

POWER

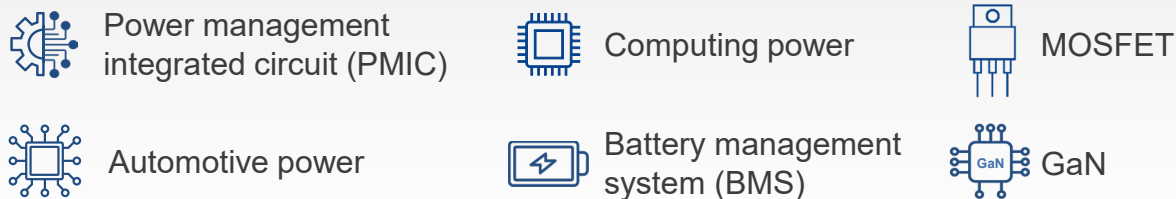


JUNE 26, 2025
CHRIS ALLEXANDRE
SVP AND GM OF POWER
RENESAS ELECTRONICS CORPORATION

AT A GLANCE

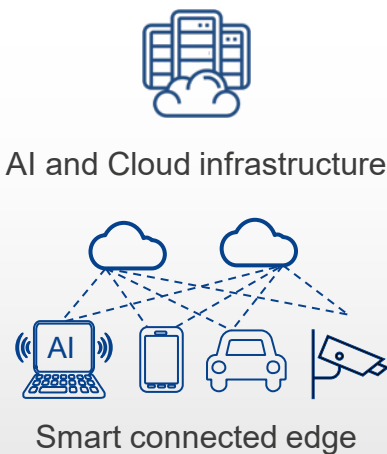
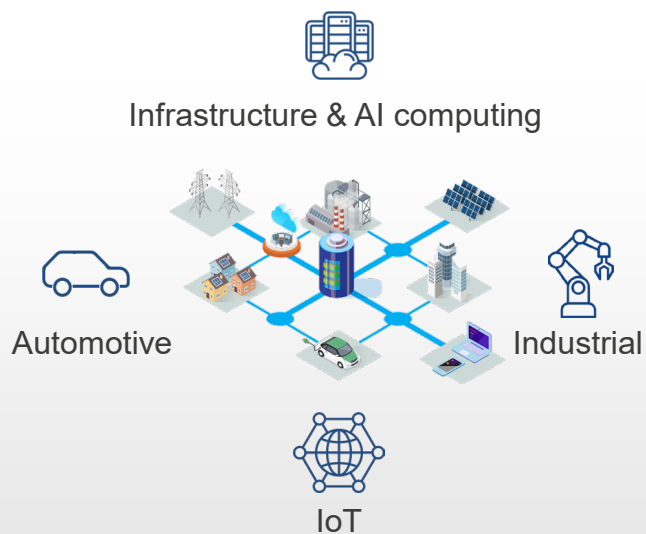
POWER

Our products and technologies

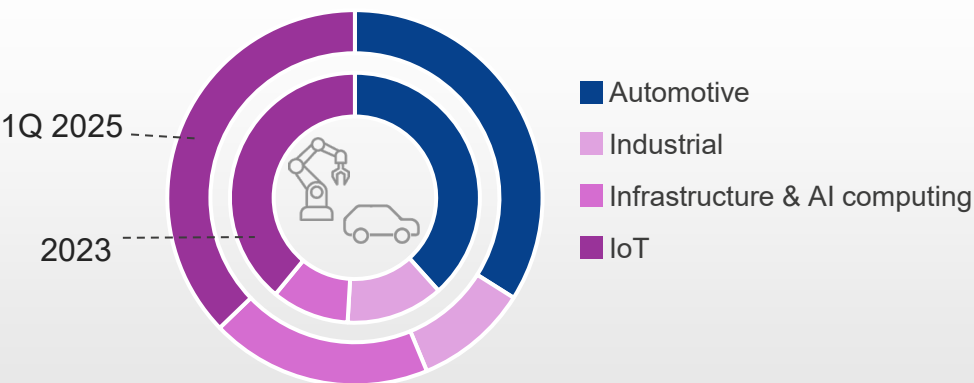
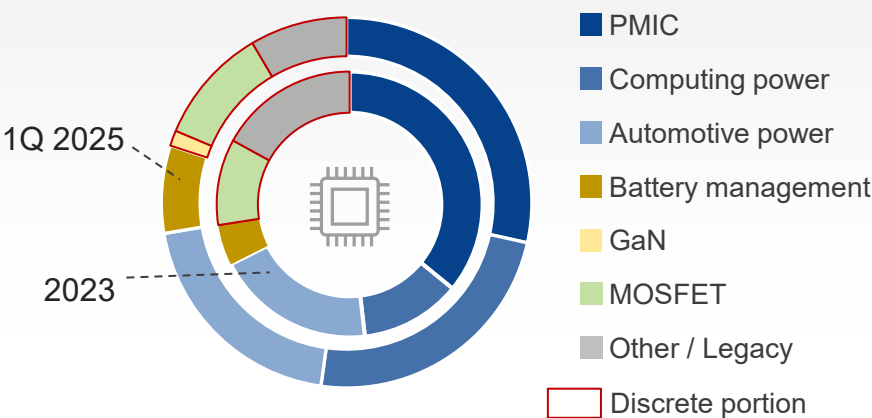


Markets we serve

Macrotrends driving growth

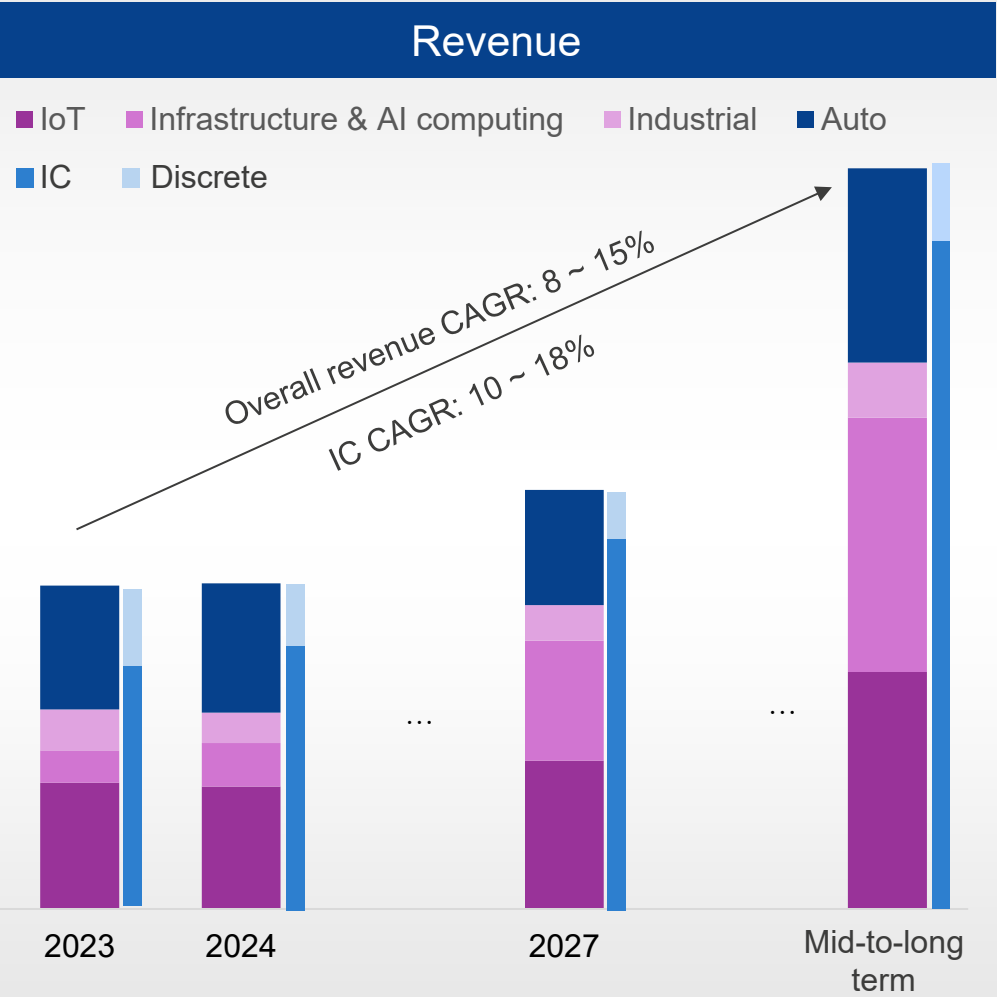






2023 and 1Q 2025 Revenue mix



GROWTH DRIVERS

POWER



Growth drivers		CAGR 2023 - 2025	CAGR 2024 – Mid-to- long term
 Automotive	GaN and MOSFET Battery management system Automotive power PMIC (attach to MCU/SoC)	-5 ~ -10%	5 ~ 10%
 Industrial	GaN and MOSFET PMIC (attach to MCU/SoC) Battery management system	-20 ~ -15%	5 ~ 10%
 Infrastructure & AI computing	Computing power GaN and MOSFET Battery management system	35 ~ 45%	25 ~ 35%
 IoT	PMIC Battery management system	0 ~ 5%	5 ~ 10%

POWER STRATEGY AND SEGMENT FOCUS

Focus areas



Infrastructure / AI & Computing



AI infrastructure



Other server & cloud



AI on the edge



Automotive



Industrial and Energy

Strategy

Targeted approach

- Target the fastest growing segment of our SAM with tailored solutions with more application specific products
- Center of application expertise - dedicated engineering and segment specific teams
- Deep engagement with strategic and lead customers. Develop scalable and repeatable richer solutions for end-equipment



Accelerated growth

Digital attach approach

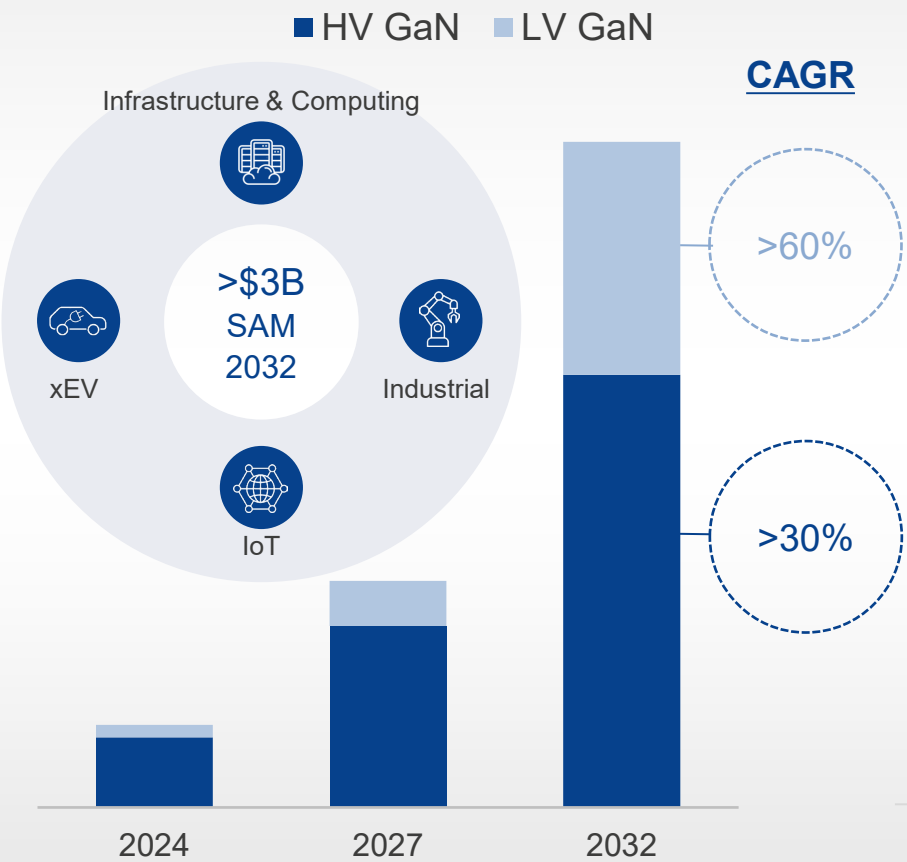
- Full BOM focus with more products per systems
- Solution and attach play: leverage Renesas digital footprint (MCU, MPU, SoC)
- Leveraging Renesas 365 for platform attach & system integration



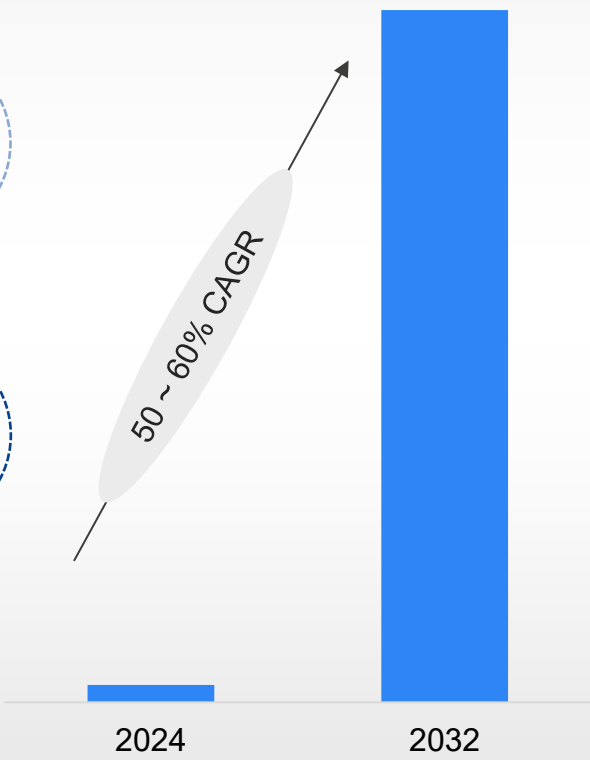
Embedded system solution

GAN MARKET EXPANSION THROUGH FULL ECOSYSTEM SOLUTIONS

GaN SAM rapid growth*1



HV/LV GaN revenue



Growth drivers

Strong GaN foundation and expanding

- Leading 650V d-mode, high power technology
- Vertically integrated – own Epi and process
- Expanding with 40-200V LV GaN e-mode
- Optimized packaging, superior thermals

System solution for best customer experience

- GaN-optimized IC controllers & drivers
- New topologies - GaN BiDirectional switch
- Solutions with SiPs, power stages and reference design across all power ranges

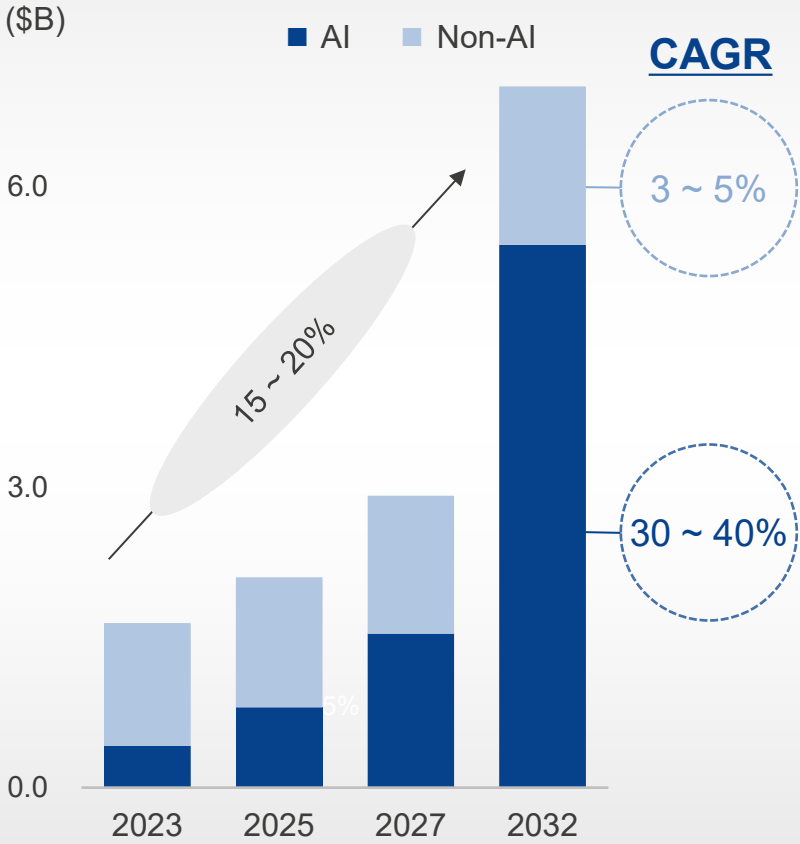
Scaling to 8-inch manufacturing

- 6" High quality 6-inch manufacturing today
- 8" 8-inch ramp - licensing and supply agreement with US partner (2027)
- LV GaN with external foundry and internal IP

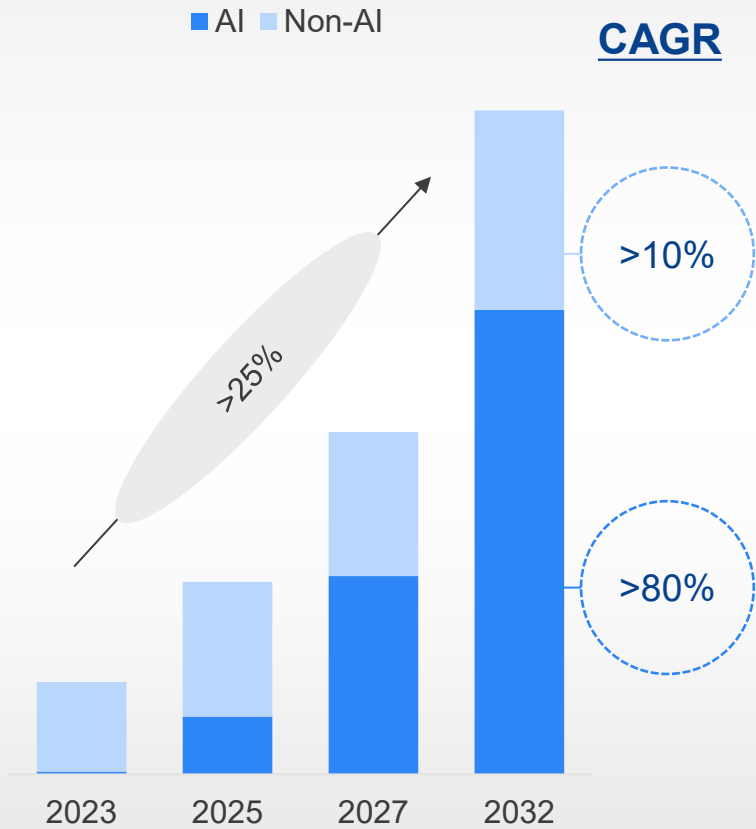
*1: Source: Yole, Renesas analysis. HV GaN: >600V LV GaN 40 ~ 200V

AI DRIVING RAPID GROWTH IN A DIVERSIFIED INFRASTRUCTURE POWER BUSINESS

Infrastructure power SAM*1



Infrastructure power revenue



Growth drivers



Non-AI infrastructure:

A large and diversified business where we are gaining share in core power and growing with healthy margins



AI infrastructure:

Rapid growth in core power content, system unit volumes, and shift to higher-ASP products



Richer solutions:

Expanded product offerings in complementary areas that increase our content per system

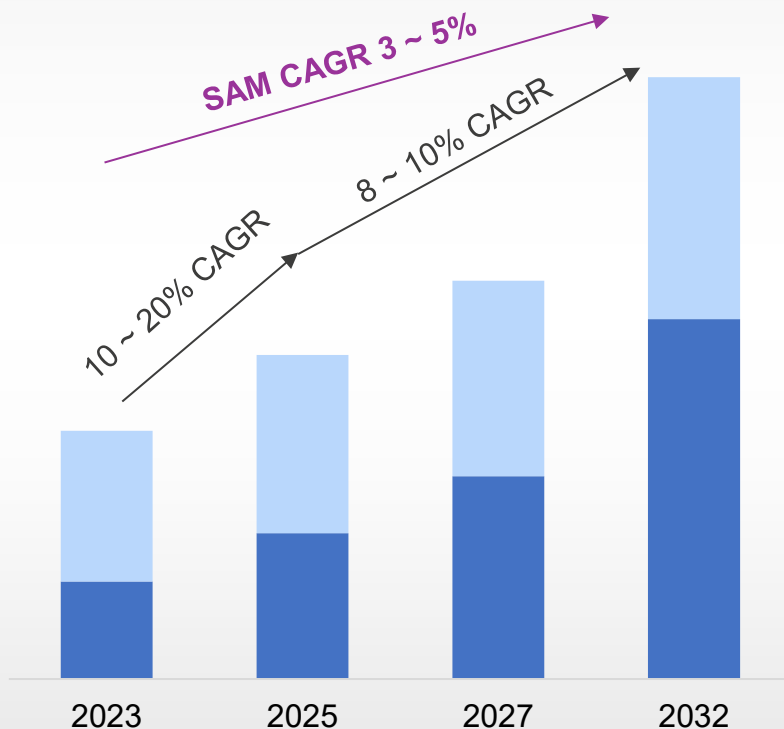
*1: Source: Renesas analysis

OUTPACING INDUSTRY GROWTH WITHIN NON-AI INFRASTRUCTURE

Non-AI infrastructure revenue*1

■ Top US hyperscalers

■ Enterprise



Robust growth in a large, diverse customer base in non-AI infrastructure due to:

- Core Technology: digital controllers, Power Stages, MOSFETs, ICs
- Proprietary software and tools that accelerate customer design cycles
- Supplier consolidation
- Expanding product portfolio



Gaining share with all major Hyperscalers

- ~20% YoY revenue growth (2023~2025)
- Designed into all next-gen systems at top Hyperscalers
- Winning in x64, Arm, and networking platforms



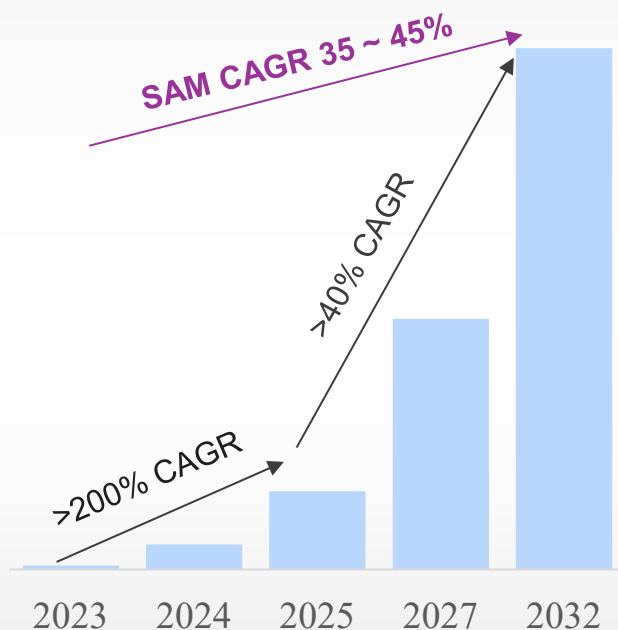
Succeeding in enterprise, networking and Telecom clients

- ~10% YoY revenue growth (2023~2025)
- Ramping in next-gen systems at all top server OEMs, capturing major market share and expanding in networking and telecom

*1: Source: TrendForce, Renesas analysis Note: The Non-AI infrastructure market includes servers, data networking, and telecom equipment that do not adopt modules.


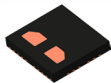
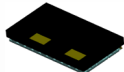
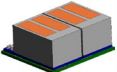
CAPITALIZING ON AI MOMENTUM WITH MODULE AND SYSTEM POWER TOTAL SOLUTIONS

AI infrastructure revenue*1



> Investing and ramping AI-tailored products for GPU, TPU, and custom AI SoCs

- Core power remains solid backbone powering AI revenue growth: Digital controllers, Power Stages, MOSFETs, ICs
- Building on existing relationships with leading GPU provider and Hyperscalers
- Adding high density modules and vertical power solutions
- Winning and co-developing with key AI cloud players and Hyperscalers

Relative density	1.0	1.2	1.2~2x	3.0+
	Standard smart power stage 2009-present 1x ASP	Dual smart power stage >1.5 x ASP	High density module Integrated power stage > 3x ASP Quad-Phase power tower > 8x ASP	
				

> Driving rapid market adoption through an innovative 48V solution

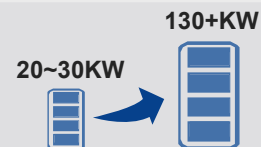
- The first and the only proven onboard, cost-effective 48V solution, winning at majority of Hyperscalers and 3x 2023 to 2025

> Expanding product portfolio to provide one-stop system solution

- Total solutions in development covering Point of Load and e-Fuse
- Leveraging GaN / Ecosystem and BMS for complete system coverage

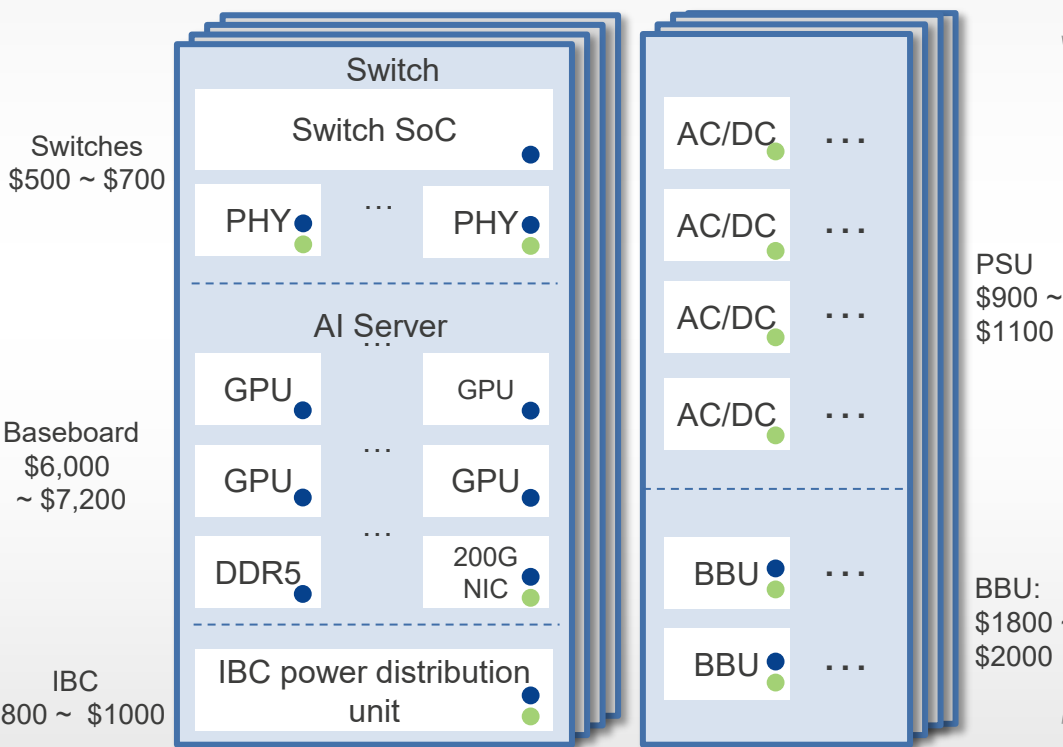
*1: Source: TrendForce, Renesas estimate

POWER PORTFOLIO ADDRESSING GROWING OPPORTUNITY IN AI



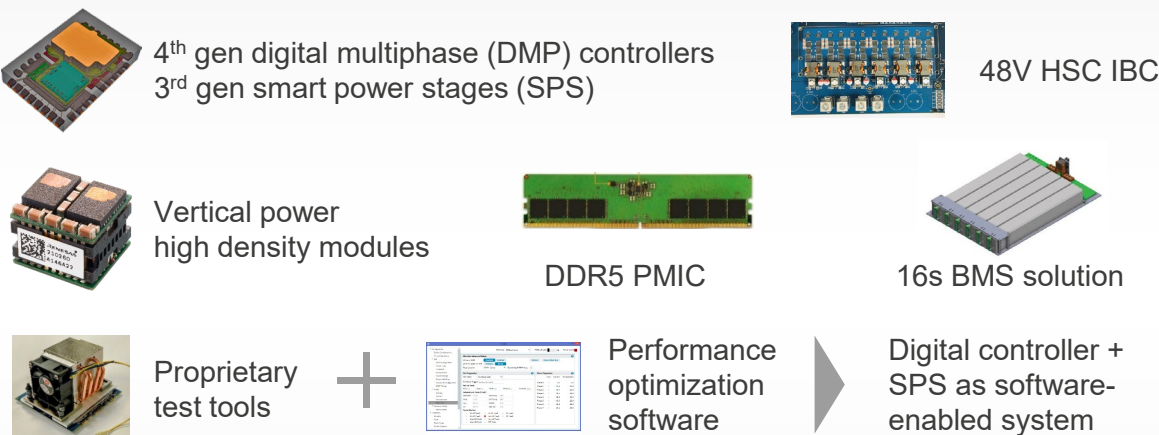
Server power consumption has surged from 20–30kW to 130kW+ due to GPU demand, leading to high-voltage bus and side car rack for AC/DC conversion to trend up to 1MW

\$10k-\$12k Power content per 130kW+ rack



PHY: Ethernet Physical Layer

● Renesas existing products & content



● Renesas new products & opportunity

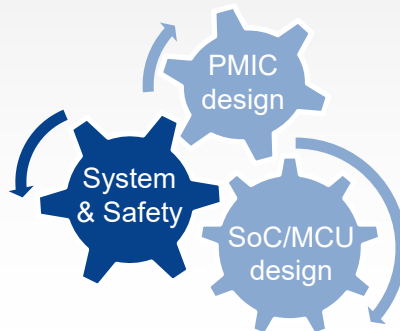


POWERING RENESAS AUTOMOTIVE EMBEDDED SYSTEMS

WITH AN OPTIMIZED & SCALABLE AUTOMOTIVE PMIC PORTFOLIO

Renesas embedded systems advantages

- Leverage large and expanding SoC/MCU footprint. Co-development for seamless system integration
- Functional safety included at start simplifies customer design process
- Established reference designs and proven reliability reduces risk and time-to-market



Proven market traction

- First winning combination released Dec 2024, shipping 1Mu+ in 2025
- 500+ projects with 8+ OEMs & 100+ Tier-1s
- Numerous applications: ADAS central compute, Cockpit, BMS, Zone controller, Domain controller, Inverter, xEV X-in-1 (Inverter/BMS/OBC/DCDC)

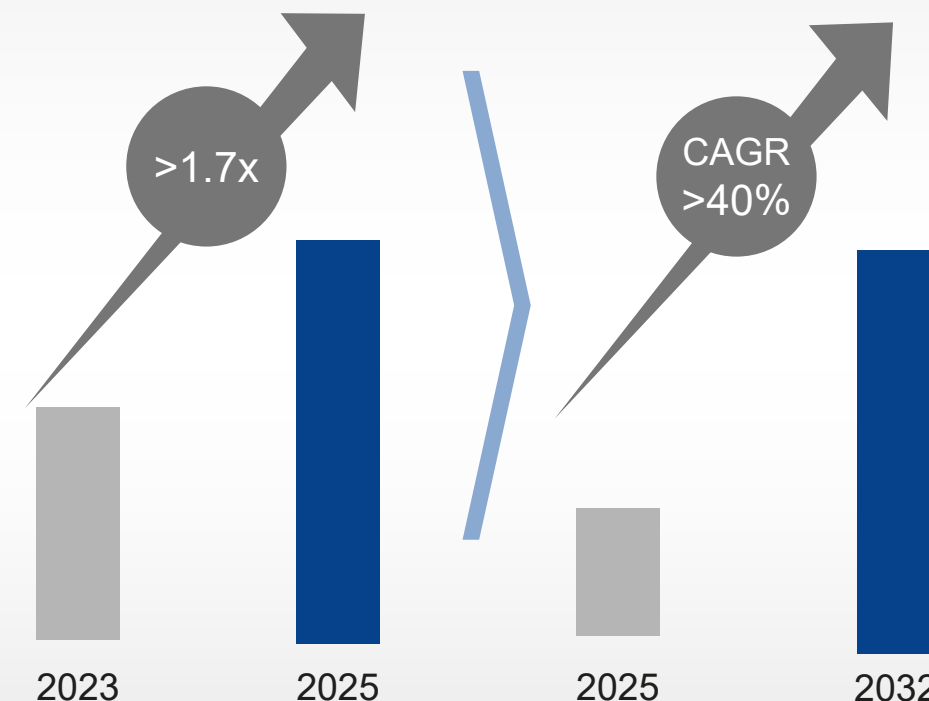


1 MCU (RH850) + 1 PMIC (RAA271084)

Attach rate and revenue growth

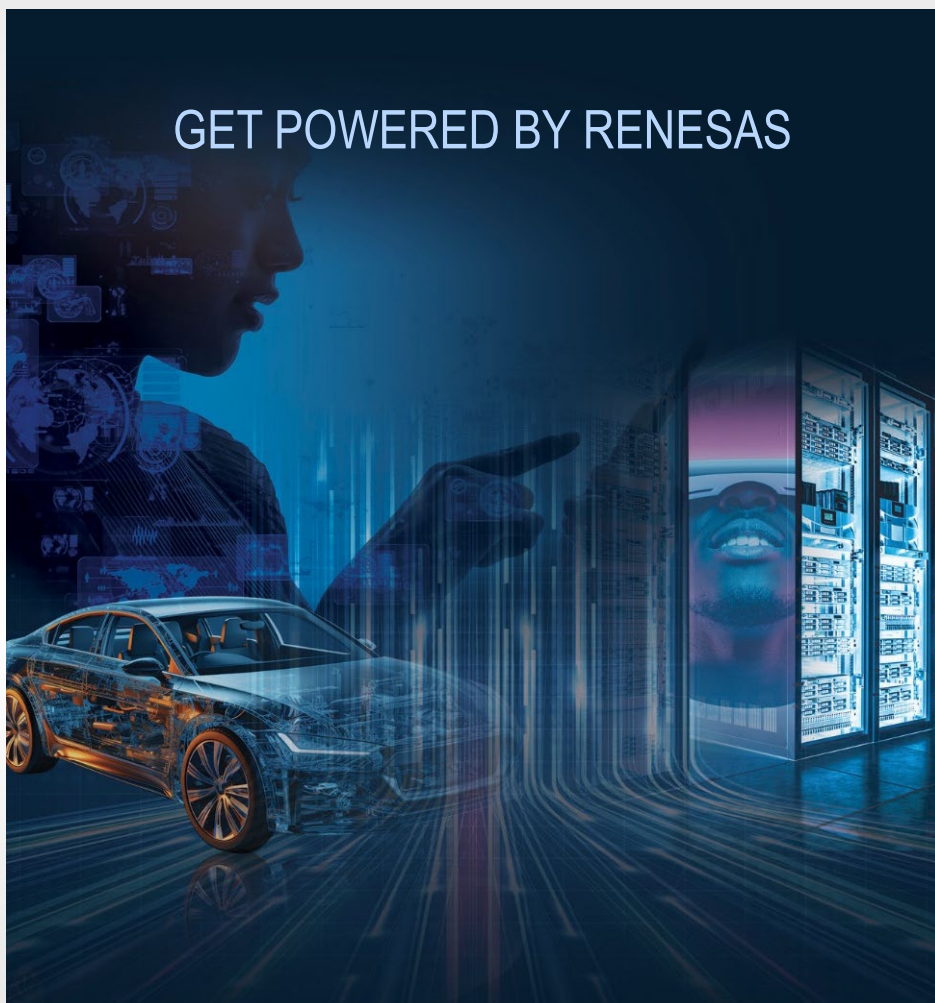
SoC/MCU attach rate

Revenue growth



Continue driving attach rate to power future growth

SUMMARY



Comprehensive power portfolio and strong IP serves as a solid foundation for scalable and rapid growth

Targeted high-growth verticals and digital attach strategy to drive diversification and sustainable, broad-based growth

Accelerated growth fueled by the momentum in AI - infrastructure

GaN driving high voltage, high power business. Capitalize on Infrastructure & Automotive content expansion

Hyper-focus on solution selling into Renesas existing footprint of digital, analog, connectivity and power products



THANK YOU