

Future of the AEC Workforce

2026 Affinis Industry Summit

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2026 Affinis Industry Summit



Agenda

- **Recent trends & forces affecting the industry**
- **Why the next 10 years will experience more change than the prior 40**
- **Ideas to position your organization, workgroup, personal career for the future**

Background & Perspective

Simplar

- Consultant, Research, OCM, and Trainers
- Expertise with **all parties** (owners & vendors)
- Provide **consulting, tools, training** for:
 - Procurement & Sourcing
 - Project Delivery
 - Risk-based Partnering & Advanced Collaboration
 - Project & Risk Management, Project Controls
 - Organizational Readiness & Transformation
 - Technology Adoption + AI Adoption/Transition
 - Performance Measurements



Simplar

- Becoming a **Client of Choice**
- Becoming a **Performance-Based Vendor**
- Other things:
 - Industry Benchmarking
 - Human Dimensions
 - AI Impacts & Strategy
 - Talent Development
 - Workforce Studies
 - Exploratory research
 - Policy & Regulations
 - Standards & Templates



20+ Years | 200+ Owners

4,000+ Projects | \$30+ Billion Procured/Delivered

Information Technology

Networking
Data centers
Hardware
COTS software
ERP systems

Help desk services
eProcurement

Facility Management

maintenance
landscaping
security service
building systems
industrial moving
waste management
energy management

custodial
conveyance
pest control

Health Insurance/ Medical Services

Manufacturing

Business / Municipal / University Services

dining
multi-media rights
fitness equipment
online education
document management
property management
audiovisual
communications systems
emergency response systems
laundry

retirement fund
material recycling
bookstores
furniture

Construction / Design / Engineering

Infrastructure	Renovation	DBB
Municipal	Repair	CMAR
Laboratory	Maintenance	DB
Education	Roofing	IDIQ
Hospital	Specialty	JOC
Corrections	Demolition	Low Bid
Financial	Development	IPD



Google



GP
Georgia-Pacific



PROJECT PARTNERS AND PARTICIPANTS:

- U.S. General Services Administration (GSA)
- US Army Medical Command
- Arizona State University
- Canon
- State of Oklahoma
- City of Phoenix, AZ
- University of Minnesota
- State of Alaska
- Rijkswaterstaat (Dutch public works & water management)
- Aramark
- State of Oregon
- State of Idaho
- University of Alberta
- Boise State University
- United Airlines
- Neogard / Jones-Blair
- Tremco
- Bank of Botswana
- General Dynamics C4 Systems
- Salt River Project (SRP)

- US Air Force Logistics Command
- US Coast Guard
- US Embassy (Botswana)
- US Army Corps of Engineers
- Federal Aviation Administration
- IBM
- Brunsfield
- Qwest
- Honeywell
- City of Peoria, AZ
- University of Idaho
- University of Hawaii
- University of New Mexico
- Entergy
- Sodexo
- Chartwells
- Dallas Independent School Dist.
- Olmstead County, MN
- City of Roseville, MN
- Hennepin County, MN
- Scenter
- Abengoa Solar
- City of Sitka, Alaska
- US Solar
- Rochester Public Utilities

- Harvard University
- Denver Health & Hospital Authority
- State of Missouri
- State of Washington
- Idaho Transportation Department
- State of Georgia
- Arizona State Parks
- United Excel
- East Valley Institute of Technology
- Arizona Public Service (APS)
- Rochester School District
- Fann Environmental
- Idaho State University
- On Semiconductor
- Pearson
- State of Wyoming
- Idaho Department of Corrections
- City of Miami Beach, FL
- Lewis & Clark State College
- Hawaii Department of Transportation
- Baptist Health
- City of Columbia, SC
- PECO Energy
- Intermediate District 287

PARTNERS





- **Non-Profit Research Foundation**

- Focused on Applied Research for Industry Use Cases

- **Specialty Areas:**

- **Procurement & Supply Chain**
- The Built Environment
- Facilities Management
- Organizational Transformation and Change Leadership
- Partnering, Planning & Project Management
- Project Delivery
- Talent Development, Reskilling, Upskilling

The Definitive Study on *Multiskilling* in Construction

The largest empirical dataset ever assembled on workforce multiskilling, spanning 40 site visits, 24 states, and 11,407 productivity observations. Now available to researchers, policymakers, and industry leaders.

[VIEW RESEARCH REPORTS](#)[ABOUT THE STUDY](#)

BENEFITS FOUND IN THE STUDY

36%

average time workers observed to be cross-tasking

39%

average gain in directly productive work time

68%

average reduction in idle work time

45–72%

more workers would be required to complete the same observed work sequence if workers were restricted to a single trade

SIMPLAR FOUNDATION NEWSLOG

Procurement

simplarfoundation.org/blog

Weekly Construction Messages

Search Past Blogs by Headings Below

[Built Environment](#) ▾ [Business of Construction](#) ▾ [Facility Management](#) ▾

[Organizational Change Management](#) ▾ [Partnering, Planning, Project Management](#) [Procurement](#) ▾

[Project Delivery](#) ▾



WHAT IS CPE?

The Center for Procurement Excellence (CPE) is a non-profit member based organization focused on the support, education and certification of optimized solicitation practices that emphasize speed, minimizing protests and attracting high performing proponents. We provide training and certification for procurement professionals, RFP templates and standards, and a venue for procurement professionals to network and advance procedures, processes, and systems.

CPE is also active in engaging tier-1 universities throughout the US to provide research, educational and training opportunities while supporting further advancement of the profession and solicitation methodology, research, and practice.

Welcome!

3rd Thursdays monthly
@ 12pm Central

Teaching Moment

learn a new tip, trick, or tool

Virtual Peer Groups

network with other procurement professionals

Announcements & Opportunities

upcoming courses & other ways to get involved

Office Hours

open Q&A until the questions run out!



center4procurement.org/rfp-doctor

FREE Online Course! 10 PDH

**2025 was 3 times
(Jan, May, Aug)**



Better RFPs = Better Projects

- Session #1 = Organizing a High-Performing RFP
- Session #2 = Effective Statements of Work (SOWs)
- Session #3 = Evaluation Best Practices & Vendor Debriefings
- Session #4 = RFP Administration

NASPO's Procurement U

- Log on to the Procurement U Learning Management System (LMS) to register, access the course and materials.
www.naspo.org/procurement-u/
– or Email Amy: amy@center4procurement.org
- Open to all (even non-members of NASPO)

AI in Construction Summit

Two half-days built around practical AI adoption, demonstrations, discussion, and hands-on learning.

EVENT AT A GLANCE

91

attendees

39

companies

100%

Satisfaction (5 or 4)

FORMAT

1

TUE, JULY 28 · AFTERNOON

AI overview + practical adoption

Future/consortium overview, adoption panel, and fast use-case demonstrations.

2

TUE, JULY 28 · EVENING

Mixer

Informal networking and peer exchange.

3

WED, JULY 29 · MORNING

AI bootcamp

Hands-on learning focused on practical application.

WHAT ATTENDEES VALUED

High value across every major program element

Adoption panel 100%



Fast sessions 91%



AI bootcamp 90%



A few participants felt it was too basic; the vast majority said the level was about right.

KEY SIGNAL

The summit format worked. Attendees want more depth, more time, and more focused discussion.

Trends & Forces Shaping the Industry

Thinking Questions

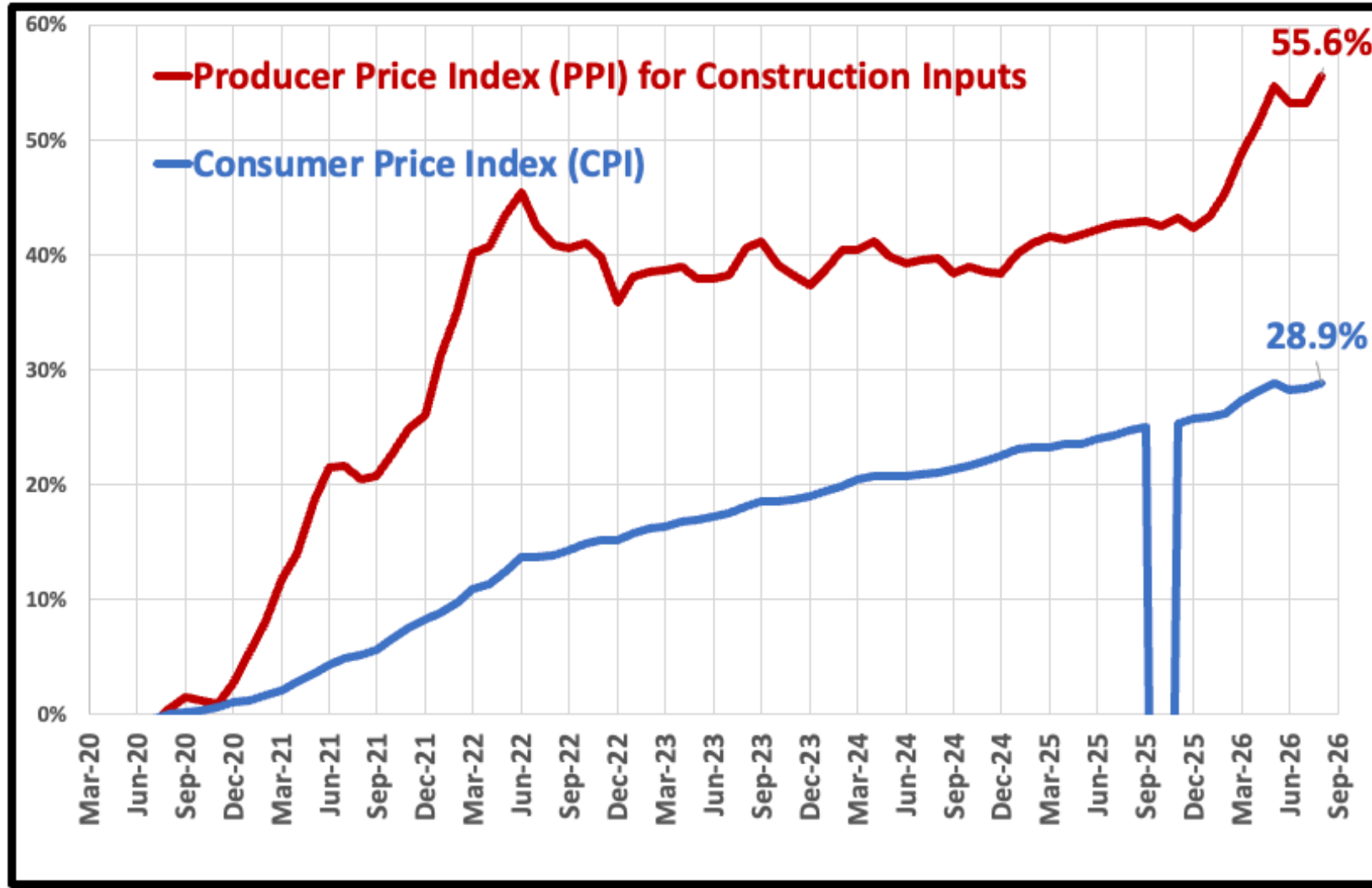
- **Will future be faster moving or slower moving than now?**
- **Will the future have more certainty or be less certain (cost, supply chain, resources, dependability) ?**
- **Has the workload increased or decreased? Has complexity increased or decreased?**
- **Will there be proportionally more money and resources to complete the necessary work?**
- **Is the available workforce more/less/same in terms of dependability, flexibility, initiative, leadership, technical skills, know-how, interpersonal skills, work ethic, and overall quality of input/output.**
- **Will the work be more automated and standardized, or less?**
- **Will the work be more customer-centric or less? More solution-focused or less?**

Trends & Forces Shaping the Industry

Economic / Geopolitical

Quick Market Review

Things have Gotten a Lot More Expensive

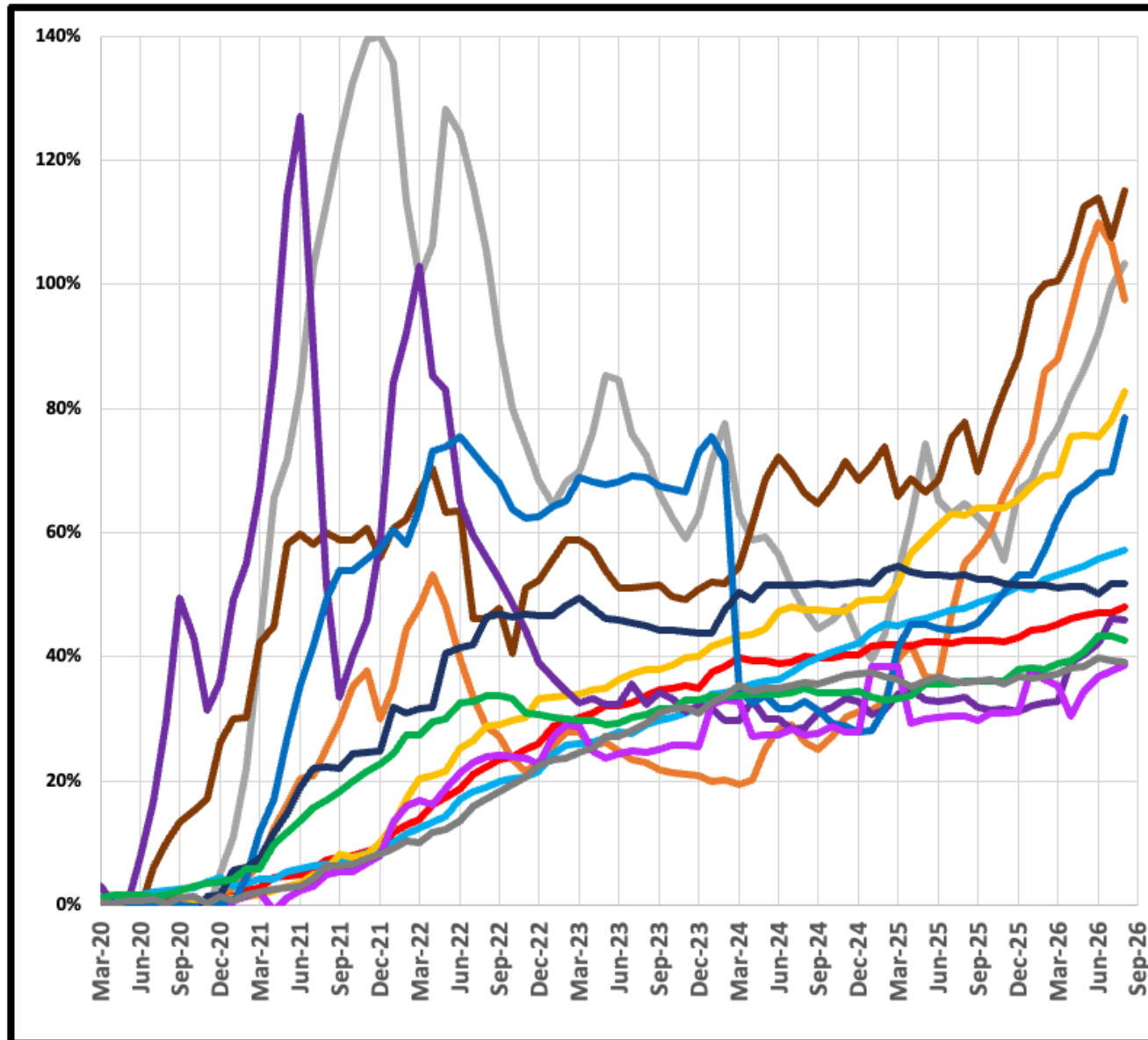


% change
from Feb 2020
to Aug 2026:
(6.5yrs)

Per year	this year (7mo)	by EOY 2026
8.3%	12.2%	20.7%
4.4%	2.9%	4.9%

Price Changes – High Volatility

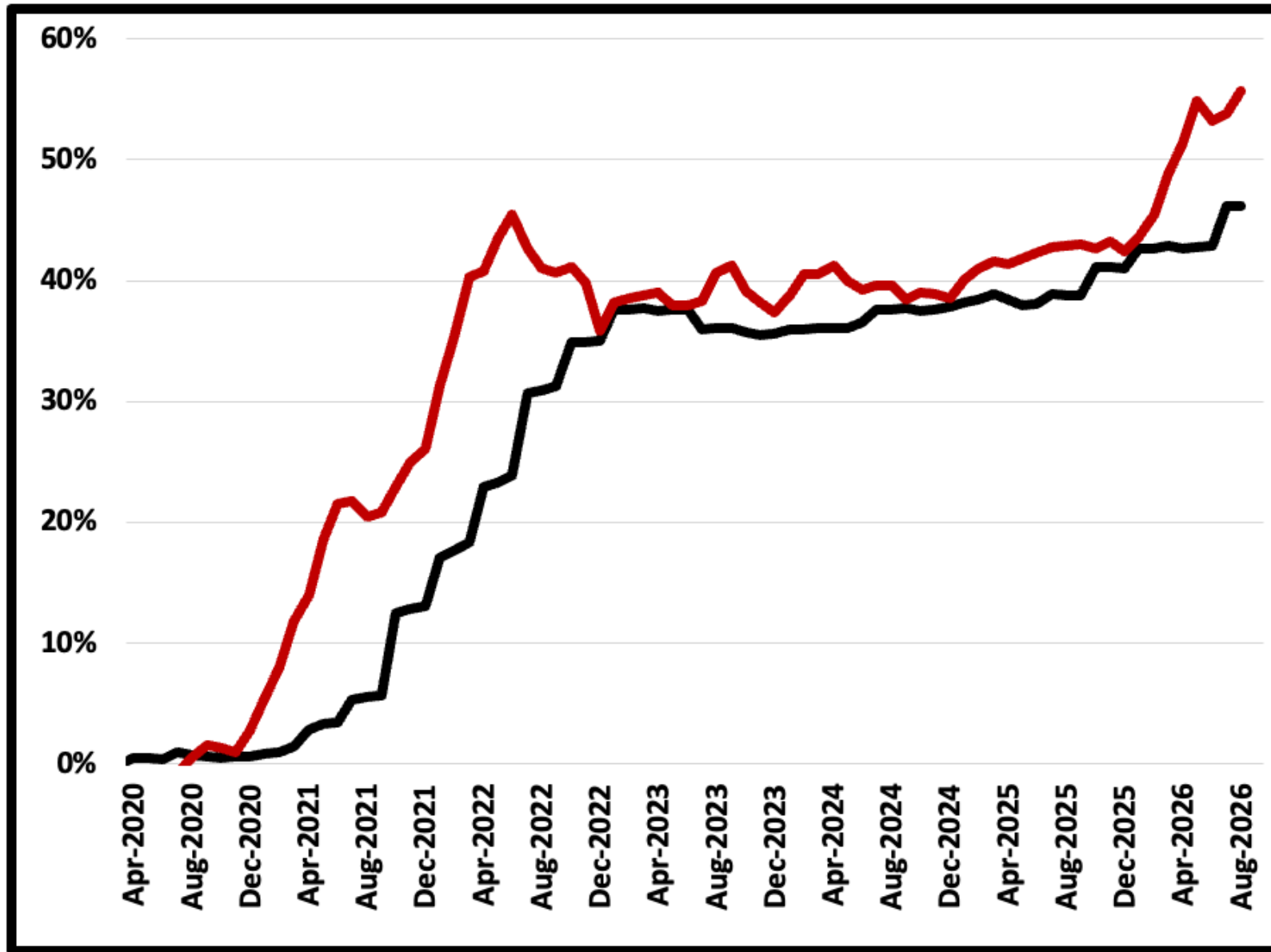
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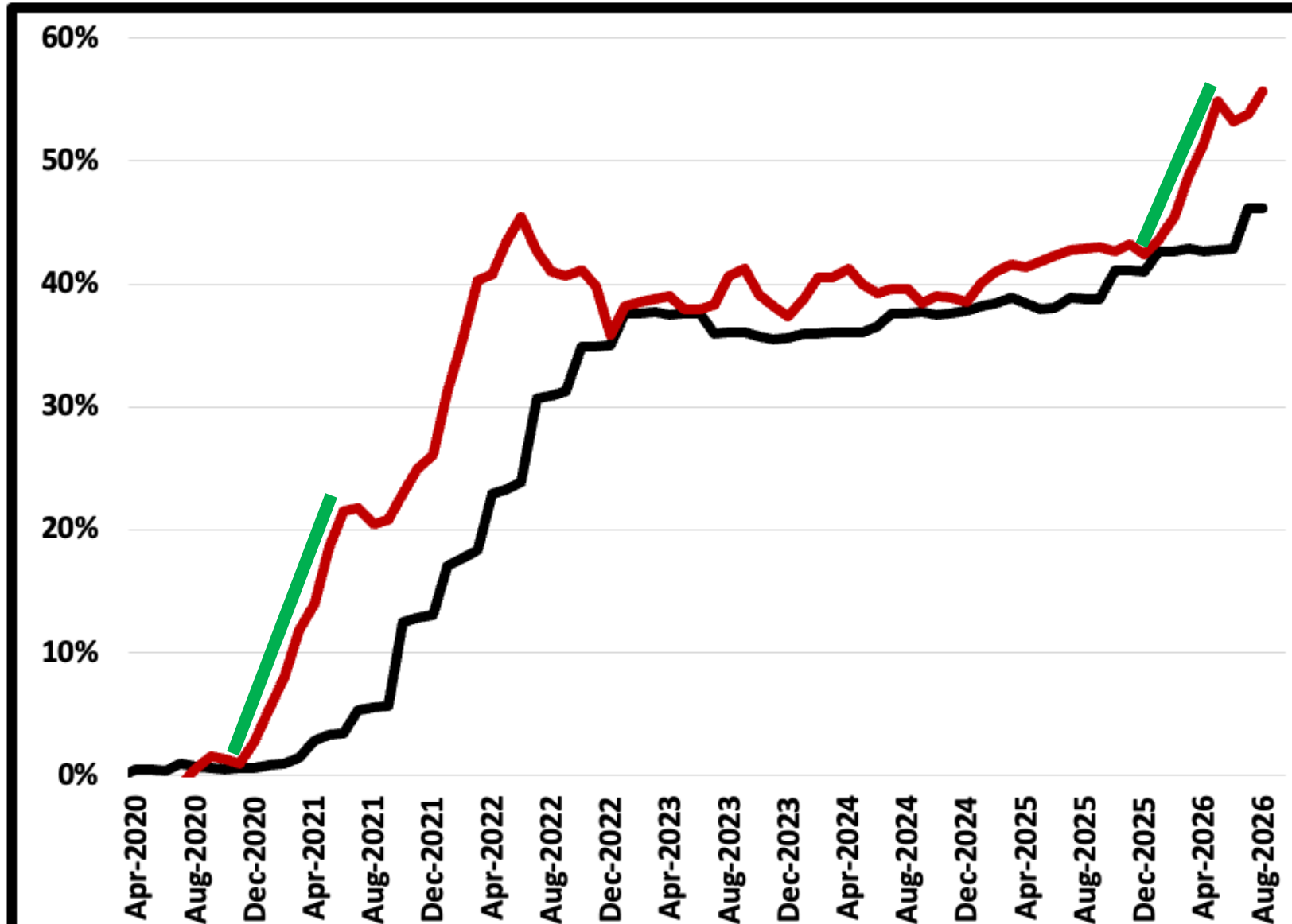


Copper & Brass Mill Shapes	115%
Aluminum Mill Shapes	97%
Steel Mill Products	103%
Switchgear, Switchboard, Industrial Controls Equipment	83%
Rebar	79%
Construction Sand, Gravel, and Crushed Stone	57%
Gypsum Products	52%
Cement & Concrete Product Manufacturing	48%
Plastic Construction Products	43%
Lumber and Plywood	46%
Ready-Mix Concrete	39%
Asphalt Paving & Roofing Materials	39%

% Change
from Feb 2020
to Aug 2026:

55.6% Inputs PPI (goods)
46.1% Bids





% Change
from Feb 2020
to Aug 2026:

55.6% Inputs PPI (goods)
46.1% Bids

12.1% since Jan
3.5% since Jan

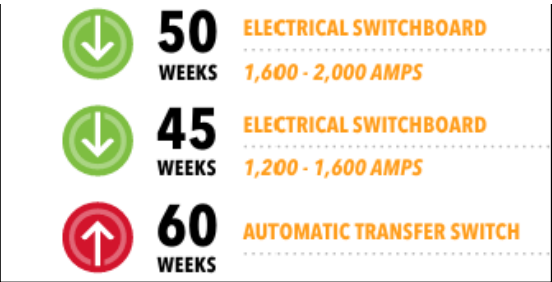
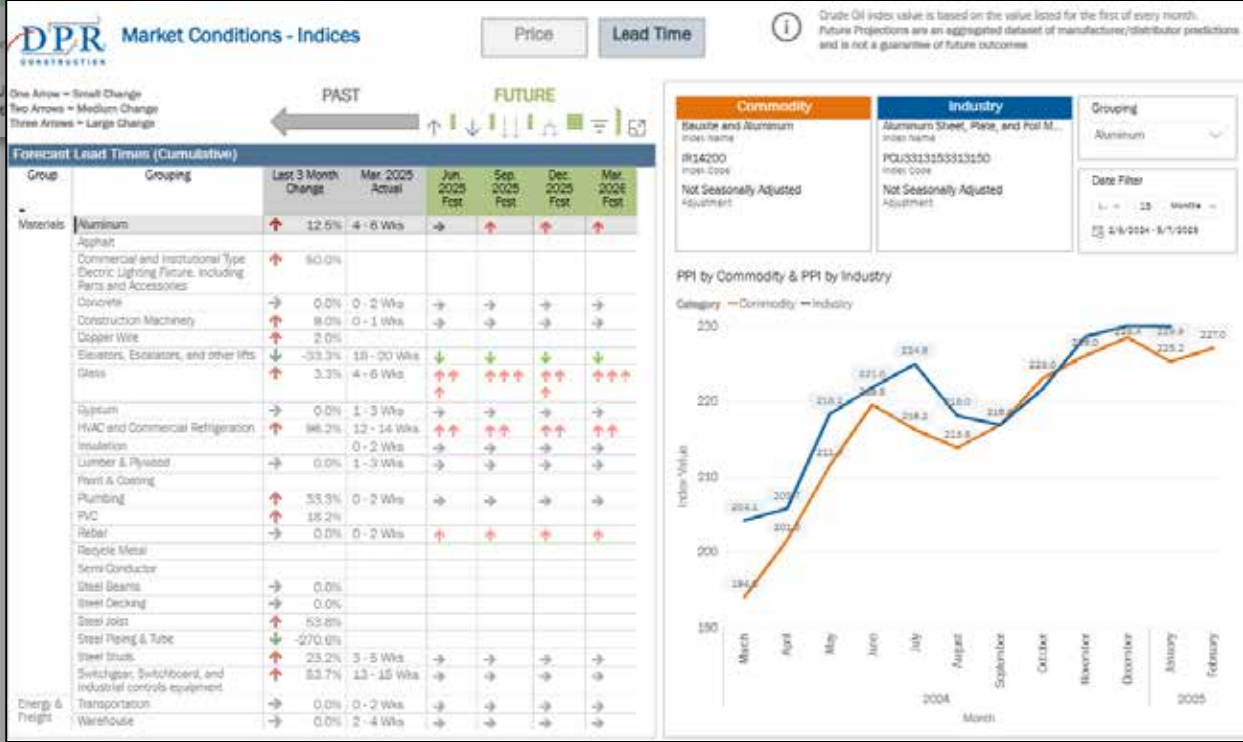
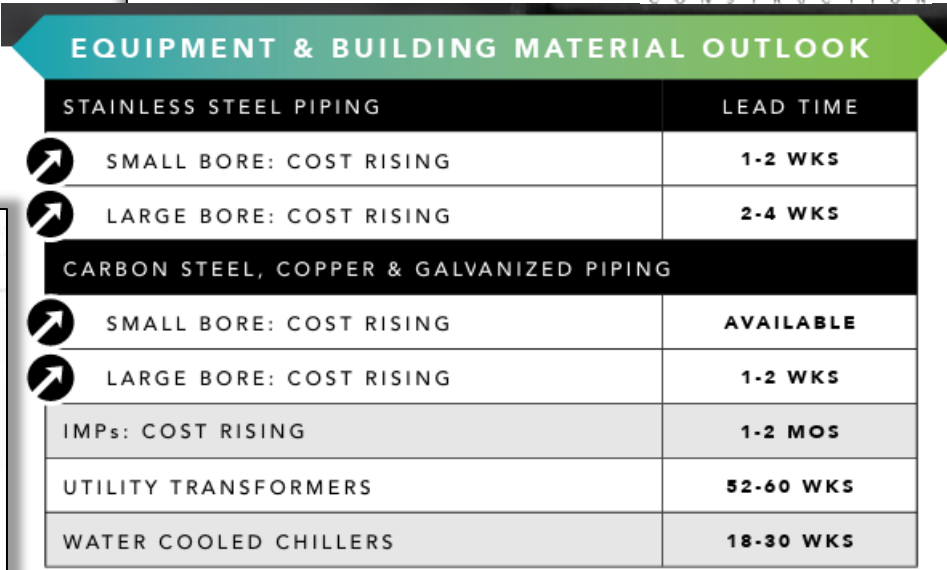
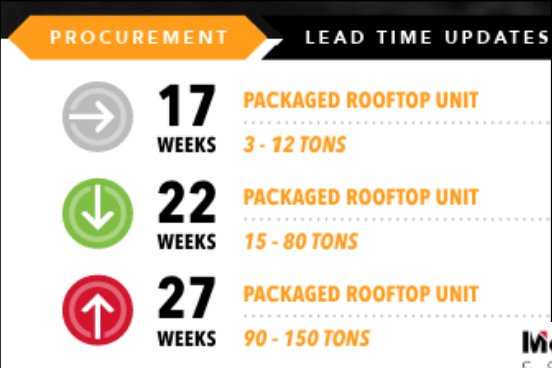
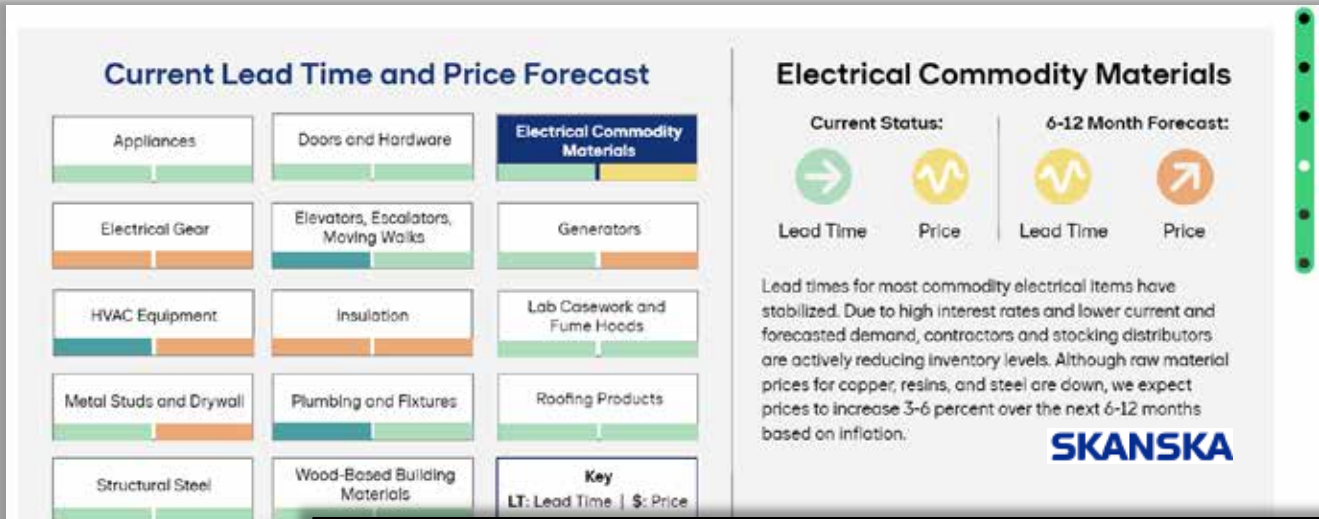
24.1% if same rate thru '26
7.0% if same rate thru '26

Recent CURT Study

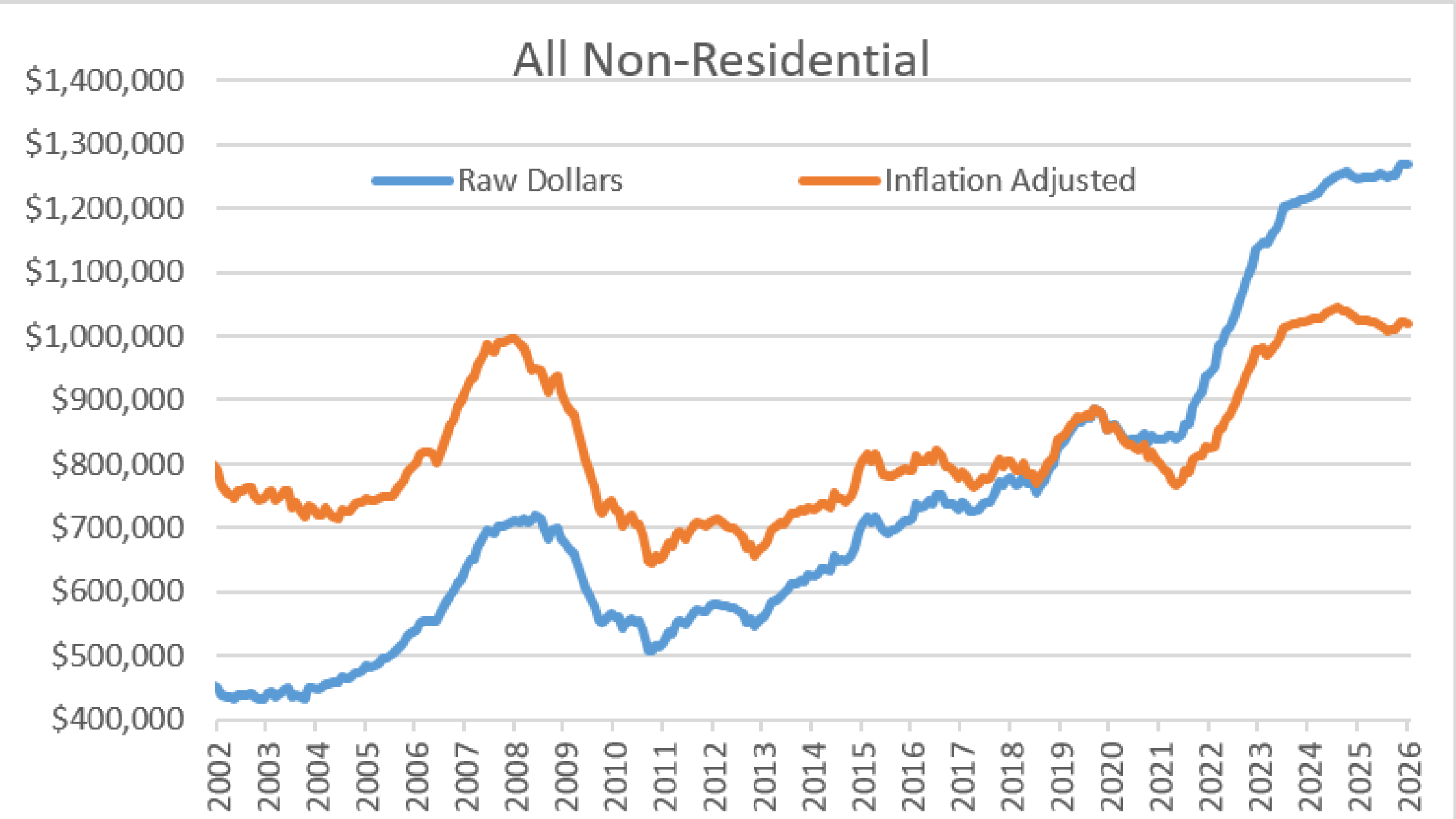


- **90% say supply chains are less reliable than pre-COVID**
 - Got bad, started to get better, got worse again and haven't improved much over last couple of years
- **50% say vendor delivery dates or promises are less reliable**
 - Once selected, **suppliers know they have leverage** so are incentivized to say one thing to get the job, and then change it once they have it
 - Majority of procurement/orgs are looking to make contract “tighter” or have “stricter penalties” to accommodate this
- **100% say the workforce is less reliable than pre-COVID**

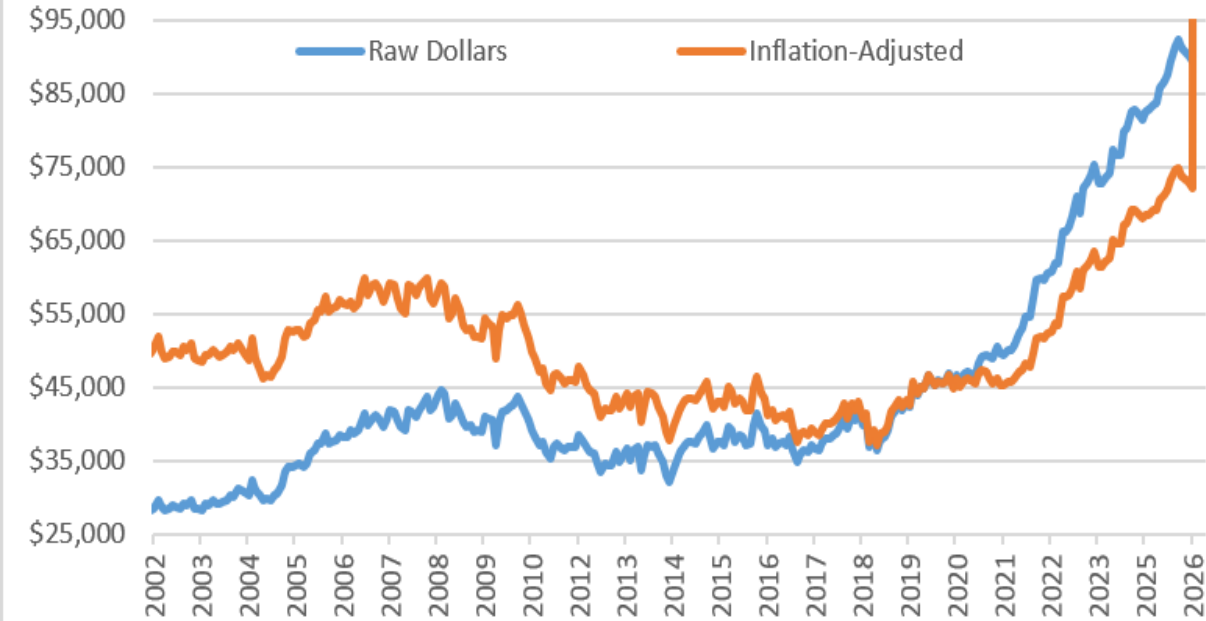
Lead Times Remain Elevated



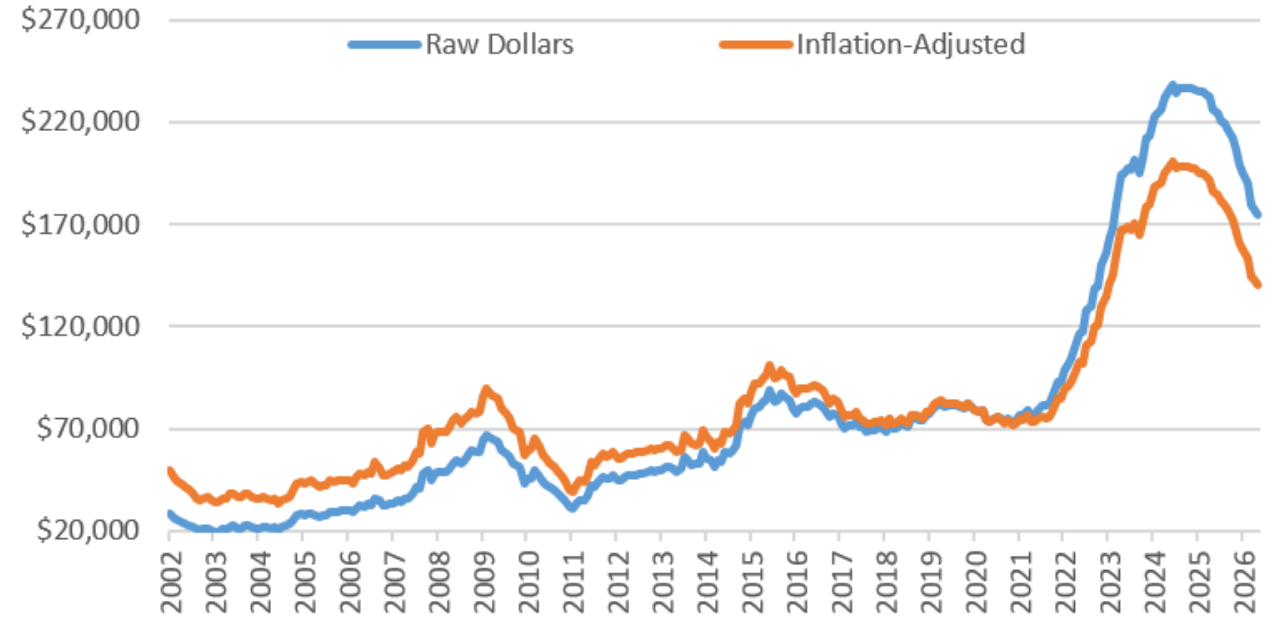
Massive Growth in Construction Spend



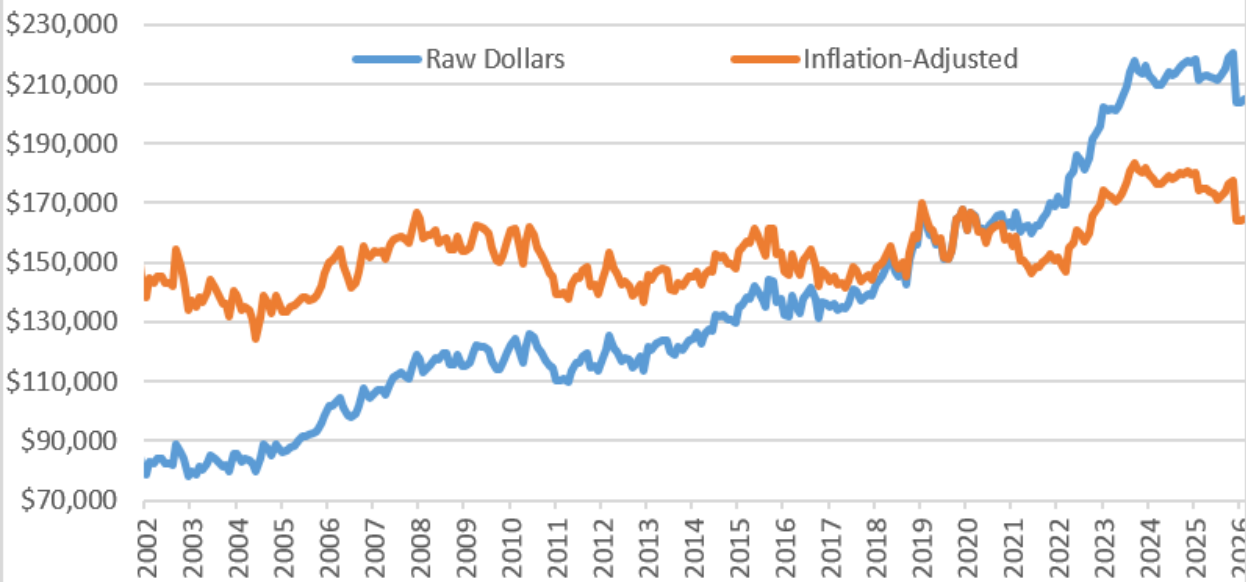
Water & Wastewater



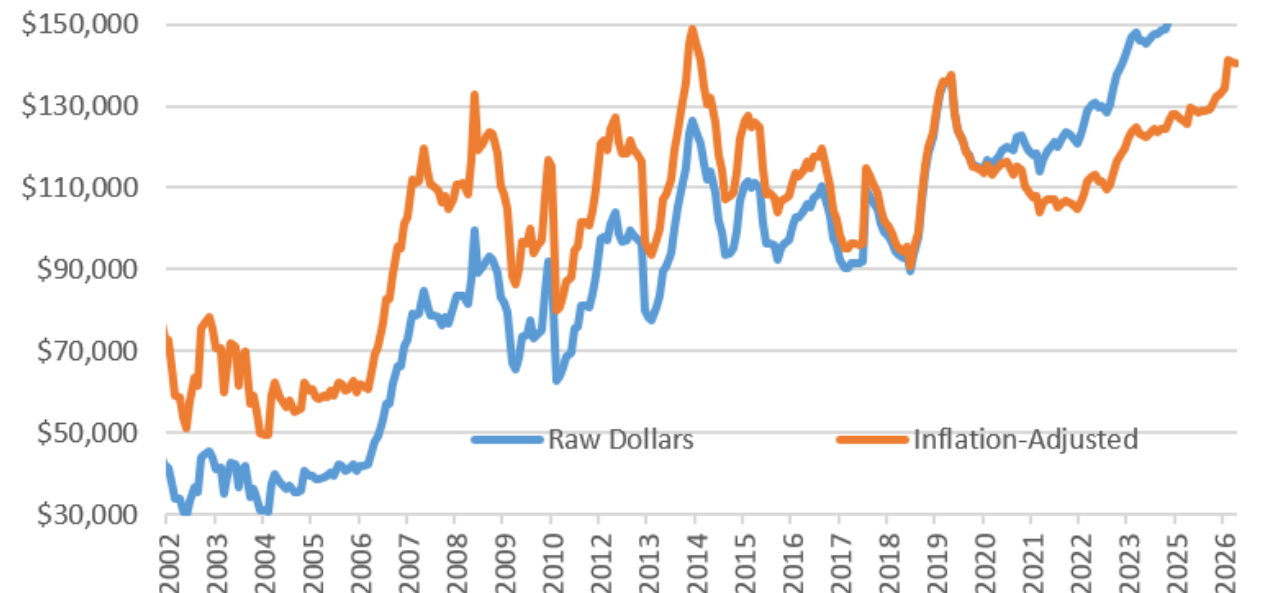
Manufacturing



Transportation (air, land, water, highway, road)



Power

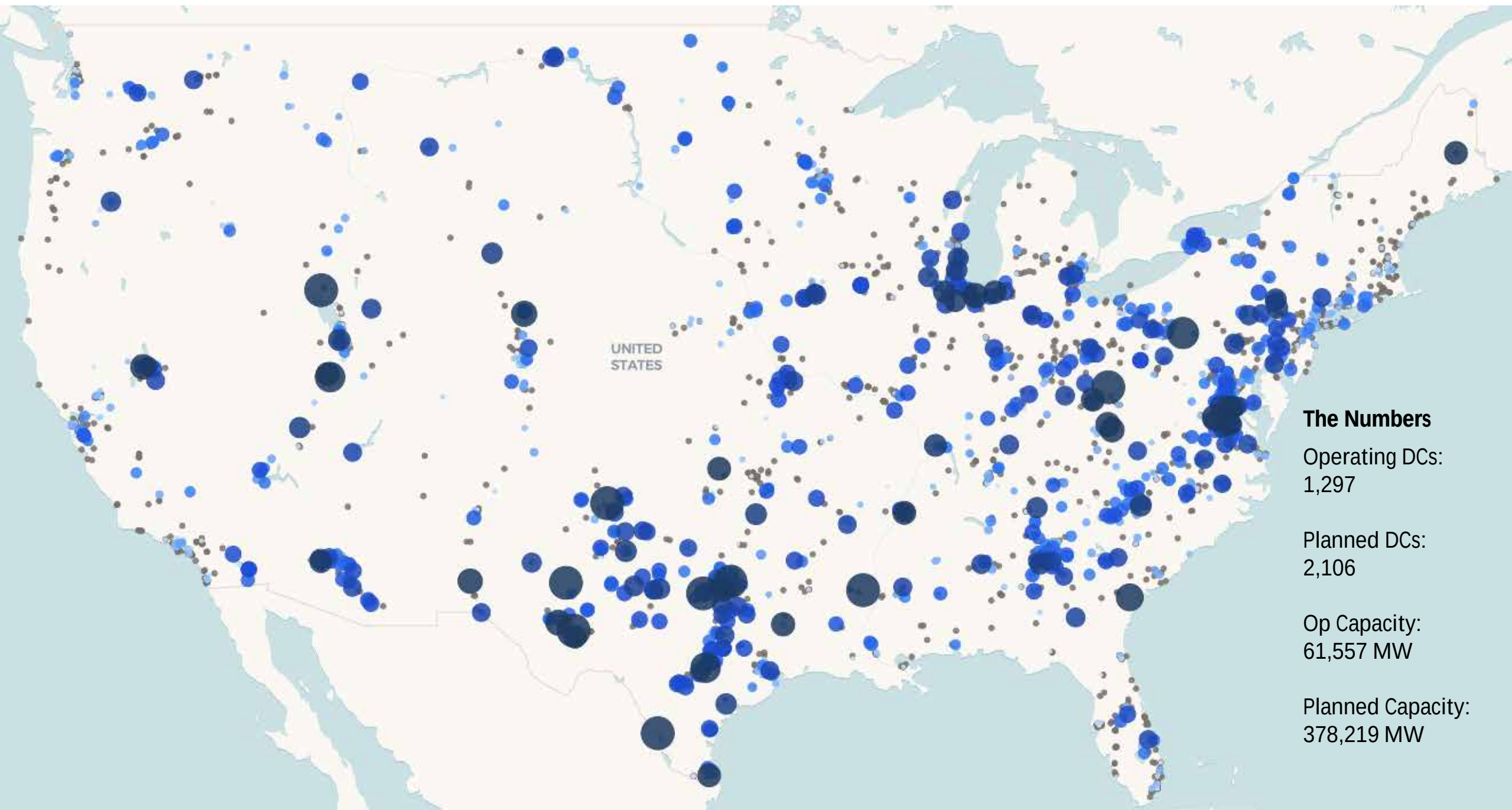


Megaprojects As a Percentage of All Nonresidential Spending Hit Record High

Spending as a percentage of all nonresidential starts (% , Rolling 12-Months)



Source: ConstructConnect CCPI



The Numbers

Operating DCs:
1,297

Planned DCs:
2,106

Op Capacity:
61,557 MW

Planned Capacity:
378,219 MW

Current Client Experiences:

- Cost escalation/ uncertainty/ client's having "sticker shock"
- Hot Market for Vendors
- Supply chain less reliable

Market Realities....

- Workforce is tight
- Safety, Quality & Productivity are all worsening
- Margins diminished
- Clients in competition with each other for limited resources
- Everyone looking for solutions

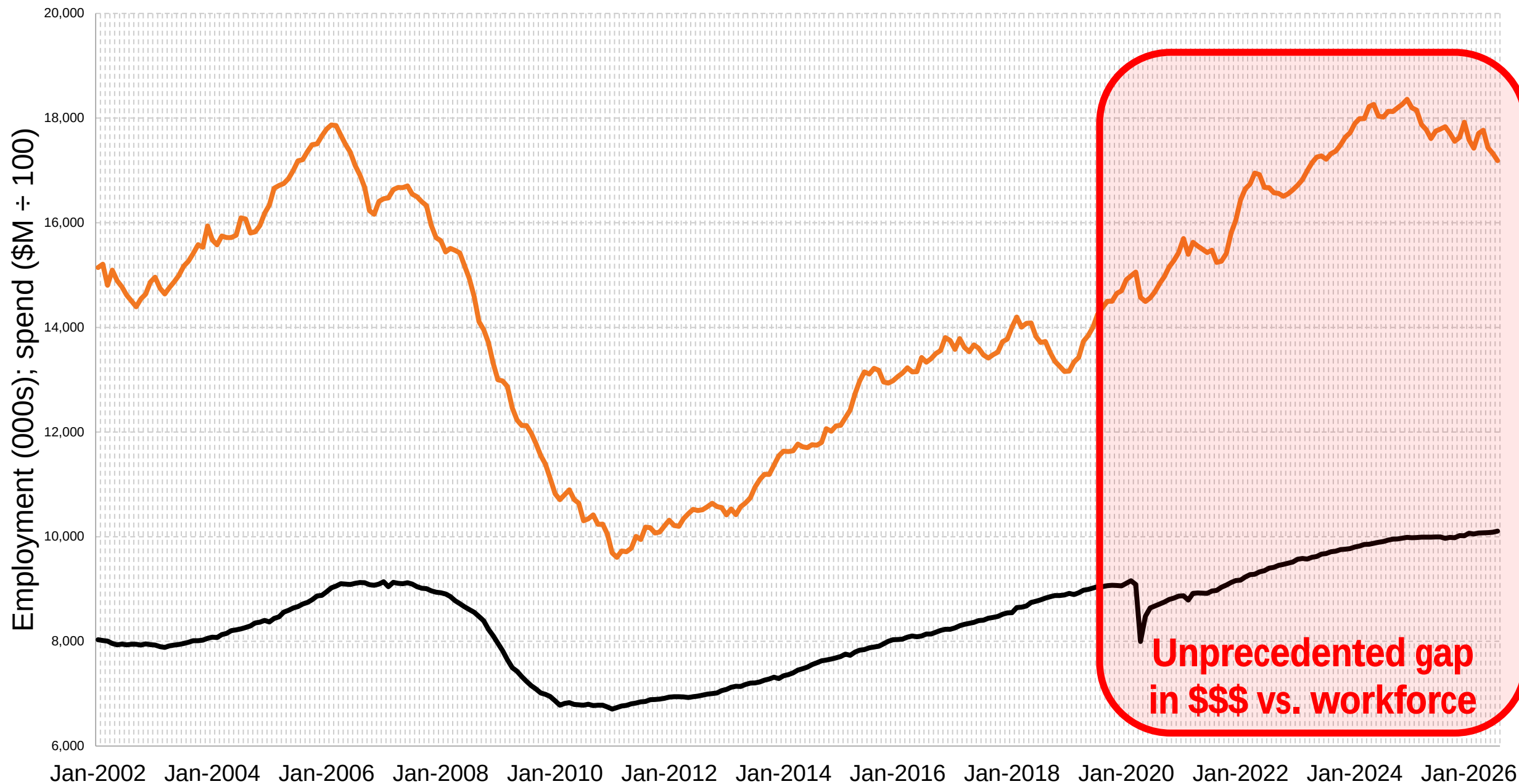
Trends & Forces Shaping the Industry

Demographics & Workforce

Total AEC Employment vs. Total Construction Spend

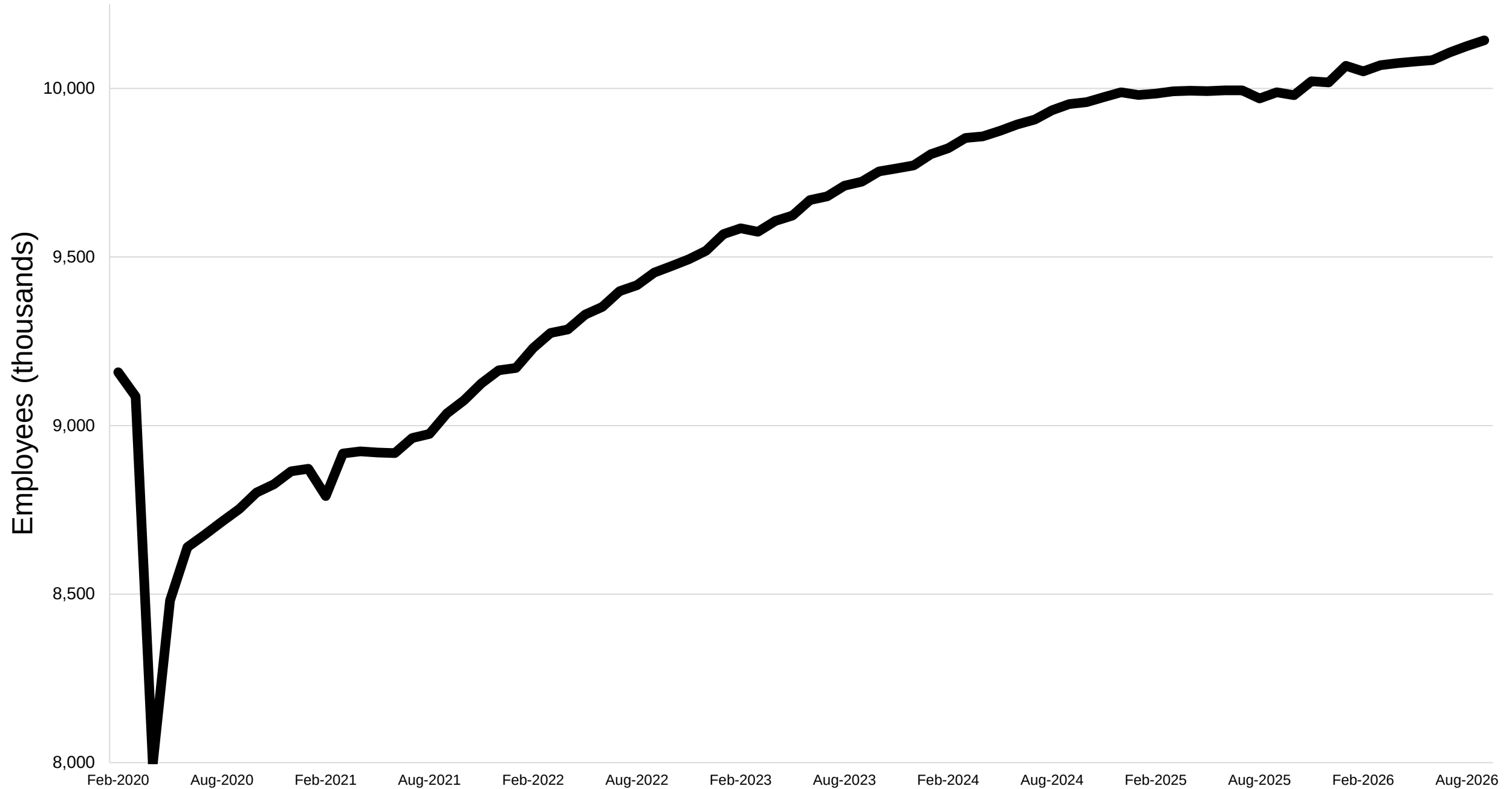
— Total AEC Employment (thousands)

— Inflation-Adjusted Total Construction Spend (\$M SAAR ÷ 100)

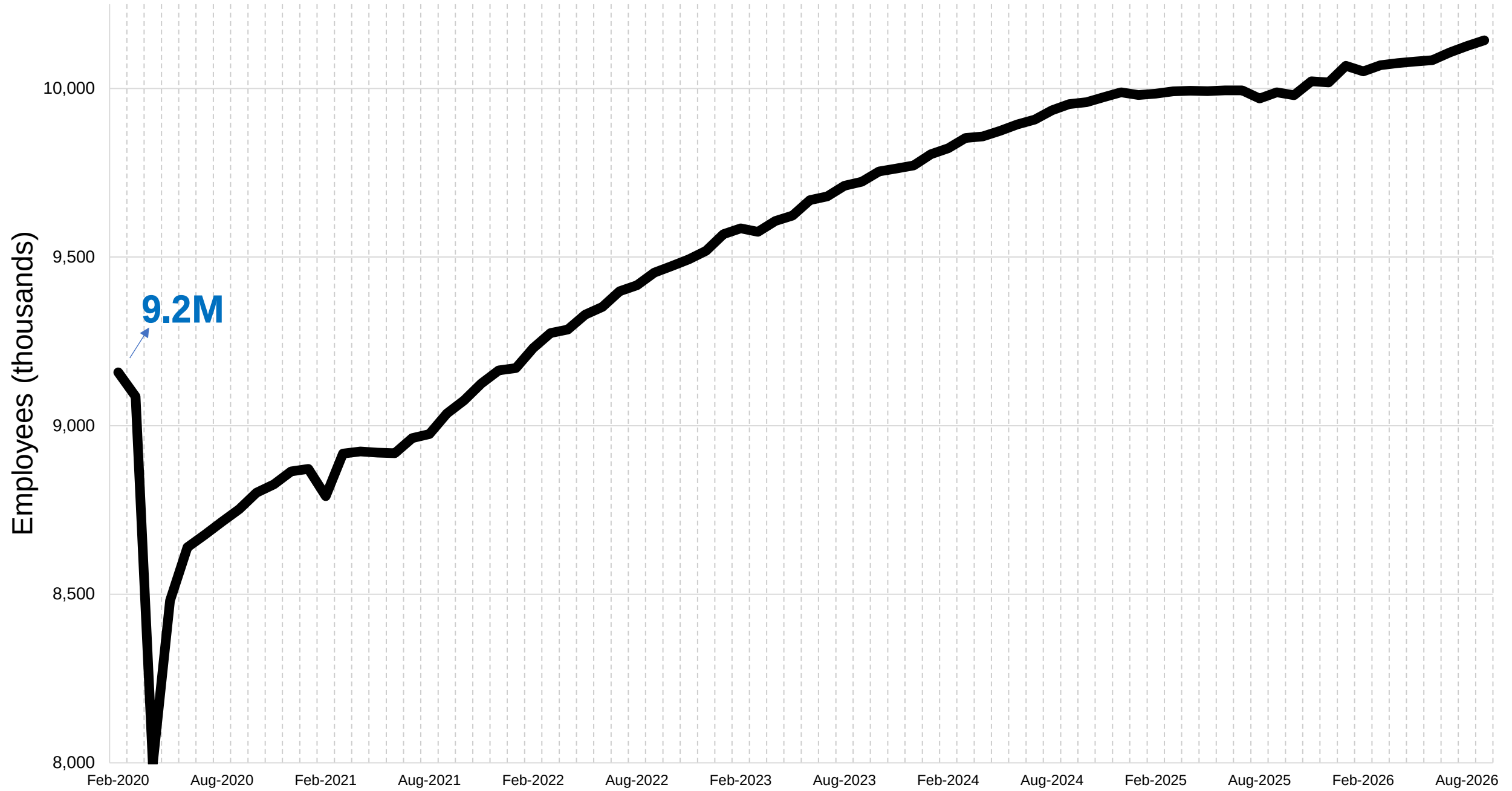


**Unprecedented gap
in \$\$\$ vs. workforce**

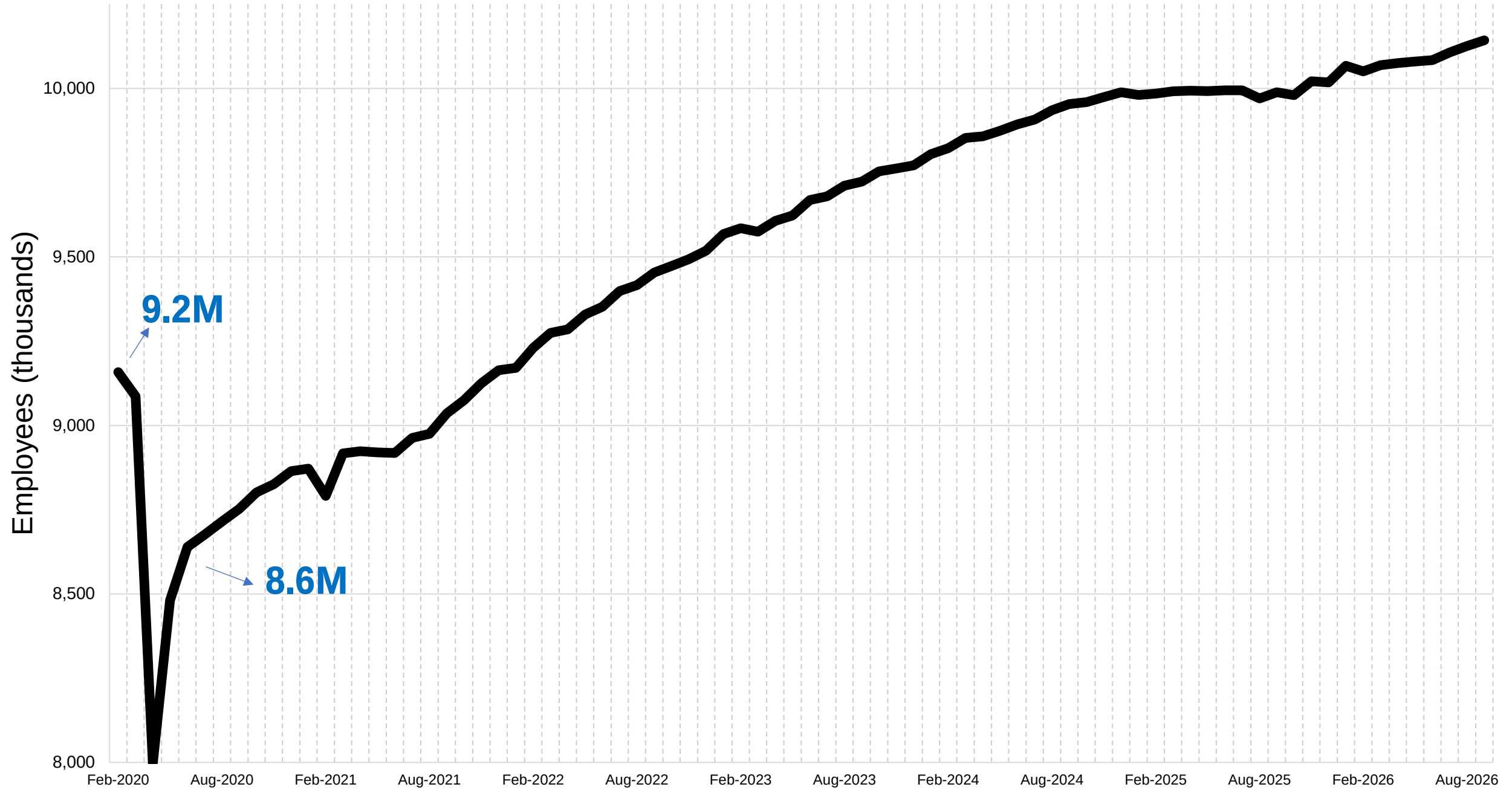
Total AEC Employment



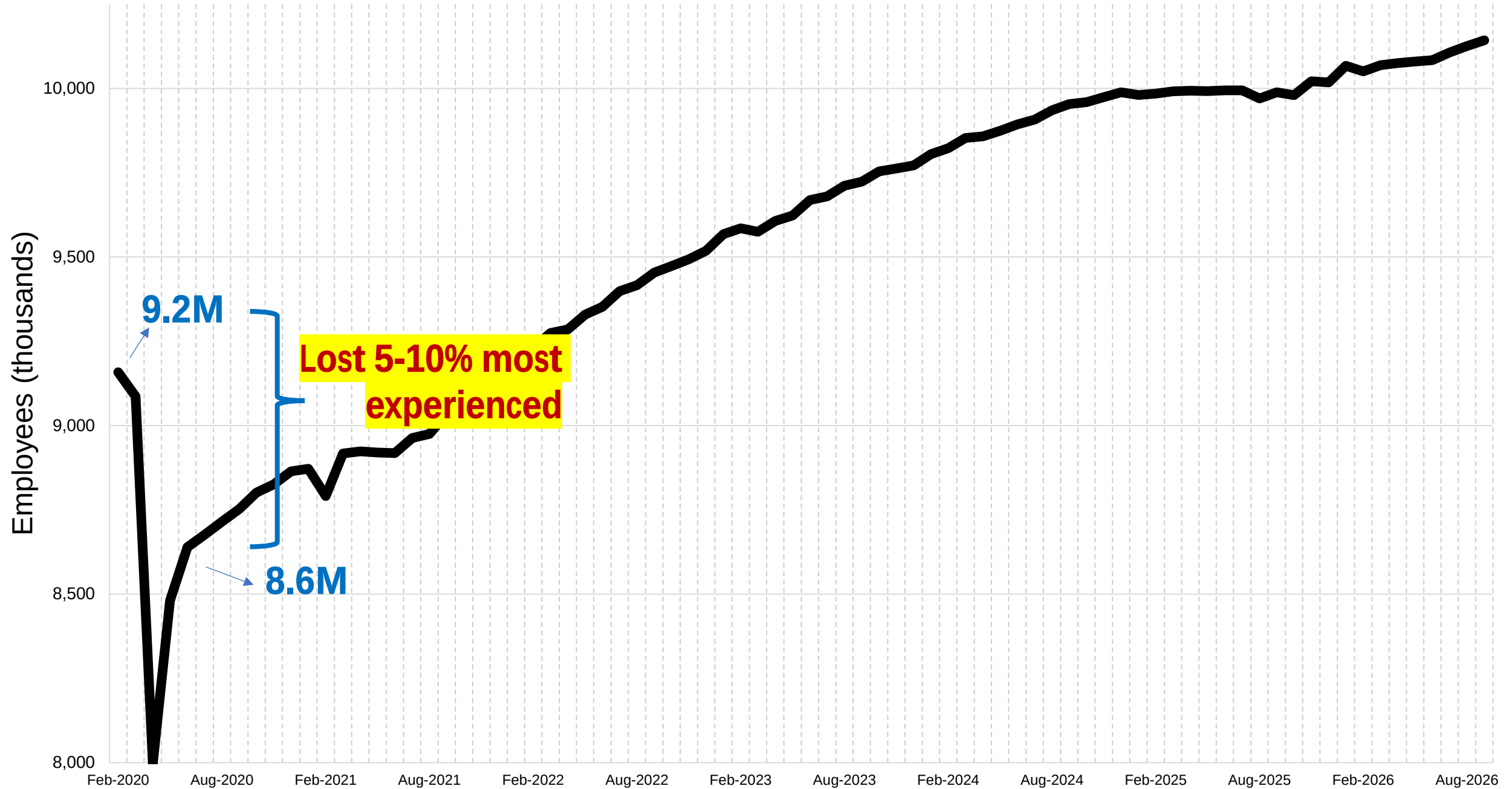
Total AEC Employment



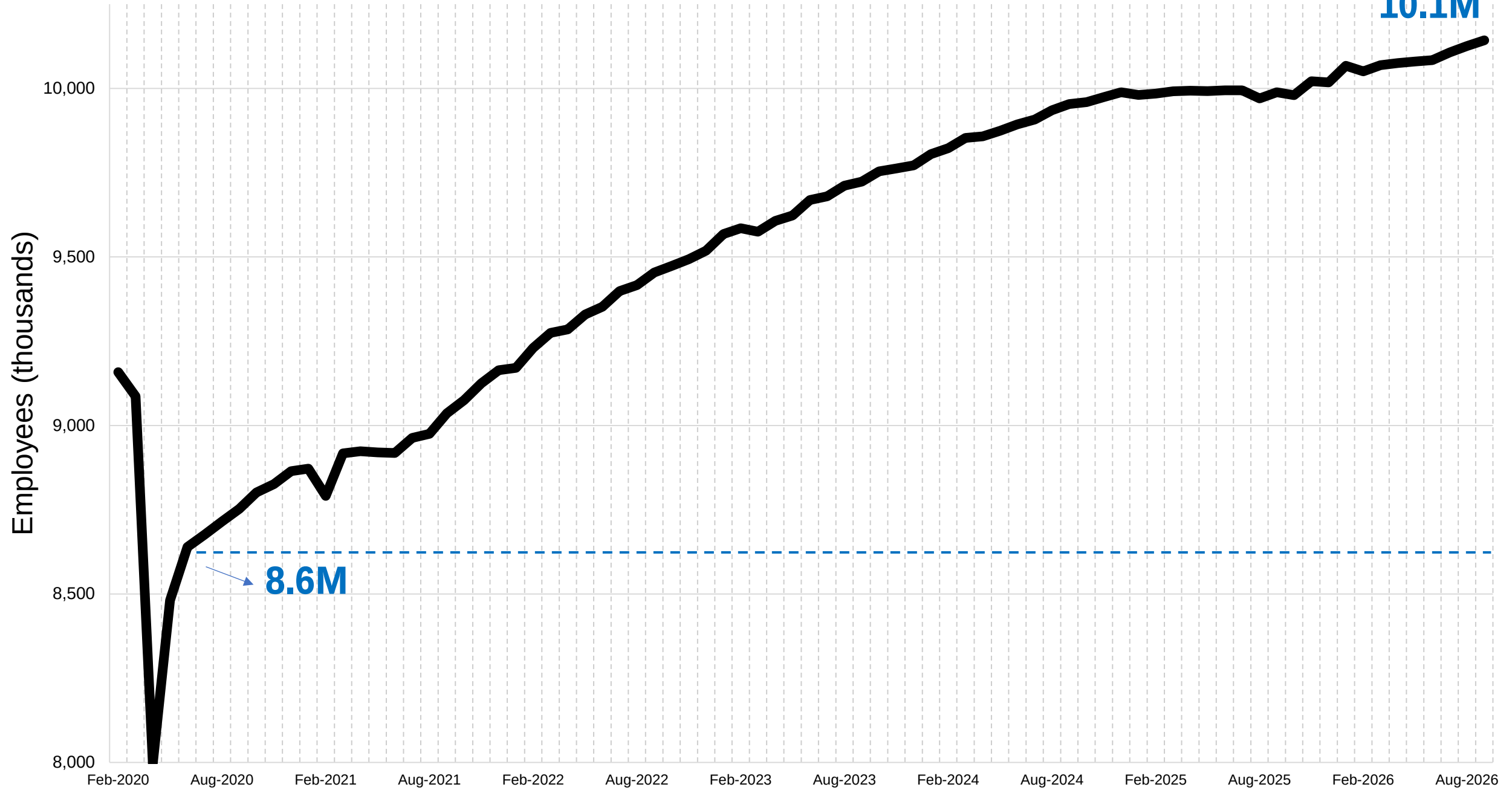
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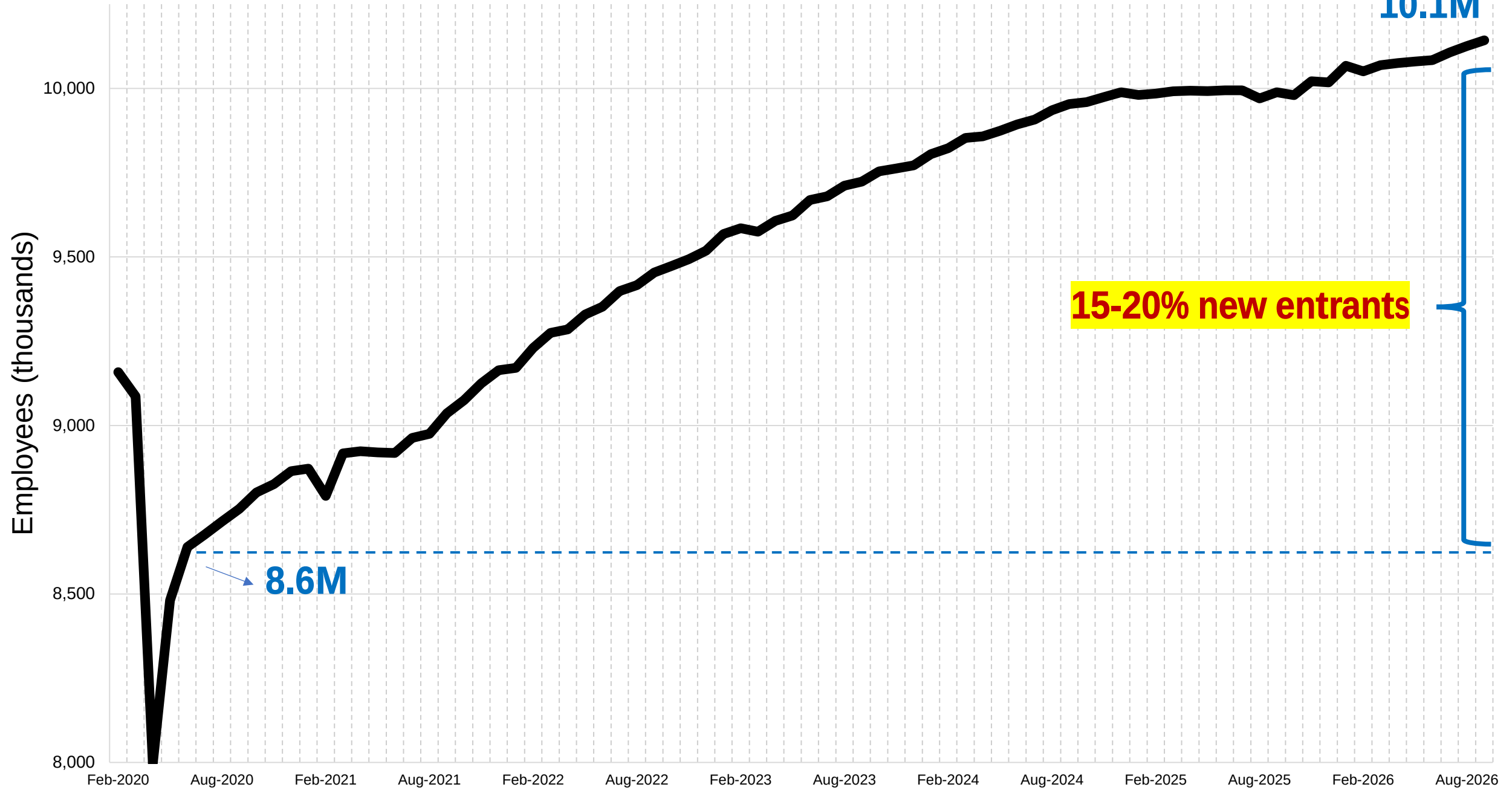
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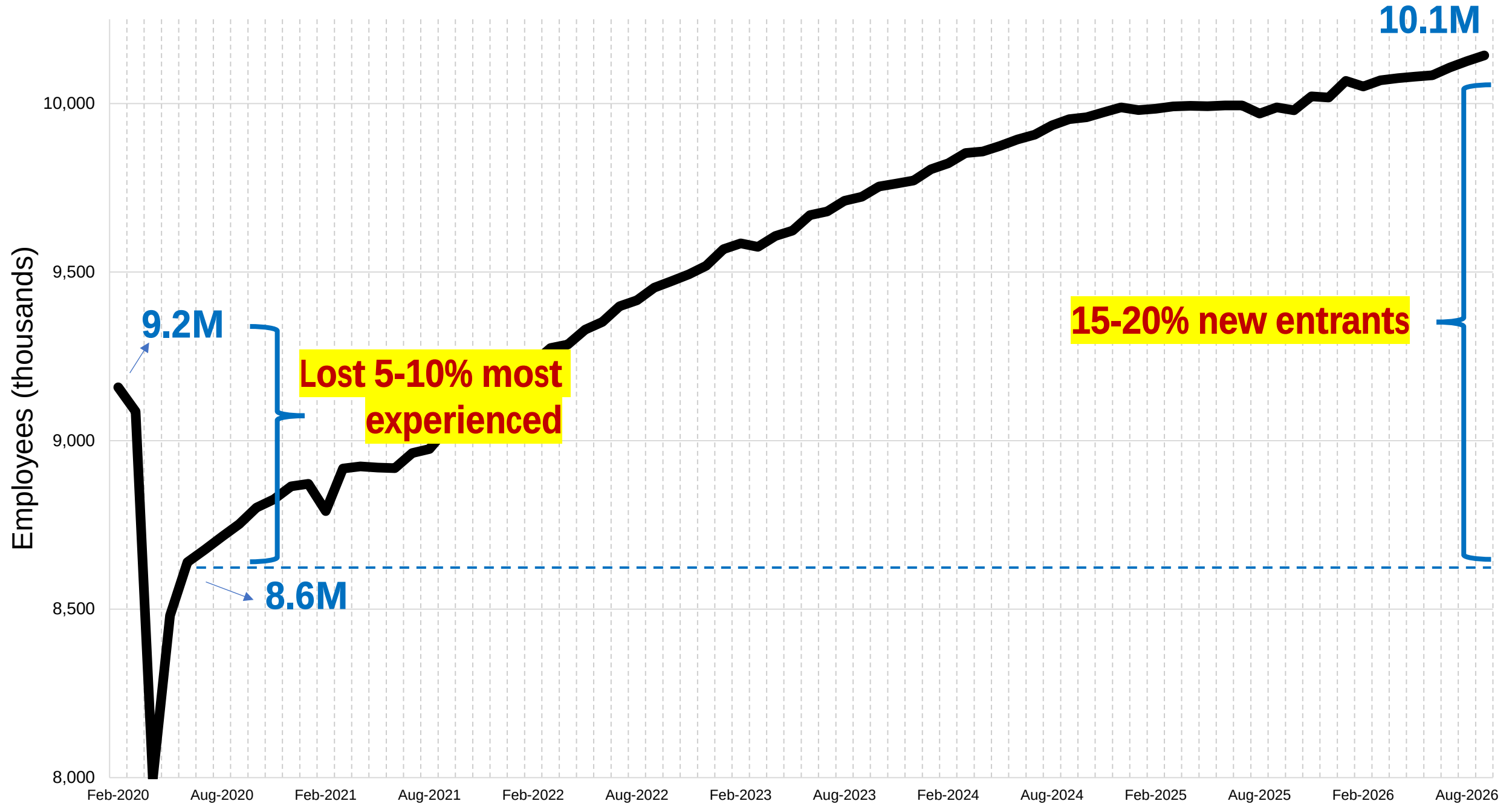
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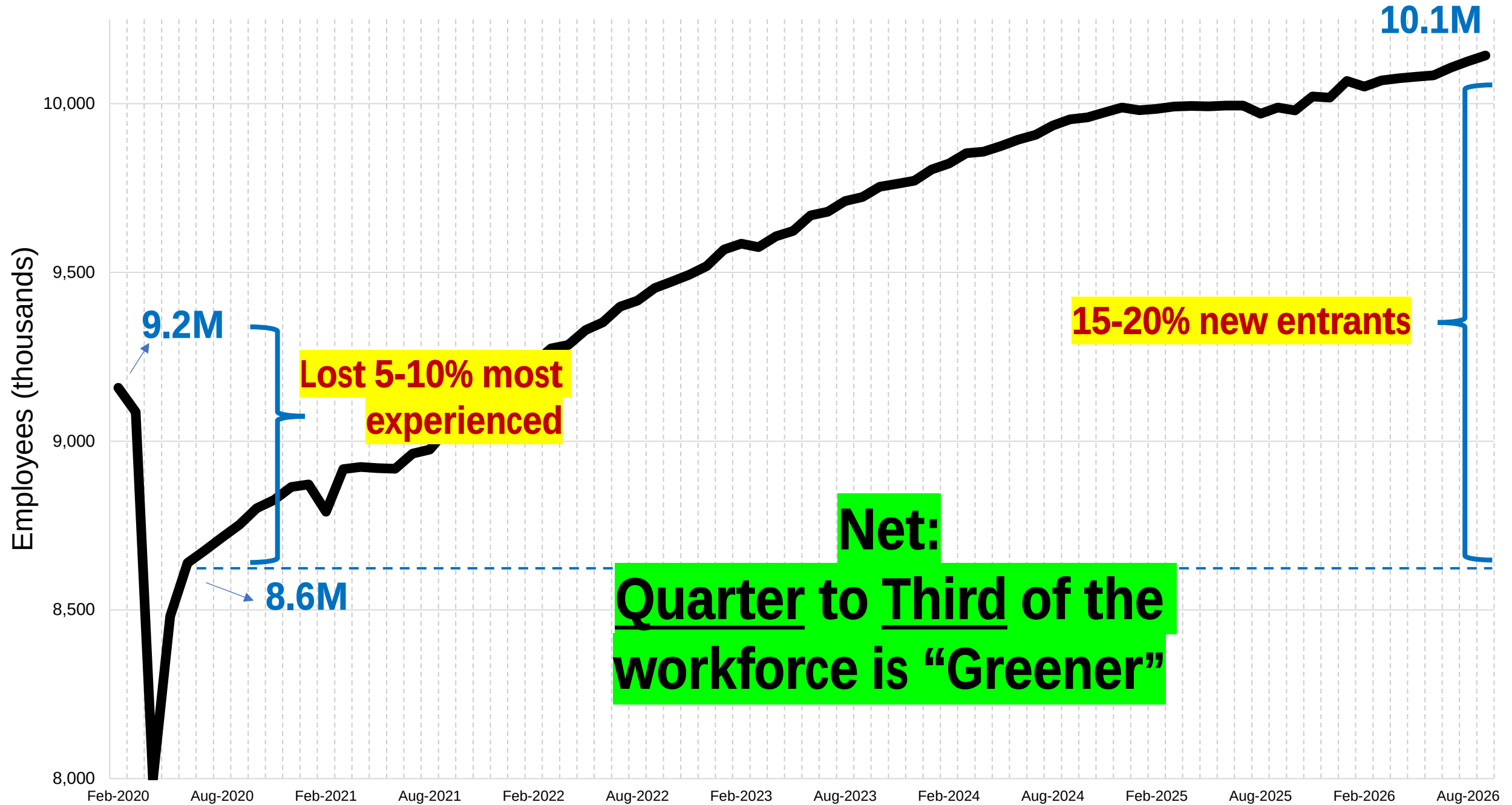
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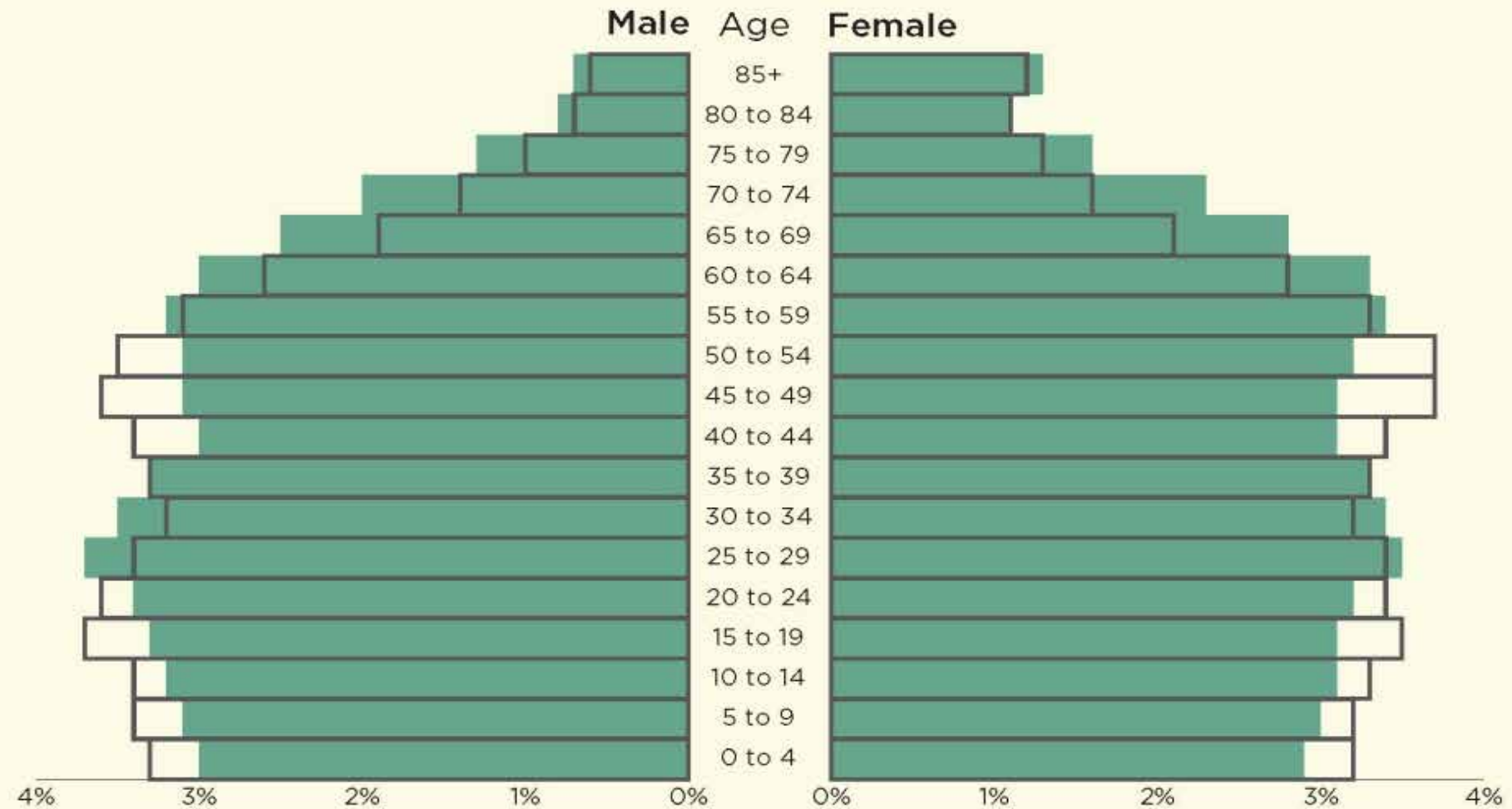


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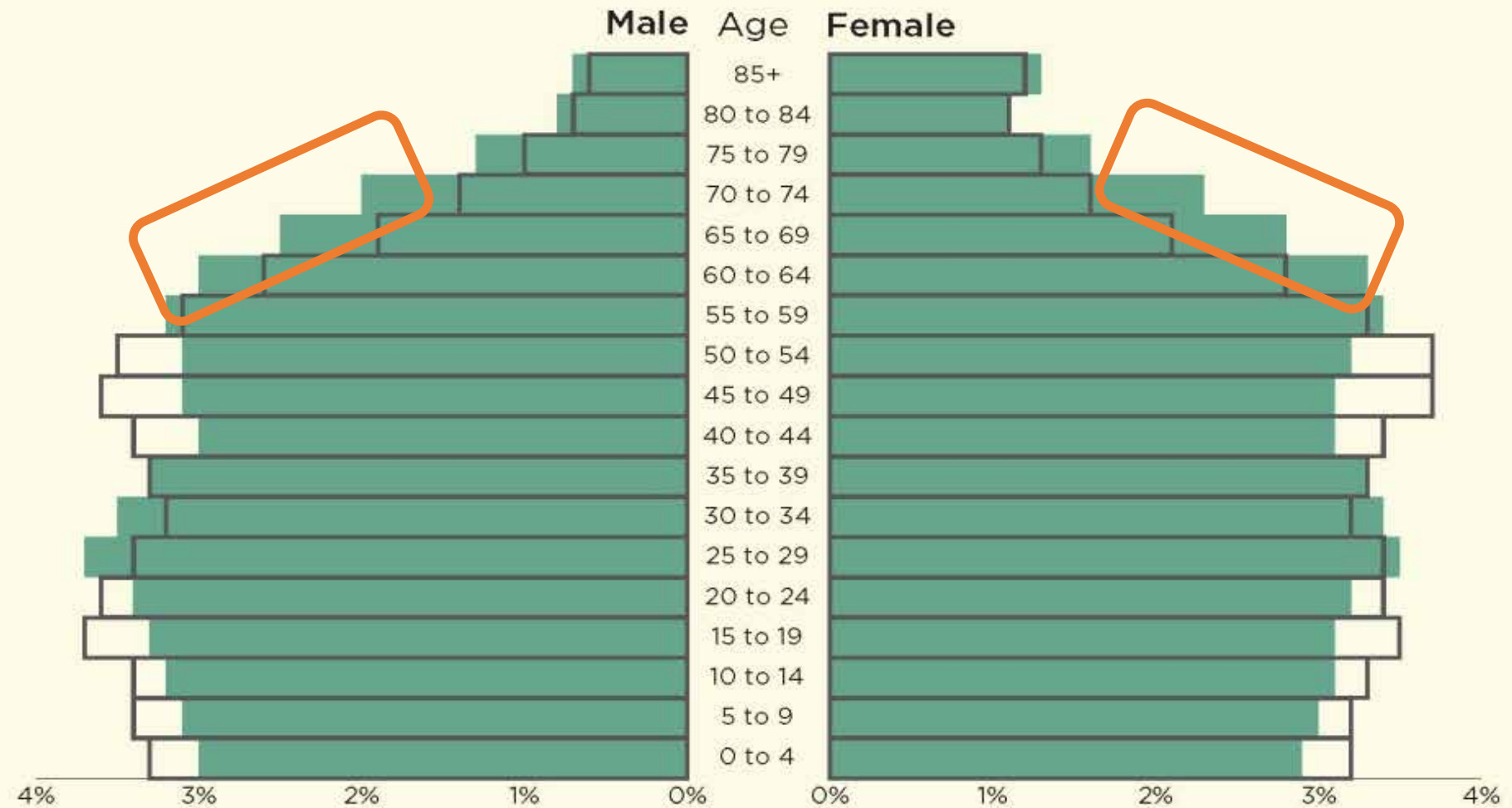
Percent of Total Population in 2010 and 2019

□ 2010 ■ 2019



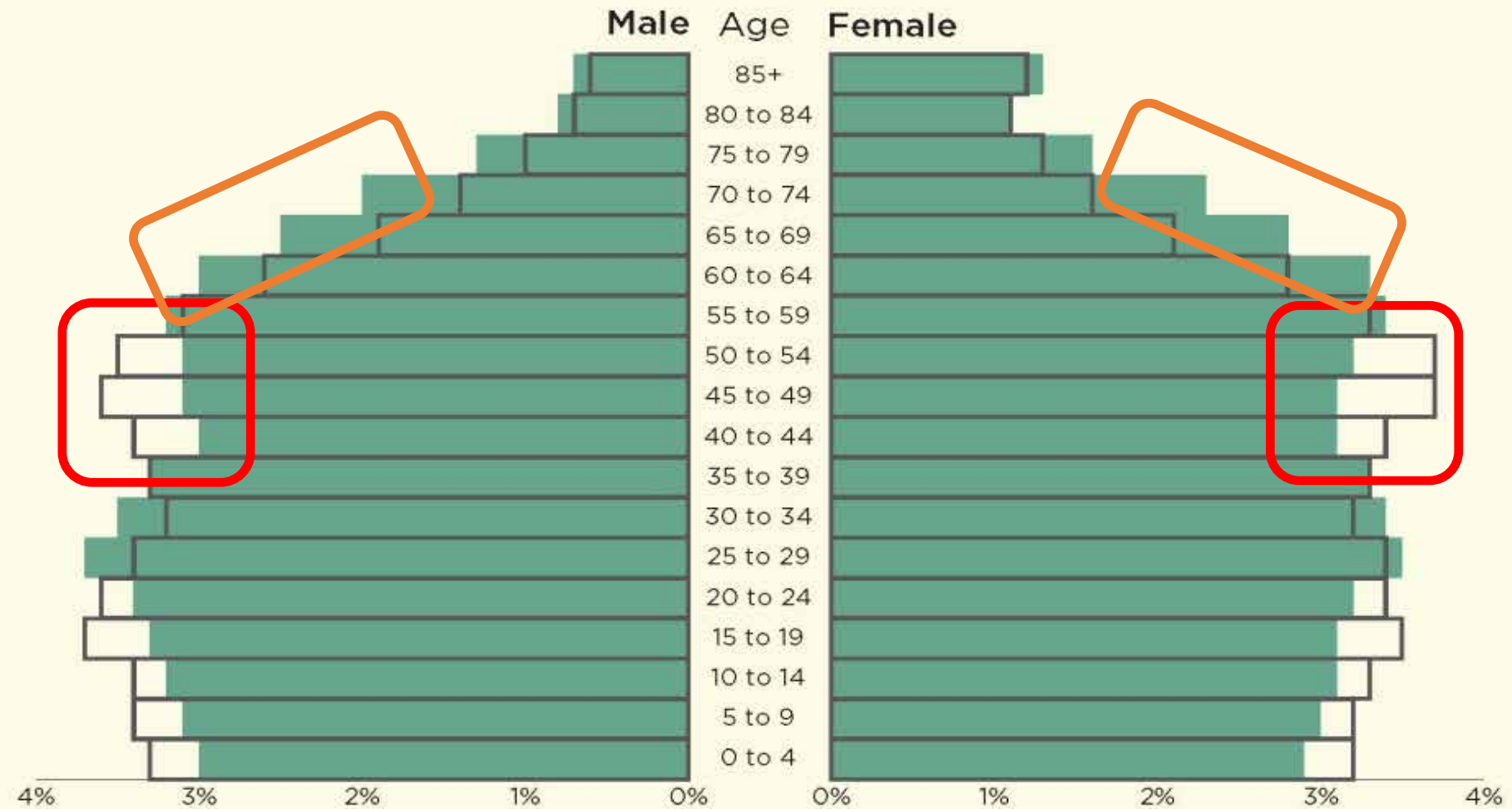
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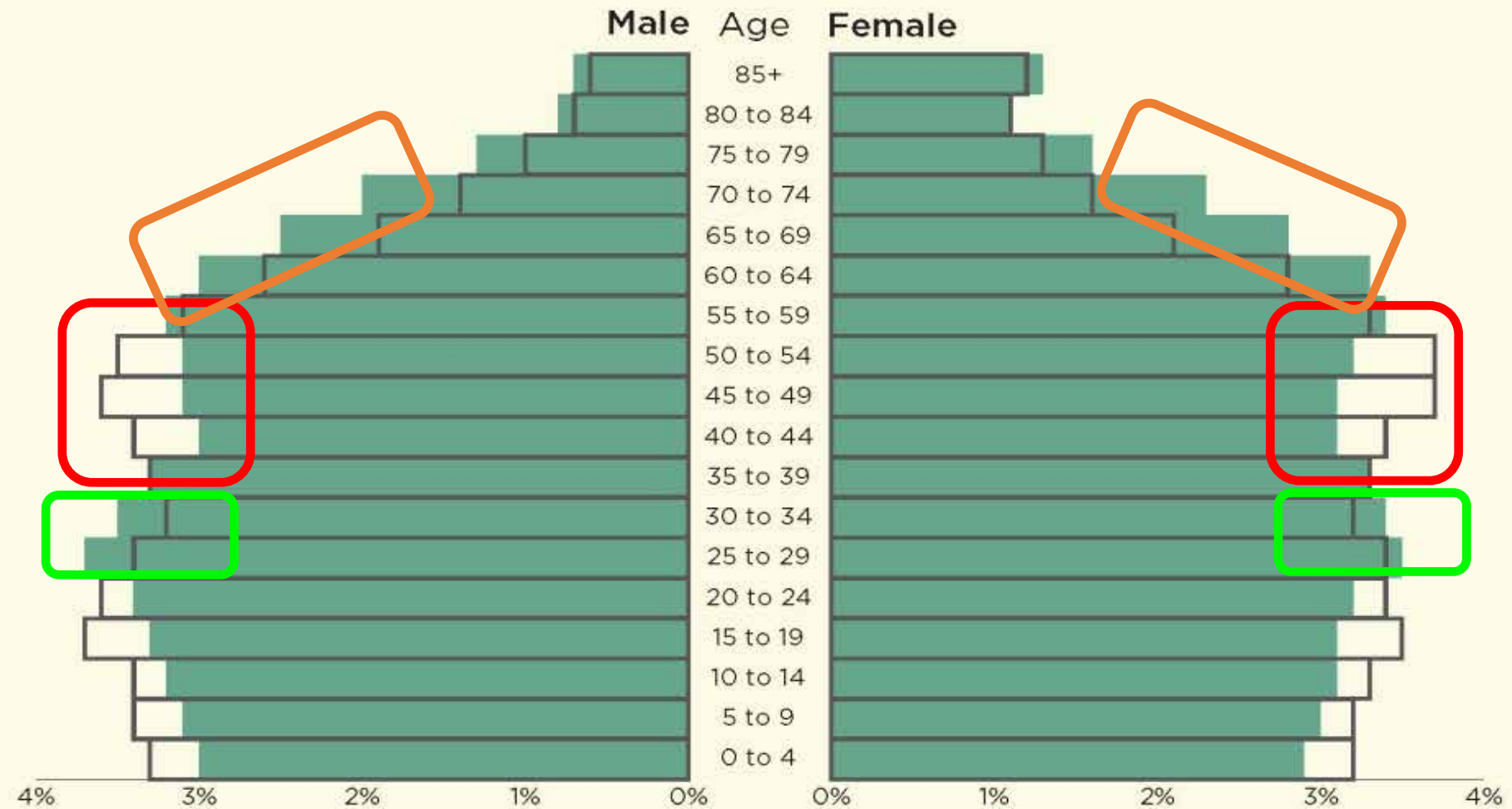
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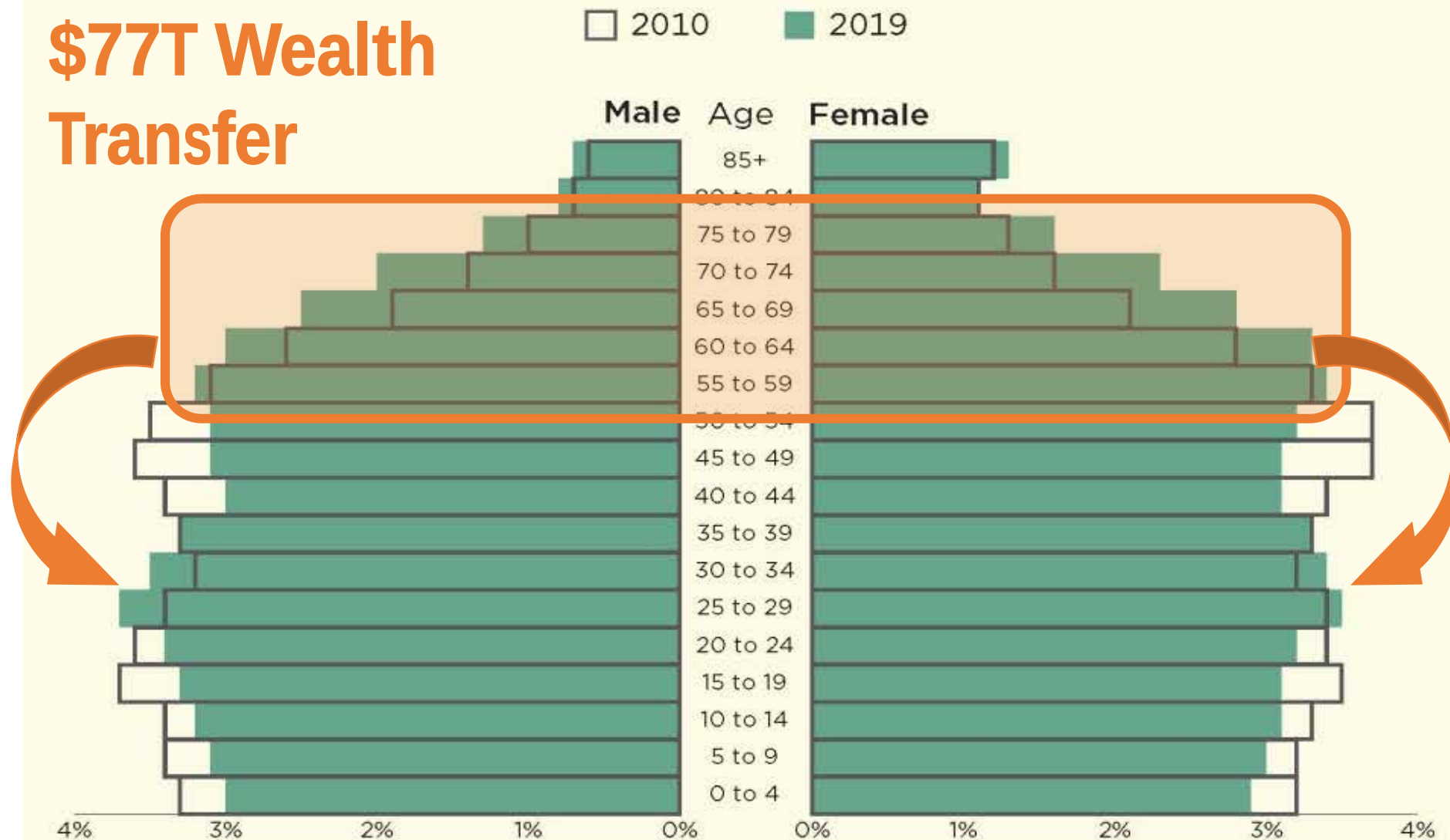


Workforce

- **More men 25-34 yo live with parents than with spouse**
 - First time [since 1880](#)
- **Leisure hours have increased**
 - [75%](#) of which are spent [playing video and computer games](#)
- **Drugs are a big problem**
 - Robbing [nearly 1M](#) “prime-age” men [every year](#)
- **Expanding to 24-55yo**
 - Participation rate is currently [2% below](#) 1940

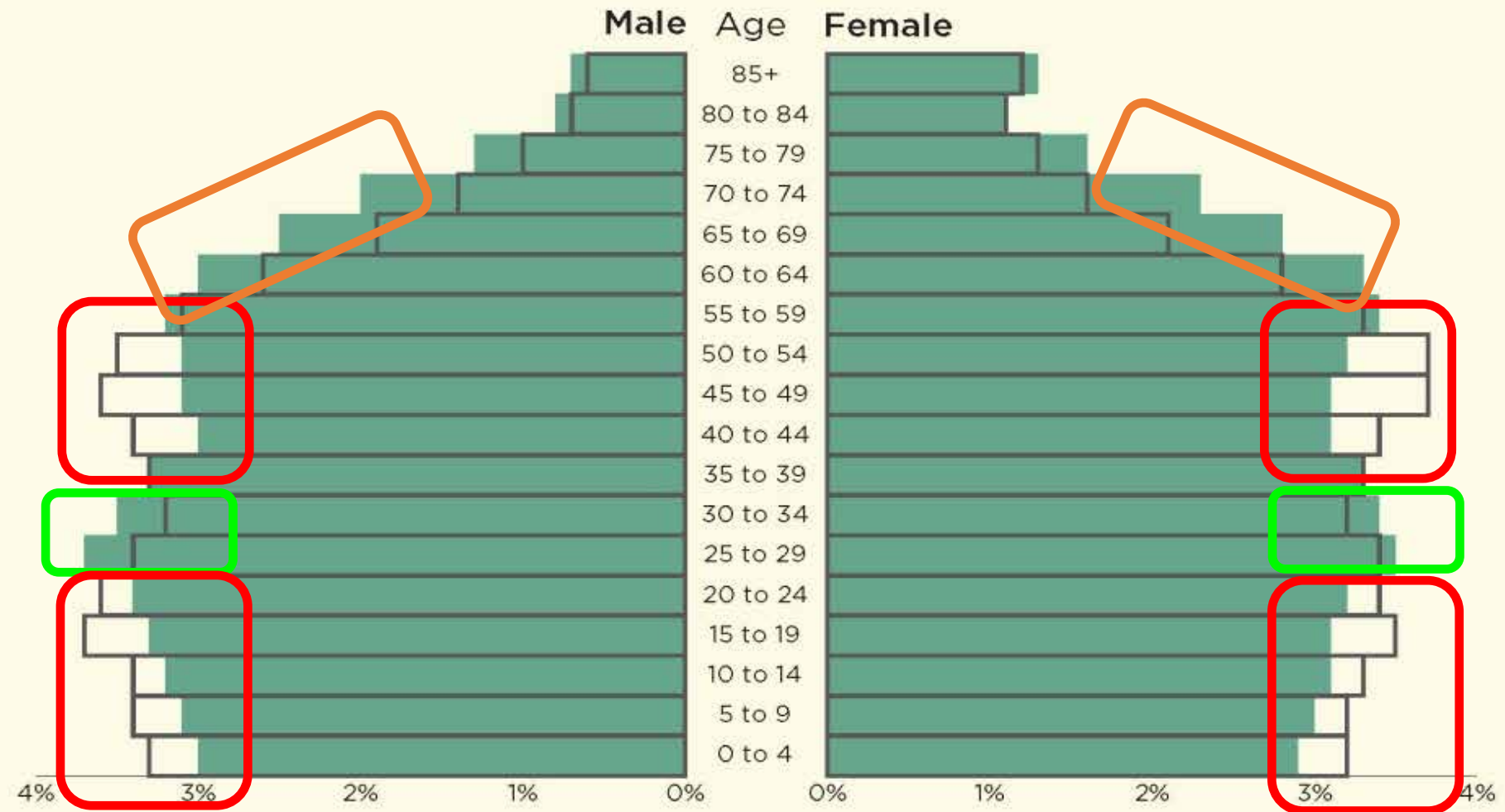
Percent of Total Population in 2010 and 2019

\$77T Wealth Transfer



Percent of Total Population in 2010 and 2019

□ 2010 ■ 2019



Total Births

- **79M Boomers** (born 1946-1964, ages 61-79)
- **65M Gen X'ers** (born 1965-1980, ages 45-60)
- **72M Millennials** (born 1981-1996, ages 29-44)
- **69M Gen Z** (born 1997-2012, ages 13-28)
- **45M Gen Alpha** (born 2013-2024, ages 1-12)
- **?? Gen Beta** (born 2025+, currently 3.6M/yr)

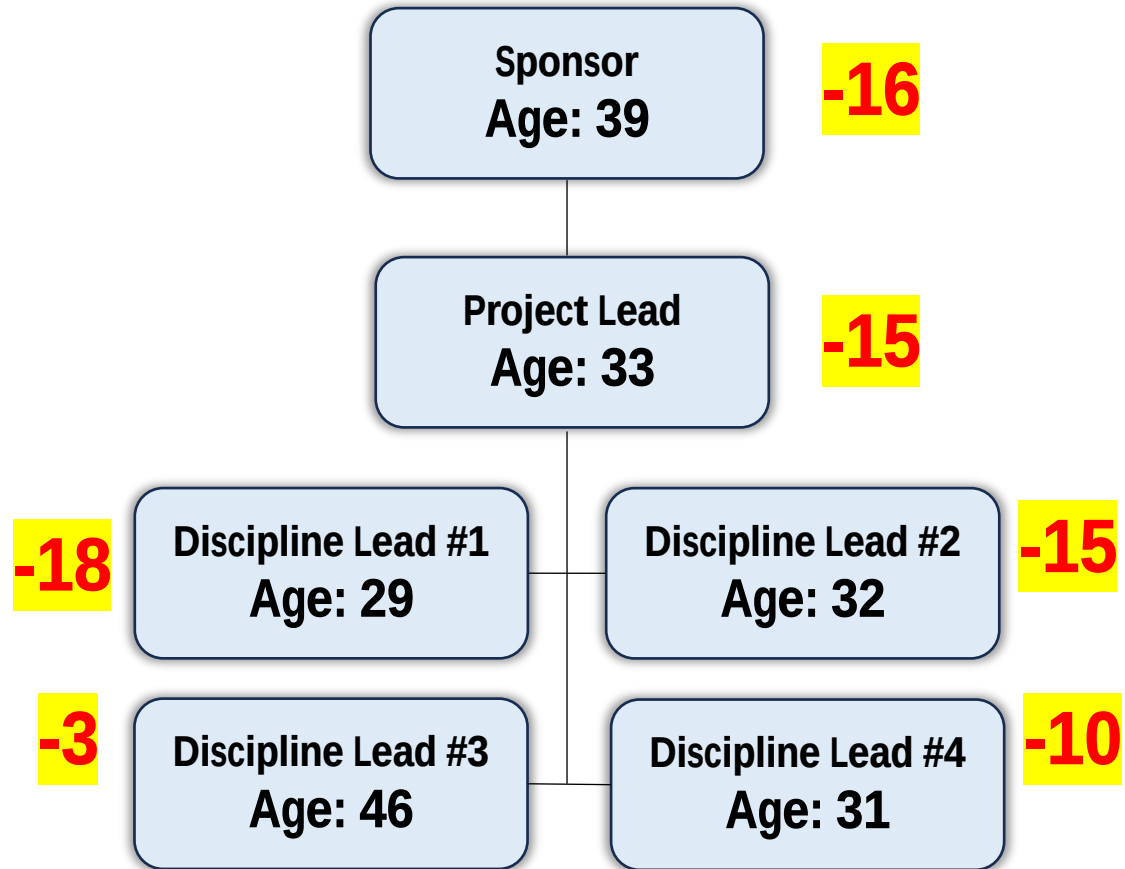
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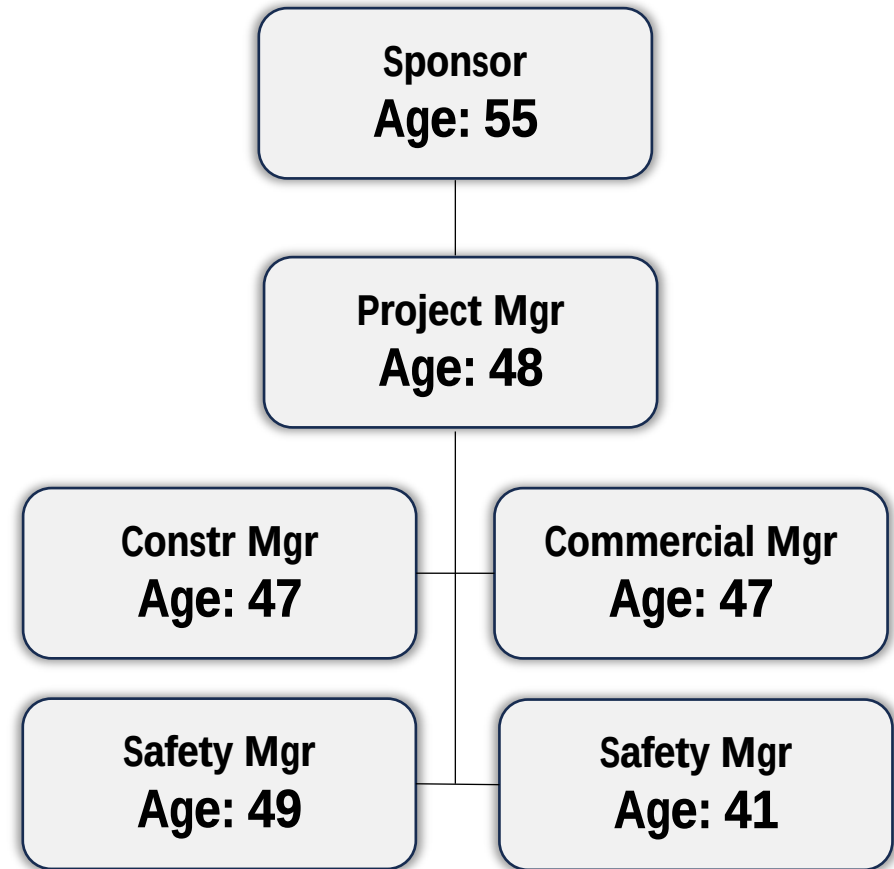
**Now: fighting over
69M Zoomers**

**Next: recruiting into
45M Gen Alpha**

Today



4 years go



Boomer Legacy in the Workplace

- “*Boomerism*” à current business assumptions and models are built around boomer workforce characteristics from 1980s-2000s.
- **Historical context:**
 - Boomers entered workforce during period of *more people than jobs*
 - Created loyalty-based work culture with hierarchical military-style management structures.
- Current procurement & contracting models assume *available skilled workforce, stable supply chains, and stable pricing - assumptions no longer valid.*

Challenges with Boomer Exodus

- **Great recession (2008) delayed boomer retirements years, preventing natural workforce transition.**
 - Artificially extended average career cycle
- **Most productive employees (55+) compensated for millennial productivity gaps but are now retiring:**
 - Millennials are the least productive generation in the history of the country
 - Zoomers are joining the workforce now and they might be worse
 - **Knowledge Loss is exacerbated by the confluence of challenges** – most organizations are not formally and proactively capturing, systematizing, and distributing the knowledge

Who are the Zoomers?

- First fully digital-native generation à first generation that grew up with the Internet available as a part of daily life.
- Reduced socialization à spend more time home or online



Who are the Zoomers?

- *Strong ethical standards*, research production methods and company practices before purchasing.
 - >50% will pay more for ethical goods
- Strong *mathematical abilities* and *loyalty* when properly managed.
- *Technology integration capabilities* that could be leveraged effectively.

New Study on Gen Z Values (Sept 2025)

“The Values Bridge” Assessment
7,500+ Gen Z responses vs. 2,100 US Hiring Managers

[source](#)

New Study on Gen Z Values (Sept 2025)

Hiring Managers

1. Achievement
2. Learning & Action
3. Workcentrism

New Study on Gen Z Values (Sept 2025)

Hiring Managers

- 1. Achievement**
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Gen Z

- 1. Self-Care & Well-Being**
- 2. Expressing Authentic Self**
- 3. Helping Others**

New Study on Gen Z Values (Sept 2025)

Hiring Managers

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- Barely cracked Top 10 for Gen Z
 - 2% of Gen Z had all 3 in their Top 5
 - 25% of Gen Z had 1 in their Top 5

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**Gen Z has unusually high
“Negative Variance” with these
Top 3**

Workforce Demographics

- **Workforce will shrink for next 15-20yrs at minimum.**
- **Demand for AEC services will remain high for 15-20yrs.**
- **Right now we have 50% more volume in-flow (Gen Z new entrants) than we will have a decade from now (Gen alpha)**
- **We'll be competing with other industries as much as one another.**

What Does This Mean for Businesses?

- Increased retirement among Boomers leading to *increased observability* in skill shortages.
- Losing experience (productive people) faster than we are replacing it.
 - Insufficient parallel transition time between experienced and new employees for skill transfer.
- Plus, competing for a smaller & shrinking pool

Major Takeaways

- **Change your hiring and mentorship model.**
 - Zoomers & young Millennials are not the younger version of you!
 - Provide career pathing and transparent promotion timelines
- **Leadership needs flexibility, explicit instructions, and clear communication à more coaching, less directive**
 - Empathy is highly valued, regular check-ins, substantive feedback
 - Promote the importance of mental health support and ethical leadership.
- **Gen Z brings energy, values, & tech fluency**
 - Gen Z willing to learn, need supportive & transparent workplaces.
 - Gen Z is quick to learn from failures when supported à make mistakes, learn, & have chance to grow.
- **Create a culture that encourages questions & iterative problem-solving à do not punish every error.**
- **Work with them on developing their soft skills.**

Gen Z Closing

- **Wrong Question:** What's wrong with Gen Z?
- **Right Question:** Are our management, training and work systems designed for the cognitive & social environment in which this generation actually developed?
- **Key Acceptance Criteria:**
 - Prior generations, for past century, built systems with the true assumption that the entering workforce had a cognitive tailwind. That tailwind seems to have stopped.
 - Don't confuse digital fluency with cognitive depth.
 - Gen Z does have greater access to information than any generation in history—and less ability to sustain attention on it.
- **Reactions:**
 - The management response should not be lower expectations. It should be better mentorship & training.
 - If executive function is weaker, telling someone what to do isn't enough. We have to teach them how to break down the problem, prioritize it, execute it and self-correct.
- **Final Thought:** The companies that win won't complain about the incoming workforce. They'll take advantage of the opportunity and build systems that develop the capabilities the environment failed to develop.

Recommendations (If I were...)

My Thinking:

- The next several years is a **singular opportunity** that comes only once every few generations
- **Acting Now will be Easier than Waiting** till the challenges become more acute and everyone is forced to change – **if you act now, no one will be able to catch up**

Recommendations:

1. **Demographical Accommodation** (People-Centric Approach to Transformation)

- Data Pattern & Knowledge capture of Experts or Exit Risks (data/knowledge & for AI training)
- Hiring and Gen Y & Z management/mentorship formal model
- Agility to Reorg workgroups and departments

2. **Move to the Edge**

- Specific hires + staff redeployment
- Shadow departments and agentic matching
- Strategic experimentation + Partnership with Technology providers
- Software development for all & Multi-level training
- Internal competition – Internal growth
- Measure trust → audit and build

3. **Collaborate (Authentic Collaborative Relationships)**

- Seek CUSTOMERS (the key people inside the organization) and PARTNERS (leaders and key people from vendors, not just the “company”) that desire, and are able, to be collaborative
 - **Build trust amongst yourselves then take that unity to customers – then invite vendors**
- Offer to EVERY person, the opportunity to participate in something special, save money, save time, get more done with less, and be prepared to be more successful than everyone else in the future

Trends & Forces Shaping the Industry

Technological Revolution

Where AI Has Been the past 12 months

- **Key: What you hear in the news everyday is about 8-12 months old + accelerating acceleration**
- **General models have improved by about 30-40% in just the past three months**
- **Rise of AI enabled applications**
- **6000-8000 new AI start-up per year, last two years**
- **Introduction of “near-capable” AI Agents**
- **Massive gains in quantum computing (MS-Majorana-1, Google Willow)**
- **Significant innovation in Robotics (AI/ML enhancing robot autonomy, humanoid robots, cobots)**

Where AI Has Been the past 12 months

- **Key: What you hear in the news everyday is about 8-12 months old + accelerating acceleration**
- **General models have improved by about 30-40% in just the past three months**
- **Rise of AI enabled applications**
- **6000-8000 new AI start-up per year, last two years**
- **Introduction of “near-capable” AI Agents**
- **Massive gains in quantum computing (MS-Majorana-1, Google Willow)**
- **Significant innovation in Robotics (AI/ML enhancing robot autonomy, humanoid robots, cobots)**

Where AI Has Been the past 12 months

- Key:

- Gen

- Rise

- 6000

- Intro

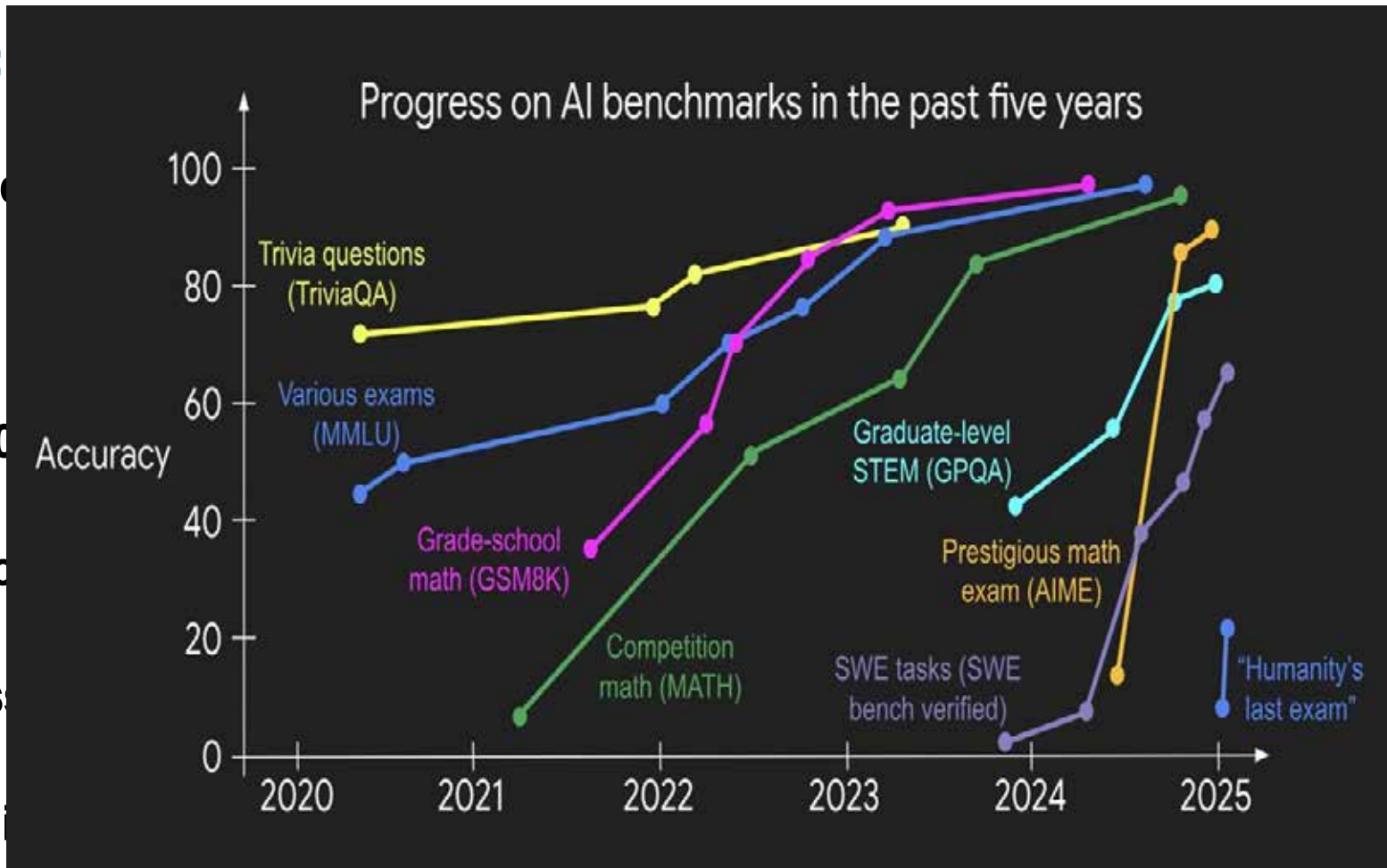
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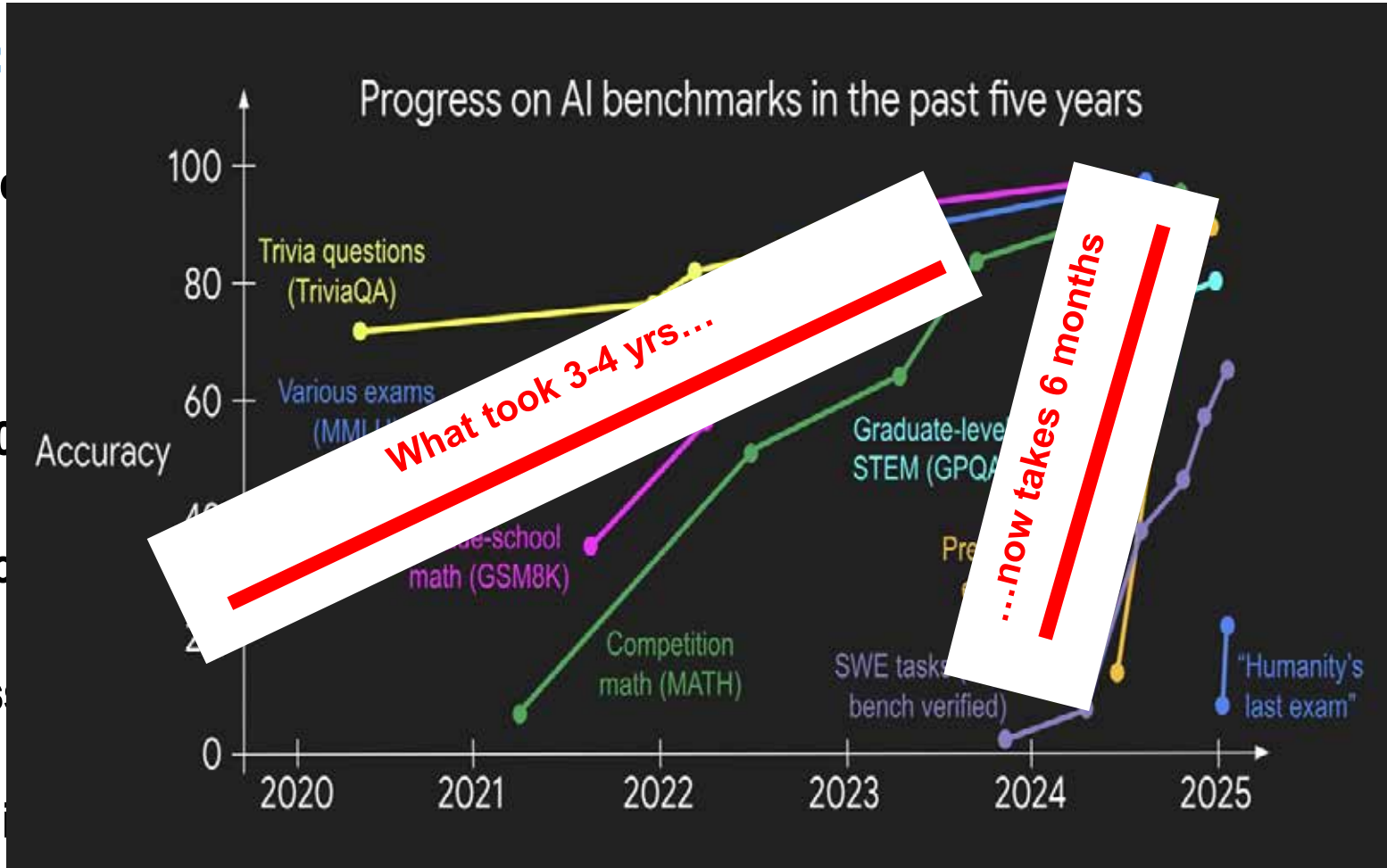
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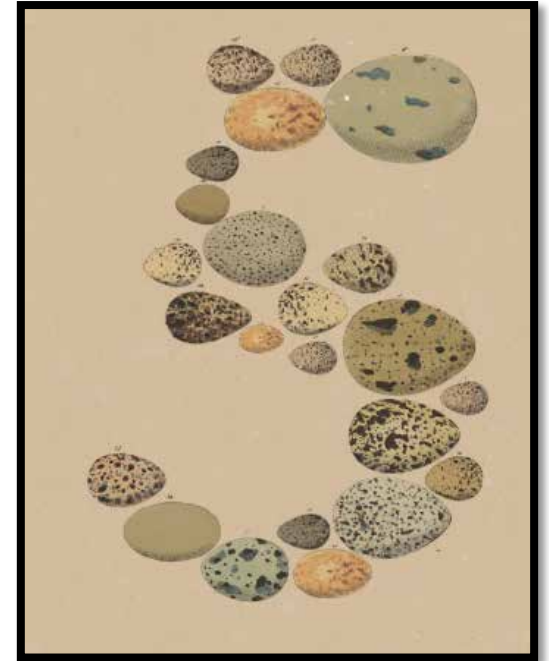


July 24, 2026 – Claude Opus 5 Release

Claude Opus 5 is available today. It's a thoughtful and proactive model that comes close to the frontier intelligence of Claude Fable 5 at half the price.

On coding and knowledge work evaluations like Frontier-Bench and GDPval-AA, Opus 5 is the new state-of-the-art, though it remains behind Mythos 5 on cybersecurity tasks.

Opus 5 is designed to be used every day: it works more efficiently than other models. It's the new default model on Claude Max, and the strongest model on Claude Pro.



- On one Frontier-Bench task, Opus 5 was given a drawing of a machine part and asked to write code to rebuild it as a 3D FreeCAD model. However, in this task, the model was intentionally given no way to directly view the drawing. Opus 5 responded by writing its own computer vision pipeline to pull the geometry from the raw pixels, then reconstructed the full machine part. It succeeded in doing so repeatedly; no competing model with the same setup could solve it after five attempts.

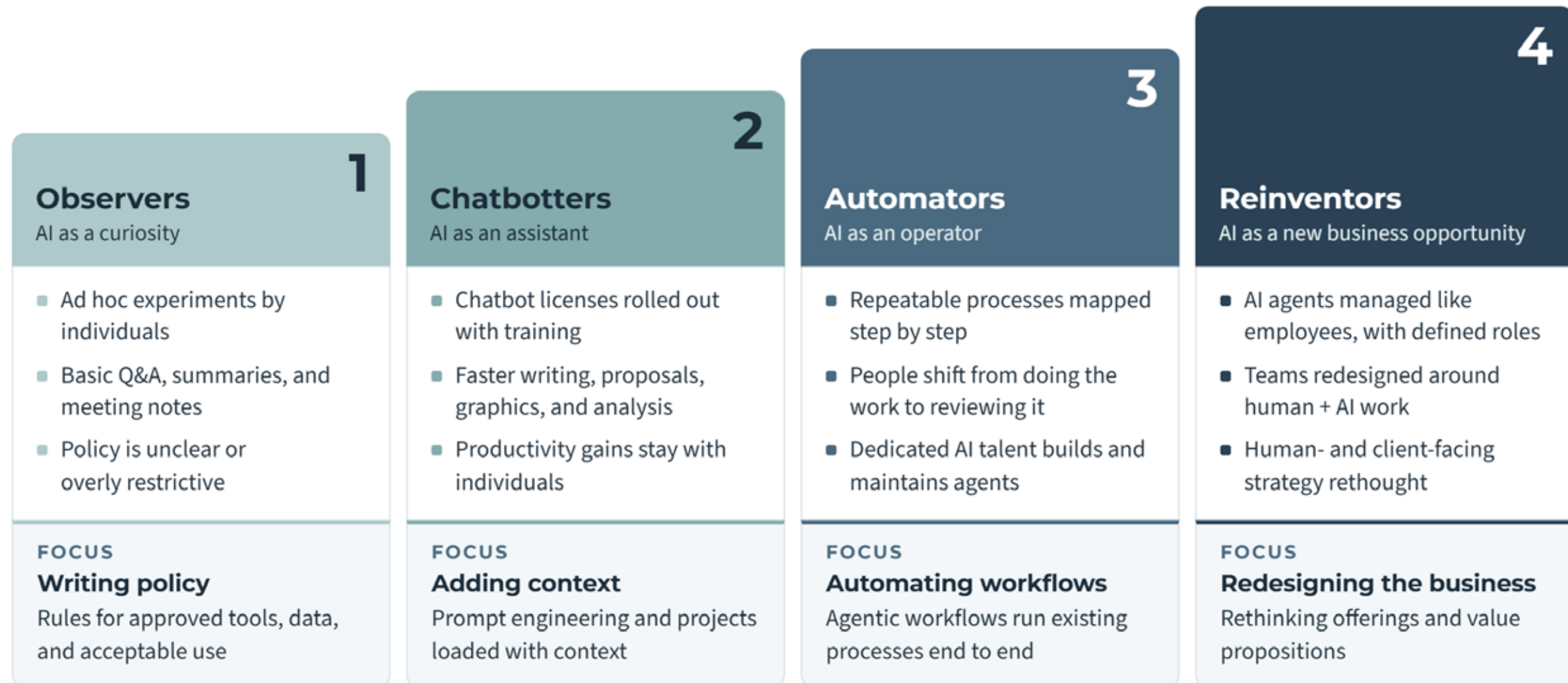
Other Things Learned Working with Orgs for the Past ~1 Year

- Orgs are realizing **their “data” is not good for an AI world (or..not as good as they thought it would be)**
- Moving towards a **New License Model** – “Hire” Agents as “employees” and pay a “salary”
- I say this hesitantly....Using Microsoft Co-Pilot hurts later AI adoption
- Leaders don’t trust their employees' reactions to AI, employees don’t trust their leaders' words about AI – **Trust(-worthiness) increasing in value and decreasing in culture**

The AI Maturity Ladder

From occasional tool use to a business redesigned around human + AI work

Maturity is measured by
integration, not tool access.



Low integration

The climb: from using AI beside the work to embedding AI inside the work

High integration

Positioning in the Technological Revolution

- **AI should be watched closely.**
- **Generative AI can have significant impacts now.**
- **Prepare for app-specific & on-prem AI now!**
 - Prepare data environments to facilitate model training
 - Capture and continuously track information on how work is done, how it internally evolves, and how it is adjusted to final outcome/deliverable
 - Orgs who capture this info now will be positioned to take full advantage of the right AI tool(s) once available
 - This will impact contracts, contract management, procurement, design, planning, purchasing, construction, project management, resource management, billings/submittals, estimating, scheduling, etc. etc. etc.

This is a much longer conversation...

Trends & Forces Shaping the Industry

Trust & Collaboration

What is Trust?

How do you decided who/what you can trust?

Build (early) projects. Our design-build teams are experienced in managing all aspects of the PDB delivery method. Our project-specific approach is based on our #1 responsibility to you as our client— to mitigate LADWP's risks regarding cost, schedule, quality, and safety.

PHASE 1

PRECONSTRUCTION EXPERTISE

Our preconstruction efforts have already begun as part of the pursuit process. With this in mind, **we have carefully reviewed your RFP and project requirements. We are excited to present an approach that will deliver the project in (6) months ahead of the RFP timeline** while maintaining your process, safety standards, and architectural excellence. Our 10+ year partnership with LADWP has entailed multiple preconstruction efforts culminating in successfully delivering built projects. We understand that LADWP will need to review and gain stakeholder support for our approach, and we look forward to discussing it further with you at the right time.

SUBJECT MATTER EXPERTISE

This team has a track record of success delivering both Preconstruction and Construction projects for LADWP. We bring **over 100 years of design experience, having completed dozens of ground-up, highly complex laboratory buildings across California.** Upon Phase 1 Notice To Proceed, we will immediately collaborate with LADWP and your stakeholders to validate the project program, ensuring compliance with LADWP's vision, goals, design guidelines, and standards while using our laboratory experience to share lessons and provide

For example, we will study roadway access to multiple daily roundtrips by LADWP staff, safe, and wisely designed. We will also study routing of the robust ductwork required to provide the highest ceilings possible for access/maintenance of dampers or other

Our experience shows us that agility is key to testing laboratory. **To ensure adaptability** on day one. For the LADWP WQL, we will **space allocation**, allowing for easy future maintaining an orderly approach to the site. We have successfully executed a "unique" similar projects where flexible utility systems changes and future expansions. This approach without heavy costs by strategically focusing placement, service distribution, and lab

ROADMAP TO SUCCESSFUL PROJECT

We have studied the existing site in great detail and have identified key risks and

outlined in Exhibit 14, "Roles and Responsibilities," and recognizes the value this process creates for team accountability. In addition to the process outlined in Exhibit 14, the following items will be a critical part of our team approach allowing us to **save six (6) months on the overall project schedule.**

Partnering: Our team is excited about the opportunity to continue our 10+ year relationship with LADWP, successfully delivering projects of similar magnitude to the WQL. We strongly support LADWP's aspirations for formal partnering outlined in Exhibit 18 and look forward to identifying our collective goals for the project. From these meetings, we recommend establishing a **project charter that will become our "true north" for the project while creating a project management plan focused on a culture of shared goals and well-defined roles and responsibilities.** The team charter will be a living document provided to all new team members and updated as needed throughout all phases while supporting a positive team mentality so that we are all "rowing the boat in the same direction."

Timely Information Flow & Decision Making: As a PDB project, we are responsible for providing LADWP with all critical information so you can make well-informed decisions. Our deep knowledge of laboratory design and construction will allow us to

Our team brings together two industry leaders—each recognized for their expertise, collaborative approach, and ability to deliver complex, high-quality projects. **With over 175 years of combined experience,** we are confident in our ability to meet the unique and ambitious goals set forth for the Water Quality Laboratory (WQL) project.

DESIGN-BUILDER'S EXPERIENCE AND QUALIFICATIONS

As the Design-Builder, we are a leader in the construction industry with 40 years of experience in California, completing more than \$1 billion in construction projects annually across Southern California. We have successfully delivered complex projects, including those that incorporate laboratory spaces, office environments, and extensive site improvements directly aligning with the WQL project's requirements.

We have extensive experience in delivering state-of-the-art laboratory facilities, ensuring that complex spaces like the WQL are designed for operational efficiency, worker safety, and regulatory compliance. Our past projects include laboratories in high-occupancy and high-risk environments, where strict standards for safety, ergonomics, and operational performance were paramount.

We have a proven track record of successfully managing the integration of laboratory spaces and office environments without compromising either function. For instance, in projects where we've had to balance lab and non-lab areas, we have focused on creating efficient adjacencies, enhancing collaboration between workspaces while ensuring that all functional needs are met.

Additionally, our team's experience with large-scale infrastructure improvements such as utility installations, fire access roads, and site grading will be invaluable in addressing the site-specific improvements for the WQL facility. We are committed to delivering all aspects of the scope—including traffic improvements, security systems, and parking for staff and visitors—while adhering to LADWP's requirements.

As part of our design-build approach, we will collaborate to integrate sustainable features into the building design. From energy-efficient solutions to the incorporation of solar power, electric vehicle charging stations, and water conservation practices such as stormwater and gray water recycling, we are well-equipped to meet the project's sustainability goals, including achieving LEED Gold certification and pursuing LEED Platinum.

ARCHITECT'S EXPERIENCE AND QUALIFICATIONS

The Architect team is globally renowned for their expertise in designing innovative, sustainable, and user-centric laboratories. The firm is uniquely positioned with over 120 science and laboratory experts who have demonstrated their collaborative approach through the design of more than 160 million square feet of science-related spaces in the past five years alone, solidifying their position as a global leader in this specialized field.

With over 4,000 active clients in sectors such as health, sciences,

DRIVEN TO EXCEED OUR CLIENT'S GOALS

Our team brings extensive design-build experience to every project. Collectively, our proposed personnel have led the design or construction of **over 100 design-build projects and managed more than 90 laboratory facilities** focused on water quality and similar sectors. This wealth of experience directly supports our ability to navigate complex design, permitting, and construction challenges with confidence and efficiency.

DELIVERING HIGH-PERFORMANCE LABS

In the past decade alone, our firms—including key design consultants—have designed and constructed **more than 400 laboratory facilities.** This portfolio reflects our specialized capability in the science and technology space, with particular expertise in delivering highly regulated, technical environments that demand precision, coordination, and innovation.

WORLD-CLASS LAB PLANNING

Our laboratory planning partner further strengthens our expertise with an impressive record of delivering world-class laboratory facilities. Their experience includes **over 6 million sq. ft. of laboratory space** designed and 7.3 million sq. ft.

Our focus on sustainability continues today. **The public works design-build projects mentioned above have achieved or are on track to achieve LEED Platinum certification.** In partnership with our architect, we've delivered over a dozen LEED-certified or Net Zero Energy buildings. Sustainability has also guided our architect's practice since the 1960's, with over 35 LEED-certified projects completed. They regularly incorporate high-performance facades, passive cooling, and renewable energy to reduce operational impact. Together, we also prioritize embodied carbon reduction and explore advanced frameworks like the Living Building Challenge to drive net-zero and carbon-positive solutions.

BUILDING STRONGER COMMUNITIES

Through our established Community Affairs Department, community engagement is embedded into our core mission. With long-standing outreach programs, we collaborate with minority- and woman-owned contractors and suppliers, educators, students, and local organizations to create opportunities and drive impact. Annually, we award more than \$200M in contracts to under-represented business enterprises in California.

laboratory projects to design, build, and commission. This "end" is the point where LADWP has full beneficial and productive use of a new state-of-the-art laboratory. This philosophy will guide the planning, design, construction, and commissioning efforts.

We will start with the following broad objectives for defining success:

- 1 Product:** Deliver a high-performing lab and office facility that meets/exceeds the functional program.
- 2 Process:** Provide a smooth, efficient, and transparent Design-Build experience that fosters collaboration.
- 3 Cost & Schedule:** Maintain transparency and control through open-book collaboration and reporting.

EARLY ALIGNMENT WITH LADWP ON PROJECT GOALS: DEFINING SUCCESS

- Confirm Facility Requirements:** Size, layout, features, systems, performance, security, and design excellence for both the building and the site.
- Verify Laboratory Operations:** Understand the required testing functions, capacities, and specialized needs for microbiology, chemistry, radiology, and other analytical and support operations so we may design an efficient and safe lab space that meets the needs of today and tomorrow.
- Understand Owner Experience & Collaboration Needs:** Discussing how LADWP's internal teams will engage in design decisions, reviews, and approvals during Phase 1 and Phase 2.
 - Set goals and vision from the onset to meet expectations throughout the life of the project.
- Costs & Milestones:** Confirmation of cost goals, cash flow timing, and completion date requirements, including the date(s) the new lab goes live.

VALIDATING EXISTING CONDITIONS AND STAKEHOLDERS: UNDERSTANDING THE STARTING POINT

After NTP, we will develop and document a reliable body

Preliminary Design Services: Our approach includes a thorough review of existing project documents to validate existing conditions. Collaboratively, we will also conduct laboratory planning workshops with end users and the LADWP design teams to ensure the final laboratory space program and design is fully responsive to all requirements.

Site Investigation: Conduct exploratory site investigation services encompassing a comprehensive Geotechnical Survey and Reporting phase, precise Survey Work to delineate the location of proposed structures, roadways, property boundaries, and infrastructure, as well as thorough Utility Location and Potholing activities to identify and verify the position and depth of subsurface utilities and infrastructure. A thorough understanding of existing subsurface conditions is critical for identifying potential risks and developing effective mitigation plans early in the design process.

Preconstruction Services (up to Component GMP at completion of 60% design documents).

Meeting Cadence and Owner Engagement – We promote a fully integrated team that includes all stakeholders. Our design phase also incorporates a number of check-in meetings at critical milestones in the design process. These meetings integrate with LADWP staff for transparency. Meetings include bi-weekly design workshop, monthly Budget, Schedule, Decision Log and Risk Register update, design milestone (30%, 60%, 90% and 100%) deliverable page turn.

quality and quantity are determined, and mitigate the risks identified by our team and LADWP.

- Quality and quantify alternatives, opportunities, and innovation ideas identified by our team and LADWP.
- Evaluate all sustainability goals and rating systems.

2. Identify all Regulatory and Stakeholder Requirements and Constraints:

- Initiate a code analysis, plan check, and permit tracking system.
- Develop an initial transition plan to prevent service discontinuities during the move from Pasadena to LA.

3. Examine Existing Laboratory Operations:

- Document the existing Pasadena lab setup, equipment, staffing, and workflows.
- Interview lab users on preferences, lessons learned, and wish lists. Review with LADWP.
- Use a four-step approach to program and plan the new laboratory operations.

Step One: Data Collection and Analysis

- Collect pertinent information before initial user work sessions with stakeholders
- Review and collate initial programming study information (data, plans, org charts, staffing)

Step Two: Program Development and Lean Flow

- Focus on programming validation (lab processes, equipment, and department goals)
- Understand and establish water testing lab drivers (manual and automated testing, health and ergonomic challenges, LADWP mission)
- Develop final program using Lean flow diagrams to highlight visual adjacencies and movement

Step Three: Generate Options

- Generate scenarios that incorporate blocking diagrams of major lab components based on sample flow, major equipment, staff needs, efficient circulation, required hazard containment, and sample management

Step Four: Select Option

- Evaluation of concept options and soliciting feedback from stakeholders

Schedule Management Plan – Design Build Team will focus on making sure preconstruction and design are meeting schedule and LADWP's goal for the project. We will use tools such as Design Decision Matrix to ensure the team and all stakeholders are aligned on what is needed and when decision is needed to progress design.

Risk Management Plan – Identify and mitigate potential risks throughout the project lifecycle. Create and manage risk matrix and review with stakeholders to obtain early direction / resolution. Review vulnerability threats and prepare plan for addressing risk items.

Constructability Review – Identify potential issues early in the design phase. Leading to cost savings, improved quality, and a smoother construction process.

Sustainable Design – Our team will adhere to principles of Sustainable Design focusing on reduced lifecycle cost, decarbonization by reduction of embodied and operational carbon equivalence, energy efficiency, water conservation, indoor environmental quality, and outdoor environmental quality.

Submit Component GMP at completion of 60% design documents for approval of budget and awarding Phase 2 Design and Construction Services.

Early Trade Procurement Phase

Trades: Site Demolition, Grading, Foundation, Site Utilities, and MEP

Competitive Bidding: Conduct competitive bidding to obtain the best value for materials and services. Adhere to all the Public Code processes.

Trade Partner Selection: Select reliable suppliers with a proven track record of quality and timely delivery. Provide more opportunities to XBE Trade Partners and host outreach events to foster partnering between small and large firms.

Quality Assurance: Implement quality assurance procedures to ensure that procured materials and equipment meet specifications.

What is the Future of Trust?

- Truth will be increasingly difficult to discern
 - Personal Relationships – did you remember my birthday? Buy/Write that card?
 - Actual Skills and capability – did you do that?
 - Information and Sources – real, made-up, modified
- AI use by organizations will continuously evolve and change – a decade of uncertainty
 - Trust with Customers (internal (users/clients) / external (stakeholders, tax payers)
 - Trust with Employees / Trust of Vendors or Suppliers
 - Trust with AI systems
 - Trust with Data
 - Trust with....

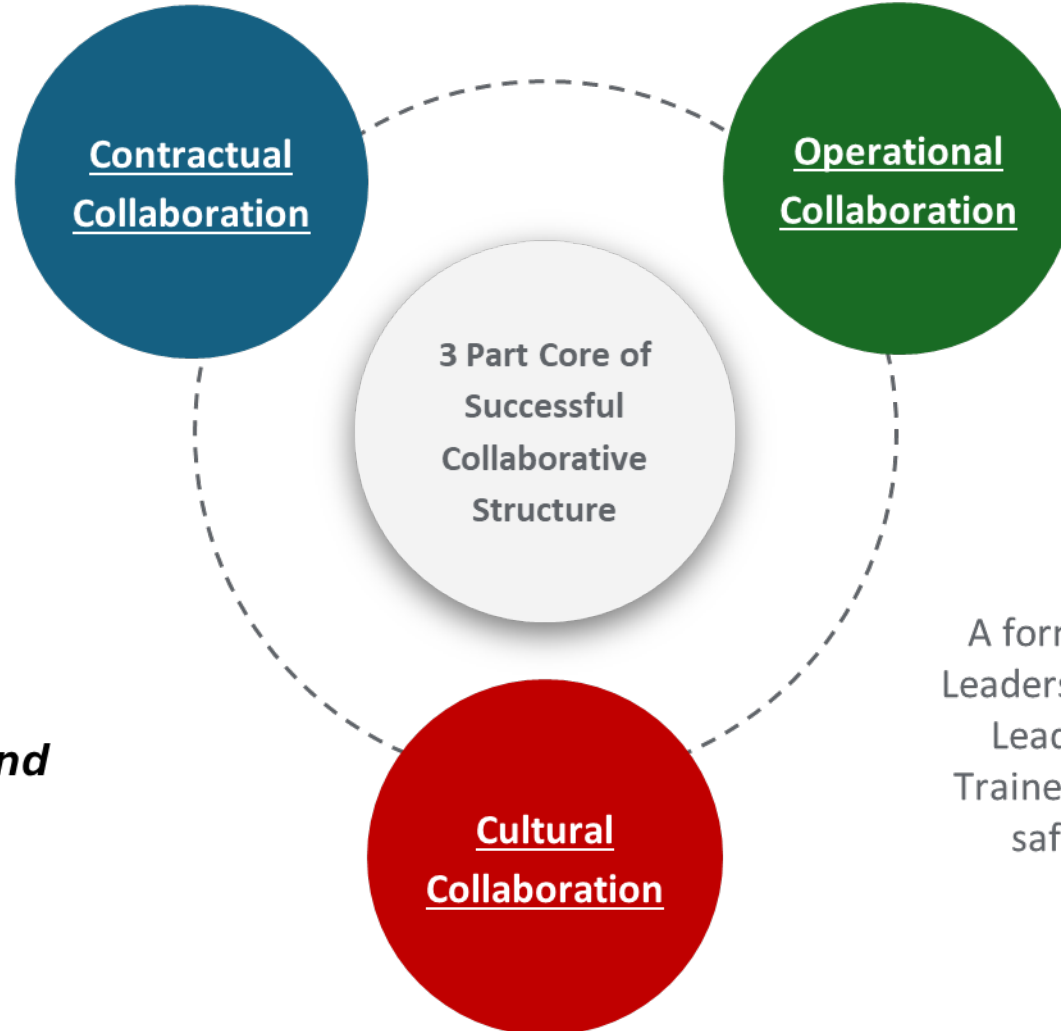
What is the Future of Trust?

- Cost for average cognitive labor will approach zero (or even be negative)
- Price will be less and less of a differentiator between options
- The ability to reliably deliver at, and create value beyond, customer requirements will have the most value
- In this environment, **Trust or Trustworthiness** will be a currency as the other cost differences between suppliers and service providers will approach zero
 - **Trust will be tied more to individuals** within a company than the company itself
- Eventually, **Trust will be more valuable than Money**
- **Work now to prepare for the future** – never easier than now - *as trust decreases generally, moving to be more trustworthy will seem disingenuous*

Enhance Project Outcomes

Collaborative Partnership = TRUST

Contract conditions reflect the “win-win” intent and incentivizes collaborative behavior. A mutual risk-sharing model to promote aligned interests and project success.



Proactive approach to project execution by leveraging early engagement, shared risk, better controls data, focus on productivity analysis, all to streamline project execution.

“Trust is the most important currency on projects today and into the future”

A formal structure across Company Leadership, Project Management, Site Leaders, and Craft Professionals. Trained and facilitated collaboration, safety, and innovation efforts.

Benefits of “Continuous” Collaborative Partnerships

Impacts from Continuity of Collaborative Approach = INCREASED TRUST

- **With Best Clients + Best Engineers + Best Contractors + Best Processes....**
- Continuing across a program or multi-site will have impacts on:
 - Improved Safety
 - Reduced Knowledge Transfer Required for Lessons Learned
 - Workforce Risk Minimization
 - Shortages
 - Retention/Turnover
 - Learning Curve
 - Savings in Overhead & Mobilization/Demobilization
 - Potential Avoidance in Cost Escalation
 - Sustained (Increased) Quality

Sustained Collaboration – Case Study

- **Three Project – all ASUs (each approx. \$100M total value – from 2022-2025)**
- Productivity: 1st to 3rd Project – Hard Construction Cost / WH
 - Project 1 - \$59M / 324,117 WH
 - Project 2 - \$69M / 340,115 WH
 - Project 3 - \$64M / 220,300 WH

\$182 Installed / WH □ \$203 Installed / WH □ \$290 Installed / WH

11% Gain

43% Gain

1st to 3rd Project Total Gain of 59%

- Punchlist # at Pre-Commission – **From 258 to 38 ? 85% Decrease**
- Crew Satisfaction ? **100% Preferred this approach**
- Communication effectiveness : **93% Increase in relationship satisfaction** (client-contractor)
- No reportable safety incidents
- Team members coming out of retirement (for 1st project) or delay retirement

Summary



GLOBAL INSTABILITY →

ECONOMIC CONCERNS →

← **DEMOGRAPHIC TRANSFORMATION**

← **TECHNOLOGICAL REVOLUTION**

← **MENTAL HEALTH CRISIS**

S.S. ENDEAVOR

Traditional Sailing into Headwinds be like...

“Silo Management” - each is treated as a separate initiative

- **Economic/Geopolitical Uncertain** à Not assigned...Mid-managers try to react Quicker
- **Talent Scarcity** à Assigned to HR...Tweak same ole' processes and try harder, manage to randomness
- **Knowledge Loss/Gen Transition** à Assigned to Operations...informal, overworked, react as exits occur
- **AI** à Assigned to IT...random experimentation, tools out pace governance
- **GenFriction/Performance Challenges:** Assigned to Frontline Managers and Procurement...no one has experience in doing it

Can't Control the Wind

...but can work the Sails together (Convergence)

- *Must move successes from Anecdotes to New Normal*
Economic/Political – limited/options, not much you can do (guess right, react quicker, bigger safety nets)
- AI – respond to tech as released, will be ubiquitous, but adoption is a skill, resistance mgmt is a skill (should be shifting some focus/preparation to AGI transition)
- People – we have control of this...these really are our “sails”
 - *People mentor, people learn new technology, people select other people, people can trust or not trust, people help other people or don't*

**Want the slides?
Or just to discuss further?**

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