.com/GroupeSafran</a> |
|--|---|---|

### Nuclear weapons

Safran, together with Airbus (formerly EADS), Thales and others, obtained an estimated € 3 billion contract in December 2004 to build the M51 nuclear missile for the new French submarines. Airbus' subsidiary Astrium is the lead contractor, whereas Safran (through its subsidiaries Herakles, Snecma), Thales, and DCNS were selected as the main subcontractors.<sup>175</sup>

The M51 features multiple warheads, with far greater payload mass and volume than the M4. It also offers a longer range, enabling submarines to expand their patrol zones. The nuclear submarine Le Terrible has been equipped with the M51 since late 2010. The missile will also enter operational service aboard the other new-generation submarines, Triomphant and Téméraire, after retrofit. A second version will be commissioned from 2015.<sup>176</sup>

Safran's subsidiary Snecma is the prime contractor of the propulsion system for the M51 missile project, producing all inert components in the rocket motors. Sagem, another subsidiary of Safran, developed the navigation systems for the M51, which will improve the accuracy of the missile.<sup>177</sup> SNPE Matériaux Energétiques (SME), a subsidiary of state-owned SNPE which was merged into Safran's subsidiary Herakles together with Snecma Propulsion Solide (SPS) in 2011, made the rocket propellant that powers the nuclear ballistic missile.<sup>178</sup>

### Investors

The following financial institutions have made approximately 8149 million USD available to Safran since January 2011.

|                           |                          |
|---------------------------|--------------------------|
| ABP                       | GAM Holding              |
| Affiliated Managers Group | Groupe BPCE              |
| Allianz                   | HSBC                     |
| Bank of America           | Mitsubishi UFJ Financial |
| BlackRock                 | Morgan Stanley           |
| BNP Paribas               | Oddo & Cie               |
| Citigroup                 | Schroders                |
| Crédit Agricole           | Société Générale         |
| Crédit Mutuel             | Swisscanto Holding       |
| DNCA Finance              | UBS                      |
| Fidelity Investments      | Vanguard                 |
| Franklin Resources        | Wellington Management    |



## Serco (United Kingdom)

### Company profile

Serco Group, based in the United Kingdom, operates as a service company to governments and commercial customers worldwide. Its main business areas in public service are health, education, transport, science and defence, while private-sector customers are leading companies operating in various markets.<sup>179</sup>

In the financial year ending 31 December 2013, Serco generated revenues of £ 4.3 billion (€ 5.1 billion), resulting in an operating profit of £ 144 million (€ 172 million) and a net profit of £ 95 million (€ 114 million).<sup>180</sup>

#### Website:

<http://www.serco.com>

#### Twitter:

@SercoGroup

### Nuclear weapons

Serco holds a 33.3% share in the joint venture AWE-ML, the company that manages the UK Atomic Weapons Establishment (AWE). The other two partners are Jacobs Engineering and Lockheed Martin. The AWE is responsible for the maintenance of the warheads for the country's Trident nuclear arsenal. Trident is a submarine-launched, intercontinental ballistic missile system carried by the fleet of Vanguard-class submarines.

AWE's involvement with Trident missiles covers the entire life cycle, from initial concept to assessment, design, component manufacture and assembly, in-service support and decommissioning and disposal.<sup>181</sup> AWE-ML has a 25 year-long non-revocable contract to run the AWE that expires in March 2025.<sup>182</sup>

### Investors

The following financial institutions have made approximately 6148 million USD available to Serco since January 2011.

|                               |                               |                                  |
|-------------------------------|-------------------------------|----------------------------------|
| Aberdeen Asset Management     | Fidelity Investments          | Prudential                       |
| Allianz                       | Fidelity Worldwide Investment | Royal Bank of Scotland           |
| Anchor Financial & Accounting | Financière de l'Echiquier     | Ruane, Cunniff & Goldfarb        |
| ANZ                           | Franklin Resources            | Schroders                        |
| Artisan Partners              | GIC                           | Serco Group Plc Employee         |
| AXA                           | Helaba                        | Benefit Trust                    |
| Baillie Gifford & Co          | Henderson Group               | Standard Life                    |
| Bank of America               | HSBC                          | State Administration for Foreign |
| Bank of New York Mellon       | Invesco                       | Exchange                         |
| Barclays                      | JPMorgan Chase                | State Street                     |
| BlackRock                     | KBC Group                     | Sumitomo Mitsui Financial        |
| Capital Group                 | Legal & General               | Sun Life Financial               |
| Commerzbank                   | Lloyds Banking Group          | T. Rowe Price                    |
| Commonwealth Bank of          | Longview Partners             | Vanguard                         |
| Australia                     | Mitsubishi UFJ Financial      | Woodford Investment              |
| Crédit Agricole               | Mondrian Investment Partners  | Management                       |
| DBS                           | National Bank of Abu Dhabi    |                                  |
| Dimensional Fund Advisors     | Orbis Group                   |                                  |



## TASC (United States)

### Company profile

TASC, based in the United States, provides information and security services, intelligence and information management services.<sup>183</sup> Operating as a subsidiary of Northrop Grumman until 2009, it was acquired by an investor group led by General Atlantic for USD 1.65 billion (€ 1.1 billion).<sup>184</sup> TASC claims to generate more than USD 1.5 billion (€ 1.2 billion) in annual revenue.<sup>185</sup>

**Website:**  
<http://www.tasc.com>

**Twitter:**  
[@TASCInc](https://twitter.com/TASCInc)

**Facebook:**  
<https://twitter.com/TASCInc>

### Nuclear weapons

In January 2014, TASC was awarded a USD 6.9 million (€ 5 million) contract for research and development on the Solid Rocket Motor Modernization Study of the Minuteman III system. Under the contract running until July 2015, TASC will conduct a study to develop and investigate propulsion options and impacts for replacement or modernisation of the Minuteman III fielded force.<sup>186</sup>

### Investors

The following financial institutions have made approximately 684 million USD available to TASC since January 2011.

Barclays  
Deutsche Bank  
Kohlberg Kravis Roberts & Co  
Mizuho Financial  
Royal Bank of Canada



## Textron (United States)

### Company profile

Textron is a US-based multi-industry company engaged in aircraft, military, industrial and finance businesses. Military-related business sections include Textron Systems and Bell Helicopter.

In the financial year ending 28 December 2013, Textron generated revenues of USD 12.1 billion (€ 8.8 billion), resulting in an operating income of USD 847 million (€ 616 million) and a net income of USD 498 million (€ 362 million).<sup>187</sup>

**Website:**  
<http://www.textron.com>

**Twitter:**  
@Textron

**Facebook:**  
<https://www.facebook.com/Textron.Inc>

### Nuclear weapons

Textron designs and builds US Air Force's operational inter-continental ballistic missile (ICBM) re-entry vehicles.<sup>188</sup> In March 2014, Textron Defense System was awarded a USD 17.2 million (€ 12.5 million) contract to convert up to six Minuteman III MK 12A re-entry vehicles to the Mod 5F configuration. The contract was provided for a five-year ordering period by the US Air Force Nuclear Weapons Center in Utah. It is to provide the government with up to 21 Mod 5F midsections for the ICBM. Work is expected to be completed by March 2020.<sup>189</sup>

### Investors

The following financial institutions have made approximately 11858 million USD available to Textron since January 2011.

|                              |                                |                               |
|------------------------------|--------------------------------|-------------------------------|
| Allstate Corporation         | Fidelity Investments           | Board                         |
| American Century Companies   | Fidelity Worldwide Investment  | Pacific Mutual                |
| American International Group | Fifth Third Bancorp            | PNC Financial Services        |
| American National Insurance  | Franklin Resources             | Protective Life Corp          |
| American United Mutual       | Gamco Investors                | Prudential                    |
| Insurance                    | Genworth Financial             | Prudential Financial          |
| Argent Financial             | Geode Capital Management       | Snow Capital Management       |
| Bank of America              | Goldman Sachs                  | State Farm                    |
| Bank of China                | Groupe BPCE                    | State Street                  |
| Bank of East Asia            | Hartford Financial Services    | Sumitomo Mitsui Financial     |
| Bank of New York Mellon      | Invesco                        | Sun Life Financial            |
| BlackRock                    | JPMorgan Chase                 | SunTrust Banks                |
| Capital Group                | Knights of Columbus            | Synovus Financial Corporation |
| Carlyle Group                | Loews Corporation              | T. Rowe Price                 |
| Citadel Group                | MassMutual Financial           | TIAA-CREF                     |
| Citigroup                    | MetLife                        | Unum Group                    |
| City National Corporation    | Mitsubishi UFJ Financial       | US Bancorp                    |
| CNO Financial                | Morgan Stanley                 | Vanguard                      |
| Davis Advisors               | Neuberger Beraman              | Wellington Management         |
| DBS                          | Northern Trust                 | Wells Fargo                   |
| Deutsche Bank                | Ontario Teachers' Pension Plan | Williams Capital Group        |

# TEXTRON

## Thales (France)

### Company profile

Thales, based in France, provides information systems for the military and security, aerospace and transportation markets.<sup>190</sup> Thales holds a 35% stake in DCNS, the company responsible for the refit of the French submarines for the new M51 intercontinental nuclear warhead missile.

In 2013, Thales generated revenues of € 14.2 billion, resulting in an operating income of € 905 million and a net income of € 573 million.<sup>191</sup>

#### Website:

<https://www.thalesgroup.com>

#### Twitter:

@ThalesGroup

#### Facebook:

<https://www.facebook.com/thalesgroup>

### Nuclear weapons

Thales, together with Airbus (formerly EADS), Safran, SNPE (part of Safran-subsiidiary Herakles) and DCNS, obtained a contract in December 2004 to build the new M51 nuclear missile for the new French submarines, with an estimated value of € 3 billion. Airbus subsidiary Astrium is the lead contractor, whereas Safran, SNPE, DCNS and Thales are the main subcontractors.<sup>192</sup>

The M51 features multiple warheads, with far greater payload mass and volume, than the M4. It also offers a longer range, enabling submarines to expand their patrol zones. The nuclear submarine Le Terrible has been equipped with the M51 since late 2010. The missile will also enter operational service aboard the other new-generation submarines, Triomphant and Téméraire, after retrofit. A second version will be commissioned from 2015.<sup>193</sup>

### Investors

The following financial institutions have made approximately 2813 million USD available to Thales since January 2011.

Acciona

Aviva

BNP Paribas

Citigroup

Crédit Agricole

Deutsche Bank

DNCA Finance

Edmond de Rothschild

Groupe BPCE

HSBC

International Value Advisors

JPMorgan Chase

Norwegian Government Pension Fund - Global

Royal Bank of Canada

Société Générale

Thales SA Employees Stock Ownership Plan

Vanguard

The logo for Thales, featuring the word "THALES" in a bold, blue, sans-serif font. The letter 'A' is stylized with a teal dot in the center.

## ThyssenKrupp (Germany)

### Company profile

ThyssenKrupp, based in Germany, has five key business areas: Components Technology, Elevator Technology, Industrial Solutions, Materials Services and Steel Europe.

In the financial year ending 30 September 2013, ThyssenKrupp generated revenues of € 38.6 billion, resulting in an operating loss of € 696 million and a net loss of € 1.4 billion.<sup>194</sup>

#### Website:

<http://www.thyssenkrupp.com>

#### Twitter:

@thyssenkrupp\_en

#### Facebook:

<https://www.facebook.com/ThyssenKruppAG>

### Nuclear weapons

ThyssenKrupp's division ThyssenKrupp Marine Systems (TKMS) is building the Dolphin submarines for the Israeli navy. In total six submarines will be delivered by 2017. These submarines will be constructed at Howaldtswerke-Deutsche Werft in Kiel, part of TKMS since 2005. Atlas Elektronik, co-owned by Thyssen Krupp (60%) and Airbus (40%), supplies the combat and guidance systems for the submarines.<sup>195</sup> The fifth submarine was inaugurated in 2013.<sup>196</sup>

The submarines are the result of two decades of strategic cooperative programme between Israel and Germany and are partly paid for by the German government. Construction is taking place in Germany, according to Israeli design specifications, hosting Israeli-developed command, control and combat systems including, according to various media reports, land-attack and cruise missiles capable of carrying tactical nuclear warheads.<sup>197</sup>

The German government insists it does not know anything about the nuclear-capability of the submarines. However, former top German officials have confirmed that the boats were constructed for the purpose of a nuclear capability from the outset. The use of Israeli Popeye Turbo missiles as nuclear carrier missiles is deemed possible from the additional four 650mm torpedo tubes of the Dolphins, as HDW equipped the Israeli submarines with a newly developed hydraulic ejection system instead of a compressed air ejection system. This is strong enough to catapult the Popeye Turbo carrying a nuclear warhead.<sup>198</sup>

### Investors

The following financial institutions have made approximately 20411 million USD available to ThyssenKrupp since January 2011.

Alfried Krupp von Bohlen und  
Halbach-Stiftung  
ANZ  
Bank of America  
BayernLB  
BlackRock  
BNP Paribas  
Cevian Capital  
Citigroup  
Commerzbank  
Crédit Agricole  
Crédit Mutuel  
Danske Bank  
Deutsche Bank

DZ Bank  
Franklin Resources  
Goldman Sachs  
Grupo BBVA  
Grupo Santander  
Helaba  
HSBC  
HSH Nordbank  
Intesa Sanpaolo  
JPMorgan Chase  
KfW  
LBBW

Mediobanca Banca di Credito  
Finanziario  
Mitsubishi UFJ Financial  
Morgan Stanley  
Norddeutsche Landesbank  
Norwegian Government Pension  
Fund - Global  
Royal Bank of Scotland  
Skandinaviska Enskilda Banken  
Société Générale  
Sumitomo Mitsui Financial  
UniCredit  
Vanguard  
VP Bank Group

**ThyssenKrupp**





## URS (United States)

### Company profile

URS, based in the United States, is a fully integrated engineering, construction and technical services organisation offering programme management; planning, design and engineering; systems engineering and technical assistance; information technology; construction and construction management; operations and maintenance; and decommissioning and closure services.<sup>199</sup> In July 2014, Aecom announced that it would acquire URS in a USD 6 billion deal, which is expected to be completed in October 2014.<sup>200</sup>

In the financial year ending 3 January 2014, URS generated revenues of USD 11.0 billion (€ 8.0 billion), resulting in an operating income of USD 591 million (€ 431 million) and a net income of USD 247 million (€ 180 million).<sup>201</sup>

**Website:**  
<http://www.urs.com>

**Twitter:**  
@URSCorp

### Nuclear weapons

The Lawrence Livermore (LLNL) and Los Alamos National Laboratories (LANL), jointly managed by Babcock & Wilcox, University of California, Bechtel and URS Corporation, play an important role in the research and design of nuclear weapons.<sup>202</sup>

LANL is responsible for monitoring the safety and reliability of the US nuclear stocks. The laboratory is engaged in the design and production of nuclear weapons.<sup>203</sup> The contract of the consortium to manage the LANL's nuclear and other operations has a total value of USD14 billion (€ 10 billion).<sup>204</sup>

LLNL also engages in research, design and development of nuclear weapons. Stewardship of the US nuclear weapons stockpile is the foremost responsibility of the facility.<sup>205</sup> The Stockpile Stewardship programme is meant to sustain and modernize the US nuclear weapons stockpile through surveillance, assessment, life extension and dismantlement efforts.<sup>206</sup>

For both labs, URS claims responsibility for managing the labs' nuclear and other technically complex operations.<sup>207</sup>

In April 2014, URS received a modified incremental funding contract with a maximum total possible amount of USD 40 million with the US Navy to provide electronics systems support for the Trident system.<sup>208</sup>

### Investors

The following financial institutions have made approximately 7559 million USD available to URS since January 2011.

|  |                               |                          |  |                           |
|--|-------------------------------|--------------------------|--|---------------------------|
| Affiliated Managers Group                      | Citigroup                     | Greenlight Capital       | Morgan Stanley                             | Raymond James             |
| AJO  | City National Corporation     | Guggenheim Capital       | National Financial Partners                | Financial                 |
| American Century Companies                     | Comerica                      | HSBC                     | New Jersey Department of the Treasury      | Royal Bank of Scotland    |
| Artisan Partners                               | Crédit Agricole               | Jana Partners            | New Mountain Capital                       | Seizert Capital Partners  |
| AXA  | DePrince Race & Zollo         | JPMorgan Chase           | New York State Common Retirement Fund      | State Street              |
| Bank of America                                | Dimensional Fund Advisors     | Legg Mason               | Northern Trust                             | Sumitomo Mitsui Financial |
| Barclays                                       | E.SUN Financial               | LSV Asset Management     | Norwegian Government Pension Fund - Global | SunTrust Banks            |
| BB&T Corporation                               | Earnest Partners              | M&T Bank Corporation     | Old Mutual                                 | US Bancorp                |
| BlackRock                                      | Fidelity Investments          | Mega Financial           | Power Financial Corporation                | Vanguard                  |
| BMO Financial                                  | Fidelity Worldwide Investment | Mitsubishi UFJ Financial | Pzena Investment Management                | Wedge Capital Management  |
| BNP Paribas                                    | First Trust Advisors          | Mizuho Financial         |  | Wells Fargo               |
| California Public Employees' Retirement System | Geode Capital Management      |                          |  | Westpac Banking           |



## Notes

- 1 The Democratic People's Republic of Korea is not included in this study due to lack of publicly available information on its programme.
- 2 Kristensen, H.M. & Norris, R.S., 2014. Worldwide deployments of nuclear weapons, 2014. *Bulletin of the Atomic Scientists*, 70(5), pp.96–108. Available at: <http://bos.sagepub.com/citmgr?gca=spbos%3B70%2F5%2F96> [Accessed September 3, 2014].
- 3 Bruce Blair, "World Nuke Spending to Top \$1 Trillion Per Decade," *Time*, 4 June 2011, [battleland.blogs.time.com/2011/06/04/world-nuke-spending-to-top-1-trillion-per-decade/](http://battleland.blogs.time.com/2011/06/04/world-nuke-spending-to-top-1-trillion-per-decade/); also see Bruce G. Blair and Matthew A. Brown, *Global Zero Cost Study*, June 2011, [www.globalzero.org/files/scott/GlobalZeroCostStudy\\_June2011.pdf](http://www.globalzero.org/files/scott/GlobalZeroCostStudy_June2011.pdf).
- 4 Andrew Lichterman, "Where Does Political Will Come From? Civil Society, Social Movements and Disarmament in the 21st Century," *Assuring destruction forever: nuclear weapon modernization around the world, Reaching Critical Will of the Women's International League for Peace and Freedom*, 2012.
- 5 Kearns, I., "Beyond the United Kingdom: Trends in the Other Nuclear Armed States", *British American Security Information Council (BASIC)*, November 2011, p. 1.
- 6 Kristensen, H. & Norris, R., "Chinese nuclear forces, 2011", *Bulletin of the Atomic Scientists*, November 2011, p. 84
- 7 Kearns, I., "Beyond the United Kingdom: Trends in the Other Nuclear Armed States", *British American Security Information Council (BASIC)*, November 2011.
- 8 "Unstarred Question No. 1398," *Rajya Sabha*, 22 August 2013, [dae.nic.in/writereaddata/parl/mansoon2013/rsus1398.pdf](http://dae.nic.in/writereaddata/parl/mansoon2013/rsus1398.pdf).
- 9 AECOM, "About", *Website AECOM* ([www.aecom.com/About](http://www.aecom.com/About)), viewed May 2014.
- 10 AECOM, "Annual Report 2013", *AECOM*, November 2013.
- 11 National Security Technologies, "NSTec, Who we are...", *Website National Security Technologies* ([www2.nstec.com/Pages/About.aspx](http://www2.nstec.com/Pages/About.aspx)), viewed May 2014; AECOM, "10-K Annual Report 2013", *AECOM*, November 2013 ([phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MjZlNjQyFENoaWxkSUQ9LTf8VHlwZT0z&t=1](http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MjZlNjQyFENoaWxkSUQ9LTf8VHlwZT0z&t=1)).
- 12 AECOM, "Nevada Test Site Management and Operations", *Website AECOM* ([www.aecom.com/Where+We+Are/Americas/Government/\\_projectsList/Nevada+Test+Site+Management+and+Operations](http://www.aecom.com/Where+We+Are/Americas/Government/_projectsList/Nevada+Test+Site+Management+and+Operations)), viewed May 2014.
- 13 Nevada Site Office, "NNSA Conducts Pollux Subcritical Experiment at Nevada National Security Site", *Website Nevada Site Office*, 6 December 2012 ([nnsa.energy.gov/mediaroom/pressreleases/pollux120612](http://nnsa.energy.gov/mediaroom/pressreleases/pollux120612)); Licherman, A., "Issue Update – Subcritical tests", *Western States Legal Foundation*, 2012 ([www.wslfweb.org/docs/WSLF%20Issue%20Update-Subcritical%20Tests%20Fall%202012.pdf](http://www.wslfweb.org/docs/WSLF%20Issue%20Update-Subcritical%20Tests%20Fall%202012.pdf)).
- 14 CH2M HILL, "CH2M HILL awarded joint venture contract to provide support and infrastructure expertise at the Nevada Test Site", *Media release CH2M HILL*, 3 April 2006 ([www.ch2m.com/corporate/news\\_room/news\\_story.asp?story\\_id=79](http://www.ch2m.com/corporate/news_room/news_story.asp?story_id=79)).
- 15 AECOM, "Annual Report 2013", *AECOM*, November 2013.
- 16 Airbus Group, "What we do", *Website Airbus Group* ([www.airbus-group.com/airbusgroup/int/en/our-company/What-we-do.html](http://www.airbus-group.com/airbusgroup/int/en/our-company/What-we-do.html)), viewed May 2014. [http://www.airbusgroup.com/int/en/news-media/press-releases/EADS/Finacial\\_Communication/2014/05/20140527\\_airbus\\_group\\_agm.html](http://www.airbusgroup.com/int/en/news-media/press-releases/EADS/Finacial_Communication/2014/05/20140527_airbus_group_agm.html), viewed 24 July 2014.
- 17 Airbus Group, "Financial Statements 2013", *Airbus Group*, 25 February 2014.
- 18 Astrium, "M45", *Website Astrium* ([www.astrium.eads.net/en/programme/m-45-r3j.html](http://www.astrium.eads.net/en/programme/m-45-r3j.html)), viewed May 2014.
- 19 Astrium, "M51", *Website Astrium* ([www.astrium.eads.net/en/programme/m-51-juj.html](http://www.astrium.eads.net/en/programme/m-51-juj.html)), viewed May 2014;
- 20 Campagne tegen wapenhandel, "Vragen aan de CEOs van EADS", *Website Campagne tegen wapenhandel*, 2013 ([www.stopwapenhandel.org/node/1509](http://www.stopwapenhandel.org/node/1509)), viewed May 2014.
- 21 ATK, "Corporate overview", *Website ATK* ([www.atk.com/corporate-overview/](http://www.atk.com/corporate-overview/)), viewed May 2014.
- 22 ATK, "ATK Reports Fourth Quarter and FY14 Full-Year Operating Results", *News Release ATK*, 15 May 2014 ([ir.atk.com/phoenix.zhtml?c=118594&p=irol-newsArticle&ID=1931216&highlight=..](http://ir.atk.com/phoenix.zhtml?c=118594&p=irol-newsArticle&ID=1931216&highlight=..)).
- 23 ATK, "Annual Report 2013", *ATK*, 22 May 2013; ATK, "ATK Awarded \$100 Million Contract for Trident II Solid Rocket Propulsion Systems", *Website ATK*, 11 November 2009 ([atk.mediaroom.com/index.php?s=25280&item=58065](http://atk.mediaroom.com/index.php?s=25280&item=58065)), viewed May 2014; ATK, "Trident II", *Website ATK* ([www.atk.com/products-services/trident-ii/](http://www.atk.com/products-services/trident-ii/)), viewed May 2014; ATK, "Annual Report 2013", *ATK*, 22 May 2013.
- 24 ATK, "Minuteman III", *Website ATK* ([www.atk.com/products-services/minuteman-iii/](http://www.atk.com/products-services/minuteman-iii/)), viewed May 2014.
- 25 Host, P., "Air Force Awards Contracts For Future Medium Class Stage III ICBM Motor Development", *Defense Daily*, 7 January 2014; *US Department of Defense*, "Daily Contract List", *US Department of Defense*, 18 October 2013 ([insidedefense.com/2013/10/18/2450237/Defense-Plus/Text-Documents/dod-10182013/menu-id-77.html](http://insidedefense.com/2013/10/18/2450237/Defense-Plus/Text-Documents/dod-10182013/menu-id-77.html)).
- 26 Babcock & Wilcox, "About B&W", *Website Babcock & Wilcox* ([www.babcock.com/about/](http://www.babcock.com/about/)), viewed May 2014.
- 27 Babcock & Wilcox, "Annual Report 2013", *Babcock & Wilcox*, 26 February 2014.
- 28 Babcock & Wilcox, "Annual Report 2013", *Babcock & Wilcox*, 26 February 2014 and *Babcock & Wilcox*, "Nuclear Operations Management", *Website Babcock & Wilcox* ([www.babcock.com/about/Pages/Babcock-Wilcox-Nuclear-Operations-Group.aspx](http://www.babcock.com/about/Pages/Babcock-Wilcox-Nuclear-Operations-Group.aspx)), viewed May 2014.
- 29 Babcock & Wilcox, "B&W Announces \$79 Million Naval Nuclear Fuel Contract Extension", *Babcock & Wilcox*, 11 February 2011 ([www.babcock.com/news-room/Pages/BW-Announces-\\$79-Million-Naval-Nuclear-Fuel-Contract-Extension.aspx](http://www.babcock.com/news-room/Pages/BW-Announces-$79-Million-Naval-Nuclear-Fuel-Contract-Extension.aspx)); *Babcock & Wilcox*, "Annual Report 2012", *Babcock & Wilcox*, 27 February 2013.
- 30 National Nuclear Security Administration, "Our locations", *Website National Nuclear Security Administration* ([nnsa.energy.gov/about/ourlocations](http://nnsa.energy.gov/about/ourlocations)), viewed May 2014; *Babcock & Wilcox*, "Y-12 National Security Complex (Y-12)", *Website Babcock & Wilcox* ([www.babcock.com/about/Pages/Y-12-National-Security-Complex.aspx](http://www.babcock.com/about/Pages/Y-12-National-Security-Complex.aspx)), viewed May 2014.
- 31 National Nuclear Security Administration, "FY 2012 Congressional Budget Request", *Department of Energy*, February 2011 ([nnsa.energy.gov/sites/default/files/nnsa/inlinefiles/FY202012%20NNSA%20Congressional%20Budget%20Submission\\_0.pdf](http://nnsa.energy.gov/sites/default/files/nnsa/inlinefiles/FY202012%20NNSA%20Congressional%20Budget%20Submission_0.pdf)); *Babcock & Wilcox*, "Pantex", *Website Babcock & Wilcox* ([www.babcock.com/about/Pages/Pantex.aspx](http://www.babcock.com/about/Pages/Pantex.aspx)), viewed May 2014; *National Nuclear Security Administration*, "Our locations", *Website National Nuclear Security Administration* ([nnsa.energy.gov/about/ourlocations](http://nnsa.energy.gov/about/ourlocations)), viewed May 2014; Kristensen, H.M., "The Nuclear Weapons Modernization Budget", *FAS Strategic Security Blog of the Federation of American Scientists*, 17 February 2011 ([blogs.fas.org/security/2011/02/nuclearbudget/](http://blogs.fas.org/security/2011/02/nuclearbudget/)); *National Nuclear Security Administration*, "W76-1 Life Extension Program", *Website National Nuclear Security Administration*, 15 November 2012 ([nnsa.energy.gov/mediaroom/factsheets/w76-1lep](http://nnsa.energy.gov/mediaroom/factsheets/w76-1lep)); *Arms Control Association*, "US Nuclear Modernization Programs", *Website Arms Control Association*, January 2014 ([www.armscontrol.org/factsheets/USNuclearModernization](http://www.armscontrol.org/factsheets/USNuclearModernization)).
- 32 Babcock & Wilcox, "Pantex Overview", *Website Babcock & Wilcox* ([www.babcock.com/about/Pages/Pantex.aspx](http://www.babcock.com/about/Pages/Pantex.aspx)), viewed May 2014; *Vartabedian, R.*, "Program to refurbish aging nuclear warheads faces

- setbacks", *Los Angeles Times*, 29 May 2009 ([articles.latimes.com/2009/may/29/nation/na-broken-warheads29](http://articles.latimes.com/2009/may/29/nation/na-broken-warheads29)); Babcock & Wilcox, "Babcock & Wilcox Technical Services Group, Inc.", Website Babcock & Wilcox ([www.babcock.com/about/business\\_units/technical\\_services\\_group/](http://www.babcock.com/about/business_units/technical_services_group/)), viewed May 2014.
- 33 Babcock & Wilcox, "Lawrence Livermore National Laboratory (LLNL)", Website Babcock & Wilcox ([www.babcock.com/about/Pages/Lawrence-Livermore-National-Laboratory-\(LLNL\).aspx](http://www.babcock.com/about/Pages/Lawrence-Livermore-National-Laboratory-(LLNL).aspx)), viewed May 2014; Babcock & Wilcox, "Los Alamos National Laboratory (LANL)", Website Babcock & Wilcox ([www.babcock.com/about/Pages/Los-Alamos-National-Laboratory-\(LANL\).aspx](http://www.babcock.com/about/Pages/Los-Alamos-National-Laboratory-(LANL).aspx)), viewed May 2014; National Nuclear Security Administration, "Our locations", Website National Nuclear Security Administration ([/nnsa.energy.gov/aboutus/ourlocations](http://nnsa.energy.gov/aboutus/ourlocations)), viewed May 2014; Union of Concerned Scientists, "Lawrence Livermore National Laboratory", Union of Concerned Scientists, November 2012 ([www.ucsusa.org/assets/documents/nwgs/nuclear-weapons-complex/livermore-fact-sheet.pdf](http://www.ucsusa.org/assets/documents/nwgs/nuclear-weapons-complex/livermore-fact-sheet.pdf)); Mello, G., "The US nuclear weapons complex: Pushing for a new production capability", *The Bulletin*, 20 March 2008 ([thebulletin.org/us-nuclear-weapons-complex-pushing-new-production-capability](http://thebulletin.org/us-nuclear-weapons-complex-pushing-new-production-capability)), viewed May 2014; Bechtel, "US National Laboratories", Website Bechtel ([www.bechtel.com/u.s.\\_national\\_laboratories.html](http://www.bechtel.com/u.s._national_laboratories.html)), viewed May 2014.
- 34 URS, "Los Alamos National Laboratory", Website URS ([www.urscorp.com/Projects/projView.php?s=803&sec=31&pn=3](http://www.urscorp.com/Projects/projView.php?s=803&sec=31&pn=3)), viewed May 2014.
- 35 National Security Technologies, "NSTec, Who we are...", Website National Security Technologies ([www2.nstec.com/Pages/About.aspx](http://www2.nstec.com/Pages/About.aspx)), viewed May 2014; Babcock & Wilcox Company, "Annual Report 2013", Babcock & Wilcox Company, February 2014.
- 36 Babcock & Wilcox, "News room: B&W Announces \$195 Million in Naval Reactors Contracts and Orders", Website Babcock & Wilcox ([www.babcock.com/news-room/Pages/BW-Announces-195-Million-in-Naval-Reactors-Contracts-and-Orders.aspx](http://www.babcock.com/news-room/Pages/BW-Announces-195-Million-in-Naval-Reactors-Contracts-and-Orders.aspx)), viewed May 2014
- 37 LaGrone, S., "Navy Has Finalized Specifications for New Ohio-Replacement Boomer", Website USNI News, 7 April 2014 ([news.usni.org/2014/04/07/navy-finalized-specifications-new-ohio-replacement-boomer](http://news.usni.org/2014/04/07/navy-finalized-specifications-new-ohio-replacement-boomer)).
- 38 BAE Systems, "Our businesses", Website BAE Systems ([www.baesystems.com/our-company-rzz/our-businesses?\\_afzLoop=1408897039934000](http://www.baesystems.com/our-company-rzz/our-businesses?_afzLoop=1408897039934000)), viewed May 2014.
- 39 BAE Systems, "Annual Report 2013", BAE Systems, February 2014.
- 40 US Department of Defense, "Daily Contracts List", US Department of Defense, 6 December 2013 ([insidedefense.com/201312062455109/Defense-Plus/Text-Documents/dod-1262013-daily-contracts-list/menu-id-77.html](http://insidedefense.com/201312062455109/Defense-Plus/Text-Documents/dod-1262013-daily-contracts-list/menu-id-77.html)).
- 41 Inside the Pentagon, "BAE Weeks Away From Fully Assuming Lead Role In ICBM Sustainment", *Inside the Pentagon*, Vol.30(18), 1 May 2014.
- 42 Bechtel Corporation, "Business Units", Website Bechtel Corporation ([www.bechtel.com/business\\_units.html](http://www.bechtel.com/business_units.html)), viewed May 2014.
- 43 Bechtel Corporation, "Annual Report 2013", Bechtel Corporation, April 2013.
- 44 National Nuclear Security Administration, "Our locations", Website National Nuclear Security Administration ([/nnsa.energy.gov/aboutus/ourlocations](http://nnsa.energy.gov/aboutus/ourlocations)), viewed May 2014; Babcock & Wilcox, "Y-12 National Security Complex (Y-12)", Website Babcock & Wilcox ([www.babcock.com/about/Pages/Y-12-National-Security-Complex.aspx](http://www.babcock.com/about/Pages/Y-12-National-Security-Complex.aspx)), viewed May 2014.
- 45 Babcock & Wilcox, "Lawrence Livermore National Laboratory (LLNL)", Website Babcock & Wilcox ([www.babcock.com/about/Pages/Lawrence-Livermore-National-Laboratory-\(LLNL\).aspx](http://www.babcock.com/about/Pages/Lawrence-Livermore-National-Laboratory-(LLNL).aspx)), viewed May 2014; Babcock & Wilcox, "Los Alamos National Laboratory (LANL)", Website Babcock & Wilcox ([www.babcock.com/about/Pages/Los-Alamos-National-Laboratory-\(LANL\).aspx](http://www.babcock.com/about/Pages/Los-Alamos-National-Laboratory-(LANL).aspx)), viewed May 2014; National Nuclear Security Administration, "Our locations", Website National Nuclear Security Administration ([/nnsa.energy.gov/aboutus/ourlocations](http://nnsa.energy.gov/aboutus/ourlocations)), viewed May 2014; Union of Concerned Scientists, "Lawrence Livermore National Laboratory", Union of Concerned Scientists, November 2012 ([www.ucsusa.org/assets/documents/nwgs/nuclear-weapons-complex/livermore-fact-sheet.pdf](http://www.ucsusa.org/assets/documents/nwgs/nuclear-weapons-complex/livermore-fact-sheet.pdf)); Mello, G., "The US nuclear weapons complex: Pushing for a new production capability", *The Bulletin*, 20 March 2008 ([thebulletin.org/us-nuclear-weapons-complex-pushing-new-production-capability](http://thebulletin.org/us-nuclear-weapons-complex-pushing-new-production-capability)), viewed May 2014; Bechtel, "US National Laboratories", Website Bechtel ([www.bechtel.com/u.s.\\_national\\_laboratories.html](http://www.bechtel.com/u.s._national_laboratories.html)), viewed May 2014; National Nuclear Security Administration (NNSA), "Lawrence Livermore National Laboratory (LLNL): Nuclear design and engineering and high explosive research & development (R&D)", Website NNSA ([nnsa.energy.gov/sites/default/files/nnsa/inlinefiles/LivermoreFactSheet.pdf](http://nnsa.energy.gov/sites/default/files/nnsa/inlinefiles/LivermoreFactSheet.pdf)), viewed May 2014; Defense Nuclear Facilities Safety Board, "Lawrence Livermore National Laboratory", Website Defense Nuclear Facilities Safety Board ([www.dnfsb.gov/about/where-we-work/doe-defense-nuclear-facilities/lawrence-livermore-national-laboratory](http://www.dnfsb.gov/about/where-we-work/doe-defense-nuclear-facilities/lawrence-livermore-national-laboratory)), viewed May 2014.
- 46 URS, "Los Alamos National Laboratory", Website URS ([www.urscorp.com/Projects/projView.php?s=803&sec=31&pn=3](http://www.urscorp.com/Projects/projView.php?s=803&sec=31&pn=3)), viewed May 2014.
- 47 Boeing, "Boeing in Brief", Website Boeing ([www.boeing.com/companyoffices/aboutus/brief.html](http://www.boeing.com/companyoffices/aboutus/brief.html)), viewed May 2014.
- 48 Boeing, "Annual Report 2013", Boeing, February 2014.
- 49 Boeing, "LGM-30 Minuteman Missile", Website Boeing ([www.boeing.com/history/boeing/minuteman.html](http://www.boeing.com/history/boeing/minuteman.html)), viewed May 2014.
- 50 US Air Force, "Fact sheet", Website US Air Force ([www.minot.af.mil/library/factsheets/factsheet\\_print.asp?fsID=16836&page=1](http://www.minot.af.mil/library/factsheets/factsheet_print.asp?fsID=16836&page=1)), viewed May 2014.
- 51 Space daily, "Air Force Awards TRW \$215 Million Contract for ICBM Motors", Website Space daily ([www.spacedaily.com/reports/Air\\_Force\\_Awards\\_TRW\\_\\$215\\_Million\\_Contract\\_for\\_ICBM\\_Motors.html](http://www.spacedaily.com/reports/Air_Force_Awards_TRW_$215_Million_Contract_for_ICBM_Motors.html)), viewed May 2014; Woolf, A.E., "US Strategic Nuclear Forces: Background, Developments and Issues", Congressional Research Service, 14 January 2013 ([www.fas.org/sgp/crs/nuke/RL33640.pdf](http://www.fas.org/sgp/crs/nuke/RL33640.pdf)).
- 52 InsideDefense, "Long-Range Standoff Missile Development Pushed Back By Three Years", *InsideDefense*, 5 March 2014.
- 53 InsideDefense, "Air Force, Industry Review Draft LRSD Acquisition Strategy And Budget", *InsideDefense*, 14 November 2013.
- 54 CH2M HILL, "Markets", Website CH2M HILL ([www.ch2m.com/corporate/about\\_us/default.asp#](http://www.ch2m.com/corporate/about_us/default.asp#)), viewed May 2014; CH2M HILL, "About us", Website CH2M HILL ([www.ch2m.com/corporate/about\\_us/default.asp](http://www.ch2m.com/corporate/about_us/default.asp)), viewed May 2014.
- 55 CH2M HILL, "Annual Report 2013", CH2M HILL, February 2014.
- 56 National Security Technologies, "NSTec, Who we are...", Website National Security Technologies ([www2.nstec.com/Pages/About.aspx](http://www2.nstec.com/Pages/About.aspx)), viewed May 2014.
- 57 AECOM, "Nevada Test Site Management and Operations", Website AECOM ([www.aecom.com/Where+We+Are/Americas/Government/\\_projectsList/Nevada+Test+Site+Management+and+Operations](http://www.aecom.com/Where+We+Are/Americas/Government/_projectsList/Nevada+Test+Site+Management+and+Operations)), viewed May 2014.
- 58 Nevada Site Office, "NNSA Conducts Pollux Subcritical Experiment at Nevada National Security Site", Website Nevada Site Office, 6 December 2012 ([nnsa.energy.gov/mediaroom/pressreleases/pollux120612](http://nnsa.energy.gov/mediaroom/pressreleases/pollux120612)); Licherman, A., "Issue Update – Subcritical tests", Western States Legal Foundation, 2012 ([www.wslfweb.org/docs/WSLF%20Issue%20Update--Subcritical%20Tests%20Fall%202012.pdf](http://www.wslfweb.org/docs/WSLF%20Issue%20Update--Subcritical%20Tests%20Fall%202012.pdf)).
- 59 CH2M HILL, "CH2M HILL awarded joint venture contract to provide support and infrastructure expertise at the Nevada Test Site", Media release CH2M HILL, 3 April 2006 ([www.ch2m.com/corporate/news\\_room/news\\_story.asp?story\\_id=79](http://www.ch2m.com/corporate/news_room/news_story.asp?story_id=79)).
- 60 Finmeccanica, "Profile", Website Finmeccanica ([www.finmeccanica.com/en/investors/finmeccanica-sintesi-ataglance](http://www.finmeccanica.com/en/investors/finmeccanica-sintesi-ataglance)), viewed May 2014.
- 61 Finmeccanica, "Annual Report 2013", Finmeccanica, March 2014.
- 62 DRS Technologies, "DRS Technologies Awarded \$25 Million to Provide US Air Force with New Minuteman III Transporter Erector Vehicle", News Release DRS Technologies, 4 June 2013 ([www.drs.com/news/20130604.aspx](http://www.drs.com/news/20130604.aspx)); US Department of Defense, "Daily Contracts List", US Department of Defense, 21 May 2013 ([insidedefense.com/201305212435135/Defense-Plus/Text-Documents/dod-5212013/menu-id-77.html](http://insidedefense.com/201305212435135/Defense-Plus/Text-Documents/dod-5212013/menu-id-77.html));

- ASDNews, "DRS Awarded \$25 M to Provide USAF with New Minuteman III Transporter Erector Vehicle", Website ASDNews, 6 June 2013 ([www.asdnews.com/news-49424/DRS\\_Awarded\\_USD25\\_M\\_to\\_Provide\\_USAF\\_with\\_New\\_Minuteman\\_III\\_Transporter\\_Erector\\_Vehicle.htm?HASH=46b-c1c8c56e97113d175a0158a338de7&utm\\_source=ASDNews&utm\\_medium=email&utm\\_campaign=ASDNews+Daily+Z3&utm\\_content=frank.slijper%40hetnet.nl#ixzz2VQCEDfAC](http://www.asdnews.com/news-49424/DRS_Awarded_USD25_M_to_Provide_USAF_with_New_Minuteman_III_Transporter_Erector_Vehicle.htm?HASH=46b-c1c8c56e97113d175a0158a338de7&utm_source=ASDNews&utm_medium=email&utm_campaign=ASDNews+Daily+Z3&utm_content=frank.slijper%40hetnet.nl#ixzz2VQCEDfAC)).
- 63 US Department of the Air Force, "Replace Transporter Erector", Website US Federal Business Opportunities, Solicitation Number: FA8204-11-RFITERP1, 29 August 2011 ([www.fbo.gov/index?s=opportunity&mode=form&id=5e-7c2a6c566533505ee0742f55b82a6&tab=core&\\_cview=1](http://www.fbo.gov/index?s=opportunity&mode=form&id=5e-7c2a6c566533505ee0742f55b82a6&tab=core&_cview=1)).
- 64 DRS Technologies, "DRS Technologies Awarded \$25 Million to Provide US Air Force with New Minuteman III Transporter Erector Vehicle", News Release DRS Technologies, 4 June 2013 ([www.drs.com/news/20130604.aspx](http://www.drs.com/news/20130604.aspx)); US Department of Defense, "Daily Contracts List", US Department of Defense, 21 May 2013 ([insidedefense.com/201305212435135/Defense-Plus/Text-Document/dod-5212013/menu-id-77.html](http://insidedefense.com/201305212435135/Defense-Plus/Text-Document/dod-5212013/menu-id-77.html)); ASDNews, "DRS Awarded \$25 M to Provide USAF with New Minuteman III Transporter Erector Vehicle", Website ASDNews, 6 June 2013 ([www.asdnews.com/news-49424/DRS\\_Awarded\\_USD25\\_M\\_to\\_Provide\\_USAF\\_with\\_New\\_Minuteman\\_III\\_Transporter\\_Erector\\_Vehicle.htm?HASH=46b-c1c8c56e97113d175a0158a338de7&utm\\_source=ASDNews&utm\\_medium=email&utm\\_campaign=ASDNews+Daily+Z3&utm\\_content=frank.slijper%40hetnet.nl#ixzz2VQCEDfAC](http://www.asdnews.com/news-49424/DRS_Awarded_USD25_M_to_Provide_USAF_with_New_Minuteman_III_Transporter_Erector_Vehicle.htm?HASH=46b-c1c8c56e97113d175a0158a338de7&utm_source=ASDNews&utm_medium=email&utm_campaign=ASDNews+Daily+Z3&utm_content=frank.slijper%40hetnet.nl#ixzz2VQCEDfAC)).
- 65 Fluor, "Business Segments", Website Fluor ([www.fluor.com/business\\_segments/Pages/default.aspx](http://www.fluor.com/business_segments/Pages/default.aspx)), viewed May 2014.
- 66 Fluor, "Annual Report 2013", Fluor, February 2014.
- 67 SRNS, "Our parent companies", Website SRNS ([www.savannahrivernuclearsolutions.com/about/parent.htm](http://www.savannahrivernuclearsolutions.com/about/parent.htm)), viewed May 2014.
- 68 Huntington Ingalls, "Annual Report 2011", Huntington Ingalls, March 2012; Huntington Ingalls, "Annual Report 2013", Huntington Ingalls, February 2014.
- 69 Fluor, "USDOE Savannah River Nuclear Site Management & Operations", Website Fluor ([www.fluor.com/projects/pages/projectinfopage.aspx?prjid=116](http://www.fluor.com/projects/pages/projectinfopage.aspx?prjid=116)), viewed May 2014; SRNS, "Defense Programs", Website Savannah River Nuclear Solutions ([www.savannahrivernuclearsolutions.com/programs/def\\_prgms01.htm](http://www.savannahrivernuclearsolutions.com/programs/def_prgms01.htm)), viewed May 2014.
- 70 Gencorp, "About Gencorp", Website Gencorp ([www.gencorp.com/pages/aboutc.php](http://www.gencorp.com/pages/aboutc.php)), viewed May 2014.
- 71 Gencorp, "Annual Report 2013", Gencorp, February 2014.
- 72 Aerojet, "About", Website Aerojet ([www.rocket.com/about](http://www.rocket.com/about)), viewed May 2014.
- 73 Aerojet, "Capabilities", Website Aerojet ([www.rocket.com/capabilities](http://www.rocket.com/capabilities)), viewed May 2014.
- 74 US Air Force, "Fact sheet", Website US Air Force ([www.minot.af.mil/library/factsheets/factsheet\\_print.asp?fsID=16836&page=1](http://www.minot.af.mil/library/factsheets/factsheet_print.asp?fsID=16836&page=1)), viewed May 2014; Woolf, A.E., "US Strategic Nuclear Forces: Background, Developments and Issues", Congressional Research Service, 14 January 2013 ([www.fas.org/spp/crs/nuke/RL33640.pdf](http://www.fas.org/spp/crs/nuke/RL33640.pdf)).
- 75 Lockheed Martin, "Trident II D5 Fleet Ballistic Missile (FBM)", Website Lockheed Martin ([www.lockheedmartin.com/us/products/trident-ii-d5-fleet-ballistic-missile--fbm-.html](http://www.lockheedmartin.com/us/products/trident-ii-d5-fleet-ballistic-missile--fbm-.html)), viewed May 2014.
- 76 UK Parliament, "Selected Committee on Defence Eight Report, 2006", Website UK Parliament ([www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/986/98609.htm](http://www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/986/98609.htm)), viewed May 2014.
- 77 US Department of Defense, "Daily Contracts List", US Department of Defense, 18 October 2013 ([insidedefense.com/201310182450237/Defense-Plus/Text-Document/dod-10182013/menu-id-77.html](http://insidedefense.com/201310182450237/Defense-Plus/Text-Document/dod-10182013/menu-id-77.html)); GenCorp, "USAF Awards Aerojet Rocketdyne a Medium Class Stage III Demonstration Contract", News Release GenCorp, 2 December 2013 ([investor.gencorp.com/releasedetail.cfm?ReleaseID=810847](http://investor.gencorp.com/releasedetail.cfm?ReleaseID=810847)).
- 78 General Dynamics, "About GD", Website General Dynamics ([www.generaldynamics.com/about/](http://www.generaldynamics.com/about/)), viewed May 2014.
- 79 General Dynamics, "Annual Report 2013", General Dynamics, February 2014.
- 80 Defense Industry Daily, "\$101.1M to Develop the MK6 LE - So, What's That?", Website Defense Industry Daily ([www.defenseindustrydaily.com/1011m-to-develop-the-mk6-le-so-whats-that-01627/](http://www.defenseindustrydaily.com/1011m-to-develop-the-mk6-le-so-whats-that-01627/)), viewed May 2014.
- 81 General Dynamics Advanced Information Systems, "General Dynamics Awarded \$96 Million to Support Trident II Submarine Strategic Weapons Systems", News Release General Dynamics Advanced Information Systems, 5 January 2012 ([www.gd-ais.com/News/General-Dynamics-Awarded-96-Million-to-Support-Trident-II-Submarine-Strategic-Weapons-Systems](http://www.gd-ais.com/News/General-Dynamics-Awarded-96-Million-to-Support-Trident-II-Submarine-Strategic-Weapons-Systems)).
- 82 Lockheed Martin, "Trident II D5 Fleet Ballistic Missile (FBM)", Website Lockheed Martin ([www.lockheedmartin.com/us/products/trident-ii-d5-fleet-ballistic-missile--fbm-.html](http://www.lockheedmartin.com/us/products/trident-ii-d5-fleet-ballistic-missile--fbm-.html)), viewed May 2014.
- 83 UK Parliament, "Selected Committee on Defence Eight Report, 2006", Website UK Parliament ([www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/986/98609.htm](http://www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/986/98609.htm)), viewed May 2014.
- 84 US Department of Defense, "Daily Contracts List", US Department of Defense, 13 December 2013 ([insidedefense.com/201312132455882/Defense-Plus/Text-Document/dod-12132013-daily-contracts-list/menu-id-77.html](http://insidedefense.com/201312132455882/Defense-Plus/Text-Document/dod-12132013-daily-contracts-list/menu-id-77.html)).
- 85 America's Navy, "Fleet Ballistic Missile Submarines – SSBN", Website America's Navy ([www.navy.mil/navydata/fact\\_display.asp?cid=4100&tid=200&ct=4](http://www.navy.mil/navydata/fact_display.asp?cid=4100&tid=200&ct=4)), viewed May 2014. Federation of American Scientists "Ohio class SSGN", Website Federation of American Scientists ([www.fas.org/programs/ssp/man/uswpns/navy/submarines/ssgn726\\_ohio.html](http://www.fas.org/programs/ssp/man/uswpns/navy/submarines/ssgn726_ohio.html)), viewed May 2014.
- 86 General Dynamics Electric Boat, "About EB: Ohio Class", Website General Dynamics Electric Boat ([www.gdeb.com/about/oursubmarines/ohio/](http://www.gdeb.com/about/oursubmarines/ohio/)), viewed May 2014.
- 87 General Dynamics, "News: General Dynamics Awarded \$4.6 Billion for Submarine Programs", General Dynamics ([www.generaldynamics.com/news/press-releases/detail.cfm?customel\\_dataPageID\\_1811=18233](http://www.generaldynamics.com/news/press-releases/detail.cfm?customel_dataPageID_1811=18233)), 7 February 2014, viewed May 2014.
- 88 Honeywell International, "Our Company", Website Honeywell International ([honeywell.com/About/Pages/our-company.aspx](http://honeywell.com/About/Pages/our-company.aspx)), viewed May 2014.
- 89 Honeywell International, "Annual Report 2013", Honeywell International, February 2014.
- 90 Nuclear Watch, "Kansas City and the US Nuclear Weapons Complex", Nuclear Watch, 14 August 2010 ([nukewatch.org/facts/nwd/KC\\_NWC.pdf](http://nukewatch.org/facts/nwd/KC_NWC.pdf)).
- 91 St. Louis Chapter of the National Defense Industrial Association, "Honeywell's Nuclear Weapons Parts Plant Contract is Extended", Website St. Louis Chapter of the National Defense Industrial Association, 23 July 2010 ([www.ndiastl.org/blog/honeywell%E2%80%99s-nuclear-weapons-parts-plant-contract-is-extended/](http://www.ndiastl.org/blog/honeywell%E2%80%99s-nuclear-weapons-parts-plant-contract-is-extended/)).
- 92 Honeywell International, "Kansas City Plant – Locations", Website Honeywell International ([honeywell.com/sites/aero-kcp/About-Us/Pages/locations.aspx](http://honeywell.com/sites/aero-kcp/About-Us/Pages/locations.aspx)), viewed May 2014.
- 93 Huntington Ingalls, "Annual Report 2013", Huntington Ingalls, February 2014; US Department of Energy, "DOE to Extend Savannah River Nuclear Solutions Contract at Savannah River Site to September 2016", US Department of Energy, 6 September 2012 ([energy.gov/em/articles/doe-extend-savannah-river-nuclear-solutions-contract-savannah-river](http://energy.gov/em/articles/doe-extend-savannah-river-nuclear-solutions-contract-savannah-river)).
- 94 Fluor, "USDOE Savannah River Nuclear Site Management & Operations", Website Fluor ([www.fluor.com/projects/pages/projectinfopage.aspx?prjid=116](http://www.fluor.com/projects/pages/projectinfopage.aspx?prjid=116)), viewed May 2014; SRNS, "Defense Programs", Website Savannah River Nuclear Solutions ([www.savannahrivernuclearsolutions.com/programs/def\\_prgms01.htm](http://www.savannahrivernuclearsolutions.com/programs/def_prgms01.htm)), viewed May 2014.
- 95 The New Mexico Partnership, "New Mexico: Aviation & Aerospace", Website The New Mexico Partnership ([nmpartnership.com/uploads/navigation/Aviation\\_Aerospace\\_PDF/Aviation.pdf](http://nmpartnership.com/uploads/navigation/Aviation_Aerospace_PDF/Aviation.pdf)), viewed May 2014; Honeywell, "Propulsion Testing (HTSI)", Website Honeywell ([commerce.honeywell.com/webapp/wcs/stores/servlet/eSystemDisplay?catalogId=10201&storeId=10651&categoryId=43004&langId=-4](http://commerce.honeywell.com/webapp/wcs/stores/servlet/eSystemDisplay?catalogId=10201&storeId=10651&categoryId=43004&langId=-4)), viewed May 2014.
- 96 Defense Industry Daily, "\$101.1M to Develop the MK6 LE - So, What's That?",

- Defense Industry Daily ([www.defenseindustrydaily.com/1011m-to-develop-the-mk6-le-so-whats-that-01627/](http://www.defenseindustrydaily.com/1011m-to-develop-the-mk6-le-so-whats-that-01627/)), viewed May 2014.
- 97 General Dynamics Advanced Information Systems, "General Dynamics Awarded \$110 Million for Procurement of Foundry Services", News Release General Dynamics Advanced Information Systems, 14 December 2009 ([www.gd-ais.com/News/General-Dynamics-Awarded-110-Million-for-Procurement-of-Foundry-Services-](http://www.gd-ais.com/News/General-Dynamics-Awarded-110-Million-for-Procurement-of-Foundry-Services-)).
- 98 Lockheed Martin, "Trident II D5 Fleet Ballistic Missile (FBM)", Website Lockheed Martin ([www.lockheedmartin.com/us/products/trident-ii-d5-fleet-ballistic-missile-fbm-.html](http://www.lockheedmartin.com/us/products/trident-ii-d5-fleet-ballistic-missile-fbm-.html)), viewed May 2014.
- 99 UK Parliament, "Selected Committee on Defence Eight Report, 2006", Website UK Parliament ([www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/986/98609.htm](http://www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/986/98609.htm)), viewed May 2014.
- 100 Huntington Ingalls Industries, "Who we are", Website Huntington Ingalls ([www.huntingtoningalls.com/about/index](http://www.huntingtoningalls.com/about/index)), viewed May 2014.
- 101 Huntington Ingalls Industries, "Annual Report 2013", Huntington Ingalls Industries, February 2013.
- 102 Huntington Ingalls, "Annual Report 2013", Huntington Ingalls, February 2014; US Department of Energy, "DOE to Extend Savannah River Nuclear Solutions Contract at Savannah River Site to September 2016", US Department of Energy, 6 September 2012 ([energy.gov/em/articles/doe-extend-savannah-river-nuclear-solutions-contract-savannah-river](http://energy.gov/em/articles/doe-extend-savannah-river-nuclear-solutions-contract-savannah-river)).
- 103 Fluor, "USDOE Savannah River Nuclear Site Management & Operations", Website Fluor ([www.fluor.com/projects/pages/projectinfopage.aspx?prjid=116](http://www.fluor.com/projects/pages/projectinfopage.aspx?prjid=116)), viewed May 2014; SRNS, "Defense Programs", Website Savannah River Nuclear Solutions ([www.savannahrivernuclearsolutions.com/programs/def\\_prgms01.htm](http://www.savannahrivernuclearsolutions.com/programs/def_prgms01.htm)), viewed May 2014.
- 104 Jacobs Engineering, "Our Industry", Website Jacobs Engineering ([www.jacobs.com/workwithus/ourindustries/](http://www.jacobs.com/workwithus/ourindustries/)), viewed May 2014.
- 105 Jacobs Engineering, "Annual Report 2013", Jacobs Engineering, November 2013.
- 106 Edwards, R., "Anger as US arms dealer takes over running of Scottish nuclear bomb base", *Scotland Herald* ([www.heraldsotland.com/news/home-news/anger-as-us-arms-dealer-takes-over-running-of-scottish-nuclear-bomb-base.13864732](http://www.heraldsotland.com/news/home-news/anger-as-us-arms-dealer-takes-over-running-of-scottish-nuclear-bomb-base.13864732)), 28 May 2011.
- 107 Jacobs Engineering, "Jacobs Agrees to Acquire Share in AWE Management Limited", News Release Jacobs Engineering, 17 December 2008; AWE, "About AWE: The Company", Website AWE ([www.awe.co.uk/aboutus/the\\_company\\_eb1b2.html](http://www.awe.co.uk/aboutus/the_company_eb1b2.html)), viewed May 2014; AWE, "About AWE: What We Do", Website AWE ([www.awe.co.uk/aboutus/what\\_we\\_do\\_27815.html](http://www.awe.co.uk/aboutus/what_we_do_27815.html)), viewed May 2014.
- 108 The Guardian, "Britain's nuclear spending soars amid defence cuts", Website *The Guardian*, 2 October 2011 ([www.guardian.co.uk/uk/2011/oct/02/ministry-of-defence-nuclear-spending-project-pegasus](http://www.guardian.co.uk/uk/2011/oct/02/ministry-of-defence-nuclear-spending-project-pegasus)); AWE, "About AWE: The Company", Website AWE ([www.awe.co.uk/aboutus/the\\_company\\_eb1b2.html](http://www.awe.co.uk/aboutus/the_company_eb1b2.html)), viewed May 2014.
- 109 Larsen & Toubro, "Company profile", Website Larsen & Toubro ([www.larsentoubro.com/Intcorporate/common/ui\\_templates/HtmlContainer.aspx?res=P\\_CORP\\_AABT\\_ACOM\\_AOVR](http://www.larsentoubro.com/Intcorporate/common/ui_templates/HtmlContainer.aspx?res=P_CORP_AABT_ACOM_AOVR)), viewed May 2014.
- 110 Larsen & Toubro, "Annual Report 2012-2013", Larsen & Toubro, May 2013.
- 111 Naqvi, T.H., "Indian nuclear submarine programme", *The Nation*, 13 May 2012 ([www.nation.com.pk/pakistan-news-newspaper-daily-english-online/columns/13-May-2012/indian-nuclear-submarine-programme](http://www.nation.com.pk/pakistan-news-newspaper-daily-english-online/columns/13-May-2012/indian-nuclear-submarine-programme)); Sandeep Unnithan, "The secret undersea weapon", *India Today*, 17 January 2008 ([indiatoday.intoday.in/story/The+secret+undersea+weapon/1/3659.html](http://indiatoday.intoday.in/story/The+secret+undersea+weapon/1/3659.html)); Ajai Shukla, "Larsen & Toubro flexes its engineering might", *Business Standard*, 21 March 2008 ([business-standard.com/india/news/larsentoubro-flexes-its-engineering-might/317578/](http://business-standard.com/india/news/larsentoubro-flexes-its-engineering-might/317578/)); Global Security, "India ATV", Website Global Security ([www.globalsecurity.org/military/world/india/atv.htm](http://www.globalsecurity.org/military/world/india/atv.htm)), viewed May 2014; Ray, K., "INS Arihant will miss December deadline", *Deccan Herald*, 10 November 2012 ([www.deccanherald.com/content/291417/ins-arihant-miss-december-deadline.html](http://www.deccanherald.com/content/291417/ins-arihant-miss-december-deadline.html)).
- 112 Mallikarjun, Y., "India to integrate K-15 missiles into nuclear submarine soon", Website *The Hindu*, 20 November 2012 ([www.thehindu.com/todays-paper/tp-national/india-to-integrate-k15-missiles-into-nuclear-submarine-soon/article4113618.ece](http://www.thehindu.com/todays-paper/tp-national/india-to-integrate-k15-missiles-into-nuclear-submarine-soon/article4113618.ece)).
- 113 Peri, D., 2014. India's Nuclear Triad Finally Coming of Age. *The Diplomat*. Available at: <http://thediplomat.com/2014/06/indias-nuclear-triad-finally-coming-of-age/>. Viewed 26 September 2014.
- 114 Times of India, "With first nuclear submarine INS Arihant set for sea trials, Navy wants more for strategic deterrence", Website *Times of India*, 21 January 2014 ([timesofindia.indiatimes.com/india/With-first-nuclear-submarine-INS-Arihant-set-for-sea-trials-Navy-wants-more-for-strategic-deterrence/articleshow/29167621.cms](http://timesofindia.indiatimes.com/india/With-first-nuclear-submarine-INS-Arihant-set-for-sea-trials-Navy-wants-more-for-strategic-deterrence/articleshow/29167621.cms)).
- 115 Naqvi, T.H., "Indian nuclear submarine programme", *The Nation*, 13 May 2012 ([www.nation.com.pk/pakistan-news-newspaper-daily-english-online/columns/13-May-2012/indian-nuclear-submarine-programme](http://www.nation.com.pk/pakistan-news-newspaper-daily-english-online/columns/13-May-2012/indian-nuclear-submarine-programme)); Sandeep Unnithan, "The secret undersea weapon", *India Today*, 17 January 2008 ([indiatoday.intoday.in/story/The+secret+undersea+weapon/1/3659.html](http://indiatoday.intoday.in/story/The+secret+undersea+weapon/1/3659.html)); Ajai Shukla, "Larsen & Toubro flexes its engineering might", *Business Standard*, 21 March 2008 ([business-standard.com/india/news/larsentoubro-flexes-its-engineering-might/317578/](http://business-standard.com/india/news/larsentoubro-flexes-its-engineering-might/317578/)); Global Security, "India ATV", Website Global Security ([www.globalsecurity.org/military/world/india/atv.htm](http://www.globalsecurity.org/military/world/india/atv.htm)), viewed May 2014; Ray, K., "INS Arihant will miss December deadline", *Deccan Herald*, 10 November 2012 ([www.deccanherald.com/content/291417/ins-arihant-miss-december-deadline.html](http://www.deccanherald.com/content/291417/ins-arihant-miss-december-deadline.html)).
- 116 Army Technology, "Akash Surface-to-Air Missile System, India", Website *Army Technology* ([www.army-technology.com/projects/akashsurface-toairmiss/](http://www.army-technology.com/projects/akashsurface-toairmiss/)), viewed May 2014.
- 117 Aitoro, J.R., "Exclusive: John Jumper explains why the Leidos-SAIC split had to happen", Website *Washington Business Journal*, 26 September 2013 ([www.bizjournals.com/washington/blog/fedbiz\\_daily/2013/09/the-saic-split-is-done-leidos-ceo.html?page=all](http://www.bizjournals.com/washington/blog/fedbiz_daily/2013/09/the-saic-split-is-done-leidos-ceo.html?page=all)).
- 118 Leidos Holding, "Annual Report 2014", *Leidos Holding*, March 2014.
- 119 Leidos, "Leidos Helps the National Nuclear Security Administration Meet its Mission", Website *Leidos* ([www.leidos.com/project/leidos-helps-national-nuclear-security-administration-meet-its-mission](http://www.leidos.com/project/leidos-helps-national-nuclear-security-administration-meet-its-mission)), viewed May 2014.
- 120 SAIC, "SAIC Awarded \$18 Million Task Order By Defense Information Systems Agency", News Release SAIC, 17 October 2012 ([www.prnewswire.com/news-releases/saic-awarded-18-million-task-order-by-defense-information-systems-agency-174551171.html](http://www.prnewswire.com/news-releases/saic-awarded-18-million-task-order-by-defense-information-systems-agency-174551171.html)).
- 121 Lockheed Martin, "What we do", Website *Lockheed Martin* ([www.lockheedmartin.com/us/what-we-do.html](http://www.lockheedmartin.com/us/what-we-do.html)), viewed May 2014.
- 122 Lockheed Martin, "Annual Report 2013", *Lockheed Martin*, February 2014.
- 123 Stockholm International Peace Research Institute (SIPRI), "The SIPRI Top 100 arms-producing and military services companies in the world excluding China, 2012", Website *SIPRI* ([www.sipri.org/research/armaments/production/Top100](http://www.sipri.org/research/armaments/production/Top100)), viewed May 2014.
- 124 Lockheed Martin, "Annual Report 2011", *Lockheed Martin*, 23 February 2012; Edwards, R., "Anger as US arms dealer takes over running of Scottish nuclear bomb base", *Scotland Herald*, 28 May 2011 ([www.heraldsotland.com/news/home-news/anger-as-us-arms-dealer-takes-over-running-of-scottish-nuclear-bomb-base.13864732](http://www.heraldsotland.com/news/home-news/anger-as-us-arms-dealer-takes-over-running-of-scottish-nuclear-bomb-base.13864732)).
- 125 Lockheed Martin, "Trident II D5 Fleet Ballistic Missile (FBM)", Website *Lockheed Martin* ([www.lockheedmartin.com/us/products/trident-ii-d5-fleet-ballistic-missile-fbm-.html](http://www.lockheedmartin.com/us/products/trident-ii-d5-fleet-ballistic-missile-fbm-.html)), viewed May 2014.
- 126 ATK, "ATK Awarded \$100 Million Contract for Trident II Solid Rocket Propulsion Systems", Website *ATK*, 11 November 2009 ([atk.mediaroom.com/index.php?s=25280&item=58065](http://atk.mediaroom.com/index.php?s=25280&item=58065)), viewed May 2014; ATK, "Trident II", Website *ATK* ([www.atk.com/products-services/trident-ii/](http://www.atk.com/products-services/trident-ii/)), viewed May 2014.
- 127 UK Parliament, "Selected Committee on Defence Eight Report, 2006", Website UK Parliament ([www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/986/98609.htm](http://www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/986/98609.htm)), viewed May 2014.

- 128 US Department of Defense, "Daily Contracts List", *US Department of Defense*, 13 September 2013 ([insidedefense.com/201309132446807/Defense-Plus/Text-Document/dod-9132013-daily-contracts-list/menu-id-77.html](http://insidedefense.com/201309132446807/Defense-Plus/Text-Document/dod-9132013-daily-contracts-list/menu-id-77.html)).
- 129 US Department of Defense, "Daily Contracts List", *US Department of Defense*, 5 November 2013 ([insidedefense.com/201311052451946/Defense-Plus/Text-Document/dod-1152013-daily-contracts-list/menu-id-77.html](http://insidedefense.com/201311052451946/Defense-Plus/Text-Document/dod-1152013-daily-contracts-list/menu-id-77.html)).
- 130 US Department of Defense, "Daily Contracts List", *US Department of Defense*, 19 December 2013 ([insidedefense.com/201312192456401/Defense-Plus/Text-Document/dod-12192013-daily-contracts-list/menu-id-77.html](http://insidedefense.com/201312192456401/Defense-Plus/Text-Document/dod-12192013-daily-contracts-list/menu-id-77.html)).
- 131 Strategic Defence Intelligence, "Lockheed Martin to provide technical support for UK Trident II missile system", *Website Strategic Defence Intelligence*, 2 April 2014 ([www.strategicdefenceintelligence.com/article/4lw4TyrOo02/2014/04/02/lockheed\\_martin\\_to\\_provide\\_technical\\_support\\_for\\_uk\\_trident\\_ii/](http://www.strategicdefenceintelligence.com/article/4lw4TyrOo02/2014/04/02/lockheed_martin_to_provide_technical_support_for_uk_trident_ii/)); *NavalToday*, "Lockheed Martin Wins UK Trident II Missile Deal", *Website NavalToday*, 3 April 2014 ([navaltoday.com/2014/04/03/lockheed-martin-wins-uk-trident-ii-missile-deal/](http://navaltoday.com/2014/04/03/lockheed-martin-wins-uk-trident-ii-missile-deal/)).
- 132 US Department of the Navy, "FY15 TRIDENT II (D5) Missile Production and Deployed Systems Support", *Website US Federal Business Opportunities*, Solicitation Number: N00030-14-Q-0100, 30 March 2014 ([www.fbo.gov/index?s=opportunity&mode=form&id=664dd3db8b7d6675922d2e4fbd8bbba&tab=core&\\_cview=0](http://www.fbo.gov/index?s=opportunity&mode=form&id=664dd3db8b7d6675922d2e4fbd8bbba&tab=core&_cview=0)).
- 133 Edwards, R., "Anger as US arms dealer takes over running of Scottish nuclear bomb base", *Scotland Herald* ([www.heraldscotland.com/news/home-news/anger-as-us-arms-dealer-takes-over-running-of-scottish-nuclear-bomb-base.13864732](http://www.heraldscotland.com/news/home-news/anger-as-us-arms-dealer-takes-over-running-of-scottish-nuclear-bomb-base.13864732)), 28 May 2011.
- 134 Jacobs Engineering, "Jacobs Agrees to Acquire Share in AWE Management Limited", *News Release Jacobs Engineering*, 17 December 2008; AWE, "About AWE: The Company", *Website AWE* ([www.awe.co.uk/aboutus/the\\_company\\_eb1b2.html](http://www.awe.co.uk/aboutus/the_company_eb1b2.html)), viewed May 2014; AWE, "About AWE: What We Do", *Website AWE* ([www.awe.co.uk/aboutus/what\\_we\\_do\\_27815.html](http://www.awe.co.uk/aboutus/what_we_do_27815.html)), viewed May 2014.
- 135 The Guardian, "Britain's nuclear spending soars amid defence cuts", *Website The Guardian*, 2 October 2011 ([www.guardian.co.uk/uk/2011/oct/02/ministry-of-defence-nuclear-spending-project-pegasus](http://www.guardian.co.uk/uk/2011/oct/02/ministry-of-defence-nuclear-spending-project-pegasus)); AWE, "About AWE: The Company", *Website AWE* ([www.awe.co.uk/aboutus/the\\_company\\_eb1b2.html](http://www.awe.co.uk/aboutus/the_company_eb1b2.html)), viewed May 2014.
- 136 Defense Industry Daily, "Missile Envy: Modernizing the US ICBM Force, 14 March 2011", *Defense Industry Daily Website* ([www.defenseindustrydaily.com/Missile-Envy-Modernizing-the-US-ICBM-Force-06059/](http://www.defenseindustrydaily.com/Missile-Envy-Modernizing-the-US-ICBM-Force-06059/)), viewed May 2014.
- 137 Inside the Air Force, "Air Force Chooses BAE As Lead ICBM Contractor, Supplanting Northrop", *Inside the Air Force*, Vol.24(31), 2 August 2013; Boeing, "Intercontinental Ballistic Missile Systems", *Website Boeing* ([www.boeing.com/defense-space/ic/icbmsys/index.html](http://www.boeing.com/defense-space/ic/icbmsys/index.html)), viewed May 2014; Boeing, "Strategic Missile Systems", *Website Boeing* ([www.boeing.com/boeing/defense-space/ic/icbmsys/](http://www.boeing.com/boeing/defense-space/ic/icbmsys/)), viewed May 2014. *Defense Industry Daily*, "Missile Envy: Modernizing the US ICBM Force", *Defense Industry Daily*, 14 March 2011 ([www.defenseindustrydaily.com/Missile-Envy-Modernizing-the-US-ICBM-Force-06059/](http://www.defenseindustrydaily.com/Missile-Envy-Modernizing-the-US-ICBM-Force-06059/)); *WashingtonWatch*, "Minuteman III Solid Rocket Motor Warm Line Program (SRMWL)", *Website WashintonWatch* ([www.washingtonwatch.com/bills/show/ED\\_81542.html](http://www.washingtonwatch.com/bills/show/ED_81542.html)), viewed May 2014; *Globe Newswire*, "Minuteman ICBM Commemorates 50 Years of Nuclear Deterrence", *Website GlobeNewswire*, 9 January 2013 ([globenewswire.com/news-release/2013/01/09/515498/10017538/en/Minuteman-ICBM-Commemorates-50-Years-of-Nuclear-Deterrence.html](http://globenewswire.com/news-release/2013/01/09/515498/10017538/en/Minuteman-ICBM-Commemorates-50-Years-of-Nuclear-Deterrence.html)); *Lockheed Martin*, "Lockheed Martin Receives \$12.5 Million Contract for Reentry Vehicle Fuze Refurbishment for Air Force's ICBM Program", *News Release Lockheed Martin*, 14 March 2011 ([www.lockheedmartin.com/us/news/press-releases/2011/march/LockheedMartinReceives125.html](http://www.lockheedmartin.com/us/news/press-releases/2011/march/LockheedMartinReceives125.html)); Boeing, "Intercontinental Ballistic Missile Systems", *Website Boeing* ([www.boeing.com/defense-space/ic/icbmsys/index.html](http://www.boeing.com/defense-space/ic/icbmsys/index.html)), viewed May 2014.
- 138 Lockheed Martin, "Lockheed Martin Receives \$12.5 Million Contract for Reentry Vehicle Fuze Refurbishment for Air Force's ICBM Program", *News Release Lockheed Martin*, 14 March 2011 ([www.lockheedmartin.com/us/news/press-releases/2011/march/LockheedMartinReceives125.html](http://www.lockheedmartin.com/us/news/press-releases/2011/march/LockheedMartinReceives125.html)), viewed May 2014;
- 139 InsideDefense, "Long-Range Standoff Missile Development Pushed Back By Three Years", *InsideDefense*, 5 March 2014.
- 140 InsideDefense, "Air Force, Industry Review Draft LRSO Acquisition Strategy And Budget", *InsideDefense*, 14 November 2013.
- 141 InsideDefense, "Long-Range Standoff Missile Development Pushed Back By Three Years", *InsideDefense*, 5 March 2014.
- 142 Northrop Grumman, "About us", *Website Northrop Grumman* ([www.northropgrumman.com/about\\_us/index.html](http://www.northropgrumman.com/about_us/index.html)), viewed May 2014.
- 143 Northrop Grumman, "Annual Report 2013", *Northrop Grumman*, February 2013.
- 144 US Air Force, "Fact sheet", *Website US Air Force*, 9 May 2013 ([www.minot.af.mil/library/factsheets/factsheet\\_print.asp?fsID=16836&page=1](http://www.minot.af.mil/library/factsheets/factsheet_print.asp?fsID=16836&page=1)); Boeing, "Intercontinental Ballistic Missile Systems", *Website Boeing* ([www.boeing.com/defense-space/ic/icbmsys/index.html](http://www.boeing.com/defense-space/ic/icbmsys/index.html)), viewed May 2014; Boeing, "Strategic Missile Systems", *Website Boeing* ([www.boeing.com/boeing/defense-space/ic/icbmsys/](http://www.boeing.com/boeing/defense-space/ic/icbmsys/)), viewed May 2014. *Defense Industry Daily*, "Missile Envy: Modernizing the US ICBM Force", *Defense Industry Daily*, 14 March 2011 ([www.defenseindustrydaily.com/Missile-Envy-Modernizing-the-US-ICBM-Force-06059/](http://www.defenseindustrydaily.com/Missile-Envy-Modernizing-the-US-ICBM-Force-06059/)); *WashingtonWatch*, "Minuteman III Solid Rocket Motor Warm Line Program (SRMWL)", *Website WashintonWatch* ([www.washingtonwatch.com/bills/show/ED\\_81542.html](http://www.washingtonwatch.com/bills/show/ED_81542.html)), viewed May 2014; *Globe Newswire*, "Minuteman ICBM Commemorates 50 Years of Nuclear Deterrence", *Website GlobeNewswire*, 9 January 2013 ([globenewswire.com/news-release/2013/01/09/515498/10017538/en/Minuteman-ICBM-Commemorates-50-Years-of-Nuclear-Deterrence.html](http://globenewswire.com/news-release/2013/01/09/515498/10017538/en/Minuteman-ICBM-Commemorates-50-Years-of-Nuclear-Deterrence.html)).
- 145 Inside the Air Force, "Air Force Chooses BAE As Lead ICBM Contractor, Supplanting Northrop", *Inside the Air Force*, Vol.24(31), 2 August 2013.
- 146 Inside the Air Force, "Air Force Chooses BAE As Lead ICBM Contractor, Supplanting Northrop", *Inside the Air Force*, Vol.24(31), 2 August 2013.
- 147 US Department of Defense, "Daily Contracts List", *US Department of Defense*, 26 September 2013 ([insidedefense.com/201309262448107/Defense-Plus/Text-Document/dod-9262013-daily-contracts-list/menu-id-77.html](http://insidedefense.com/201309262448107/Defense-Plus/Text-Document/dod-9262013-daily-contracts-list/menu-id-77.html)).
- 148 US Department of Defense, "Daily Contracts List", *US Department of Defense*, 27 March 2014 ([insidedefense.com/201403272465776/Defense-Plus/Text-Document/dods-3272014-daily-contracts-list/menu-id-77.html](http://insidedefense.com/201403272465776/Defense-Plus/Text-Document/dods-3272014-daily-contracts-list/menu-id-77.html)).
- 149 InsideDefense, "Long-Range Standoff Missile Development Pushed Back By Three Years", *InsideDefense*, 5 March 2014.
- 150 InsideDefense, "Air Force, Industry Review Draft LRSO Acquisition Strategy And Budget", *InsideDefense*, 14 November 2013.
- 151 InsideDefense, "Long-Range Standoff Missile Development Pushed Back By Three Years", *InsideDefense*, 5 March 2014.
- 152 National Security Technologies, "NSTec, Who we are...", *Website National Security Technologies* ([www2.nstec.com/Pages/About.aspx](http://www2.nstec.com/Pages/About.aspx)), viewed May 2014.
- 153 Northrop Grumman, "Annual Report 2011", *Northrop Grumman*, February 2012.
- 154 AECOM, "Nevada Test Site Management and Operations", *Website AECOM* ([www.aecom.com/Where+We+Are/Americas/Government/\\_projectsList/Nevada+Test+Site+Management+and+Operations](http://www.aecom.com/Where+We+Are/Americas/Government/_projectsList/Nevada+Test+Site+Management+and+Operations)), viewed May 2014.
- 155 Nevada Site Office, "NNSA Conducts Pollux Subcritical Experiment at Nevada National Security Site", *Website Nevada Site Office*, 6 December 2012 ([nnsa.energy.gov/mediaroom/pressreleases/pollux120612](http://nnsa.energy.gov/mediaroom/pressreleases/pollux120612)); *Licherman, A.*, "Issue Update – Subcritical tests", *Western States Legal Foundation*, 2012 ([www.wslfweb.org/docs/WSLF%20Issue%20Update--Subcritical%20Tests%20Fall%202012.pdf](http://www.wslfweb.org/docs/WSLF%20Issue%20Update--Subcritical%20Tests%20Fall%202012.pdf)).



- 156 US Department of Defense, "Daily Contract List", *US Department of Defense*, 12 December 2013 ([insidedefense.com/201312122455728/Defense-Plus/Text-Document/dod-12122013-daily-contracts-list/menu-id-77.html](http://insidedefense.com/201312122455728/Defense-Plus/Text-Document/dod-12122013-daily-contracts-list/menu-id-77.html)).
- 157 Raytheon, "Our company", *Website Raytheon* ([www.raytheon.com/ourcompany/](http://www.raytheon.com/ourcompany/)), viewed May 2014.
- 158 Raytheon, "Annual Report 2013", *Raytheon*, February 2014.
- 159 Defense Industry Daily, "\$101.1M to Develop the MK6 LE - So, What's That?", *Website Defense Industry Daily* ([www.defenseindustrydaily.com/1011m-to-develop-the-mk6-le-so-whats-that-01627/](http://www.defenseindustrydaily.com/1011m-to-develop-the-mk6-le-so-whats-that-01627/)), viewed May 2014.
- 160 General Dynamics Advanced Information Systems, "General Dynamics Awarded \$96 Million to Support Trident II Submarine Strategic Weapons Systems", *News Release General Dynamics Advanced Information Systems*, 5 January 2012 ([www.gd-ais.com/News/General-Dynamics-Awarded-96-Million-to-Support-Trident-II-Submarine-Strategic-Weapons-Systems](http://www.gd-ais.com/News/General-Dynamics-Awarded-96-Million-to-Support-Trident-II-Submarine-Strategic-Weapons-Systems)).
- 161 Lockheed Martin, "Trident II D5 Fleet Ballistic Missile (FBM)", *Website Lockheed Martin* ([www.lockheedmartin.com/us/products/trident-ii-d5-fleet-ballistic-missile--fbm-.html](http://www.lockheedmartin.com/us/products/trident-ii-d5-fleet-ballistic-missile--fbm-.html)), viewed May 2014.
- 162 UK Parliament, "Selected Committee on Defence Eight Report, 2006", *Website UK Parliament* ([www.publications.parliament.uk/pa/cm/200506/cmselect/cmdfence/986/98609.htm](http://www.publications.parliament.uk/pa/cm/200506/cmselect/cmdfence/986/98609.htm)), viewed May 2014.
- 163 US Department of Defense, "Daily Contract List", *US Department of Defense*, 26 September 2013 ([insidedefense.com/201309262448107/Defense-Plus/Text-Document/dod-9262013-daily-contracts-list/menu-id-77.html](http://insidedefense.com/201309262448107/Defense-Plus/Text-Document/dod-9262013-daily-contracts-list/menu-id-77.html)).
- 164 DefenseNews, "Raytheon takes nuclear communications contract", *Website DefenseNews*, 24 December 2013 ([www.defensenews.com/article/20131224/CAISRNET06/312240007/Raytheon-takes-nuclear-communications-contract](http://www.defensenews.com/article/20131224/CAISRNET06/312240007/Raytheon-takes-nuclear-communications-contract)); *InsideDefense*, "Air Force Preparing Contract Award To Raytheon For Global ASNT Nuclear Terminal Program", *InsideDefense*, 13 September 2013.
- 165 Starosta, G., "Air Force Preparing Contract Award To Raytheon For Global ASNT Nuclear Terminal Program", *InsideDefense*, 13 September 2013.
- 166 InsideDefense, "Long-Range Standoff Missile Development Pushed Back By Three Years", *InsideDefense*, 5 March 2014.
- 167 InsideDefense, "Air Force, Industry Review Draft LRSO Acquisition Strategy And Budget", *InsideDefense*, 14 November 2013.
- 168 InsideDefense, "Long-Range Standoff Missile Development Pushed Back By Three Years", *InsideDefense*, 5 March 2014.
- 169 Rockwell Collins, "Our company", *Website Rockwell Collins* ([www.rockwellcollins.com/Our\\_Company.aspx](http://www.rockwellcollins.com/Our_Company.aspx)), viewed May 2014.
- 170 Rockwell Collins, "Annual Report 2013", *Rockwell Collins*, 12 November 2013.
- 171 Rockwell Collins, "Rockwell Collins selected for Minuteman upgrade program", *News Release Rockwell Collins* ([www.rockwellcollins.com/~media/Files/Unsecure/News%20Archive/FY07/20061211%20Rockwell%20Collins%20selected%20for%20Minuteman%20upgrade%20program.pdf](http://www.rockwellcollins.com/~media/Files/Unsecure/News%20Archive/FY07/20061211%20Rockwell%20Collins%20selected%20for%20Minuteman%20upgrade%20program.pdf)), 11 December 2006.
- 172 Safran, "Group", *Website Safran* ([www.safran-group.com/site-safran-en/group/](http://www.safran-group.com/site-safran-en/group/)), viewed May 2014.
- 173 Horobin, W., Pearson, D., "France Sells Safran Shares to Invest Elsewhere", *Website Wall Street Journal*, 27 March 2013 ([online.wsj.com/article/SB10001424127887324685104578385922126180766.html](http://online.wsj.com/article/SB10001424127887324685104578385922126180766.html)).
- 174 Safran, "Consolidated balance sheet and income statement 2013", *Safran*, 26 March 2014.
- 175 EADS, "Press release: Contract for Production of the M51 Weapon System", *Website EADS* ([www.airbus-group.com/airbusgroup/int/en/news/press\\_en\\_20041223\\_m51.html](http://www.airbus-group.com/airbusgroup/int/en/news/press_en_20041223_m51.html)), 23 December 2004; Tran, P., "Rocket Rendezvous? France Seeks To Merge Engine, Fuel Suppliers", *Defense News*, 28 June 2010 ([www.defensenews.com/print/article/20100628/DEFFEAT02/6280325/Rocket-Rendezvous](http://www.defensenews.com/print/article/20100628/DEFFEAT02/6280325/Rocket-Rendezvous)); Herakles, "History", *Website Herakles* ([www.herakles.com/notre-societe/histoire/history](http://www.herakles.com/notre-societe/histoire/history)), viewed May 2014.
- 176 Astrium, "M51", *Website Astrium* ([www.astrium.eads.net/en/programme/m-51-juy.html](http://www.astrium.eads.net/en/programme/m-51-juy.html)), viewed May 2014.
- 177 Safran Magazine, "M51, the key to French deterrence", *Safran Magazine*, November 2007 ([safran-group.com/IMG/pdf/EN\\_mag2-2.pdf](http://safran-group.com/IMG/pdf/EN_mag2-2.pdf)).
- 178 Tran, P., "Rocket Rendezvous? France Seeks To Merge Engine, Fuel Suppliers", *Defense News*, 28 June 2010 ([www.defensenews.com/print/article/20100628/DEFFEAT02/6280325/Rocket-Rendezvous](http://www.defensenews.com/print/article/20100628/DEFFEAT02/6280325/Rocket-Rendezvous)).
- 179 Serco, "About Us", *Website Serco* ([www.serco.com/about/index.asp](http://www.serco.com/about/index.asp)), viewed May 2014.
- 180 Serco, "Annual Report 2013", *Serco*, March 2014.
- 181 AWE, "About AWE: The Company", *Website AWE* ([www.awe.co.uk/aboutus/the\\_company\\_eb1b2.html](http://www.awe.co.uk/aboutus/the_company_eb1b2.html)), viewed May 2014; AWE, "About AWE: What We Do", *Website AWE* ([www.awe.co.uk/aboutus/what\\_we\\_do\\_27815.html](http://www.awe.co.uk/aboutus/what_we_do_27815.html)), viewed May 2014.
- 182 The Guardian, "Britain's nuclear spending soars amid defence cuts", *Website The Guardian*, 2 October 2011 ([www.guardian.co.uk/uk/2011/oct/02/ministry-of-defence-nuclear-spending-project-pegasus](http://www.guardian.co.uk/uk/2011/oct/02/ministry-of-defence-nuclear-spending-project-pegasus)); AWE, "About AWE: The Company", *Website AWE* ([www.awe.co.uk/aboutus/the\\_company\\_eb1b2.html](http://www.awe.co.uk/aboutus/the_company_eb1b2.html)), viewed May 2014.
- 183 TASC, "About us", *Website TASC* ([www.tasc.com/about-us/](http://www.tasc.com/about-us/)), viewed May 2014.
- 184 General Atlantic, "Portfolio", *Website General Atlantic* ([www.generalatlantic.com/portfolio/tasc-logo/](http://www.generalatlantic.com/portfolio/tasc-logo/)), viewed May 2014.
- 185 TASC, "TASC Announces Senior Leadership Change", *News Release TASC*, 13 November 2013 ([www.tasc.com/media-center/news-releases/2013-archive/News-Release-TASC-Announces-Senior-Leadership-Change.pdf](http://www.tasc.com/media-center/news-releases/2013-archive/News-Release-TASC-Announces-Senior-Leadership-Change.pdf)).
- 186 US Department of Defense, "Daily Contract List", *US Department of Defense*, 30 January 2014 ([insidedefense.com/201401302459741/Defense-Plus/Text-Document/dods-1302014-daily-contracts-list/menu-id-77.html](http://insidedefense.com/201401302459741/Defense-Plus/Text-Document/dods-1302014-daily-contracts-list/menu-id-77.html)).
- 187 Textron, "Annual Report 2013", *Textron*, February 2014.
- 188 Textron Defense Systems, "Reentry Vehicle Systems", *Website Textron Defense Systems* ([www.textrondefense.com/capabilities/missile-space/reentry](http://www.textrondefense.com/capabilities/missile-space/reentry)), viewed May 2014.
- 189 US Department of Defense, "Daily contracts list", *US Department of Defense*, 6 March 2014 ([insidedefense.com/201403062463481/Defense-Plus/Text-Document/dods-362014-daily-contracts-list/menu-id-77.html](http://insidedefense.com/201403062463481/Defense-Plus/Text-Document/dods-362014-daily-contracts-list/menu-id-77.html)); *Strategic Defence Intelligence*, "Textron to deliver Mod 5F midsections to US Air Force", *Website Strategic Defence Intelligence*, 7 March 2014 ([www.strategicdefenceintelligence.com/article/VpRIEJG69O6/2014/03/07/textron\\_to\\_deliver\\_mod\\_5f\\_midsections\\_to\\_us\\_air\\_force?nsl=LpTuTejn6R2O](http://www.strategicdefenceintelligence.com/article/VpRIEJG69O6/2014/03/07/textron_to_deliver_mod_5f_midsections_to_us_air_force?nsl=LpTuTejn6R2O)); *US Air Force*, "MK12A Mod 3 to 5F Conversion", *Website US Federal Business Opportunities*, Solicitation Number: FA8204-12-S-MOD5F, 27 March 2012 ([www.fbo.gov/index?s=opportunity&mode=form&id=8e6a6ed8f-f204a17c6aaa77e0ab35932&tab=core&cview=0](http://www.fbo.gov/index?s=opportunity&mode=form&id=8e6a6ed8f-f204a17c6aaa77e0ab35932&tab=core&cview=0)).
- 190 Thales, "At a glance", *Website Thales* ([www.thalesgroup.com/Group/About\\_us/At\\_a\\_Glance/](http://www.thalesgroup.com/Group/About_us/At_a_Glance/)), viewed May 2014.
- 191 Thales, "Thales Registration document – Annual financial report 2013", *Thales*, February 2014.
- 192 Thales, "Thales Registration document – Annual financial report 2013", *Thales*, February 2014; EADS, "Press release: Contract for Production of the M51 Weapon System", *Website EADS* ([www.airbus-group.com/airbusgroup/int/en/news/press\\_en\\_20041223\\_m51.html](http://www.airbus-group.com/airbusgroup/int/en/news/press_en_20041223_m51.html)), 23 December 2004.
- 193 Astrium, "M51", *Website Astrium* ([www.astrium.eads.net/en/programme/m-51-juy.html](http://www.astrium.eads.net/en/programme/m-51-juy.html)), viewed May 2014.
- 194 ThyssenKrupp, "Annual Report 2012/2013", *ThyssenKrupp*, November 2013.
- 195 Defense Industry Daily, "Germany Sells Israel More Dolphin Subs", *Defense Industry Daily*, 1 May 2013 ([www.defenseindustrydaily.com/germany-may-sell-2-more-dolphin-subs-to-israel-for-117b-01528/](http://www.defenseindustrydaily.com/germany-may-sell-2-more-dolphin-subs-to-israel-for-117b-01528/));

- Steinmetz, D., "German-Israeli Armaments Cooperation", Website Berlin Information Center for Transatlantic Security (BITS), November 2002 ([www.bits.de/public/articles/cast06-02.htm](http://www.bits.de/public/articles/cast06-02.htm)).
- 196 RT News, "Israel gets fifth 'nuclear-capable' sub", Website RT News, 30 April 2013 ([rt.com/news/israel-dolphin-submarine-nuclear-598/](http://rt.com/news/israel-dolphin-submarine-nuclear-598/)).
- 197 International DefenseNews, "Israel inaugurates 5th Dolphin-class sub", Website International DefenseNews, 29 April 2013 ([www.defensenews.com/apps/pbcs.dll/article?AID=2013304290008](http://www.defensenews.com/apps/pbcs.dll/article?AID=2013304290008)); ThyssenKrupp Marine Systems, "Referenzen bis 2010", Website ThyssenKrupp Marine Systems ([www.thyssenkrupp-marinesystems.com/de/bis-2010.html](http://www.thyssenkrupp-marinesystems.com/de/bis-2010.html)), viewed May 2014.
- 198 Spiegel, "Operation Samson: Israel's Deployment of Nuclear Missiles on Subs from Germany", Website Spiegel Online International, 4 June 2012 ([www.spiegel.de/international/world/israel-deploys-nuclear-weapons-on-german-built-submarines-a-836784.html](http://www.spiegel.de/international/world/israel-deploys-nuclear-weapons-on-german-built-submarines-a-836784.html)); Spiegel, "The World from Berlin: 'Helping Israel Defend Itself Is Germany's Duty'", Website Spiegel Online International, 5 June 2012 ([www.spiegel.de/international/world/german-press-supports-sale-of-submarines-to-israel-a-837093.html](http://www.spiegel.de/international/world/german-press-supports-sale-of-submarines-to-israel-a-837093.html)); Jerusalem Post, "Germany to finalize sale of Dolphin submarine to Israel", Website Jerusalem Post, 18 July 2011 ([www.jpost.com/Defense/Germany-to-finalize-sale-of-Dolphin-submarine-to-Israel](http://www.jpost.com/Defense/Germany-to-finalize-sale-of-Dolphin-submarine-to-Israel)).
- 199 URS, "About us", Website URS ([www.urscorp.com/About\\_URS/index.php](http://www.urscorp.com/About_URS/index.php)), viewed May 2014.
- 200 Aecom-URS, "AECOM to acquire URS Corporation for USD56.31 per share in cash and stock", July 13, 2014 (<http://aecom-urs.com/media/2014/07/AECOM-URS-Press-Release.pdf>), viewed 1 September 2014.
- 201 URS, "Annual Report 2013", URS, March 2014.
- 202 Babcock & Wilcox, "Lawrence Livermore National Laboratory (LLNL)", Website Babcock & Wilcox ([www.babcock.com/about/Pages/Lawrence-Livermore-National-Laboratory-\(LLNL\).aspx](http://www.babcock.com/about/Pages/Lawrence-Livermore-National-Laboratory-(LLNL).aspx)), viewed May 2014; Babcock & Wilcox, "Los Alamos National Laboratory (LANL)", Website Babcock & Wilcox ([www.babcock.com/about/Pages/Los-Alamos-National-Laboratory-\(LANL\).aspx](http://www.babcock.com/about/Pages/Los-Alamos-National-Laboratory-(LANL).aspx)), viewed May 2014; National Nuclear Security Administration, "Our locations", Website National Nuclear Security Administration ([nnsa.energy.gov/aboutus/ourlocations](http://nnsa.energy.gov/aboutus/ourlocations)), viewed May 2014; Union of Concerned Scientists, "Lawrence Livermore National Laboratory", Union of Concerned Scientists, November 2012 ([www.ucsusa.org/assets/documents/nwgs/nuclear-weapons-complex/livermore-fact-sheet.pdf](http://www.ucsusa.org/assets/documents/nwgs/nuclear-weapons-complex/livermore-fact-sheet.pdf)).
- 203 Mello, G., "The US nuclear weapons complex: Pushing for a new production capability", The Bulletin, 20 March 2008 ([thebulletin.org/us-nuclear-weapons-complex-pushing-new-production-capability](http://thebulletin.org/us-nuclear-weapons-complex-pushing-new-production-capability)), viewed May 2014; Bechtel, "US National Laboratories", Website Bechtel ([www.bechtel.com/u.s.\\_national\\_laboratories.html](http://www.bechtel.com/u.s._national_laboratories.html)), viewed May 2014.
- 204 URS, "Los Alamos National Laboratory", Website URS ([www.urscorp.com/Projects/projView.php?s=803&sec=31&pn=3](http://www.urscorp.com/Projects/projView.php?s=803&sec=31&pn=3)), viewed May 2014.
- 205 Bechtel, "US National Laboratories", Website Bechtel ([www.bechtel.com/u.s.\\_national\\_laboratories.html](http://www.bechtel.com/u.s._national_laboratories.html)), viewed May 2014; National Nuclear Security Administration (NNSA), "Lawrence Livermore National Laboratory (LLNL): Nuclear design and engineering and high explosive research & development (R&D)", Website NNSA ([nnsa.energy.gov/sites/default/files/nnsa/inlinefiles/LivermoreFactSheet.pdf](http://nnsa.energy.gov/sites/default/files/nnsa/inlinefiles/LivermoreFactSheet.pdf)), viewed May 2014; Defense Nuclear Facilities Safety Board, "Lawrence Livermore National Laboratory", Website Defense Nuclear Facilities Safety Board ([www.dnfsb.gov/about/where-we-work/doe-defense-nuclear-facilities/livermore-national-laboratory](http://www.dnfsb.gov/about/where-we-work/doe-defense-nuclear-facilities/livermore-national-laboratory)), viewed May 2014.
- 206 US Department of Energy, "FY 2012 Stockpile Stewardship and Management Plan", US Department of Energy Report to Congress, 15 April 2011 ([www.fas.org/programs/ssp/nukes/nuclearweapons/SSMP-FY2012.pdf](http://www.fas.org/programs/ssp/nukes/nuclearweapons/SSMP-FY2012.pdf)).
- 207 URS, "Lawrence Livermore Laboratory", Website URS ([www.urs.com/projects/lawrence-livermore-laboratory/](http://www.urs.com/projects/lawrence-livermore-laboratory/)), viewed May 2014; URS, "Los Alamos National Laboratory", Website URS ([www.urscorp.com/Projects/projView.php?s=803&sec=31&pn=3](http://www.urscorp.com/Projects/projView.php?s=803&sec=31&pn=3)), viewed May 2014.
- 208 URS, "Amendment of Solicitation/Modification of Contract", Website URS ([http://www2.urscorp.com/seaportenhanced/sows%5CN00178-04-D-4042-FC24\\_1398183651.pdf](http://www2.urscorp.com/seaportenhanced/sows%5CN00178-04-D-4042-FC24_1398183651.pdf)).