

## Emergent Biosolutions Inc.: 3Q17

### Recommendation: **BUY**

Target Price	: \$49.86
Closing Price	: \$40.86
Upside (Downside) Potential	: 22.0%

### Company Profile

Emergent BioSolutions Inc. develops, manufactures, and commercializes immunobiotics such as vaccines and immune globulins that assist the body's immune system. The company's biodefense segment develops, manufactures, and commercializes drugs such as BioThrax, a vaccine for the prevention of anthrax, for use against biological agents. Other products in preclinical development include drugs for the treatment of patients after they are exposed to anthrax and botulinum toxin. Emergent's commercial segment develops products for use against infectious diseases.

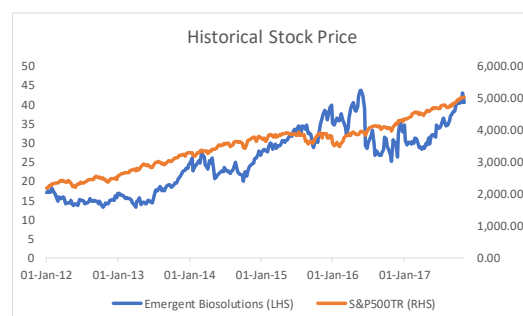
### Stock Statistics

Market Cap	: \$1.676 M
Shares Outstanding	: 40.2 M
52 Weeks Range	: \$ 25.96-44.86
YTD Performance	: +21.2%

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**Revenue growth and margin improvement.** Emergent's 9M17 revenue increased by 9% yoy to \$367.1 million driven by other product sales. Product sales increased by 24%, where Biothrax sales decreased by 7% due to the timing of delivery to Strategic National Stockpile (SNS) and other product sales increased by 417% yoy due to the delivery of VIGIV, Trobigard, RSDL, and BAT. Revenue from contract manufacturing increased by 62% to \$52.7 million, supported by the CMO fill/finish expansion, including the ability to handle live-viral. Gross R&D decreased 15% due to the completion of multiple US government contract and lower development program grants.

**Acquisition and Contracts.** Emergent Biosolutions completed the acquisition of ACAM2000 (the only FDA approved smallpox vaccine) from Sanofi with remaining contract value of \$160 million to deliver the vaccines to Strategic National Stockpile (SNS). We expect it will contribute around \$80 million to FY18 revenue. Emergent has also completed the acquisition of raxibacumab (FDA approved anthrax monoclonal antibody) that includes a multiyear BARDA contract with remaining value of \$130 million to supply the SNS.

Emergent other contract includes a five year follow on contract by DoD to supply RSDL with value of \$ 171 million and a contract with Department of State to supply Trobigard (nerve agent antidote) with value of \$25 million.

For contract and grants, EBS is awarded \$63 million by BARDA to develop antidote for cyanide poisoning and \$23 million by DoD to develop multi-drug injector for nerve agent antidote delivery. Should this product succeed and approved by FDA, it could be sold to a broader customer base such as hospital. List of Emergents' contract is available on the table below.

**Management Expectation.** On the conference call, management states a target revenue of \$540-560m, EBITDA of \$150-160m and net income between \$70-80m. We believe this target is attainable due to the significant margin improvement attained in 9M17 compared to last year. EBITDA margin improved in 9M17 to 27.5% compared to 21.3% in the previous period while net income margin improved to 13.3% from 8%. We believe Emergent will be able to maintain this margin in the future

due to the niche focus it has and good government relationship. To increase the top line, management continue looking for M&A opportunities that is a revenue generator and is an accretive transaction.

**Future Outlook.** We believe Biothrax sales will still contribute between 25-30% of Emergent's total revenue in the next 5 years. We expect Emergent to receive regulatory approval in 5 other European countries in addition to Germany approval in 2017. Expectation on Biothrax sales is also supported by European Union stockpiling program of Medical Countermeasure (McM), as a contingent supply to counter chemical and biological terrorist attack.

RSDL and Raxibacumab sales is expected to contribute 7-9% of total revenue in the next 5 years, driven mainly by the growth in RSDL demand from both US and European countries.

Contract manufacturing is also expected to drive 14% of Emergent's revenue in the next 5 years, supported by the fill/finish expansion and Emergent's status as Center for Innovation in Advanced Development and Manufacturing (CIADM), one out of three in US and flexible manufacturing ability to accommodate change in demand.

**Valuation.** We value Emergent Biosolutions using FCFF method with WACC of 8.03% and terminal growth rate of 2%. We recommend BUY for Emergent Biosolutions with TP \$49,.86, implying 22% upside from Friday's closing price. Our target price implies PER FY18 26.86x and PER FY19 18.09x or EV/EBITDA FY18 9.74x and EV/EBITDA FY19 7.73x. This is lower than competitors median EV/EBITDA FY18 and FY 19 of 12.32x and 10.58x, but is in line with competitors' median PER. We continue to be bullish on Emergent Biosolutions and watching closely on the development of NuThrax and future contracts awarded.

Products	Contracts
BioThrax	Delivered \$100 m to BARDA in March 2017; \$911 million contract for 5 years with CDC; Obtain Germany regulatory approval in 2017, management is targeting 5 other European countries and Canada in 2018; EU stockpiling of Medical Countermeasure (McM)
NuThrax	BARDA 5 year development contract of \$200 million, if approved by FDA in 2018 it is expected to contribute \$104 m of 2018 revenue, 2019: \$255 m -1.5 b
ACAM2000	Acquired from Sanofi, the only FDA approved vaccine for smallpox, \$425 million contract with CDC with remaining value of \$160 million for delivery to SNS. WF: Revenue 2018: 80 m; 2019: 20 m; 2020 and so on: \$45 m
Anthraxis	BARDA development and procurement contract until April 2021, \$130 m; \$9 m in 2017, the rest in 2018 onward
Raxibacumab	Acquired from GSK, FDA approved anthrax monoclonal antibody, multiyear contract with BARDA with remaining value of \$130 million to SNS
BAT	BARDA procurement up to 200.000 doses to May 2018 (SNS), \$53 m over 5 years
VIGIV	CDC procurement contract 5 year to Aug 2017, extension potential; CDC (2016) extend contract of \$11.6 m over 1 year, part of \$92 m contract previously; previously also renewed at \$ 44m / 2 year
RSDL	5 year follow on contract of \$ 171 million by DoD, now sold via Amazon
Trobigard	\$25 million contract by Dept of State

Emergent Biosolutions Contracts, Compiled from Various Sources

Pipelines	Details
NuThrax	Phase 3 in 2018, in partnership with BARDA
FLU-IG	Phase 2 in 2017
UV-4B	Dengue vaccine, in partnership with NIH-NIAID, phase 1 in 2017
ZIKA-IG	Phase 1 in 2017 or 2018
ZIKA-VLA1601	Phase 1 in 2017 or 2018
GC-072 (EV035)	Partnership with DoD, in pre-clinical trial
FILOV	
SIAN	Partnership with BARDA
Nerve agent antidotes	Partnership with DoD

Emergent Biosolutions Product Pipeline, Compiled from Various Sources

(In thousands USD)	2012	2013	2014	2015	2016	2017F	2018F	2019F	2020F	2021F	2022F	2023F	2024F	2025F
<b>Income Statement</b>														
<b>Revenues</b>														
Product Sales	215879	257922	281845	328969	296278	392536	544720	689482	716551	769724	833205	726840	723419	724530
Contract Manufacturing	0	0	30944	42968	49138	81078	105401	126481	145453	159999	175999	193598	203278	213442
Contracts and Grants	62083	54823	91677	117394	143366	86020	111825	145373	174448	200615	220676	242744	254881	267625
<b>Total Revenues</b>	<b>277962</b>	<b>312745</b>	<b>404466</b>	<b>489331</b>	<b>488782</b>	<b>559633</b>	<b>761946</b>	<b>961336</b>	<b>1036452</b>	<b>1130337</b>	<b>1229880</b>	<b>1163183</b>	<b>1181579</b>	<b>1205598</b>
		13%	29%	21%	0%	14%	36%	26%	8%	9%	9%	-5%	2%	2%
<b>Operating Expenses</b>														
Cost of Product Sales and Contract Manufacturing	46077	62127	101963	107486	131284	150314	204654	258209	278385	303602	330339	312424	317365	323817
Research and Development	96442	81759	104721	119186	108290	102809	134684	174213	205541	234525	257573	277640	290329	303793
Stock-based Compensation Expense						6337	6337	6337	6337	248094	0	0	0	0
Depreciation and Amortization						30362	33130	36044	39768	42719	43565	46608	46976	49900
Selling, General & Administrative	74883	86844	108594	121145	143686	119999	166258	207566	213008	234308	263904	244188	248418	251500
<b>Total Operating Expenses</b>	<b>217402</b>	<b>230730</b>	<b>315278</b>	<b>347817</b>	<b>383260</b>	<b>409820</b>	<b>545064</b>	<b>682370</b>	<b>743039</b>	<b>1063248</b>	<b>895381</b>	<b>880859</b>	<b>903088</b>	<b>929009</b>
<b>Income from Operations</b>	<b>60560</b>	<b>82015</b>	<b>89188</b>	<b>141514</b>	<b>105522</b>	<b>149813</b>	<b>216883</b>	<b>278966</b>	<b>293413</b>	<b>67089</b>	<b>334499</b>	<b>282323</b>	<b>278490</b>	<b>276589</b>
		35%	9%	59%	-25%	42%	45%	29%	5%	-77%	399%	-16%	-1%	-1%
<b>EBITDA</b>			<b>118247</b>	<b>163251</b>	<b>130204</b>	<b>180175</b>	<b>250013</b>	<b>315011</b>	<b>333181</b>	<b>109808</b>	<b>378064</b>	<b>328931</b>	<b>325467</b>	<b>326488</b>
				38%	-20%	38%	39%	26%	6%	-67%	244%	-13%	-1%	0%
<b>Other Income (Expense)</b>														
Interest Income	133	139	320	572	1053	986	1227	1181	1177	1320	2084	2281	2520	2684
Interest Expense	6	0	8240	6523	7617	7931	7339	7339	7339	7339	11833	11833	11833	11833
Other Income (Expense), Net	1943	409	2926	153	263	238	324	409	441	481	523	495	503	513
<b>Total Other Income (Expense)</b>	<b>2070</b>	<b>548</b>	<b>-4994</b>	<b>-5798</b>	<b>-6301</b>	<b>-6706</b>	<b>-5788</b>	<b>-5749</b>	<b>-5721</b>	<b>-5538</b>	<b>-9226</b>	<b>-9057</b>	<b>-8810</b>	<b>-8636</b>
<b>Income from Continuing Operations Before Taxes</b>														
<b>Taxes</b>	<b>9834</b>	<b>12270</b>	<b>29928</b>	<b>44300</b>	<b>36697</b>	<b>50087</b>	<b>73883</b>	<b>95626</b>	<b>100692</b>	<b>21543</b>	<b>113845</b>	<b>95643</b>	<b>94388</b>	<b>93783</b>
<b>Net Income from Continuing Operations</b>	<b>52796</b>	<b>70293</b>	<b>54266</b>	<b>91416</b>	<b>62524</b>	<b>93019</b>	<b>137211</b>	<b>177591</b>	<b>187000</b>	<b>40008</b>	<b>211427</b>	<b>177623</b>	<b>175292</b>	<b>174169</b>
Net Loss Attributable to Noncontrolling Interest	-5381	-876	0	0	0	0	0	0	0	0	0	0	0	0
<b>Net Income Attributable to Emergent BioSolutions</b>	<b>58177</b>	<b>71169</b>	<b>54266</b>	<b>91416</b>	<b>62524</b>	<b>93019</b>	<b>137211</b>	<b>177591</b>	<b>187000</b>	<b>40008</b>	<b>211427</b>	<b>177623</b>	<b>175292</b>	<b>174169</b>
Net Loss from Discontinued Operations	-34653	-40034	-17525	-28546	-10748	0	0	0	0	0	0	0	0	0
<b>Net Income</b>	<b>23524</b>	<b>31135</b>	<b>36741</b>	<b>62870</b>	<b>51776</b>	<b>93019</b>	<b>137211</b>	<b>177591</b>	<b>187000</b>	<b>40008</b>	<b>211427</b>	<b>177623</b>	<b>175292</b>	<b>174169</b>

Figure 1. Emergent Biosolutions' Income Statement Projection

	2012	2013	2014	2015	2016	2017F	2018F	2019F	2020F	2021F	2022F	2023F	2024F	2025F
<b>Profitability Ratio</b>														
Return on Common Equity		7.04%	7.51%	11.36%	7.84%	15.60%	19.73%	23.21%	21.98%	4.25%	20.22%	15.57%	14.57%	13.78%
Return on Assets		5.52%	5.86%	6.65%	4.99%	9.59%	12.68%	14.78%	14.00%	2.77%	12.26%	9.63%	9.28%	8.91%
Return on Capital		6.17%	6.67%	7.82%	5.71%	10.76%	14.54%	17.53%	17.02%	3.37%	14.63%	11.53%	10.94%	10.47%
<b>Margins</b>														
Gross Margin	83.42%	80.13%	74.79%	78.03%	73.14%	73.14%	73.14%	73.14%	73.14%	73.14%	73.14%	73.14%	73.14%	73.14%
EBITDA Margin		29.24%	33.36%	26.64%	32.20%	32.81%	32.77%	32.15%	9.71%	30.74%	28.28%	27.55%	27.08%	27.08%
Operating Margin	21.79%	26.22%	22.05%	28.92%	21.59%	26.77%	28.46%	29.02%	28.31%	5.94%	27.20%	24.27%	23.57%	22.94%
Net Income Margin	8.46%	9.96%	9.08%	12.85%	10.59%	16.62%	18.01%	18.47%	18.04%	3.54%	17.19%	15.27%	14.84%	14.45%
<b>Leverage Ratio</b>														
Debt to Equity	14.20%	12.67%	45.37%	37.41%	44.97%	35.67%	32.43%	29.16%	26.38%	38.26%	35.07%	33.26%	31.64%	30.19%
Debt to Total Capital	12.43%	11.25%	31.21%	27.22%	31.02%	26.29%	24.49%	22.58%	20.88%	27.67%	25.96%	24.96%	24.04%	23.19%
Interest Coverage Ratio	10093	#DIV/0!	11	22	14	19	30	38	40	9	28	24	24	23
<b>Liquidity Ratio</b>														
Current Ratio	4.25	4.82	4.65	5.40	4.82	5.36	4.46	4.00	1.83	4.87	4.89	5.33	5.47	5.60
Acid Test Ratio	2.29	3.17	3.02	3.10	2.56	3.08	2.18	1.72	0.81	2.59	2.61	3.05	3.19	3.32
Asset Turnover	0.49	0.50	0.43	0.47	0.50	0.52	0.63	0.72	0.72	0.66	0.67	0.62	0.60	0.60
Days of Sales Outstanding	126	71	53	85	103	88	88	88	88	88	88	88	88	88
Days of Inventory Turnover	120	86	235	207	206	206	206	206	206	206	206	206	206	206
Days of AP Turnover	248	162	147	129	96	124	124	124	124	124	124	124	124	124

Figure 2. Emergent Biosolutions' Profitability, Margin, Leverage and Liquidity Ratio Forecast

In Thousands USD	2017F	2018F	2019F	2020F	2021F	2022F	2023F	2024F	2025F	Terminal Value
<b>EBITDA * (1-Tax)</b>	117114	162509	204757	216568	71375	245742	213805	211553	212217	
+ Stock Based Compensation	6337	6337	6337	6337	248094	0	0	0	0	
+ Depreciation and Amortization * Tax	10627	11596	12616	13919	14952	15248	16313	16442	17465	
- Change in Working Capital	12613	-50697	-49964	-18823	-23526	-24944	16713	-4610	-6019	
- Capital Expenditure	-55963	-68575	-76907	-72552	-67820	-61494	-58159	-59079	-60280	
<b>Free Cash Flow to the Firm</b>	90727	61169	96838	145449	243074	174552	188672	164306	163383	2764988
Growth		-33%	58%	50%	67%	-28%	8%	-13%	-1%	
<b>Period</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>8</b>
Present Value of FCFF	90727	56624	82982	115375	178487	118648	118716	95702	88093	1490832
<b>Enterprise Value</b>	<b>2436186</b>									
+ Cash and Cash Equivalent	271513									
- Debt Outstanding	248094									
<b>Equity Value</b>	<b>2459605</b>									
Number of Shares Outstanding	49335112									
<b>Equity Value per Share</b>	<b>49.86</b>									
Current Stock Price	40.86									
<b>Potential Upside / Downside</b>	<b>22.0%</b>									
<b>Implied P/E18</b>	<b>26.86</b>	<b>Implied EV/EBITDA 18</b>		<b>9.74</b>						
<b>Implied P/E19</b>	<b>18.09</b>	<b>Implied EV/EBITDA 19</b>		<b>7.73</b>						
<b>Terminal Growth Rate Assumption</b>	<b>2%</b>									
<b>WACC Assumption</b>	<b>8.03%</b>									

Figure 3. Emergent Biosolutions' FCFF Valuation

Ticker	Name	Mkt Cap	EV	EV/TTM EBITDA	EV/EBITDA FY1	EV/EBITDA FY2	P/E	P/E FY1	P/E FY2	P/FCF	Dividend Yield
<b>Median</b>	<b>Median</b>	<b>1845</b>	<b>3689</b>	<b>10.69</b>	<b>12.32</b>	<b>10.58</b>	<b>29.00</b>	<b>22.17</b>	<b>18.14</b>	<b>20.47</b>	<b>1.76</b>
EBS US Equity	EMERGENT BIOSOLUTIONS INC	1604	1512	8.82	11.63	8.89	21.48	22.79	18.08	27.73	#N/A N/A
ALT US Equity	ALTIMMUNE INC	35	19	#N/A N/A	#N/A N/A	#N/A N/A	0.30	#N/A N/A	#N/A N/A	0.10	1299.11
PFNX US Equity	PFENEX INC	73	14	5.35	#N/A N/A	#N/A N/A	56.82	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
IMV CN Equity	IMMUNOVACCINE INC	158	148	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
GSK LN Equity	GLAXOSMITHKLINE PLC	86899	110737	7.81	8.02	8.16	28.10	12.09	12.44	13.80	5.96
SIGA US Equity	SIGA TECHNOLOGIES INC	385	423	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
VRX CN Equity	VALEANT PHARMACEUTICALS INTE	4915	31452	9.22	8.91	9.53	#N/A N/A	3.81	4.02	2.33	#N/A N/A
SHP LN Equity	SHIRE PLC	44167	64580	9.99	10.06	9.42	27.03	9.72	9.11	14.31	0.66
ALKB DC Equity	ALK-ABELLO A/S	1519	1599	25.07	40.25	23.13	127.98	#N/A N/A	62.15	#N/A N/A	0.52
ALM SM Equity	ALMIRALL SA	1735	1765	11.39	10.57	7.88	#N/A N/A	#N/A N/A	28.30	#N/A N/A	2.19
ENDP US Equity	ENDO INTERNATIONAL PLC	1324	8991	5.17	5.95	6.70	5.57	1.67	1.97	7.99	#N/A N/A
SOBI SS Equity	SWEDISH ORPHAN BIOVITRUM AB	4015	3864	20.09	16.24	11.63	38.57	22.28	15.07	31.51	#N/A N/A
REC IM Equity	RECORDATI SPA	9636	10019	#N/A N/A	18.99	17.26	29.91	28.48	26.02	30.42	1.76
LUN DC Equity	H LUNDBECK A/S	11568	11414	15.03	13.01	11.86	37.07	22.32	18.20	#N/A N/A	0.66
ORNBV FH Equity	ORION OYJ-CLASS B	5748	5772	15.56	15.16	14.32	22.65	22.06	20.68	26.63	4.42
MNK US Equity	MALLINCKRODT PLC	1954	7482	5.36	5.66	5.41	6.29	2.79	2.55	1.54	#N/A N/A
ROVI SM Equity	LABORATORIOS FARMACEUTICOS R	938	932	20.44	25.07	20.29	33.73	43.40	31.50	51.05	1.13
BTG LN Equity	BTG PLC	3706	3514	18.89	17.15	14.34	83.06	24.80	21.89	42.87	#N/A N/A

Figure 4. Emergent Biosolutions' Comps