The International Forum to Advance First Responder Innovation

First Responder Market Overview Synopsis

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Introduction

This analysis activity intends to characterize the global first responder market, relevant to the International Forum to Advance First Responder Innovation (Forum). By characterizing the global first responder market, this analysis activity also intends to inform and guide industry and academia about market opportunities and to incentivize them to develop and produce innovative technology solutions to capability gaps.

Forum Background

Established in 2014, the Forum is an organization of government leaders from across the globe, focused on enhancing and expanding the development of affordable, innovative technology for first responders worldwide.

In order to respond more safely, efficiently and effectively to everyday and catastrophic emergencies, first responders around the globe need technologically advanced tools and equipment that are affordable. However, there is no centralized mechanism for responders to identify and discuss shared needs and requirements. In addition, overall purchasing of tools and equipment is fragmented into smaller quantities, which provides little incentive for industry to commercialize innovative technologies. Therefore, the lack of consolidated requirements for first responders, along with fragmented purchasing, results in an inadequate amount of affordable new technology being available. This leads to an insufficient amount of research and development (R&D) being conducted in the first responder market.

The Forum addresses this challenge by:

1. Working with the global first responder community to define a list of common, high priority capability gaps.
2. Providing a platform for international collaboration on innovative R&D initiatives and solutions.
3. Characterizing global first responder markets, to inform and guide industry and academia about market opportunities and to incentivize them to develop and produce innovative technology solutions to capability gaps.
4. Providing information about relevant and available first responder technologies to the first responder community, while not endorsing any specific technology, product or manufacturer.

Forum Membership

The Forum is currently composed of members from 13 different countries and the European Commission (EC), including Australia, Canada, Finland, Germany, Israel, Japan, the Netherlands, New Zealand, Singapore, Spain, Sweden, the United Kingdom and the United States. France and Mexico’s participation in the Forum is pending.

See Note 1 of the Appendix, regarding the European Commission and Mexico.
Methodology

The following section provides a brief overview of the processes used to obtain and assess the findings presented in this synopsis.

Objective

The objectives of this analysis activity are to characterize the global first responder market in order to understand where potential opportunities may exist and where barriers may be faced in achieving the goals of the Forum. It is intended that this information will then serve to inform and guide industry and academia’s research and development efforts, supporting the overall goals of the Forum.

Research Methods

Data presented in this analysis activity was gathered using both primary and secondary research methodologies. Primary research methods included interviews with relevant stakeholders within each country. A standard questionnaire was used as a guide for these conversations. Secondary research consisted of gathering publicly available information from various sources including annual reports from agencies and departments at the federal/national, state/provincial and local/municipal levels.

Time Frame of Data

The most recent three years of data were collected for each factor when available. The majority of the data collected represented years 2012 through 2014. However, for some countries, the most current information was from prior to this time period (as far back as 2009). All data in this analysis activity represent 2014 figures, including the actual 2014 figures as collected for most countries and 2014 estimates based upon extrapolations using a Compound Annual Growth Rate (CAGR) when necessary.

Currency Conversions

All currencies were converted into U.S. Dollars (USD) for the purpose of aggregating data. Currency conversions were conducted using the historical currency conversion rates as reported by the Federal Reserve on the first day of the given year. Additional detail about the conversion rates is provided in the Appendix of this publication.

Per Capita Community Calculations

The per capita first responder community calculations in this analysis activity were calculated using 2014 population data as obtained from the World Bank.
Synopsis Overview

Market Definition
This analysis activity defines a first responder as a person among those responsible for going immediately to the scene of an accident or emergency to provide assistance. Therefore, the first responder market is defined to include both full-time and volunteer personnel in law enforcement, fire services and emergency medical services (EMS). The countries examined in this analysis activity include Australia, Canada, Finland, France, Germany, Israel, Japan, the Netherlands, New Zealand, Singapore, Spain, Sweden, the United Kingdom and the United States.

Summary
In order to meet its objectives of characterizing the global first responder market and informing and guiding industry and academia, the Forum has been conducting an ongoing global market analysis activity. This publication represent a summary of this activity to date.

The analysis activity thus far has focused on broadly quantifying the global first responder market, by utilizing first responder personnel figures and their corresponding operating and capital expenditure budgets for the aforementioned countries. In summary, the global first responder market in these countries represented approximately 7.5 million first responders, with corresponding operating budgets equating to over $433 billion in 2014. Capital expenditure budgets are initially estimated to be over $17 billion in 2014. Capital expenditure is the amount spent to acquire or improve long-term assets, such as equipment.

This data has also been segmented by discipline, including law enforcement, fire services, and emergency medical services (EMS).

**Law Enforcement**
Law enforcement accounted for over 2.2 million first responders and over $310 billion in operating expenses in 2014.

**Fire Services**
Fire services accounted for over 3.9 million first responders and over $98 billion in operating expenses in 2014.

**Emergency Medical Services**
EMS accounted for over 1.3 million first responders and over $24 billion in operating expenses in 2014.

Figures may not add up, due to rounding.
Global First Responders

Community

In 2014, the first responder market within the 14 countries examined included over 7 million responders, which represents an average of 7.2 responders per 1,000 people across these countries.

Global First Responder Community by Country, 2014

Australia 233,000
Canada 214,000
Finland 25,000
France 429,000
Germany 1,511,000
Israel 32,000
Japan 1,370,000
Netherlands 72,000
New Zealand 27,000
Singapore 30,000
Spain 303,000
Sweden 45,000
United Kingdom 254,000
United States 3,028,000

Total: 7,573,000
Average: 541,000

Global First Responders Per Capita by Country, 2014

Australia 9.9
Canada 6.0
Finland 4.6
France 6.5
Germany 18.7
Israel 3.9
Japan 10.8
Netherlands 4.3
New Zealand 6.0
Singapore 5.5
Spain 6.5
Sweden 4.6
United Kingdom 3.9
United States 9.5

Average: 7.2

Data was primarily collected using publicly available resources, although any unclassified information Individual countries chose to provide was used when available and necessary.
The figure below illustrates the breakdown of first responders per capita by first responder discipline.

<table>
<thead>
<tr>
<th>First Responder Discipline</th>
<th>Per Capita 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law Enforcement</td>
<td>2.6</td>
</tr>
<tr>
<td>Fire Services</td>
<td>3.7</td>
</tr>
<tr>
<td>Emergency Medical Services</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Overall, the number of global first responders per capita in the 14 countries examined averaged 7.2 responders per 1,000 people in 2014. Fire services represented the largest number of first responders per capita on average at 3.7 responders per 1,000 people. Law enforcement represented an average of 2.6 responders per 1,000 people and EMS represented an average of 1.0 responders per 1,000 people.

Considering the percent breakdown of the global first responder community, fire services represented the largest percentage of first responders with 52 percent of the total responders, followed by law enforcement at 30 percent and EMS at 18 percent of total first responders in 2014.
Global First Responders

Budget

This analysis activity has examined annual budgets as a method for broadly quantifying the global first responder market. Across the 14 countries examined, operating budgets, which include salaries, totaled approximately $433.1 billion in 2014. When broken down to the responder level, it can be calculated that this figure represented an average of $57,000 spent per first responder. Operating expenditures include ongoing expenses incurred as a result of sustaining normal operations. Examples of operating expense categories include employee salaries, employee benefits, travel expenses, repairs and maintenance, as well as supplies and services, among others.

Global First Responder
Operating Expenses by Country, 2014

<table>
<thead>
<tr>
<th>Country</th>
<th>Operating Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>$17,003,354,000</td>
</tr>
<tr>
<td>Canada</td>
<td>$16,108,978,000</td>
</tr>
<tr>
<td>Finland</td>
<td>$2,626,144,000</td>
</tr>
<tr>
<td>France</td>
<td>$35,156,506,000</td>
</tr>
<tr>
<td>Germany</td>
<td>$40,674,466,000</td>
</tr>
<tr>
<td>Israel</td>
<td>$3,076,600,000</td>
</tr>
<tr>
<td>Japan</td>
<td>$52,278,710,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>$10,472,587,000</td>
</tr>
<tr>
<td>New Zealand</td>
<td>$1,736,199,000</td>
</tr>
<tr>
<td>Singapore</td>
<td>$2,258,196,000</td>
</tr>
<tr>
<td>Spain</td>
<td>$22,525,525,000</td>
</tr>
<tr>
<td>Sweden</td>
<td>$5,163,096,000</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$42,248,774,000</td>
</tr>
<tr>
<td>United States</td>
<td>$181,820,790,000</td>
</tr>
</tbody>
</table>

Total: $433,149,925,000
Average: $30,939,280,000

Global First Responder
Spending Per First Responder by Country, 2014

<table>
<thead>
<tr>
<th>Country</th>
<th>Spending Per First Responder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>$73,000</td>
</tr>
<tr>
<td>Canada</td>
<td>$75,000</td>
</tr>
<tr>
<td>Finland</td>
<td>$105,000</td>
</tr>
<tr>
<td>France</td>
<td>$82,000</td>
</tr>
<tr>
<td>Germany</td>
<td>$27,000</td>
</tr>
<tr>
<td>Israel</td>
<td>$96,000</td>
</tr>
<tr>
<td>Japan</td>
<td>$38,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>$145,000</td>
</tr>
<tr>
<td>New Zealand</td>
<td>$64,000</td>
</tr>
<tr>
<td>Singapore</td>
<td>$75,000</td>
</tr>
<tr>
<td>Spain</td>
<td>$74,000</td>
</tr>
<tr>
<td>Sweden</td>
<td>$115,000</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$166,000</td>
</tr>
<tr>
<td>United States</td>
<td>$60,000</td>
</tr>
</tbody>
</table>

Average: $85,000

Data was primarily collected using publicly available resources, although any unclassified information individual countries chose to provide was used when available and necessary.

See Note 3 of the Appendix, regarding calculations for Japan.
Global First Responders

Budget
The figure below aggregates global first responder budgetary data by first responder discipline.

Global Spending Per First Responder by Discipline, 2014

- **Law Enforcement**
  - Average spending: $153,000

- **Fire Services**
  - Average spending: $44,000

- **Emergency Medical Services**
  - Average spending: $84,000

Average global first responder spending was $85,000 per first responder in 2014. Law enforcement had the largest spending per first responder at $153,000, followed by EMS at $84,000 per responder and fire services at $44,000 per responder. EMS and fire services figures represent spending on both full-time and volunteer personnel.

Percent Breakdown of the Global First Responder Budgets, 2014

- **Law Enforcement** (72%)
  - $310 billion in operating expenses

- **Fire Services** (23%)
  - Over $98 billion

- **Emergency Medical Services** (6%)
  - Over $24 billion

Law enforcement budgets accounted for the majority of operating expenses, representing 72 percent or over $310 billion in operating expenses in 2014. Fire services represented over $98 billion with 23 percent of total operating expenses, and emergency medical services accounted for over $24 billion or 6 percent of total operating expenses.

Capital Expenditure
Another budgetary category that is relevant to broadly quantifying the first responder market is that of capital expenditures. Capital expenditure is the amount spent to acquire or improve long-term assets, such as equipment. Based upon information collected thus far, the percentage of capital expenditure budgets relative to operating budgets is 4 percent. This translates to approximately $17.3 billion in capital expenditure. Additional analysis is being conducted on capital expenditure.
Community
In 2014, law enforcement employment in the 14 countries examined totaled 2,283,000 sworn police officers. In terms of per capita figures, there was an average of 2.6 sworn law enforcement officers per 1,000 people.

Law Enforcement Community by Country, 2014

Total: 2,283,000
Average: 163,000

Law Enforcement Community Per Capita by Country, 2014

Average: 2.6

Data was primarily collected using publicly available resources, although any unclassified information Individual countries chose to provide was used when available and necessary.
Budget

In 2014, law enforcement accounted for $310,935,095,000 in annual operating expenses. Considering the number of sworn law enforcement officers (2,283,000), average spending per law enforcement officer equaled $153,000.

### Law Enforcement Operating Expenses by Country, 2014

<table>
<thead>
<tr>
<th>Country</th>
<th>Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>$10,854,933,000</td>
</tr>
<tr>
<td>Canada</td>
<td>$10,540,968,000</td>
</tr>
<tr>
<td>Finland</td>
<td>$1,513,269,000</td>
</tr>
<tr>
<td>France</td>
<td>$27,000,984,000</td>
</tr>
<tr>
<td>Germany</td>
<td>$29,473,887,000</td>
</tr>
<tr>
<td>Israel</td>
<td>$2,665,000,000</td>
</tr>
<tr>
<td>Japan</td>
<td>$32,646,891,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>$7,604,621,000</td>
</tr>
<tr>
<td>New Zealand</td>
<td>$1,238,489,000</td>
</tr>
<tr>
<td>Singapore</td>
<td>$1,928,099,000</td>
</tr>
<tr>
<td>Spain</td>
<td>$18,476,372,000</td>
</tr>
<tr>
<td>Sweden</td>
<td>$3,805,636,000</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$33,934,978,000</td>
</tr>
<tr>
<td>United States</td>
<td>$129,250,968,000</td>
</tr>
</tbody>
</table>

Total: $310,935,095,000
Average: $22,209,650,000

### Law Enforcement Spending Per First Responder by Country, 2014

<table>
<thead>
<tr>
<th>Country</th>
<th>Spending Per Responder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>$178,000</td>
</tr>
<tr>
<td>Canada</td>
<td>$157,000</td>
</tr>
<tr>
<td>Finland</td>
<td>$189,000</td>
</tr>
<tr>
<td>France</td>
<td>$137,000</td>
</tr>
<tr>
<td>Germany</td>
<td>$121,000</td>
</tr>
<tr>
<td>Israel</td>
<td>$157,000</td>
</tr>
<tr>
<td>Japan</td>
<td>$126,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>$181,000</td>
</tr>
<tr>
<td>New Zealand</td>
<td>$138,000</td>
</tr>
<tr>
<td>Singapore</td>
<td>$129,000</td>
</tr>
<tr>
<td>Spain</td>
<td>$71,000</td>
</tr>
<tr>
<td>Sweden</td>
<td>$190,000</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$138,000</td>
</tr>
<tr>
<td>United States</td>
<td>$231,000</td>
</tr>
</tbody>
</table>

Average: $153,000

Data was primarily collected using publicly available resources, although any unclassified information
Individual countries chose to provide was used when available and necessary.
Fire Services

Community
In 2014, fire services personnel in the 14 countries examined totaled 3,926,000 firefighters. In terms of per capita figures, there were 3.7 firefighters per 1,000 people.

Fire Services Community by Country, 2014

Total: 3,926,000
Average: 280,000

Australia: 149,000
Canada: 117,000
Finland: 16,000
France: 233,000
Germany: 1,075,000
Israel: 5,000
Japan: 1,050,000
Netherlands: 26,000
New Zealand: 14,000
Singapore: 10,000
Spain: 33,000
Sweden: 14,000
United Kingdom: 50,000
United States: 1,134,000

Fire Services Community Per Capita by Country, 2014

Average: 3.7

Australia: 6.3
Canada: 3.3
Finland: 2.9
France: 3.5
Germany: 13.3
Japan: 8.3
Netherlands: 1.5
New Zealand: 3.1
Singapore: 1.8
Spain: 0.7
Sweden: 1.4
United Kingdom: 0.8
United States: 3.6

Data was primarily collected using publicly available resources, although any unclassified information
Individual countries chose to provide was used when available and necessary.
Fire Services

Budget

In 2014, fire services expenditures accounted for $98,180,449,000 in operating expenses. Considering the number of firefighters (3,926,000), average spending per firefighter equaled $44,000.

**Fire Services Operating Expenses by Country, 2014**

<table>
<thead>
<tr>
<th>Country</th>
<th>Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>$2,527,298,000</td>
</tr>
<tr>
<td>Canada</td>
<td>$3,573,444,000</td>
</tr>
<tr>
<td>Finland</td>
<td>$843,439,000</td>
</tr>
<tr>
<td>France</td>
<td>$8,155,522,000</td>
</tr>
<tr>
<td>Germany</td>
<td>$9,101,486,000</td>
</tr>
<tr>
<td>Israel</td>
<td>$261,100,000</td>
</tr>
<tr>
<td>Japan</td>
<td>$19,631,820,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>$2,184,466,000</td>
</tr>
<tr>
<td>New Zealand</td>
<td>$303,308,000</td>
</tr>
<tr>
<td>Singapore</td>
<td>$231,068,000</td>
</tr>
<tr>
<td>Spain</td>
<td>$2,356,708,000</td>
</tr>
<tr>
<td>Sweden</td>
<td>$1,254,063,000</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$3,796,046,000</td>
</tr>
<tr>
<td>United States</td>
<td>$43,960,681,000</td>
</tr>
</tbody>
</table>

Total: $98,180,449,000
Average: $7,012,889,000

**Fire Services Spending Per First Responder by Country, 2014**

<table>
<thead>
<tr>
<th>Country</th>
<th>Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>$17,000</td>
</tr>
<tr>
<td>Canada</td>
<td>$31,000</td>
</tr>
<tr>
<td>Finland</td>
<td>$53,000</td>
</tr>
<tr>
<td>France</td>
<td>$35,000</td>
</tr>
<tr>
<td>Germany</td>
<td>$8,000</td>
</tr>
<tr>
<td>Israel</td>
<td>$52,000</td>
</tr>
<tr>
<td>Japan</td>
<td>$19,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>$84,000</td>
</tr>
<tr>
<td>New Zealand</td>
<td>$22,000</td>
</tr>
<tr>
<td>Singapore</td>
<td>$23,000</td>
</tr>
<tr>
<td>Spain</td>
<td>$71,000</td>
</tr>
<tr>
<td>Sweden</td>
<td>$90,000</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$39,000</td>
</tr>
<tr>
<td>United States</td>
<td>$76,000</td>
</tr>
</tbody>
</table>

Average: $44,000

Data was primarily collected using publicly available resources, although any unclassified information Individual countries chose to provide was used when available and necessary.
Community

In 2014, there were 1,365,000 emergency medical services (EMS) personnel in the 13 countries for which information was available. In terms of per capita figures, there was an average of 1.0 EMS personnel per 1,000 people.

Emergency Medical Services Community by Country, 2014

<table>
<thead>
<tr>
<th>Country</th>
<th>Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>22,000</td>
</tr>
<tr>
<td>Canada</td>
<td>30,000</td>
</tr>
<tr>
<td>Finland</td>
<td>1,000</td>
</tr>
<tr>
<td>Germany</td>
<td>191,000</td>
</tr>
<tr>
<td>Israel</td>
<td>11,000</td>
</tr>
<tr>
<td>Japan</td>
<td>61,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4,000</td>
</tr>
<tr>
<td>New Zealand</td>
<td>5,000</td>
</tr>
<tr>
<td>Singapore</td>
<td>4,000</td>
</tr>
<tr>
<td>Spain</td>
<td>11,000</td>
</tr>
<tr>
<td>Sweden</td>
<td>11,000</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>58,000</td>
</tr>
<tr>
<td>United States</td>
<td>956,000</td>
</tr>
</tbody>
</table>

Total: 1,365,000
Average: 105,000

Emergency Medical Services Community Per Capita by Country, 2014

<table>
<thead>
<tr>
<th>Country</th>
<th>Per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>0.9</td>
</tr>
<tr>
<td>Canada</td>
<td>0.8</td>
</tr>
<tr>
<td>Finland</td>
<td>0.2</td>
</tr>
<tr>
<td>Germany</td>
<td>2.4</td>
</tr>
<tr>
<td>Israel</td>
<td>1.3</td>
</tr>
<tr>
<td>Japan</td>
<td>0.5</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.2</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1.1</td>
</tr>
<tr>
<td>Singapore</td>
<td>0.7</td>
</tr>
<tr>
<td>Spain</td>
<td>0.2</td>
</tr>
<tr>
<td>Sweden</td>
<td>1.1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.9</td>
</tr>
<tr>
<td>United States</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Average: 1.0

Data was primarily collected using publicly available resources, although any unclassified information individual countries chose to provide was used when available and necessary.

See Note 2 of the Appendix, regarding France.
Emergency Medical Services

Budget

In 2014, emergency medical services (EMS) expenditures accounted for $24,034,382,000 in operating expenses. Considering the number of EMS employees for which there is expenditure information available, average spending per EMS employee equaled $84,000.

<table>
<thead>
<tr>
<th>Country</th>
<th>Operating Expenses</th>
<th>Spending Per First Responder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>$3,621,122,000</td>
<td>$165,000</td>
</tr>
<tr>
<td>Canada</td>
<td>$1,994,566,000</td>
<td>$66,000</td>
</tr>
<tr>
<td>Finland</td>
<td>$269,436,000</td>
<td>$11,000</td>
</tr>
<tr>
<td>Germany</td>
<td>$2,099,093,000</td>
<td>$14,000</td>
</tr>
<tr>
<td>Israel</td>
<td>$150,500,000</td>
<td>$171,000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>$683,500,000</td>
<td>$39,000</td>
</tr>
<tr>
<td>New Zealand</td>
<td>$194,402,000</td>
<td>$25,000</td>
</tr>
<tr>
<td>Singapore</td>
<td>$99,029,000</td>
<td>$154,000</td>
</tr>
<tr>
<td>Spain</td>
<td>$1,692,445,000</td>
<td>$9,000</td>
</tr>
<tr>
<td>Sweden</td>
<td>$103,398,000</td>
<td>$78,000</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$4,517,750,000</td>
<td>$8,000</td>
</tr>
<tr>
<td>United States</td>
<td>$8,609,141,000</td>
<td>$9,000</td>
</tr>
</tbody>
</table>

Total: $24,034,382,000  
Average: $2,002,865,000  

Average: $84,000

Data was primarily collected using publicly available resources, although any unclassified information individual countries chose to provide was used when available and necessary. See Notes 2 and 3 of the Appendix, regarding France and Japan.
Global First Responders

Full-time and Volunteer Community

The figures below represent the average among the countries for which a breakdown of full-time and volunteer personnel was available.

Data was primarily collected using publicly available resources, although any unclassified information Individual countries chose to provide was used when available and necessary.
Appendix

Notes

1. Examining all countries within the European Commission (EC) was outside of the scope of this analysis activity. Publicly available information regarding the first responder market for Mexico is insufficient and therefore not presented.

2. In order to increase the accuracy of the “Global First Responder Spending Per First Responder by Country, 2014” calculation, the number of emergency medical services (EMS) responders is not included in the total number of responders for countries that do not have corresponding EMS expenditure data (i.e. Japan).

3. EMS data, including both employment and expenditure information was not found to be publicly available for France at this time. In addition, EMS expenditure information was not found to be publicly available for Japan at this time.

Currency Conversion Rates

All currencies were converted into U.S. Dollars (USD) for the purpose of aggregating data. All currency conversions were conducted using the currency conversion rate reported on the first day of the given year. All rates were obtained from the U.S. Federal Reserve. The U.S. Federal Reserve reports some rates in USD units, while others are reported in units of the given country’s currency. These rates and units are summarized in the table below.

<table>
<thead>
<tr>
<th>Country</th>
<th>2012 Conversion Rate</th>
<th>2013 Conversion Rate</th>
<th>2014 Conversion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>$1.0380 USD per AUD</td>
<td>$1.0492 USD per AUD</td>
<td>$0.8924 USD per AUD</td>
</tr>
<tr>
<td>Canada</td>
<td>$1.0089 CAD per USD</td>
<td>$0.9859 CAD per USD</td>
<td>$1.0634 CAD per USD</td>
</tr>
<tr>
<td>Finland</td>
<td>$1.3061 USD per EUR</td>
<td>$1.3195 USD per EUR</td>
<td>$1.3670 USD per EUR</td>
</tr>
<tr>
<td>France</td>
<td>$1.3061 USD per EUR</td>
<td>$1.3195 USD per EUR</td>
<td>$1.3670 USD per EUR</td>
</tr>
<tr>
<td>Germany</td>
<td>$1.3061 USD per EUR</td>
<td>$1.3195 USD per EUR</td>
<td>$1.3670 USD per EUR</td>
</tr>
<tr>
<td>Japan</td>
<td>¥ 76.6700 JPY per USD</td>
<td>¥87.1000 JPY per USD</td>
<td>¥104.8400 JPY per USD</td>
</tr>
<tr>
<td>Netherlands</td>
<td>$1.3061 USD per EUR</td>
<td>$1.3195 USD per EUR</td>
<td>$1.3670 USD per EUR</td>
</tr>
<tr>
<td>New Zealand</td>
<td>$0.7903 USD per NZD</td>
<td>$0.8332 USD per NZD</td>
<td>$0.8204 USD per NZD</td>
</tr>
<tr>
<td>Singapore</td>
<td>$1.2839 SGD per USD</td>
<td>$1.2203 SGD per USD</td>
<td>$1.2666 SGD per USD</td>
</tr>
<tr>
<td>Spain</td>
<td>$1.3061 USD per EUR</td>
<td>$1.3195 USD per EUR</td>
<td>$1.3670 USD per EUR</td>
</tr>
<tr>
<td>Sweden</td>
<td>kr6.8109 SEK per USD</td>
<td>kr6.4851 SEK per USD</td>
<td>kr6.4909 SEK per USD</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$1.5655 USD per GBP</td>
<td>$1.6255 USD per GBP</td>
<td>$1.6641 USD per GBP</td>
</tr>
</tbody>
</table>

Data for Israel was reported in USD and therefore did not require converting.
<table>
<thead>
<tr>
<th>Glossary</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Expenditure</td>
<td>Capital expenditure is the amount spent to acquire or improve long-term assets, such as equipment.</td>
</tr>
<tr>
<td>Career Firefighters</td>
<td>Career firefighters are typically full-time paid firefighters.</td>
</tr>
<tr>
<td>Emergency Medical Services</td>
<td>Emergency medical services (EMS) is defined as a comprehensive system, which provides the arrangements of personnel, facilities and equipment for the effective, coordinated and timely delivery of health and safety services to victims of sudden illness or emergency. The aim of EMS is to provide timely care to victims of sudden and life-threatening injuries or emergencies in order to prevent needless mortality or long-term morbidity. The function of EMS can be simplified into four main components: accessing emergency care, care in the community, care en route, and care upon arrival to receiving care at the healthcare facility. EMS may be staffed by career emergency medical technicians (EMTs)/paramedics, volunteer emergency medical technicians/paramedics or a combination thereof. A paramedic is the highest level of EMS and requires more advanced training than becoming an EMT. Requirements of EMS employees vary by country.</td>
</tr>
<tr>
<td>Fire Services</td>
<td>Fire services, also known as fire and rescue services, fire departments or fire brigades, are public or private organizations that provide predominately firefighting, rescue services, and hazardous material response for a certain jurisdiction, which is typically a municipality, county or fire protection district.</td>
</tr>
<tr>
<td>First Responder</td>
<td>A first responder is defined as a person among those responsible for going immediately to the scene of an accident or emergency to provide assistance. The first responder market is to include law enforcement, fire services, and emergency medical services (EMS).</td>
</tr>
</tbody>
</table>
Law Enforcement

Law enforcement is defined as the function of enforcing the law, preserving order and traffic safety and apprehending those who violate the law.

Operating Expenditures

Operating expenditures include ongoing expenses incurred as a result of sustaining normal operations. Examples of operating expense categories include employee salaries, employee benefits, travel expenses, repairs and maintenance, and supplies (such as equipment) and services, among others.

Sworn Officer

A sworn police officer represents a person with the power of arrest that has been through an academy, is carrying a badge and credentials that identifies them as a sworn officer, and may be armed. This analysis activity focuses on sworn employees because they are more relevant to the scope of this project.

Volunteer Firefighters

Volunteer firefighters work part-time or on-call and may have other jobs. Although they are volunteers, employers may pay them as employed when they respond to an emergency or participate in training drills.
Australia

Law Enforcement


Fire Services


Canada

Law Enforcement


Fire Services


Emergency Medical Services


**Finland**

**Law Enforcement**


**Fire Services**


Emergency Medical Services


France
Law Enforcement


Fire Services


Emergency Medical Services
Figures do not appear to be publicly available at this time.

Germany
Law Enforcement


Emergency Medical Services
Figures do not appear to be publicly available at this time.
Fire Services


Emergency Medical Services


Israel

Law Enforcement


Fire Services


Emergency Medical Services


Japan

Law Enforcement


Fire Services

Emergency Medical Services

Netherlands
Law Enforcement

Fire Services

Emergency Medical Services

New Zealand
Law Enforcement

Fire Services


Emergency Medical Services


Singapore
Law Enforcement


Fire Services


Emergency Medical Services


Spain

Law Enforcement


Fire Services


Emergency Medical Services

Sweden
Law Enforcement

Fire Services

Emergency Medical Services

United Kingdom
Law Enforcement

Fire Services


**Emergency Medical Services**


35


**United States**

**Law Enforcement**


**Fire Services**


**Emergency Medical Services**
