



Nakul Duggal

Group General Manager, Automotive, Industrial and Cloud
Qualcomm Technologies, Inc.

Snapdragon and Qualcomm branded products are products of Qualcomm Technologies, Inc. and/or its subsidiaries.
References in this presentation to "Qualcomm" may mean Qualcomm Incorporated, Qualcomm Technologies, Inc., and/or other subsidiaries or business units within the Qualcomm corporate structure, as applicable.





Qualcomm

INVESTOR DAY 2024

Note Regarding Forward-Looking Statements

In addition to historical information, this presentation contains forward-looking statements that are inherently subject to risks and uncertainties, including but not limited to statements regarding: our growth and diversification opportunities, including those in automotive and the internet of things (IoT), and opportunities arising from the continued adoption of artificial intelligence (AI) technologies; our business, product and technology strategies, including our diversification strategy; our technologies, technology leadership, technology differentiation and technology roadmap; our products, product performance, product leadership, product pipeline, product mix and product roadmap; new product releases, announcements and design wins; our automotive design-win pipeline; the benefits of our technologies, products and research and development efforts; our business and share trends, as well as market and industry trends, such as on-device Generative AI, and their potential impact on our business and our positioning to take advantage thereof; our TAM and/or SAM expansion in various industries; acquisitions, collaborations or other strategic transactions, including the anticipated benefits thereof; anticipated demand for our products and technologies; our capital allocation strategy, including anticipated dividend growth and share repurchases; our business outlook; and our estimates, guidance, targets and planning assumptions related to financial performance, including our various five-year revenue targets. Forward-looking statements are generally identified by words such as “estimates,” “guidance,” “forecast,” “target,” “expects,” “anticipates,” “intends,” “plans,” “believes,” “seeks” and similar expressions. Actual results may differ materially from those referred to in the forward-looking statements due to a number of important factors, including but not limited to: our dependence on a small number of customers and licensees, and particularly from their sale of premium-tier handset devices; our customers vertically integrating; a significant portion of our business being concentrated in China, which is exacerbated by U.S./China trade and national security tensions; our ability to extend our technologies and products into new and expanded product areas, and industries and applications beyond mobile handsets; our strategic acquisitions, transactions and investments, and our ability to consummate strategic acquisitions; our dependence on a limited number of third-party suppliers; risks associated with the operation and control of our manufacturing facilities; security breaches of our information technology systems, or other misappropriation of our technology, intellectual property or other proprietary or confidential information; our ability to attract and retain qualified employees; the continued and future success of our licensing programs, which requires us to continue to evolve our patent portfolio and to renew or renegotiate license agreements that are expiring; efforts by some OEMs to avoid paying fair and reasonable royalties for the use of our intellectual property, and other attacks on our licensing business model; potential changes in our patent licensing practices, whether due to governmental investigations, legal challenges or otherwise; adverse rulings in governmental investigations or proceedings or other legal proceedings; our customers’ and licensees’ sales of products and services based on CDMA, OFDMA and other communications technologies, including 5G, and our customers’ demand for our products based on these technologies; competition in an environment of rapid technological change, and our ability to adapt to such change and compete effectively; failures in our products or in the products of our customers or licensees, including those resulting from security vulnerabilities, defects or errors; difficulties in enforcing and protecting our intellectual property rights; claims by third parties that we infringe their intellectual property; our use of open source software; the cyclical nature of the semiconductor industry, declines in global, regional or local economic conditions, or our stock price and earnings volatility; geopolitical conflicts, natural disasters, pandemics and other health crises, and other factors outside of our control; our ability to comply with laws, regulations, policies and standards; our indebtedness; and potential tax liabilities. These and other risks are set forth in our Annual Report on Form 10-K for the fiscal year ended September 29, 2024 filed with the Securities and Exchange Commission (SEC). Our reports filed with the SEC are available on our website at www.qualcomm.com. We undertake no obligation to update, or continue to provide information with respect to, any forward-looking statement or risk factor, whether as a result of new information, future events or otherwise.

This presentation includes “Non-GAAP financial measures” as that term is defined in Regulation G. Further discussion regarding our use of Non-GAAP financial measures, as well as the most directly comparable GAAP (accounting principles generally accepted in the United States) financial measures and information reconciling these Non-GAAP financial measures to our financial results prepared in accordance with GAAP, are included in this presentation.

References to “Qualcomm” refer to Qualcomm Incorporated and/or its subsidiaries, as applicable. Qualcomm Incorporated includes our licensing business, QTL, and the vast majority of our patent portfolio. Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated, operates, along with its subsidiaries, substantially all of our engineering and research and development functions and substantially all of our products and services businesses, including our QCT semiconductor business. Snapdragon and Qualcomm branded products are products of Qualcomm Technologies, Inc. and/or its subsidiaries. Qualcomm patents are licensed by Qualcomm Incorporated.

Qualcomm

aramco 





AI is transforming industries

MEGA TRENDS

Safety | Environmental

Collaboration | Productivity

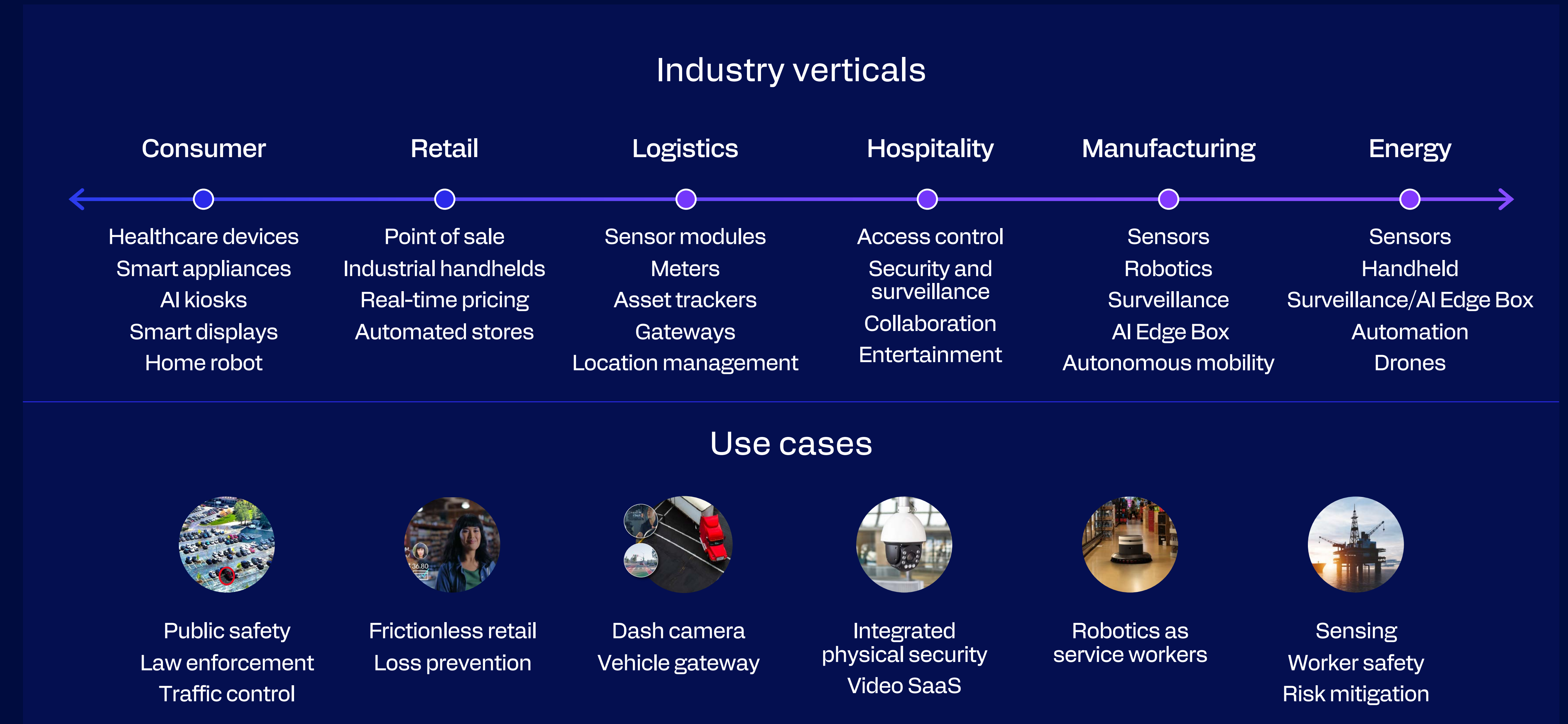
Resilience

CHANGE CATALYSTS

The edge is always connected

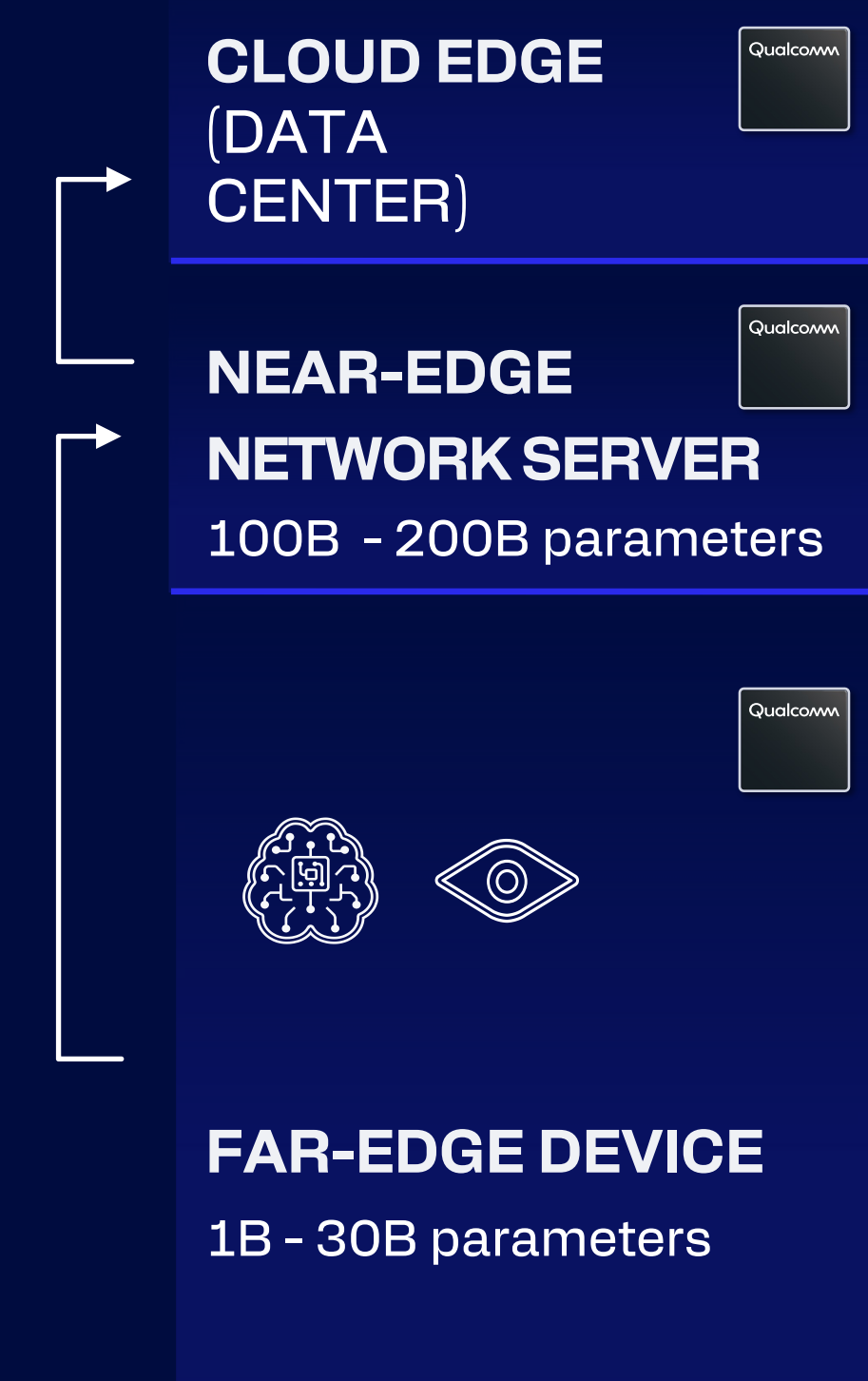
The edge is AI enabled

The workflow is AI aware

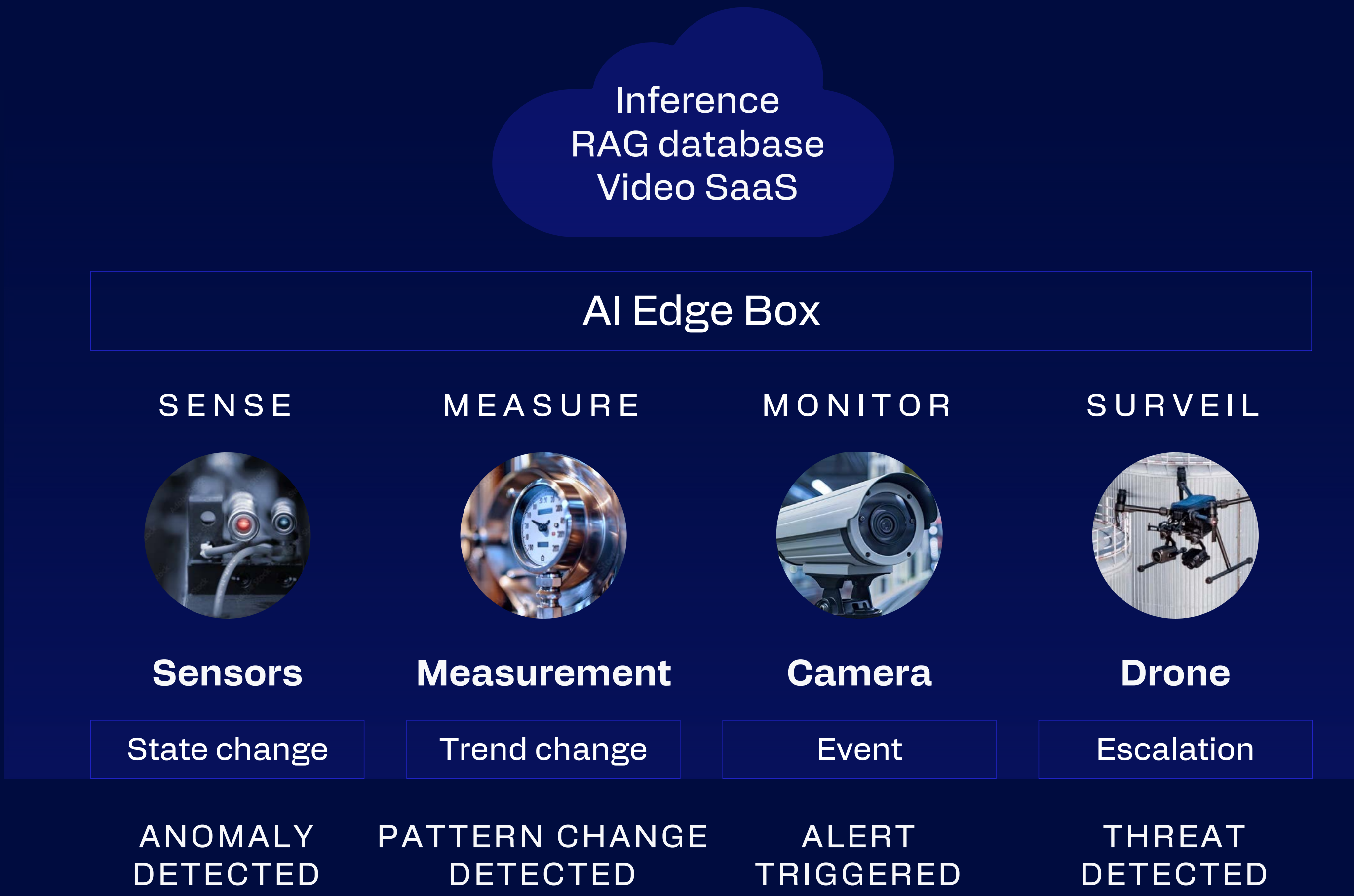


The intelligent edge

AI at the edge makes the sensor intelligent, and GenAI makes this intelligence human-consumable

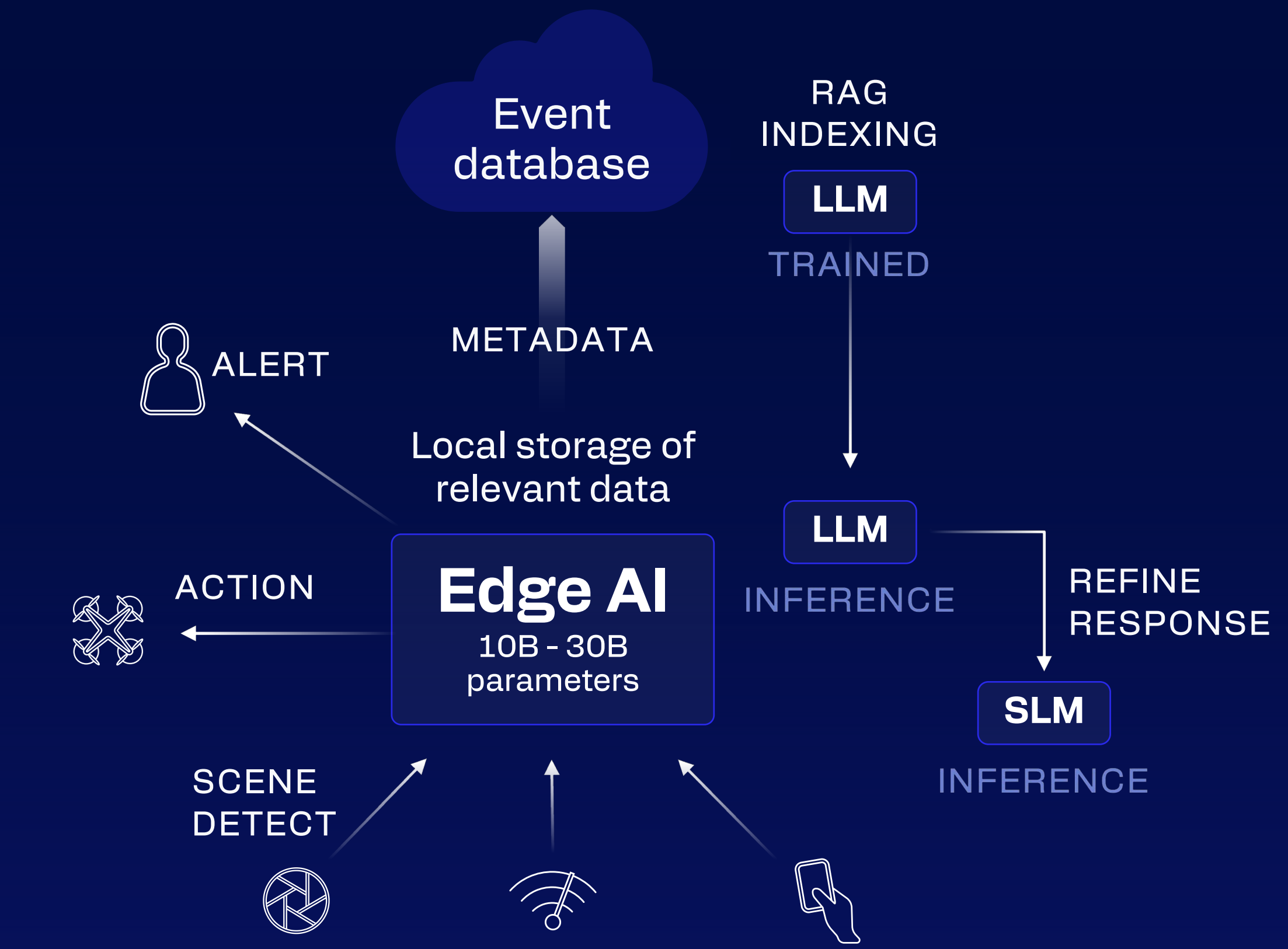
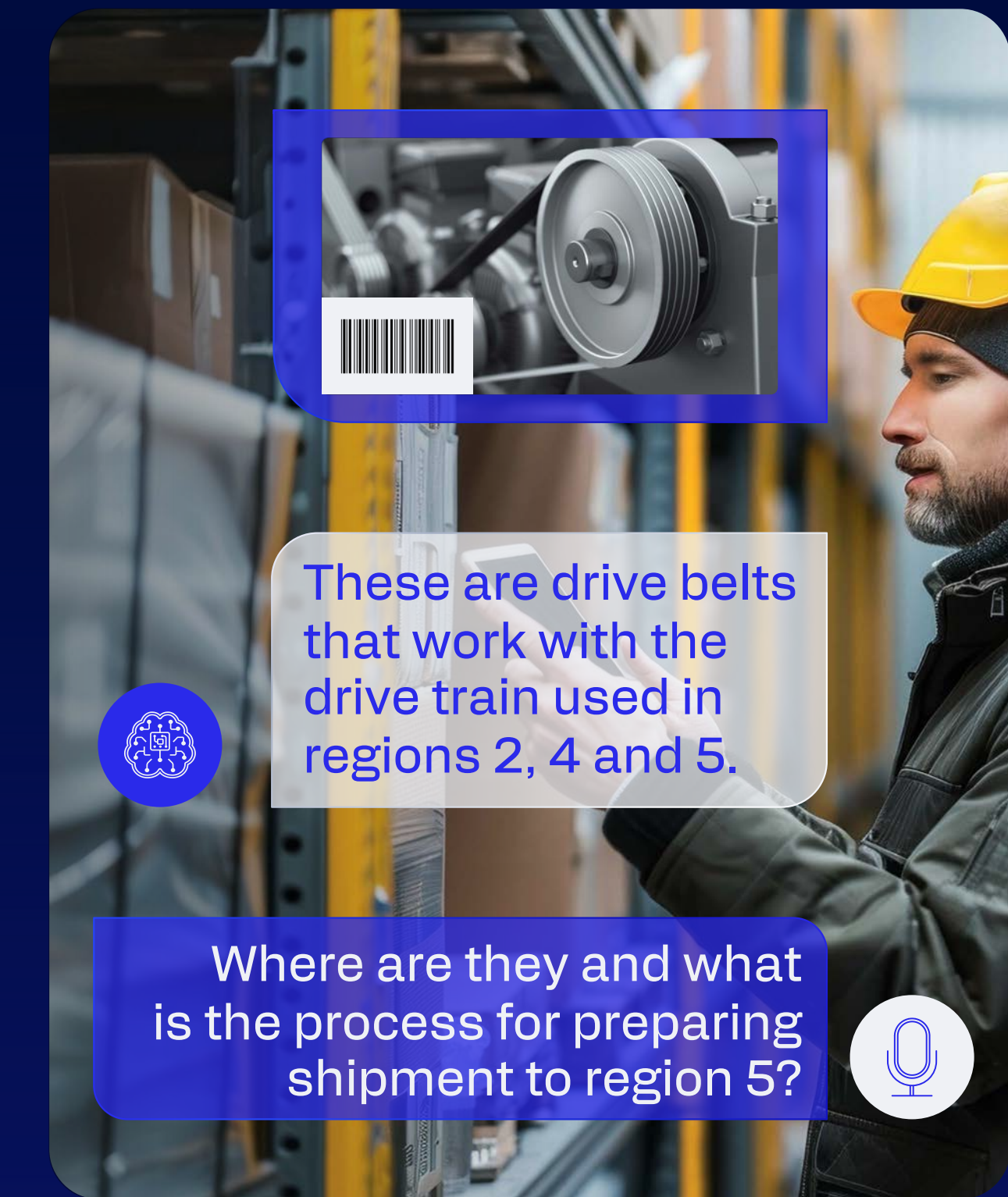


Machine-to-machine interaction

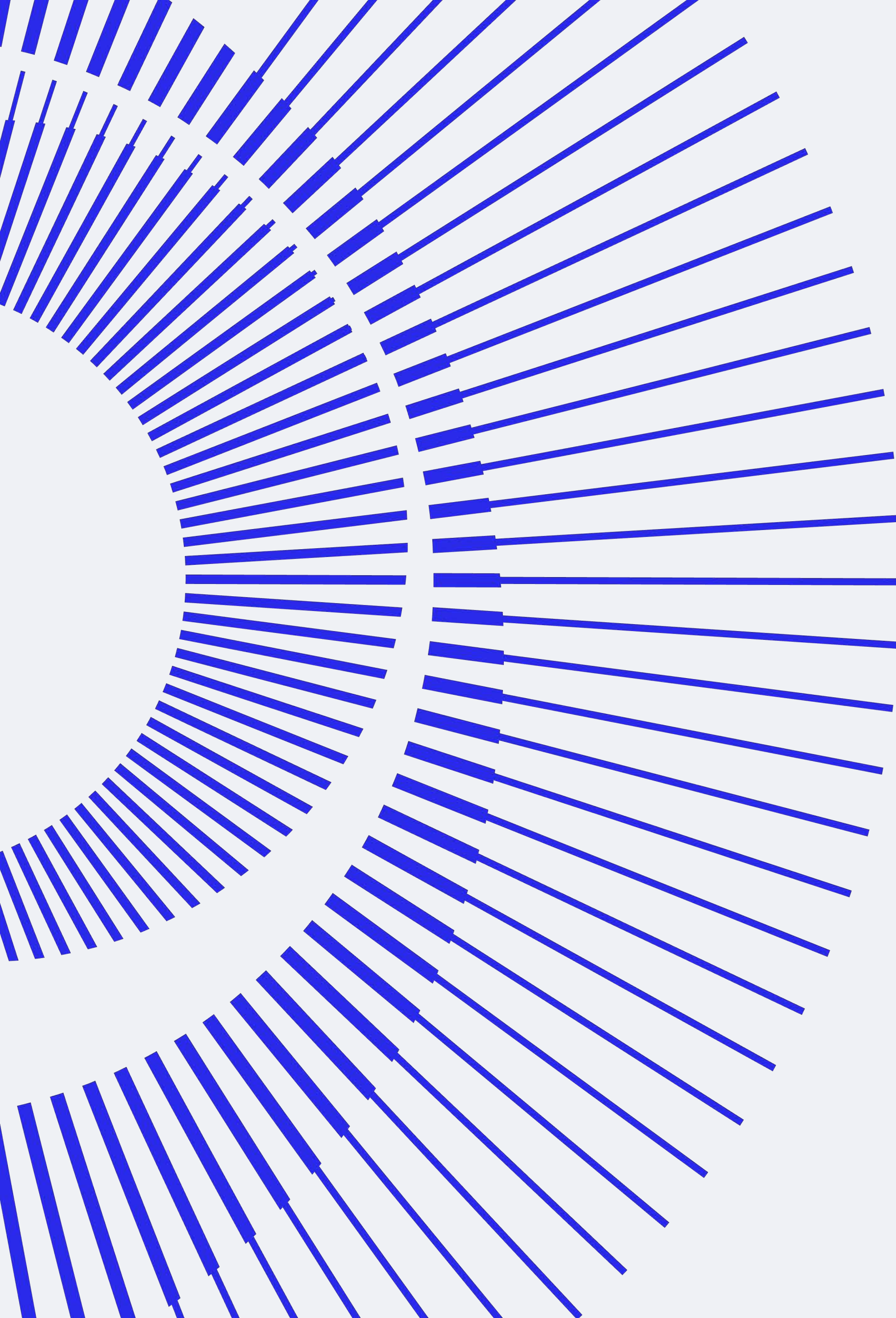


Human-to-machine interaction

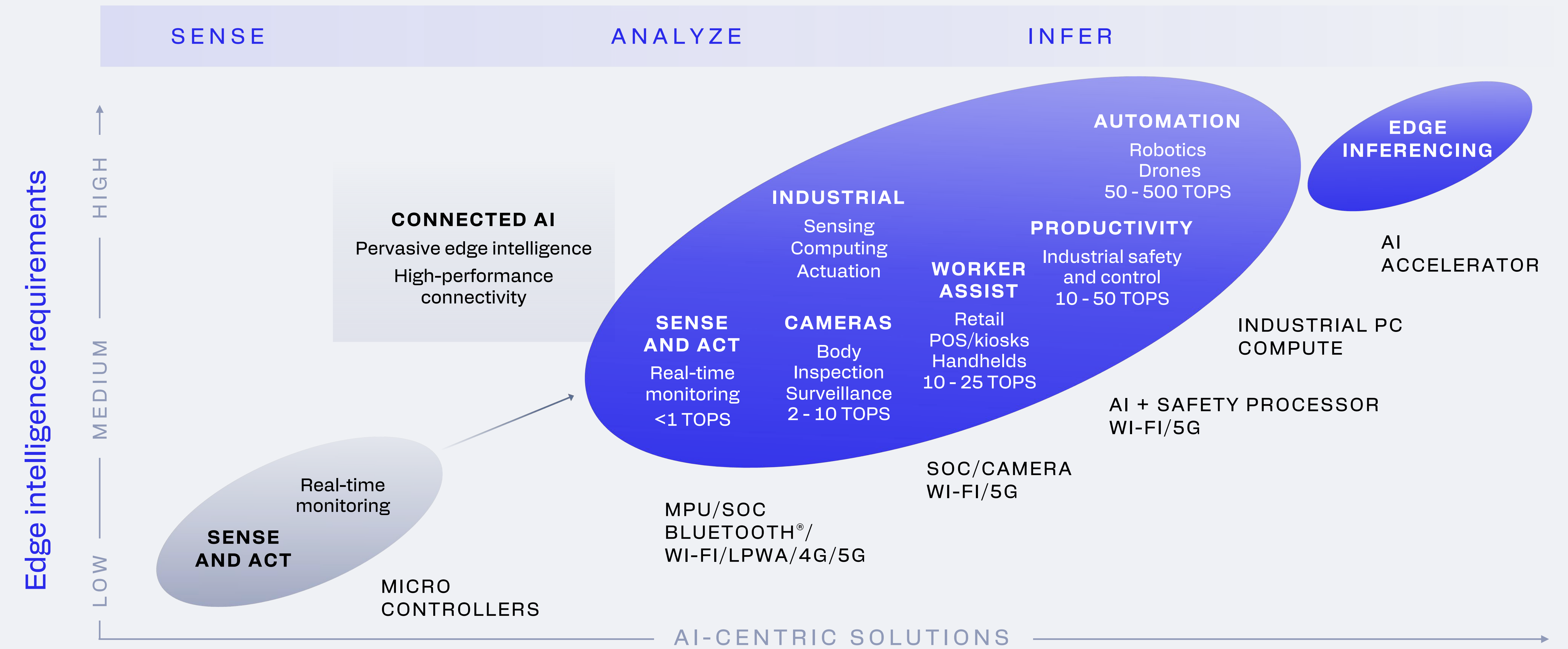
Agents → Local Inference/Local Database → Cloud inference/Enterprise Database



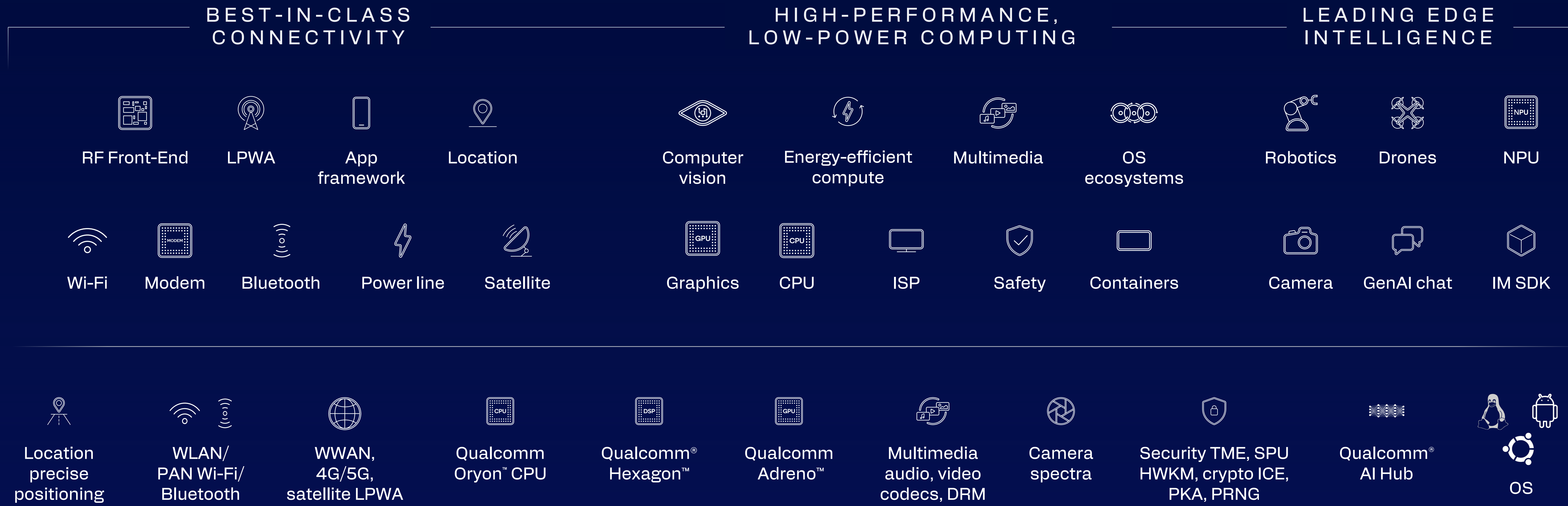
SLM - small language model;
LLM - large language model;
RAG - retrieval augmented generation.



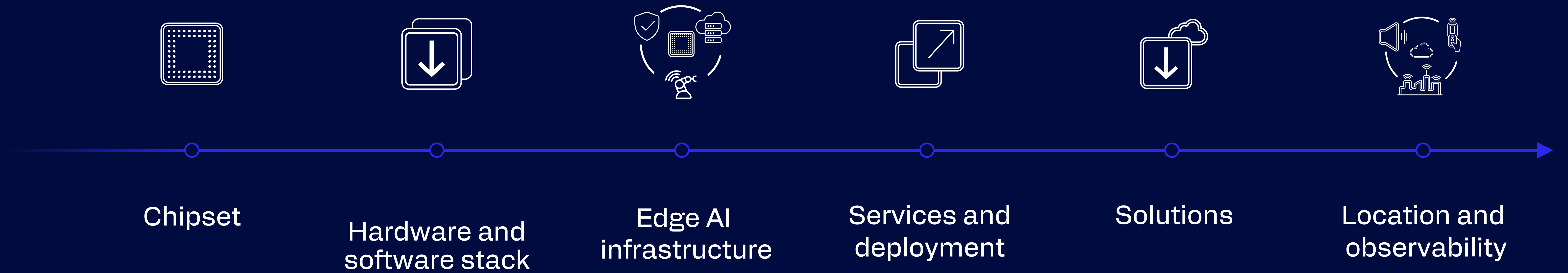
AI at the edge is accelerating digital transformation



Essential technologies for the evolution of the Industrial IoT



Qualcomm Industrial and Embedded IoT portfolio



Industrial IoT portfolio

Chipset

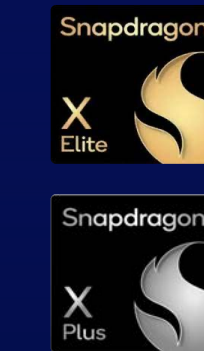
COMMERCIAL

Consumer
Retail
Enterprise



INDUSTRIAL

Manufacturing
Automation



CONNECTIVITY

Wi-Fi
Bluetooth
4G/5G
Location
LPWA
Satellite



Software stack

Biometrics

Bootloader
Camera/CamX
Codec2/OMX
Container RT
FastCV
FastRPC
GStreamer

Hypervisor

OSTREE
PulseAudio
Robotics SDK/ROS2
Security
Sensor Hub
Wayland/Weston

Intelligent multimedia SDK
Core service containers

Qualcomm® AI Stack, QNN, SNPE, TFLite
Platform services, drivers, libraries



Core dev kit



Vision dev kit



Qualcomm AI Hub

Pick a model from library or BYOM

Pick a target device or chipset

Pick a runtime QNN or TFLite

Test and validate
On-cloud hosted devices

Services and deployment

VISION MICROSERVICES

Camera streaming

Video storage

Object tracking

Product recognition

ROBOTICS MICROSERVICES

Object detection

Manipulator

Depth

Localization

SERVICE MANAGEMENT

Community forum

Documentation

Selection

Preparation

Prototyping

Testing

Production

Maintenance

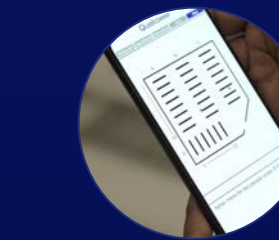
Solutions



Scene detect



Public safety



Wayfinding



Frictionless retail



Measure and track



Dash camera



Threat alert



Video SaaS

Qualcomm Aware™



Wi-Fi

Cellular

Sensor suite

GPS

Bluetooth LE

Downloadable full-featured SDK

Pre-embedded lite agent

Enabling visibility and data accessibility across devices

Providing global services for a range of applications

Qualcomm® IQ Series

Industrial grade, **safety grade**, AI ready – up to 100 TOPS

● CPU Compute server class	● Qualcomm® Adreno™ GPU Immersive displays and graphics
● AI processor (NPU) for GenAI and autonomous/robotics	● Memory controller Highest LP5x BW with compression
● Qualcomm Spectra™ ISP with AI, sensing, perception	● Audio subsystem Low latency, high performance, low power
● Display unit Multi-displays	● Security Trust zone, DRM, crypto
● Peripherals USB, PCIe, ethernet I/O	● Video engine User apps, data recorder
● Safety controller	

● SIL 2 ● SIL 3

-40°C to +125°C Tj operating range

High reliability, quality DPPM

Human-machine interface capabilities with multiple displays, multimedia, sensors, cameras

Linux, safety OS, consumer-OS

Long lifecycle support

Serving many verticals



RETAIL

Worker assistance

Payment and vending

Smart cart

Picking efficiency

Self checkout



SMART HOME

Task automation

Personal concierge

Scheduling

Health monitoring

Fitness and education



ENTERPRISE AND BUILDINGS

Intelligent traffic systems

Driver monitoring

Asset tracking

Video collaboration

Surveillance



INDUSTRIAL AUTOMATION

Smart manufacturing

Smart warehousing

Off-highway vehicles

Asset inspection

Predictive maintenance



ENERGY

EV charger

Home energy manager

Smart panel

Battery storage controller

Smart sensors with AI

Edge AI ready

Experiences Autonomous mobility Camera and imaging Display and multimedia Security critical Safety critical Real-time latency critical

SLM/LLM framework

Whisper speech to text	User context knowledge graph	Prompt engineering query to LLM	LLM engine – up to 30B parameters locally	Model lifecycle management
------------------------	------------------------------	---------------------------------	---	----------------------------

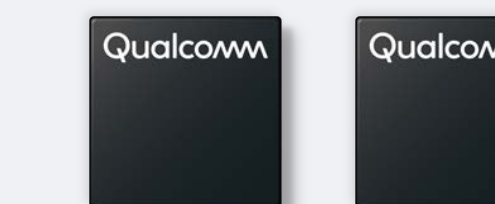
CV/Autonomy framework

Computer vision	Perception	Sensor fusion	Localization	Path planning
-----------------	------------	---------------	--------------	---------------

SoC IP

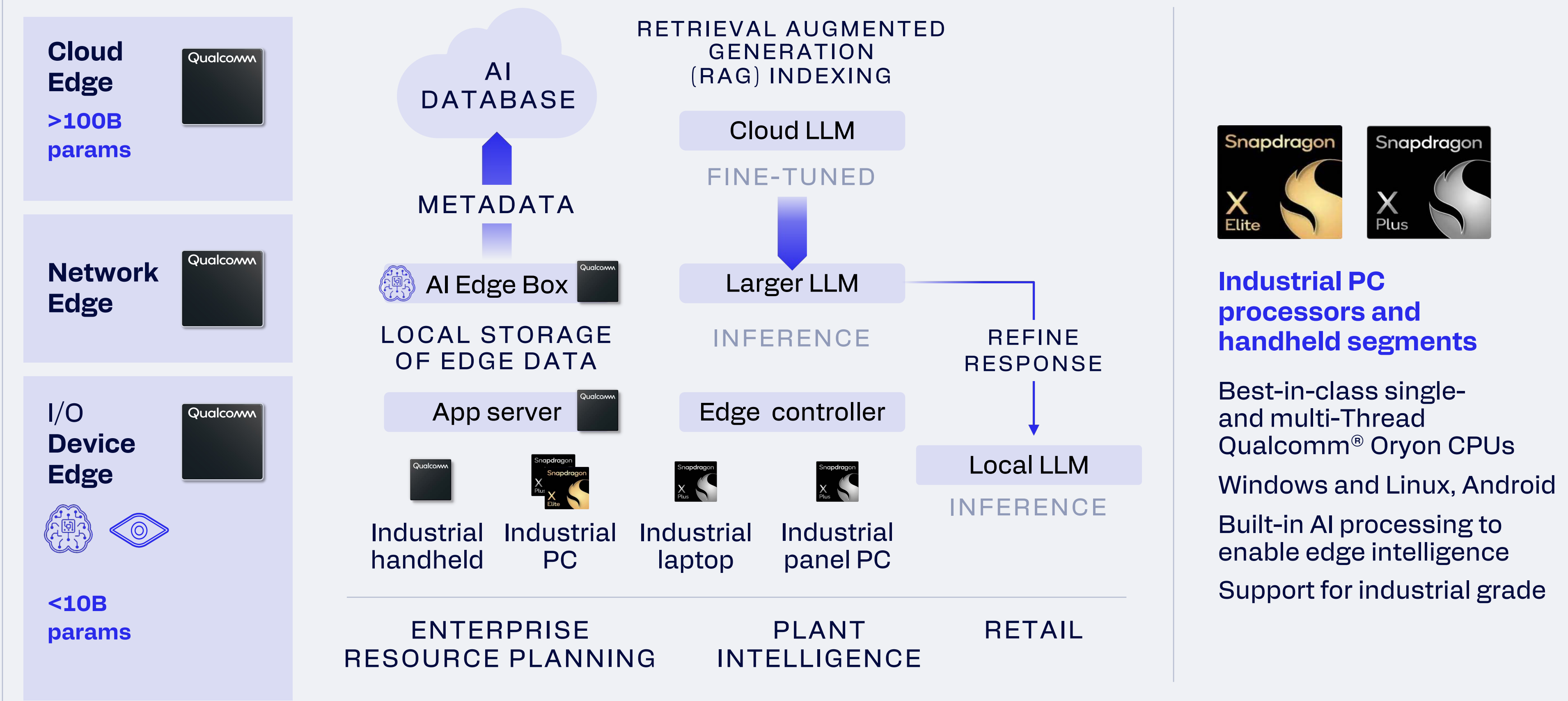


SoC and PMICs

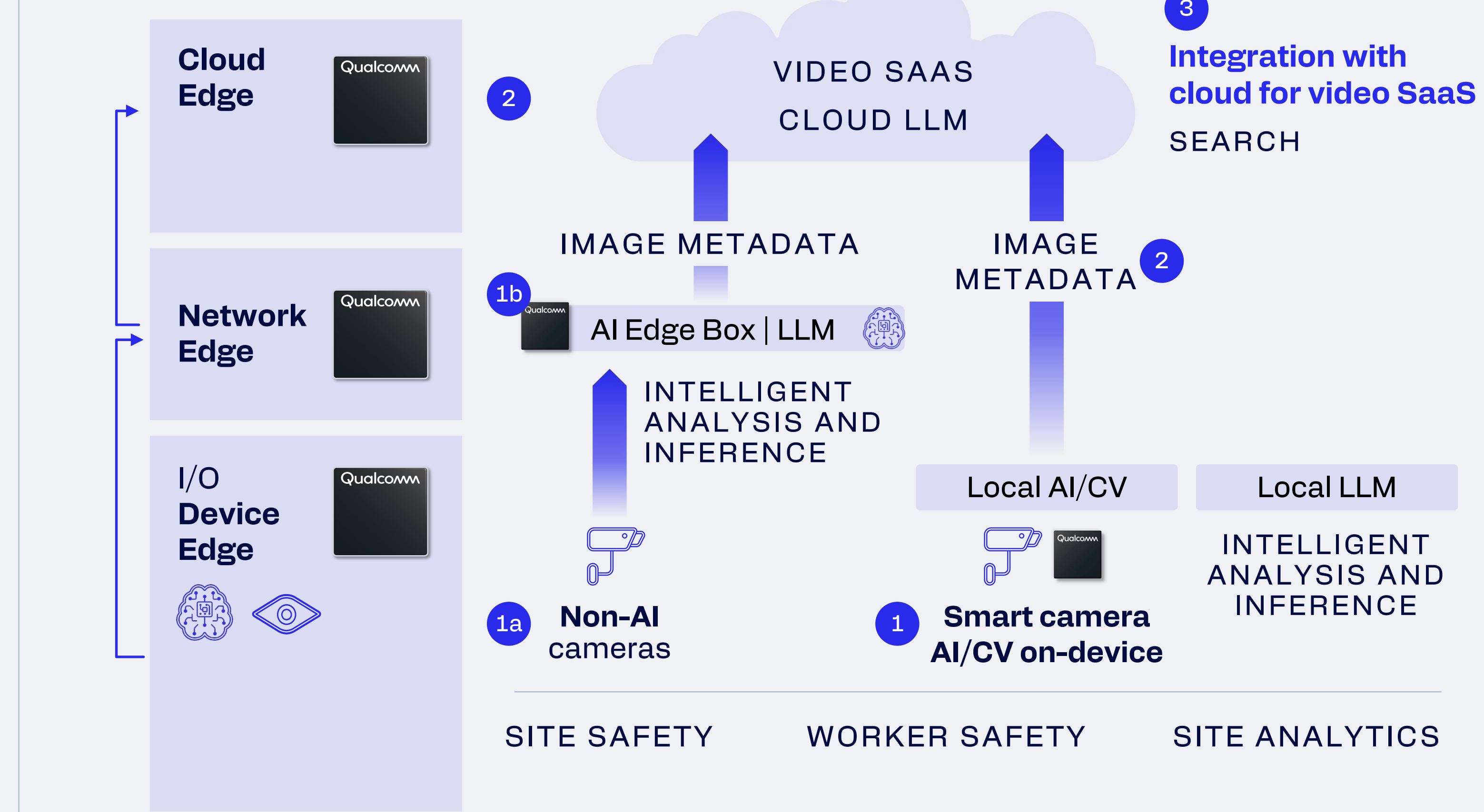


A new TCO equation and deployment topology as AI runs on the Edge

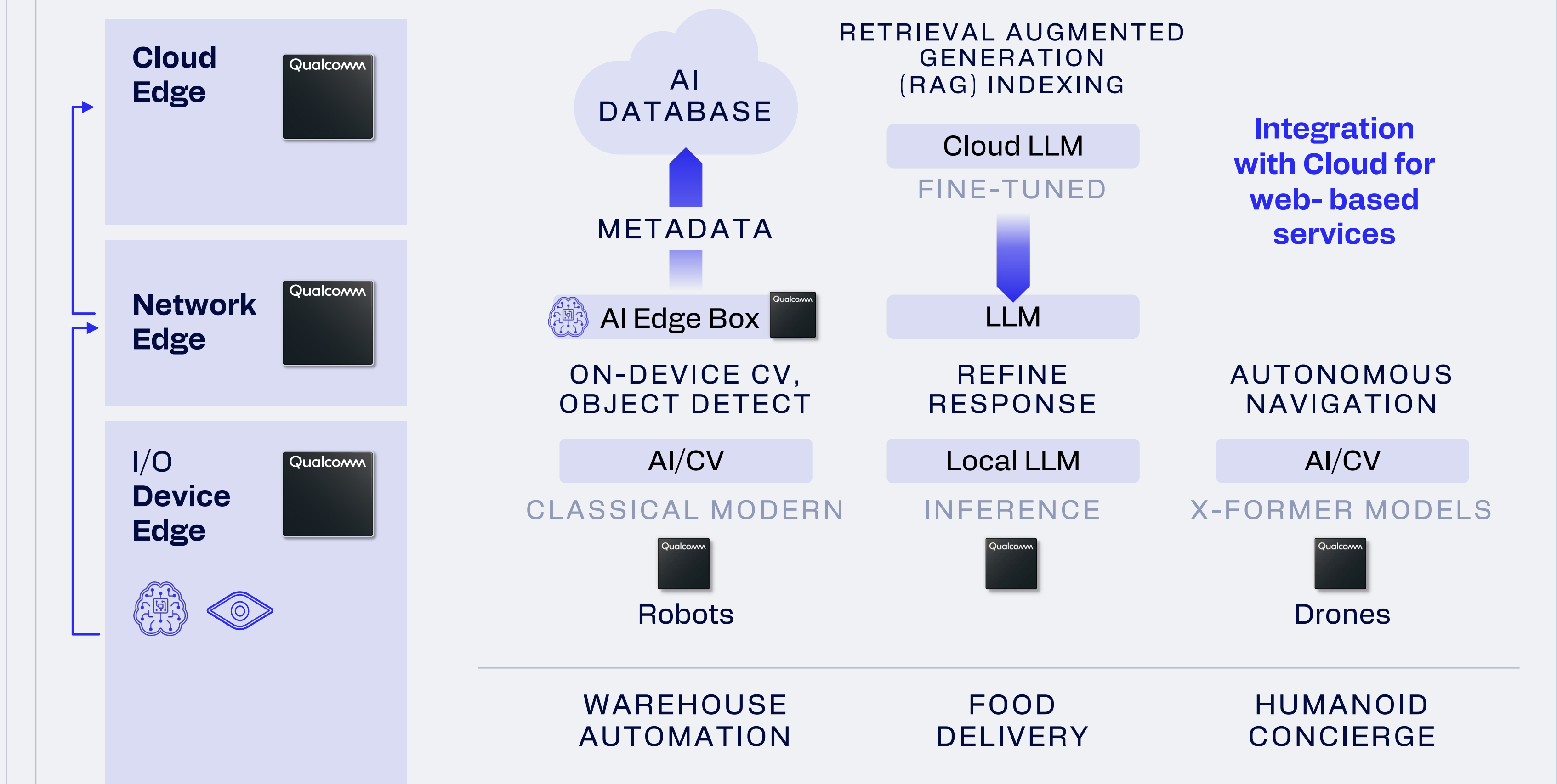
WORKER PRODUCTIVITY



VIDEO SURVEILLANCE AND SAFETY

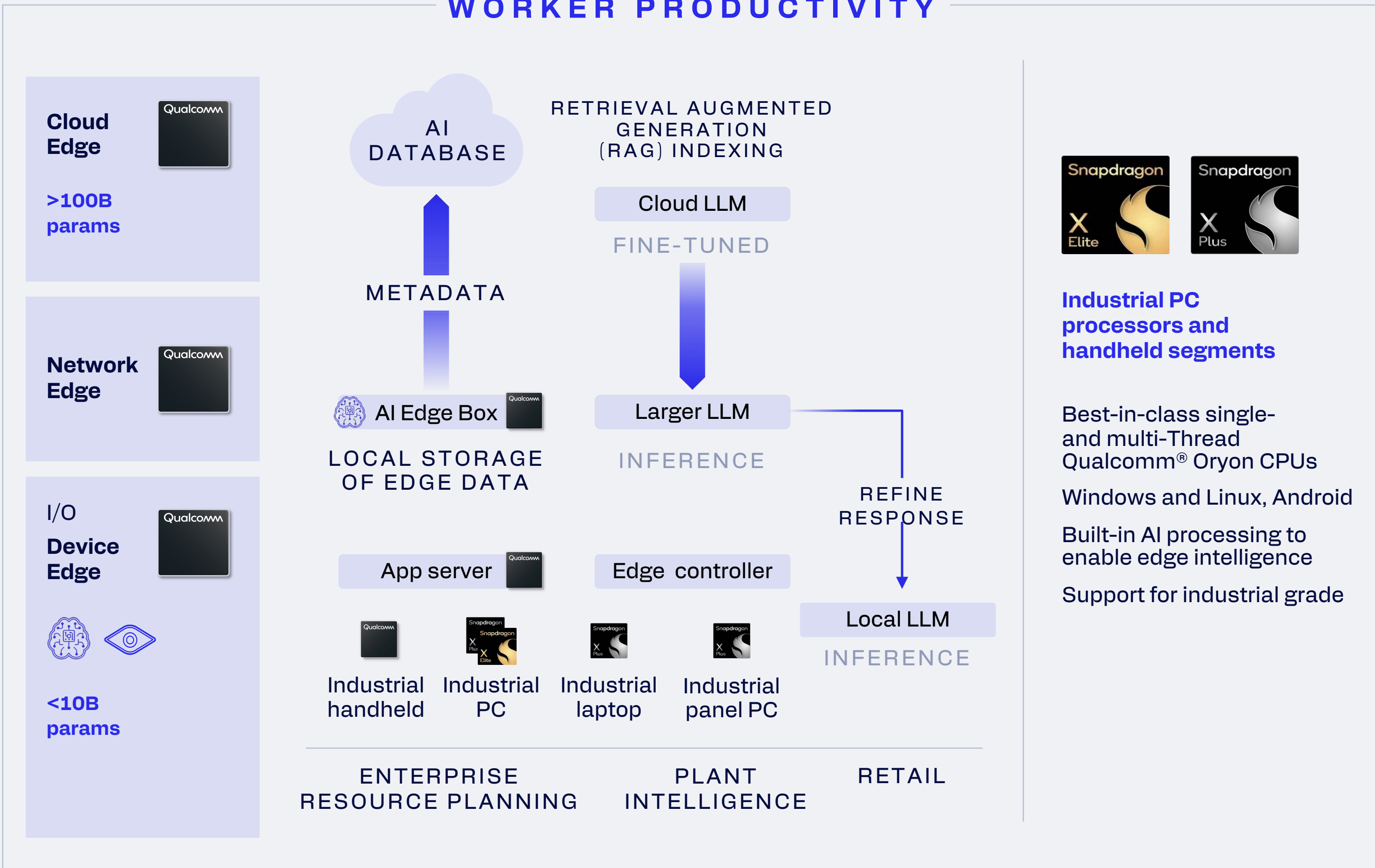


INSPECTION, ROBOTICS AND DRONES

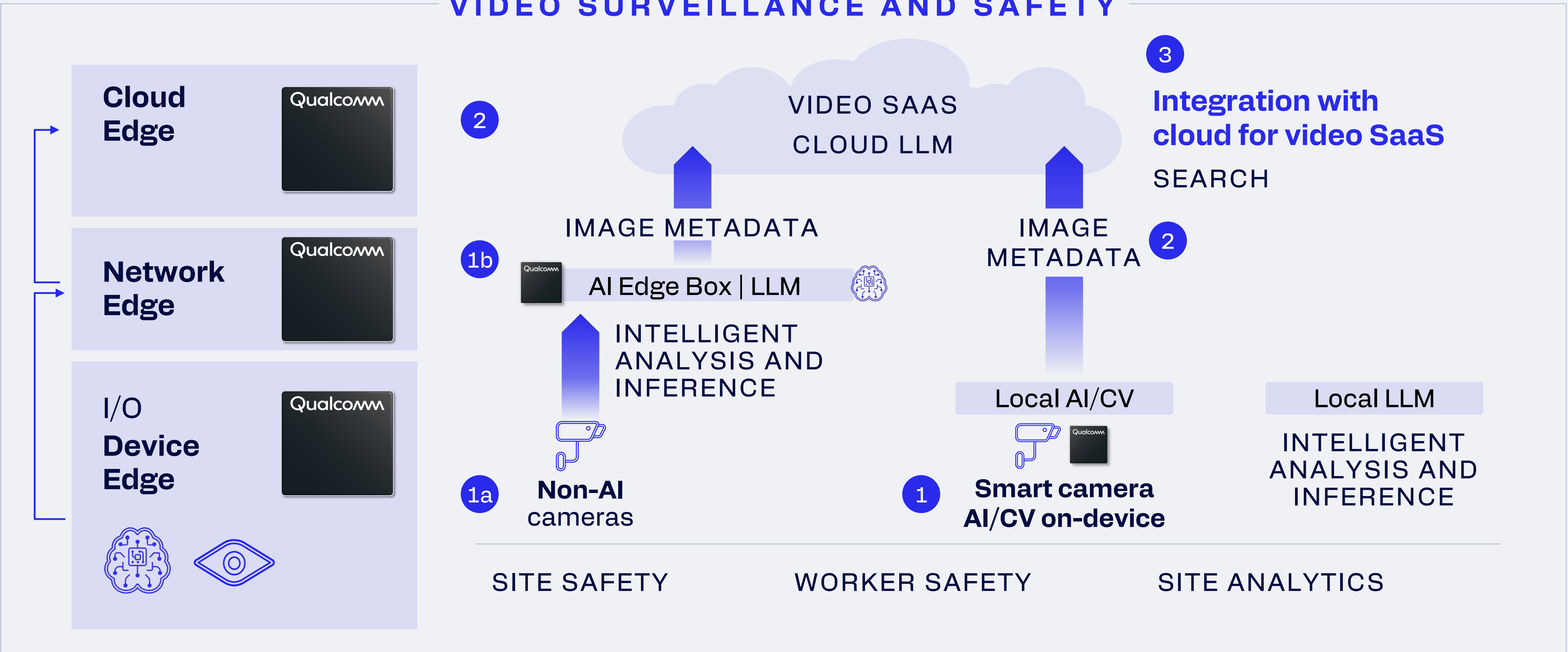


A new TCO equation and deployment topology as AI runs on the Edge

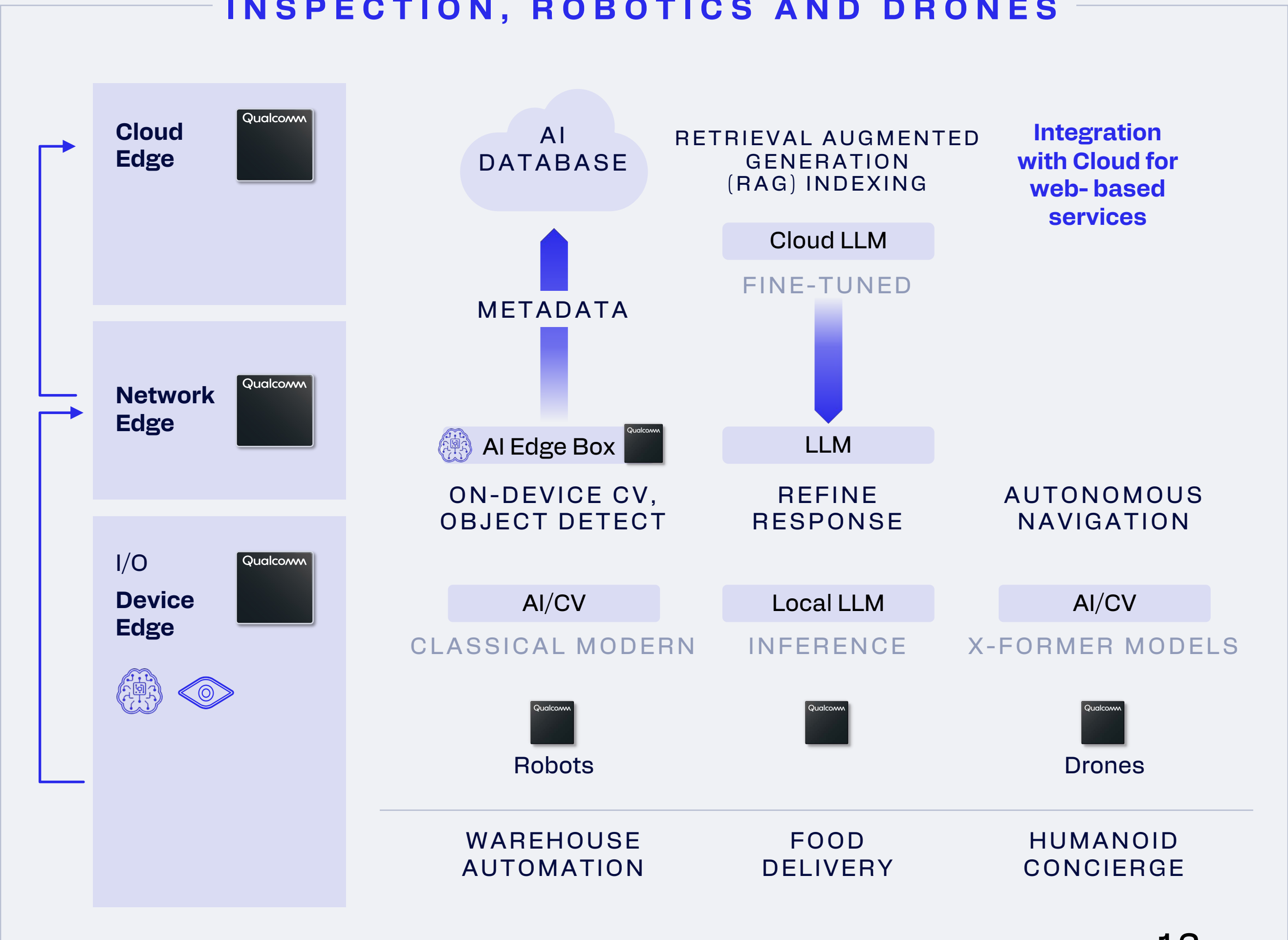
WORKER PRODUCTIVITY



VIDEO SURVEILLANCE AND SAFETY



INSPECTION, ROBOTICS AND DRONES



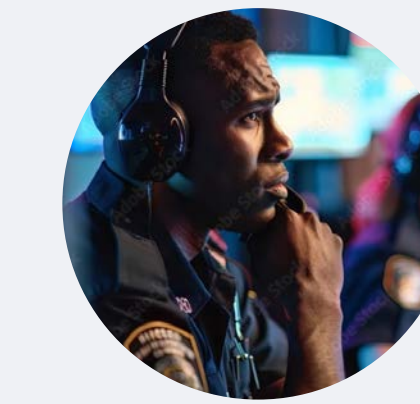
Industrial connectivity roadmap



5G

Industrial 5G Modems

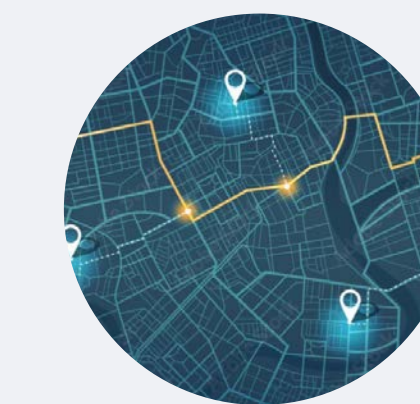
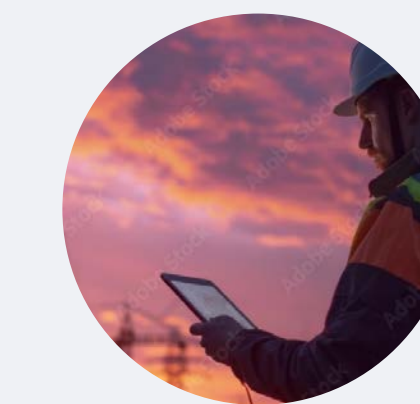
Industrial connected gateways - factories, automation routers and hotspots
First responder connectivity
Transportation gateways - road, rail, air, ports



4G

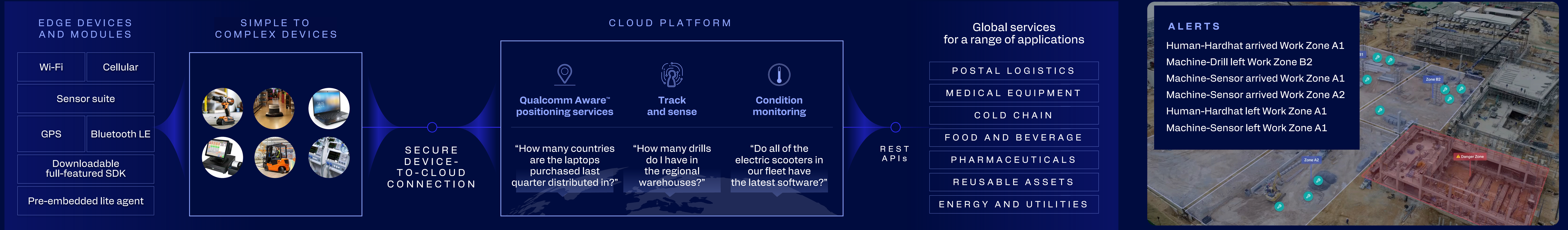
Qualcomm LTE Modem
Qualcomm LPWA Cat M1 Modem
Qualcomm LPWA Cat1.bis Modem

Meters and smart grid
Sensors and actuators
Asset trackers



Qualcomm Aware™ Platform

Enabling visibility and data accessibility across devices



Edge intelligence expands size of opportunity

- Retail
- Smart cities
- Transportation
- Logistics
- Manufacturing
- Mining
- Aerospace
- Agriculture
- Construction
- Healthcare
- Hospitality
- Pharmaceuticals
- Consumer
- Defense
- Energy
- Oil and gas
- Smart home
- Utilities

\$50B

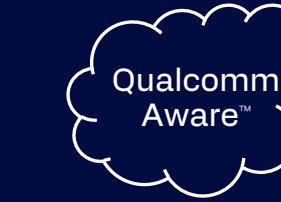
2029 market opportunity¹

Techinsights Sept 2024, Qualcomm Technologies internal projections;
 The registered trademark Linux® is used pursuant to a sublicense from the Linux Foundation, the exclusive licensee of Linus Torvalds, owner of the mark on a worldwide basis.
 1. TAM includes Connectivity, MCU, Camera SoCs, MPU, Application Processors.

CLOUD SAAS



Location as a service | Observability as a service

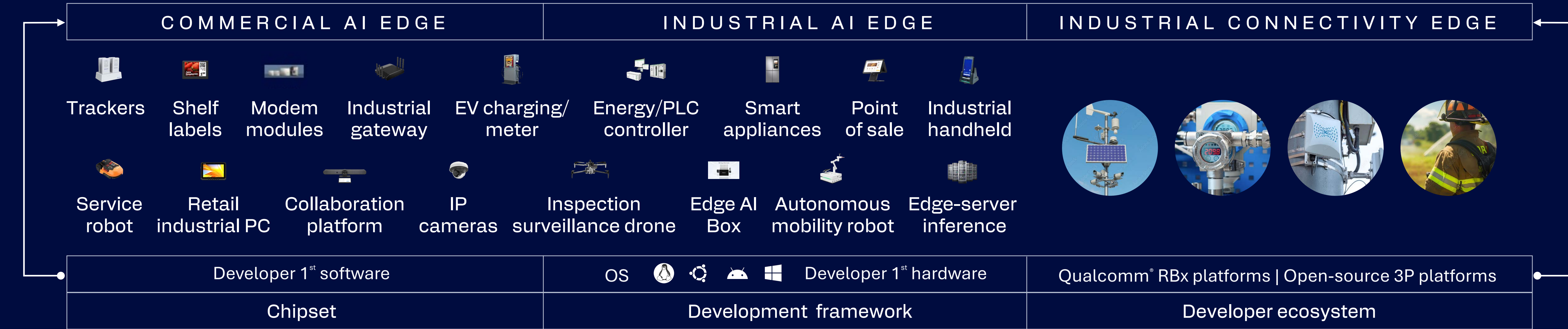


NETWORK EDGE



AI Edge box | AI Inference Accelerator

DEVICE EDGE



PORTFOLIO

CONNECTIVITY



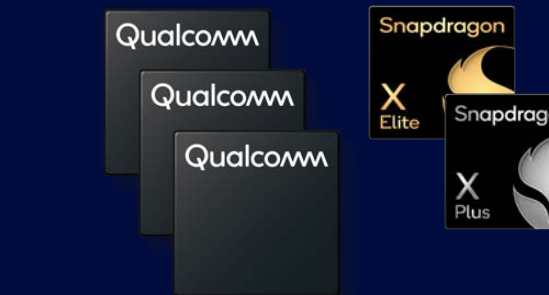
COMMERCIAL PROCESSORS



INDUSTRIAL PROCESSORS



INDUSTRIAL PC



AI CLOUD ACCELERATORS



Building an industrial blueprint for digital transformation

Curated suite of technologies, products and solutions
designed to address the needs of multiple industries



Energy



Worker safety



Worker assistance



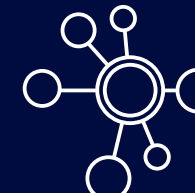
Site operations



Site safety



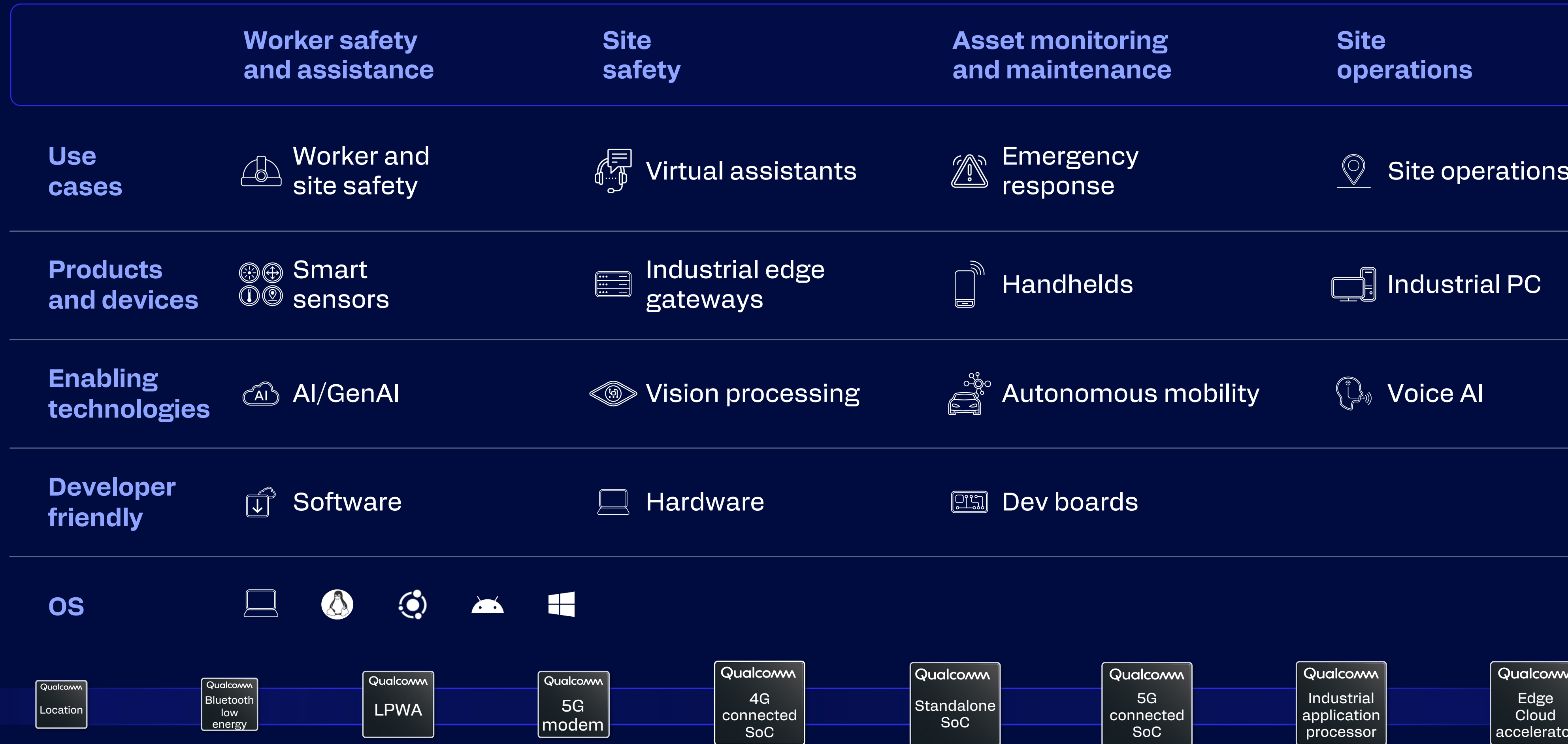
Asset monitoring



Asset maintenance



Energy BLUEPRINT



ECOSYSTEM

Electric utilities and energy service providers



System Integrators



Operators



OEMS



ODMS

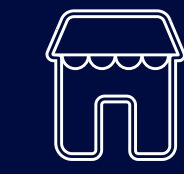




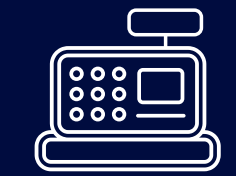
Retail



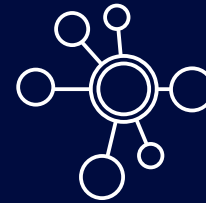
Customer experience



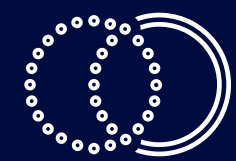
In-aisle



Point of sale



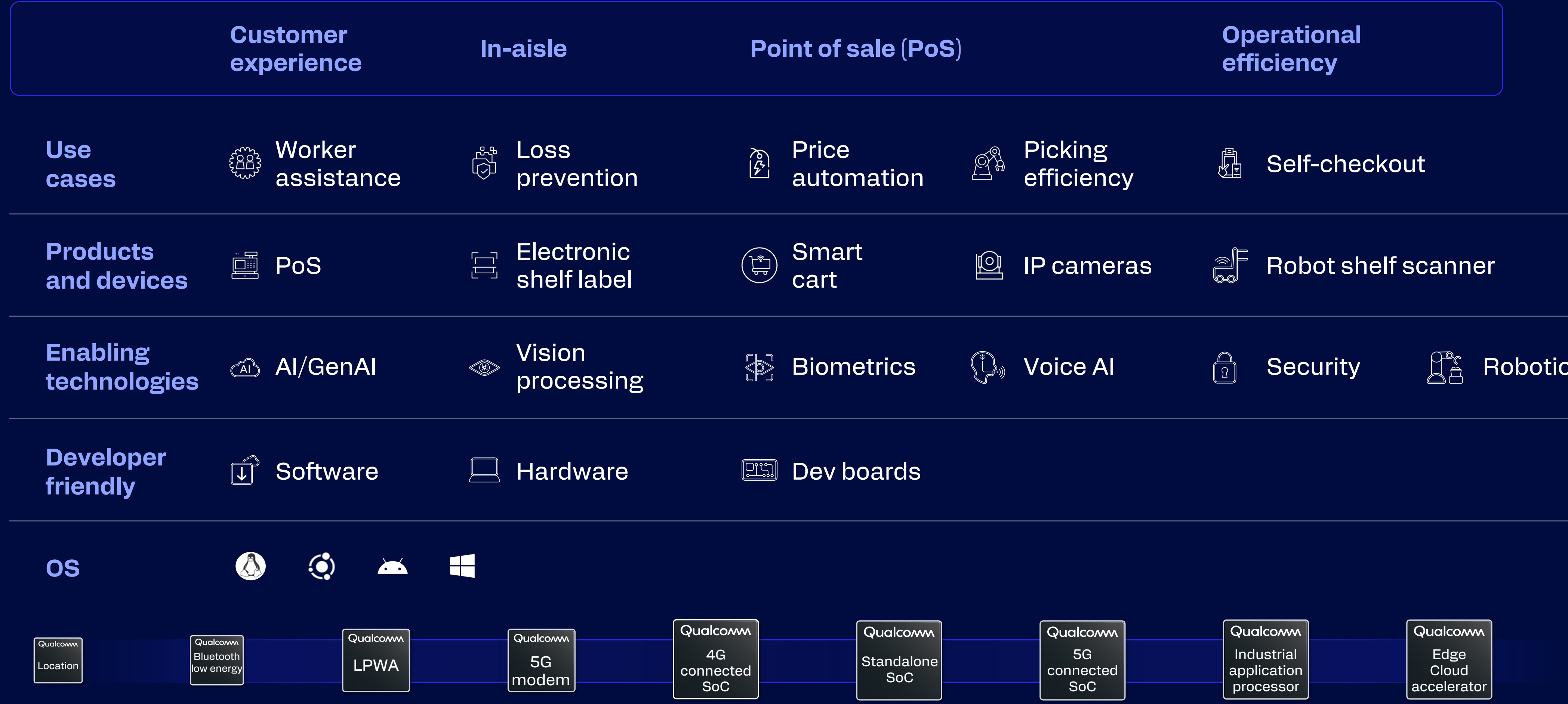
Frictionless



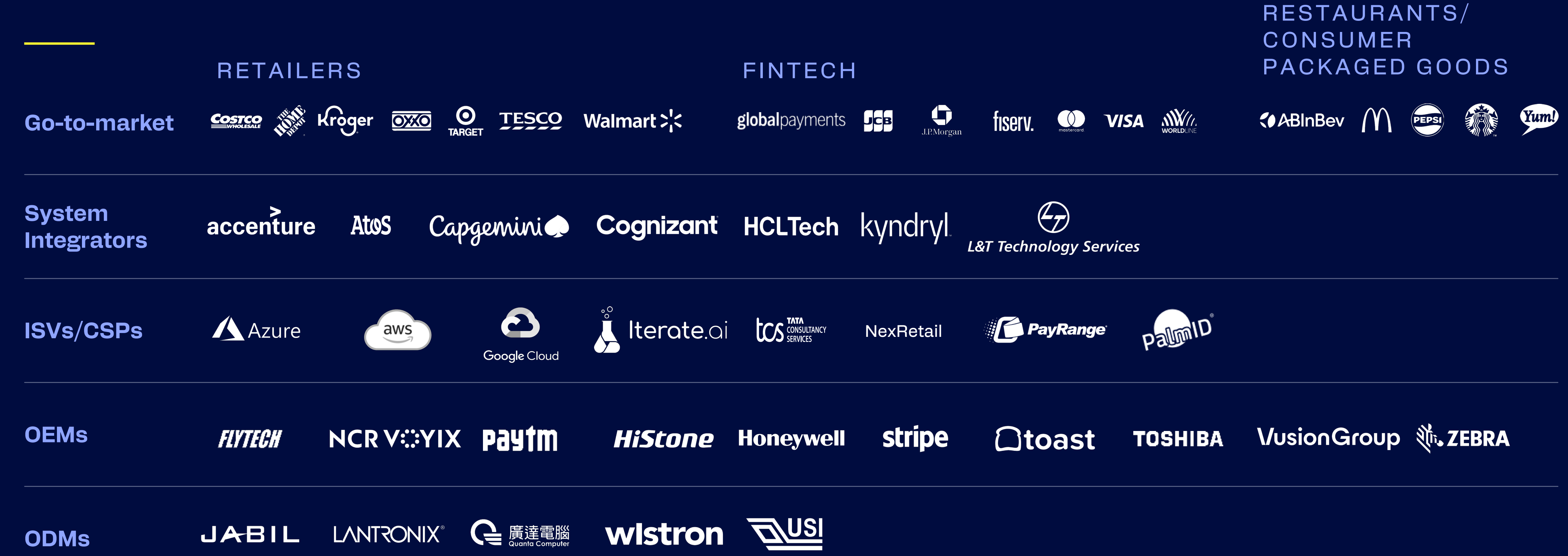
Operational efficiency

Retail

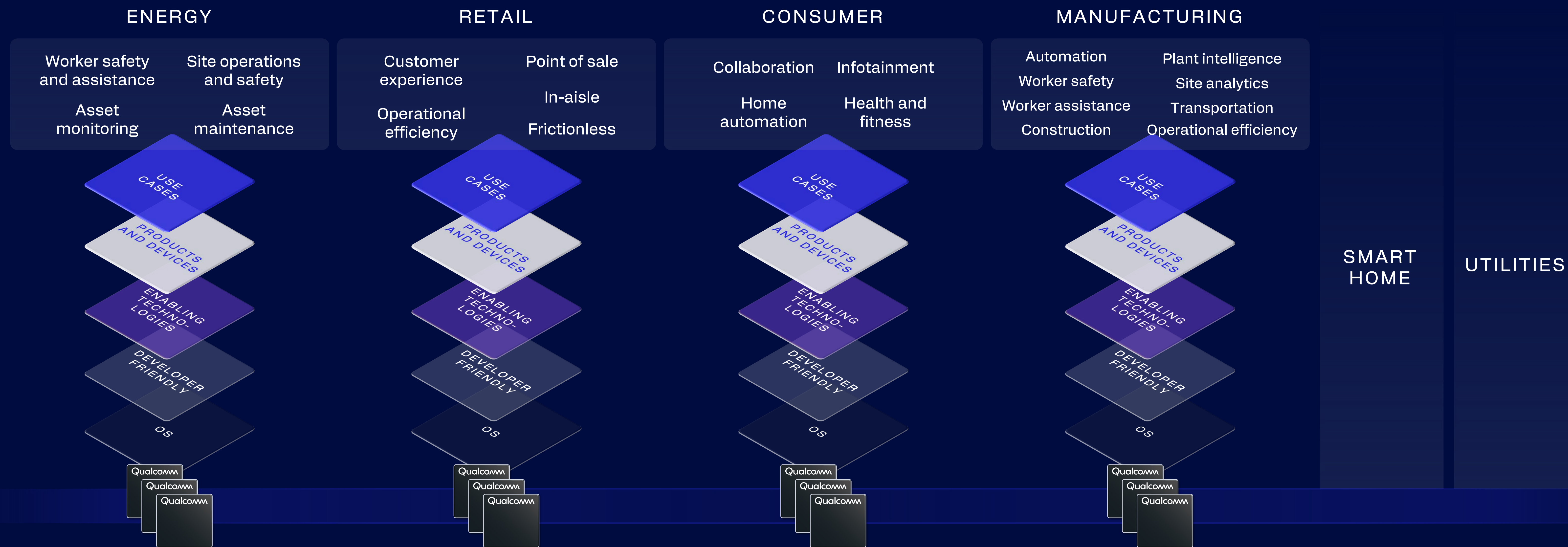
BLUEPRINT



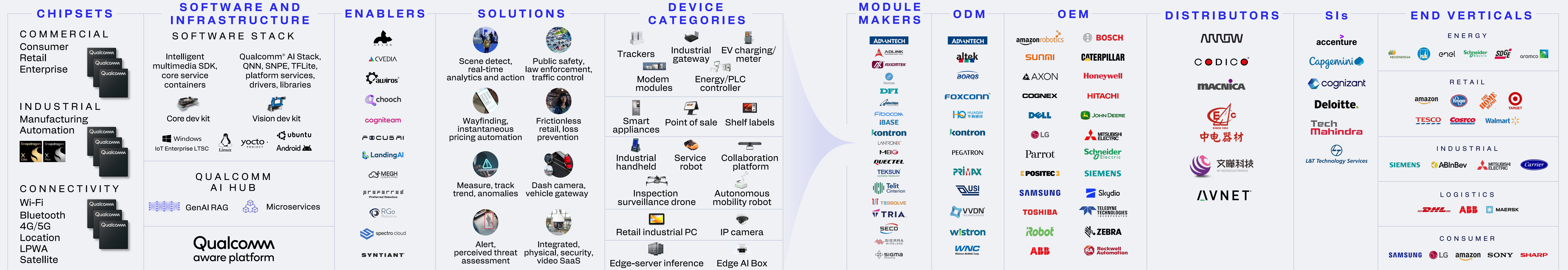
ECOSYSTEM



Blueprint for every vertical



Built to scale



Qualcomm

Power of the ecosystem





Key takeaways

—
The edge is now
connected and
intelligent

—
The enterprise is
preparing for AI
first workflows

—
GenAI is an
accelerant for digital
transformation

—
Delivering the most
comprehensive
Industrial IoT solutions

Thank you

References in this presentation to “Qualcomm” may mean Qualcomm Incorporated, Qualcomm Technologies, Inc., and/or other subsidiaries or business units within the Qualcomm corporate structure, as applicable. Qualcomm Incorporated includes our licensing business, QTL, and the vast majority of our patent portfolio. Qualcomm Technologies, Inc., a subsidiary of Qualcomm Incorporated, operates, along with its subsidiaries, substantially all of our engineering, research and development functions, and substantially all of our products and services businesses, including our QCT semiconductor business.

Snapdragon and Qualcomm branded products are products of Qualcomm Technologies, Inc. and/or its subsidiaries. Qualcomm patented technologies are licensed by Qualcomm Incorporated. Qualcomm, Snapdragon, Hexagon, Adreno, Qualcomm Oryon, Digital Chassis, and Snapdragon Spaces are trademarks or registered trademarks of Qualcomm Incorporated.

Follow us on: [in](#) [X](#) [@](#) [v](#) [f](#)

For more information, visit us at [qualcomm.com](https://www.qualcomm.com) and [qualcomm.com/blog](https://www.qualcomm.com/blog)



Qualcomm
INVESTOR DAY 2024