Application of Artificial Intelligence in the Construction Industry

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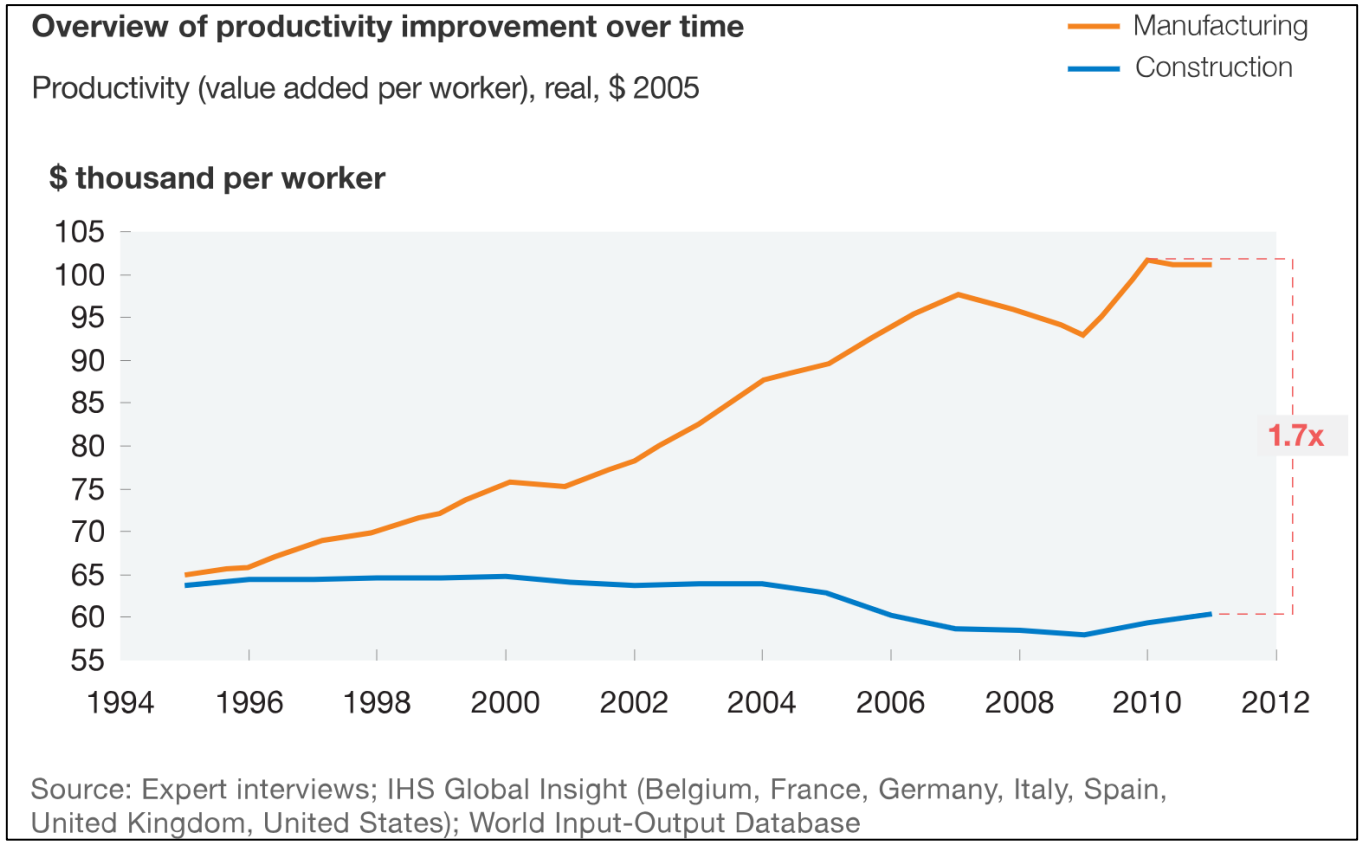
CONSTRUCTION INDUSTRY TODAY

- Global Construction Industry Expected to Reach $10 trillion, which accounts for 13% of the World's GDP, by 2020 (University of Southern California)

CONSTRUCTION INDUSTRY TODAY

- Productivity in construction has remained flat over the years.
- Annual productivity growth has only increased 1% over the past 20 years.

Comparison of productivity in manufacturing and construction (Mc Kinsey, 2015)



CONSTRUCTION INDUSTRY TODAY

- If construction labor productivity were to catch up with the progress made by other sectors over the past 20 years or with the total economy, it is estimated that this could increase the construction industry's value added by $1.6 trillion a year.

- This is equivalent to the GDP of Canada, or meeting half of global infrastructure needs, or boosting global GDP by 2 percent a year.

CONSTRUCTION INDUSTRY TODAY

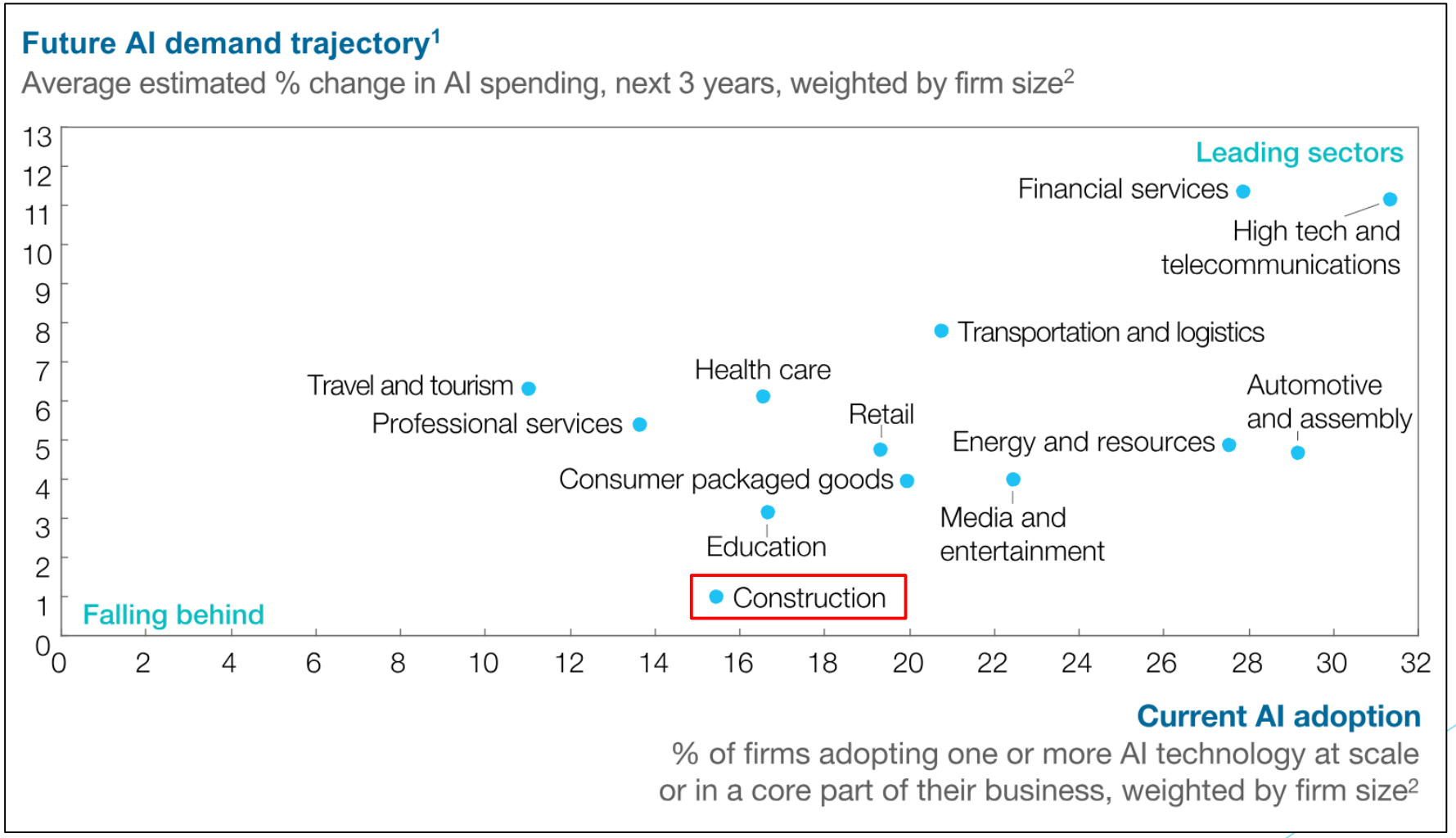
Ten Root Causes for Low Construction Productivity

1. Increasing project and site complexities
2. Extensive regulation, land fragmentation, and the cyclical nature of public investment
3. Informality and potential for corruption distort the market
4. Construction is opaque and highly fragmented
5. Contractual structures and incentives are misaligned
6. Bespoke or suboptimal owner requirements
7. Design processes and investment are inadequate
8. Poor project management and execution basics
9. Insufficiently skilled labor at frontline and supervisory levels
10. Industry underinvests in digitization, innovation, and capital

Our start-up project will focus on increasing the productivity by enhancing the project management and innovation

HOW IS THE CHANGE SO FAR?

- AI use cases in construction are still relatively nascent (McKinsey, 2018)



WHY NOT TO CHANGE?

- As shown in previous slide, construction industry has been slow to leverage the AI use. Below factors are the most common reasons for why the industry is lagging behind (Oracle, 2018);

1. **A lack of understanding.** *Data analytics are developing at a rapid pace, making it difficult to keep up with technology advancements and the benefits associated with them.*

2. **A lack of resources.** *Many Construction companies simply do not have the in-house IT infrastructure and expertise to successfully harness big data.*

3. **A lack of willingness to change.** *Having already invested heavily in legacy software systems, many Construction executives may be hesitant to invest in new software solutions.*

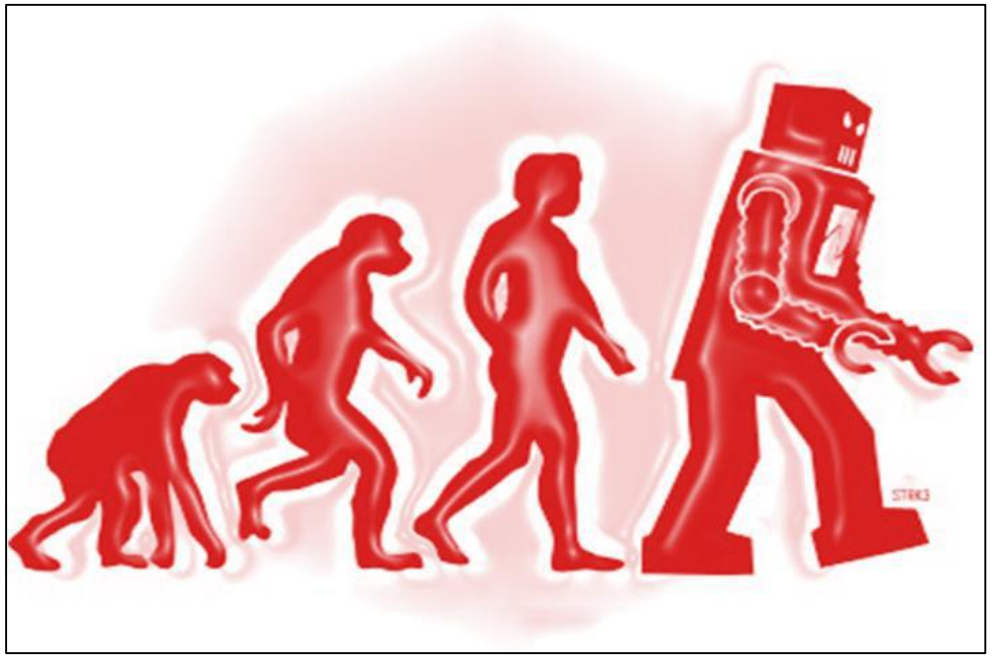
TIME TO CHANGE

"We are moving more slowly today than we ever will again"

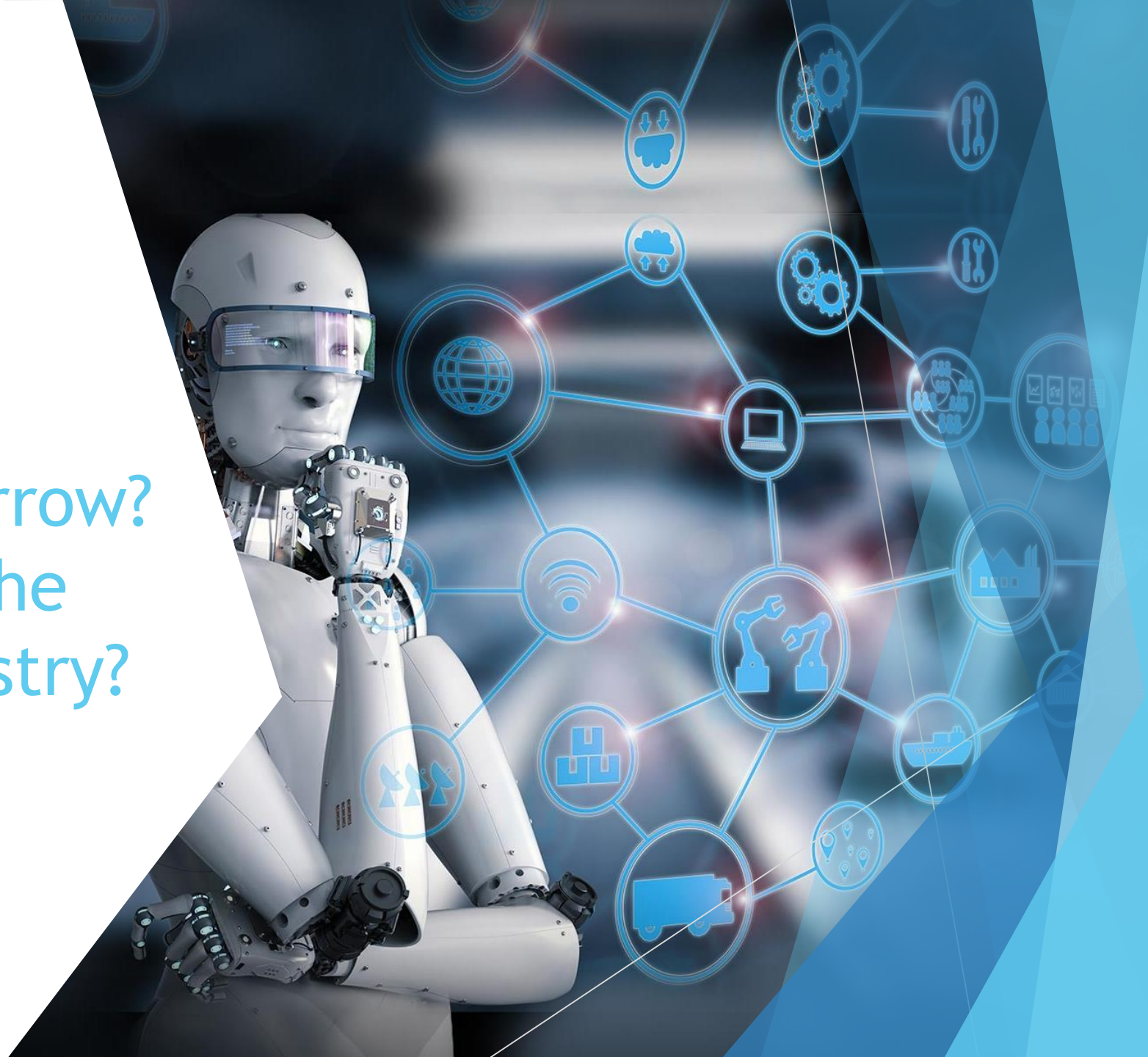
Andrew Anagnost, Autodesk CEO, Nov 17

"Without change there is no innovation, creativity, or incentive for improvement. Those who initiate change will have better opportunity to manage the change that is inevitable"

William Pollard



What about tomorrow? What is next for the construction industry?



Bosporus AI

Bosporus AI aims to tackle the productivity and lack of AI use problems in the construction industry by developing an app and web platform to;

Collect data from construction sites.

Optimizing the productivity by paperless interface between app and web platform

Analyzing the data with the smart algorithm and saving cost and time on planning and estimation

Bosporus AI

Collecting the Site Data

Every day construction companies are creating countless data on the sites. Somehow, large scale companies are able to collect some of these data. However, medium to small scale companies are yet to be improved their digitalization process. With Bosporus AI, companies can;

- Easily collect the data with a simple and user-friendly application (Can be easily used by site foremen) Ex: Collecting the productivity of the activities.
- Eliminate the paperwork and save time and cost

Bosporus AI

Optimize Productivity

- Comparing the actual productivity against the planned productivity.
- Any issues related to productivity can be tracked easily and root cause can be determined effectively (Is it labor caused, management caused? Etc.)
- Faster data entry will eliminate the paperwork.

Bosporus AI

Performance Analysis

- By learning from the previous activities; Bosporus AI will propose the optimal resources required to complete the activity.
- Algorithm will plan the activities for a project and allocate the required budget.
- Collecting the data from the previous project, time and cost estimation for the next project will be more precise with Bosporus AI.