

4Q17

Quarterly Management Report  
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## Topics in This Report:

- Revenue Analysis
- Profit & Expense Analysis
- Financial Condition Review
- Cash Flow
- CapEx
- Recap of Recent Important Events & Announcements

**Operating Results Review:****Summary:***(Amounts are on consolidated basis and are in NT\$ billions unless otherwise noted)*

	<b>4Q17</b>	<b>3Q17</b>	<b>4Q16</b>	<b>2017</b>	<b>2016</b>
EPS (NT\$ per common share)	3.83	3.47	3.86	13.23	12.89
(US\$ per ADR unit)	0.64	0.57	0.61	2.17	2.00
Net Revenue (US\$ billions)	9.21	8.32	8.25	32.11	29.43
Net Revenue	277.57	252.11	262.23	977.45	947.94
Gross Profit	138.75	125.88	137.11	494.83	474.83
<i>Gross Margin</i>	<i>50.0%</i>	<i>49.9%</i>	<i>52.3%</i>	<i>50.6%</i>	<i>50.1%</i>
Operating Expenses	(28.84)	(27.54)	(27.18)	(107.90)	(96.90)
Other Operating Income and Expenses	(1.01)	(0.28)	(0.02)	(1.37)	0.03
Operating Income	108.90	98.06	109.91	385.56	377.96
<i>Operating Margin</i>	<i>39.2%</i>	<i>38.9%</i>	<i>41.9%</i>	<i>39.4%</i>	<i>39.9%</i>
Non-Operating Items	2.78	2.46	2.14	10.57	8.00
Net Income Attributable to Shareholders of the Parent Company	99.29	89.93	100.20	343.11	334.25
<i>Net Profit Margin</i>	<i>35.8%</i>	<i>35.7%</i>	<i>38.2%</i>	<i>35.1%</i>	<i>35.3%</i>
Wafer Shipment (kpcs 12 inch-equiv.)	2,699	2,744	2,614	10,449	9,606

*Note: Diluted weighted average outstanding shares were 25,930mn units in 4Q17***Financial Highlights:****Fourth Quarter 2017**

- Net revenue was NT\$277.57 billion, representing a 10.1% increase from NT\$252.11 billion in 3Q17 and a 5.9% increase from NT\$262.23 billion in 4Q16.
- Gross margin was 50.0%, 0.1 percentage point higher than 3Q17 and 2.3 percentage points lower than 4Q16.
- Operating margin was 39.2%, up 0.3 percentage point from 3Q17 and down 2.7 percentage points from 4Q16.
- Non-operating items were a gain of NT\$2.78 billion, compared to a gain of NT\$2.46 billion in 3Q17 and a gain of NT\$2.14 billion in 4Q16.
- Net income attributable to shareholders of the parent company was NT\$99.29 billion, up 10.4% from 3Q17 and down 0.9% from 4Q16. Net profit margin was 35.8% and diluted EPS was NT\$3.83.

**Full Year 2017**

- Net revenue was NT\$977.45 billion, representing a 3.1% increase from 2016. In US dollar terms, net revenue increased 9.1% to US\$32.11 billion in 2017.
- Gross margin was 50.6%, up 0.5 percentage point from 50.1% in 2016. Operating margin was 39.4%, down 0.5 percentage point from 39.9% in 2016.
- Diluted EPS was NT\$13.23, up 2.7% from NT\$12.89 in 2016. Net profit margin was 35.1%, down 0.2 percentage point from 35.3% in 2016.

## I. Revenue Analysis

Wafer Revenue by Application	4Q17	3Q17	4Q16
Computer	11%	10%	8%
Communication	62%	56%	66%
Consumer	5%	9%	6%
Industrial/Standard	22%	25%	20%

Wafer Revenue by Technology	4Q17	3Q17	4Q16
10nm	25%	10%	0%
16/20nm	20%	24%	33%
28nm	18%	23%	24%
40/45nm	10%	12%	12%
65nm	9%	10%	11%
90nm	4%	5%	5%
0.11/0.13um	2%	3%	2%
0.15/0.18um	9%	10%	10%
0.25um and above	3%	3%	3%

Net Revenue by Geography	4Q17	3Q17	4Q16
North America	67%	64%	69%
Asia Pacific	7%	10%	11%
China	13%	11%	8%
EMEA	7%	8%	6%
Japan	6%	7%	6%

Wafer Revenue by Technology	2017	2016
10nm	10%	0%
16/20nm	25%	28%
28nm	23%	26%
40/45nm	12%	14%
65nm	10%	11%
90nm	4%	5%
0.11/0.13um	3%	2%
0.15/0.18um	10%	10%
0.25um and above	3%	4%

Net Revenue by Geography	2017	2016
North America	64%	65%
Asia Pacific	11%	15%
China	11%	9%
EMEA	7%	6%
Japan	7%	5%

## II. Profit & Expense Analysis

### II - 1. Gross Profit Analysis

(In NTS billions)	4Q17	3Q17	4Q16	2017	2016
Cost of Revenue	138.82	126.23	125.12	482.62	473.11
Gross Profit	138.75	125.88	137.11	494.83	474.83
Gross Margin	50.0%	49.9%	52.3%	50.6%	50.1%

### Revenue Analysis:

In the fourth quarter, revenue increased 10.1% quarter-over-quarter, primarily attributable to major mobile product launches and continuing demand for cryptocurrency mining. By application, Communication and Computer increased 20% and 8% respectively, while Consumer and Industrial/Standard decreased 38% and 4% respectively.

By technology, 10nm process technology contributed 25% of total wafer revenue in 4Q17. The combined 16/20nm contribution was 20% of total wafer revenue. Advanced technologies (28nm and below) accounted for 63% of total wafer revenue.

From a geographic perspective, revenue from customers based in North America accounted for 67% of total net revenue, while revenue from Asia Pacific, China, EMEA (Europe, Middle East, and Africa) and Japan accounted for 7%, 13%, 7%, and 6% of total net revenue respectively.

On a full year basis, 10nm contribution reached 10% of total wafer revenue in 2017. The combined 16/20nm contribution was 25% of total wafer revenue. Advanced technologies (28nm and below) accounted for 58% of total wafer revenue, up from 54% in 2016.

In 2017, revenue from customers based in North America accounted for 64% of total net revenue, while revenue from Asia Pacific, China, EMEA (Europe, Middle East, and Africa) and Japan accounted for 11%, 11%, 7%, and 7% of total net revenue respectively.

### Gross Profit Analysis:

Gross margin was 50.0% in 4Q17, 0.1 percentage point higher than 3Q17, mainly attributable to a higher level of capacity utilization and inventory valuation adjustment, partially offset by margin dilution from higher 10nm contribution and an unfavorable exchange rate.

On a full year basis, gross margin was 50.6% in 2017, up 0.5 percentage point from 2016, mainly reflecting continued cost improvement and a higher level of capacity utilization, partially offset by an unfavorable exchange rate.

## II - 2. Operating Income Analysis

(In NT\$ billions)	4Q17	3Q17	4Q16	2017	2016
<b>Total Operating Expenses</b>	<b>(28.84)</b>	<b>(27.54)</b>	<b>(27.18)</b>	<b>(107.90)</b>	<b>(96.90)</b>
Research & Development	(21.22)	(21.05)	(19.96)	(80.73)	(71.21)
SG&A	(7.62)	(6.49)	(7.22)	(27.17)	(25.69)
<b>Other Operating Income and Expenses</b>	<b>(1.01)</b>	<b>(0.28)</b>	<b>(0.02)</b>	<b>(1.37)</b>	<b>0.03</b>
<b>Operating Income</b>	<b>108.90</b>	<b>98.06</b>	<b>109.91</b>	<b>385.56</b>	<b>377.96</b>
<b>Operating Margin</b>	<b>39.2%</b>	<b>38.9%</b>	<b>41.9%</b>	<b>39.4%</b>	<b>39.9%</b>
<b>Total Operating Expenses as % of Net Revenue</b>	<b>10.4%</b>	<b>10.9%</b>	<b>10.4%</b>	<b>11.0%</b>	<b>10.2%</b>

## Operating Income Analysis:

Total operating expenses were 10.4% of net revenue in 4Q17, a decrease of 0.5 percentage point from 10.9% in 3Q17. Operating margin improved 0.3 percentage point from 38.9% in 3Q17 to 39.2% in 4Q17.

For full year 2017, total operating expenses represented 11.0% of net revenue, compared to 10.2% in 2016, primarily driven by a higher level of development activities for 7nm and 5nm technologies.

## II - 3. Non-Operating Items

(In NT\$ billions)	4Q17	3Q17	4Q16	2017	2016
<b>L-T Investments</b>	<b>0.95</b>	<b>0.75</b>	<b>0.88</b>	<b>2.99</b>	<b>3.50</b>
SSMC	0.45	0.45	0.56	1.72	1.91
Others	0.50	0.30	0.32	1.27	1.59
<b>Net Interest Income (Expenses)</b>	<b>1.92</b>	<b>1.28</b>	<b>1.00</b>	<b>6.13</b>	<b>3.01</b>
<b>Other Gains and Losses</b>	<b>(0.09)</b>	<b>0.43</b>	<b>0.26</b>	<b>1.45</b>	<b>1.49</b>
<b>Total Non-Operating Items</b>	<b>2.78</b>	<b>2.46</b>	<b>2.14</b>	<b>10.57</b>	<b>8.00</b>

## Non-Operating Items:

Total non-operating items were a gain of NT\$2.78 billion in 4Q17, compared to a gain of NT\$2.46 billion in 3Q17.

On a full year basis, total non-operating items increased by NT\$2.57 billion to a gain of NT\$10.57 billion in 2017.

## II - 4. Net Profit and EPS

(In NT\$ billions)	4Q17	3Q17	4Q16	2017	2016
<b>Income before Income Tax</b>	<b>111.68</b>	<b>100.52</b>	<b>112.05</b>	<b>396.13</b>	<b>385.96</b>
<b>Income Tax Expenses</b>	<b>(12.37)</b>	<b>(10.57)</b>	<b>(11.82)</b>	<b>(52.99)</b>	<b>(51.62)</b>
<b>Effective Tax Rate</b>	<b>11.2%</b>	<b>10.6%</b>	<b>10.6%</b>	<b>13.5%</b>	<b>13.5%</b>
<b>Net Income Attributable to the Parent Company</b>	<b>99.29</b>	<b>89.93</b>	<b>100.20</b>	<b>343.11</b>	<b>334.25</b>
<b>Net Profit Margin</b>	<b>35.8%</b>	<b>35.7%</b>	<b>38.2%</b>	<b>35.1%</b>	<b>35.3%</b>
<b>EPS (NT\$ per common share)</b>	<b>3.83</b>	<b>3.47</b>	<b>3.86</b>	<b>13.23</b>	<b>12.89</b>

## Net Profit and EPS:

Net income attributable to shareholders of the parent company was NT\$99.29 billion, up 10.4% from 3Q17 and down 0.9% from 4Q16.

On a full year basis, both net income and EPS increased by 2.7% from 2016.

### III. Financial Condition Review

<b>III - 1. Liquidity Analysis (Balance Sheet Items)</b>			
(In NT\$ billions)	<u>4Q17</u>	<u>3Q17</u>	<u>4Q16</u>
Cash & Marketable Securities	649.36	501.78	632.11
Accounts Receivable	122.32	118.73	129.31
Inventories	73.88	73.89	48.68
Other Current Assets	11.64	10.46	7.63
<b>Total Current Assets</b>	<b>857.20</b>	<b>704.86</b>	<b>817.73</b>
Short-term Loans	63.77	54.43	57.96
Accounts Payable	85.79	76.96	90.48
Current Portion of Bonds Payable and Bank Loans	58.40	59.07	38.11
Accrued Liabilities and Others	150.75	108.06	131.69
<b>Total Current Liabilities</b>	<b>358.71</b>	<b>298.52</b>	<b>318.24</b>
Current Ratio (x)	2.4	2.4	2.6
<b>Net Working Capital</b>	<b>498.49</b>	<b>406.34</b>	<b>499.49</b>

#### **Liquidity Analysis:**

At the end of 4Q17, cash and marketable securities increased by NT\$147.58 billion to NT\$649.36 billion, primarily due to the free cash flow of NT\$142.95 billion generated during the quarter and the increase of NT\$10.68 billion in short-term loans.

Total current liabilities increased by NT\$60.19 billion, mainly reflecting the increase in short-term loans, the increase in payables to suppliers, and the increase in accrued liabilities, including the accrual for income tax payable and for employee profit sharing/bonus.

Net working capital was NT\$498.49 billion and current ratio was 2.4x.

<b>III - 2. Receivable/Inventory Days</b>			
(In Number of Days)	<u>4Q17</u>	<u>3Q17</u>	<u>4Q16</u>
Days of Receivable	40	42	45
Days of Inventory	52	53	41

#### **Receivable and Inventory Days:**

Days of receivable decreased 2 days from 3Q17 to 40 days in 4Q17, while days of inventory decreased 1 day to 52 days.

Days of receivable decreased 5 days in 4Q17 from 45 days in 4Q16, as net revenue increased year-over-year and average accounts receivable decreased year-over-year. Days of inventory increased 11 days, mainly due to 10nm ramping and increase in raw wafers.

<b>III - 3. Debt Service</b>			
(In NT\$ billions)	<u>4Q17</u>	<u>3Q17</u>	<u>4Q16</u>
Cash & Marketable Securities	649.36	501.78	632.11
Interest-Bearing Debts	(213.97)	(205.32)	(249.18)
<b>Net Cash Reserves</b>	<b>435.39</b>	<b>296.46</b>	<b>382.93</b>

#### **Debt Service:**

Net cash reserves increased NT\$138.93 billion to NT\$435.39 billion in 4Q17, reflecting the increase of NT\$147.58 billion in cash & marketable securities, offset by the increase in short-term loans.

## IV. Cash Flow

<b>IV - 1. Quarterly Cash Flow Analysis</b>			
(In NT\$ billions)	<b>4Q17</b>	<b>3Q17</b>	<b>4Q16</b>
Income before Income Tax	111.68	100.52	112.05
Depreciation & Amortization	70.81	71.16	56.44
Other Operating Sources/(Uses)	21.64	(54.90)	16.73
<b>Total Operating Sources/(Uses)</b>	<b>204.13</b>	<b>116.78</b>	<b>185.22</b>
Capital Expenditures	(61.18)	(61.71)	(112.54)
Marketable Financial Instruments	(5.15)	(7.54)	(27.74)
Other Investing Sources/(Uses)	3.28	3.59	1.78
<b>Net Investing Sources/(Uses)</b>	<b>(63.05)</b>	<b>(65.66)</b>	<b>(138.50)</b>
Increase (Decrease) in Short-term Loans	10.68	0.00	19.13
Cash Dividends	0.00	(181.51)	0.00
Other Financing Sources/(Uses)	(1.04)	(31.28)	5.17
<b>Net Financing Sources/(Uses)</b>	<b>9.64</b>	<b>(212.79)</b>	<b>24.30</b>
<b>Exchange Rate Changes</b>	<b>(5.41)</b>	<b>(0.72)</b>	<b>6.26</b>
<b>Net Cash Position Changes</b>	<b>145.31</b>	<b>(162.39)</b>	<b>77.28</b>
<b>Ending Cash Balance</b>	<b>553.39</b>	<b>408.08</b>	<b>541.25</b>

<b>IV - 1.2. Annual Cash Flow Analysis</b>			
(In NT\$ billions)	<b>2017</b>	<b>2016</b>	<b>Diff.</b>
Income before Income Tax	396.13	385.96	10.17
Depreciation & Amortization	260.14	223.83	36.31
Other Operating Sources/(Uses)	(70.95)	(69.95)	(1.00)
<b>Total Operating Sources/(Uses)</b>	<b>585.32</b>	<b>539.84</b>	<b>45.48</b>
Capital Expenditure	(330.59)	(328.05)	(2.54)
Marketable Financial Instruments	(15.05)	(76.38)	61.33
Other Investing Sources/(Uses)	9.47	8.99	0.48
<b>Net Investing Sources/(Uses)</b>	<b>(336.17)</b>	<b>(395.44)</b>	<b>59.27</b>
Short-term Loans	10.39	18.97	(8.58)
Cash Dividends	(181.51)	(155.58)	(25.93)
Other Financing Sources/(Uses)	(44.57)	(21.19)	(23.38)
<b>Net Financing Sources/(Uses)</b>	<b>(215.69)</b>	<b>(157.80)</b>	<b>(57.89)</b>
<b>Exchange Rate Changes</b>	<b>(21.32)</b>	<b>(8.04)</b>	<b>(13.28)</b>
<b>Net Cash Position Changes</b>	<b>12.14</b>	<b>(21.44)</b>	<b>33.58</b>
<b>Ending Cash Balance</b>	<b>553.39</b>	<b>541.25</b>	<b>12.14</b>

### **Summary of Cash Flow:**

During the fourth quarter, cash generated from operating activities totaled NT\$204.13 billion, including (1) NT\$111.68 billion from income before income tax, (2) NT\$70.81 billion from depreciation & amortization expenses, and (3) NT\$21.64 billion from other operating sources.

Net cash used in investing activities was NT\$63.05 billion in 4Q17, mainly reflecting capital expenditures of NT\$61.18 billion.

Net cash generated from financing activities was NT\$9.64 billion, due to the increase in short-term loans.

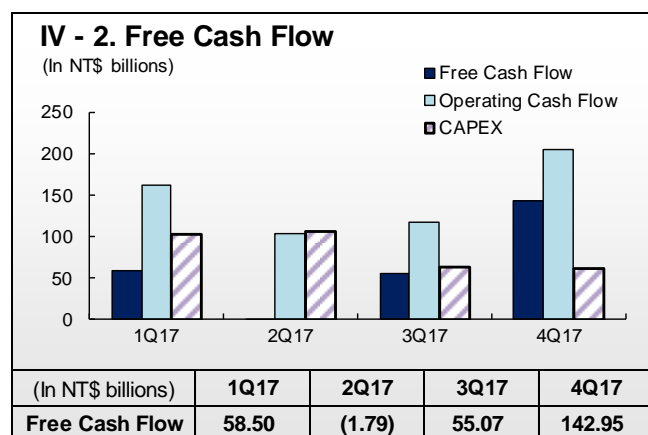
As a result, net cash position increased NT\$145.31 billion to NT\$553.39 billion at the end of 4Q17.

On a full year basis, cash generated from operating activities totaled NT\$585.32 billion, including (1) NT\$396.13 billion from income before income tax, (2) NT\$260.14 billion from depreciation & amortization, and (3) NT\$70.95 billion for other operating uses, which mainly included income tax payment and the changes in working capital.

Net cash used in investing activities were NT\$336.17 billion, primarily including capital expenditures of NT\$330.59 billion.

Net cash used in financing activities totaled NT\$215.69 billion, mainly reflecting the payment of cash dividends and the repayment of corporate bonds, partially offset by the increase in short-term loans.

At the end of 2017, cash position reached NT\$553.39 billion.



**Operating and Free Cash Flow:**

Free cash flow was NT\$142.95 billion in 4Q17, an increase of NT\$87.88 billion from last quarter, due to higher operating cash flow.

Total free cash flow generated in 2017 was NT\$254.73 billion, an increase of NT\$42.94 billion from NT\$211.79 billion in 2016, also due to higher operating cash flow.

**V. CapEx**

**V. Capital Expenditures**  
(in US\$ billions)

	<u>4Q17</u>	<u>3Q17</u>	<u>2Q17</u>	<u>1Q17</u>	<u>2017</u>
<b>Capital Expenditures</b>	2.05	2.05	3.47	3.29	10.86

**Capital Expenditures:**

Capital expenditures for TSMC on a consolidated basis totaled US\$2.05 billion in 4Q17 and US\$10.86 billion for the year.

## VI. Recap of Recent Important Events & Announcements

- TSMC Recognizes Outstanding Suppliers at Supply Chain Management Forum ( 2017/12/07 )
- TSMC Held its 30th Anniversary Celebration Forum and Concert and Invited the Many Customers, Colleagues, Suppliers, Investors, and Partners from Government and across Society Who Have Contributed to Our Three Decades of Growth to Mark This Milestone Together ( 2017/10/23 )