



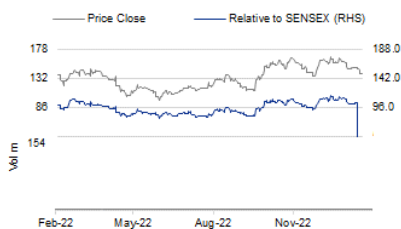
## India

## ADD (no change)

Consensus ratings\*: Buy 3 Hold 0 Sell 0

Current price:	Rs140
Target price:	Rs300 ▲
Previous target:	Rs180
Up/downside:	114.3%
InCred Research / Consensus:	46.3%
Reuters:	CAMF.BO
Bloomberg:	CFIN IN
Market cap:	US\$303m Rs21,983m
Average daily turnover:	US\$1.1m Rs78.9m
Current shares o/s:	157.0m
Free float:	83.3%

\*Source: Bloomberg



Source: Bloomberg

Price performance	1M	3M	12M
Absolute (%)	(11.3)	(5.6)	1.0
Relative (%)	(11.8)	(4.5)	(4.3)

Major shareholders	% held
Promoter & Promoter Group	16.7
ICICI Prudential Midcap Fund	6.8
SBI Magnum Multicap Fund	6.1

## Analyst(s)



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## Camlin Fine Sciences

## Baking in vanillin benefits in FY24F numbers

- We bake in vanillin benefits in our FY24F estimates to arrive at an EPS of Rs 15.1 for FY24F and Rs21.8 for FY25F. We valued the stock at 20x FY24F EPS to arrive at our higher target price of Rs300 from Rs180 earlier.
- As Camlin Fine Sciences (CSFL) will start manufacturing vanillin, it doesn't have to sell catechol at an average loss of US\$1.5/kg. Therefore, on the likely sales of 3,000t in FY24F, CFSL's loss on catechol sales can decline by US\$5m (CFSL would have lost US\$9.9m on catechol sales in FY23F).
- Negolyte sales to Lockheed Martin provides an option value of Rs1.5bn in EBITDA. However, we feel it may not materialize over the next couple of years.

## Vanillin to provide earnings kicker in FY24F

CFSL has commissioned its vanillin plant and currently it is sending the samples for the approval of customers. While it can register some sales in FY23F, major sales are likely only from FY24F. 4QFY23 has seen sales resuming for MEHQ which will be manufactured from captive hydroquinone. The captive hydroquinone (HQ) plant has stabilized, and MEHQ exports have also started. We are building in 3,000t of vanillin sales in FY24F, and consequently the loss from catechol sales to decline to US\$5m (vs. US\$9.9m in FY23F) and lead to an increase in gross profit by Rs3bn. Accordingly, our EPS estimate for FY24F gets revised to Rs15.1 & FY25F to Rs21.8. In the recent past, the stock has traded at ~20x on current year earnings and we assign the same multiple i.e., 20x FY24F to arrive at our higher target price of Rs300 from Rs180 earlier.

## Negolyte provides option value, but it's at least two years away

CFSL has been exporting Negolyte (organo titanate) to Lockheed Martin since the last three quarters. Please note that currently organo titanate exports are in small quantities and hence, we are not building in any earnings upside from this molecule in our estimates. Lockheed Martin uses Negolyte in its flow battery called GridStar Flow, which is used for grid power storage application. GridStar Flow's USP is the usage of a non-corrosive electrolyte which is non-toxic (unlike vanadium-based batteries) and the fire hazard is also quite low. The material used in GridStar Flow batteries is not costly and hence, overall levelized cost of storage is lower when compared with traditional flow batteries.

## Captive HQ provides a big cost advantage in MEHQ production

One tonne of MEHQ needs ~1.1t of HQ and hence, it becomes non-competitive against imported HQ, but using captive HQ the gross profit on MEHQ sales (without power cost) will be around Rs550-600/kg against rival Clean Science and Technology's gross spread of Rs400-450/kg. We expect MEHQ sales to revive and add to the profitability of CFSL in the coming quarters. We retain our ADD rating on the stock. Downside risk: non-acceptance of vanillin by customers poses a risk to our EPS estimates. However, we feel the stock price may not fall in such a scenario as the market doesn't believe in a successful ramp-up of vanillin.

## Financial Summary

	Mar-21A	Mar-22A	Mar-23F	Mar-24F	Mar-25F
Revenue (Rsm)	11,871	14,121	16,549	21,514	25,816
Operating EBITDA (Rsm)	1,819	1,528	2,241	3,933	5,360
Net Profit (Rsm)	654	604	978	2,364	3,418
Core EPS (Rs)	5.3	4.2	6.2	15.1	21.8
Core EPS Growth	113.6%	(19.2%)	46.8%	141.7%	44.6%
FD Core P/E (x)	26.63	32.97	22.46	9.29	6.43
DPS (Rs)	0.3	0.3	0.5	1.2	1.7
Dividend Yield	0.30%	0.28%	0.45%	1.08%	1.56%
EV/EBITDA (x)	11.88	16.28	12.34	6.73	4.66
P/FCFE (x)	1,568.85	(54.62)	(21.03)	27.44	12.02
Net Gearing	49.3%	62.8%	49.0%	28.1%	13.5%
P/BV (x)	2.77	2.94	2.32	1.71	1.33
ROE	12.5%	8.7%	11.5%	21.2%	23.3%
% Change In Core EPS Estimates			(31.60%)	20.36%	
InCred Research/Consensus EPS (x)					

SOURCE: INCRED RESEARCH, COMPANY REPORTS

## Baking in vanillin benefits in FY24F numbers

CFSL has commissioned its vanillin plant and currently it is sending the samples for the approval of customers. While some sales are likely in FY23F, major sales may happen only from FY24F. 4QFY23F will see sales of MEHQ resuming as the chemical will be manufactured from captive hydroquinone. The captive hydroquinone (HQ) plant has stabilized, and MEHQ exports have also started. At the same time, CFSL has also been exporting organo titanate to Lockheed Martin since the last three quarters. Please note that currently organo titanate exports is in small quantities and hence, we are not building in any earnings upside from this molecule in our estimates.

### Commissions vanillin plant

CFSL has commissioned the vanillin plant at its Dahej facility. The same was announced to stock exchanges on 22 Jan 2023. Please click the link: [Microsoft Word - CFS letterhead word \(bseindia.com\)](#)

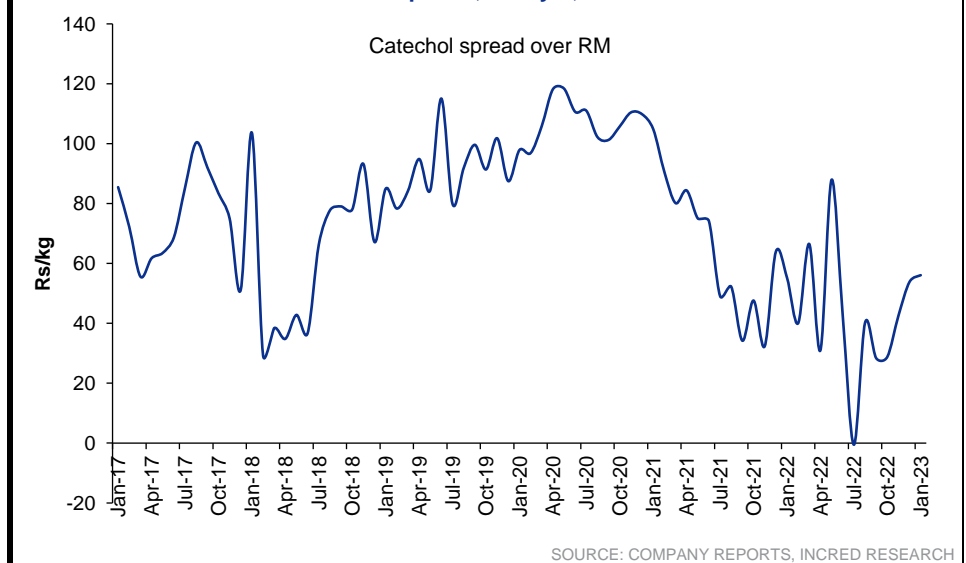
### Vanillin is used in consumer products >

Vanillin is both naturally occurring and synthetically produced. It is used in flavourings, foods, perfumes, and pharmaceuticals. Vanillin is used as a chemical intermediate in the manufacture of several important drugs and other products. Human exposure to vanillin is through dermal contact via perfumes and ingestion of food products that include vanillin as a flavour additive.

### Vanillin to use catechol where CFSL's gross margin is miniscule over the basic raw material >

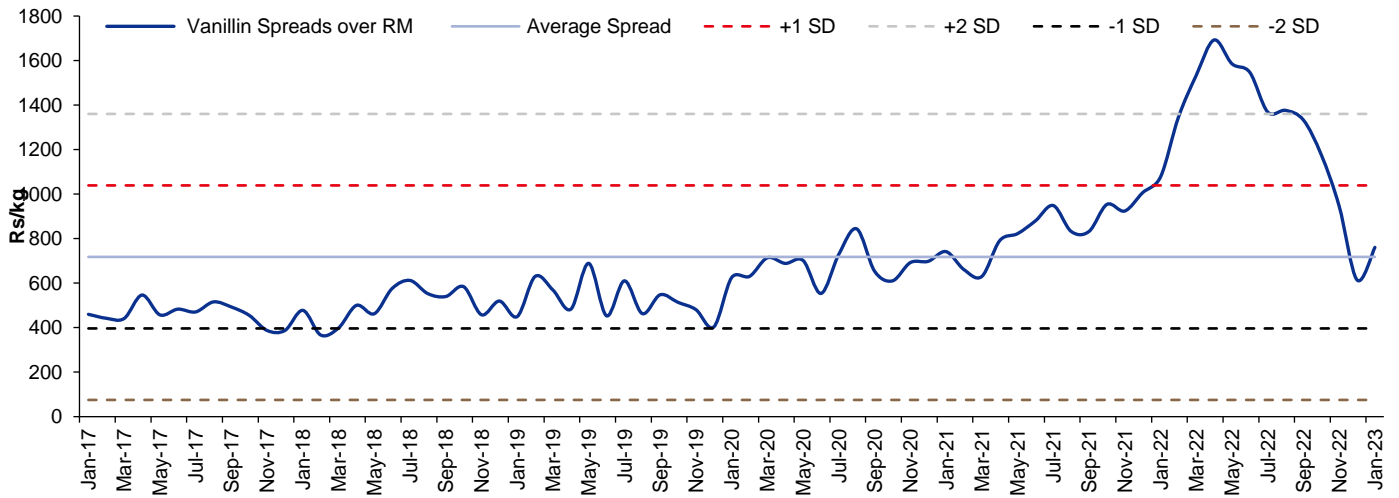
During the diphenol manufacturing process, hydroquinone (HQ) and its isomer catechol (CAT) are produced in a 45:55 ratio. While HQ has multiple usage, catechol has a limited usage in agrochemicals and certain other products. Globally, catechol is hugely oversupplied and hence, CFSL makes losses at the EBITDA level from this product.

**Figure 1: Following minimal contribution margin over the basic raw material, catechol sales won't be able to recover even power, catalyst, and other raw material cost**



**However, by using catechol to make vanillin, CFSL will make at least Rs700/kg in contribution margin ➤**

**Figure 2: Over the last six years, on an average, vanillin has given Rs700/kg contribution margin over the basic raw material cost**



SOURCE: INCRED RESEARCH, COMPANY REPORTS

**By using catechol for vanillin, CFSL will consume 85% of catechol production ➤**

- One tonne of vanillin needs ~1.13t of catechol.
- The overall production capacity of catechol is =15000\*0.55= 8,250t.
- Vanillin production can consume 7,000t of catechol.
- HQ production of ~ 6,750t will be fully utilized by the production of MEHQ, TBHQ, BHA and BHT.

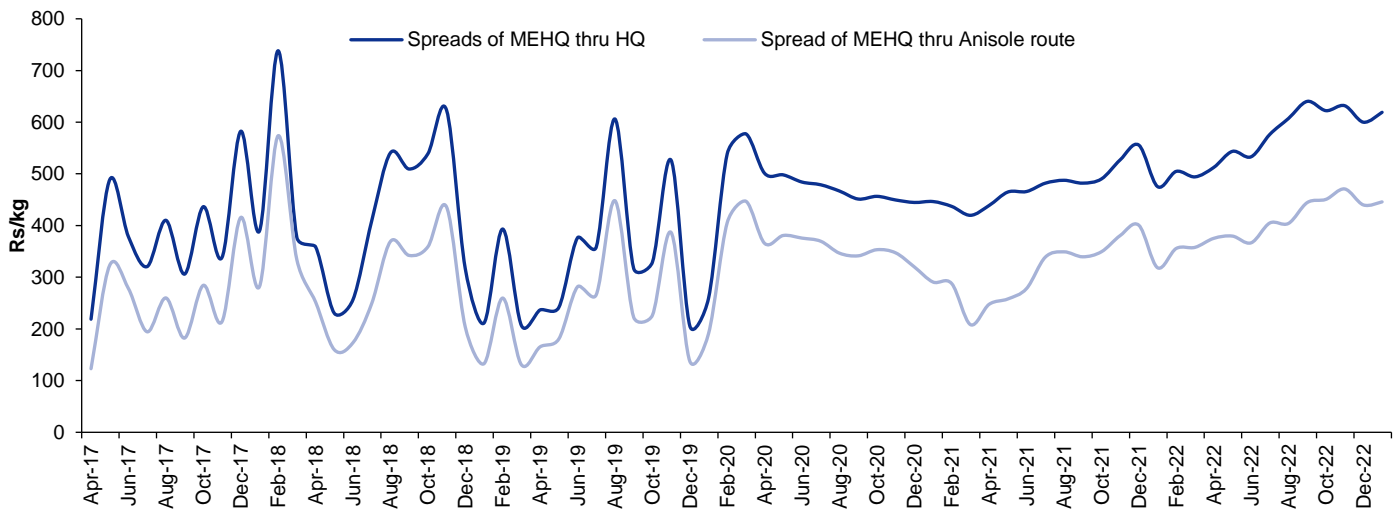
**Loss in catechol sales can come down by US\$8.1m in FY25F ➤**

- As of now, CFSL produces 6,600t of catechol.
- EBITDA-level loss in catechol is US\$1.5/kg.
- Hence, overall loss at EBITDA-level in FY23F should be US\$9.9m.
- By using 100% of vanillin capacity, CFSL needs to sell only 1,250t of catechol and hence, the loss will be just US\$1.8m.
- Therefore, at full capacity, the loss from catechol at the EBITDA-level will come down by US\$8m or Rs700m.
- In FY24F, we believe the loss may come down from US\$9.9m to US\$4.8m.

**Commencement of MEHQ sales is another positive for CFSL ➤**

As the diphenol plant has stabilized, CFSL has started making MEHQ in which its margin is much better than its competitor - Clean Science and Technology.

**Figure 3: MEHQ spreads through the HQ route are much better than through the anisole route; rival Clean Science and Technology would have preferred the anisole backward integration route for HQ leading to problems in catechol**

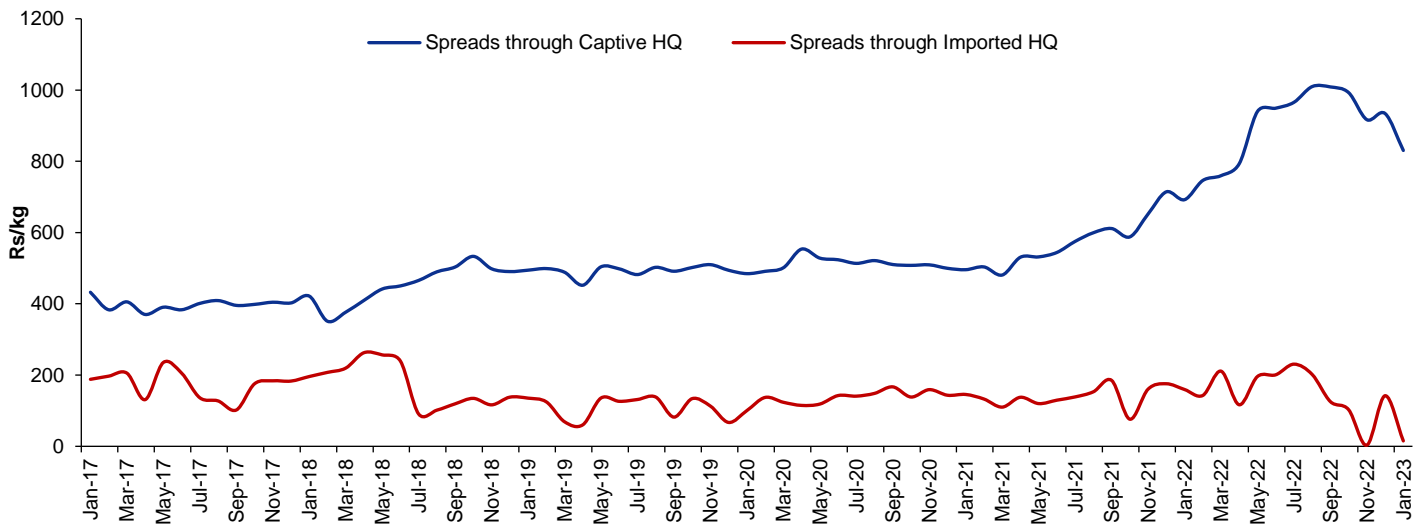


SOURCES: INCRED RESEARCH, COMPANY REPORTS

On an average, MEHQ production through the HQ route has Rs200/kg gross spread advantage over the anisole route. It's only natural for CFSL to grab market share from clean sciences in MEHQ.

**Captive HQ will lead to TBHQ spreads rising by 4x ➔**

**Figure 4: After the power crisis in Europe, using imported HQ to make TBHQ doesn't make any sense**



SOURCE: COMPANY REPORTS, INCRED RESEARCH

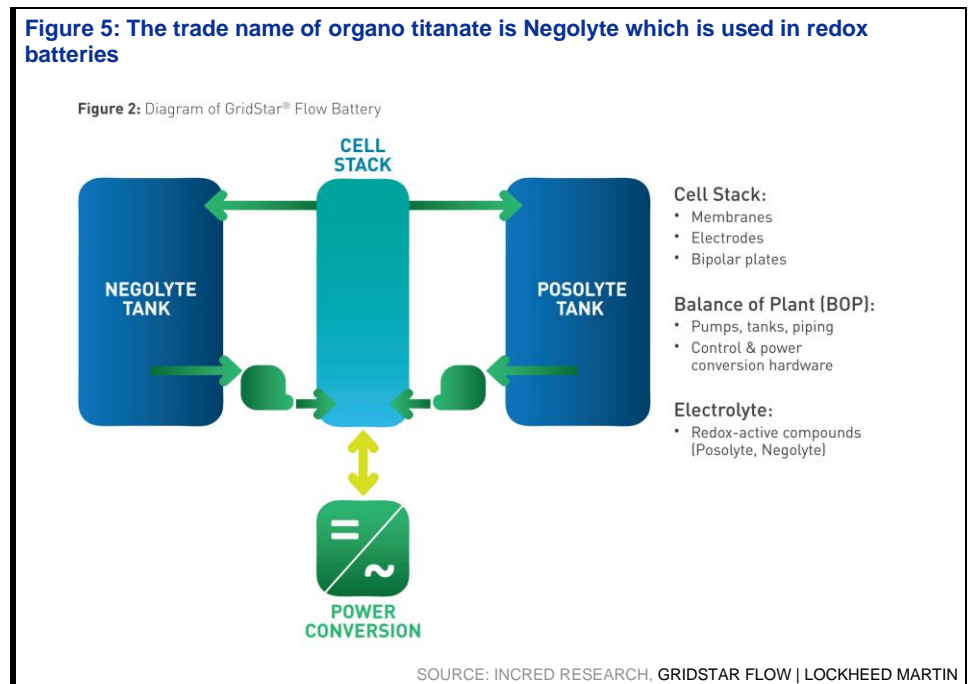
Please note that till some time back CFSL was using imported HQ for manufacturing TBHQ and hence, its gross margin was miniscule.

## The option value of organo titanate

**The supply of organo titanate has started to Lockheed Martin, although at a sedate pace, and we are not building in organo titanate sales in our estimates >**

CFSL has started supplying organo titanate to Lockheed Martin. YTD FY23, the company has supplied ~80t of this material. It is likely to get a bigger contract in FY24F but as the timing of the same is not clear, we are not building in the same in our estimates.

**Organo titanate is used by Lockheed Martin to make redox batteries >**



The trade name for Negolyte flow batteries is GridStar. Lockheed Martin has been awarded a contract to build the first megawatt-scale, long-duration energy storage system for the U.S. Department of Defence. GridStar Flow will be installed at Fort Carson, Colorado for the U.S. Army under the management of the U.S. Army Engineer Research and Development Center's (ERDC) Construction Engineering Research Laboratory (CERL).

GridStar Flow is a redox flow battery designed for large-capacity storage applications that store power generated from renewable energy sources and dispatch it to electric grids during peak demand or unanticipated electricity loss.

Lockheed Martin's first customer-sited production system is intended as a demonstration unit for the army and ERDC-CERL. This system will be tested against protocols that simulate microgrid and renewable integration to ensure critical missions can continue in the event of a long-term power outage. It is expected to have a discharge duration of 10 hours.

**GridStar Flow batteries of Lockheed Martin have wide applications, particularly in long-duration storage solutions >**

Traditional technologies are unable to meet the expanding long-duration requirement because of the following reasons:

- Degradation and shortened lifespan caused by frequent cycling, holding at high state-of-charge and calendar aging.
- Degradation requiring oversizing or augmentation, leading to increased TCO (total cost of ownership).

- Sealed batteries are not project-configurable, resulting in costly oversizing of power capacity for longer-duration needs.
- Thermal runaway presents a potential safety hazard.
- Durability and duration limitations increasingly impact Li-ion project economics at longer durations – best suited for applications of four hours or less.

**On the other hand, flow batteries have the following advantages:**

- Long-duration - 6 to >12 hours duration.
- Able to do multiple daily deep-discharge cycles and have long useful life.
- Freedom to operate in the future differently than originally planned.
- Energy and power can be sized independently.
- Can add additional energy in the future, as required.
- Switch between products over any time period to maximize revenue.
- Able to address short-duration applications.
- Designed for system-level safety and site-ability.
- Non-flammable battery chemistry.

**There are multiple types of flow batteries, but redox is the most common >**

A flow battery is an electrochemical conversion device that uses energy differences in the oxidation states of certain elements. There are three types of **flow batteries**: redox, hybrid, and membrane-less.

Redox flow battery type is the most common. Redox flow batteries use a liquid phase reduction-oxidation reaction when the liquid electrolyte flows through the electrodes. The used electrolyte can be recharged by pumping it back through the electrodes to the tanks.

**Flow batteries are the future of energy storage >**

These batteries' numerous advantages can make them even more popular in energy management in the coming years. The essential benefits of flow batteries include:

**Long service life:** This is one of the most significant advantages of the flow battery system. Flow battery allows for a large number of complete cycles of both charging and discharging. Importantly, electrons do not undergo any physical changes to be freely upgraded for catalytic and electrical properties. Besides, convective cooling of the electrodes supported by the pumped electrolyte helps in managing and distributing heat.

**No standby losses:** Flow batteries are the ideal solution for devices with long periods of disuse. These batteries will not discharge because the charge-carrying electrolyte is stored in separate reservoirs.

**Low maintenance cost:** Flow batteries are incredibly ergonomic. One electrolyte is used for all cells, ensuring that these batteries are charged uniformly.

**Environmentally friendly:** Flow battery waste can be reused. Additionally, electrolytes are not very toxic.

**Charging method:** Fluctuating power demand, charging, and discharging rates do not affect the operation of redox flow batteries. Therefore, flow battery is the right solution for complex energy management systems.

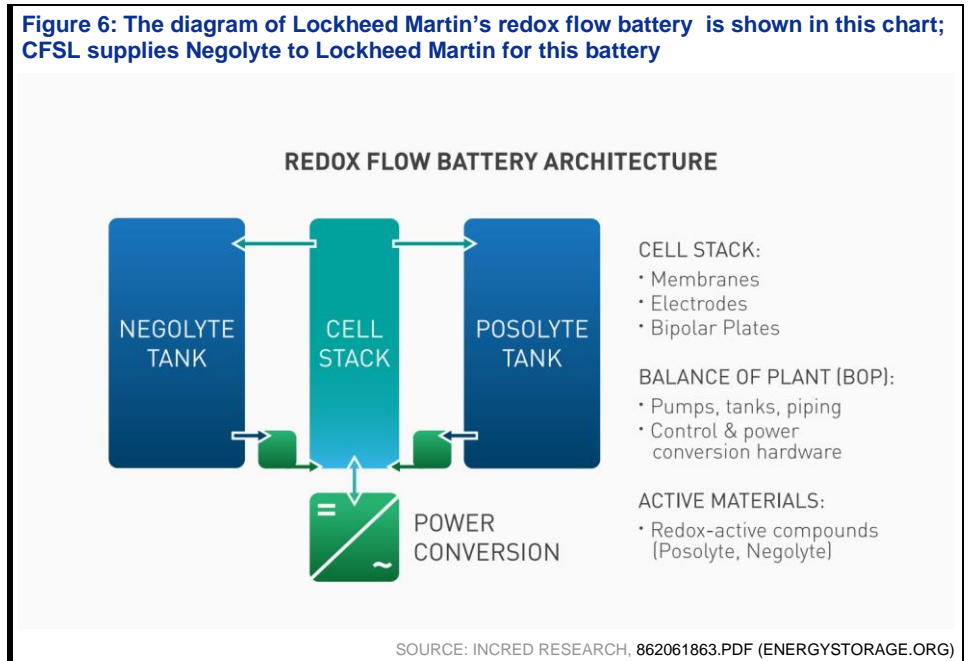
**Different types of redox flow batteries >**

Redox flow batteries or RFBs can be divided into two categories: 1) True redox flow batteries, where all the chemical species active in storing energy are fully dissolved in the solution at all times. 2) Hybrid redox flow batteries, where at least one chemical specie is plated as a solid in electrochemical cells during the charge. **Examples of true RFBs include the vanadium-vanadium and iron-chromium systems. Examples of hybrid RFBs include zinc-bromine and zinc-chlorine systems.**

**How is GridStar Flow of Lockheed Martin positioned in the this space? ➤**

GridStar Flow is the true redox battery in the sense that energy is fully dissolved in the solution at all times.

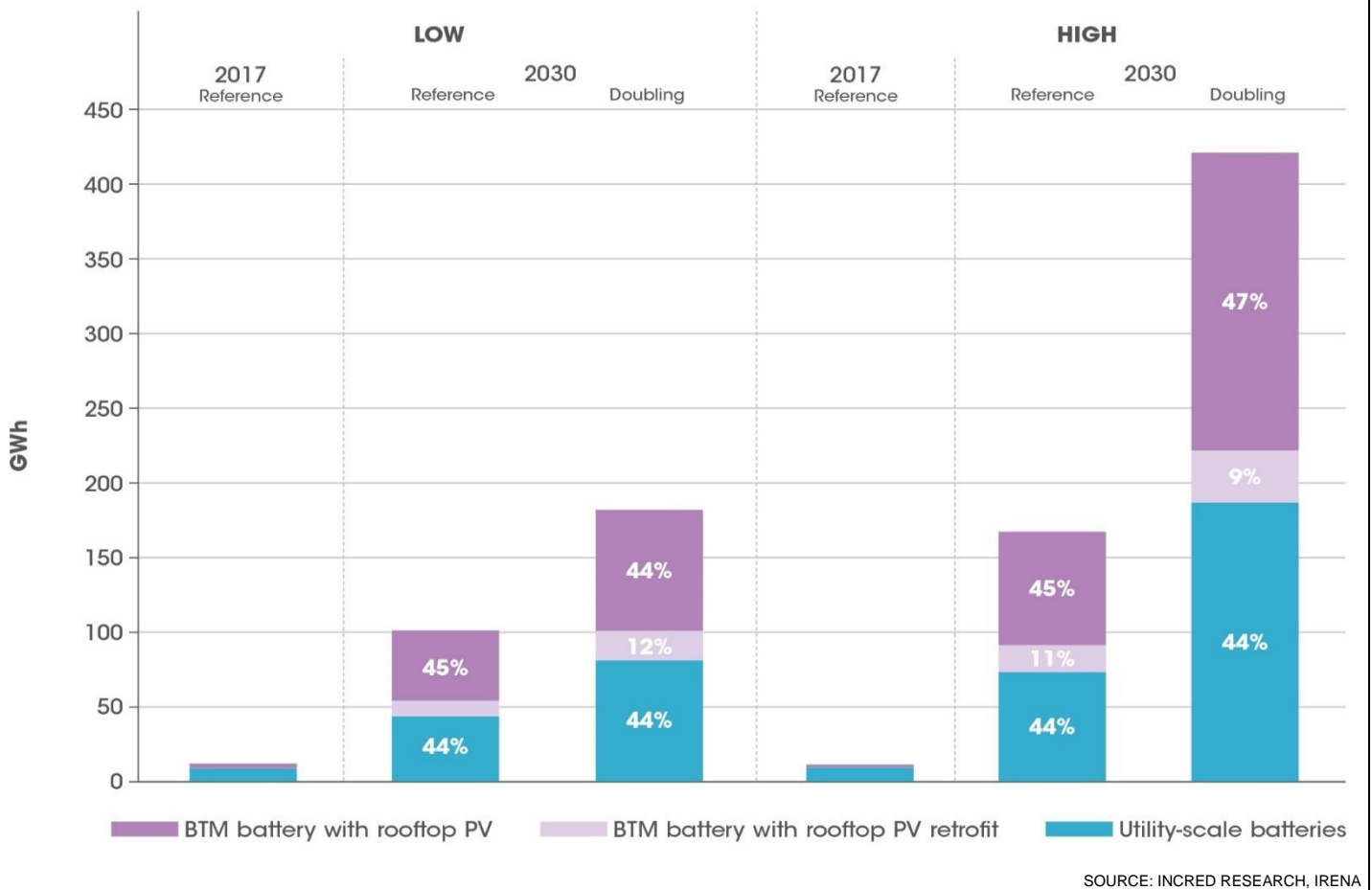
**Figure 6: The diagram of Lockheed Martin’s redox flow battery is shown in this chart; CFSL supplies Negolyte to Lockheed Martin for this battery**



**Redox flow batteries are the future in grid storage technologies, more so when renewable power sources are becoming more prevalent ➤**

By nature, renewable power generation cannot remain constant during the day as there will be multiple peaks and troughs during the power generation process. Hence, storage technology is needed for the power grid.

Figure 7: Irena predicts that in a low -growth scenario, utility-scale battery (where redox battery will fit the bill) requirement will be ~ 40GW and in a high-growth scenario it can be as high as 175GW



### Lockheed Martin’s GridStar Flow appears to be better than other redox batteries in terms of cost and energy storage ➤

The difference between the Lockheed Martin system and conventional flow batteries is the absence of ingredients that are toxic and/or expensive while maintaining sufficient energy storage capability to be commercially viable.

### The advantage of flow batteries for grid storage applications is well understood ➤

- **Longer duration:** Up to 12 hours versus a typical duration of not more than four hours for large-scale Li-ion systems.
- **Increased safety:** Iron flow batteries are non-flammable, non-toxic, and have no explosion risk. The same is not true for Li-ion batteries.
- **Longer asset life:** Iron flow batteries offer an unlimited cycle life and no capacity degradation over a 25-year operating life. Li-ion batteries typically provide about 7,000 cycles and a 7- to 10-year lifespan.
- **Less concern over ambient temperatures:** Iron flow batteries can operate in ambient conditions from -10C to 60C (14F to 140F) without the need for heating or air-conditioning. Ventilation systems are almost always required for utility-scale Li-ion battery system.
- **Lower levelized cost of storage.** As iron flow batteries offer a 25-year life, have capital expense cost like Li-ion batteries, and have operating expenses that are much lower than Li-ion batteries, the cost of ownership can be up to 40% less.

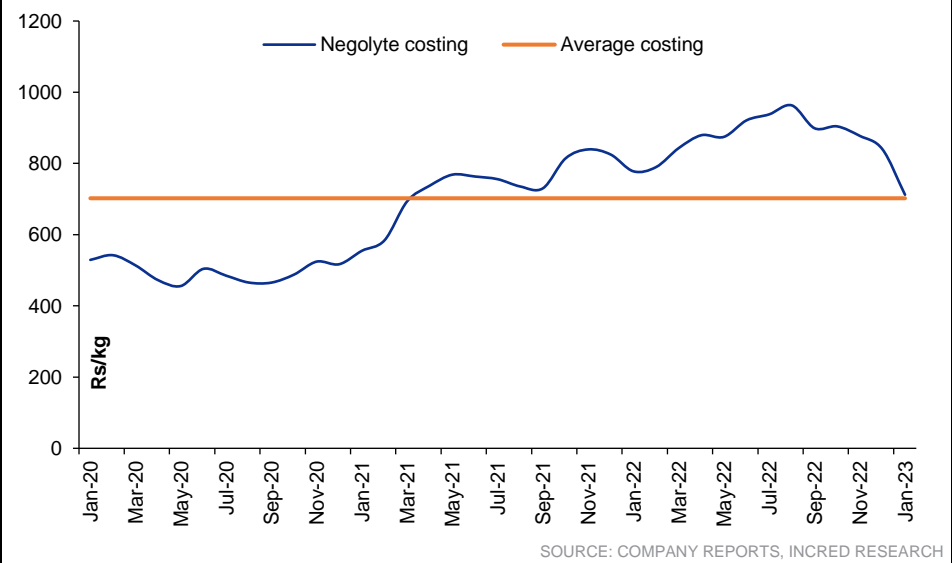


**So it's possible that within a three-to-four years' time frame CFSL will be able to sell 5,000t of Negolyte to Lockheed Martin ➤**

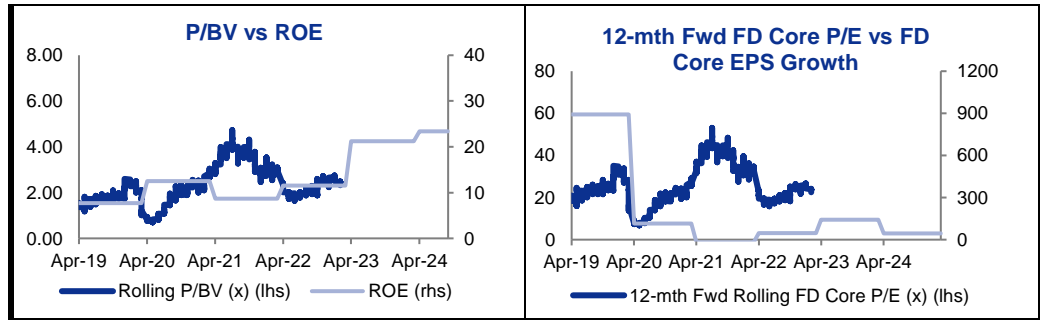
Given the initial success of the Negolyte-based battery, we believe it's possible that CFSL can sell 5,000 tonnes of Negolyte to Lockheed Martin. CFSL will like to have a cost-plus agreement with Lockheed Martin and may be a part of the capex can be funded by the customer. Things are fluid as of now but given the realization on initial shipments, we can guesstimate the gross profit in this business.

**We believe CFSL can make ~Rs2bn gross profit and Rs1.5bn in EBITDA if its sells 5,000 tonne of Negolyte ➤**

**Figure 8: While the average realization has varied for CFSL, on an average, it has made ~Rs 400/kg above the cost of raw material and hence, we feel sales of 5,000t can fetch Rs2bn in gross profit**



BY THE NUMBERS



Profit & Loss

(Rs mn)	Mar-21A	Mar-22A	Mar-23F	Mar-24F	Mar-25F
<b>Total Net Revenues</b>	<b>11,871</b>	<b>14,121</b>	<b>16,549</b>	<b>21,514</b>	<b>25,816</b>
<b>Gross Profit</b>	<b>6,036</b>	<b>6,526</b>	<b>8,936</b>	<b>12,048</b>	<b>14,457</b>
<b>Operating EBITDA</b>	<b>1,819</b>	<b>1,528</b>	<b>2,241</b>	<b>3,933</b>	<b>5,360</b>
Depreciation And Amortisation	(443)	(560)	(633)	(698)	(715)
<b>Operating EBIT</b>	<b>1,376</b>	<b>968</b>	<b>1,608</b>	<b>3,235</b>	<b>4,645</b>
Financial Income/(Expense)	(375)	(358)	(600)	(375)	(375)
Pretax Income/(Loss) from Assoc.		(1)			
Non-Operating Income/(Expense)	50	330	300	300	300
<b>Profit Before Tax (pre-EI)</b>	<b>1,051</b>	<b>940</b>	<b>1,308</b>	<b>3,160</b>	<b>4,569</b>
Exceptional Items					
<b>Pre-tax Profit</b>	<b>1,051</b>	<b>940</b>	<b>1,308</b>	<b>3,160</b>	<b>4,569</b>
Taxation	(397)	(336)	(330)	(796)	(1,151)
Exceptional Income - post-tax					
<b>Profit After Tax</b>	<b>654</b>	<b>604</b>	<b>978</b>	<b>2,364</b>	<b>3,418</b>
Minority Interests					
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
<b>Net Profit</b>	<b>654</b>	<b>604</b>	<b>978</b>	<b>2,364</b>	<b>3,418</b>
Recurring Net Profit	654	604	978	2,364	3,418
<b>Fully Diluted Recurring Net Profit</b>	<b>654</b>	<b>604</b>	<b>978</b>	<b>2,364</b>	<b>3,418</b>

Cash Flow

(Rs mn)	Mar-21A	Mar-22A	Mar-23F	Mar-24F	Mar-25F
<b>EBITDA</b>	<b>1,819</b>	<b>1,528</b>	<b>2,241</b>	<b>3,933</b>	<b>5,360</b>
Cash Flow from Invt. & Assoc.					
Change In Working Capital	(659)	64	(3,056)	(2,661)	(2,705)
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense	324	(126)	300	300	300
Other Operating Cashflow	425	650	600	600	600
Net Interest (Paid)/Received	(375)	(358)	(600)	(375)	(375)
Tax Paid	(359)	(304)	(330)	(796)	(1,151)
<b>Cashflow From Operations</b>	<b>1,174</b>	<b>1,454</b>	<b>(845)</b>	<b>1,001</b>	<b>2,028</b>
Capex	(839)	(2,138)	(200)	(200)	(200)
Disposals Of FAs/subsidiaries	1				
Acq. Of Subsidiaries/investments					
Other Investing Cashflow	(490)	(353)			
<b>Cash Flow From Investing</b>	<b>(1,329)</b>	<b>(2,491)</b>	<b>(200)</b>	<b>(200)</b>	<b>(200)</b>
Debt Raised/(repaid)	166	672			
Proceeds From Issue Of Shares	299	948			
Shares Repurchased					
Dividends Paid	(54)	(7)	(98)	(236)	(342)
Preferred Dividends					
Other Financing Cashflow	(25)	(254)			
<b>Cash Flow From Financing</b>	<b>386</b>	<b>1,360</b>	<b>(98)</b>	<b>(236)</b>	<b>(342)</b>
Total Cash Generated	232	323	(1,143)	564	1,486
<b>Free Cashflow To Equity</b>	<b>11</b>	<b>(364)</b>	<b>(1,045)</b>	<b>801</b>	<b>1,828</b>
<b>Free Cashflow To Firm</b>	<b>221</b>	<b>(679)</b>	<b>(445)</b>	<b>1,176</b>	<b>2,203</b>

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**BY THE NUMBERS...cont'd**

<b>Balance Sheet</b>					
<b>(Rs mn)</b>	<b>Mar-21A</b>	<b>Mar-22A</b>	<b>Mar-23F</b>	<b>Mar-24F</b>	<b>Mar-25F</b>
Total Cash And Equivalents	1,383	1,421	924	1,108	2,584
Total Debtors	2,707	2,997	3,774	4,906	5,887
Inventories	3,200	3,709	4,461	5,799	6,959
Total Other Current Assets	656	809	1,964	2,817	3,955
<b>Total Current Assets</b>	<b>7,947</b>	<b>8,935</b>	<b>11,123</b>	<b>14,630</b>	<b>19,385</b>
Fixed Assets	5,369	7,406	6,848	6,350	5,835
Total Investments	94	72	94	94	94
Intangible Assets	684	757	684	684	684
Total Other Non-Current Assets	722	831	722	722	722
<b>Total Non-current Assets</b>	<b>6,869</b>	<b>9,065</b>	<b>8,349</b>	<b>7,851</b>	<b>7,336</b>
Short-term Debt	2,169	2,349	2,169	2,169	2,169
Current Portion of Long-Term Debt					
Total Creditors	1,584	2,338	2,208	2,871	3,445
Other Current Liabilities	1,023	1,265	1,023	1,023	1,023
<b>Total Current Liabilities</b>	<b>4,776</b>	<b>5,953</b>	<b>5,401</b>	<b>6,063</b>	<b>6,637</b>
Total Long-term Debt	2,732	3,876	3,732	2,732	2,732
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities	84	385	84	84	84
<b>Total Non-current Liabilities</b>	<b>2,817</b>	<b>4,261</b>	<b>3,816</b>	<b>2,817</b>	<b>2,817</b>
Total Provisions	91	136	91	91	91
<b>Total Liabilities</b>	<b>7,684</b>	<b>10,350</b>	<b>9,308</b>	<b>8,971</b>	<b>9,545</b>
Shareholders Equity	6,434	7,479	9,467	12,812	16,478
Minority Interests	697	171	697	697	697
<b>Total Equity</b>	<b>7,132</b>	<b>7,651</b>	<b>10,164</b>	<b>13,509</b>	<b>17,175</b>

<b>Key Ratios</b>					
	<b>Mar-21A</b>	<b>Mar-22A</b>	<b>Mar-23F</b>	<b>Mar-24F</b>	<b>Mar-25F</b>
Revenue Growth	13.1%	19.0%	17.2%	30.0%	20.0%
Operating EBITDA Growth	39.2%	(16.0%)	46.6%	75.5%	36.3%
Operating EBITDA Margin	15.3%	10.8%	13.5%	18.3%	20.8%
Net Cash Per Share (Rs)	(27.59)	(30.61)	(31.70)	(24.17)	(14.76)
BVPS (Rs)	50.46	47.65	60.30	81.61	104.97
Gross Interest Cover	3.67	2.71	2.68	8.62	12.38
Effective Tax Rate	37.8%	35.8%	25.2%	25.2%	25.2%
Net Dividend Payout Ratio	8.3%	10.0%	10.0%	10.0%	10.0%
Accounts Receivables Days	80.48	73.72	74.67	73.63	76.30
Inventory Days	193.34	166.01	195.85	197.81	204.98
Accounts Payables Days	103.88	94.24	108.98	97.92	101.46
ROIC (%)	9.6%	5.8%	9.3%	15.9%	20.0%
ROCE (%)	12.7%	7.4%	10.7%	18.7%	22.9%
Return On Average Assets	6.5%	5.1%	7.6%	12.6%	15.0%

SOURCE: INCRED RESEARCH, COMPANY REPORTS

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