



Generative AI for Industries

Value Chains, Use Cases and Demos

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Prototyping and Customer Engineering
AWS Industries

Who is PACE?

We **enable** customers to **accelerate** innovation

Multidisciplinary/Cross domain

- Solution Architects
- Software Developers
- UI/UX Designers
- Data Scientists
- Robotics, AR/VR, IoT
- Technical Program Managers
- **Industry Verticals**
 - Health Care & Life Sciences
 - Industrial & Manufacturing (I&M)
 - Media and Entertainment (M&E)
 - Gaming and sports
 - Automotive
 - Energy
 - Financial Services
 - Telco



5 Years, ~300 Innovative Prototype

Our mission is to **inform and accelerate** customers' decision making in regard to adoption of the AWS platform. We do so by providing an **engineering capability** that delivers early iterations of customer use-case solutions and that demonstrates key AWS functionality.

Innovate and **build** with Amazon.

Prototyping takes output from Digital Innovation and creates an Initial working product to inform further decision making. Decision points tends to be 1)**Feasibility**, 2)**Business Case** and 3)**Technical Path**



Rapid Prototyping

Innovate with Amazon then **build** like Amazon. Prototyping takes output from Digital Innovation and creates an Initial working product to inform further decision making. Decision points tends to be 1)**Feasibility**, 2)**Business Case** and 3)**Technical Path**

AWS Solutions Prototyping is a **multi disciplinary, Global Team**. Typical engagement unit is 2-3 people, depending on solution being pursued. e.g. A Data Science oriented pursuit will include a data scientist, Back End Developer and Front End Developer

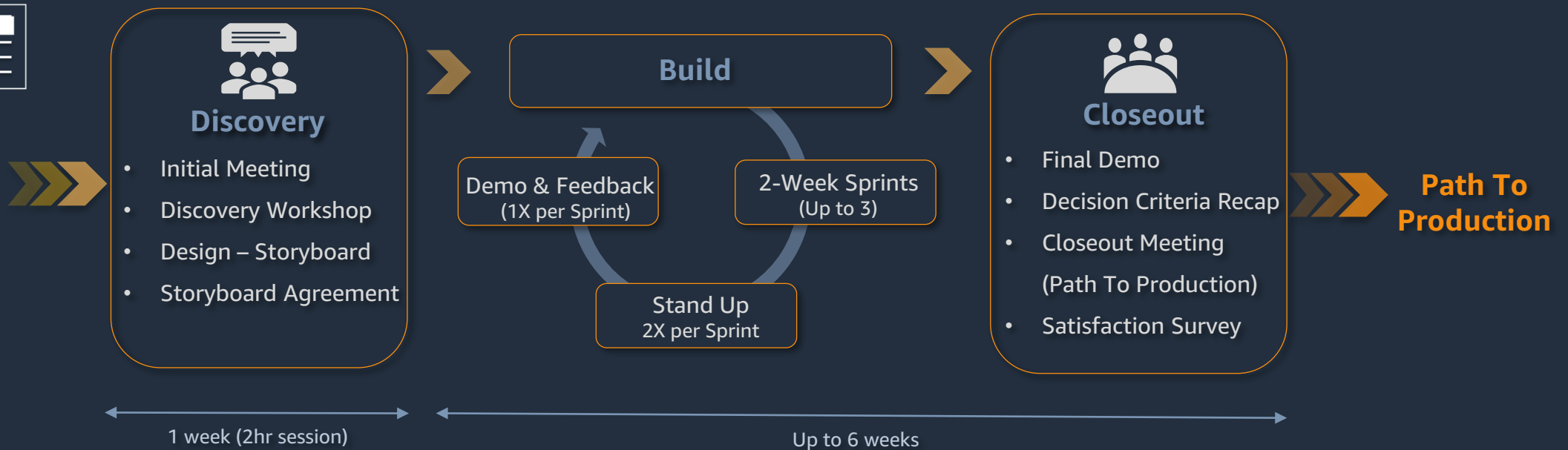
Press Release



FAO



Visuals



Enhance Customer Experiences

CHATBOTS

VIRTUAL ASSISTANTS

CONVERSATION ANALYTICS

PERSONALIZATION

Boost employee productivity & creativity

CONVERSATIONAL SEARCH

SUMMARIZATION

CONTENT CREATION

CODE GENERATION

DATA TO INSIGHTS

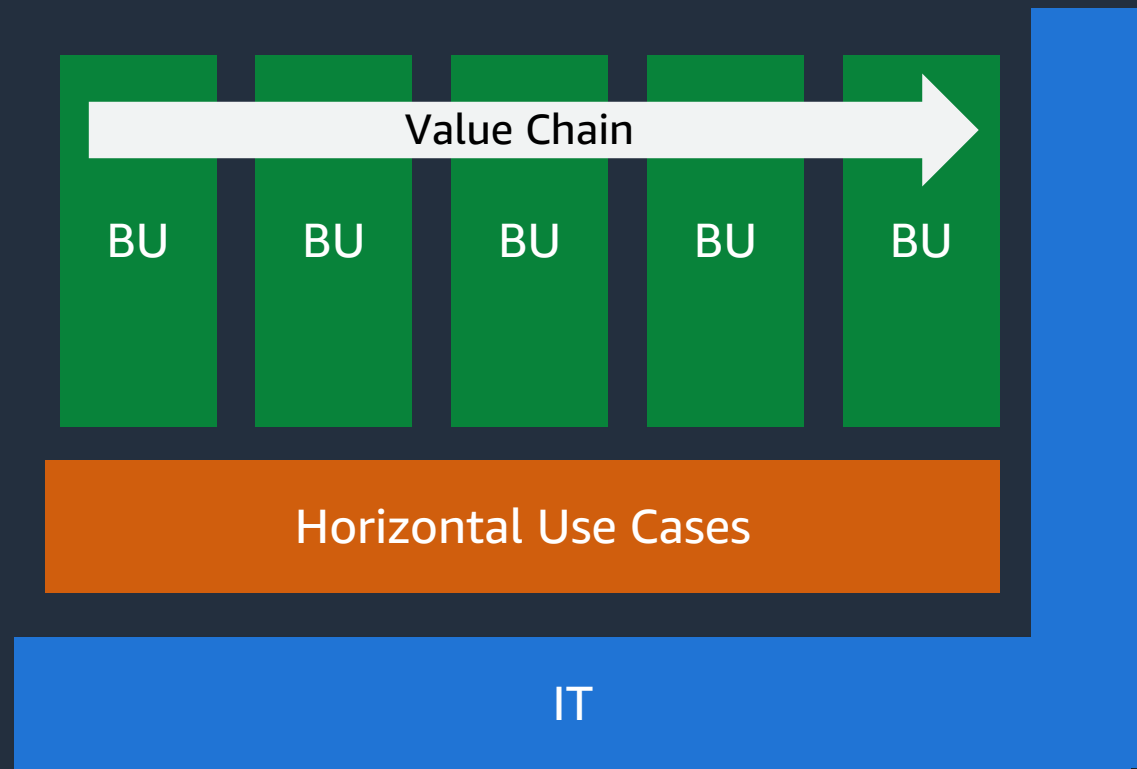
Optimize business processes

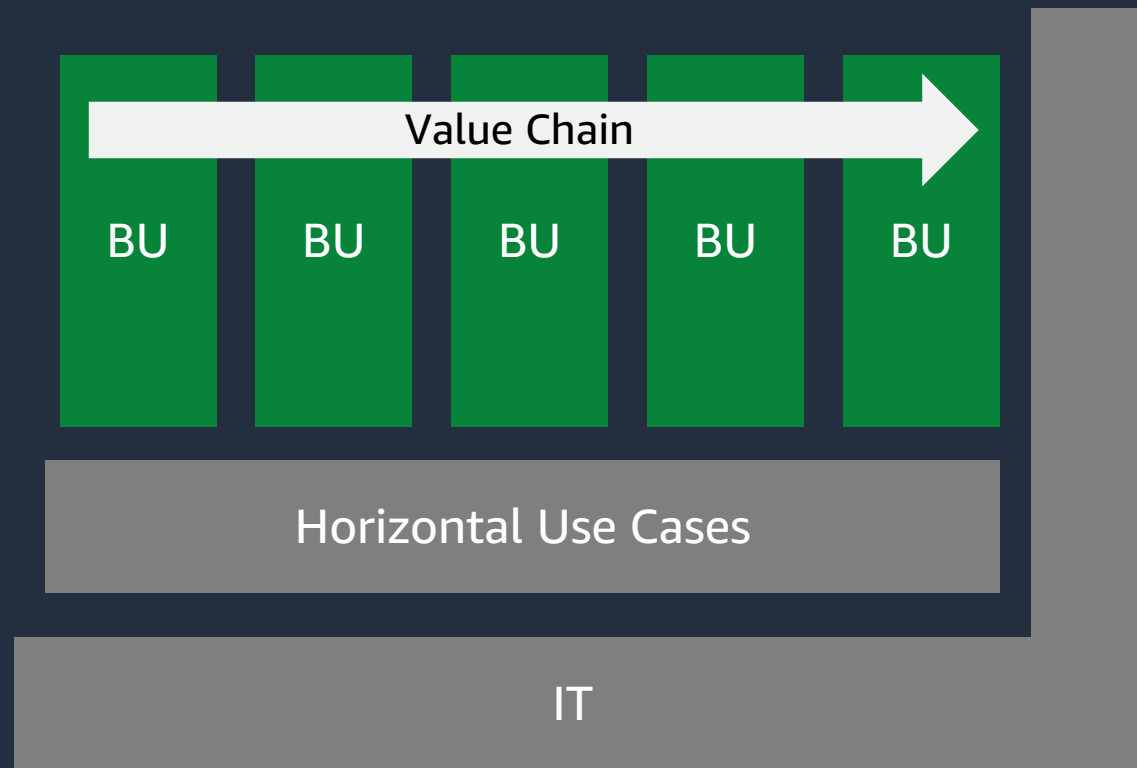
DOCUMENT PROCESSING

DATA AUGMENTATION

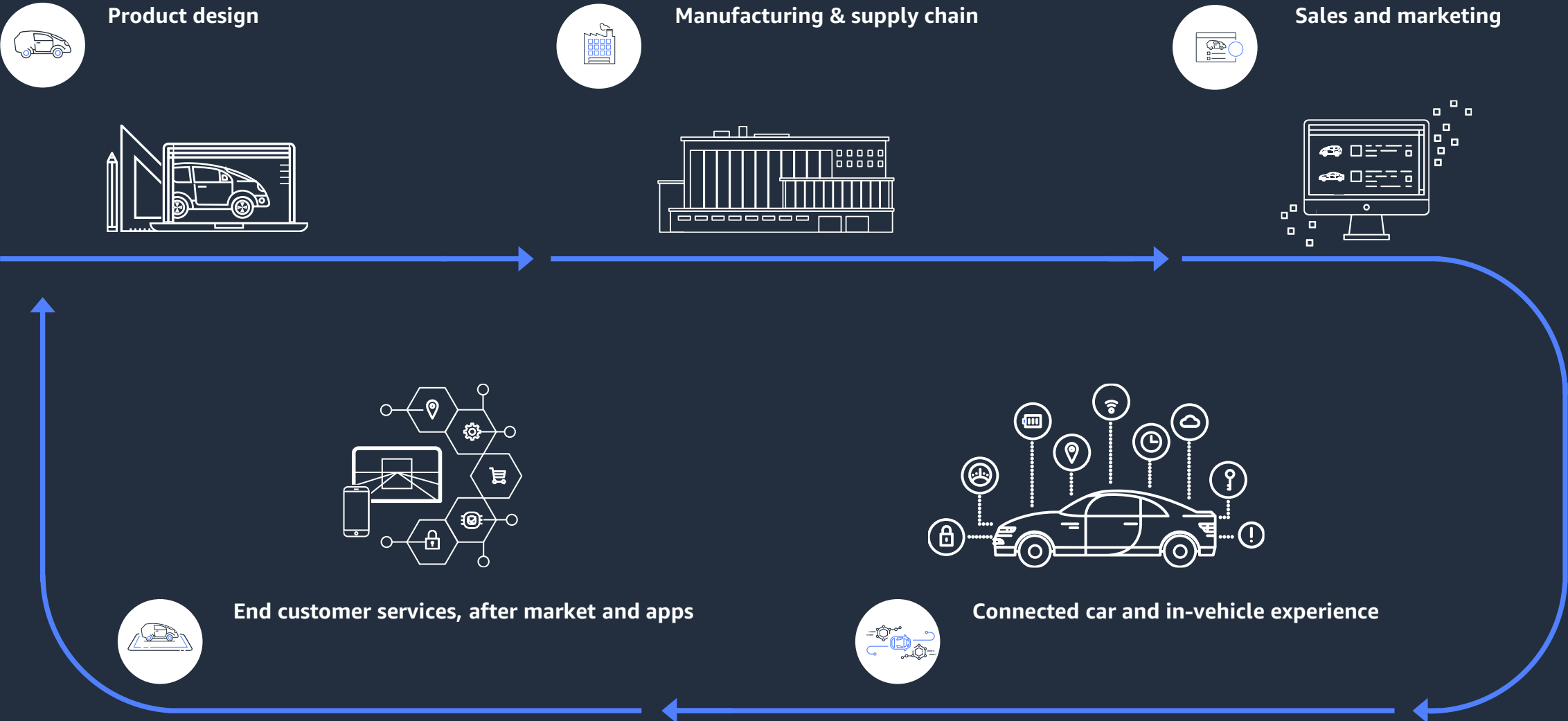
CYBERSECURITY

PROCESS OPTIMIZATION

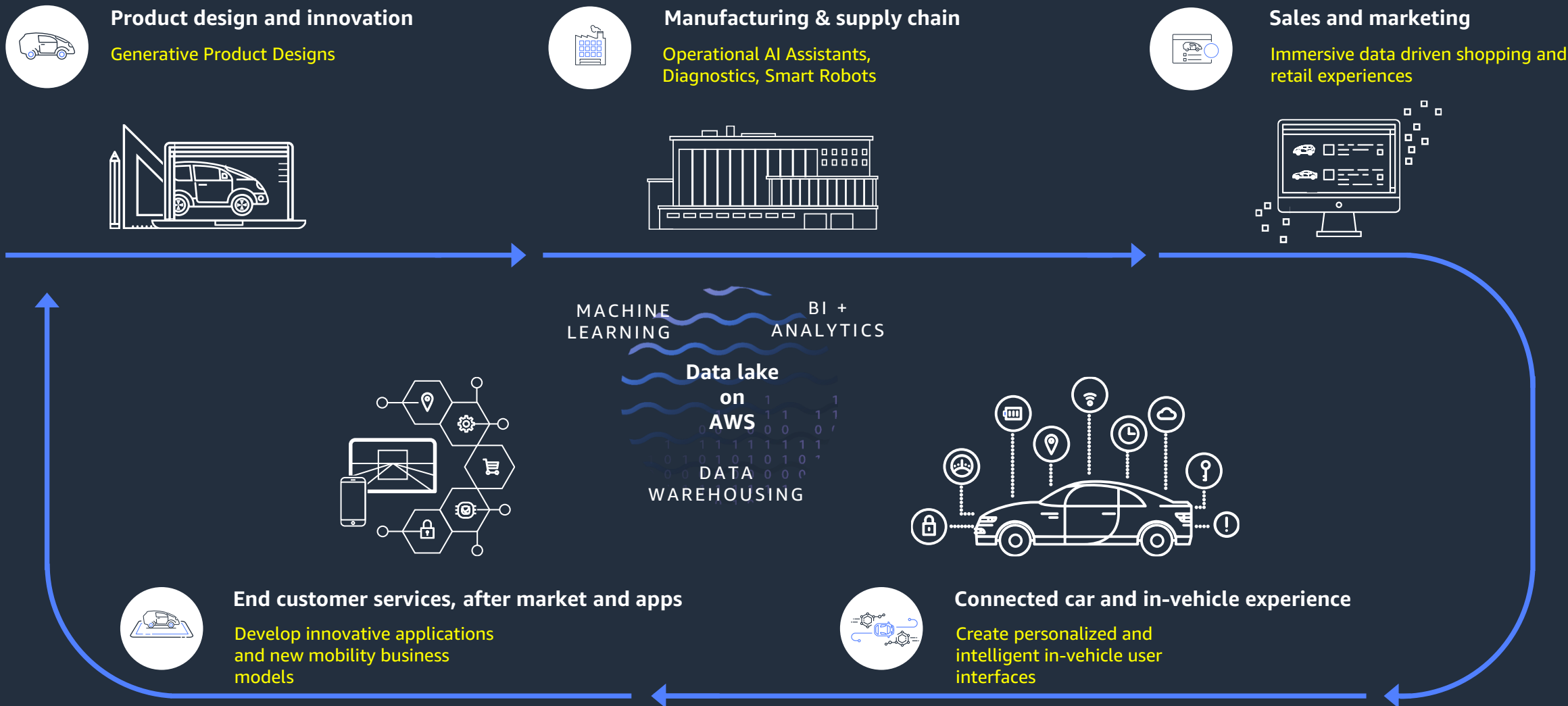




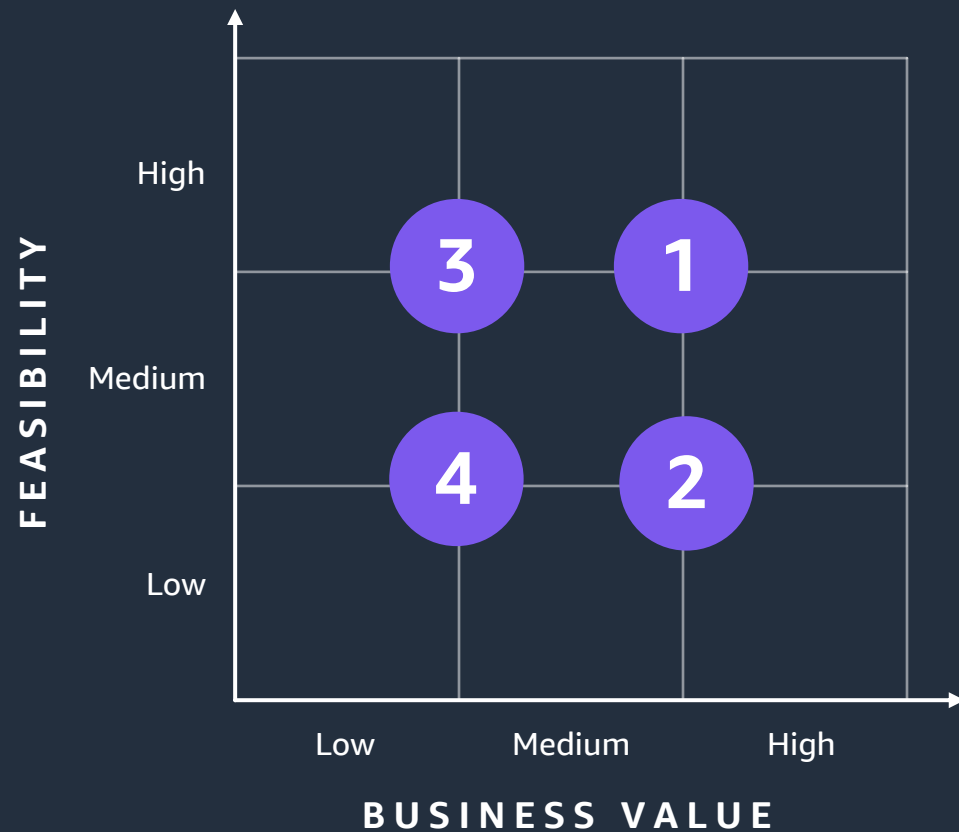
Auto Value Chain



Gen AI in the Auto Value Chain



Prioritizing your use cases



Business value scoring

- New products/revenue
- Employee productivity
- Customer satisfaction

Feasibility scoring

- Technical
- Legal
- Cost

Use case	Value	Feasibility	Overall
<>	4.6	3.6	8.2
...



Healthcare & Life Sciences

Drug discovery

Enhance clinical trials

Research reporting

Medical imaging analytics

Ambient digital scribe



Automotive & Manufacturing

Product design

Autonomous Driving

Operational efficiency

Maintenance Assistants

Supply chain optimization

Equipment diagnostics



Financial Services

Portfolio management

Financial documentation

Intelligent advisory

Fraud Detection & Documentation

Compliance assistant



Telco

Pricing optimization

Virtual try-ons review

Marketing Optimization

Product descriptions

Pers. Recommendations



Media & Entertainment

HQ content at scale

Enrich broadcast content

Automated content tagging

Optimize subscriber experience

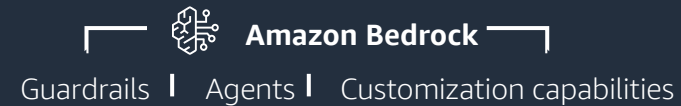
Automated highlights gen.

Generative AI Stack

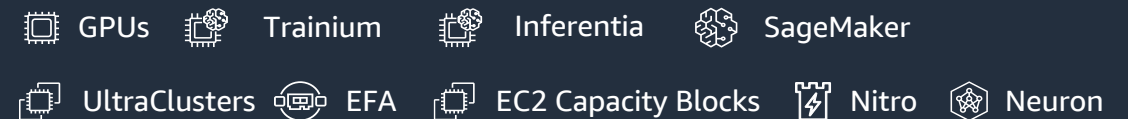
APPLICATIONS THAT LEVERAGE FMs



TOOLS TO BUILD WITH FMS AND LLMS



INFRASTRUCTURE FOR FM TRAINING & INFERENCE



In practice



Cross industry



Using Language Models to improve Call Center productivity

Conversational Q&A for call center productivity gains

Carrier

Carrier - GenAI Showcase

GenAI Use Cases

▼ UC1: Call Analysis

Overview

Search

Load Status

▼ UC2: Intelligent Chat

Intelligent Chat

Analysis Overview

Overview

Monthly

Daily

Department

Sentiment

Topic

Duration

Clear Filters

Detailed Search

Total Calls

Positive

Negative

Mixed

Loading chart

Loading chart

Word Cloud

Counts

Topic (top 50)

Loading chart data

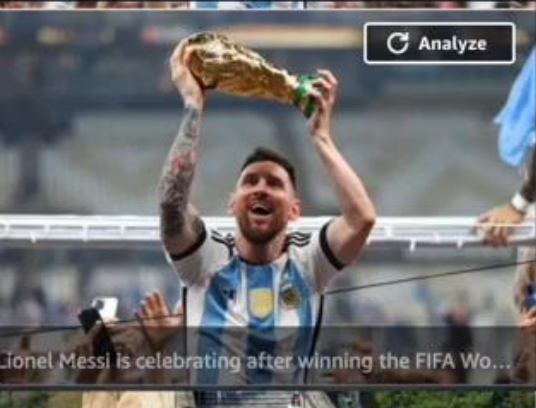
Media & Entertainment



Using Language Models to accelerate a current business process


GenAI-automated image metadata generation

News UK | Image Metadata Generation




Analyze

Lionel Messi is celebrating after winning the FIFA Wo...




Analyze

The man in the picture is celebrating after winning a...




Analyze

A double-decker bus is parked in Red Square by St. B...



Analyze

Elton John is performing at a concert in London.



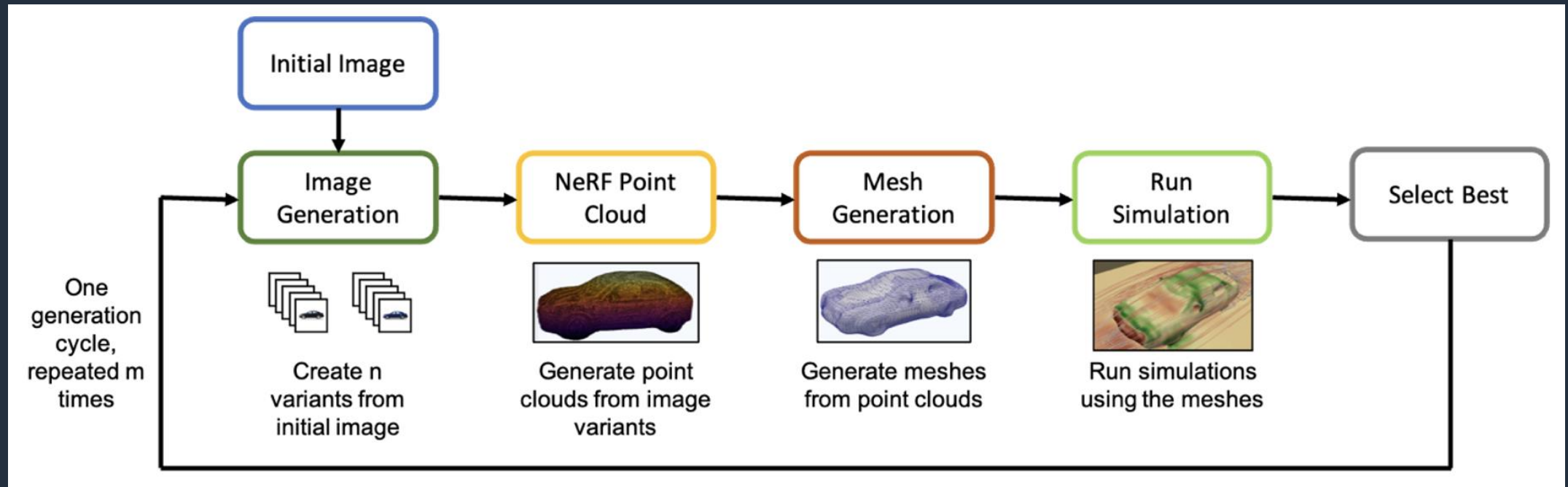
Analyze

The picture shows a group of tourists at the Great W...

Automotive

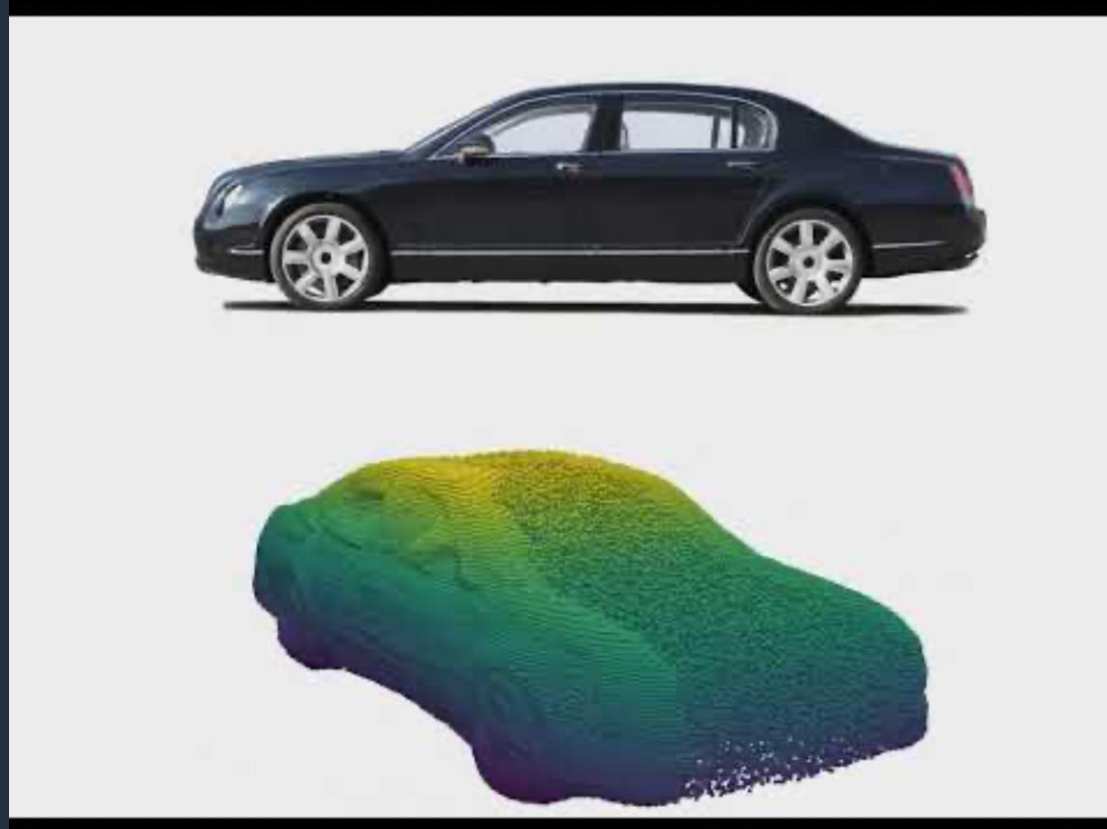


Automotive – Generative Product Design

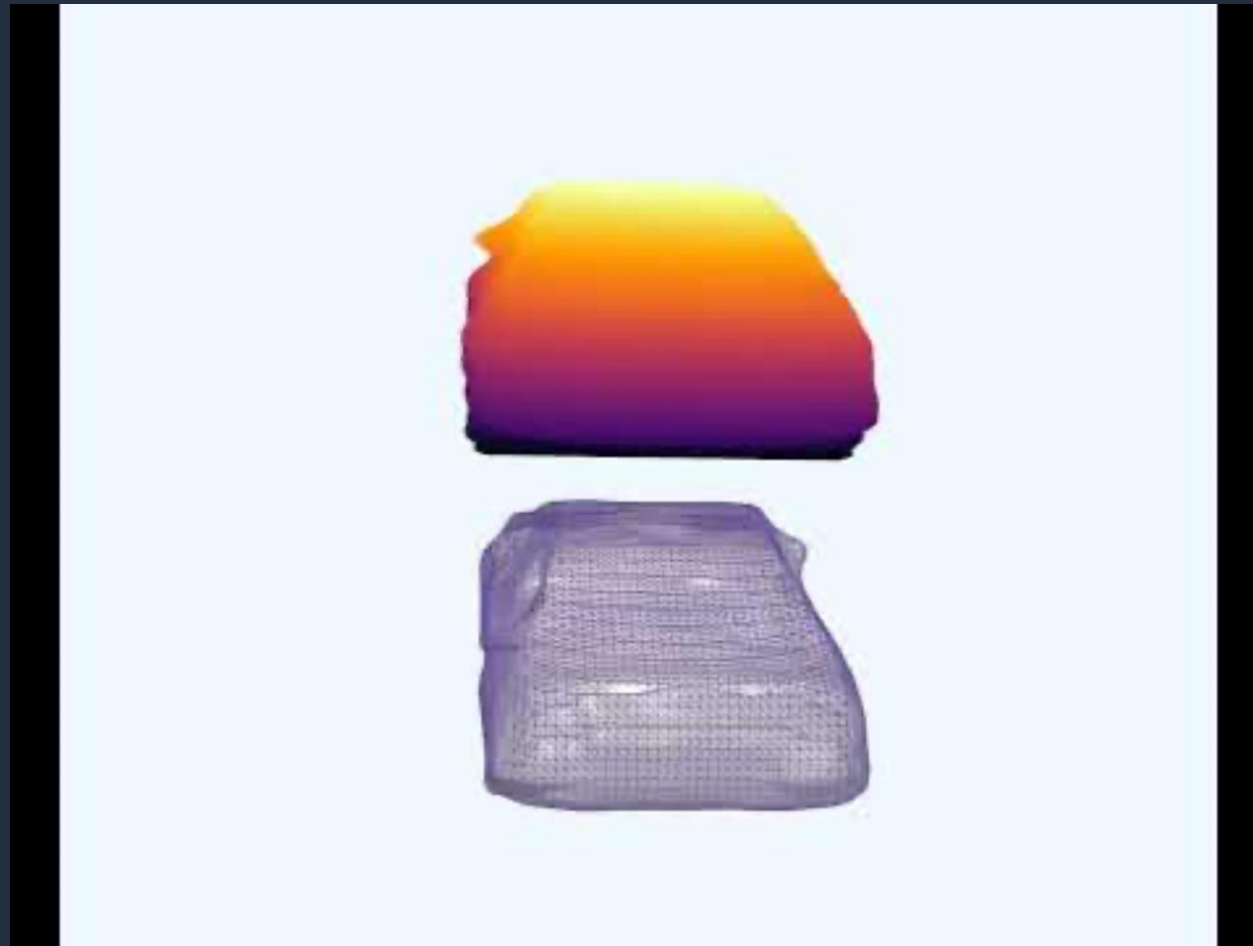




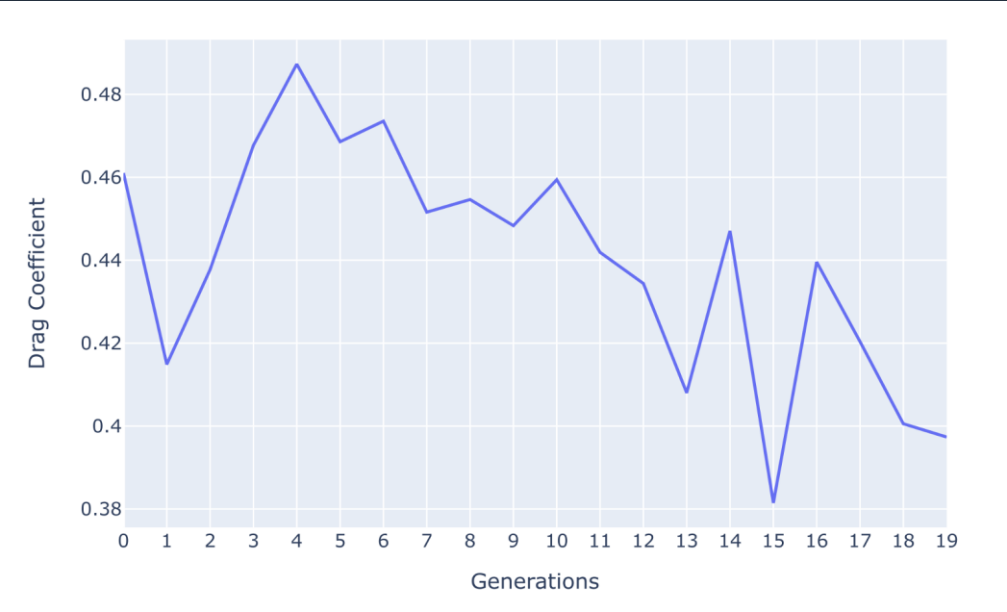
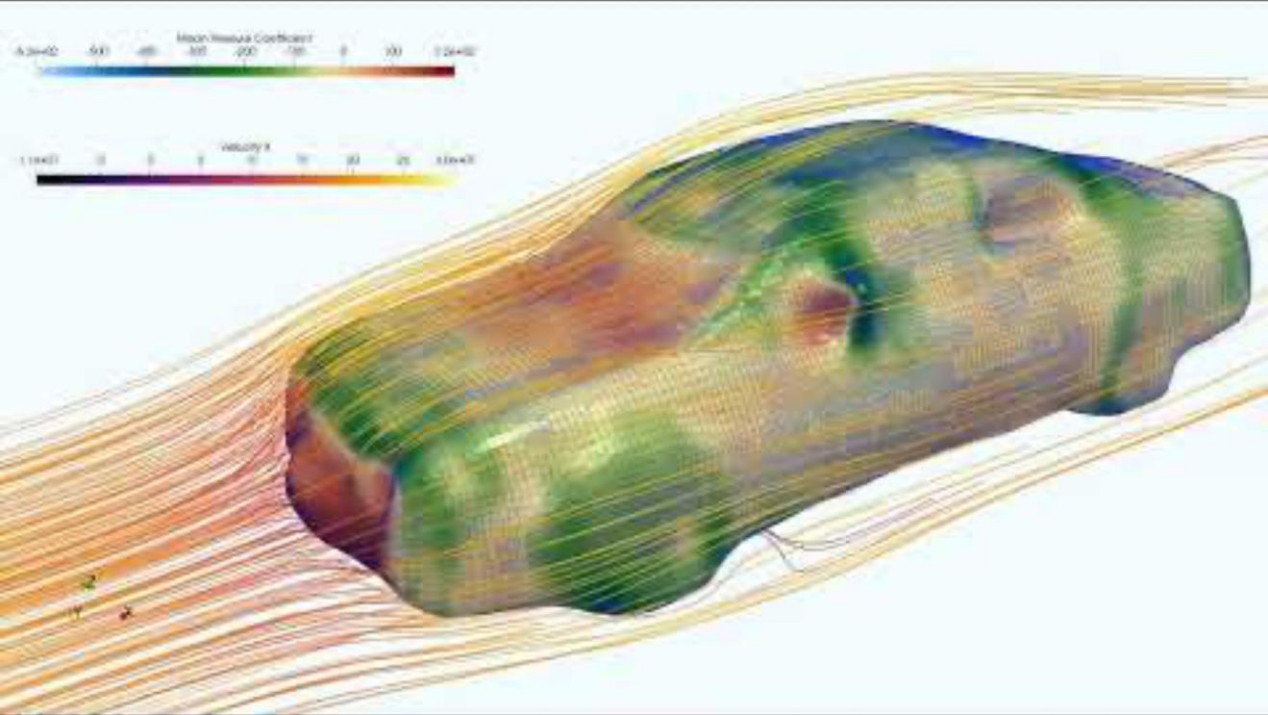
Generating point cloud using Neural radiance fields (NeRF)



Surface mesh generated with Neural Kernel Surface Reconstruction



Flow field streamlining visualization



<https://aws.amazon.com/blogs/hpc/conceptual-design-using-generative-ai-and-cfd-simulations-on-aws/>



Financial Services



Language Models are great at Language but not Math

Making LLM powered Analytical Systems using Code Generation



Investment Analyst Assistant

powered by Claude
on Amazon Bedrock

Using Language Models for Semantic Search and Visualization

Latest 1 Month Return (as of 2023-10-31): 1.85%

Latest 3 Months Return (as of 2023-10-31): 13.60%

Latest 6 Months Return (as of 2023-10-31): 26.91%

In summary, the Meridian North American Equity Explorer is a North American equity fund with around \$698 million in assets, aiming to outperform the S&P 500 Index over 3-5 years. Its latest 1-month, 3-month and 6-month returns are 1.85%, 13.60% and 26.91% respectively.

Auto Detect



How was the daily evolution of the net sales for Meridian North American Equity Explorer during October 2023?



Waiting for LLM classification result...



Generating...



Send a message.



Telco



Challenges and Solution Summary

Challenge

- Massive Infrastructure footprint for voice workloads
- Fixed resource with little to no scaling
- High TCO due to large footprint
- Manual tedious operations and network management
- Long cycle of fault detection and RCA process

Solution

ngvoice cloud-native IMS

- Microservices based, fully containerized
- Lower resource footprint, thus lower TCO
- Faster deployment less than an hour
- Highly scalable

Gen AI based IMS network operations

- On-demand observability
- Real-time alerting of fault occurrences
- Closed loop operations and corrective actions



Thank you

Lets explore together
- GenAI Innovation Center
- Prototyping and Customer Engineering

