

30 April 2009

# L.V. Technology

MAI  
Neutral

## Unique expertise and niche market building earnings

INITIATION

**Investment thesis:** Although LVT's share price has jumped 28% from its low in early April, the increase doesn't fully reflect the firm's potential for growth, due to its unique expertise and niche market in energy-saving engineering for cement plants. LVT is deeply undervalued, as demonstrated by its high profitability, ROE and dividend yield against its low PER and PBV. The stock trades at a historically low-side valuation—a PER of 2.5x and PBV of 0.7x. Moreover, the weakening global economy should boost demand for energy-saving engineering to cut production costs. We have initiated our coverage with a BUY rating and a YE09 target price of Bt2.8, based on a PBV of 1x.

**Reducing energy use is LVT's job:** Cement production is one of the world's most energy-intensive industries—the lower the energy consumption, the higher the profitability. LVT's technology reduces cement plants' production costs and improves efficiency.

**Market for efficiency improvement is enormous:** China is the world's largest cement producer; India is the world's second-largest producer and the US ranks third. There is plenty of room for LVT's earnings to grow.

**Niche market is LVT's key strength:** Reducing energy consumption requires expertise. LVT has limited direct competition within its area of expertise—only indirect competitors, the foreign manufacturers of cement-making machinery. However, these firms prefer making new machines to improving production efficiency; LVT prefers the latter. Moreover, the firm's technology enables a shorter break-even period for its customers—one to two years.

**Compact size but high growth:** LVT has substantial potential to build earnings with a small number of highly-skilled employees. The firm has customer relationships around the world—about 700 cement plants in 60 countries. LVT has a backlog of Bt2bn, of which 70-75% is to be recognized in FY09. As LVT's technology is effectively maintenance rather than CAPEX, customers' earnings should expand.

## BUALUANG RESEARCH

Pongrat Ratanatavananda  
suppata@bualuang.co.th  
+662 618 1336

**BUY** (initiated coverage)

Target Price: Bt2.80  
Price (29/04/09): Bt1.92  
LVT.TB / LVT.BK

### Key Ratios and Statistics

Market cap	Bt0.62bn
12-mth price range	Bt1.50/Bt3.02
3-mth avg daily volume	Bt5.40m
# of shares (m)	325.0
Est. free float (%)	45

Share price perf. (%)	1M	3M	12M
Relative to MAI	16.3	(2.6)	14.6
Absolute	24.7	(5.0)	(27.8)

### Financial summary

FY ended Dec 31	2007	2008	2009E	2010E
Revenue (Btm)	533	1,561	1,705	1,768
Net profit (Btm)	63	222	235	244
EPS (Bt)	0.29	1.00	0.76	0.75
BLS/Consensus (x)	n.m.	n.m.	n.a.	n.a.
Core profit (Btm)	63	222	235	244
Core EPS (Bt)	0.29	1.00	0.76	0.75
Core EPS Growth	281.25	244.83	-24.43	-0.23
PER (x)	5.59	2.38	2.54	2.55
Core PER (x)	5.59	2.38	2.54	2.55
PBV (x)	0.84	0.90	0.69	0.57
Dividend (Bt)	0.15	0.22	0.16	0.17
Dividend yield (%)	9.26	9.24	8.50	8.92
ROE (%)	16.39	43.45	31.21	24.37
Net gearing (x)	0.02	0.03	0.02	0.00

*Note: LVT-W1 of 93.1 million units were exercised on Feb 13, 09 and we expect*

*LVT-W1 of 1.4 million units would be exercised during May 15, 09.*

*LVT-W1 will be expired on May 15, 09.*

CG Rating - 2008



### Company profile

L.V. Technology (LVT) offers consultancy services in engineering & design and builds equipment to improve machinery and production efficiency and reduce electricity consumption. The firm's engineering services can lead to effective cost reductions of 15-30% for cement makers.

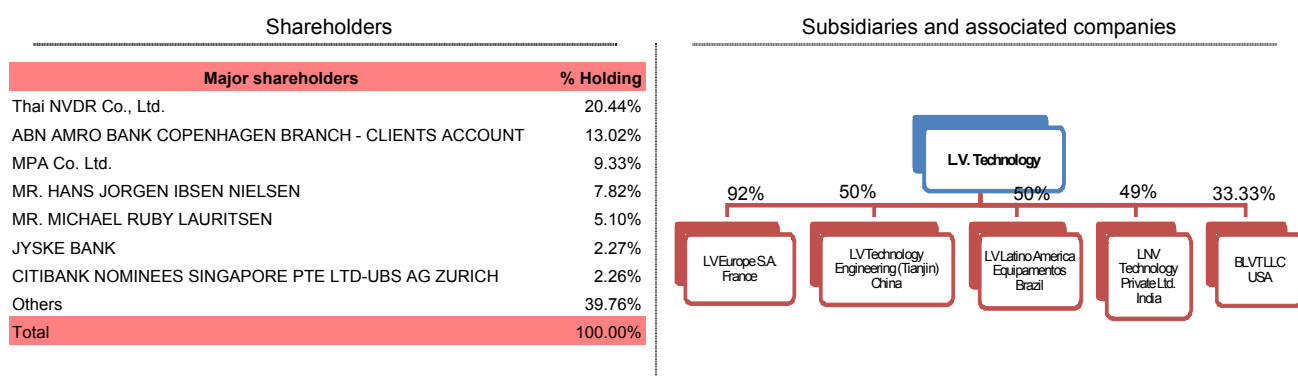
# Background

**Thailand's leading electricity consumption reduction and production efficiency engineers:** L.V. Technology Plc (LVT) offers consultancy services in engineering & design and builds equipment that improves the production efficiency and reduces the electricity consumption of machinery. The firm's engineering services can reduce the effective cost of cement production by 15-30%. LVT's income mains comes from overseas contracts because its customers are mostly foreign cement plants in countries as diverse as Brazil, Mexico, China, India, the USA, Russia, Spain, Portugal, Jordan, Algeria, Pakistan, Argentina, the UAE, etc. The firm's products and services comprise:

- 1) **Technology improvements for vertical mills:** This technology increases production by 15-30% and saves 1-3 kilowatts of electricity per tonne.
- 2) **Technology improvements for ball mills:** This technology lowers energy usage in Ball Mills and boosts efficiency in sorting material sizes. Energy usage declines 1-3 kilowatts per tonne.
- 3) **Technology improvement for rotary kilns:** Air-functioned force-reduced technology for rotary kiln systems lowers energy consumption and increases capacity by 15-30%.
- 4) **Efficiency improvement for cement production process:** The three technologies above, developed by LVT, enable it to increase efficiency and reduce costs for cement manufacturers. Process capacity is effectively increased by 10-25%.

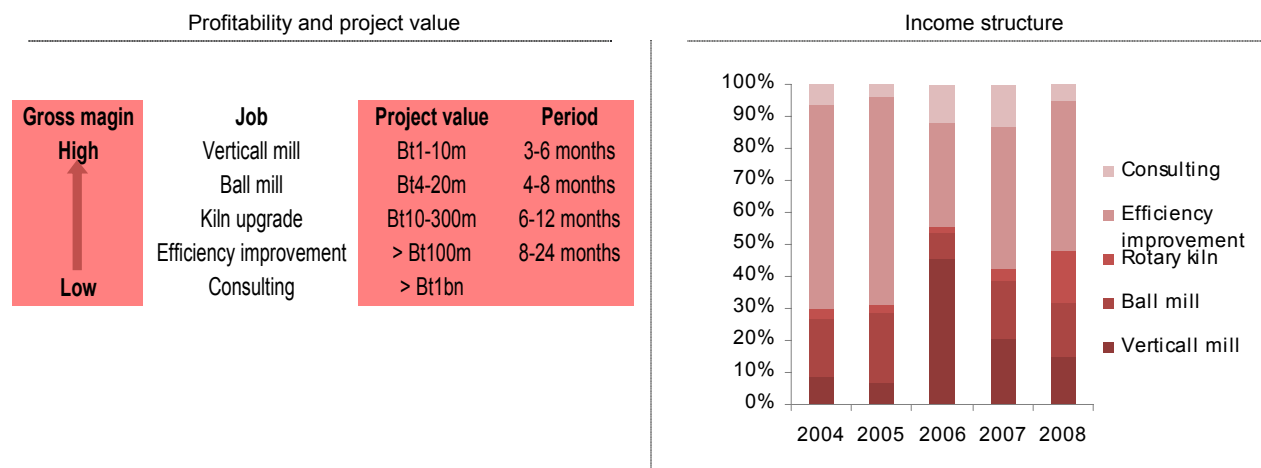
Such engineering technology and services may also be applied to other industries, such as mining and energy.

**Figure 1: LVT's shareholders and subsidiaries**



Source: Company

**Figure 2: Sources of income**



Sources: Company data, Bualuang Research

# Outlook

**Reducing energy consumption is LVT’s key area of expertise:** Cement production is one of the world’s most energy-intensive industries. Therefore, the lower the energy consumption, the higher the profitability. The key production stages are summarized below:

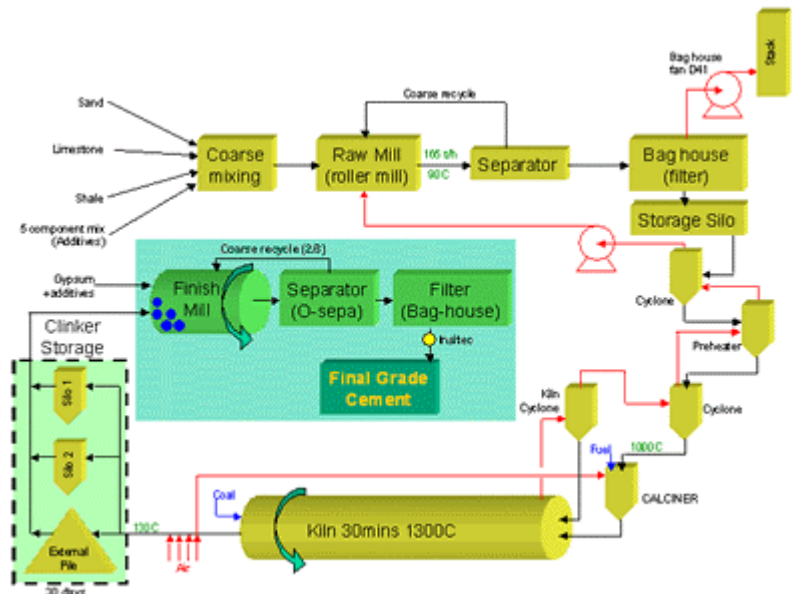
Raw materials: Generally combinations of limestone, shells or chalk along with shale, clay, sand or iron ore. The materials undergo reduction using primary and secondary crushers. There are two basic methods used in Portland cement production—wet and dry. In the dry process the materials are proportioned, ground to a powder, blended and fed into the kiln dry. The wet process involves adding water to the proportioned raw materials and completing the grinding and blending operations in slurry form.

Pre-heater: To conserve energy, most modern cement plants pre-heat raw materials before they enter the kiln, using the hot exhaust gases from the kiln itself.

Kiln: the mixture of raw materials is fed into the upper end of a rotating, cylindrical kiln, which achieves temperatures in excess of 1000°C. It passes through at a rate controlled by the slope and rotational speed of the kiln. The chemical reaction inside the kiln leads to the fusion of the raw materials to produce clinker.

Cooling/finish grinding: Clinker is discharged from the lower end of the kiln and transferred to various types of coolers. Cooled clinker is combined with gypsum and ground to a fine powder in a ball mill to produce the final grade of cement.

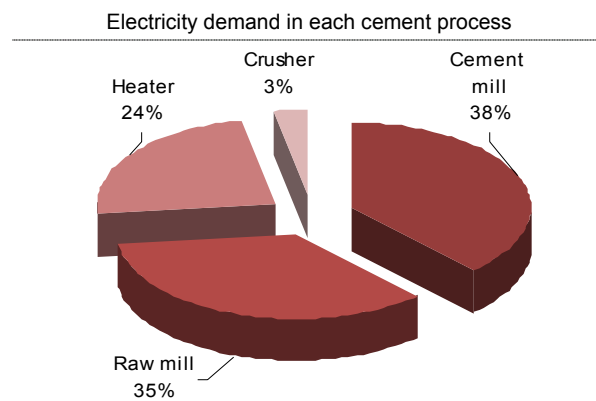
**Figure 3: Key stages in cement production**



Sources: Bualuang Research, [www.malvern.com/ProcessEng/industries/cement/overview.htm](http://www.malvern.com/ProcessEng/industries/cement/overview.htm)

**Figure 4: Cement production is one of the world’s most energy-intensive industries**

Process section	Energy required by different process sections	
	Dry	Wet
	Electricity (KWh/ton)	
Raw material treatment & crushing	4	3
Meshing	44	10
Fans & collers	23	25
Dust collector	6	8
Cement milling	45	45
Transportation	8	58
<b>Total required electricity</b>	<b>130</b>	<b>149</b>
<b>Fuel burned in furnaces (liter/ton)</b>	<b>112.5</b>	<b>156</b>



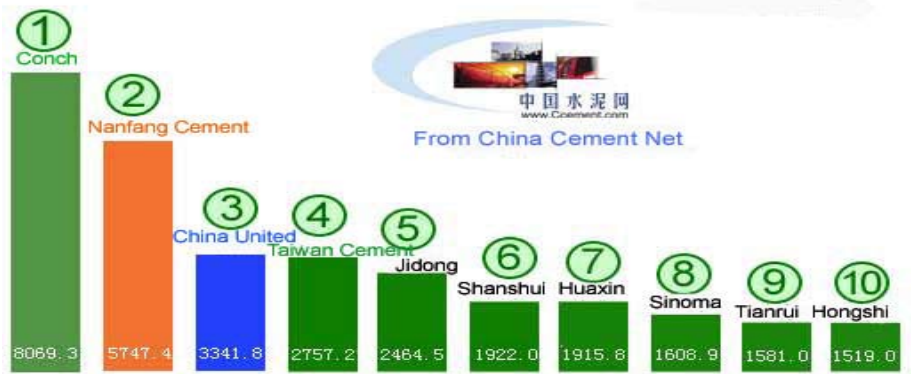
Sources: [www.naun.org/journals/energy/ijenergy-11.pdf](http://www.naun.org/journals/energy/ijenergy-11.pdf), Bualuang Research

**Market for efficiency improvement is enormous—as is potential earnings growth:** In China, large-scale cement enterprises will enter the world's top 10 with their fast advancing cement techniques, adding that a single Chinese plant can produce the same amount of cement as that of many international plants in different regions. Chinese capacity is over 700m tonnes. The country has been the world's biggest cement producer since 1985. India is the world's second-largest producer of cement after China with an industry capacity of over 200m tonnes. Given Beijing's support for various infrastructure projects, road networks and housing projects, further growth in cement consumption is anticipated in coming years. The country's cement industry comprises 134 large cement plants with an installed capacity of 173.08m tonnes per year and more than 350 mini-cement plants, with an estimated capacity of 11.10m tonnes per annum, making for a total installed capacity of 184.18m tonnes, according to the Department of Industrial Policy and Promotion's latest data. The cement industry is poised to add another 111m tonnes of annual capacity by 2010, given that there are about 141 outstanding cement projects. The USA has 39 firms operating 118 cement plants in 38 states. Worldwide, the US ranks third in cement production, behind China—the world's leading producer—and India.

Figure 5: Cement plants in China

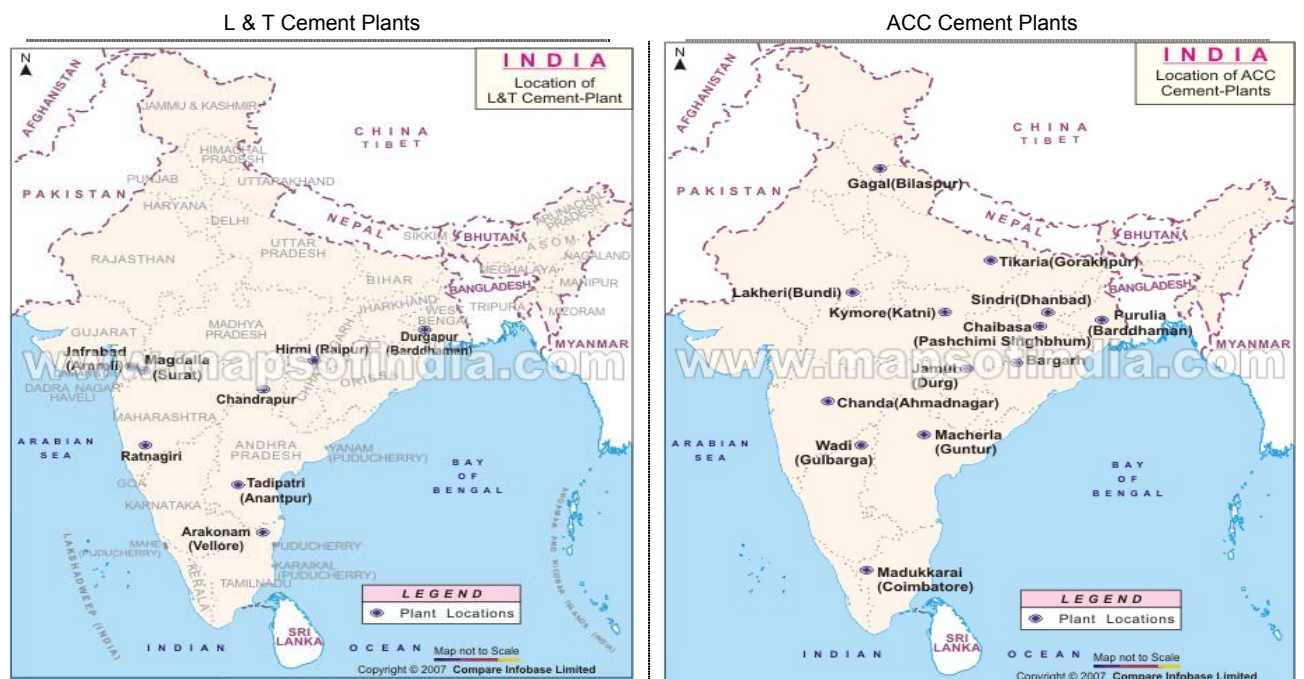
**2008' Top 10 Cement Enterprises in Capacity**

(Unit: ten thousand tons)



Source: www.cementchina.net

Figure 6: Cement plants in India





CCI Cement Plants



Gujarat Ambuja Cement Plants



Source: Maps of India

**Niche market is LVT's key strength:** Reducing energy consumption requires expertise. LVT has limited direct competition within its area of expertise—only indirect competitors in the form of foreign manufacturers. Those firms are machine makers for cement production Krupp Polysivs and KHD of Germany, vertical mill builders Loesche and Pfeiffer of Germany, clinker cooler makers IKN and CPAG of Germany and ball mill producers Onda of Japan and Kristian Pfeiffer and Brookhausen of Germany. However, those companies are geared up to make new, more efficient machinery, not to improve the production efficiency of existing plant. Moreover, LVT's technology generates a shorter break-even period for its customers of one to two years.

**Compact size but strong growth:** LVT had 43 direct employees in 2003; by 2008 it had 138 staff. Contrast employee growth with earnings expansion—in FY03 the firm's profit was Bt21m; in FY08 its profit was Bt222m. LVT has demonstrated an ability to build earnings at a much faster pace than it needs to recruit new staff. Moreover, the firm has customer relationships around the world—about 700 cement plants in 60 countries. Currently, LVT has backlog of Bt2bn, of which 70-75% is to be recognized in FY09, the remainder in FY10. Despite the weak state of the world economy, we expect cement plants to use LVT's energy-saving engineering services because they are essentially maintenance not CAPEX, so are a much cheaper avenue by which to cut production costs than buying new plant.

## Risks

**Baht appreciation against the dollar and euro:** As LVT's income is denominated in US dollars and European currencies, baht appreciation would result in a declining income, which would negatively impact the bottom-line.

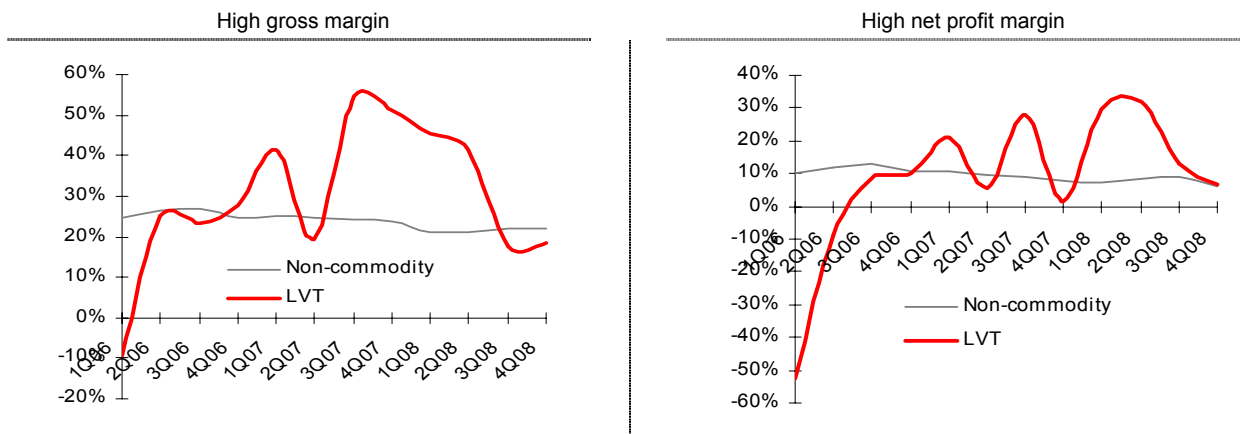
**Dependence on management:** Mr Hans Jorgen Nielsen, a director and founder of LVT, is central to the business. His capability and connections within the cement manufacturing industry have played a major role in the company's success. If he were to neglect LVT or become incapacitated, it would pressure earnings. However, LVT clarifies that other members of management could do Mr Nielsen's job.

## Recommendation and valuation

**Initiated with BUY rating:** Although LVT's share price has jumped 28% from its low of Bt1.50 in early April, the increase doesn't fully reflect the firm's potential for growth, due to its unique expertise and niche market in energy-saving engineering for cement plants. We think the current moment is still a good entry point, as LVT is deeply undervalued, as demonstrated by its high profitability, low PER and PBV multiples and high ROE and

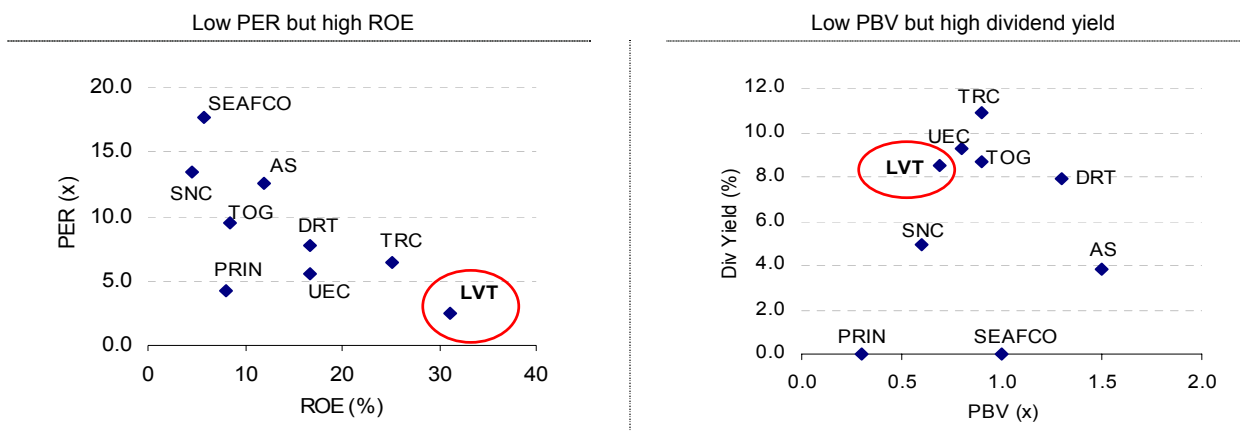
dividend yield compared with our coverage of non-commodity small-caps (TRC, UEC, PRIN, DRT, SEAFCO, AS, TOG and SNC) (see Figures 8-9). The stock trades at a historically low-side valuation—a PER of 2.6x and PBV of 0.7x—deep discounts to the average five-year PER of 7x and PBV of 1.3x. We believe the share price's downside risk is limited. Moreover, the weakening global economy should prompt cement makers to find ways to cut production costs. As cement production is one of the most energy-intensive industries in existence, the obvious avenue by which to cut production costs is to reduce energy usage per tonne produced. That suggests sustained demand growth in LVT's services. We have initiated coverage with a BUY rating and a YE09 target price of Bt2.80, based on a PBV of 1x and PER of 3.7x, as LVT shares will be diluted by 29.2% with the exercising of the LVT-W1 warrant.

**Figure 7: LVT's profitability is volatile, but in line with non-commodity small caps**



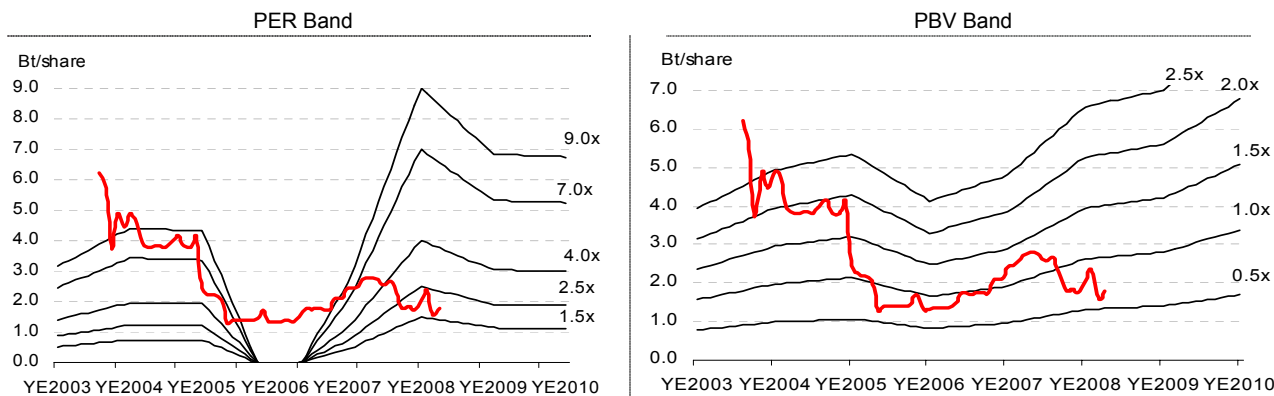
Sources: Company Data, Bualuang Research estimates

**Figure 8: LVT is now deeply undervalued, compared with other non-commodity small caps**



Sources: Company Data, Bualuang Research estimates

**Figure 9: LVT's historical PER and PBV bands**



Sources: Company data, Bloomberg, Bualuang Research estimates

<b>Financial tables</b>					
<b>PROFIT &amp; LOSS (Btm)</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009E</b>	<b>2010E</b>
Contract revenues	369	475	1,378	1,518	1,578
Contract costs	301	305	1,076	1,199	1,231
<b>Gross profit</b>	<b>67</b>	<b>170</b>	<b>303</b>	<b>319</b>	<b>347</b>
SG&A	133	153	228	235	246
<b>Operating profit</b>	<b>-66</b>	<b>17</b>	<b>75</b>	<b>84</b>	<b>101</b>
Other income	38	58	183	187	190
Other expense	1	2	2	2	2
<b>EBIT</b>	<b>-29</b>	<b>74</b>	<b>255</b>	<b>269</b>	<b>288</b>
Interest expense	4	0	3	3	3
<b>EBT</b>	<b>-33</b>	<b>73</b>	<b>252</b>	<b>266</b>	<b>285</b>
Tax	0	11	30	31	42
<b>Net profit</b>	<b>-33</b>	<b>63</b>	<b>222</b>	<b>235</b>	<b>244</b>
<b>EPS</b>	<b>-0.16</b>	<b>0.29</b>	<b>1.00</b>	<b>0.76</b>	<b>0.75</b>
DPS	0.00	0.15	0.22	0.16	0.17
<b>KEY RATIOS</b>					
Revenue growth (%)	-61.71	31.08	192.63	9.26	3.68
EPS growth (%)	-133.33	281.25	244.83	-24.43	-0.23
Gross margin (%)	18.30	35.80	21.95	20.99	21.99
Operating margin (%)	-17.89	3.62	5.44	5.52	6.37
Net margin (%)	-8.03	11.77	14.22	13.79	13.79
Effective tax rate (%)	0.00	14.34	12.01	11.57	14.58
<b>BALANCE SHEET (Btm)</b>					
Cash and cash equivalents	96	171	192	308	342
Trade accounts receivable, net	128	67	212	273	298
Due from customers on project contracts	69	64	80	146	194
Prepaid equipment	16	75	264	175	192
Other current assets	15	9	44	21	23
<b>Total current assets</b>	<b>323</b>	<b>387</b>	<b>792</b>	<b>923</b>	<b>1,049</b>
Deposits at financial institutions	142	207	318	235	251
Investments in associates and JVs	59	87	191	301	416
Other assets	16	12	19	24	24
<b>Total assets</b>	<b>541</b>	<b>693</b>	<b>1,321</b>	<b>1,483</b>	<b>1,740</b>
Short-term borrowing	15	2	28	0	0
Trade accounts payable	94	38	129	227	265
Due to customers on project contracts	60	194	408	225	256
Other current liabilities	25	40	153	126	123
<b>Total liabilities</b>	<b>194</b>	<b>273</b>	<b>719</b>	<b>578</b>	<b>644</b>
<b>Total shareholders' equity</b>	<b>347</b>	<b>419</b>	<b>602</b>	<b>905</b>	<b>1,096</b>
<b>Total liab. &amp; shareholders' equity</b>	<b>541</b>	<b>693</b>	<b>1,321</b>	<b>1,483</b>	<b>1,740</b>
Total debt (Btm)	15	2	28	0	0
Net debt (Cash) (Btm)	-81	-169	-163	-308	-342
BV per share (Bt)	1.65	1.92	2.63	2.80	3.39

Sources: Company data, Bualuang Research estimates

---

**Financial tables**

<b>QUAETERLY PROFIT &amp; LOSS (Btm)</b>	<b>4Q07</b>	<b>1Q08</b>	<b>2Q08</b>	<b>3Q08</b>	<b>4Q08</b>
Contract revenues	86	95	130	558	597
Contract costs	42	52	76	461	487
<b>Gross profit</b>	<b>44</b>	<b>43</b>	<b>54</b>	<b>97</b>	<b>109</b>
SG&A	46	41	39	60	87
<b>Operating profit</b>	<b>-2</b>	<b>1</b>	<b>15</b>	<b>37</b>	<b>22</b>
Other income	15	41	49	54	39
Other expense	1	0	1	0	1
<b>EBIT</b>	<b>12</b>	<b>42</b>	<b>63</b>	<b>90</b>	<b>60</b>
Interest expense	0	0	1	1	1
<b>EBT</b>	<b>12</b>	<b>42</b>	<b>62</b>	<b>89</b>	<b>59</b>
Tax	11	2	5	8	15
<b>Net profit</b>	<b>1</b>	<b>40</b>	<b>58</b>	<b>81</b>	<b>44</b>
<b>EPS</b>	<b>0.01</b>	<b>0.18</b>	<b>0.26</b>	<b>0.37</b>	<b>0.20</b>
<b>KEY RATIOS</b>					
Revenue growth (%)	-0.31	34.37	32.31	242.19	3.89
EPS growth (%)	-95.48	2,963.87	44.44	42.31	-46.48
Gross margin (%)	51.15	45.41	41.39	17.35	18.32
Operating margin (%)	-2.30	1.57	11.34	6.55	3.74
Net margin (%)	1.27	29.38	32.23	13.19	6.92
Effective tax rate (%)	89.20	4.79	7.36	9.52	25.73
<b>QUARTERLY BALANCE SHEET (Btm)</b>					
Cash and cash equivalents	171	111	87	263	192
Trade accounts receivable, net	67	64	97	209	212
Due from customers on project contracts	64	91	83	19	80
Prepaid equipment	75	155	189	298	264
Other current assets	9	19	18	34	44
<b>Total current assets</b>	<b>387</b>	<b>440</b>	<b>474</b>	<b>823</b>	<b>792</b>
Deposits at financial institutions	207	278	324	244	318
Investments in associates and JVs	87	106	150	187	191
Other assets	12	11	11	17	19
<b>Total assets</b>	<b>693</b>	<b>835</b>	<b>958</b>	<b>1,272</b>	<b>1,321</b>
Short-term borrowing	2	7	56	74	28
Trade accounts payable	38	72	66	191	129
Due to customers on project contracts	194	273	326	409	408
Other current liabilities	40	32	34	46	153
<b>Total liabilities</b>	<b>273</b>	<b>385</b>	<b>482</b>	<b>719</b>	<b>719</b>
<b>Total shareholders' equity</b>	<b>419</b>	<b>450</b>	<b>477</b>	<b>553</b>	<b>602</b>
<b>Total liab. &amp; shareholders' equity</b>	<b>693</b>	<b>835</b>	<b>958</b>	<b>1,272</b>	<b>1,321</b>
Total debt (Btm)	2	7	56	74	28
Net debt (Cash) (Btm)	-169	-104	-31	-189	-163
BV per share (Bt)	1.92	2.06	2.17	2.46	2.63

---

Sources: Company data, Bualuang Research



## BUALUANG SECURITIES PUBLIC COMPANY LIMITED – DISCLAIMER






BUALUANG SECURITIES PUBLIC COMPANY LIMITED (BLS) is a subsidiary of BANGKOK BANK PUBLIC COMPANY LIMITED (BBL). This document is produced based upon sources believed to be reliable but their accuracy, completeness or correctness is not guaranteed. The statements or expressions of opinion herein were arrived at after due and careful consideration to use as information for investment. Expressions of opinion contained herein are subject to change without notice. This document is not, and should not be construed as, an offer or the solicitation of an offer to buy or sell any securities. The use of any information shall be at the sole discretion and risk of the user.

This research report was prepared by Bualuang Securities Public Company Limited and refers to research prepared by Morgan Stanley. Morgan Stanley does not warrant or guarantee the accuracy or completeness of its research reports. Morgan Stanley reserves copyright and other proprietary rights in the material reproduced in this report. Morgan Stanley is under no obligation to inform Bualuang Securities or you if the views or information referred to or reproduced in this research report change.

### Corporate Governance Report disclaimer

The disclosure of the survey result of the Thai Institute of Directors Association (“IOD”) regarding corporate governance is made pursuant to the policy of the Office of the Securities and Exchange Commission. The survey of the IOD is based on the information of a company listed on the Stock Exchange of Thailand and the Market for Alternative Investment disclosed to the public and able to be accessed by a general public investor. The result, therefore, is from the perspective of a third party. It is not an evaluation of operation and is not base on inside information.

The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey result may be changed after that date. Bualuang Securities Public Company Limited does not conform nor certify the accuracy of such survey result.

Score Range	Number of Logo	Description
90 – 100		Excellent
80 – 89		Very Good
70 – 79		Good
60 – 69		Satisfactory
50 – 59		Pass
Below 50	No logo given	N/A

## BUALUANG RESEARCH – RECOMMENDATION FRAMEWORK

### STOCK RECOMMENDATIONS

**BUY:** Expected positive total returns of 15% or more over the next 12 months.

**HOLD:** Expected total returns of between -15% and +15% over the next 12 months.

**SELL:** Expected negative total returns of 15% or more over the next 12 months.

**TRADING BUY:** Expected positive total returns of 15% or more over the next 3 months.

### SECTOR RECOMMENDATIONS

**OVERWEIGHT:** The industry, as defined by the analyst's coverage universe, is expected to outperform the relevant primary market index over the next 12 months.

**NEUTRAL:** The industry, as defined by the analyst's coverage universe, is expected to perform in line with the relevant primary market index over the next 12 months.

**UNDERWEIGHT:** The industry, as defined by the analyst's coverage universe, is expected to underperform the relevant primary market index over the next 12 months.