

Smarter Faster Better

QUT Consulting

SNC - Lavalin

Agenda

- Overview
- Analysis
- Alternatives
- Recommendation
- Implementation
- Conclusion

Problem Statement

How do we transform the EDPM business model to embrace the opportunities stemming from technological innovation and harness it's potential for profitability and future growth?

Issues

Digital innovation spread across all sectors and business units in pockets

R&D investment low relative to other industries

Fairly conservative investor base

Labor heavy business model

New technologies in the market not being optimized in the sector

Disruptive platforms entering the market

Our Solution

Transform and automate our engineering processes to optimize our cost structure while moving engineering to fixed price contracts

Analysis

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Macro trends

Growing need for
infrastructure

Poor productivity in construction
compared to other industries

Growing technology
and digital solutions

Growth of an on demand
and agile labor market

Overview

Analysis

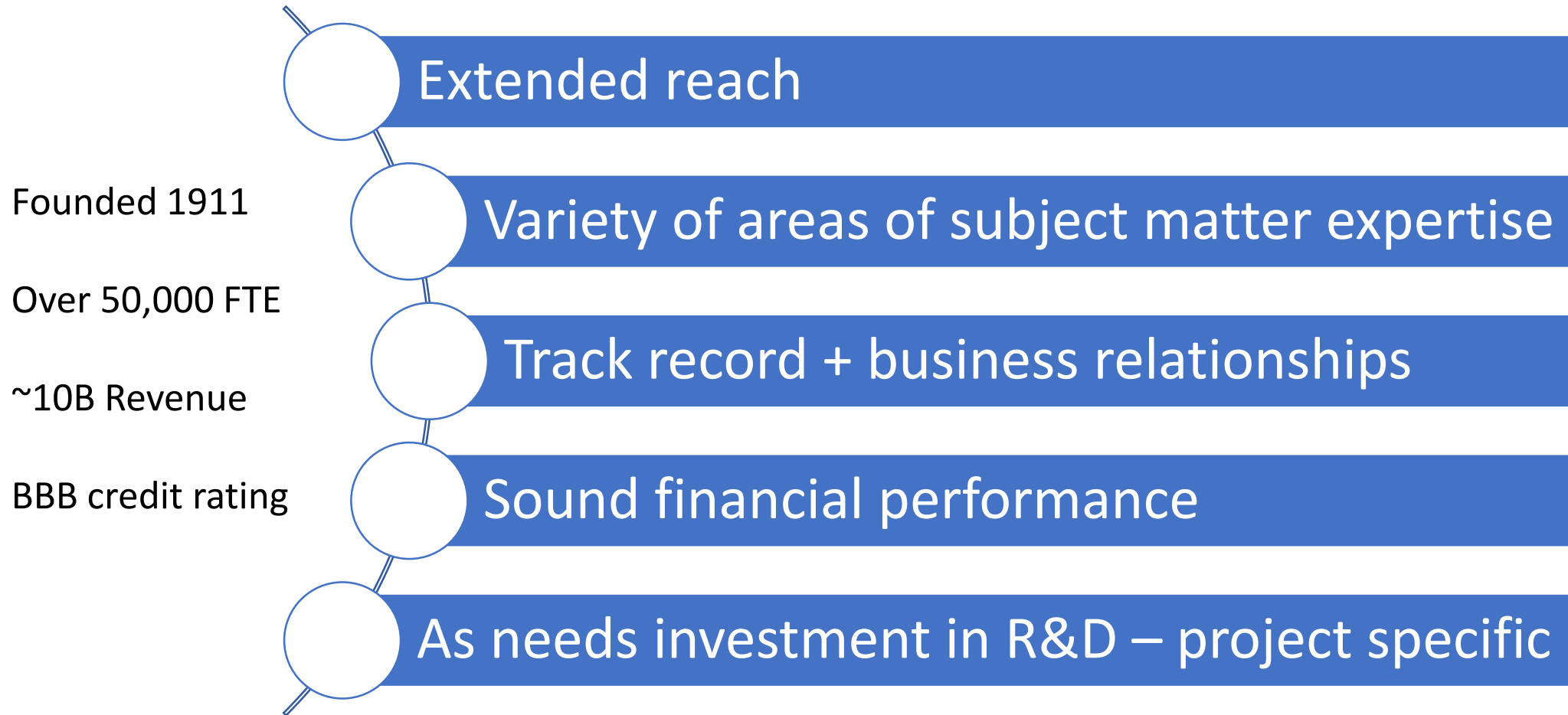
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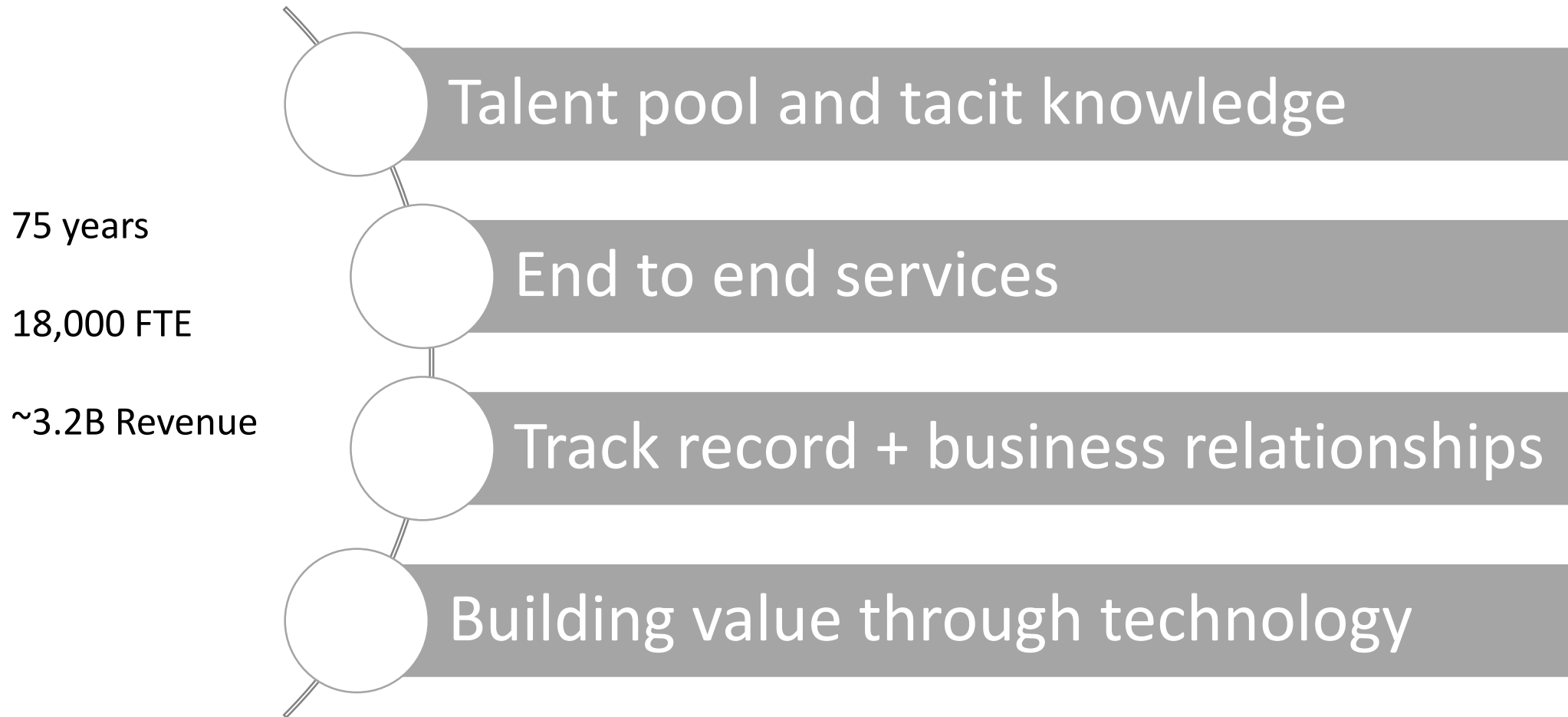
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EDPM sector



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Customer

Government

- Price stability
- On time delivery
- Transparency
- Risk adverse
- Capability shortfall

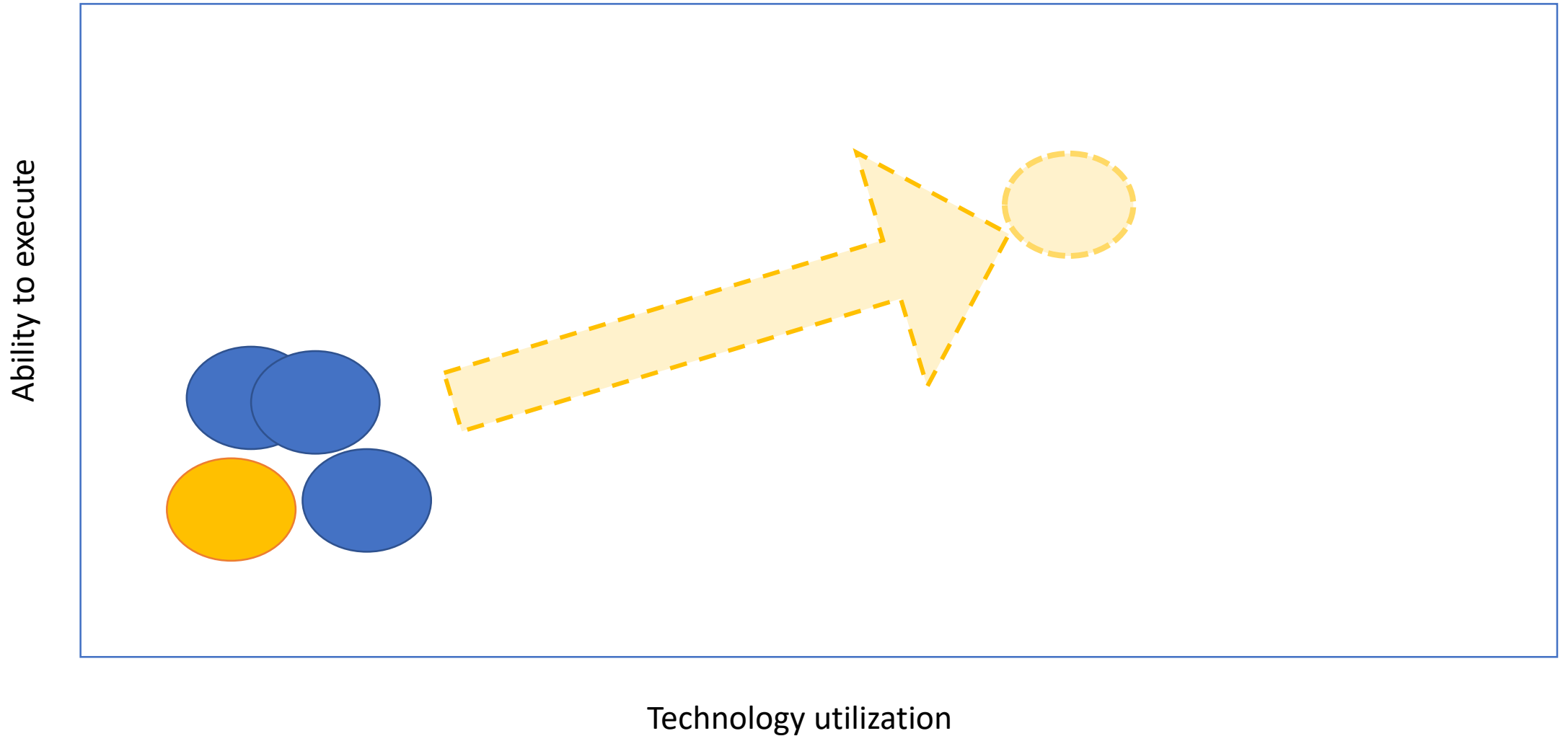
Non-government

- Typically big business
- Value for money
- Timeliness
- Outcome focused

The shareholder

- Balanced risk
- Stable dividends
- Continual growth
- Clear and convincing strategy

New opportunities



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Alternatives

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Alternatives

Uberize your
resources

Use analytics
to build better

Print your
bridge – in 3D

Do it once,
again and
again

Uberize your resources

- Change the contractor employment model
- Hire engineers on demand

Cost

- \$50-150 M

Timeframe

- 24 Months

Overview

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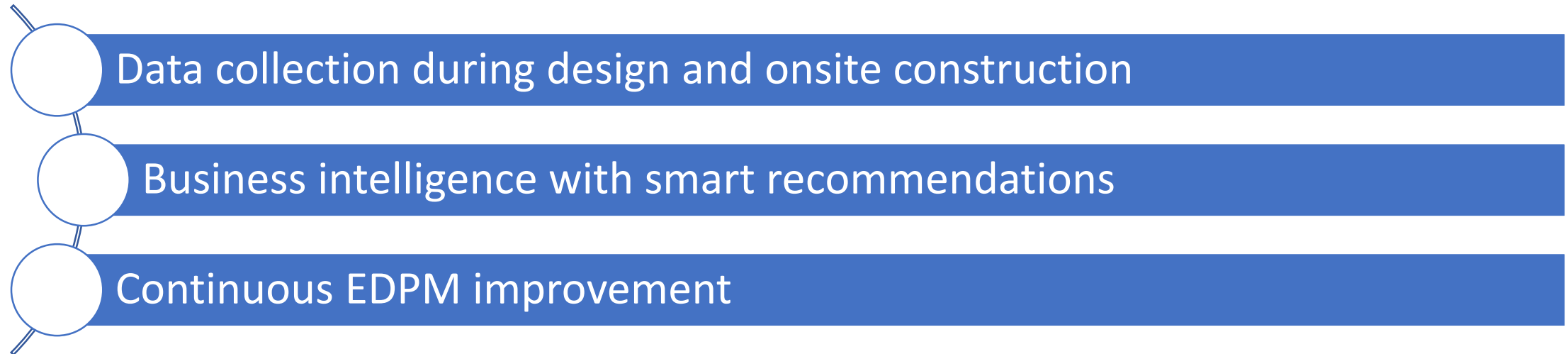
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Use Analytics to build Better



Cost

- \$25-40 M

Timeframe

- 36 Months

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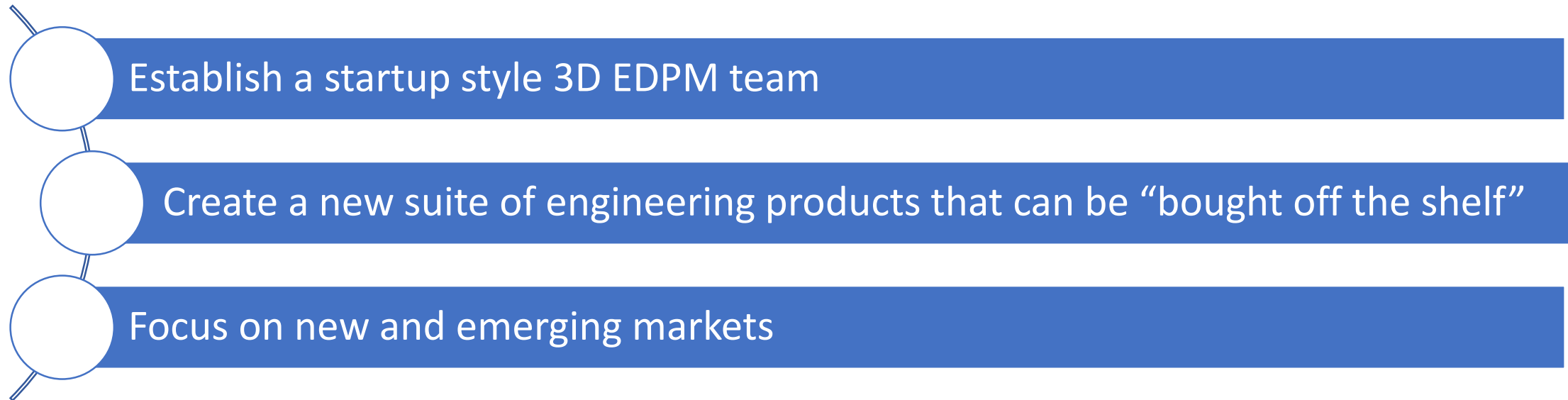
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Print your bridge – in 3D



Cost

- \$75-100 M

Timeframe

- 36 Months

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Selection Criteria

	Agility of the Model	Future Proofing	Profitability	Sustained competitive advantage	Total
Uberize your resources	2	4	3	2	11
Use analytics to build better	3	4	3	4	14
Print your bridge – in 3D	4	4	3	3	14
Do it once, again and again	3	4	4	4	15

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Recommendation

Transform and automate our engineering processes to optimize our cost structure while moving engineering to fixed price contracts

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Do it once, again and again

Capture Tacit
Knowledge

Retaining the
Best Minds

Contractual
Transformation

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Capture Tacit Knowledge

Use AI against older information to capture lost knowledge

Re-use this knowledge on future projects to eliminate re-work

Leverage machine learning to automatically recommend design and engineering improvements

Retaining the Best Minds

Where possible embed workplace flexibility into your culture

Improve employee benefits and ensure you have the best teams

Ensure that your staff are continuously challenged and engaged in their work

Contractual Transformation

Move to a fixed price contract

Leverage AI and data analytics to automatically mitigate the risks to a fixed-price contract

Automate the generation of terms and conditions to prevent previous issues from recurring

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Implementation Plan

Initial ICT Capital Investment
\$25-35M

Capture tacit knowledge – 24 Months

- Identify target processes and outputs
- Baseline and Standardize
- Trial and Scale

\$3.6 M
(36 x FTE @1000 per Day)

Retain the best minds – 12 Months

- Develop policies and procedures
- Determine required mix of technologies
- Promotion
- Capitalize on savings

\$3 M
(12 x FTE @1000 per Day)

Contractual transformation – 18 Months

- Identify target customers
- Collate and categorize all relevant data
- Gather key staff for lessons learned and best practice
- Identify target areas for improvement and automation
- Recalibrate Risk Margins

\$9.3 M
(24 x FTE @1000 per Day)

Change Management

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Risks

Risk	Rating	Mitigation	Rating
Upwork concept gains traction	M	Promote to customers the risk of hiring teams of individuals	L/M
Insufficient data available for machine learning	M	Contingency funding to cover labor costs of bridging the gaps	L/M
Reduced productivity from off-site workers	M/H	Monitoring technology KPIs output and outcome focused Dedicated oversight Regular contract as standard	L
Fixed priced contracts blow out	M/H	Incremental approach Additional checkpoint initially – expert pool	L/M
Investor buy-in	M/H	Explain potential of disruption and benefits of moving quickly	L/M

Contingency plan

What if investors & key stakeholders do not respond to plan and funding not available?

Partner with startups to develop the technologies at lower risk

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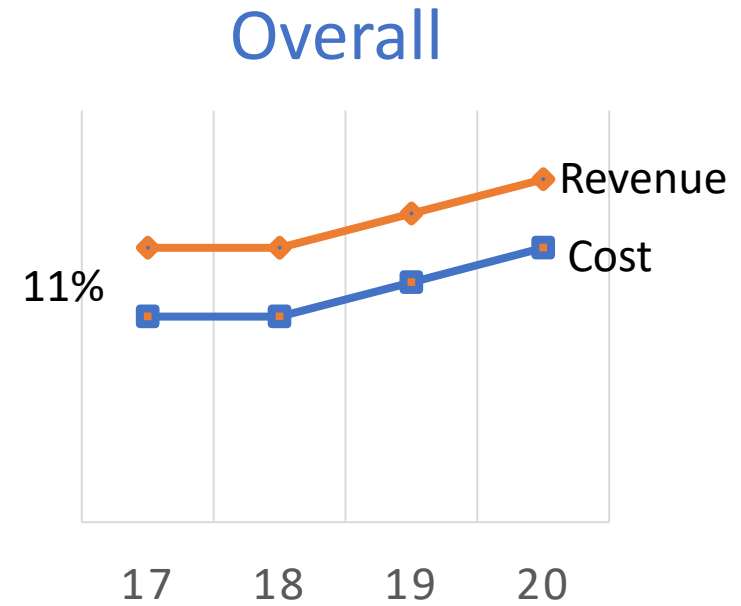
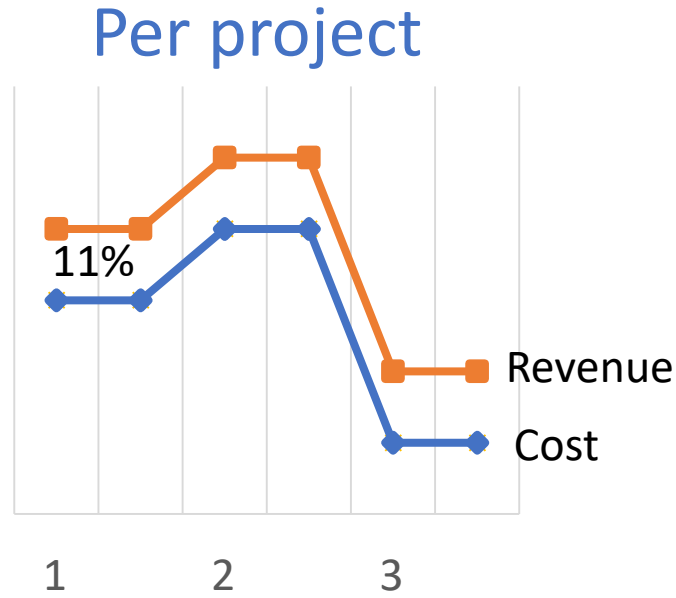
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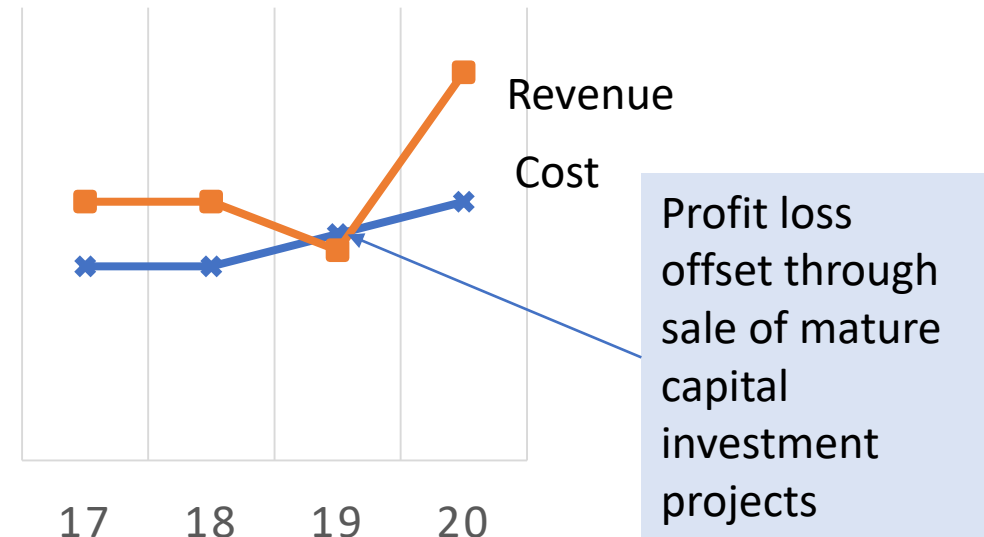
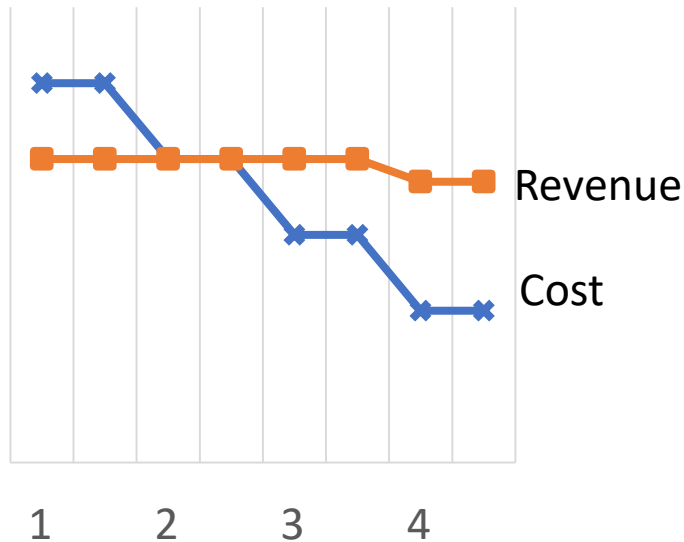
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Forecast

Current



Future



A new business model that delivers to the customer while reducing risk

What's New

What's Stays

Value in our expertise and vast experience in the industry

Tapping into our experience in ways we have never done before

What's Different

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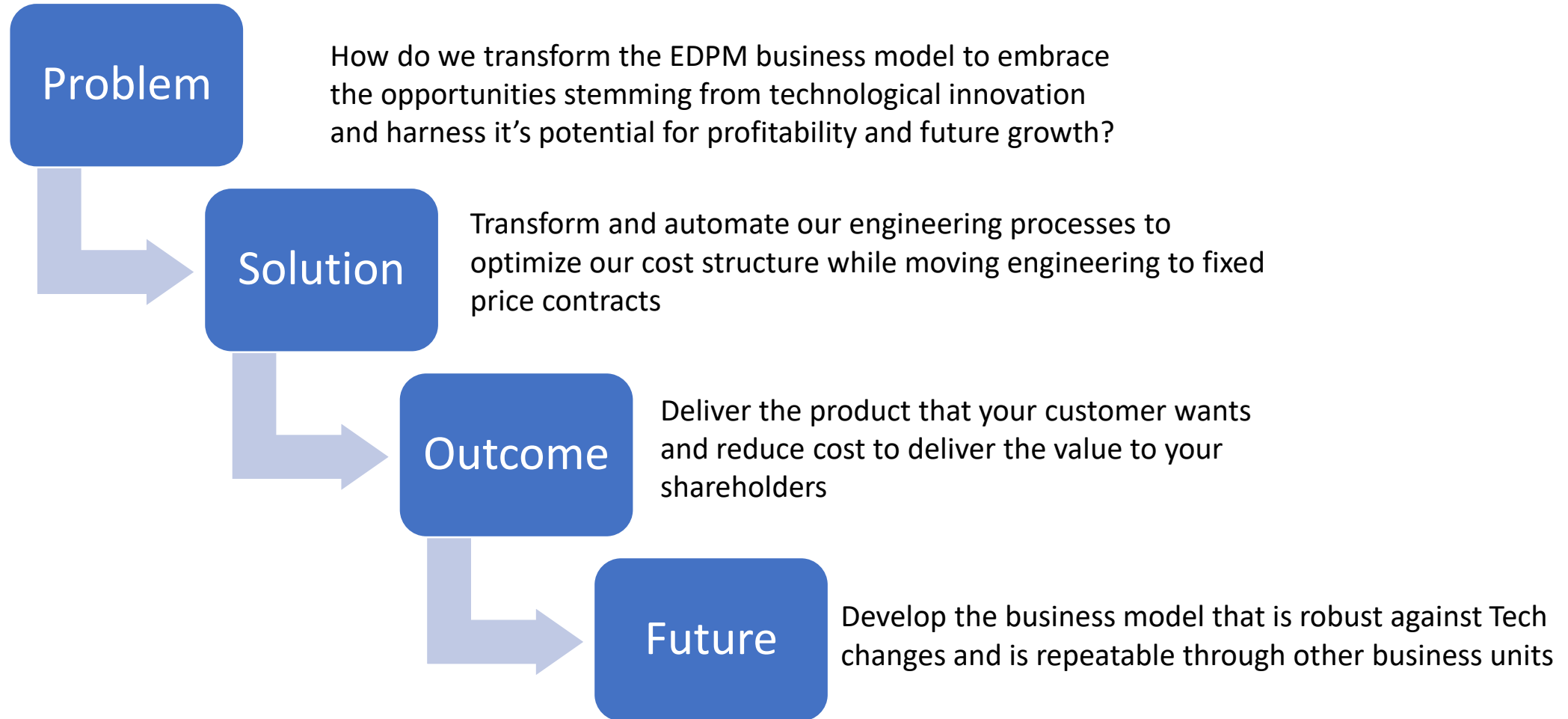
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In summary



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Questions



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