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Company Report | Consumer


# Stable sailing while preparing for the next uplift

April 4, 2019

## INVESTMENT SUMMARY

- Smartphone+watch is smartphone's first wearable extension. Huami (HMI) had a first mover advantage and is moving upward from wristband to smartwatch. We expect further share gains in smartwatch to propel HMI's top line and operating profit at 5-yr. CAGR of 20% and 25%, respectively;
- Beyond smartwatch, HMI might face a strategic choice of exploring other smartphone+ opportunities or staying in health-related categories. We see synergies between other smartphone+ devices and smartwatch to stimulate growth of the later;
- We acknowledge the risk of Xiaomi introducing its own smartwatch product exists. However, Xiaomi also provides infrastructure of hardware, software, service and content to let its ecosystem partner like HMI prosper. Such infrastructure will be increasingly concentrated, in our view. Initiate at BUY with TP of US$22.

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China|Asia ●INITIATION Consumer ● Intelligent hardware

Initiation

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# Huami Corporation (NYSE: HMI)

## Stable sailing while preparing for the next uplift

- Huami (HMI) is a Xiaomi ecosystem partner positioned for wide user base;
- As intelligent hardware evolves from smartphone to smartphone+, HMI was a main beneficiary of smartphone+watch. We expect HMI to further consolidation its market share in the watch category;
- We initiate the stock with a BUY and a TP of US$22

### Huami's user base is its foundation of cooperation with Xiaomi

We estimate Huami (HMI) contributed 45% of Xiaomi's connected IOT device base of 140mn as of C4Q18. Even though HMI's user activity level is low, few categories can contribute to user base as large as smartwatch, so HMI remains strategically important to Xiaomi, in our view.

### HMI's first mover advantage in smartphone+watch is still valid

Smartphone externalization and disintegration will be a trend in the next few years. HMI partnered with Xiaomi to be an early pioneer of smartphone-plus-watch. This trend still has room to grow. We expect HMI's global smartwatch market share to grow from 4.4% in 2018 to 10% in 2023.

### HMI should benefit from Apple's product innovation

Smartwatch (iWatch) is today Apple's No.1 user base contributor but is quickly being followed by smart earphone (AirPods). We expect Apple to leverage its iWatch and AirPods capabilities to create new usage scenarios and lead the Android camp. This will benefit HMI as a follower for the broader market.

### Both active and passive smart wearable have room to grow

We believe smart wearable is on the verge of breakthrough on human-to-machine interaction and artificial intelligence (AI), thanks to 5G and cloud. Active wearables that enhance human senses will emerge in the next couple of years. But passive wearable also has room to grow, particularly in healthcare field.

### Leveraging China's engineer talent and Xiaomi infrastructure

Innovation in both active and passive wearables should benefit HMI if HMI leverages China's engineer talent base to offer price-benefit competitive products. Xiaomi infrastructure is also a major plus. Trading at 2020 PE of 12, we expect HMI to grow non-GAAP operating profit at a 3Yr CAGR of 20%.

### Summary financial data

| Highlights | 2017A | 2018A | 2019E | 2020E | 2021E |
|---|---|---|---|---|---|
| Revenues (RMB mn) | 2,049 | 3,645 | 4,647 | 5,335 | 6,158 |
| Non-GAAP operating profit (RMB mn) | 245 | 500 | 555 | 644 | 801 |
| Non-GAAP EPADS (RMB) | 5.71 | 7.33 | 6.91 | 7.50 | 8.92 |
| GAAP EPADS (RMB) | 2.42 | 5.16 | 5.87 | 6.39 | 7.72 |
| EBITDA margin | 12.1% | 13.9% | 12.2% | 12.5% | 13.5% |
| P/E (non-GAAP) | 15.9 | 12.4 | 13.1 | 12.1 | 10.2 |
| Free cash flow yield (%) | 25.8% | 63.1% | 36.3% | 53.3% | 78.1% |

Source: Bloomberg, Blue Lotus (as of April 3, 2019)

**BUY** HOLD SELL

| Target Price: US$22 | Current Price: US$ 13.9 |
|---|---|
| RIC: (NYSE:HMI) | BBG: HMI US |
| Market cap (US$ mn) | 836.1 |
| Average daily volume (US$ mn) | 1.96 |
| Shares out/float (m) | 11.7/N.A. |

Source: Bloomberg, Blue Lotus (as of April 3, 2019)

### Key Changes

| | New | Old | Diff |
|---|---|---|---|
| BLRI Recommendation | BUY | NA | NA |
| BLRI Target Price | US$20 | NA | NA |
| 2019E EPADS (US$) | 6.91 | NA | NA |
| 2020E EPADS (US$) | 7.50 | NA | NA |
| 2021E EPADS (US$) | 8.92 | NA | NA |

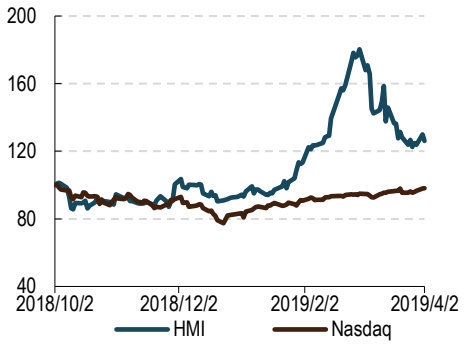
Source: Blue Lotus (as of April 3, 2019 )

### BLRI vs. The Street

| | |
|---|---|
| No. of Bloomberg Recommendations | 5 |
| Target price vs. Bloomberg mean | 10.8% |
| 1-year-fwd EPS vs. Bloomberg mean | 39.3% |
| Bloomberg recommendation | 5 |

Source: Bloomberg Recommendation, Blue Lotus (1=SELL,5=BUY)( as of April 3, 2019)

### Price performance and volume data




Source: Bloomberg, Blue Lotus (as of April 3, 2019)

### Research team

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See the last page of the report for important disclosures

# Huami Corporation: Financial Summary

## Fiscal year ends-31-Dec

**Exhibit 1. Income statement**

| (RMB mn) | 2018A | 2019E | 2020E |
|---|---|---|---|
| Revenues | 3,645 | 4,647 | 5,335 |
| YoY | 77.9% | 27.5% | 14.8% |
| Gross profit | 939 | 1,130 | 1,293 |
| Gross margin | 25.8% | 24.3% | 24.2% |
| Operating expenses(including SBC) | (574) | (645) | (729) |
| Selling and marketing expenses | (97) | (116) | (130) |
| General and admin. expenses | (214) | (201) | (226) |
| Research and develop. expenses | (263) | (329) | (373) |
| Operating income/(loss)-GAAP | 365 | 485 | 564 |
| Operating margin, GAAP | 10.0% | 10.4% | 10.6% |
| Operating income/(loss)-Non GAAP | 500 | 555 | 644 |
| Operating margin, non-GAAP | 13.7% | 11.9% | 12.1% |
| Interest income | 12 | 13 | 26 |
| Other income | 1 | (26) | (26) |
| Income/(loss) before income tax | 378 | 471 | 552 |
| Income tax benefit/(expense) | (52) | (71) | (83) |
| Income/(loss) before equity method | 334 | 401 | 469 |
| Income/(loss) from equity method | 1.74 | 1.74 | 1.74 |
| Net income/(loss)-GAAP | 336 | 402 | 471 |
| Net income/(loss)-Non-GAAP | 470 | 472 | 551 |
| EPADS, GAAP | 5.16 | 5.87 | 6.39 |
| EPADS, Non-GAAP | 7.33 | 6.91 | 7.50 |

Source: Huami, Blue Lotus (as of April 3, 2019)

## Company Description

Huami (HMI) is a biometric and activity data-driven company with expertise in smart wearable technology. HMI has been the sole partner of Xiaomi to design and manufacture Xiaomi-branded smart bands, watches, scales and associated accessories. HMI shipped 18.1mn units of smart wearable devices in 2017. As of December 31, 2017, HMI has shipped a total of 51.8 million devices since its inception in 2013

## Industry View

We expect China's home appliances market to grow at a CAGR of 7.8% from 2018 to 2022 to reach RMB 1.17 tn by 2022. We expect the penetration of IoT-enabled smart home products to increase from ~36% in 2017 to ~59% by 2022 and the penetration of IoT-enabled white goods products to increase from approximately ~24% in 2017 to ~56% by 2022. We expect the market for IoT-enabled smart home products continued robust growth at a CAGR of 20% to reach RMB 865 bn by 2022.

**Exhibit 2. Balance sheet**

| (RMB mn) | 2018A | 2019E | 2020E |
|---|---|---|---|
| Cash and cash equivalents and restricted cash | 1,548 | 2,386 | 3,289 |
| Accounts receivable | 59 | 97 | 131 |
| Amounts due from related parties | 656 | 830 | 884 |
| Inventories | 485 | 630 | 724 |
| Prepaid expenses and other current assets | 58 | 122 | 129 |
| Total current assets | 2,857 | 4,097 | 5,198 |
| Property, plant and equipments, net | 40 | 94 | 129 |
| Long-term investments | 209 | 152 | 188 |
| Deferred tax assets | 75 | 75 | 75 |
| Total non-current assets | 401 | 339 | 410 |
| Total assets | 3,258 | 4,437 | 5,608 |
| Accounts payable | 1,064 | 1,335 | 1,479 |
| Accrued expenses and other current liabilities | 214 | 278 | 320 |
| Income tax payables | 54 | 69 | 79 |
| Total liabilities | 1,449 | 1,810 | 2,013 |
| Ordinary shares | 1.51 | 1.56 | 1.61 |
| Additional paid-in capital | 1,209 | 1,709 | 2,209 |
| Accumulated(deficit)/retained earnings | 505 | 907 | 1,378 |
| Total Huami shareholders' equity | 1,812 | 2,715 | 3,686 |
| Noncontrolling interest | (1.34) | 75.67 | 72.67 |
| Total equity | 1,811 | 2,790 | 3,759 |
| Total liabilities, mezzanine equity and equity | 3,258 | 4,436 | 5,608 |

Source: Huami, Blue Lotus(as of April 3, 2019)

**Exhibit 3. Cash flow statement**

| (RMB mn) | 2018A | 2019E | 2020E |
|---|---|---|---|
| Net(loss)/income | 336 | 402 | 471 |
| Adjustments: | | | |
| Depreciation of property, plant and equipment | 8 | 14 | 21 |
| Change in operating assets and liabilities | 222 | (68) | 5 |
| Accounts receivable | (26) | (38) | (33) |
| Inventories | (238) | (151) | (102) |
| Amount due from related parties | (78) | (173) | (54) |
| Accounts payable | 356 | 271 | 144 |
| Accrued expenses and other current liabilities | 120 | 64 | 42 |
| Net cash provided by operating activities | 569 | 354 | 505 |
| Purchase of short-term investment | (12) | (15) | (17) |
| Purchase of long-term investment | (55) | (70) | (81) |
| Net cash used in investing activities | (81) | (95) | (102) |
| Proceeds from issurance of ordinary shares | 1,054 | 500 | 500 |
| Proceeds from issuance of Series A preferred shares | (27) | 0 | 0 |
| Proceeds from issuance of Series B-2 preferred shares | (296) | 0 | 0 |
| Proceeds from issuance of Series B-1 preferred shares | (27) | 0 | 0 |
| Net cash provided by financing activities | 690 | 579 | 499 |
| Net increase(decrease) in cash and cash equivalents | 1,178 | 839 | 902 |
| Cash and cash equivalents at beginning of year | 370 | 1,548 | 2,386 |
| Cash and cash equivalents at end of the year | 1,548 | 2,386 | 3,289 |

Source: Huami, Blue Lotus(as of April 3,2019)

Recent Reports

Mar 27th, 2019: [Virscend (1565 HK, BUY, TP HK$4.8) F2H18 Review]: **The short-term pain, for the long term growth**

March 26th, 2019: [Yirendai (YRD US, HOLD, TP US$15.5) C4Q18 Review]: **Consolidation to save loan volume**

March 25th, 2019: [Tencent (700 HK, BUY, TP HK$406) Target Price Change]: **Mobile game's headwind passed**

March 25th, 2019: [NIO Inc. (NIO US, BUY, TP US$8.5) Initiation]: **Value of creativeness needs time to realize**

March 22th, 2019: [Pinduoduo (PDD US, HOLD, TP US$28) Initiation]: **Promotion will end but buyer and category will stay**

Mar 20th, 2019: [Tencent (700 HK, BUY, TP HK$390) C4Q18 Review]: **Pulling ahead against the headwind**

Mar 20th, 2019: [Bitauto (BITA US, HOLD, TP US$30.5) C4Q18 Review]: **Refocus on media business**

Mar 20th, 2019: [Yixin (2858 HK, HOLD, TP HK$2.2) Target Price Change]: **A successful year of transition**

Mar 20th, 2019: [Xiaomi (1810 HK, HOLD, TP HK$13.5) Target Price Change]: **Deliver in a tough environment**

Mar 18th, 2019: [China Maple Leaf (1317 HK, SELL, TP HK$3) F1H19 Preview]: **Organic growth is disappearing**

Mar 18th, 2019: [S.F. Express (002352 SZ, HOLD, TP RMB39) Target Price Change]:

# Investment Cases at a Glance

## Why is it a Buy

- **Huami (HMI) is in a good category:** We believe wearables is a better IOT category to be in than consumer electronics, especially white electronics because competition is less entrenched, product is differentiated, logistics is less complicated and supply chain is simpler;
- **HMI has first mover advantage**: HMI was established in C4Q13 with its first product, *Mi Band*, launched in C3Q14, at about the same time when Apple launched its iWatch. By 2015, HMI already grabbed 61% unit market share of smart wearables in China and 15% worldwide;
- **HMI is succeeding in penetrating the high-end category:** HMI's market share before 2018 was mainly from its dominance in wristband. But in 2018 HMI successfully increased its market share in smartwatch. We estimate its market share in the smartwatch category was 1.5% in 2017, but has since improved to 4.4% in 2018. We expect HMI's smartwatch market share to grow to 10% by 2023, still well below Apple's 40% in 2018;
- **Smartphone industry is migrating to smartphone+:** We believe smartwatch and wristband are only the first smartphone+ categories to experience explosive growth. Smart devices that enhance the effectiveness of human hearing and vision are emerging. The growth of smart wearables is just beginning;
- **The rise of Chinese smartphone manufacturers will push Apple into smartphone+ innovation:** With global smartphone unit shipment slowing down, competition will intensify. Chinese smartphone manufacturers, led by Huawei, have closed in on Apple and Samsung in basic technologies. This will push Apple to seek new growth areas in software and services, but also new innovations in wearable hardware, in our view, which will benefit HMI;
- **Wearable will become interactive, smart and networked:** Smartwatch and wristband are early smartphone+ categories that do not enhance human sensing effectiveness. New smartphone+ categories will. Together these smartphone+ wearables will disintegrate and externalize the smartphone. As smartphone+'s earliest sub-categories, wristband and smartwatch will also benefit;
- **Smartphone+ requires complete ecosystem of consumer hardware, software, services and content:** As smart wearables becoming interactive, smart and networked, only companies with complete hardware, software, services and content products can provide end-to-end solution. None of the existing Internet mammoths can do the job. Xiaomi is one of the leading contenders, whose effort will benefit ecosystem partners like HMI;
- **Passive wearable also has room to grow:** Passive wearables that only monitor data also has room to grow, especially in healthcare and sports. More than half of smartwatch users in US bought smartwatch to monitor their health. We see great opportunities for new devices to develop to monitor human health

**Current spending prepares for future growth**

Mar 14th, 2019: [Blue Lotus Sector Update]: **Battle Pass: A monetization catalyst for the industry**

Mar 13th, 2019: [ZTO Express (ZTO US, HOLD, TP US$19) Rating Change]: **Margin miss & price war ahead…DG to HOLD**

Mar 13th, 2019: [Momo (MOMO US, HOLD, TP US$35) Target Price Change]: **A new challenge in the new year**

Mar 12th, 2019: [Yirendai (YRD US, HOLD, TP US$15.5) Rating Change]: **YRD is likely to be less benefit from industry consolidation…DG to HOLD**

Mar 7th, 2019: [Baozun (BZUN US, SELL, TP US$31) Target Price Change]: **Does growth solve all problems?**

Mar 4th, 2019: [58.com (WUBA US, BUY, TP US$79) C4Q18 Review]: **Safe heaven status intact**

Mar 1st, 2019: [JD.com (JD US, BUY, TP US$32) Target Price Change]: **New management opens new chapter**

Feb 28th, 2019: [Bilibili (BILI US, BUY, TP US$22.5) Target Price Change]: **Lifestyle content will be the key traffic driver**

Feb 27th, 2019: [NetEase (NTES US, BUY, TP US$289) Target Price Change]: **Cost control a plausible move**

Feb 27th, 2019: [Autohome (ATHM US, HOLD, TP US$83) Target Price Change]: **Strong beat due to better cost control**

conditions. However, we note that these new wearable devices are essentially medical wearables, not smart wearables. As such medical device makers have significant barriers to entry in intellectual properties over smartwatch makers;

- **Smartwatch/wristband has an important role to play in future smart wearable markets**: We see smartwatch/wristband to act as a local hub to link various passive and active smart wearables to interact with the AI-enabled cloud;
- **We expect HMI to benefit from wearable innovations in the developing countries:** We see HMI as a key beneficiary to transplant smartphone+ innovations from developed to developing countries, under reasonable price. using China's engineer talent and leveraging Xiaomi's channel capability;
- **Financially we expect HMI to have one top line acceleration ahead in 2022 and continuous margin expansion after 2019:** We expect HMI to capture the Christmas opportunity to have another spurt of top line growth in 2019.We modelled conservatively for a second leg of top line reacceleration in 2022. New RISC-V chipset will maintain gross margin level while cost scalability will raise non-GAAP operating margin from 13.7% in 2018 to 16.1% in 2028

## What are the key catalysts for the next 3-6 months

- **Continued share gain in 2H19**: We expect HMI's collaboration with TIMEX to result in a product that can enhance HMI's market share in the US. US market is 1/3 of the global smartwatch market. To further gain market share in smartwatch means to further gain market share in US. Since US retail sales is heavily tilted towards the Christmas, we expect HMI's smartwatch share gain to happen in C4Q19;
- **In-house developed chipset resulting in unique features and higher margin**: Huangshan-1 is a RISC-V chipset HMI developed to be incorporated into products in C2Q19. According to our understanding, Huangshan-1 will be able to incorporate Apple-unique electrocardiogram (ECG) function, faster response time and longer battery life into HMI products. We believe gross margin can also enhance with this chipset.

## Where can we be wrong?

- **HMI launches a children's smartwatch product in overseas (+)**: Children's watch is about 40% of China's smartwatch market because child abduction is a persistently perceived crime in China. Within Xiaomi ecosystem children's watch is made by another company (MITU) but we believe it is possible for HMI to launch children's smartwatch in countries outside of China. Children's smartwatch is currently not in our forecast;
- **Xiaomi launches its own smartwatch or wristband (-)**: We believe Xiaomi wants to keep active wearable products under its own brand and delegate passive wearable products to ecosystem partners. We believe Xiaomi will not launch its own smartwatch and wristband because (1) smartwatch and wristband aren't active, (2) HMI contributed 45% of Xiaomi's non-smartphone user in the latest

Feb 26th, 2019: [Xiaomi (1810 HK, HOLD, TP HK$14.55) Initiation]: **Making the impossible mission possible**

Feb 25th, 2019: [Baidu (BIDU US, BUY, TP US$234) Target Price Change]: **More investment to fuel future growth**

Feb 25th, 2019: [YY (YY US, BUY, TP US$90) Target Price Change]: **Global expansion will be the new driver**

Feb 25th, 2019: [Weibo (WB US, HOLD, TP US$70) Target Price Change]: **Going through the reinforced period**

Feb 22nd, 2019: [Vipshop (VIPS US, HOLD, TP US$7.5) Target Price Change]: **1P to 3P shift is a slipping slope**

quarter; (3) HMI can share user data with Xiaomi and use Xiaomi cloud/AI. If these assumptions are wrong, we will adjust our views;

- **Production and/or quality issues of new product launch (-):** HMI's smartwatch initiative reached a plateau after the launch of *Amazfit Verge*, which did not offer significant price-benefit improvement comparing to early products. We believe Huangshan-1 and subsequent improvements will be critical to maintain HMI's price-benefit competitiveness. If RISC-V suffers production, design or quality flaws, HMI's share gain in smartwatch might be further delayed;
- **Xiaomi charges HMI a channel usage fee (-**): We believe HMI's sales marketing cost is low comparing to industry peers because Xiaomi is letting HMI use its sales channel at a very low cost. If Xiaomi raises this cost, which we believe is unlikely in the next 3-5 years, it will harm HMI's profitability.

## What can change our view?

- **Huawei and Oppo/Vivo/OnePlus gain market share in smart wearables**: Despite being an early mover in smart wearables, Huawei has not achieved as much progress in werables as it did in smartphones. We believe this is because (1) Huawei is not as well prepared in active wearable (earphone and AR/VR) as its peers, (2) Huawei deems passive wearable (wristband and watch) market too small. Oppo/Vivo/OnePlus have the similar problem. We believe both will change but we still think both will pour their energy first into active wearable markets, leaving passive wearable market less contested;
- **Xiaomi alters cooperation framework with its ecosystem partners**: Currently Xiaomi buys product from HMI and shares the gross profit of the product with HMI 50:50. If such arrangement changes we will adjust our view;
- **Xiaomi allows ecosystem companies to cross enter each other's fields**: We currently believe Xiaomi will manage the boundaries among ecosystem partners. No ecosystem company will get into wristband and smartwatch (except children's smartwatch) and HMI will not get into earphone, AR/VR and home appliances. If such restriction is removed, by contract or by practice, we will adjust our view.

# Operating Metrics

**Exhibit 4. Quarterly revenue table**

| (RMB mn) | 2Q18A | 3Q18A | 4Q18A | 1Q19E | 2Q19E |
|---|---|---|---|---|---|
| Revenues | 760 | 1,075 | 1,224 | 784 | 988 |
| *YoY* | *54.8%* | *126.7%* | *62.6%* | *33.9%* | *29.9%* |
| Gross profit | 197 | 287 | 308 | 188 | 240 |
| *Gross margin* | *25.9%* | *26.7%* | *25.2%* | *24.0%* | *24.3%* |
| Operating expenses | (98) | (160) | (178) | (118) | (120) |
| Selling and marketing expenses | (21) | (32) | (29) | (21) | (24) |
| *% as of revenues* | *2.7%* | *3.0%* | *2.3%* | *2.6%* | *2.4%* |
| General and administrative expenses | (33) | (68) | (64) | (1) | (41) |
| *% as of revenues* | *4.3%* | *6.3%* | *5.2%* | *0.1%* | *4.1%* |
| Research and development expenses | (44) | (60) | (85) | (97) | (56) |
| *% as of revenues* | *5.8%* | *5.6%* | *7.0%* | *12.4%* | *5.6%* |
| Share based compensation | (16) | (20) | (20) | (12) | (15) |
| Operating income/(loss)-GAAP | 99 | 127 | 131 | 70 | 120 |
| *Operating margin, GAAP* | *13.0%* | *11.8%* | *10.7%* | *9.0%* | *12.2%* |
| Operating income/(loss)-Non-GAAP | 115 | 147 | 151 | 82 | 135 |
| *Operating margin, non-GAAP* | *15.1%* | *13.7%* | *12.4%* | *10.5%* | *13.7%* |
| Interest income | 2.0 | 1.6 | 6.6 | 1.5 | 2.2 |
| Gain from fair value change of long-term investment | 0 | 0 | 7.86 | 8 | 8 |
| Other income | 0.4 | 1.1 | (6.5) | (6.5) | (6.5) |
| Income/(loss) before income tax | 101 | 129 | 139 | 65 | 116 |
| Income tax benefit/(expense) | (15.9) | (21.1) | (12.3) | (9.81) | (17.4) |
| *Effective tax rate%* | *(15.7%)* | *(16.3%)* | *(8.9%)* | *(15.0%)* | *(15.0%)* |
| Income/(loss) before loss from equity method investments | 86 | 108 | 127 | 56 | 98 |
| Net income/(loss)-GAAP | 85 | 113 | 125 | 56 | 98 |
| Net income/(loss)-Non-GAAP | 101 | 133 | 145 | 67 | 112 |
| *Net margin, non-GAAP* | *13.3%* | *12.4%* | *11.9%* | *8.6%* | *11.4%* |
| | | | | | |
| Unit shipment (mn) | 5.40 | 8.20 | 9.20 | 5.69 | 5.96 |
| Wristband | 4.28 | 7.41 | 8.20 | 4.86 | 4.84 |
| Smartwatch | 0.83 | 0.81 | 1.00 | 0.83 | 1.12 |

Source: Huami, Blue lotus (as of April 3, 2019)

# Contents

# Huami has a good category and head start

Consumer wearable is highly dependent on smartphones. It is one of the smartphone+ markets which we believe will see rapid growth in the next few years after smartphone install base reaching a plateau. Comparing to other smartphone+ markets, consumer wearable has little legacy competition but has passed its growth peak. Huami (HMI) had a first mover advantage. We expect HMI's upside in the next few years to come from its continuous share gain in the smartwatch subsegment from the current 4.4% in 2018 to 10% by 2024.

## Why did Fitbit lose and why can HMI keep its share gain?

Fitbit once had >70% unit market share worldwide in 2014, but by 2018 it had only 10% (Exhibit 5). Why did Fitbit lose and what lessons can HMI learn? We believe Several reasons contributed to Fitbit's fall:

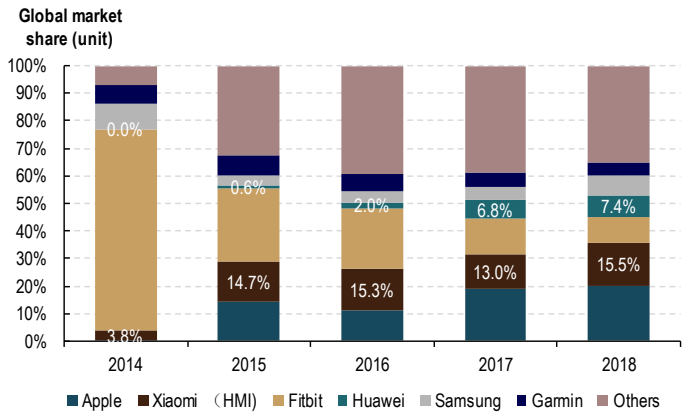
*Xiaomi holds 15% and Xiaomi's related party holds 16% of HMI post IPO.*

- **Lack of smartphone support**: Smart wearable as an unprogrammable specialty machine is an extension of the smartphone, a programmable general machine. Smart wearable's functions must closely follow the capabilities of the smartphones, which is why the world's top four smart wearables vendors are also the world's top four smartphone vendors. The exception is Oppo/Vivo/OnePlus. Fitbit and Garmin do not have smartphone support and as such their market shares have diminished;

*Smartwatch is the biggest subsegment in both unit and value in smart wearable market. Apple holds 40% share in smartwatch in 2018.*

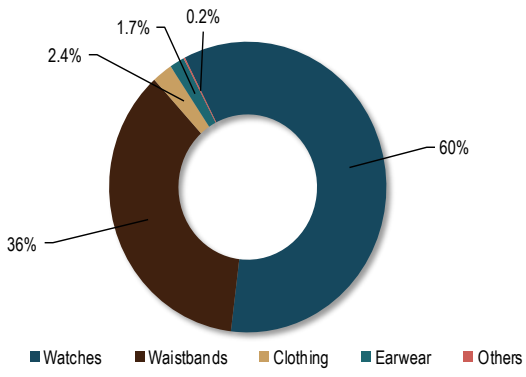
- **Apple's dominance in the high-end**: The largest segment of smart wearable (as defined by IDC) is smartwatches (Exhibit 6), of which Apple held a 40% share in 2018. Fitbit cannot compete against Apple in the high-end;
- **Low price**: The second largest segment is wristbands, which has been subject to low priced competition, especially from HMI since 2015. Fitbit has a 40-45% gross margins and even had 48% gross margin in 2015, comparing to HMI's gross margin of 25-30% in 2018 and only 12% in 2015;
- **Lack of online presence or proprietary channel**: As a low ASP auxiliary hardware, smart wearables highly relied on online sales and proprietary channel, both of which Fitbit lacked.

**Exhibit 5. Global smart wearable shipment market share**




Source: IDC, Blue Lotus (as of April 3, 2019)

**Exhibit 6. Global smart wearable units, total=122mn**




Source: IDC, Blue Lotus (as of April 3, 2019)

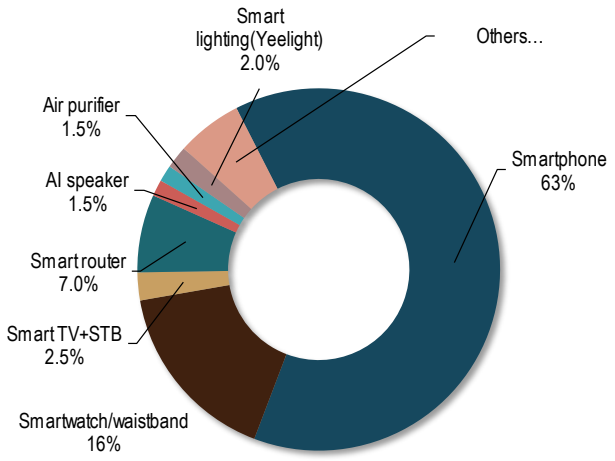
We believe none of these reasons will apply to HMI, but these reasons also remind us HMI's business risks.

*Xiaomi and HMI are mutually beneficial to each other.*

- **Xiaomi gives HMI smartphone, online presence and proprietary channel support**: Xiaomi and its related parties (mainly Xiaomi's venture fund and chairman) hold 31% of HMI. Xiaomi's online brand, online distribution and offline Mi Home channels give solid support to HMI, which Fitbit never had;
- **HMI contributed 45% of Xiaomi's non-smartphone user base**: HMI contributed to 45% of Xiaomi's connected IOT device count (excluding smartphone) of 132mn in C3Q18 (Exhibit 7), which means HMI plays an important role in Xiaomi's IOT strategy;
- **HMI leverages Xiaomi's supply chain capability**: Xiaomi's hardware revenue reached RMB162bn in 2018, of which we estimate RMB26.5bn were ecosystem partner revenues. Xiaomi gives HMI access to world class ODM (Original Design Manufacturer) and EMS (Electronics Manufacturing Service) partners, securing stable supply and competitive costing. Shenzhen-based Chinese EMS vendor Zowee (002369 CH, NR), for example, made *Mi Band 2* and *Amazfit* for HMI. Zowee also manufactures smartphones, air purifier, surveillance camera and power banks for the Xiaomi ecosystem.

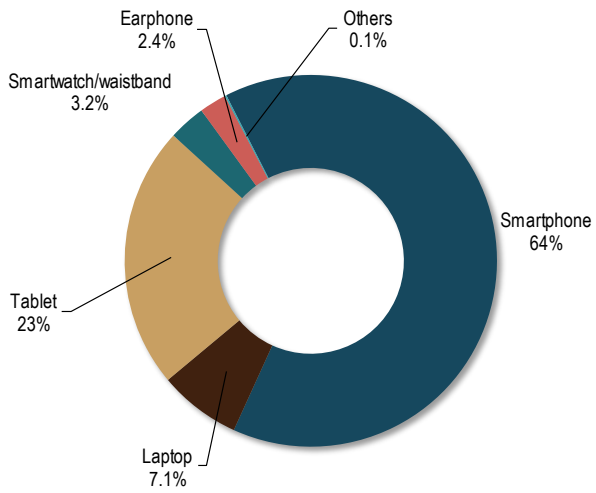
*Xiaomi's supply chain capability is a great help to HMI.*

**Exhibit 7. Xiaomi's connected IOT device base @C4Q18**




Source: Xiaomi, Huami, Blue Lotus (as of April 3, 2019)

**Exhibit 8. Apple's iOS device installed base @C4Q18**




Source: Apple, Blue Lotus (as of April 3, 2019)

That said, the relationship between Xiaomi and HMI still tilters heavily to Xiaomi's favor, in our view. Besides HMI, Xiaomi also holds 27% of Xiaoxun Technology, which makes the highly successful children's smartwatch, MITU, in China. We estimate children's watch had a unit market share of 22-25% in China's smart wearable market, a very high number considering the majority of smart wearable is likely just wristband. No.3 to No.6 in China's smart wearable markets are children's watch makers: *Little Genius* (BBK, parent of Oppo/Vivo), *Qihoo, Abardeen* and *Mitu* (Xiaomi). HMI today does not make the children's watch.

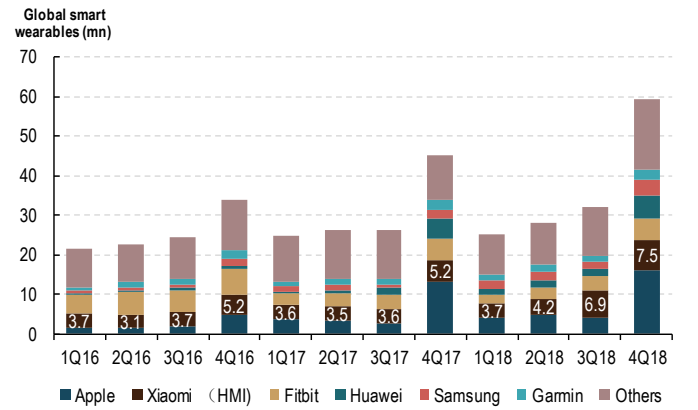
*Xiaomi will manufacture its own TWS headsets this year despite the fact it has invested in two similar companies in Xiaomi ecosystem in the past.*

In other smartphone+'s new markets like TWS (True Wireless Stereo) headphones, Xiaomi invested in 1More Acoustics and Lanmi Holdings, yet when the market exploded in growth following AirPods' successful debut, Xiaomi decided to roll out its own. This means there is NO guarantee

that Xiaomi will NOT come in to compete against HMI in the future. Xiaomi invested in VR helmet manufacture MeetVR and today sells under the *Mi VR* brand on the Xiaomi platform.

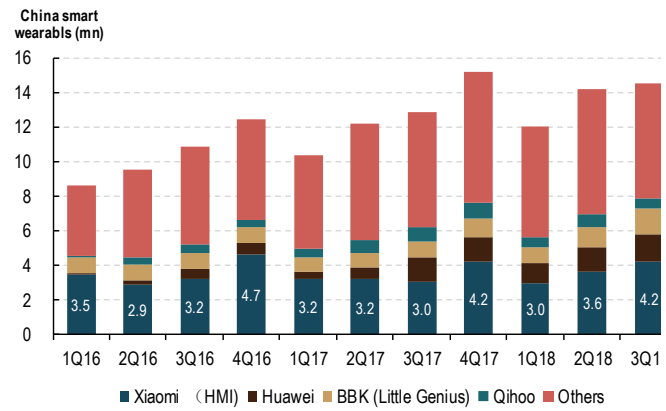
Exhibit 9 and 10 show the smart wearable shipment worldwide and in China.

**Exhibit 9. Global smart wearable shipment**




Source: IDC, Blue Lotus (as of March 8, 2019)

**Exhibit 10. China smart wearable shipment**




Source: IDC, Blue Lotus (as of March 8, 2019)

## HMI's growth opportunity will likely come from smartwatch

Smartwatches and wristbands together hold 95% of the unit market share of smart wearables. Note this definition does not include headsets, earphones and earbuds, and therefore doesn't include the popular AirPods product. Excluding AirPods, smart wearable market is roughly 60% smartwatches and 35% wristbands in unit volume.

*Excluding AirPods, smart wearable is roughly 60% smartwatches and 35% wristbands in unit volume.*

**Exhibit 11. Smart wearable segment shipment, market share and growth**

| (mn unit) | 2017 | 2018E | 2019E | 2020E | 2021E | 2022E | 2023E | 2024E | 2025E | 2026E | 2027E | 2028E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Smartwatches | 71.4 | 72.8 | 76 | 84 | 97 | 109 | 121 | 132 | 141 | 149 | 153 | 155 |
| Wristbands | 50.0 | 46.5 | 44.2 | 43.5 | 43.9 | 48.3 | 55.6 | 61.2 | 65.7 | 69.0 | 71.1 | 71.8 |
| Clothing | 3.3 | 2.8 | 2.8 | 3.1 | 4.6 | 7.9 | 11.4 | 15.9 | 20.7 | 24.9 | 28.6 | 31.5 |
| Earwear* | 1.6 | 2.1 | 2.9 | 4.4 | 7.7 | 12 | 19 | 29 | 40 | 52 | 63 | 69 |
| Modular | 2.5 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 |
| Others | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 |
| **Total** | **129** | **125** | **127** | **136** | **153** | **178** | **208** | **239** | **269** | **295** | **316** | **328** |
| *Growth* | *20%* | *(2.9%)* | *1.7%* | *6.8%* | *12.7%* | *16.4%* | *16.8%* | *14.7%* | *12.6%* | *9.9%* | *7.0%* | *3.6%* |
| | | | | | | | | | | | | |
| **Market share** | | | | | | | | | | | | |
| Smartwatches | 55% | 58% | 60% | 62% | 63% | 61% | 58% | 55% | 53% | 50% | 48% | 47% |
| Wristbands | 39% | 37% | 35% | 32% | 29% | 27% | 27% | 26% | 24% | 23% | 22% | 22% |
| Clothing | 2.6% | 2.2% | 2.2% | 2.3% | 3.0% | 4.4% | 5.5% | 6.7% | 7.7% | 8.4% | 9.0% | 10% |
| Earwear | 1.2% | 1.7% | 2.3% | 3.2% | 4.6% | 6.7% | 9.2% | 12% | 15% | 18% | 20% | 21% |
| Modular | 1.9% | 0.6% | 0.5% | 0.5% | 0.4% | 0.3% | 0.3% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% |
| Others | 0.1% | 0.2% | 0.2% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.1% | 0.05% | 0.04% | 0.04% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |

Source: IDC, Blue Lotus (as of March 16, 2019) *Earwear definition excludes earphone (AirPods)

We believe wristband will continue to grow, despite the fact that it had a declining year in 2018. We expect wristband to have a 5Yr. CAGR of 3.6% and smartwatch to have a 5Yr. CAGR of 10.7% between 2018-2023. The difference, in our view, is whether human waist will be occupied by a

smartwatch or a traditional-watch-plus-a-wristband. Besides taking notes of time, there are other functions of a traditional watch that have persisted through the time. The growth trajectory of a smartwatch might be possessing increasing processing power to one day do away with the smartphone. But before that happens, a smartphone which integrates most of the computing and display power but leaves mainly interfacing function to the wristband should still be desirable, in our view.

*Wristband which primarily acts as a human-body-to-environment interface device still has tremendous untapped value, in our view.*

## Xiaomi/HMI has more than 50% unit share in wristband worldwide

The smart wearable market took off first in 2014 and then grew 184% in unit volume in 2015. After that growth rate fell precipitously and stabilized at ~20%. Xiaomi/HMI ranked No.4 in market share in 2014, behind Fitbit, Samsung and Garmin, in a year that Apple and Huawei did even have a product. In 2015, Xiaomi/HMI climbed to No.2 spot behind Fitbit. It ranked behind Apple as No.2 in unit shipment in 2018.

While Apple's market share is 100% derived from its dominance in smartwatch, Xiaomi/HMI had 54% market share in wristband worldwide according to our calculation in 2018, up from 34% in 2017. HMI, under its own brand *Amazfit*, also had 4.4% market share in smartwatch in 2018, up from 1.5% in 2017.

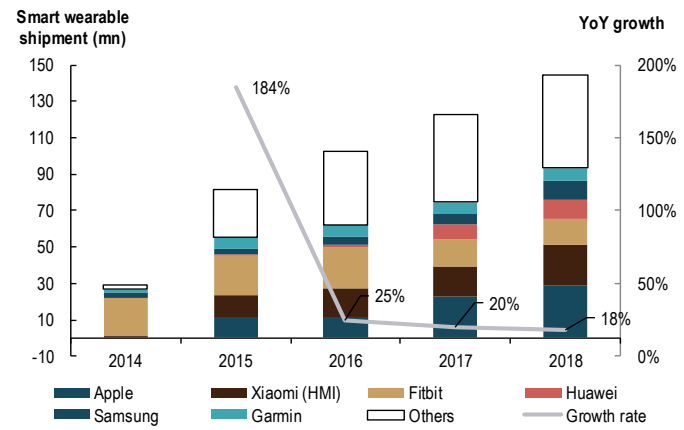
## HMI/Xiaomi can gain further share in the smartwatch market

We foresee the growth of wristband to mainly come from two sources: (1) developing countries where affordability getting gradually resolved, (2) 2B scenario whereby wristband is subsidized by its application vendor in healthcare, transportation or lodging. The first source should benefit Xiaomi/HMI whilst the second might benefit Fitbit. We expect Xiaomi/HMI's market share in wristband to further go up to 63% by 2020 before trending down to 47% by 2028.

*Smartwatch can capture all of wristband's functionality. We expect smartwatch to be mainly 2C whilst wristband will see increasing 2B or sponsored 2C usage.*

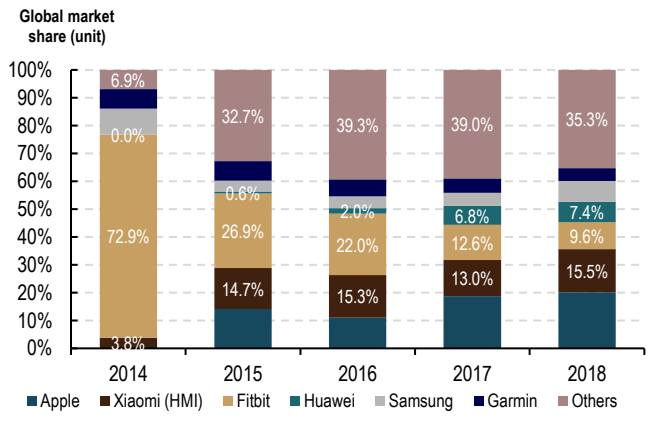
We foresee the growth of smartwatch to come from four sources: (1) upgrade from wristband users, (2) sports and health monitoring, (3) smartphone replacement usage, (4) children's smartwatch. As Apple takes the largest share, we see opportunity in Android-based smartwatches to gain share. We expect HMI/Xiaomi's marker share to grow to 10% by 2024 and stabilizes around there.

**Exhibit 12. Global smart wearable market growth by year**




Source: IDC, Blue Lotus (as of March 8, 2019)

**Exhibit 13. Global smart wearable unit market share**




Source: IDC, Blue Lotus (as of March 8, 2019)

## Smartwatch can be either more- or less- disconnected to the phone

In September 2018, HMI launched *Verge*, the upgraded watch of its highly successful *Stratos* watch launched in December 2017. In *Verge,* HMI closed several key function gaps against *Apple Watch* and crossed the line from an automated watch to a connected smartwatch, in our view. For example, *Verge* added speaker and microphone capability so it can take calls and work with voice assistant like Xiaomi *Xiaoai*. *Verge* also added NFC. That said, *Verge*, like its predecessor *Stratos 1* and *2*, still did not carry a cellular modem.

*Similar to Chinese smartphone makers, HMI cleverly chose what to excel and what to give up and provided a good value for money.*

Comparing to *Apple Watch* and Samsung *Galaxy Watch* who try to pack wishful features like voice assistant, cellular connection and proprietary payment solutions, HMI so far has been focusing on a few low-tech things that are important to a watch user, including:

- **Battery life**. HMI watches are famous for battery life. *Verge*'s mix-use battery time was more than 2x of Galaxy Watch and likely significantly longer than *Apple Watch*;
- **Water resistant/proof**: *Stratos* and *Verge* carefully matched competitor's water resistant/proof ranking and offered the same as *Galaxy Watch* and *Apple Watch* (50 meter, IP68, 5ATM);
- **Health monitoring**: Although HMI fell behind against Apple in providing Electrocardiography (ECG) functions, it made sure it didn't fall behind against others in health monitoring;
- **Weight**: Although *Stratos* was reportedly bulky, *Verge* successfully cut the weight by using ceramic materials. *Galaxy Watch*, on the other hand, increased the weight to 49-60g by using stainless steel;
- **Comfort**: HMI's silicone watchband in both *Stratos* and *Verge* are reputed to be comfortable;
- **User interface**: Both HMI and Samsung chose circular shape, a form factor more user friendly but less display friendly. Further, HMI provides 14 different watch interfaces;
- **Price**: At half the price of Galaxy Watch and almost a third of Apple Watch, in a market that is rapidly progressing in technology is a tempting consumer value, in our view.

*Carefully balancing features going into its smartwatch reduces design difficulties and BOM cost for HMI.*

Needless to say, smartwatch, being a semi-general-purpose machine with a screened user interface, presents many human ergonomics challenges. The smartwatch screen might well be too small to interact, if not too small to read, which is why coupling with an earphone might provide the answer. Regardless of which solution to adopt, designing smartwatch is a high entry barrier business. HMI has so far exploited this situation by carefully choosing what to go into and what to leave behind in its watches. This careful deliberation has reduced design difficulties and bill-of-material (BOM) cost for HMI.

However, going forward, smartwatch might become more and more sophisticated, in a way that can be more connected, or in a way that can be less connected to the phone:

- **Less connected to the phone**: By featuring standalone cellular modem Apple and Samsung are making smartwatch as a standalone computing and communication device like the smartphone. So far, this endeavour has not proven to be making a lot of sense. In most usage scenarios, smartphone is easy to carry and can provide computing power for nearby accessories. But, with ubiquitous 5G and cloud, it is possible that users may not need to carry a smartphone anymore. The form factor of a smartphone might exist only for the purpose of display;

*If computing power shifts to the cloud and 5G connectivity is ubiquitous, then smartphone may only exist as one of the display screens.*

- **More connected to the phone:** If the future of computing will feature both centralized and edge usage needs, then some computing and storage power will reside locally. Therefore, smartwatch might connect more to the smartphone.

Regardless of which way to materialize, we believe in the future perhaps many segmented usage scenarios will develop in the wearables market. The trend of less connected to the phone and more connected to the cloud will manifest itself in the smartwatch product, whilst the trend of more connected to the phone and less to the cloud will manifest itself in the wristband product.

**Exhibit 14. Specification comparable of flagship smartwatches**

| | Huami Amazfit | Samsung Galaxy | Apple Watch | Garmin Fenix | Fossil Q Explorist | Huawei Watch |
|---|---|---|---|---|---|---|
| Appearance |  |  |  |  |  |  |
| Latest model | *Verge* | *Galaxy Watch* | *Series 4* | *Fenix 5 Plus* | *Explorist Gen 4* | *GT* |
| Release date | Sept. 2018 | Aug. 2018 | Sept. 2018 | Jun. 2018 | Aug. 2018 | Oct. 2018 |
| Price (US$) | 160-180 | 330-350 | 400-500 | 600-650 | 275 | 199-230 |
| LTE cellular | Not available | Available | Available | Not available | Not available | Not available |
| OS | Amazfit OS | Tizen OS4 | WatchOS5 | Garmin OS | Google WearOS | Huawei Lite OS |
| GPS | Yes | Yes | Yes | Yes | Yes | Yes |
| Chipset | Ingenic M200S (32 bit) | Exynos 9 (64 bit) | S4 (64 bit) | MAX32630 | Snapdragon 2100 (32 bit) | Cortex-M4, 2010 (32 bit) |
| Screen | AMOLED | Super AMOLED | LTPO OLED | Transflective MIP | AMOLED | AMOLED |
| Pixel | 360x360 | 360x360 | 324x394 | 240x240 | 454x454 | 454x454 |
| Water resistant up to | 50 | 50 | 50 | 100 | 30 | 50 |
| Speaker & microphone | Yes | Yes | Yes | No | Yes | No |
| Electrocardiography | No | No | Yes | No | No | No |
| Battery (mAh) | 390 | 370-472 | 292 | 430 | NA | 420 |
| Battery life in continuous | 5 days | 2 days | 18 hrs. | 19 hrs. | 24hrs | 14 days |
| Weight (g) | 46 | 49-63 | 30-40 | 70-80 | 166 | 46 |
| Personal assistant | Xiaoai | Bixby | Siri | No | No | No |
| NFC | Yes | Yes | Yes | Yes | No | Yes |

Source: GSMArena, Huami, Amazon, Smartwatchspex (as of March 8, 2019)

## Smartwatch today sees more fragmented technology than smartphones

Due to the function of smartwatch is less well defined, we saw a more fragmented technology map in smart watches than in smartphones. Proprietary chipset and operating system occupied a great market share. After missing on several shipment dates, Qualcomm's Snapdragon wearable platform only works with an array of fashion brands, most successful being *Fossil*. These fashion brands, including *Louis Vuitton*, *Monteblanc*, *Hugo Boss* and *Kate Spade*, also use Google's WearOS. However, Huawei recently quit WearOS to switch to its own Lite OS. Overall, Qualcomm and Google had a much smaller share in smartwatch than in smartphone.

*Qualcomm and Google had a much smaller share in smartwatch than in smartphone. But as connectivity starting to ramp up, we foresee Snapdragon and WearOS to gain more market shares.*

Not only Qualcomm, ARM also has a smaller share in smartphone. HMI's chipset technology from Ingenic is a MIPS-based technology not licensed from ARM. HMI's own chipset called Huangshan No.1 is based on an open source instruction set called RISC-V. HMI has further invested in two RISC-V startups, UK-based GreenWave and US-based SiFive.

## Smartwatch technology fragmentation is challenge as well as opportunity

*Sports, health and fashion are smartwatch's top consumer appeal today, until human-machine interface kicks in in the future.*

The fragmentation of technology in smartwatch in particular and in consumer wearable in general suggest that the element of "smart" is today still not the only, or even the determining factor of consumer appeal. Sports, health and fashion are three biggest consumer needs of wearables. Because of the limitation in screen size and interactivity, only a handful of apps are frequently used on smartwatches but the costs to equip smartwatch with abilities to compute, store, network, listen and speak are substantial.

This can change, if voice assistant becoming smarter to take up the role of user machine interaction, or if cloud-based AI makes voice recognition more accurate, if augment reality (AR) glasses provides an alternative screen, or True Wireless Stereo (TWA) earphones starting to popularize the use of voice-based interactions.

We believe for smartphone+ to gain traction, there must first be a pleasant-to-use consumer product, regardless of connectivity features it may bring. Apple's AirPods is a good example, even though its initial appeal of it might be superb sound quality instead of voice assistant convenience. In smartwatch's case, sports, health and fashion are today consumer's top demand. Easy to use, hassle free and low cost are consumer's secondary needs. Until these are satisfied, they are not inclined to try out connectivity, computing and authentication features designed by the manufacturers. These characteristics are opportunities to technology followers like HMI. It also gives HMI challenge to climb up the technology tree to make smart wearable bigger than it is today.

# Smartphone+ has many opportunities ahead

Global smartphone shipment entered negative growth territory in 2018 but ASP picked up for the three consecutive years. This is evidence that consumers want to do more with their smartphones. Smartphone industry has evolved beyond smartphone to smartphone+. Wristband and smartwatch are the first smartphone+ markets to develop because technologies of these two aren't difficult. But it does not mean smartphone+ will stop here. Instead, it is just the beginning, in our view.

*Wristband and smartwatch are the first smartphone+ market because technologically they are not difficult to develop.*

## Active wearable will be the next growth hotbed

We divide smart wearables into passive wearables and active wearables. Wristband and smartwatch are passive wearables because they only extend, but do not augment smartphone's capabilities. Active wearables feature technologies that is fundamentally different from, and thus extend and augment, the smartphone. Such technologies include:

*Smartphone+ extends and augments smartphone's abilities.*

- **Voice recognition and artificial intelligence (AI)**: *Siri* and *Alexa* have already developed successful prototypes but their applications naturally exist in an earphone setting, which people wear 24x7. Earphones like AirPods expands the scope of application from foundations already built by Amazon's cloud-based voice service, *Alexa*;
- **Augment reality (AR) and virtual reality (VR)**: AR helps human processing visual information more effectively while VR removes physical constraint of the human vision. AR and VR are augmented version of the camera or the eyeglass. We believe 5G will significantly improve the user experience of AR and VR by reducing the latency-resulted dizziness of these products;

We are more excited about active wearable technologies because they enhance the human ability to see and to hear. Perhaps there will be applications to enhance human ability to smell, to taste, to touch and to sense in the future.

### Active wearable requires coordinated h'dware, s'tware, network and service

For wearable technology to prosper, it must be both consumer appealing and cloud enabled. Having a consumer appeal is important to overcome the early stage of adoption when the cloud-enabled AI isn't perfect. However, wearable technology will not stop at the traditional consumer appeals, or it will have no differentiation. Smart wearable's technological future lies in three trends:

*Wearables must first serve consumer value (comfort, convenience, socially acceptable, etc.) before they can differentiate with technology advances.*

- **Disintegration of the computer**. Computer as a computing device can be disintegrated and externalized. It doesn't need to be housed in a box. Various I/O parts can be placed close to their human organ recipients while the computing/storage/transport parts can be allocated between the cloud edge and local devices. Smartwatch and wristband are ideal locations;
- **Cloud intelligence**. With the ubiquity of 5G, we are approaching the possibility of hosting much enhanced computer power in the cloud delivering to local devices via the Internet. This also lessens the computing load and thus hardware requirements of the local devices;
- **M2M and M2H integration**: Passive wearables monitor. The monitoring can be presented to human in a direct Machine-To-Human interaction, or it can network with other machines, such as the hospital computer, in a machine-to-machine interaction, to roll over to a higher level of presentation.

*The future of wearable requires big companies and requires these big companies to grow even bigger.*

As we can see, the fulfil these three aspects well, there must exist an organization that can design, manufacture and sell consumer devices, network them, store and analyse the data in the cloud, and connect with third party organizations. It requires this organization to be top notch in both hardware, software, network and services. As it turns out, none of the current technology mammoths, be it Apple, Amazon, Google, Huawei or Alibaba, can do all these jobs well.

## Huami's future swims and sinks with Xiaomi

*HMI's smartwatch market share can still go up but what to do after reaching its peak needs to be carefully planned.*

Judging from Xiaomi's past strategy, it tends to retain networkable product categories within itself and entrust discreet product categories with ecosystem partners. In the case of earphones, for example, Xiaomi delegated acoustic-centric earphone demand to ecosystem partner 1More, but opts to develop interactive-centric earphone demand to itself. In VR, Xiaomi invested in MeetVR to launch *Mi*-branded mobile VR headset but also partnered with Facebook to launch Oculus-co-branded head-mount-display (HMD) VR headsets.

From HMI's point view, how to grow after its smartwatch market share gain should be planned at this stage.

- **One direction is to further develop smartwatch into a bare bone smartphone**: Housing local computing power in a form factor smaller and more convenient than the smartphone might give opportunity to the smartwatch. However, this approach will likely set HMI on a course of competition with Xiaomi smartphone;
- **Another direction is horizontally integrating into more hardware categories**: Naturally the first step of hardware extension will be into children's smartwatches. But this will set a collision course with another Xiaomi ecosystem partner MITU, which has been very successful and is on course to become a children's total solution company. Other horizontal expansion might run into other Xiaomi ecosystem companies, which may or may not be a problem;
- **The third direction is vertically integrating into healthcare industry**: We believe healthcare is an area that still has greater potential for smart wearable technology to tap into. This is also an area that leads to no conflict with Xiaomi and other Xiaomi ecosystem partners. The opportunity in healthcare does not only rest with smartwatch, but also with new wearable devices with special medical purposes that interacts with the smartwatch. However, entry barrier is high.

*Facing competition from Huawei, Apple will have to move upward. One road pointing up is smartphone+. HMI can copy Apple's innovation.*

Regardless of which direction to take, we expect HMI to closely monitor Apple's product roadmaps in the future. At one end, smart wearable is a US-centric sector with US contributing 1/3 of global shipments, by our estimate, far above the US market share in smartphones. At the other end, facing stiff competition from Chinese smartphone manufacturers, Apple must find a way to innovate. We believe Apple will increasingly focus on smartphone+, software and services, connectivity, AI and cloud. Apple, Google, Amazon, Microsoft, Huawei, Alibaba and Facebook are the world's top seven tech leaders who have the ability to combine consumer hardware, Internet software, cloud service, AI and ecosystem enabling into one offering. But each of these seven have respective weaknesses. Xiaomi is closely following these six as the leader in the 2nd tier, in our view. HMI as a Chinese company can copy Apple's smartphone+ innovation and leverage into developing countries by utilizing China's engineer resources. Along the way, HMI is an integral part of Xiaomi's IOT strategy.

*Xiaomi is not the current top seven in terms of future IOT platforms but is the most focused in advancing its position.*

## Healthcare still has greater room to expand but entry barrier is also stiff

*Smartwatch can be a hub to connect various medical wearables using new medical device technology.*

Healthcare and sports have become areas to focus by 2nd tier smartwatch brands like Fitbit and Garmin. Healthcare is a prevalent consumer demand. According to a survey by Valencell, 65% of US smartwatch users purchased smartwatch to monitor their health. Top five health issues Americans want to monitor include: blood pressure (55%), stress (50%), heart health (49%) and blood sugar levels (33%). Healthcare and sports are inter-related, in our view as most of the sports tracking are health tracking in nature.

Healthcare tracking is particularly intriguing if we set our views onto new wearables with special medical purposes. Two of such wearables are shown in Exhibit 15 and 16 and discussed below. We believe smartwatch, thanks to its convenience, can act as a hub to connect various medical wearables. However, we also notice that these new medical wearables are medical in nature, which requires deep medical expertise and regulatory approval. The barriers to entry for smartwatch makers into medical grade devices are stiff.

Major healthcare smart wearable applications include:

- **Female health tracking**: Fitbit's *Versa* can track and predict women's periods, even though the entry is still manual. China's TicWatch *C2* also introduced this feature. In the future such tracking will likely work with smart clothing devices to achieve full menstrual cycle tracking;
- **Medical grade wearables**: Fitbit and Apple smartwatches can currently work with Dexcom CGM, a pinned sensor mounted on skin to continuously monitoring glucose levels, to track diabetes (Exhibit 15). As mentioned earlier, ECG is a major differentiator of Apple Watch *Series 4* to track Atrial fibrillar, a precursor to heart stroke. OMRON recently received FDA approval of a smartwatch which uses an air-inflatable strap to accurately measure blood pressure to monitor hypertension (Exhibit 16). Other chronicle illness monitorable by smart wearables includes asthma;
- **Smart clothing:** IDC predicted global smart clothing shipment will rise from 2.8mn units in 2018 to 11.4mn in 2023, with market share rising from 2.2% to 5.5%. Google's Project Jacquard builds smart connectivity at the sleeves of a jacket made by *Levi*. Samsung's *Human Fit* smart clothing brand had the same idea of building smartphone functionalities into a suit sleeve. There are numerous sports-and-health-related smart clothing like smart bra, bikini, yoga pants, socks, training cloths, T-shirts, etc.

*Major illnesses like hypertension, heart stroke and diabetes can be monitored by smartwatch, together with medical wearable devices.*

**Exhibit 15. Dexcom CGM, a Continuous Glucose Monitor**

**Exhibit 16. Omron blood pressure monitor with air inflated strap**

Source: Dexcom, Blue Lotus (as of March 8, 2019)

Source: Omron, Blue Lotus (as of March 8, 2019)

We believe HMI can follow into these healthcare and sports segments, but we don't expect it to be strong because China doesn't have such a rich foundation of medical technology as the US. We do believe Xiaomi's distribution platform to be vital for distributing niche products, as it has already demonstrated with Xiaomi ecosystem partners.

*Medical grade smart devices are medical first, smart second and connectivity the third, in our view.*

# Margin accretion possibility in semiconductor

We believe developing its own core semiconductor can not only enhance HMI's margin in the long run, but also differentiate its product like Apple Watch did with ECG.

## Investments in RISC-V technology builds bottom up capability

*Early run-in period in semiconductors tends to have numerous issues.*

In Sept. 2018, HMI released Huangshan-1, an RISC-V, not ARM based chipset, to be incorporated into products in 2H19. Huangshan-1 has two ECG, one biometric and one heart rate/disease detection AI engines built into the chip. Huangshan No.1 chip is expected to be commercialized in C1H19. We expect the launch of Huangshan-1 to differentiate HMI's products and achieve better margins at comparable functionality (which will translate into selling price). However, like early stage run-in periods in Huawei's HiSilicon, first generation chipset has high chances of failure.

Huangshan-1's chances of failure not only result from chip design and processing but also from RISC-V as a new open source technology, which tends to be unstable at early versions.

### RISC-V is more suitable for smart wearable and IOT devices than ARM

RISC-V was developed in UC Berkeley in 2010 for teaching purposes. Main driver for the development was to break the monopoly of mainstream Instruction Set Architectures (ISA) like x86 and ARM, so as to lower the cost of innovation.

*HMI has invested in leading chip designers in RISC-V and is planning to roll out its own RISC-V based Huangshan-1.*

As Exhibit 17 shows, RISC-V is a key open source ISA based on Reduce Instruction Set Computer (RISC), same as MIPS (Microprocessor without Interlocked Pipelined Stages) and OpenRISC. Comparing to its competitors, RISC-V has received more support from leading industry vendors and have been further ahead in commercialization. RISC-V adopted a BSD open source license, which doesn't require modification of the ISA to be open source, like GPL does, thus is more friendly to commercial implementations. System-On-a-Chip (SOC) using RISC-V ISA has been released into the market by a handful of startups like SiFive, Vectorblox and GreenWaves. HMI invested in SiFive and GreenWaves.

**Exhibit 17. IOT major instruction set architecture (ISA) comparison**

| | RISC-V | MIPS | OpenRISC | ARM | X86 |
|---|---|---|---|---|---|
| Creation date | 2010 | 1985 | 2001 | 1983 | 1978 |
| Original designer | UC Berkeley | MIPS Technologies, Imagination Technologies | Damjan Lampret | ARM Holdings | Intel and AMD |
| Open source? | Yes | Yes from 1Q19 | Yes | No | No |
| Open source license type | BSD, does not require code to be distributed to all | Not decided | General Public License (GPL), require code to be distribute to all | - | - |
| Modular | Support | Likely support | Support | Not support | Not support |
| Extendibility | Support | Likely support | Support | Not support | Not support |
| Architecture length and number of instructions | Less than 300 pages architecture, ~40 basic instruction sets, a few dozen other subsets | Less than 300 pages architecture, ~40 basic instruction sets, a few dozen other subsets | Less than 300 pages architecture, ~40 basic instruction sets, a few dozen other subsets | Thousands of pages architecture, large number of instructions | Thousands of pages architecture, large number of instructions |
| Main promoters | Google, Micron, AMD, Oracle, Qualcomm, Western Digital, SiFive, NVIDIA, UltraSoc, Greenwave, Andes, etc. | Broadcom, MIPS, Cavium, Loongson (龙芯), Ingenic (君正), Mobileye, MediaTek, Denso | OpenCores Community | Widely licensed by ARM Holdings | Widely licensed by Intel and AMD |
| Commercial products | SiFive Freedom, Vectorblox ORCA | Ingenic M200, Loongson 7A1000, Mobileye EyeQ5, MediaTek LTE modem | Samsung, Cadence | Cortex-A, Cortex-R, Cortex-M | Intel Xeon@D-2100, Intel Atom processor, Intel Atom@E3900 |

Source: RISC-V Foundation, Wiki, Blue Lotus (as of March 8, 2019)

See the last page of the report for important disclosures

As a study performed by Shanghai Jiaotong University shows (Exhibit 18), RISC-V SOC called Rocket Core designed by a non-profit organization affiliated with Cambridge University had lower power consumption and smaller area than comparable ARM Cortex A5, making it suitable for smart wearable devices.

*HMI can use RISC-V to develop differentiated product features.*

**Exhibit 18. Comparison between ARM Cortex-A5 and RISC-V Rocket**

| | ARM Cortex-A5 | RISC-V Rocket |
|---|---|---|
| Register width | 32 | 64 |
| Main frequency | >1GHz | >1GHz |
| Dhrystone performance | 1.57DMIPS/MHz | 1.72DMIPS/MHz |
| Area (ex-Cache) | 0.27mm$^2$ | 0.14mm$^2$ |
| Area (ex-16KB Cache) | 0.53mm$^2$ | 0.39mm$^2$ |
| **Dynamic power consumption** | **<0.08Mw/MHz** | **0.034Mw/MHz** |

Source: Shanghai Jiaotong University, Blue lotus (as of April 2, 2019)

## Switching from MIPS to RISC-V adds differentiated product features

Up till now, HMI smartwatch used MIPS based SOC from China-based Ingenic Semiconductor (300223 CH, NR). Ingenic licensed MIPS ISA from US-based MIPS Technologies in 2009. MIPS is a proprietary ISA originally owned by MIPS Technologies which was sold to Imagination Technologies (supplied GPU to Apple from iPhone 1 to 8) in 2013, resold to a venture fund in 2017 and resold to US-based AI chip designer Wave Computing in 2018.

*RISC-V is eight years ahead of MIPS in terms of providing open source alternative to ARM.*

Although Wave Computing immediately announced an open source initiative called MIPS Open following its MIPS acquisition, we believe RISC-V is still significantly ahead of MIPS in terms of ecosystem development, except maybe in automobile/autonomous driving. In terms of broad industry support against ARM, RISC-V has been providing an alternative since its founding in 2010. We believe HMI's investments into SiFive and GreenWaves are testimony of industry's recognition of HMI's statue in the fields of smart wearables.

**Exhibit 19. Some RISC-V Foundation members**


Source: RISC-V Foundation, Blue Lotus (as of March 25, 2019)

# In house SOC likely will help on margin

Exhibit 20 shows the semiconductor component of HMI's *Amazfit Stratos* which retailed for US$120 (US$=6.7RMB) in China. We estimate total bill of material adds up to US$64, of which

semiconductor components cost US$27. Ingenic SOC is the most expensive semiconductor costing US$10.5/unit.

Exhibit 21 shows the bill of material of Apple Watch Series 4, which retailed for US$596 (US$=6.7RMB) in China. We estimate total bill of material adds up to US$141, of which semiconductor components cost US$56. Apple's in house designed S4 SOC is the most expensive semiconductor costing US$35/unit. However, we notice that Apple's profit margin, based on cost of materials, should be at least 2x of HMI, suggesting that in-house-designed SOC can add unique features to the product, leading to higher ASP.

*Semiconductor cost is <10% of Apple Watch Series 4 but more than 20% of HMI's Amazfit Stratos.*

**Exhibit 20. Amazifit Stratos bill of material**

| Supplier | Product | Chip Function | Cost ($) |
|---|---|---|---|
| **Ingenic** | **M200S** | **M200S chip-wearable devices chip** | **$10.50** |
| Micron | Unknown | 4GB Flash Drive+512 MB Memory | $5.30 |
| Cypress | CYW43438KUBG | Wi-Fi + Bluetooth combos | $4.80 |
| STMicro. | STM32L476JE | System-On-Chip controller | $4.00 |
| Unknown | Unknown | GPS | $1.30 |
| NXP | PN80T | NFC solution | $0.80 |
| BOSCH | BMI160 | 6-Axis gyroscope and accelerometer | $0.50 |
| Asahi KASEI Microdevices | AK09918 | 3-axis electronic compass | $0.20 |
| Total | | | $27.40 |

Source: Laoyaoba, Blue Lotus (as of March 25, 2019)

**Exhibit 21. Apple Watch Series 4 bill of mater**

| Supplier | Product | Chip Function | Total Cost($) |
|---|---|---|---|
| **Apple** | **S4** | **S4 chip** | **$35.00** |
| Unknown | Unknown | 16G Flash Drive | $5.50 |
| SK Hynix | H54MBP63M | 1GB Memory | $3.50 |
| Broadcom | BCM59356 | Wireless charging | $2.11 |
| STMicro | ST33G1M2 | 32-bit ARM | $1.75 |
| APPLE | 338S00464(W3) | Wi-Fi/BT + GPS | $1.35 |
| Skyworks | Unknown | PA and RF | $2.50 |
| Broadcom | BCM15922 | Custom sensing ASIC | $1.25 |
| Analog Devices | AD7149 | Capacitive sensor | $0.54 |
| Dialog | Unknown | Power management | $1.20 |
| AVAGO | AFEM-8087 | Front-end Modules | $1.20 |
| BOSCH | Unknown | 6-Axis gyros. accelmtr. | $0.50 |
| Total | | | $55.90 |

Source: Laoyaoba, Blue Lotus (as of March 25, 2019)

# A strong BUY under moderate assumptions

HMI has an asset light business model with excellent cash flow profile. We also believe HMI operates in an environment of benign price competition characterized by differentiated products and protected by Apple's price umbrella.

## Top line reacceleration in 2022 and continuous margin expansion

*Smartphone+ development will give HMI's product ASP a strong kick.*

Our estimate for HMI's top line growth is only 28% in 2019, reflecting 13% YoY unit volume growth in wristband and 38% YoY growth in smartwatch. We expect global wristband market to recover in 2022, leading to HMI's top line growth to accelerate to 23% YoY. We model HMI to launch its third product line in 2021, adding to growth thereafter. By 2023, we expect 72% of HMI's shipment to be wristband, 26% to be smartwatch and 2% to be a new product, comparing to 86% of wristband and 14% of smartwatch.

We expect ASP to be a key driver for revenue growth, rising from RMB132 in 2018 to RMB206 in 2023, representing a 5-Yr. CAGR of 10%. This ASP increase is based on continuous function upgrade of smartwatch and wristband under the smartphone+ environment.

We forecast stable gross margins as HMI's investment in Huashang-1 leading to more room for margin expansion, offsetting by margin erosion from competition and cost increase of other components. We forecast operating leverage as HMI leverages Xiaomi's smartphone+ infrastructure for sales and marketing, and continuous scalability in R&D and G&A.

## Excellent cash flow profile is a major plus

*HMI has excellent cash flow because of (1) high profit margin, (2) benign supplier power and competition, (3)*

HMI has a non-GAAP operating margin of 13.7% in 2018, comparing to Xiaomi's 5.0%, on hardware alone. Xiaomi's hardware operating margin was negative by our estimate in 2018.

HMI faces far benign supplier powers than Xiaomi, in our view. HMI uses a local SOC while Xiaomi must use the latest Qualcomm Snapdragon. Xiaomi is constantly under the microscope for multiple dimension of the product by analysts, critics and public, while wearables products are sufficiently differentiated that they are almost incomparable.

HMI is also asset light. Capital expenditure is ~1% of revenues with most of the productions outsourced to two domestics ODM's, one of which is Shenzhen-listed Zowee Technologies (002369 CH, NR).

We acknowledge HMI can enjoy these benefits partially thanks to Xiaomi's platform support. But we also believe such support will not change anytime soon because:

- Xiaomi is aiming at the broader IOT market, particularly in areas that use cloud to connect various IOT devices and AI to drive value from them. As IOT is still at the early stage, we do not expect Xiaomi to harvest profitability at such early stage;
- Xiaomi adopts an ecosystem model which requires polices to be evenly applied to all. Selectively applying policies will destroy trust of the Xiaomi ecosystem;
- HMI contributes a sizable portion of Xiaomi's user base.

## Exhibit 22. Comp Table

| | Ticker | Price | Mkt Cap | PE | | | PEG | PS | | EV/EBITDA | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (Local) | (US$mn) | 2019E | 2020E | 2021E | 2019E | 2019E | 2020E | 2019E | 2020E |
| **Huami Corp** | **HMI US Equity** | **13.9** | **836** | **12.4** | **10.9** | **8.5** | **0.9** | **1.1** | **1.0** | **8.1** | **7.1** |
| China hardware | | | | | | | | | | | |
| Lenovo Group Ltd | 992 HK Equity | 7 | 10,700 | 18.7 | 14.4 | 12.4 | 0.8 | 0.2 | 0.2 | 7.1 | 6.3 |
| ZTE Corp | 763 HK Equity | 24 | 17,532 | 19.8 | 16.8 | 15.3 | 1.4 | 1.1 | 0.9 | 10.8 | 10.6 |
| Xiaomi Corp | 1810 HK Equity | 12 | 36,337 | 22.6 | 16.5 | 12.4 | 0.6 | 1.1 | 0.9 | 14.9 | 10.9 |
| TCL Corp | 000100 CH Equity | 4 | 8,235 | 11.4 | 10.3 | NM | 1.0 | 0.5 | 0.4 | 9.8 | NM |
| **Sector** | | | **72,804** | **20.1** | **15.5** | **11.7** | **0.9** | **0.9** | **0.7** | **12.2** | **8.9** |
| **Global hardware** | | | | | | | | | | | |
| Apple Inc | AAPL US Equity | 195 | 921,130 | 17.3 | 16.4 | 15.5 | 3.0 | 3.6 | 3.5 | 10.6 | 10.1 |
| Samsung Electronics Co Ltd | 005930 KS Equity | 46,800 | 245,852 | 11.0 | 8.7 | 7.5 | 0.2 | 1.2 | 1.2 | 3.4 | 2.9 |
| Fossil Group Inc | FOSL US Equity | 14 | 705 | 17.8 | 21.6 | 12.1 | 0.4 | 0.3 | 0.3 | 4.1 | 4.3 |
| Garmin Ltd | GEY GR Equity | 79 | 16,667 | 21.0 | 19.8 | 18.1 | 3.6 | 4.2 | 4.0 | 15.2 | 14.5 |
| Fitbit Inc | FIT US Equity | 6 | 1,511 | NM | NM | NM | NM | 1.0 | 0.9 | NM | 46.3 |
| HTC Corp | 2498 TT Equity | 40 | 1,074 | NM | NM | NM | NM | 1.7 | 0.9 | NM | NM |
| **Sector** | | | **1,186,939** | **16.0** | **14.8** | **13.8** | **2.4** | **3.1** | **3.0** | **9.1** | **8.7** |
| **Asian accessories** | | | | | | | | | | | |
| GoerTek Inc | 002241 CH Equity | 11 | 5,100 | 23.5 | 19.9 | 22.5 | 10.4 | 1.2 | 1.1 | 11.9 | 10.1 |
| AAC Technologies Holdings Inc | 2018 HK Equity | 50 | 7,724 | 15.2 | 13.1 | 13.0 | 1.8 | 2.9 | 2.7 | 14.9 | 12.8 |
| Sunny Optical Technology Group Co Ltd | 2382 HK Equity | 99 | 13,877 | 25.3 | 19.7 | 17.3 | 1.2 | 2.7 | 2.2 | 16.8 | 13.1 |
| BYD Electronic International Co Ltd | 285 HK Equity | 10 | 2,997 | 8.2 | 7.4 | 7.1 | 1.0 | 0.5 | 0.4 | 19.4 | 17.7 |
| **Sector** | | | **29,699** | **20.6** | **16.8** | **16.0** | **2.9** | **2.3** | **2.0** | **15.7** | **13.0** |

Source: Huami, Blue Lotus (as of April 3, 2019)

## Exhibit 23. Huami DCF

| Year to Dec (RMB mn) | 2019E | 2020E | 2021E | 2022E | 2023E | 2024E | 2025E | 2026E | 2027E | 2028E | Terminal |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Group revenue | 4,647 | 5,335 | 6,158 | 7,581 | 9,475 | 11,123 | 12,456 | 13,682 | 14,837 | 15,389 | 15,389 |
| EBIT | 555 | 644 | 801 | 1,036 | 1,352 | 1,556 | 1,704 | 1,830 | 1,976 | 2,069 | 2,069 |
| NOPAT | 555 | 645 | 802 | 1,038 | 1,354 | 1,559 | 1,708 | 1,835 | 1,981 | 2,074 | 2,074 |
| Capex, net and acquisitions | (49) | (56) | (65) | (80) | (100) | (117) | (131) | (144) | (156) | (162) | (162) |
| Depreciation & amortization | 14 | 21 | 29 | 45 | 59 | 77 | 96 | 118 | 142 | 167 | 167 |
| Change in working capital | (68) | 5 | 74 | 140 | 113 | 28 | (23) | (14) | 6 | 53 | 53 |
| Change in provisions | - | - | - | - | - | - | - | - | - | - | - |
| Free operating CF (FoCF) | 452 | 615 | 841 | 1,144 | 1,427 | 1,546 | 1,651 | 1,795 | 1,973 | 2,133 | 2,133 |
| Leverages | | **Current** | **Target** | | | | | | | | |
| Interest-bearing liabilities as a % of EV | | 0.2% | 0% | | | | | | | | |
| WACC | | 16.97% | 17.00% | | | | | | | | |
| NPV of FoCF | | 9,108 | 9,085 | | | | | | | | |
| + Net cash (debt), current | | 2,364 | | | | | | | | | |
| - Pension prov. (Book value) | | | | | | | | | | | |
| - Minorities (Market value) | | | | | Risk-free rate | | 3.5% | | | | |
| +/- Other items | | | | | Cost of debt (pre-tax) | | 8.5% | | | | |
| = Equity value | | 11,472 | 9,085 | | Terminal growth | | 4.00% | | | | |
| / Number of shares | | 62 | | | RMB= | 0.149 | USD | | | | |
| = NPV per share (US$) | | 27.59 | 21.85 | | | | | | | | |

Source: Huami, Blue Lotus (as of April 3, 2019)

# Annual Income Statement

## Fiscal year ends-31-Dec

**Exhibit 24. Annual income statement (Report Currency:RMB)**

| (RMB mn) | 2017A | 2018A | 2019E | 2020E | 2021E | 2022E | 2023E | 2024E |
|---|---|---|---|---|---|---|---|---|
| Revenues | 2,049 | 3,645 | 4,647 | 5,335 | 6,158 | 7,581 | 9,475 | 11,123 |
| YoY | 31.6% | 77.9% | 27.5% | 14.8% | 15.4% | 23.1% | 25.0% | 17.4% |
| Gross profit | 495 | 939 | 1,130 | 1,293 | 1,517 | 1,895 | 2,397 | 2,811 |
| Gross margin | 24.1% | 25.8% | 24.3% | 24.2% | 24.6% | 25.0% | 25.3% | 25.3% |
| Operating expenses(including SBC) | (313) | (574) | (645) | (729) | (809) | (973) | (1,187) | (1,477) |
| Selling and marketing expenses | (44) | (97) | (116) | (130) | (147) | (177) | (217) | (366) |
| General and administrative expenses | (115) | (214) | (201) | (226) | (246) | (303) | (379) | (445) |
| Research and development expenses | (154) | (263) | (329) | (373) | (415) | (492) | (591) | (667) |
| Operating income/(loss)-GAAP | 182 | 365 | 485 | 564 | 708 | 922 | 1,209 | 1,333 |
| Operating margin, GAAP | 8.9% | 10.0% | 10.4% | 10.6% | 11.5% | 12.2% | 12.8% | 12.0% |
| Operating income/(loss)-Non GAAP | 245 | 500 | 555 | 644 | 801 | 1,036 | 1,352 | 1,500 |
| Operating margin, non-GAAP | 11.9% | 13.7% | 11.9% | 12.1% | 13.0% | 13.7% | 14.3% | 13.5% |
| Interest income | 3 | 12 | 13 | 26 | 35 | 45 | 57 | 69 |
| Other income | 5 | 1 | -26 | -26 | -26 | -26 | -26 | -26 |
| Income/(loss) before income tax | 192 | 378 | 471 | 552 | 717 | 942 | 1,241 | 1,377 |
| Income ta benefit/(expense) | (28) | (52) | (71) | (83) | (108) | (188) | (248) | (275) |
| Income/(loss) before loss from equity method investments | 164 | 334 | 401 | 469 | 609 | 753 | 992 | 1,101 |
| Income/(loss) from equity method investments | 2.81 | 1.74 | 1.74 | 1.74 | 0.00 | 0.00 | 0.00 | 0.00 |
| Net income/(loss)-GAAP | 167 | 336 | 402 | 471 | 609 | 753 | 992 | 1,101 |
| Net income/(loss)-Non GAAP | 230 | 470 | 472 | 551 | 702 | 867 | 1,135 | 1,268 |

Source: Huami, Blue lotus (as of April 3, 2019)

# Annual Balance Sheet

## Fiscal year ends-31-Dec

**Exhibit 25. Annual Balance Sheet (Report Currency: RMB)**

| (RMB mn) | 2017A | 2018A | 2019E | 2020E | 2021E | 2022E | 2023E | 2024E |
|---|---|---|---|---|---|---|---|---|
| Cash and cash equivalents and restricted cash | 370 | 1,548 | 2,386 | 3,289 | 4,397 | 5,706 | 7,206 | 8,724 |
| Accounts receivable | 33 | 59 | 97 | 131 | 166 | 217 | 293 | 382 |
| Amounts due from related parties | 578 | 656 | 830 | 884 | 872 | 872 | 930 | 984 |
| Inventories | 250 | 485 | 630 | 724 | 831 | 1,018 | 1,268 | 1,489 |
| Prepaid expenses and other current assets | 51 | 58 | 122 | 129 | 136 | 151 | 168 | 182 |
| Total current assets | 1,295 | 2,857 | 4,097 | 5,198 | 6,454 | 8,029 | 9,945 | 11,859 |
| Property, plant and equipments, net | 29 | 40 | 94 | 129 | 164 | 198 | 238 | 278 |
| Long-term investments | 85 | 209 | 152 | 188 | 226 | 274 | 337 | 406 |
| Deferred tax assets | 42 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| Total non-current assets | 170 | 401 | 339 | 410 | 483 | 566 | 669 | 778 |
| Total assets | 1,465 | 3,258 | 4,437 | 5,608 | 6,938 | 8,595 | 10,614 | 12,637 |
| Accounts payable | 708 | 1,064 | 1,335 | 1,479 | 1,634 | 1,925 | 2,299 | 2,586 |
| Accrued expenses and other current liabilities | 94 | 214 | 278 | 320 | 367 | 450 | 560 | 657 |
| Income tax payables | 22 | 54 | 69 | 79 | 91 | 112 | 140 | 165 |
| Total liabilities | 888 | 1,449 | 1,810 | 2,013 | 2,236 | 2,643 | 3,173 | 3,598 |
| Ordinary shares | 0.06 | 1.51 | 1.56 | 1.61 | 1.66 | 1.71 | 1.76 | 1.81 |
| Additional paid-in capital | 72 | 1,209 | 1,709 | 2,209 | 2,709 | 3,209 | 3,709 | 4,209 |
| Accumulated(deficit)/retained earnings | 131 | 505 | 907 | 1,378 | 1,988 | 2,741 | 3,733 | 4,834 |
| Total Huami Corporation shareholders' equity | 226 | 1,812 | 2,715 | 3,686 | 4,795 | 6,049 | 7,541 | 9,142 |
| Noncontrolling interest | 2.39 | (1.34) | 75.67 | 72.67 | 69.67 | 66.67 | 63.67 | 60.67 |
| Total equity | 228 | 1,811 | 2,790 | 3,759 | 4,865 | 6,115 | 7,605 | 9,203 |
| Total liabilities, mezzanine equity and equity | 1,466 | 3,260 | 4,436 | 5,608 | 6,937 | 8,595 | 10,614 | 12,637 |

Source: Huami, Blue lotus (as of April 3, 2019)

# Annual Cash Flow Statement

## Fiscal year ends-31-Dec

**Exhibit 26. Annual Cash Flow Statement (Report Currency: RMB)**

| (RMB mn) | 2017A | 2018A | 2019E | 2020E | 2021E | 2022E | 2023E | 2024E |
|---|---|---|---|---|---|---|---|---|
| Net(loss)/income | 167 | 336 | 402 | 471 | 609 | 753 | 992 | 1,101 |
| Adjustment to reconcile net income to net cash provided by operating activities: | | | | | | | | |
| Depreciation of property, plant and equipment | 4 | 8 | 14 | 21 | 29 | 45 | 59 | 76 |
| Change in operating assets and liabilities | 26 | 222 | (68) | 5 | 74 | 140 | 113 | 28 |
| Accounts receivable | (13) | (26) | (38) | (33) | (36) | (51) | (76) | (89) |
| Inventories | (58) | (238) | (151) | (102) | (117) | (198) | (262) | (237) |
| Amount due from related parties | (110) | (78) | (173) | (54) | 12 | (1) | (58) | (53) |
| Accounts payable | 182 | 356 | 271 | 144 | 156 | 290 | 374 | 287 |
| Accrued expenses and other current liabilities | 46 | 120 | 64 | 42 | 47 | 83 | 110 | 98 |
| Net cash provided by operating activities | 238 | 569 | 354 | 505 | 722 | 949 | 1,178 | 1,222 |
| Purchase of short-term investment | (7) | (12) | (15) | (17) | (20) | (24) | (30) | (35) |
| Purchase of long-term investment | (24) | (55) | (70) | (81) | (93) | (115) | (144) | (169) |
| Net cash used in investing activities | (39) | (81) | (95) | (102) | (113) | (140) | (178) | (203) |
| Proceeds from issurance of ordinary shares | 0 | 1,138 | 500 | 500 | 500 | 500 | 500 | 500 |
| Proceeds received from issuance of Series A preferred shares | 0 | (27) | 0 | 0 | 0 | 0 | 0 | 0 |
| Proceeds received from issuance of Series B-2 preferred shares | 0 | (296) | 0 | 0 | 0 | 0 | 0 | 0 |
| Proceeds received from issuance of Series B-1 preferred shares | 0 | (27) | 0 | 0 | 0 | 0 | 0 | 0 |
| Net cash provided by financing activities | 20 | 774 | 579 | 499 | 499 | 500 | 500 | 500 |
| Net increase(decrease) in cash and cash equivalents and restricted cash | 220 | 1,262 | 839 | 902 | 1,109 | 1,308 | 1,500 | 1,519 |
| Cash and cash equivalents and restricted cash at beginning of year | 153 | 370 | 1,548 | 2,386 | 3,289 | 4,397 | 5,706 | 7,206 |
| Cash and cash equivalents and restricted cash at end of the year | 370 | 1,632 | 2,386 | 3,289 | 4,397 | 5,706 | 7,206 | 8,724 |

Source: Huami, Blue lotus (as of April 3, 2019)

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**Equity rating allocation as of 4 April , 2019**

| | | | | | |
|---|---|---|---|---|---|
| Buy | 51% | Hold | 37% | Sell | 12% |

**Blue Lotus rating system:**

Buy : The stock is expected to have an absolute return of more than 15-20% within 12 months

Hold: The stock is expected to have an absolute return of between 0-15% within 12 months

Sell: The stock is expected to have negative absolute return within 12 months

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