2017 年 11 月 1 日

投资决策

买入

海能达 (002583.SZ)

潜在回报： 21%

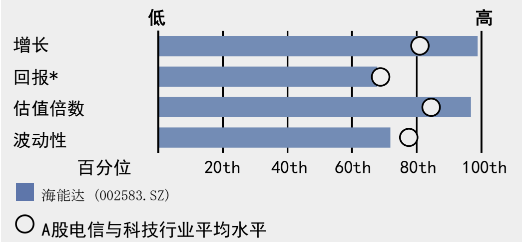
证券研究报告

专网通信行业之星 – 首次覆盖评为买入 (摘要)

建议理由

海能达是专网通信(PMR)行业的龙头企业。PMR 是一种收发两用无线电通信系统，2016 年在全球公安/消防部门和地铁/机场等领域拥有 5,000 万用户。我们预计公司盈利将大幅增长（2017-19 年预期每股盈利年均复合增速为 56% 而行业均值为 27%），受到下列因素推动：(1) 模拟技术向数字技术的持续转型带动需求增长；(2) 近期收购赛普乐之后海外业务市场地位增强，我们认为这将推动海能达的市场份额增长、产品均价上升。我们首次覆盖海能达并给予买入评级，12 个月目标价格隐含 21%的上涨空间。

投资摘要



* 回报 – 资本回报率

投资摘要指标的全面描述请参见本报告的信息披露部分。

推动因素

我们预计海能达的主要竞争优势将推动其市场份额增长，并带动净利润率从 2014 年的 2.2%升至 2019 年的 15.3%。**(1) 在市场集中度较高的 PMR 行业拥有规模优势，**2016 年在中国公共安全系统和公用事业领域分别拥有 80%和 30%的市场份额。凭借业内最佳的技术实力和市场先发优势，海能达的国内市场份额应会继续增长。在海外，海能达将内生增长与积极并购相结合，近期收购了英国 PMR 提供商赛普乐以巩固其全球业务并缩小业务/技术与竞争对手摩托罗拉的差距。**(2) 议价能力强于客户和供应商，**受益于稳固的市场地位和多元化的客户和供应商结构（这在未来 一年赢得的新合同中或将有所体现）。**(3) 技术领先，**17%的研发费用率在业内位居前列，技术相关岗位员工占比约 40%。**(4) 拥有经营杠杆**，收购了诺赛特（PMR 基站的天线供应商），推动盈利能力改善，或将在明年 3 月份发布的 2017 年四季度业绩中有所体现。

估值

我们对全球 PMR 同业 18 倍的 2019 年预期市盈率均值应用 30%的溢价，计算得出海能达的目标估值倍数为 24 倍，我们认为这一估值合理，因为其利润率和净资产回报率相对较高。我们基于市盈率的 12 个月目标价格为人民币 23 元。

主要风险

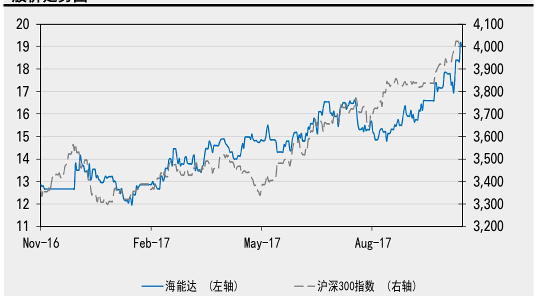
PMR 需求波动；汇率风险；应收账款周转天数长于预期。

** 全文翻译随后提供*

主要数据	当前
股价 (Rmb)	19.00
12个月目标价格 (Rmb)	23.00
市值 (Rmb mn / US$ mn)	32,549.2 / 4,911.3
外资持股比例 (%)	--

	12/16	12/17E	12/18E	12/19E
每股盈利 (Rmb)	0.25	0.39	0.63	0.94
每股盈利增长 (%)	56.3	54.8	63.9	48.3
每股摊薄盈利 (Rmb)	0.25	0.39	0.63	0.94
每股基本盈利 (Rmb)	0.25	0.39	0.63	0.94
市盈率 (X)	44.8	49.1	29.9	20.2
市净率 (X)	4.1	6.1	5.2	4.2
EV/EBITDA (X)	34.5	43.0	27.7	19.3
股息收益率 (%)	0.3	0.3	0.5	0.5
净资产回报率 (%)	11.4	13.1	18.6	22.9
CROCI (%)	13.3	13.4	15.5	17.9

股价走势图



股价表现 (%)	3个月	6个月	12个月
绝对	15.2	26.9	47.9
相对于沪深300指数	8.6	9.2	24.3

资料来源：公司数据、高盛研究预测、FactSet（股价为11/01/2017收盘价）

所属投资名单

亚太买入名单

行业评级： 中性

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+86(21)2401-8694 tina.hou@ghsl.cn 北京高华证券有限责任公司

海能达： 财务数据概要

损益表(Rmb mn)	12/16	12/17E	12/18E	12/19E
主营业务收入	**3,435.5**	**5,199.6**	**7,781.2**	**10,509.1**
主营业务成本	(1,751.0)	(2,636.0)	(3,929.9)	(5,241.8)
销售、一般及管理费用	(1,310.9)	(1,916.9)	(2,751.3)	(3,619.4)
研发费用	(578.5)	(500.9)	(749.6)	(1,012.4)
其它营业收入/（支出）	0.0	0.0	0.0	0.0
员工股票期权费用	--	--	--	--
EBITDA	**525.1**	**788.2**	**1,259.1**	**1,803.4**
折旧和摊销	(151.5)	(141.5)	(159.1)	(155.5)
EBIT	**373.6**	**646.7**	**1,100.0**	**1,647.9**
利息收入	0.0	0.0	0.0	0.0
财务费用	(14.1)	(14.3)	(25.0)	(25.0)
联营公司	0.0	0.0	0.0	0.0
其它	60.0	60.0	60.0	60.0
税前利润	**419.6**	**692.4**	**1,135.0**	**1,682.9**
所得税	(17.7)	(29.3)	(48.0)	(71.1)
少数股东损益	0.0	0.0	0.0	0.0
优先股股息前净利润	**401.8**	**663.1**	**1,087.0**	**1,611.7**
优先股息	0.0	0.0	0.0	0.0
非经常性项目前净利润	**401.8**	**663.1**	**1,087.0**	**1,611.7**
税后非经常性损益	0.0	0.0	0.0	0.0
净利润	**401.8**	**663.1**	**1,087.0**	**1,611.7**
每股基本盈利（非经常性项目前）(Rmb)	0.25	0.39	0.63	0.94
每股基本盈利（非经常性项目后）(Rmb)	0.25	0.39	0.63	0.94
每股摊薄盈利（非经常性项目后）(Rmb)	0.25	0.39	0.63	0.94
不含员工股票期权费用的每股盈利(基本)	--	--	--	--
不含员工股票期权费用的每股盈利(摊薄)	--	--	--	--
每股股息(Rmb)	0.03	0.05	0.09	0.09
股息支付率(%)	12.9	14.0	14.0	9.4
自由现金流收益率(%)	(8.1)	(3.8)	(2.8)	0.7

增长率和利润率(%)	12/16	12/17E	12/18E	12/19E
主营业务收入增长率	38.7	51.3	49.7	35.1
EBITDA增长率	33.1	50.1	59.7	43.2
EBIT增长率	39.7	73.1	70.1	49.8
净利润增长率	58.7	65.0	63.9	48.3
每股盈利增长	56.3	54.8	63.9	48.3
毛利率	49.0	49.3	49.5	50.1
EBITDA利润率	15.3	15.2	16.2	17.2
EBIT利润率	10.9	12.4	14.1	15.7

现金流量表(Rmb mn)	12/16	12/17E	12/18E	12/19E
优先股股息前净利润	401.8	663.1	1,087.0	1,611.7
折旧及摊销	151.5	141.5	159.1	155.5
少数股东权益	0.0	0.0	0.0	0.0
运营资本增减	(952.3)	(998.0)	(1,382.2)	(1,322.6)
其它	(4.9)	0.0	0.0	0.0
经营活动产生的现金流	**(403.9)**	**(193.4)**	**(136.1)**	**444.6**
资本开支	(1,061.7)	(1,059.1)	(778.1)	(210.2)
收购	0.0	0.0	0.0	0.0
剥离	3.9	0.0	0.0	0.0
其它	(91.7)	0.0	0.0	0.0
投资活动产生的现金流	**(1,149.5)**	**(1,059.1)**	**(778.1)**	**(210.2)**
支付股息的现金（普通股和优先股）	(90.3)	(56.3)	(92.8)	(152.2)
借款增减	(527.0)	3,566.7	0.0	0.0
普通股发行（回购）	2,131.4	46.9	0.0	0.0
其它	11.0	0.0	0.0	0.0
筹资活动产生的现金流	**1,525.2**	**3,557.4**	**(92.8)**	**(152.2)**
总现金流	**(28.3)**	**2,304.9**	**(1,007.0)**	**82.3**

资产负债表(Rmb mn)	12/16	12/17E	12/18E	12/19E
现金及等价物	504.4	2,809.3	1,802.2	1,884.5
应收账款	2,413.5	3,470.2	4,933.5	6,329.8
存货	887.5	1,269.3	1,797.8	2,278.0
其它流动资产	249.6	249.6	249.6	249.6
流动资产	**4,055.0**	**7,798.3**	**8,783.0**	**10,741.9**
固定资产净额	1,372.9	2,341.8	3,006.4	3,101.6
无形资产净额	652.2	600.8	555.3	514.8
长期投资	252.8	252.8	252.8	252.8
其它长期资产	475.3	475.3	475.3	475.3
资产合计	**6,808.1**	**11,469.1**	**13,072.8**	**15,086.4**
应付账款	1,023.8	1,464.2	2,073.8	2,627.8
短期贷款	237.3	3,804.0	3,804.0	3,804.0
其它流动负债	283.1	319.7	379.1	379.1
流动负债	**1,544.3**	**5,588.0**	**6,256.9**	**6,810.9**
长期贷款	363.2	363.2	363.2	363.2
其它长期负债	145.7	145.7	145.7	145.7
长期负债	508.9	508.9	508.9	508.9
负债合计	**2,053.2**	**6,096.9**	**6,765.8**	**7,319.8**
优先股	**0.0**	**0.0**	**0.0**	**0.0**
普通股权益	**4,754.9**	**5,372.2**	**6,307.0**	**7,766.6**
少数股东权益	0.0	0.0	0.0	0.0
负债及股东权益合计	**6,808.1**	**11,469.1**	**13,072.8**	**15,086.4**
每股净资产(Rmb)	**2.73**	**3.14**	**3.68**	**4.53**

比率	12/16	12/17E	12/18E	12/19E
CROCI(%)	13.3	13.4	15.5	17.9
净资产回报率(%)	11.4	13.1	18.6	22.9
总资产回报率(%)	7.0	7.3	8.9	11.4
平均运用资本回报率(%)	10.8	11.7	14.4	17.5
存货周转天数	163.5	149.3	142.4	141.9
应收账款周转天数	209.6	206.5	197.1	195.6
应付账款周转天数	199.3	172.3	164.3	163.7
净负债/股东权益(%)	2.0	25.3	37.5	29.4
EBIT利息保障倍数(X)	26.6	45.2	44.0	65.9

估值	12/16	12/17E	12/18E	12/19E
基本市盈率(X)	44.8	49.1	29.9	20.2
市净率(X)	4.1	6.1	5.2	4.2
EV/EBITDA(X)	34.5	43.0	27.7	19.3
企业价值/总投资现金(X)	3.5	4.8	3.8	3.2
股息收益率(%)	0.3	0.3	0.5	0.5

注：最后一个实际年度数据可能包括已公布和预测数据。

资料来源：公司数据、高盛研究预测

对此报告有贡献的人员

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Contents

The prices in the body of this report are as of the market close of November 1, 2017, unless specified otherwise.

Gao Hua Securities acknowledges the role of Bowen Bao of Goldman Sachs in the preparation of this product.

What is **Professional Mobile Radio (PMR)** in layman's terms?

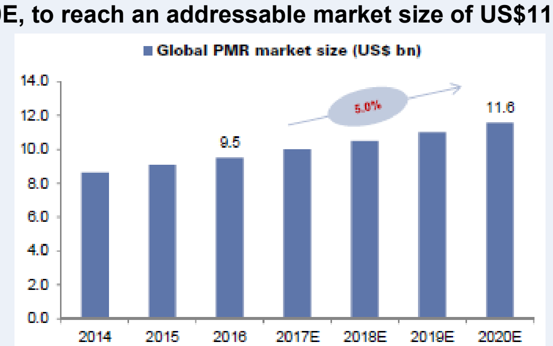
A "walkie-talkie" in the simplest form, and so much more…

PMR is a type of two-way wireless communication designated for mission-critical use cases. PMR networks typically consist of devices (the simplest form is a walkie-talkie), base stations, and control center equipment. PMR offers unique qualities that are valued by customers: **(1) confidentiality** – it operates in a designated radio spectrum, **(2) reliability** – it is designed for extreme conditions/worst-case scenarios, **(3) proprietary ownership** – it is operated for exclusive use of the owner, **(4) cost efficiency** – vs. public wireless networks due to lower spectrum band.

With over 50 million users and a global market size of US$10bn as of 2016, we see demand for PMR products as mainly coming from the **public security** (police/fire departments), **utilities** (subway/railway/oil pipeline/airports), and **commercial sectors** (residential/commercial/industrial property). We expect the global PMR industry to grow at 5% CAGR from 2016-2020E (vs. 5% in 2014-2016) to reach an addressable market size of US$11.6bn, driven by: 1) penetration increase in developing markets and 2) replacement demand in developed markets.

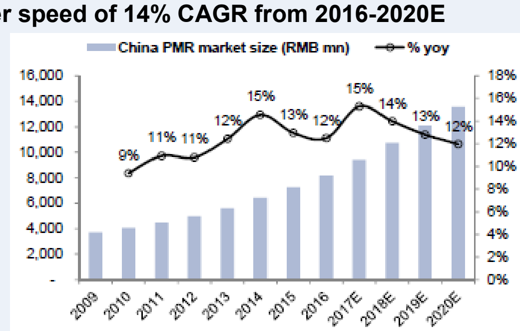
For **China**, we forecast the PMR market to grow at a much faster speed of 14% CAGR from 2016-2020E, as we see strong potential from lagging penetration vs. developed markets, policy tailwinds from China's 13th Five-Year Plan, and increasing upgrade/replacement demand due to the ongoing shift from analog to digital.

Exhibit 1: Global PMR industry CAGR of 5% from 2016-2020E, to reach an addressable market size of US$11.6bn



Source: ResearchandMarkets.com, *Gao Hua Securities Research.*

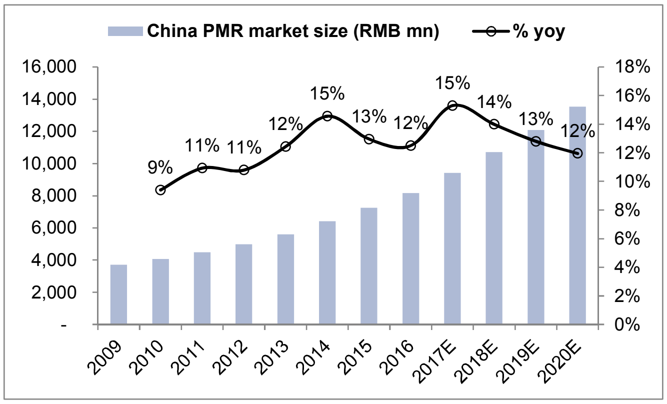
Exhibit 2: China's PMR market is set to grow at a much faster speed of 14% CAGR from 2016-2020E



Source: China Industry Research (www.cir.cn), *Gao Hua Securities Research.*

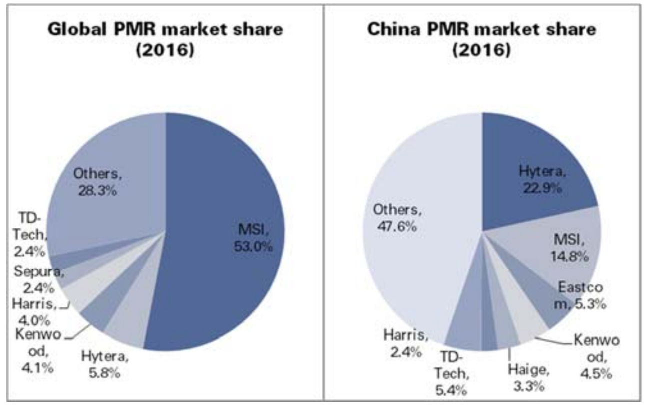
Our thesis in six charts

Exhibit 3: China's PMR market to continue growing at a strong 14% CAGR over 2016-2020E (vs. 13% in 2012-15)…



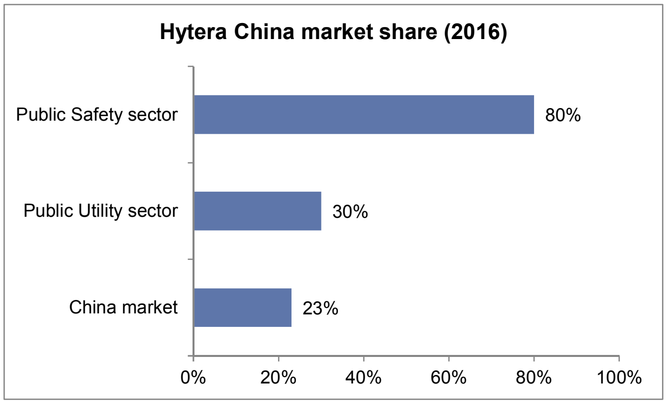
Source: China Industry Research (www.cir.cn), Gao Hua Securities Research

Exhibit 4: …and Hytera is well positioned to benefit as largest PMR player in China and second largest globally



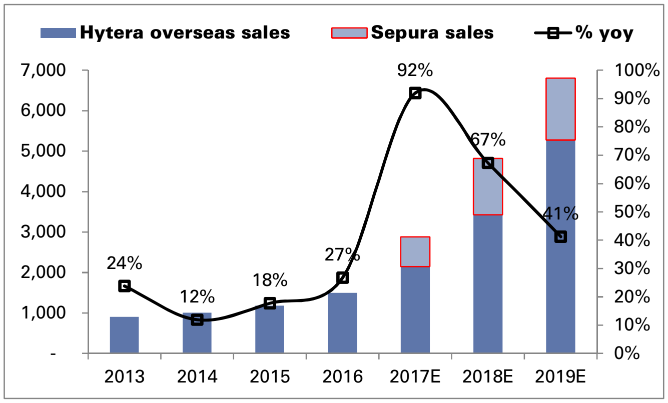
Source: Company data

Exhibit 5: Hytera dominates China's public safety sector with 80% share and leads public utility sector with 30%



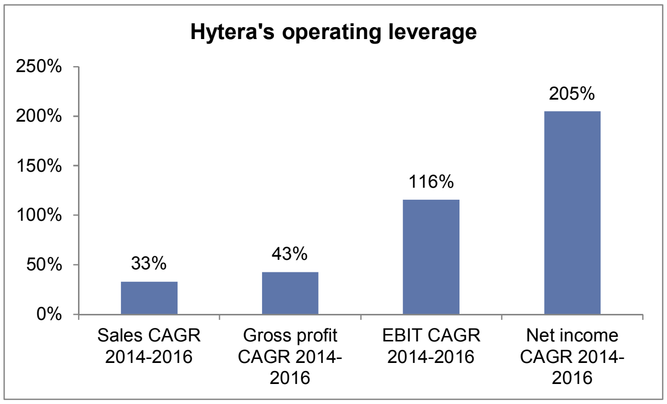
Source: Company data

Exhibit 6: Hytera is growing its overseas revenue via both organic market share gain and asset acquisition



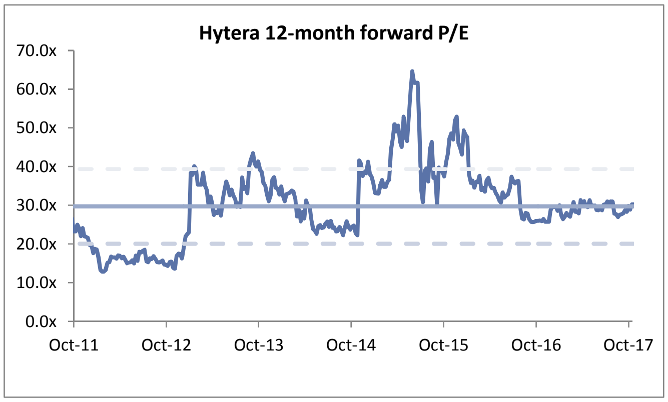
Source: Company data, Gao Hua Securities Research

Exhibit 7: We expect operating leverage continue to drive margin improvement for Hytera



Source: Company data

Exhibit 8: Hytera currently trades in line with its historical average P/E, despite its improving net margin outlook



Source: Bloomberg

PM Summary: Digital shift and overseas key drivers; initiate at Buy

PMR in layman's terms is a walkie-talkie in the simplest form, but it is so much more and we see significant growth, especially in China

Hytera – a leader in the Professional Mobile Radio (PMR) industry with 23% market share in China (No.1) and 6% market share globally (No.2) in 2016 – operates in a consolidated industry where customer stickiness is high and customer/supplier bargaining powers are low. As such, we believe Hytera can leverage its strong market position, scale advantage, and deep product know-how to gain market share with its unwavering focus on R&D and technology.

PMR is a type of wireless communications system. It is different from public wireless networks (i.e. 2G/3G/4G/5G) in that it is privately owned by customers such as the police/fire departments and subway/airport operators, the devices are ruggedized for use under extreme conditions and emergency situations, and extremely high reliability is required. For an in depth look at the PMR industry in China please see our companion report "*China: Communications Technology: Walkie-Talkie 2.0*", November 1, 2017.

Access to a large and growing profit pool

As of 2016, the global PMR market was a US$10bn industry growing at mid-single digits yoy. Demand for PMR products is mainly from the public security (police/fire departments), utilities (subway/railway/oil pipeline/airports), and commercial sectors (residential/commercial/industrial property). We expect global PMR industry CAGR of 5% from 2016-2020E, reaching an addressable market size of US$11.6bn, driven by: 1) penetration increase in developing markets and 2) replacement demand in developed markets.

For China, we forecast the PMR market growing at a much faster speed of 14% CAGR from 2016-2020E to reach a market size of RMB13.5bn (US$2bn). In particular we see strong potential from lagging penetration vs. developed markets, policy tailwinds from China's 13th Five-Year Plan, and increasing upgrade/replacement demand due to the ongoing shift from analog to digital.

Competitive advantages driving market share and earnings

Continued market share gains, gross margin improvement, and operating leverage should lead EPS to grow at a 56% CAGR from 2017E to 2019E

We expect Hytera's key competitive advantages to drive market share from 6% in 2016 to 16% in 2020E and net profit margin from a low of 2.2% in 2014 to 15.3% in 2019E.

(1) Scale advantage in a consolidated PMR market, with 80% share of China's public safety sector and 30% of the public utility sector in 2016. Hytera should continue to gain share due to its best-in-class technology and first-to-market advantage. Overseas, it has combined organic growth with active M&A, recently acquiring UK PMR provider Sepura to strengthen its global footprint (market share of 2.4%) and gain access to proprietary technology.

(2) Strong pricing power vs. customers as well as suppliers, due to its solid market position and also its diversified customer and supplier mix, which will likely be evidenced in new contract wins in the coming year.

(3) Technology leader with an unwavering focus on R&D and an industry-leading R&D-to-sales ratio. Hytera has consistently invested over 11% of its annual revenue into R&D since 2008 (industry leading) and dedicates c.40% of its workforce in technology-related fields.

Dominant in the China market, and expanding overseas

Strategic direction, both domestically and in overseas markets, and operating leverage to drive improved profitability

We believe Hytera has formed clear growth strategies in both domestic and overseas markets, which should drive improved profitability with operating leverage and supply chain consolidation.

(1) Domestic market: As a technology leader in China, Hytera monopolizes the public safety sector and dominates the public utility sector, whereas the relatively low-end commercial sector is more fragmented. We expect Hytera to gain market share in the public utility and commercial sectors due to its best-in-class technology and first-to-market advantage.

(2) Overseas market: Hytera has over the past decade combined organic growth with active M&As, winning contracts due to its high quality products, fast response time, and good customer service. It recently acquired UK PMR provider Sepura, the fifth largest PMR player with 2.4% global market share, effectively strengthening Hytera's footprint overseas and giving it access to Sepura's proprietary technology.

(3) Operating leverage: Including the recent acquisition of Norsat (an antenna supplier of PMR base stations), we expect operating leverage will continue to drive an uplift to earnings on economies of scales due to Hytera's leading market position and operational strength vs. peers, likely to be seen in the 4Q17 results due March 2018.

Initiate at Buy with 12-m TP implying 21% upside potential

As visibility on its improving profitability increases, we expect Hytera to see a re-rating

YTD, the Hytera share price has gained 47%, vs. the global PMR industry average of 12% (MSI +8% YTD). It has far outperformed its domestic listed peers Haige (-9% YTD) and Eastcom (-18% YTD), in our view due to its industry leading revenue growth and gross margins.

Although Hytera is currently trading in line with its historical average 12-month forward P/E, we expect the stock should continue to outperform its peers on the back of its strengthening market position, both domestically and overseas, improving profitability levels due to operating leverage, and supply chain consolidation, which we believe will drive market share gains and higher ASPs.

We apply a 30% premium to the global PMR peer average P/E multiple of 18X 2019E to arrive at 24X target multiple for Hytera. The premium applied is justified in our view by its relatively higher margins and ROE.

We initiate on Hytera at Buy with our 12-month target price of RMB23, implying 21% upside potential. Key risks to our investment thesis and price target include: PMR industry demand volatility; foreign exchange risks; longer-than-expected receivable turnover.

Exhibit 9: PMR Valuation Comps

Company	Ticker	Rating	Market	12m Target	Potential	Market cap	Revenue/EBITDA/EPS			Revenue (US$ mn)	Gross margin	Net margin	P/E		PEG	EV/ EBITDA	FCF yield	Div yield	P/B	ROE
			Price	Price	+/-Side	US$ mn	2017E-2019E CAGR			2016	2016	2016	2018E	2019E	2018E	2018E	2018E	2018E	2018E	2018E
Hytera (Rmb)	**002583.SZ**	**Buy**	**19.0**	**23.0**	**21%**	**5,018**	**42.2%**	**51.3%**	**55.9%**	**519**	**49.0%**	**11.7%**	**29.9x**	**20.2x**	**0.5x**	**28.2x**	**1.4%**	**0.5%**	**5.2x**	**18.6%**
Motorola Solutions (US$)	MSI	Buy	90.5	108.0	19%	14,727	1.7%	2.6%	10.2%	6,038	48.4%	14.1%	18.5x	17.2x	1.4x	10.2x	0.0%	2.2%	-12.9x	
Harris (US$)	HRS	Buy	139.3	127.0	-9%	16,607	6.6%	10.1%	19.0%	6,684	33.1%	7.3%	20.7x	17.0x	1.3x	12.7x	4.9%	1.6%	4.9x	22.0%
Haige Communications (Rmb)	002465.SZ	NC	10.9			3,812	27.5%	37.7%	37.5%	666	42.2%	14.5%	30.4x	23.6x	0.6x	23.9x	3.1%	1.2%	3.0x	9.5%
JVC Kenwood (JPY)	6632 T	NC	350.0			427	0.3%	9.5%	14.2%	2,597	29.5%	-1.7%	22.9x	18.1x	NA	3.5x	9.7%	1.4%	0.8x	2.7%
Average							**15.7%**	**22.2%**	**27.4%**	**3,301**	**40.4%**	**9.2%**	**24.5x**	**19.2x**	**1.0x**	**15.7x**	**3.8%**	**1.4%**	**0.2x**	**13.2%**
Median							**6.6%**	**10.1%**	**19.0%**	**2,597**	**42.2%**	**11.7%**	**22.9x**	**18.1x**	**1.0x**	**12.7x**	**3.1%**	**1.4%**	**3.0x**	**14.0%**
STD							**18.4%**	**21.1%**	**19.1%**	**2,920**	**8.8%**	**6.7%**	**5.4x**	**2.8x**	**0.5x**	**10.1x**	**3.7%**	**0.6%**	**7.5x**	**8.8%**
Hytera premium to average											***21%***	***27%***								***41%***

Notes: Pricing as of November 1, 2017, except US stocks which are as of October 31, 2017. Estimates for Not Covered (NC) companies are from Bloomberg.

Source: Datastream, Bloomberg, Company data, Goldman Sachs Global Investment Research, Gao Hua Securities Research

Three key competitive advantages driving market share and earnings

Hytera's strong revenue and earnings growth momentum has consistently outpaced global peers, and we expect it will continue to gain market share both domestically and overseas

#1: Scale advantage in a consolidated market

As the largest PMR player in China with 23% market share as of 2016, Hytera has a solid market position across a number of different segments:

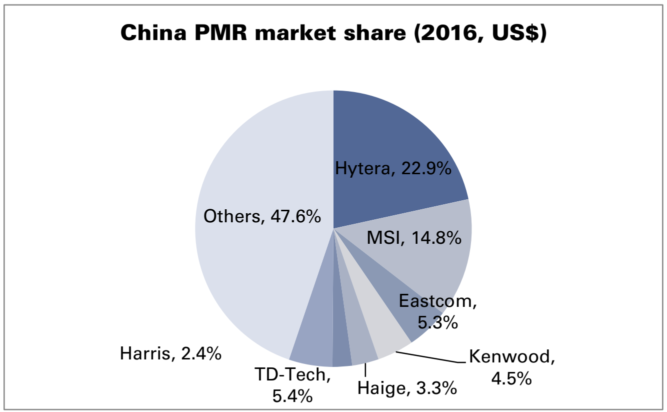
- **Public safety sector**: Hytera dominates the public safety sector in China with 80% market share (as of 2016), being the key participant involved in the PDT (Professional Digital Trunking) standard setting process and offering products/solutions to customers such as the police department, fire department, etc.
- **Public utility sector**: Hytera leads the public utility sector in China with 30% market share last year, mainly offering TETRA (Terrestrial Trunked Radio) and PDT products and system solutions to subway, railway, oil pipeline operators, etc.
- **Commercial sector:** For the commercial sector in China, which is more fragmented and price sensitive than the public safety and public utility sectors, Hytera mainly sells Digital Mobile Radio (DMR) products through its national distributor network.

Outside its home market, Hytera has also established a global network, and in our view has made impressive progress over the past decade by:

For more details on PDT, TETRA and DMR terms used, please see *Appendix 2*

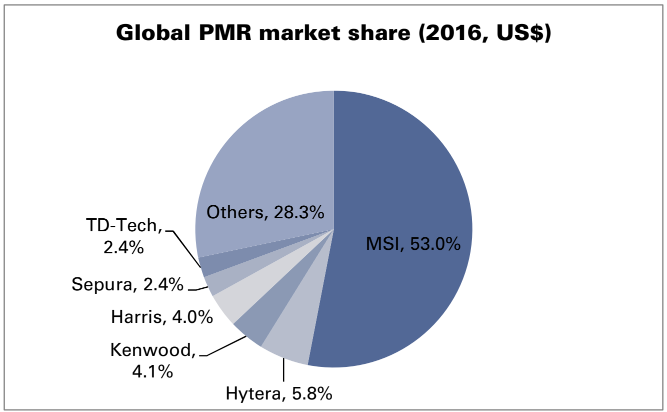
- Offering a comprehensive suite of TETRA and DMR products compatible with global and regional standards;
- Actively participating in overseas projects (both long term government public safety projects and event-type projects); and
- Pursuing M&A in the US, UK, Germany, Canada, etc., to achieve instant customer acquisition and technology transfer.

Exhibit 10: Hytera holds 23% PMR market share in China…



Source: Company data

Exhibit 11: …and 6% market share globally (8% post acquisition of Sepura)



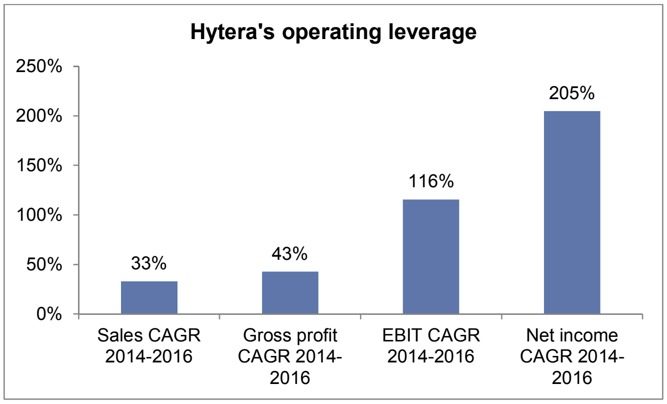
Source: Company data

We believe this scale leadership puts Hytera in an advantageous position versus both global and domestic peers due to:

1) **High customer stickiness:** Customer stickiness is very high for the PMR terminals and system equipment, especially for the government sector which procures through a bidding process and requires highly customized products. Once successfully penetrated, the switching costs for customers are high, which we believe will benefit an industry leader like Hytera and enhance its market position.

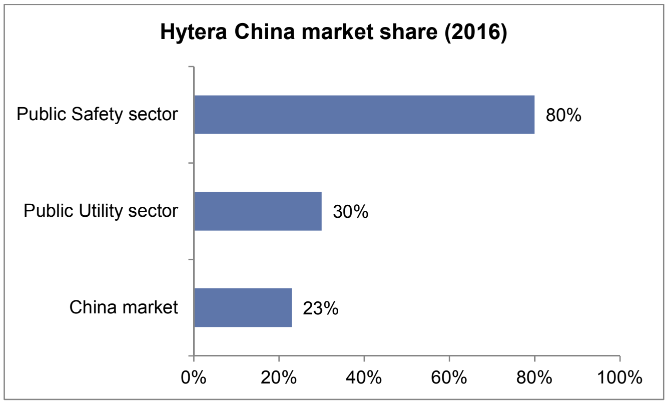
2) **Operational efficiencies on rising output:** We have seen scale benefits consistently reflected in Hytera's margin in the past as its profit growth has consistently outpaced topline growth.

Exhibit 12: Hytera has exhibited operating leverage as profit growth has continuously outpaced sales growth



Source: Company data

Exhibit 13: Hytera holds dominant position in the China PMR market across a number of sectors



Source: Company data

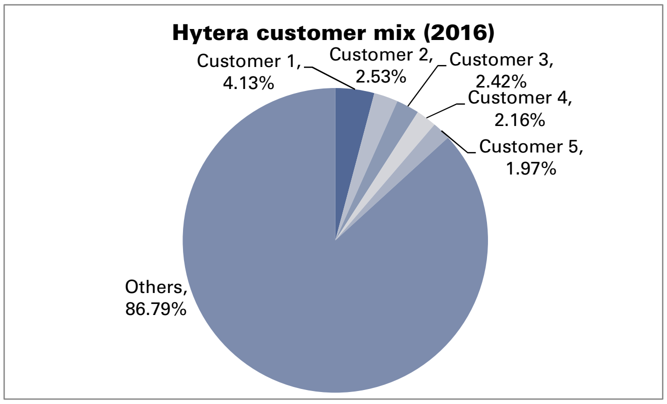
#2: Strong pricing power vs. customers as well as suppliers

Hytera has a quite diversified customer base, with its largest five customers comprising just 13% of its total revenue in 2016. In terms of sectors, customers in public safety and public utilities (46%/37% of China's PMR market) directly buy products and solutions from Hytera (project based), while customers in the commercial sector (17% of China's PMR market) mainly purchase PMR products through distributors. Hytera's major customers are in the public safety and utilities sectors, which from our perspective have relatively low buyer's power as we believe: (1) their purchases tend to have low level of concentration on various project bases; (2) they require highly customized products; and (3) they bear higher switching costs. Overall, given its solid market position and favorable customer mix, we believe Hytera has strong bargaining power over buyers.

Hytera also has a diversified supplier mix, with its top five suppliers accounting for 19% of total purchasing value in 2016. Over 90% of Hytera's COGS are raw materials, the majority of which are standardized electronic components, such as printed circuit board (PCB) and general purpose chips, plastic and metal structures and communications devices.

With the PMR industry more consolidated than both its customer space as well as supplier space, Hytera enjoys pricing power as it doesn't rely on a particular customer or supplier. As a result, it is able to keep its product pricing relatively stable year over year, and achieve operating leverage as the procurement scale grows.

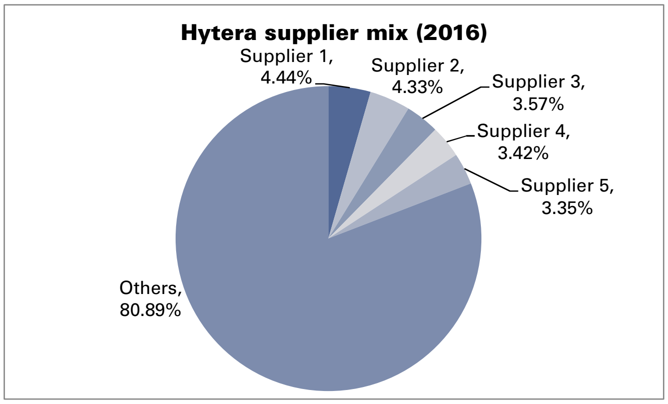
Exhibit 14: Hytera has a diversified customer mix as well as supplier mix…



Note: Data based on contribution to Hytera's total revenue.

Source: Company data

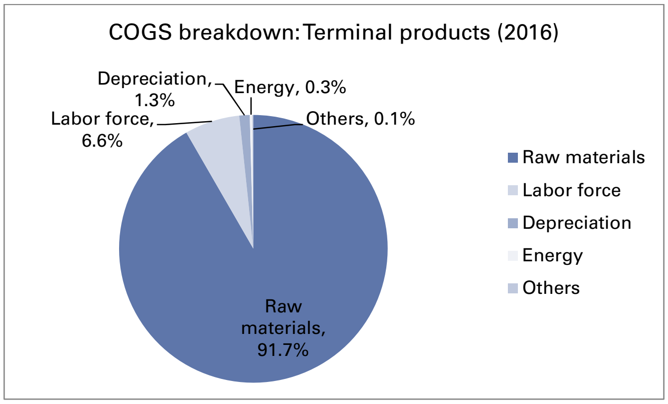
Exhibit 15: …which translates to high pricing power as it doesn't rely on a particular customer or supplier



Note: Data based on Hytera's total purchasing value.

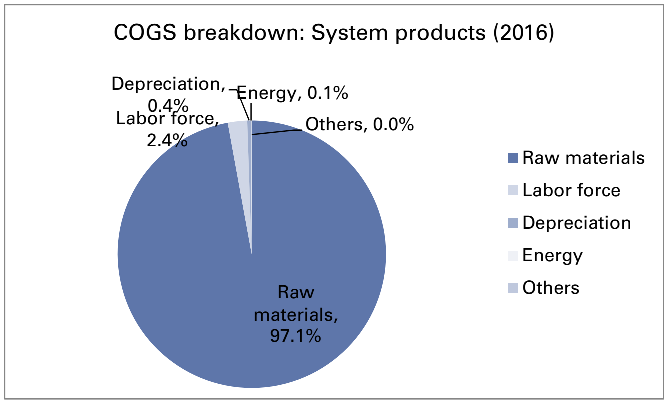
Source: Company data

Exhibit 16: Raw materials are the major costs for Hytera's terminal products…



Source: Company data

Exhibit 17: …and are also the major costs for its system products



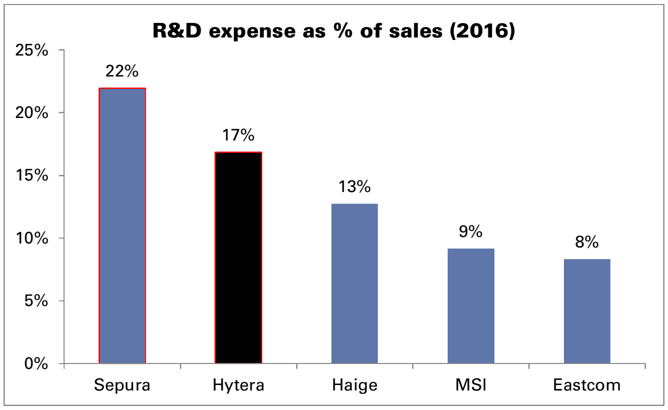
Source: Company data

#3: Technology leader with unwavering focus on R&D

- **Strong R&D record:** Hytera has a strong track record for R&D spending in order to stay at the forefront of leading and mature technologies. The company's R&D spending has stayed above 11% of sales since 2008. In 2016, it spent 17% of revenue on R&D, second only to Sepura, which it acquired in May 2017. Global leader Motorola Solutions Inc. (MSI) had an R&D/sales ratio of 9%, and domestic peers Haige and Eastcom were at 13% and 8% respectively in 2016.
- **Patents:** Through years of development and accumulation of technology, both independently as well as through acquisitions, Hytera has been authorized 410 patents in the field of PMR and another 585 patent applications are still in process. We believe technological know-how and expertise has been a key engine driving strong revenue and earnings growth and that this is set to continue.

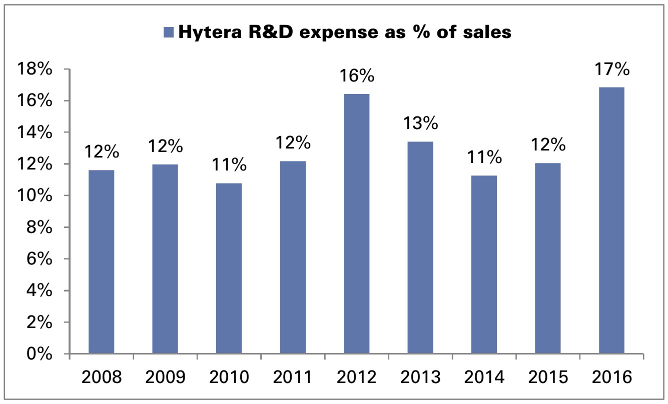
- **Human talents:** The development of core technologies, operation and maintenance of PMR equipment/infrastructure, design and implementation of service solutions, and management of sales & supply channel all relies on professionals with relevant knowledge and industry experiences. Communications technology is becoming more and more data/video driven, and this is also a future driver for the PMR industry. In this case, PMR is incorporating broadband into narrowband, and migrating from analog to digital to satisfy the growing demand. Hytera is currently running a team of 2,000 engineers for broadband R&D, of which 70%-80% are software-related due to the incoming trend of more customized solutions needed for customers. We believe the high demand for professional technical talents also creates barriers for potential new entrants.

Exhibit 18: Hytera and Sepura's R&D-to-sales ratio are industry leading…



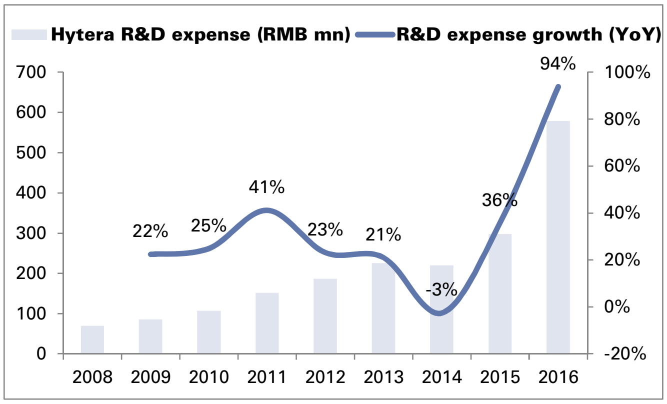
Source: Company data

Exhibit 19: …with Hytera's above 11% consistently since 2008



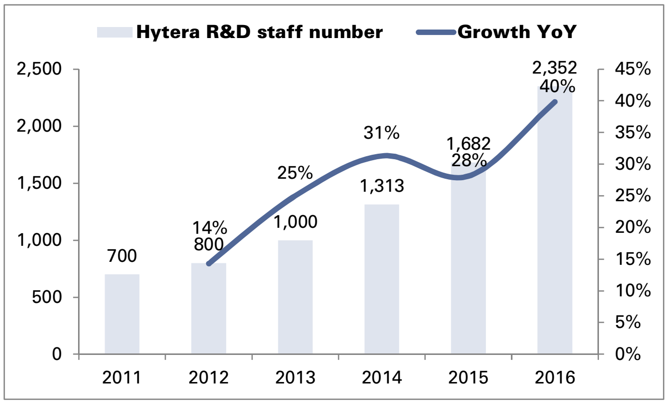
Source: Company data

Exhibit 20: Hytera has grown its R&D expense by a CAGR of 30% over the past eight years…



Source: Company data

Exhibit 21: … and its R&D team by a CAGR of 27% over the past six years



Source: Company data

Exhibit 22: Hytera terminal products advancement

Product picture			
Product model	TC - 700	PD - 780	PDC - 760 / PTC - 760
Price	RMB 700	RMB 3200	RMB 8000
Technology	Analog	Digital (TETRA)	LTE; Multi-mode (Both analog and digital)
Dimensions	122 × 55 × 35mm	125 × 55 × 37mm	139.5 x 68 x 25.3mm
Weight	316g	355g	≤375g
Capacity	Voice only	Voice and message	Voice, message, image and video
Channel spacing	12.5 kHz	25 kHz	25 kHz & 12.5 kHz
Battery life	About 14 hours	>14 hours	Standard battery: 14h (12h voice+2h video) Optional battery: 20h (18h voice+2h video)
Compatibility	Analog conventional only	Digital trunked and analog	Backwards to both analog and digital
Front and rear cameras	NA	NA	13MP Auto Focus
Key features	- 1W Speaker and powerful voice output - Lone worker, Man Down and Emergency Siren - Built-in scrambler to secure information	- 1W Speaker and powerful voice output **- Noticeable Push-to-talk (PTT) button** - Unique cover speaker design, compact & better audio quality - Built-in GPS system and bluetooth	- 2W Speaker and powerful voice output **- Triple mic noise suppression, acoustic echo cancellation and wind noise suppression** **- Collect audio, image and video data effectively and erase sensitive data once the radio is compromised**

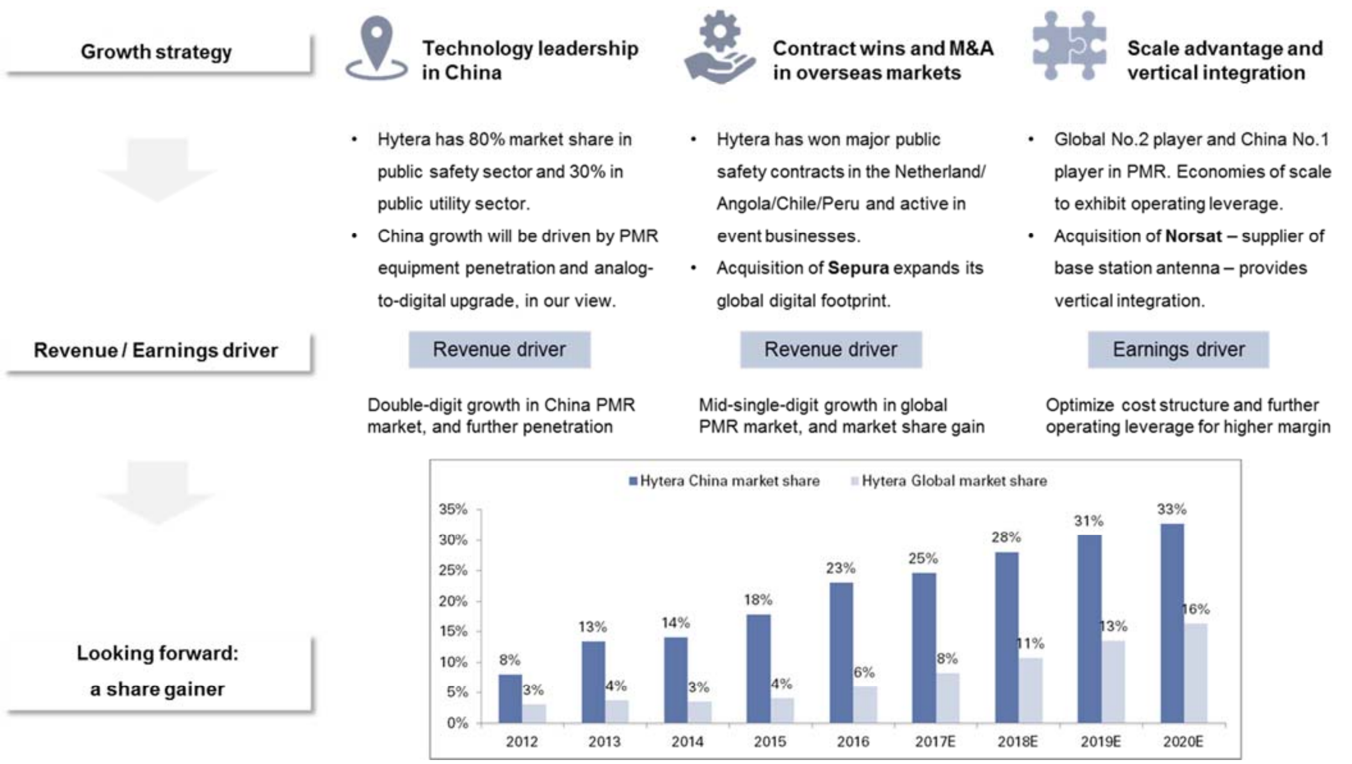
Source: Company data

Dominant in the China market and expanding overseas

Strategic direction, both domestically and in overseas markets, and operating leverage to drive improved profitability

- **Domestic market**: As a technology leader in China, Hytera monopolizes the public safety sector and dominates the public utility sector, whereas the relatively low-end commercial sector is more fragmented. We expect Hytera to gain market share in the public utility and commercial sectors due to its best-in-class technology and first-to-market advantage.
- **Overseas market**: Hytera has over the past decade combined organic growth with active M&As, winning contracts due to its high quality products, fast response time, and good customer service. It recently acquired UK PMR provider Sepura, the fifth largest PMR player with 2.4% global market share as of 2016, effectively strengthening Hytera's footprint overseas and giving it access to Sepura's proprietary technology.
- **Operating leverage**: We expect operating leverage will continue to drive an uplift to earnings on economies of scales due to Hytera's leading market position and operational strength vs. peers.

Exhibit 23: Hytera's growth strategy



Note: Market share mentioned in exhibit text is as of 2016. 2012-16 market share data in the bar chart is from the company, 2017E-20E data is GHe.

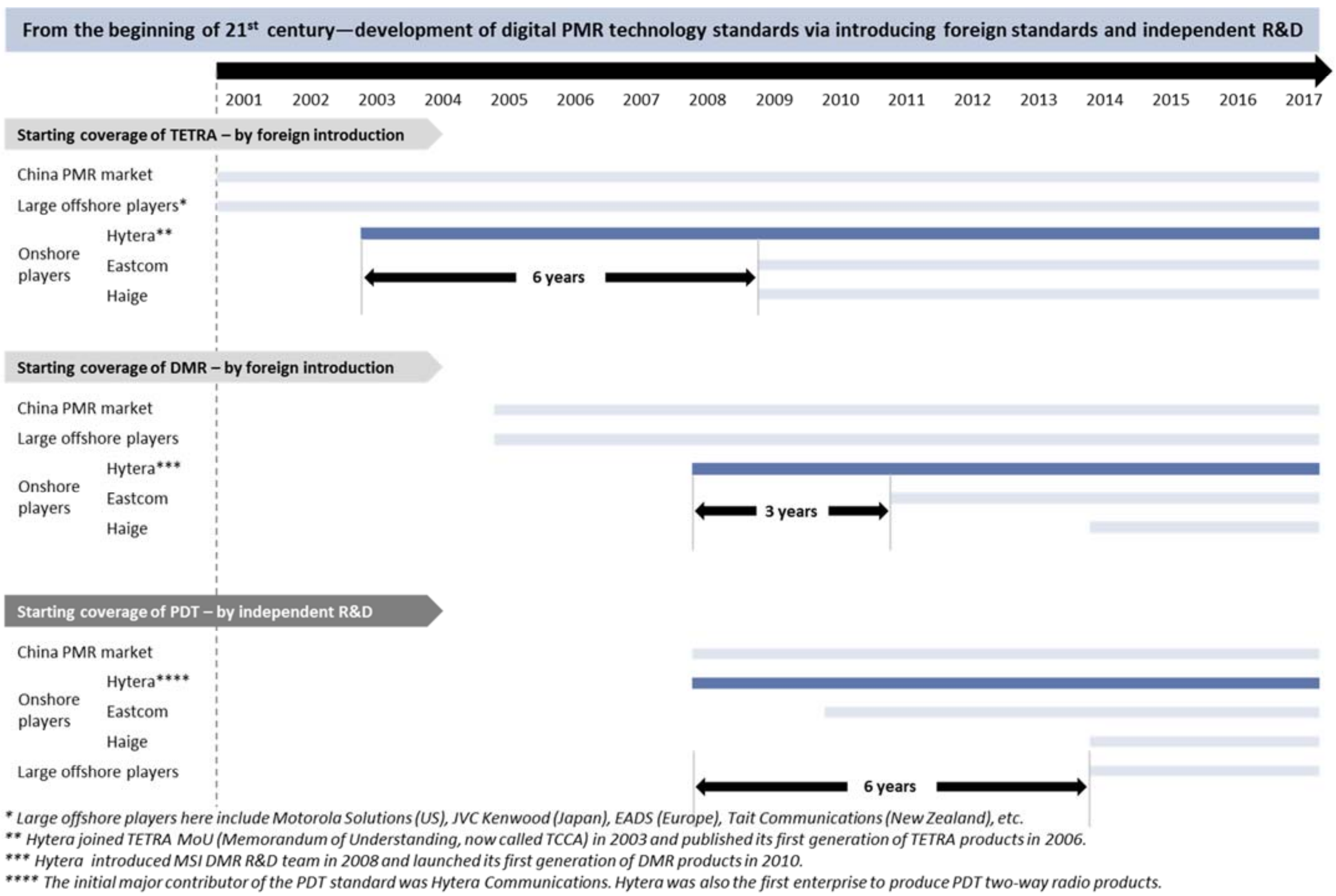
Source: Company data, Gao Hua Securities Research

#1: Technology leadership creates first-to-market advantage in China

We see high potential for growth in all three sectors in which Hytera operates in China:

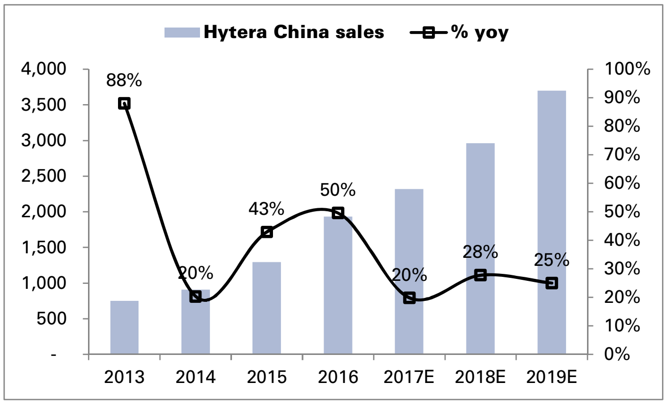
- **Public safety sector:** Hytera plans to continue leveraging its advantages in the PDT field, and promote the construction of a domestic public security PDT network and application expansion. The company targets to grow its capacity to better handle large projects, improve its technology on integration of narrowband with broadband, and enhance the partnership with local public safety departments.
- **Public utility sector:** We believe Hytera's TETRA and DMR products have entered a stage of healthy expansion. The products have become the first choice for many sectors such as railway/metro/oil pipeline. Hytera plans to continue focusing on providing comprehensive industry solutions, increasing its sales efforts and channel coverage to maintain its high revenue and earnings growth.
- **Commercial sector:** The commercial sector in China is more fragmented than the public safety or public utility sectors, and it requires more standardized products. We see room for industry consolidation in the commercial sector and also believe Hytera can leverage its best-in-class technologies and economies of scale to gain market share in this segment and gradually consolidate the market.

Exhibit 24: Hytera's technology leadership creates first-to-market advantage in China



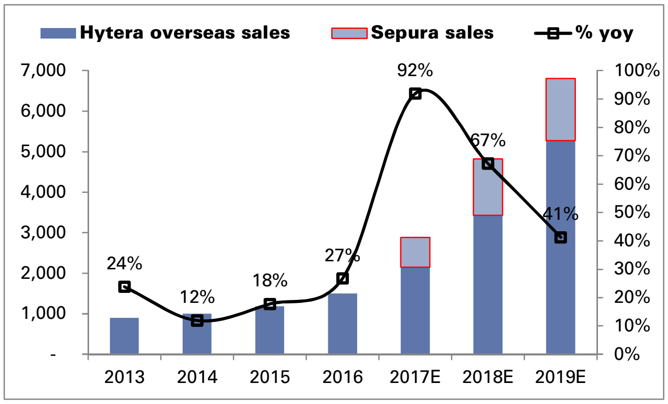
Source: Company data, Gao Hua Securities Research

Exhibit 25: Hytera is growing its domestic revenue by increasing PMR penetration and continued terminal/ system upgrade from analog to digital



Source: Company data, Gao Hua Securities Research

Exhibit 26: Hytera is growing its overseas revenue via both organic market share gain and asset acquisition



Source: Company data, Gao Hua Securities Research

#2: Contract wins and M&A are driving growth in overseas markets

Hytera has combined organic growth with active M&A in overseas markets over the past decade, winning contracts due to its high quality products, fast response time, and good customer service.

TETRA and DMR standards are prevalent in markets outside China (PDT), the United States (P25[1]), and Australia (P25) in North America. Hytera is currently the world's largest DMR Tier III Trunking provider, with over 40% of its total revenue generated in overseas markets in 2016. It has successfully won contracts from government sectors in the Netherlands, Russia, Peru, Chile, etc., and has provided its PMR devices and equipment in numerous sporting events worldwide.

Through its recent acquisition of Sepura – with its 40% market share in TETRA technology globally, similar to peer MSI – Hytera has effectively beefed up its TETRA offerings and gained access to Sepura's proprietary technologies.

Exhibit 27: Hytera's overseas projects, 2011-2017 (in US$)

Time	Project contract party	Amount	Remark
Jul-11	Finance and Economy Division of the National Police of Peru	$10.7 mn	Digital communications equipment (TETRA)
Apr-14	Metro system of the city of Santiago de Chile	$12.7 mn	Digital communications equipment (TETRA)
Jun-15	The Dutch Ministry of Security and Justice	$98.0 mn	Renewal of the C2000 TETRA radio network
Jul-15	Addis Ababa (Capital of Ethiopia) Police Commission	$7.2 mn	Emergency Command and Dispatching System
Feb-17	MS-Spectelecom (Russian telecom operator)	$6.9 mn	Communications equipment for 2017 FIFA Confederation Cup and 2018 World Cup
Jul-17	Ministry of Interior of Angola	$31.3 mn	Communications equipment for the Ministry of Interior of Angola

Source: Company data

[1] P25 is a suite of standards for digital mobile radio communications designed for use by public safety organizations. For more details please see Appendix 2.

Exhibit 28: Hytera's expansion strategies across different technology standards and product suites

Factors / Standards	TETRA	DMR	PDT	Analog conventional	IPT Analog trunked	Digital plus
Technology features						
Entry barrier	high	mid	mid	low	low	high
Maintainence costs	high	low	low	high	high	high
R&D costs	high	mid	mid	low	mid	high
Digitalization level	high	mid	high	low	low	high
Market acceptance	high	high	low	high	high	low
Hytera share	mid	high	high	high	high	low
Hytera strategy (Ansoff matrix)	Expansion	Penetration	Penetration & Expansion			Product development
Hytera method	Acquire Sepura	Technology upgrading	Organic growth	Migration	Migration	Organic growth
Product outcome	TETRA terminals and systems	DMR Tier III mainly for high-end commercials	PDT terminals and systems			Integration of broadband and narrowban
Market outcome	UKI, Germany, AEMEA, APAC, North and Latin America	Selected customer groups from developed countries mainly	Tier II to Tier III cities, other developing countries			Selected projects from China and overseas market

Source: *Company data*

Acquisition of Sepura: On May 25, 2017, Hytera completed its acquisition of the Sepura Group PLC, based in Cambridge, United Kingdom, a leader in TETRA technology (40% TETRA market share globally in 2016) with the ability to offer TETRA, DMR, P25 and LTE devices for organizations worldwide. Its complete business solution package enables public safety organizations and public utilities sectors to address communication challenges. The deal closed at £0.2/share and the total acquisition price was c.£74mn (US$92mn). Sepura also owns Spanish PMR provider Teltronic S.A.U. and Finnish applications developer Portalify, and we believe the acquisition should provide Hytera with a stronger market position in the UK, Europe and North America, as well as strong distribution channel partnerships through a worldwide dealer network.

Exhibit 29: Hytera's historical acquisitions

Announcement	Acquired company	Country	Amount of announcement (US$)	Business of acquired company	Acquisition
Jun-07	Marketronics	US	US$1.2 mn	Distributor of wireless products to North and Latin America market	Vertical
May-08	Harbin Qiaohang	China	US$3.8 mn	Developer of digital trunked communications devices	Horizontal
Mar-09	SEG Communications	China	US$5.9 mn	Developer of PMR products and equipment in China market	Horizontal
Jun-11	Rohde & Schwarz	Germany	US$2.9 mn	Developer of TETRA products based in Germany	Horizontal
Oct-12	Fjord-e-design	Germany	US$2.6 mn	Developer of TETRA products based in Germany	Horizontal
Apr-12	Zhouda Communication	China	US$1.6 mn	Developer of PMR products and equipment in China market	Horizontal
Nov-16	Sepura	UK	US$92.0 mn	Developer of TETRA products based in UK	Horizontal
Mar-17	Norsat	Canada	US$70.6 mn	Supplier of base station antenna	Vertical

Source: *Company data*

#3: Scale advantage and vertical integration drives margin expansion

Hytera has historically enjoyed operating leverage as its profit growth constantly outpaced revenue growth. We believe that as Hytera continues to leverage its market and technology leadership to gain share, the company could utilize economies of scale and continue to uplift net income margins.

When determining and analyzing Hytera's operating leverage, we ran a correlation test on every cost item against sales over a period of 2010-2016, and distinguished the fixed costs from variable costs:

- **Fixed costs**: Material consumption, tax, amortization of intangible assets, amortization of amortization expenses, property tax, land holding tax, others.
- **Variable costs**: Employee salary, travel expenses, publicity expense, logistics expense, business entertainment, conference, consultation fee, projects expense, R&D expense, depreciation, rental expense, office expense, car expense, city maintenance and construction tax, education surcharge, others.

We discover that from 2013-2016, Hytera's variable cost as a percentage of sales remained largely stable around 35%, whereas fixed cost as a percentage of sales declined from 4.9% to 2.8% over the same period, exhibiting clear operating leverage. Driven by growing revenue size, improving production efficiency, and vertical consolidation, we expect to see continued operating margin improvement, leading to a rise in net profit margin as well.

Exhibit 30: We see operating leverage for Hytera as the fixed cost/sales ratio has consistently come down since 2012

SG&A as % of revenue		2010	2011	2012	2013	2014	2015	2016
Selling expense								
Employee salary	V	3.9%	3.7%	6.7%	6.5%	6.4%	7.4%	6.1%
Travel expenses	V	1.7%	1.8%	2.8%	2.6%	2.8%	2.4%	2.4%
Material consumption	F	0.9%	0.8%	1.0%	0.5%	0.6%	0.6%	0.3%
Publicity expense	V	1.4%	1.3%	1.9%	1.7%	1.8%	1.6%	1.4%
Logistics expense	V	0.5%	0.6%	1.0%	0.6%	0.8%	0.6%	0.7%
Business entertainment	V	0.8%	1.1%	1.7%	1.7%	1.4%	1.4%	1.8%
Conference expense	V	0.5%	0.4%	0.6%	0.4%	0.2%	0.4%	0.6%
Consultation fee	V	0.2%	0.9%	0.7%	0.9%	0.7%	0.6%	0.8%
Rental expense	V	0.0%	0.0%	0.3%	0.3%	0.3%	0.3%	0.4%
Projects expense	V	0.4%	0.8%	0.7%	0.5%	0.5%	0.5%	0.4%
Others	V	1.9%	2.0%	3.0%	2.1%	2.2%	2.1%	2.3%
Total		**12.1%**	**13.5%**	**20.4%**	**17.7%**	**17.8%**	**17.9%**	**17.3%**
General & Administration								
R&D expense	V	10.8%	9.6%	11.9%	8.7%	7.2%	8.0%	9.6%
Employee salary	V	4.7%	5.2%	7.9%	6.4%	7.3%	6.8%	5.5%
Depreciation	V	0.6%	0.4%	1.1%	0.7%	0.7%	0.9%	0.8%
Travel expense	V	0.0%	0.3%	0.5%	0.3%	0.3%	0.2%	0.2%
Business entertainment	V	0.2%	0.3%	0.4%	0.3%	0.3%	0.2%	0.2%
Tax	F	0.3%	0.2%	0.4%	0.4%	0.4%	0.4%	0.1%
Rental expense	V	0.3%	0.3%	0.4%	0.2%	0.3%	0.4%	0.4%
Amortization of intangible assets	F	0.0%	0.0%	0.2%	0.4%	0.3%	0.3%	0.2%
Amortization of amortization expense	F	0.0%	0.0%	0.0%	0.0%	0.6%	0.6%	0.4%
Consultation fee	V	0.0%	0.0%	0.3%	0.2%	0.1%	0.1%	0.4%
Office expense	V	0.0%	0.3%	0.0%	0.0%	0.0%	0.2%	0.2%
Car expense	V	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%
Others	F	2.3%	2.1%	4.0%	3.6%	2.4%	1.7%	1.5%
Total		**19.2%**	**18.8%**	**27.1%**	**21.3%**	**20.0%**	**20.1%**	**19.7%**
Business tax and surcharges								
City maintenance and construction tax	V	0.2%	0.4%	0.4%	0.5%	0.3%	0.4%	0.5%
Education surcharge	V	0.1%	0.3%	0.3%	0.4%	0.2%	0.3%	0.3%
Property tax	F	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Land holding tax	F	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Others	V	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.1%
Total		**0.4%**	**0.7%**	**0.8%**	**0.9%**	**0.6%**	**0.8%**	**1.1%**
Total SG&A		**31.7%**	**33.0%**	**48.3%**	**39.9%**	**38.3%**	**38.8%**	**38.2%**
Variable cost		28.2%	29.9%	42.6%	35.0%	34.0%	35.2%	35.4%
Fixed cost		3.5%	3.0%	5.7%	4.9%	4.3%	3.6%	2.8%

Source: Company data

Acquisition of Norsat: Hytera acquired Norsat in an all-cash c.US$68mn deal in July 2017. Norsat had been a long-term antenna and filter supplier to Hytera for its base stations (system products) and Hytera stated that Norsat's innovative business of satellite communications would create new opportunities in the long-term growth.

Based on market share, Norsat is a global leading provider of communication solutions to enable the transmission of data, audio and video for various applications. Its products and services include microwave components, satellite terminals and maritime solutions. Through a subsidiary, Norsat also provides antenna and RF conditioning products, which are widely applied by telecommunications players, emergency services and homeland security agencies.

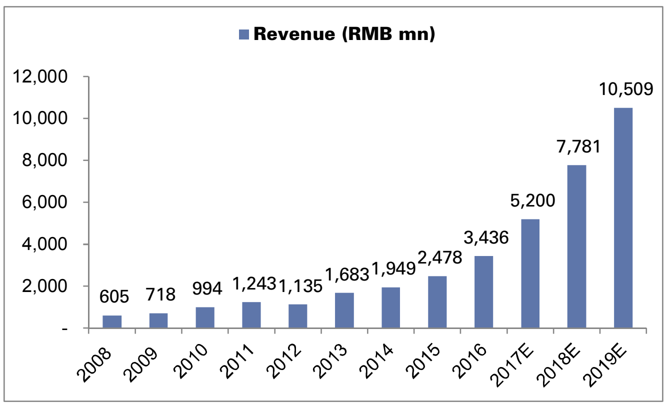
Strong earnings growth underpins industry leading ROE

Continued market share gains, gross margin improvement, and operating leverage should lead EPS to grow at a 55% CAGR from 2017E to 2019E

Revenue

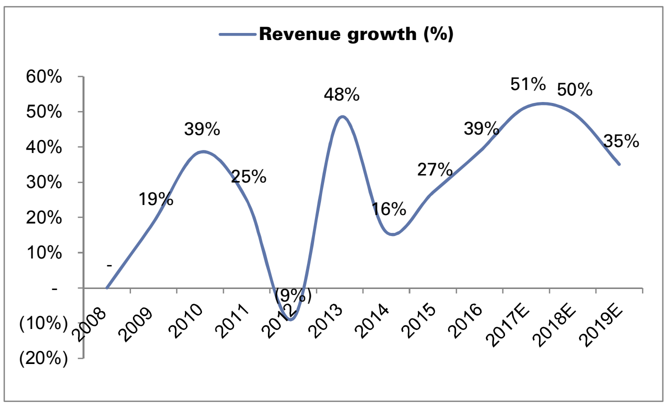
Hytera recorded total revenue of RMB3,436mn in 2016, +39% yoy, and has achieved revenue CAGR of 24% over 2008-2016. The only year in which revenue declined was 2012, due to: (1) acceleration of analog-to-digital migration which led to weakening demand for analog products, but China's PDT network construction was still in the relatively early stages and hadn't reached sizable procurement yet; (2) the economic slowdown and policy controls on the property market suppressed demand in the commercial segment. Growth has re-accelerated since 2014, driven by increasing penetration of digital products, and we forecast revenue CAGR of 36% from 2017 to 2019, reaching RMB10.5bn in 2019E, driven by a higher PMR equipment rate, continued analog-to-digital migration, and Hytera's market share gains in both domestic and overseas markets.

Exhibit 31: Hytera revenue to pass RMB10bn by 2019E, on improving industry penetration and market share gain



Source: Company data, Gao Hua Securities Research

Exhibit 32: Hytera's revenue grew at a CAGR of 24% over 2008-2016



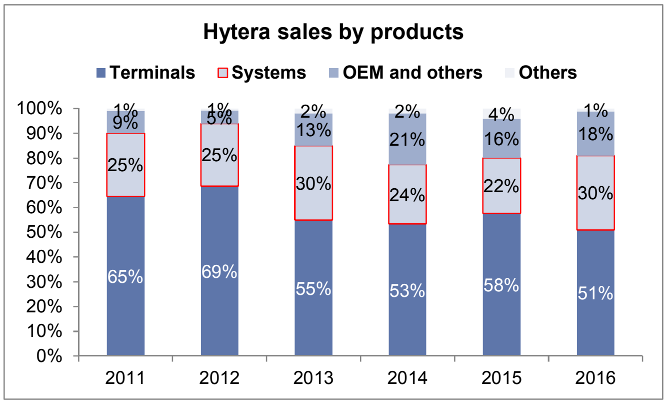
Source: Company data, Gao Hua Securities Research

Revenue breakdown by product type

Hytera breaks down its revenue by different product type, and we discuss each below:

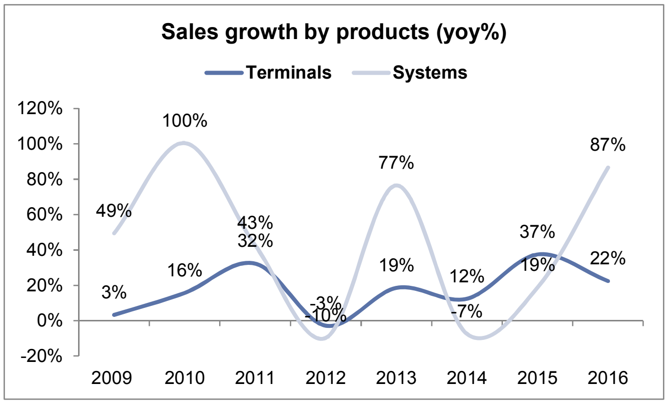
- **Terminals** revenue of RMB1,750mn (+22% yoy) in 2016 accounted for 51% of Hytera's total revenue. Terminal products include digital portable radios, analog portable radios, digital mobile radios, professional digital repeaters and portable repeaters. Technologies involved include Analog conventional, MPT analog trunked, PDT, DMR, TETRA and LTE-PMR Convergence. We expect revenue in this segment to grow at a 42% CAGR over 2017E-2019E, driven by growing PMR device penetration and ASP improvement from analog-to-digital upgrade.
- **Systems** revenue of RMB1,035mn (+87% yoy) in 2016 accounted for 30% of total revenue. System products include base station systems, dispatching systems. Technologies involved are Analog conventional, MPT analog trunked, PDT, DMR, and TETRA). We expect revenue in this segment to grow at a 45% CAGR over 2017E-2019E, driven by equipment upgrades as well as higher contribution from software bundled in solutions sales.
- **OEM and Others** revenue of RMB611mn (+57% yoy) in 2016 accounted for 19% of total revenue. This segment includes revenue from OEM projects for the military, SMT (Surface Mount) services and others. We expect revenue in this segment to grow at a CAGR of 37% over 2017E-2019E with stable business expansion.

Exhibit 33: Revenue breakdown by product type



Source: Company data

Exhibit 34: Revenue growth by product type



Source: Company data

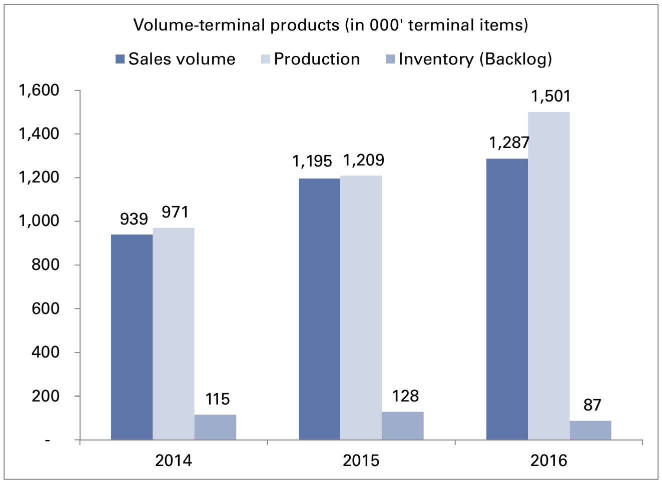
Volume analysis

YoY sales volume growth of terminal products declined from 27% in 2015 to 8% in 2016, while production maintained a high growth level (24%). There was also a large decline in the inventory over the same period. We believe that analog products are gradually being replaced by digital products, and that 2016 saw sales of analog products restricted while digital products continued to hit the ground. We expect this shift to positively impact Hytera due to an improvement in its blended ASP driven by higher proportion of digital products in its revenue mix.

YoY sales volume growth of system products maintained at 6%, while production slowed down. System products continue to become an increasingly important revenue contributor, now contributing c.30% of Hytera's total revenue.

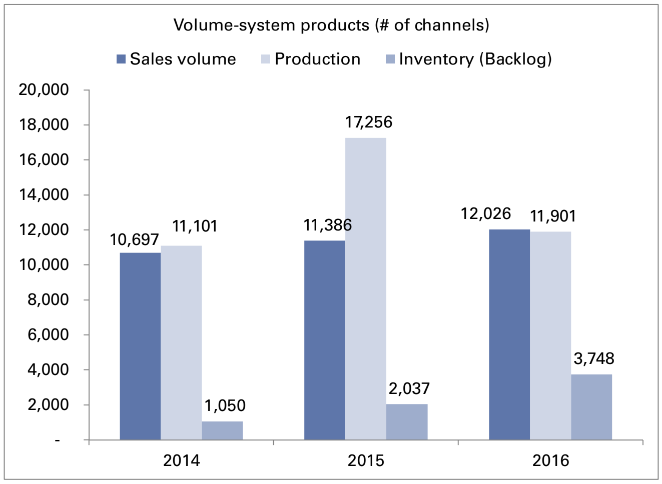
We expect volume for both terminal and system products will continue to grow due to increasing penetration and improving replacement demand on higher installment base.

Exhibit 35: Sales volume, production volume, and inventory for Hytera's terminal products



Source: Company data

Exhibit 36: Sales volume, production volume, and inventory for Hytera's system products

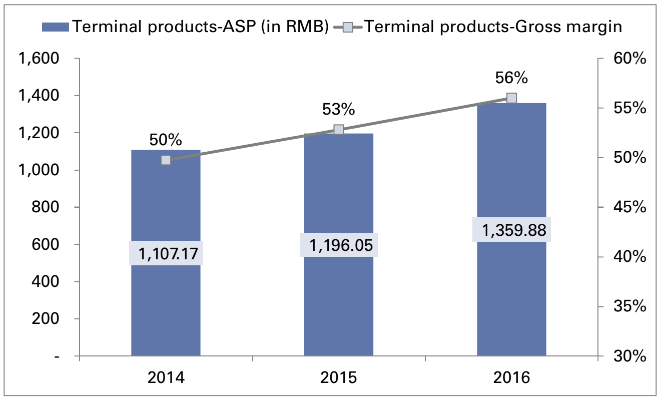


Source: Company data

ASP analysis

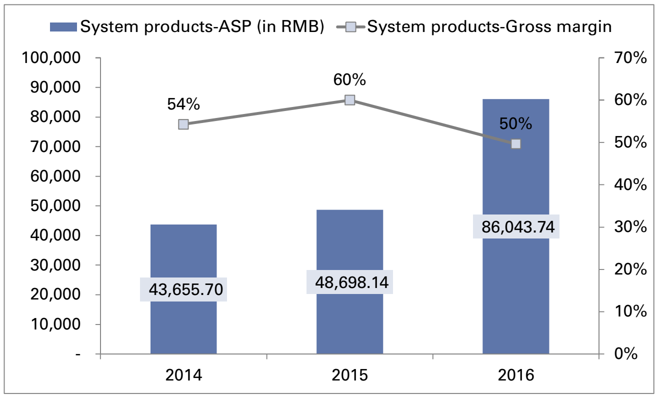
Overall, both terminal products and system products are not price sensitive. With the continuous trend of digital migration, Hytera has seen the blended ASP of both its terminal and system products continuing to increase over the past three years, while the derived ASP of system products saw a strong boost in 2016 due to more and more software revenue included in the systems revenue. We expect the blended ASP for both terminal/system products will continue to grow at 2%-3% per annum yoy from 2016 to 2020E, driven by the technology upgrade from analog to digital.

Exhibit 37: Blended ASP and gross margin for Hytera's terminal products



Source: Company data

Exhibit 38: Blended ASP and gross margin for Hytera's system products

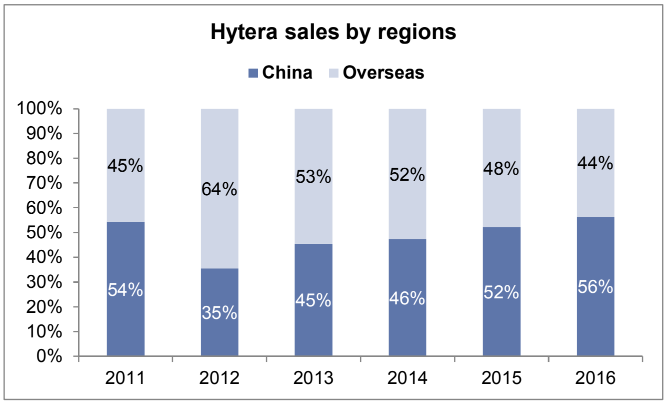


Source: Company data

Revenue breakdown by geography

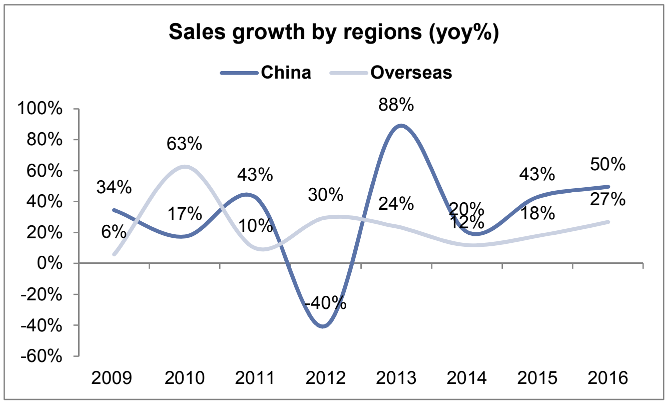
- **Domestic** revenue of RMB1,934mn (+50% yoy) accounted for 56% of Hytera's total revenue in 2016. Over the 2008-2016 period, revenue from China has grown at a CAGR of 26%.
- **Overseas** revenue of RMB1,502mn (+27% yoy) accounted for 44% of total revenue in 2016. Over the 2008-2016 period, revenue from overseas markets has grown at a CAGR of 22%.

Exhibit 39: Revenue breakdown by geography



Source: Company data

Exhibit 40: Revenue growth by geography



Source: Company data

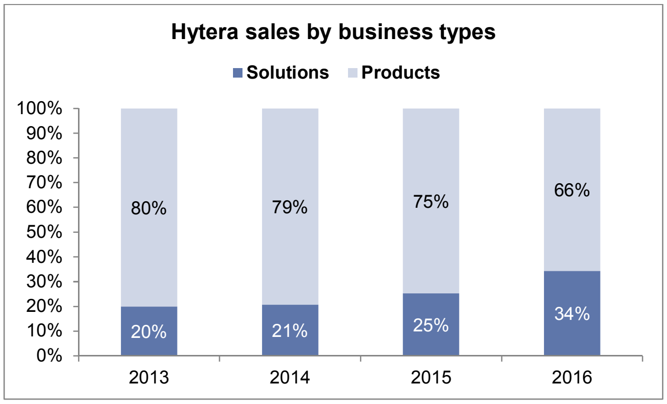
Revenue breakdown by business type

Over the past four years, revenue from solutions has increasingly accounted for a bigger portion of Hytera's total revenue, reflecting the company's improving capability with providing more comprehensive and complicated product suites, and also conducting total solutions services, in our view. We believe this to be a key differentiating factor for Hytera vs. its competitors, enabling the company in bidding and handling complicated projects.

Revenue seasonality

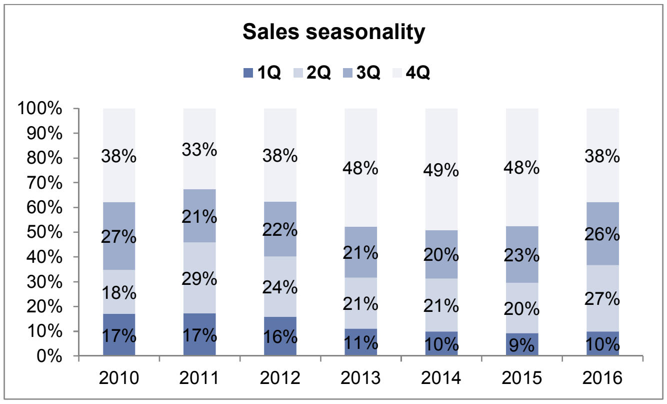
We observe strong seasonality in Hytera's quarterly revenue contributions, with 1Q being the low season and 4Q being the high season. From 2010-2016, 1Q revenue on average accounted for just 13% of the annual total, whereas 4Q revenue accounted for 41%, with 2Q and 3Q accounting for 23% and 23%.

Exhibit 41: Revenue breakdown by business type



Source: Company data

Exhibit 42: Revenue seasonality at Hytera



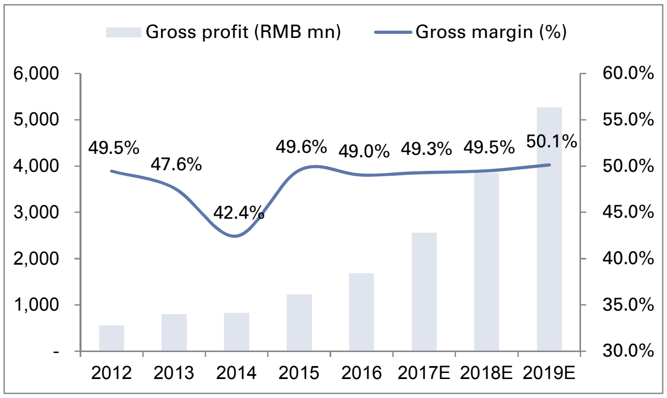
Source: Company data

Profitability

Hytera has had an average gross margin of 47.4% over the past nine years, ranging from 51.6% in 2008 to 42.4% in 2014, with the reduction driven by the company's further expansion in overseas markets and promotion of digital products. Since 2014, the gross margin has improved to 49.0% in 2016. We expect economies of scale, upgrade to digital products, and better cost control from vertical integration should all drive gross margin improvement for Hytera, reaching 50.1% in 2019E.

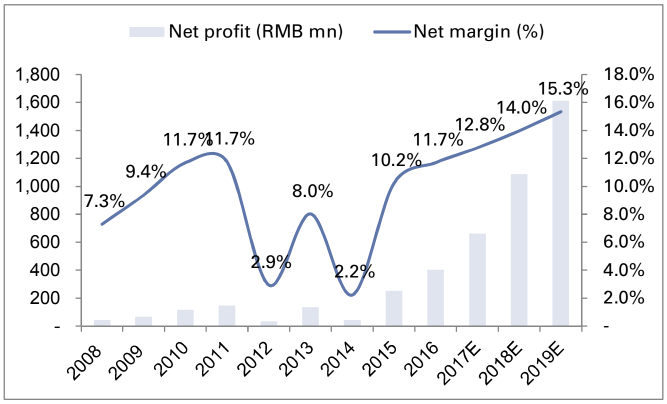
Hytera's net profit margin has also rebounded to 11.7% in 2016 from the trough of 2.2% in 2014. The low margin was due to higher sales and marketing spending, R&D expenses, and FX loss due to depreciation of the Euro and GBP. We expect net margin for Hytera to trend higher, up to 15.3% in 2019E, on improving gross margin as well as operating leverage.

Exhibit 43: Both Hytera's gross margin and net margin have recovered from the trough level in 2014…



Source: Company data, Gao Hua Securities Research

Exhibit 44: … and we expect continued improvement



Source: Company data, Gao Hua Securities Research

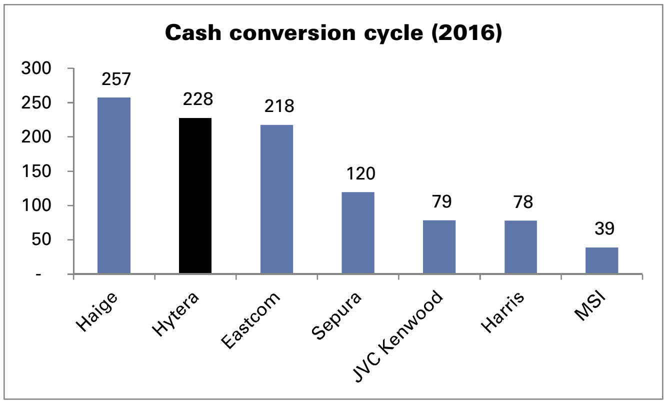
Working Capital

In 2016, Hytera had a cash conversion cycle of 228 days (i.e., 7.6 months), caused by account receivable days of 256 (i.e., 8.5 months). This is not uncommon among Chinese PMR companies such as Haige and Eastcom, although it is high compared to overseas peers. We believe the main reason for the elevated level of account receivables is the lengthy cash conversion process with Chinese government projects.

Hytera recognizes revenue for system solutions projects when the initial examination is passed, but the cash received at this stage is usually 50%-70% of the total. There is another 3-12 months between passing the initial examination and passing the final examination, thus the cash receipt proportion will reach 90%-95% only after the final examination is passed. The remaining 5%-10% warranties will be paid after the expiration of the warranty period. As a result, the account receivable period for system solutions projects is longer vs. overseas industry peers, resulting in higher accounts receivables.

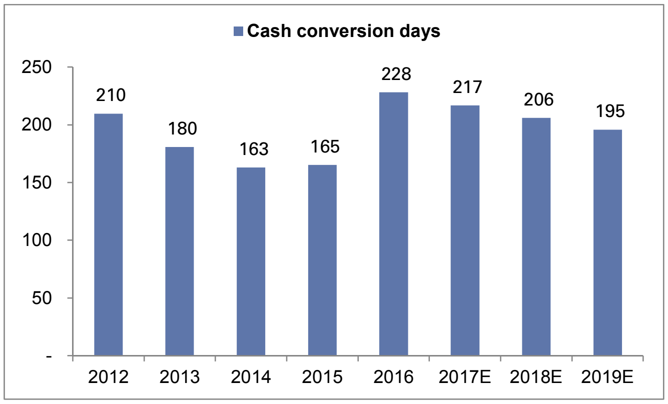
We expect that Hytera's account receivable days and cash conversion cycle will shorten, impacted by the acquisition of Sepura (completed in May 2017) and also due to its better operating efficiency given an improving market position.

Exhibit 45: Chinese PMR players have higher cash conversion days vs. overseas players



Source: Company data

Exhibit 46: We expect the cash conversion cycle for Hytera to improve



Source: Company data, Gao Hua Securities Research

Return on equity

Hytera's ROE has improved from 2% in 2012 to 11% in 2016, driven by growth in the net margin from 3% to 12% over the same period. As we expect the company to continue gaining market share and enjoy operating leverage, we forecast ROE improving to 23% by 2019E.

Exhibit 47: We expect Hytera's ROE to improve, mainly on rising net profit margin

Hytera Dupont analysis	2012	2013	2014	2015	2016	2017E	2018E	2019E
Net profit margin (%)	3%	8%	2%	10%	12%	13%	14%	15%
Turnover to asset ratio	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7
Asset to equity ratio	1.3	1.6	1.8	1.9	1.6	1.8	2.1	2.0
Return on equity (%)	**2%**	**7%**	**2%**	**12%**	**11%**	**13%**	**19%**	**23%**

Source: Company data, Gao Hua Securities Research

Leverage/debt

We see Hytera's financial leverage levels have remained stable over the past 5 years, and interest coverage ratios have shown improvement. We do not see any short-term solvency risks on debt repayments given its current low debt levels.

Exhibit 48: Hytera's gearing ratios remain in check

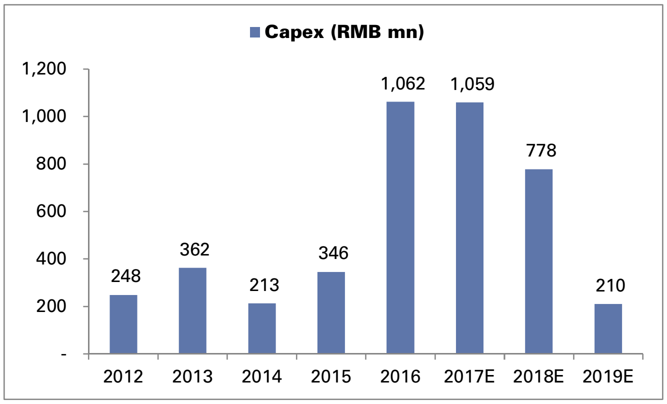
Gearing ratios	2012	2013	2014	2015	2016	2017E	2018E	2019E
Total debt to capital ratio (x)	0.1x	0.2x	0.3x	0.3x	0.1x	0.4x	0.3x	0.3x
Net debt to equity ratio (x)	-0.1x	0.1x	0.2x	0.3x	0.0x	0.3x	0.4x	0.3x
EBIT interest coverage ratio (x)	1.6x	5.4x	1.1x	7.9x	26.6x	45.2x	44.0x	65.9x
EBITDA interest coverage (x)	7.4x	8.4x	2.5x	11.7x	37.3x	55.1x	50.4x	72.1x

Source: Company data, Gao Hua Securities Research

Capex

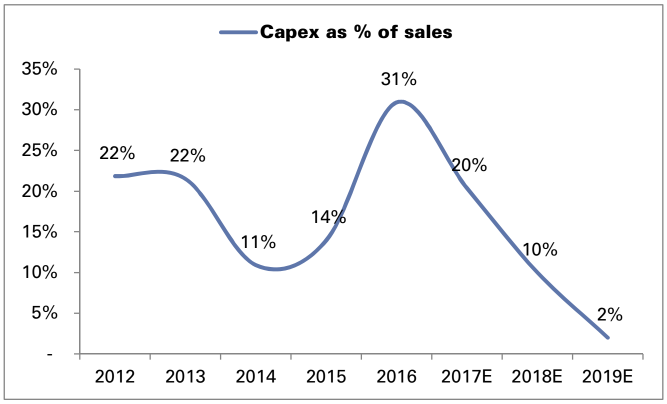
In 2016, Hytera spent RMB1bn on capex, 31% of its total revenue. We expect it to invest a total of close to RMB3bn in capex over 2016-2018E, for new initiatives on upgrade from analog to digital, ramping capacity on market share gain, and construction of its new headquarters. The company plans to build a new headquarter in Nanshan District, Shenzhen, as its operations, exhibition center and customer reception center. Hytera believes the new headquarters will greatly improve its current shortage of office space situation and also enhance its corporate image. Starting from 2019E, we expect capex to come back to normal maintenance levels of RMB200-300mn each year.

Exhibit 49: We expect Hytera to have three years of elevated capex levels (2016-2018E)…



Source: *Company data, Gao Hua Securities Research*

Exhibit 50: … before coming back to normal maintenance capex levels in 2019E

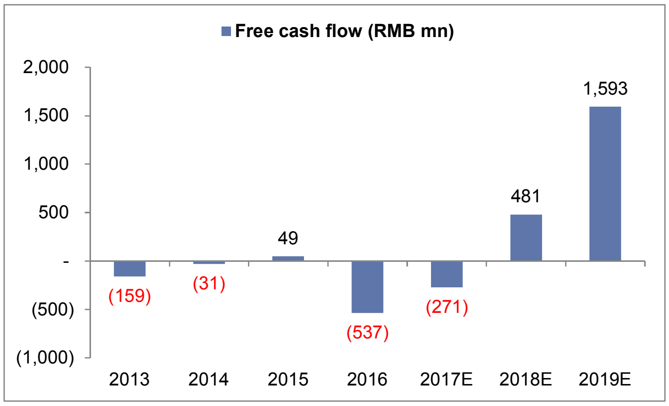


Source: *Company data, Gao Hua Securities Research*

Free cash flow

We expect Hytera's free cash flow to bottom out from 2016 and turn positive by 2018E, driven by margin improvements and better cash conversion cycle.

Exhibit 51: We expect Hytera's free cash flow to bottom out from 2016 and turn positive by 2018E



Source: *Company data, Gao Hua Securities Research*

12-m target price implies 21% upside potential; initiate with Buy

As visibility on its improving profitability increases, we expect Hytera to see a re-rating

P/E based valuation

We believe P/E is the key valuation metric investors focus on for Hytera, as it takes into account all the revenue and cost elements affecting earnings (cost structure, capital structure, effective tax rate, FX, etc.) and also reflects profit making ability. This is in line with our valuation methodology for the A-share tech space.

We forecast 42% revenue and 56% EPS CAGR for Hytera over 2017E-2019E, driven by continued market share expansion, technology leadership and strong operating leverage. We apply a 30% premium to the global PMR peer average P/E multiple of 18X 2019E to arrive at 24X target multiple for Hytera.

We include global PMR peers such as Motorola Solutions, Harris, Haige Communication and JVC Kenwood when calculating the global PMR peer average P/E multiple for 2019E. All of these stocks are major players in the global PMR market, together holding more than 70% of global market share in 2016.

The 30% premium applied is the average of Hytera's 2016 gross margin premium (21%), net margin premium (27%), and ROE premium (41%) over its global peers. The sustainability of Hytera's 2017E-2019E revenue/EPS CAGR (2.6X/2.1X that of the industry average over the same period) leads us to use 2019E as our 12-month target price base year.

Applying this 24X P/E target multiple to our Hytera 2019E EPS, we arrive at a 12-month target price of RMB23, implying 21% upside potential.

Exhibit 52: Hytera valuation methodology

Company	Ticker	Rating	Currency	Target price	Market price	Potential +/-Side	EPS (2019E)	Sector avg P/E (2019E)	Hytera premium	Target multiple
Hytera	002583.SZ	Buy	RMB	23.0	19.0	21%	0.94	18X	30%	24X

Source: Datastream, Gao Hua Securities Research

Exhibit 53: PMR Valuation Comps

Company	Ticker	Rating	Market Price	12m Target Price	Potential +/-Side	Market cap US$ mn	Revenue/EBITDA/EPS 2017E-2019E CAGR			Revenue (US$ mn) 2016	Gross margin 2016	Net margin 2016	P/E 2018E	P/E 2019E	PEG 2018E	EV/EBITDA 2018E	FCF yield 2018E	Div yield 2018E	P/B 2018E	ROE 2018E
Hytera (Rmb)	**002583.SZ**	**Buy**	**19.0**	**23.0**	**21%**	**5,018**	**42.2%**	**51.3%**	**55.9%**	**519**	**49.0%**	**11.7%**	**29.9x**	**20.2x**	**0.5x**	**28.2x**	**1.4%**	**0.5%**	**5.2x**	**18.6%**
Motorola Solutions (US$)	MSI	Buy	90.5	108.0	19%	14,727	1.7%	2.6%	10.2%	6,038	48.4%	14.1%	18.5x	17.2x	1.4x	10.2x	0.0%	2.2%	-12.9x	
Harris (US$)	HRS	Buy	139.3	127.0	-9%	16,607	6.6%	10.1%	19.0%	6,684	33.1%	7.3%	20.7x	17.0x	1.3x	12.7x	4.9%	1.6%	4.9x	22.0%
Haige Communications (Rmb)	002465.SZ	NC	10.9			3,812	27.5%	37.7%	37.5%	666	42.2%	14.5%	30.4x	23.6x	0.6x	23.9x	3.1%	1.2%	3.0x	9.5%
JVC Kenwood (JPY)	6632 T	NC	350.0			427	0.3%	9.5%	14.2%	2,597	29.5%	-1.7%	22.9x	18.1x	NA	3.5x	9.7%	1.4%	0.8x	2.7%
Average							**15.7%**	**22.2%**	**27.4%**	**3,301**	**40.4%**	**9.2%**	**24.5x**	**19.2x**	**1.0x**	**15.7x**	**3.8%**	**1.4%**	**0.2x**	**13.2%**
Median							**6.6%**	**10.1%**	**19.0%**	**2,597**	**42.2%**	**11.7%**	**22.9x**	**18.1x**	**1.0x**	**12.7x**	**3.1%**	**1.4%**	**3.0x**	**14.0%**
STD							**18.4%**	**21.1%**	**19.1%**	**2,920**	**8.8%**	**6.7%**	**5.4x**	**2.8x**	**0.5x**	**10.1x**	**3.7%**	**0.6%**	**7.5x**	**8.8%**
Hytera premium to average											***21%***	***27%***								***41%***

Notes: Pricing as of November 1, 2017, except US stocks which are as of October 31, 2017. Estimates for Not Covered (NC) companies are from Bloomberg.

Source: Datastream, Bloomberg, Company data, Goldman Sachs Global Investment Research, Gao Hua Securities Research

Where are we vs. consensus?

Our net income forecasts are 1%-7% ahead of consensus, as we believe the street is not fully appreciating the economies of scale and operating leverage that Hytera is enjoying. Overall, we expect that consensus revenue and earnings could see upgrades over the next 6-12 months.

Exhibit 54: Our 2017E-2019E net income is 1%-7% higher than Bloomberg consensus

	GSE			Bloomberg Consensus			GSE vs Cons		
(RMB mn)	2017E	2018E	2019E	2017E	2018E	2019E	2017E	2018E	2019E
Hytera									
Revenue	5,200	7,781	10,509	5,356	7,725	10,360	-3%	1%	1%
yoy %	51%	50%	35%	56%	44%	34%			
Gross profit	2,564	3,851	5,267	2,635	3,795	5,049	-3%	1%	4%
yoy %	52%	50%	37%	56%	44%	33%			
Net income	663	1,087	1,612	659	1,063	1,513	1%	2%	7%
yoy %	65%	64%	48%	64%	61%	42%			

Note: Consensus data as of November 1, 2017.

Source: Bloomberg, Company data, Gao Hua Securities Research

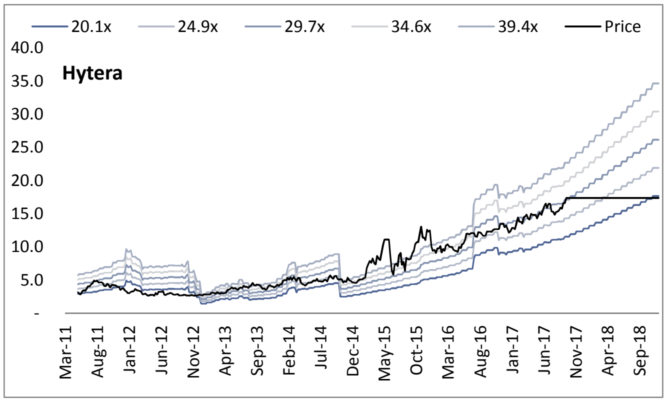
YTD, the Hytera share price has gained 47%, vs. the global PMR industry average of 12% (MSI +8% YTD). It has far outperformed its domestic listed peers Haige (-9% YTD) and Eastcom (-18% YTD), in our view due to its industry leading revenue growth and gross margins.

Although Hytera is currently trading in line with its historical average 12-month forward P/E, we expect the stock should continue to outperform its peers on the back of its strengthening market position in both domestic as well as overseas markets, and also improving profitability levels.

We expect the following catalysts in the next 12-months to drive Hytera to our target price:

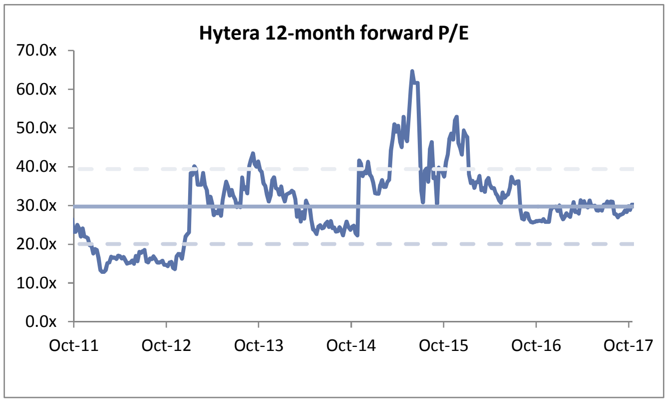
- Announcement of new contract wins in domestic and overseas markets;
- Quarterly results showing continued industry leading growth, improving margins, and strong earnings growth.

Exhibit 55: Hytera is trading in the middle of its P/E band



Source: Gao Hua Securities Research, Bloomberg

Exhibit 56: Hytera is currently trading in line with its historical average P/E



Source: Gao Hua Securities Research, Bloomberg

Government spending lumpiness, FX and AR days are the key risks

Industry demand volatility and FX are the key risks to our investment thesis and price target

PMR industry demand volatility

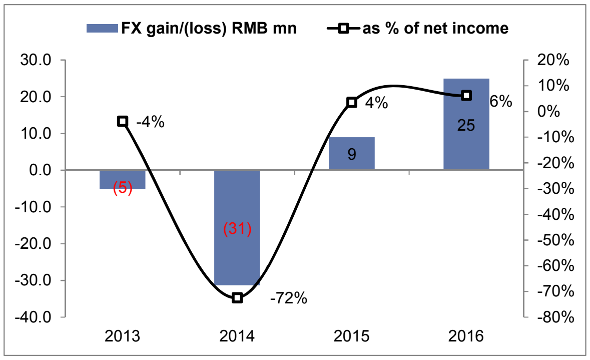
With over 80% of PMR industry demand in China coming from public sectors, 46% from public safety and 37% from public utilities in 2016, demand could be impacted by any government spending lumpiness. The remaining demand from the commercial sector is mainly geared towards commercial and residential properties, which is also susceptible to macro-economic growth and any policy adjustments.

Hytera has a comprehensive suite of different technology standard products for various markets and industries, and currently generates over 40% of its total revenue from overseas markets, 60% post the acquisition of Sepura. We believe Hytera's business is quite diversified, minimizing the impact from any demand fluctuation in a specific market.

Foreign exchange risks

Over the past four years, Hytera's overseas revenue has accounted for about half of the total revenue, and most of its raw material procurement and product exports are denominated in US Dollars and Euros. Besides, the daily operating currencies of Hytera's overseas subsidiaries are mainly Euros, US Dollars and British Pounds, so exchange rate fluctuations could have an impact on its financial statements. If these rates were to fluctuate significantly, there is a risk of exchange losses. According to Hytera's 2016 Annual Report, the company utilizes asset-liability hedge, financial instrument hedge, etc., to manage and reduce foreign exchange risks.

Exhibit 57: FX gain/loss vs. Hytera's net income



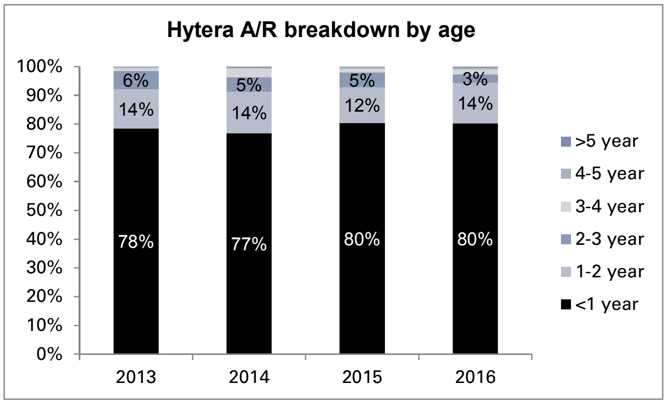
Source: Company data

Longer-than-expected receivable turnover

As mentioned in the working capital discussion earlier in this note, Hytera's account receivable period for system solutions projects is longer vs. overseas industry peers, resulting in higher accounts receivables.

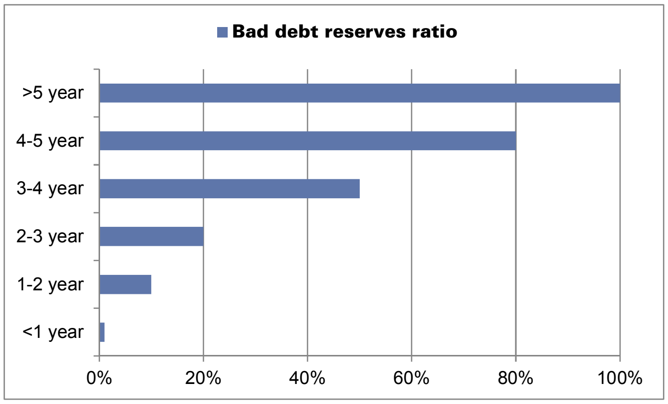
Our working capital analysis shows that over the past four years Hytera has maintained a stable A/R structure, with c.80% of receivable age under one year, and it has clear and stringent policies for bad debt write-down. Also, historically actual A/R write-offs have accounted for a small portion of Hytera's A/R balance. As a result, we do not see the relatively lengthy account receivable days as posing a material risk to Hytera's P&L.

Exhibit 58: Hytera's A/R structure remains healthy as c.80% of A/R has age less than one year



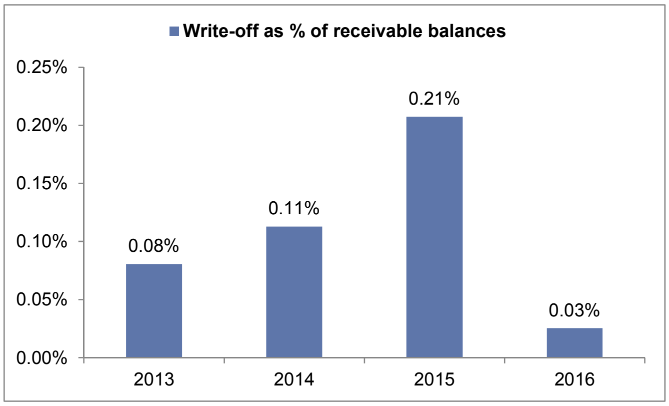
Source: Company data

Exhibit 59: Hytera's bad debt reserve ratio for different receivable ages (as of 2016)



Source: Company data

Exhibit 60: Hytera's write-offs account for a small portion of its A/R balance, hence we do not see collecting payments as a material risk



Source: Company data

Environmental, Social and Governance analysis – Hytera in context

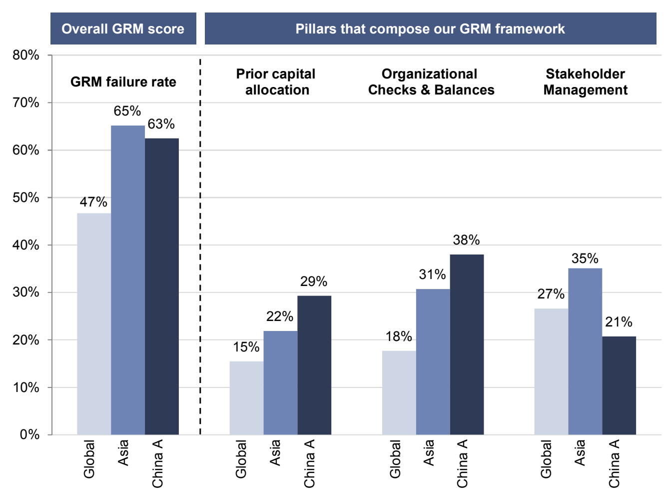
Reform remains a key focus for China – if governance reform persists it has the potential to lower risk, improve capital stewardship, and structurally improve shareholder returns

GS SUSTAIN's Governance and Risk Management (GRM) framework is a quantitative Environmental, Social and Governance (ESG) risk assessment tool that covers over 3,500 companies globally. Please see below for a snapshot of GS SUSTAIN's overall GRM scores and selected underlying metrics:

- **Two-thirds of China A-shares do not pass our screens** – Consistent with other large equity markets in Asia, over half of the China A-share companies in the sample do not meet our Governance and Risk Management screens. This highlights poor performance vs. global sector peers and could indicate an elevated chance of adverse "tail risk" events.
- **Low disclosure weighs on scores and reduces transparency** – While disclosure has improved in recent years, data availability for China A-share companies from our third-party providers continues to lag regional and global peers. Low levels of disclosure limit our ability to use a quantitative approach to evaluate companies.
- **High cash returns, but low payout ratios and high cash balances** – Relative to global sector peers, China A-share companies typically have higher returns (c.500bp higher) but lower payout ratios (600bp lower) and higher cash balances (300bp higher as a % of market capitalization).
- **Independent Directors and large block shareholders** – Board independence can be challenging to assess and we note that only c.2% of China A-share companies in our sample had a majority of independent directors on the board. We also note that as of mid-2017, 72% of the CSI 300 companies have a single shareholder with a greater than 25% equity stake.

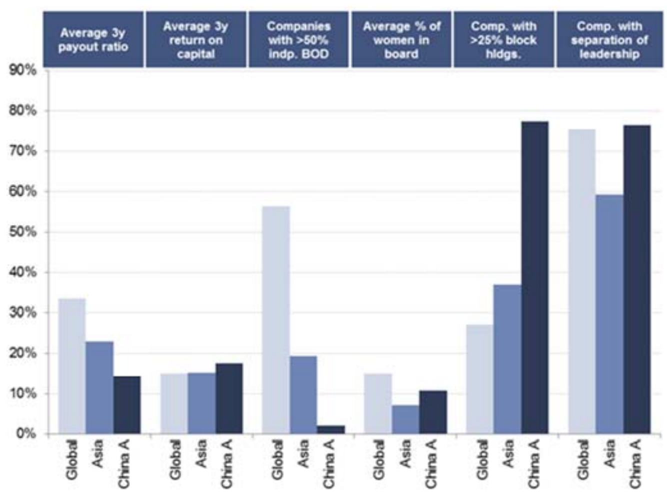
For more detail please see:
- Asian Corporate Governance: Restructuring and reform – a catalyst for value creation and lower risk, April 11, 2017
- Revisiting China A-Shares: Compelling opportunities, complex risks, July 2, 2017.

Exhibit 61: Two-thirds of the China A-share companies do not meet our risk screens – the 'organizational checks & balances' pillar of our analysis is a key driver of this
Percent of MSCI ACWI companies that do not pass GS SUSTAIN's GRM framework overall, and by pillar of analysis



Source: Datastream, FactSet, Thomson Reuters, Bloomberg, Goldman Sachs Global Investment Research

Exhibit 62: China A-shares typically have lower payout-ratios, fewer independent directors and large block shareholdings vs. global sector peers
Selected inputs into our GRM framework, sector relative scores, MSCI ACWI



Source: Datastream, FactSet, Thomson Reuters, Bloomberg, Goldman Sachs Global Investment Research

Hytera in context – broadly consistent with domestic peers

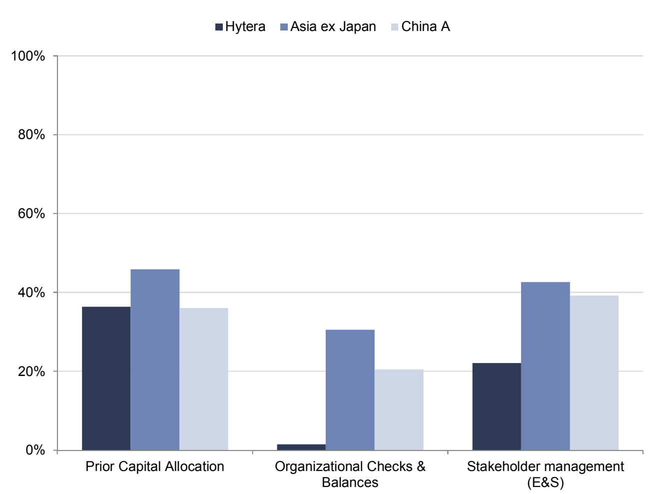
Overall, Hytera's scores on our GRM framework appear to be broadly consistent with other Chinese A-share companies in the sector. However, as highlighted above, China A-Share companies typically have lower scores in our framework than international peers and consistent with two-thirds of China A-share companies, Hytera does not pass our GRM screens.

Hytera's payout ratio over the last three years has exceeded domestic and international peers, supporting a solid overall score for the prior capital allocation (i.e., shareholder returns, returns on capital, gearing) pillar of our analysis. However, the company did not meet our GRM screens due to low scores in the organizational checks & balances and stakeholder engagement (environmental and social – E&S) pillars of our framework.

Key areas flagged by our GRM screens on Hytera include:

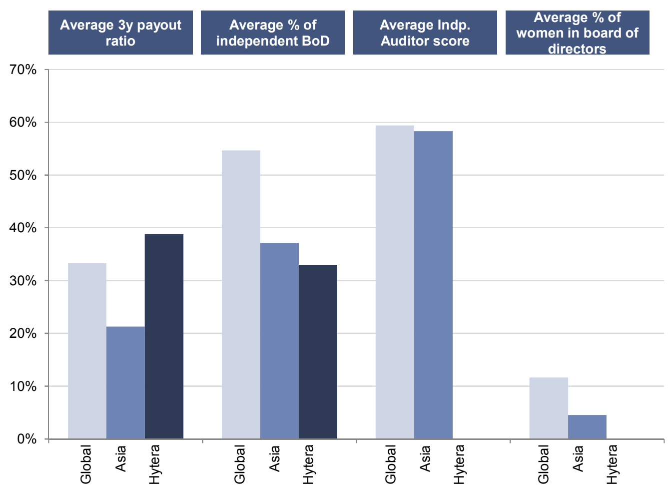
- **Board independence and diversity** – As of 2016, 33% of the board were independent directors, consistent with the requirement under the China Securities Company Management Approach for one-third of board members to be independent. This is slightly below the regional average but well below global peers where on average c.55% of directors are independent. Hytera does not have any women on its board.
- **Auditor independence** – We were unable to find the amount of audit and non-audit fees paid by Hytera to its auditor. Under our framework this lack of data availability results in a score of '0' for auditor independence.
- **Average employee compensation** – Hytera's average employee compensation is below global peers, but is broadly consistent with domestic manufacturing peers.
- **Data disclosure** – Low data availability also weighed on the company's E&S score within our framework.

Exhibit 63: Hytera's GRM scores are dragged down by the organizational checks & balances and the stakeholder management pillars of our framework
Scores for the three pillars of our GRM framework: Hytera, Asia Ex-Japan company average and China A-share company average



Source: Datastream, Thomson Reuters, FactSet, Goldman Sachs Global Investment Research

Exhibit 64: Board independence and diversity for Hytera are below regional and global peers
Selected scores for components of our GRM framework: Hytera vs. sector peers in Asia and sector peers in MSCI ACWI index



Source: Datastream, Thomson Reuters, FactSet, Goldman Sachs Global Investment Research

Introducing M&A framework for Hytera

We assign Hytera an M&A rank of 3, implying a low probability of being acquired

Across our global coverage, we examine stocks using an M&A framework, considering both qualitative factors and quantitative factors (which may vary across sectors and regions) to incorporate the potential that certain companies could be acquired. We then assign a M&A rank as a means of scoring companies under our rated coverage from 1 to 3, with 1 representing high (30%-50%) probability of the company becoming an acquisition target, 2 representing medium (15%-30%) probability and 3 representing low (0%-15%) probability. For companies ranked 1 or 2, in line with our standard departmental guidelines we incorporate an M&A component into our target price. M&A rank of 3 is considered immaterial and therefore does not factor into our price target, and may or may not be discussed in research.

We have previously examined our Asia Pacific technology coverage using an M&A framework *(*see *"Navigating the noise (6): Introduce M&A framework, update roadmap",* July 4, 2016*).* In the framework, we examine companies' potential as M&A targets and rank them from 1 to 3 based on our assessment of three key factors.

Firstly, we look at whether there are any impediments, such as **shareholder structure/preferences**, industry regulations/government policies, and takeover defense strategies that could prevent a transaction from occurring. We then consider **four qualitative factors** – attractiveness of technology, attractiveness of customers, cost synergy potential, and other/intangible value – and **two quantitative factors** – market cap and valuations.

Shareholder structure and potential impediments

We gauge whether there are any impediments to M&A because, if there are, a company is unlikely to become an M&A target even if it ranks 1 or 2 on qualitative/quantitative criteria.

When assessing potential impediments, we take into consideration:

- **Major shareholder preferences** (we assume that shareholders with a 20% or greater stake have significant influence, or a blocking stake), and take into account: any potential actions by major shareholders in the event of a possible acquisition by a third party (including whether they would likely be receptive, or if they may be opposed to selling), or if they have announced a preference to raise their stake in the company;
- **Regulatory and or government policy impediments**; and
- **Possible takeover defense measures such as a poison pill.**

We assign a "No" qualification if one or more of the three considerations above are applicable and a "Yes" qualification if these considerations do not apply.

Four qualitative assessment criteria

- **Technology:** We look at whether or not a company has attractive technology capable of generating future value, as well as its technological capabilities and intellectual property rights. We assign a rank of "3" if its technology is unattractive, "2" if it is moderately attractive, and "1" if it is very attractive.
- **Customer base:** We look at whether or not a company has an attractive customer base and product applications. We also take customer retention and end-market exposure (including sales channels) into account. We assign a rank of "3" if its customer base and product applications are unattractive, "2" if they are moderately attractive, "1" if they are attractive.
- **Cost synergies:** We look at prospects for growth in business scale and scope for profit margin/ yield improvement via acquisition of an M&A target company. We assign a rank of

"3" if there is low possibility of synergies, "2" if there is some possibility , "1" if there is high possibility.

- **Other:** We look at whether or not a target company possesses attractive assets, including brand strength, outstanding management/employees, and intangible assets. We assign a rank of "3" if they are unattractive, "2" if they are moderately attractive, "1" if they are attractive.

Two quantitative assessment criteria

- **Market cap:** We score a company based on the assumption that the smaller it is the easier it is to acquire. We also take regional qualities (such as differing market cap ranges between regions) into account.
- **Valuation:** We look at whether a target company's three-year average P/E and EV/DACF are below the industry/peer average for the same period, as we believe companies trading at a discount to peers are more likely to be acquired. We assign a score of "3" if the company appears overvalued relative to its respective industry peer group, "2" if its valuation is in line with the peer average, "1" if its valuation is discounted. We take into account differing valuation multiple ranges between the companies depending on their region and their peers.

Within this overall framework, we assign an M&A rank of '3' to Hytera. This is mainly due to its relatively strong technology, SOE background and customer mix (i.e., a large portion of its customers relate to China's public security). We believe the company is more likely to be an acquirer than a target.

Exhibit 65: We assign an M&A rank of "3" to Hytera

	Shareholders' structure				Qualitative score (1-3)				Quantitative score (1-3)			
Company Name	% of major shareholder	Shareholders' intention	No regulatory barrier	No anti-takeover measure	Technology	Customer base	Cost synergy	Other intangible asset	Market cap	Valuation unlocking	Total score	M&A Rank
Hytera Communication Technology	52%	No	Yes	Yes	3	3	3	2	2	3	2.7	3

Source: Gao Hua Securities Research

Appendix 1: Company overview

The second largest PMR provider globally

Founded and headquartered in Shenzhen in 1993, Hytera is currently the world's second largest PMR provider (6% market share globally in 2016, rising to 8% post the Sepura acquisition in May 2017), and the largest in China with 23% market share (2016). Its main business is manufacturing professional mobile radio terminals and providing system solutions in compliance with the DMR, TETRA, PDT and other analog standards. Hytera is a major contributor to the PDT standard, China's homegrown PMR standard designed for public safety organizations.

Exhibit 66: Hytera in numbers

Number	Description
Global presence	
6 Million	6 million end users
4,000	4,000 global partners
2,000	2,000 PMR networks
36+	36+ subsidiaries and offices
120	120 countries
Research and Development	
17%	17% of revenue invested into R&D in 2016
10	8 R&D centers Shenzhen | Harbin | Nanjing | Hebi | Dongguan | Bad Muender (Germany) | Cambridge (UK) | Zaragoza (Spain) | Richmond & Toronto (Canada)
585	Applying 585 Core Patents
410	Obtained 410 Patents
Manufacturing	
11,000 sqm	11,000 sqm Manufacturing Centre @ Shenzhen
5 Million	Capacity up to 5 million units per year

Note: All data as of end-2016.

Source: Company data

R&D focus

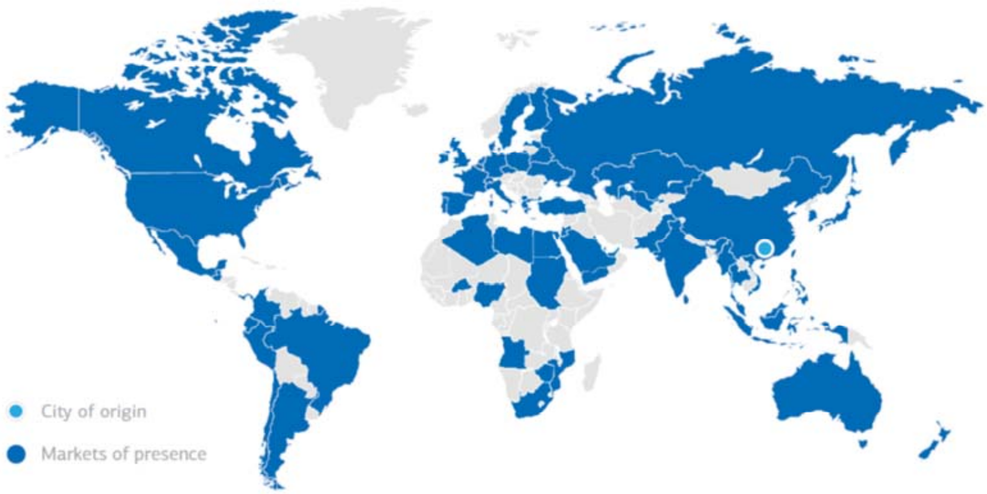
Hytera has ~8,000 personnel serving customers in 120 countries and regions, including government organizations, public security institutions, and customers in utilities, transportation, oil & gas and other sectors. It is focused on technology leadership and as of end-2016 ~40% of its employees were engaged in engineering, R&D, and product design across 10 R&D centers around the globe. The company's R&D spending has been above 11% of annual sales since 2008.

Broad customer base, both domestically and overseas

With 50 branches globally and partnerships with more than 4,000 global distributors (as of 2016), Hytera has established a broad customer base.

- **Domestic market**: Hytera cooperates with public security departments in more than 20 provinces, has built nearly one-third of China's metro operative communications systems, and has customer relationships in the railway, petrochemical, forestry, energy and port industries.
- **Overseas markets:** Hytera products are widely used in public as well as private sectors globally, including governments of the Netherlands, Russia, Peru, Chile, etc., and it has provided PMR devices and equipment in numerous sporting events worldwide.

Exhibit 67: Hytera's global footprint (as of 2016)



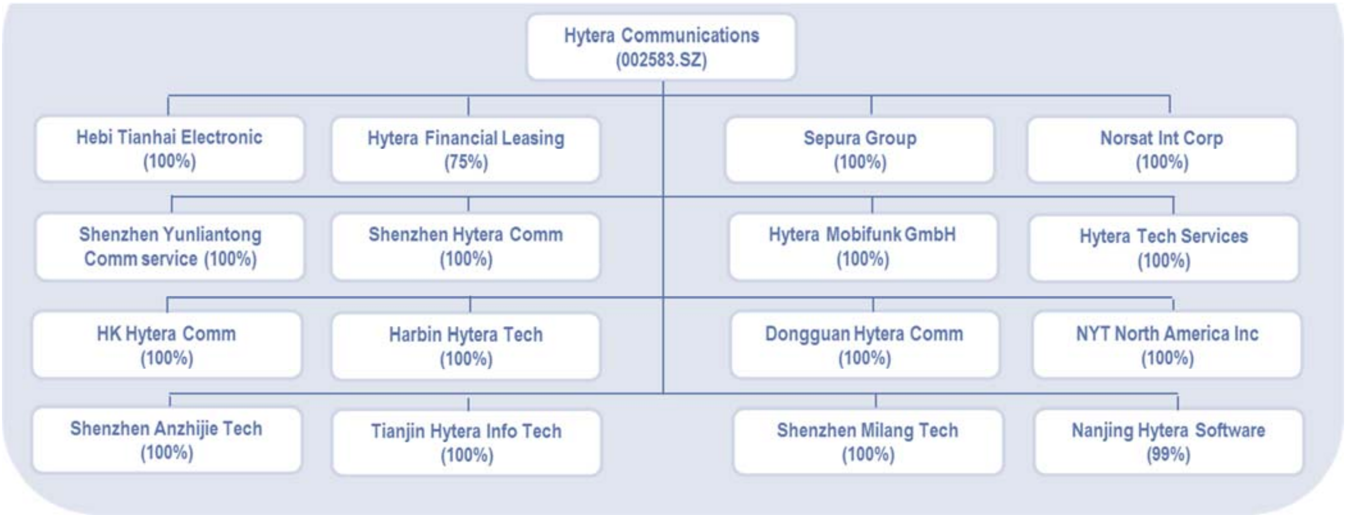
Source: Company data

Exhibit 68: Hytera's key events timeline

Source: Company data

Corporate structure

Exhibit 69: Hytera corporate structure (as of 2Q2017)



Source: *Company data*

Management background

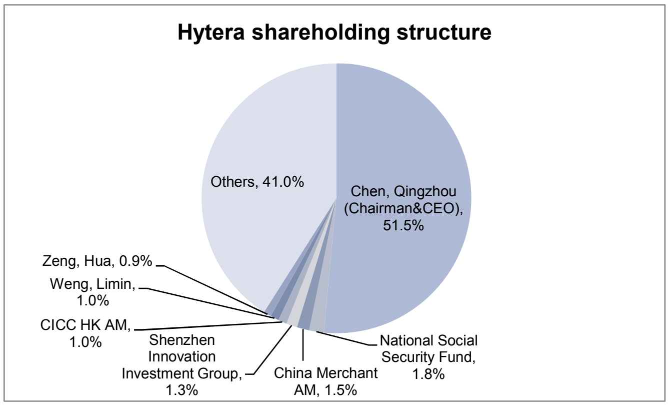
Chairman/President Qingzhou Chen leads Hytera's experienced management team and is also the largest shareholder, holding a 52% stake as of June 2017. On board composition, 33% are independent directors with average board tenure of three years.

Exhibit 70: Hytera management background (as of 2016)

Name	Position	Age	Tenure	Gender	Experience
Chen, Qingzhou	Chairman & CEO	52	7	M	- Graduated from Tsinghua University Shenzhen Graduate School. - 1984-1990: Hongxing radio factory sales manager. - 1990-1993: Wei Electronics Co., Ltd., deputy general manager. - 1993-present: Chairman and general manager of Shenzhen HYT Technology Co., Ltd.
Zeng, Hua	Vice-president	49	7	M	- Graduated from Hong Kong Polytechnic University School of Business Administration. - 1991-1994: Assistant enginner at the Yangtze River Water Resources Commission. - 1994-1999: worked at Japanese ALPS electrical as manager. - 1999-present: Factory head and Vice General Manager in Shenzhen HYT Technology Co., Ltd.
Wu, Mei	Vice-president	45	7	M	- Graduated from the North Jiaotong University. - 1998-2001: worked at Huawei Technologies in Shenzhen. - 2001-present: Head of human resources management at Shenzhen HYT Technology Co., Ltd.
Zhang, Ju	Vice-president CFO Board Secretary	42	1 7 4	M	- Graduated from University of Manchester, accounting and finance major. - 1999-2002: Seniro accountant at PWC. - 2003-2004: Financial manager at Walmart investment. - 2004-2006: CFO at Beijing Sigma Microelectronics Co., Ltd. - 2006-present: CFO at Shenzhen HYT Technology Co., Ltd.

Source: *Wind*

Exhibit 71: Hytera shareholding structure (as of June 2017)



Source: Wind

Product portfolio

Hytera offers a comprehensive suite of PMR products and solutions that are compliant with various radio standards. The mainly-applied technologies in Hytera are analog conventional, MPT analog trunked, digital conventional (DMR and PDT), digital trunked (DMR, PDT and TETRA) and LTE-PMR convergence (integration of narrowband and broadband technologies). PDT and TETRA are widely applied in public security, emergency communications and public utilities, and DMR is designed for low-end and mid–range specialized and commercial users in sectors such as public utilities, schools, hospitals, hotels, and real estate.

Exhibit 72: Hytera product offerings by PMR technology standard

Technology standards	Categories of terminals	Categories of systems	Others
Analog conventional	19	2	
Analog trunked (MPT 1327)	5	1	
PDT	38	4	
DMR	40	7	
TETRA	7	3	
LTE+PMR	2		
Others (Critical surveillance and dispatch system)			4

Source: Company data

Direct and distributor sales channels

With its customers based across a wide range of sectors, Hytera applies both the distributor sales channel and direct sales channel to meet their needs.

Direct sales (project based)

Direct sales (usually project based) is the main channel used with Hytera's big clients, such as government and public security departments, airports, ports, railways and other industry customers. The company is directly involved in the tender process and sales orders generally include both system products or solutions, and the customized terminal products to fit the system.

The direct sales approach has the following characteristics:

- Customer demands are more complex, with many users often requiring network systems and targeted industry application solutions to meet their business needs.
- Customers with urgent need for more advanced digital communications.
- Customers with demand for highly customized products.
- Customers focus more on gauging the technology, branding, scale and history of the supplier when making their choices. Direct sale customers tend to have better stickiness and sign long-term contracts with suppliers.
- Customer procurement is usually project-based as it can have a long cycle from raising demand, project approval and construction to progress check. The choice of suppliers may need to be in accordance with strict government procurement requirements, and the selection process usually needs to go through a number of departments within the organization.

Distributor sales

Distributor sales are sold through a dealer, and the dealer price is determined by Hytera at the beginning of each year based on price policy (except short-term promotions within a year). These sales mainly include terminal products, and generally do not need to provide complex solutions. Hytera's target market and customers are mainly in the hotel, construction, property, shopping mall, water conservancy, electricity (and part of the public utility market) segments. Its industry customer base is relatively diversified and scattered vs. direct sales, and the distribution is also scattered; customer demand is relatively simple, and generally only need to standardize the terminal product. Thus, distributor sales have higher price sensitivity.

Appendix 2: Glossary of terms

- **PMR/LMR: PMR refers to Professional Mobile Radio or LMR (Land Mobile Radio) in the US.** PMR is a type of wireless communication designated for mission-critical use cases. Networks typically consist of devices (the simplest form is a walkie-talkie), base station, and control center equipment.
- **PDT (Professional Digital Trunking):** Established in 2008, PDT is a Chinese digital professional mobile radio standard, co-developed by Hytera and China's security department. PDT uses TDMA (Time Division Multiple Access) and operates in the 12.5 kHz channel. PDT is designed fully in accordance with China's safety standards.
- **TETRA (Terrestrial Trunked Radio):** Established in 1995, TETRA is a European standard for digital professional mobile radio. TETRA uses TDMA and operates in 25 kHz channels that can support high user density but comparably smaller coverage vs. other standards. TETRA is designed for high volumes of radio traffic over smaller coverage areas within dense urban environments.
- **DMR (Digital Mobile Radio):** Established in 2005, DMR is a European digital professional mobile radio standard. DMR uses TDMA and operates in the 12.5 kHz channel. DMR is designed for a high volume of radio traffic over wide coverage areas and is comparably lower-cost vs. TETRA.
- **P25 (Project 25):** Established in 1995, P25 or APCO P25 is an American digital professional mobile radio standard. P25 could use either TDMA or FDMA (frequency division multiple access) and operates in the 12.5 khz channel. P25 is used for public safety purposes, and offers a high level of encryption.
- **MPT-1327:** Established in 1988, MPT-1327 is a narrowband professional mobile radio standard. An advantage over other digital standards is the lower cost of equipment and the ease of installation. MPT systems are still being built in many areas of the world due to this cost effectiveness.
- **iDEN (Integrated Digital Enhanced Network):** Established in 1991 by Motorola, iDEN is a proprietary digital radio system. iDEN provides a full suite of PMR features and operates in 25khz channel. However, since the system is proprietary, even from an industry leader like Motorola, potential for frequency allocation and interoperability is limited. Therefore, without significant market penetration, cost is likely to remain higher vs. other standards.
- **LTE (Long-Term Evolution):** A high-speed wireless broadband technology developed by the Third Generation Partnership Project (3GPP). The LTE solution could address the need for PMR services that require high data throughput such as mail, secured web services, video and image delivery.
- **dPMR:** A European digital professional mobile radio standard. dPMR uses FDMA and operates in two 6.25 khz channels. It offers the lowest cost digital voice/data solutions and a similar set of repeater and trunking options to DMR.
- **NEXEDGE:** A digital radio brand developed by Kenwood, which has the ability to communicate with both analog and digital handsets, providing a cost-effective solution to customers migrating from legacy analog systems, and wider coverage.
- **TD-SCDMA:** The format of choice for the national standard of 3G mobile telecommunication in China.
- **MNO (Mobile Network Operator):** A provider of wireless voice and data communication services for its subscribed mobile users.

信息披露附录

申明

本人，侯雪婷，在此申明，本报告所表述的所有观点准确反映了本人对上述公司或其证券的个人看法。此外，本人薪金的任何部分不曾与，不与，也将不会与本报告中的具体推荐意见或观点直接或间接相关。

投资摘要

投资摘要部分通过将一只股票的主要指标与其行业和市场相比较来评价该股的投资环境。所描述的四个主要指标包括增长、回报、估值倍数和波动性。增长、回报和估值倍数都是运用数种方法综合计算而成，以确定该股在地区研究行业内所处的百分位排名。

每项指标的准确计算方式可能随着财务年度、行业和所属地区的不同而有所变化，但标准方法如下：

增长是下一年预测与当前年度预测的综合比较，如每股盈利、EBITDA 和收入等。 **回报**是各项资本回报指标一年预测的加总，如 CROCI、平均运用资本回报率和净资产回报率。 **估值倍数**根据一年预期估值比率综合计算，如市盈率、股息收益率、EV/FCF、EV/EBITDA、EV/DACF、市净率。 **波动性**根据 12 个月的历史波动性计算并经股息调整。

并购评分

在我们的全球覆盖范围中，我们使用并购框架来分析股票，综合考虑定性和定量因素（各行业和地区可能会有所不同）以计入某些公司被收购的可能性。然后我们按照从 1 到 3 对公司进行并购评分，其中 1 分代表公司成为并购标的的概率较高(30%-50%)，2 分代表概率为中等(15%-30%)，3 分代表概率较低(0%-15%)。对于评分为 1 或 2 的公司，我们按照研究部统一标准将并购因素体现在我们的目标价格当中。并购评分为 3 被认为意义不大，因此不予体现在我们的目标价格当中，分析师在研究报告中可以予以讨论或不予讨论。

Quantum

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GS SUSTAIN

GS SUSTAIN 是一项侧重于通过发现优质行业领先企业而实现长期超额收益的全球投资策略。GS SUSTAIN 50 关注名单列出了我们认为凭借出色的资本回报、具有可持续性的竞争优势和对 ESG（环境、社会和企业治理）风险的有效管理而有望在长期内相对于全球同业表现出色的行业领军企业。候选企业主要基于对企业在这三方面表现的综合量化分析筛选而出。

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大中华电信与科技：中国通信服务、中国移动、中国移动(ADR)、中电信、中电信(ADR)、中联通(H)、中联通(ADS)、华虹半导体、联发科、谱瑞科技、矽力杰、中芯国际、中芯国际(ADR)、舜宇光学、台积电、台积电 (ADR)、联电、联电 (ADR)、中兴通讯(H)。

信息披露

与公司有关的法定披露

以下信息披露了高盛高华证券有限责任公司（“高盛高华”）与北京高华证券有限责任公司（“高华证券”）投资研究部所研究的并在本研究报告中提及的公司之间的关系。

没有对下述公司的具体信息披露： 海能达 (Rmb19.00)

公司评级、研究行业及评级和相关定义

买入、中性、卖出：分析师建议将评为买入或卖出的股票纳入地区投资名单。一只股票在投资名单中评为买入或卖出由其相对于所属研究行业的总体潜在回报决定。任何未获得买入或卖出评级且拥有活跃评级（即不属于暂停评级、暂无评级、暂停研究或没有研究的股票）的股票均被视为中性评级。每个地区投资评估委员会根据 25-35%的股票评级为买入、10-15%的股票评级为卖出的全球指导原则来管理该地区的投资名单；但是，在某一特定分析师所覆盖行业中买入和卖出评级的分布可能根据地区投资评估委员会的决定而有所不同。此外，每个地区投资评估委员会管理着地区强力买入或卖出名单，该名单以总体潜在回报规模和/或实现回报的可能性为主要依据确立各自研究范围内的投资建议。将股票加入或移出此类强力买入或卖出名单并不意味着分析师对这些股票的投资评级发生了改变。

总体潜在回报：代表当前股价低于或高于一定时间范围内预测目标价格的幅度，包括所有已付或预期股息。分析师被要求对研究范围内的所有股票给出目标价格。总体潜在回报、目标价格及相关时间范围在每份加入投资名单或重申维持在投资名单的研究报告中都有注明。

研究行业及评级：每个行业研究的所有股票名单可登陆 http://www.gs.com/research/hedge.html 通过主要分析师、股票和行业进行查询。分析师给出下列评级中的其中一项代表其根据行业历史基本面及 / 或估值对研究对象的投资前景的看法。 **具吸引力(A)**：未来 12 个月内投资前景优于研究范围的历史基本面及 / 或估值。 **中性(N)**：未来 12 个月内投资前景相对研究范围的历史基本面及 / 或估值持平。 **谨慎(C)**：未来 12 个月内投资前景劣于研究范围的历史基本面及 / 或估值。

暂无评级(NR)：在高盛于涉及该公司的一项合并交易或战略性交易中担任咨询顾问时并在某些其他情况下，投资评级和目标价格已经根据高盛的政策予以除去。 **暂停评级(RS)**：由于缺乏足够的基础去确定投资评级或价格目标，或在发表报告方面存在法律、监管或政策的限制，我们已经暂停对这种股票给予投资评级和价格目标。此前对这种股票作出的投资评级和价格目标(如有的话)将不再有效，因此投资者不应依赖该等资料。 **暂停研究(CS)**：我们已经暂停对该公司的研究。 **没有研究(NC)**：我们没有对该公司进行研究。 **不存在或不适用(NA)**：此资料不存在或不适用。 **无意义(NM)**：此资料无意义，因此不包括在报告内。

一般披露

本报告在中国由高华证券分发。高华证券具备证券投资咨询业务资格。

本研究报告仅供我们的客户使用。除了与高盛相关的披露，本研究报告是基于我们认为可靠的目前已公开的信息，但我们不保证该信息的准确性和完整性，客户也不应该依赖该信息是准确和完整的。报告中的信息、观点、估算和预测均截至报告的发表日，且可能在不事先通知的情况下进行调整。我们会适时地更新我们的研究，但各种规定可能会阻止我们这样做。除了一些定期出版的行业报告之外，绝大多数报告是在分析师认为适当的时候不定期地出版。

高盛高华为高华证券的关联机构，从事投资银行业务。高华证券、高盛高华及它们的关联机构与本报告中涉及的大部分公司保持着投资银行业务和其它业务关系。

我们的销售人员、交易员和其它专业人员可能会向我们的客户及自营交易部提供与本研究报告中的观点截然相反的口头或书面市场评论或交易策略。我们的资产管理部门、自营交易部和投资业务部可能会做出与本报告的建议或表达的意见不一致的投资决策。

本报告中署名的分析师可能已经与包括高华证券销售人员和交易员在内的我们的客户讨论，或在本报告中讨论交易策略，其中提及可能会对本报告讨论的证券市场价格产生短期影响的推动因素或事件，该影响在方向上可能与分析师发布的股票目标价格相反。任何此类交易策略都区别于且不影响分析师对于该股的基本评级，此类评级反映了某只股票相对于报告中描述的研究范围内股票的回报潜力。

高华证券及其关联机构、高级职员、董事和雇员，不包括股票分析师和信贷分析师，将不时地根据适用的法律和法规对本研究报告所涉及的证券或衍生工具持有多头或空头头寸，担任上述证券或衍生工具的交易对手，或买卖上述证券或衍生工具。

在高盛组织的会议上的第三方演讲嘉宾（包括高华证券或高盛其它部门人员）的观点不一定反映全球投资研究部的观点，也并非高华证券或高盛的正式观点。

在任何要约出售股票或征求购买股票要约的行为为非法的地区，本报告不构成该等出售要约或征求购买要约。本报告不构成个人投资建议，也没有考虑到个别客户特殊的投资目标、财务状况或需求。客户应考虑本报告中的任何意见或建议是否符合其特定状况，以及(若有必要)寻求专家的意见，包括税务意见。本报告中提及的投资价格和价值以及这些投资带来的收入可能会波动。过去的表现并不代表未来的表现，未来的回报也无法保证，投资者可能会损失本金。

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投资者可以向高华销售代表取得或通过 http://www.theocc.com/about/publications/character-risks.jsp 取得当前的期权披露文件。对于包含多重期权买卖的期权策略结构产品，例如，期权差价结构产品，其交易成本可能较高。与交易相关的文件将根据要求提供。

全球投资研究部提供的不同服务层级：根据您对接收沟通信息的频率和方式的个人偏好、您的风险承受能力、投资重心和视角（例如整体市场、具体行业、长线、短线）、您与高华证券的整体客户关系的规模和范围、以及法律法规限制等各种因素，高华证券全球投资研究部向您提供的服务层级和类型可能与高华证券提供给内部和其他外部客户的服务层级和类型有所不同。例如，某些客户可能要求在关于某个证券的研究报告发表之时收到通知，某些客户可能要求我们将内部客户网上提供的分析师基本面分析背后的某些具体数据通过数据流或其它途径以电子方式发送给他们。分析师基本面研究观点（如股票评级、目标价格或盈利预测大幅调整）的改变，在被纳入研究报告、并通过电子形式发表在内部客户网上或通过其它必要方式向有权接收此类研究报告的所有客户大范围发布之前，不得向任何客户透露。

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