Build powerful machine learning models and improve your analysis capabilities without writing any code

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Klarna Bank AB

Agenda

Current State & issues with ML value creation

Scale ML value creation by enabling Analyst

Introduction to Amazon SageMaker Canvas

SageMaker Canvas Demo

Customer showcase: Klarna Bank AB

How to get started with Canvas

ML is powerful

Predictive maintenance

Manufacturing, Automotive, IoT

Demand forecasting

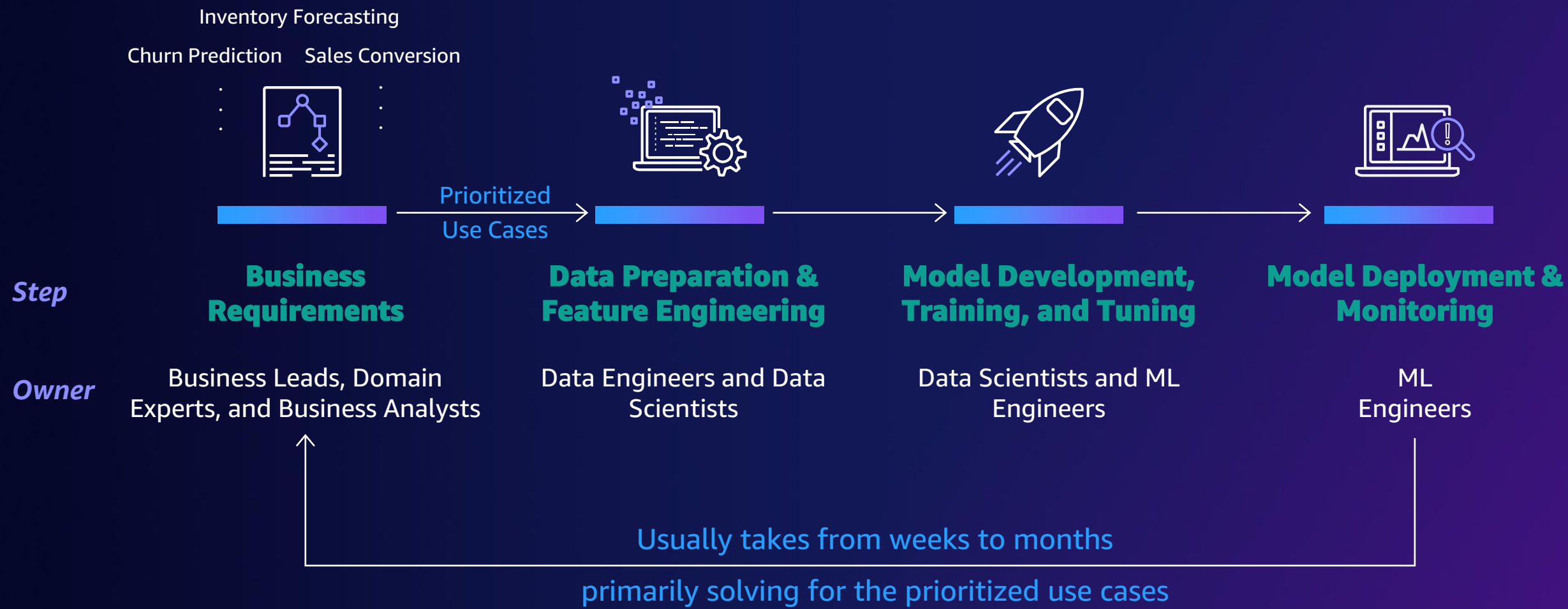Retail, Consumer Goods, Manufacturing

Fraud detection

Financial Services, Online Retail
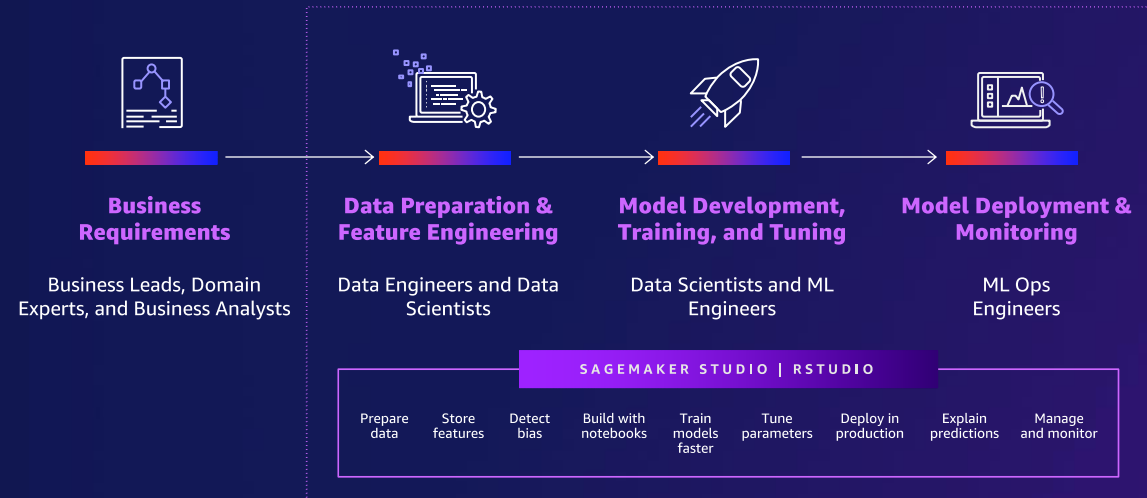
Credit risk prediction

Financial Services, Retail

How ML Drives Value Creation Today

Inventory Forecasting

Churn Prediction   Sales Conversion

Prioritized
Use Cases

Step

Business Requirements

Data Preparation & Feature Engineering

Model Development, Training, and Tuning

Model Deployment & Monitoring

Owner

Business Leads, Domain Experts, and Business Analysts

Data Engineers and Data Scientists

Data Scientists and ML Engineers

ML Engineers

Usually takes from weeks to months

primarily solving for the prioritized use cases

How Can You Scale ML Value Creation?

1 — **Enhance ML Team Productivity**

Business Requirements	Data Preparation & Feature Engineering	Model Development, Training, and Tuning	Model Deployment & Monitoring
Business Leads, Domain Experts, and Business Analysts	Data Engineers and Data Scientists	Data Scientists and ML Engineers	ML Ops Engineers

SAGEMAKER STUDIO | RSTUDIO

Prepare data	Store features	Detect bias	Build with notebooks	Train models faster	Tune parameters	Deploy in production	Explain predictions	Manage and monitor

2 — **Expand Your ML Development Team**

+74% annual compound growth in past 4 years

2x the demand growth of any other emerging job role

3 — **Democratize ML Innovation**

Business analyst require a different set of tools to use ML

Challenges Analysts Face in Building ML

Analysts lack deep ML expertise, and learning curve is steep

Business needs explainability and validation from experts

Available no-code ML tools tend to lack transparency and have upfront fees

Our mission at AWS

Put machine learning in the hands of every **developer**, **data scientist**, and **business user**

Amazon SageMaker Canvas

No ML experience required

Amazon SageMaker Canvas expands access to ML by providing business analysts with a **visual point-and-click interface**, allowing you to generate ML predictions on your own

Use Amazon SageMaker Canvas to prepare data for ML modeling and generate ML predictions

Can quickly **connect to and access data** from disparate sources
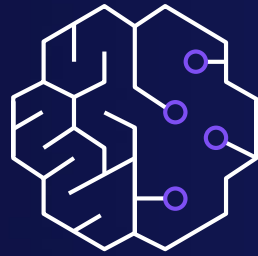
Leverages powerful AutoML technology to automatically **train and build models** based on your dataset
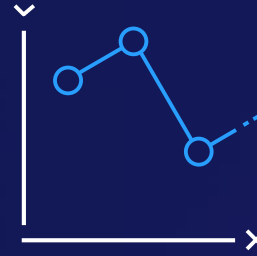
Identifies the best model based on your dataset to **generate single or bulk predictions**

Integrates with SageMaker Studio, making it easy to **share models** with data scientists
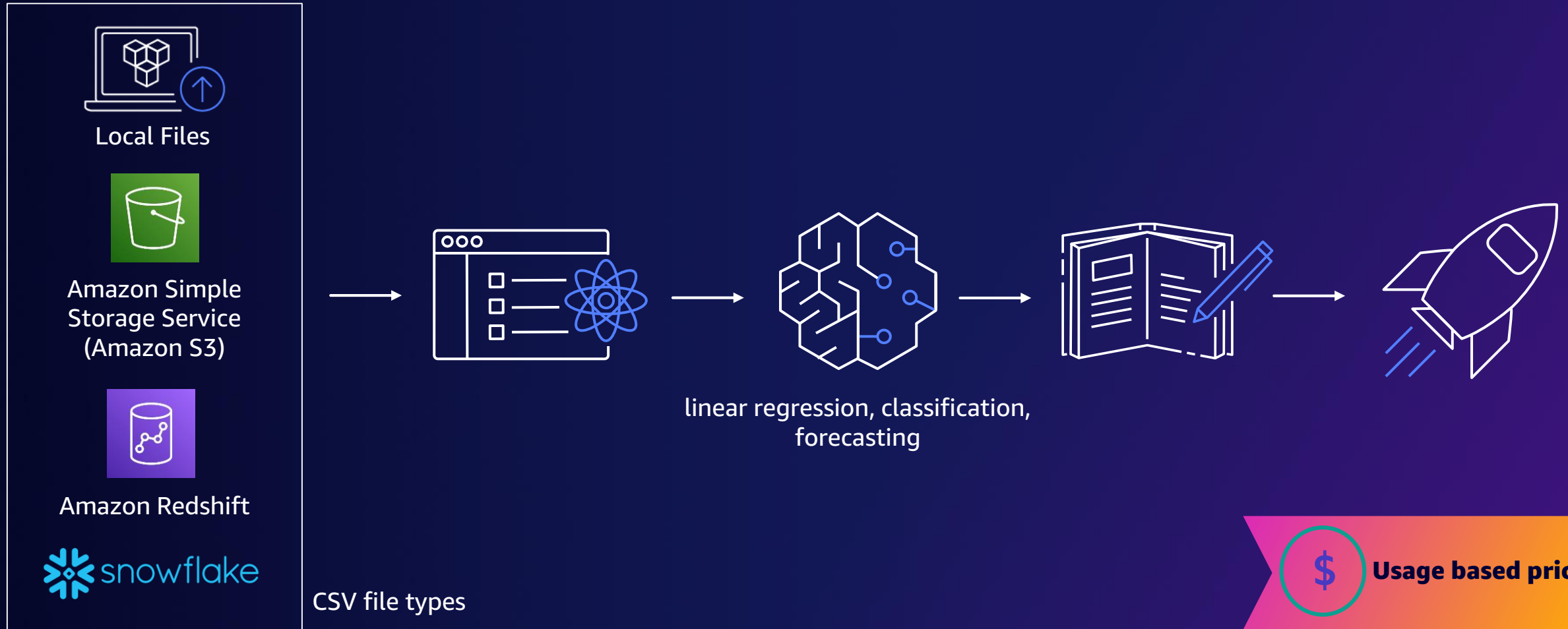
Amazon SageMaker Canvas workflow

Choose data source(s)   **Prepare the Data**   **Build Model**   **Analyze Results**   **Make Predictions**

Local Files

Amazon Simple
Storage Service
(Amazon S3)

Amazon Redshift

snowflake

CSV file types

linear regression, classification,
forecasting

$ Usage based pricing

Demo – Product delivery on time

Will my package arrive on time?

Based on previous shipping logs and product information…

Is it possible to predict if my package will arrive on time?

Klarna Bank

Vaibhav Singh(he/him)
Senior Data Science Manager
Klarna Bank AB

aws

Klarna's Products

1 — **Klarna's Payment Methods**

2 — **Klarna's Open Banking**

3 — **Consumer Products**
Klarna App
Shopping
Bank with Klarna

4 — **Retailer Products**
Shopping & Solution
The Merchant Portal

Klarna in numbers

400K
retail partners
+38%/year

78K+
physical stores
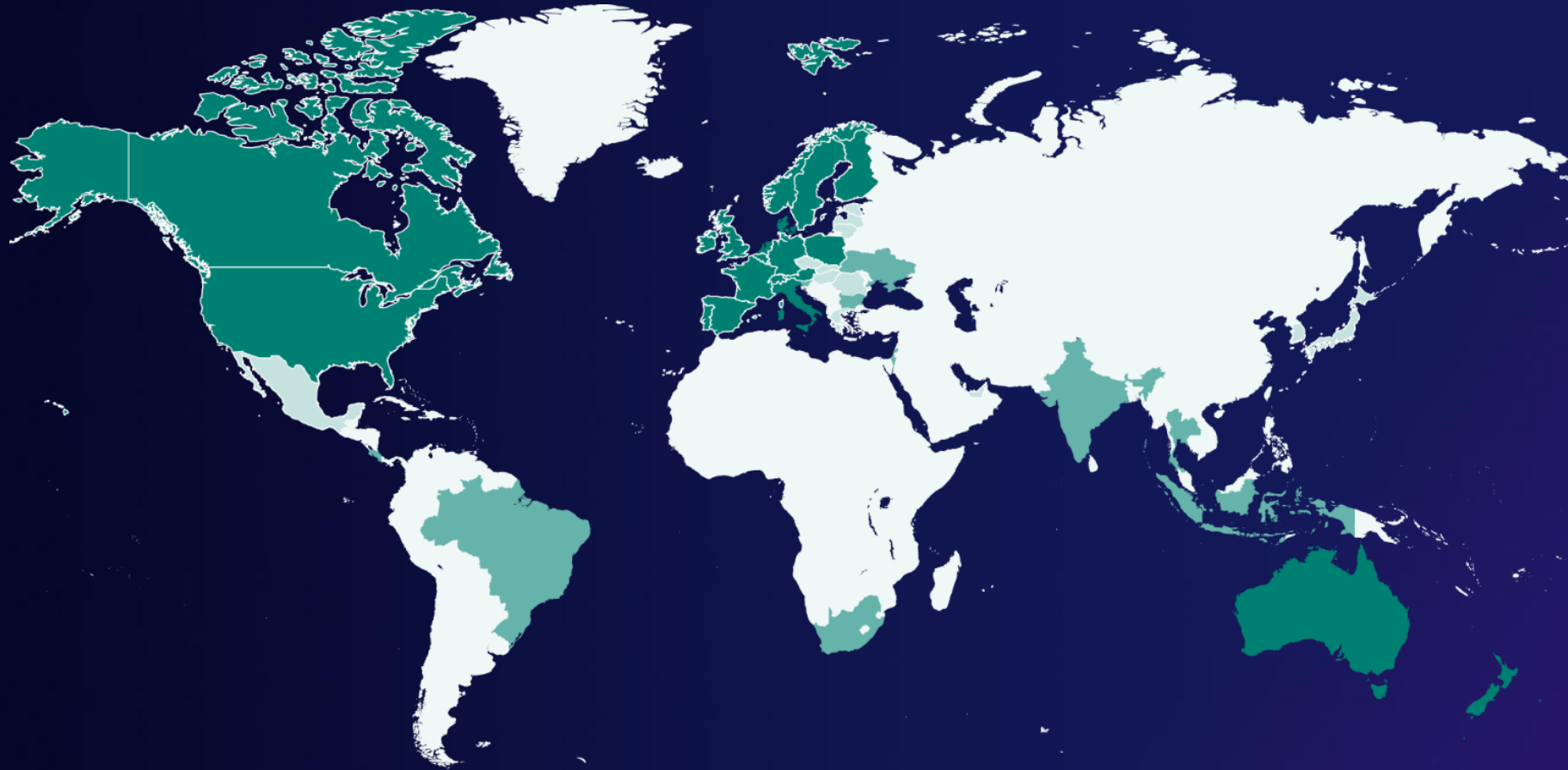+59%/year

2M
TRXN/ day
+29%/year

45M
app downloads
+91%/year

23M
MAU
+41%/year

21M
saved items
+500k/month

A global solution that fits regional needs

6
continents

45
core markets

46
local offices
worldwide

Machine learning at Klarna

Credit Risk

Fraud Risk
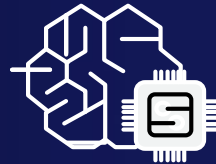
Identification

Personalization

Forecasting

Marketing Campaigns

How is Klarna using AWS ML Services

Data Exploration

Sagemaker Notebooks
Data Wrangler

Training

Sagemaker Training Jobs
AWS Batch

Serving

Sagemaker Endpoints
AWS ECS

Sagemaker Pipelines

Why Canvas

1 — **Users and Growth**
Number of Analysts vs Data Scientists
Speed to market

2 — **Data Cleaning**
Fast Exploration of Data Sets
Data Joins possible without code
Removal of columns

3 — **Model Explanations**
Impact of features
Model Interpretation
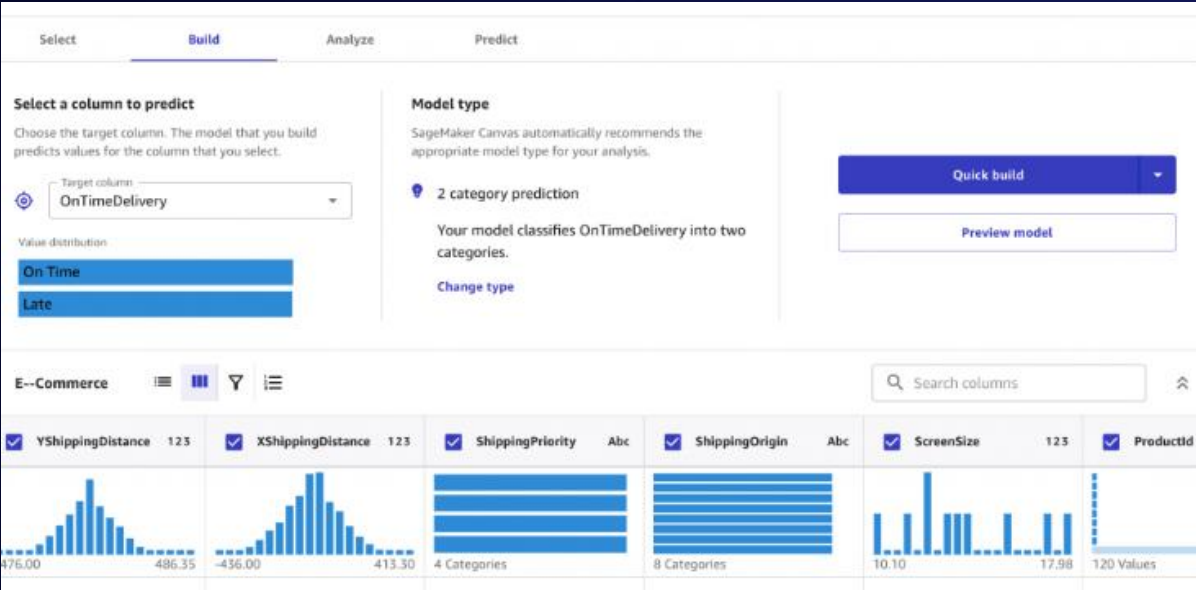Share notebooks with Data Scientists
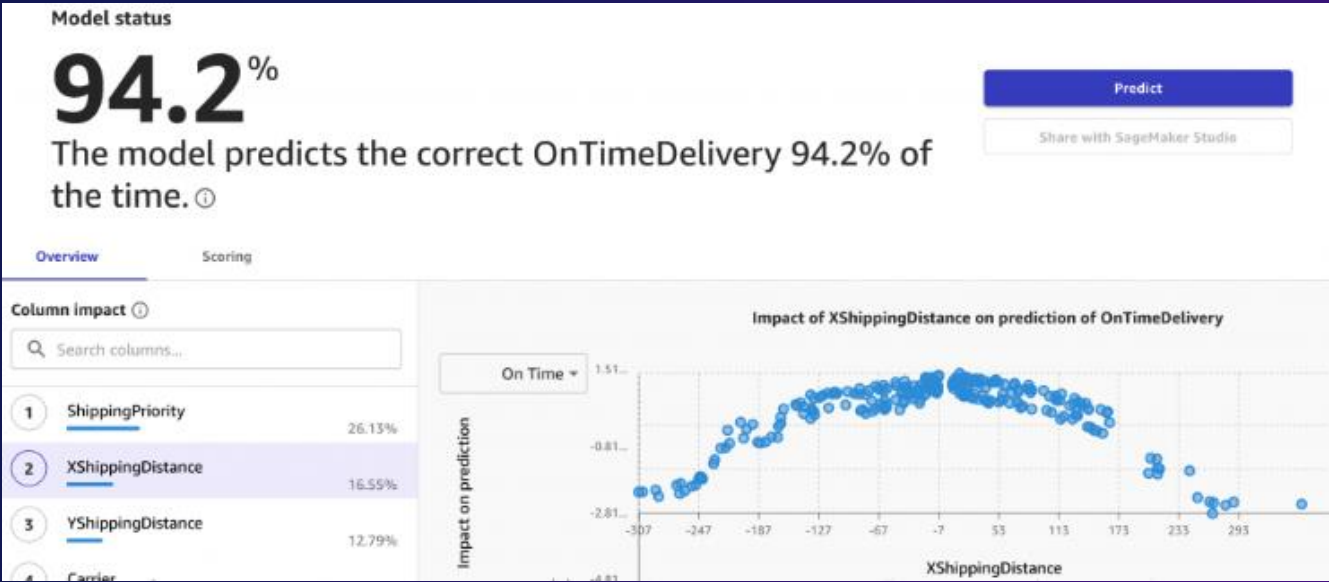Batch and Single Predictions

4 — **Added Benefits**
AutoML Variations
Hyperparameter Tuning
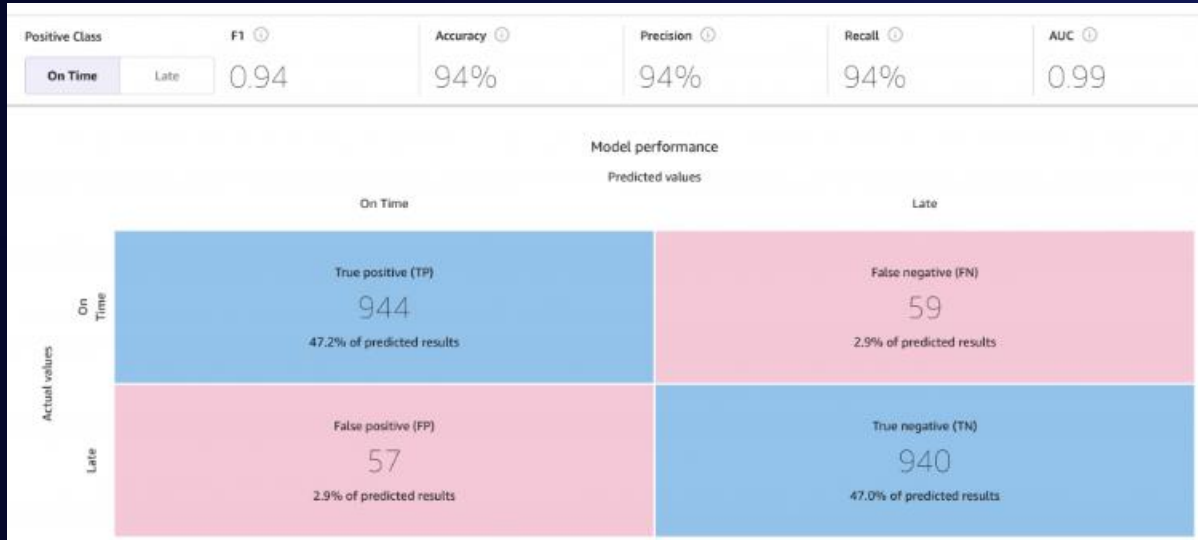
Model Explanations – Is your model good?

Understanding the Data

Understanding the Features
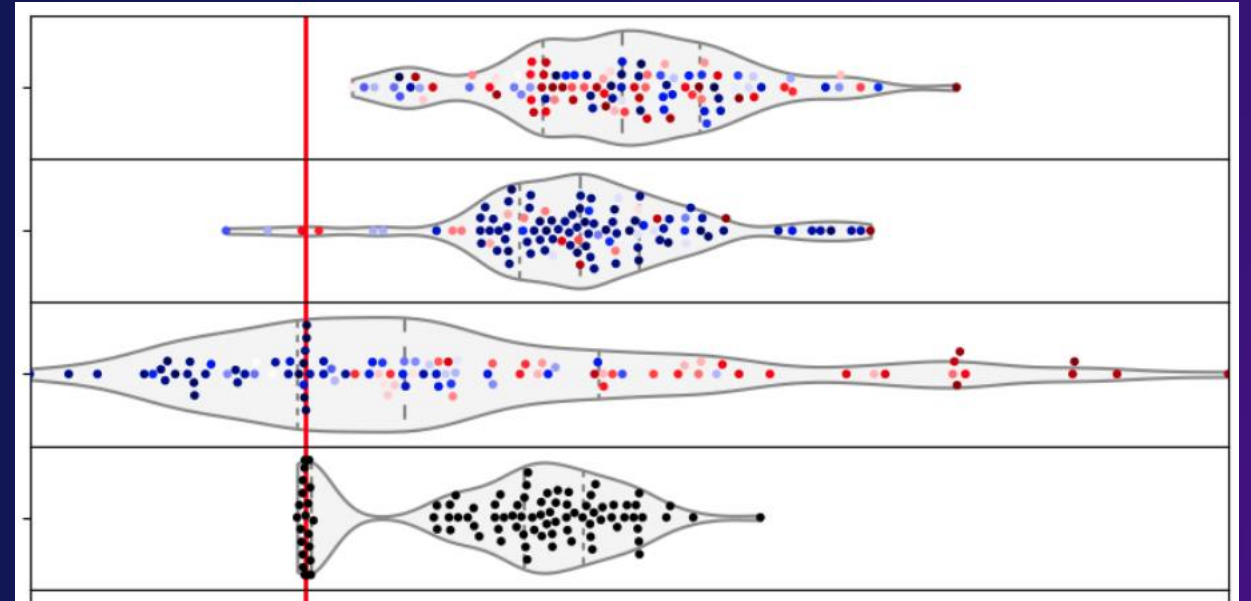
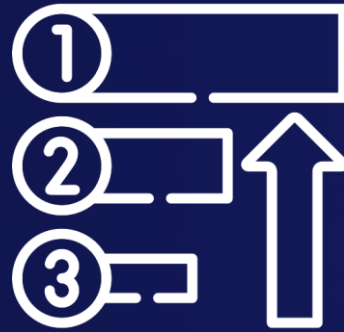# Model Explanations – Is your model good?

General Performance Metrics

SHAP Value Report
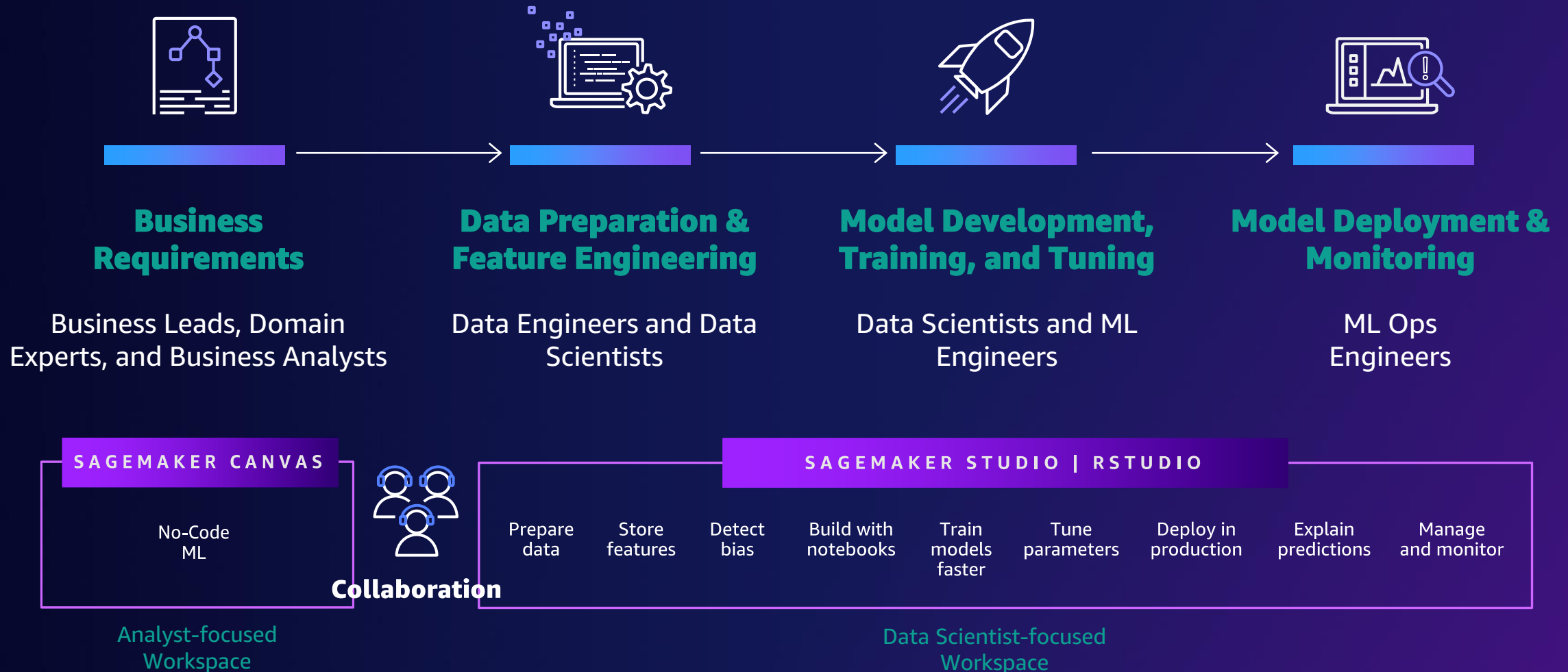
Future use cases of Canvas at Klarna

Evangelise

Prioritise

Scale

ML from Months to Hours

Business Requirements → **Data Preparation & Feature Engineering** → **Model Development, Training, and Tuning** → **Model Deployment & Monitoring**

Business Leads, Domain Experts, and Business Analysts

Data Engineers and Data Scientists

Data Scientists and ML Engineers

ML Ops Engineers

SAGEMAKER CANVAS

No-Code ML

Collaboration

SAGEMAKER STUDIO | RSTUDIO

Prepare data | Store features | Detect bias | Build with notebooks | Train models faster | Tune parameters | Deploy in production | Explain predictions | Manage and monitor

Analyst-focused Workspace

Data Scientist-focused Workspace

Call to action

Amazon SageMaker Canvas
Get Started with Amazon SageMaker Canvas

Amazon SageMaker Canvas Pricing
Pay based on usage

AWS Machine Learning Blog
Learn the latest news on AWS Machine Learning

Want to test on your own?

SageMaker Canvas provides a Free Tier for two months:
- Interactive sessions up to 750 hours/month
- Up to 10 model creation requests/month

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Thank you!

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