

PHISON

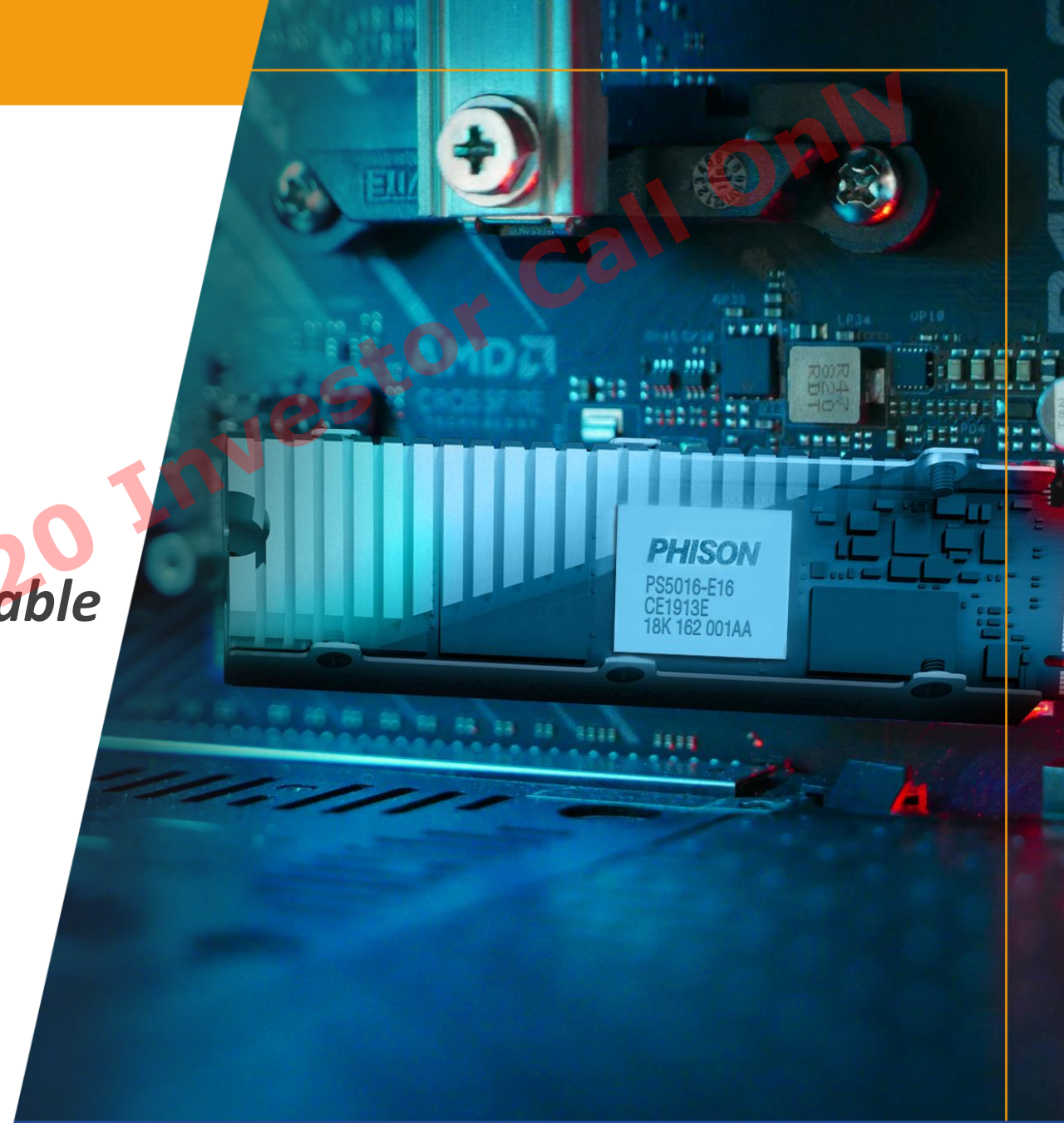
Knows What You Need

PCIe Gen 4 Jump Starts Our Sustainable Technology Leadership

KS Pua | Chairman and CEO of Phison Electronics

11/12/2020

For Phison (8299) 3Q20 Investor Call Only



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1.

3Q20 Financial Performance and Business Update

2.

PCIe Gen 4 Breakthrough Expands Our Addressable Market

3.

Current and Future Technology Leadership

4.

Our 5-year Vision: To Become the Largest SSD Controller IC Supplier in the World

5.

Enhanced Value for Shareholders

1.

3Q20 Financial Performance and Business Update

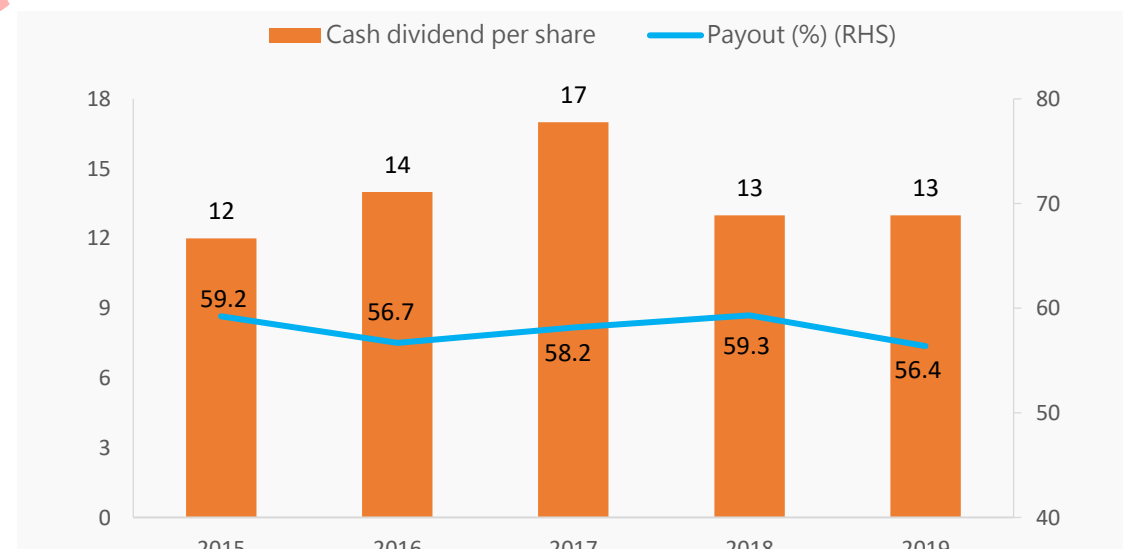
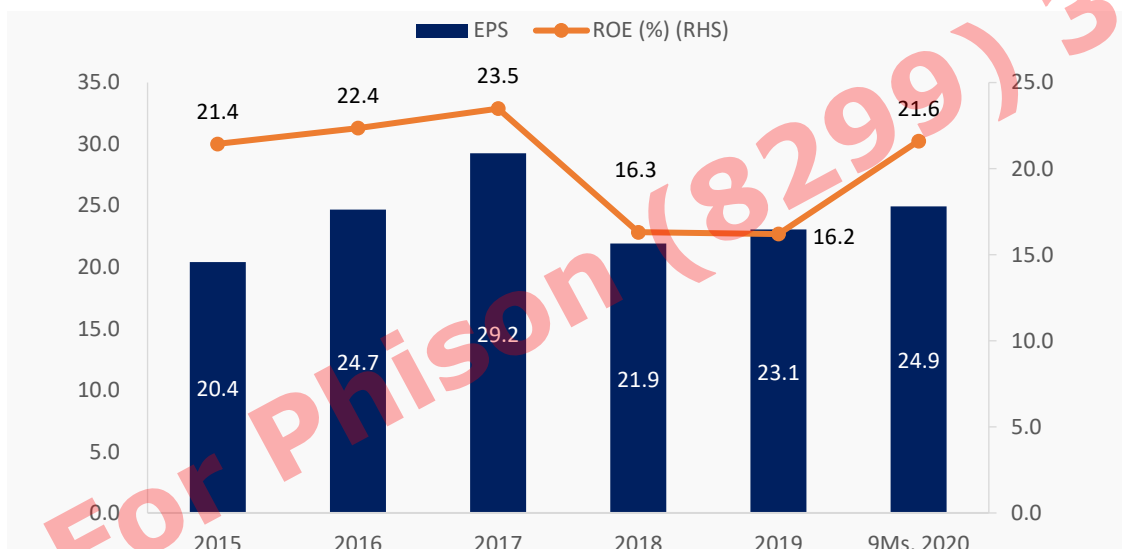
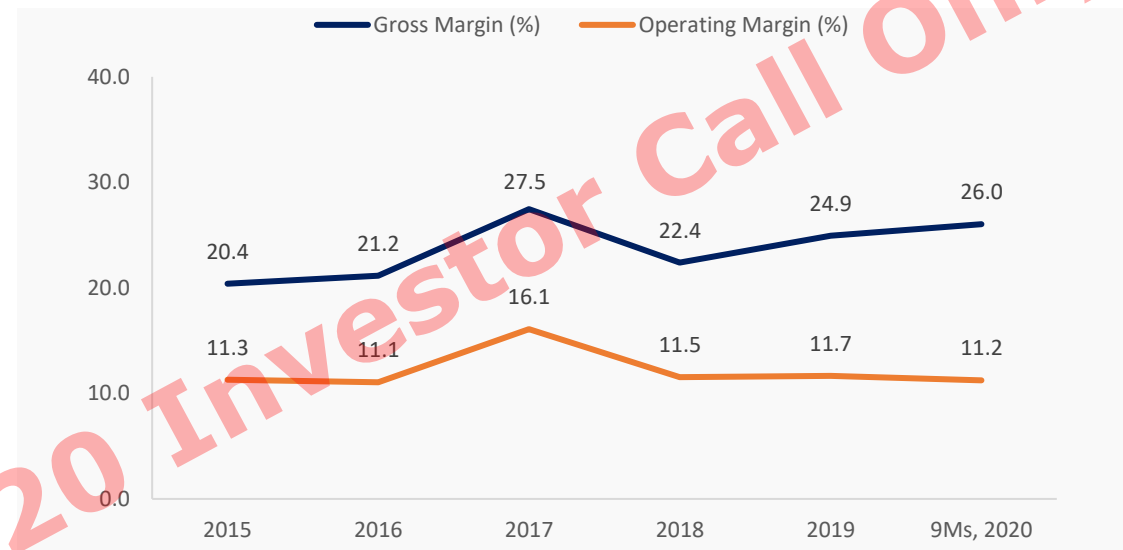
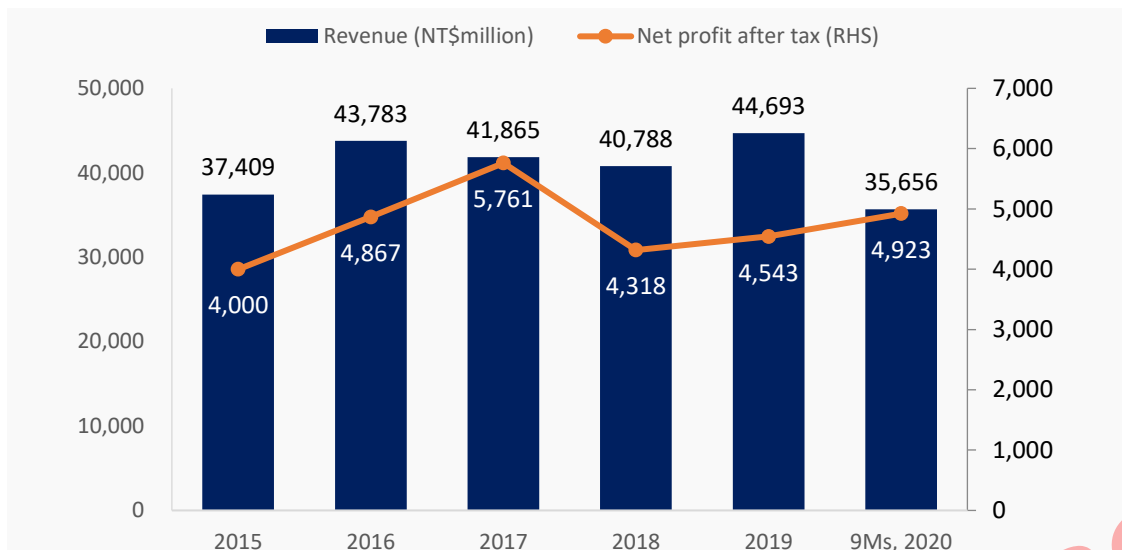
NT\$m	2015	2016	2017	2018	2019	1Q20	2Q20	3Q20	YoY (%)						
									2016	2017	2018	2019	1Q20	2Q20	3Q20
Revenue	37,409	43,783	41,865	40,788	44,693	12,867	10,855	11,934	17.0	-4.4	-2.6	9.6	37.7	11	-3.7
Gross Profit	7,627	9,264	11,500	9,132	11,149	3,866	2,673	2,748	21.5	24.1	-20.6	22.1	84.5	22.8	-19.1
Operating Expenses	-3,401	-4,421	-4,768	-4,422	-5,939	-2,083	-1,593	-1,608	30.0	7.8	-7.3	34.3	102.8	43.5	-3.4
Operating Profit	4,227	4,843	6,732	4,710	5,210	1,783	1,080	1,140	14.6	39.0	-30.0	10.6	67.0	1.3	-34.2
Pretax Income	4,473	5,477	6,718	5,005	5,351	2,238	1,123	2,028	22.4	22.7	-25.5	6.9	115.0	15.1	7.0
Tax Expenses	-577	-675	-957	-687	-805	-340	62	188	17.1	41.7	-28.2	17.2	113.6	-131.6	-28.3
Net Income to Parent	3,896	4,802	5,761	4,318	4,546	1,898	1,185	1,840	23.3	20.0	25.0	5.2	115.2	51.7	12.7
Basic EPS (NT\$)	20.41	24.67	29.23	21.91	23.05	9.63	6.00	9.30	20.9	18.5	-25.0	5.2	115.4	51.5	12.3
Key Financial Ratios (%)															
Gross Margin	20.4	21.2	27.5	22.4	24.9	30.4	24.6	23.0							
Operating Expense Ratio	9.1	10.1	11.4	10.8	13.3	16.2	14.7	13.4							
Operating Margin	11.3	11.1	16.1	11.5	11.7	13.9	10.0	9.6							
Effect Tax Rate	12.9	12.3	14.2	13.7	15.0	15.2	-5.5	1.58							
Net Margin	10.4	11.0	13.8	10.6	10.2	14.8	10.9	15.42							

Balance Sheet Highlight

3Q20 Investor Presentation

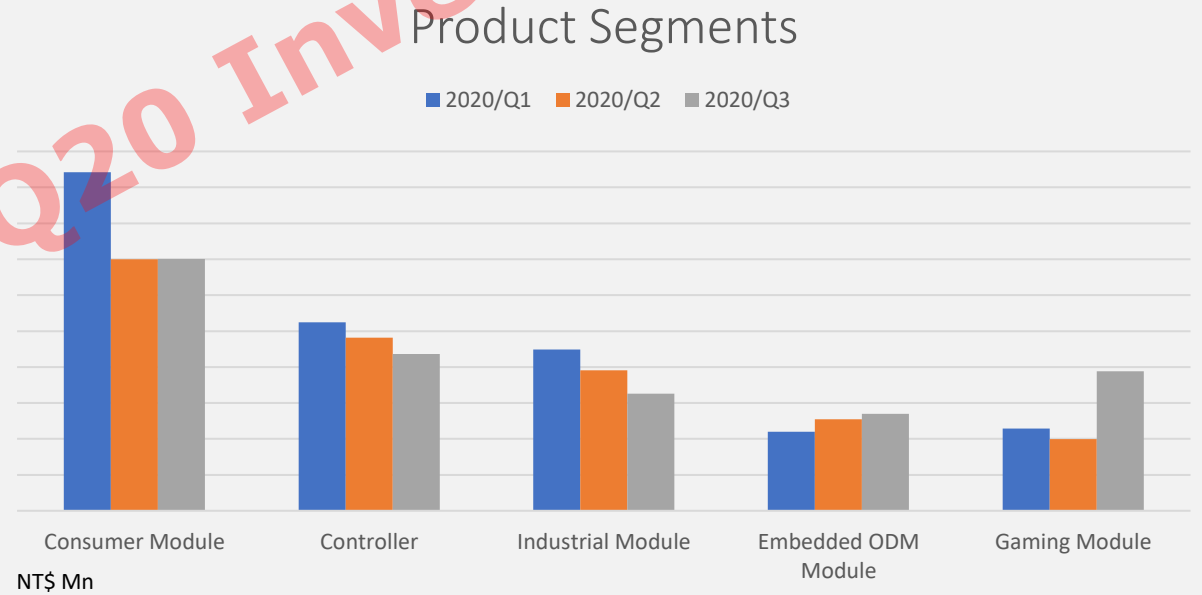
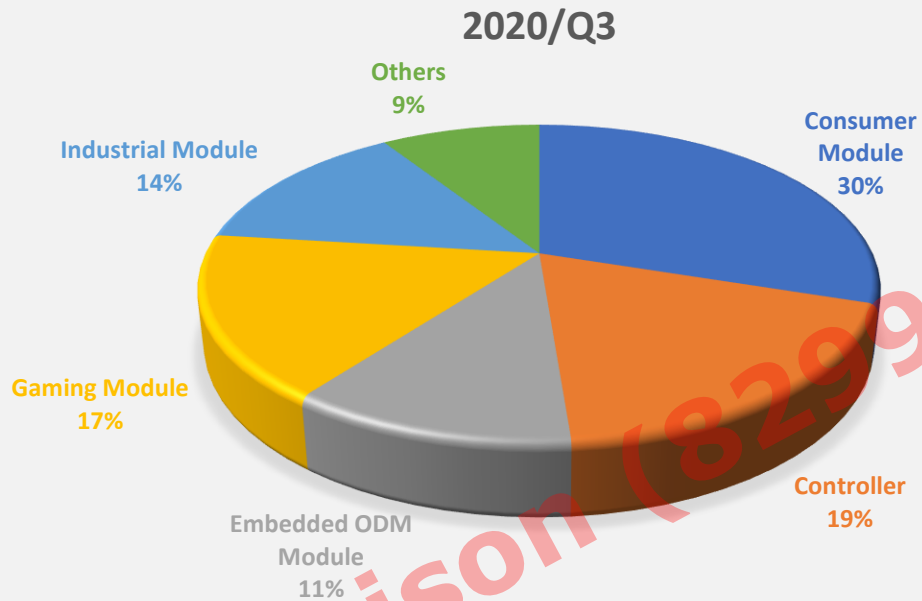
NT\$mn	2015	2016	2017	2018	2019	1Q20	2Q20	3Q20	YoY (%)						
									2016	2017	2018	2019	1Q20	2Q20	3Q20
Total Assets	28,419	31,976	35,127	36,439	38,637	41,921	41,310	41,208	12.5	9.9	3.7	6.0	7.1	9.2	15.0
Cash	12,406	14,958	14,142	14,176	10,205	10,259	11,468	12,946	20.6	-5.5	0.2	-28.0	-27.7	-2.3	36.9
AR & NR	4,434	4,801	5,731	5,244	5,934	6,968	5,151	5,568	8.3	19.4	-8.5	13.2	54.3	3.5	-14.4
Inventories	5,251	5,222	7,192	7,577	11,533	13,172	13,062	11,238	-0.6	37.7	5.3	52.2	24.9	19.2	17.0
Fixed Assets	1,637	2,426	2,823	2,990	3,283	3,391	3,714	4,371	48.2	16.3	5.9	9.8	13.1	24.1	39.3
Total Liabilities	7,869	8,977	9,069	9,527	9,448	10,793	11,461	9,751	14.1	1.0	5.1	-0.8	-3.8	-1.8	22.2
AP & NP	4,256	3,857	3,647	4,806	3,643	3,734	2,498	2,809	-9.4	-5.4	31.8	-24.2	-42.3	-47.7	-13.6
Total Equity	20,550	22,998	26,058	26,912	29,189	31,128	29,849	31,457	11.9	13.3	3.3	8.5	11.5	14.1	12.7
Key Financial Ratios															
A/R Turnover Days	41.4	38.5	45.9	48.4	45.6	45.7	42.6	44.1							
Inventory Turnover Days	66.1	55.4	74.6	85.1	104.0	125.9	131.3	118.1							
A/P Turnover Days	50.9	42.9	45.1	48.7	46.0	37.6	32.7	33.5							
Cash Conversion Days	56.6	51.0	75.4	84.8	103.6	134.0	141.2	128.7							
ROE (%)	20.9	22.1	23.5	16.3	16.2	25.2	20.9	21.6							
ROA (%)	15.0	15.9	17.2	12.1	12.1	18.9	15.4	16.5							

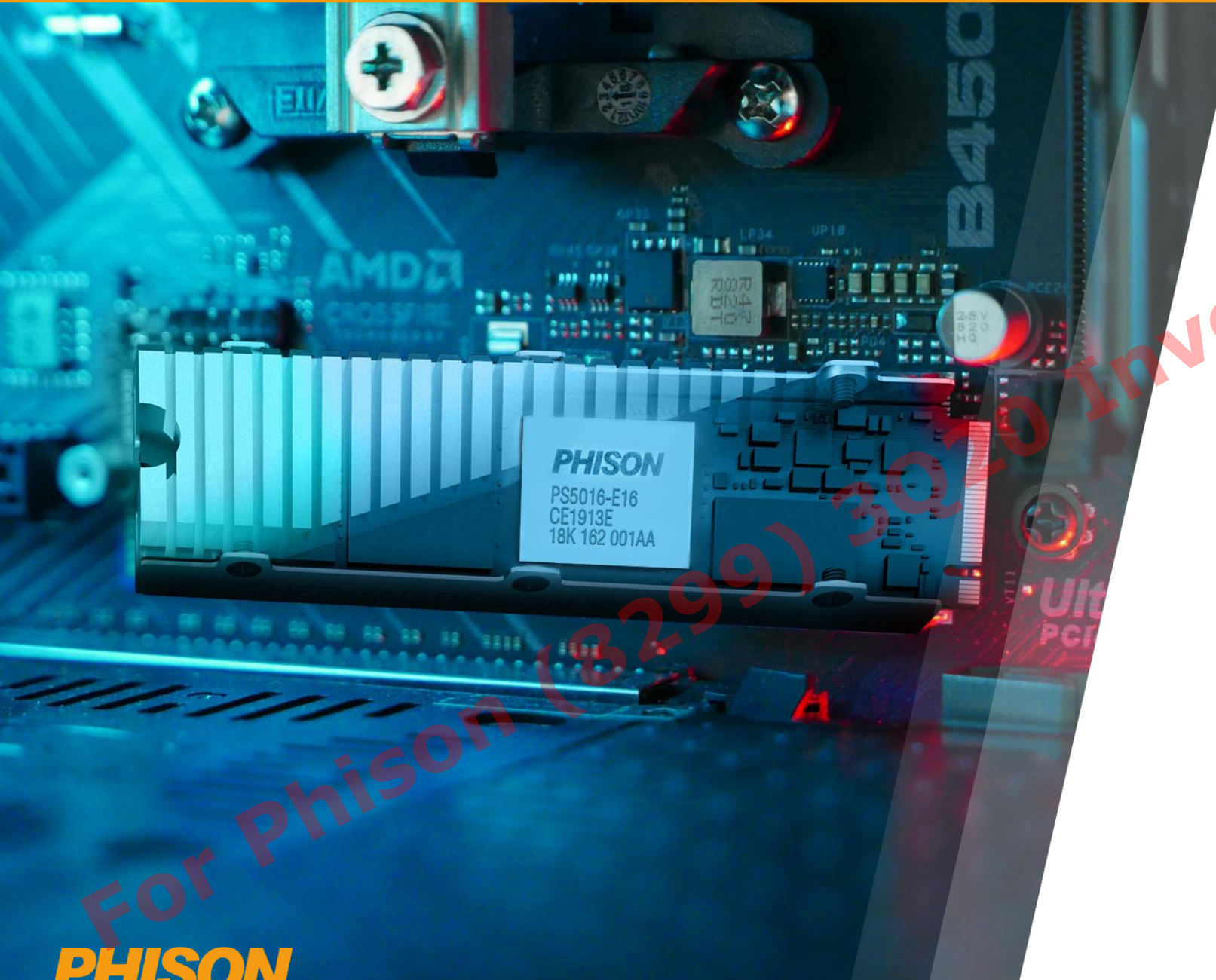
Growing Profitability and Attractive Shareholder Returns



Annual cumulative total bits shipments: 13% YoY
(A record high over the same period)

Annual cumulative PCIe SSD controller shipments: 111% YoY (a record high for the same period)
Annual cumulative eMMC module shipments: 21% YoY (a record high for the same period)





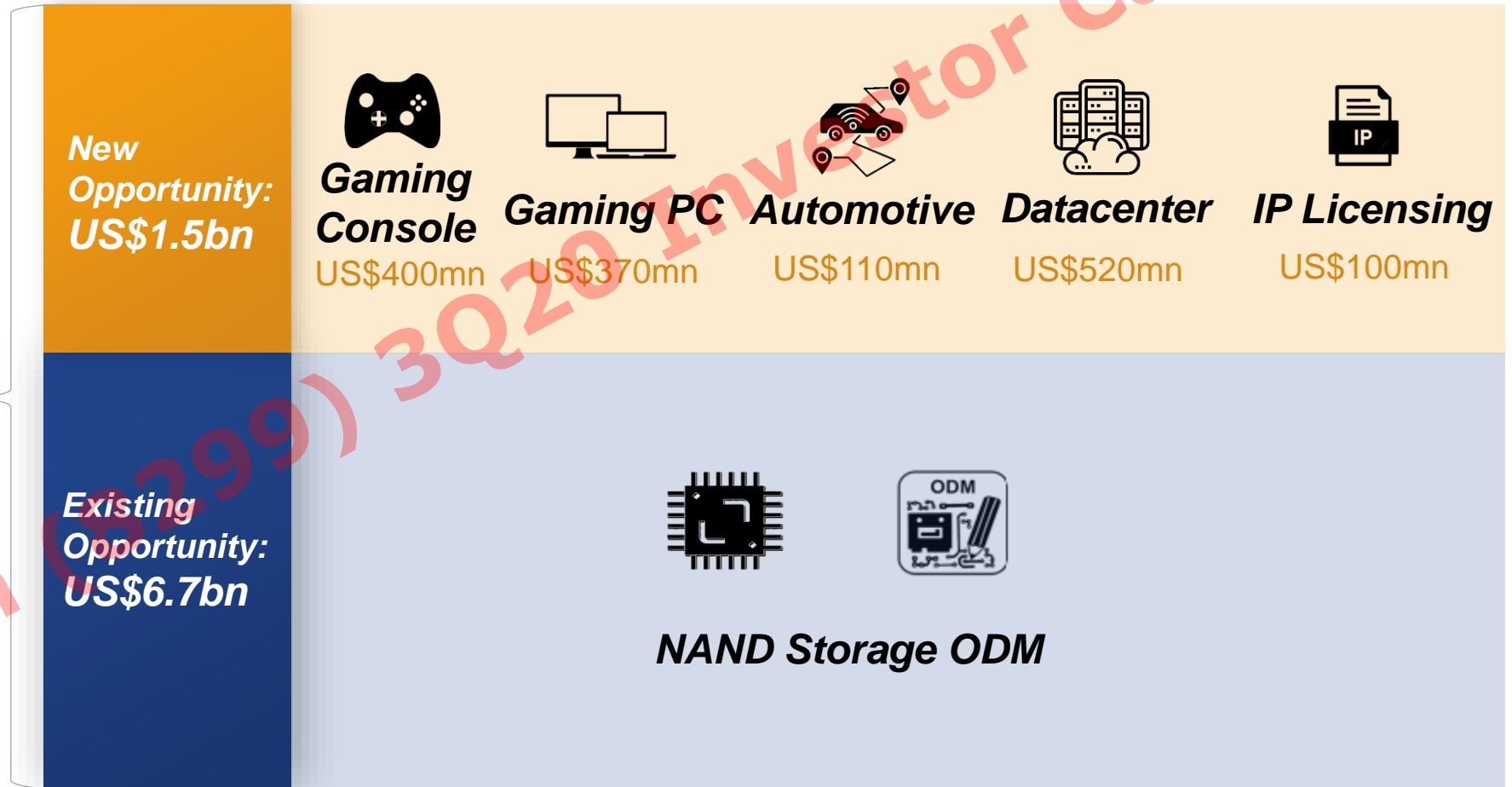
2.

PCIe Gen 4 Breakthrough Expands Our Addressable Market

Gen 4 to Expand Our Serviceable Addressable Market

PCIe Gen 4 expands our current SSD serviceable addressable market (SAM) from US\$6.7bn to US\$8.2bn. Our new market opportunity is US\$1.5bn, including gaming console, gaming PC, automotive, datacenter and IP licensing.

Our current SSD SAM:
US\$8.2bn



For Phison (8299) 3Q20 Investor Call Only



Phison Opens Colorado Enterprise SSD Engineering Lab with Industry Experts Expanding Support for Enterprise and Data Center Customers



Colorado is a gathering place for enterprise storage companies

Phison enters the tier-1 enterprise storage market

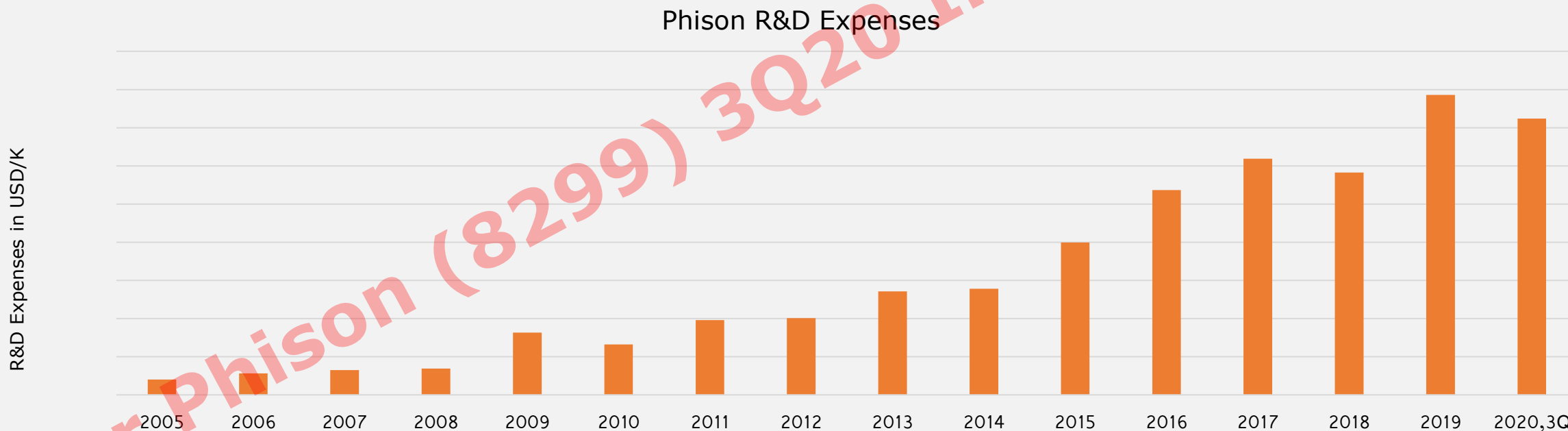
Phison and strategic partners enter together to prove Phison's enterprise-level storage solution technology

Phison strategy will focus on IP licensing, ASIC design services, and customized legacy storage solutions

3.

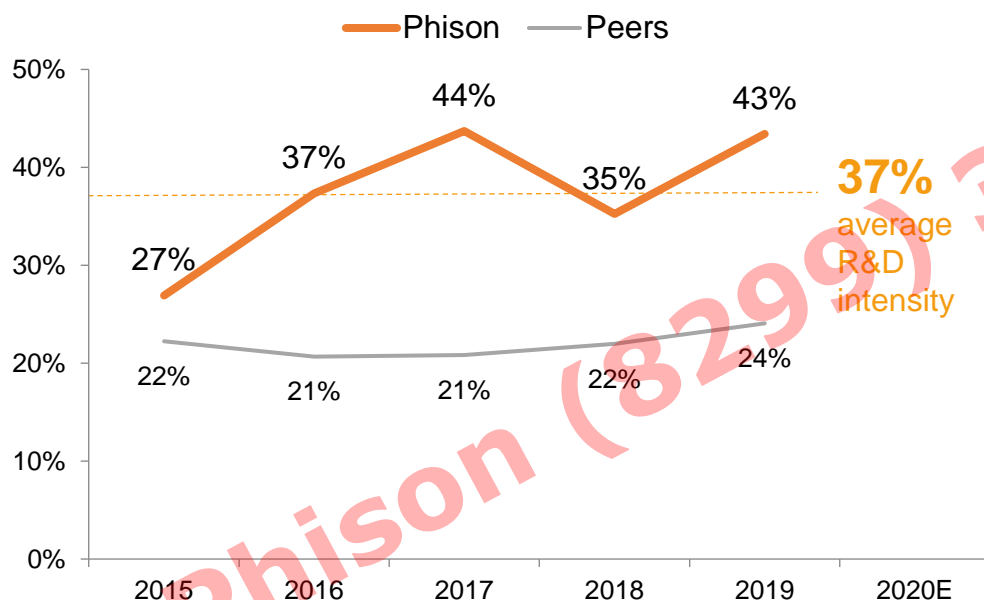
Current and Future Technology Leadership

Category	2013	2014	2015	2016	2017	2018	2019	3Q, 2020
R&D Headcount	454	530	674	809	942	1,112	1,450	1,576
R & D Exp. / Revenue (%)	5%	5%	6%	7%	9%	9%	11%	12%
R & D Exp. / Operating Exp. (%)	66%	65%	71%	73%	78%	79%	79%	82%

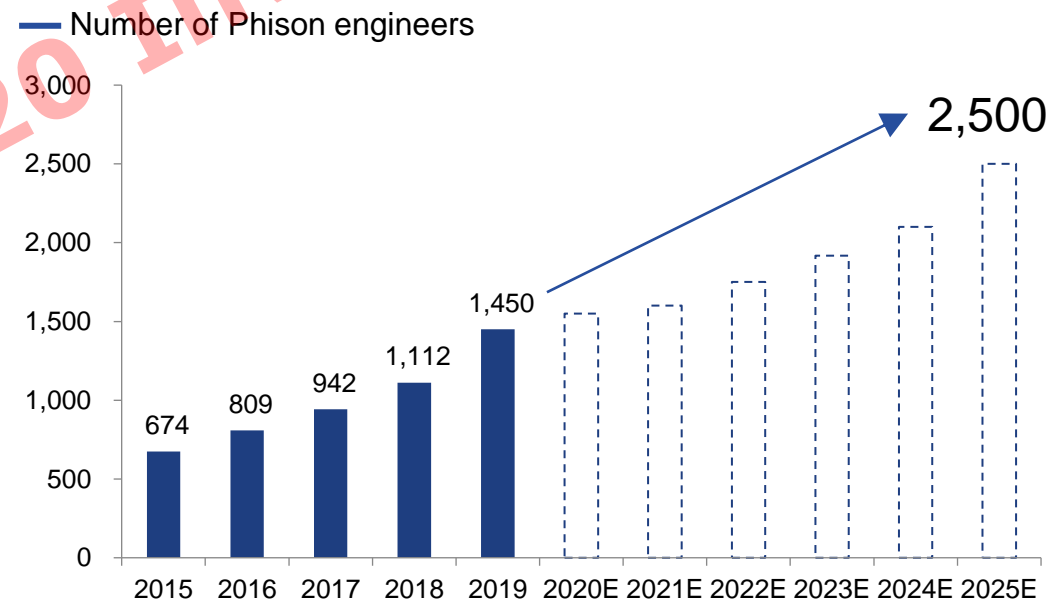


Our average R&D intensity of 37%* is higher than peers average of 22%** . We will continue to allocate resources to technology development by maintaining industry-leading R&D intensity and recruiting high-quality engineers.

Continue to invest in our technology leadership



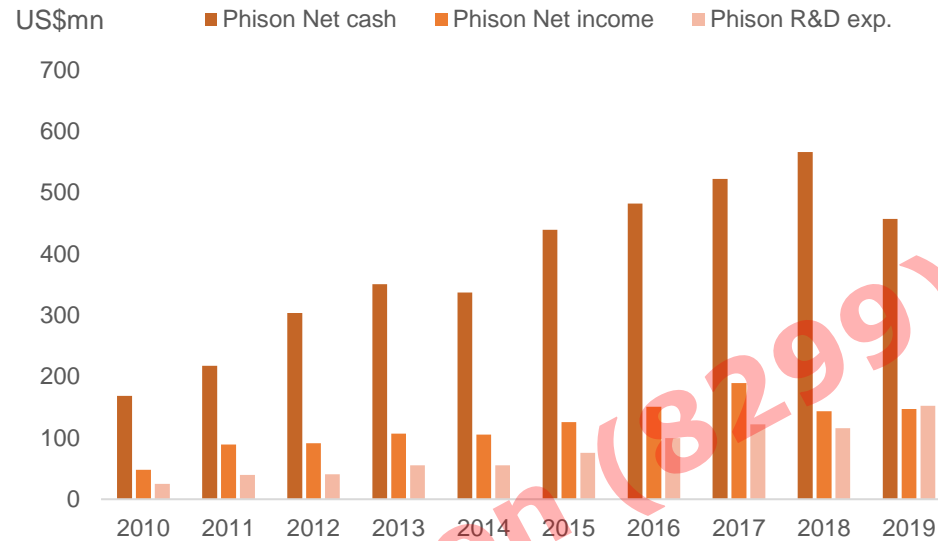
On-going recruitment: 2,500 engineers by 2025



*RD intensity is RD expense/IC related sales. ** Peers include SIMO, Marvell, MediaTek, Realtek, Novatek and Silergy.

Since 2010, our business model has generated sufficient net income, net cash and net cash/equity for sustainable R&D investment.

Sufficient net income and net cash to fuel R&D investment



High net cash/equity demonstrating our strong financial strength.

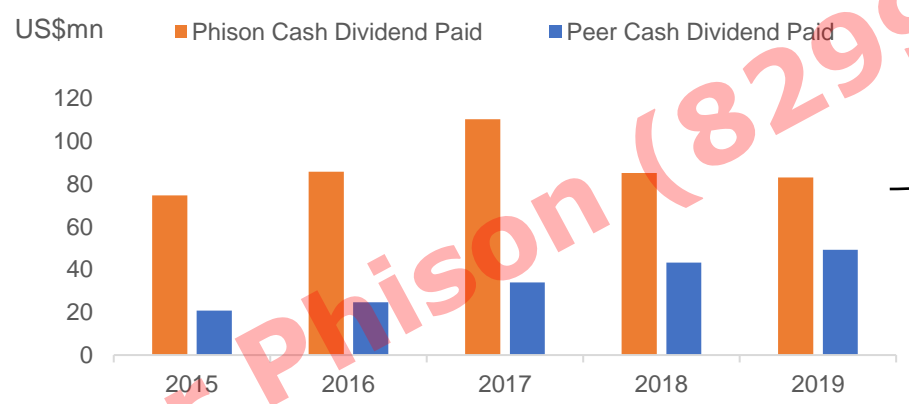
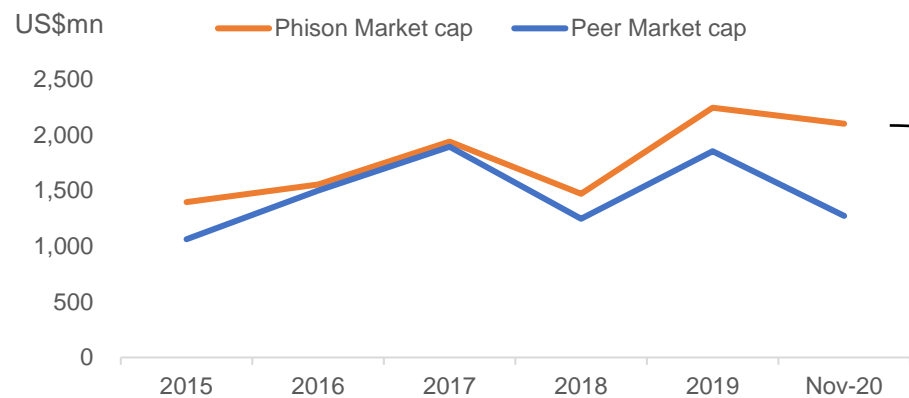


- Sufficient Net cash can support RD expenses (and cash dividends)
- Net income is basically greater than RD expenditure => financially strong, continue to accumulate net cash

- Zero debt operation
- Net Cash/Equity => Long-term financial stability

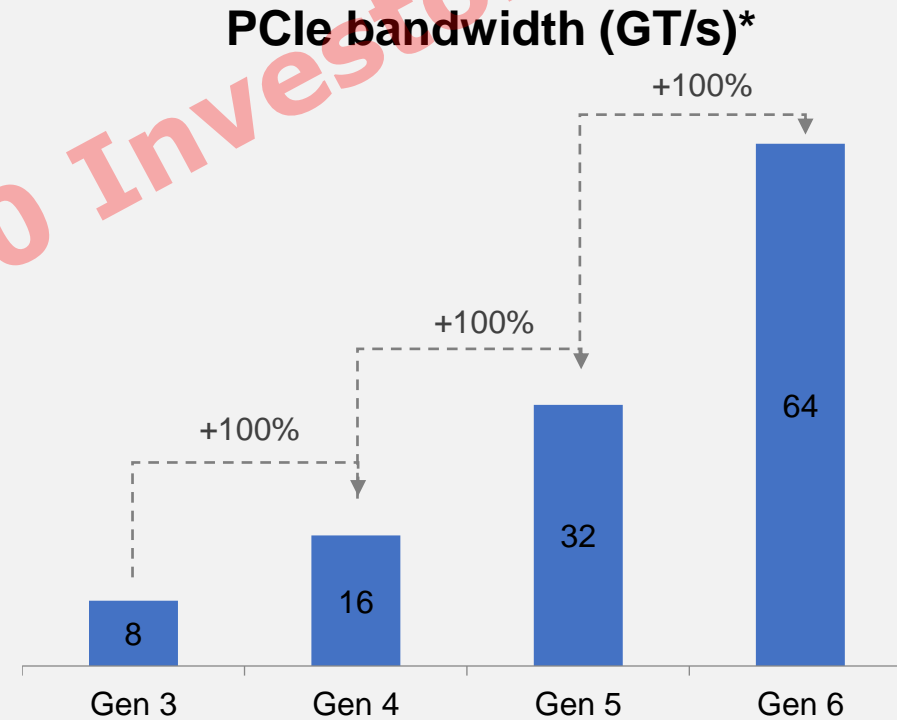
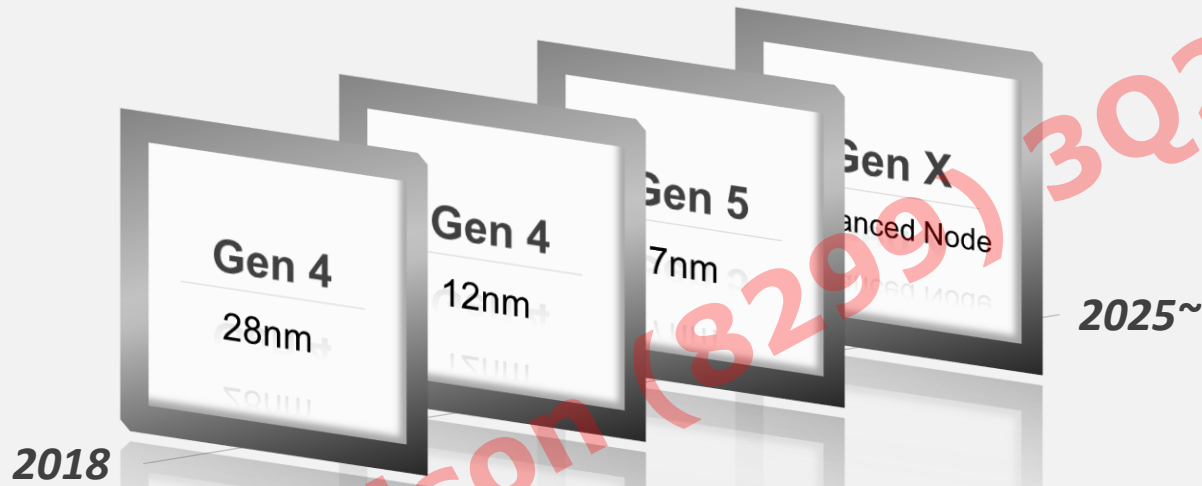
Our R&D Investments Produced More Total Shareholder Return

For every US\$1mn R&D investment during the past 5 years, Phison generated 0.15% total shareholder return (TSR), which is double than our peer's 0.07%. Our R&D investments are more efficient at creating shareholders value.

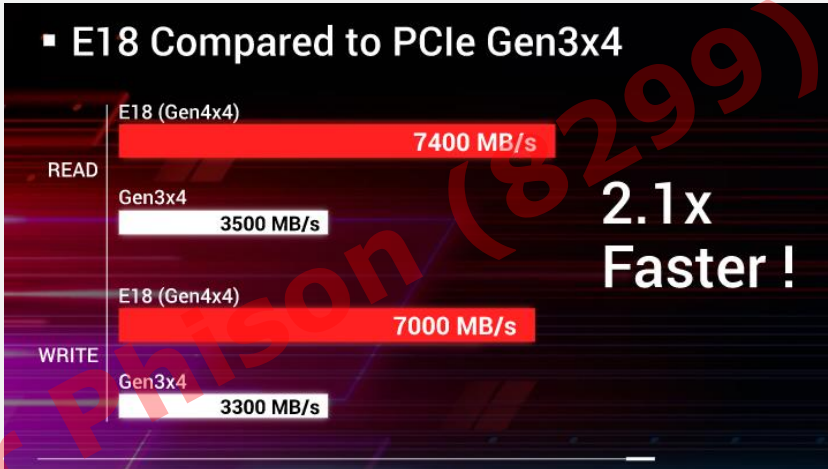


US\$mn	Phison	Peer
2015 year-end market cap	1,394	1,063
2020/11/5 market cap + 5-year accumulated cash dividend	2,539	1,444
5-year TSR	82.09%	35.78%
2015-19 R&D investments	566	478
TSR/R&D investments	0.15%	0.07%

During the next 5 years, our SSD Controller IC products will migrate from 28nm to 7nm and below, supporting PCIe Gen 5 and Gen X to achieve superior performance and less power consumption.



*Source: PCIe SIG



Phison's next-generation flagship PCIe Gen4 SSD controller

The only PCIe Gen4 SSD controller in the world with a read and write performance reaching 7.0GB/s

Continue to lead PCIe Gen4 SSD controller technology



TweakTown

Storage

Phison's new E18 SSD controller is ridiculous, offers 7GB/sec speeds

Phison's new E18 SSD controller powers the very fastest SSDs on the planet, with Sabrent kicking ass with its Rocket 4 Plus SSD.



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Phison has truly delivered the speedy SSD goods with its new E18 controller, with the new PS5018-E18 NVMe SSD controller that is now making its way into high-end SSDs from the likes of Sabrent.

*資料來源:

<https://www.tweaktown.com/news/74995/phisons-new-e18-ssd-controller-is-ridiculous-offers-7gb-sec-speeds/index.html>

<https://www.tomshardware.com/news/sabrent-crushes-samsung-worlds-fastest-m2-ssd-rocket-4-plus>

tom's HARDWARE

Sabrent Crushes Samsung At Their Own Game: Builds World's Fastest M.2 SSD

By Niels Broekhuijsen August 31, 2020

Sabrent gave Samsung two days of glory, and crushed them

Facebook Twitter Reddit Pinterest Email Comments (17)

	Sabrent Rocket 4 Plus	Sabrent Rocket	Samsung 980 Pro
NAND Type	TLC	TLC	TLC
Controller	Phison E18	Phison E16	Samsung Elpis
Sequential Read	7000 MB/s	5000 MB/s	7000 MB/s
Sequential Write	6850 MB/s	4400 MB/s	5000 MB/s
Capacities	500 GB, 1 TB, 2 TB	500 GB, 1 TB, 2 TB	250 GB, 500 GB, 1 TB

4.

**Our 5-year Vision:
To Become the Largest
SSD Controller IC
Supplier in the World**

2025 and beyond

To become the largest SSD Controller IC Supplier

Our technology leadership will increase NAND flash makers outsourcing orders

2019 - 2024

Leading Edge Technology

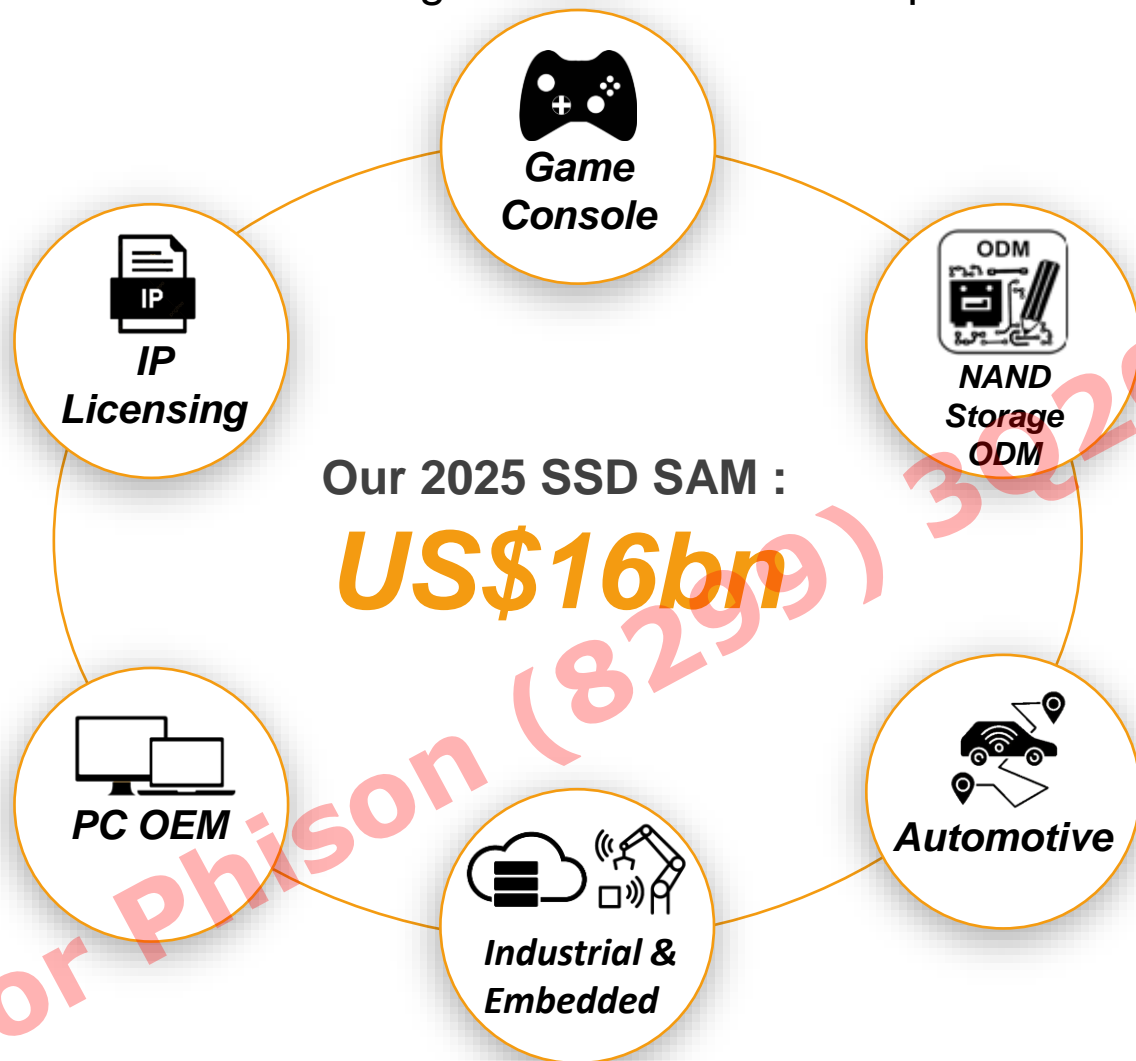
Our leading technology will drive growth and we will continue to gain market share

Before 2018

The Fast Follower

In the past our R&D investment was mainly for mainstream products

As we advance our controller IC competitiveness, we will attract NAND flash makers to outsource more orders. We aim to become the largest SSD controller IC provider in the world with US\$16bn SAM by 2025 and beyond.



Global NAND flash manufacturers:

KIOXIA

YMC
Yangtze Memory Technologies

Micron

intel

Western Digital

SK hynix

SAMSUNG

5.

Enhanced Value for Shareholders

Leading Edge Technology

- Maintain industry leading R&D intensity
- Leading Controller IC roadmap
- Increasing SAM from US\$6.7bn to US\$8.2bn

To become the largest SSD Controller IC Supplier in the World

- Enhancing IC competitiveness
- Increasing LT SAM from US\$8.2bn to US\$16bn

Market Share Gain

- SSD IC shipment share target: 25-30%
- Module Bits to outgrow the industry

Sustainable Margin Expansion

- We aim to achieve 25% \pm 5% LT sustainable GPM

Increase Total Shareholder Return

- 5-year ROE target to reach 20-25%
- At least 50% payout ratio