

## Emergent BioSolutions (EBS - \$27.22)

### BioThrax Comes Through Huge, in Great Shape Through 2021

EBS reported last night after the close that they had signed their follow-on BioThrax contract with the CDC valued at up to \$911M for the ~29.4M doses of BioThrax through September 2021. In addition, BARDA issued notice of intent to also buy ~\$100M of BioThrax for the Strategic National Stockpile (SNS) over two years starting in 1H17. This will carry over until NuThrax supply starts in 2019. We see this new pair of BioThrax contracts as a significant positive for EBS near term and the (already in place) NuThrax contract setting EBS up nicely for 2019-plus. It also reaffirms the USG commitment to the biological defense and the SNS, which commitment was looking questionable to investors after the apparent delays in finalizing the BioThrax contract. With the overhang of BioThrax removed we anticipate a sharply positive response in the stock this morning as the near and middle term is effectively “locked in” with these two BioThrax & NuThrax contracts in hand. Now investors will look for the acquisitions that will drive the company to its aspirational goal of \$1B in top line sales by 2020. We are projecting ~\$600M in total revenues by 2018, so EBS has some work to do to add \$400M top line. We have updated our model to reflect EBS’ restated 2016 guidance and we are reiterating our Buy rating, and raising our price target to \$50 (from \$45 prior).

- **\$1B here, \$1.6B there and pretty soon you’re talking real money.** So now EBS has, since September, secured USG contracts to deliver up to ~\$1B in BioThrax through 2021 and up to \$1.6B in NuThrax starting in 2019. EBS has shown yet again that they are past masters at navigating the USG regulatory framework and securing contracts to produce biological countermeasures.
- **Updating our model to reflect the new contracts.** EBS anticipates 9M doses/year for 2017 and 2018, then ~10M doses in 2019 as NuThrax starts coming off the line at Building 55. We estimate 2016 top line sales of \$476M (from \$455M previously) and EPS of \$1.30 (from \$0.85 previously). EPS in 2017 & 2018 goes to \$2.95 and \$3.10 respectively (from \$2.00 and \$2.25 respectively). See our projections later in this report for more details.
- **Reiterate Buy rating raising price target to \$50 (from \$45 prior).** Our price target is based on a sum-of-the-parts analysis, with a base business DCF value of \$42/share, cash (net of debt) and tech value of \$8/share.

#### Adj-Earnings Estimates: (per share)

(Dec)	1Q	2Q	3Q	4Q	FY	P/E
<b>FY17E</b>	0.22	0.78	0.88	1.06	2.95	13.2x
<b>FY16E</b>	0.16A	(0.18)A	0.58A	0.64	1.30	31.0x
<b>FY15A</b>	(0.50)	0.36	0.83	0.78	1.60	24.6x
<b>FY14A</b>	(0.40)	0.25	0.54	0.75	1.19	33.1x

Source: Laidlaw & Company estimates

Healthcare / Biotechnology

Ticker:	<b>EBS</b>
Rating:	<b>Buy</b>
Price Target:	↑ <b>\$50.00</b>

#### Trading Data:

Last Price (12/08/2016)	\$27.22
52-Week High (07/07/2016)	\$44.38
52-Week Low (11/03/2016)	\$24.47
Market Cap. (MM)	\$1,100
Shares Out. (MM)	40.50

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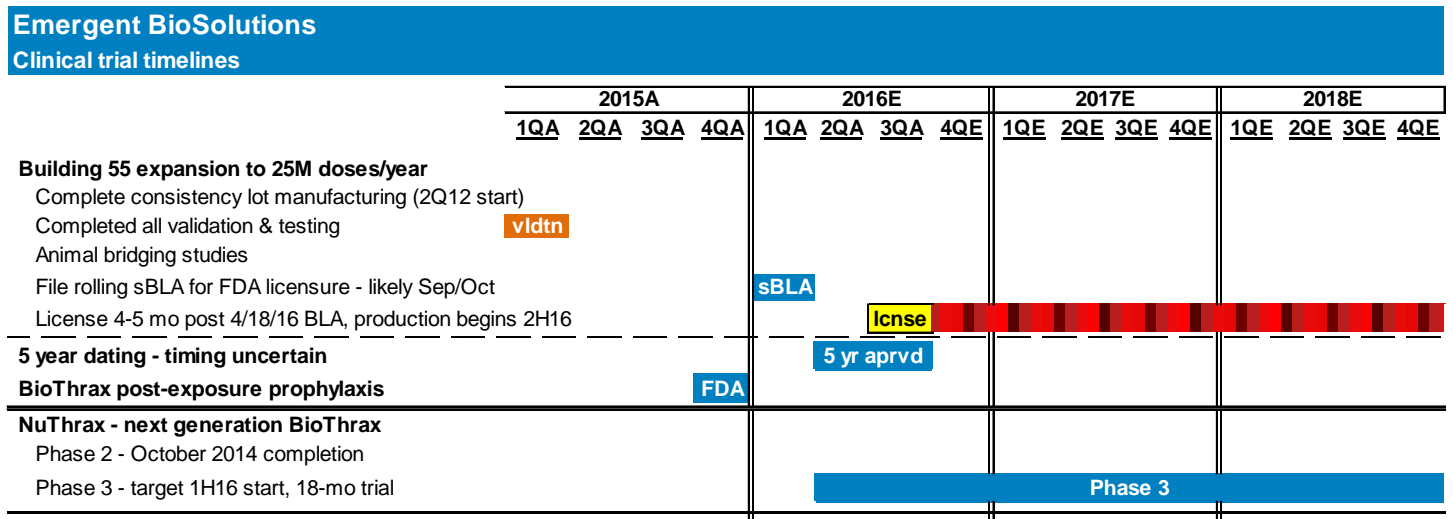
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**Figure 1: Valuation**

<b>Sum-of-the-parts valuation</b>		
Segment	Valuation (000's)	Per share value
DCF of base business	\$2,167,395	\$42
Net Cash, end '16E	\$327,574	\$6
Technology value	\$100,000	\$2
<b>SUM</b>	<b>\$2,594,970</b>	<b>\$50</b>
Fully diluted shares out '16E (000)		50,690

Source: Company reports; Laidlaw & Company estimates

**Figure 2: Clinical Trial Timeline**



Source: Bloomberg LP; Company reports; Laidlaw & Company estimates

Figure 3: Quarterly Income Statement

Emergent BioSolutions										
Quarterly income statement										
(\$000 except per share)	2015A				2015A Year	2016E				2016E Year
	1QA	2QA	3QA	4QA		1QA	2QA	3QA	4QE	
BioThrax - US sales	\$0	\$72,200	\$109,800	\$111,900	\$293,900	\$59,100	\$40,000	\$94,100	\$41,000	\$234,200
OUS Biodefense sales										
Other Biodefense	11,945	2,800	7,700	12,549	34,994	4,658	8,300	2,598	12,500	28,056
<b>Total Biodefense</b>	<b>11,945</b>	<b>75,000</b>	<b>117,500</b>	<b>124,449</b>	<b>328,894</b>	<b>63,758</b>	<b>48,300</b>	<b>96,698</b>	<b>53,500</b>	<b>262,256</b>
<b>Total Biosciences</b>	<b>6,345</b>	<b>7,023</b>	<b>6,500</b>	<b>8,200</b>	<b>28,068</b>	<b>7,948</b>	<b>10,200</b>	-	-	<b>18,148</b>
Contract manufacturing	12,243	8,859	11,341	10,525	42,968	7,587	10,200	14,712	22,500	54,999
Contracts & grants	33,099	35,230	29,646	24,930	122,905	31,709	32,787	31,504	45,000	141,000
<b>Total revenues</b>	<b>\$63,633</b>	<b>\$126,112</b>	<b>\$164,987</b>	<b>\$168,104</b>	<b>\$522,789</b>	<b>\$111,002</b>	<b>\$101,487</b>	<b>\$142,914</b>	<b>\$121,000</b>	<b>\$476,403</b>
<b>Expenses</b>										
COGS	16,048	26,266	36,161	37,070	112,895	25,803	35,612	38,460	35,440	135,315
<b>Gross margin</b>	<b>47,585</b>	<b>99,846</b>	<b>128,826</b>	<b>131,034</b>	<b>409,894</b>	<b>85,199</b>	<b>65,875</b>	<b>104,454</b>	<b>85,560</b>	<b>341,088</b>
% product sales	47%	71%	73%	74%	72%	67%	48%	65%	53%	60%
R&D	38,702	40,941	41,868	32,486	153,997	34,154	33,947	27,188	18,500	113,789
SG&A	33,393	34,053	29,806	42,756	141,758	37,484	40,148	27,388	20,250	125,270
<b>Operating income</b>	<b>(24,510)</b>	<b>24,852</b>	<b>57,152</b>	<b>55,792</b>	<b>114,139</b>	<b>13,561</b>	<b>(8,220)</b>	<b>49,878</b>	<b>46,810</b>	<b>102,029</b>
Interest expense	1,661	1,628	1,635	1,600	6,523	1,524	1,509	2,049	2,200	7,282
Interest income, net	82	273	104	113	572	186	220	358	375	1,139
Other income/(expense)	100	300	602	(524)	(319)	116	17	(134)	125	124
<b>Pretax income (loss)</b>	<b>(25,989)</b>	<b>23,797</b>	<b>56,223</b>	<b>53,781</b>	<b>107,869</b>	<b>12,339</b>	<b>(9,492)</b>	<b>48,053</b>	<b>45,110</b>	<b>96,010</b>
Tax exp/(benefit)	(7,169)	6,800	16,434	16,334	32,299	4,818	(2,345)	19,565	13,082	35,120
Loss to non-ctrl interest										
<b>Adjusted Net Income</b>	<b>(18,820)</b>	<b>16,997</b>	<b>39,789</b>	<b>37,447</b>	<b>75,570</b>	<b>7,521</b>	<b>(7,147)</b>	<b>28,488</b>	<b>32,028</b>	<b>60,890</b>
Non-cash charges	(2,700)	(2,900)	(1,847)	(4,100)	(12,700)	(3,530)	(3,800)	(8,100)	(3,500)	(18,930)
<b>GAAP net income</b>	<b>(21,520)</b>	<b>14,097</b>	<b>37,942</b>	<b>33,347</b>	<b>62,870</b>	<b>3,991</b>	<b>(10,947)</b>	<b>20,388</b>	<b>28,528</b>	<b>41,960</b>
<b>EPS ex non-cash items</b>	<b>(\$0.50)</b>	<b>\$0.36</b>	<b>\$0.83</b>	<b>\$0.78</b>	<b>\$1.60</b>	<b>\$0.16</b>	<b>(\$0.18)</b>	<b>\$0.58</b>	<b>\$0.64</b>	<b>\$1.30</b>
<b>EPS as reported</b>	<b>(\$0.57)</b>	<b>\$0.30</b>	<b>\$0.79</b>	<b>\$0.69</b>	<b>\$1.33</b>	<b>\$0.08</b>	<b>(\$0.27)</b>	<b>\$0.41</b>	<b>\$0.57</b>	<b>\$0.89</b>
Fully diluted shares (000)	37,949	47,410	47,785	48,143	47,256	48,360	40,203	49,440	49,690	46,923
<b>Margin &amp; expense analysis</b>										
Gross Margin (% prod. sales)	47%	71%	73%	74%	72%	67%	48%	65%	53%	60%
Op margin (% prod. sales)	-80%	27%	42%	39%	29%	17%	-12%	45%	62%	30%
Taxes	28%	29%	29%	30%	30%	39%	25%	41%	29%	37%
Net margin	-30%	13%	24%	22%	14%	7%	-7%	20%	26%	13%
<b>Year-over-year change</b>										
Net revenue	18%	14%	20%	14%	16%	74%	-20%	-13%	-28%	-9%
R&D	28%	9%	-5%	-17%	2%	-12%	-17%	-35%	-43%	-26%
SG&A	39%	25%	8%	49%	32%	12%	18%	-8%	-53%	-12%
Operating income	40%	75%	60%	9%	37%	-155%	-133%	-13%	-16%	-11%
Net income	29%	80%	59%	8%	39%	-140%	-142%	-28%	-14%	-19%

Source: Bloomberg LP; Company reports; Laidlaw &amp; Company estimates

Figure 4: Annual Income Statement

<b>Emergent BioSolutions</b>						
<b>Annual income statement</b>						
(\$'000 except per share)	2014A	2015A	2016E	2017E	2018E	Comments
BioThrax - US sales	\$245,944	\$293,900	\$234,200	\$287,500	\$300,000	2016E guide: \$220M-\$235M
OUS Biodefense sales				10,000	24,000	OUS sales here ~10% of US sales
Other Biodefense	32,350	34,994	28,056	34,000	40,000	RSDL, BAT, other Biodefense here
<b>Total Biodefense</b>	<b>278,305</b>	<b>328,894</b>	<b>262,256</b>	<b>331,500</b>	<b>364,000</b>	
<b>Total biosciences</b>	<b>30,060</b>	<b>28,068</b>	<b>18,148</b>	<b>0</b>	<b>0</b>	<b>Spun out mid-2016</b>
Contract manufacturing	30,935	42,968	54,999	60,000	60,000	Acquired with Cangene 3Q13
Contracts & grants	110,849	122,905	141,000	170,000	180,000	Offset in R&D
<b>Total revenues</b>	<b>\$450,138</b>	<b>\$522,789</b>	<b>\$476,403</b>	<b>\$561,500</b>	<b>\$604,000</b>	<b>2016 guide: \$465M-\$485M</b>
<b>Expenses</b>						
COGS	108,212	112,895	135,315	147,075	155,000	
<b>Gross margin</b>	<b>341,926</b>	<b>409,894</b>	<b>341,088</b>	<b>414,425</b>	<b>449,000</b>	
% product sales	68%	72%	60%	62%	63%	Cangene impacts margins
R&D	150,829	153,997	113,789	105,000	113,500	
SG&A	107,641	141,758	125,270	90,000	98,250	
<b>Operating income</b>	<b>83,456</b>	<b>114,139</b>	<b>102,029</b>	<b>219,425</b>	<b>237,250</b>	
Interest expense	10,140	6,523	7,282	7,275	7,275	
Interest income, net	320	572	1,139	950	1,300	
Other inc/(exp)	2,926	(319)	124	400	400	
<b>Pretax income</b>	<b>76,562</b>	<b>107,869</b>	<b>96,010</b>	<b>213,500</b>	<b>231,675</b>	
Tax expense	22,121	32,299	35,120	64,050	69,503	
Loss to non-cont. int	0	0	0	0	0	
<b>Adj-Net income</b>	<b>54,441</b>	<b>75,570</b>	<b>60,890</b>	<b>149,450</b>	<b>162,173</b>	<b>16E adj-NI: \$50M-\$60M</b>
Non-cash charges	(17,700)	(12,700)				
<b>GAAP net income</b>	<b>36,741</b>	<b>62,870</b>				<b>'16E GAAP NI: \$50M-\$60M</b>
<b>EPS ex non-cash items</b>	<b>\$1.19</b>	<b>\$1.60</b>	<b>\$1.30</b>	<b>\$2.95</b>	<b>\$3.10</b>	<b>~15% adj-EPS CAGR 2014-2018E</b>
<b>EPS as reported</b>	<b>\$0.80</b>	<b>\$1.33</b>				
Fully diluted shares (000)	45,803	47,256	46,923	50,690	52,290	
<b>Margin &amp; expense analysis</b>						
Gross Margin	68%	72%	60%	62%	63%	
Operating margin	25%	29%	30%	56%	56%	
Taxes	29%	30%	37%	30%	30%	Guide: high 20% range
Net margin	12%	14%	13%	27%	27%	
<b>Year-over-year change</b>						
Net revenue	44%	16%	-9%	18%	8%	
R&D	26%	2%	-26%	-8%	8%	
SG&A	34%	32%	-12%	-28%	9%	
Operating income	65%	37%	-11%	115%	8%	
Net income	50%	39%	-19%	145%	9%	
EPS	21%	35%	-19%	127%	5%	

Source: Bloomberg LP; Company reports; Laidlaw &amp; Company estimates

## Major Risks

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**Exogenous events could impact our outlook.** We believe pharmaceutical companies have the least control over competitive, political, and regulatory risks. Although we have incorporated competitive assumptions into our forecasts, there may be other risks beyond the scope of our analysis. Changes in the drug reimbursement system, as well as any political or regulatory amendments, may significantly influence the earnings power of these companies.

**Actual clinical results and the FDA's conclusions may deviate from expectations.** Many of our assumptions are based on a review of incomplete clinical trial data available in the public domain. Often, our conclusions are drawn from early stage data, which may not be reflected by pivotal studies. Furthermore, the FDA's conclusions may not coincide with our own, materially changing our revenue and earnings assumptions.

**Compliance issues, product recalls, and other mandates by regulatory authorities could materially change our expectations.** Regulatory compliance issues, ranging from accounting irregularities to defective manufacturing practices, could materially change our assumptions and earnings outlook. Unanticipated product recalls and labeling changes could also have adverse consequences on our earnings assumptions.

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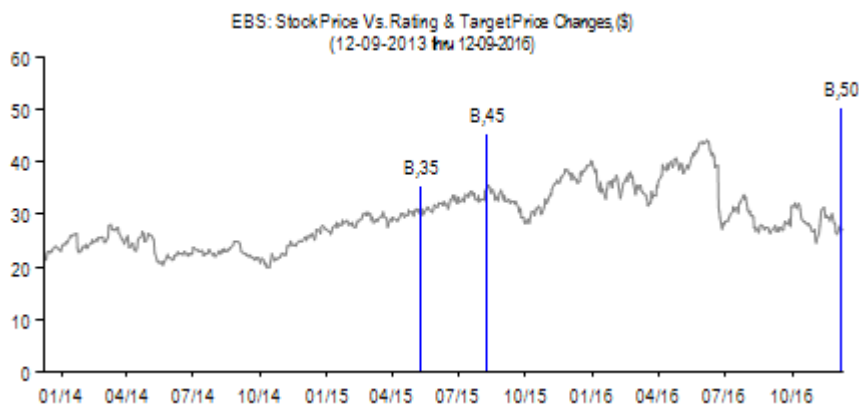
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*Additional information available upon request.*

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Date	Rating	Closing Price (\$)
05/11/2015	Buy (B)	31.11

Date	Target Price (\$)	Closing Price, (\$)
05/11/2015	35.00	31.11
08/10/2015	45.00	35.29
12/09/2016	50.00	27.22*

\* Previous Close 12/8/2016

Source: Laidlaw & Company

Created by: Blue-Compass.net

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			Investment Banking	Brokerage
<b>Strong Buy (SB)</b>	Expected to significantly outperform the sector over 12 months.	2.56%	2.56%	0.00%
<b>Buy (B)</b>	Expected to outperform the sector average over 12 months.	58.97%	28.21%	2.56%
<b>Hold (H)</b>	Expected returns to be in line with the sector average over 12 months.	5.13%	0.00%	0.00%
<b>Sell (S)</b>	Returns expected to significantly underperform the sector average over 12 months.	2.56%	0.00%	0.00%

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