HDFC securities

INSTITUTIONAL RESEARCH

INITIATING COVERAGE | 14 SEP 2017

Dishman Carbogen Amcis

BUY

INDUSTRY	**PHARMA**
CMP *(as on 29 May 17)*	**Rs 301**
Target Price	**Rs 405**
Nifty	10,079
Sensex	32,186

KEY STOCK DATA	
Bloomberg	DISH IN
No. of Shares (mn)	161
MCap (Rs bn) / ($ mn)	49/758
6m avg traded value (Rs mn)	232

STOCK PERFORMANCE (%)			
52 Week high / low		**Rs 347/171**	
	3M	6M	12M
Absolute (%)	(0.1)	25.6	73.9
Relative (%)	(3.4)	16.3	60.4

SHAREHOLDING PATTERN (%)	
Promoters	61.4
FIs & Local MFs	9.9
FPIs	10.9
Public & Others	17.8

Source : BSE

Amey Chalke
amey.chalke@hdfcsec.com
+91-22-6171-7321

Siddhant Mansukhani
siddhant.mansukhani@hdfcsec.com
+91-22-6639-2476

Highly potent

With strong visibility on commercial launches and future orders, Dishman Carbogen Amcis (DISH) will finally see its efforts culminating in sustainable growth starting FY18. Seeds that were sown six to seven years ago are now yielding results. Apart from Niraparib, there are three to four potential launches in FY18, which will not only accelerate growth, but also de-risk earnings from blockbuster products. Altogether, there are 25 candidates in Phase III, and we expect four to five products to be commercialised every year. This provides great comfort that momentum will be maintained even after FY20. In our estimates, we have built in only six commercial launches (five in FY18 and one in FY19) and 5 to 6% growth in the base business, leading to ~14% revenue CAGR, ~18% EBITDA CAGR and ~38% earnings CAGR over FY17-20E. Initiate coverage with a BUY rating and a TP of Rs 405 (20x on Sep-19E EPS), implying ~35%+ upside.

- **Turnaround in CRAMS:** Owing to heavy capex, rationalisation of contracts, slowdown in innovator R&D and acquisition of Carbogen Amcis ('CA'), DISH witnessed a period of slow growth and low margins from FY09 to FY13. Mark Griffiths was re-appointed CEO of CA in 2013. Since then, DISH has transformed its business and successfully leveraged development capabilities at CA. Revenues in the subsidiary have grown 16% CAGR, and EBITDA has expanded 25% CAGR, owing to an increasing number of projects across a growing customer base, cost reduction efforts and rationalisation of contracts.
- **Fat R&D pipeline:** At present, DISH has 400+ molecules under development, of which 15 to 16 molecules are in late-stage phase III, 15to 16 in early phase III , 150 in phase II and 250 in phase I or pre-clinical. Overall, we have visibility on six launches in FY18 and early FY19, which include Niraparib, Edaravone, an ADC, and candidates from anti-diabetes, derma and pediatric leukemia. These will add 20% to revenues and 40-45% to earnings by 20E.
- **Consistent free cash generation:** Since FY12, DISH has reported steady improvement in free cash flows. This is largely owing to improving business fundamentals, led by positive operating leverage and a better business mix. Consequently, DISH has pared debt by Rs 0.7bn in FY17. With reduced debt and improved EBITDA, net debt/EBITDA ratio has come down to 2x from 3.8x in FY12 and is expected to go down further to 1x by FY20E.
- **Valuation:** After the recent run-up, the stock is trading at 24x FY18E and 18x FY19E, a premium to its mid-cap peers. We believe that the stock is likely to trade at premium multiples owing to high potential of earning upgrades on the back of surprise launches.

Financial Summary

YE Mar (Rs mn)	FY17	FY18E	FY19E	FY20E
Net Sales	17,137	19,068	21,811	25,312
EBITDA	4,534	5,179	6,083	7,577
APAT	1,454	1,982	2,700	3,841
Adj. EPS (Rs/sh)	9.0	12.3	16.7	23.8
P/E (x)	33.4	24.5	18.0	12.6
RoE (%)	11.6	13.3	15.2	17.8

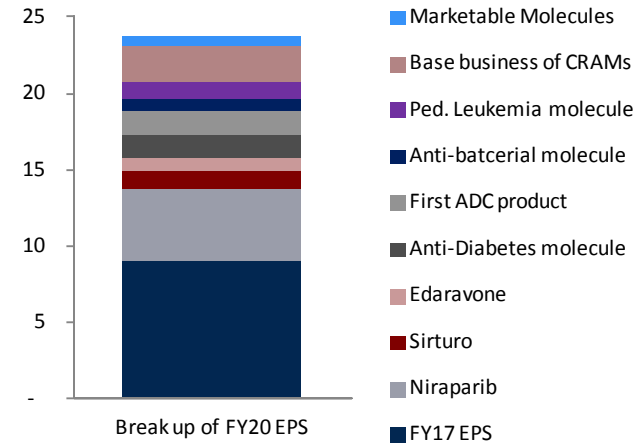
Source: Company, HDFC sec Inst Research

Multiple launches to de-risk earnings

Growth is well protected by the commercialization of products

There is high visibility on seven commercial launches

Break Up Of FY20 EPS



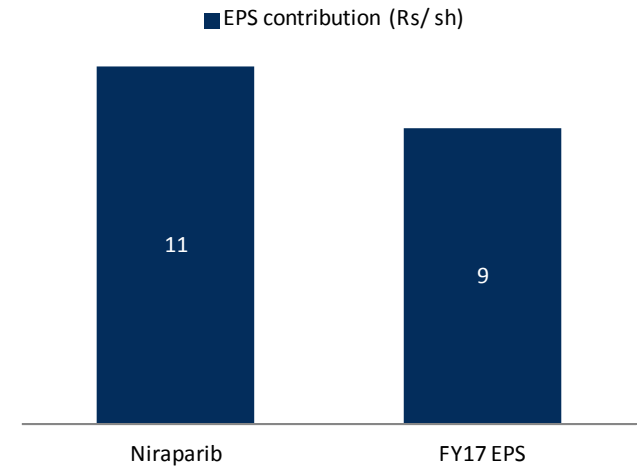
Source: Company, HDFC sec Inst Research

- The growth expected over the next two years is well protected by the launch of several products across various therapy segments.
- We have visibility on seven commercial launches. Of these, four are already commercialised and approved in the US market, and can add up to ~Rs 8/sh EPS by FY20E.
- Expected launches in ADC, derma and pediatric leukemia spaces will add ~Rs 3-4/sh EPS by FY20E.
- Overall, DISH's EPS is likely to grow at 37-38% CAGR over FY17-20E.
- Our estimates do not include commercialised sales from FY19/20 launches like Crenolanib.

Eye-watering growth potential

Niraparib alone could generate revenue worth US$ 5bn if it secures approvals for additional indications, leading to a significant opportunity for DISH

Based On Peak Sales Post Indication Expansion



Source: Company, HDFC sec Inst Research

- As per our assessment, Niraparib alone can generate revenue worth US$ 5bn if it secures approval for prostate, lung and breast cancers over the next 2-3 years. This will translate into a US$ 50-60mn opportunity for DISH, and can add Rs 11-12/sh EPS by FY21/22 (more than 1.2 times FY17 DISH EPS).
- Apart from Niraparib, products with strong visibility include Sirturo and Edaravone. These too have the potential to achieve peak sales of US$ 750-800mn each, which would translate into Rs 2-3/sh EPS opportunity for DISH (33% of FY17 EPS). However, the peak sales potential of Sirturo depends on the MDR-TB to TB conversion. For Edaravone, it will depend on the delay in approval for substitutes.

The start of commercial launches from DISH's deep pipeline will drive top-line growth over FY17-20E.

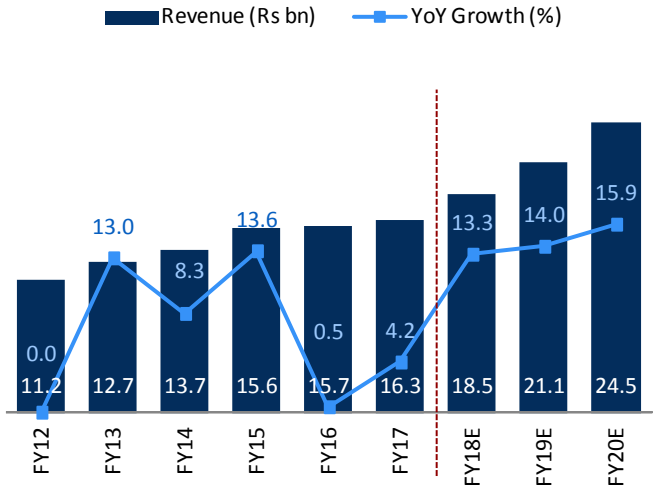
Our numbers don't include commercial launches that will happen in FY19/FY20 due to lack of visibility

EBITDA margin expansion will be driven by both improving product mix (high margin product launches like Niraparib) and operating leverage seen at Hi-Po and Chinese facilities

Overall, we expect earnings to double over the next two years, with strong improvement in operating profitability and a lower effective tax rate

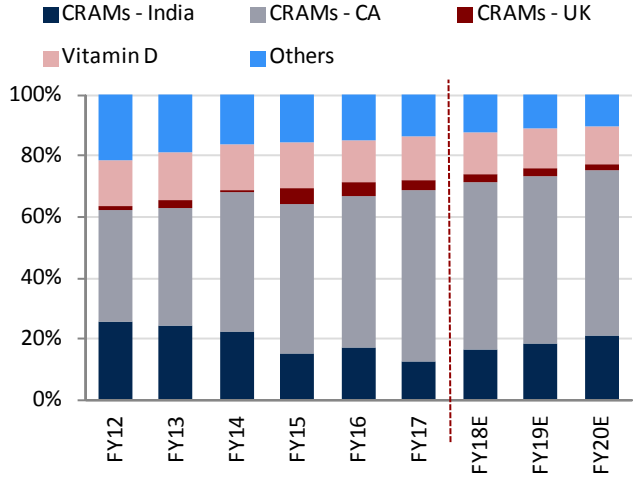
Story in charts

Revenue: 14% CAGR Over FY17-20E



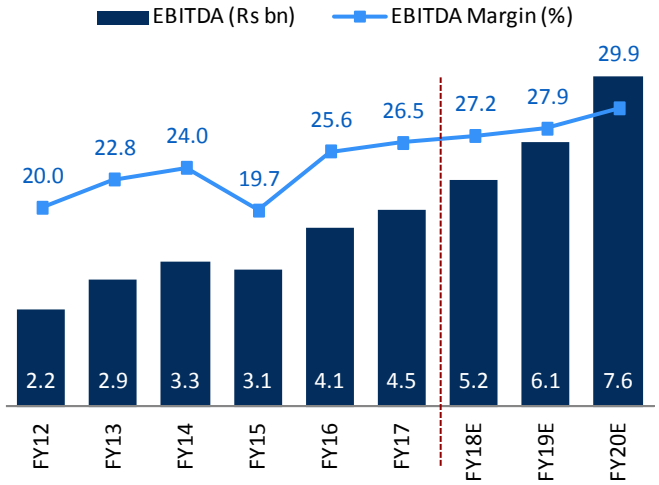
Source: Company, HDFC sec Inst Research

Revenue Split: CRAMS Pie Increasing



Source: Company, HDFC sec Inst Research

EBITDA Margin: ~400bps Expansion By FY20E



Source: Company, HDFC sec Inst Research

EPS CAGR Of 37-38% Over FY17-20E

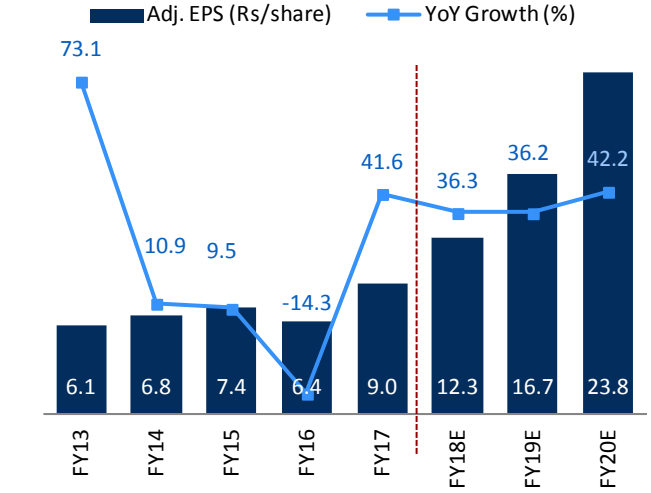


Table of Contents

DISH is in the business of custom synthesis (CRO) and contract manufacturing (CMO) of APIs

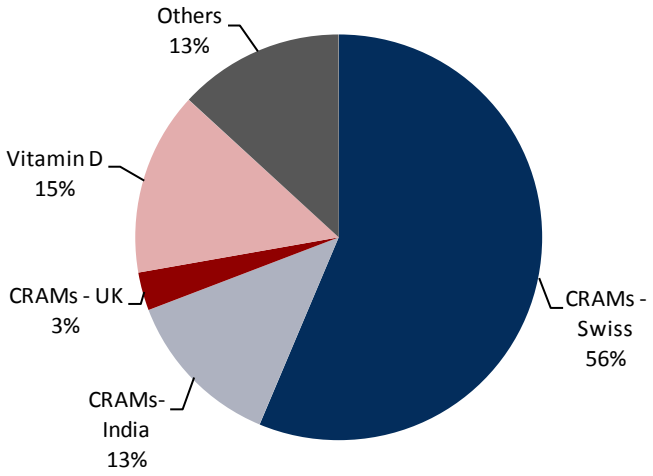
DISH helps its customers through the entire process of development, and then the commercialisation of the drug: (1) Carbogen Amcis handles the research and clinical trials, and (2) Dishman India takes care of manufacturing of large scale commercial batches

A plan to move up the value chain is also being conceived, with formulations CRAMS the next step for DISH

The business in brief

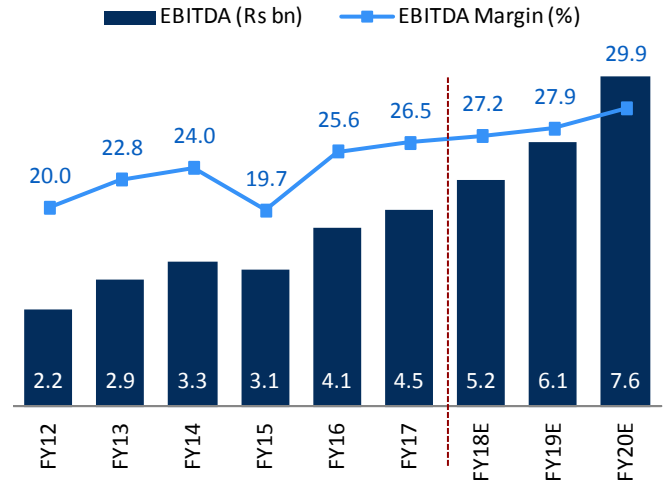
- **Business mix:** DISH is a fully-integrated global CRAMS player. 72% of the total revenue flows from the CRAMS segment, with the remaining coming from the 'Marketable Molecules' (Vitamin D analogoues, generic APIs etc). Within CRAMS, DISH is in the business of custom synthesis (CRO) and contract manufacturing (CMO) of APIs.
- **One company, two brands:** Upon engagement, DISH helps its customers through the entire process of development, and then the commercialisation of the drug: (1) Carbogen Amcis handles the research and clinical trials, and (2) Dishman India takes care of manufacturing of large scale commercial batches.
- **Despite being low margin, CRO is key:** The margins are lower in the research phase, where heavy fixed costs (scientists) are incurred, while the margins for the manufacturing pie are very high. At present, 65-70% of the Carbogen Amcis Swiss business comes from the development stage, and the remaining from commercialised products. However, a strong asscoiation with clients in the development phase ensures commercial contracts for the company.
- **Low growth segments:** The marketable molecules segment, which accounts for ~28% of revenues, is not presently the focus area for DISH. Within this segment, the Vitamin D analogues business is the most promising.
- **Business restructuring:** In FY17, DISH decided to reverse merge its 100% subsdiary, Carbogen Amcis India, with the parent entity. Post the reverse merger, DISH will receive tax beneifts to the tune of ~Rs 3bn over the next 15 years, owing to the amortisation of the resultant goodwill of ~Rs 13.5bn.
- **Promoter vision:** The promoters are keen on focussing on products that would benefit patients greatly and that address therapeutic gaps, rather than devoting their R&D bandwidth to aiding innovator companies in the ever-greening of their biggest molecules. A plan to move up the value chain is also being conceived, with formulations CRAMS the next step for DISH.

CRAMS Is 72% Of Revenue



Source: Company, HDFC sec Inst Research

Strong EBITDA Margin Profile



Source: Company, HDFC sec Inst Research

CRAMS industry

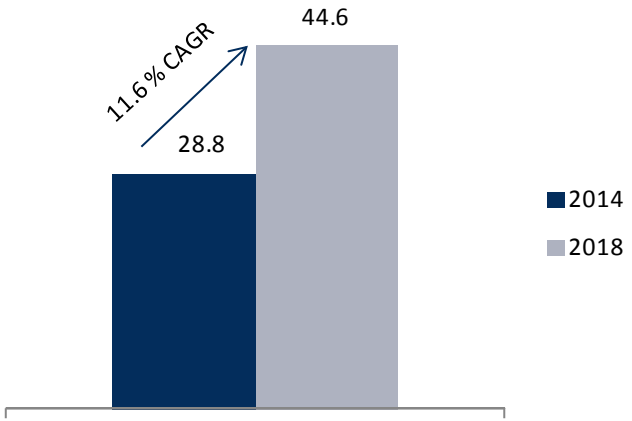
The global CRAMS industry was valued at US$ 72bn in 2013, and is expected to rise to US$ 136bn in 2017

Growth for Indian players is expected to stem from both India's gain in market share and the growth of the market itself

A CAGR of 18-20% is expected for Indian players over 2013-18

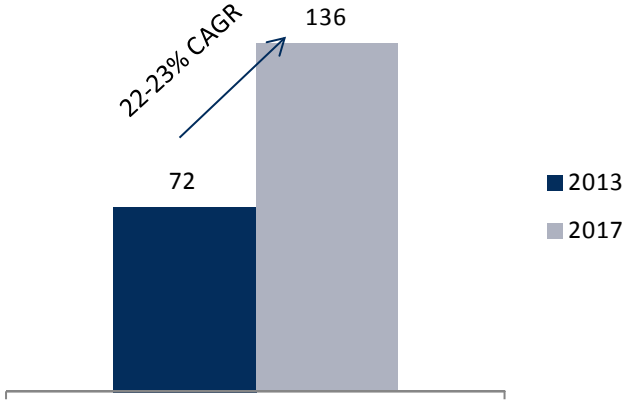
- **Huge opportunity:** The global CRAMS industry was valued at US$ 72bn in 2013, and is expected to rise to US$ 136bn in 2017. The CRO market for development services is expected to grow at 11-12% CAGR to US$ 44.6bn by 2018. The growing trend of outsourcing the drug development processes and prolification of virtual biotech companies in the US are the key drivers for this uptick in the industry. The R&D spend of pharmaceutical and biotechnology companies has also not abated, increasing from US$ 108bn in 2006 to US$ 141bn in 2015. This figure is expected to increase to US$ 160bn by 2020.
- **Externalisation of research:** The past decade has witnessed an increase in the number of clinical trials in Asia, designed to take advantage of the region's large population, diverse ethnic backgrounds and relatively low cost of clinical trials, rather than organically-driving innovation from within the region. With declining R&D productivity and an increasing cost base, pharma companies have adopted the strategy of 'externalisation of research'. This augurs well for developing markets like India.
- **Indian CRAMS to grow at 18-20%:** India is already a preferred manufacturing destination on account of its cost advantages, skilled scientific talent pool and improving manufacturing capabilities. Hence, growth is expected to stem from both India's gain in market share and the growth of the market itself. However, India's share is only 8-10% of the CRAMS market at present. This indicates the vast growth opportunity available to Indian players in this segment. A CAGR of 18-20% is expected for Indian players over 2013-18.

CRO Dev. Industry To Grow To US$ 44.6bn by CY18



Source: Frost & Sullivan, HDFC sec Inst Research

CRAMS Industry Growth Pegged At 22-23% CAGR



Source: Company, HDFC sec Inst Research

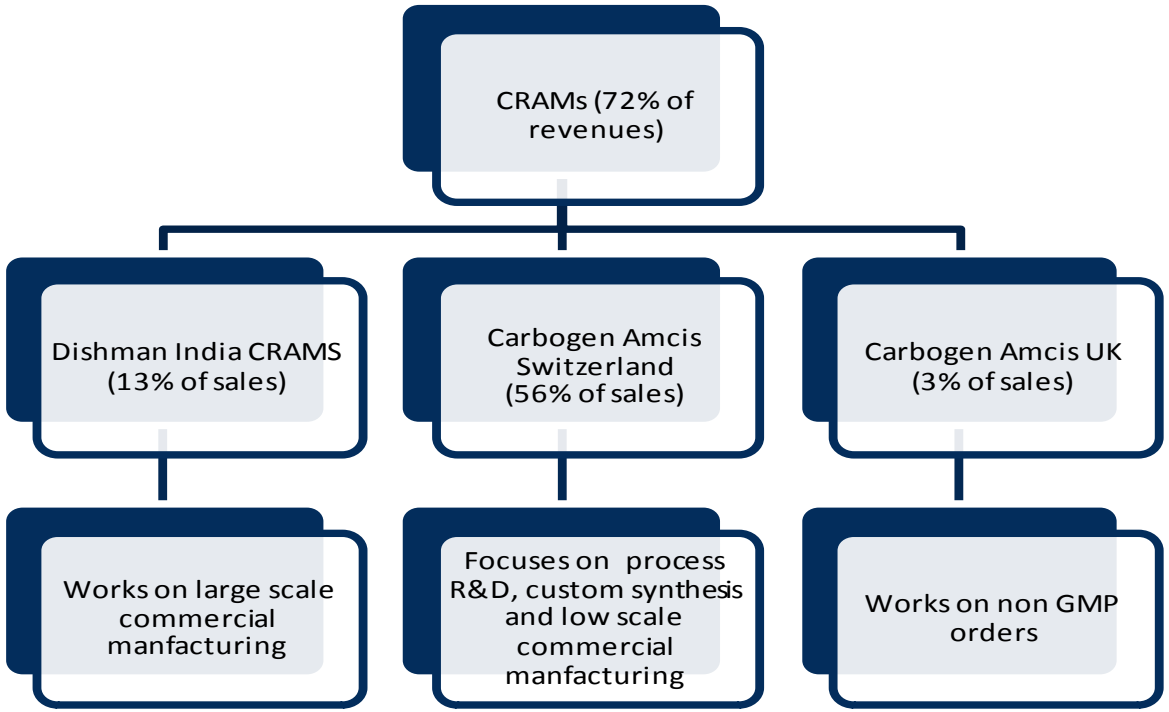
Dishman in CRAMS

DISH's focus is chiefly on its CRAMS business, which contributed ~72% of total revenue in FY17

We believe that the growth in the CRAMS is likely to jump to 16-18% over the next three years owing to several big product launches, while EBITDA margins will improve to 32-33% by FY20

- **Overview:** DISH's focus is chiefly on its CRAMS business, which contributed ~72% of total revenue in FY17. Over the last six years, CRAMS revenues have grown at 10% CAGR, led by 16% growth in the Carbogen Amcis ('CA') Switzerland subsidiary. The EBITDA margins have also improved from 22.6% in FY12 to 26.5% in FY17. We believe that the growth in the CRAMS is likely to jump to 16-18% over the next three years owing to several big product launches, while EBITDA margins will impove to 32-33% by FY20.
- At present, DISH largely operates in four therapies that it has identified as its focus areas. These include oncology, cardiac, CNS and ophthalmology. Overall, there are 400+ molecules under development.
- The main focus is on providing process development, a scale-up and large-scale manufacturing of APIs for supply to innovator pharma companies. Within CRAMS at the company level, 60-65% of the business flows in from custom synthesis (CRO) and the balance from contact manufacturing (CMO).

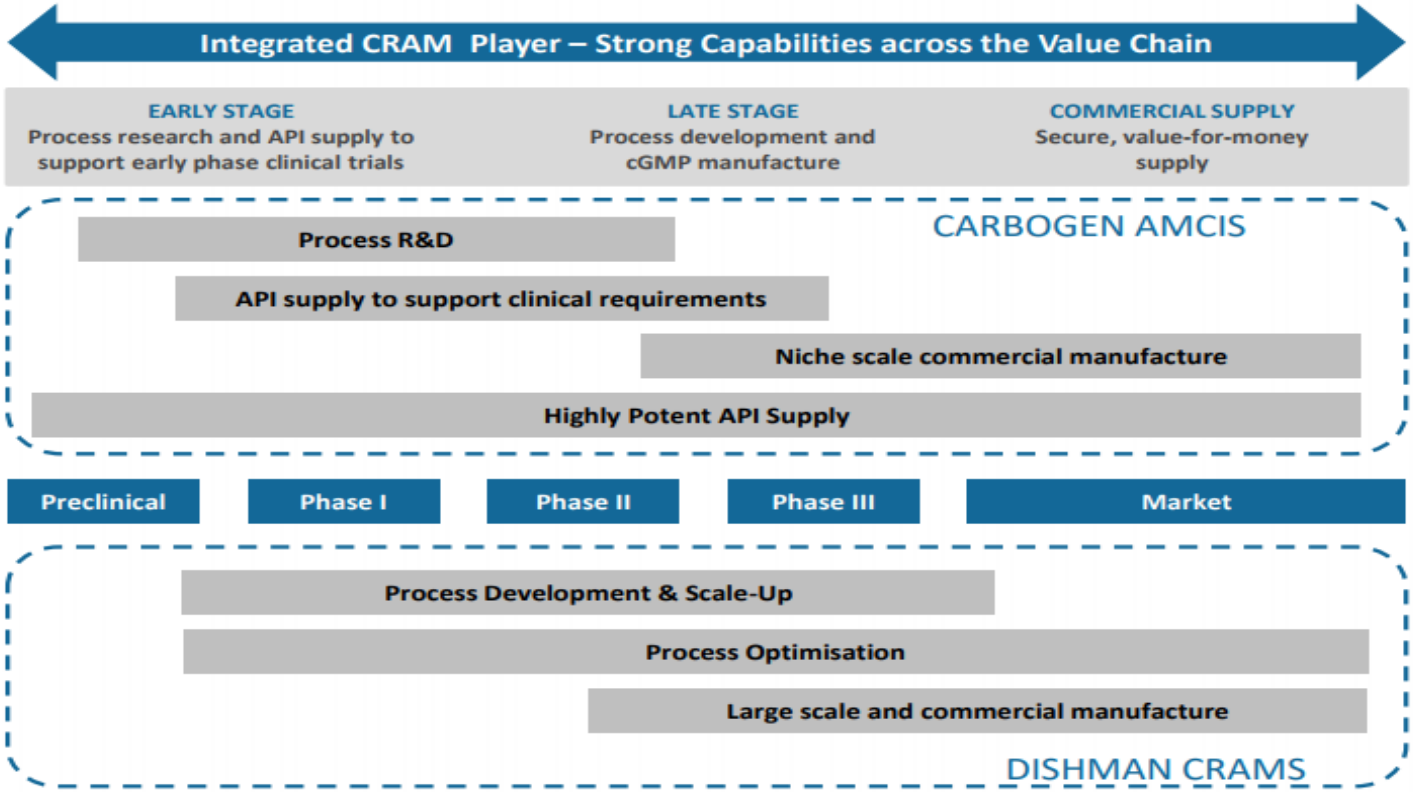
Break-up Of Dishman's CRAMS Business:



The development capabilities in CA and the manufacturing capabilities in India, give DISH a natural and significant advantage in this business

- **Fully integrated player**: The development capabilities in CA and the manufacturing capabilities in India, give DISH a natural and significant advantage in this business. Before the acquisition of CA, DISH was only able to focus on the development side of the process, whereas now, forward integration makes DISH a preferred partner among innovators. Mylan, Abbott, JnJ, Novartis and Celgene are among DISH's main customers.

Present Across The Value Chain



The business is extremely sticky in nature, as changing partners during the process of development and commercialisation is both cumbersome and expensive

- **Sticky business:** Before accepting an order, DISH makes an assessment of whether the customer is likely to stay with DISH through the process of development, and then commercialisation. The business is extremely sticky in nature, as innovators do not generally change partners during the process of development and commercialisation, as it is both cumbersome and expensive. The company believes 75% of the busienss is repeat.

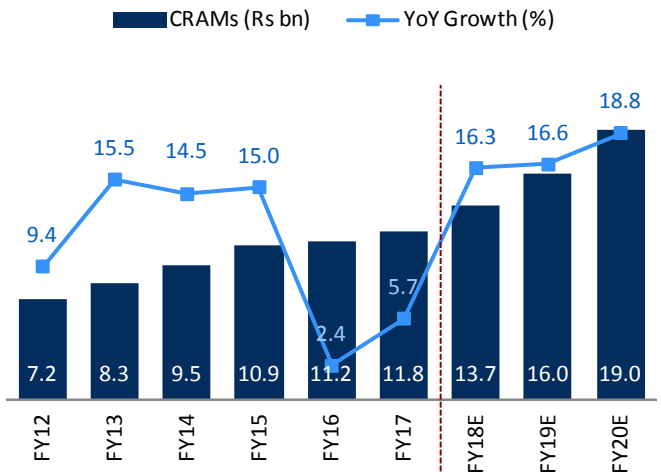
- **Profitability remains key criteria in choosing orders:** In 2015, DISH implemented a strict margin criteria, below which orders would not be accepted. The decision was made to let go of ~Rs 2bn worth of orders, as they did not meet this revised criteria. This then led to a significant jump in the EBITDA margin in

While the restructuring in FY15 led to muted growth in FY16 and FY17, the outlook is now strong

FY16. DISH's capabilities are evidenced by the fact that even rejected customers have returned with improved offers.

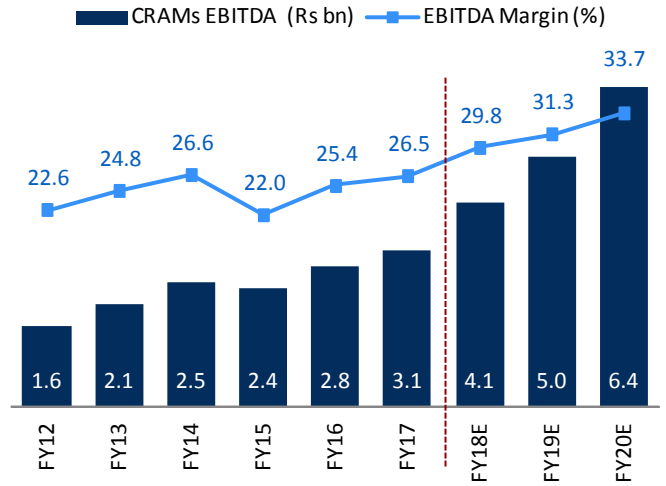
- **Outlook remains strong:** While the restructuring in FY15 led to muted growth in FY16 and FY17, the outlook is now strong. DISH has received three commercial orders for molecules, with four expected during the year. This could lead to double- digit growth in FY18E. Also, there are 15-16 molecules in the last phase III, which means implying that visibility on commercial launches is high. Among the late stage molecules, 12 (8 in onco, 2 in CNS, 1 in CVS and 1 in ophthal) have already been filed by the innovators. A few more approvals for innovators in FY19E could see DISH's top-line and bottom-line jump significantly, with the CMO pie being very high margin.

Restructured Margin Criteria Causes Growth Dip



Source: Company, HDFC sec Inst Research

Margins Improved Post Restructuring



Source: Company, HDFC sec Inst Research

CA now handles all the development orders coming to DISH i.e. pre-clinical, Phase I, and Phase II studies

Employee costs are significant in this segment, with the expense amounting to 50-52% of segment sales

We expect four molecules to get commercialised in FY18. They will add ~Rs 1.7bn to the top line of the CA segment and expand the EBITDA margin by ~400bps by FY20E

#1. Carbogen Amcis (56% of sales)

- In 2006, DISH acquired the Swiss pharma company, Carbogen Amcis ('CA'). The reasoning behind the acquisition was essentially to become a fully integrated player in the CRAMS space. A key worry for innovators when evaluating a partner to develop molecule with is the protection of the intellectual property. This is where Indian companies have been at a disadvantage historically, with innovators not having much faith in the ability of these companies to protect the IP. This is also where DISH now has an advantage. Post the acquisition of CA, it inherited the ability to provide this comfort to innovators.

- **Primarily works on development phases:** CA now handles all the development orders coming to DISH i.e. pre-clinical, Phase I, and Phase II studies. It provides the volumes for the customs synthesis contracts. 65% of the revenues flow from development work, and the balance from manufacturing. Large commercial manufacturing capacities are not present at this location. Carbogen Amcis currently has 13 molecules in the commercial phase, with ~400 under development.

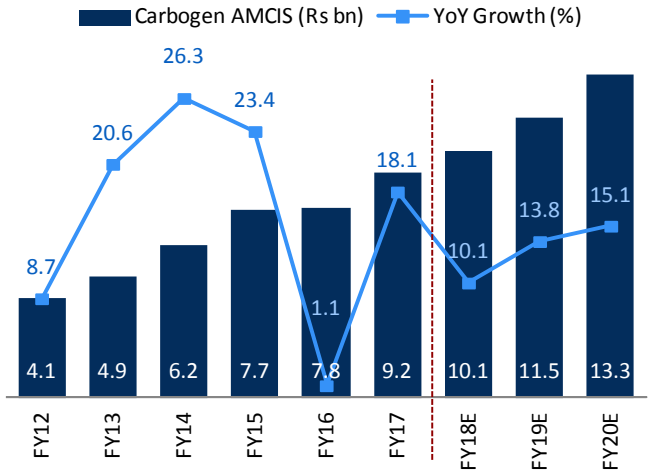
- **Employee cost is a major component:** The majority of DISH's revenues flow from Carbogen Amcis (~56%) and the business is relatively low margin. While DISH achieved its initial target of ~19% EBITDA margin for CA in FY17, the long-term ambition is to scale up to 25%. Employee costs are significant in this segment, with the expense amounting to 50-52% of segment sales. This largely is on account of the expertise required to perform the work. DISH has 400 scientists working in the main Swiss facility, of which ~300 are PhDs. Hence, fixed costs are high. Material costs are only ~15%.

- **Switching API suppliers is difficult:** While CA is a lower-margin business, the flow through to Dishman India is a key business driver. Once innovators choose a partner, they very rarely break the partnership going into commercial development, as the process of finding another API supplier is both cumbersome and expensive. Hence, the CA segment is crucial in attracting business which flows into Dishman India.

- DISH is currently expanding its development capacities at the Swiss facility, which would see potential sales from that facility increase to US$ 185mn from US$ 130mn currently (+~40%).

- **Promising commercial pipeline ahead:** We expect four molecules to get commercialised in FY18. They will add ~Rs 1.7bn to the top line of the CA segment and expand the EBITDA margin by ~400bps till FY20E. Most of these molecules are low volume and high value products, in categories like ADCs, Oncology, Derma and ALS. Apart from these four molecules, we do expect Carbogen Amcis' base business to grow at 8% CAGR over FY17-20E, led by capacity expansion.

Carbogen Amcis: Strong Growth Trajectory



Source: Company, HDFC sec Inst Research

#2. Dishman India (13% of sales)

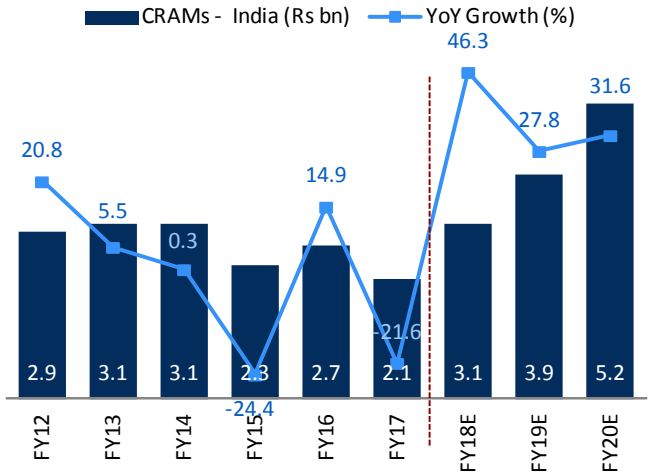
Dishman India is essentially the bulk manufacturing arm of the company

- **Large scale manufacturing:** Currently, only ~13% of the total revenues flow from Dishman India. This side of the business is essentially the bulk manufacturing arm of the company, where molecules that require high volumes are manufactured. Carbogen Amcis lack the capacity to produce high volume products. There are two major sites in India, Naroda and Bavla.
- The India business is theoretically highly dependent on Carbogen Amcis. With customers keen to partner with one entity for the entire development and commercialisation process, the initial work done by CA becomes crucial. ~90% of the Dishman India molecules are passed on from CA. There are currently three molecules in commercial production in India (including Sirturo and Eposartan).
- **Hi-Po facility:** DISH has set up a high potent (Hi-Po) facility, also known as unit 9, at its Bavla site. This is a one-of-a-kind facility, not only in India, but in the entire Asian sub–continent, which is capable of handling extremely high potency molecules with a specific focus on the therapeutic segments of oncology.
- **Regulatory status:** Regulatory compliance is essential to DISH, as any questions in this regard would make it difficult to attract new customers. DISH has an efficient quality management structure, where quality personnel report directly to senior management, and self-audits are conducted throughout the year by teams sent from Switzerland. DISH's crucial Naroda and Bavla facilities are classified as low risk by the USFDA, with the latter having recently completed a full FDA audit.

Niraparib, Sirturo and one diabetes molecule will be manufactured in the Indian facilities

- **Key product launches in the pipeline:** Niraparib, Sirturo and one diabetes molecule will be manufactured in the Indian facilities. In all, there are 4-5 molecules in the phase III stage which could come to market over the next one or two years. Apart from this, DISH is also working on transferring a few more high-volume molecules to Indian facilities from CA; especially to the Hi-Po plant in Bavla. Overall, we expect the CRAMS India business to grow at 35% CAGR, led by Niraparib, Sirturo and an anti-diabetes product launched in FY18.

CRAM India Sales To Grow At A Fast Clip



Source: Company, HDFC sec Inst Research

HPAPIs: Major opportunity for Dishman

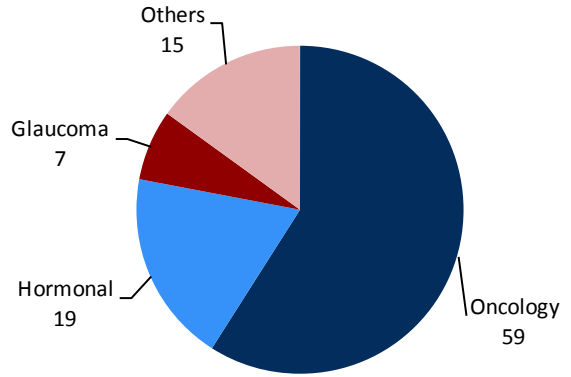
HPAPIs are highly effective at much smaller dosages, and hence much more efficient in the cure of some diseases than other non-potent APIs

There is an increasing tendency towards outsourcing HPAPIs R&D and manufacturing

Two further blocks are being installed at DISH's Hi-Po facility at a cost of ~ Rs 250-300mn, which will enhance current capacities (~2MTs) by 4-4.5MTs

- **What are HPAPIs?**: High Potency Active Pharmaceutical Ingredients (HPAPIs), though a niche segment of the API market, is the fastest growing segment. Typically, an API is classified as an HPAPI if it has an occupational exposure limit at or below 10 micrograms per cubic metre of air. HPAPI compounds are known for their ability to target the diseased cells more precisely and selectively than other APIs. They are highly effective at much smaller dosages, and hence much more efficient in the cure of some diseases than other non-potent APIs. The overall market can be divided into synthetic and biotech (mostly ADCs), with DISH currently present in the synthetic segment only.
- **HPAPI market:** Although a large portion of HPAPIs are currently manufactured in-house, there is an increasing tendency towards outsourcing HPAPIs R&D and manufacturing. This is largely owing to the capital-intensive nature, demanding specialised expertise, development of innovative technologies etc. The global HPAPIs market has risen faster than the global APIs market over the last past 11-12 years, at an average of 8% annually, propelled by the development of highly targeted drugs for the treatment of cancer and chronic diseases such as diabetes and heart disease, which are affecting a growing number of people worldwide. The global HPAPI market was valued at US$ 14.4 bn in 2016 and is projected to be worth ~US$ 26 bn by 2022. Oncology is expected to be the key driver behind this growth, with ~60% of the HPAPIs being developed for the treatment of cancer.
- **DISH's position:** There are more than 100 companies worldwide engaged in HPAPIs development and manufacturing. Currently, China and India together account for only ~5% of the global supply of HPAPIs, as compared to ~33% of the total API market. Considering the massive cost advantages available to Indian manufacturers, this shows the enormous opportunity available. It is estimated that India and China will capture 13% of the market by 2026. Partnerships with major players in the innovative space such as Abbott, JnJ and Novartis underline DISH's reputation in the CRO/CMO space. Also, established competencies in developing oncology drugs such as Niraparib bode well for the company, with oncology expected to be the key growth driver for the HPAPI market. Another important advantage highlighted during our plant visit was the ease of doing business in India, as compared to China, especially in terms of accessibility and language.
- **Unit 9 expansion planned:** We believe that DISH's capacities at Unit 9 in Bavla will be at a premium in terms of availability, especially if Niraparib is approved for further indications. Two further blocks are being installed at a cost of ~ Rs 250-300mn, which will enhance current capacities (~2MTs) by 4-4.5MTs. However, in-light of the stance on prudent spending, DISH will wait to see the progress of the pipeline before commissioning a new facility.

% Shares In HPAPI Market (2014)



Source: Company, IMS Health

In DISH's CRAMs pipeline, there are fourteen molecules in phase III, of which twelve have already been filed. Eight of these filings are in oncology, two in CNS, one in CVS and one in opthalmology. This is indicative of the huge opportunity available to DISH in the foreseeable future.

There are also 9 ADCs (Antibody Drug Conjugates) in the pipeline, with one in phase III/filed. Antibody Drug Conjugates (ADCs) are monoclonal antibodies (mAbs) attached to biologically active drugs by chemical linkers with labile bonds.

#3 CRAMS molecules

Key Molecules

Molecule	Company	Therapy	Indication	Status	Commercial Launch	Potential peak sales (US$ mn)
Niraparib	Tesaro	Oncology	Ovarian cancer	Approved	2QFY18	1500
Sirturo	J&J	Anti-Infective	Anti-TB	Approved	FY16	300
Edaravone	Novartis & Treeway	CNS	ALS	Approved	1QFY18	300
Molecule 1	-	Anti-Diabetes	-	Approved	3QFY18	750
Molecule 2	-	Derma	Anti-bacterial	Filed	4QFY18	500
Molecule 3	-	Oncology, ADC	ALL	Filed	4QFY18	1000
Molecule 4	-	Oncology	Pediatric Leukemia	Filed	FY19	500
Crenolanib	Arog Pharma	Oncology	GIST, AML, Glioma	Phase III	FY19	N/A

Source: HDFC sec Inst Research

1) Niraparib

- In the Mar-17 earnings concall, the management indicated that a customer had received USFDA approval for a drug that constituted a break-through in the treatment of ovarian cancer. We believe that this drug is Zejula, with active ingredient Niraparib. It is likely to be produced at DISH's Hi-Po unit.
- **Fast track approval:** Niraparib is developed by Tesaro to treat ovarian cancer. The drug was granted fast-track, priority review and break-through therapy designations by the USFDA upon NDA submission in 2016. It is a poly ADP-ribose polymerase (PARP) inhibitor that blocks an enzyme involved in repairing damaged DNA. By blocking this enzyme, DNA inside the cancerous cells could be less likely to be repaired, leading to cell death and possibly a slow-down or stoppage of tumour growth.
- **Safety and efficacy:** The safety and efficacy of Zejula were studied in a randomised trial of 553 patients with recurrent epithelial ovarian, fallopian tube or primary peritoneal cancer. The median progression-free survival for patients taking Niraparib who had a germline BRCA mutation was 21 months, as compared to 5.5 months for the same patient population taking a placebo. The median progression-free survival for patients taking Niraparib who did not have a germline BRCA mutation was 9.3 months, as compared to 3.9 months for the same patient population taking a placebo.
- **Approval status:** The product is approved by the US FDA. However, approval from the EMA is still pending, and is expected to come in CY17. The innovator is also likely to file the product in other regulated markets like Japan.
- **Competition:** While it is the third PARP inhibitor (after Lynparza and Rubraca) to be approved, it has the competitive advantage of not requiring BRCA mutation or other biomarker testing before use. BRCA mutations are seen in only around 30% of ovarian cancer patients, so niraparib's label should allow it to cover the full spectrum of post-platinum recurrence patients.
- **Scope for Indication expansion:** Further trials are being conducted for the use of Niraparib in front-line metastatic ovarian cancer, metastatic breast cancer, lung cancer and prostate cancer. Based on the high

Peak sales estimates for the drug (considering only the currently approved indication) are pegged at US$ 1.5-2bn annually (worldwide). With 1.5-2% of total end sales, we expect Niraparib API supplies to generate US$ 25-30mn on peak sales for DISH

success of the drug in clinical trials for maintenance treatment of ovarian cancer, Tesaro is confident of indication expansion for Niraparib, which would lead to a surprise upside for DISH.

- **Potential sales:** Peak sales estimates for the drug (considering only the current indication of ovarian cancer) are pegged at US$ 1.5-2bn annually (worldwide). With 1.5-2% of total end sales, we expect Niraparib API supplies to generate US$ 25-30mn on peak sales for DISH. With expansion to other indications, Niraparib can potentially cross US$ 5bn annual sales, expanding DISH's opportunity size to supply the APIs. If that happens, it can add up to Rs 10-12/share to DISH's eanrnings, which is 120% of FY17 EPS.

Ongoing Trails In Niraparib

Indication	Trial Name	Progress	Drug Combination (if any)
Frontline ovarian cancer	PRIMA	Phase III	
Ovarian cancer in patients who have received 3-4 prev chemotherapy regimens	QUADRA	Phase II	
Endometrial cancer		Phase II	
HER2-negative breast cancer		Phase II	
Renal, eye, bile-duct, tissue		Phase II	
Lung Cancer		Phase I/II	
Recurrent ovarian cancer - platinum-responsive	AVANOVA	Phase I/II	Niraparib + Bevacizumab
Recurrent ovarian cancer - platinum-resistant	TOPACIO	Phase I/II	Niraparib + Pembrolizumab
Triple negative breast cancer	TOPACIO	Phase I/II	Niraparib + Pembrolizumab
Hormone-resistant prostate cancer		Phase I	
Metastatic castration-resistant prostate cancer		Phase I	Niraparib + Enzalutamide
Ewing's sarcoma		Phase I	Niraparib + Temozolomide
Metastatic castration-resistant prostate cancer	BEDIVERE	Phase I	Niraparib + an Androgen Receptor

Source: HDFC sec Inst Research

Edaravone, currently sold under the brands Radicut (Japan) and Radicava (USA), is an intravenous drug used to help with recovery following a stroke, and to treat amyotrophic lateral sclerosis (ALS)

We estimate annual peak sales from Edaravone injection to be ~US$ 250-300mn, translating to a ~US$ 5-6mn opportunity for DISH

2) Edaravone

- Edaravone, currently sold under the brands Radicut (Japan) and Radicava (USA), is an intravenous drug used to help with recovery following a stroke, and to treat amyotrophic lateral sclerosis (ALS). Treeway, a company based in the Netherlands, is also developing an oral version of this drug. It is our understanding that these drugs are a part of DISH's pipeline.
- **ALS disease:** Also called Lou Gehrig's disease, ALS is a rapidly progressive neurodegenerative disease, in which the majority of patients die within two to five years of diagnosis. Only 10% of the patients survive for more than 10 years. It attacks and kills the nerve cells that control voluntary muscles. These muscles produce movements such as chewing, walking, breathing and talking. The nerves lose the ability to activate specific muscles, which causes the muscles to become weak and leads to paralysis. The Centers for Disease Control and Prevention estimates that approximately 12,000 to 15,000 Americans have ALS, and about 5,000 to 6,000 are diagnosed annually.
- **Competiton:** While Edaravone had been used for strokes since 2001 in Japan, Mitsubishi Tanabe began phase III clinical trials in Japan for the ALS indication in 2011. The drug was approved in Japan in 2015 as Radicut, and received orphan drug status in the US and Europe in 2016. It was finally approved for marketing (as Radicava) by the USFDA in May-17, making it the first drug approved for ALS treatment in 22 years. Owing to this, there is little competition currently. The oral form of the drug will likely be able to capture significant prescription share. There are, however, various products in the pipeline (given in the table below).
- **Advantage of oral:** Treeway demonstrated that adequate levels of edaravone can be obtained in the blood by oral administration. This would bring a significant convenience advantage, as Radicava and Radicut are administered intravenously and the dosing regimen consists of 10 days of treatment, over a period of two weeks. The oral version is in Phase II/III trials, and is likely to go commercial over the next two years.
- While the market opportunity available to ALS drugs is not large (approximately US$ 1.8bn), the orphan drug status means that margins are high and competition is scarce. We estimate annual peak sales from Edaravone injection to be ~US$ 250-300mn, translating to a ~US$ 5-6mn opportunity for DISH. If innovator succeeds in reaching out to all ALS patients, revenues could reach US$ 700-800mn, resulting in a US$ 14-15mn opportunity for DISH.

Other ALS Products In Clinical Stages

Molecule	Stage	Innovator	Comment
Masitinib	Phase II/III complete	AB Science	Confirmatory phase III study will begin in 3QCY17 with results expected in 4QCY19. Conditional marketing approval applied for in Europe.
Tirasemtiv	Phase III	Cytokinetics	Fast track designation, results expected 4QCY17.
H.P. Acthar® Gel	Phase IIa	Mallinckrodt	Repository corticortropin injection
GM6	Phase II	Genervon	Fast track designation. Helps to lower expression levels in the SOD1 gene, the mutation of which is a well-known cause of inherited ALS.
IONIS-SOD1	Phase I/IIa	Ionis Pharma & Biogen	Targets the SOD1 gene

Source: HDFC sec Inst Research

Crenolanib is currently undergoing clinical trials for use in a variety of indications like Acute Myeloid Leukemia (AML), Gastro-intestinal Stromal Tumor (GIST) and Glioma

With a variety of indications being explored, this could be a significant opportunity for DISH. While it is too early for peak sales estimates, crenolanib could translate to a double-digit US$mn product for DISH

3) Crenolanib

- Another molecule that we believe is under development at DISH's Switzerland location is Arog Pharma's crenolanib besylate. Crenolanib is currently undergoing clinical trials for use in a variety of indications like Acute Myeloid Leukemia (AML), Gastro-intestinal Stromal Tumor (GIST) and Glioma.
- **GIST:** GIST is a disease in which abnormal cells form in the tissues of the gastrointestinal tract. Crenolanib is a next-gen tyrosine kinase inhibitor for use in PDGRFA-D842V GIST. A Phase III trial, aimed at finding out how safe and effective crenolanib is, compared with a placebo, in prolonging the amount of time patients avoid disease progression, has been initiated. The trial targets patients with advanced or metastatic gastrointestinal stromal tumours (GIST), with a specific mutation (D842V) in the PDGFRA gene, and is currently recruiting. The US FDA has granted fast-track designation to the drug for this indication, confirming crenolanib's potential to address unmet medical needs.
- **AML:** AML is a type of cancer in which the bone marrow makes abnormal myeloblasts (a type of white blood cell), red blood cells, or platelets. Crenolanib is being tried in FLT3-mutated AML. A Phase II study to evaluate the efficacy and tolerability of crenolanib is currently on-going. The European Union has granted orphan drug status to crenolanib for the treatment of AML and soft tissue sarcoma. AML affects 1 in 10,000 people in the EU, soft tissue sarcoma affects 2.8 in 10,000.
- **Glioma:** Glioma is a type of tumour that starts in the brain or spine. It is called glioma because it arises from glial cells. They form 80% of all malignant brain tumours. There is currently no cure, with the first-line therapy being radiotherapy and chemotherapy. The global market for glioma is estimated to be US$ 700mn currently. A phase II proof of concept study to investigate crenolanib monotherapy in patients with recurrent/refractory glioblastoma with PDGFRA gene amplification is ongoing. Most drugs are at this stage of development, with none in phase III. Hence, crenolanib stands a good chance of being the first to market for treatment of this cancer.
- With a variety of indications being explored, this could be a significant opportunity for DISH. While it is too early for peak sales estimates, crenolanib could translate to a double-digit US$mn product for DISH. There are, however, many other drugs in the pipeline, especially for AML. Competition is limited in GIST and glioma, and GIST likely represents the best chance for crenolanib to be a commercial success.

Indication	No of new cases	Survival rate	Annual cost (US$)	Existing therapies	In pipeline
GIST	5000-6000	80% five years	25,000-75,000	Gleevec (primary), Sutent (secondary) and Stivarga (tertiary)	Nilotinib and Masitinib
AML	20000-25000	27% five years	25,000-60,000	Rydapt, Rubidomycin, Cytosar, Doxil	Midostaurin, Vadastuximab talirine
Glioma	12000-15000	20% two years	80,000-100,000	Temodar, Avastin	Early clinical phases

Source: HDFC sec Inst Research

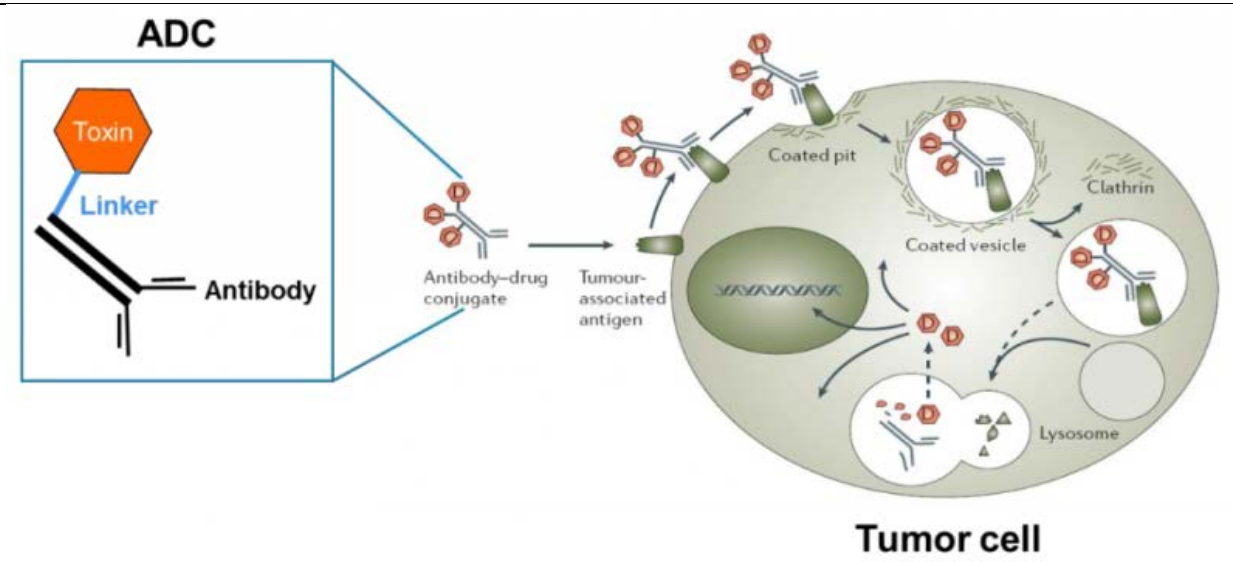
4) ABC of ADCs

Antibody-drug conjugates or ADCs are a class of highly potent biopharmaceutical drugs designed as a targeted therapy for the treatment of people with cancer

- **What are ADCs?:** Antibody-drug conjugates or ADCs are a class of highly potent biopharmaceutical drugs designed as a targeted therapy for the treatment of people with cancer. Unlike chemotherapy, ADCs are intended to target and kill only the cancer cells and spare the healthy ones. ADCs are complex molecules composed of an antibody linked to a biologically active cytotoxic (anticancer) payload or drug. By combining the unique targetting capabilities of monoclonal antibodies, with the cancer-killing ability of cytotoxic drugs. Antibody-drug conjugates allow sensitive discrimination between healthy and diseased tissues. There have been only four ADCs approved for marketing in the past, with only two currently in the market.

Unlike chemotherapy, ADCs are intended to target and kill only the cancer cells and spare the healthy ones

- **Advantages of ADCs:** It is easy to administer via infusion compared to CAR-T therapies, which entail a very complex procedure of blood withdrawal to extract T-cells, followed by genetic modification and amplification of these cells. This procedure amounts to financially and medically intensive care: the last estimated cost of the procedure was US$ 500K per patient, and the patient needs to be closely monitored and cared for during the therapy.



There have been only four ADCs approved for marketing in the past, with only two currently in the market

- **History of ADCs:** The first generation was not successful in avoiding side effects, because unstable linkers between the toxin and the antibody caused the therapy to disintegrate before it reached its target. The first ADC, Mylotarg (gemtuzumab-ozogamicin), hit the market in 2001, but was withdrawn in 2010 following a clinical trial that revealed patients died with no added benefits over standard cancer therapies. The fatal toxicity was caused by naked ozogamicin, which was released into patients' bloodstreams when the linkers cleaved.
- In 2013, a second generation of ADCs began with Kadcyla and Adcetris. The new wave addressed the linker problems, but exposed new pitfalls regarding toxin choice. Emtansine was a particularly problematic selection for Kadcyla because of its

induction of multidrug resistance and reliance upon cells dividing rapidly, which left dormant cancer cells untouched. While neither Kadcyla nor Adcetris turned out to be a blockbuster, the innovators reeled in € 716mn from Kadcyla and € 213mn from Adcetris respectively.

- Seattle Genetics (SGN-CD33a) and Stemcentrx (Rova-T) are ushering in a third generation. AbbVie has bought in by acquiring Stemcentrx for €9.5bn earlier this year. All of these problems – that is, drug purity, linkers and manufacturing – have now been solved in this third generation. Companies with the technologies to do so are seeing encouraging data in the clinic and before they start those trials, and that success is driving interest in the field.
- **Linkers play an important role:** The linkers between the antibody and the payload thus turned out to be a subtle but key part of the technology, as they control distribution and delivery. Toxicity aside, unstable linkers make an ADC less effective and induce tumour resistance by exposing the cells to the toxin without effectively killing them.
- **What Dishman does in ADCs:** It has significant capabilities in two parts of the ADC. One is the warhead, the active toxin which piggbacks on the antibody and also the linker, which is the molecule that links the active toxin to the antibody. DISH is also improving its skills in the antibody.
- **Fat pipeline in ADCs:** DISH is working on nine ADCs, with one being very close to commercialisation in FY18, and the other in early Phase III. Recently, DISH was successful in winning a project from a German pharma company for an ADC product.

DISH has significant capabilities in two parts of the ADC: (1) the active toxin which piggybacks on the antibody and, (2) the linker, which is the molecule that links the active toxin to the antibody

Advanced ADC Molecules (Commercialised To Phase III)

Molecule	Company	Status	Indication
Adcetris (brentuximab vedotin)	Seattle Genetics	Marketed	Hodgkin's lymphoma and anaplastic large cell lymphoma;
Kadcyla (trastuzumab emtansine)	ImmunoGen	Marketed	HER2+ve metastatic breast cancer
Inotuzumab ozogamicin	Pfizer	Approved	Relapsed or refractory CD22-positive acute lymphoblastic leukemia
Sacituzumab govitecan	Immunomedics	Phase III	Triple-negative breast cancer
Mirvetuximab soravtansine	Immunogen	Phase III	Women with platinum-resistant FR-alpha positive advanced EOC
Vadastuximab talirine (SGN-CD33A)	Seattle Genetics	Phase III	Acute Myeloid Leukemia

Source: HDFC sec Inst Research

Marketable molecules

We foresee -7-8% revenue CAGR over FY17-20E in the Vitamin D business

The disinfectants and quats businesses are not focus areas for DISH, while the fledgling generic API business is unlikely to contribute in a significant way

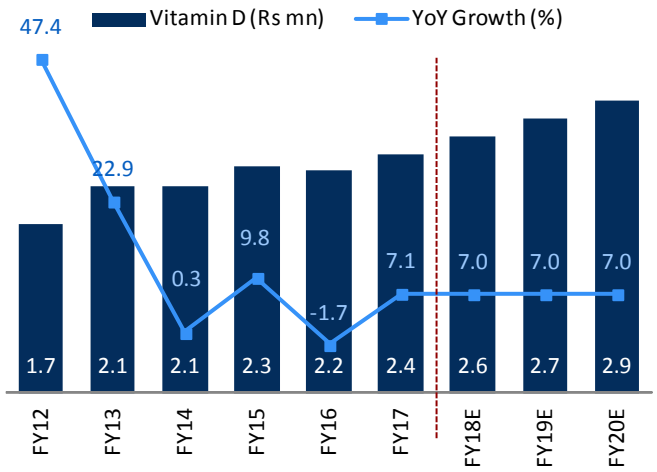
Vitamin D

- **Focus on Vit-D analogues:** Initially a player in the Vitamin D market, DISH discontinued this business on account of the commoditisation of Vitamin D. It has now turned its focus to Vitamin D analogues, which also have wide applications in both pharmaceutical and veterinary industries. With the Vitamin D market expected to grow at ~11% CAGR to US$ 2.5bn globally by 2020, the market for the analogs is expected to grow at a faster pace. DISH currently offers 15-20 products as a part of this business, with the manufacturing being done in the Netherlands. Currently, ~15% of revenue flows from this segment.
- **Calcifediol:** DISH's main focus is on the product Calcifediol, which is a highly concentrated Vitamin D analogue, reputed to be stronger and more beneficial than Vitamin D in terms of medical value. Calcifediol is now being sold in the world market in place of Vitamin D3, with Vitamin D3 being the most widely used analog of Vitamin D.
- **Market opportunity:** Rayaldee (active ingredient Calcifediol), recently approved by the USFDA to treat secondary hyperparathyroidism with vitamin D insufficiency in stage 3/4 chronic kidney disease patients, is estimated to reach US$ 1-1.5bn peak sales, underlining the opportunity availabe to DISH if it can develop a reputation in this market.
- **High-margin business:** At present, DISH manfactures these analogs at the Netherland facility, and it is operating at only 55% of its capacity. This business makes 35%+ margins. We believe increased utilisation levels at the plant will keep improving the bottom line too over the next few years. We foresee -7-8% revenue CAGR over FY17-20E.

Others and API Generics

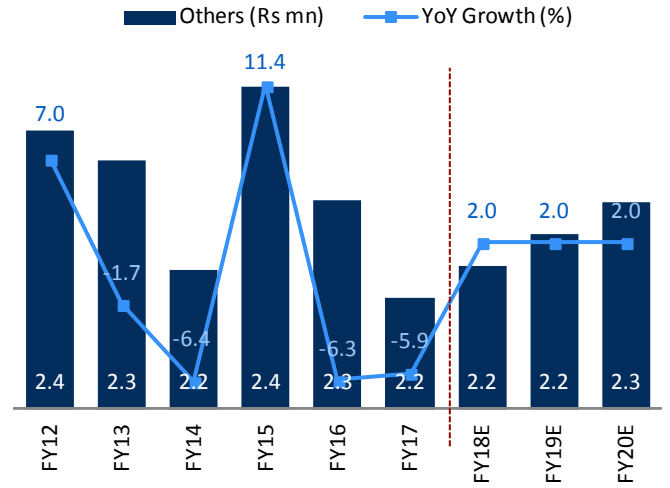
- **Disinfectants:** DISH operates in a few other segments, which contributed ~14% to the FY17 revenue. Of these, the most significant is the disinfectants market, where DISH is looking to build a presence. Through its disinfectant division, DISH offers a range of Antiseptics and Disinfectants for application in healthcare and related industries such as disinfectants for surgical instrumentation, hand and body wash sanitisers and antiseptics, pre and post-operative surgical scrubs, antimicrobial washes.
- **Quats:** Dishman Specialty Chemicals is the global leader in the specialty chemicals segment, and the leading manufacturer of Phase Transfer Catalysts. It manufactures and supplies high-quality intermediates, fine chemicals, and various products for pharmaceutical, cosmetic and related industries. The company had a long association with the manufacture and supply of Quaternary ammonium compounds (Quats) for use as phase transfer catalysts. It possesses domain expertise in solids handling technology, which helps expanding offerings to include ammonium and phosphonium high-purity solid Quats, Phosphoranes and Wittig reagents. However, we don't expect this segment to grow more than 3-4%, going ahead.
- **The generic API business:** It is a relatively new venture for DISH and is not currently significant, contributing ~Rs 0.5bn to the top-line. The focus in this business is on niche spaces, with specialty in oncology. DISH is targetting ~25% EBITDA margin products to make it worthwhile. Isosulfan blue is an important product in this segment.

Steady Growth In Vitamin D Business



Source: Company, HDFC sec Inst Research

Growth To Remain Muted In Non-Focus Segments



Source: Company, HDFC sec Inst Research

See 100-150bps margin improvement every year, led by higher utilisation of the Hi-Po and Shanghai facilities and commercialisation of 4-5 molecules every year from the phase III pipeline

Expect DISH to generate US$ 80-90mn free cash flows over FY18-20E, much higher than the last three years

Adjusting for Rs 1.3bn of idle land and goodwill of Rs 34bn, the actual core RoIC of the business is around 8% v/s 2.9% as calculated on reported numbers

Financial analysis

- **EBITDA margins:** EBITDA margins have been in an upward trend since FY16. This was mainly owing to the rationalisation of orders at Dishman India in FY15 and operating leverage in Switzerland. From here, we see 100-150bps margin improvement every year, which will be led by higher utilisation of the Hi-Po and Shanghai facilities and commercialisation of 4-5 molecules every year from the phase III pipeline. We expect DISH to make at least 60-70% EBITDA margins in products like Niraparib, which is expected to scale up to US$ 20-25mn by FY20. With 14% revenue CAGR, 19% EBITDA CAGR and financial leverage, we expect earnings to grow at 38% CAGR over FY17-20E. Both declined interest cost and lower effective tax rate will contribute significantly to boost earnings.
- **Consistent FCF Generation:** Since the Carbogen Amcis subsidiary started reporting consistent growth, and profitability improved 500+ bps, DISH has been continually generating free cash flows starting FY12-13. There is also no major capex planned for the next two years; unless a client gives a commitment of orders for their molecules. The management has guided for Rs 1.7-1.8bn capex in FY18, which will be spent on buying equipment for two new blocks at the Hi-Po facility and constructing a building for Carbogen Amicis' development segment. Post this, we expect DISH to generate US$ 80-90mn free cash flows over FY18-20E, much higher than the last three years.
- **Improving business fundamentals:** Adjusting for Rs 1.3bn of idle land and goodwill of Rs 34bn, the actual core RoIC of the business is around 8% v/s 2.9% as calculated on reported numbers. While we acknowledge that this remains low as compared to its peers, it is likely to steadily improve to 14%+ by FY20E on the back of higher utilization of the Hi-Po and Shanghai facilities.

	FY17	FY18E	FY19E	FY20E
Current gross fixed assets	61,244	63,244	65,744	68,244
Adjustments-				
Unutilized land	(1,320)	(1,320)	(1,320)	(1,320)
Goodwill on amalgamation	(11,278)	(10,394)	(9,509)	(8,625)
Goodwill on consolidation	(23,273)	(23,273)	(23,273)	(23,273)
Adjusted gross fixed assets	25,373	28,257	31,642	35,026
Revenue	16,404	18,518	21,111	24,462
Asset turnover (x)	0.65	0.66	0.67	0.70
Operating RoIC (%)	8.1	9.1	10.9	13.9
Pre-adj RoIC (%)	2.9	3.8	4.8	6.5

Source: Company, HDFC sec Inst Research

With the bulk of capex investments already made, and prudent spending over the next 2-3 years, we expect the FA turnover to scale up to ~1.2x

- **Asset turnover to improve:** DISH's headline asset turnover is extremely poor, at 0.3x in FY17. However, when adjusted similarly to the above working, the ratio for FY17 works out to 0.9x. While an improvement, this is still well below industry standards. The given capacity utilization table is indicative of the operating leverage available to DISH. With the bulk of capex investments already made, and prudent spending over the next 2-3 years, we expect the FA turnover to scale up to ~1.2x. The management believes that a realistic optimum turnover would be 1.2-1.3x.

Utilization Levels Across DISH's plants

Plant	Business	Utilization level (%)
Bavla	CRAMS – Manufac.	65
Naroda	Quats, disinfectants	85
Switzerland	CRAMS - Research	90
Netherlands	Vitamin D	55
China	Intermediates & API	30
France	Non-GMP Products	75
Manchester	Non-GMP Products	70

Source: Company, HDFC sec Inst Research

P/E re-rating on account of the strong EPS outlook, high visibility on commercial launches, improving return ratios and strong FCF generation

Valuation

At CMP, DISH is trading at 24.5x FY18E and 18x FY19E EPS, at par with sector average. This is unjustified in our view. While the recent commercialisation of Niraparib did cause an uptick in the stock price, we argue for a further P/E re-rating for DISH owing to:

- A strong EPS outlook; 37-38% CAGR over CY17-20E backed by 14% revenue CAGR
- Increased visibility on earnings with a diversified portfolio, and having 12 molecules filed by innovator as of now
- Improvement in RoIC from 8% now to 14% by FY20E.
- Strong free cash flow generation of US$ 80-90mn over FY18-20E

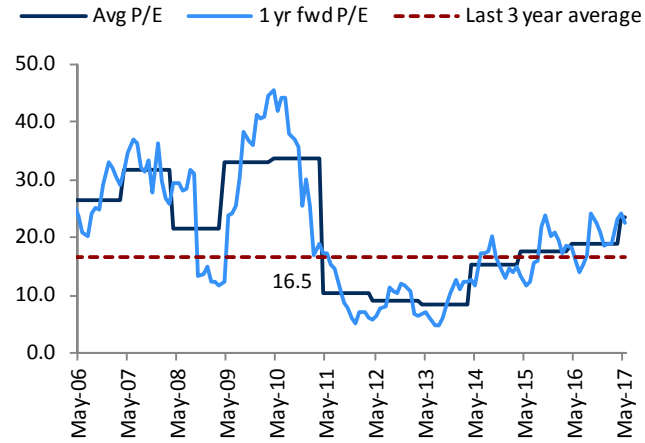
Key catalysts

- Niraparib indication expansion for the US and global markets
- Higher than expected commercial launches over next 12 months

Risks to our investment thesis:

- Unfavourable foreign currency fluctuations
- Adverse incidents related to Niraparib
- Sharp decline in the base business (we are assuming 6% growth)

P/E Band: Re-Rating In Process



Source: HDFC Sec Inst Research

Peer Valuations

Peer Valuations

	Mcap (Rs bn)	CMP (Rs/sh)	Reco	TP	Adj EPS (Rs/sh)				P/E (x)				RoE (%)			
					FY17	FY18E	FY19E	FY20E	FY17	FY18E	FY19E	FY20E	FY17	FY18E	FY19E	FY20E
Divi's Labs	220	830	NEU	680	39.9	33.2	41.1	47.0	20.8	25.0	20.2	17.7	22.0	15.6	17.4	17.9
Dishman Carbogen Amcis	**49**	**301#**	**BUY**	**405**	**9.0**	**12.3**	**16.7**	**23.8**	**33.4**	**24.5**	**18.0**	**12.6**	**11.6**	**13.3**	**15.2**	**17.8**
Suven Life Sciences*	21	169	NR	N/A	6.9	8.6	10.5	N/A	24.7	19.7	16.1	N/A	13.8	15.4	16.6	N/A
Neuland Labs*	9	1065	NR	N/A	36.6	49.3	75.2	N/A	29.1	21.6	14.2	N/A	16.1	21.3	27.8	N/A

Source: HDFC sec Inst Research
*Bloomberg estimates
#Last traded price

Management Profile

Who	Designation	Education	Other Details
Janmejay R. Vyas	Chairman and Managing Director	Bachelors in Chemistry, Bachelors in pharmaceuticals and fine chemical technology	He served as a consultant to various pharmaceutical companies during 1974 to 1983. DPCL was promoted by him in 1983 and he has been managing the affairs since then. While establishing the company, his focus has been on research and developing various in-house technologies for quaternary ammonium compounds and APIs. He has been the head of the research and development division since 19 years.
Arpit Vyas	Managing Director and Chief Financial Officer	Graduate in Chemical Engineering	He also serves as a director of Schutz Dishman Biotech, Azafran Innovacion and Dishman Care. He has experience of handling marketing of various herbal cosmetic products of Azafran Innovacion.
Mark Griffiths	Director and Global Chief Executive Officer	Master of Science degree in Engineering	He has over 31 years of relevant industrial experience delivering high added value technical and operational solutions in the pharmaceutical and fine chemicals industry. Qualified as an engineer and having gained significant experience in the management of complex, multi-task, multi-input projects, he brings a cross-functional ability to anticipate and optimise technical, operational and management problems. Mr.Griffiths has designed, built and managed facilities ranging in function from research and development to manufacturing.

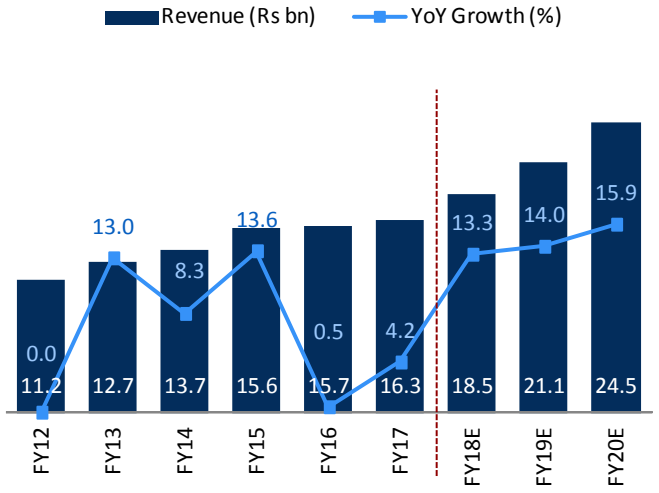
The start of commercial launches from DISH's deep pipeline will drive top-line growth over FY17-20E

DISH currently has x molecules in Phase III, x in Phase II and x in Phase I at Carbogen Amcis. As these molecules progress, clinical trial requirements increase, driving revenue growth

With commercial manufacturing for high volume drugs like Niraparib done in India, commercial launches will drive growth in this segment

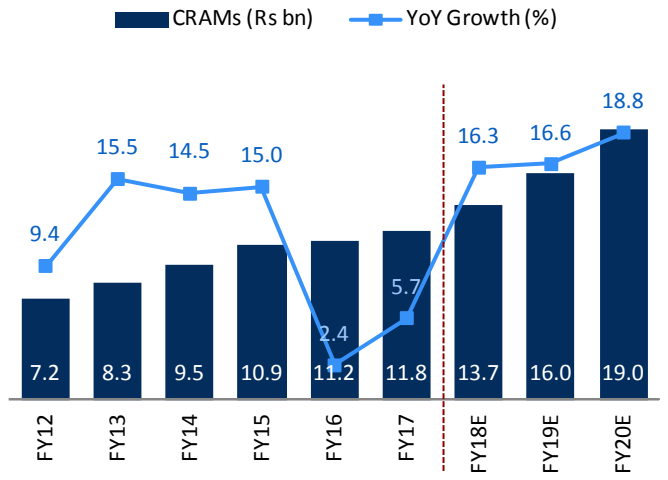
Dishman Carbogen In Charts

Revenue: 14% CAGR Over FY17-20E



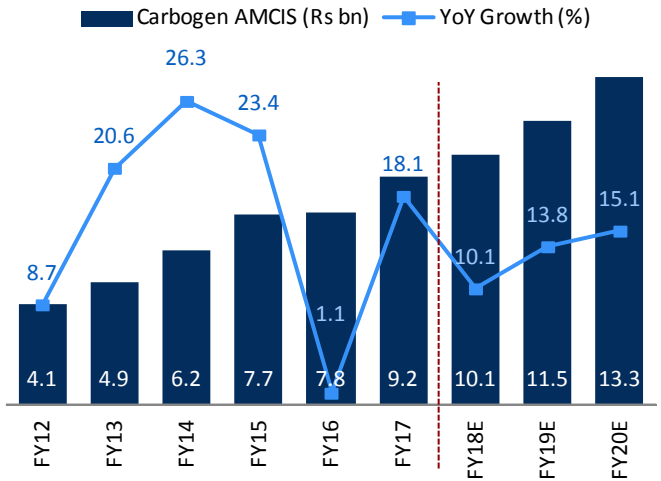
Source: Company, HDFC sec Inst Research

CRAMS Contributes ~72% Of The Business



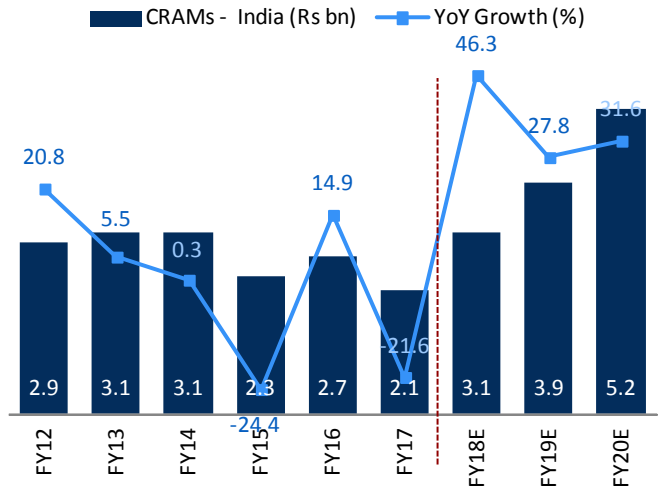
Source: Company, HDFC sec Inst Research

Carbogen Amcis: Pipeline Build-up Continues



Source: Company, HDFC sec Inst Research

CRAMS India: Commercial Launches Key



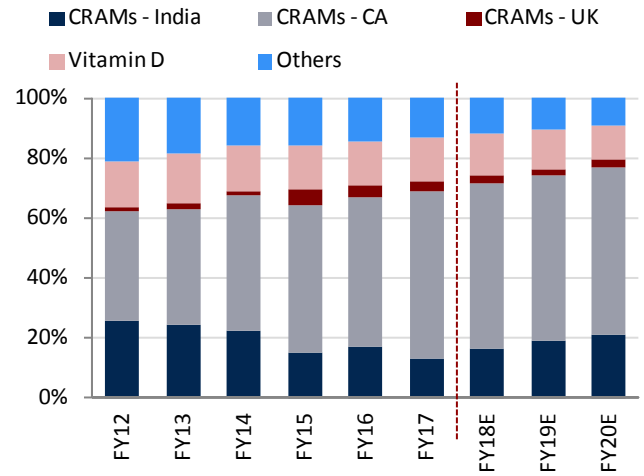
Source: Company, HDFC sec Inst Research

With rising contribution from CRAMs, profitability is likely to improve.

High employee costs are a part of the business of DISH, with a requirement of many highly qualified scientists. With a base built in Carbogen Amcis, we expect the faster revenue growth to lead to operating leverage for DISH

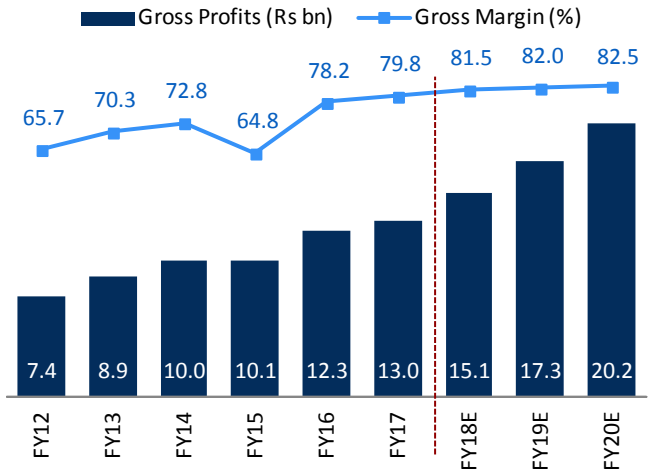
Margin expansion will also be driven by commercial launches like Niraparib, which are very high margin products

Revenue Split: CRAMS Pie Increasing



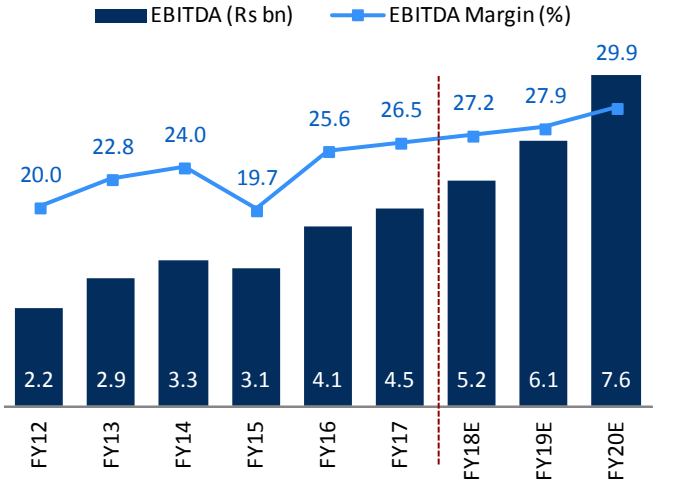
Source: Company, HDFC sec Inst Research

Gross Margin To Expand



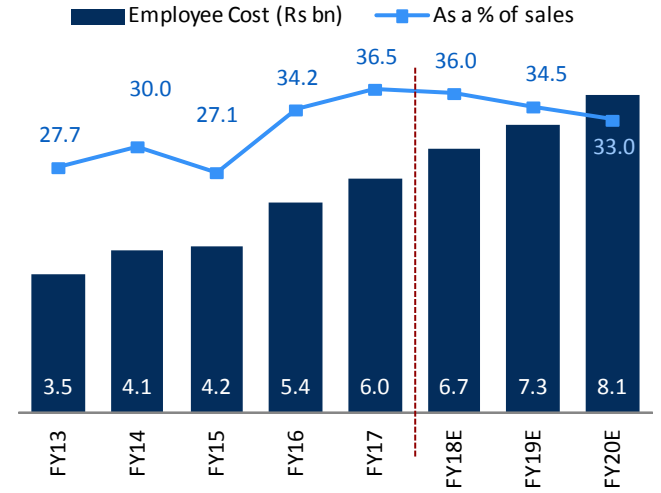
Source: Company, HDFC sec Inst Research

EBITDA Margin: ~400bps Expansion By FY20E



Source: Company, HDFC sec Inst Research

Employee (Fixed) Costs Significant



Source: Company, HDFC sec Inst Research

Foresee ~41% earnings CAGR over FY17-20E, driven by highly profitable commercial launches

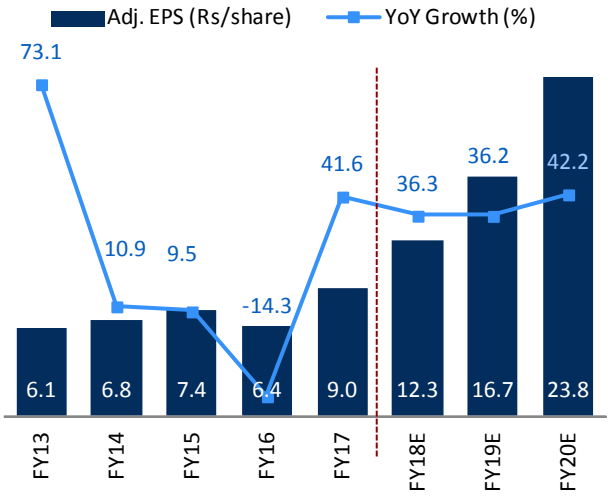
DISH sees an asset turnover of 1.25x to be the maximum realistic target, considering the nature of the business

FCF generation will improve going forward, with lucrative commercial launches and prudent capex spending. Net debt levels are under control

High fixed costs and a low asset turnover have impacted the return ratios. However, we expect these to see an upward trajectory going forward

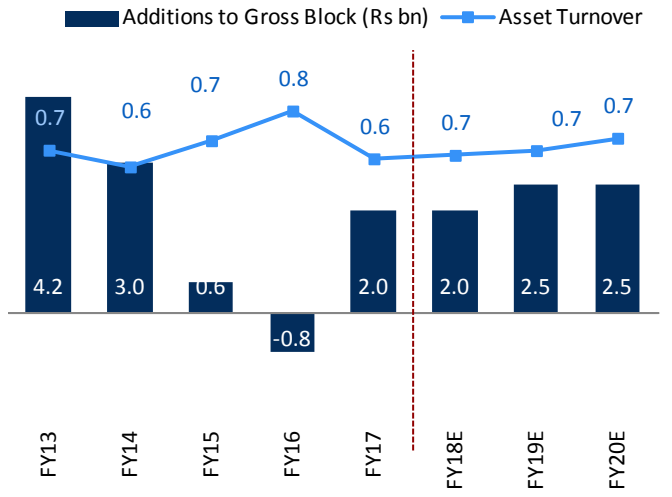
The return rations are also negatively skewed owing to the high intangible additions from FY16

EPS CAGR Of 41% Over FY17-20E



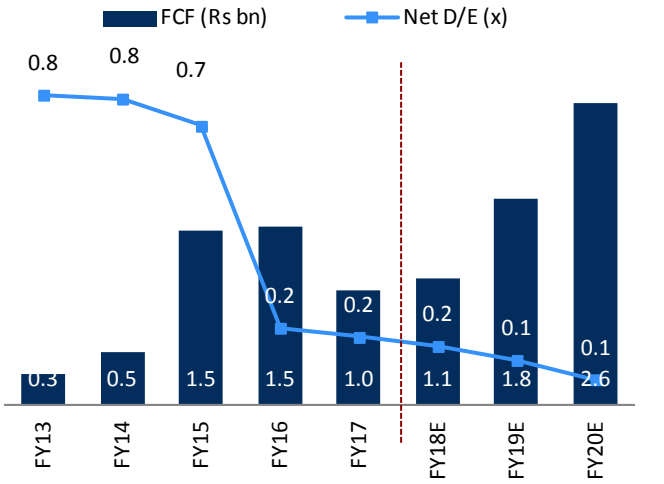
Source: Company, HDFC sec Inst Research

Asset Turnover Below Par



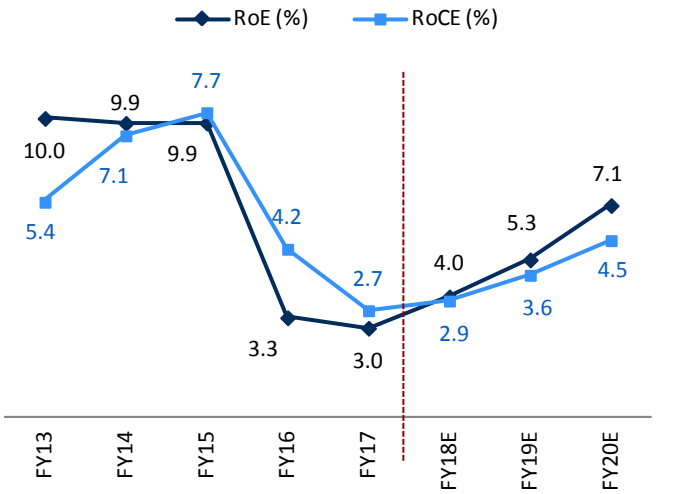
Source: Company, HDFC sec Inst Research
*Gross block figures for FY15 onwards are adjusted similarly to the table on page 22.
**Gross block numbers from FY16 onwards are as per IND AS.

Prudent Capex Will Lead To Higher FCF Generation



Source: Company, HDFC sec Inst Research

Return Ratios: Poor But Improving



Source: Company, HDFC sec Inst Research

Income Statement (Consolidated)

Year ending March (Rs mn)	FY16	FY17	FY18E	FY19E	FY20E
Net Revenues	**16,017**	**17,137**	**19,068**	**21,811**	**25,312**
Growth (%)	***0.8***	***7.0***	***11.3***	***14.4***	***16.1***
Material Expenses	3,419	3,293	3,426	3,800	4,281
Employee Expenses	5,355	5,960	6,666	7,283	8,072
Selling and Administration Expenses	1,726	1,814	2,130	2,639	3,058
Other Operating Expenses	1,413	1,537	1,667	2,006	2,324
EBITDA	**4,103**	**4,534**	**5,179**	**6,083**	**7,577**
EBITDA Margin (%)	***25.6***	***26.5***	***27.2***	***27.9***	***29.9***
EBITDA Growth (%)	***31.2***	***10.5***	***14.2***	***17.5***	***24.6***
Depreciation	1,975	2,135	2,303	2,386	2,479
EBIT	**2,128**	**2,399**	**2,876**	**3,697**	**5,098**
Other Income (Including EO Items)	265	261	270	350	450
Interest	**944**	**490**	**394**	**323**	**287**
PBT	1,449	2,170	2,753	3,724	5,261
Tax (Incl Deferred)	421	707	771	1,024	1,420
RPAT	**1,028**	**1,463**	**1,982**	**2,700**	**3,841**
Minority Interest	(1)	(9)	-	-	-
APAT	**1,027**	**1,454**	**1,982**	**2,700**	**3,841**
APAT Growth (%)	***-14.3***	***41.6***	***36.3***	***36.2***	***42.2***
Adjusted EPS (Rs)	**6.4**	**9.0**	**12.3**	**16.7**	**23.8**
EPS Growth (%)	***-14.3***	***41.6***	***36.3***	***36.2***	***42.2***

Source: Company, HDFC sec Inst Research

Balance Sheet (Consolidated)*

Year ending March (Rs mn)	FY16	FY17	FY18E	FY19E	FY20E
SOURCES OF FUNDS					
Share Capital - Equity	161	161	161	161	161
Share Capital - Preference	-	-	-	-	-
Reserves	48,853	47,979	49,671	52,081	55,535
Total Shareholders' Funds	**49,014**	**48,140**	**49,832**	**52,242**	**55,696**
Minority Interest	-	-	-	-	-
Long Term Debt	5,126	4,601	4,101	3,601	3,101
Short Term Debt	5,327	4,790	5,250	4,500	4,750
Total Debt	**10,453**	**9,391**	**9,351**	**8,101**	**7,851**
Net Deferred Taxes	818	803	150	350	450
Other Non-current Liabilities & Provns	2,474	2,263	2,299	2,549	2,799
TOTAL SOURCES OF FUNDS	**62,759**	**60,597**	**61,632**	**63,242**	**66,796**
APPLICATION OF FUNDS					
Net Block	51,450	48,473	47,994	48,108	48,129
CWIP	1,330	1,329	1,100	950	800
Investments	53	46	46	46	46
Other Non-current Assets	1,815	2,169	2,200	2,500	2,825
Total Non-current Assets	**54,648**	**52,017**	**51,340**	**51,604**	**51,800**
Inventories	3,399	4,266	4,835	5,512	6,387
Debtors	3,153	2,856	3,236	3,690	4,275
Other Current Assets	5,349	5,335	5,481	5,939	6,457
Cash & Equivalents	1,043	1,270	2,096	2,368	4,496
Total Current Assets	**12,944**	**13,726**	**15,648**	**17,508**	**21,615**
Creditors	1,144	856	891	988	1,113
Other Current Liabilities & Provns	3,690	4,290	4,465	4,881	5,505
Total Current Liabilities	**4,834**	**5,147**	**5,356**	**5,870**	**6,618**
Net Current Assets	**8,111**	**8,580**	**10,292**	**11,638**	**14,996**
TOTAL APPLICATION OF FUNDS	**62,759**	**60,596**	**61,632**	**63,242**	**66,796**

Source: Company, HDFC sec Inst Research

*In the absence of the IND AS adjusted numbers for FY16, we have estimated amounts where necessary.

Cash Flow*

Year ending March (Rs mn)	FY16	FY17	FY18E	FY19E	FY20E
Reported PBT	2334	2170	2753	3724	5261
Non-operating & EO items	(74)	(15)	(653)	200	100
Interest net	846	229	124	(27)	(163)
Depreciation	1091	2135	2303	2386	2479
Working Capital Change	(835)	(807)	(881)	(1125)	(1305)
Tax Paid	(575)	(707)	(771)	(1024)	(1420)
OPERATING CASH FLOW (a)	**2786**	**3005**	**2875**	**4135**	**4952**
Capex	(1239)	(2008)	(1771)	(2350)	(2350)
Free cash flow (FCF)	*1548*	*997*	*1103*	*1785*	*2602*
Investments	-	41	-	-	-
Non-operating Income	(290)	1007	270	350	450
INVESTING CASH FLOW (b)	**(1529)**	**(960)**	**(1501)**	**(2000)**	**(1900)**
Debt Issuance/(Repaid)	101	(1062)	(40)	(1250)	(250)
Interest Expenses	(720)	(490)	(394)	(323)	(287)
FCFE	*639*	*493*	*940*	*562*	*2515*
Share Capital Issuance	-	-	-	(0)	(0)
Dividend	(323)	(232)	(290)	(290)	(386)
Others	(66)	-	176	-	-
FINANCING CASH FLOW (c)	**(1007)**	**(1784)**	**(547)**	**(1863)**	**(924)**
NET CASH FLOW (a+b+c)	**251**	**262**	**826**	**272**	**2128**
EO Items, Others	-	-	-	-	-
Closing Cash & Equivalents	**613**	**874**	**1700**	**1972**	**4100**

Source: Company, HDFC sec Inst Research

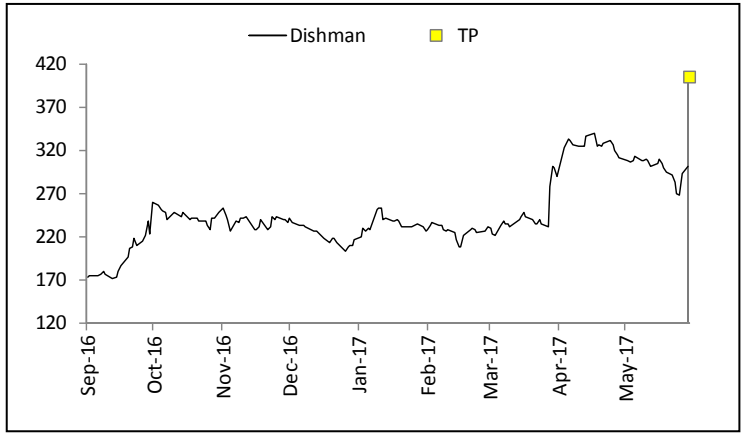
*In the absence of the IND AS adjusted numbers for FY16, we have estimated amounts where necessary.

Key Ratios

Year ending March	FY16	FY17	FY18E	FY19E	FY20E
PROFITABILITY (%)					
GPM	78.2	79.8	81.5	82.0	82.5
EBITDA Margin	26.2	27.7	28.0	28.8	31.0
APAT Margin	6.6	8.9	10.7	12.8	15.7
RoE	3.3	3.0	4.0	5.3	7.1
RoIC (or Core RoCE)	4.1	2.9	3.8	4.8	6.5
RoCE	4.2	2.7	2.9	3.6	4.5
EFFICIENCY					
Tax Rate (%)	29.1	32.6	28.0	27.5	27.0
Fixed Asset Turnover (x)	0.3	0.3	0.3	0.3	0.4
Inventory (days)	*79.1*	*95.3*	*95.3*	*95.3*	*95.3*
Debtors (days)	*73.4*	*63.8*	*63.8*	*63.8*	*63.8*
Other Current Assets (days)	*98.3*	*97.8*	*78.8*	*73.5*	*67.1*
Payables (days)	*26.6*	*19.1*	*17.6*	*17.1*	*16.6*
Other Current Liab & Provns (days)	*84.0*	*91.6*	*84.1*	*81.8*	*79.5*
Cash Conversion Cycle (days)	*140.3*	*146.1*	*136.3*	*133.7*	*130.1*
Debt/EBITDA (x)	2.5	2.1	1.8	1.3	1.0
Net D/E (x)	0.2	0.2	0.2	0.1	0.1
Interest Coverage (x)	2.5	5.4	8.0	12.5	19.3
PER SHARE DATA (Rs)					
EPS	6.4	9.0	12.3	16.7	23.8
Dividend	1.0	1.2	1.5	1.5	2.0
Book Value	303.7	298.3	308.8	323.7	345.1
VALUATION					
P/E (x)	47.3	33.4	24.5	18.0	12.6
P/BV (x)	1.0	1.0	1.0	0.9	0.9
EV/EBITDA (x)	14.2	12.6	10.9	9.0	6.9
EV/Revenues (x)	3.7	3.5	3.0	2.6	2.1
OCF/EV (%)	4.8	5.3	5.1	7.6	9.5
FCF/EV (%)	2.6	1.7	2.0	3.3	5.0
FCFE/Mkt Cap (%)	1.3	(1.1)	1.4	0.4	4.2
Dividend Yield (%)	0.3	0.4	0.5	0.5	0.7

Source: Company, HDFC sec Inst Research

RECOMMENDATION HISTORY



Date	CMP	Reco	Target
14-Sep-17	301	BUY	405

CMP as on 29 May 17

Rating Definitions

BUY : Where the stock is expected to deliver more than 10% returns over the next 12 month period
NEUTRAL : Where the stock is expected to deliver (-)10% to 10% returns over the next 12 month period
SELL : Where the stock is expected to deliver less than (-)10% returns over the next 12 month period

Disclosure:

We, **Amey Chalke, MBA & Siddhant Mansukhani, ACA**, authors and the names subscribed to this report, hereby certify that all of the views expressed in this research report accurately reflect our views about the subject issuer(s) or securities. HSL has no material adverse disciplinary history as on the date of publication of this report. We also certify that no part of our compensation was, is, or will be directly or indirectly related to the specific recommendation(s) or view(s) in this report.

Research Analyst or his/her relative or HDFC Securities Ltd. **does not have** any financial interest in the subject company. Also Research Analyst or his relative or HDFC Securities Ltd. or its Associate may have beneficial ownership of 1% or more in the subject company at the end of the month immediately preceding the date of publication of the Research Report. Further Research Analyst or his relative or HDFC Securities Ltd. or its associate **does not have** any material conflict of interest.

Any holding in stock –No

HDFC Securities Limited (HSL) is a SEBI Registered Research Analyst having registration no. INH000002475.

Disclaimer:

This report has been prepared by HDFC Securities Ltd and is meant for sole use by the recipient and not for circulation. The information and opinions contained herein have been compiled or arrived at, based upon information obtained in good faith from sources believed to be reliable. Such information has not been independently verified and no guaranty, representation of warranty, express or implied, is made as to its accuracy, completeness or correctness. All such information and opinions are subject to change without notice. This document is for information purposes only. Descriptions of any company or companies or their securities mentioned herein are not intended to be complete and this document is not, and should not be construed as an offer or solicitation of an offer, to buy or sell any securities or other financial instruments.

This report is not directed to, or intended for display, downloading, printing, reproducing or for distribution to or use by, any person or entity who is a citizen or resident or located in any locality, state, country or other jurisdiction where such distribution, publication, reproduction, availability or use would be contrary to law or regulation or what would subject HSL or its affiliates to any registration or licensing requirement within such jurisdiction.

If this report is inadvertently send or has reached any individual in such country, especially, USA, the same may be ignored and brought to the attention of the sender. This document may not be reproduced, distributed or published for any purposes without prior written approval of HSL.

Foreign currencies denominated securities, wherever mentioned, are subject to exchange rate fluctuations, which could have an adverse effect on their value or price, or the income derived from them. In addition, investors in securities such as ADRs, the values of which are influenced by foreign currencies effectively assume currency risk.

It should not be considered to be taken as an offer to sell or a solicitation to buy any security. HSL may from time to time solicit from, or perform broking, or other services for, any company mentioned in this mail and/or its attachments.

HSL and its affiliated company(ies), their directors and employees may; (a) from time to time, have a long or short position in, and buy or sell the securities of the company(ies) mentioned herein or (b) be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the company(ies) discussed herein or act as an advisor or lender/borrower to such company(ies) or may have any other potential conflict of interests with respect to any recommendation and other related information and opinions.

HSL, its directors, analysts or employees do not take any responsibility, financial or otherwise, of the losses or the damages sustained due to the investments made or any action taken on basis of this report, including but not restricted to, fluctuation in the prices of shares and bonds, changes in the currency rates, diminution in the NAVs, reduction in the dividend or income, etc.

HSL and other group companies, its directors, associates, employees may have various positions in any of the stocks, securities and financial instruments dealt in the report, or may make sell or purchase or other deals in these securities from time to time or may deal in other securities of the companies / organizations described in this report.

HSL or its associates might have managed or co-managed public offering of securities for the subject company or might have been mandated by the subject company for any other assignment in the past twelve months.

HSL or its associates might have received any compensation from the companies mentioned in the report during the period preceding twelve months from t date of this report for services in respect of managing or co-managing public offerings, corporate finance, investment banking or merchant banking, brokerage services or other advisory service in a merger or specific transaction in the normal course of business.

HSL or its analysts did not receive any compensation or other benefits from the companies mentioned in the report or third party in connection with preparation of the research report. Accordingly, neither HSL nor Research Analysts have any material conflict of interest at the time of publication of this report. Compensation of our Research Analysts is not based on any specific merchant banking, investment banking or brokerage service transactions. HSL may have issued other reports that are inconsistent with and reach different conclusion from the information presented in this report.

Research entity has not been engaged in market making activity for the subject company. Research analyst has not served as an officer, director or employee of the subject company. We have not received any compensation/benefits from the subject company or third party in connection with the Research Report.

HDFC securities Limited, I Think Techno Campus, Building - B, "Alpha", Office Floor 8, Near Kanjurmarg Station, Opp. Crompton Greaves, Kanjurmarg (East), Mumbai 400 042 Phone: (022) 3075 3400 Fax: (022) 2496 5066

Compliance Officer: Binkle R. Oza Email: complianceofficer@hdfcsec.com Phone: (022) 3045 3600

HDFC Securities Limited, SEBI Reg. No.: NSE-INB/F/E 231109431, BSE-INB/F 011109437, AMFI Reg. No. ARN: 13549, PFRDA Reg. No. POP: 04102015, IRDA Corporate Agent License No.: HDF 2806925/HDF C000222657, SEBI Research Analyst Reg. No.: INH000002475, CIN - U67120MH2000PLC152193

HDFC securities
Institutional Equities
Unit No. 1602, 16th Floor, Tower A, Peninsula Business Park,
Senapati Bapat Marg, Lower Parel, Mumbai - 400 013
Board : +91-22-6171 7330 www.hdfcsec.com