Wie kann der „Model Lifecycle“ durch CI/CD-Prozesse automatisiert werden?

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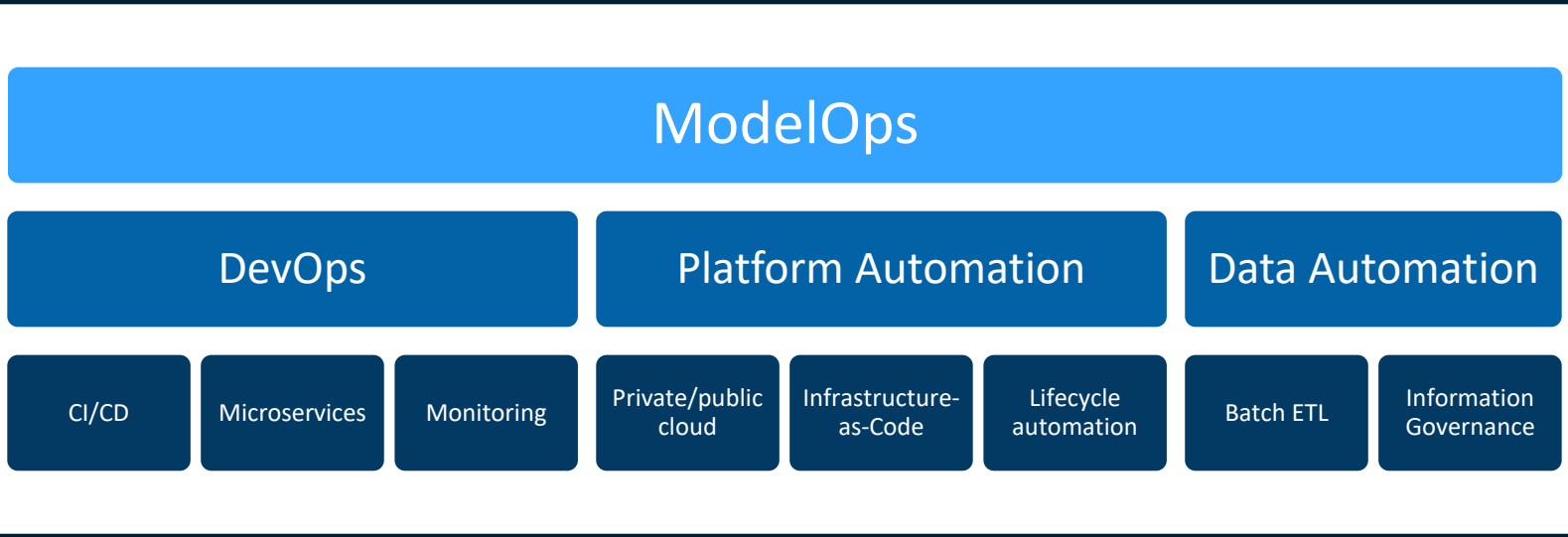
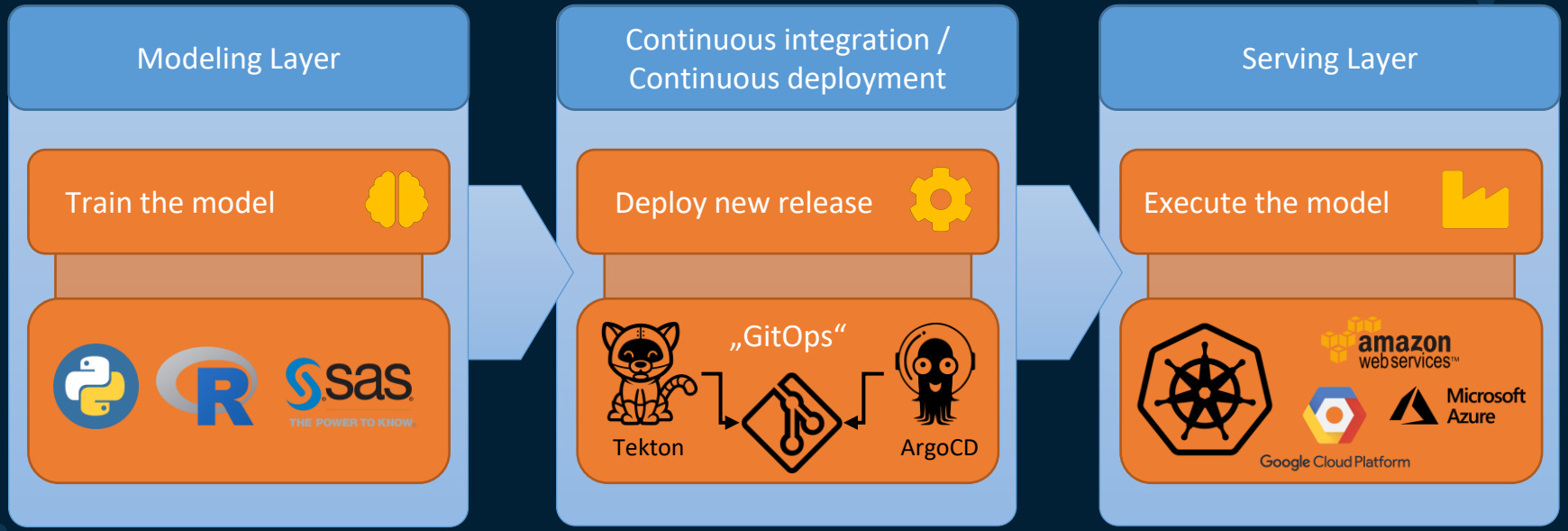
ModelOps

„Hierarchy of Needs“

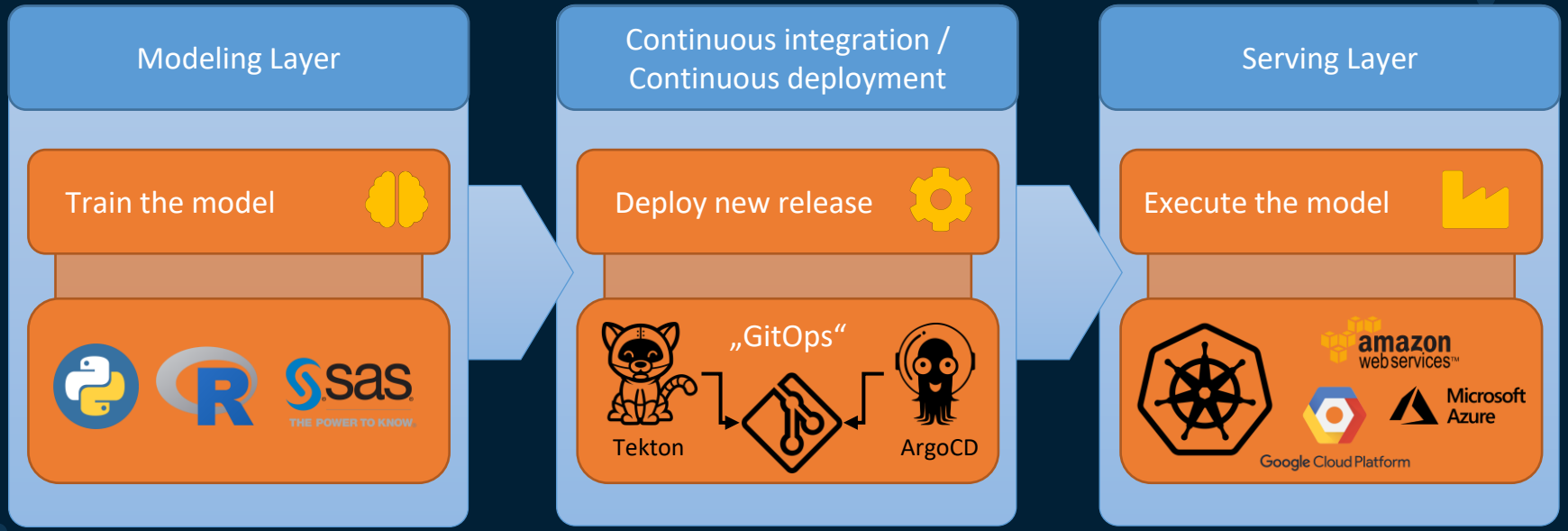


The GitOps approach for analytical modeling



The GitOps approach for analytical modeling

… needs model management



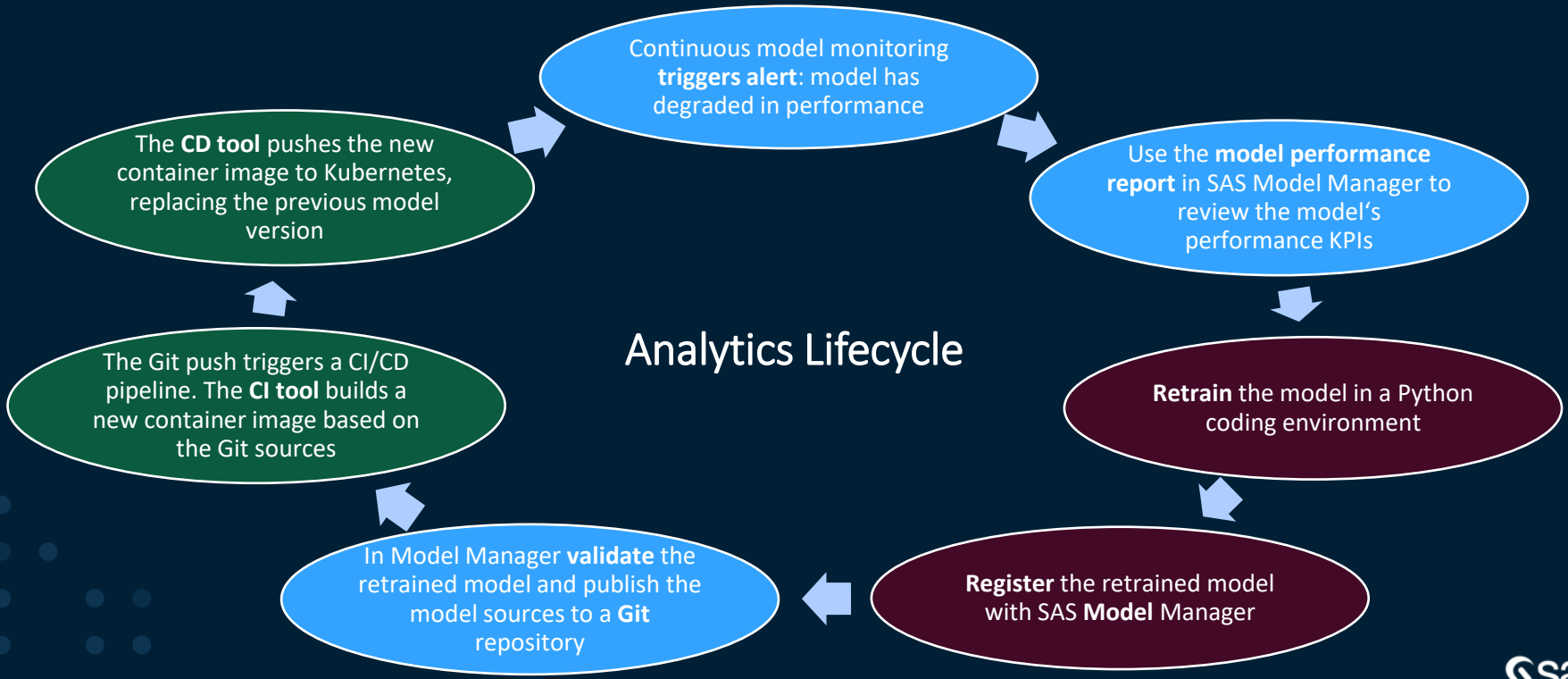
SAS

Python

ext. CI/CD

ModelOps Demo

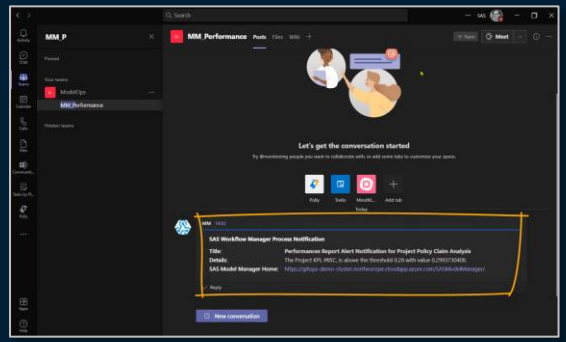
Deploy a Python model using existing CI/CD infrastructure to a container



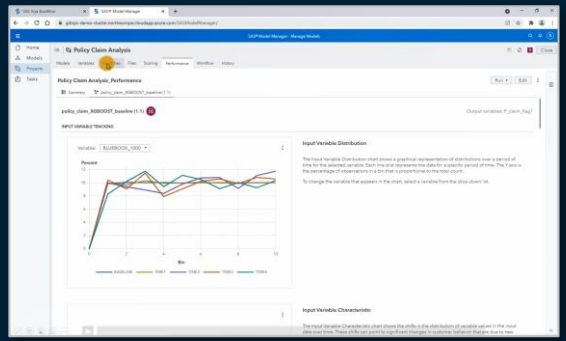
ModelOps Demo

#1 Receiving the alert and reviewing the model performance KPIs

- Alerting (Teams Channel)



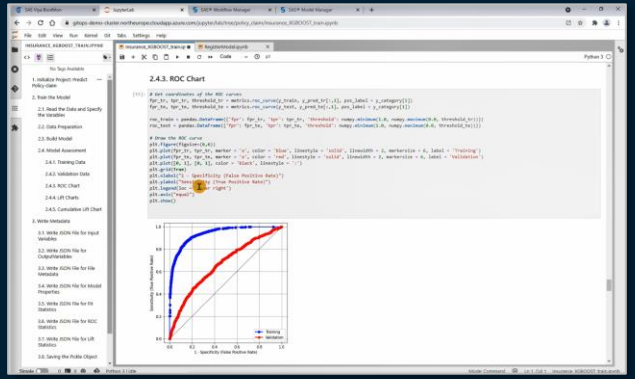
- SAS Model Manager



ModelOps Demo

#2 Retrain the model in the Python coding environment

- Jupyter Notebook

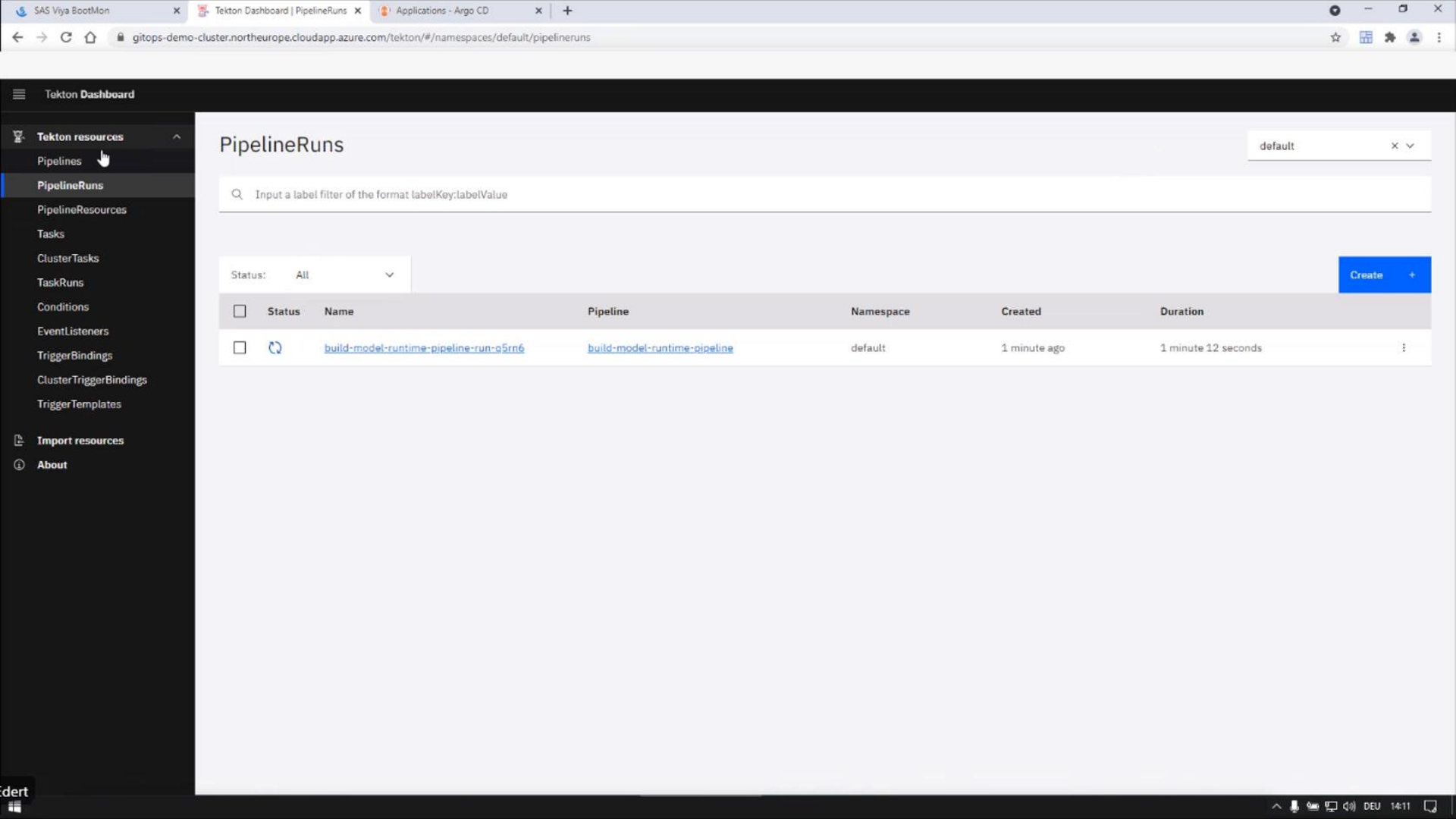


ModelOps Demo

#3 CI/CD pipelines pick up the changes and deploy the new model

- Tekton

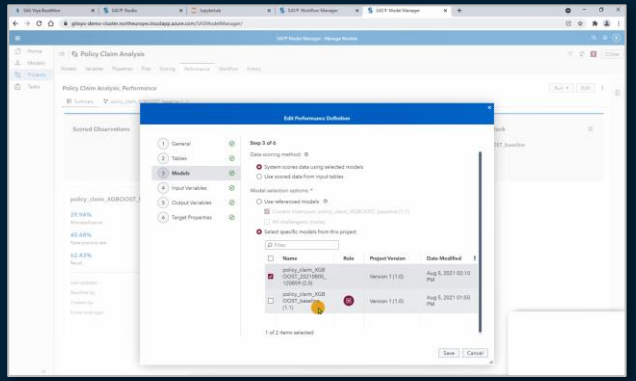
- ArgoCD


SAS Viya BootMon
Tekton Dashboard | PipelineRuns
Applications - Argo CD
gitops-demo-cluster.northeurope.cloudapp.azure.com/tekton/#/namespaces/default/pipelineruns
Tekton Dashboard
Tekton resources
Pipelines
PipelineRuns
PipelineResources
Tasks
ClusterTasks
TaskRuns
Conditions
EventListeners
TriggerBindings
ClusterTriggerBindings
TriggerTemplates
Import resources
About
PipelineRuns
default
Input a label filter of the format labelKey:labelValue
Status: All
Create
Status
Name
Pipeline
Namespace
Created
Duration
build-model-runtime-pipeline-run-q5rn6
build-model-runtime-pipeline
default
1 minute ago
1 minute 12 seconds
DEU
14:11

ModelOps Demo

#4 Complete the work, review the updated performance report

- SAS Model Manager



Summary

SCALABLE

- Enterprise wide platform for different analytics use cases, skillsets and user groups
- Automate and industrialize model lifecycle management
- Define quality standards for ML models and implement automated acceptance tests

CENTRAL MODEL REPOSITORY

- Repository for different kinds of model sources – Python, R, SAS,…
- Transparency, versioning, testing, comparing and validating models
- Automated deployment to different stages or operational environments

MODEL MONITORING

- Ensure model performance over time
- Ensure model performance standards with a champion/challenger approach

CENTRAL ANALYTICS GOVERNANCE

- Define user roles and permissions
- Define, orchestrate and track business workflow management processes

Scalable model operation

Model transparency

Model monitoring

Minimize model risk

Generate value

Thank you for your time!

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