



SUMMIT

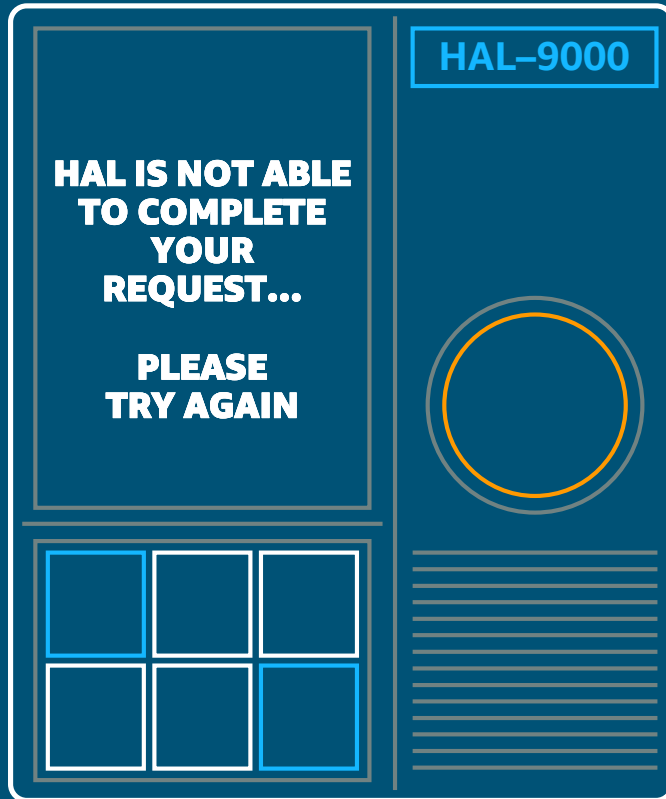
EXECLEADERS

Building a smarter organization Powered by Machine Learning

Tom Godden
Director Enterprise Strategy
Amazon Web Services



Science fiction or science fact?



~~Hal.... please increase my EBITDA~~

~~Hal.... please increase
my customer satisfaction~~

Hal.... please improve
our product quality



“Any sufficiently advanced technology is indistinguishable from magic”

Arthur C. Clarke
Co-writer for the 1968 film 2001: A Space Odyssey



Image: https://commons.wikimedia.org/wiki/File:Clarke_cropped.jpg



Hal.... please detect
defects in manufacturing ✓

Hal.... please translate
this document ✓

Hal.... what is the
sentiment of customers? ✓



**“Customers are always
beautifully, wonderfully
dissatisfied”**

Jeff Bezos
Founder and Executive Chair, Amazon, Inc.



Today's customer expectations

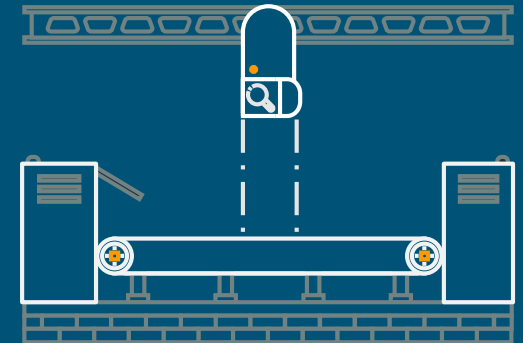
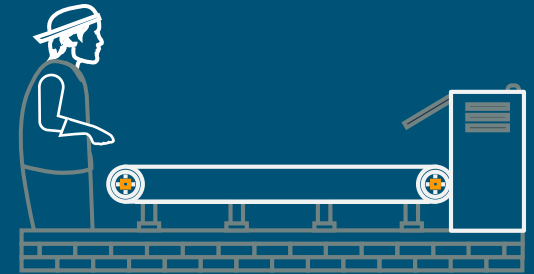
Relevance



Speed



Efficiency



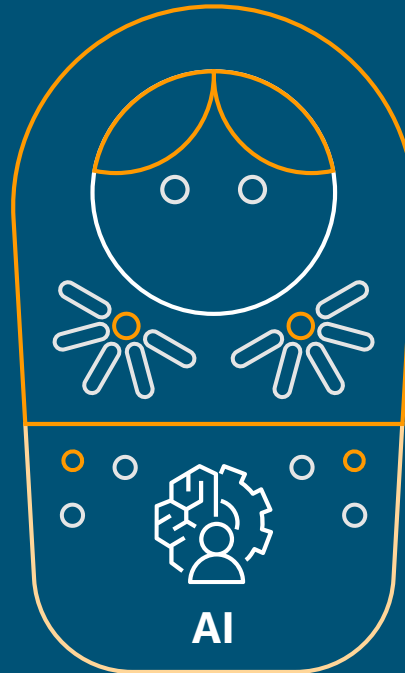
“A computer would deserve to be called intelligent if it could deceive a human into believing that it was human”

Alan Turing
English mathematician, computer scientist, and father of artificial intelligence



Source: [https://commons.wikimedia.org/wiki/File:Alan_Turing_Aged_16_\(cropped\).jpg](https://commons.wikimedia.org/wiki/File:Alan_Turing_Aged_16_(cropped).jpg)

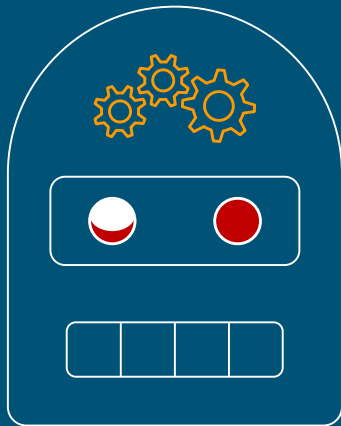
Artificial Intelligence



Artificial Intelligence



Pure AI



Pragmatic AI



Text-to-speech



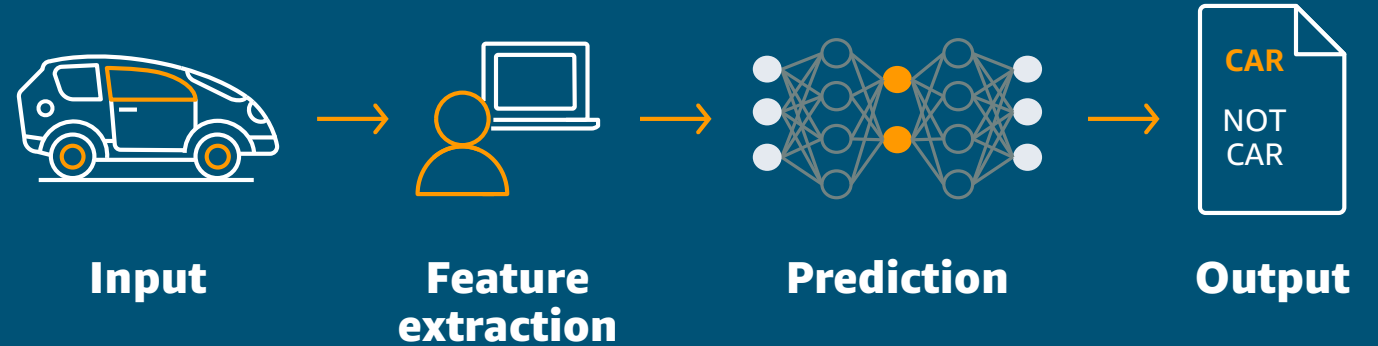
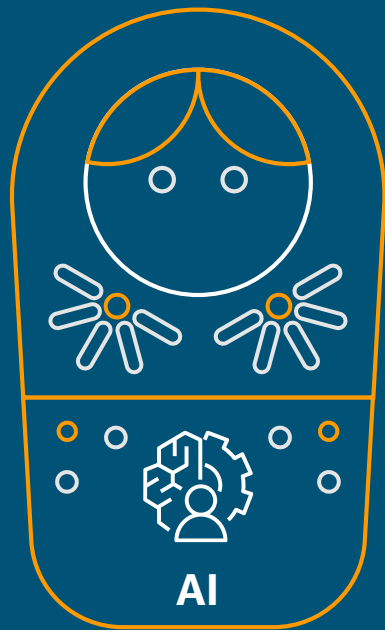
Image recognition



ChatBots



Machine learning



- > Supervised Learning
- > Unsupervised Learning
- > Reinforcement Learning



Supervised learning



Classification
Predict a category



Sort socks by color

Regression
Predict a number



123 Sunset Street
Tokyo, Japan
2000 sq ft
\$2,000,000



456 Churchill Avenue
London, UK
2100 sq ft
\$2,100,000



789 Fifth Avenue
New York, USA
2300 sq ft
\$2,300,000



Supervised learning



Regression Predict a number



123 Sunset Street
Tokyo, Japan
2000 sq ft
\$2,000,000



456 Churchill Avenue
London, UK
2100 sq ft
\$2,100,000



789 Fifth Avenue
New York, USA
2300 sq ft
\$2,300,000



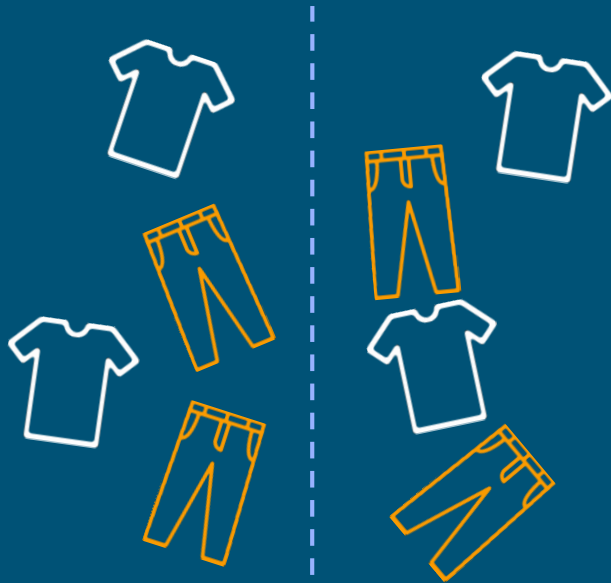
1011 Clark Road
Smallville, Ohio
2200 sq ft
~~**\$2,200,000**~~ ⊗
\$220,000 ✓



Unsupervised learning

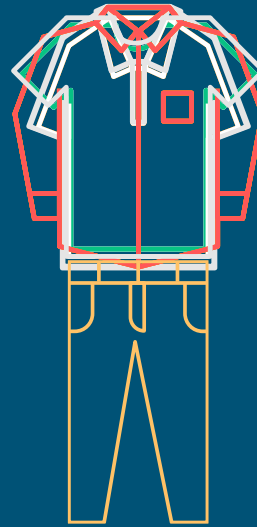


Clustering
Group by similarity



Sort clothes by type

Association
Identify sequences



Clothes often worn together

Anomaly Detection
Determine which items are different

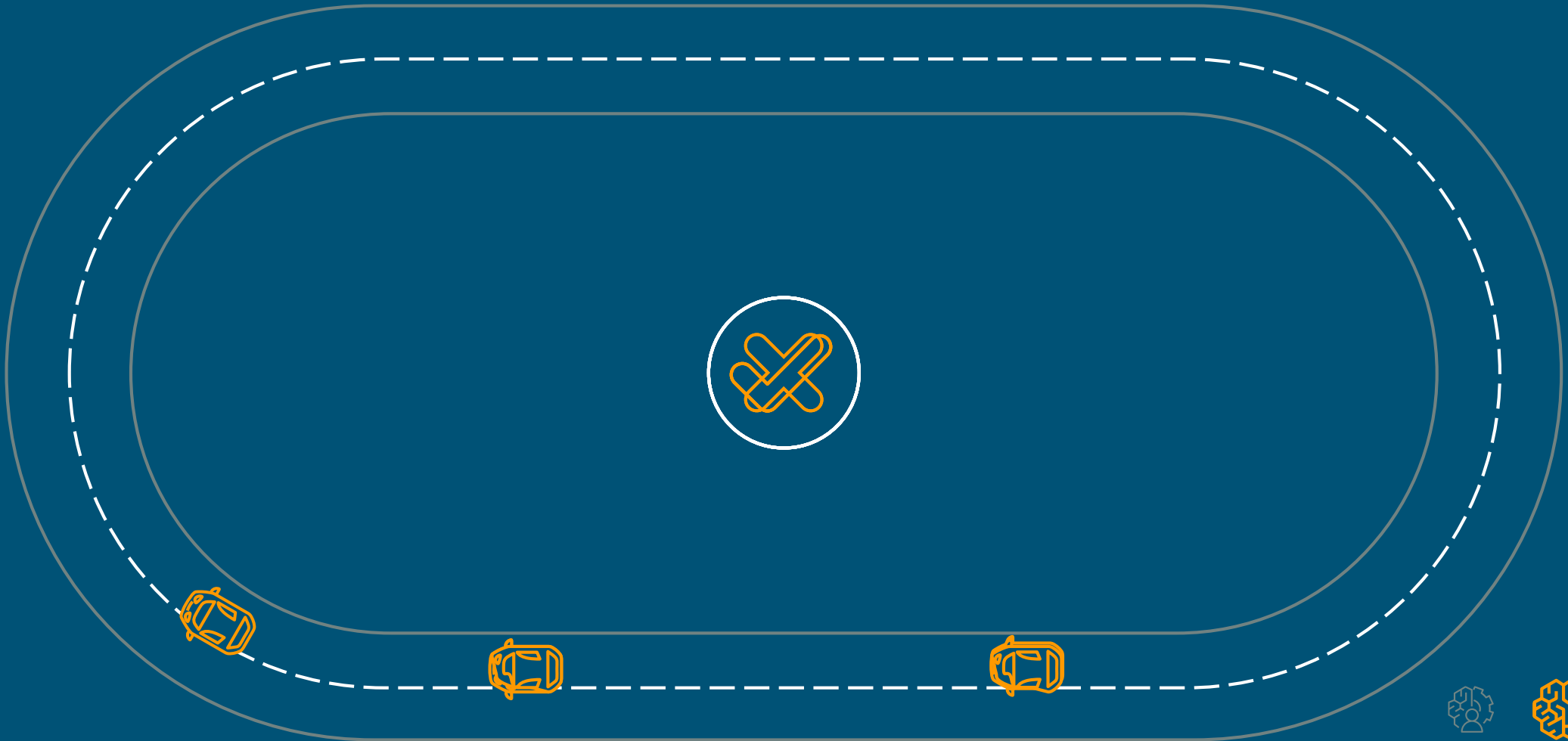


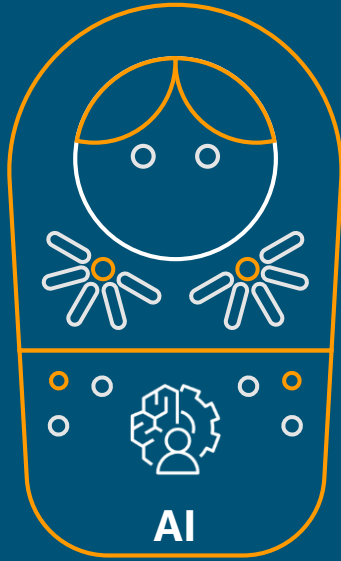
Identifying outliers



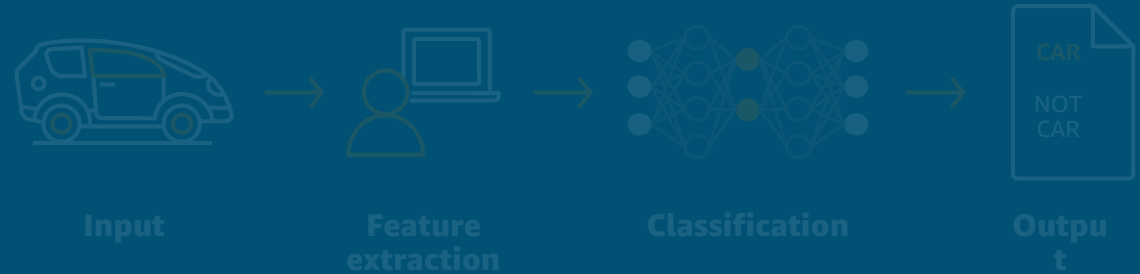
Reinforcement learning

 **Efficiency**

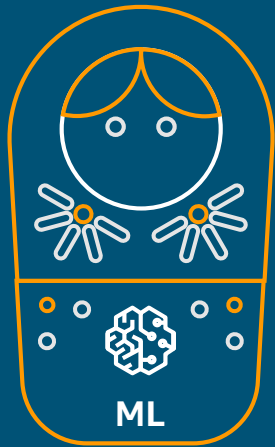




Machine Learning



Deep learning



Amazon Just Walk Out



1

Enter with **Amazon App**



2

Shop



3

Just walk out

AI



UNSUPERVISED ML



DEEP LEARNING



amazon go



Enterprise
Strategy

“Most applications, in the fullness of time, will be infused in some way with machine learning and artificial intelligence”

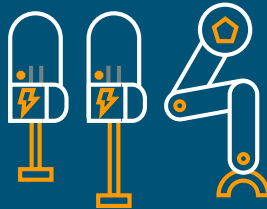
Andy Jassy
CEO, Amazon, Inc.



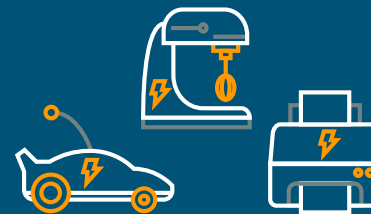
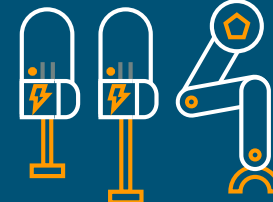
General Purpose Technologies



Replacement

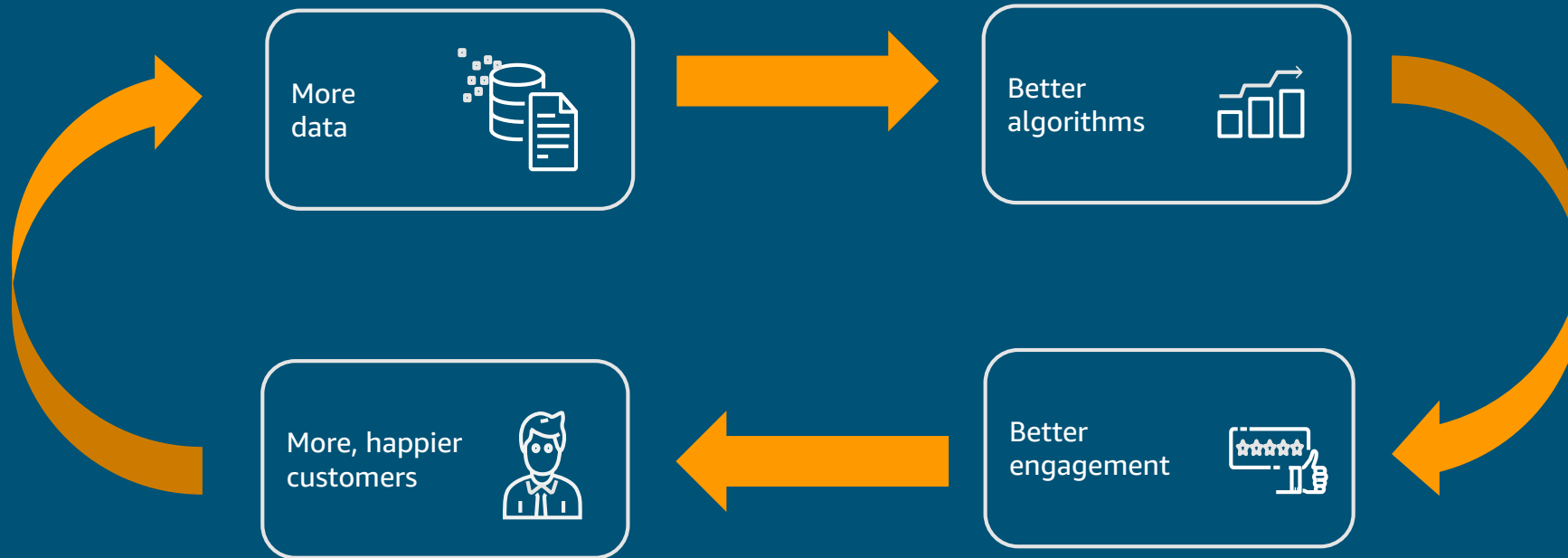


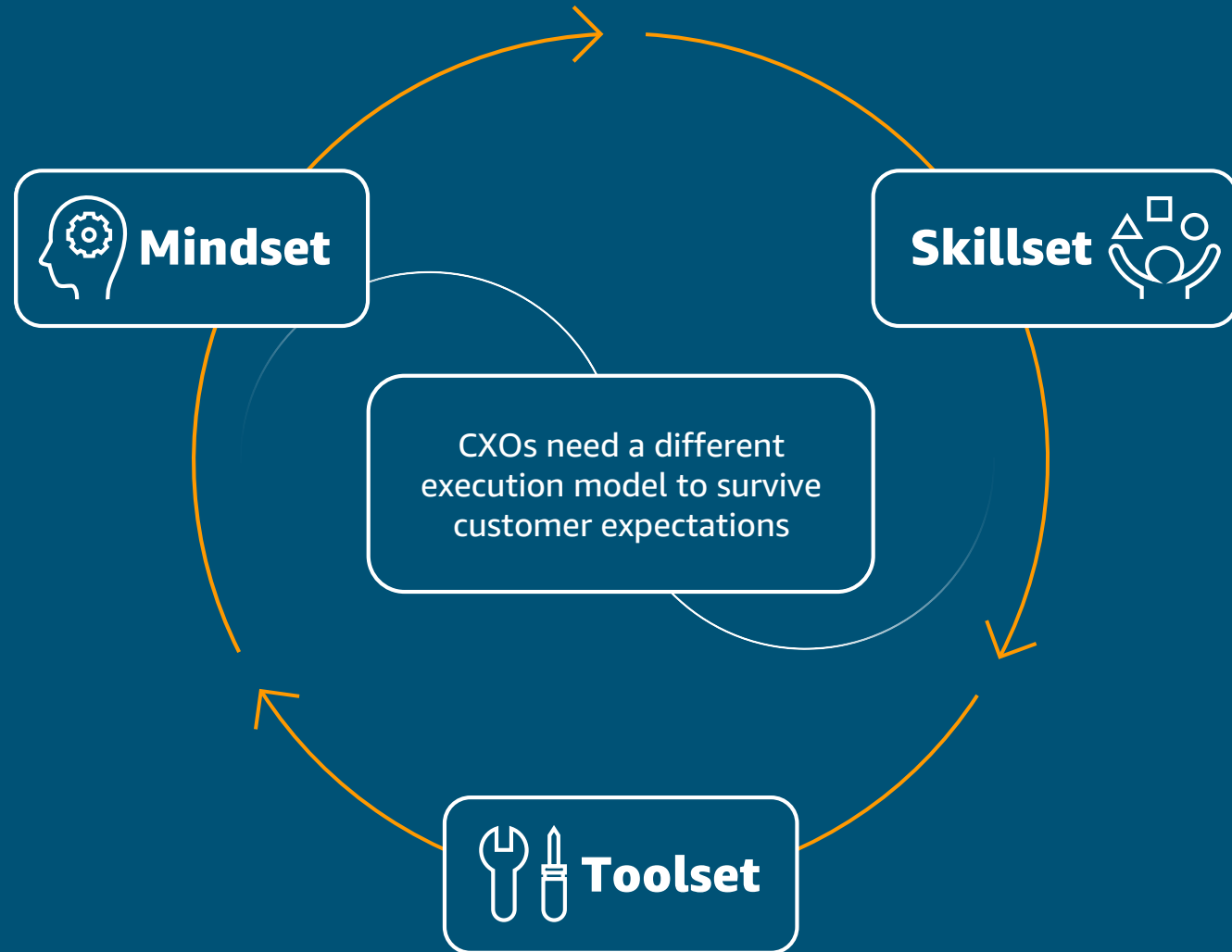
Reconfiguration



Reimagination

The Data Network Effect







Health Warning

ACIME

We are going to **build an AI-enabled, ML-powered, data-centric organisation that embraces customer centricity through global business synergies**

CXOs need a different execution model
to survive customer expectations

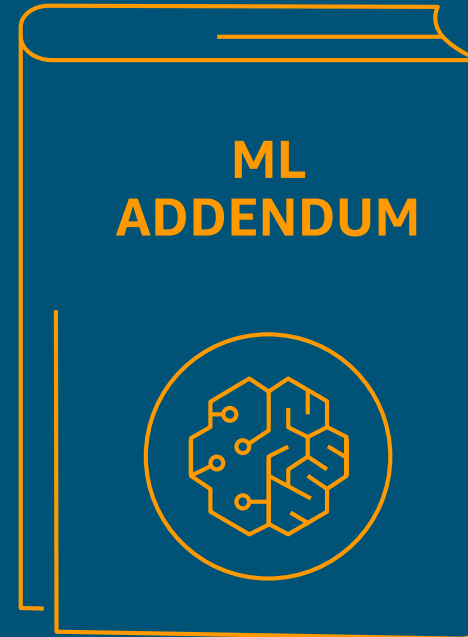
Mindset

Skillset

Toolset



Enterprise
Strategy



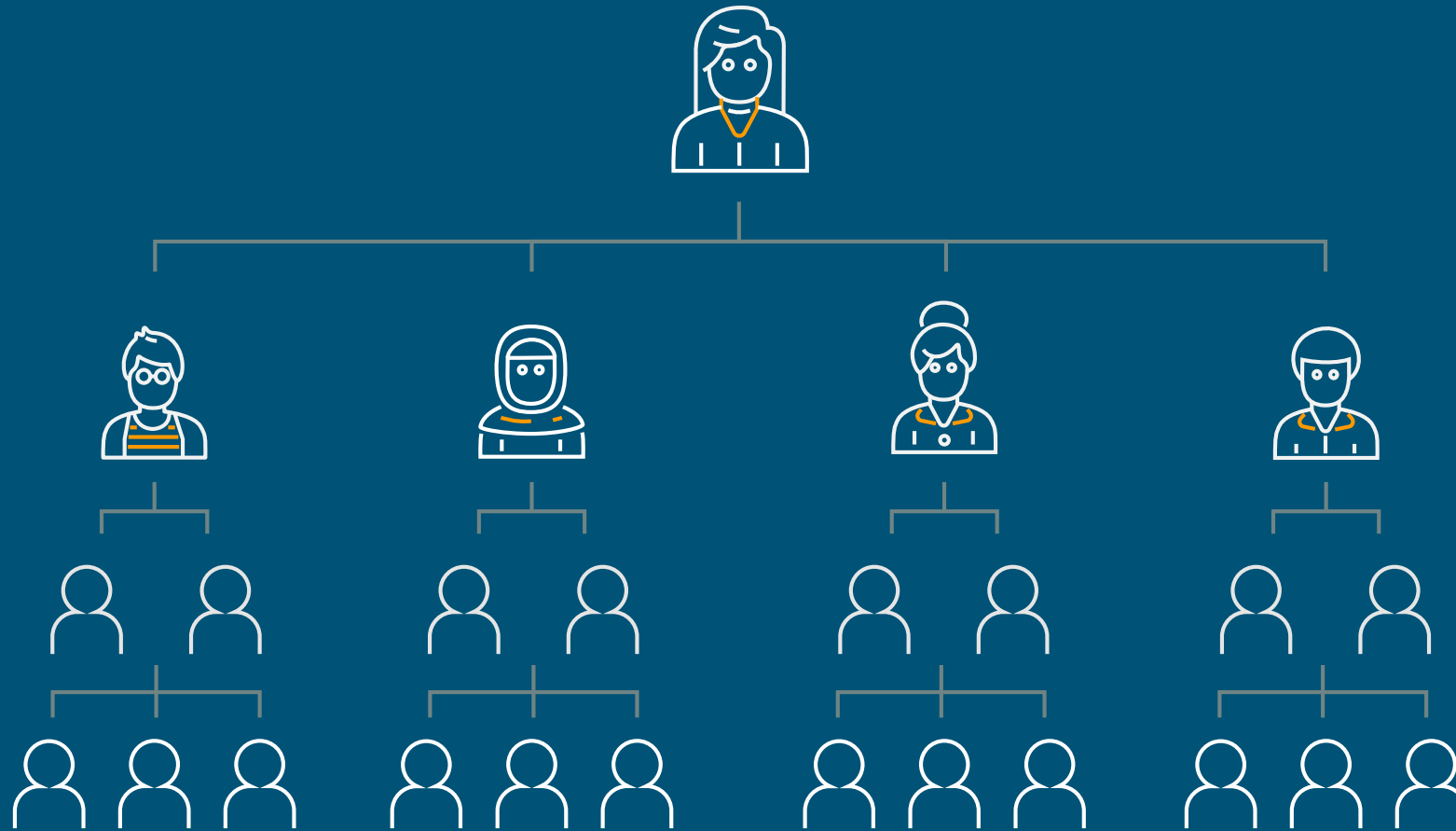
CXOs need a different execution model
to survive customer expectations

Mindset

Skillset

Toolset

What got you here, will not get you there



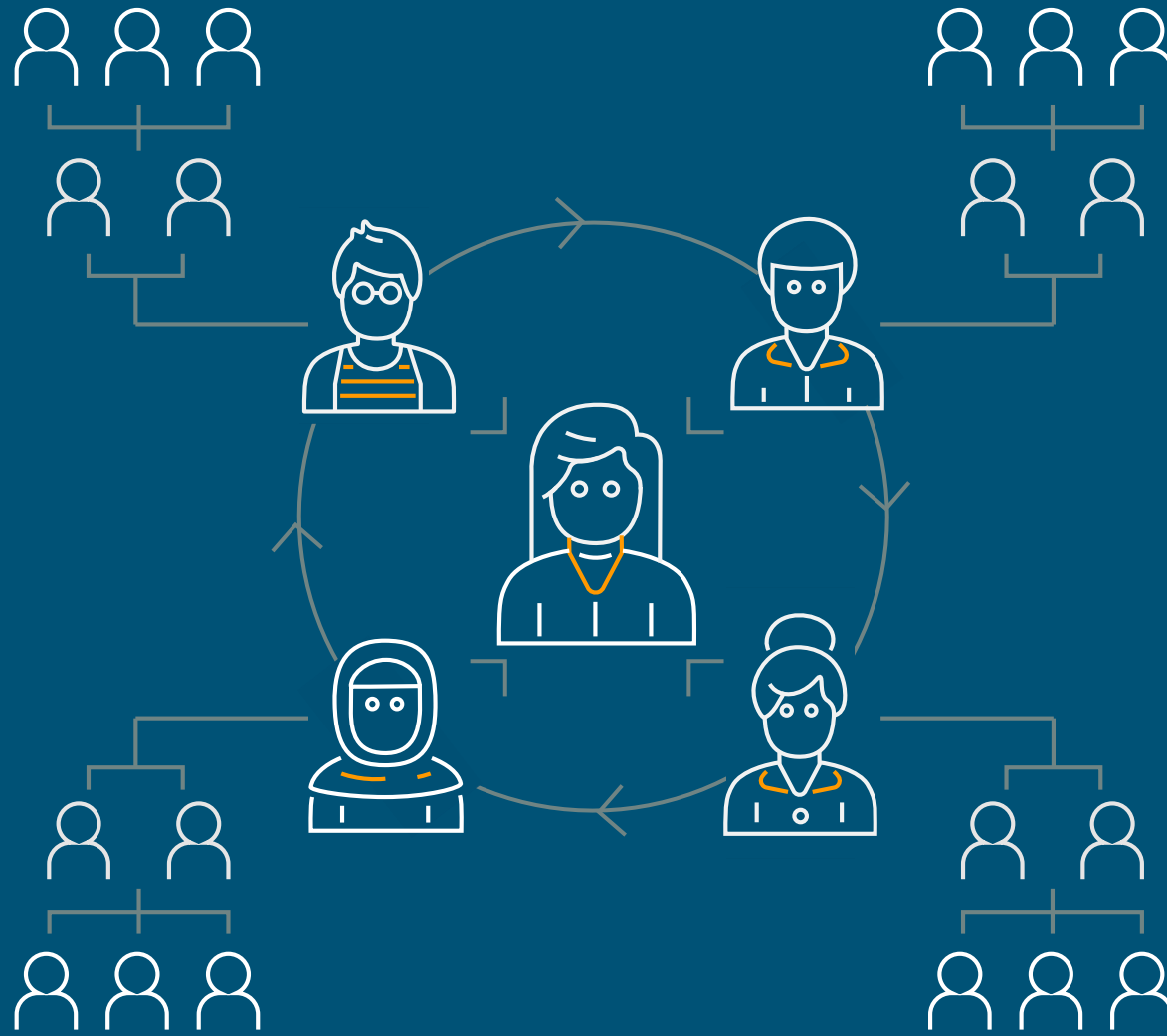
CXOs need a different execution model
to survive customer expectations

Mindset

Skillset

Toolset

Autonomous cross functional teams are a necessity



CXOs need a different execution model
to survive customer expectations

Mindset

Skillset

Toolset

Value accurate data



CXOs need a different execution model
to survive customer expectations

Mindset

Skillset

Toolset

Creating and scaling a data-driven culture



Engage in data-driven decision making



Educate everyone on effective use of data



Enable frontline action using data



Eliminate blockers to becoming data-driven

CXOs need a different execution model to survive customer expectations

Mindset

Skillset

Toolset



What's in it for me?



Employees



Customers



Society

CXOs need a different execution model
to survive customer expectations

Mindset

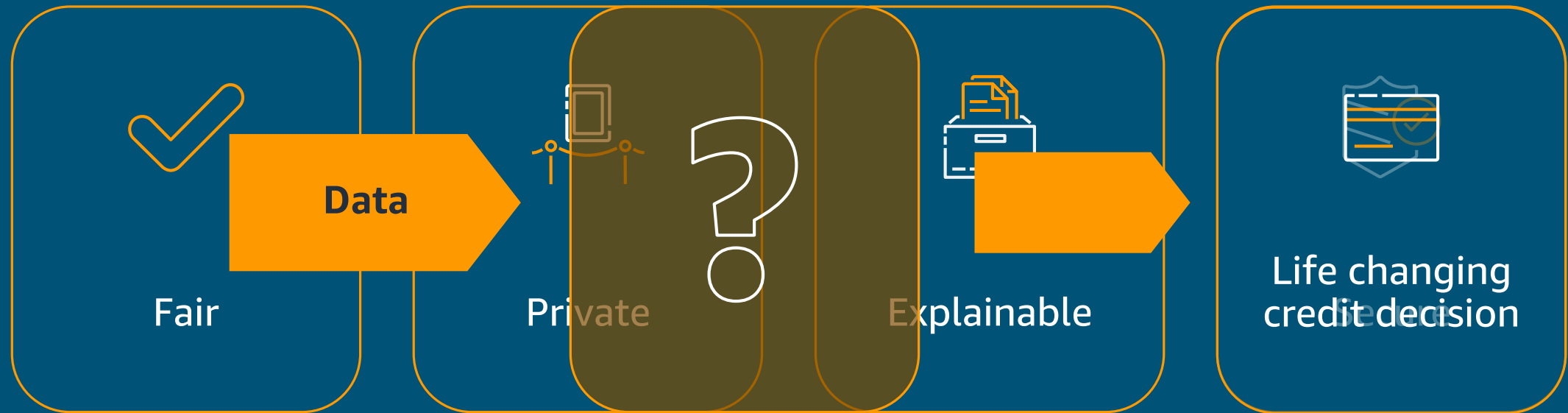
Skillset

Toolset



Enterprise
Strategy

Ethics



CXOs need a different execution model
to survive customer expectations

Mindset

Skillset

Toolset



What's in it for me?



Leadership



Employees



Customers



Society

CXOs need a different execution model
to survive customer expectations

Mindset

Skillset

Toolset

What's in it for me?



Leadership



Employees



Customers



Society

CXOs need a different execution model
to survive customer expectations

Mindset

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Toolset

Data science isn't magic



Business domain knowledge

Curiosity

Communication skills

Data visualization

Machine learning

Coding (R, Python, etc)

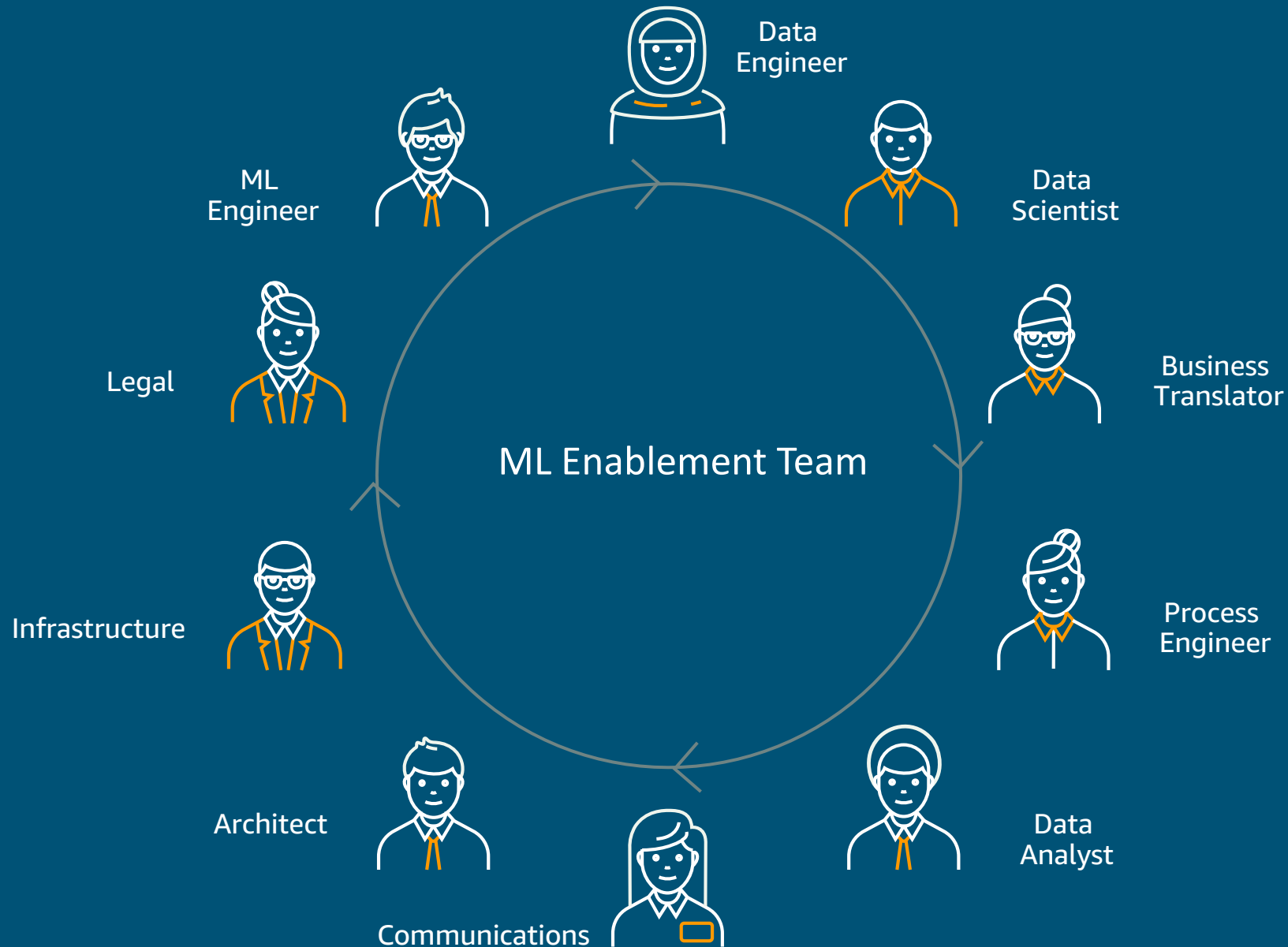
Statistical techniques

CXOs need a different execution model
to survive customer expectations

Mindset

Skillset

Toolset



CXOs need a different execution model to survive customer expectations

Mindset

Skillset

Toolset





Fast to start



Cost effective



Quickly scalable

CXOs need a different execution model
to survive customer expectations

Mindset

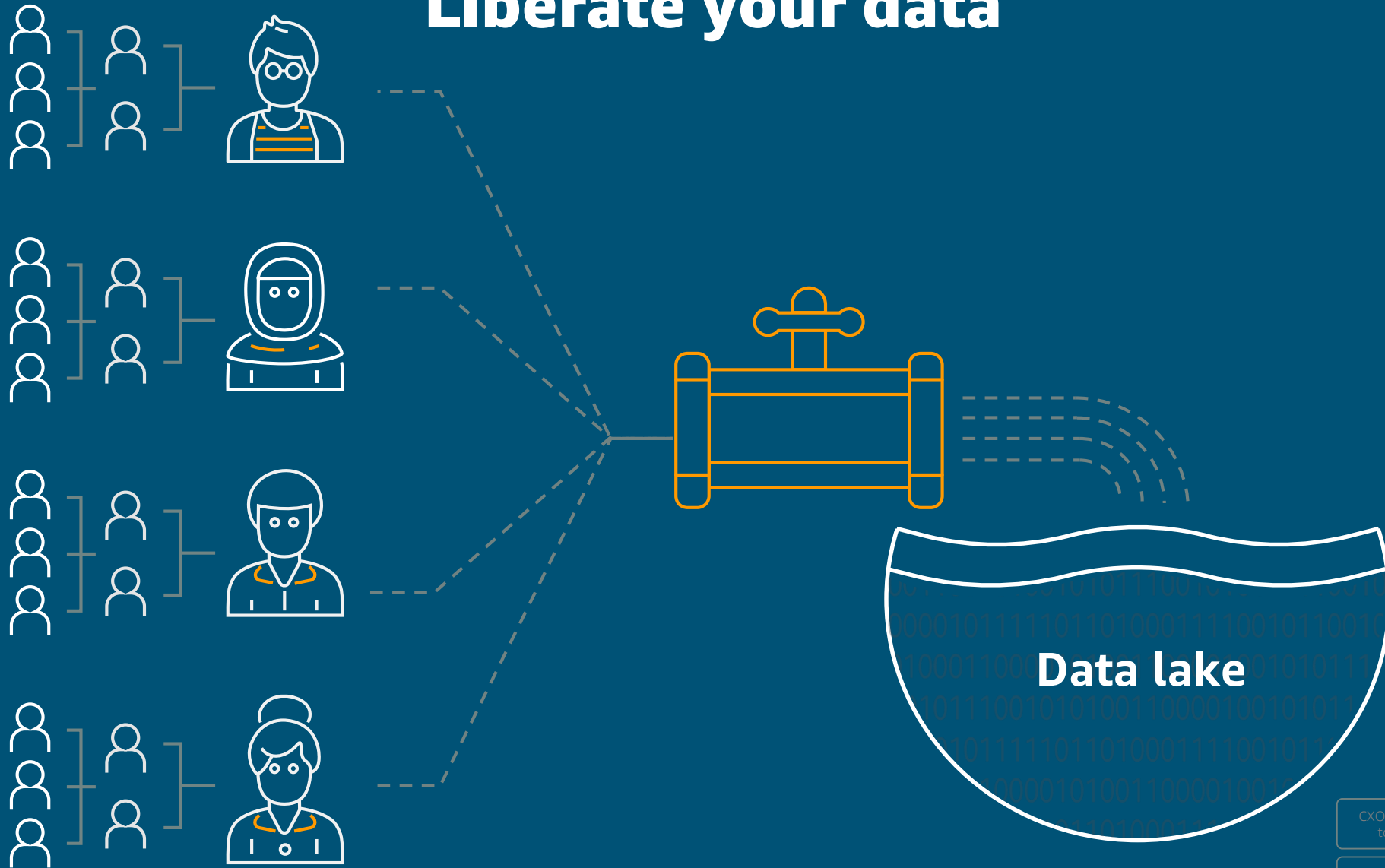
Skillset

Toolset



Enterprise
Strategy

Liberate your data

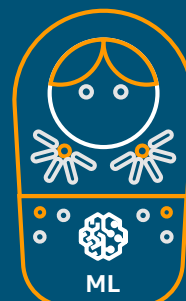
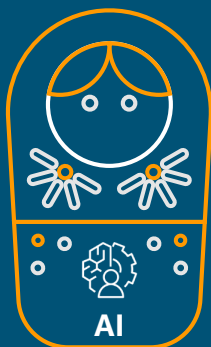
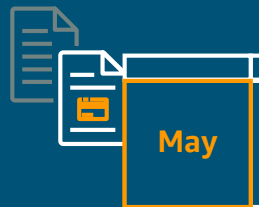


CXOs need a different execution model
to survive customer expectations

Mindset

Skillset

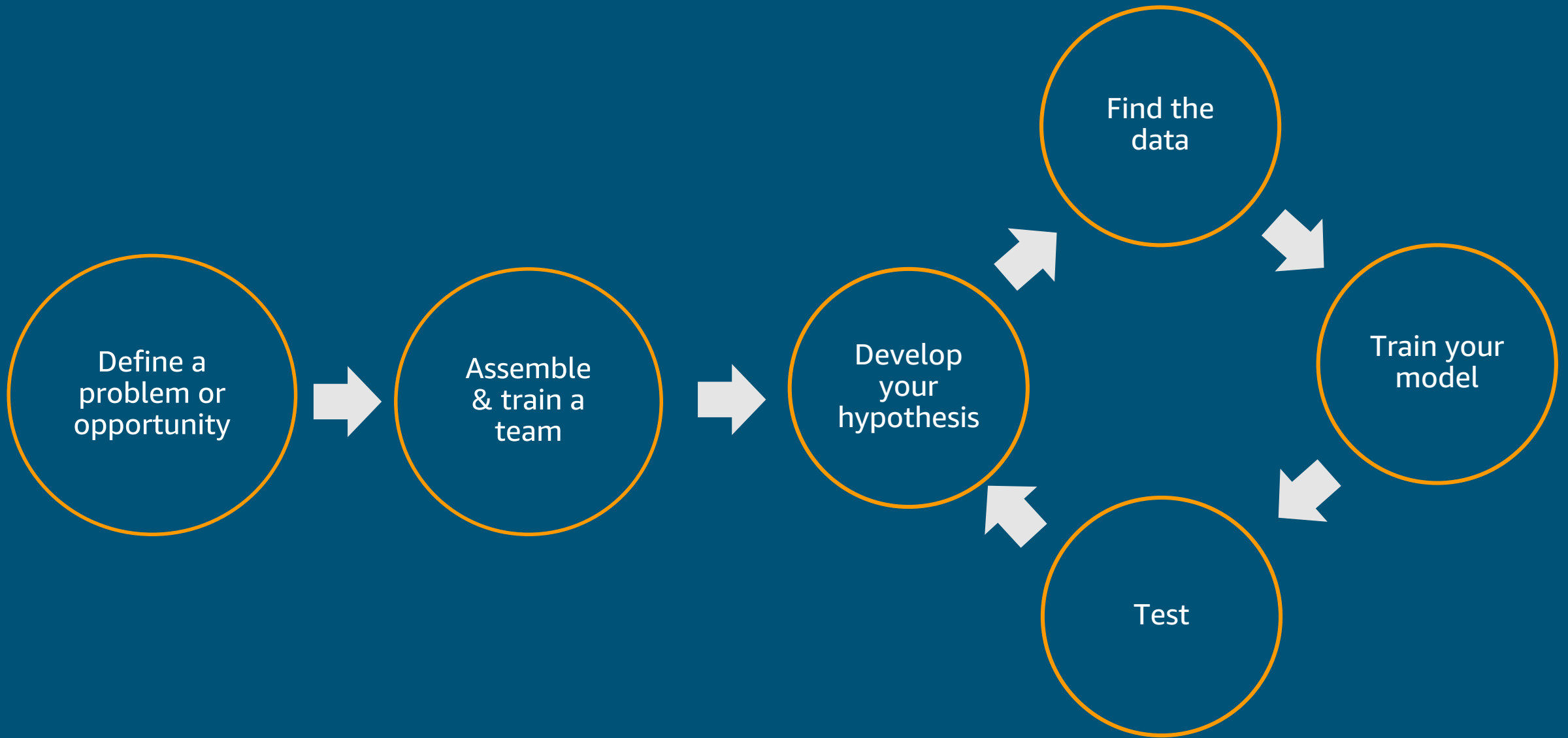
Toolset



Drive plans from business needs
Breakdown silos
Liberate and protect your data
Establish ethical guardrails

Invest in change management and skills
Reimagine ways of working

Utilize the power of the cloud
Build a data lake
Leverage Amazon SageMaker



Thank you!

Tom Godden

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 @tomgodden211

 /in/tomgodden





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the session survey