



Leading Change

Construction Outlook 2019

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“If you don’t like change, you’re going to like irrelevance even less.”

— General Eric Shinseki, U.S. Army

FMI Point of view

- Growth is slowing
- Competition is increasing
- Multi-trades under one roof
- Distribution occupying more of the value chain
- More focused relationships with major owners (GA Tech's influence on Atlanta)
- Niche markets provide longer term upside runs
- Sub Markets are key in the midterm
- Populations are shifting in the long-term

Year	%
2014	11
2015	11
2016	7
2017	5
2018	6 4
2019	6 3

Technology is Competing with Construction



Technologies

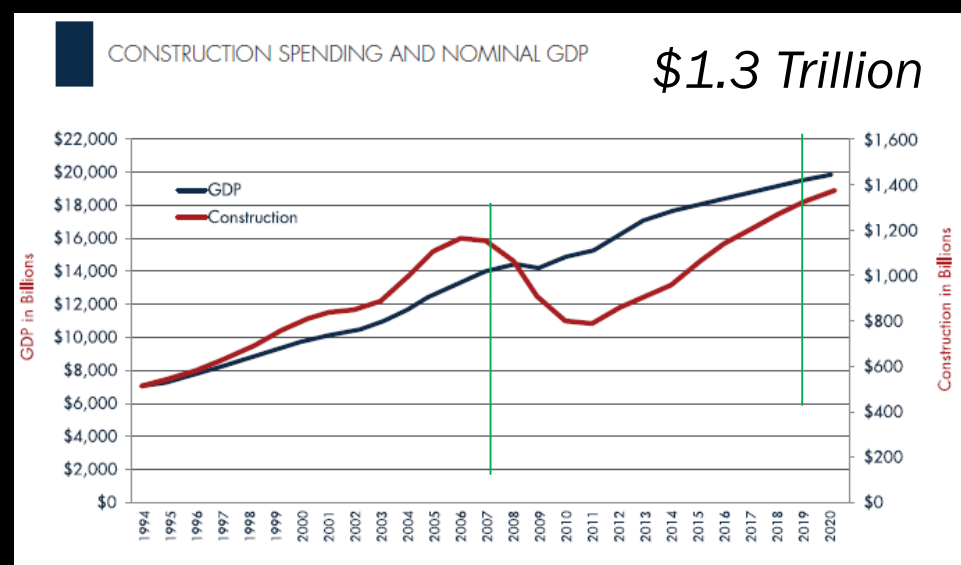
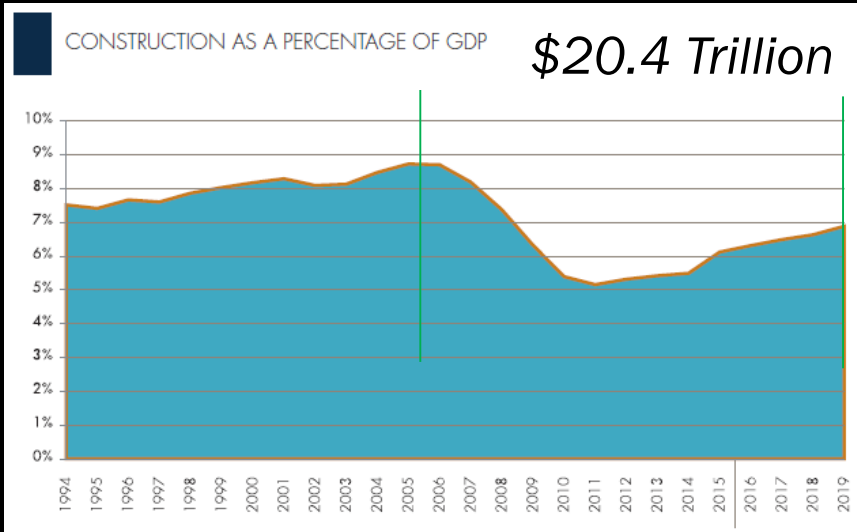
- E-Commerce
- Uber / Lyft
- PayPal / Venmo / Zelle
- E-Learning
- Livehealthonline / Fitbit
- Hoteling / Beach Toweling
- Grub Hub / Doordash
- Netflix / Sling / Prime
- Ankle Bracelets
- Airbnb / VRBO
- Netgrocer / Blue Apron



Construction

- Shopping Centers
- Automobile Dealerships
- Bank Branch Offices
- University Campuses
- Healthcare (Hospitals)
- Office Buildings
- Restaurants
- Cinemas / Theaters
- Prisons
- Hotels
- Grocery Chains

The overall economy has grown \$5 Trillion since 2007 while Construction has grown by \$150 Billion



The E&C industry has declined as a % of the overall economy.

What are the implications?

Key Indicators Suggest High Growth Potential in the South and the West

Cumulative Growth Ranking thru 2025:

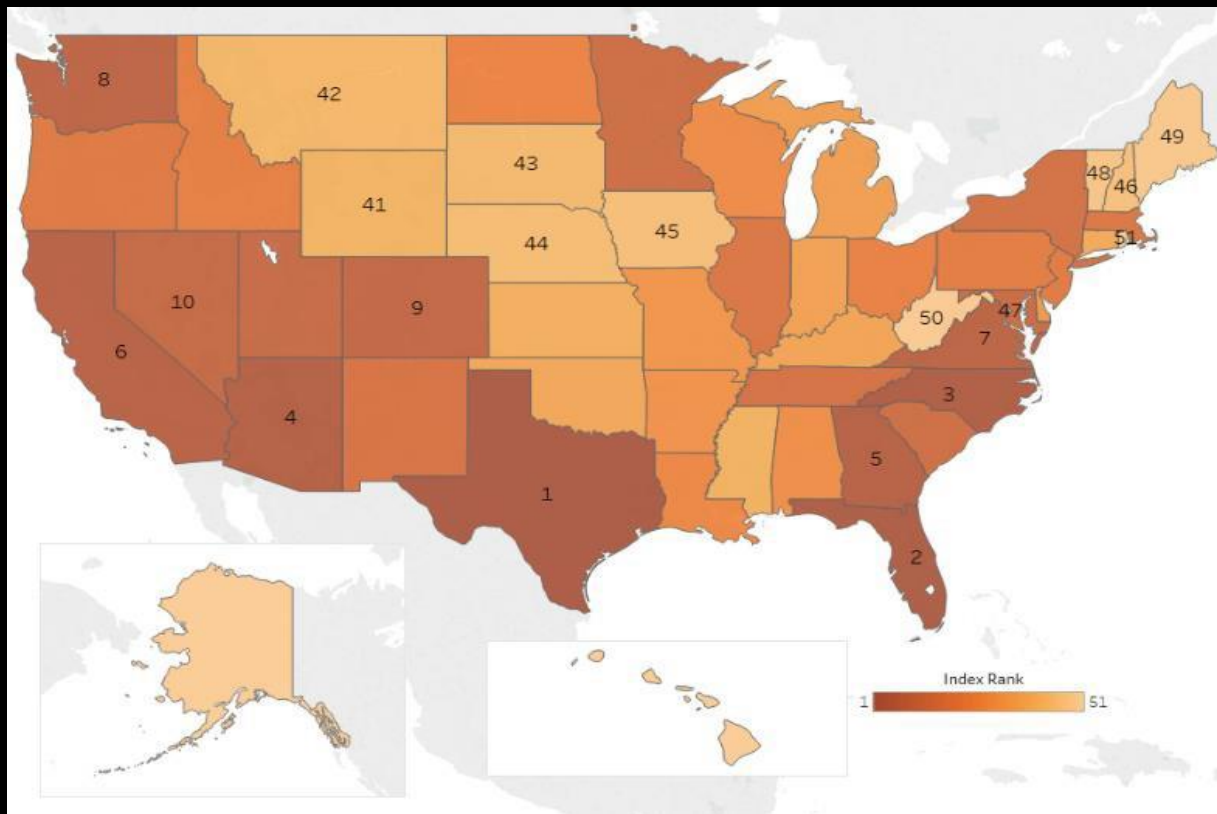
(1) Size and
Growth of
Population

(2) Gross
State Product

(3)
Employment

Leaders:

Texas
Florida
North
Carolina
Arizona
Georgia



Demographic
Forecast Growth
Source(s): Woods and
Poole

Ranking	City	5-year disposable income growth	5-year annual net migration (000s)	Single Fam Metrics % of Previous Cycle Peak		
				2018 Single Fam Permits	2018 Single Fam Sales	Multi-Res Const as a Percent of Inventory
1	Seattle	6.2%	5.06	115.4%	102.1%	6.6%
2	Austin	7.7%	87.92	107.2%	106.8%	6.6%
3	Salt Lake City	6.3%	1.14	123.3%	79.3%	7.5%
4	Raleigh	5.3%	29.28	102.8%	90.7%	4.9%
5	Dallas	6.9%	87.92	111.3%	112.9%	6.0%
6	Fort Lauderdale	8.6%	29.28	59.6%	88.5%	7.6%
7	LA	3.3%	-3.61	64.9%	64.3%	3.1%
8	San Jose	4.5%	10.41	71.1%	69.2%	5.7%
9	Nashville	6.1%	3.72	96.0%	100.9%	8.3%
10	Boston	4.6%	10.37	96.6%	124.2%	8.2%

Survey

Markets-to-watch

Source(s): U.S. Census, BLS, Moody's, BEA, PWC, ULI

“Traditional gateway markets have gotten so competitive...”

“Adjacent submarkets and the top secondary markets are best cities to develop.”

Major Cities to Watch -Investment and Development

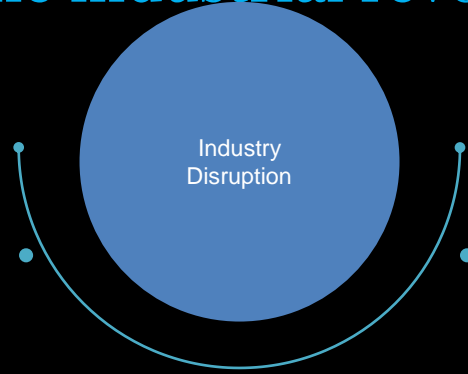
Change Agents

The factors are in place today to have as pervasive an impact on the next 25 years as the industrial revolutions of the 19th century.

Attitudes

An Increasingly Fluid Economy

The consensus point of view or way of thinking that has held for the past 30+ years is rapidly giving way to one that is reimagining the human dynamic.



Abilities

Augmenting Carbon-based with Silicon-based

AI & Advanced robotics are augmenting, automating, and accelerating the performance of many design and construction activities.

Aptitudes

Redefining the “Contractor”

Assumed barriers are being increasingly challenged, Opening participation to non-traditional entities.



Industry Trends

- What are some of the most recent trends impacting your industry / business?

Slowdown in the
US economy

Rising material
costs

Generalists
Versus
Specialists

Labor Shortages

Vulnerable
Sectors

Technology

Immigration
Policy

Tariffs

Schedule
Compression



**Think about
5 years from now.
2023**



**What's going to be
different then than now?**

Anticipate three trends:

**Technology Innovation
Skilled Labor Shortages
Prefabrication / Modular**

Building Products made from pollution

Impossible Labs / Air miners

“Direct air capture” literally pulls carbon dioxide gases out of the air and condenses them into usable building products like cements, plasterboards and bricks.

find your futurist!

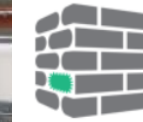


Building with Nature

*“bioMASON”
grow bricks with
bacteria*



*Eliminates the
need for firing*



bioMASON®
building with nature



What Does This Mean to the Outlook?

Change is a **constant** and
for us to continue to be
successful, we must
embrace **change**
continually and **invest** time
in the future



Construction Industry Outlook

Size

Shape

Direction



Consensus		Forecast	
		% Change	
		2019	2020
Dodge Data & Analytics	Nonresidential Total	4.4	2.4
IHS Economics	Commercial Total	3.5	0.6
	Office	5.1	1.2
Moody's Economy.com	Retail & Other Commercial	1.9	0.4
	Hotel	3.9	-0.7
FMI	Industrial Total	4.8	2.7
ConstructConnect	Institutional Total	4.8	2.9
	Health	4.0	3.6
Associated Builders and Contractors	Education	5.5	4.1
	Religious	-2.6	-1.2
Wells Fargo Securities	Public Safety	6.8	4.9
	Amusement & Recreation	4.4	0.6

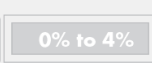
2019 Construction Segment Performance

2019/2018 Comparison

UP

STABLE

DOWN



Up

- Office
- Educational
- Public Safety
- Transportation
- Manufacturing
- Highway and Street
- Water Supply
- Conservation and Development

UP

STABLE

DOWN



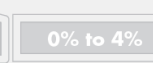
Stable

- Single-family
- Improvements
- Commercial
- Health Care
- Amusement and Recreation
- Communication
- Power
- Sewage and Waste Disposal

UP

STABLE

DOWN



Down

- Multifamily
- Lodging
- Religious

Looking ahead to 2019, FMI forecasts a 3 percent increase in spending

Primary growth segments in 2019 are expected to include:

office, educational, public safety, transportation, conservation and development, and manufacturing

All with forecast growth rates of 5 % or more

Multifamily, lodging and religious are three segments expected to experience decline

Residential

Single-Family Residential

Drivers: unemployment rate, core CPI, income, mortgage rate, home prices, housing starts, housing permits

STA **4%**

\$282 Billion

2018/2017 Comparison



- Low unemployment rates, wage improvements, inventories, tax restructure and increasing interest rates are all driving short-term demand
- Buyers are showing an increasing willingness to pay, indicating a seller's market
- Rising interest rates are expected to limit mid- and long-term forecast growth rates

2018 **STA** **4%**
\$282 Billion

2019 **STA** **3%**
\$289 Billion

2020 **STA** **2%**
\$297 Billion

2021 **STA** **4%**
\$310 Billion

2022 **UP** **5%**
\$325 Billion

Commercial

Commercial

Drivers: retail sales, CPI, income, home prices, housing starts, housing prices

STA **2%**
\$89 Billion
2018/2017 Comparison



2018	STA 2%	\$89 Billion
2019	STA 4%	\$93 Billion
2020	DWN -3%	\$91 Billion
2021	DWN -1%	\$90 Billion
2022	STA 3%	\$92 Billion

- Overall vacancy has increased with over 2,500 closures through 2018 by Sears, Bon-Ton, Toys “R” Us and others
- Ongoing rise in e-commerce, gas prices and interest rates continues to shape commercial spending
- Increased warehouse and distribution center spending continues, driven by outdated facilities alongside new technological and logistics needs

Office

Office

Drivers: office vacancy rate, unemployment rate

UP 11%

\$74 Billion

2018/2017 Comparison



- Net absorption remains positive, and low vacancy rates in major metropolitan areas (e.g., New York City and San Francisco) will continue to bolster demand
- Corporate relocations and demand for mission-critical facilities are driving the overall trend
- New deliveries are expected to remain elevated through 2019

2018	UP 11%
	\$74 Billion
2019	UP 6%
	\$78 Billion
2020	DWN -3%
	\$76 Billion
2021	DWN -2%
	\$74 Billion
2022	STA 3%
	\$76 Billion

Hospitality

Lodging

Drivers: occupancy rate, RevPAR, average daily rate, room starts

UP **14%**
\$33 Billion
2018/2017 Comparison



2018	UP 14%	\$33 Billion
2019	DWN -3%	\$32 Billion
2020	DWN -5%	\$30 Billion
2021	STA 1%	\$30 Billion
2022	STA 3%	\$32 Billion

- Low unemployment, income growth and competitive rates are driving demand for leisure travel
- Business travel is projected to rise through 2019, but a looming trade war could decrease demand for international travel
- Private equity firms are becoming increasingly prevalent across the industry
- Facility owners are seen investing in IT, analytics and smart building features

Schools

Educational

Drivers: population change younger than age 18, population change ages 18-24, stock markets, government spending, nonresidential structure investment

UP **6%**

\$97 Billion

2018/2017 Comparison



- Projected increase in the percentage of U.S. population under 18 years old
- Public school enrollments expected to rise in most states, with concentrations in the South and West
- College and university budgets have struggled to keep up with the rate of inflation
- Any upcoming federal infrastructure package is expected to include funding for schools

2018 **UP** **6%**
\$97 Billion

2019 **UP** **6%**
\$103 Billion

2020 **STA** **3%**
\$106 Billion

2021 **STA** **4%**
\$111 Billion

2022 **STA** **4%**
\$115 Billion

Healthcare

Health Care

Drivers: population change, population change in ages 75 and up, uninsured population, government spending, nonresidential structure investment

STA **1%**
\$42 Billion
2018/2017 Comparison



2018	STA	1%	\$42 Billion
2019	STA	3%	\$43 Billion
2020	STA	2%	\$44 Billion
2021	STA	2%	\$45 Billion
2022	STA	4%	\$47 Billion

- Aging populations and rising rate of chronic illness continue to drive outpatient facility investments
- Increased use of green building techniques is driving demand for workers with appropriate skills/experience

Churches

Religious

Drivers: GDP, population, income, personal savings

DWN -8%

\$3 Billion

2018/2017 Comparison

- An increase in the use of rented or shared worship space
- Declining share of Americans donating to religious organizations
- Declining religiosity among U.S. population



2018	DWN -8%	\$3 Billion
2019	DWN -3%	\$3 Billion
2020	DWN -5%	\$3 Billion
2021	STA 1%	\$3 Billion
2022	STA 3%	\$3 Billion

Terminals

Transportation

Drivers: population, government spending, transportation funding

UP 16%

\$52 Billion

2018/2017 Comparison

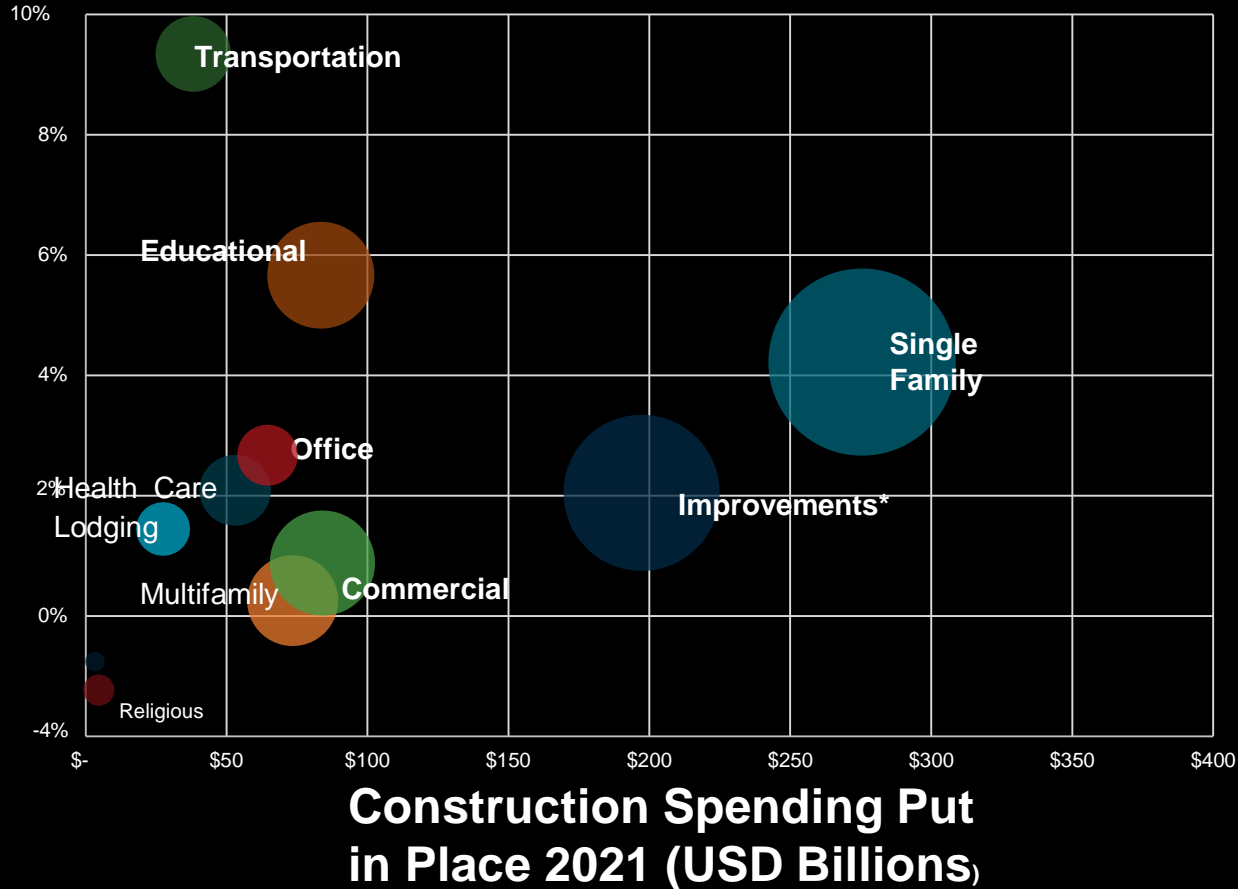


2018	UP 16%	\$52 Billion
2019	UP 8%	\$57 Billion
2020	UP 8%	\$61 Billion
2021	UP 8%	\$66 Billion
2022	UP 7%	\$71 Billion

- Urbanization is influencing increased demand for connectivity
- Agencies are increasing spending alongside an increased use of alternative delivery
- Owners are more often bundling projects as construction costs steadily rise

2021 U.S. Markets Construction Forecast

Compound Annual
Growth Rate (2017
through 2021)



*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs

Predictions: Next U.S. recession / E & C downturn

Indicators /Metrics	Recessions Considered	Correct Predictions	False Positives	Prediction Strength*	Flag/Warning Timing	Risk Assessment /Trendingg
PREDICTIVE INDICATORS						
Yield Curve Inversion	5	5		High (100%)	~2-3 year	MODERATE ↓
New Home Sales						LOW / MODERATE ↑
Unemployment Rate						LOW ↓
U.S. Trade Balance (BOI)						MODERATE ↓
Money Supply						MODERATE ↓
Lumber Sales						MODERATE ↓
MBS Held by Banks						MODERATE ↓
Rental Vacancy Rates						LOW ↔
Residential CPIP						LOW ↑
Stock Market Performance						LOW ↑
Copper Price (Doctor Copper)						MODERATE ↔
Consumer Confidence (UIC)						MODERATE ↓
Heavy Duty Truck Sales						LOW ↑
Manufactured Goods, Excl. Capital Goods						LOW ↑
U.S. Trade Balance (Value)						MODERATE ↓
Unemployment Claims						LOW ↑
OTHER NON-PREDICTIVE INDICATORS						
Nonresidential Building Permits						the next 12
Nonbuilding CPIP						false positives),
Oil Price (WTI)						is however well
Corporate Debt Levels						trending into
Consumer Price Index (CPI)	Trending UP			historically cautionary high-risk levels.		
Gross Domestic Product	Trending UP					
Consumer Sentiment	Trending UP			Approximately two thirds of the predictive indicators above are currently reading or trending in the moderate risk territory, suggesting a strong likelihood of a recession to occur in the mid-term (2020-2021). The severity and duration of the next recession will depend largely on what event(s) cause the downturn and which industries (or countries) are either directly or indirectly involved.		

Perhaps some combination of the following:

- Major domestic or European terror event
- Rising energy prices and core inflation
- Premature/over action by the Fed on interest rates
- Commercial Real Estate Bubble / Debt
- Another European debt crisis

A few final thoughts

- Nearing the top of the construction cycle
- Economic growth and infrastructure spending is concentrating in fewer urban markets – this trend will continue and may accelerate
- Loss of experience at all levels and across all sectors of the industry
- Technology, innovation and business model changes make for both exciting and challenging times
- The machines are rising...but, this is still a people business

What will you *commit* to do moving forward?

- Confront Reality
- Clear Vision
- Recruit a Futurist
- Put People First
- Put Strategy Second



THE FOLLOWING PREVIEW HAS BEEN APPROVED FOR
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Thank you!

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Learn from our insights



**2018
FMI Overview**



**Millennials
in Construction**



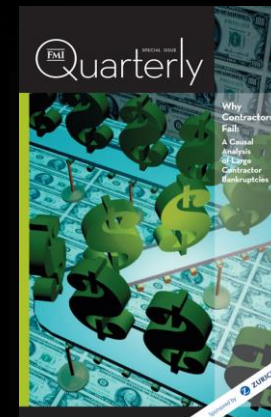
**Ownership Transfer and
Management Succession**



**FMI/BIM Forum
Prefabrication Survey**



**Talent Development
in the Construction Industry**



Why Contractors Fail?