



Investor Relations October, 2019

DOOSAN CORPORATION

3Q19 Earnings Release

Chapter 1. 3Q Results

Chapter 2. Doosan Corp. In-house Business

Chapter 3. Doosan Solus & Doosan Fuelcell

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Disclaimer

The information herein is provided for your information purposes only and contains preliminary figures which may be materially different from the final figures.

Forecasts and projections contained in this material are based on current business environments and management strategies, and they may differ from the actual results upon changes and unaccounted variables. We make no guarantees and assume no responsibility for the use of information provided. We trust your decisions will be based on your own independent judgment.

Financial data in this presentation is on a IFRS consolidated and IFRS parent basis.



Chapter 1.

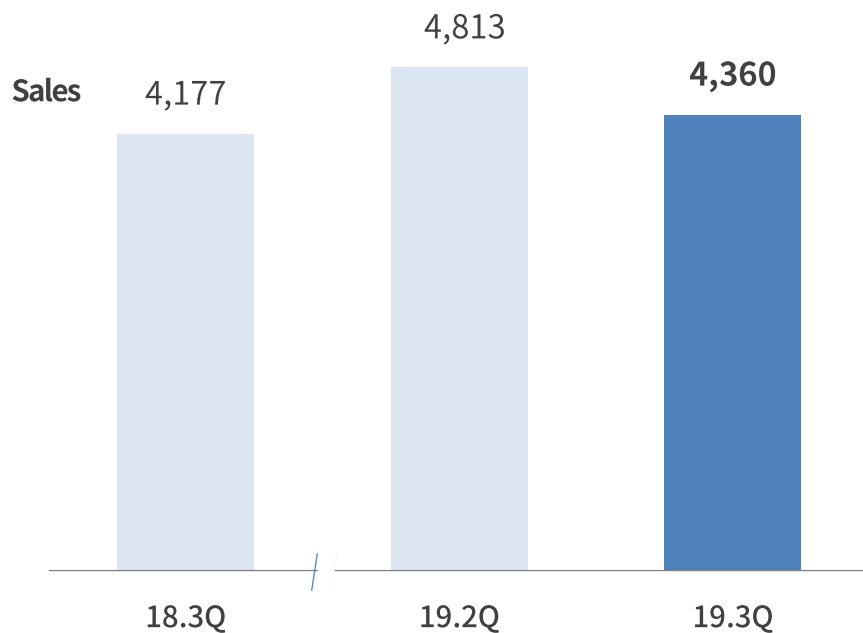
3Q Results

3Q19 Results (Consolidated)

- Sales slightly increased on YoY basis but OP decreased due to temporary cost incurred from subsidiaries, such as Doosan Heavy and Doosan Infracore

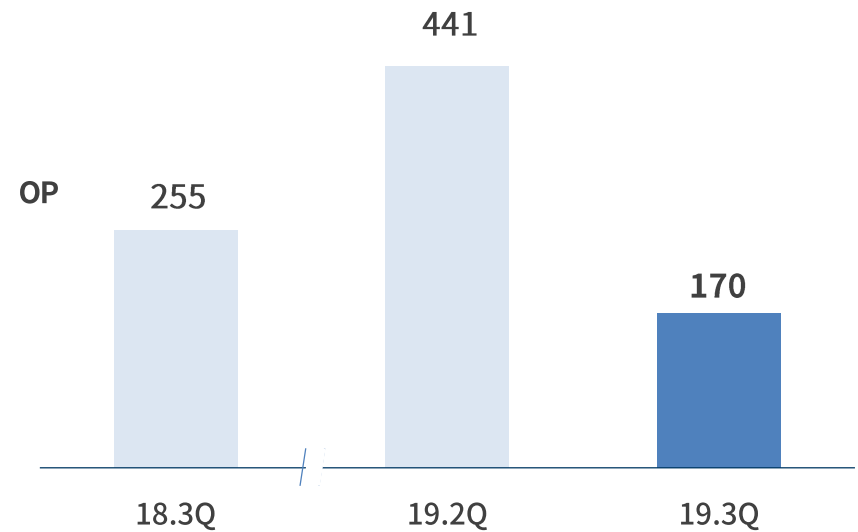
[Sales]

Units: KRW bn,



[OP]

Units: KRW bn,





Chapter 2.

Doosan Corp. In-house Business

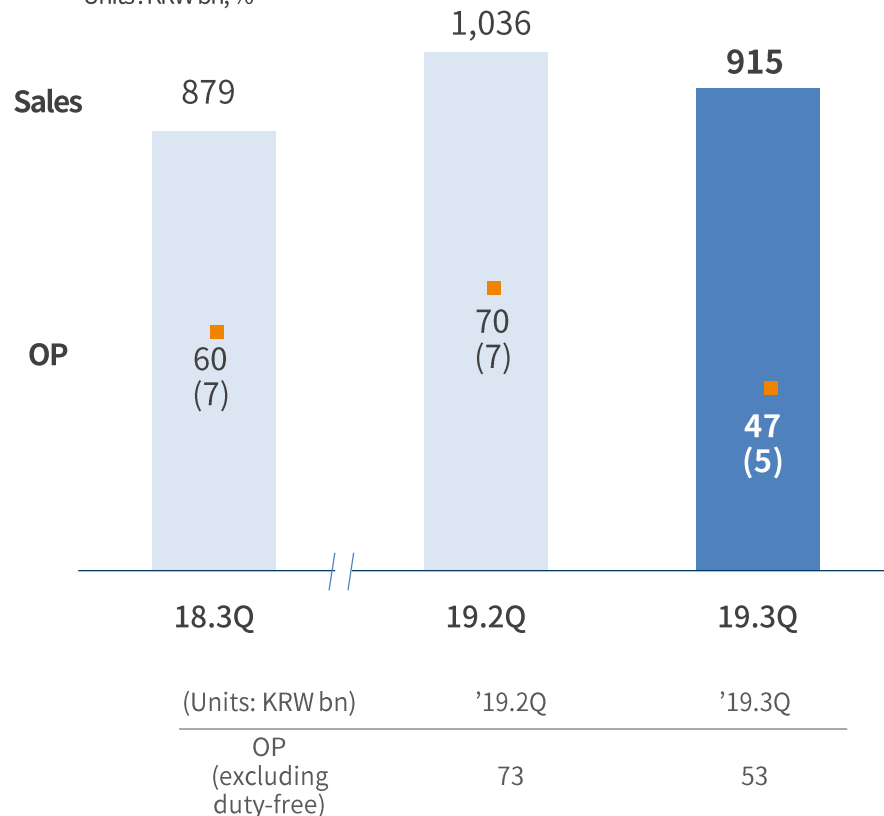
- 1 Electro Materials
- 2 Industrial Vehicles
- 3 Mottrol

3Q19 Results (Doosan Corp. In-house Business)

- Both sales and OP decreased on YoY basis due to sales seasonality in Industrial Vehicles and Mottrol but earnings improvement of Electro-Materials offset 3Q results

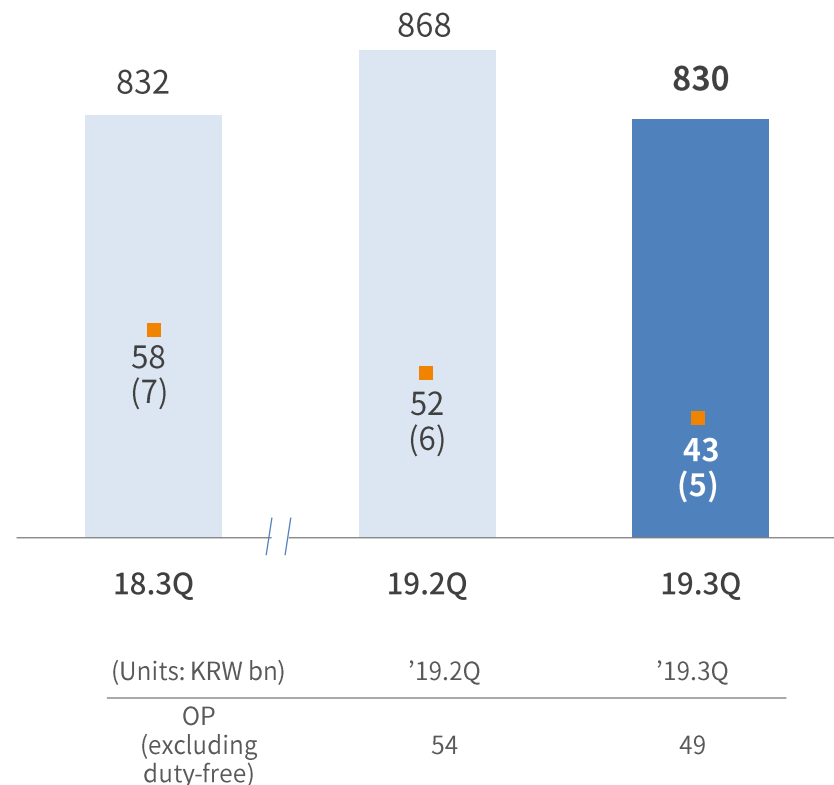
[Before spin-off]

Units : KRW bn, %



[After spin-off]

Units : KRW bn, %

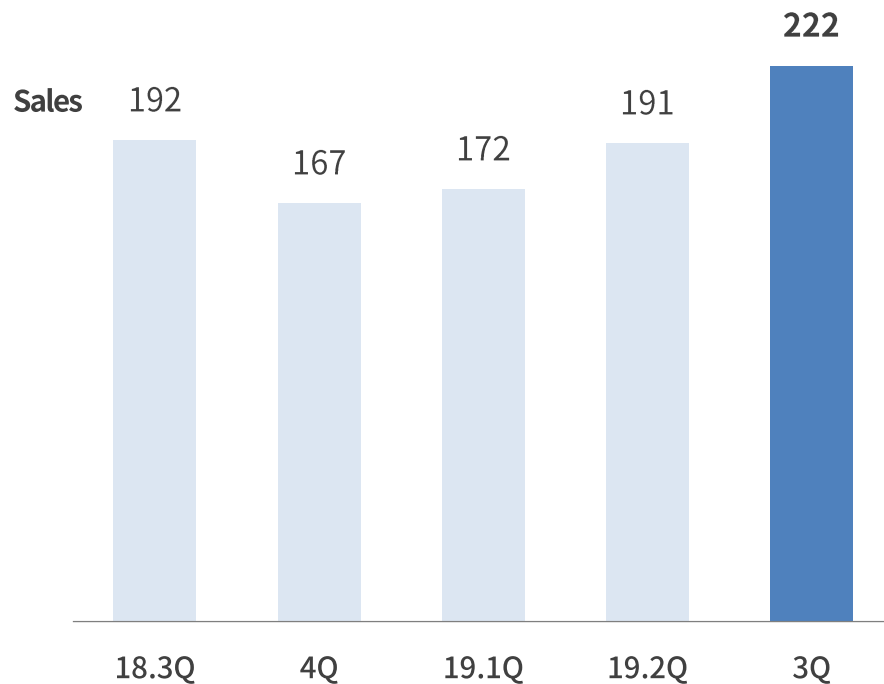


1 Electro-Materials

- Both sales and OP increased on YoY/QoQ basis due to sales expansion of semiconductor(memory and fingerprint recognition/camera module) and 5G materials
- 4Q sales are expected to grow by 21% YoY due to continuous positive performance in semiconductor/5G materials and the customers' launch of new flagship models

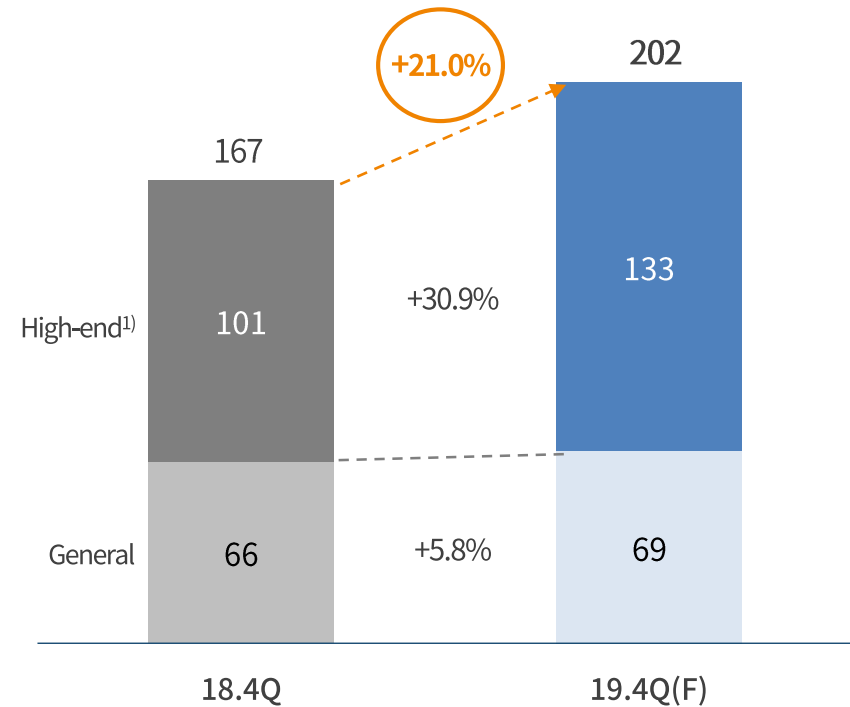
[Sales]

Units: KRW bn



[4Q19 Outlook]

Units: KRW bn, %



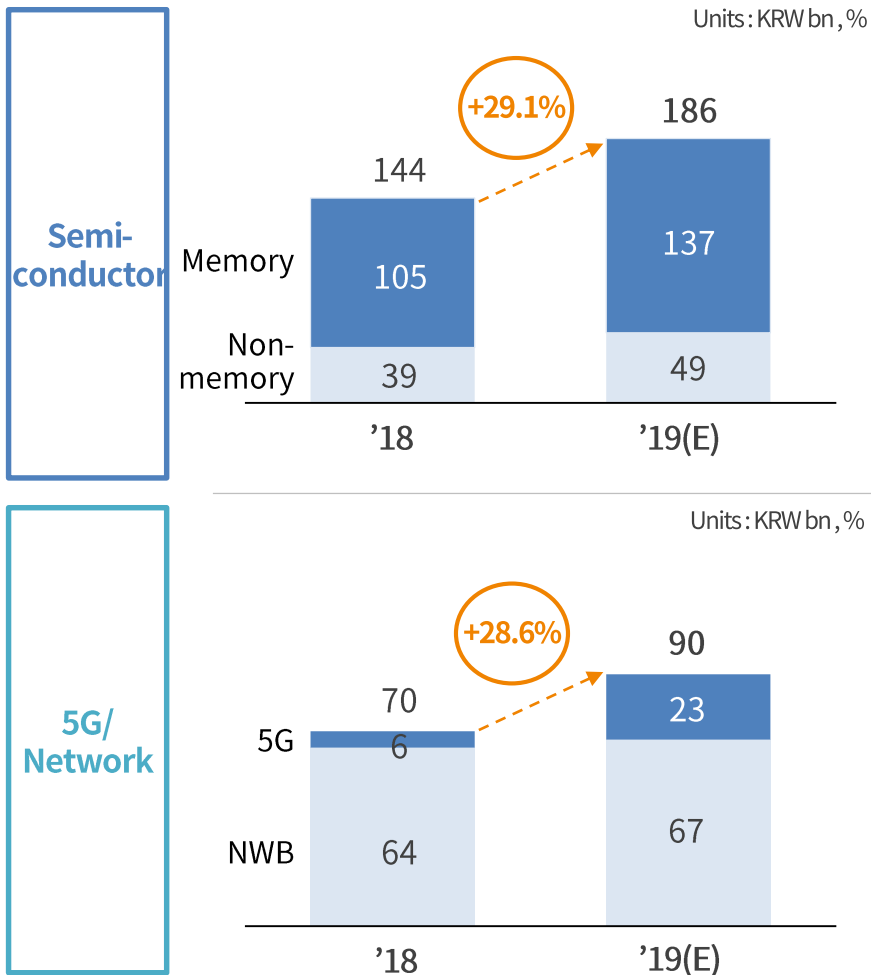
1) High-end : Semiconductor(PKG), 5G/Network (NWB), FCCL(Flexible CCL)

Solid Fundamentals of Electro-Materials

Accelerate diversification of new applications and customers centered on growth segments, such as semiconductor and 5G materials

Sales trend of each application

Main achievements



- [Memory] In spite of falling prices due to the stagnant forward market, EM expands M/S by responding to technologies for next generation products, such as DDR5 and graphics (2018, 70% → 2019, 85%)
- [Non-memory] Sales of non-memory products increased due to application quantity increases and a response to high-end products, such as fingerprint recognition and camera modules (2018, 9% → 2019, 11%)
- [5G] Preoccupancy of the material market for 5G base stations, such as antenna and transceiver equipment
 - Antenna M/S 90% in 'S' company, Expansion of new applications such as TRx¹⁾
 - Expansion of additional global customers, such as company 'N', 'E', and 'H'
- [NWB] Sales growth of hi-end NWB, such as switch and router
 - Company 'A' and 'C' → Company 'P' and 'J' & Chinese makers

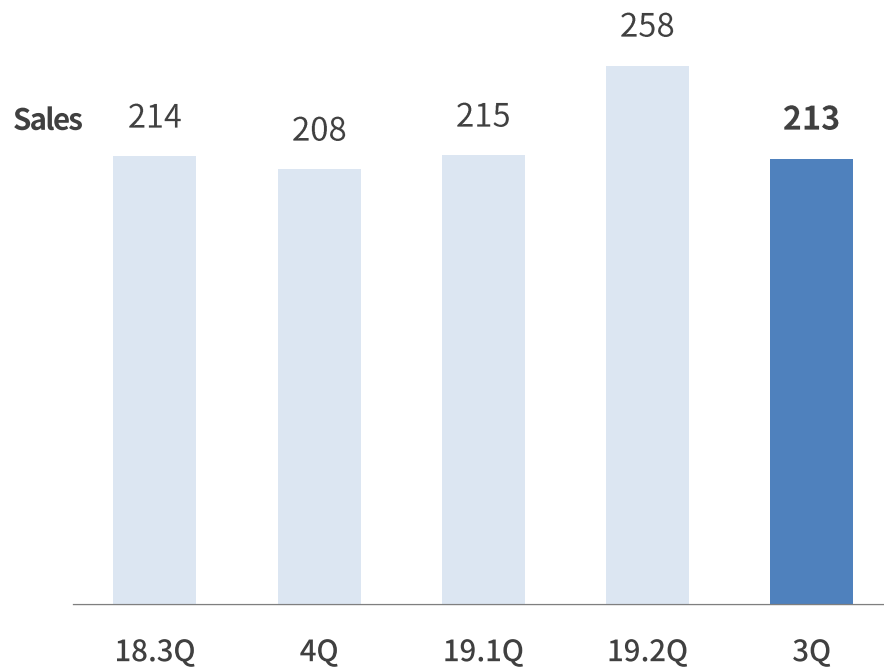
1) TRx : Transceiver

2 Industrial Vehicles

- 3Q19 sales slightly declined on YoY basis due to seasonal factors and shrunk domestic market but OP and OPM increased
- 4Q19 sales are expected to increase by 20% YoY due to increased sales of new products in overseas markets and possibility of receiving large orders

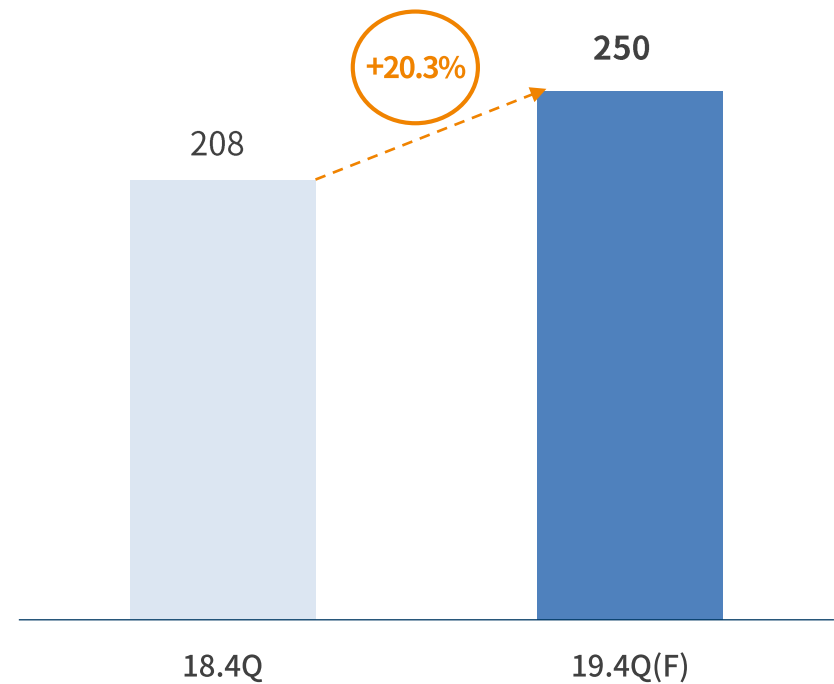
[Sales]

Units: KRW bn



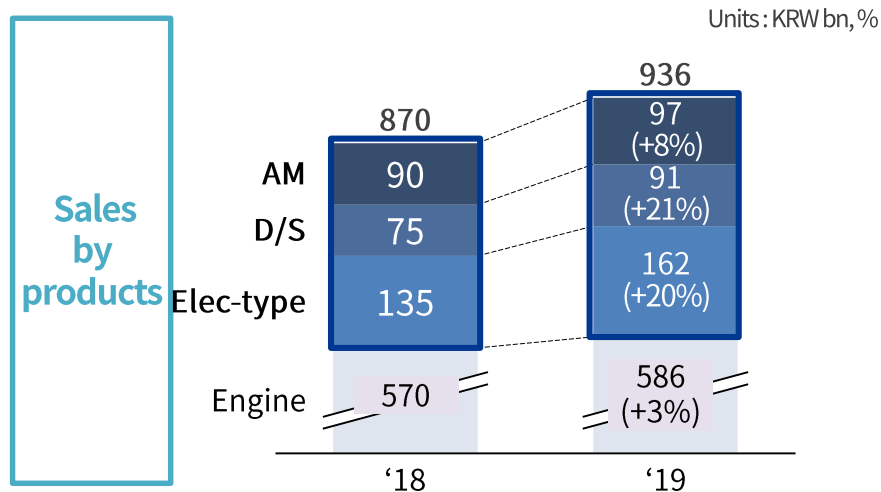
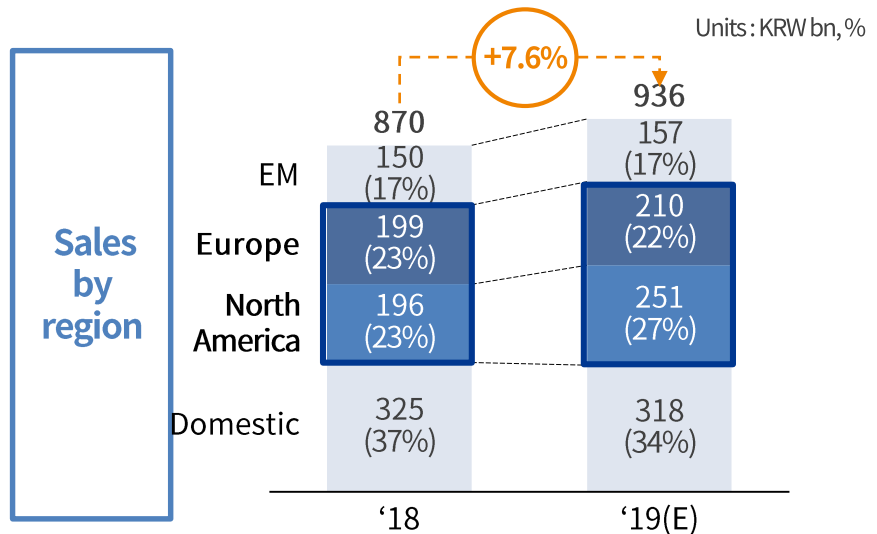
[4Q19 Outlook]

Units: KRW bn



Sales Breakdown of Industrial Vehicles

Sales trend



Main achievement

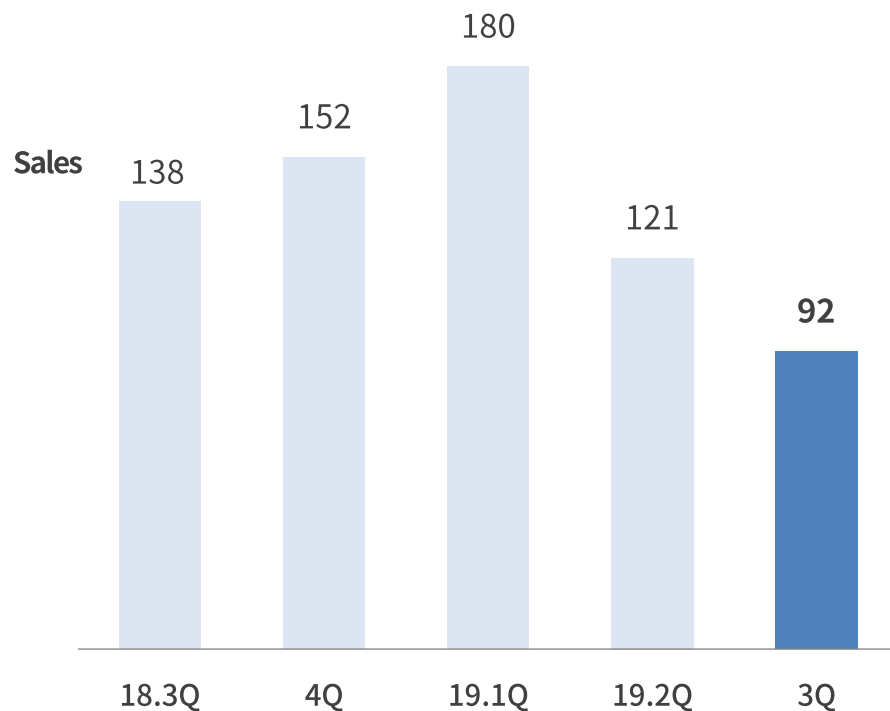
- Changes in sales portfolio (domestic/overseas)
 - The proportion of domestic sales decreased while its overseas sales increased (2018, 63% → 2019, 66%)
- Growth of sales in North America
 - A launch of new model (New Cushion)
 - Expansion of M/S through strengthening sales network (2018, 4.0% → 2019, 5.5%)
- Domestic sales slightly decreased because IV did not respond to low-cost orders to strengthen profitability
- Sales of engine-type increased by 3% YoY but elec-type would increase by 20% YoY
- A solid base for future growth is established since sales of downstream will increase by 21% YoY

3 Mottrol

- 3Q19 sales and OP decreased on YoY/QoQ basis due to seasonal factors and customer's inventory adjustment according to uncertainties in U.S.-China trade negotiations since 2H18
- 4Q19 sales and OP will be significantly improved due to completion of customer's inventory adjustment and the pre-buy effect in response to peak season of 1H20

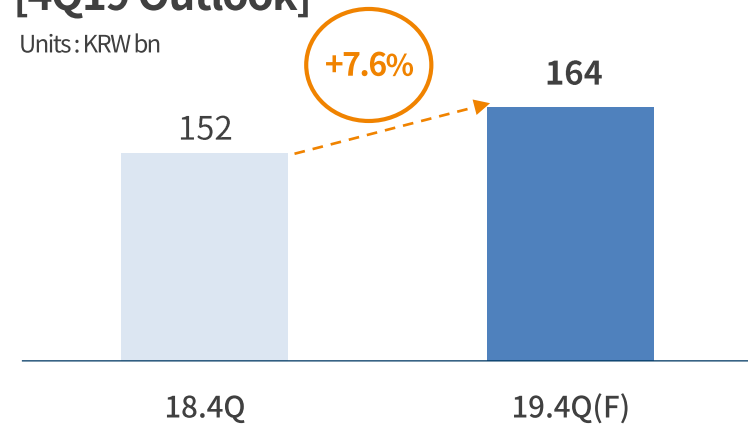
[Sales]

Units : KRW bn



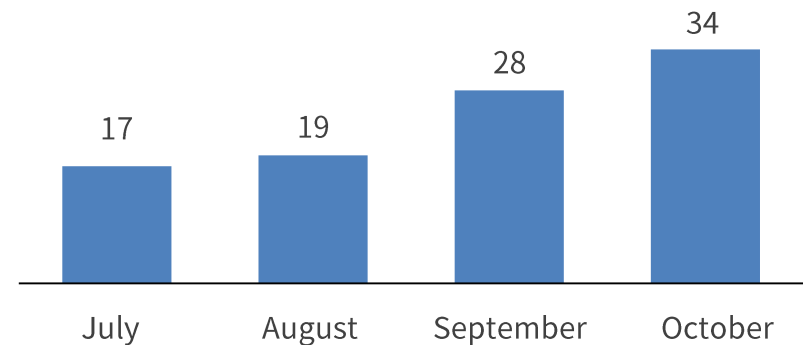
[4Q19 Outlook]

Units : KRW bn



[Sales trend of hydraulic component]

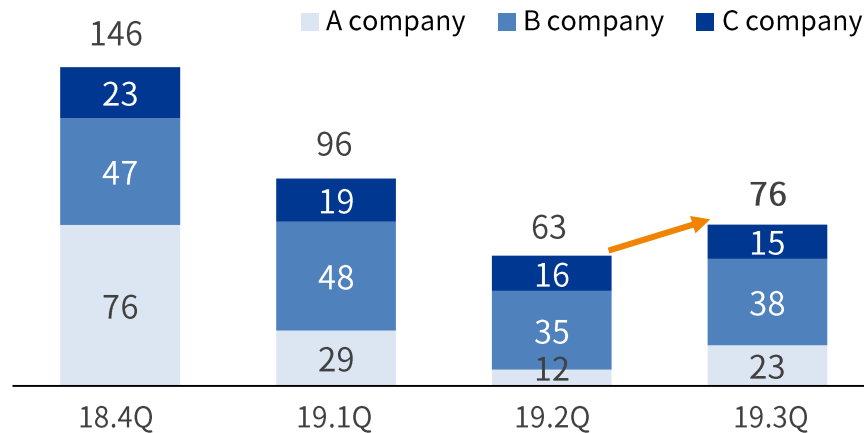
Units : KRW bn



Major customer's inventory trend and M/S

[Major customer's inventory trend in 2019]

Units: 100EA



[Chinese customer's M/S and Mottrol's M/S in those customers¹⁾]

		19.2Q	19.3Q	QoQ
'A' Company	M/S	24.2%	25.2%	+1.0%p
	Mottrol M/S	16.0%	19.9%	+3.9%p
'B' Company	M/S	15.0%	15.4%	+0.4%p
	Mottrol M/S	27.2%	41.2%	+14.0%p

Mottrol's sales decreased because major customers were willing to destock due to global uncertainties and seasonal factors

4Q19 sales will be normalized as major customers are gradually increasing inventory after passing the low point in July, 2019

Mottrol's M/S has increased in company 'A' and 'B' due to timely response to Chinese makers

Security of a solid basis for future growth by increasing M/S



Chapter 3.

Doosan Solus & Doosan Fuelcell

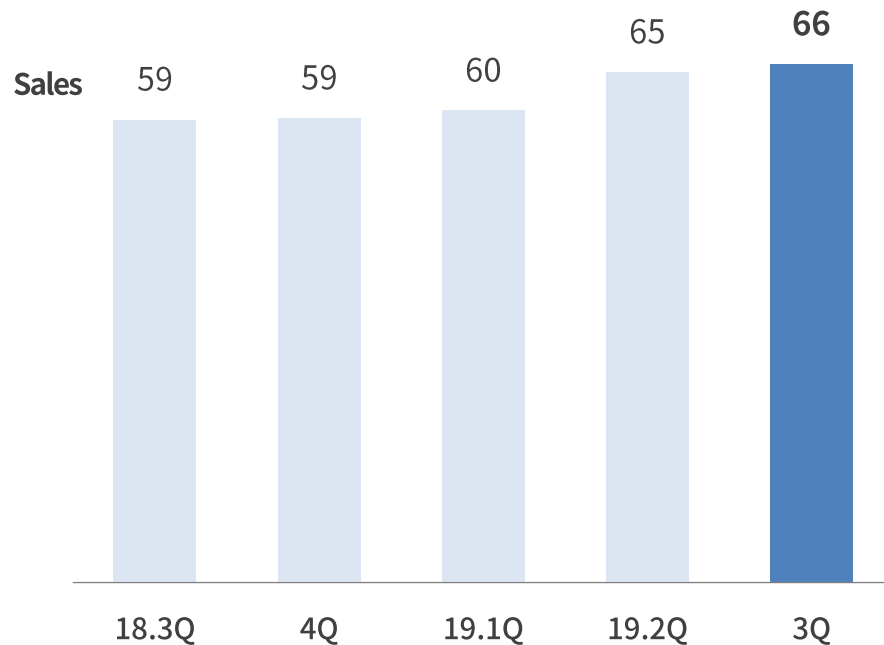
- 1 Doosan Solus
- 2 Doosan Fuelcell

1 Doosan Solus

- 3Q19: **Both sales and OP increased on YoY/QoQ basis** due to sales expansion in OLED materials and copper foil for 5G
 - OLED materials : New products release from company “A” and “S” / Expansion of Chinese customer base
 - Copper foil : Increases in demand of copper foil for 5G
- 4Q19: **Sales are expected to increase by 24% YoY** due to application of OLED materials to new phone models(company “S”) and expanded demand of copper foil for 5G

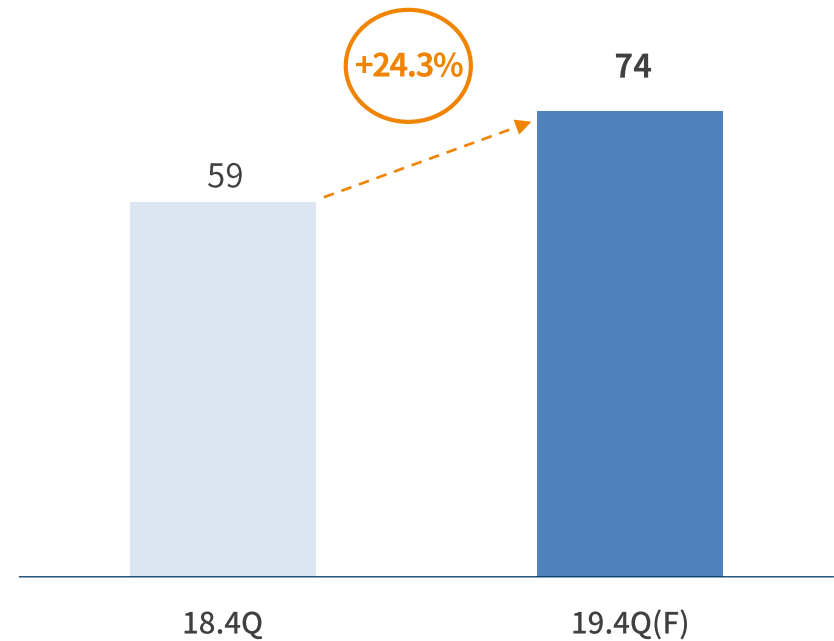
[Sales]

Units : KRW bn



[4Q19 Outlook]

Units : KRW bn



Progress of Elec-foil Business

- Progress rate is 64% for construction of the plant in Hungary (Based on 10,000ton)
 - Construction will be completed in March, 2020
 - Additional extension plan will be decided under the consideration of market conditions after securing a 10,000 ton-capacity
- By signing contracts with global major customers, Doosan Solus has secured firm demands, which account for more than 50% of capacity
 - Negotiations for supply contract and quality evaluation with major battery manufacturers in Europe are in progress so there will be no issue in securing demand

[Construction site]



- Summary of elec-foil plant
 - Környe, Üveggyár u., Hungary
 - Area : 143,714m²(site), 29,140 m²(plant)
 - Progress rate: 64% (based on 10,000ton)
 - Completion : March, 2020
- Secured demand, which is more than 50% of capacity
 - Completed quality evaluation and signed supply contract (with 1 maker)
 - Discussion of details for supply contract and quality evaluation are in progress (with 1 maker)
 - Negotiations and quality evaluation are in progress (with 3 makers)

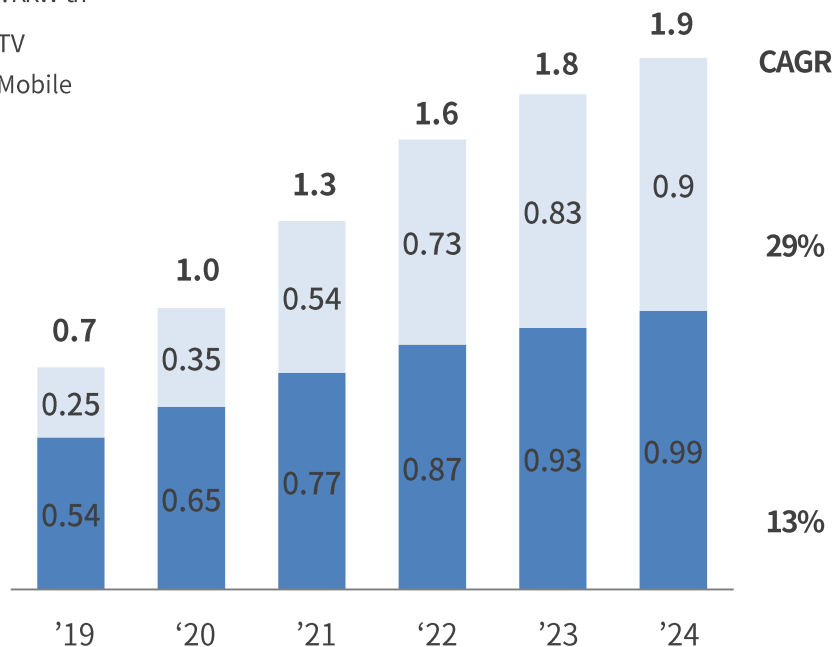
Growth Expectation Led by Rapid Change of Industry (Doosan Solus)

- OLED : Increasing applications for mobile devices & expanding applications to premium TVs
 - Mobile: Releases of foldable phones and increasing applications of OLEDs by Chinese display manufacturers (Market size: 0.54 KRW tn in 2019 → 1 KRW tn in 2025)
 - TV: Expanding application to premium TVs such as a KRW 13T-amount of QD OLED investment announcement by Company “S” (Market Size: KRW 0.25T in 2019 → KRW 0.9T in 2025)
- Copper Foil : Expected to improve sales and OP by increasing sales of high-end copper foil
 - Expected to increase the volume of telecommunication usages by 33 times due to 5G → Increasing demand for copper foils for telecommunication devices and servers by 1.5 times (High Frequency, Low Loss, etc.)

[OLED Display Market Forecast]

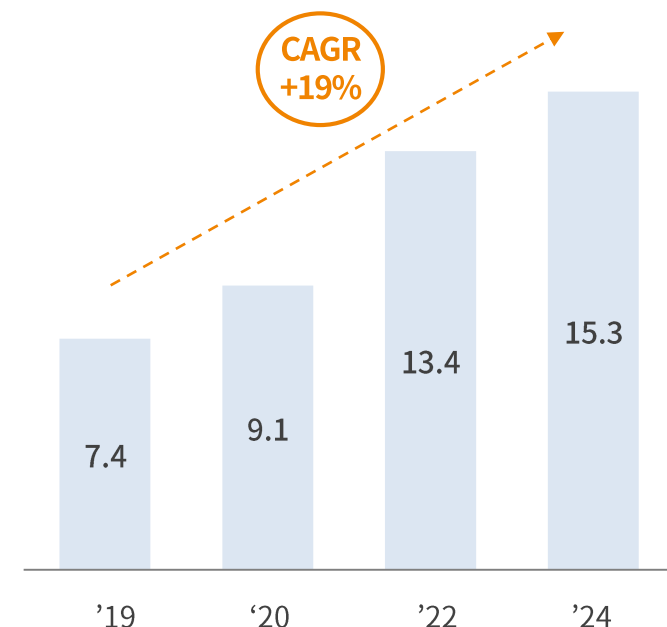
Units: KRW tn

TV
Mobile



[5G –related Copper Foils Market Forecast]

Units: K tons/Yr



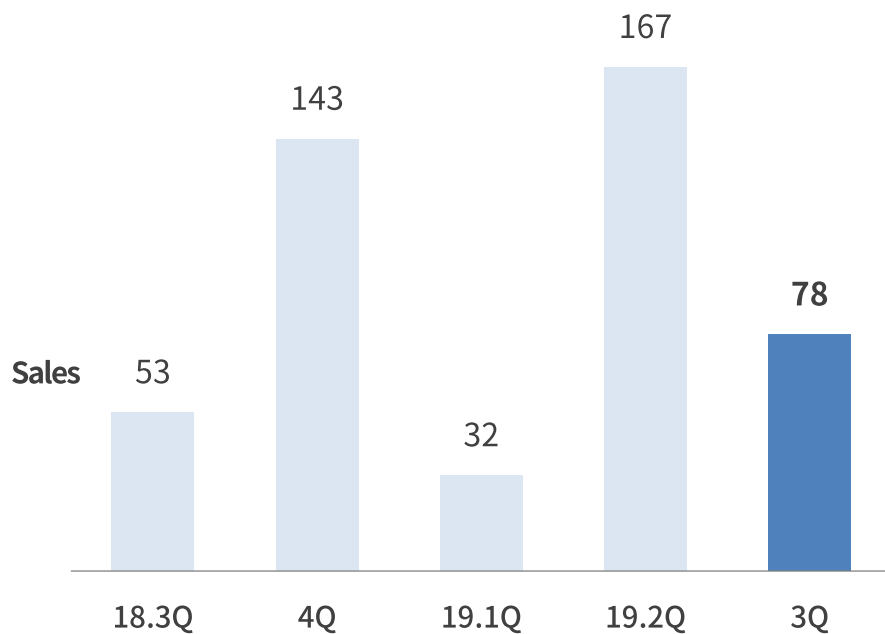
* Source : Stone partners, Yuanta Securities

2 Doosan Fuelcell

- 3Q19 OP declined on YoY basis due to decreased sales based on customer delivery schedules
- 4Q19 sales and OP are expected to turn around based on confirmed sales from previous orders

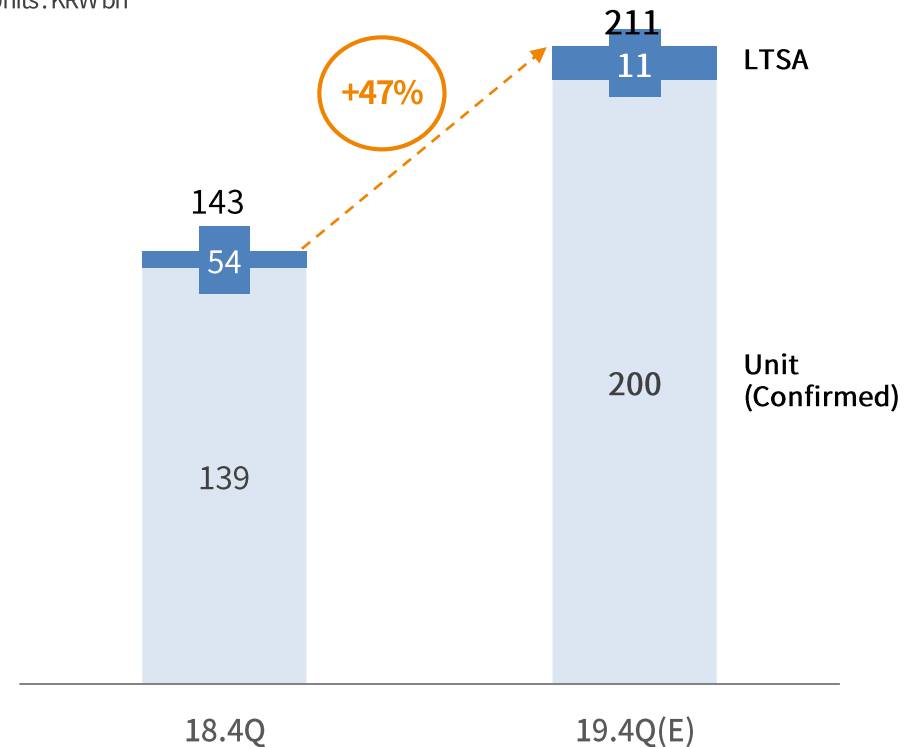
[Sales]

Units : KRW bn



[4Q19 Outlook]

Units : KRW bn

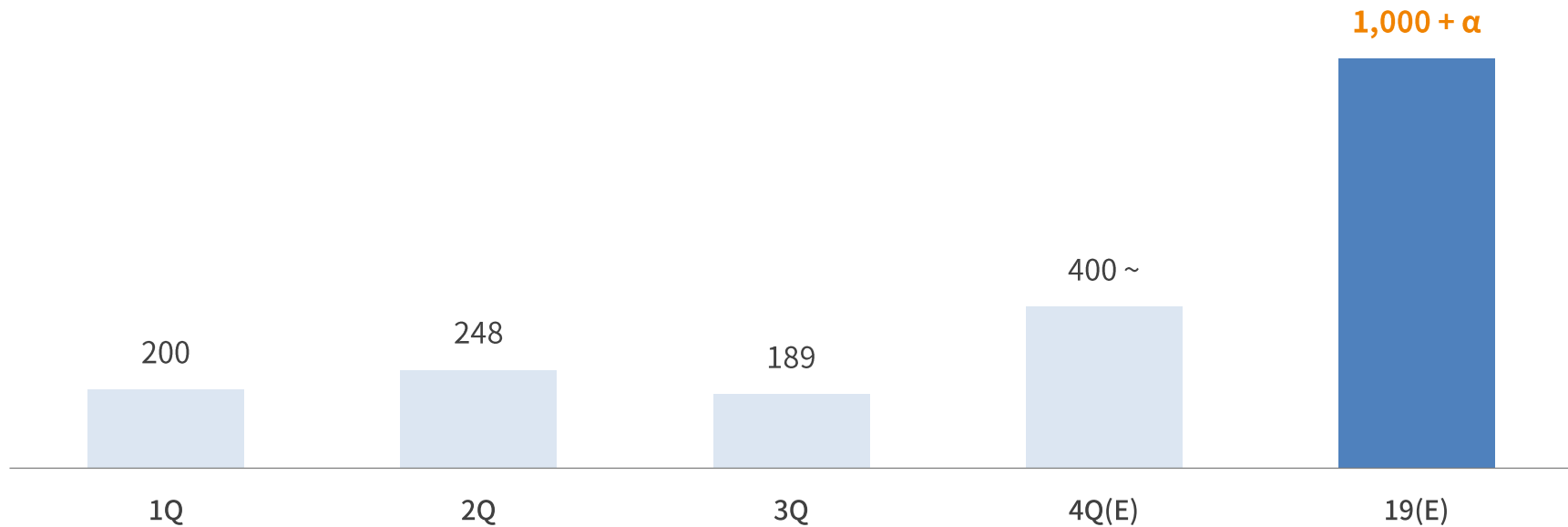


Orders in 2019

- Achieved 189 KRW bn of order amounts in 3Q19 and accumulated order amounts are 637 KRW bn
- Total order amounts in 2019 will be 1 KRW tn+ α when 140KRW bn of order amounts, which are under contract, will be achieved in 4Q19
- Expects to achieve more than 1 KRW tn of order amounts in 2019 following 2018

[Orders]

Units: KRW bn





Chapter 4.

Appendix

3Q19 Result (Parent)
Financial Summary

Appendix : 3Q19 Result (Parent)

단위: 억원, %

	'18.3Q	'19.2Q	'19.3Q	YoY	QoQ
Sales	606	641	575	-5.2%	-10.3%
OP(%)	40 6.6%	43 6.7%	21 3.7%	-46.6% -2.9%p	-50.7% -3.0%p
- In-house Biz	46	51	30	-35.3%	-40.8%
- Others ¹⁾	-6	-8	-9	-	-
Interest Expense	16	19	19	+18.4%	-0.5%
Net Income	19	29	6	-67.6%	-78.9%

Appendix : Financial Summary

Units: KRW bn, %

[Financial Summary]

	Parent	
	'19.2Q	'19.3Q
Current Asset	1,305	1,489
Non Current Asset	3,764	3,606
Total Assets	5,070	5,095
Current Liabilities	1,713	2,592
Non Current Liabilities	1,060	1,075
Total Liabilities	2,772	3,667
Paid-in Capital	135	135
Total Equity	2,297	1,428
L/E Ratio ¹⁾	120.7%	256.7%

	Consolidated	
	'19.2Q	'19.3Q
Current Asset	12,488	12,787
Non Current Asset	17,714	17,690
Total Assets	30,202	30,477
Current Liabilities	14,534	17,352
Non Current Liabilities	7,847	6,229
Total Liabilities	22,380	23,581
Owner's Equity	1,996	1,076
Total Equity	7,821	6,897
L/E Ratio	286.1%	341.9%

[Debt]

	Parent	
	'19.2Q	'19.3Q
Bank	904	904
Corp.Bonds	712	767
Debt	1,616	1,765
Cash	101	61
Net Debt	1,515	1,705
Net D/e Ratio	65.9%	119.3%

1) 3Q19 L/E ratio temporary increased due to spin-off and this number will decrease in 4Q19