

Thomson Reuters Labs

Challenges and best practices in developing ML into Legal information systems at **scale**

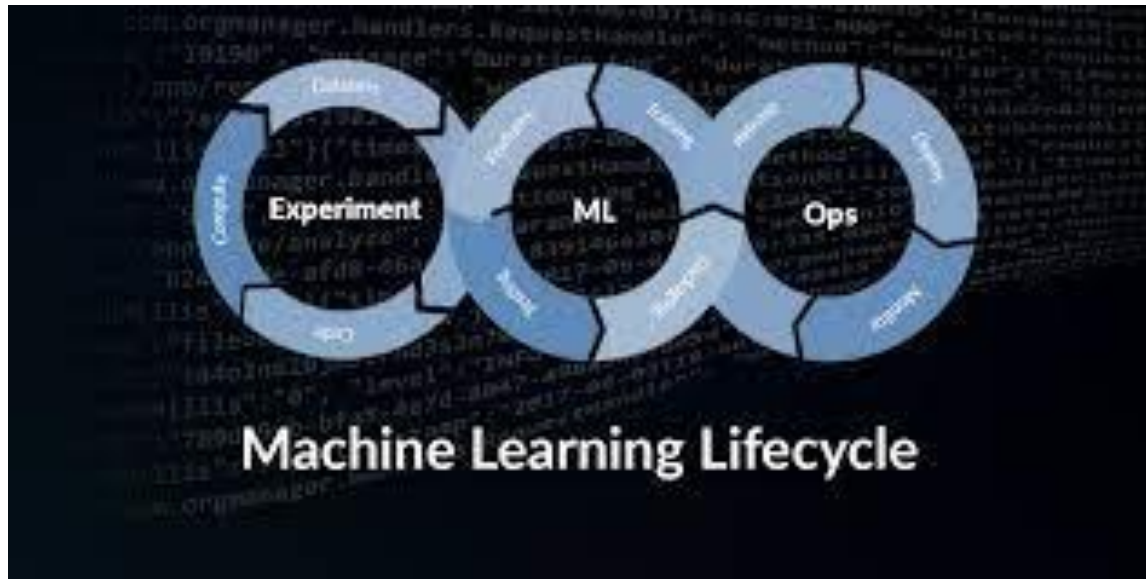
January 4th, 2023

Integrating ML Solutions into IT systems and workflows

❑ What is the Existing Ecosystem?



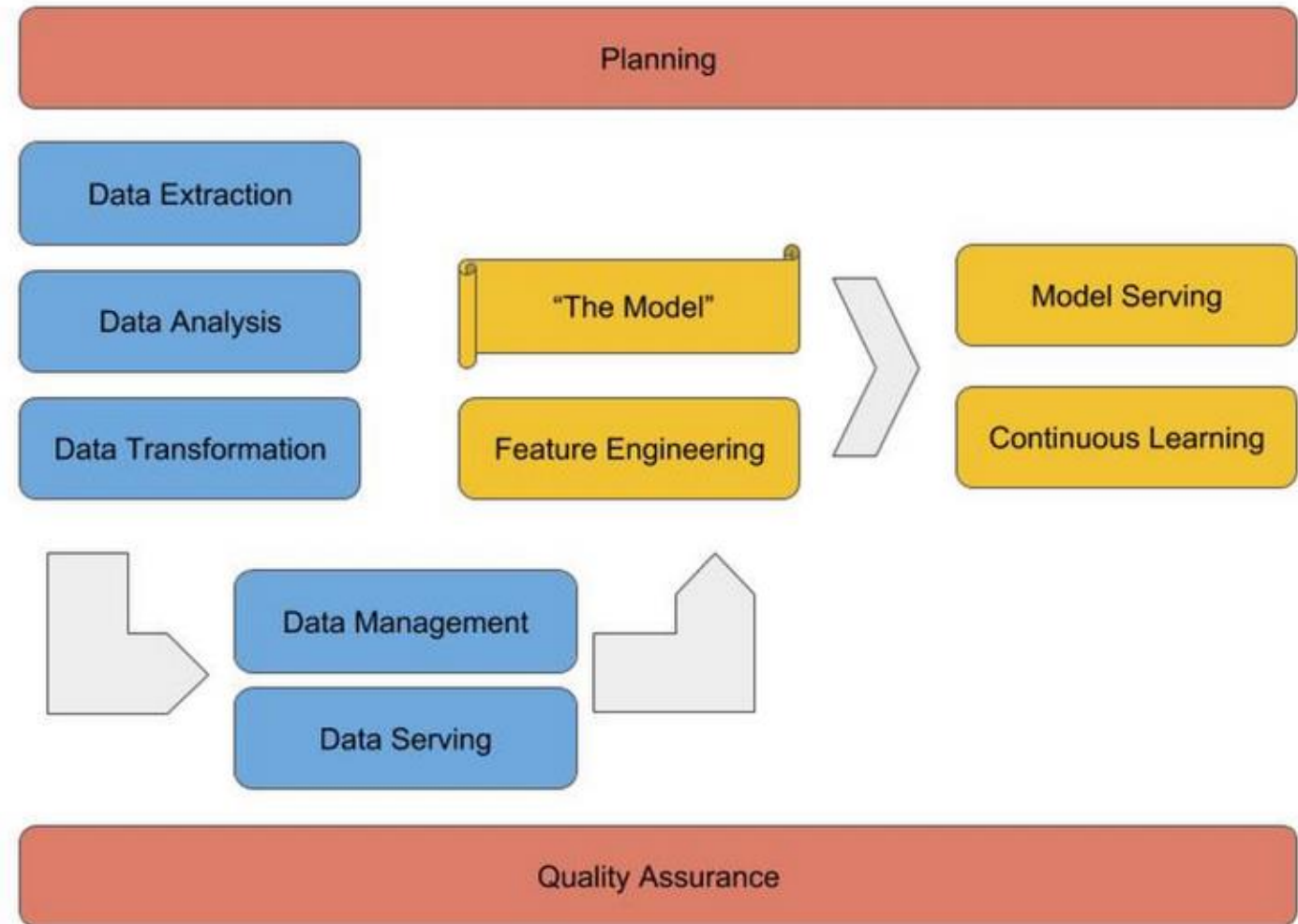
Building the first Prototype



- ☐ Identify Data.
- ☐ Train.
- ☐ Share performance with the SME & Business teams.
- ☐ Evaluation tool for SME.
- ☐ Assess Feedback.
- ☐ Iterate.
- ☐ Engineer.
- ☐ Release.

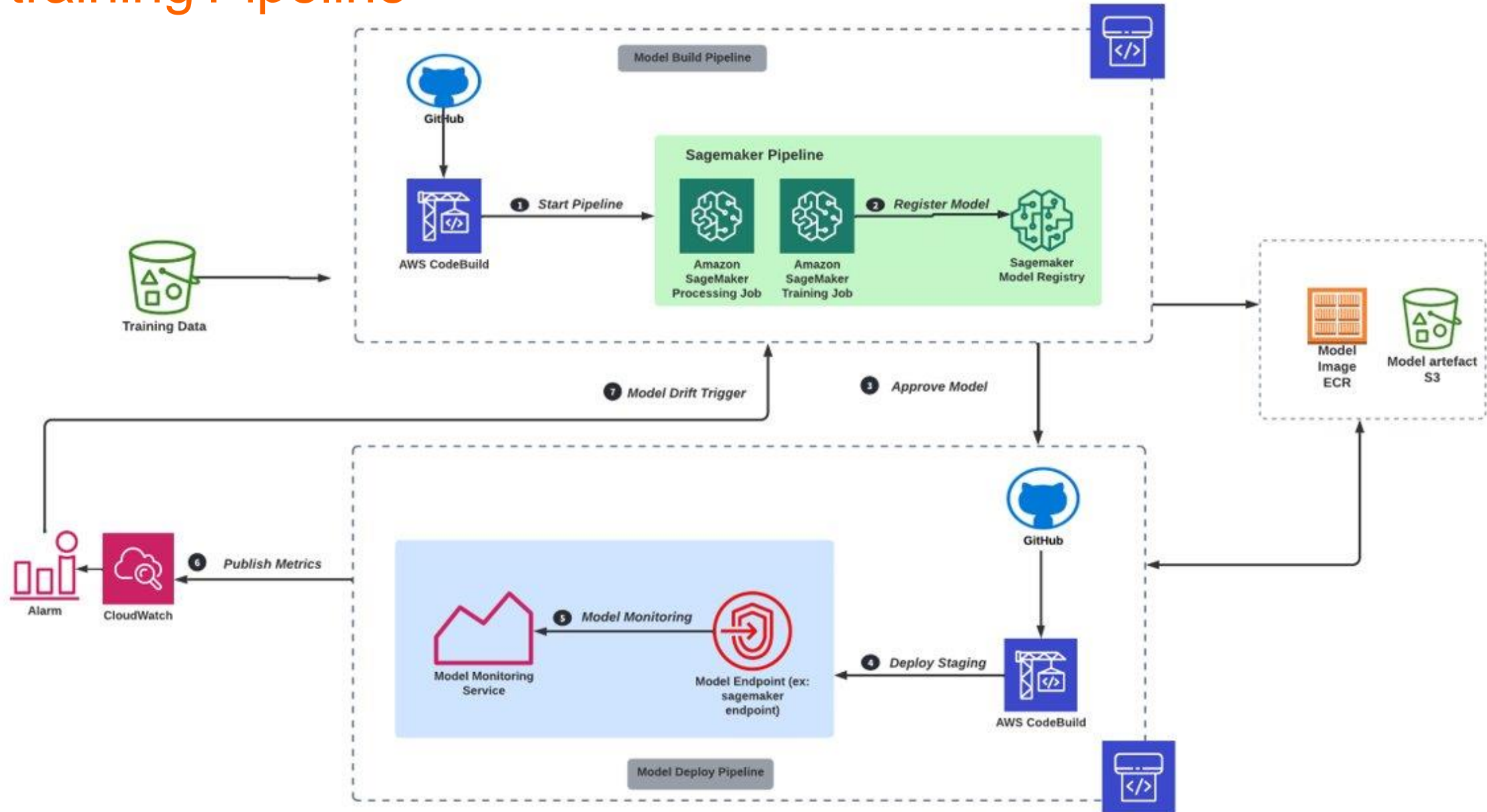
Planning for ML Projects

- Data Availability
- SME Availability
- Identify impacted eco-system
- Rearchitected workflows and pipelines
- Engineer the ML solution for optimisation and cost effectiveness
- Design Feedback loop
- Prepare for Model sustenance



Machine Learning Ecosystem - Google, LLC ©

Re-training Pipeline



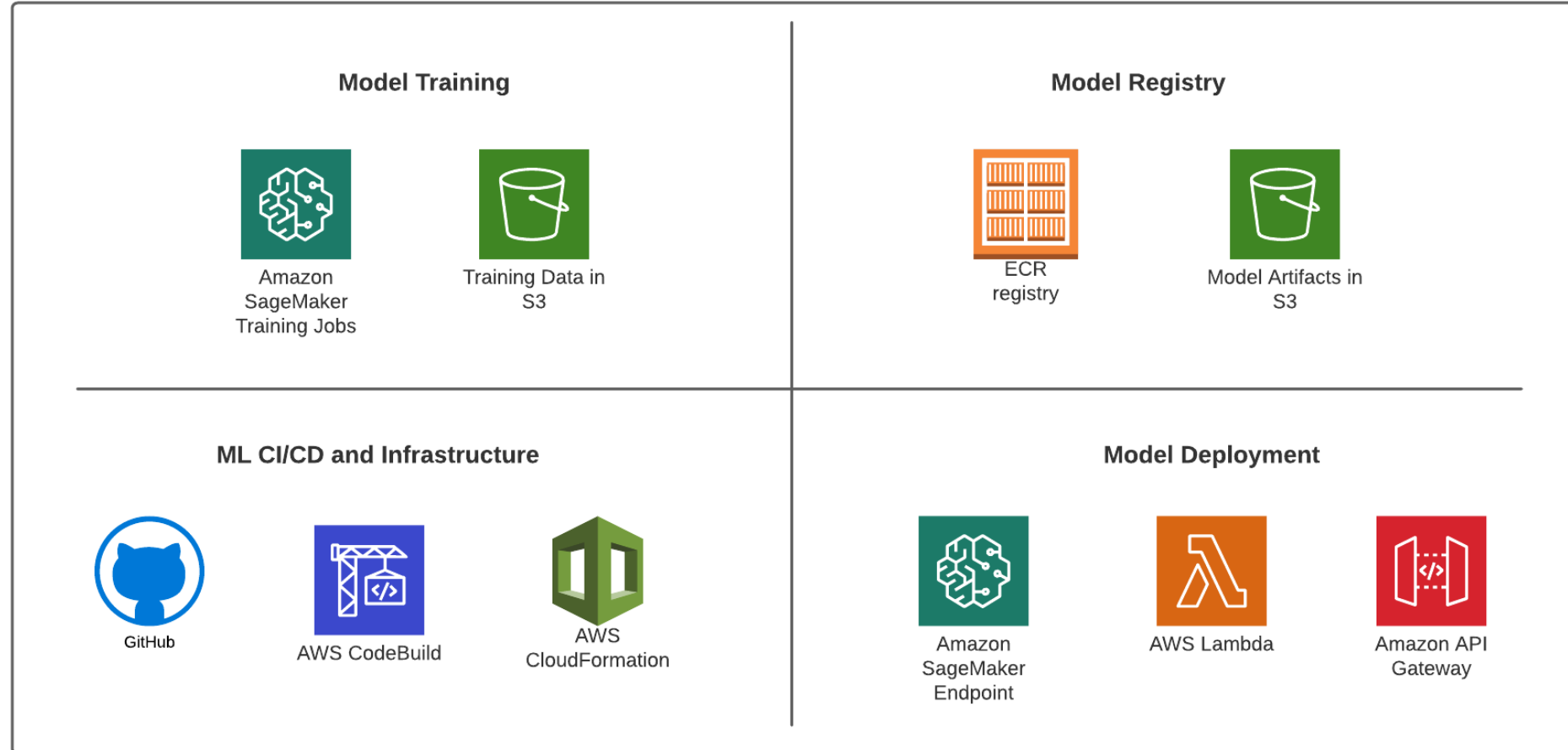
<https://aws.amazon.com/blogs/machine-learning/automate-model-retraining-with-amazon-sagemaker-pipelines-when-drift-is-detected/>

What Testing do ML Projects require?

- ☐ Unit-testing for the ML code
- ☐ Model performance testing
- ☐ Model end-point testing
- ☐ System Load testing
- ☐ SLA / Performance testing
- ☐ Regression testing
- ☐ Security testing
- ☐ Stress testing



Cloud Services



Functions and Focus

- **AI Applied Research**
- **AI/ML Engineering**
- **Human Centered AI Design**
 - Natural Language Processing (NLP)
 - Neural Networks
 - Machine Learning
 - Deep Learning
 - Computer Vision
 - Cognitive Computing
 - Cloud Native
 - Model Ops
 - Emerging Tech
 - Human-Centric AI
 - Rapid Prototyping
 - Production ready innovation

130+ talented colleagues operating globally

Thomson Reuters Labs Locations

