Introduction to Intel® Distribution of OpenVINO™ toolkit for Computer Vision Applications

100: Beginner-level
Lesson 07

Introduction to Intel® Distribution of **OpenVINO™** toolkit for Computer Vision Application

OpenVINO 100 **– Course agenda**

Lesson 1: Introduction, why do we need Artificial Intelligence (AI).

Lesson 2: What is Video, what is computer vision, how do we accelerate it on modern computers.

Lesson 3: How to accelerate Video processing

Lesson 4: How to accelerate Neural Network for vision applications

Lesson 5: Video Analytics pipeline

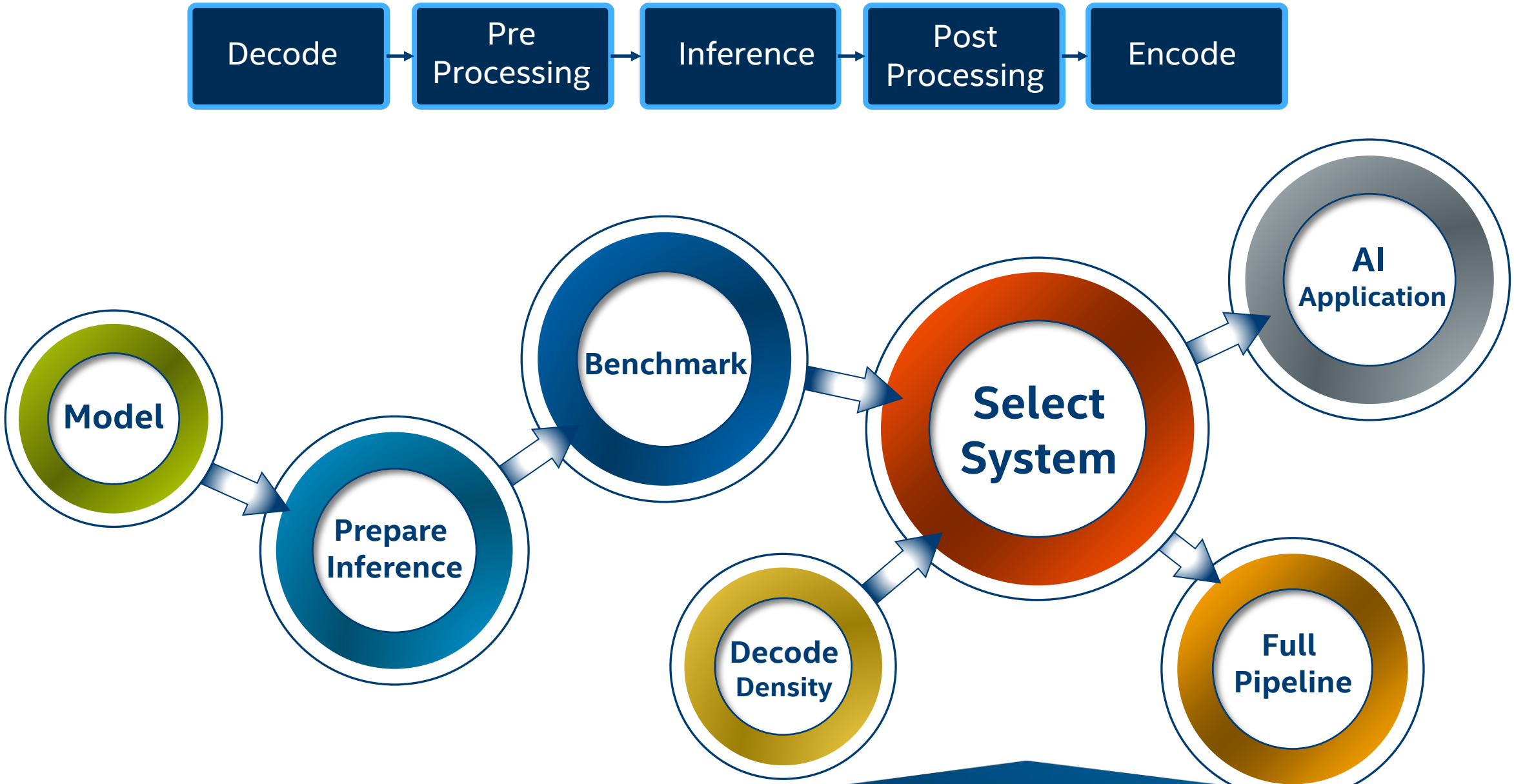
Lesson 6: Demos, OpenVINO at work

Lesson 7: The full flow, from Data to a product using Intel tools-Part 1.

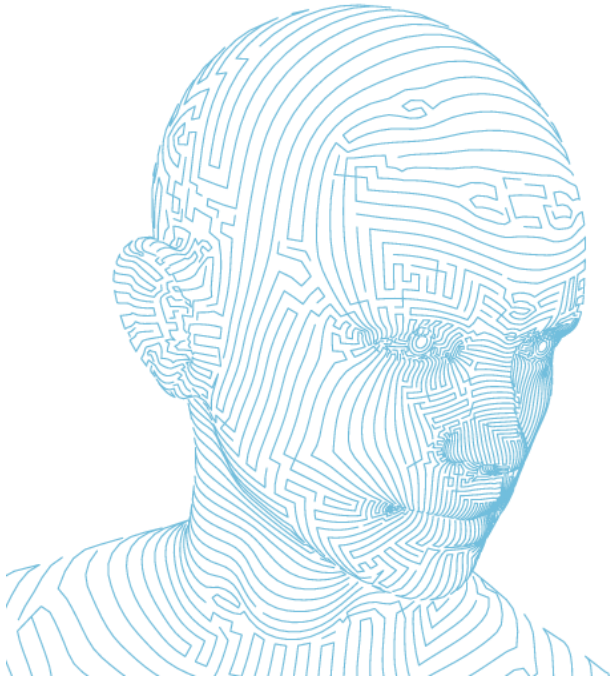
Lesson 8: The full flow, from Data to a product using Intel tools-Part 2.

Lesson 9: Summary, intro to next course (200)

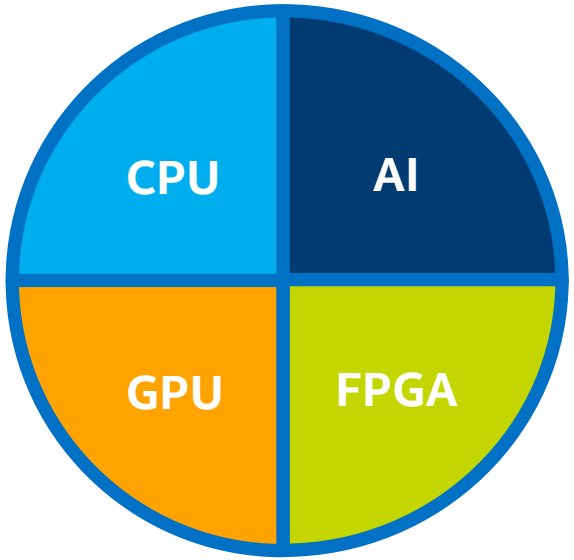

Decode
Pre Processing
Inference
Post Processing
Encode

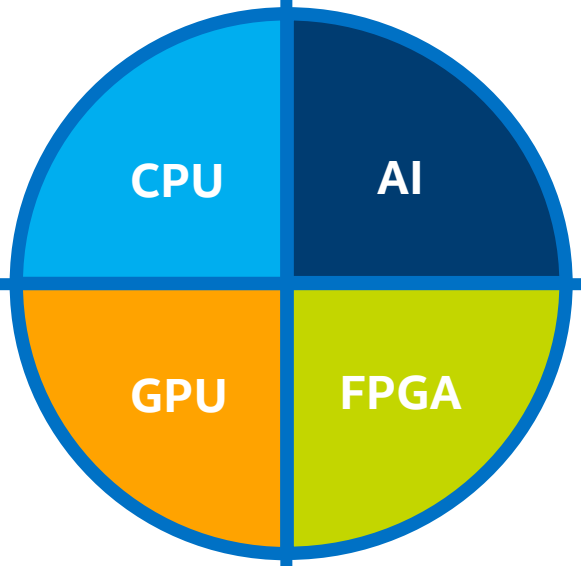

Decode
Pre Processing
Inference
Post Processing
Encode
Model
Prepare Inference
Benchmark
Decode Density
Select System
AI Application
Full Pipeline


Select
System

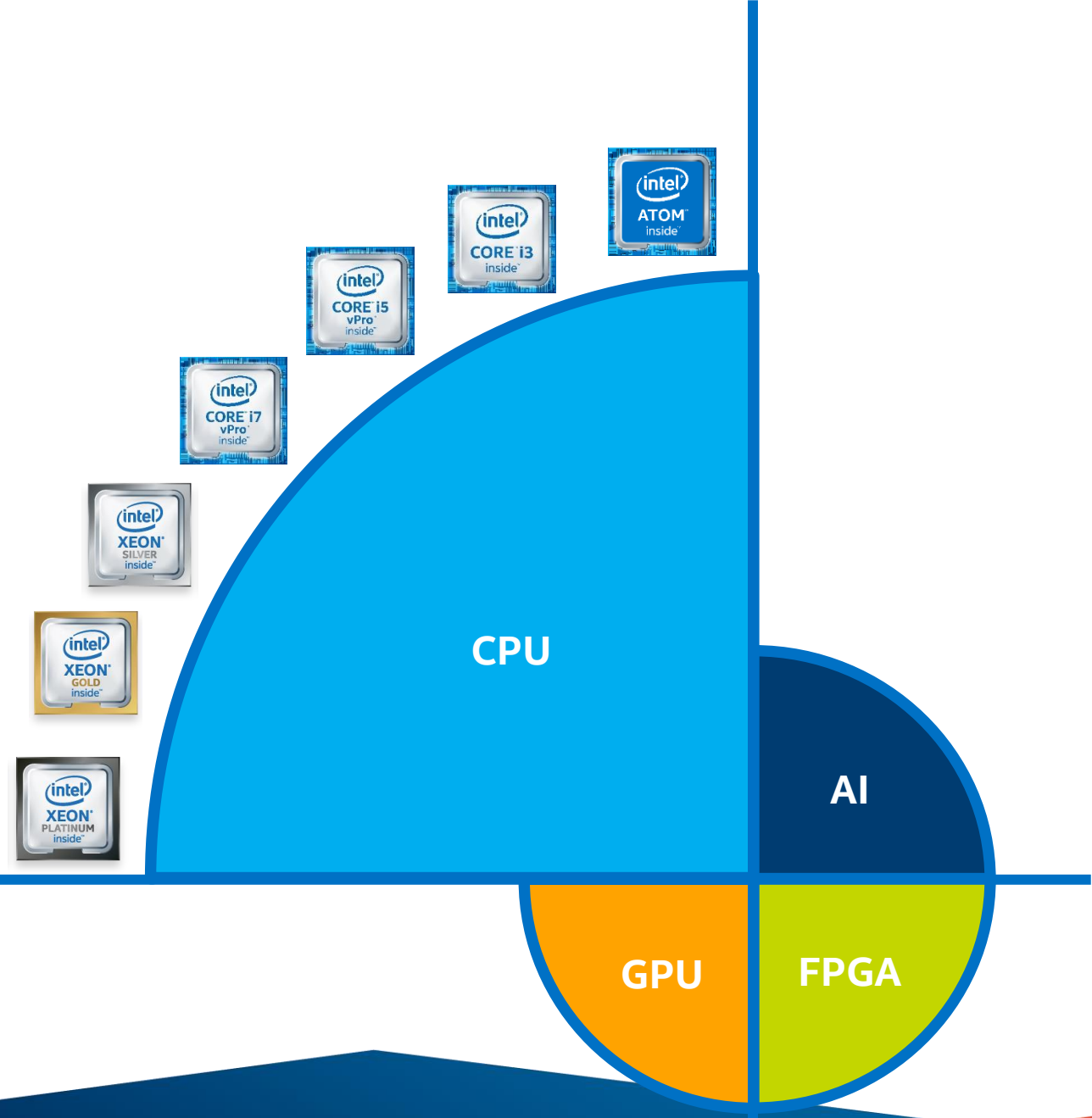


heterogenous systems

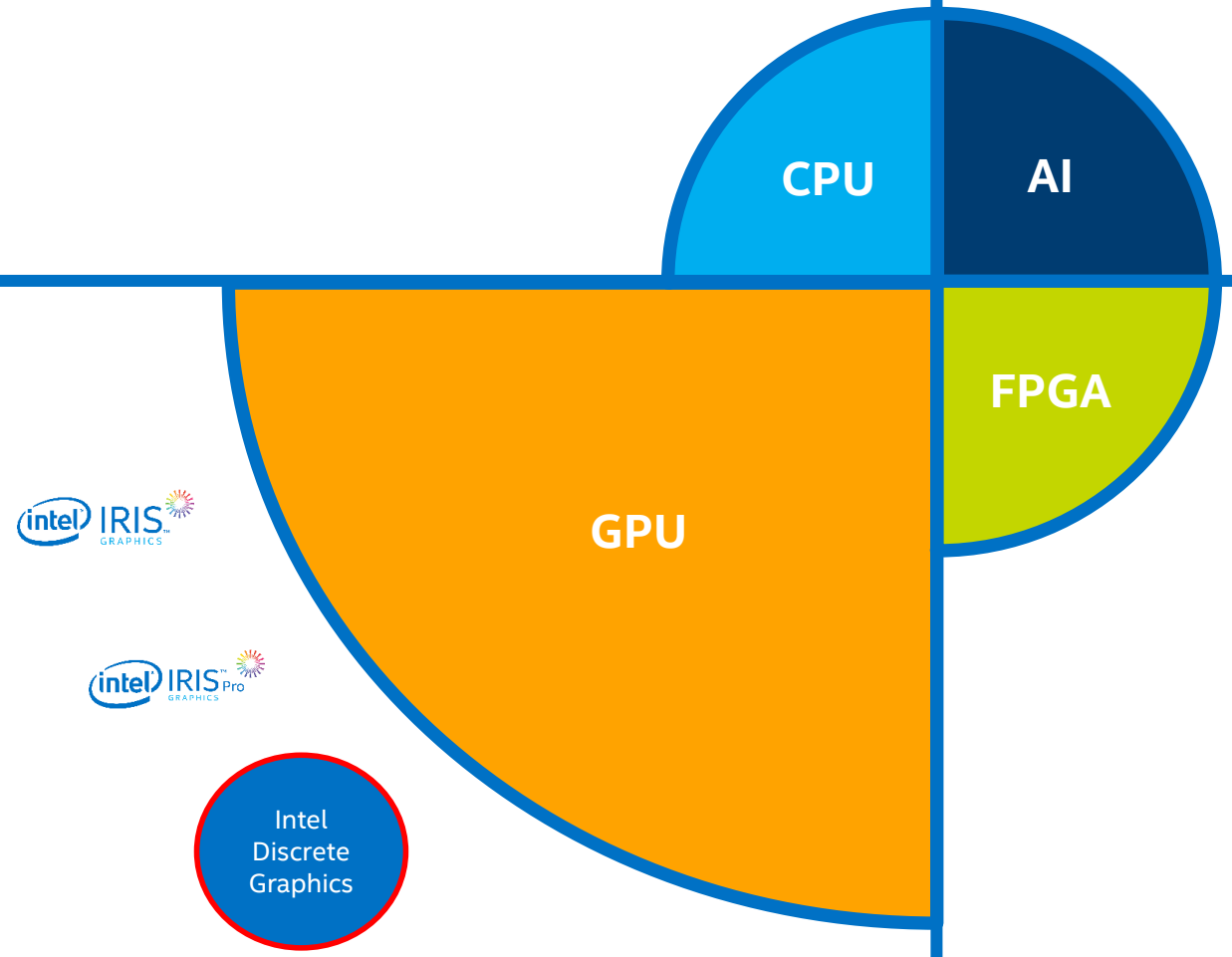


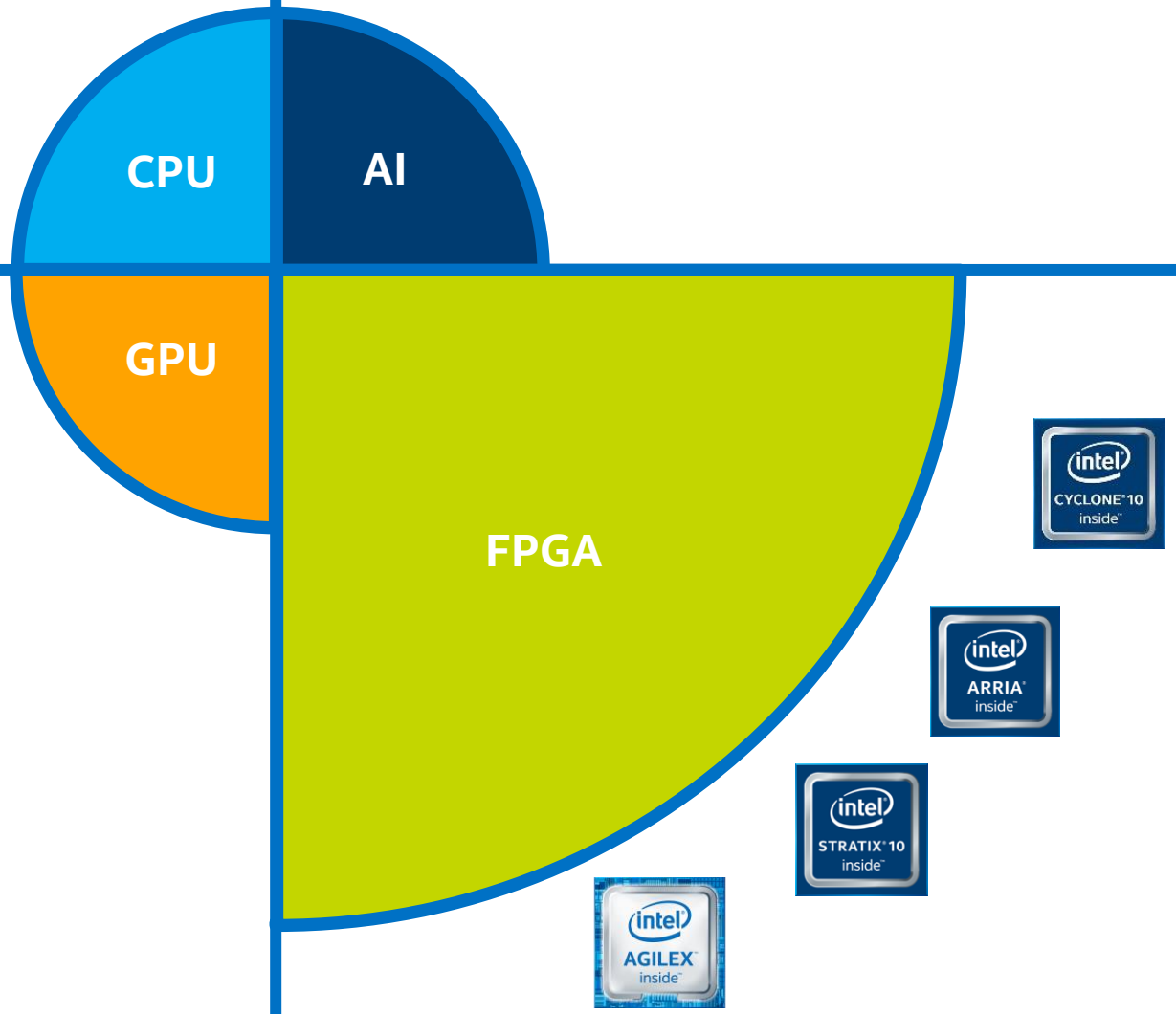

CPU
AI
GPU
FPGA

	ResNet50 Infer/sec	MobileNet-SSD Infer/sec
Apollo-Lake	8	20
Coffee-Lake i3	80	170
Coffee-Lake i7	134	300
Cascade-Lake	1500	2500

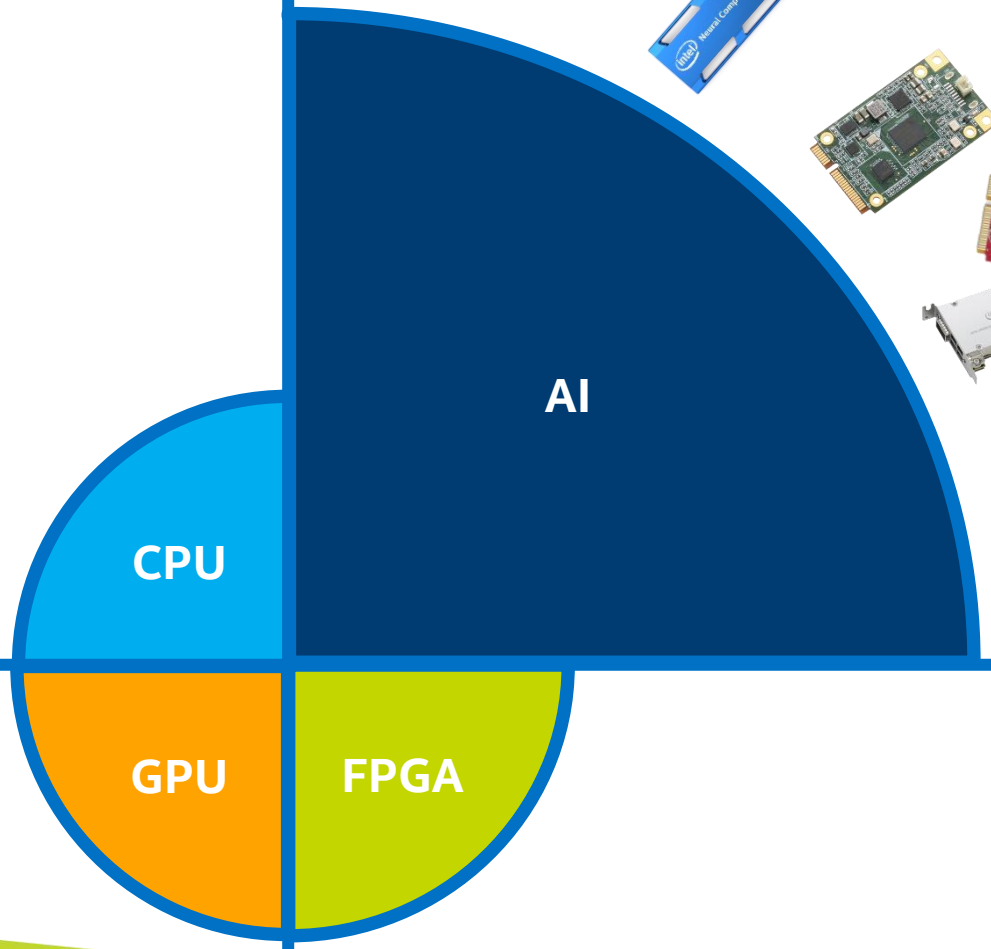


	ResNet50 Infer/sec	MobileNet-SSD Infer/sec
Apollo-Lake GT1	11	
CoffeeLake GT2	60	126
Kaby-Lake GT3	86	160
SkyLake GT4e	116	190





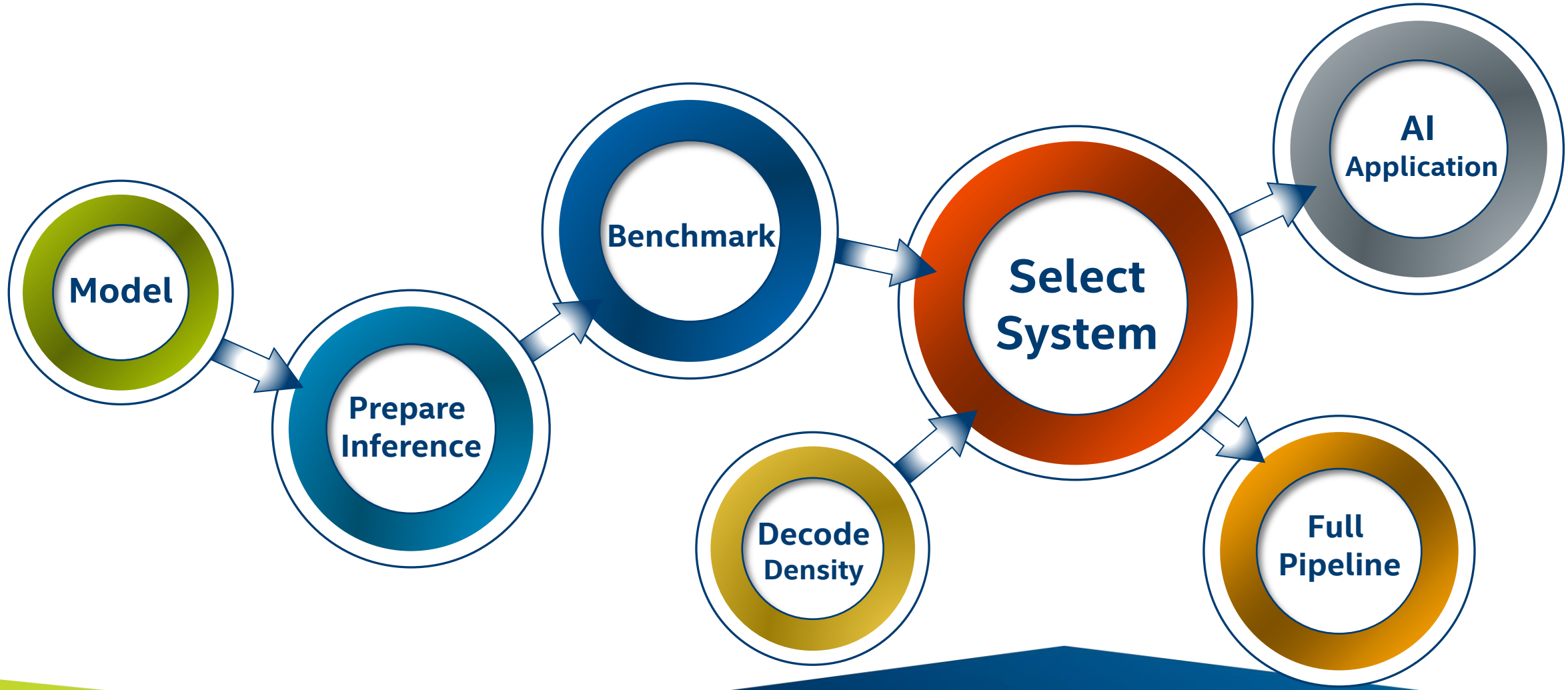
	ResNet50 Infer/sec	MobileNet-SSD Infer/sec
Arria10 HDDL-F	450	408



	ResNet50 Infer/sec	MobileNet-SSD Infer/sec
Myriad-X	35	57
HDDL-R8	270	450


Select
System


Select
System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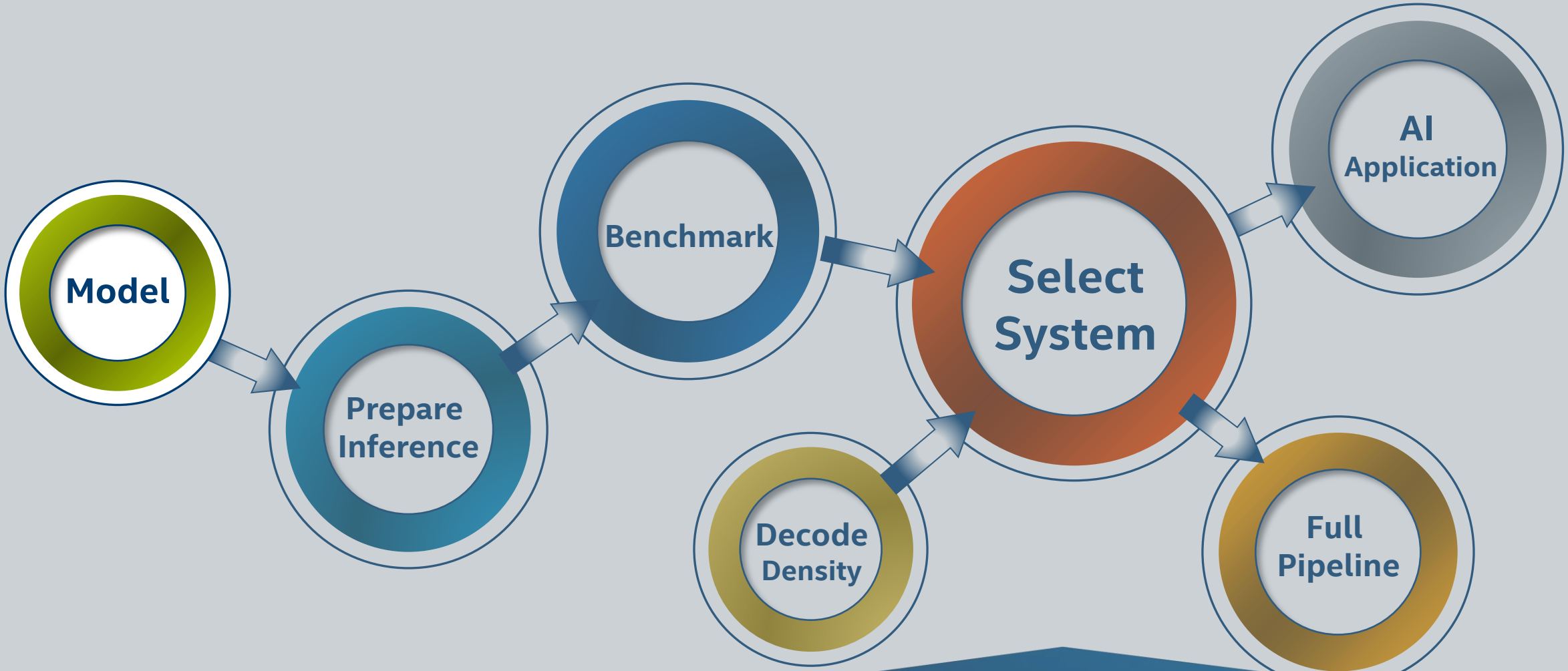
Benchmark
Select System
AI Application
Decode Density
Full Pipeline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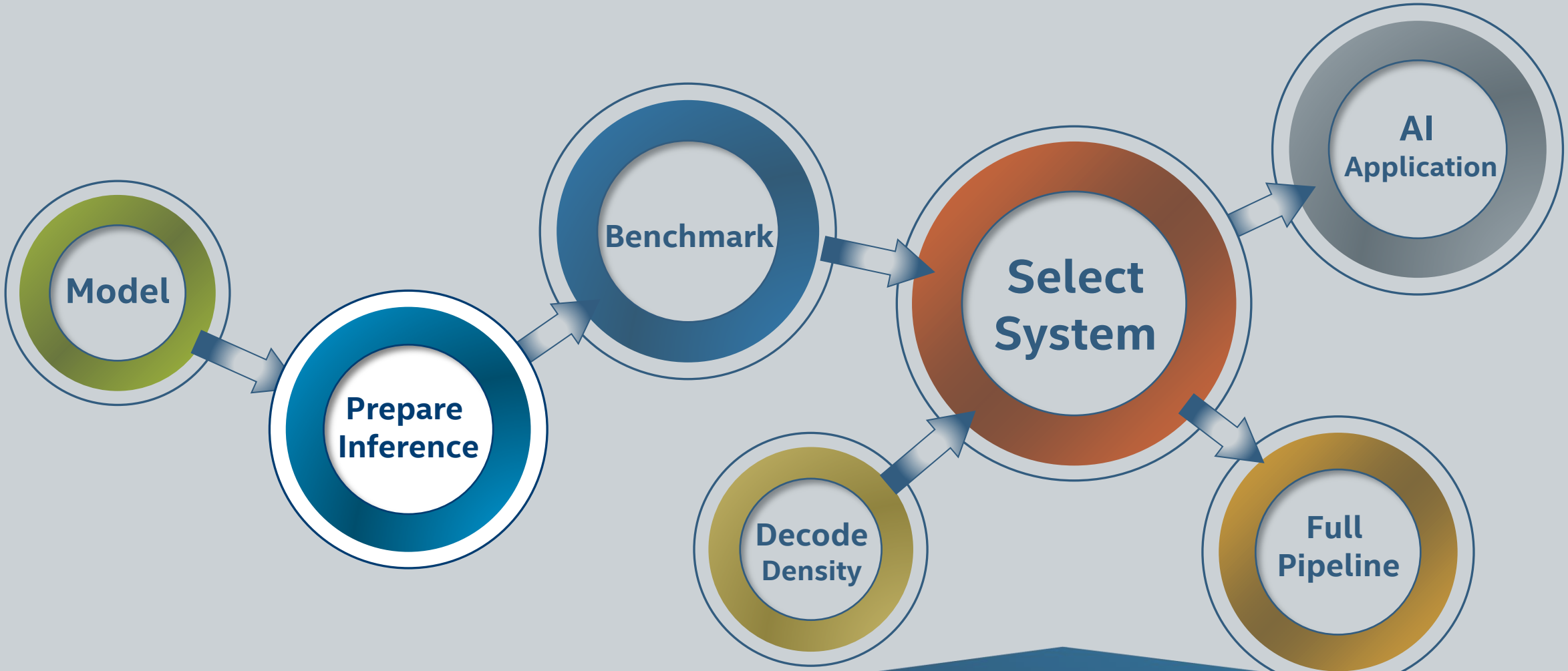
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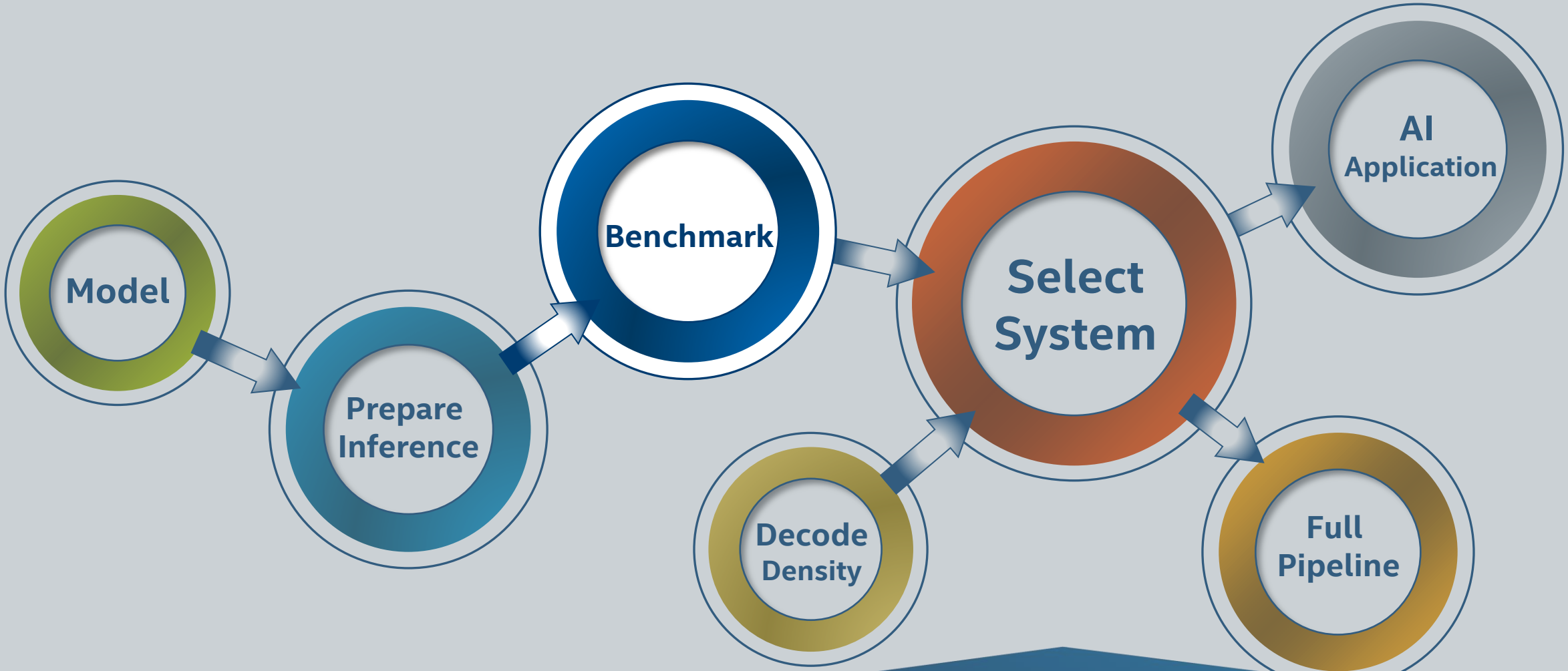
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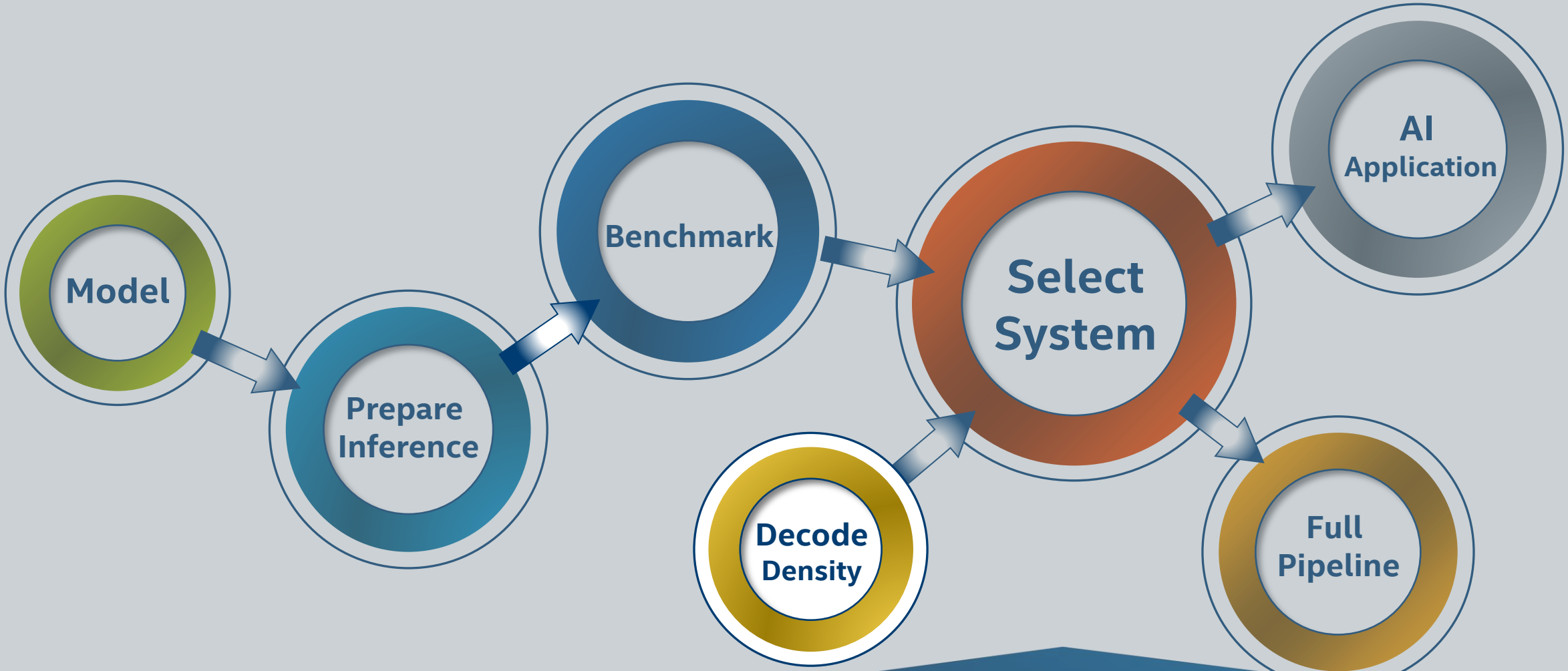
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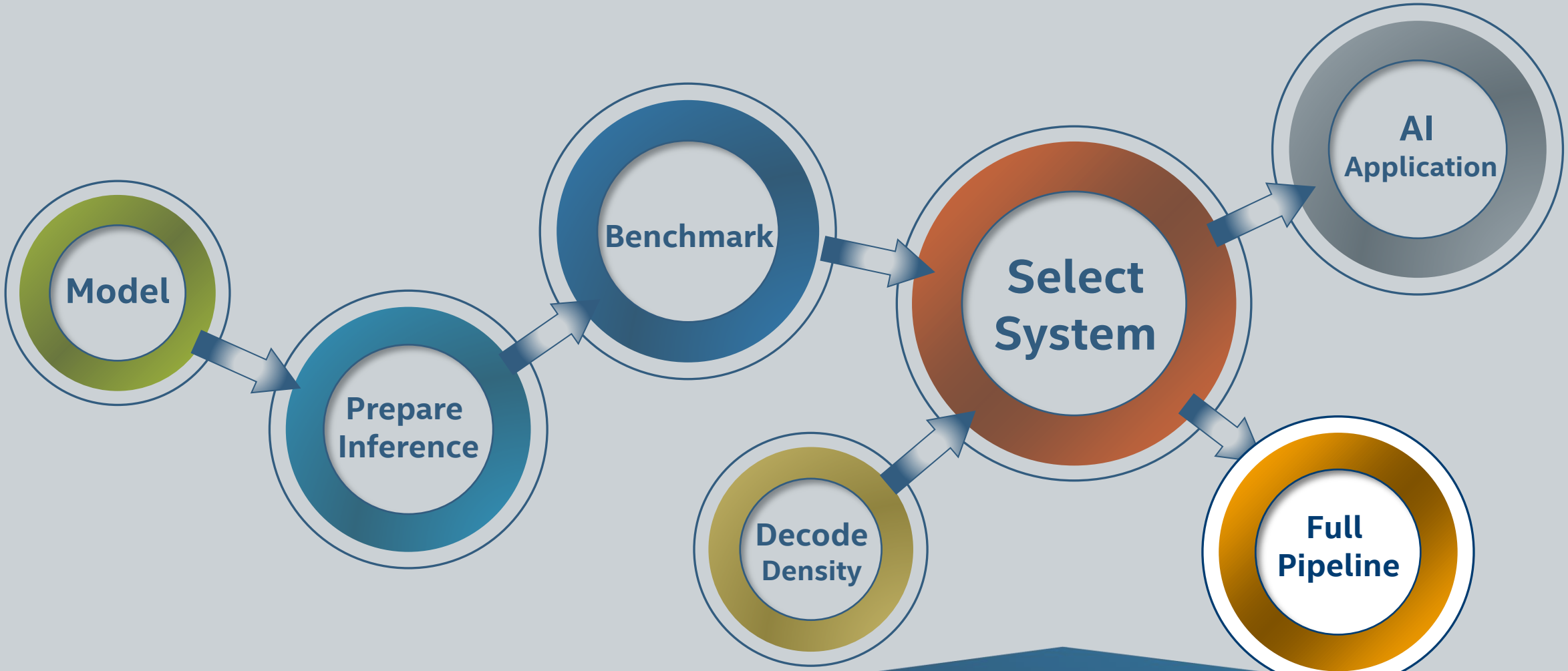
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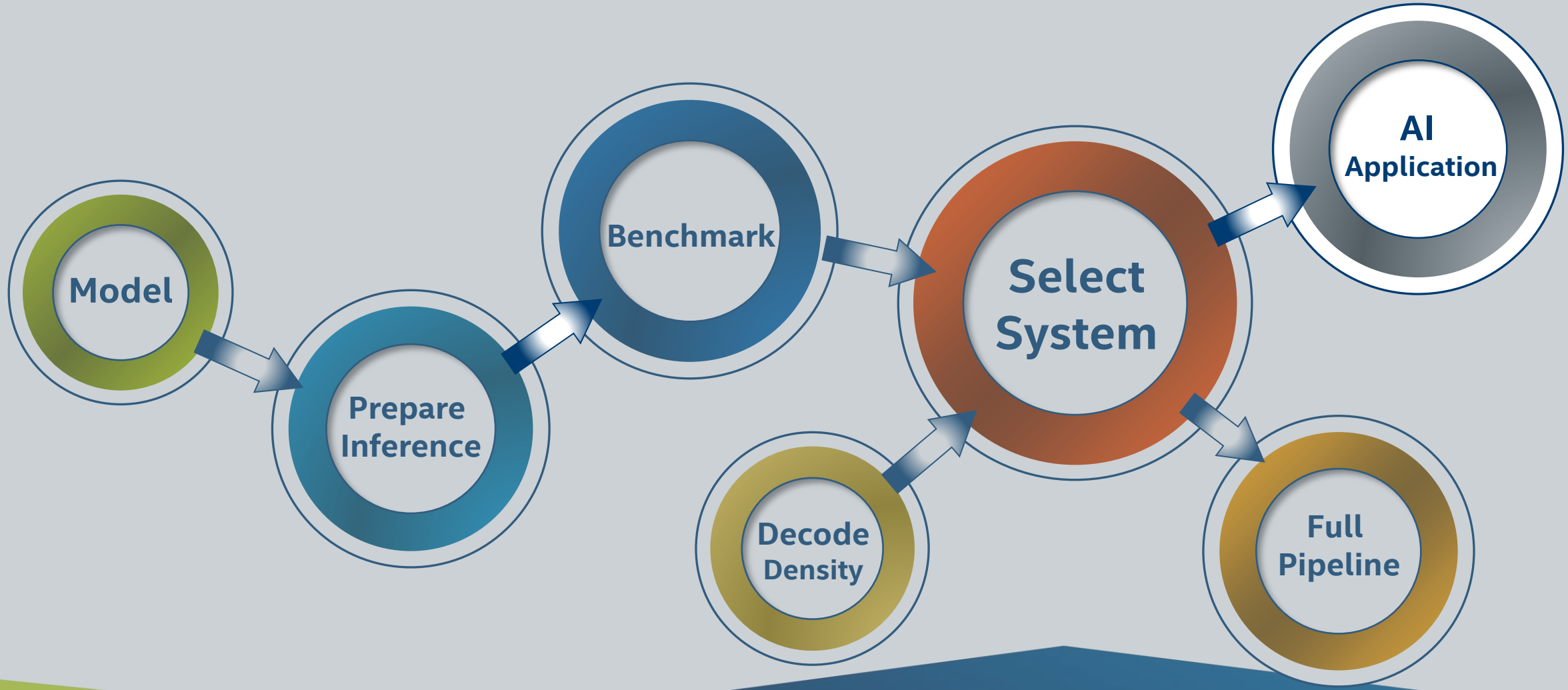
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A summary

- **OpenVINO provides all the tools required to build an AI application**
  - Getting a deep learning model
  - Benchmarking all the components in the video analytics pipeline
  - Building an AI application
- **Intel has a variety of platforms to choose from**
  - CPU based, integrated GPU, VPU (Movidius based) and FPGA
- **OpenVINO** support heterogenous systems