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INNOVATE
DATA AND AI/ML EDITION
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Getting started on your ML journey: A leader's perspective

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Agenda

- Session overview
- Reality check
- Why now?
- 6 key drivers of success
- Resources to start your ML journey

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Machine learning is the future

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Machine learning is ~~the future~~ happening now

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AI and Machine Learning

AI's Promise

The allure and promise of Artificial Intelligence / Machine Learning is compelling

Barriers to Entry

Technology providers are democratising machine learning and lowering the initial technical and skills barriers to entry

Proof of Concepts

Machine Learning experiments and PoC's are getting easier, faster and cheaper to execute

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Machine learning is transformative*

*causing or able to cause an important and lasting change in someone or something

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1 Get your data in order

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Understanding your data strategy

What data is available today?

What data can be made easily available?

In one year, what data will we wish we had started collecting today?

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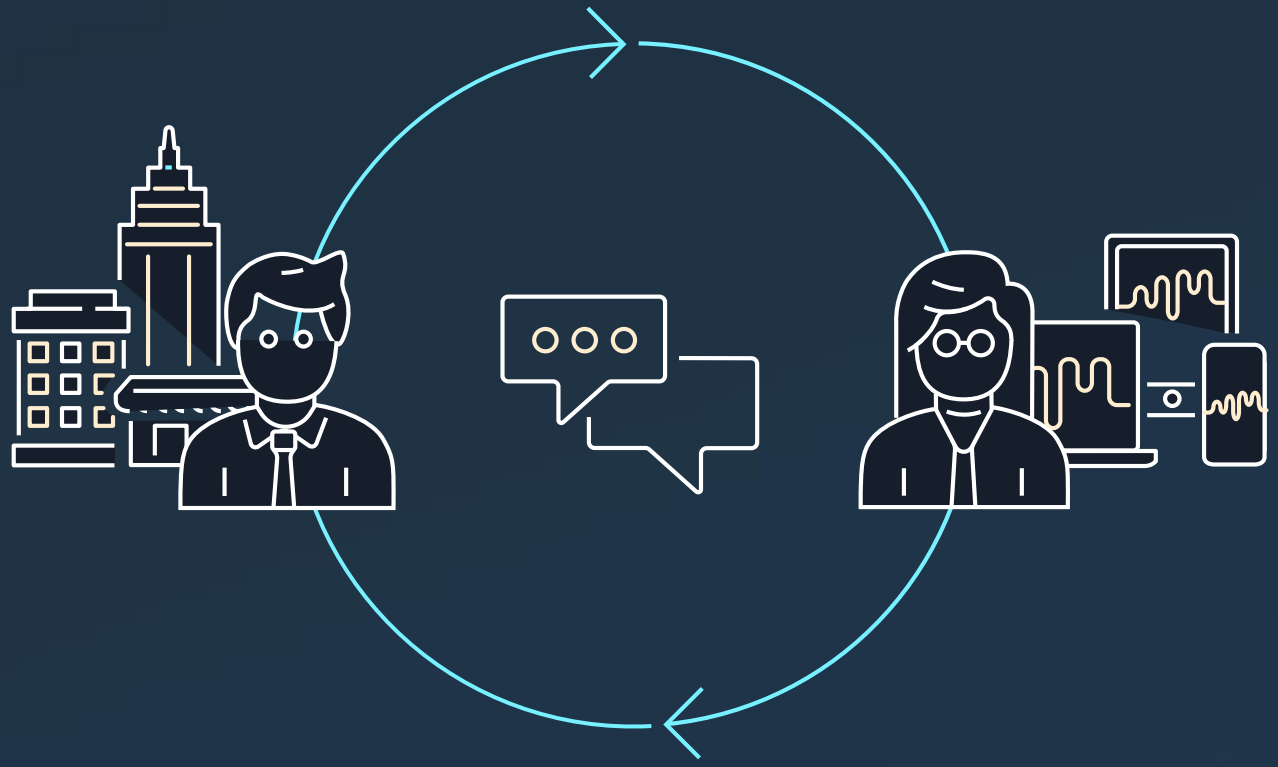

2 Understanding where to apply ML

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Picking your first use case: balance speed with value

1. Can you achieve success in the next 6-10 months?
2. Does it solve a real problem for the business?
3. Are there places where you already have a lot of untapped data?
4. Does it need machine learning?

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Where to apply ML

DATA READINESS

Low High

BUSINESS IMPACT

Low High

ML APPLICABILITY (Chance of success based on state of the art and team skills)

Low High

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Where to apply ML

DATA READINESS

BUSINESS IMPACT

ML APPLICABILITY (Chance of success based on state of the art and team skills)

Frustrated data scientist

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Where to apply ML

DATA READINESS

BUSINESS IMPACT

ML APPLICABILITY (Chance of success based on state of the art and team skills)

Good prototype to build experience

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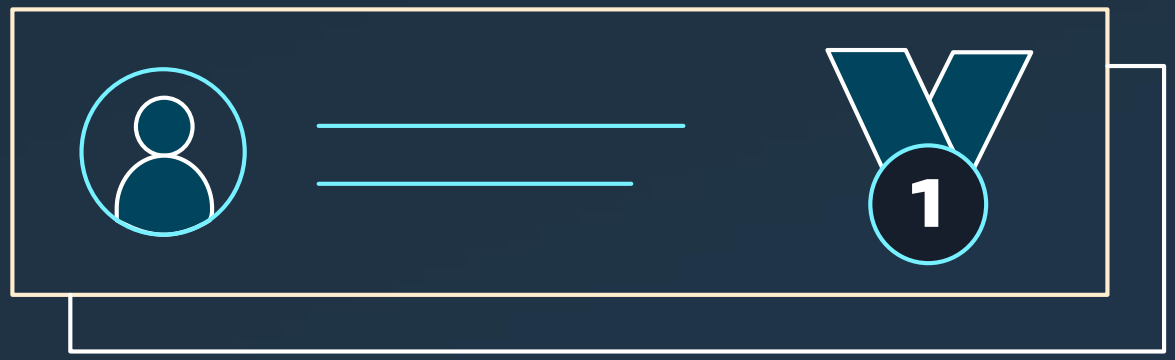

3 Developing your team

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97m

Jobs created by the growth of AI in the next few years

World Economic Forum

Learn more

33%

Organizations prefer to upskill their current staff to grow ML capabilities

Deloitte Access Economics

Learn more

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Develop your team – Technical experts

- Build your team
- Broadly enable all developers to use ML
- Training, training, training

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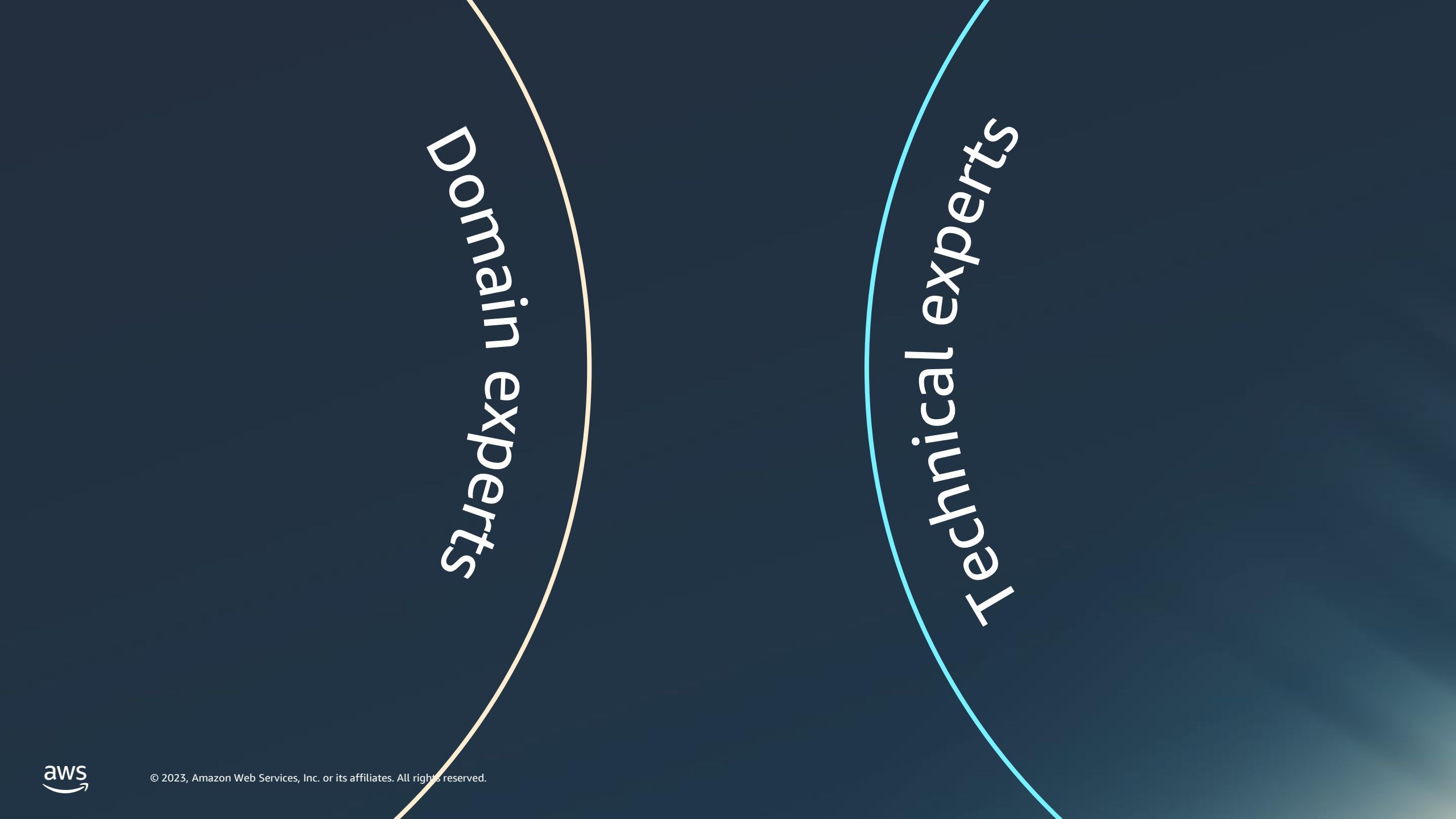

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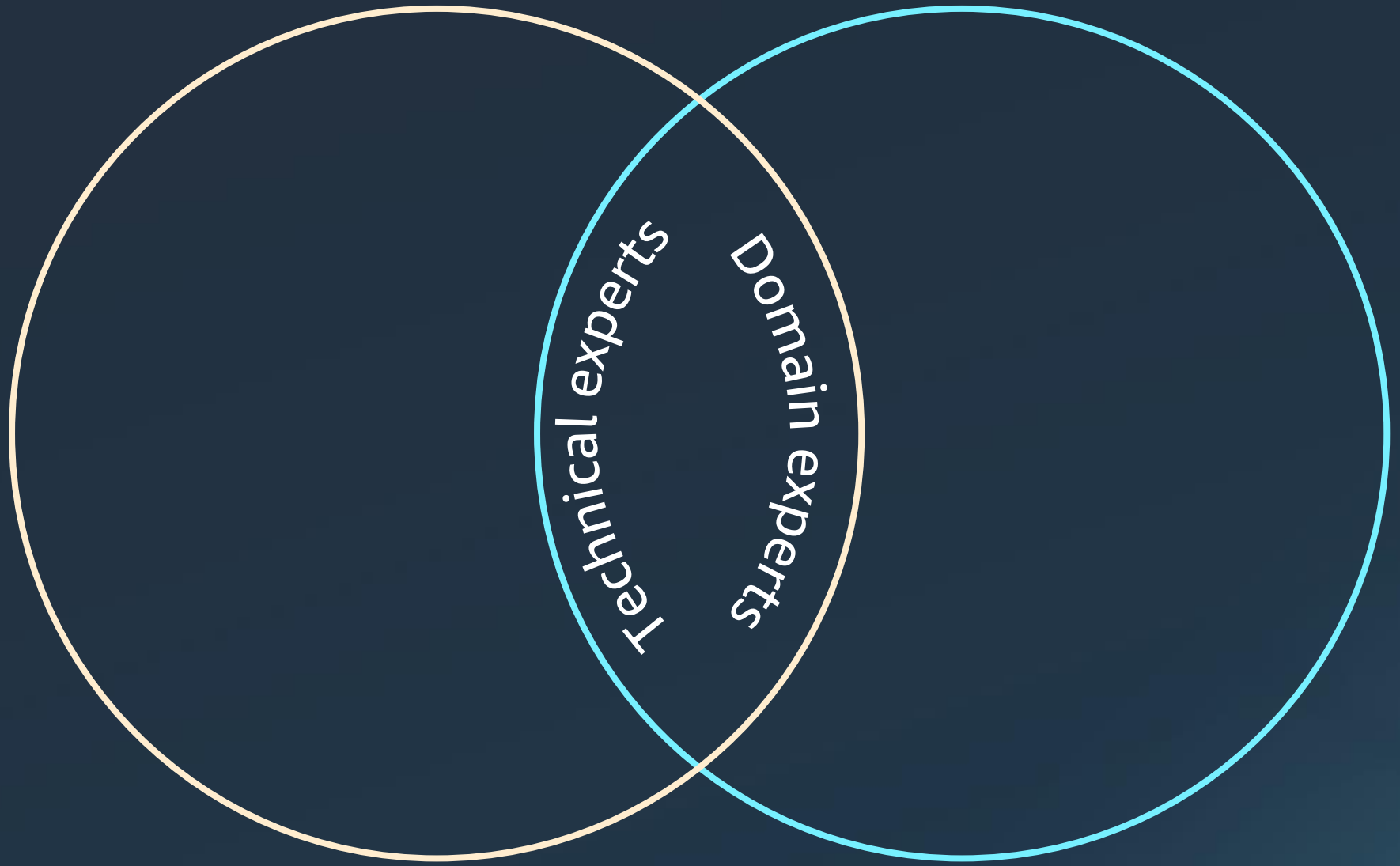

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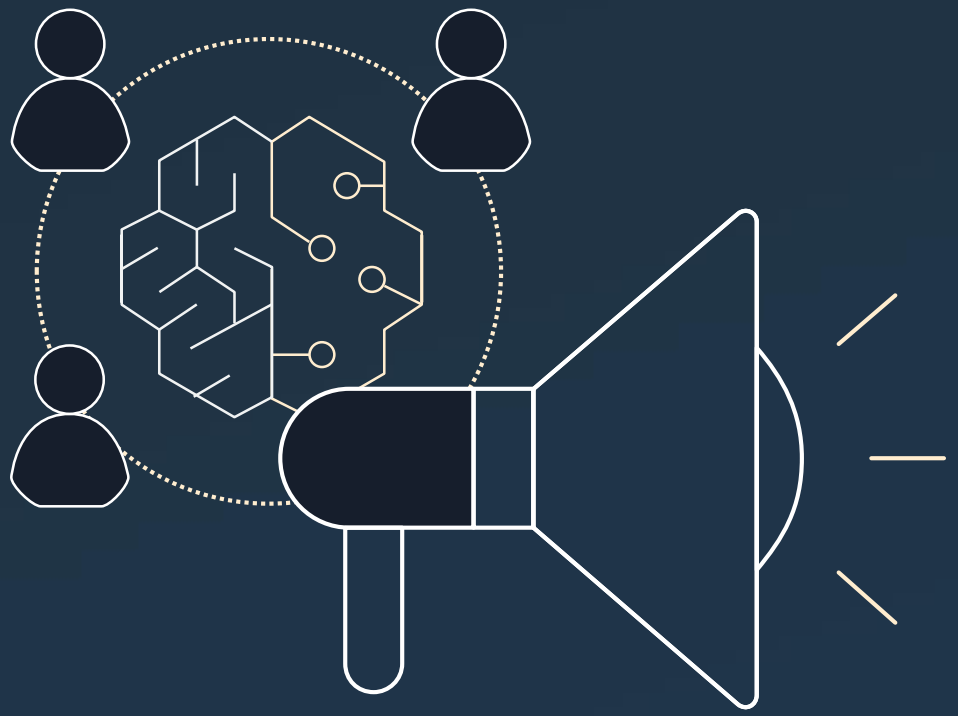

4 Championing a Culture of AI

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Crossing the culture chasm

People, Process and Technology

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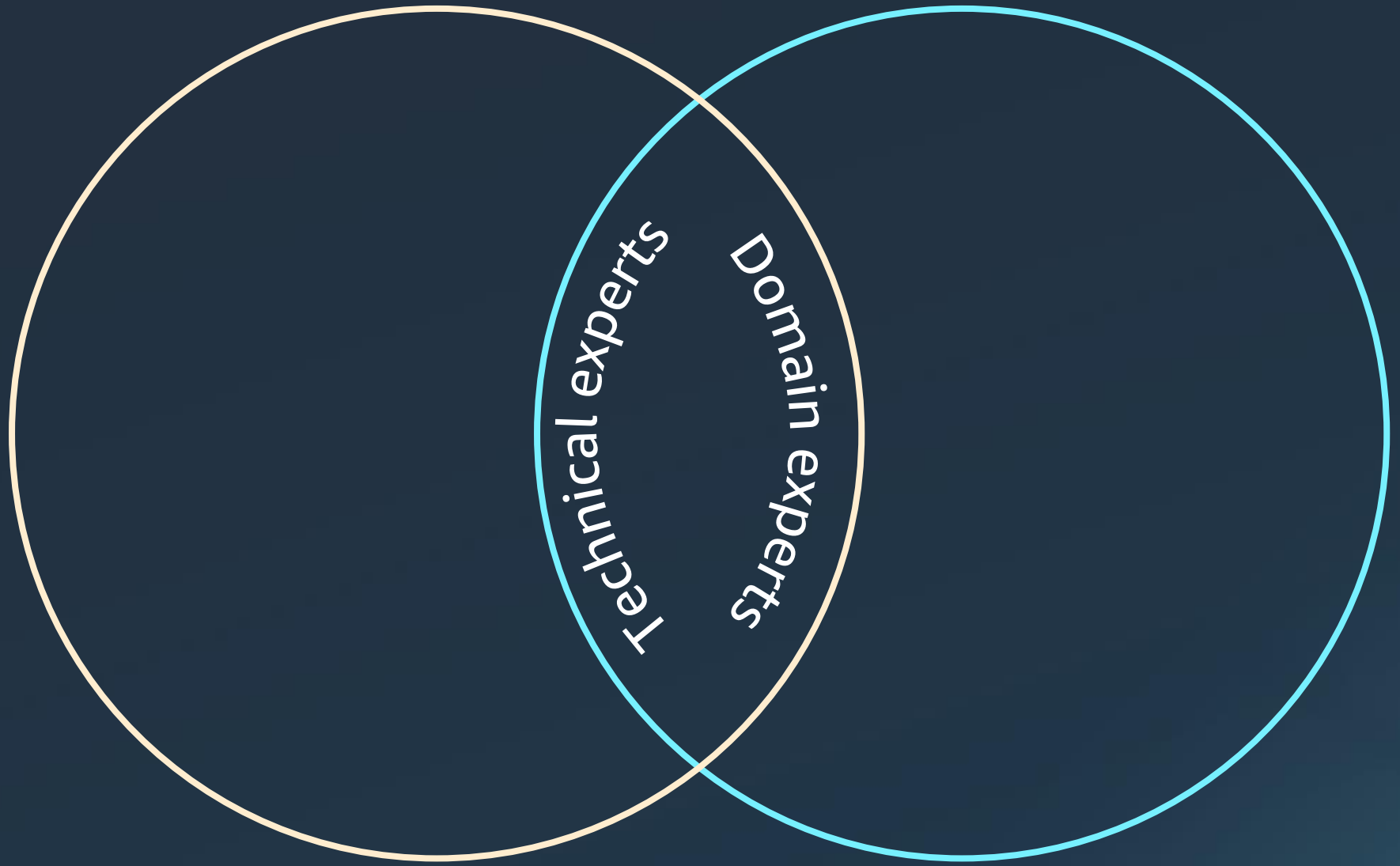
Executive Sponsorship



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How will you use machine learning?

“We won’t” is not an acceptable answer

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Setting expectations

- Set big, top-down goals
- Be tolerant of failure
- Take a long-term view
- Celebrate success

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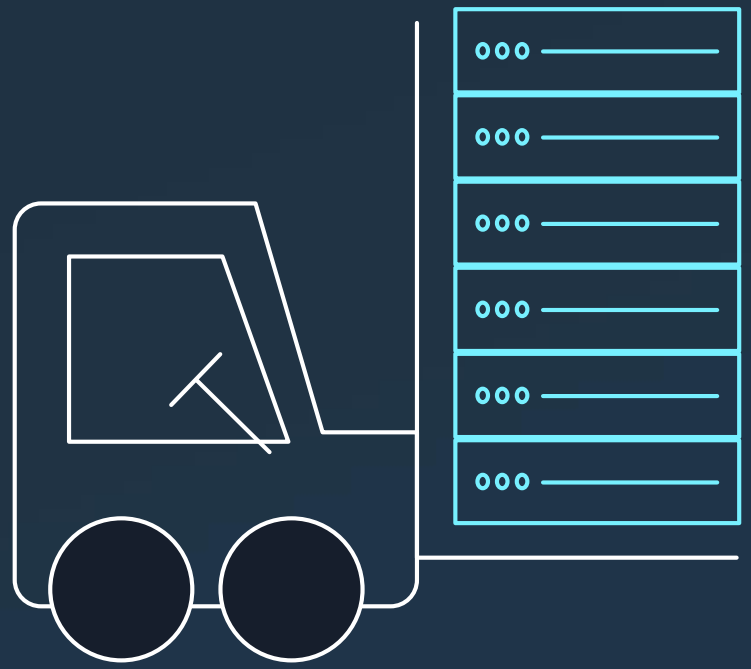

5 Remove undifferentiated heavy lifting

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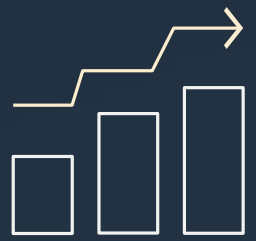
Why AWS for ML?

BROADEST AND DEEPEST SET OF AI AND ML SERVICES

257 new features and services launched in the last year for everyone from ML scientists to application developers



ACCELERATE YOUR ADOPTION OF ML

Amazon SageMaker creates efficiencies and lowers costs

Acceleration programs and trainings

BUILT ON THE MOST COMPREHENSIVE CLOUD PLATFORM

The strongest set of compute, storage, security, database, and analytics capabilities to build upon

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6 Architect for tomorrow, build for today

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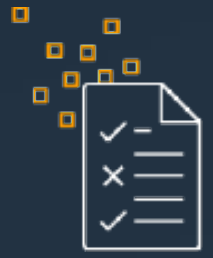
Taking applications to production

Write

Write source code for your software

Build

Build / compile the software



Test

Test to make sure it works as expected

Deploy

Deploy the software to servers

Use

Use the software in production

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Taking Machine Learning models to production

Data ingestion

Data preparation

Feature engineering

Model training

Model evaluation & tuning

Model deployment

Inference

Model monitoring / re-training

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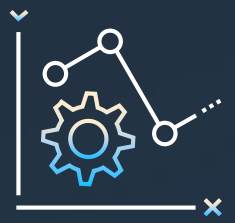
Pillars of AWS Well-Architected

Operational Excellence

Security

Reliability



Performance Efficiency

Cost Optimization

Sustainability

https://aws.amazon.com/architecture/well-architected

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ML Lens for Well-Architected Framework

Well-Architected pillar	Key Best Practices for ML
Cost Optimization	Use managed services to reduce cost
Operational Excellence	Version ML inputs and artifacts Automate machine learning deployment pipelines
Reliability	Train once and deploy across environments
Security	Restrict access to ML services
Performance Efficiency	Continuously monitor and measure system performance

https://docs.aws.amazon.com/wellarchitected/latest/machine-learning-lens/machine-learning-lens.html

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Get your journey off to a great start

1. Get your data in order
2. Understanding where to apply ML
3. Developing your team
4. Championing a Culture of AI
5. Remove undifferentiated heavy lifting
6. Architect for tomorrow, build for today

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Visit the Data & AI/ML resource hub

Dive deeper into these resources, get inspired and learn how you can use AI and machine learning to accelerate your business outcomes.

- 6 steps to machine learning success e-book
- 7 leading machine learning use cases e-book
- Machine learning at scale e-book
- Achieving transformative business results with machine learning e-book
- Tackling our world's hardest problems with machine learning e-book
- Accelerating machine learning innovation through security e-book
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