

NSCA Electronic Systems Outlook

Winter Edition

2013



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EXECUTIVE SUMMARY

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CANADA CONSTRUCTION OUTLOOK

OVERALL ECONOMY Looking ahead to 2014, the view doesn't seem too bad. The overall forecast calls for continued modest growth. Although most economic indexes are positive, they are just barely so. And, while not necessarily negative, we are seeing a repeating pattern of "two steps forward, one step back." During the recession, more than 2 million construction jobs were lost — and they're not coming back. Slow, steady growth gives the industry time to rebuild without being exposed to spiraling labor and material costs.

Data (which we will highlight in this report) indicates that the only sector experiencing double-digit growth is residential construction, although we expect most areas to grow slightly ahead of GDP growth. There are some concerns, however, especially in markets dependent on infrastructure growth. Commercial construction is still waiting on consumers who are working their way out of debt or trying to find good-paying jobs. The job market is improving, but still uncertain in most parts of the country.

In large part, improvement in the U.S. economy is being hampered by perceptions that the government is unable and unwilling to get anything done. Bickering continues over the Affordable Care Act, for example, with a constant barrage of scenarios explaining how it will finally impact us. A budget deal has been passed, but there are a number of uncertain variables still in existence, from long-term unemployment support to a raise in taxes to increased revenues. Discussions on a tax overhaul are imminent for 2014 in Washington, D.C. One exception might just increase the effect of government spending on construction, which shrunk about 5% in 2013, with more "sequestration-type" cuts possible in 2014. With recent discussions of sequestration cuts being divided between 2014 and 2015, it's important to monitor them and identify changes that may decrease the amount of government construction put in place.

Things are gradually picking up for the economy. Indicators are a bit more positive, and consumer confidence is on the uptick (although you will see that, in the Consumer Confidence Index graph on page 5, the steady incline from the start of 2013 through July has come to a halt). This change in confidence is largely responsible for the decrease in construction put in place, and 2014 projections from our 2013 Summer Edition of the Electronic Systems Outlook. This is likely for the best because it will give the economy time to sustain growth, and slow down the rate of change in interest rates, wages, and the costs of goods (see Consumer Price Index graph, page 5).

As noted above, one of the positive areas this year has been a continued growth in residential construction, which has historically preceded improvement in the commercial sector. For example, new housing developments lead to demand for more schools, hospitals, and retail establishments. Panelists in FMI's 3rd Quarter Nonresidential Construction Index (NRCI) noted that the lag time between residential and commercial construction was likely to be 18 to 24 months. To this point, it is largely an emotional link. If residential construction continues to grow, it will help the feeling that the economy is getting back on track, and that owners in the commercial construction sector should consider investing. Additionally, with a federal budget that appears to be on a stable track for the immediate future, there could be more confidence in the construction industry as well.

In this edition of our Electronic Systems Outlook, you can compare the outlook of electronic systems put in place from the 2013 Summer Edition and the 2012 annual totals to start seeing trends. Keeping up on these ever-changing trends is important; for example, our growth projections based upon the first half of 2013 have now been reduced due to shifts in key economic factors, resulting in preparation for modest growth in 2014.

CONSTRUCTION OUTLOOK Our overall forecast for U.S. commercial construction put in place has been revised to reflect a slight downturn for the short term. Total commercial construction put in place for 2013 will finish at \$352.5 billion, which is down 0.5% from 2012. We expect modest growth of 4.7% in 2014, reaching \$369.1 billion, followed by stronger growth in 2015 and 2016. Construction will once again outpace GDP growth, and should continue to do so for the forecast period.

There are a few economic concerns that touch all market sectors. The first is the continued decline in public (government) construction and expectations of more as the sequestration continues. Second, lenders are still tight with their lending criteria. Consumers are still cautious about increasing their debt load, and that includes their share of public debt with new bond issues for local municipalities.

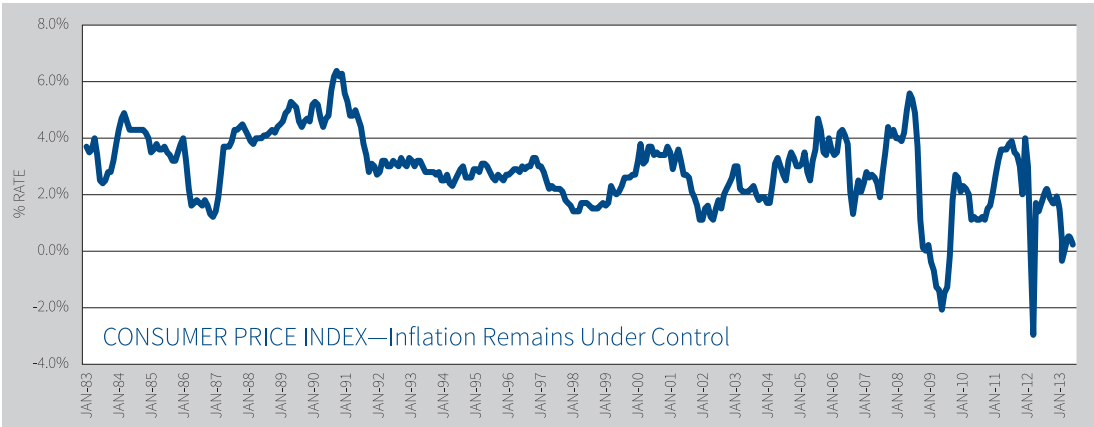
Interest rates, while still low by historical standards, are creeping up for consumers. Most seem to have absorbed the new tax structures into their budgets, but are uncertain as to the cost of healthcare. The boom areas of shale oil exploration are helping tremendously in some regions, but haven't flowed over to the rest of the nation. If, as many have suggested, U.S. energy prices continue to stay low and exports increase in the coming years, this will help fuel the economy in several ways ... but that will take more time. Still, the outlook is better than it has been for several years.

COMMERCIAL ELECTRONIC SYSTEMS CONSTRUCTION PUT IN PLACE

Outlook for the United States / Millions of Current Dollars	2013
Total Nonresidential Building Construction Volume	352,509
Total Commercial Electronic Systems Construction	19,293
Share of Total Construction	5.5%

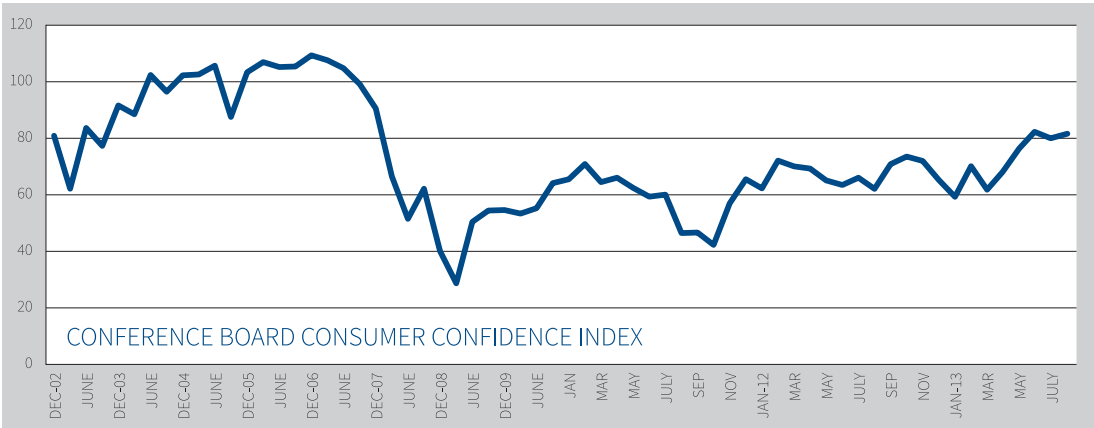
Visit the Summary section of this report on page 18 that provides outlines for all of the markets and electronic systems as a whole, in addition to showing Canadian construction trends. In upcoming reports, we plan to break out more information on the electronic systems in the Canadian market — so keep a watchful eye.

KEY ECONOMIC INDICATORS It is important to consider key economic indicators such as CPI, CCI, and unemployment rates when evaluating this report, because they provide the general pulse of the economy; these three factors determine interest rates and funding of construction projects. The Fed (formerly known as the Federal Reserve Bank/Federal Reserve) controls interest rates, which CPI, CCI, and unemployment all affect. The graphs below highlight historical changes in CPI, CCI, and unemployment rates.



CPI is a measure of the average change over time in the price paid by urban households for a set of consumer goods and services. An increase in CPI usually leads to adjustments in interest rates in order to control costs of goods and adjust for inflation. Additionally, CPI is often used in calculating wages, pensions, and salaries.

The CPI graph shows the national percent of change of costs for consumer goods and services over the course of the last 30 years.

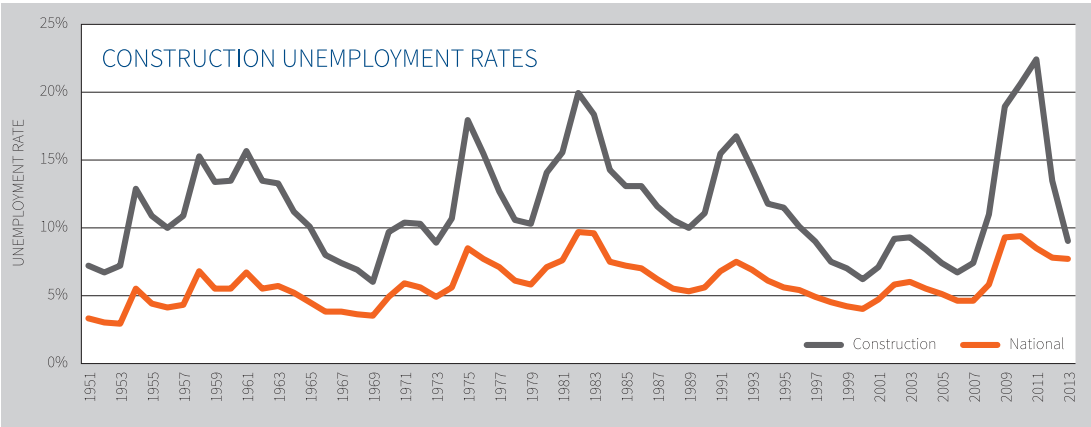
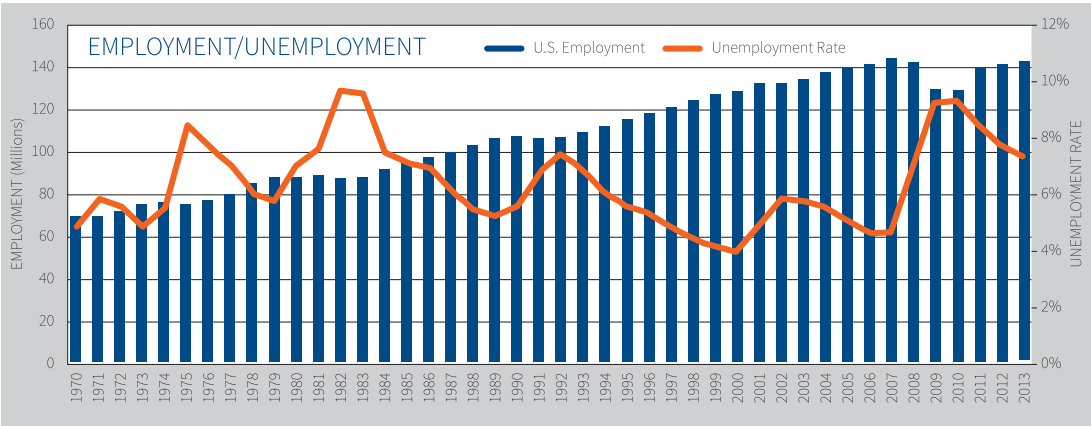


CCI is calculated based on a survey of 5,000 U.S. households; it is interpreted by the Conference Board, which extracts data from the survey to forecast future spending by consumers. In general, a 5% swing in either direction is needed to influence a change in decision-making.

The Conference Board Consumer Confidence Index graph shows the economic downturn in 2008, and reflects an improving CCI. Despite some uncertainty, an upward trend in CCI in early 2013 also reflects a positive trend in investing in commercial construction. The cessation of upward-trending CCI around June of 2013 is a key contributing factor to many of the variances in overall construction from the Electronic Systems Outlook: Summer Edition 2013.

EXECUTIVE SUMMARY

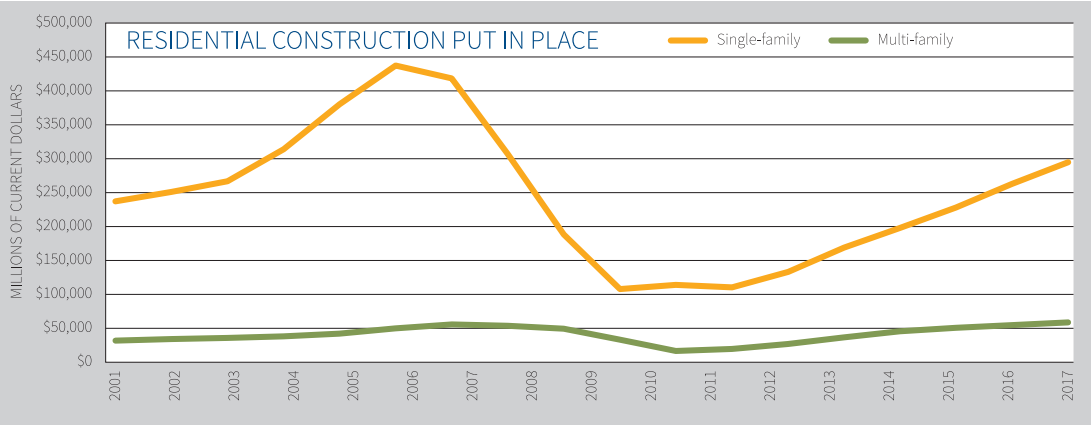
Unemployment continues to decrease on the national level, showing more confidence in spending and an improvement in the general economy (although this is occurring at a slightly decreasing rate). Often, a decrease in unemployment directly correlates with the increasing trends in the construction industry.



EXECUTIVE SUMMARY

RESIDENTIAL Growth in residential construction continues to show some traction. However, we expect the rapid growth to taper off to 12% in 2014. Increasing interest rates will keep large housing bubbles from forming. The total forecast for residential, including improvements, is \$379.6 billion, compared with \$338.2 billion for 2013. Total residential was \$619.8 billion in 2006 before the bubble burst. Now we are in catch-up mode for all of those people who have been putting off buying a home.

We expect housing starts to be a jagged line over the year, partly seasonal and partly economics, as the government and other large businesses continue to downsize. However, the shadow inventory of homes in foreclosure is diminishing, and that is helping to bring housing prices up. At the same time, housing inventory has increased to 21.4% during 2013. This push/pull supply and demand will keep the rise of residential housing in check until wages catch up with price gains, which is happening for the high-wage earners, but not for the middle-class homebuyers.



Trends:

- According to CoreLogic, completed foreclosures were down 25%. The total number of homes in foreclosure fell to 949,000, compared to 1.4 million a year ago.
- Home prices continue to increase. Nationally, home prices rose 12.1% over the last 12 months.

Drivers:

- Unemployment rate slightly improved
- Core CPI decreased slightly
- Income increasing
- Mortgage rates increasing
- Home prices increasing
- Housing starts increasing
- Housing permits increasing

While the residential sector does not directly create demand for most NSCA members, we should recognize the impact that housing has on other construction segments. Commercial, healthcare and educational segments in particular tend to follow changes in the housing sector. Likewise, home equity values have direct impact on consumer confidence and discretionary spending that drive markets such as retail and hospitality.

VERTICAL MARKET OUTLOOK Each of the market segments detailed in this report (corporate, education, government, healthcare, houses of worship, lodging, manufacturing, retail, and other buildings) feature a 2013 outlook to show growth potential and the evaluation of electronic systems for that market, as well as trends and drivers. Remember, this information is based upon actual data from Q1 2013 through November, and forecasted for the remainder of the year.

Consultants and integrators will find this data helpful in the very early stages of design, and should consider using the “percentage of total vertical market construction” averages as a starting point in discussions with clients, tracking how their local marketplace compares to national averages. Furthermore, this information is critical when budgeting for a project. It can be used to measure growth opportunities and monitor market share potential. These averages can be used when working with clients to show comparative solutions that fit within the average dollars spent on systems in each vertical market. It gives a baseline average for a good-better-best solution, and helps guide clients by avoiding underfunding, which leads to a sub-par system installation.

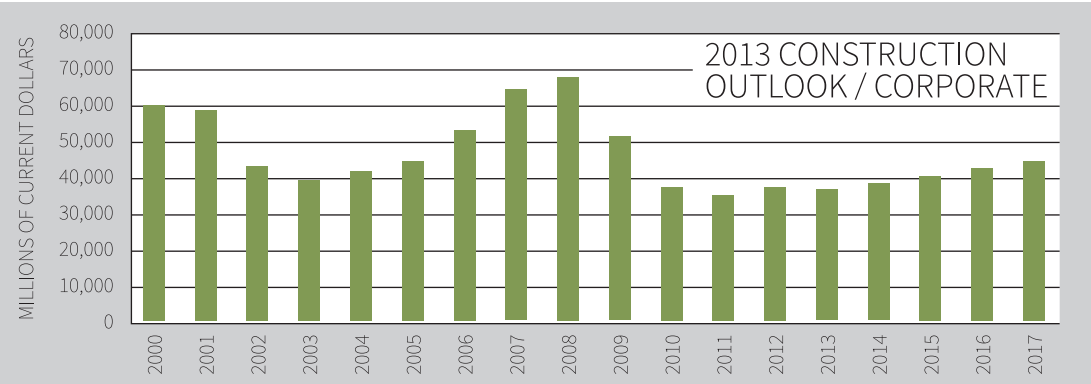
The graphs throughout this report specifically outline the systems involved in the low-voltage industry:

- **Acoustics, Audio, and A/V:** includes but not limited to cable and satellite television systems, public address, paging and intercom systems, security cameras, videoconferencing, video projectors, CCTV, touchscreen controls
- **Phone Systems, Data Networks, IT:** includes but not limited to phone and computer systems and cabling, buses, networks, fiber optics
- **Building Automation & Control:** includes but not limited to energy metering and monitoring, mechanical systems, malfunction alarms, humidity and ventilation, water systems monitoring, emergency power, electrical fault detection, leak detection
- **Life Safety: Fire & Security:** includes but not limited to fire, smoke and security alarm systems, flood safety, air quality sensors, building access systems, nurse call stations
- **Lighting, Digital Signage:** includes but not limited to building lighting control, emergency lighting, accent lighting, digital signage

DATA COLLECTION This bi-annual report includes forecasting and systems modeling. FMI first generates a forecast for building construction put in place (new construction, repair, and renovation). Econometric modeling is used to estimate demand. Each market segment has an independent algorithm based on five to eight metrics that have historically correlated best to changes in activity for that market segment over the past 50 years. A preliminary forecast is generated based on projections for each metric (retail sales, consumer confidence, population under age 18) supporting each market segment. The preliminary forecast is then adjusted based on database records for current/planned projects, funding and timing of those projects, contractor backlogs, and FMI’s direct interaction with engineers, architects, owners, and contractors in the field.

Next, the forecast for total construction put in place is modeled to its components and systems. This report is based on analysis of proprietary project records (what goes into construction of a K-12 school of a certain size and geography, for example), and through discussion with architects and estimators. Emerging trends (code changes) are explored through supporting secondary research; final adjustments to the model outputs are then made.

CORPORATE Office construction is still fighting to gain traction with 2013 down 2.5% versus 2012 but returning to 4% growth in 2014. High unemployment rates and sharp downsizing in the financial sector took their toll on office vacancy rates since the recession. Now, companies enjoying higher profits are again looking at growth and expansion. So far, with the mild but jagged recovery in jobs, office jobs have been among the slowest to recover.



CORPORATE CONSTRUCTION

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Millions of Current Dollars	65,259	68,563	51,908	37,850	36,011	38,433	37,481	38,942	40,885	43,399	45,584
% Change From Year Prior	na	5.1%	-24.3%	-27.1%	-8.5%	6.7%	-2.5%	3.9%	5.0%	6.2%	5.0%

Trends:

- According to the National Association of Realtors, “Vacancy rates in the office sector are expected to decline from a projected 15.7 percent in the third quarter to 15.5 percent in the third quarter of 2014.”
- Asking rents are increasing in major metros like New York City and Chicago, but are flat around most of the country. The trend toward new construction will focus on areas of high job growth in technical fields.

Drivers:

- Office vacancy rate decreasing
- Unemployment rate slightly improved

Use these tools when budgeting, to see growth opportunities, and monitor market share potential.

The Systems Outlook below provides trends on the volume of electronic systems put in place since 2012:

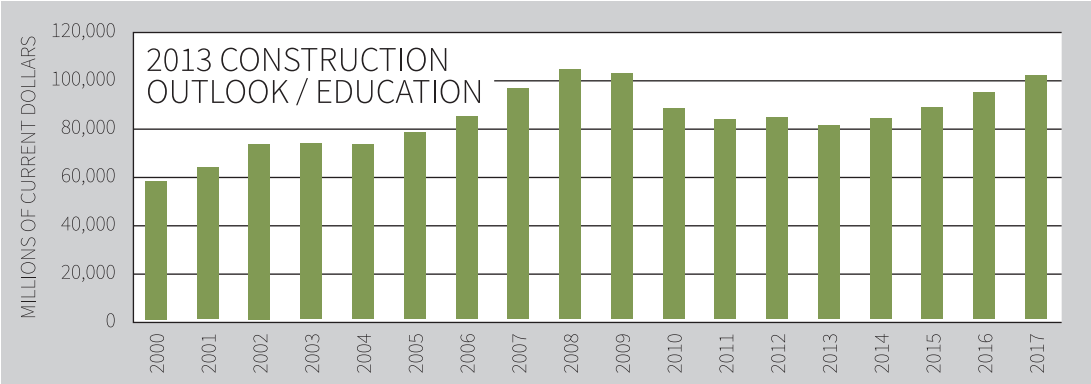
SYSTEMS OUTLOOK / CORPORATE in Millions of Current Dollars

	Acoustic, Audio & A/V	Phone Systems, Data Networks, IT	Building Automation & Control	Life Safety: Fire & Security	Lighting, Digital Signage	All Systems
2012 Total	274.8	591.9	42.3	761.0	443.9	2,113.9
2013 Summer Outlook	253.8	546.7	39.0	702.9	410.0	1,952.5
2013 Winter Outlook	269.2	579.7	41.4	745.4	434.8	2,070.5
% of Total Construction	0.72%	1.55%	0.11%	1.99%	1.16%	5.52%

- 2012 Total – total electronic systems construction put in place in 2012
- 2013 Summer Outlook – outlook of total 2013 electronic systems construction put in place based on actual data for the first 2 quarters of 2013 and forecasted for the remainder of 2013
- 2013 Winter Outlook – outlook of total 2013 electronic systems construction put in place based on actual data from 2013 Q1 through November 2013 and forecasted for the remainder of 2013
- % of total construction – shows the percentage of dollars spent on electronic systems in relation to the total dollars spent on construction in the given vertical market

VERTICAL MARKET OUTLOOKS Education

EDUCATION Education construction dropped 4% for 2013, due to budget cuts for government spending at all levels. Schools will pick up slightly in 2014 to gain 4% over 2013 levels at an annual rate for construction put in place of \$84.7 billion. The increases in residential construction and tax revenues for states and municipalities will help bring this market back in many areas of the country. At the same time, states and communities with decreasing populations, due to people moving to find better jobs, continue to try to consolidate older, underutilized schools. Private schools may continue to suffer as parents facing tight budgets avoid the higher costs. For higher education, students are becoming more discerning about their return on investment and taking a closer look at the growing number of degree programs offered online.



EDUCATION CONSTRUCTION

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Millions of Current Dollars	96,758	104,890	103,202	88,405	84,985	84,618	81,333	84,704	89,245	95,066	102,083
% Change From Year Prior	na	8.4%	-1.6%	-14.3%	-4.6%	-0.4%	-3.9%	4.1%	5.4%	6.5%	7.4%

Trends:

- Significantly less funding from states for K-12 schools
- Enrollment projected growth 2.5 million in the next four years
- New school designs more flexible for changing classrooms and greater use of natural light
- Greater attention to reducing energy use and employing green building technologies
- Greater focus on safe schools after recent horrific shootings on campus

Drivers:

- Population change younger than age 18 increasing
- Population change ages 18-24 increasing
- Government spending decreasing

Use these tools when budgeting, to see growth opportunities, and monitor market share potential.

The Systems Outlook below provides trends on the volume of electronic systems put in place since 2012:

SYSTEMS OUTLOOK / EDUCATION in Millions of Current Dollars

	Acoustic, Audio & A/V	Phone Systems, Data Networks, IT	Building Automation & Control	Life Safety: Fire & Security	Lighting, Digital Signage	All Systems
2012 Total	809.1	701.3	107.9	2,589.2	1,186.7	5,394.3
2013 Summer Outlook	811.0	702.9	194.3	2,595.2	1,189.4	5,492.7
2013 Winter Outlook	765.8	663.7	183.4	2,450.5	1,123.2	5,186.6
% of Total Construction	0.94%	0.82%	0.23%	3.01%	1.38%	6.38%

2012 Total – total electronic systems construction put in place in 2012

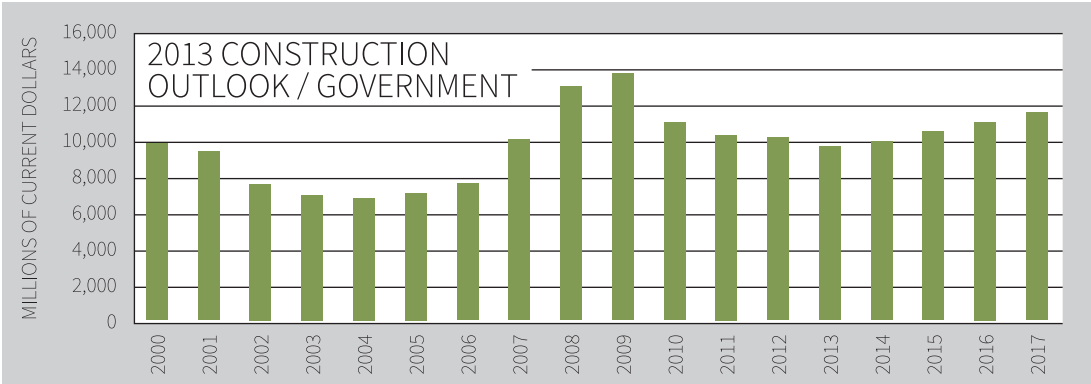
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Government VERTICAL MARKET OUTLOOKS

GOVERNMENT The forecast for government construction continues to be slow, dropping 2.6% in 2013 and expecting to regain just 0.7% in 2014. Sequestration has had a dramatic impact, though demand remains strong — particularly for office improvements and prisons. The Bureau of Prisons reports that it has a backlog of 154 modernization and repair projects with an approximate cost of \$349 million. Potential spending of more than \$60 billion in border security could change things.



GOVERNMENT CONSTRUCTION

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Millions of Current Dollars	11,960	15,339	16,164	15,076	14,301	14,087	13,720	13,817	14,589	15,321	15,807
% Change From Year Prior	na	28.3%	5.4%	-6.7%	-5.1%	-1.5%	-2.6%	0.7%	5.6%	5.0%	3.2%

Trends:

- “Over the past 30 years, according to a new report by the Congressional Research Service (CRS), the federal prison population has jumped from 25,000 to 219,000 inmates, an increase of nearly 790 percent.
- The Pentagon is seeking a \$150 million overhaul of the U.S. detention facility at Guantanamo Bay.
- Government appointed its first chief greening officer (under GSA) to oversee aggressive pursuit of sustainable practices in government buildings.
- Public private partnerships (P3s) overcome shortfalls in public financing.

Drivers:

- Population increasing
- Government spending decreasing
- Incarceration rate increasing

Use these tools when budgeting, to see growth opportunities, and monitor market share potential.

The Systems Outlook below provides trends on the volume of electronic systems put in place since 2012:

SYSTEMS OUTLOOK / GOVERNMENT in Millions of Current Dollars

	Acoustic, Audio & A/V	Phone Systems, Data Networks, IT	Building Automation & Control	Life Safety: Fire & Security	Lighting, Digital Signage	All Systems
2012 Total	na	na	na	na	na	na
2013 Summer Outlook	98.1	188.6	34.1	463.8	143.2	927.9
2013 Winter Outlook	96.2	185.0	33.4	455.1	140.5	910.3
% of Total Construction	0.70%	1.35%	0.24%	3.32%	1.02%	6.63%

2012 Total – total electronic systems construction put in place in 2012

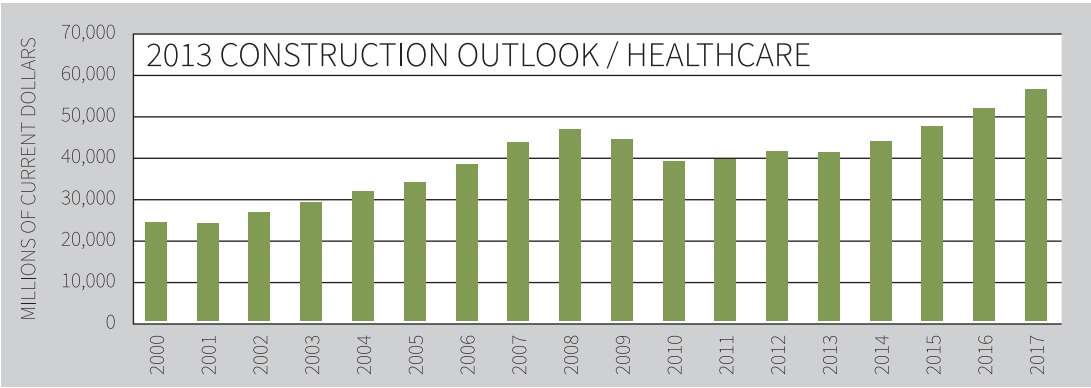
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VERTICAL MARKET OUTLOOKS Healthcare

HEALTHCARE Healthcare construction slipped 0.5% in 2013, but is still expected to grow 6% in 2014 to \$44.0 billion. Demographics continue to drive the forecast, and baby boomers are retiring in larger numbers and more likely to need greater healthcare. However, there is a larger elephant in the room that makes prediction a bit dicey right now. The Affordable Healthcare Act, is set to provide access to affordable health insurance for millions of Americans who are currently uninsured. This looks like a potentially sudden shock to the system, even though it has been coming for three years now. There is also the concern for the continually rising healthcare costs. Meantime, healthcare providers will continue to focus on reducing costs for new facilities through use of technology.



HEALTHCARE CONSTRUCTION

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Millions of Current Dollars	43,766	46,902	44,845	39,344	40,204	41,797	41,581	44,003	47,533	51,749	56,637
% Change From Year Prior	na	7.2%	-4.4%	-12.3%	0.9%	4.0%	-0.5%	5.8%	8.0%	8.9%	9.4%

Trends:

- One-year delay of implementation of the employer mandate portion of ACA
- Hospital beds per 1,000 people trending downward
- Shorter patient stays
- Increasing use of ambulatory-care facilities
- Healthcare industry still not prepared for increased number of insured
- Trend toward rebuilding existing facilities to use modern hospital design and allow for greater use of technology

Drivers:

- Population change younger than age 18 increasing
- Population change ages 18-24 increasing
- Government spending decreasing

Use these tools when budgeting, to see growth opportunities, and monitor market share potential.

The Systems Outlook below provides trends on the volume of electronic systems put in place since 2012:

SYSTEMS OUTLOOK / HEALTHCARE in Millions of Current Dollars

	Acoustic, Audio & A/V	Phone Systems, Data Networks, IT	Building Automation & Control	Life Safety: Fire & Security	Lighting, Digital Signage	All Systems
2012 Total	85.6	655.9	85.6	1,454.5	570.4	2,851.9
2013 Summer Outlook	82.5	632.2	82.5	1,401.9	549.8	2,748.9
2013 Winter Outlook	80.3	615.4	80.3	1,364.6	535.1	2,675.7
% of Total Construction	0.19%	1.48%	0.19%	3.28%	1.29%	6.44%

2012 Total – total electronic systems construction put in place in 2012

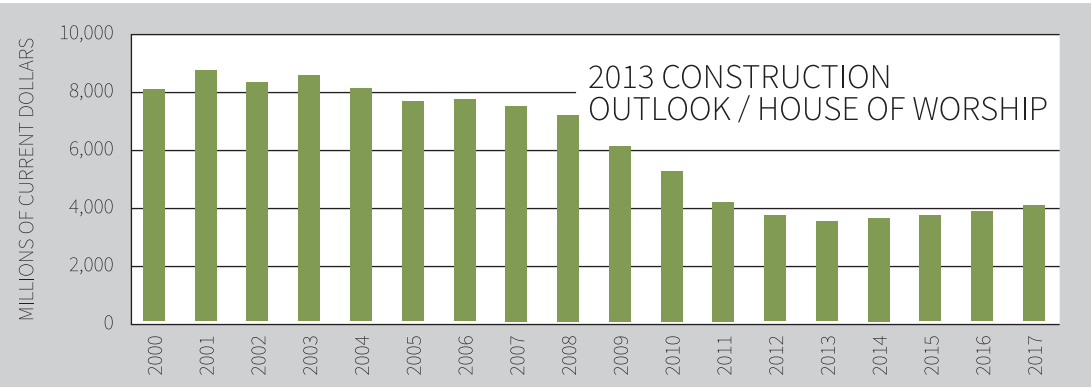
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House of Worship VERTICAL MARKET OUTLOOKS

HOUSE OF WORSHIP Religious construction has been a shrinking market for more than a decade. Our forecast calls for another lean year in 2014 growing just 3% after dropping 5% in 2013. What growth we see will likely be renovation, as newly formed congregations move into vacated retail space or reoccupy church buildings abandoned by other faiths. As the housing market slowly continues a growth trend in the coming years, we may also see more expendable income for contributing to new community houses of worship.



HOUSE OF WORSHIP CONSTRUCTION

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Millions of Current Dollars	7,540	7,225	6,192	5,288	4,239	3,768	3,573	3,681	3,780	3,929	4,118
% Change From Year Prior	na	-4.2%	-14.3%	-14.6%	-20.1%	-11.1%	-5.2%	3.0%	2.7%	3.9%	4.8%

Trends:

- Many churches are seeing tremendous declines in contributions and tithes.
- More parishioners are relying on their houses of worship to provide guidance and assistance, further stretching thin resources.
- Improved space utilization and additions are taking the forefront, as new construction is increasingly not an option.
- Churches are becoming smarter about attracting parishioners who are drawn in by facilities and the church building itself.

Drivers:

- GDP increasing
- Population increasing
- Income increasing

Use these tools when budgeting, to see growth opportunities, and monitor market share potential.

The Systems Outlook below provides trends on the volume of electronic systems put in place since 2012:

SYSTEMS OUTLOOK / HOUSE OF WORSHIP in Millions of Current Dollars

	Acoustic, Audio & A/V	Phone Systems, Data Networks, IT	Building Automation & Control	Life Safety: Fire & Security	Lighting, Digital Signage	All Systems
2012 Total	na	na	na	na	na	na
2013 Summer Outlook	28.7	25.1	31.9	85.3	58.5	229.5
2013 Winter Outlook	25.8	22.6	28.7	76.7	52.6	206.4
% of Total Construction	0.72%	0.63%	0.80%	2.15%	1.47%	5.78%

2012 Total – total electronic systems construction put in place in 2012

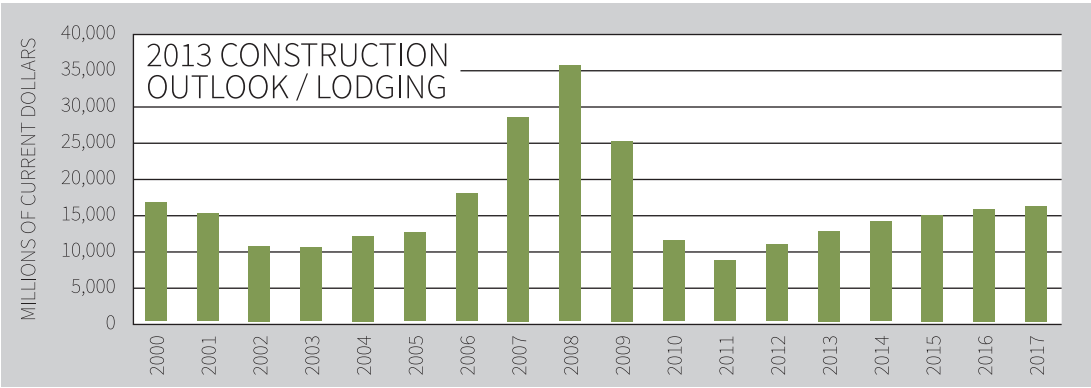
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% of total construction – shows the percentage of dollars spent on electronic systems in relation to the total dollars spent on construction in the given vertical market

VERTICAL MARKET OUTLOOKS Lodging

LODGING Lodging construction came back to life in 2012. However, the pace of growth has slowed since last year; we have decreased our growth forecast from 15% for 2013 to 9% for 2014 to reach a total of \$14.3 billion. One of the key measures of the hospitality market is revenue per available room (RevPar), which is up 5.0% in 2013. Interest rates remain low for those looking to improve existing properties or build new, but lenders are still conservative. That means the high-end properties and major business destinations like New York City will have the best chance of expansion.



LODGING CONSTRUCTION

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Millions of Current Dollars	28,706	35,806	25,499	11,635	9,129	11,423	13,135	14,301	15,323	16,020	16,610
% Change From Year Prior	na	24.7%	-28.8%	-54.4%	-23.7%	25.1%	15.0%	8.9%	7.1%	4.6%	3.7%

Trends:

- The increase in average daily rates per room will continue be modest as the business and vacation travelers shop for the best buy.
- Hotel developers will renovate before building new properties.
- As the economy continues to improve, business and vacation travelers are taking to the roads and airways, but this will be a slow transition.

Drivers:

- Occupancy rate decreasing
- Revenue per available room (RevPar) is rising
- Average daily rate per room increased slightly

Use these tools when budgeting, to see growth opportunities, and monitor market share potential.

The Systems Outlook below provides trends on the volume of electronic systems put in place since 2012:

SYSTEMS OUTLOOK / LODGING in Millions of Current Dollars

	Acoustic, Audio & A/V	Phone Systems, Data Networks, IT	Building Automation & Control	Life Safety: Fire & Security	Lighting, Digital Signage	All Systems
2012 Total	32.9	43.9	11.0	290.7	170.1	548.6
2013 Summer Outlook	39.8	53.1	13.3	351.5	205.6	663.2
2013 Winter Outlook	42.1	56.1	14.0	371.9	217.5	701.7
% of Total Construction	0.32%	0.43%	0.11%	2.83%	1.66%	5.34%

2012 Total – total electronic systems construction put in place in 2012

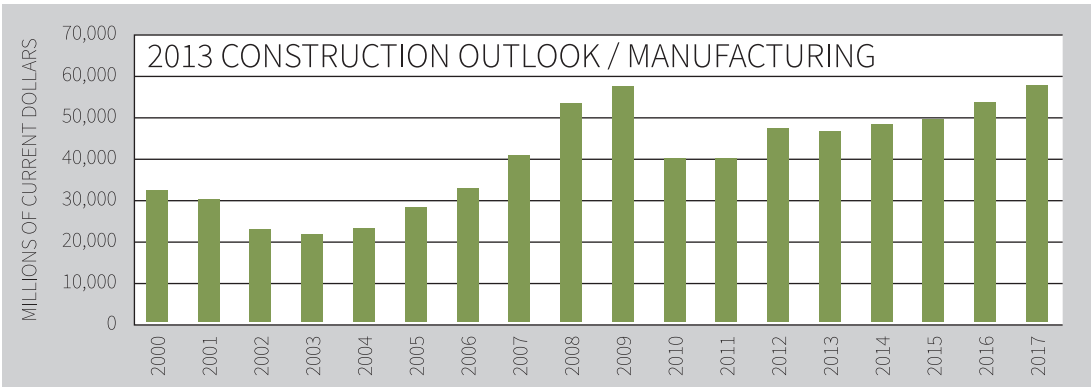
2013 Summer Outlook – outlook of total 2013 electronic systems construction put in place based on actual data for the first 2 quarters of 2013 and forecasted for the remainder of 2013

2013 Winter Outlook – outlook of total 2013 electronic systems construction put in place based on actual data from 2013 Q1 though November 2013 and forecasted for the remainder of 2013

% of total construction – shows the percentage of dollars spent on electronic systems in relation to the total dollars spent on construction in the given vertical market

Manufacturing VERTICAL MARKET OUTLOOKS

MANUFACTURING Manufacturing construction dropped by 2% in 2013 following a strong 2012. However, a 4% growth is forecast in 2014 due to manufacturing firms looking to return to the U.S. A reduction in energy costs in the U.S. relative to other countries around the globe; in addition to the increase in transportation costs, manufacturing will continue to reconsider operations in or returning to the U.S.. Furthermore, several other factors are providing a boost to manufacturing such as the resurgence of the automotive industry and continuing exploration and mining for shale oil and gas. This resurgence in manufacturing will be slow, but any improvement will be felt throughout the economy.



MANUFACTURING CONSTRUCTION

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Millions of Current Dollars	40,633	53,234	56,836	40,350	39,660	46,850	45,874	47,533	49,901	53,111	57,017
% Change From Year Prior	na	31.0%	6.8%	-31.0%	2.2%	18.1%	-2.1%	3.6%	5.0%	6.4%	7.4%

Trends:

- Capacity utilization slipped 0.1% to 77.6 percent, 2.6 percentage points below its long-run (1972–2012) average.
- “Reshoring of manufacturing” is happening slowly, and is likely to accelerate due to availability of lower energy costs.
- The U.S. has surpassed Saudi Arabia in oil production and is now the #2 producer behind Russia.
- Tremendous investments are being made to build, expand and upgrade petrochemical facilities.

Drivers:

- Industrial production increased slightly
- Capacity utilization decreased slightly
- Factory orders increasing
- Durable goods orders decreasing
- Manufacturing inventories increasing

Use these tools when budgeting, to see growth opportunities, and monitor market share potential.

The Systems Outlook below provides trends on the volume of electronic systems put in place since 2012:

SYSTEMS OUTLOOK / MANUFACTURING in Millions of Current Dollars

	Acoustic, Audio & A/V	Phone Systems, Data Networks, IT	Building Automation & Control	Life Safety: Fire & Security	Lighting, Digital Signage	All Systems
2012 Total	38.9	116.8	642.2	739.6	408.7	1,946.2
2013 Summer Outlook	46.7	140.2	770.9	887.8	490.6	2,336.2
2013 Winter Outlook	41.1	123.4	679.0	781.8	432.1	2,057.4
% of Total Construction	0.09%	0.27%	1.48%	1.70%	0.94%	4.49%

2012 Total – total electronic systems construction put in place in 2012

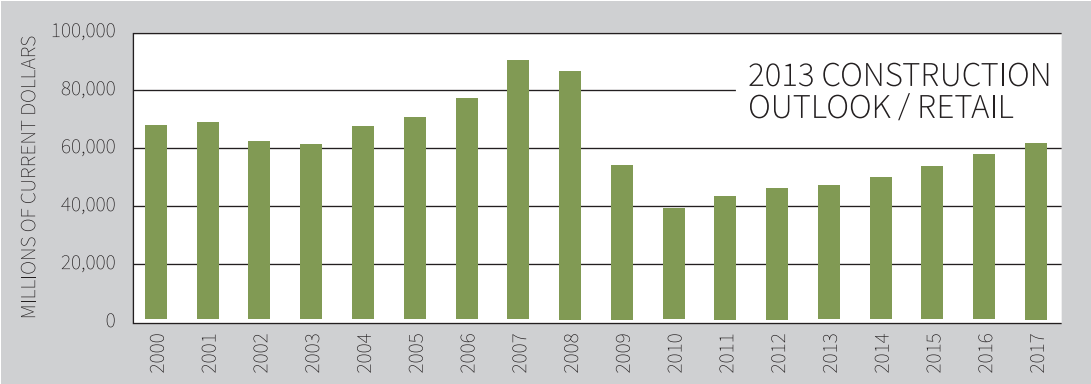
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% of total construction – shows the percentage of dollars spent on electronic systems in relation to the total dollars spent on construction in the given vertical market

VERTICAL MARKET OUTLOOKS Retail

RETAIL Construction increased just 2% in 2013, growing to 5% in 2014. Retail sales were up 5.7% over the previous year, but that wasn't enough to start a significant upturn in new construction. New bricks and mortar retail space will continue to be slow to recover, as many companies turn to Internet mail-order sales. Pay close attention to the growth in digital signage among the retail market as retailers try new ways to increase sales (over \$30 million increase from 2012 to 2013).



RETAIL CONSTRUCTION

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Millions of Current Dollars	89,684	86,212	54,069	39,450	43,386	46,303	47,256	49,691	53,773	57,942	62,041
% Change From Year Prior	na	-3.9%	-37.3%	-27.0%	10.4%	6.7%	2.1%	5.2%	8.2%	7.8%	7.1%

Trends:

- Expect more rethinking of commercial construction space to accommodate smaller stores and to combine in-store sales with online shopping.
- Increased store remodeling could stall new construction.
- Look for increasing multiuse projects.

Drivers:

- Retail sales increasing
- CPI decreased
- Unemployment rate slightly improved
- Income increasing

Use these tools when budgeting, to see growth opportunities, and monitor market share potential.

The Systems Outlook below provides trends on the volume of electronic systems put in place since 2012:

SYSTEMS OUTLOOK / RETAIL in Millions of Current Dollars

	Acoustic, Audio & A/V	Phone Systems, Data Networks, IT	Building Automation & Control	Life Safety: Fire & Security	Lighting, Digital Signage	All Systems
2012 Total	57.4	267.9	57.4	784.5	746.2	1,913.3
2013 Summer Outlook	57.9	270.4	57.9	791.8	753.1	1,931.1
2013 Winter Outlook	55.0	256.8	55.0	751.9	715.3	1,834.0
% of Total Construction	0.12%	0.54%	0.12%	1.59%	1.51%	3.88%

2012 Total – total electronic systems construction put in place in 2012

2013 Summer Outlook – outlook of total 2013 electronic systems construction put in place based on actual data for the first 2 quarters of 2013 and forecasted for the remainder of 2013

2013 Winter Outlook – outlook of total 2013 electronic systems construction put in place based on actual data from 2013 Q1 through November 2013 and forecasted for the remainder of 2013

% of total construction – shows the percentage of dollars spent on electronic systems in relation to the total dollars spent on construction in the given vertical market

Other Buildings VERTICAL MARKET OUTLOOKS

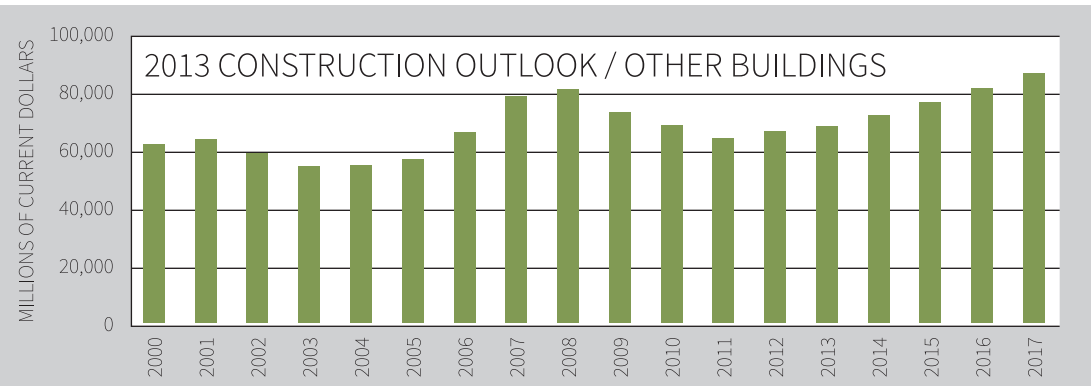
OTHER BUILDINGS Electronic systems installed in Other Buildings are roughly \$25 million ahead of our projected outlook this summer, and there is not one technology that appears to be driving this nearly 0.5% increase in total volume. These markets (listed below) account for almost 3.7 billion dollars of electronic systems sales mostly stemming from life safety, lighting, and digital signage. We plan to continue to break more of the markets out of “Other Buildings” outlook to provide a more detailed breakdown in future editions of this report.

Other Buildings includes:

Amusement and recreation: Venues such as movie theaters, stadiums, arenas, performing and visual arts, convention centers, etc.

Transportation: Facilities associated with air, land, and sea travel; primarily passenger terminals

Communication: Buildings related to television & radio (broadcast and production), etc.



OTHER BUILDINGS CONSTRUCTION

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Millions of Current Dollars	78,910	81,531	73,481	69,090	64,523	66,923	68,556	72,397	77,072	81,917	86,891
% Change From Year Prior	na	3.3%	-9.9%	-6.0%	-6.6%	3.7%	2.4%	5.6%	6.5%	6.3%	6.1%

SYSTEMS OUTLOOK / OTHER BUILDINGS in Millions of Current Dollars

	Acoustic, Audio & A/V	Phone Systems, Data Networks, IT	Building Automation & Control	Life Safety: Fire & Security	Lighting, Digital Signage	All Systems
2012 Total	282.3	846.9	235.2	1,881.9	1,458.5	4,704.8
2013 Summer Outlook	220.5	661.6	183.8	1,470.1	1,139.4	3,675.4
2013 Winter Outlook	219.0	657.1	182.5	1,460.2	1,131.7	3,650.6
% of Total Construction	0.32%	0.96%	0.27%	2.13%	1.65%	5.33%

2012 Total – total electronic systems construction put in place in 2012

2013 Summer Outlook – outlook of total 2013 electronic systems construction put in place based on actual data for the first 2 quarters of 2013 and forecasted for the remainder of 2013

2013 Winter Outlook – outlook of total 2013 electronic systems construction put in place based on actual data from 2013 Q1 through November 2013 and forecasted for the remainder of 2013

% of total construction – shows the percentage of dollars spent on electronic systems in relation to the total dollars spent on construction in the given vertical market

CONSTRUCTION OUTLOOK SUMMARIES

SYSTEMS OUTLOOK in Millions of Current Dollars

	Acoustic, Audio & A/V		Phone Systems, Data Networks, IT		Building Automation & Control		Life Safety: Fire & Security		Lighting, Digital Signage		All Systems	
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
Corporate	253.8	269.2	546.7	579.7	39.0	41.4	702.9	745.4	410.0	434.8	1,952.5	2,070.5
Education	809.1	765.8	701.3	663.7	107.9	183.4	2,589.2	2,450.5	1,186.7	1,123.2	5,394.3	5,186.6
Government	na	96.2	na	185.0	na	33.4	na	455.1	na	140.5	na	910.3
Healthcare	85.6	80.3	655.9	615.4	85.6	80.3	1,454.5	1,364.6	570.4	535.1	2,851.9	2,675.7
House of Worship	na	25.8	na	22.6	na	28.7	na	76.7	na	52.6	na	206.4
Lodging	32.9	42.1	43.9	56.1	11.0	14.0	290.7	371.9	170.1	217.5	548.6	701.7
Manufacturing	38.9	41.1	116.8	123.4	642.2	679.0	739.6	781.8	408.7	432.1	1,946.2	2,057.4
Retail	57.4	55.0	267.9	256.8	57.4	55.0	784.5	751.9	746.2	715.3	1,913.3	1,834.0
Other Buildings	282.3	219.0	846.9	657.1	235.2	182.5	1,881.9	1,460.2	1,458.5	1,131.7	4,704.8	3,650.6
Total Commercial Buildings	1,560.0	1,594.5	3,179.3	3,159.9	1,178.4	1,297.8	8,443.3	8,458.2	4,950.6	4,782.8	19,311.5	19,293.2

CONSTRUCTION OUTLOOK / U.S. in Millions of Current Dollars

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Corporate	65,259	68,563	51,908	37,850	36,011	38,433	37,481	38,942	40,885	43,399	45,584
Education	96,758	104,890	103,202	88,405	84,985	84,618	81,333	84,704	89,245	95,066	102,083
Government	11,960	15,339	16,164	15,076	14,301	14,087	13,720	13,817	14,589	15,321	15,807
Healthcare	43,766	46,902	44,845	39,344	40,204	41,797	41,581	44,003	47,533	51,749	56,637
House of Worship	7,540	7,225	6,192	5,288	4,239	3,768	3,573	3,681	3,780	3,929	4,118
Lodging	28,706	35,806	25,499	11,635	9,129	11,423	13,135	14,301	15,323	16,020	16,610
Manufacturing	40,633	53,234	56,836	40,350	39,660	46,850	45,874	47,533	49,901	53,111	57,017
Retail	89,684	86,212	54,069	39,450	43,386	46,303	47,256	49,691	53,773	57,942	62,041
Other Buildings	78,910	81,531	73,481	69,090	64,523	66,923	68,556	72,397	77,072	81,917	86,891
Total Commercial Buildings	463,216	499,702	432,196	346,488	336,438	354,202	352,509	369,070	392,102	418,454	446,789
Total Commercial Buildings	463,216	499,702	432,196	345,351	334,224	354,202	352,509	369,070	392,102	418,454	446,789
Total Residential Buildings	500,468	357,746	253,930	249,113	252,658	286,523	338,163	379,599	420,452	465,383	505,941
Total Nonbuilding Structures	188,667	210,118	217,078	208,959	198,918	216,228	218,971	228,435	238,879	252,080	267,411
Total Construction Put in Place	1,152,351	1,067,566	903,204	804,560	788,014	856,953	909,643	977,105	1,051,433	1,135,918	1,220,142

NOTE: "Other Buildings" includes Amusements & Recreation, Transportation and Communication.

NOTE: These numbers are construction-related project based. Only projects with building permits were factored into these numbers. For some systems integrators this represents the vast majority of their revenues, and for others, only a portion.

NOTE: Non-building structures are generally horizontal construction projects (roadways, bridges, tunnels, etc.).

CONSTRUCTION OUTLOOK / U.S. % Change From Year Prior

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Corporate	na	5.1%	-24.3%	-27.1%	-8.5%	6.7%	-2.5%	3.9%	5.0%	6.2%	5.0%
Education	na	8.4%	-1.6%	-14.3%	-4.6%	-0.4%	-3.9%	4.1%	5.4%	6.5%	7.4%
Government	na	28.3%	5.4%	-6.7%	-5.1%	-1.5%	-2.6%	0.7%	5.6%	5.0%	3.2%
Healthcare	na	7.2%	-4.4%	-12.3%	0.9%	4.0%	-0.5%	5.8%	8.0%	8.9%	9.4%
House of Worship	na	-4.2%	-14.3%	-14.6%	-20.1%	-11.1%	-5.2%	3.0%	2.7%	3.9%	4.8%
Lodging	na	24.7%	-28.8%	-54.4%	-23.7%	25.1%	15.0%	8.9%	7.1%	4.6%	3.7%
Manufacturing	na	31.0%	6.8%	-31.0%	2.2%	18.1%	-2.1%	3.6%	5.0%	6.4%	7.4%
Retail	na	-3.9%	-37.3%	-27.0%	10.4%	6.7%	2.1%	5.2%	8.2%	7.8%	7.1%
Other Buildings	na	3.3%	-9.9%	-6.0%	-6.6%	3.7%	2.4%	5.6%	6.5%	6.3%	6.1%
Total Commercial Buildings	na	7.9%	-13.5%	-20.1%	-3.2%	5.3%	-0.5%	4.7%	6.2%	6.7%	6.8%
Total Commercial Buildings	na	7.9%	-13.5%	-20.1%	-3.2%	6.0%	-0.5%	4.7%	6.2%	6.7%	6.8%
Total Residential Buildings	na	-28.5%	-29.0%	-1.8%	-1.6%	13.4%	18.0%	12.3%	10.8%	10.7%	8.7%
Total Nonbuilding Structures	na	11.4%	3.3%	-3.4%	-0.3%	8.7%	1.3%	4.3%	4.6%	5.5%	6.1%
Total Construction Put in Place	na	-7.4%	-15.4%	-10.9%	-2.0%	8.7%	6.1%	7.4%	7.6%	8.0%	7.4%

CANADA CONSTRUCTION OUTLOOK

FMI does work extensively in Canada with a team dedicated to that area. The historic rule of thumb for Canada was that it was 10% of the U.S. — no matter what you were talking about. Over the past 8 years that has changed dramatically, such that today total Canadian construction volume is closer to one-third of the U.S. The recession in Canada was not nearly as deep or broad, and the residential sector held up relatively well. The government invested heavily in real infrastructure projects, especially in Ontario. And the oil & gas industry created a boom in Western Canada. We are expecting moderation in the rate of Canada's growth, but the economy will show steady gains for the next 10 years. It is estimated that the Canadian volume is about 18% of the U.S. systems contracting based on the non-residential building sector. However, drivers and owner practices are different in Canada that needs to be taken under consideration. NSCA will be reviewing this information in the reports to come.

CONSTRUCTION OUTLOOK / CANADA in Millions of Current Dollars

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Corporate	6,119	7,254	5,983	6,610	7,645	8,252	8,222	8,174	8,391	8,591	8,779
Education	3,612	4,266	5,044	7,019	6,939	5,101	4,905	5,026	5,101	5,168	5,220
Government	829	813	1,089	1,283	1,874	2,315	1,978	1,783	1,701	1,671	1,671
Healthcare	2,106	2,708	3,273	3,319	2,985	2,877	2,943	3,084	3,215	3,335	3,461
House of Worship	400	455	416	608	621	371	454	521	561	589	610
Lodging	2,086	2,593	2,378	2,442	3,032	3,497	3,338	3,283	3,276	3,298	3,341
Manufacturing	4,891	5,418	4,214	4,707	5,402	6,150	6,382	6,364	6,452	6,507	6,584
Retail	7,988	9,204	7,869	7,344	8,514	10,228	10,992	11,269	11,756	12,205	12,716
Other Buildings	23,509	26,169	27,153	33,165	35,144	35,965	37,431	39,242	38,332	38,194	38,211
Total Commercial Buildings	51,540	58,879	57,419	66,496	72,156	74,755	76,645	78,746	78,784	79,557	80,593
Total Commercial Buildings	51,540	58,879	57,419	66,496	72,156	74,755	76,645	78,746	78,784	79,557	80,593
Total Residential Buildings	76,151	77,968	67,055	81,241	87,118	94,732	93,900	94,753	96,838	98,246	100,314
Total Nonbuilding Structures	54,020	63,470	46,785	68,753	80,763	92,888	90,624	89,034	91,158	92,563	94,590
Total Construction Put in Place	181,712	200,317	171,258	216,490	240,037	262,375	261,169	262,532	266,781	270,366	275,497

CONSTRUCTION OUTLOOK / CANADA % Change From Year Prior

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Corporate	na	-18.6%	17.5%	-10.5%	-15.7%	-7.9%	0.4%	0.6%	-2.6%	-2.4%	-2.2%
Education	na	-18.1%	-18.2%	-39.2%	1.1%	26.5%	3.8%	-2.5%	-1.5%	-1.3%	-1.0%
Government	na	2.0%	-34.1%	-17.8%	-46.1%	-23.5%	14.5%	9.9%	4.6%	1.8%	0.0%
Healthcare	na	-28.6%	-20.9%	-1.4%	10.1%	3.6%	-2.3%	-4.8%	-4.2%	-3.7%	-3.8%
House of Worship	na	-13.9%	8.6%	-46.1%	-2.0%	40.3%	-22.5%	-14.7%	-7.7%	-4.9%	-3.7%
Lodging	na	-24.3%	8.3%	-2.7%	-24.1%	-15.4%	4.5%	1.6%	0.2%	-0.7%	-1.3%
Manufacturing	na	-10.8%	22.2%	-11.7%	-14.8%	-13.9%	-3.8%	0.3%	-1.4%	-0.9%	-1.2%
Retail	na	-15.2%	14.5%	6.7%	-15.9%	-20.1%	-7.5%	-2.5%	-4.3%	-3.8%	-4.2%
Other Buildings	na	-11.3%	-3.8%	-22.1%	-6.0%	-2.3%	-4.1%	-4.8%	2.3%	0.4%	0.0%
Total Commercial Buildings	na	-14.2%	2.5%	-15.8%	-8.5%	-3.6%	-2.5%	-2.7%	0.0%	-1.0%	-1.3%
Total Commercial Buildings	na	-14.2%	2.5%	-15.8%	-8.5%	-3.6%	-2.5%	-2.7%	0.0%	-1.0%	-1.3%
Total Residential Buildings	na	-2.4%	14.0%	-21.2%	-7.2%	-8.7%	0.9%	-0.9%	-2.2%	-1.5%	-2.1%
Total Nonbuilding Structures	na	-17.5%	26.3%	-47.0%	-17.5%	-15.0%	2.4%	1.8%	-2.4%	-1.5%	-2.2%
Total Construction Put in Place	na	-10.2%	14.5%	-26.4%	-10.9%	-9.3%	0.5%	-0.5%	-1.6%	-1.3%	-1.9%

NOTE: We don't have the actual system type values per category determined as of yet. For now use the averages in the U.S. to estimate value.



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