Utility Construction Industry Overview
As president and chief executive officer of FMI Corporation, Chris oversees the management of all FMI businesses and services and leads the firm's strategic growth efforts. Previously, Chris served as president and senior managing director of FMI Capital Advisors, the firm’s investment banking subsidiary, where he also led the firm’s utility infrastructure practice.

He works with owners, boards and management teams on strategic issues involving industry trends, management, ownership transfer, and mergers and acquisitions. He is a frequent contributor to industry publications and media outlets and is an energetic and entertaining speaker on the current and future impact of economic, technology and competitive trends on the industry.

Prior to joining FMI, Chris served as global financial services leader for an industrial company with operations throughout North and South America and Europe, and he began his career in public accounting.

Chris has a Bachelor of Science in Business with a Major in Accounting from Virginia Tech. He is a licensed certified public accountant (inactive) in the state of North Carolina and holds FINRA securities licenses 24, 79 and 63. Chris and his wife Sharon have been married 32 years and have three adult children, Matt, Audrey and Michael.
FMI Corporation

FMI provides consulting, investment banking and private equity services for clients across the Built Environment. We leverage unrivaled industry access and decades of exclusive industry focus to achieve transformational outcomes for our clients.

- **FMI Consulting**
  - Strategy and Research
  - Performance
  - Leadership & Organizational Development
  - Technology & Innovation

- **FMI Capital Advisors**
  - M&A Representation
  - ESOP
  - Valuation
  - Financial Advisory

- **FMI Investment Partners**
  - Private Equity Fund

Contractors • Building Products Manufacturers • A/E and Environmental • Utility T&D • Energy Services & Equipment • Energy Solutions & Cleantech • Construction Materials
Themes from Last Year’s Conference….March 2018

1. Concentration of construction spending …. implications of urbanization

2. Contrast of the aftermath of the Great Recession vs. the last 7 years … a ‘golden age’

3. Preview of 5G enablers and what it will mean for future fiber demand … multiples of X

4. Outlook for electric transmission, electric distribution, gas distribution and communications spending 2018 to 2020

5. Factors favorable vs. unfavorable impacting utility construction
Today’s Discussion Agenda

1. At or near the top of the market - prospects for a recession and the impact on construction

2. FMI outlook for utility construction through 2021

3. M&A activity and areas of interest

4. Cautiously optimistic or optimistically paranoid? .... the ‘paradox of plenty’
   - Power
   - Communications

5. Digital Transformation Arrives in Construction
Are there Recession Signals in the General Economy?
# Predicting the next US recession

**Predictive indicators**  
Source(s): FMI analysis of multiple sources

<table>
<thead>
<tr>
<th>Indicators / Metrics</th>
<th>Recessions Considered</th>
<th>Correct Predictions</th>
<th>False Positives</th>
<th>Prediction Strength*</th>
<th>Flag/Warning Timing</th>
<th>Risk Assessment/Trending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yield Curve Inversion</td>
<td>5</td>
<td>5</td>
<td>-</td>
<td>High (100%)</td>
<td>~2-3 year</td>
<td>MODERATE</td>
</tr>
<tr>
<td>New Home Sales</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>High (67%)</td>
<td>~1-4 year</td>
<td>LOW/MODERATE</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>6</td>
<td>4</td>
<td>-</td>
<td>High (67%)</td>
<td>~1 year</td>
<td>LOW</td>
</tr>
<tr>
<td>US Trade Balance (BOP % change)</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>High (67%)</td>
<td>~1 year</td>
<td>MODERATE</td>
</tr>
<tr>
<td>Money Supply</td>
<td>7</td>
<td>5</td>
<td>1</td>
<td>High (57%)</td>
<td>~1-3 year</td>
<td>MODERATE</td>
</tr>
<tr>
<td>Lumber Sales</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>High (50%)</td>
<td>~1-2 year</td>
<td>MODERATE</td>
</tr>
<tr>
<td>MBS Held by Banks</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>High (50%)</td>
<td>~1-2 year</td>
<td>MODERATE</td>
</tr>
<tr>
<td>Rental Vacancy Rates</td>
<td>9</td>
<td>4</td>
<td>-</td>
<td>(44%)</td>
<td>~1-4 year</td>
<td>LOW</td>
</tr>
<tr>
<td>Residential CPIP</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>(33%)</td>
<td>~1-3 year</td>
<td>LOW</td>
</tr>
<tr>
<td>Stock Market Performance</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>(33%)</td>
<td>&lt;1 year</td>
<td>LOW</td>
</tr>
<tr>
<td>Copper Price (Doctor Copper)</td>
<td>7</td>
<td>4</td>
<td>2</td>
<td>(29%)</td>
<td>~2-5 year</td>
<td>MODERATE</td>
</tr>
<tr>
<td>Consumer Confidence (OECD)</td>
<td>8</td>
<td>5</td>
<td>4</td>
<td>Low (13%)</td>
<td>~1 year</td>
<td>MODERATE</td>
</tr>
<tr>
<td>Heavy Duty Truck Sales</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>Low (0%)</td>
<td>~1-2 year</td>
<td>LOW</td>
</tr>
<tr>
<td>Manufactured Goods, New orders</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>Low (0%)</td>
<td>~1 year</td>
<td>LOW</td>
</tr>
<tr>
<td>US Trade Balance (values)</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>Low (0%)</td>
<td>~1 year</td>
<td>MODERATE</td>
</tr>
<tr>
<td>Unemployment Claims</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td>Low (-14%)</td>
<td>~1 year</td>
<td>LOW</td>
</tr>
</tbody>
</table>
An uncannily accurate predictor of a recession coming… eventually

Yield Curve
10-2 Year Treasury Yield Spread (January 1998 - January 2019)
Source: Department of the Treasury

General economic recession
Extended construction recession
Too much uncertainty, for too long, leads to inaction.....

China

Russia

North Korea

Iran

Venezuela

Democrats take House

The Fed

Federal Debt

Infrastructure

USMCA – will it be ratified?

Tariffs – how many for how long?

Trans Pacific Partnership – U.S. out forever?
The Construction Industry
Activity concentrates in fewer markets

Total construction spending put in place by metro market (2018)
Forecast by Metropolitan Statistical Area (MSA)
Source: FMI
Modest industry optimism or cause for concern?

**AEC-specific economic indicators**
AIA Architecture Billings Index (AIA) and FMI Nonresidential Construction Index (NRCI); October 2007 - January 2019
Source: AIA, FMI

- **AIA Architecture Billings Index (ABI)**: 52.1 (54.6)
- **FMI Nonresidential Construction Index (NRCI)**: 50.4 (52.1)
Vertical Growth Slows, Horizontal Sustains

U.S. construction spending put in place
Millions of dollars
Source(s): FMI

History | Forecast
--- | ---
Residential buildings
Nonresidential buildings
Nonbuilding


- $700,000
- $600,000
- $500,000
- $400,000
- $300,000
- $200,000
- $100,000
- $10,000
Horizontal overtakes vertical (and the world falls flat)

Current and forecast construction spending by segment
US; Billions of dollars
Source(s): FMI

Forecast CAGR; 2018-2022

Construction spending PIP; 2018 (Billions)
Comparison: Year-Over-Year % Change in Construction Spending

- Growth rate of total construction spending is decelerating – we are at the top of industry cycle
- 3% annual growth required to keep place with inflation
- Utility and energy sectors are forecast to [slightly] outperform broader construction industry

Source: FMI forecast data
Market Opportunity for Utility Construction

Estimated market opportunity – Electric, Telecom and Natural Gas
Millions of current dollars, Total U.S.
Source(s): FMI

...History... Forecast...

<table>
<thead>
<tr>
<th>Year</th>
<th>Electric</th>
<th>Telecom</th>
<th>Natural Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>$23,944</td>
<td>$22,038</td>
<td>$11,956</td>
</tr>
<tr>
<td>2017</td>
<td>$24,389</td>
<td>$22,484</td>
<td>$12,167</td>
</tr>
<tr>
<td>2018</td>
<td>$26,133</td>
<td>$23,058</td>
<td>$12,448</td>
</tr>
<tr>
<td>2019</td>
<td>$27,074</td>
<td>$23,973</td>
<td>$12,741</td>
</tr>
<tr>
<td>2020</td>
<td>$27,320</td>
<td>$24,697</td>
<td>$13,069</td>
</tr>
<tr>
<td>2021</td>
<td>$27,320</td>
<td>$25,467</td>
<td>$13,411</td>
</tr>
</tbody>
</table>
FMI Utility Construction Sentiment (1 to 3 years)

Power
- Transmission
- Substation
- Distribution

Energy
- Gas Gathering
- Gas Transmission
- Replacement Gas Distribution

Telecom
- Small Cell Fiber Backhaul FTTP

Municipal
- Water Sewer Trenchless Storage

DER
- Rooftop Solar
- Utility-Scale

Source: FMI Utility T&D team
M&A Environment
# Public Comps (Trading Statistics and Operating Metris)

($ in millions, except per share) as of 1/16/2019

<table>
<thead>
<tr>
<th>Infrastructure Services</th>
<th>Stock Performance</th>
<th>TEV / LTM EBITDA as of 14-16</th>
<th>Avg. EBITDA Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utility Services</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDU Resources Group, Inc.</td>
<td>Current</td>
<td>Dec-18</td>
<td>Jan-19</td>
</tr>
<tr>
<td>$6,635</td>
<td>$26.01</td>
<td>$24.42</td>
<td>6.5%</td>
</tr>
<tr>
<td>Quanta Services, Inc.</td>
<td>5,539</td>
<td>31.33</td>
<td>31.91</td>
</tr>
<tr>
<td>MasTec, Inc.</td>
<td>5,167</td>
<td>40.86</td>
<td>44.83</td>
</tr>
<tr>
<td>Dycom Industries, Inc.</td>
<td>2,654</td>
<td>56.18</td>
<td>58.22</td>
</tr>
<tr>
<td>Primoris Services Corp.</td>
<td>1,340</td>
<td>22.71</td>
<td>20.02</td>
</tr>
<tr>
<td>MYR Group, Inc.</td>
<td>596</td>
<td>28.42</td>
<td>30.36</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td></td>
<td>8.6x</td>
<td>9.0x</td>
</tr>
</tbody>
</table>

| Large and Mid-Cap Construction Services                      |                   |                   |                   |
| VINCI SA                                                     | Current           | Dec-18 | Jan-19 | Change from | Jun-17 | Dec-17 | Current | '14-16 | '16-18P |
| $67,922                                                      | $82.84            | $84.17  | 1.6%   | (27.2%)     | 9.4x   | 10.2x  | 8.5x    | 14.9%  | 15.9%  |
| ACS Group                                                   | 22,401            | 36.59  | 38.93  | 6.0%        | (6.2%)  | 6.8x   | 6.3x    | 7.9x   | 5.4%   | 6.0%   |
| Ferrovial, S.A.                                              | 21,796            | 20.38  | 21.51  | 5.3%        | (8.5%)  | NM     | 16.2x   | NM     | 10.2%  | 7.0%   |
| Bouygues SA                                                 | 20,528            | 37.60  | 34.07  | (10.4%)     | (64.5%) | 6.0x   | 6.6x    | 5.5x   | 6.6%   | 8.5%   |
| SNC-Lavalin Group Inc.                                       | 8,282             | 35.39  | 35.66  | 0.8%        | (28.4%) | 14.4x  | 17.7x   | 10.9x  | 7.1%   | 8.3%   |
| Obayashi Corporation                                        | 7,856             | 9.66   | 9.33   | (3.5%)      | (33.9%) | 7.2x   | 7.4x    | 5.5x   | 5.8%   | 8.0%   |
| Skanska AB (publ)                                            | 7,174             | 15.24  | 17.16  | 11.2%       | (17.4%) | 7.7x   | 9.5x    | 11.7x  | 4.3%   | 3.3%   |
| John Wood Group Plc                                          | 6,467             | 8.00   | 7.30   | (9.6%)      | (27.9%) | 10.7x  | NM      | 14.7x  | 7.9%   | 6.0%   |
| Kajima Corporation                                          | 6,182             | 13.45  | 13.79  | 2.5%        | (44.4%) | 5.6x   | 5.8x    | 4.0x   | 5.6%   | 9.5%   |
| LendLease Group                                             | 5,704             | 8.85   | 8.67   | (2.2%)      | (43.5%) | 11.0x  | 10.7x   | 10.3x  | 6.3%   | 4.6%   |
| Fluor Corporation                                           | 5,093             | 36.53  | 36.50  | 0.1%        | (64.5%) | 7.7x   | 9.6x    | 6.7x   | 5.8%   | 4.0%   |
| KBR, Inc.                                                   | 2,984             | 16.73  | 16.84  | 0.7%        | (21.8%) | NM     | 16.2x   | 8.2x   | (0.2%) | 3.9%   |
| Salini Impregilo S.p.A.                                      | 2,646             | 1.97   | 1.87   | (5.5%)      | (116.9%)| 4.6x   | 5.3x    | 8.3x   | 9.4%   | 5.2%   |
| Balfour Beatty plc                                          | 2,563             | 3.01   | 3.49   | 13.9%       | (17.7%) | NM     | NM      | 13.6x  | (2.6%) | 0.7%   |
| Granite Construction Incorporated                           | 1,940             | 45.49  | 42.69  | (6.6%)      | (54.9%) | 12.9x  | 15.9x   | 8.4x   | 5.9%   | 6.0%   |
| **Median**                                                   |                   | 7.7x   | 9.6x   | 8.3x        |                   | 7.3%   | 8.0%   |       |        |

| Small-Cap Construction Services                              |                   |                   |                   |
| Tutor Perini Corp.                                           | Current           | Dec-18 | Jan-19 | Change from | Jun-17 | Dec-17 | Current | '14-16 | '16-18P |
| $1,552                                                       | $17.24            | $17.92  | 3.8%   | (49.3%)     | 7.7x   | 8.3x   | 7.5x    | 5.0%   | 5.0%   |
| Aecon Group, Inc.                                            | 913               | 13.53  | 14.03  | 3.5%        | (13.9%) | 8.3x   | 10.1x   | 6.3x   | 4.2%   | 5.3%   |
| Great Lakes Dredge & Dock Corp.                             | 762               | 7.05   | 6.91   | (2.0%)      | 26.9%  | 9.0x   | 11.6x   | 8.4x   | 9.6%   | 10.5%  |
| Construction Partners, Inc.                                 | 504               | 9.00   | 10.50  | 14.3%       | 100.0% | NM     | NM      | 7.1x   | NM     | 10.6%  |
| Infrastructure and Energy Alternatives                      | 444               | 8.61   | 8.82   | 2.4%        | 100.0% | NM     | NM      | 12.5x  | 1.5%   | 8.1%   |
| Sterling Construction Company, Inc.                         | 343               | 11.30  | 12.69  | 11.0%       | (20.6%)| NM     | 13.5x   | 5.6x   | 0.8%   | 2.9%   |
| Orion Group Holdings, Inc.                                  | 234               | 4.22   | 4.78   | 11.7%       | (71.3%)| 8.7x   | NM      | 6.6x   | 6.5%   | 5.9%   |
| **Median**                                                   |                   | 8.5x   | 10.9x  | 7.1x        |                   | 5.0%   | 5.8%   |       |        |

Sources: CapIQ
Note: Some firms excluded from mean and median calculations due to outliers.
M&A Trends – Select Utility T&D Transactions

Numerous PE-backed platforms are executing consolidation strategies across T&D end markets to capitalize on favorable industry tailwinds while established, diversified strategies continue to utilize M&A to expand geographic reach / capabilities to better serve existing customers / acquire new ones.

Target Focus
- Electrical T&D
- Distributed Generation O&M
- Gas Distribution
- Water / Wastewater
- Electrical & Gas Distribution
- Diversified Utility T&D Services
- Gas T&D
- Electrical, Gas, & Fiber Services
- Diversified Utility T&D Services
- Electrical T&D
- Electrical T&D

STRATEGIC
  - ACQUIRED
  - MYR
- Apr. 2017
  - ACQUIRED
  - PowerSecure
- May 2017
  - ACQUIRED
  - P-S-C Primoris
- Jun. 2017
  - ACQUIRED
  - MasTec
- Nov. 2017
  - ACQUIRED
  - VINCI
- Jan. 2018
  - Privately Held Holding Company
  - CENTURI
- Feb. 2018
  - Privately Held Holding Company
  - PRIME LINE
- Apr. 2018
  - ACQUIRED
  - Herbes Bros.
- Apr. 2018
  - ACQUIRED
  - TID Electric
- Nov. 2018
  - ACQUIRED
  - CENTURI

FINANCIAL
- Jul. 2017
  - (Bolt-on)
  - PowerSecure
- Dec. 2017
  - (Bolt-on)
  - OAKTREE
- Dec. 2017
  - (Bolt-on)
  - NAPEC
- Jan. 2018
  - (Bolt-on)
  - SI
- Mar. 2018
  - (Platform)
  - PEAK
- Apr. 2018
  - (Bolt-on)
  - INTREN
- Jun. 2018
  - (Bolt-on)
  - BHI Energy
- Jun. 2018
  - (Platform)
  - DAD Power Inc.
- June 2018
  - (Bolt-on)
  - TAILWIND
- Oct. 2018
  - (Platform)
  - LOENBRO

Target Focus
- Electrical T&D and Fiber
- Diversified Utility T&D Services
- Diversified Utility T&D Services
- Heavy Civil Sitework
- Electrical T&D
- Diversified Utility T&D Services
- Electrical T&D
- Electrical T&D
- Electrical T&D
- Transmission Pipeline
M&A Trends – Segments of Interest

1. Natural gas distribution
2. Power distribution
3. Energy solutions & cleantech
4. Substation construction and maintenance
5. Power transmission
6. Certification, test and inspection
7. Communications
A few life lessons from the utility contractor perspective

Historically...

1. When a third party gets in between the utility/owner and the contractor, things go “_____”
2. When the utility contractor’s customer builds on speculation, things go “_____”
3. When regulated utilities get an entrepreneurial idea, things go “_____”

Answer Key: “bad”
Thoughts on the Power Market
Power Construction Spending Drivers

Existing Drivers (last 10 years)

- Competitive Generation – FERC 888, 889 and 890
- Aged Infrastructure
- Interconnection – FERC 1000
- Reliability (Outages)
- Hardening

New (Additional) Drivers

- Storage Accommodation – FERC 841, 845
- Distributed Energy Resources – FERC 841
- Reliability (Cyber Security) – FERC 850
The Emerging Investor Owned Electric Utility’s Dilemma

VS.

If we build it....?
A Growing List of Questions Facing the Power Market

1. How can utilities provide equal access to safe, reliable and affordable power....and also innovate and compete?

2. Will regulators allow IOUs to invest in new projects aimed at innovation and flexibility?

3. Who is going to pay for critical base load as rate base declines?

4. How do we navigate the path to green distributed energy that is inherently uncertain and variable?

5. How fast will EVs, storage and renewables become completely mainstream?

6. Can utilities upgrade distribution networks fast enough to avoid chaos?

7. How fast will C&I customers develop microgrids behind the meter?

8. How do we protect our transmission and distribution infrastructure from cyber threats?

9. Will we end up with a smarter and more resilient grid that is also LESS reliable?

10. What happens to rural utility markets where none of this transformation makes economic sense?
Thoughts on 5G
Hyperscale of new data center construction correlates to fiber build

Data center construction spending in the US
Millions
Source(s): FMI, Global Insight, US Census Bureau
Activity concentrates in fewer markets – accelerates the digital divide
from this....

.... to this
Entrepreneurs and innovators from both inside and outside a given industry are leveraging combinations of these enabling technologies to create new business models and transform existing processes.
New competitors will NOT adhere to your legacy practices

**Artificial Intelligence**
Replicating or replacing knowledge-work tasks

**Internet of Things**
Process optimization via a network of sensors and other devices for data collection, monitoring, etc.

**Advanced Robotics**
Human augmentation and/or task automation that enhances precision and speed of delivery

**Iterative Manufacturing**
Increased customization, creation of unique products, and reduction of waste

**Autonomous Vehicles**
Machine-to-machine communication and elimination of human operation

**Modularization/Prefabrication**
Off-site fabrication and kitting services
Profiting from data and real-time analytics

- Improved decision making
  - Greater Organizational Insight

- Infrastructure performance
  - Virtual Facility Management

- Problem prevention
  - Eliminating Conflict/Reducing Rework
The Digital Transformation of the Built Environment

Increasing Complexity due to: Contract Type, Human Occupancy, Logistical Complexity, Dimensional Accuracy, Architectural Freedom

Vertical Integration
- Residential
- Multi-Family Residential
- Commercial

Vertical Efficiency
- Healthcare
- Oil & Gas
- Industrial
- Infrastructure
- Federal & Defense
- (Bio)pharma
- Space

Common Processes
- Reality Capture
- QA/QC
- ....

Source: Brick & Mortar Ventures
Batter-free Bluetooth beacons and tags

Autonomous robotics in complex environments
Indoor and outdoor flight

AI to optimize jobsite safety for manned and autonomous operations, fleet optimization, and remote operations

the app and web interface to collect, analyze and optimize field labor productivity

Virtual Reality (VR) Solutions for Training and Operations

Giving worksite personnel the ability to locate materials, tools, and people across the site in real time – putting the supply chain in the hands of the field

A few examples relevant to utility infrastructure owners and contractors
Summary Thoughts

• We are at or near the top of the economic cycle.... with the industry to follow to some degree

• Has your good performance been a result of permanent operational improvement and/or innovation ....or merely a byproduct of a strong market and favorable supply/demand?

• How are you leveraging lessons learned from the Great Recession and coaching your next generation?

• Your customers have to make large capital decisions at a time when their business model and regulatory environment is de-stabilizing....

• Utility contractors don’t go broke due to lack of work ....

• You need to be thinking differently about your strategy, business model, people and processes ....

• What’s your strategy, general readiness and experience with digital transformation in the areas of real-time reality capture, QA/QC and process optimization?

• It’s GREAT to be part of the PCCA and here in St. Kitts!