MLOPS: Operationalize Your Machine Learning Models (Workshops)

The goal is to enable you to operationalize your ML Model Management (MLOPS) to generate higher ROI on Data Science investments and to increase the Business User's confidence in analytical insights through a series of workshops.
The outcome of these workshops are one or more different architectural blueprints, which will be developed via a POC, pilot or first project iteration.
Hereby SBI will develop an actionable plan to operationalize your ML models.

SBI Consulting, part of the Cronos Group, is a Belgian business and data analytics company with 16+ years of experience with the modernization of BI and analytical applications. We are a recognized trusted SAS and Microsoft Partner, being part of Micronos, which is the ecosystem of Microsoft competences within De Cronos Group.

In 2022 and 2023 Micronos received the "Microsoft Country Partner of the Year" award. Winning twice in row has proven to be very exceptional.

PROBLEM STATEMENT

Enterprises that have seen initial success with Machine Learning often face challenges as they develop more models and want to replicate the success across other business functions. Scaling up ML across an enterprise needs to address collaboration, reusability, model management, monitoring, tuning and deployment.

KEY CHALLENGES

- Converting ML models (Models) to run at production volumes (including related ETL)
- Training the Models using production volumes
- Storing Model outputs in a usable and accessible format
- Evaluating, tracking and registering production models
- Deploying the Models and related data transformations in a repeatable method
- Monitoring and re-training of Models
- Integrating the Models into business processes

AZURE AS PART OF YOUR SOLUTION

Implementing MLOPS in real-world production environments has unique challenges that must be overcome. Azure is here to support MLOPS patterns and to provide orchestration services for effectively managing the machine learning lifecycle. Azure services are the foundation for our MLOPS solution.

OUR METHODOLOGY

Based on best practices with customers we follow a phased approach:

- Scope – Understand the data landscape, environment, and ML models
- Architect – define an architecture blueprint and roadmap to operationalize your machine learning models
- Develop – POC, Pilot, or First Project Iteration. Set up the process flow for data ingestion, model training, registration, deployment, monitoring, and feedback mechanism
- Demonstrate – Deploy the MLOPS code and test run with the model, handover for validation, and develop a plan for further rollouts

and we make use of following key components:

- Build and train machine learning models in Azure Machine Learning or Databricks Machine Learning on Azure
- Control access and authentication for data and the ML workspace with Azure Active Directory and Azure Key Vault. Manage containers with Azure Container Registry.
- Deploy the machine learning model to a container using Azure Kubernetes Services
- Using log metrics and monitoring from Azure Monitor, evaluate model performance.

KEY DELIVERABLES

- Production-ready MLOPS solution
- Assessment and review of the existing ML landscape
- Roll-out plan and approach

VALUES DELIVERED

- Improved collaboration between Business, IT and Data Scientists with end-to-end model governance
- Increase in productionized ML use cases due to higher velocity in model development and automation
- Increase in model accuracy and improved data quality

Building ML applications is a team sport, played by different personas. SBI will guide you building your perfect team with the perfect strategy!

People and Process

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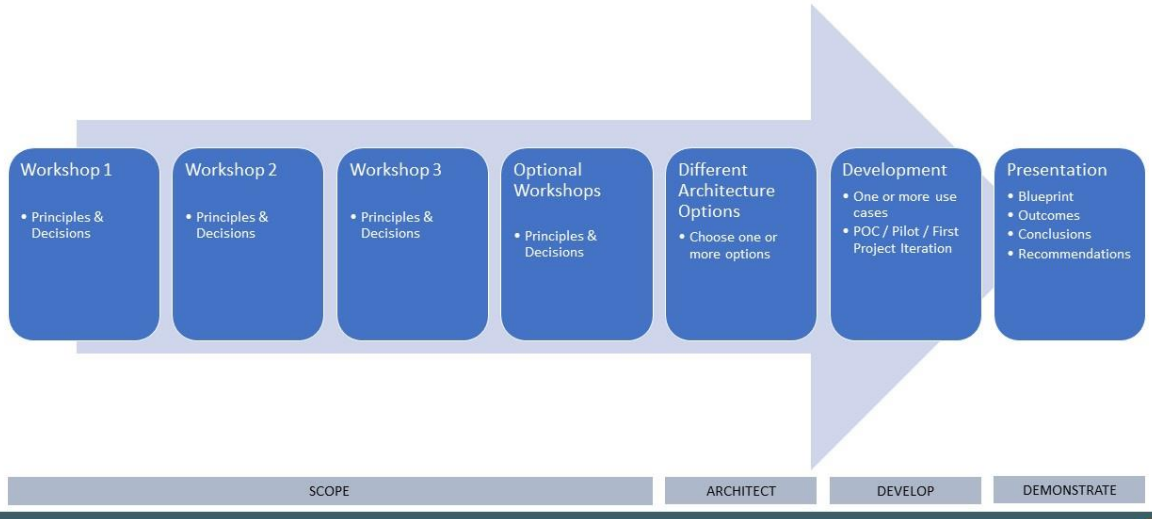
Typical Timeline

Example of a typical timeline on scoping and choosing the right setup and technology



If you are interested in learning more about how to operationalize your Machine Learning Models in Azure, please contact us today. We are happy to assist you with any questions or concerns you may have.