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Company Visit Note



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AT A GLANCE

Price band	KRW11,300-KRW14,400
Market cap	KRW100.8b-128.5b
Shares (float)	8,921,164 (39.49%)

PCL (241820/Unlisted)

IPO price band attractive

- PCL has proprietary technology in immobilizing disease biomarkers, which are key to *in vitro* diagnostics. It is capable of developing cost-competitive products for high-sensitivity, high-specificity detection of multiple illnesses.
- It is the world's first company to commercialize an immunochemistry product that can simultaneously detect both HIV and HCV, and is taking steps to enter the point-of-care testing market.
- PCL is due to list on the Kosdaq on Dec 28. The IPO prospectus forecasts 2019 net profit at KRW7.7b. Given this, the IPO price band of KRW11,300-14,400 equates to a valuation of 13.1-16.7x P/E—attractive in light of the firm's competitiveness in platform technology and products.

WHAT'S THE STORY?

Proprietary technology enables concurrent detection of multiple diseases:

PCL has proprietary technology in immobilizing disease biomarkers, which are key to *in vitro* diagnostics. Its SG Cap technology (a 3D sol-gel capturing system, chip-based multiplex) uses silica gel (instead of hydrogel or polyacrylamide) to create a three-dimensional sol-gel matrix which: 1) has high sensitivity—it can immobilize 100 times more biomarkers than 2D surfaces can, boasts an immobilization success rate of 80%, and maximizes exposure to active sites; 2) has high specificity—diverse sizes of pores and channels help capture biomarkers while letting non-specific materials float away; and 3) can immobilize up to 64 biomarkers on a 96-well ELISA plate, thereby enabling simultaneous detection of multiple diseases.

World's first product makes a splash in the blood-screening market: PCL has exposure to the global blood screening market, which one market research firm estimates will grow at a 4% CAGR from USD2.8b in 2015 to USD3.3b in 2019. The firm obtained Europe's CE List A approval and Korea's grade-4 approval for its Hi3-1, the first product in the world to be able to detect HIV and HCV simultaneously. CE List A approval is granted only to products that achieve a sensitivity of 100% and specificity of 99.5% or higher when tested with at least 400 positive and 5,000 negative specimens. PCL has: 1) begun selling Hi3-1 to Cerba (France) and Scienion (Germany); and 2) signed an MOU with REM (Brazil) and another with BioPharm (Russia). REM has agreed to pay up to USD7m for a technology transfer. In 2H17, PCL intends to bid for orders from blood donor centers and blood banks at home and overseas. It is currently developing a product that can simultaneously detect HIV, HCV, HBV, and HTLV.

Developing multiple-flu, -cancer diagnosis kits—eying POCT market:

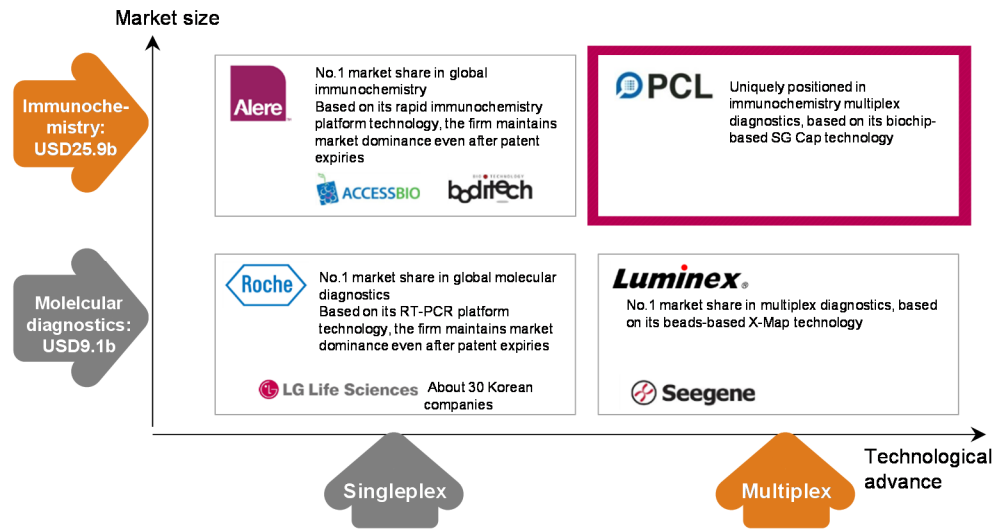
Looking to the global point-of-care testing (POCT) market, which is projected to grow at an 8.2% CAGR from USD6.4b in 2013 to USD10.2b in 2017, PCL is developing a product that can simultaneously detect influenza A and B. According to the terms of a 2015 MOU, it will transfer this technology to OraSure Technology (US). PCL's Chinese partner has filed for the China Food and Drug Administration's approval of the product, which PCL plans to launch in Korea and China on an OEM basis. Meanwhile, the firm is also working on the development of Cancer-6, a kit that can offer a quick, simultaneous detection of six cancers—ie, liver, pancreatic, colorectal, prostate, ovary, and breast cancer.

(Continued on the next page)

To expand capacity: PCL plans to expand capacity. Its current capacity of 3.2m diagnostic reagents can generate sales of USD6.4m at 100% utilization, assuming an ASP of USD2 per test. Meanwhile, it is jointly developing automated diagnostics systems with Tecan (Switzerland) and is considering OEM production.

Attractive at IPO price band: After book building over Dec 14-15, PCL is slated to list on the Kosdaq on Dec 28. Its IPO price band has been set at KRW11,300-14,400, which equates to a market cap of KRW100.8b-128.5b. The firm plans to divide the proceeds of the offering (at least KRW17b based on the lower-end of the price band) between capex (KRW5b), R&D (KRW6.2b), and operations (KRW5.3b). Lockup periods range from 1-24 months for 60.5% of shares, including a 41.4% stake held by the largest shareholder and related parties, leaving a free float of 39.5% of shares outstanding. The IPO prospectus forecasts: 1) operating and net losses of KRW0.6b each on sales of KRW2.3b in 2016; 2) operating and net profits of KRW2.1b and KRW2.2b, respectively, on sales of KRW7.7b in 2017; and 3) operating and net profits of KRW9.8b and KRW7.7b, respectively, on sales of KRW28.1b in 2019. The prospectus has 2019 sales coming from blood-screening kits (KRW18.1b), POCT diagnostics kits (KRW4.6b), cancer diagnostics kits (KRW3.6b), and the firm's SG Cap platform service (KRW1.8b). A 2019 net profit of KRW7.7b values the firm at 13.1-16.7x P/E (based on the abovementioned IPO price band).

Global trends in *in vitro* diagnostics: Multiplex



Source: Company data

Advantages of SG Cap platform technology

Advantage	Detail
High sensitivity	<ul style="list-style-type: none"> As a 3D sol-gel matrix has more surface area than a 2D matrix, it can immobilize more markers. This leads to a diagnostic chip with a higher signal value. SG Cap can immobilize 100 times more protein than competing 2D surfaces It boasts an immobilization success rate of 80% and maximizes exposure to active sites.
High specificity	<ul style="list-style-type: none"> The sol-gel matrix is a 3D network of pores that are connected by larger channels. The pores capture proteins, while non-specific material easily washes away. Thus, it enables the development of diagnostic kits with low background and high specificity.
Multiplex	<ul style="list-style-type: none"> Sol-gel can immobilize a of 3.5nL spot at the bottom of wells, enabling diagnostic markers to be immobilized in pores by encapsulation. Thus, there is no cross-reaction or interference between spots. It can immobilize up to 64 biomarkers on a 96-well plate, thereby enabling simultaneous detection of multiple diseases. The technology has increased commercial potential through the application of the firm's ultra-low volume non-contact liquid handling and microarray technologies.
Stability	<ul style="list-style-type: none"> Sol-gel spots stick strongly to the bottom of wells, protecting diagnostic markers from external shocks Similar to glass, the surface of sol-gels rarely reacts chemically. They show neither absorption nor non-specific reactions.

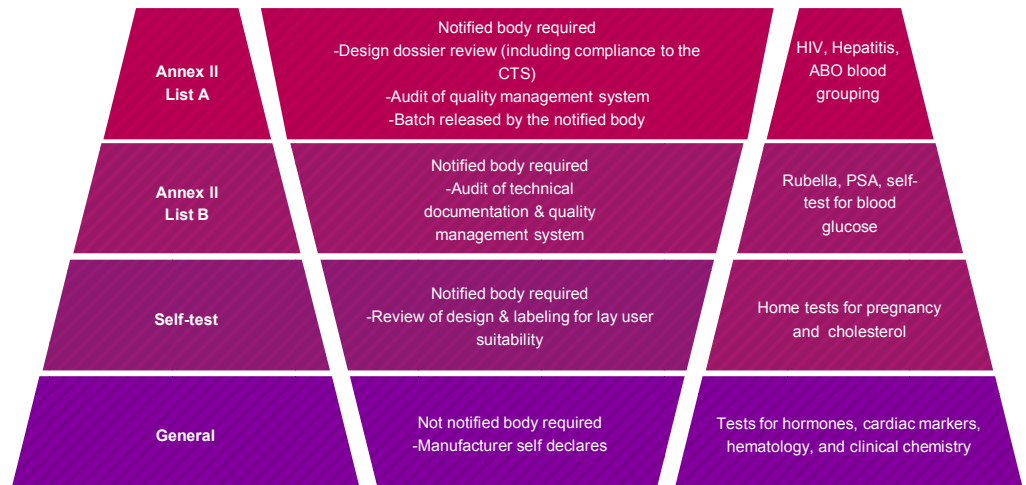
Source: Company data

PCL's blood transfusion diagnostic-chip pipelines

Product name	Target viruses (multiplex diagnostic)	Diagnostic kit
Hi3-1	HIV, HCV (Antibody screening)	
Hi3-1 Plus	HIV, HCV (Antigen and antibody simultaneous screening)	
Hi3	HIV, HCV, HBV (Antigen and antibody simultaneous screening)	
Hi4	HIV, HCV, HBV, HTLV	
Hi6	HIV, HCV, HBV, HTLV and endemic diseases	

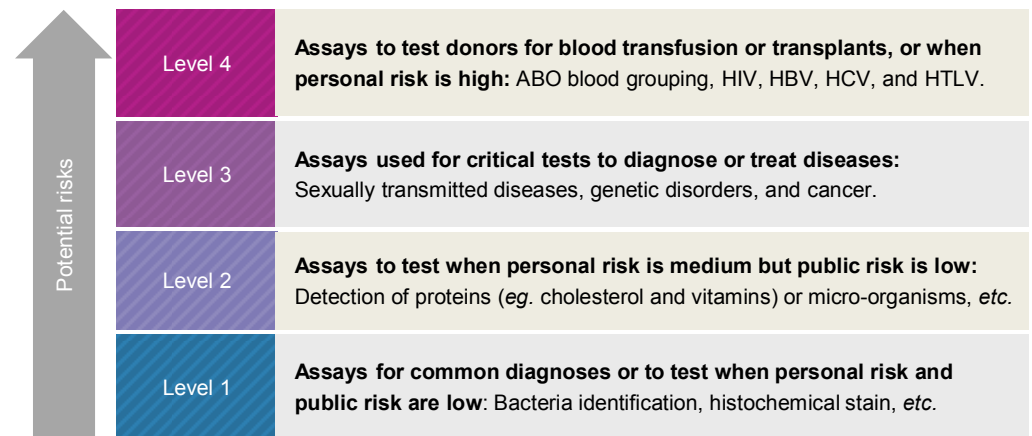
Source: Company data

In vitro diagnostics: EMA requirements and classification



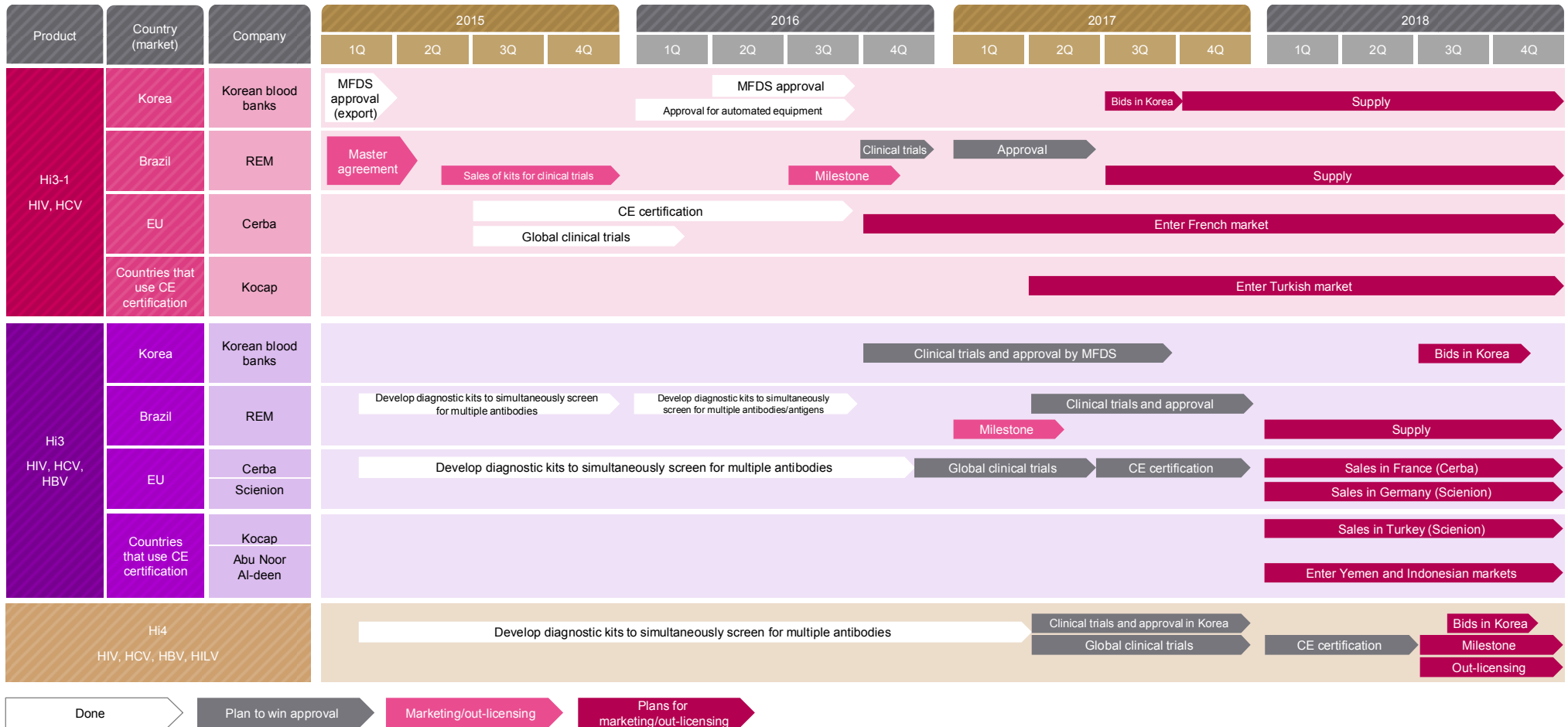
Source: Company data

In vitro diagnostics: MFDS classification of assays



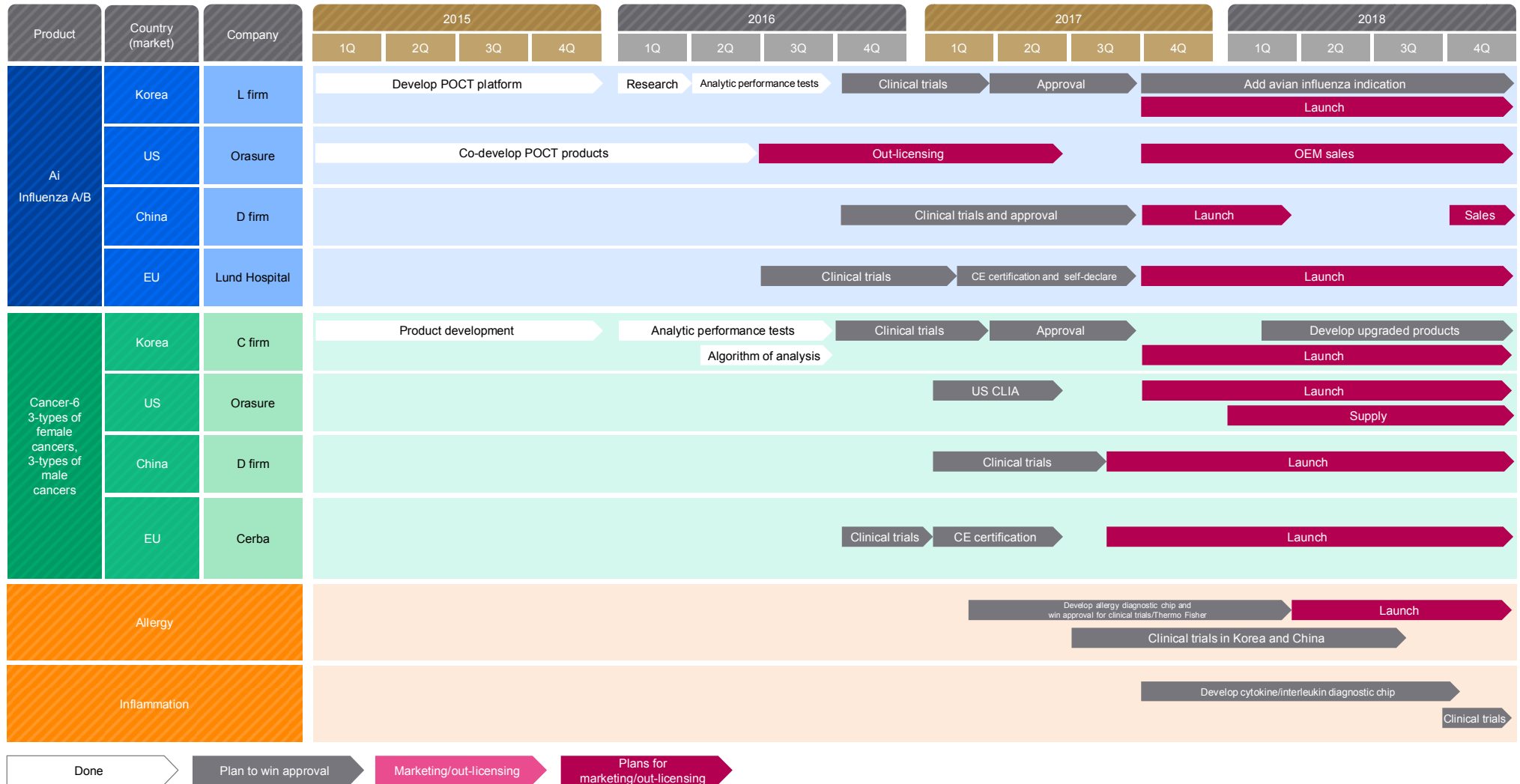
Source: Company data

PCL: Blood transfusion diagnostic product pipelines



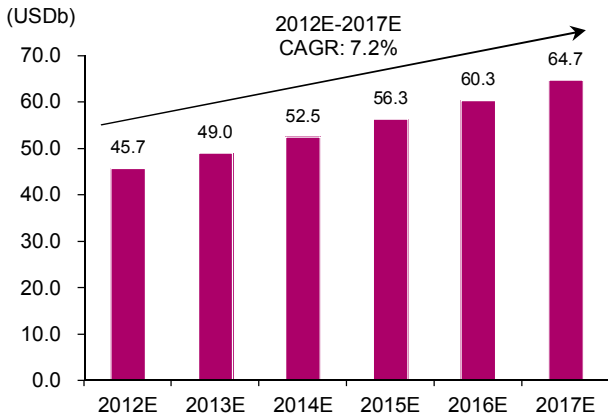
Source: Company data

PCL: Point-of-care testing product pipelines



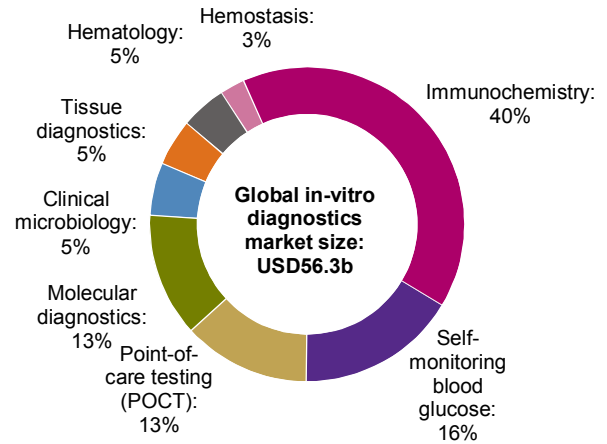
Source: Company data

Global *in vitro* diagnostics market



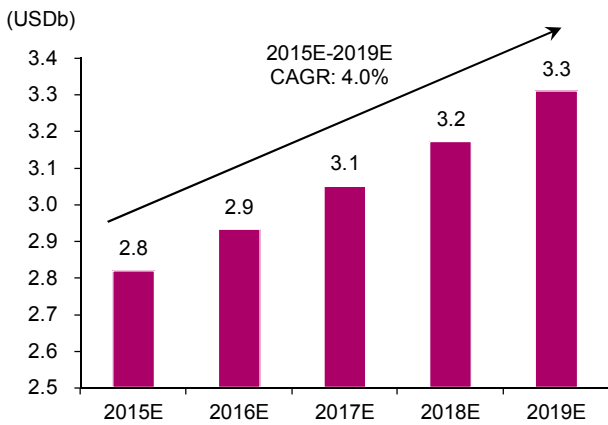
Source: Frost & Sullivan (2013), Company data

Global *in vitro* diagnostics market breakdown



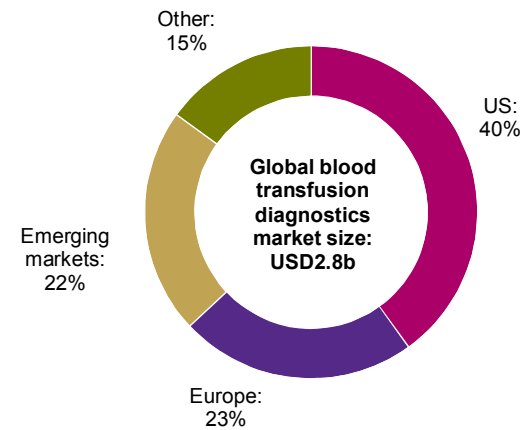
Source: Frost & Sullivan (2015), Company data

Global blood transfusion diagnostics market



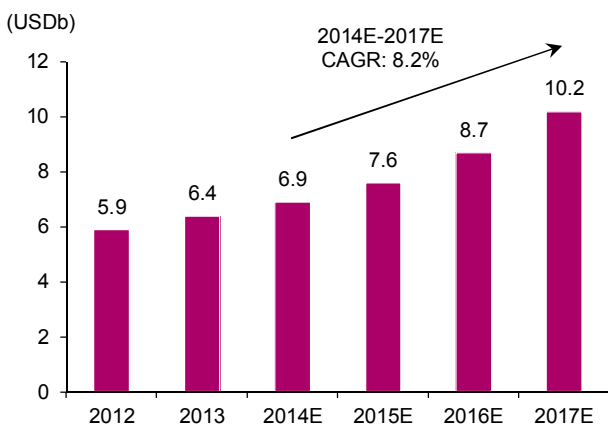
Source: Frost & Sullivan (2015), Company data

Global blood transfusion diagnostics market, by region



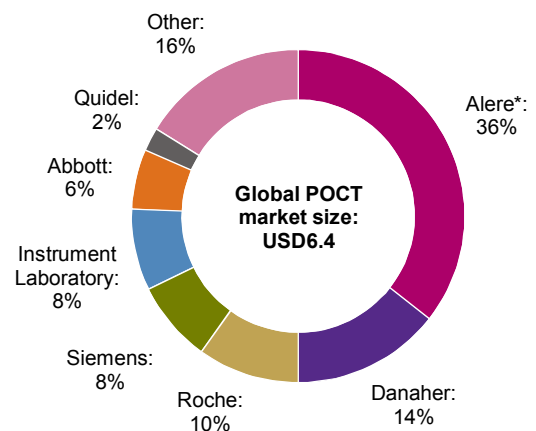
Source: Frost & Sullivan (2015), Company data

Global POCT market



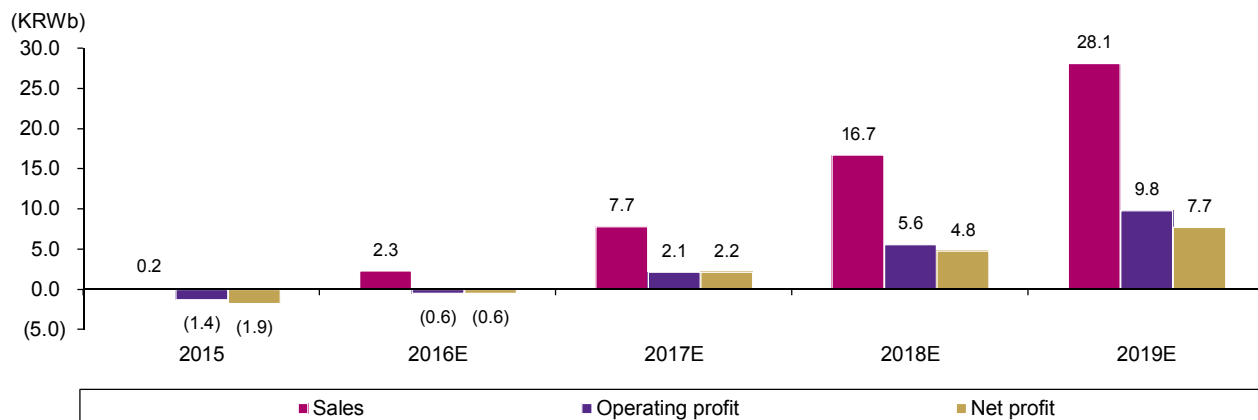
Source: Frost & Sullivan (2014), Company data

Global POCT market, by company



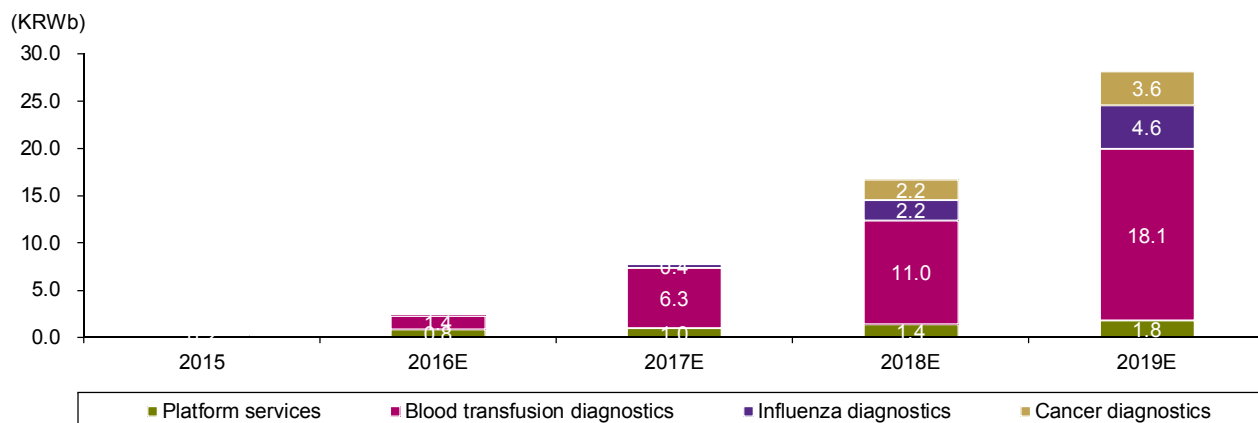
Note: *Abbott acquired Alere in 2016
Source: Frost & Sullivan (2014), Company data

Sales, operating profit, and net profit



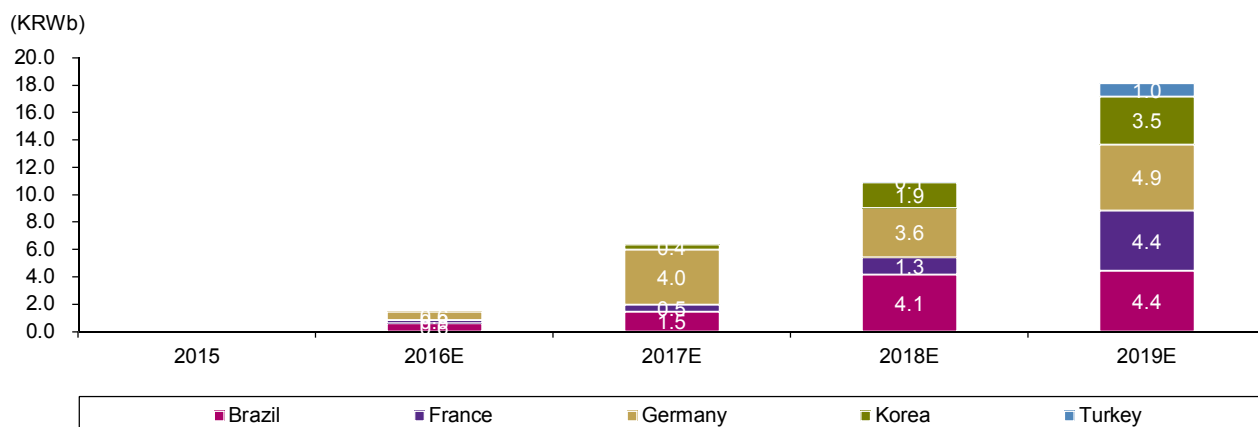
Source: Company data

Sales by product



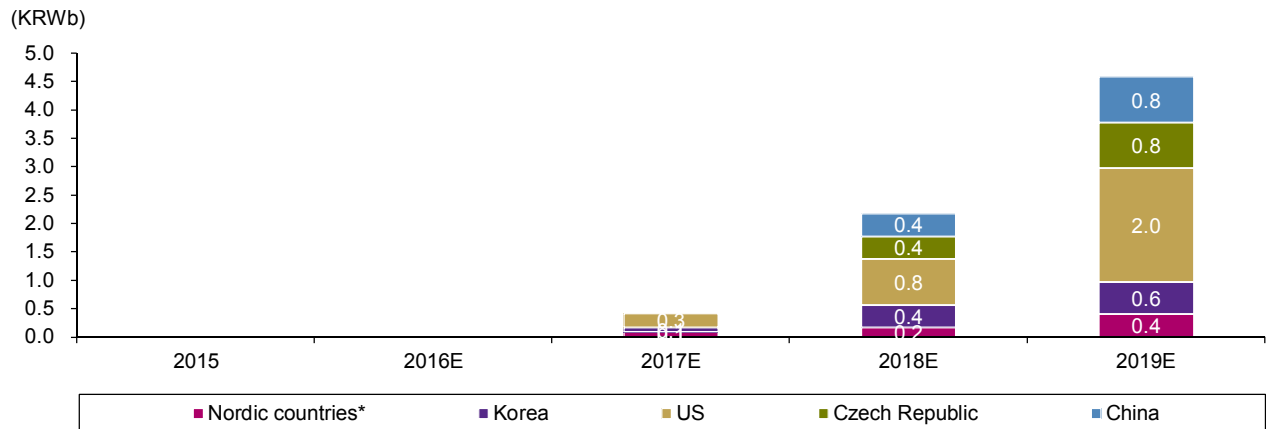
Source: Company data

Blood transfusion diagnostics: Sales forecasts, by region



Source: Company data

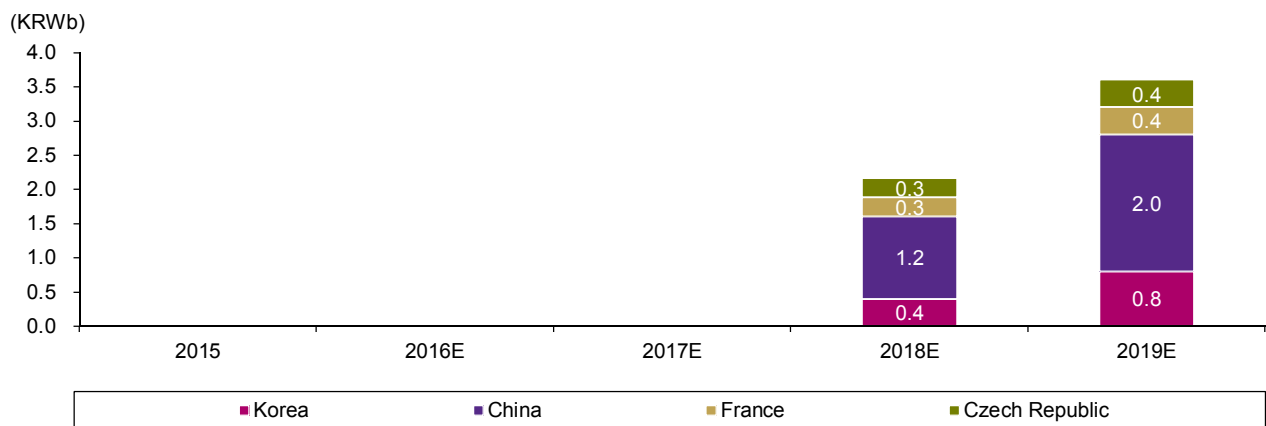
Influenza diagnostics: Sales forecasts, by region



Note: * Sweden, Denmark, and Finland

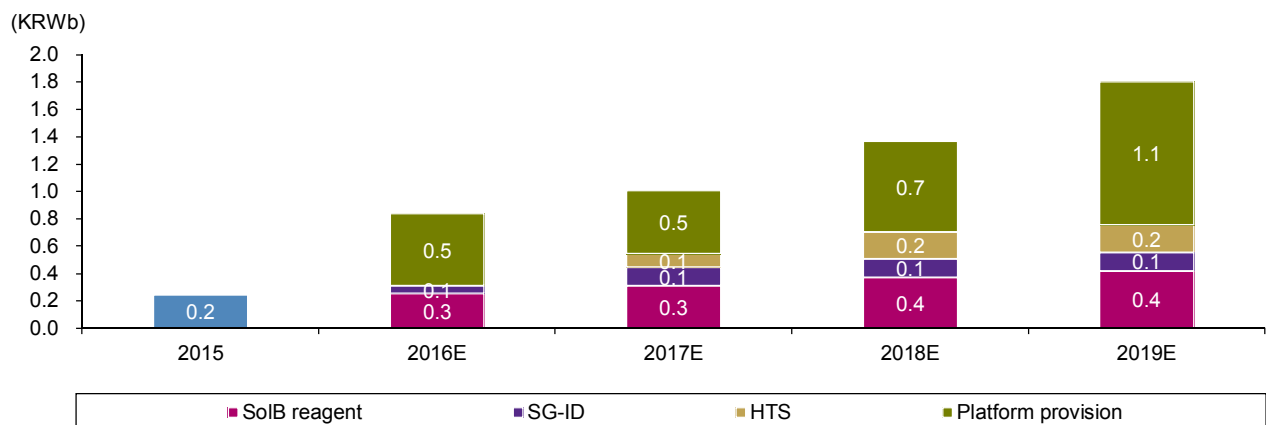
Source: Company data

Cancer diagnostics: Sales forecasts, by region



Source: Company data

Platform services: Sales and forecasts, by product



Source: Company data

IPO overview

(KRWb)	
Shares offered (shares)	1,500,000
IPO price band (KRW)	11,300-14,400
Face value (KRW)	500
IPO size	17.0-21.6
Implied market cap	100.8-128.5
Post-listing shares outstanding (shares)	8,921,164

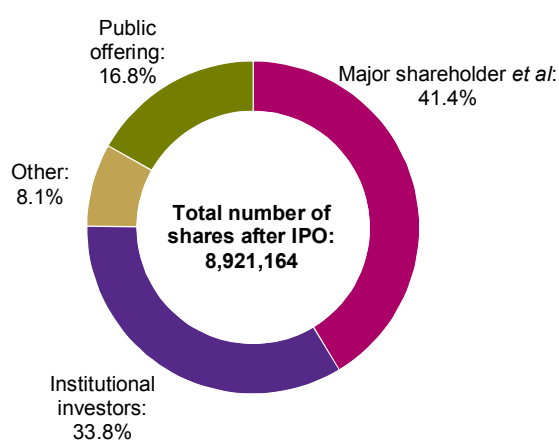
Source: Company data, Samsung Securities

IPO schedule

Event	Date
Submission of registration	Nov 21, 2016
Book-building	Dec 14-15, 2016
Subscription period	Dec 19-20, 2016
Tentative listing	Dec 28, 2016

Source: Company data, Samsung Securities

Post-IPO ownership



Source: Company data, Samsung Securities

Overview of lock-up periods

Shareholder	No. of shares	Stake (%)	Lock-up period
Major shareholder et al.	3,689,776	41.4	24 months
Institutional investors	774,452	8.7	1 month
	616,300	6.9	3 months
	222,224	2.5	12 months
Third-party allocation	50,000	0.6	12 months
Underwriter	45,000	0.5	3 months
Subtotal	5,397,752	60.5	
Free float	3,523,412	39.5	

Source: Company data, Samsung Securities

Expected use of IPO proceeds

(KRWb)	2016E	2017E	2018E	2019E	Total
Machinery	0.0	1.95	1.2	1.88	5.0
R&D	0.2	1.25	2.09	2.75	6.2
Operations	0.5	1.48	1.58	1.78	5.3
Total	0.6	4.7	4.9	6.4	16.6

Source: Company data, Samsung Securities

Expected ownership post-IPO

		No. of shares	Stake (%)	Lock-up period	
Major shareholders, <i>et al.</i>	So Yeon Kim	3,112,000	34.88	24 months	
	Dong Gi Lee	221,224	2.48		
	Dong Ho Lee	196,552	2.20		
	In Kyu Kim	80,000	0.90		
	Sang Jin Lee	60,000	0.67		
	Sung Yoon Hwang	20,000	0.22		
Subtotal		3,689,776	41.36		
Lock-up	Institutional investors	KoFC-Korea Investment Pioneer Champ 2010-1	128,000	1.43	3 months
		Seoul Global Biomedical New Growth Engine Investment	230,000	2.58	3 months
		KB 12-1 Venture Investment	86,100	0.97	3 months
		Hyundai Finance Corporation	86,100	0.97	3 months
		KDBC Biomedical New Growth Engine Investment	86,100	0.97	3 months
		KT-DSC Creative Economy Youth Start-up Investment	200,004	2.24	1 month
		Global ICT Convergence Fund	200,004	2.24	1 month
		Mirae Asset Venture Investment	166,668	1.87	1 month
		LSK Investment	20,000	0.22	1 month
		Meritz Securities	100,000	1.12	1 month
		SK Securities	100,000	1.12	1 month
		Hyundai Securities	100,000	1.12	1 month
		Hanwha Securities	60,000	0.67	1 month
		Shinhan Investment	50,000	0.56	1 month
		Subtotal		1,612,976	18.08
Other	3rd party allocation (Hyundai Securities)	50,000	0.56	12 months	
	Underwriter	45,000	0.50	3 months	
Subtotal (lock-up)		5,397,752	60.51		
Free float	Venture capital and minor shareholders	2,023,412	22.68		
	New shareholders	1,500,000	16.81		
Subtotal (free float)		3,523,412	39.49		
Total		8,921,164	100		

Source: Company data, Samsung Securities

Calculation of IPO price band

(KRW)	Note
Discounted 2019E EPS at end-2016 (A=B/E)	441
Present value of 2019E net profit (KRWb) (B=C/(1+D) ³)	3.9
2019E net profit (KRWb) (C)	7.7
Discount rate (%) (D)	25.0
Number of shares (E)	8,921,164
Peer P/E (x) (F)	43.7
Average 2016E P/E* of Boditech Med, i-SENS, and LabGenomics	
Per-share value (G=AxF)	19,264
IPO price band	11,300-14,400
25.2-41.3% discount to per-share value	

Note: *2016 net profits estimated based on 3Q16 net profits

Source: Company data

Income statement

Year-end Dec 31 (KRWm)	2011	2012	2013	2014	2015
Sales	n/a	n/a	577	143	243
Cost of goods sold	n/a	n/a	343	55	141
Gross profit	n/a	n/a	234	88	102
Gross margin (%)	n/a	n/a	40.5	61.5	42.1
SG&A expenses	n/a	n/a	532	1,210	1,464
Operating profit	n/a	n/a	(298)	(1,122)	(1,362)
Operating margin (%)	n/a	n/a	(51.7)	(786.7)	(560.4)
Non-operating gains (losses)	n/a	n/a	(6)	267	(502)
Financial profit	n/a	n/a	24	348	169
Financial costs	n/a	n/a	60	63	914
Equity-method gains (losses)	n/a	n/a	0	0	0
Other	n/a	n/a	30	(18)	242
Pre-tax profit	n/a	n/a	(304)	(855)	(1,864)
Taxes	n/a	n/a	0	0	0
Effective tax rate (%)	n/a	n/a	0.0	0.0	0.0
Profit from continuing operations	n/a	n/a	(304)	(855)	(1,864)
Profit from discontinued operations	n/a	n/a	0	0	0
Net profit	n/a	n/a	(304)	(855)	(1,864)
Net margin (%)	n/a	n/a	(52.8)	(599.7)	(767.1)
Net profit (controlling interests)	n/a	n/a	(304)	(855)	(1,864)
Net profit (non-controlling interests)	n/a	n/a	0	0	0
EBITDA	n/a	n/a	(224)	(1,019)	(1,812)
EBITDA margin (%)	n/a	n/a	(38.9)	(714.3)	(745.7)
EPS (parent-based) (KRW)	n/a	n/a	(152)	(428)	(902)
EPS (consolidated) (KRW)	n/a	n/a	(152)	(428)	(902)
Adjusted EPS (KRW)*	n/a	n/a	(152)	(428)	(902)

Cash flow statement

Year-end Dec 31 (KRWm)	2011	2012	2013	2014	2015
Cash flow from operations	n/a	n/a	503	(136)	(1,847)
Net profit	n/a	n/a	(304)	(855)	(1,864)
Non-cash profit and expenses	n/a	n/a	129	(4)	789
Depreciation	n/a	n/a	44	103	47
Amortization	n/a	n/a	0	0	2
Other	n/a	n/a	86	(107)	739
Changes in A/L from operating activities	n/a	n/a	678	740	(759)
Cash flow from investments	n/a	n/a	(5,846)	1,873	2,815
Change in tangible assets	n/a	n/a	(8)	(170)	(100)
Change in financial assets	n/a	n/a	(5,054)	2,051	2,951
Other	n/a	n/a	(784)	(8)	(35)
Cash flow from financing	n/a	n/a	5,216	(100)	1,180
Change in debt	n/a	n/a	0	(100)	(370)
Change in equity	n/a	n/a	5,294	0	1,550
Dividends	n/a	n/a	0	0	0
Other	n/a	n/a	(78)	0	0
Change in cash	n/a	n/a	(127)	1,637	2,148
Cash at beginning of year	n/a	n/a	1,023	340	1,977
Cash at end of year	n/a	n/a	896	1,977	4,125
Gross cash flow	n/a	n/a	(175)	(859)	(1,075)
Free cash flow	n/a	n/a	495	(306)	(1,947)

Note: * Excluding one-off items

** Fully diluted, excluding one-off items

*** From companies subject to equity-method valuation

Source: Company data, Samsung Securities estimates

Balance sheet

Year-end Dec 31 (KRWm)	2011	2012	2013	2014	2015
Current assets	n/a	n/a	6,292	5,414	5,093
Cash & equivalents	n/a	n/a	340	1,977	4,125
Accounts receivable	n/a	n/a	646	52	256
Inventories	n/a	n/a	108	106	70
Other current assets	n/a	n/a	5,198	3,280	642
Fixed assets	n/a	n/a	1,319	1,392	1,484
Investment assets	n/a	n/a	0	0	0
Tangible assets	n/a	n/a	1,301	1,371	1,439
Intangible assets	n/a	n/a	0	0	25
Other long-term assets	n/a	n/a	19	21	21
Total assets	n/a	n/a	7,612	6,806	6,577
Current liabilities	n/a	n/a	1,851	2,961	1,544
Accounts payable	n/a	n/a	559	472	223
Short-term debt	n/a	n/a	900	900	900
Other current liabilities	n/a	n/a	392	1,588	421
Long-term liabilities	n/a	n/a	6,184	5,131	45
Bonds & long-term debt	n/a	n/a	200	100	0
Other long-term liabilities	n/a	n/a	5,984	5,031	45
Total liabilities	n/a	n/a	8,035	8,092	1,589
Owners of parent equity	n/a	n/a	(423)	(1,286)	4,989
Capital stock	n/a	n/a	500	500	1,724
Capital surplus	n/a	n/a	(250)	(250)	6,665
Retained earnings	n/a	n/a	(673)	(1,536)	(3,400)
Other	n/a	n/a	0	0	0
Non-controlling interests' equity	n/a	n/a	0	0	0
Total equity	n/a	n/a	(423)	(1,286)	4,989
Net debt	n/a	n/a	760	(977)	(3,225)

Financial ratios

Year-end Dec 31	2011	2012	2013	2014	2015
Growth (%)					
Sales	n/a	n/a	n/a	(75.3)	70.4
Operating profit	n/a	n/a	n/a	RR	RR
Net profit	n/a	n/a	n/a	RR	RR
Adjusted EPS**	n/a	n/a	n/a	RR	RR
Per-share data (KRW)					
EPS (parent-based)	n/a	n/a	(152)	(428)	(902)
EPS (consolidated)	n/a	n/a	(152)	(428)	(902)
Adjusted EPS**	n/a	n/a	(152)	(428)	(902)
BVPS	n/a	n/a	(211)	(643)	2,414
DPS (common)	n/a	n/a	0	0	0
Valuations (x)					
P/E***	n/a	n/a	n/a	n/a	n/a
P/B***	n/a	n/a	n/a	n/a	n/a
EV/EBITDA	n/a	n/a	n/a	n/a	n/a
Ratios					
ROE (%)	n/a	n/a	n/a	n/a	(37.4)
ROA (%)	n/a	n/a	(4.0)	(12.6)	(28.3)
ROIC (%)					
Payout ratio (%)	n/a	n/a	0.0	0.0	0.0
Dividend yield (common, %)	n/a	n/a	0.0	0.0	0.0
Net debt to equity (%)	n/a	n/a	n/a	n/a	(64.6)
Interest coverage (x)	n/a	n/a	n/a	n/a	n/a

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