

首次评级 水晶光电 (002273.SZ)

中性

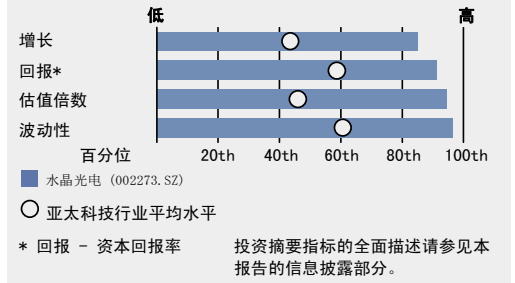
证券研究报告

光学行业上行周期明确，但已体现在估值中；首次评级为中性 (摘要)

投资观点

受单电相机和蓝玻璃市场增长的推动，滤光片行业正处于产品价格的上升周期。我们认为水晶光电将成为该上行周期的主要受益者，得益于其对专业技术的专注、在行业内的先行者优势以及良好的成本结构。然而，我们认为当前估值（2013年预期市盈率为38倍）已经充分反映了以上因素。因此我们需等待公司产品模式和业务模式出现突破才会对该股持有更积极的看法。我们对水晶光电的首次评级为中性，12个月目标价格为人民币19.20元。

投资摘要



主要增长动力

我们预计2014-16年水晶光电利润的年均复合增长率将达20%，受到以下产品的推动：**1) OLPF（光学低通滤波器）**：2012年公司单电用OLPF市场份额超过50%，我们预计单电将是相机市场中增长最快的子市场（2013-15年预期年均复合增长率为9%）；**2) IRCF（红外截止滤光片）**：我们预计随着800万像素以上摄像头对蓝玻璃的采用，2012-15年该市场的年均复合增长率将达49%，而水晶光电正是该行业的领先企业，2012年公司以销量计算的市场份额为30%；**3) 新产品**：鉴于水晶光电在光学镀膜和冷加工领域的专业经验，我们估算到2015年，新产品（封装保护片、窄带滤光片、微投零部件）对公司收入的贡献将在30%以上。

风险

蓝玻璃的采用慢于预期；技术变革；日元贬值；垂直整合好于预期；新产品较早实现规模收入。

估值

我们的12个月目标价格为人民币19.20元，基于1.36倍的PEG倍数，对应的2014年预期市盈率为27倍，隐含4%的潜在下行空间。

行业背景

我们对亚太科技行业的评级为中性。

所属投资名单

中性

*全文翻译随后提供

行业评级：中性

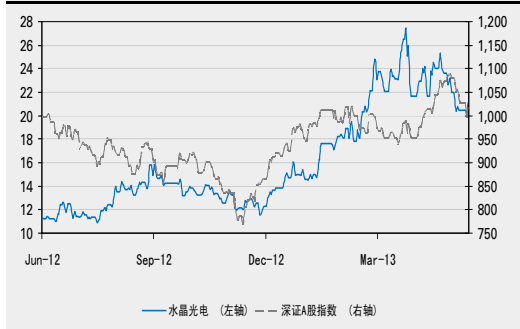
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主要数据

主要数据	当前
股价 (Rmb)	21.09
12个月目标价格 (Rmb)	19.20
市值 (Rmb mn / US\$ mn)	7,897.1 / 1,288.1
外资持股比例 (%)	--

	12/12	12/13E	12/14E	12/15E
每股盈利 (Rmb)	0.59	0.53	0.71	0.85
每股盈利增长 (%)	(41.6)	(10.1)	32.6	20.7
每股摊薄盈利 (Rmb)	0.59	0.53	0.71	0.85
每股基本盈利 (Rmb)	0.59	0.53	0.71	0.85
市盈率 (X)	19.9	39.6	29.9	24.7
市净率 (X)	2.8	6.8	6.0	5.3
EV/EBITDA (X)	11.5	25.4	19.7	16.3
股息收益率 (%)	1.7	1.1	1.5	1.8
净资产回报率 (%)	14.7	18.0	21.4	22.9
CROCI (%)	36.7	33.0	33.1	32.0

股价走势图



股价表现 (%)

股价表现 (%)	3个月	6个月	12个月
绝对	9.4	67.6	86.2
相对于深证A股指数	4.3	40.3	82.6

资料来源：公司数据、高盛研究预测、FactSet (股价为6/14/2013收盘价)

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水晶光电：财务数据概要

损益表 (Rmb mn)	12/12	12/13E	12/14E	12/15E	资产负债表 (Rmb mn)	12/12	12/13E	12/14E	12/15E
主营业务收入	592.5	803.4	1,052.5	1,295.4	现金及等价物	388.7	344.2	327.8	343.0
主营业务成本	(317.8)	(438.9)	(582.1)	(726.9)	应收账款	135.6	183.8	240.8	296.4
销售、一般及管理费用	(103.0)	(129.0)	(158.6)	(189.2)	存货	106.5	147.1	195.1	243.7
研发费用	--	--	--	--	其它流动资产	20.7	20.7	20.7	20.7
其它营业收入/ (支出)	0.0	0.0	0.0	0.0	流动资产	651.5	695.9	784.4	903.8
员工股票期权费用	--	--	--	--	固定资产净额	480.6	619.4	744.6	864.9
EBITDA	223.0	298.2	386.6	465.8	无形资产净额	51.0	48.9	46.9	44.9
折旧和摊销	(51.3)	(62.7)	(74.8)	(86.5)	长期投资	0.0	0.0	0.0	0.0
EBIT	171.7	235.5	311.7	379.3	其它长期资产	3.6	3.6	3.6	3.6
利息收入	0.8	0.2	0.1	0.1	资产合计	1,186.7	1,367.7	1,579.5	1,817.2
财务费用	0.0	0.0	0.0	0.0	应付账款	75.1	103.7	137.5	171.7
联营公司	0.0	0.0	0.0	0.0	短期贷款	3.6	3.6	3.6	3.6
其它	6.0	5.3	6.6	4.3	其它流动负债	26.7	66.2	95.3	119.9
税前利润	178.5	241.0	318.4	383.6	流动负债	105.3	173.4	236.4	295.2
所得税	(27.4)	(38.5)	(50.9)	(61.4)	长期贷款	0.0	0.0	0.0	0.0
少数股东损益	(3.1)	(3.0)	(3.0)	(3.0)	其它长期负债	12.6	12.6	12.6	12.6
优先股股息前净利润	147.9	199.5	264.5	319.3	长期负债	12.6	12.6	12.6	12.6
优先股股息	0.0	0.0	0.0	0.0	负债合计	117.9	186.0	249.0	307.8
非经常性项目前净利润	147.9	199.5	264.5	319.3	优先股	0.0	0.0	0.0	0.0
税后非经常性损益	0.0	0.0	0.0	0.0	普通股权益	1,050.7	1,160.6	1,306.4	1,482.3
净利润	147.9	199.5	264.5	319.3	少数股东权益	18.1	21.1	24.1	27.1
每股基本盈利 (非经常性项目前) (Rmb)	0.59	0.53	0.71	0.85	负债及股东权益合计	1,186.7	1,367.7	1,579.5	1,817.2
每股基本盈利 (非经常性项目后) (Rmb)	0.59	0.53	0.71	0.85	每股净资产 (Rmb)	4.21	3.10	3.49	3.96
每股摊薄盈利 (非经常性项目后) (Rmb)	0.59	0.53	0.71	0.85					
不含员工股票期权费用的每股盈利 (基本)	--	--	--	--	比率	12/12	12/13E	12/14E	12/15E
不含员工股票期权费用的每股盈利 (摊薄)	--	--	--	--	CROCI (%)	36.7	33.0	33.1	32.0
每股股息 (Rmb)	0.20	0.24	0.32	0.38	净资产回报率 (%)	14.7	18.0	21.4	22.9
股息支付率 (%)	33.8	44.9	44.9	44.9	总资产回报率 (%)	13.2	15.6	17.9	18.8
自由现金流收益率 (%)	(2.2)	0.1	0.9	1.7	平均运用资本回报率 (%)	26.3	26.5	28.9	29.6
					存货周转天数	114.3	105.5	107.3	110.1
增长率和利润率 (%)	12/12	12/13E	12/14E	12/15E	应收账款周转天数	69.6	72.6	73.6	75.7
主营业务收入增长率	36.8	35.6	31.0	23.1	应付账款周转天数	74.0	74.3	75.6	77.6
EBITDA增长率	18.9	33.7	29.6	20.5	净负债/股东权益 (%)	(36.0)	(28.8)	(24.4)	(22.5)
EBIT增长率	14.8	37.2	32.4	21.7	EBIT利息保障倍数 (X)	NM	NM	NM	NM
净利润增长率	21.2	34.8	32.6	20.7					
每股盈利增长	(41.6)	(10.1)	32.6	20.7	估值	12/12	12/13E	12/14E	12/15E
毛利率	46.4	45.4	44.7	43.9	基本市盈率 (X)	19.9	39.6	29.9	24.7
EBITDA利润率	37.6	37.1	36.7	36.0	市净率 (X)	2.8	6.8	6.0	5.3
EBIT利润率	29.0	29.3	29.6	29.3	EV/EBITDA (X)	11.5	25.4	19.7	16.3
					企业价值/总投资现金 (X)	3.7	8.3	6.6	5.4
					股息收益率 (%)	1.7	1.1	1.5	1.8
现金流量表 (Rmb mn)	12/12	12/13E	12/14E	12/15E					
优先股股息前净利润	147.9	199.5	264.5	319.3					
折旧及摊销	51.3	62.7	74.8	86.5					
少数股东权益	3.1	3.0	3.0	3.0					
运营资本增减	(38.1)	(60.2)	(71.2)	(69.9)					
其它	12.5	0.0	0.0	0.0					
经营活动产生的现金流	176.7	204.9	271.2	338.9					
资本开支	(241.8)	(199.4)	(198.0)	(204.9)					
收购	0.0	0.0	0.0	0.0					
剥离	0.0	0.0	0.0	0.0					
其它	0.5	0.0	0.0	0.0					
投资活动产生的现金流	(241.3)	(199.4)	(198.0)	(204.9)					
支付股息的现金 (普通股和优先股)	0.0	(50.0)	(89.5)	(118.7)					
借款增减	3.6	0.0	0.0	0.0					
普通股发行 (回购)	0.0	0.0	0.0	0.0					
其它	(62.2)	0.0	0.0	0.0					
筹资活动产生的现金流	(58.6)	(50.0)	(89.5)	(118.7)					
总现金流	(123.2)	(44.5)	(16.4)	15.3					

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

李哲人

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All prices in the body of this report are as of the close of June 13, 2013, unless otherwise mentioned.

Exhibit 1: Crystal trades at higher multiple given better growth prospects vs. A-share and global peers

Global comparison against peers

Valuation comparison table															
Ticker	Name	Rating	Currency	Price target	Price	Upside/ downside	Market cap \$ mn	Sales growth 2013E	Sales growth 2014E	PE 2013E	PE 2014E	PB 2013E	PB 2014E	ROE 2013E	ROE 2014E
Crystal															
002273 CH	Crystal	Neutral	Rmb	19.2	20.03	-4%	1,288	36%	31%	37.6X	28.4X	6.5X	5.7X	18%	21%
A share hardware															
002241 CH	GoerTek	Buy	Rmb	43.3	37.44	16%	9,578	51%	32%	39.1X	29.6X	9.2X	7.5X	26%	28%
600498 CH	Fiberhome	Buy	Rmb	17.1	14.19	21%	1,194	20%	18%	20.5X	16.1X	2.4X	2.2X	12%	14%
300134 CH	Tat Fook	Neutral	Rmb	12.8	12.74	0%	711	27%	14%	51.6X	39.4X	1.8X	1.8X	4%	5%
002313 CH	Sunsea	Neutral	Rmb	16.5	17.09	-3%	699	38%	23%	22.2X	17.5X	2.5X	2.3X	12%	14%
002281 CH	Accelink	Neutral	Rmb	23.7	25.00	-5%	699	15%	16%	22.9X	19.0X	2.8X	2.5X	13%	14%
							Median	27%	18%	22.9X	19.0X	2.5X	2.3X	12%	14%
Optical overseas															
3008 TT	Largan	Buy	NT\$	1230	979	26%	4,371	28%	28%	17.0X	13.5X	4.4X	3.4X	29%	28%
7731 JP	Nikon	Neutral	¥	2390	2389	0%	9,981	12%	4%	14.1X	13.2X	1.8X	1.6X	13%	13%
6779 JP	NDK	Neutral	¥	920	899	2%	186	2%	1%	13.3X	10.0X	0.7X	0.6X	5%	6%
7751 JP	Canon	Neutral	¥	3740	3125	20%	40,171	15%	3%	12.0X	10.8X	1.3X	1.2X	11%	11%
2301 TT	Lite-on	Neutral	NT\$	48	48.5	-1%	3,614	-1%	6%	12.9X	11.1X	1.5X	1.4X	12%	13%
6758 JP	Sony	Neutral	¥	1650	1923	-14%	20,423	9%	2%	44.9X	-31.8X	0.9X	0.9X	2%	-3%
011070 KS	LG Innotek	Sell	W	63000	96300	-35%	1,464	20%	2%	26.6X	18.2X	1.5X	1.4X	6%	8%
							Median	12%	3%	14.1X	11.1X	1.5X	1.4X	11%	11%

Note: All target prices are based on a 12-month timeframe.

Source: Datastream, Gao Hua Securities Research estimates, Goldman Sachs Research estimates.

Overview: Beneficiary of optical upgrade cycle; initiate at Neutral

We initiate coverage on Crystal (002273.SZ) at Neutral with a 12-month PEG-based target price of Rmb19.20. We believe Crystal, a leader in the niche color filter market, could be a key beneficiary of the ongoing optical upgrade cycle for higher image quality and slimmer form factors. The company is well placed to leverage its expertise in optical coating and cold processing to strengthen its current market position and explore into new product categories, in our view. However, our sector PEG valuation analysis shows that the current market price fully reflects the company's business potential. Thus, we look for future catalysts or a better entry point in order to turn more positive on the stock.

ASP up-cycle in OLPF/IRCF is the key driver

The two major color filter end markets, OLPF in digital camera and IRCF in handsets, are both experiencing an ASP up-cycle driven by the needs of better image quality and slimmer form factors, in our view. Crystal could benefit from this, given its leading market position:

- **OLPF:** Although we estimate the global camera market will decline by 5% CAGR in 2012-15E in terms of units, we expect the popularity of DSLR/MILC (we forecast 6% CAGR in 2013-15E by units) to keep the OLPF market flat in value terms for the same period, as we forecast the blended ASP to grow at 6% CAGR in 2013-15E. Further, we estimate Crystal holds over 50% share (2012E) in the fastest growing MILC OLPF segment (9% CAGR in 2013-15E by unit);
- **IRCF:** We also see continuous upgrade in smart device camera resolution since 2009; the supporting components like IRCF should also benefit from the ramp up of blue glass for mid-to-high-end products (normally adopted on 8M+ cameras). We estimate blended ASP for IRCF to grow at a CAGR of 6% in 2013-15E, while Crystal holds the first mover position due to its involvement in the Apple supply chain;
- **New products:** Besides OLPF and IRCF, we believe Crystal could also succeed in new product development because of its experience in optical coating and cold processing. We estimate other income from products like CMOS cover glass, narrow band filter, and pico projector components could contribute over 30% of total revenue by 2015E from 22% in 2013E (53% CAGR vs. 27% CAGR for total revenue).

Leading firm with solid track record

Crystal is emerging as a niche market leader of color filter, with proven track record in the OLPF and IRCF markets. We see three core drivers:

- **Focused R&D and expertise:** We believe Crystal is more focused on the niche OLPF/IRCF markets, with over 70% of revenue coming from color filter and 90% from optical in 2012. At the same time, its 4.8% R&D investment ratio was also well above the sector average of 3% in 2012;
- **First mover position in key markets:** Crystal is a leading firm in the MILC OLPF and blue glass IRCF market. Its committed capacity is also an important factor in the consolidating end market;
- **Cost advantage:** Our analysis shows Crystal's lower personnel cost is the key reason for its higher gross margin compared with Japanese/Korean competitors.

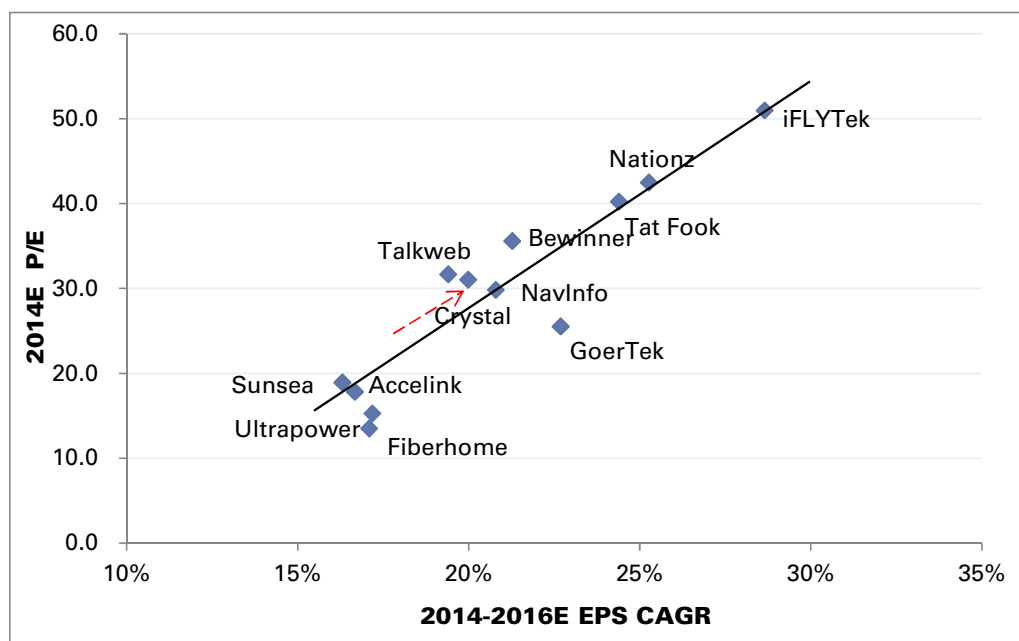
However, compared with its Japanese and Korean peers, we see two factors which might constrain Crystal's foray into new products and business models: the lack of vertical integration and direct client relationships.

Valuation: Target price of Rmb19.20 based on PEG

Our 12-month PEG-based target price of Rmb19.20 is based on 1.36X PEG ratio derived using our sector PEG model (including 12 A-share tech stocks) and implies 4% potential downside. We initiate coverage on Crystal with a Neutral rating as its strong industry positioning and growth prospects are already priced into the share price, in our view.

Exhibit 2: Crystal is trading close to the average PEG valuation of our A-share tech coverage

Our sector P/E vs. growth valuations



Source: Gao Hua Securities Research estimates.

Three business drivers: OLPF, IRCF, and new products

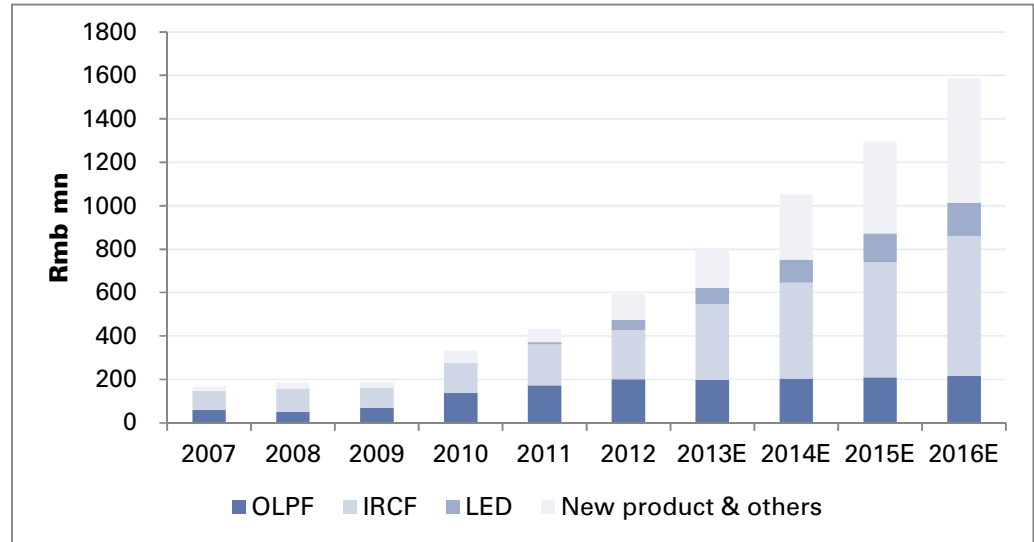
As we stated previously, we see three major drivers for the 27% CAGR in top line in 2013E-15E:

- Stable OLPF market driven by the popularity of MILCs, despite the headwinds in digital camera;
- IRCF market growth driven by the adoption of blue glass on mid-to-high end smart devices;
- New products like CMOS cover glass, narrow band filter, and pico projector components.

Crystal: Niche market leader in OLPF/IRCF

Optical color filters, including OLPF and IRCF, have been Crystal’s major business focus ever since its IPO in the A-share market in 2008. Until 2012, we estimate these two segments still accounted for 72% of the company’s total revenues. The company became No.1 by volume globally in 2010 for OLPF and in 2011 for IRCF, and maintained its leading positions in these two niche markets worth a billion Rmb since then.

Exhibit 3: OLPF/IRCF accounted for more than 70% of Crystal's overall revenue in 2012
 Crystal revenue breakdown, 2007-2016E



Source: Company data, Gao Hua Securities Research estimates.

Exhibit 4: OLPF is used in front of DSC CMOS to eliminate color Moire fringes
 OLPF in DSLR



Source: Crystal company presentation

Exhibit 5: IRCF is used in mobile phone camera to block the transmission of infrared while passing on visible rays
 IRCF in smartphone camera

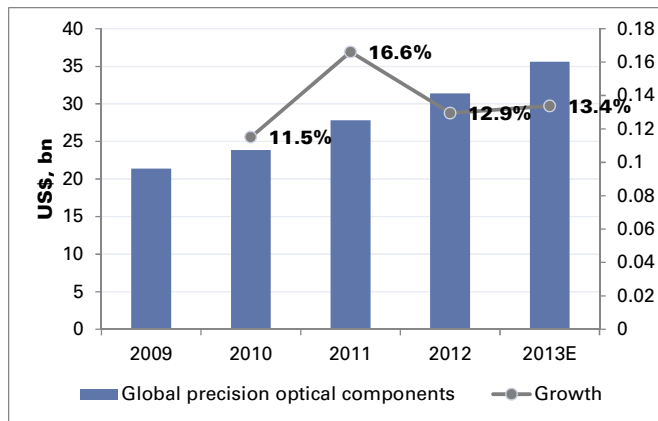


Source: Crystal website

We estimate 2009-2013E CAGR of 10% for the global photonics industry, while precision optical components outpace with an estimated CAGR of 13.6% for the same period as China's weight in the global market is rising, according to third party research institute PIDA (Photonics Industry & Technology Development Association). Crystal's current addressable market is only a very minor fragment of the total photonics industry which suggests strong potential for Crystal to grow in the long run.

Exhibit 6: Global optical component industry grows at 13.6% CAGR in 2009-13E

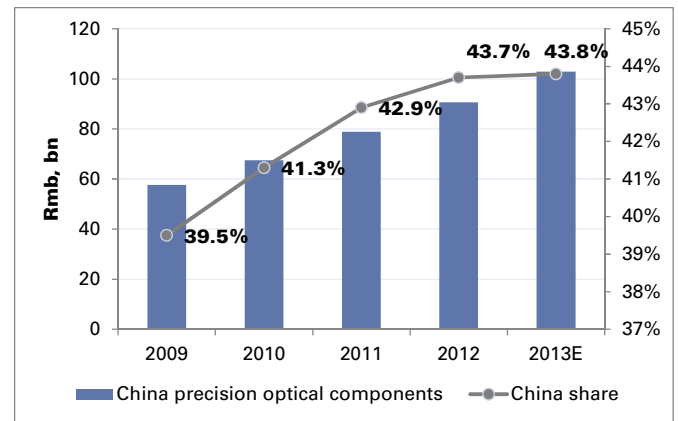
Global precision optical component market



Source: PIDA

Exhibit 7: China market accounts for over 40% of the global optical component market

China precision optical component market



Source: PIDA

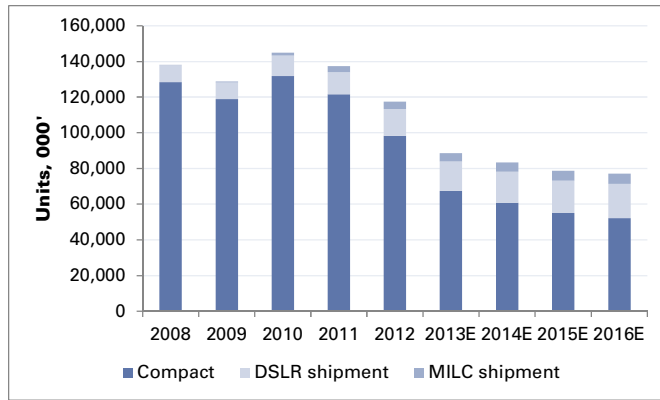
OLPF market: From DSC to DSLR & MILC

Starting from 2011, we see continuous volume decline in the digital still camera (DSC) market, mainly due to the fall of compact cameras due to cannibalization by smart devices. However, we still expect the OLPF market to remain flat in 2013-15E by value because of:

- Rise in blended ASP:** We believe that ASPs for DSLR/MILC OLPFs are much higher than compact ones (Rmb30-40/10-20 vs. Rmb1-2) given higher optical and quality specs. Therefore, we expect DSLR/MILC shipments to grow while compact declines, and expect blended OLPF ASP to rise 6% CAGR in 2013-15E;
- Compact DSC decline:** Cannibalization from fast growing smartphone camera has significantly squeezed compact DSC's market space; we believe the popularity of 5MP+ smartphones will cause shipments to decline by 10% CAGR in 2013-15E;
- DSLR growth:** We expect DSLR to grow at a steady level of 6% CAGR 2013-15E, driven by demand from emerging markets like China, where penetration is still at low single digit levels;
- MILC to be the key driver:** With the combination of slim form factor and interchangeable lens becoming attractive on cost/performance, MILC has become the fastest growing segment especially since Sony launched NEX-3/5 in 2010. We estimate this market to grow at a CAGR of 9% in 2013-15E (by shipment) and Crystal holds over 50% share in this segment according to our estimate. From a value perspective, we expect MILC OLPF to account for 11% of the DSC market in 2015E from 9% in 2012.

Exhibit 8: We estimate DSLR/MILC to grow at 2013-15E CAGR of 6%

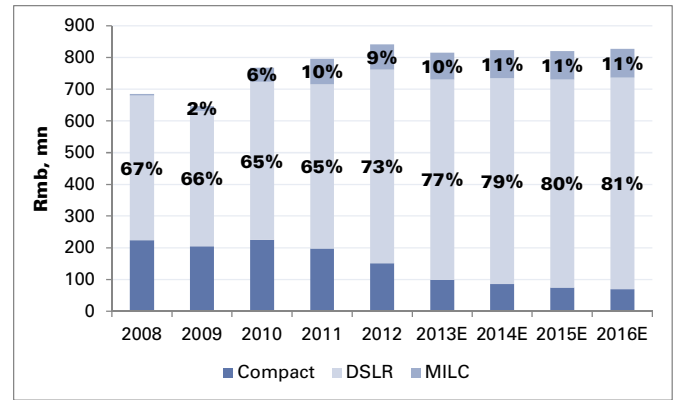
Digital camera breakdown



Source: Company data, Goldman Sachs Research estimates

Exhibit 9: DSLR and MILC will consist of more than 90% of total OLPF market from 2014E

Total addressable market for OLPF



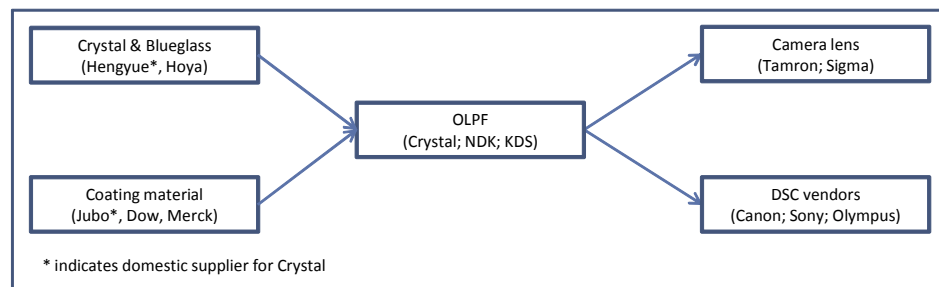
Source: Company data, Goldman Sachs Research estimates, Gao Hua Securities Research estimates.

Crystal entered the OLPF market back in 2002, became No.4 globally (by volume) in 2006, and then No.1 (by volume) in 2010, according to CCID Consulting. After a decade of development, we believe Crystal has now become a major firm in the low-end (compact camera) and mid-end (MILC) OLPF markets, while Japanese peers still dominate the high-end (DSLR):

- After the financial crisis in 2008, Crystal entered Sony/Olympus MILC supply chain in 2009, Canon DSLR in 2011, and Nikon DSLR in 2012. The penetration into global top 4 DSLR and MILC brands helped Crystal's OLPF revenue jump to Rmb200mn level in 2012 from Rmb50mn level in 2008;
- The entry into Nikon in 2H12 is a positive sign and highlights Crystal's opportunity in the DSLR OLPF market, after its entry into Canon in 2011. However, going forward we don't expect the share gain speed to be as fast as it did in the compact camera era as Japanese competitors still lead in technology and are focused on the high-end market.

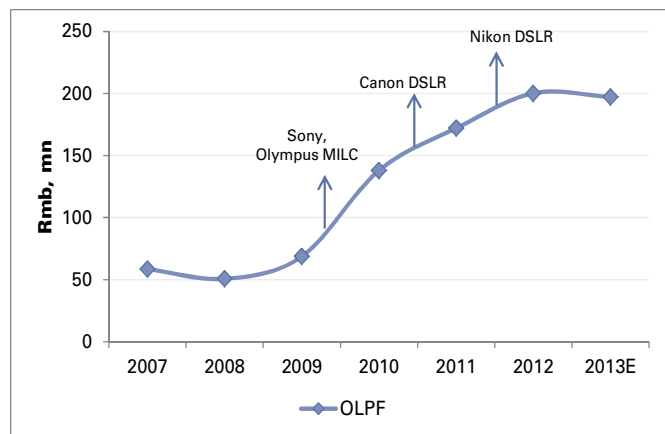
Exhibit 10: Crystal has entered most major digital camera vendors' supply chains

OLPF supply chain



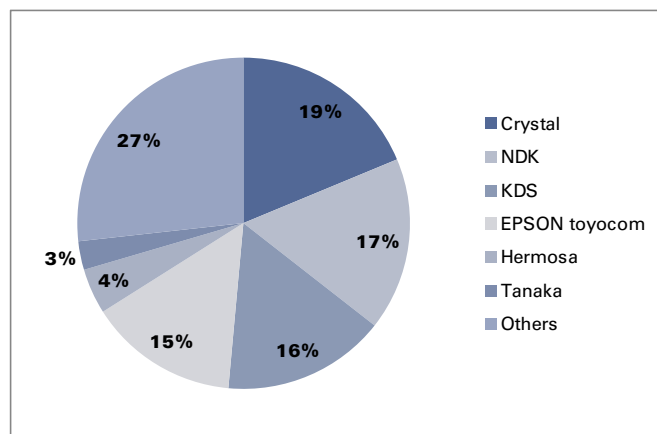
Source: Company data, Gao Hua Securities Research

Exhibit 11: Entrance into MILC and DSLR OLPF successively has been the key to OLPF revenue growth
Crystal's OLPF revenue (2007-13E)



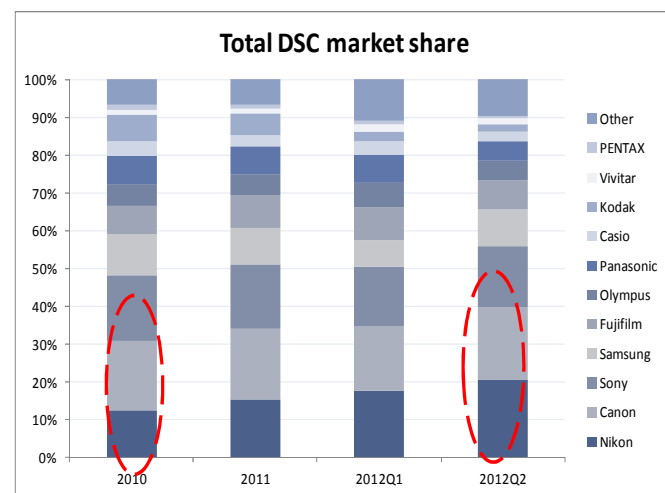
Source: Company data, Gao Hua Securities Research estimates.

Exhibit 12: Crystal surpassed Japanese peers in 2010 and has been No.1 in terms of shipment since then
OLPF market share (2011)



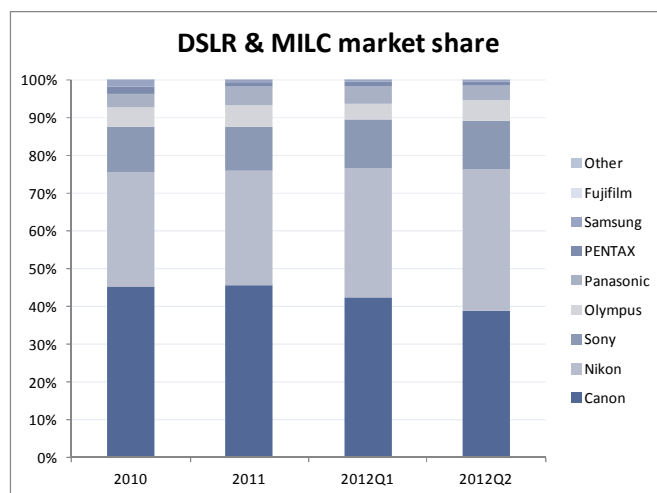
Source: CCID Consulting.

Exhibit 13: DSC market is dominated by Japanese brands
Market share of DSC



Source: IDC

Exhibit 14: Canon/Nikon/Sony/Olympus are the top 4 for DSLR & MILC
Market share of DSLR & MILC



Source: IDC

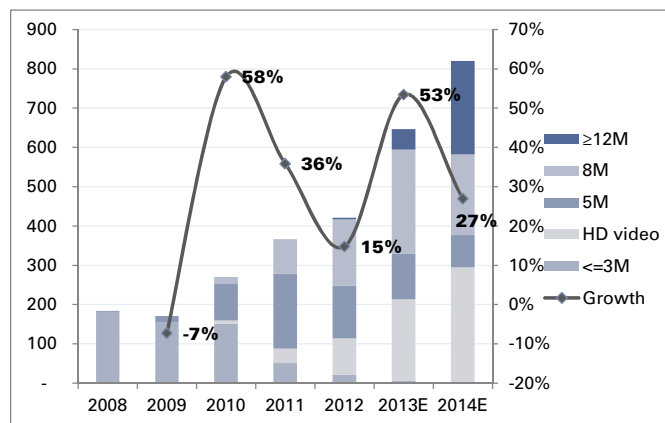
IRCF market: Driven by blue glass

We've already seen strong demand for IRCF since smartphone shipments geared up after 2008. Another driver came in after Apple launched iPhone4S in 2H2011. Technology emerging from FSI CMOS (front-side illuminated) to BSI (back-side illuminated) required higher level of infrared cut-off, and Apple became the first one to adopt blue glass IRCF in smartphones. We estimate the much higher ASP for blue glass IRCF (Rmb3-4 compared with Rmb0.3-0.4 for normal), together with the robust growth in smartphone shipments, to be the main drivers for the growth in the total addressable market.

- **Continuous resolution upgrade:** Camera performance has been a key differentiating factor for smartphones; we see rapid resolution upgrade and second camera applying HD feature. We now forecast 8MP+ and HD second camera to constitute 65% of total shipment in 2014E vs. 33% in 2012;

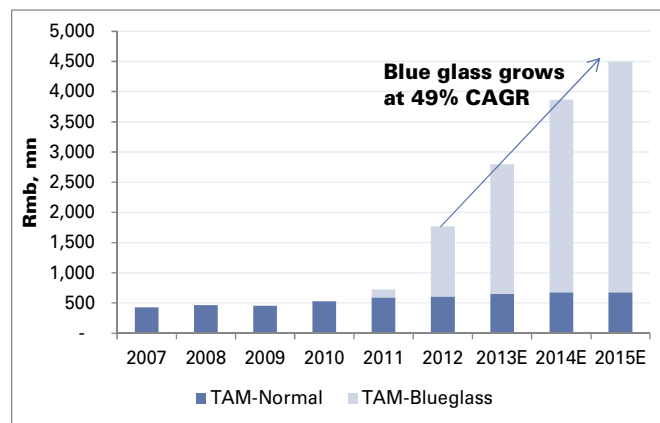
- Technology change requires blue glass:** For the sake of better image quality and thinner smartphone body, CMOS technology has been changing from FSI (front-side illuminated) to BSI (back-side illuminated), which requires better infrared cut-off. Starting from Apple's iPhone4S, smartphone vendors like Samsung, HTC, and some China OEMs are adopting blue glass in their high-end models; we forecast blue glass would be 35% of total IRCF shipment in 2014E vs. 15% in 2012;
- Fast growth in blended ASP and shipment:** We see 72% 2012-15E shipment CAGR for blue glass, but forecast a 13% annual decline in ASP as Korean peers are ramping up their capacity. However, we still expect a 2012E-15E CAGR of 49% in the total addressable market for blue glass. For the overall IRCF market, we expect high ASP blue glass to drive blended ASP to grow at 11% CAGR in 2012-15E. We estimate that this, along with the 23% camera shipment growth, will drive a 37% CAGR in the total addressable market during this period;

Exhibit 15: We see smartphone camera resolution quickly upgrading to 8MP+
Largan's camera lens shipment (by resolution)



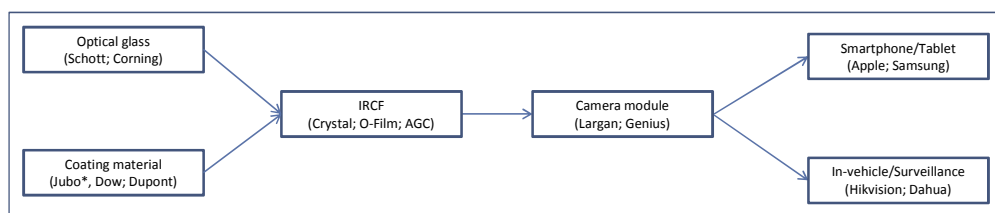
Source: Company data, Goldman Sachs Research estimates.

Exhibit 16: We estimate the total addressable market for blue glass will grow at 49% CAGR in 2012-15E
Total addressable market for IRCF (normal/blue glass)



Source: Company data, Gao Hua Securities Research estimates.

Exhibit 17: Crystal is only working on the coating part of blue glass and is not directly exposed to clients
IRCF supply chain



* indicates supplier of Crystal

Source: Company data, Gao Hua Securities Research.

Crystal established its first IRCF production line in 2004, and seized opportunities to gain market share given restructuring by competitors and technology changes. The company became No.1 by units in 2011 with a market share of 30%; it is now a major supplier of blue glass coating to Asahi Glass but still lacks integration ability when compared with Korean peers.

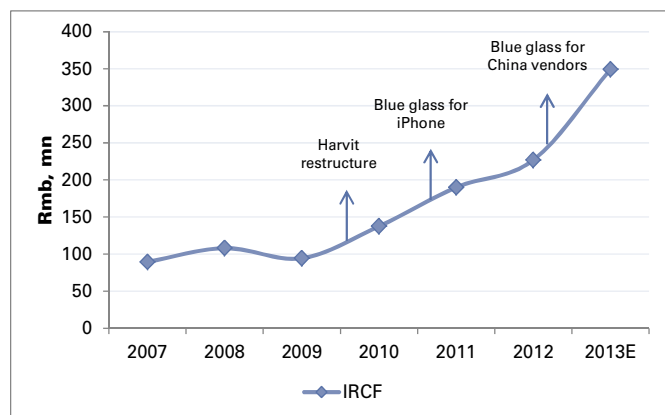
- Prior market leader Havit merged with Optrontec (082210.KS, Not covered) in 2009, and another direct competitor O-Film (002456.SZ, Not covered) gradually changed its focus

from IRCF to touch panel since 2009; Crystal shipments surpassed 440mn in 2011 and overtook these two in terms of market share;

- Crystal is one of the first movers in blue glass and has been supplying coating service to Asahi Glass, Apple's major blue glass supplier in iPhone4S/5 and iPad4/mini since 2012. However, when compared with competitors like Optrontec and Nanos, Crystal only works on the coating part and doesn't have fully integrated capacity. Hence, although we estimate a 30% share by volume (2012E) in the overall blue glass market, it is likely to have accounted for only 6% share by revenue in 2012.

Exhibit 18: We expect blue glass for China vendors to kick in 2013 and be the next driver for IRCF revenue growth

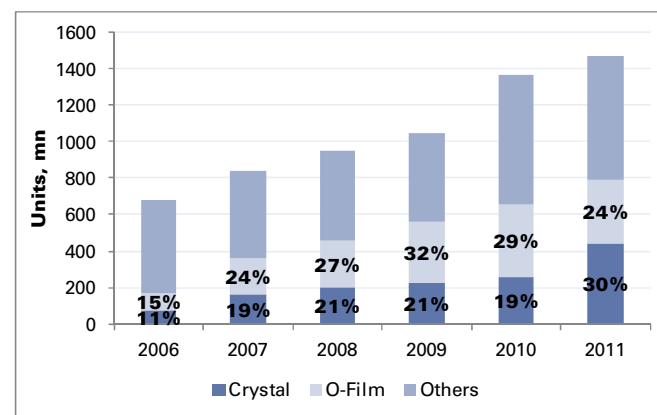
Crystal's IRCF revenue, 2007-2013E



Source: Company data, Gao Hua Securities Research estimates.

Exhibit 19: Crystal surpassed O-film in 2011 and became No.1 in IRCF shipment

Historical IRCF market share



Source: Company data.

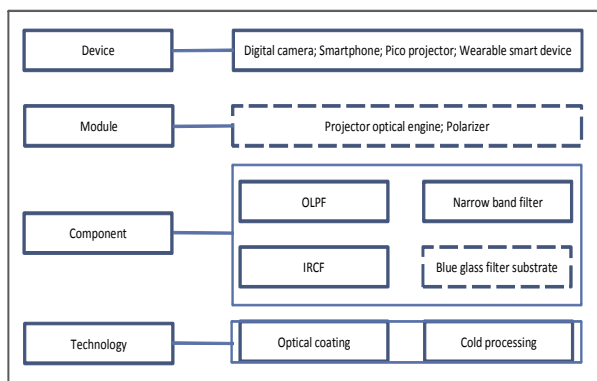
New products: CMOS cover glass and pico projector components

Besides OLPF and IRCF segments, we also see potential for Crystal to explore other optical component categories, leveraging its fundamental coating and cold processing expertise:

- **CMOS cover glass:** Protecting glass used in front of CCD/CMOS of MILC/DSLR; this market is dominated by Japanese vendors. Crystal started supply of this product to a Japanese client in 2012;
- **Narrow band filter:** An essential component for motion controller device; Crystal is now one of the two suppliers for Microsoft Kinect, and we see further potential in this area with more consumer electronics adopting motion control features;
- **Pico projector component:** We have seen pico projector functionality in smartphone (Samsung Galaxy Beam), video glass (Google glass), tablet, and head mounted devices (HMD); understanding the penetration of this function still relies on size and energy efficient improvements. We believe Crystal's ability in pico projector engineer module could boost its revenue in the long run, especially if wearable smart devices become a trend.

Exhibit 20: Crystal has opportunities for future entrance in component and module

Value chain of optical industry

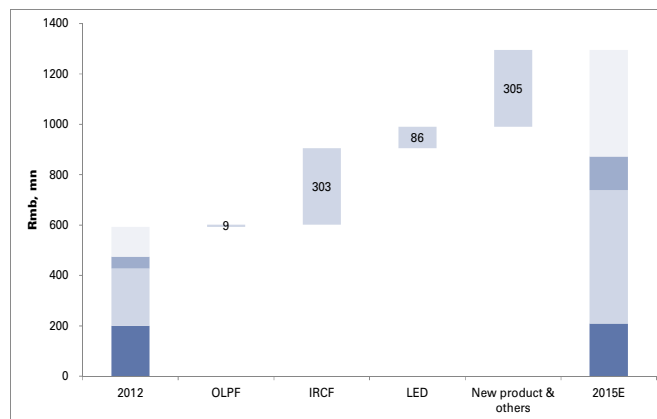


Dotted box indicates potential fields to enter

Source: Company data, Gao Hua Securities Research.

Exhibit 21: We estimate new product and other revenues to contribute over 30% of total revenue by 2015E

Revenue from new products



Source: Gao Hua Securities Research estimates.

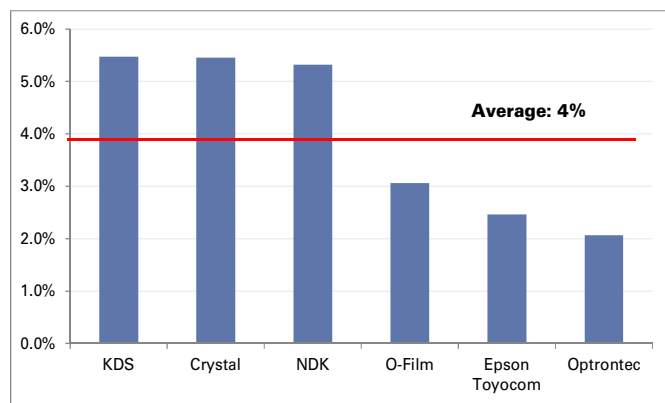
Key strengths: Focused, first mover, and cost leader

Crystal is a niche market leader with a solid track record in the optical industry. We see three core drivers:

- Focused R&D and expertise:** We see Crystal as more focused on the OLPF/IRCF markets which are relatively small, with over 70% of revenue stemming from color filters and 90% from optical in 2012. At the same time, its 4.8% R&D investment ratio is also well above the sector average of 3% in 2012;

Exhibit 22: Crystal's 5.5% R&D investment ratio is well above average

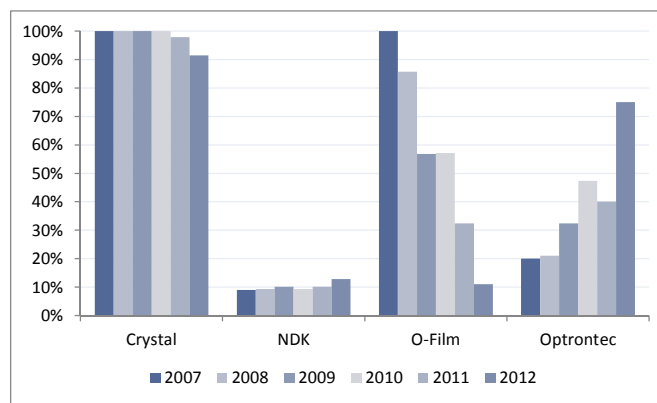
R&D/Sales ratio (2012)



Source: Company data, Bloomberg.

Exhibit 23: Crystal and Optrontec are more focused on the color filter sector

Optical revenue as % of total revenue

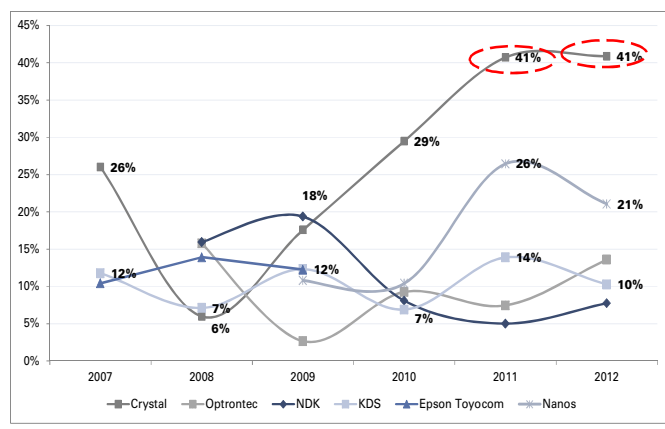


Source: Company data, Bloomberg.

- First mover positions in key markets:** Crystal has leading positions in the MILC OLPF (over 50% share) and blue glass IRCF market (around 30% share by units in 2012), in our view. We believe committed capacity is an important factor for customer consideration given client consolidation (high and low end brands such as Apple/Samsung/HW/ZTE continuously take market share) with shipments becoming more and more focused on the fewer flagship devices;

Exhibit 24: Crystal continuously invested in capacity expansion

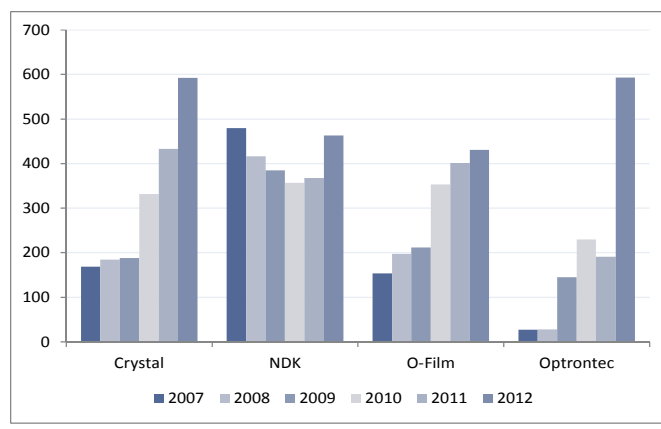
Historical capex/revenue ratio



Source: Company data, Bloomberg.

Exhibit 25: Crystal & Optrontec gained market share from Japan peers

Revenue from color filter business (Rmb mn)

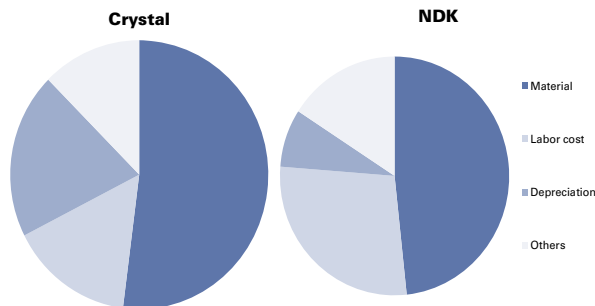


Source: Company data, Bloomberg, Gao Hua Securities Research estimates

- Cost advantage:** Our analysis shows that Crystal's much lower personnel cost is the major reason for its higher gross margin compared with Japanese competitors. For example, Crystal's annual payment per employee is around US\$10.8K vs. NDK's US\$30.4K, as per respective company data.

Exhibit 26: Crystal has lower labor costs compared with Japanese competitors like NDK

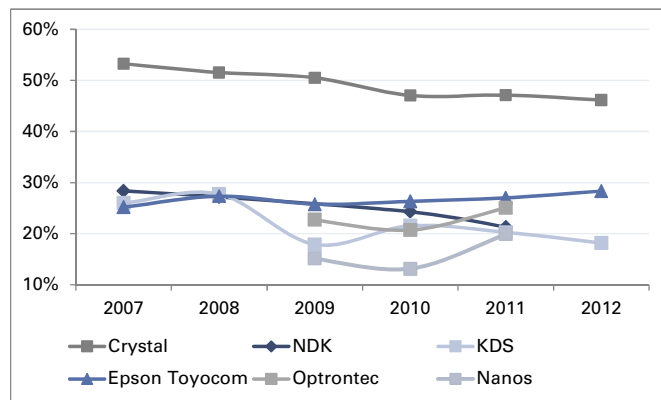
Cost structure comparison (2011)



Source: Company data.

Exhibit 27: Crystal has higher GM owing to cost advantages

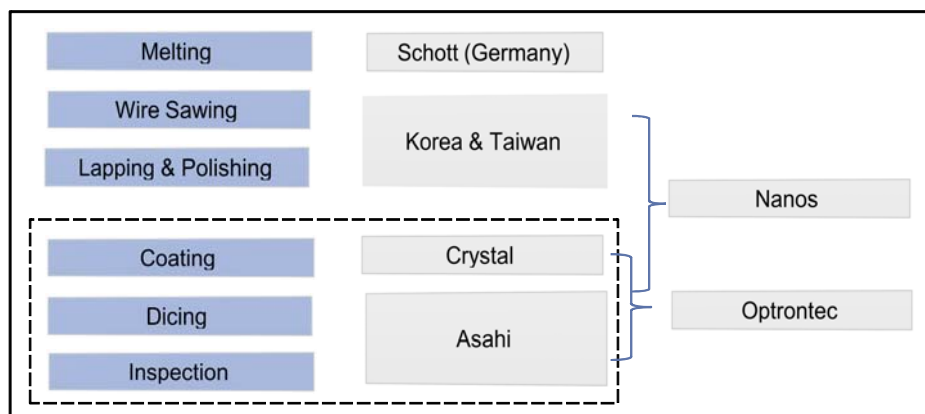
GM for Crystal vs. Japan/Korea peers



Source: Company data.

- On the other hand, compared with its Japanese and Korean peers, we see two factors which might constrain Crystal's foray into new products and business models: lack of vertical integration and direct client relationships. For example, Crystal only does coating on blue glass while its Korean competitor Optrontec provides full range of services including coating, dicing, and inspection. This lack of integration also results in limited exposure to its final end customer, the smartphone maker.

Exhibit 28: Crystal is only working on the coating part of blue glass IRCF currently
 Process of blue glass



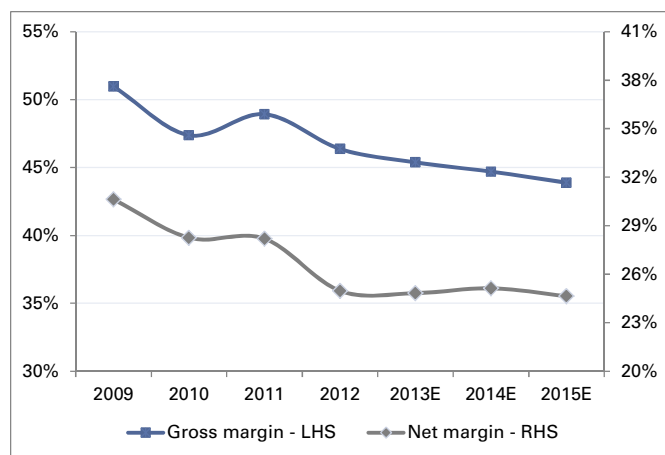
Source: Company data, Gao Hua Securities Research.

Financials: We forecast stable net margins in 2013E-15E

Along with the ASP up-cycle in OLPF & IRCF, we expect a recovery in Crystal's gross margins in 2013E/14E due to improvements in utilization and yield:

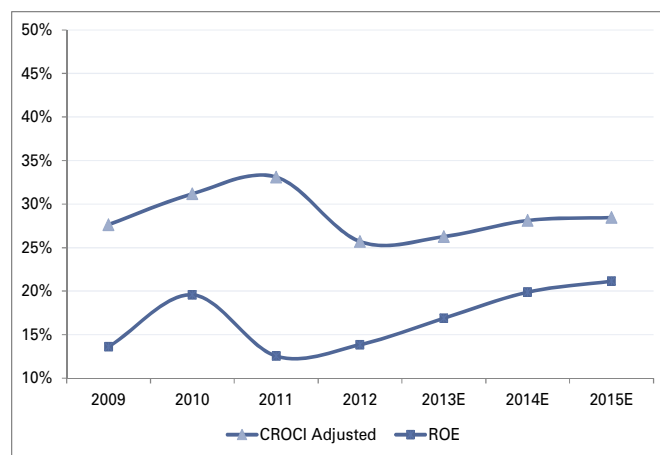
- The company experienced a decline in its gross margins in 2012. Especially in 1Q12, the gross margin dropped to 35.7% vs. the 43%-53% range seen since 2010. This was mainly due to: **1)** the manufacturing line movement from Zhejiang to the new site in Jiangxi resulting in some downtime due to training of workers and trial operation of the lines; **2)** its new product, blue glass CF, which started in 2H12, and took 3-4 months to improve yield; **3)** ASP pressure from compact camera OLPF business with shipments declining. However, we observed solid sequential gross margin improvements in 2Q (40%) and 3Q (47%) with improvements in utilization and yield of blue glass;
- Looking ahead, we estimate net margin to remain stable in 2013-14E, as: **1)** the impact from factory movement reduces; **2)** IRCF segment gross margin rises on a higher mix of blue glass; **3)** legacy compact camera OLPF business is likely to account for less than 10% of total revenue, limiting the ASP decline impact;
- After 2014, we expect gross margin to slightly decline, considering: **1)** the upside from blue glass coating business will reduce as volumes stabilize; **2)** we expect Crystal to introduce new ODM model on blue glass for domestic smartphone makers. This business model would have higher revenue scale but lower gross margin.

Exhibit 29: We expect stable net margin in 2013E-15E...
Gross margin (2009-2015E)



Source: Company data, Gao Hua Securities Research estimates.

Exhibit 30: ...with the recovery of adjusted CROCI and ROE
CROCI and ROE trend (2009-15E)



Source: Company data, Gao Hua Securities Research estimates.

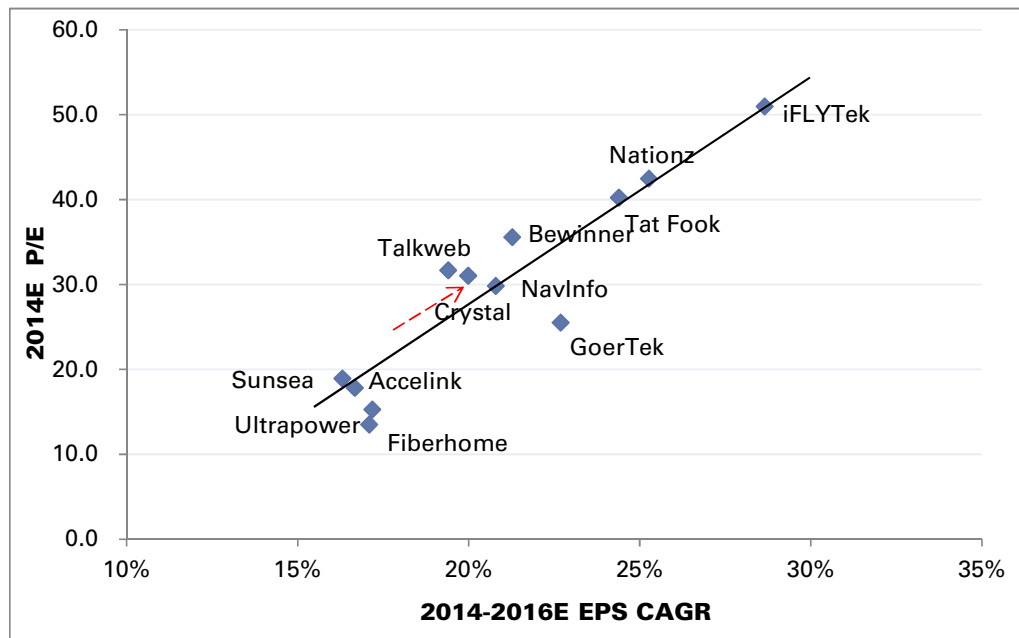
On the other hand, we believe Crystal's heavy capex on capacity expansion should get rewarded in the next few years with adjusted CROCI rising to 28% in 2014E from 26% in 2012E. We estimate capex to decline to below Rmb200mn level from the Rmb242mn peak in 2012. Considering Crystal has a solid balance sheet (net cash of Rmb389mn or 36% of total equity in end-2012), we view its cash position as sufficient for further capacity expansion without any requirement for additional funding over the next few years.

Valuation: Target price Rmb19.20, Neutral

We derive our 12-month target price of Rmb19.2 using our sector PEG regression model consisting of the 12 A-share tech stocks under our coverage. Crystal's 30X 2014E PE and growth rate (20% EPS CAGR for 2014-16E) are both close to sector median levels of 31X and 20% respectively. Our valuation methodology is consistent with the rest of our A share coverage. We forecast 2013E-16E EPS of Rmb0.53/Rmb0.71/Rmb0.85/Rmb1.02.

Exhibit 31: Crystal is trading in line with our sector PEG valuation

Sector PEG model



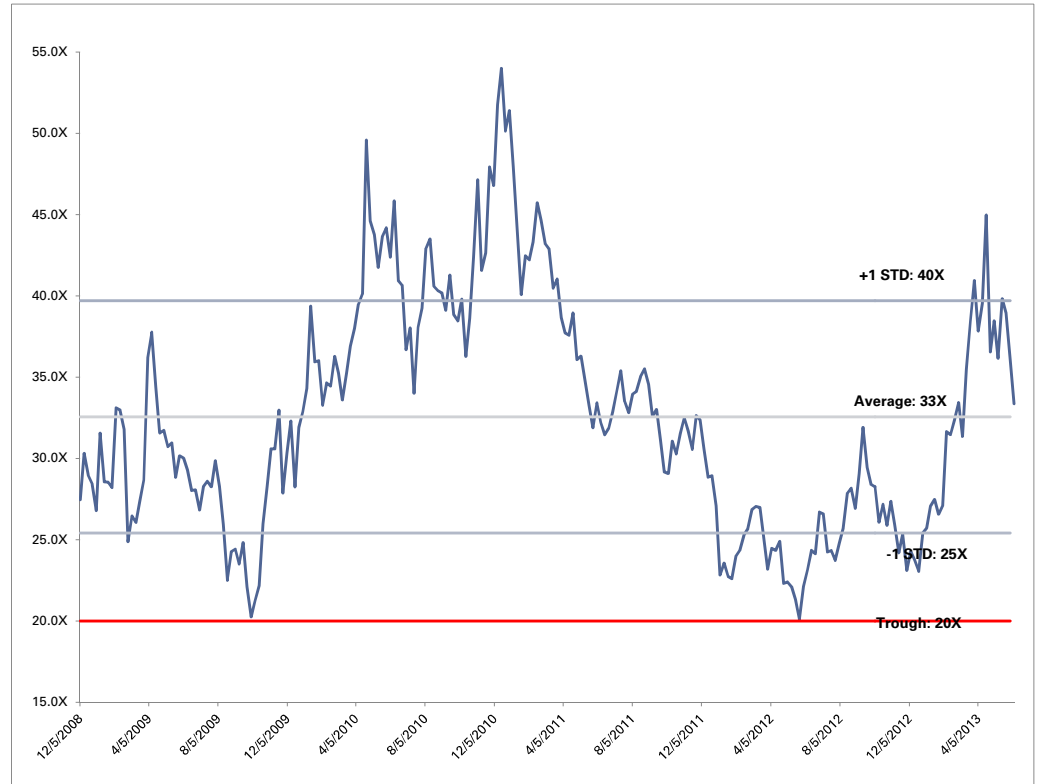
Source: Gao Hua Securities Research estimates

We also cross check our valuation using other methodologies. From a historical NTM P/E perspective, Crystal is currently trading close to its historical average of 33X. Considering the improving ROE after the trough in 2012, we believe this is fair.

Our Director's Cut¹ analysis also shows that Crystal is trading at a 20% premium to the sector average Valratio line, which we consider fair given its 1st quartile CROCI performance in 2013-14E.

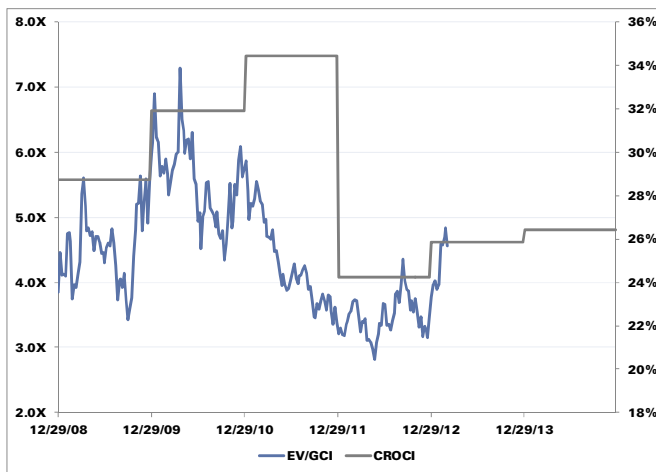
¹ The Director's Cut methodology considers how the market values the cash invested in a business (EV/GCI) relative to the returns (value) created by the company from those assets (CROCI/WACC). This implies that the market expects stocks above the regression line to see accelerated returns relative to the sector or else are overvalued relative to their cash returns and as such may represent good potential selling opportunities and vice-versa.

Exhibit 32: Crystal is trading at 33.4X NTM P/E, close to its historical average
Historical NTM PE



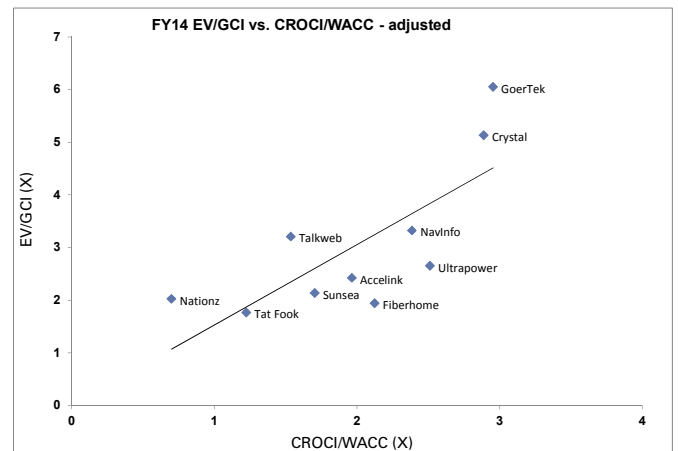
Source: Datastream, Gao Hua Securities Research estimates.

Exhibit 33: EV/GCI multiple rebounded in expectation of return recovery
Crystal's EV/GCI vs. CROCI



Source: Gao Hua Securities Research estimates

Exhibit 34: Crystal trades at a 20% premium to the sector which we consider fair given its 1st quartile CROCI
2014E EV/GCI vs. CROCI/WACC (adjusted)



Source: Gao Hua Securities Research estimates

Exhibit 35: Crystal has stayed in 1st/2nd quartile in terms of adjusted CROCI since its IPO in 2009

A-share coverage adjusted CROCI

Company	CROCI						
	2009	2010	2011	2012	2013	2014	
Fiberhome	17%	15%	17%	14%	20%	20%	1st quartile
Accelink	24%	16%	13%	32%	16%	17%	2nd quartile
Sunsea	24%	15%	21%	26%	14%	15%	3rd quartile
Tat Fook	101%	29%	9%	-8%	11%	12%	4th quartile
Ultrapower	43%	23%	18%	19%	22%	24%	
Talkweb	17%	29%	15%	8%	13%	15%	
Bewinner	20%	24%	19%	17%	19%	19%	
Nationz	101%	17%	7%	4%	6%	7%	
iFLYTEK	25%	19%	32%	25%	26%	27%	
NavInfo	69%	51%	34%	21%	27%	27%	
GoerTek	16%	24%	33%	30%	28%	28%	
Crystal	28%	31%	33%	26%	27%	28%	

Source: Gao Hua Securities Research estimates

Risks to our investment view

- **Slower-than-expected adoption of blue glass:** China smartphone OEMs' adoption of blue glass in flagship models is one of the key drivers for Crystal's revenue growth. A weaker-than-expected demand or lower mix of 8MP+ smartphones could dampen IRCF revenue growth, in our view;
- **Key technology roadmap change:** OLPF/IRCF are still essential components for DSC/mobile phone; we saw one of Nikon's high-end DSLR D800E got rid of OLPF in Feb 2012. Although there have been no followers yet, if future technology favors this trend, it could dim Crystal's OLPF growth prospects;
- **Further depreciation of Japanese Yen:** Crystal's main competitors in OLPF are Japanese vendors, although most of them have partly migrated manufacturing facilities to China. A further depreciation in Yen could improve their price competitiveness and even help them re-gain some market share;
- **Faster-than-expected gain in vertical integration ability:** Crystal currently only works on the coating part of blue glass. As the Rmb0.7-0.8 processing fee is much lower than blue glass's ASP of Rmb3-4, we see potential upside risk to revenue if Crystal gains vertical integration ability faster than we expect;
- **Early commercialization of new products:** Google glass, pico projector and Microsoft Kinect are either in an experimental phase or an early commercialization period; however, if penetration level ramps up faster than we expect, there could be upside risk to both earnings and valuation due to improvement in the market sentiment.

Company profile

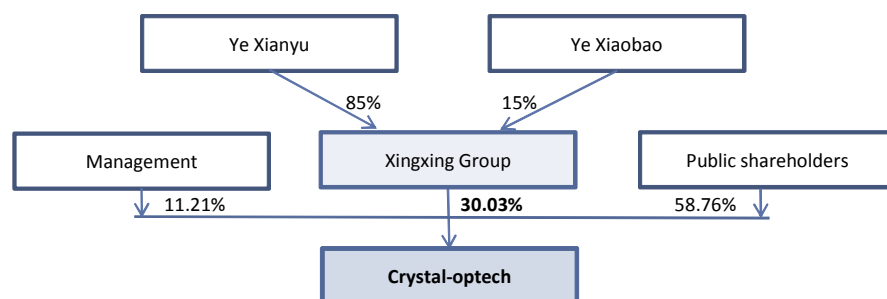
Crystal-optech is a subsidiary of Xingxing Group (30% stake), which is owned by Mr. Ye Xianyu and his father Mr. Ye Xiaobao. Crystal got listed in Shenzhen SMB (Small and Medium-enterprise Board) on September 19, 2008. Headquartered in Taizhou, Zhejiang province, the company has emerged from being an upstream crystal supplier to a leading manufacturer of color filter and other precision optical devices. Crystal is also expanding its plants to mid-China Jiangxi province, given the abundant and cheaper land/labor.

Crystal started OLPF R&D in 2000 when its legacy crystal business went down. The first manufacture line was built in 2002. It became No.4 by volume in OLPF globally by 2006 and has been No.1 since 2010. It is also the only non-Japanese major OLPF supplier for MILC and DSLR.

Crystal started its IRCF business in 2005 and has surpassed its peers in Korea, Taiwan and China by becoming the largest manufacturer. It is also one of the first firms to seize opportunities in IRCF's upgradation to blue glass and is currently one of the major blue glass coating suppliers around the world.

The company is currently utilizing its expertise in optical coating and cold processing, to expand into other precision optical fields like pico projector component (started in 2009), narrow band filter (started in 2010) etc.

Exhibit 36: Crystal's current shareholder structure



Source: Company data.

信息披露附录

申明

本人, 李哲人, 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, 本人薪资的任何部分不曾与, 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。

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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。

Quantum

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GS SUSTAIN

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信息披露

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