



Equity Research · Company

Opening up new fronts

A leading provider of smart operating system solutions. While mobile chips are headline-grabbing, mobile operating systems play an equally critical part in the mobile Internet industry chain. Thundersoft, a leading provider of smart operating system solutions, enjoys a clear advantage in terms of operating revenues and gross margins compared with its A-share competitors. Moreover, it counts global chip giants Qualcomm and Spreadtrum as its shareholders. The two currently contribute to more than 20% of Thundersoft's total operating revenue.

Sustainable growth on transformation. To preempt a revenue plateau, Thundersoft launched the Strategic 2.0 initiative in 2012, featuring stand-alone software products and standardized modules and starting to charge customers based on volume instead of projects to unlock smart hardware growth potential and improve gross margins. Smart hardware was responsible for RMB128mn of Thundersoft's operating revenue in 2016, a massive YoY growth of 373.85%.

Acquiring into the in-vehicle system industry. Thundersoft bought out APPSYS and Huichi Technology in Apr. 2016 for RMB102.6mn in cash—both are experts in pre-installed IVI systems, and pushed deeper into the in-vehicle system market by taking over Rightware, a world famous producer of in-vehicle digital instrument clusters. Thundersoft's in-vehicle system business brought in an operating revenue of RMB46.2031mn in 2016, up 68.88% YoY.

Profitability forecast. We estimate Thundersoft will notch up an operating revenue of RMB1.07bn/1.316bn for FY17/18, corresponding to a net profit of RMB138mn/175mn and EPS of RMB0.35/0.43. Recommend an Outperform rating.

Risk factor. Smart hardware partners' shipments may fall short of expectations.

Table 1: Profitability forecast

| | 2016 | 2017E | 2018E | 2019E |
|------------|--------|---------|---------|---------|
| 营业收入 (百万) | 847.90 | 1071.55 | 1315.62 | 1639.29 |
| 增长率 | 37.77% | 26.38% | 22.78% | 24.60% |
| 归母净利润 (百万) | 120.28 | 139.06 | 175.13 | 210.98 |
| 增长率 | 3.15% | 15.61% | 25.94% | 20.47% |
| EPS (元) | 0.30 | 0.35 | 0.43 | 0.52 |
| 销售毛利率 | 46.42% | 47.66% | 48.43% | 48.15% |

Source: Wind; Research Dept, CSC

Thunder Software Technology (300496)

Initiation

Buy

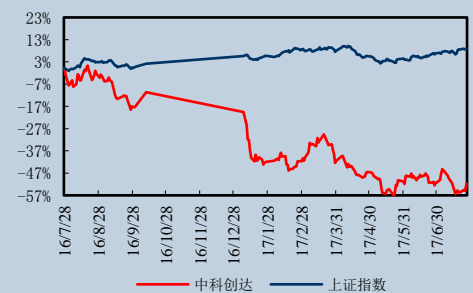
Issuing analyst:

Steven, CFA, PhD, (CE No.: AMO971)

stevenliu@csci.hk +852 3465 5652

Date: 23 October 2017

Share prices performance





Contents

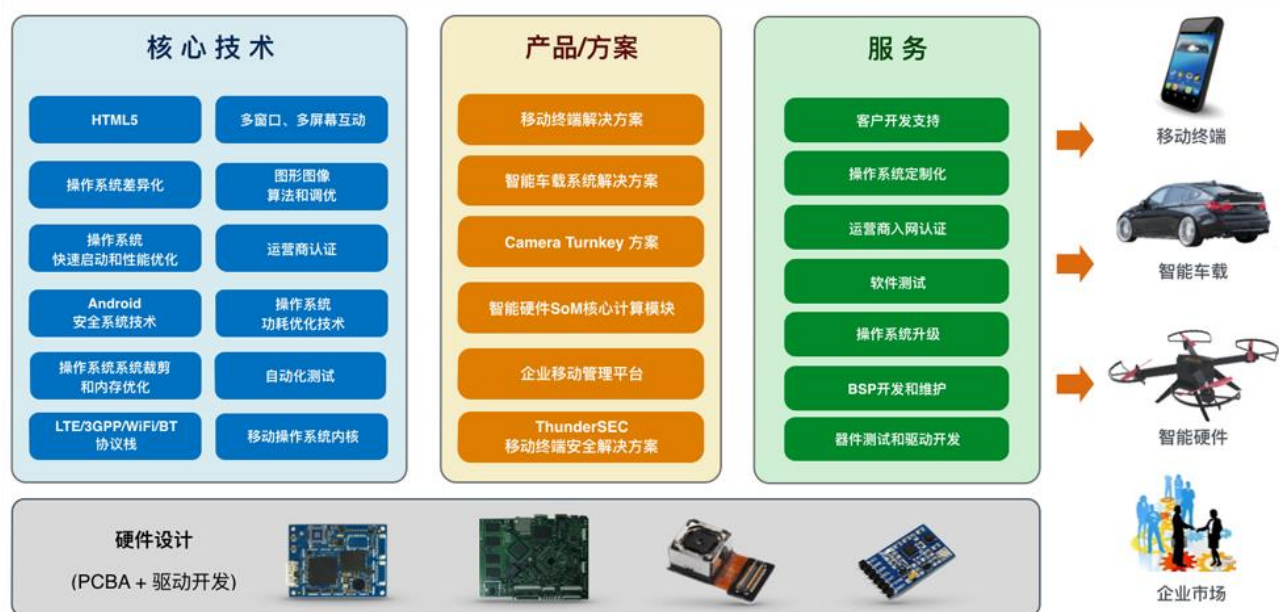
| | |
|---|----|
| 1. A provider of smart operating system solutions..... | 3 |
| 1.1 Operating system optimization and design as the core business..... | 3 |
| 1.2 Significant presence in the smart device industry chain..... | 3 |
| 1.3 Business transformation secures long-term growth..... | 4 |
| 2. Smart phone operating system business growth still intact..... | 6 |
| 2.1 Strong cash flow from software development..... | 6 |
| 2.2 A key player in the mobile Internet industry..... | 7 |
| 2.2.1 Mobile operating systems a core part of the mobile Internet industry chain..... | 7 |
| 2.2.2 In-depth cooperation with chip giants..... | 7 |
| 2.2.3 Prominent customer base..... | 8 |
| 2.3 Smart phone market conditions..... | 9 |
| 3. Acquiring into the in-vehicle system industry..... | 10 |
| 3.1 Entering the in-vehicle infotainment (IVI) field..... | 10 |
| 3.2 Pushing deeper into the in-vehicle system market..... | 11 |
| 3.2.1 RightWare, a leader in HMI software and connectivity technologies..... | 11 |
| 3.2.2 Rightware to enjoy explosive revenue growth on robust digital instrument cluster demands..... | 12 |
| 3.2.3 Synergistic benefits..... | 13 |
| 4. Embracing drone, VR and smart hardware opportunities..... | 13 |
| 4.1 TurboX platform targeting smart hardware market..... | 14 |
| 4.2 Drone modules counting leading drone start-ups as customers..... | 14 |
| 4.3 VR offerings well received in the market..... | 16 |
| 5. Profitability forecast..... | 17 |
| Risk factor..... | 17 |

1. A provider of smart operating system solutions

1.1 Operating system optimization and design as the core business

Thunder Software Technology Co., Ltd. (“Thundersoft”) boasts to be a world leading provider of smart operating system and platform technology solutions, mainly serving such markets as mobile devices, IoT, automobile (in-vehicle systems), smart hardware (UAV, VR, robots and smart cameras) and enterprise.

Figure 1: Thundersoft’s business activities



Source: Thundersoft’s prospectus; Research Dept, CSCI

1.2 Significant presence in the smart device industry chain

Thundersoft has established long-term partnerships with mobile chip vendors such as Qualcomm and Spreadtrum and mobile device providers like Sony and Sharp, increasing its presence in the smart device industry chain by providing technical services for devices, components, apps and Internet players. Following its floatation in 2015, Thundersoft embarked on its Strategic 2.0 initiative by completing three M&A deals within one and a half years.



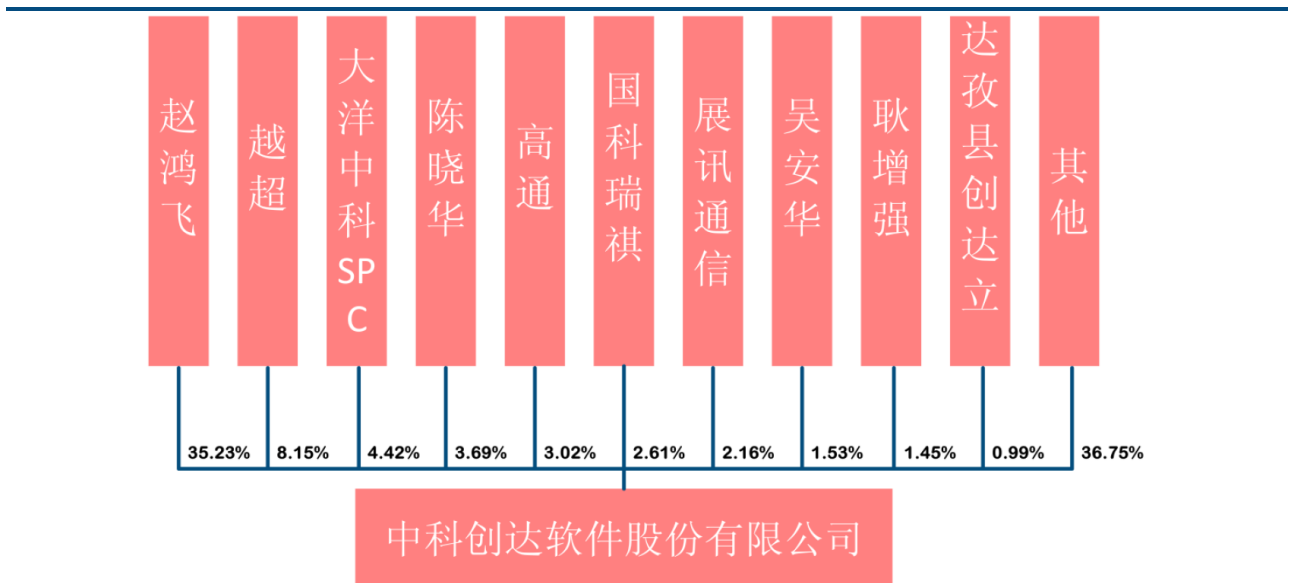
Figure 2: Thundersoft's history



Source: Thundersoft's prospectus and announcements; Research Dept, CSCI

As of Jun. 29, 2017, Thundersoft's total share capital came in at around 400mn shares, with its de facto controller Zhao Hongfei holding a stake of 35.23%. Upstream/Downstream partners Qualcomm, Spreadtrum, and Guoke Ruiqi, an IoT investor are among Thundersoft's ten largest shareholders.

Figure 3: Thundersoft's shareholding structure

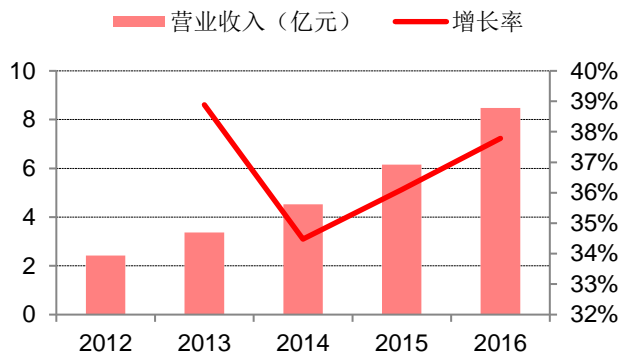


Source: Wind; Research Dept, CSCI

1.3 Business transformation secures long-term growth

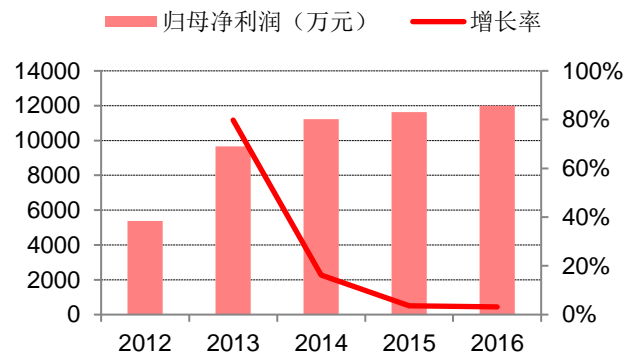
Thundersoft posted RMB848mn in operating revenue in 2016, up 37.8% YoY, with net profit attributable to the parent company after deducting non-recurring items standing at RMB120mn, up 3.15% YoY. The company has launched a Strategic 2.0 initiative to tap into the rising UAV, VR and in-vehicle system segments, leading to a surge in R&D spending, which, coupled with an ESOP, have driven up its costs and expenditures and caused its net profit growth to be outpaced by operating revenue growth.

Figure 4: Thundersoft's operating revenue 2012-2016



Source: Wind; Research Dept, CSCI

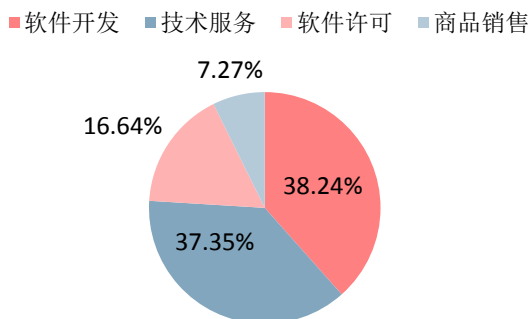
Figure 5: Thundersoft's net profit attributable to the parent company 2012-2016



Source: Wind; Research Dept, CSCI

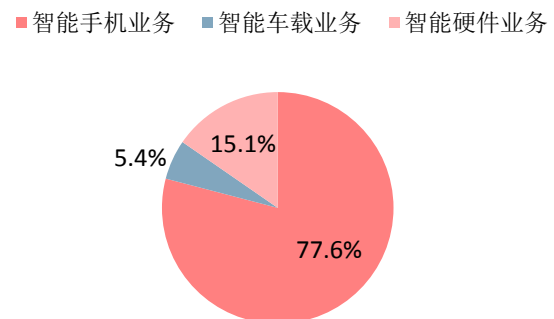
In 2016, software development, technical services, software licensing and commodity sales respectively accounted for 38.24%, 37.35%, 16.64% and 7.27% of Thundersoft's operating revenue, with smart phones, in-vehicle systems and smart hardware segments respectively taking a share of 77.6%, 5.4% and 15.1%. The percentage of revenue contribution from non-phone businesses jumped to 20% from 9% in 2015, and is expected to keep growing down the line.

Figure 6: Respective business activity as a percentage of Thundersoft's operating revenue



Source: Wind; Research Dept, CSCI

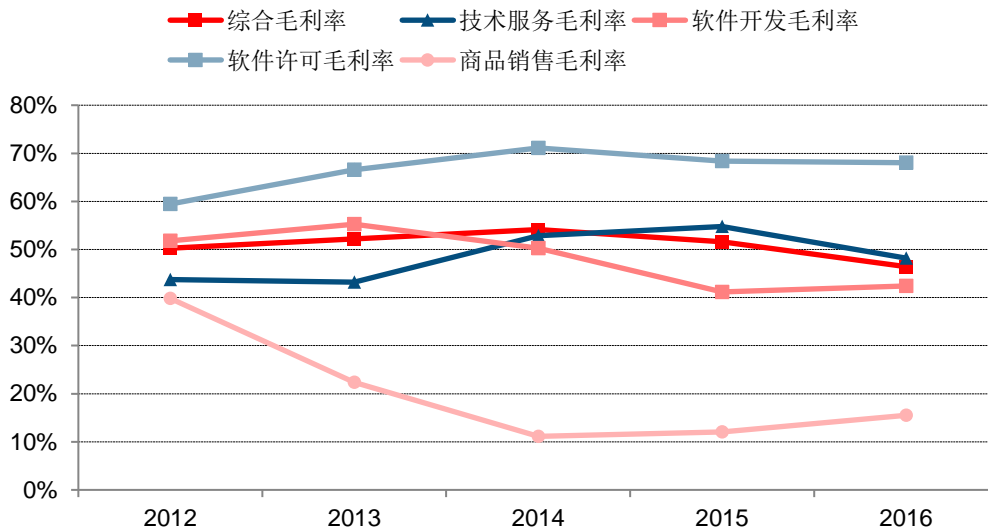
Figure 7: Respective industries' contributions to Thundersoft's operating revenue



Source: 2016 Annual Report; Research Dept, CSCI

Gross margin has remained high for Thundersoft in recent years, standing at 46.42% in 2016 and above 50% for its technical services. Gross margins for software development and commodity sales have been trending lower, while software licensing with decreasing marginal costs is expected to see a gross margin uptick in the future.

Figure 8: Thundersoft's gross margin performance by business activity



Source: Wind; Research Dept, CSCI

2. Smart phone operating system business growth still intact

2.1 Strong cash flow from software development

Thundersoft provides operating system development, upgrade and consolidation services to mobile chips, smart devices, components, apps and Internet players and charge them software development fees. The software development division generates strong cash flow, laying solid groundwork for its Strategic 2.0 upgrade.

Table 2: Thundersoft's software solutions

| 业务名称 | 产品类型 | 客户名称 | 技术业务 |
|-----------|-------------|----------------------------|---|
| 系统差异化 | 特殊结构手机 | YotaPhone、Fairphone | 针对双屏、翻盖全键盘以及模块化手机做定制开发，满足其特殊使用场景的使用需求。 |
| | 行业专网手机 | 基于 iDEN 专网和基于 GSM-R 铁路专网手机 | 通过外置专网 Modem 的双卡双通方案，针对行业手机提供功能定制及系统优化 |
| 运营商认证 | 可穿戴产品 | 智能手表和智能激光腕投 | 针对穿戴类产品的特点，优化功耗并防止设备过热，提供手机与穿戴设备的信息交互方案，支持 UI 的应用开发 |
| | 定制化与认证服务 | 中国、日本、韩国、欧洲、北美运营商 | 对智能移动设备软件系统定制，帮助客户缩短开发周期和通过运营商认证流程，满足运营商需求 |
| 移动终端测试 | 全领域覆盖的测试 | 移动设备测试和自动化测试 | 移动设备测试面向智能手机、平板电脑等多种产品，向中国本土以及海外客户提供测试服务和测试方案；自动化测试方案具有低成本、低误差、可扩展、可复用的特性，提升测试的效率和产品的质量 |
| 系统升级 FOTA | 系统终端云端升级 | 智能手机、平板、车载设备等物联网终端 | 服务网络支持全球部署，帮助厂商制作全系统、应用、Firmware 甚至是驱动的升级包，为终端厂商提供了一种安全可靠、灵活易用的系统升级方案 |
| Camera 方案 | Camera 应用开发 | UCam APP | 提供从驱动、Framework、算法、图形图像系统优化到应用程序开发等一套完整、全面的 Camera 解决方案 |

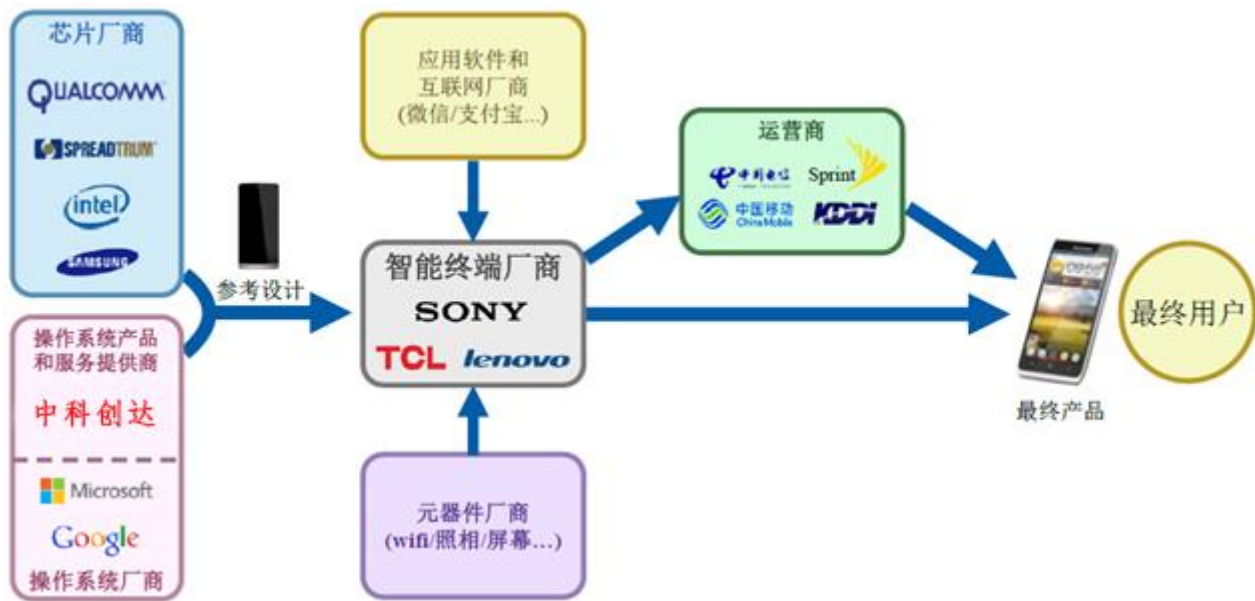
Source: official website; Research Dept, CSCI

2.2 A key player in the mobile Internet industry

2.2.1 Mobile operating systems a core part of the mobile Internet industry chain

While mobile chips are headline-grabbing, mobile operating systems play an equally critical part in the mobile Internet industry chain. Growing demands for operating system development and related technical services from various mobile Internet industry players present huge market opportunities for operating system developers like Thundersoft.

Figure 9: Thundersoft’s positioning in the mobile Internet industry chain



Source: Thundersoft’s prospectus; Research Dept, CSCI

2.2.2 In-depth cooperation with chip giants

Through the mobile phone testing labs jointly established with Qualcomm in Beijing, Shenzhen and Shanghai, Thundersoft has provided certification and testing services for 1,500 component types of 130 component makers. The two companies’ cooperation has also extended to the smart hardware field, creating core computing platforms to meet demands from across the smart device industry chain.

Thundersoft’s technical support services cover every product line for every version of all of Spreadtrum’s chip types and over 80% of its system modules. Thundersoft also assists Spreadtrum in providing FAE support for major carriers such as China Mobile and China Unicom.

Table 3: Thundersoft provides technical support for Qualcomm and Thundersoft

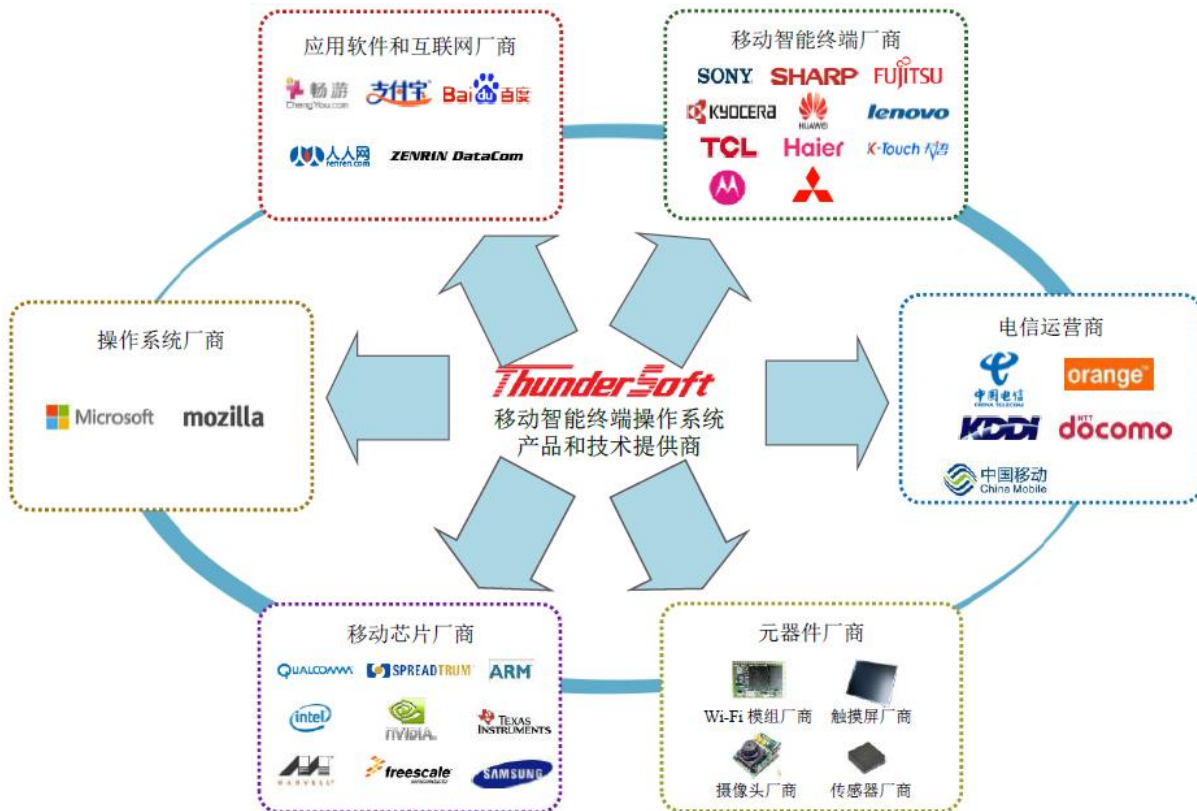
| 业务名称 | 合作对象 | 合作内容 | 技术业务 |
|--------|------|---------------------|--|
| 芯片厂商支持 | 高通 | 联合实验室 智能硬件 (IoE) | 在北京、深圳和上海建立的高规格手机测试实验室，共同为中国手机厂商提供技术支持，并对 IHV 元器件提供预测试和认证 在 IP Camera、无人机、机器人、VR 虚拟现实和智能车载等领域推出了芯片+核心板+操作系统软件的核心计算模块，并帮助厂商推出极具特色的产品 |
| | 展讯 | 芯片技术支持 | 深入展讯各个芯片的各个版本的每一条产品线，系统模块参与度在 80%以上，提供从上层定制化 APP 到底层平台 BSP，提供完整覆盖 Android 操作系统的技术服务。并且辅助展讯向其客户提供 FAE 支持，满足中国移动和中国联通及海外运营商的定制需求。 |

Source: official website; Research Dept, CSCI

2.2.3 Prominent customer base

Thundersoft has forged ties with prominent customers across the smart device industry chain, including mobile chip providers such as Qualcomm, Spreadtrum, Intel, ARM and Samsung, operating system providers such as Microsoft and Mozilla, smart device vendors like Sony, Sharp, Fujitsu, KYOCERA, Lenovo, TCL, Huawei, Mitsubishi and Motorola, component makers such as Toshiba, Aptina and Elmos, carriers like China Mobile, China Telecom and Orange S.A., and Internet players like Alipay and Baidu.

Figure 10: Thundersoft's business ecosystem

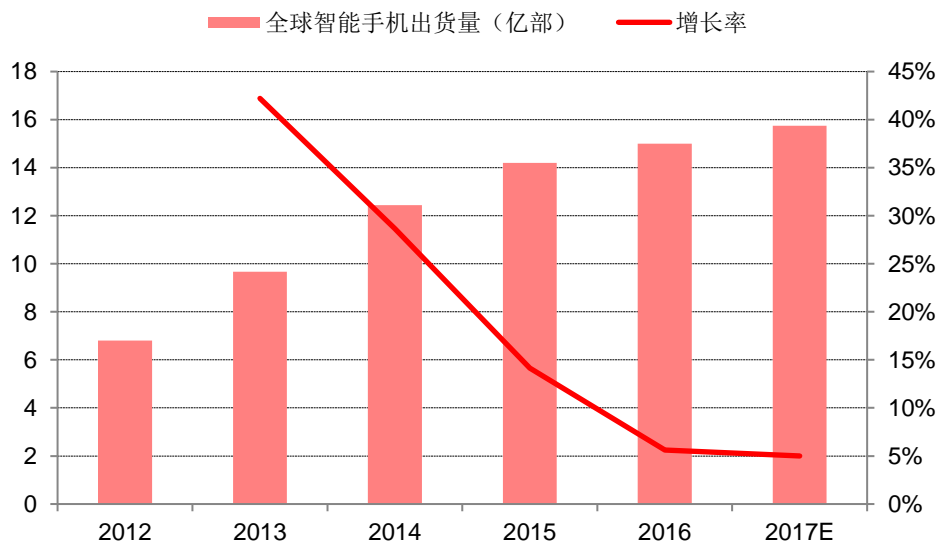


Source: Thundersoft's prospectus; Research Dept, CSCI

2.3 Smart phone market conditions

According to Gartner, roughly 1.5bn smart phones were shipped globally in 2016, up 5.6% YoY. Gartner projects a 5% growth rate for mobile phone shipments in 2017, suggesting that global mobile phone sales are heading towards the peak.

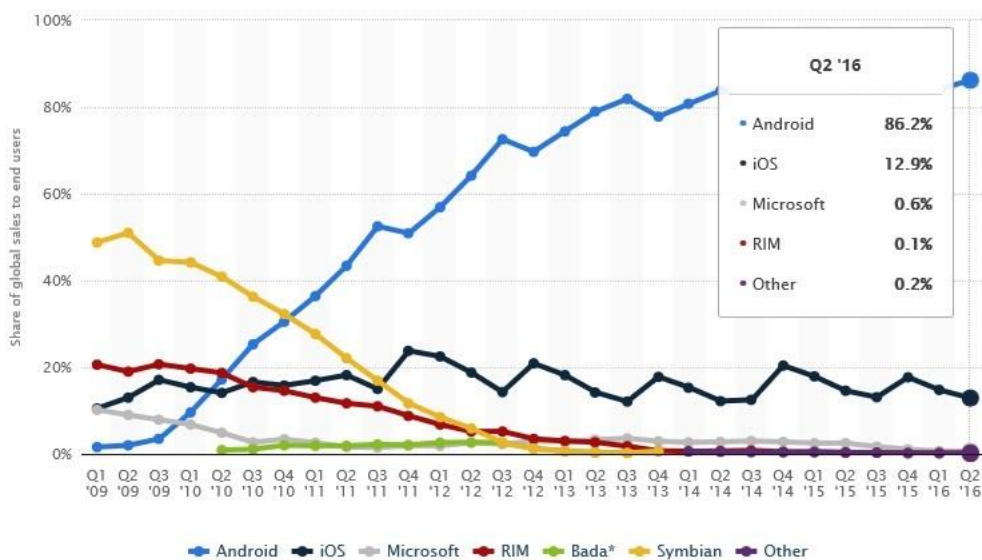
Figure 11: Global smart phone shipments



Source: Gartner; Research Dept, CSCJ

Android phones accounted for 86.2% of the global smart phone market in 2016, a steep rise from merely 1.6% in 2009.

Figure 12: Android phones a clear leader in the smart phone market



Source: Statista; Research Dept, CSCJ



Home-grown smart phone vendors such as Huawei, OPPO and Vivo are hastening to catch up with foreign competitors by adopting a differentiation strategy to quickly gain market shares.

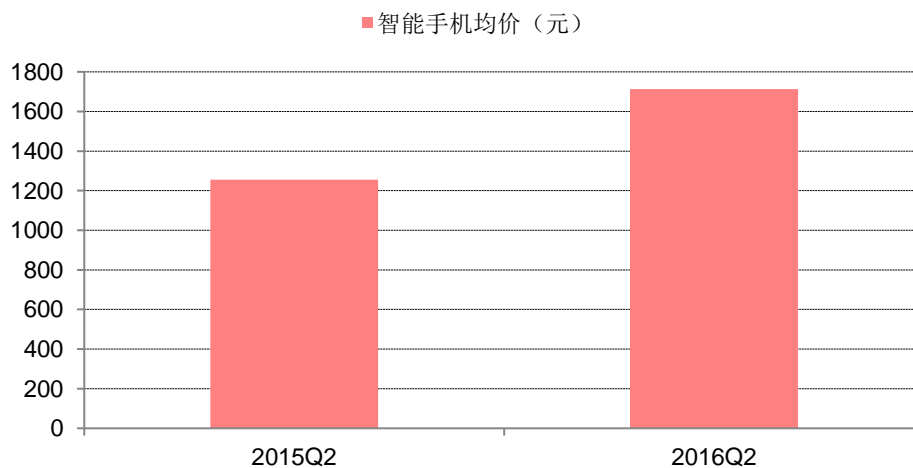
Table 4: Global smart phone shipments by brand, 2015-2016

| 品牌 | 2016 出货量 | 2016 市场占比 | 2015 出货量 | 2015 市场占比 |
|--------|----------|-----------|----------|-----------|
| 1.三星 | 311.4 | 21.2% | 320.9 | 22.3% |
| 2.苹果 | 215.4 | 14.6% | 231.5 | 16.1% |
| 3.华为 | 139.3 | 9.5% | 107.0 | 7.4% |
| 4.OPPO | 99.4 | 6.8% | 42.7 | 3.0% |
| 5.vivo | 77.3 | 5.3% | 38.0 | 2.6% |
| 其他 | 627.8 | 42.7% | 697.1 | 48.5% |
| 总体 | 1470.6 | 100.0% | 1437.2 | 100% |

Source: IDC; Research Dept, CSCI

Statistics shows that the average price of domestic cell phones was RMB1,713 in 2Q16, up 400 yuan YoY, suggesting domestic players are eying the high-end price range to adapt to higher requirements for mobile phone performance.

Figure 13: Smart phone prices on the up



Source: ibaogao.com; Research Dept, CSCI

3. Acquiring into the in-vehicle system industry

To preempt a revenue plateau, Thundersoft launched stand-alone software products and standardized modules in 2012, starting to charge customers based on volume instead of projects to unlock smart hardware growth potential and improve gross margins. Smart hardware products and IP are expected to contribute to more than 50% of the company's total revenue by 2018.

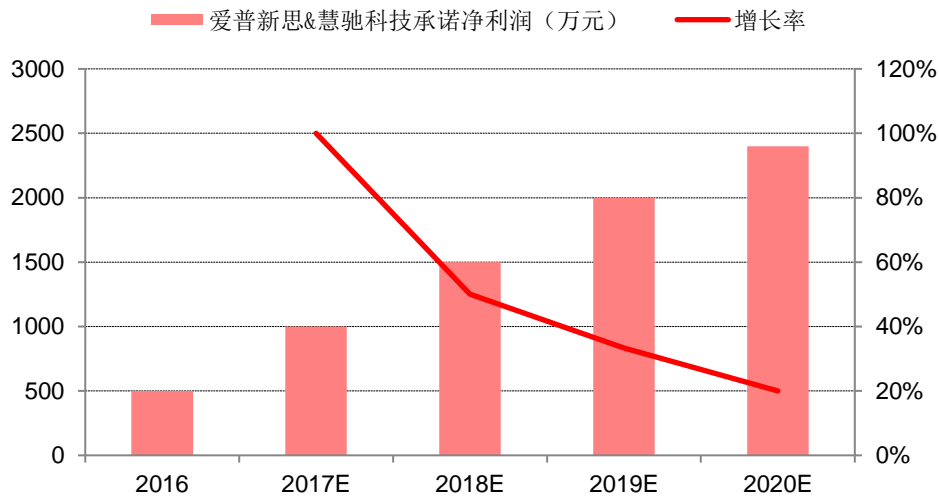
3.1 Entering the in-vehicle infotainment (IVI) field

Entering the in-vehicle system space in 2014, Thundersoft has grown into a frontrunner in supplying in-vehicle systems and software to leading auto suppliers in China and Japan. Its in-vehicle system business registered an operating revenue of RMB46.2031mn in 2016, up 68.88% YoY.

Thundersoft bought out APPSYS and Huichi Technology in Apr. 2016 for RMB102.6mn in cash—both are experts in pre-installed IVI systems.

APPSYS and Huichi Technology were included into Thundersoft’s 2016 balance sheet with same-year net profit contribution reaching RMB5mn. They have committed a net profit of RMB10mn/15mn/20mn/24mn for FY2017-2020.

Figure 14: APPSYS and Huichi Technology’s profit commitments



Source: Thundersoft’s acquisition plan; Research Dept, CSCI

3.2 Pushing deeper into the in-vehicle system market

On Feb. 28, 2017, Thundersoft sealed a EUR64mn deal to acquire 100% stake in Rightware, in a bid to push deeper into the in-vehicle system sector.

3.2.1 RightWare, a leader in HMI software and connectivity technologies

Rightware is a leading provider of HMI software and connectivity technologies that enable optimal user experience in connected cars. Its Kanzi product family is used by leading automotive manufacturers and Tier 1s for HMI development and powering digital instrument clusters, IVI systems, HUDs and more.

Table 5: RightWare’s products and services

| | |
|----------|--|
| 桌面设计工具软件 | Kanzi Studio (含可选插件: Auto-stereoscopic) |
| | Kanzi Engine (含可选插件: Data Sources (CANoe / Simulink / PPS)) |
| 嵌入式软件 | Kanzi Lite (含可选插件: Data Sources (CANoe / Simulink / PPS)) |
| | Kanzi Connect |
| | Kanzi Performance Analyzer |
| | Visual Design |
| 设计开发服务 | Engineering |
| | Customized Training |
| | Onsite Support |

Source: Draft for Acquiring Rightware; Research Dept, CSCI

Kanzi enables the rapid design and development of UIs for the automotive industry and other embedded applications. Kanzi UI design software provides designers with visual tools for creating high-fidelity branded UIs. With its agile workflow and modular architectures, Kanzi accelerates UI design by allowing designers and engineers to work independently and in parallel without disruptions.

Figure 15: An in-vehicle digital instrument cluster designed by using Kanzi Studio



Source: Wind; Research Dept, CSCI

Figure 16: An IVI interface designed by using Kanzi Studio

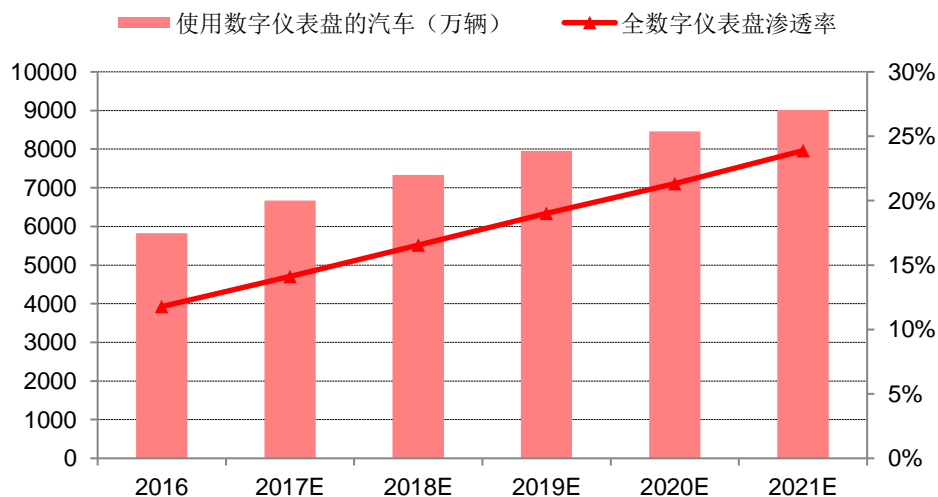


Source: Wind; Research Dept, CSCI

3.2.2 Rightware to enjoy explosive revenue growth on robust digital instrument cluster demands

According to IHS, global output of lightweight vehicles equipped with digital instrument clusters reached 58.283mn units in 2016, and is expected to expand to 90.173mn units by 2021 with a CAGR of around 10%. The growth for all-digital instrument clusters is a more pronounced 25.22%, with penetration leaping from 13.4% in 2016 to 31.3% in 2021.

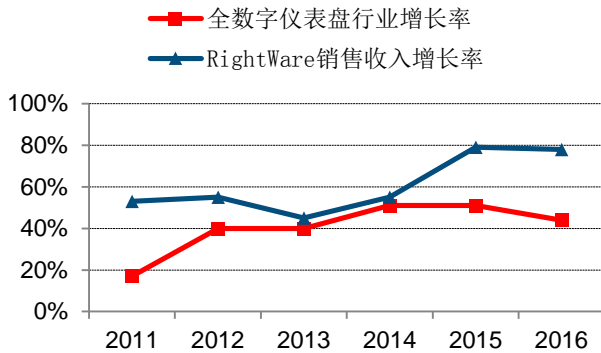
Figure 17: Penetration of digital (all-digital) instrument clusters



Source: IHS; Research Dept, CSCI

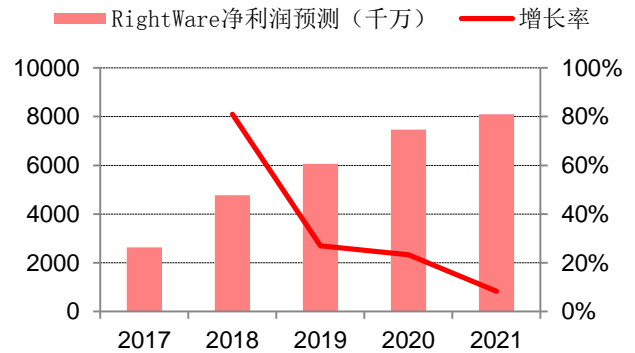
Currently there are around 20mn vehicles around the world using or about to adopt the Kanzi product. Rightware posted EUR3.92mn in operating revenue in 2015 with a four-year CAGR of 58%, far outpacing the industry average. Given an eight-year cycle from R&D to volume production for a generation of all-digital instrument clusters and based on orders in hand, the company is set to enjoy high-speed profit growth during the 2017-2018 period.

Figure 18: RightWare's revenue growth far outpacing the industry average



Source: Draft for Acquiring Rightware; Research Dept, CSCI

Figure 19: Net profit forecast – RightWare

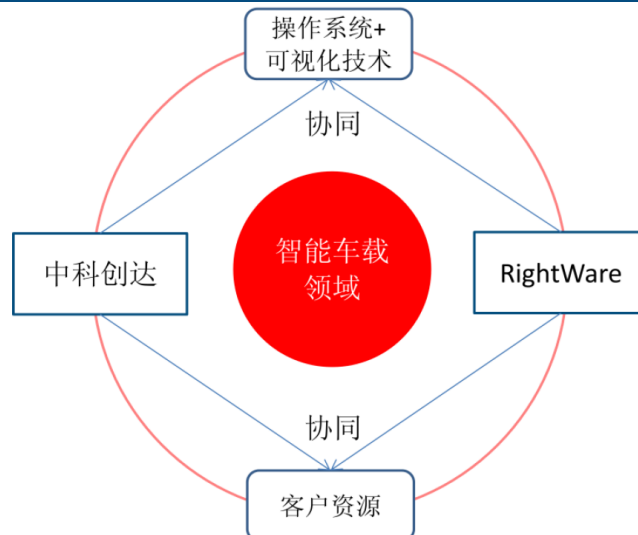


Source: Draft for Acquiring Rightware; Research Dept, CSCI

3.2.3 Synergistic benefits

Through the tie-up, Thundersoft can bank on Rightware to expand its customer base in the auto and tier-1 components sectors and better navigate in-vehicle business opportunities around the world (not least the Asia-Pacific region) by extending its business reach further towards in-vehicle digital instrument clusters, which play a key role in the in-vehicle system industry, while inspiring Rightware with tech know-how in smart operating systems to further innovate its Kanzi products.

Figure 20: Synergistic benefits for Thundersoft and RightWare



Source: Draft for Acquiring Rightware; Research Dept, CSCI

4. Embracing drone, VR and smart hardware opportunities

Embracing the burgeoning smart hardware market, Thundersoft has set up a JV called ThunderComm with Qualcomm to combine forces in chips and smart operating systems, and is working with ARM to build up an innovation ecosystem accelerator, which the two companies describe as a one-stop shop for IoT startups and established OEMs.

4.1 TurboX platform targeting smart hardware market

Thundersoft launched its TurboX platform in Nov. 2016, providing smart hardware providers and innovators with development board and community services as well as solutions integrating core computing modules, operating systems, algorithms and SDK to drive fasten design and shorten TTM of smart IoT devices.

Figure 21: The TurboX platform



Source: official website; Research Dept, CSCI

The smart hardware business brought in RMB128mn for Thundersoft in 2016, a massive YoY growth of 373.85%, accounting for 15% of Thundersoft's same-year operating revenue, a percentage expected to rise in the future.

4.2 Drone modules counting leading drone start-ups as customers

Thundersoft's drone modules have hit the mass market, counting top-ten drone start-ups such as Zero Zero Robotics and ZEROTECH as its customers. Zero Zero Robotics rolled out its proprietary Hover Camera on Apr. 13, 2017, powered by Thundersoft's TurboX platform.

Figure 22: Zero Zero Robotics's Hover Camera



Source: the Internet; Research Dept, CSCI

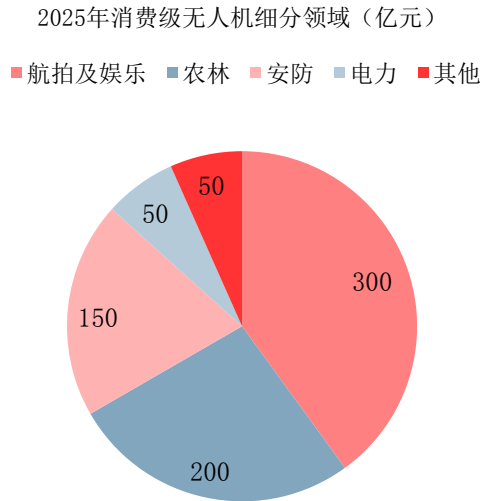
Figure 23: ZEROTECH's mini smart drone DOBBY



Source: the Internet; Research Dept, CSCI

Drones are rapidly growing in popularity, breaking through traditional barriers from military uses and turning civilian by being applied in such areas as farming, land survey, security and civil aerial photography.

Figure 24: Drones for respective civilian use as a share of the civilian drone market



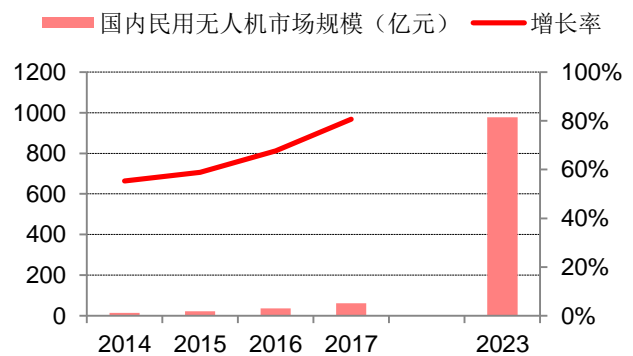
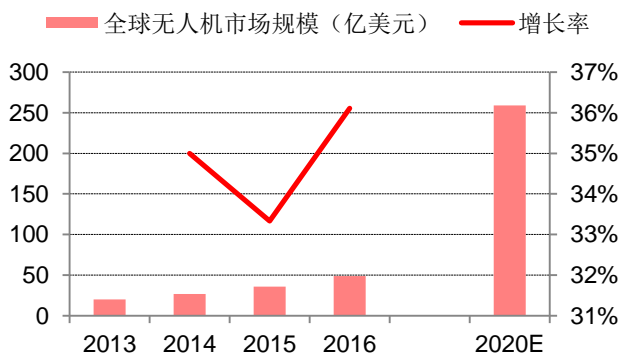
Source: iResearch; Research Dept, CSCI

According to EVTank, the global drone market was worth around USD3.6bn in 2015, up 33% YoY, and is expected to swell to USD25.9bn by 2020 with a CAGR of 42%.

Civilian drone sales in China amounted to RMB2.33bn in 2015, up 55.3% YoY, and is expected to hit the level of 3.9mn units or RMB60bn by 2019, and RMB97.69bn by 2023, growing at a CAGR of 58%.

Figure 25: Global drone market size (hundred million dollars)

Figure 26: Domestic civilian drone market size (hundred million yuan)



Source: EVTank; Research Dept, CSCI

Source: IDC; Research Dept, CSCI

4.3 VR offerings well received in the market

Thundersoft has introduced its stand-alone VR head-mounted display (HMD) platform, the TurboX VR DK1, which is based on the Qualcomm Snapdragon 835 mobile platform. Thundercomm has also developed the Snapdragon-supported TurboX Smart Core Platform, an open platform designed to meet the high technology standards and quality delivery requirements of the VR field, accelerate the development of VR products, and enable quicker commercialization for OEMs, thus winning the favor of many VR companies.

Figure 27: Whaley X1 VR



Source: the Internet; Research Dept, CSCI

Figure 28: HiAR Glasses

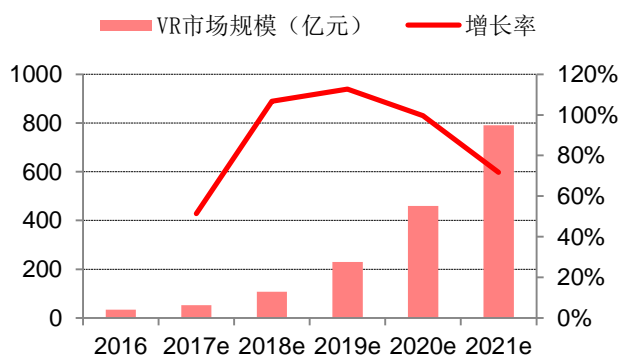


Source: the Internet; Research Dept, CSCI

Global VR market size stood at USD3.7bn in 2016, and is estimated to reach USD40.4bn by 2020, according to Analysys.

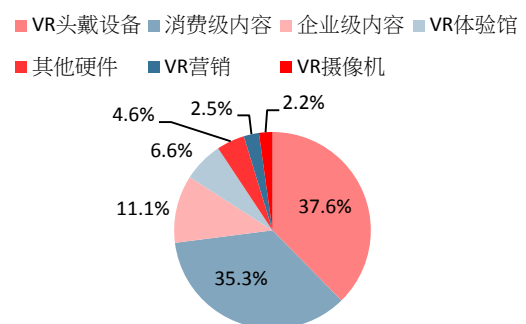
China's VR market size was RMB3.46bn in 2016, and is expected to break the RMB10bn barrier by 2018 and grow to be the world's largest at RMB79.02bn by 2021 with a five-year CAGR of more than 80%.

Figure 29: China's VR market size



Source: iResearch; Research Dept, CSCI

Figure 30: China's VR market segments



Source: iResearch; Research Dept, CSCI

5. Profitability forecast

We project Thundersoft to respectively reach a growth rate of 20%, 100% and 10%-20% in the segments of smart phones, in-vehicle systems and smart hardware over the next three years.

Accordingly, we estimate Thundersoft will notch up an operating revenue of RMB1.07bn/1.316bn for FY17/18, corresponding to a net profit of RMB138mn/175mn and EPS of RMB0.35/0.43. Recommend an Outperform rating.

Risk factor

Smart hardware partners' shipments may fall short of expectations.

Table 6: Profitability forecast (million yuan)

| | 2016 | 2017E | 2018E | 2019E |
|-----------------|--------|---------|---------|---------|
| 营业总收入 | 847.90 | 1071.55 | 1315.62 | 1639.29 |
| 智能手机业务 | 658.50 | 823.13 | 946.59 | 1088.58 |
| 智能车载业务 | 46.20 | 92.40 | 184.80 | 332.64 |
| 智能硬件业务 | 128.20 | 141.02 | 169.22 | 203.07 |
| 其他 | 15.00 | 15.00 | 15.00 | 15.00 |
| 营业总成本 | 759.41 | 946.42 | 1151.75 | 1439.80 |
| 营业成本 | 454.34 | 560.88 | 678.40 | 849.99 |
| 营业税金及附加 | 4.64 | 5.87 | 7.20 | 8.97 |
| 销售费用 | 46.72 | 59.04 | 72.49 | 90.33 |
| 管理费用 | 263.88 | 333.49 | 409.45 | 510.18 |
| 财务费用 | -10.18 | -12.86 | -15.79 | -19.67 |
| 营业利润 | 88.64 | 122.58 | 160.28 | 195.96 |
| 加：营业外收入 | 43.55 | 29.36 | 31.96 | 34.96 |
| 减：营业外支出 | 0.91 | 0.66 | 0.88 | 0.82 |
| 利润总额 | 131.27 | 151.28 | 191.36 | 230.10 |
| 减：所得税 | 11.21 | 12.39 | 16.52 | 19.45 |
| 净利润 | 120.06 | 138.89 | 174.84 | 210.65 |
| 折旧摊销 | 16.32 | 27.79 | 32.93 | 43.07 |
| 减：少数股东损益 | -0.22 | -0.17 | -0.29 | -0.33 |
| 归属于母公司所有者的净利润 | 120.28 | 139.06 | 175.13 | 210.98 |
| EPS (摊薄) | 0.30 | 0.35 | 0.43 | 0.52 |

Source: Wind; Research Dept, CSCI



Research

LIU Taisheng, Steven

TMT
(852) 3465 5652
stevenliu@csci.hk

SO Lai Shan, Jennifer

Consumer
(852) 3465 5781
jenniferso@csci.hk

CHAN Ka Yeung, Duncan

Commodity
(852) 3465 5654
duncanchan@csci.hk

TIAN Yang

Automotive
(852) 3465 5775
tianyang@csci.hk

SUN Lingxiao, Roger

Industrials
(852) 3465 5785
rogersun@csci.hk

YAO Xue, Snowy

snowyyao@csci.hk
+852 3465 5675

SHEN Xiangfei, Thomas

(852) 3465 8689
thomasshen@csci.hk

XU Qiwen

(852) 3465 8690
xuqiwen@csci.hk

Institutional Sales & Trading

XIANG Xinrong, Ron

(852) 3465 5633
ronxiang@csci.hk

HO Wen Hao, Jack

(852) 3465 5685
jackho@csci.hk

WANG Zhuo, Gary

(852) 3465 8655
wangzhuo@csci.hk

LEE Ying Ju, Rose

(852) 3465 5707
roselee@csci.hk

LI Jiageng, Mike

(852) 3465 5636
mikeli@csci.hk

XIA Tian

(852) 3465 5670
xiatian@csci.hk

XU Xiaowei, Vincent

(852) 3465 5795
vincentxu@csci.hk

LI Tianyi, Miranda

(852) 3465 8653
mirandali@csci.hk



Company Rating Definition

The Benchmark: Hong Kong Hang Seng Index; Time Horizon: 12 months

| | |
|-------------|--|
| Buy | 12-month absolute total return: $\geq 10\%$ |
| Hold | 12-month absolute total return: $> -10\%$ but $< 10\%$ |
| Sell | 12-month absolute total return: $\leq -10\%$ |

Disclosure of Interests

As of the date of this report,

1. The research analysts primarily responsible for the preparation of all or part of this report hereby certify that:
 - (i) the views expressed in this research report accurately reflect the personal views of each such analyst about the subject securities and issuers; and
 - (ii) no part of the analyst's compensation was, is, or will be directly or indirectly, related to the specific recommendations or views expressed in this research report.
2. The research analysts primarily responsible for the preparation of all or part of this report, or his/her associate(s), do not have any interest (including any direct or indirect ownership of securities, arrangement for financial accommodation or serving as an officer) in any company mentioned in this report.
3. This report has been produced in its entirety by China Securities (International) Brokerage Company Limited ("China Securities (International)") (CE Number: BAU373, regulated by the Securities and Futures Commission in Hong Kong)
4. China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities have no financial interest, in aggregate, equal to or more than 1% of the market capitalization in the stocks reviewed in this report.
5. China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities may receive compensation from or mandates for investment banking services in the past 12 months from listed corporations whose stocks are being reviewed by China Securities (International) in this report.
6. China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities do not have any individual employed by or associated with them serving as an officer of a listed corporation whose stocks are being reviewed by China Securities (International) in this report.
7. China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities may act as the market makers in the stocks reviewed by China Securities (International) in this report.

Disclaimer

This report is for information purposes only and should not be construed as an offer to sell or to solicitation of an offer to buy or sell any securities in any jurisdiction. The securities referred to in this research report may not be eligible for sale in some jurisdictions. This information contained in this report has been compiled by China Securities (International) from sources that it believes to be reliable and the opinions, analysis, forecasts, projections and expectations contained in this report are based on such information and are expressions of belief only and no representation, warranty or guarantee is made or given by China Securities (International) or any person for its accuracy or completeness. All opinions and estimates expressed in this report are (unless otherwise indicated) entirely those of China Securities (International) as of the date of this report only and are subject to change without notice. Such opinions and estimates may be different from or contrary to the opinions presented by the other business departments, units or affiliates of China Securities (International), as different assumptions and standards, different views and analytical methods may be adopted in the preparation of such other materials, and China Securities (International) is under no obligation to bring such other materials to the attention of any recipient of this report. Neither China Securities (International) nor its holding companies and affiliates accept any liability whatsoever for any direct or consequential loss arising from any use of material contained in this report or otherwise arising in connection therewith.

Any investment referred to herein may involve significant risk, may be illiquid and may not be suitable for all investors. The value of or income from any investment referred to herein may fluctuate and be affected by changes in exchange rates. Past performance is not indicative of future results. This report does not take into account the investment objectives, financial situation or particular needs of any particular person. Investors are expected to make their own investment decision without relying on this publication. Before entering into any transactions in any securities referred to in this research report investor should consider their own individual investment objectives and financial situation and seek professional financial, tax and legal advice, as necessary.

This report is strictly confidential to the recipient. It is being supplied to you solely for your information and may not be reproduced, redistributed or passed on, directly or indirectly, to any other person or published, in whole or in part, for any purpose. The distribution of this report in other jurisdictions may be restricted by law, and persons into whose possession this report comes should inform themselves about, and observe, any such restrictions. By accepting this report you agree to be bound by the foregoing instructions.

China Securities (International) Research

18/F, Two Exchange Square, Central, Hong Kong

Tel: (852) 34655600 Fax: (852) 21809495

Bloomberg: CSCR <Go>