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# Samsung System LSI

Investor Presentation

2024

# Contents

**Business Update**

**Market Opportunities**

**Samsung Strategy**

**Key Takeaways**

# Financial Highlights

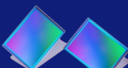
Steady growth based on endless technology innovations

## On-device AI



Pioneering with flagship processor

## 200 Megapixel

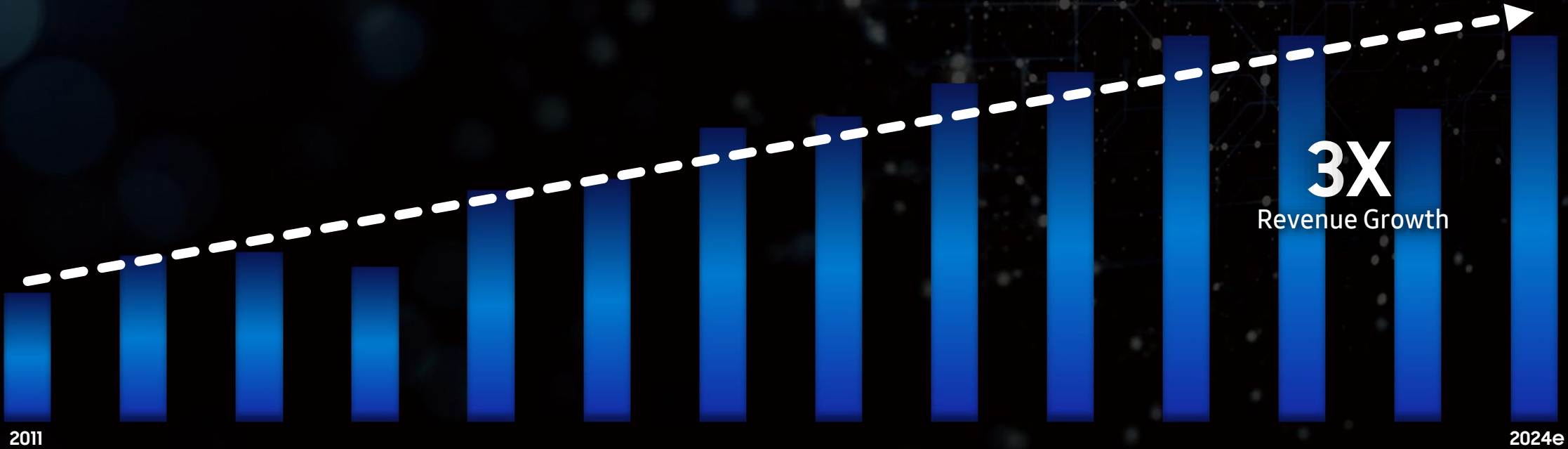


Expanded applications of 200MP image sensor

## 20+ Years



Leading display driver IC market



# Business Portfolio

Broad range of logic chips for diverse applications

Mobile SoC    Mobile CIS    Power Management IC    Display Driver IC Touch Controller    NFC/eSE/SIM Banking/ID Security    DTV SoC    Auto SoC    Auto CIS

Smartphone

Wearable

Auto

Robot

# Global Network

Worldwide R&D expertise for top-notch technologies



 R&D Center  
 Regional Office

\* Excluding domestic, as of September, 2023 .

# Contents

**Business Update**

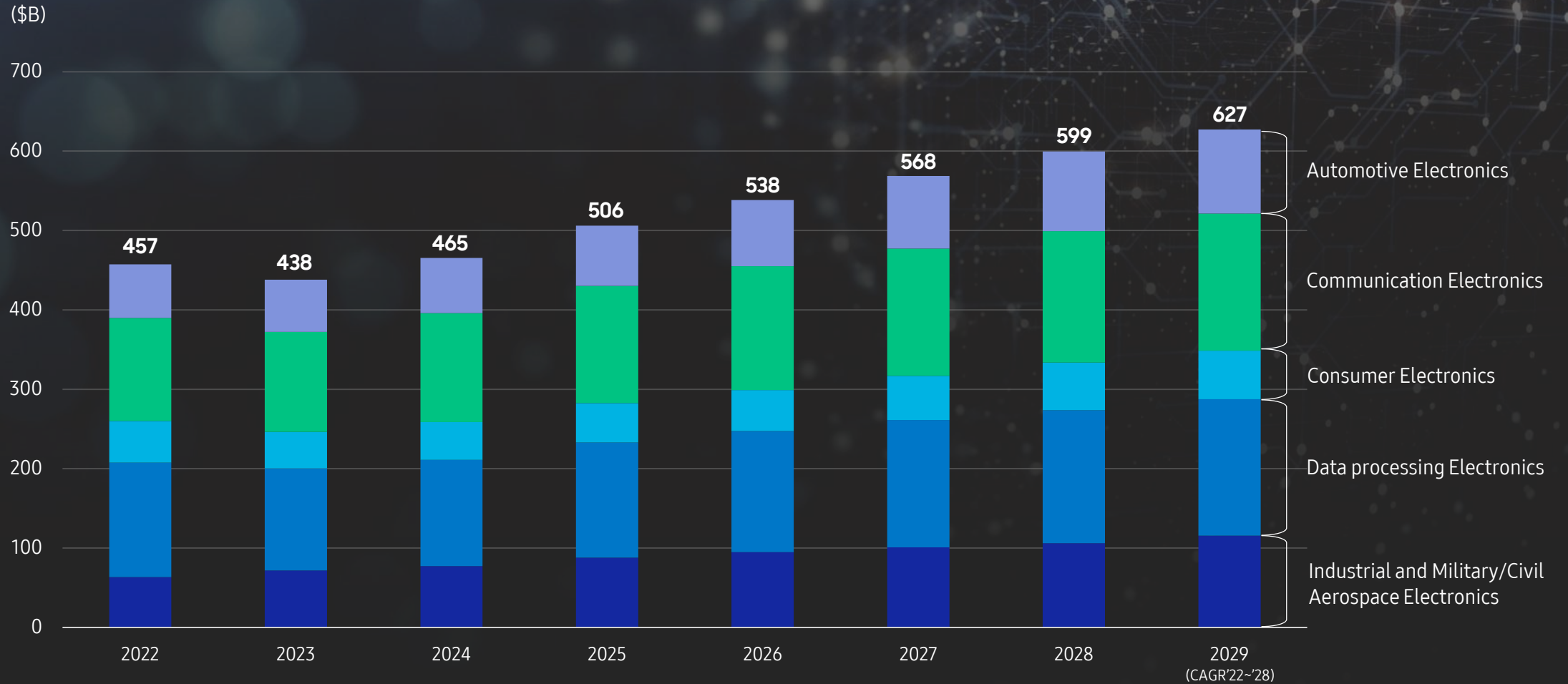
**Market Opportunities**

**Samsung Strategy**

**Key Takeaways**

# Logic Chips Market Forecast

Anticipating long-term stable growth after recovery in 2024

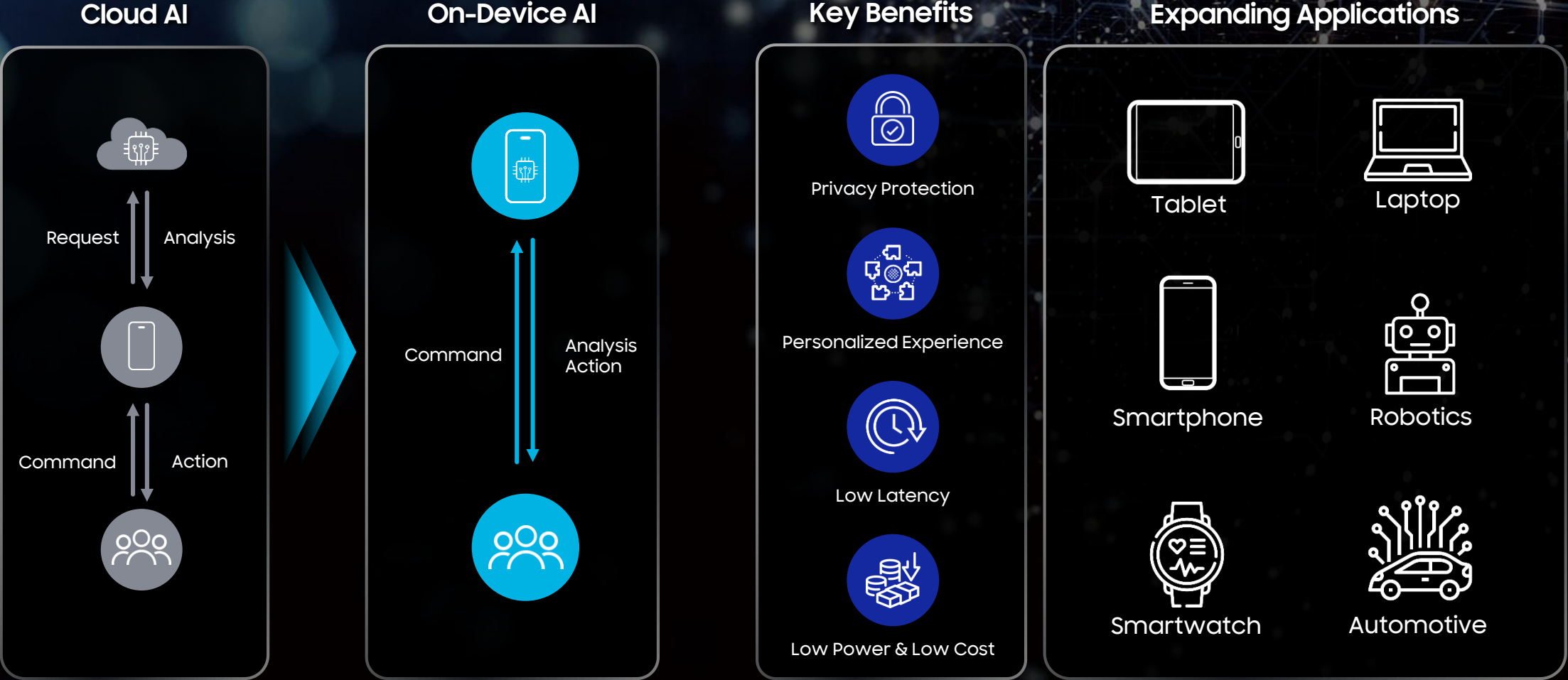


\* Gartner '24.3



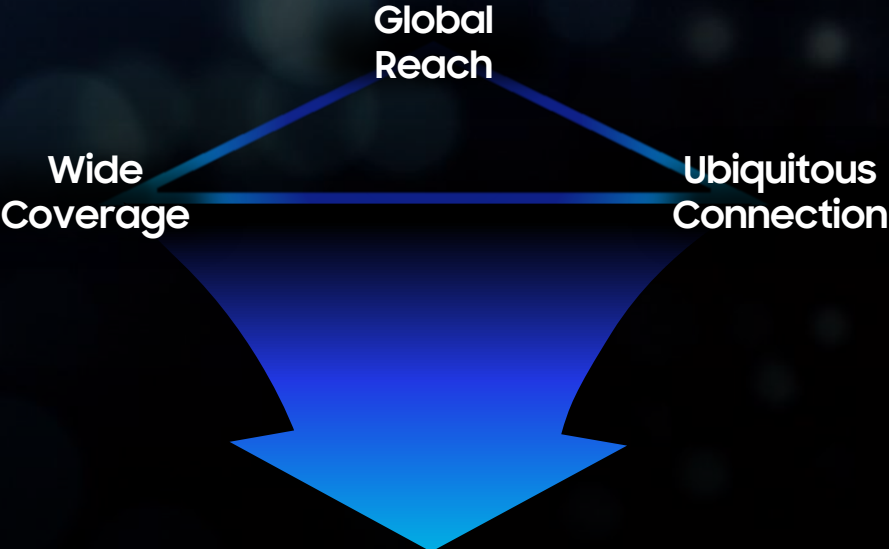
# Enlarging Edge of On-device AI

On-device AI's strengths spread to a wide range of applications



# Extending Connectivity beyond Terrestrial

Uninterrupted connectivity without blind spot with non-terrestrial network

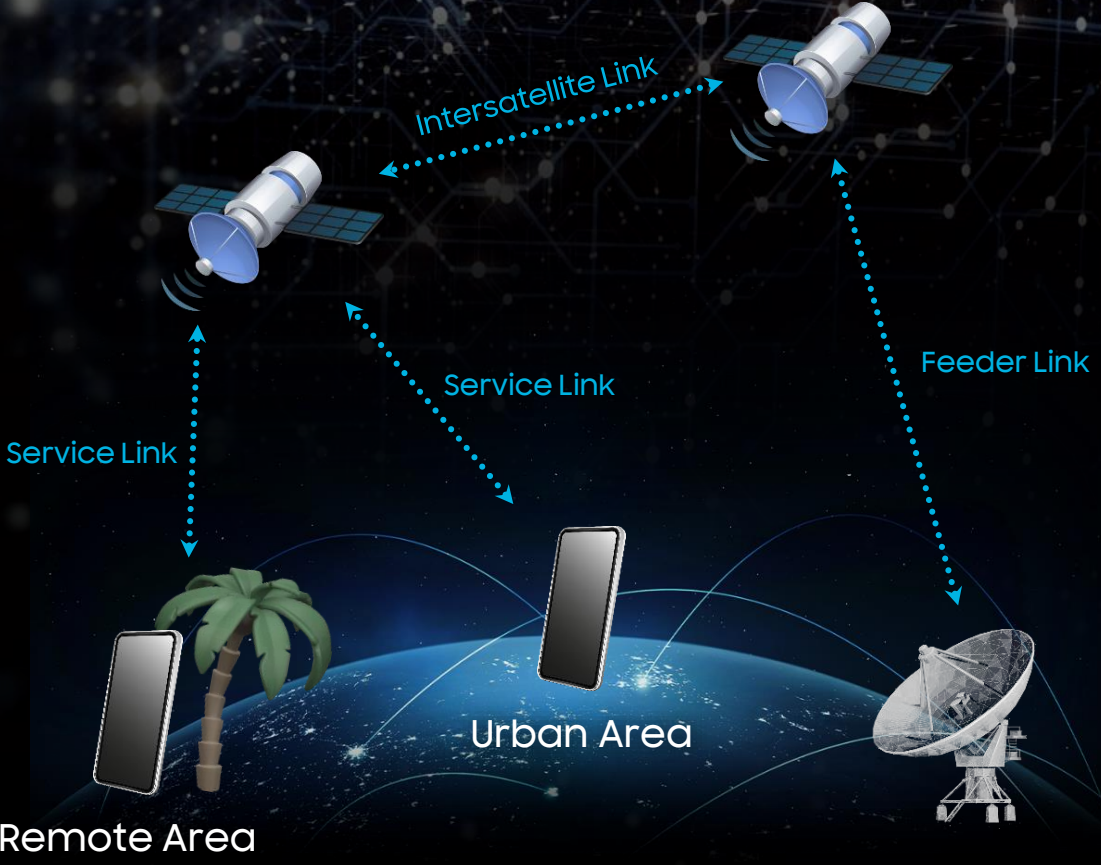


**NB-IoT NTN**

Emergency Message

**5G NR NTN**

Multimedia Streaming



# Growing Needs for Advanced Mobile Photography

Sophisticated development in mobile image sensor for pro-grade quality of mobile camera



Powerful Zoom



High-Dynamic Range



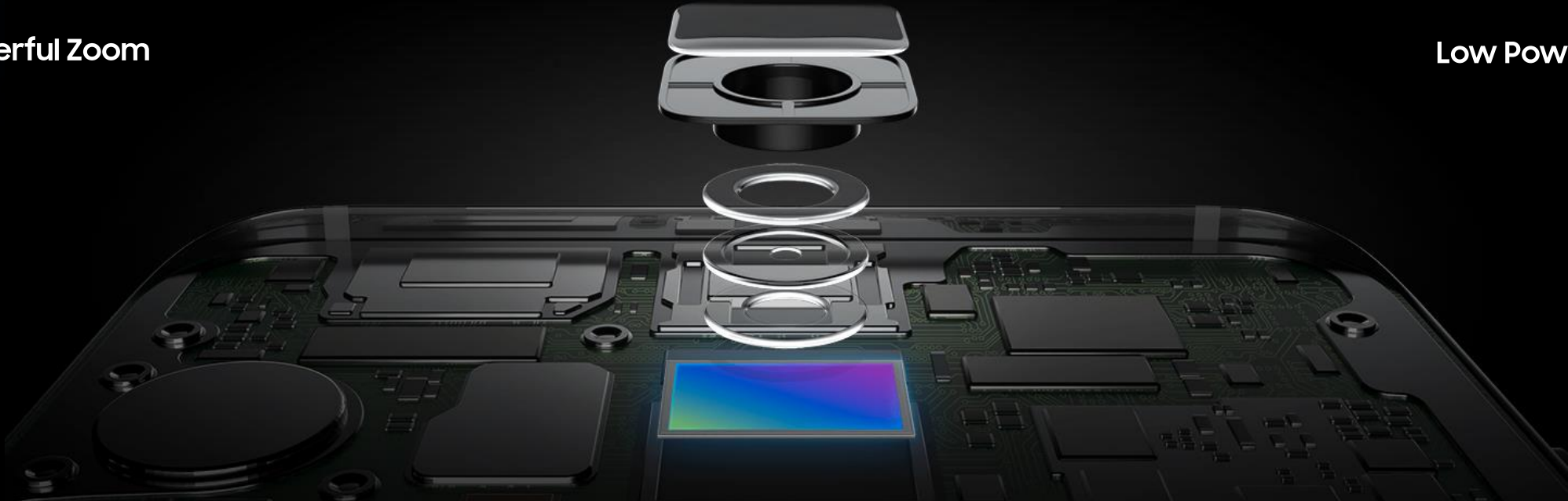
AI Integration



Low-light Sensitivity




Low Power



# Emerging Markets of New Applications

Rising demand for specialized sensors for a variety of devices



Touch Sensor

Camera Image Sensor

RGB Sensor

Distance Sensor

Temperature Sensor

This block features a white service robot holding a cardboard box. Surrounding the robot are five circular callouts, each representing a different sensor type: Touch Sensor (top right), Camera Image Sensor (top left), RGB Sensor (middle left), Distance Sensor (bottom left), and Temperature Sensor (bottom left).



ToF Sensor

RGB Sensor

Tracking Sensor

Global Shutter Sensor

This block features a person wearing a VR headset. Surrounding the person are four circular callouts, each representing a different sensor type: ToF Sensor (top right), RGB Sensor (middle right), Tracking Sensor (bottom right), and Global Shutter Sensor (bottom left).

# Emphasizing Visual Experience across Devices

Diversified needs for display driver IC in varied form factors



OLEDoS Solution

Real OLED Solution

Low Power Design

Higher Frequency



Better Image Reproduction on Displays

# Explosive Expansion of AI and its Applications

Rising importance of power and security solutions for sustainable AI



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# Strategy for the Growth

Provide platform solutions acting as all the organs in the system





# Processor (System on Chip)

Innovative mobile experience with Exynos processor



Deca-core CPU with  
Tri-cluster Architecture



NPU Dedicated for  
On-device AI



Hardware Ray Tracing



Up to 320MP Camera



# Modem & Connectivity

Swift and seamless 5G connectivity with Exynos modem



3GPP Release 17

The first to FRI-only 11.2Gbps\*

Dual support of NB-IoT NTN & 5G NR NTN

4nm EUV process for power efficiency

\* As determined by industry public announcement dates.

# Image Sensor

Improving both mobile camera experience and machine vision with ISOCELL

## AI-integrated Solution for 200MP Sensors

### ISOCELL Zoom Anyplace

Integrated AI solutions of video and image capture utilizing 200MP image sensor.



▲ Full mode

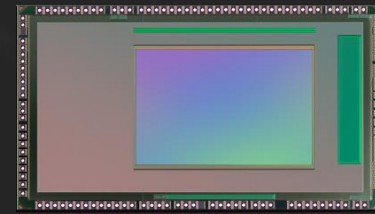


▲ Zoom-in mode

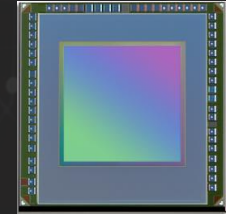
## New Product Lineup for Machine Vision

### ISOCELL Vizion™

New sensor product lineup for machine vision, perceiving 3D information such as distance and motion



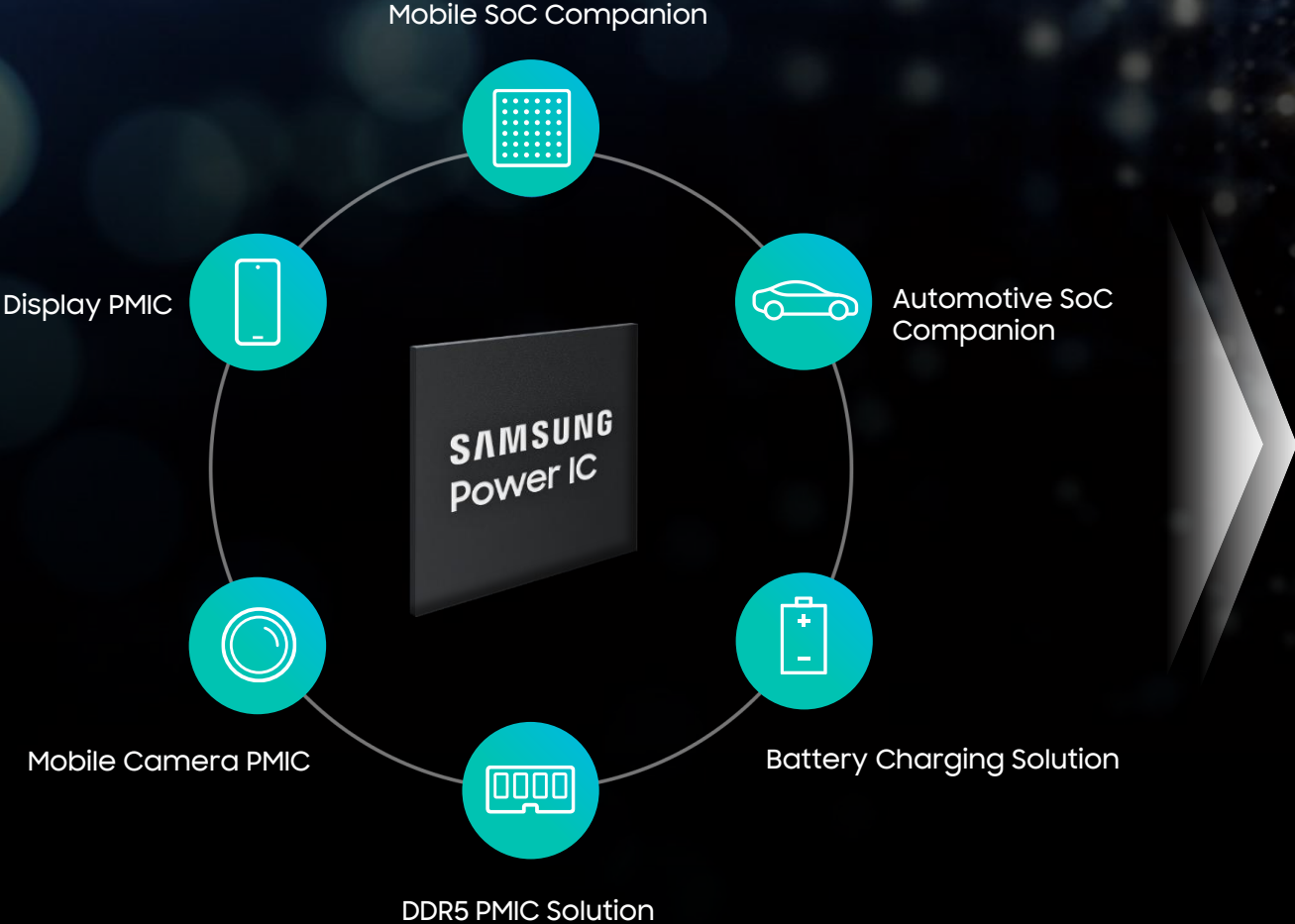
▲ ToF Sensor



▲ Global Shutter Sensor

# Power Management IC

Comprehensive power solution for improved power efficiency of diverse applications



**Power Efficiency**

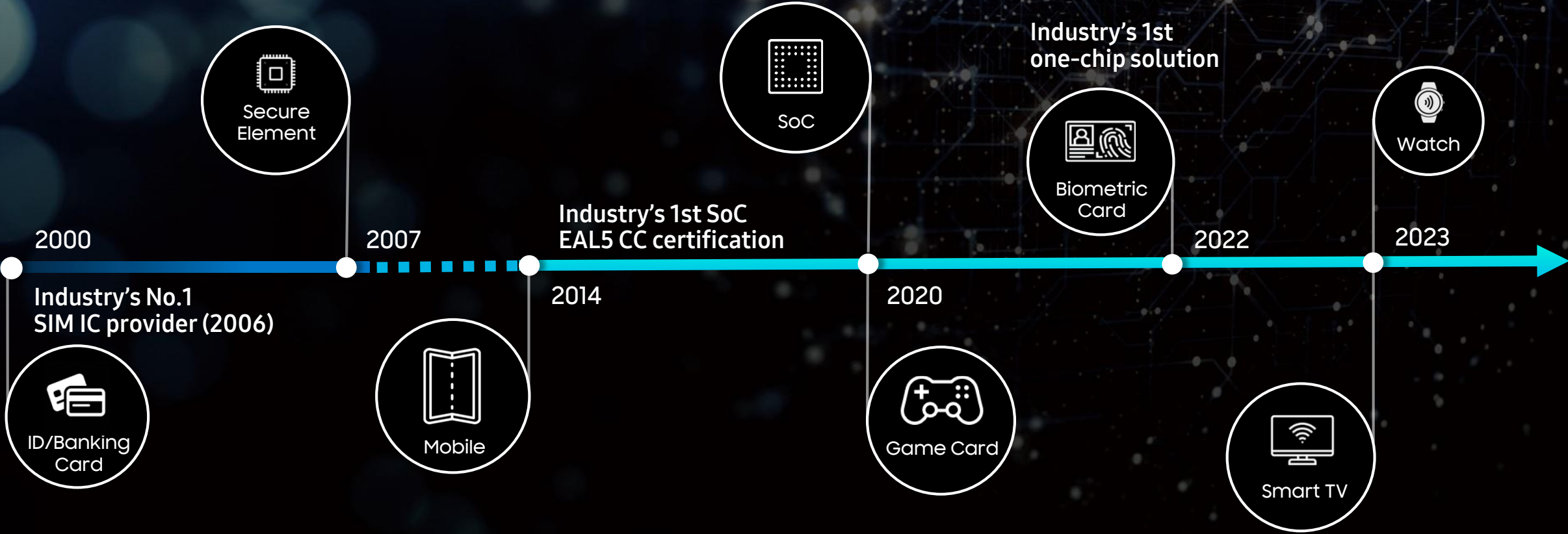
**Cost Reduction**

**Lower Carbon Emission**

**Sustainability**

# Security Solution

Protecting privacy and safety across the various platforms



# Samsung Solutions for Mobile Platform

SAMSUNG

## ISOCELL Image Sensor

Mobile image sensor  
ToF sensor

## Exynos Processor

Mobile SoC  
LTE/5G modem  
RF ICs, UWB

## Power Management IC

SoC PMIC  
eMMC / UFS PMIC  
OLED display PMIC  
Wireless charging IC



## SIM / NFC / Secure Element

SIM & NFC chip for mobile payment  
iSE, iSIM

## Display Driver IC

Mobile DDI  
- Timing controller  
- Source driver  
- Gate driver  
OLED touch-embedded DDI

# Samsung Solutions for Auto Platform

SAMSUNG

## Infotainment

Exynos Auto Processor  
Touch IC / Security IC  
DDI / PMIC

## Exynos Auto

Auto SoC  
TCU, UWB

## ISOCELL Auto

Automotive image sensor

## Security Solutions

Security solutions for auto systems  
& personal information

## Display Driver IC

DDI, Touch controllers

## Front Sensing Driver Monitoring

ISOCELL Auto Image Sensor

## Surround / Rear View Camera

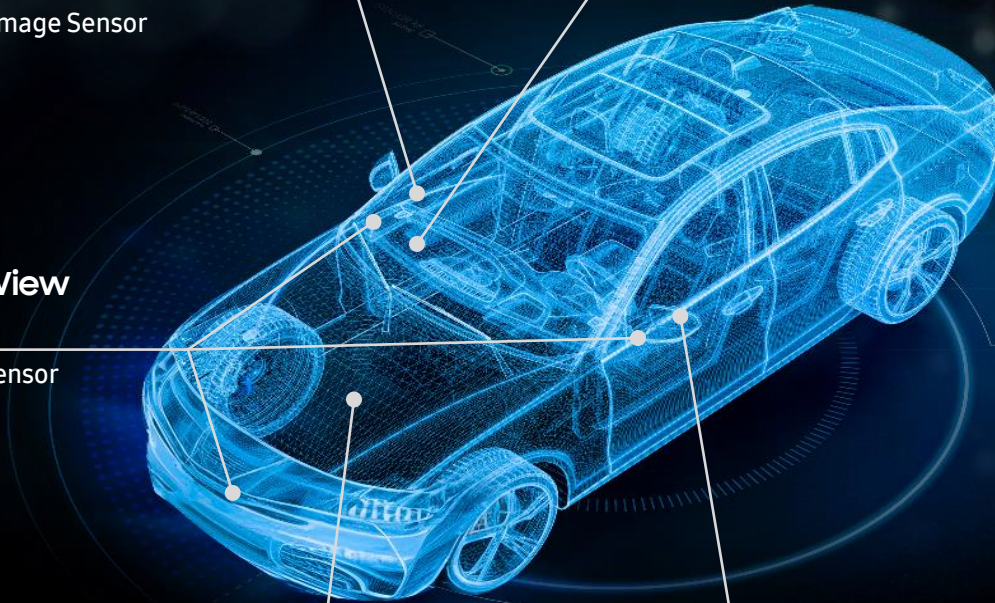
ISOCELL Auto Image Sensor

## Connectivity

TCU / UWB

## eMirror

ISOCELL Auto Image Sensor



# Samsung Solutions for Robot Platform

SAMSUNG

## Exynos SIP Module

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Robot SoC  
PMIC for SoC

## ISOCELL Image Sensor

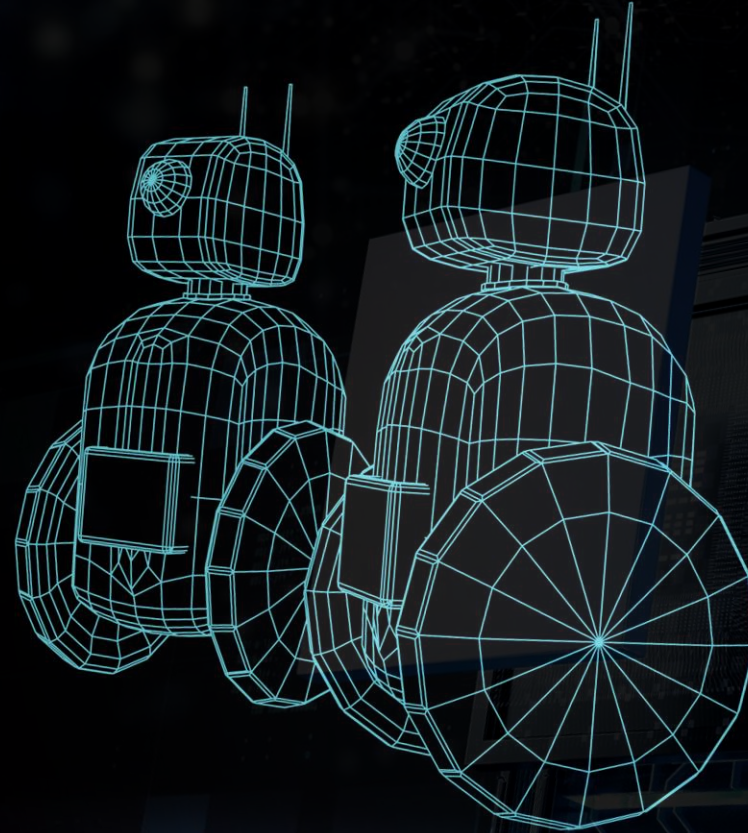
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ToF sensor  
Global shutter sensor

## Modem & Connectivity

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LTE/5G modem  
RF ICs, UWB





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**Business Update**

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**Key Takeaways**

# Key Takeaways

- ✓ **Offering a platform solution based on a comprehensive product portfolio**
- ✓ **Pioneering advancements in on-device AI with AI dedicated NPU**
- ✓ **Elevating user experiences across applications with innovative SoC and image sensors**
- ✓ **Empowering AI solutions with power & security solutions for various applications**

**SAMSUNG**