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E&C: doing business around the world

2017 Engineering and Construction Conference June 26-28, 2017

ENTUITIVEOverview of Entuitive

New Construction + Existing buildings

Services

- Structural Engineering
- Building Envelope
- Restoration
- Special Projects and Renovations

Sectors

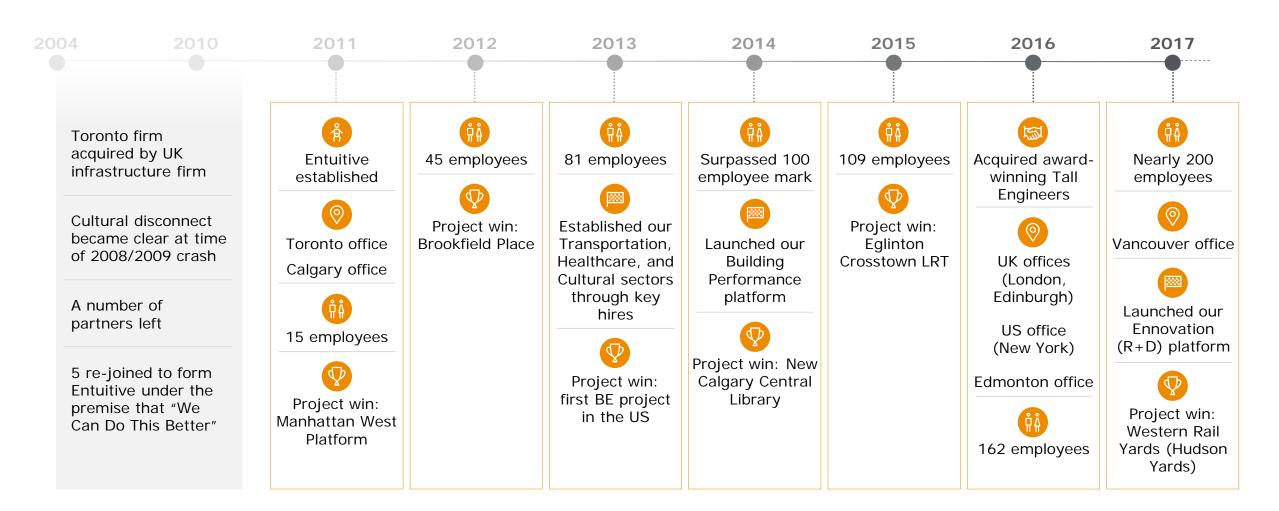
- Commercial
- Cultural Healthcare
- Hospitality
- Institutional
- Mission Critical Facilities/ Data Centres
- Mixed-use Developments
- Parking Facilities
- Residential
- Retail
- Sports and Recreation
- Transportation







How we got here



Manhattan West Platform

Location: New York, USA

Client: Brookfield Properties

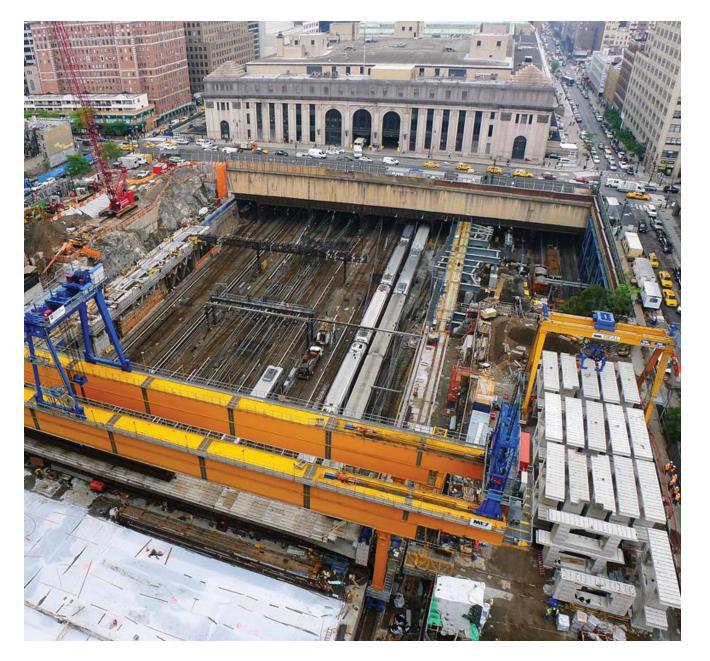
Architect: Skidmore Owings and Merrill (SOM)

Architects

Role: Structural Engineering Consultant

Budget: \$200 M

The Manhattan West Platform is the first stage in a commercial development project to reclaim 2.6 acres of land over the busiest commuter rail corridor in North America. The platform will serve as the foundation for a plaza and public space over previously uncovered railway tracks and serve part of a new 5.4 million ft² mixed-use development in west Manhattan.



Western Rail Yard (Hudson Yards)

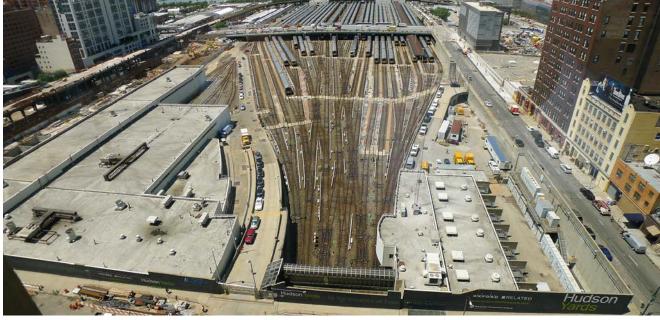
Location: New York, USA

Client: The Related Companies

Role: Structural Engineering Consultant

The Related Group recently chose Entuitive to lead the coordination between the platform designer and the tower design teams for their Western Rail Yard development which is the second phase of Manhattan's Hudson Yards – the largest private real estate development in US history. This along with our other work in the Northeast United States provides a great foundation for continued expansion in New York.





ENTUITIVENew Central Library

Location: Calgary

Client: Calgary Municipal Land Corporation (CMLC),

Calgary Public Library and the City of Calgary

Architect: Snøhetta (Design Architect),

DIALOG (Executive Architect)

Role: Structural Engineering Consultant

Budget: \$245 M

The New Central Library will occupy 278,000 ft², including public space, and 40,000 ft² for future library expansion. Our innovative engineering solution allowed the building structure to be built over Calgary's busiest LRT line which bisects the site and occupies approximately 40% of the site area. The Library's design will put a strong emphasis on public accessibility and community-oriented spaces with 80% of the building, including collections areas, allocated to public space.



Comcast Innovation and Technology Center

Location: Philadelphia, USA

Client: Kendall/Heaton Associates

Architect: Foster + Partners (Design Architect) Kendall/Heaton Associates (Executive Architect)

Role: Building Envelope Consultant

Budget: \$933 M

With 59 storeys and reaching a height of 1,121 ft, the Comcast Innovation and Technology Center will be the eighth tallest building in the USA and the tallest in Philadelphia. It will be adjacent to the existing Comcast Centre, which is headquarters to Comcast – the largest broadcasting and cable company in the world.

The mixed-use building will include office, hotel and retail including a 220-room Four Seasons Hotel, high-tech research and development spaces, loft-like workspaces and state-of-the-art television studios for NBC located at the base of the building.



E&C Trends Europe

European construction industry essentials

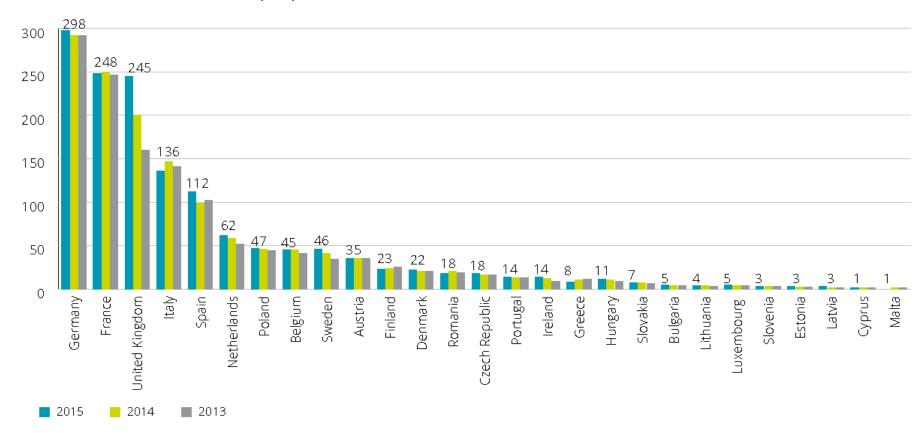
Recovering and getting stable again ?

Production index in the construction sector



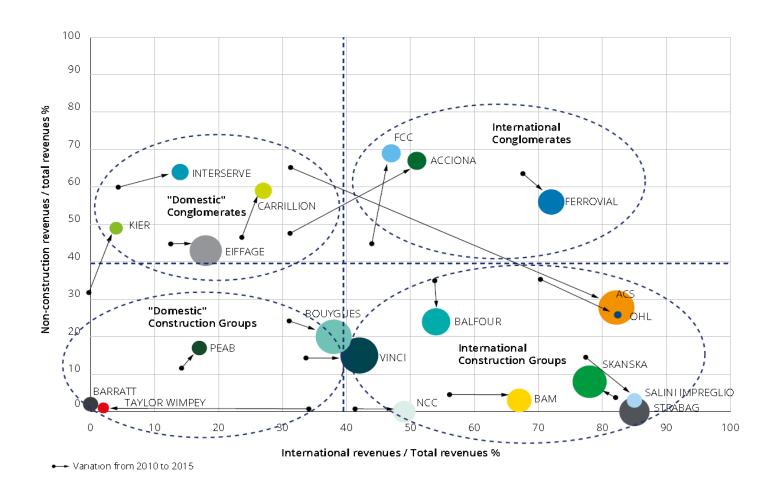
European construction industry essentials (cont.) More diversity than one would think

Construction Investment in 2015 (€bn)



Source: Ameco, May 2015

European construction industry essentials (cont.) The top 20 going international again

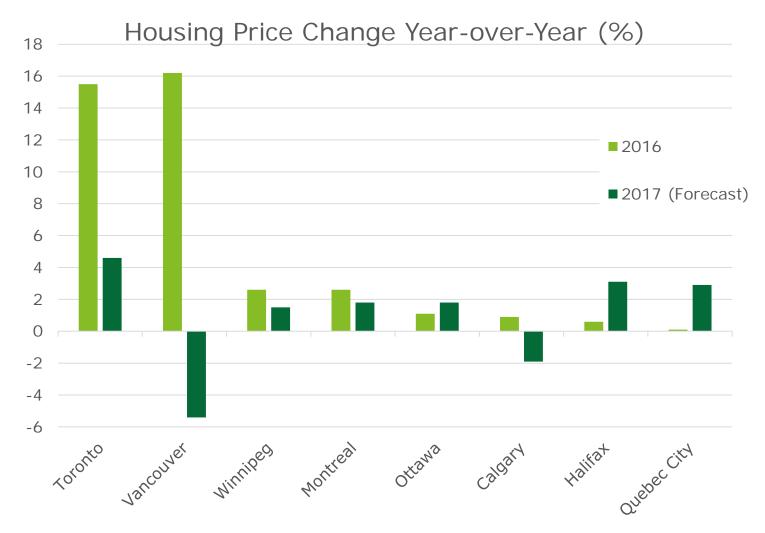


Source: Deloitte analysis

E&C Trends Canada

Canada's Top 10 List

1. Housing prices



Source: TD Economics, Regional Housing Report

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2. Levelling of Canadian Dollar

Canadian dollar: US dollar daily close rate from January 1, 2014 to April 28, 2017



Source: Oanda

3. Trudeau government



Election Promises:

- Budget 2016 promised the following in infrastructure spending:
 - \$2.5B in transit infrastructure over next 2 years
 - \$1.8B in green infrastructure over next 2 years
 - \$2.2B in social infrastructure over next 2 years
- Committed to admit 55,800 new refugees as permanent residents in 2016 and:
 - Additional 40,000 refugees in 2017
 - Target of welcoming 300,000 new immigrants to Canada for 2017 with view to 450,000 for 2018

Since then...

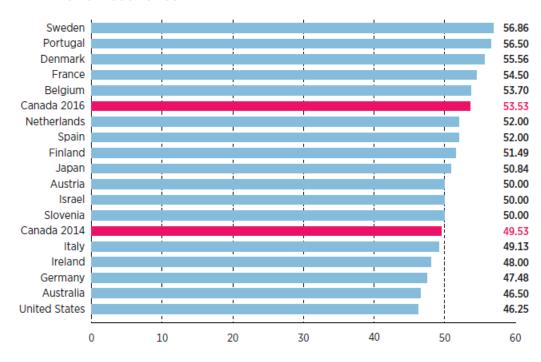
- The Government has promised the following in infrastructure spending:
 - 3.4B in transit infrastructure over 3 years
 - 5.1B in green infrastructure over 8 years
 - 3.4B in social infrastructure over 5 years
- 46,700 refugees admitted into Canada as permanent residents in 2016 – highest number since 1980
- In 2016, 271,000 new immigrants were welcomed into Canada as permanent residents

155

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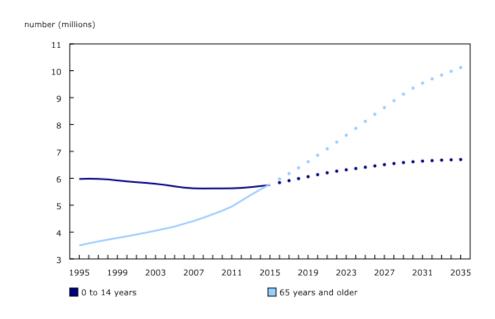
4. Increase in personal tax rates

Top combined statutory marginal income tax rates in OECD countries



5. Aging population

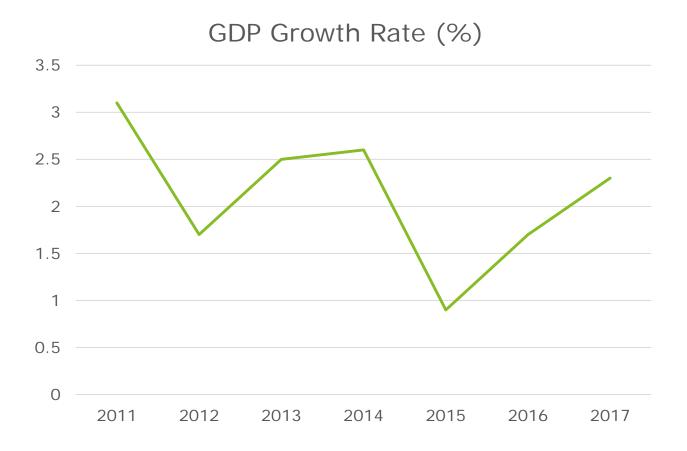
Projected population of Canadians ages 65+ versus ages 14 and under



 4.5% increase in the number of residents in senior citizen housing but only a 3.6% increase in availability of senior citizen housing from 2015 to 2016

Source: StatsCan

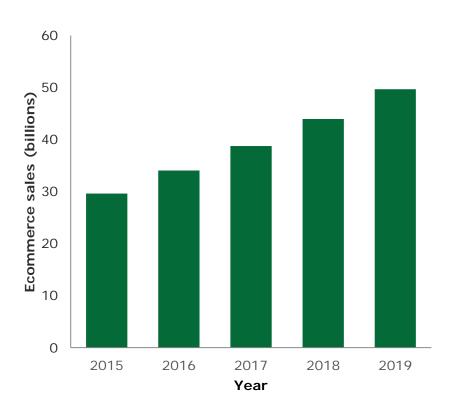
6. Rebound in GDP



Source: WorldBank, Conference Board of Canada

7. Continued rise in e-commerce

Retail ecommerce sales estimates in Canada (billions of CAD)



Source: eMarketer

8. Changing work environment



- Demand for technologically-advanced, openconcept, agile workspaces is on the rise
- Deloitte Canada is transitioning over 60% of our real estate to agile workspaces within the next 5 years
- 65% of new office space is dedicated to collaboration space vs. only 5% under traditional office model

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9. Influx of luxury brands





- Nordstrom's sixth location is set to open in Canada in September, 2017
- Canadian sales for Nordstrom in 2016 totaled ~\$300 M USD; Projections for 2017 are \$500 million
- Saks Fifth Avenue coming off poor 2016 holiday performance
- Owner Canadian-based Hudson's Bay Company –
 pressured to sell for real estate value makes
 shares 4x as valuable
- HBC share price surged 15% last week as a result of real estate valuation

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10. M&A Activity

2017 review (so far) & outlook:

- M&A activity in Canada for Q1 of 2017 strongest first quarter in 17 years total deal value increased 12% to \$75.4 billion CAD
- More than half of surveyed senior M&A practitioners (58%) think the lower price of oil is having a positive impact on Canadian M&A
- The real estate sector increased 23% in deal volume in Q1 2017 from Q1 2016, with 90 transactions worth \$8.7 billion CAD – biggest deal was Starwood Capital Group's \$4 billion CAD acquisition of Milestone Apartment REIT

A&D

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2017 Engineering and Construction Conference

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