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JAIN IRRIGATION SYSTEMS

Thrust on rural economy

January 13, 2010

Reuters : JAIR.BO *Bloomberg : JI IN*

India's need for resource conservation to drive micro irrigation

India is in dire need of technology to pave the way for agricultural growth. Government expenditure on agricultural subsidies for power and fertilizers has been consistently increasing and crowding out investments in much-needed agriculture research, irrigation development, rural roads and electrification. Also, yields of major crops in the country vary from 20% to 50% of those in developed countries. Micro irrigation, especially drip irrigation, provides solutions to most of these problems by increasing crop yields and conserving water, power and fertilizer usage.

Huge opportunity in micro irrigation; JISL a significant beneficiary

India is likely to have an additional 15 MHa of agricultural land to be covered under micro irrigation over the next seven years from the existing 3.68 MHa, a 28% CAGR. This translates into an opportunity of INR 450 bn. Central and state governments continue to boost micro irrigation by providing 50-75% of the installation cost as subsidy to farmers. This subsidy helps domestic micro irrigation companies capture the huge opportunity at a fast pace.

Jain Irrigation Systems (JISL) stands to gain the most, being the market leader and the only listed player in the Indian micro irrigation system (MIS) space. Standalone sales of JISL's MIS segment have posted a CAGR of 68% over FY05–09. We expect this segment to continue to drive the company's growth for a few more years, registering 42% CAGR over FY09–12E.

Outlook and valuations: Attractive; initiating coverage with 'BUY'

We expect JISL to post consolidated net revenue CAGR of 24% over FY09–12E. We see good potential in terms of the opportunities present in micro irrigation and agro processing for JISL. At CMP of INR 841, the stock is trading at 18.1x and 13.8x consolidated P/E and 9.5x and 7.7x consolidated EV/EBITDA for FY11E and FY12E, respectively. Based on the DCF valuation approach, we arrive at a one year target price of INR 986, which implies a P/E multiple of 16.2x on the basis of FY12E EPS. We initiate coverage on the stock with a '**BUY**' recommendation.

EDELWEISS RATING	
Absolute Rating	BUY

MARKET DATA		
CMP	:	INR 841
52-week range (INR)	:	930 / 131
Share in issue (mn)	:	75.5
M cap (INR bn/USD mn)	:	63.5 / 1,390.5
Avg. Daily Vol. BSE ('000)	:	163.4

SHARE HOLDING PATTERN (%)		
Promoters*	:	31.1
MFs, FIs & Banks	:	3.9
FIIs	:	48.0
Others	:	17.0
** Promoters pledged shares (% of share in issue)*	:	*3.2*

RELATIVE PERFORMANCE (%)	Sensex	Stock	Stock over Sensex
1 month	2.4	(0.3)	(2.8)
3 months	1.6	3.7	2.1
12 months	86.9	138.3	51.4

Financials

Year to March	FY09	FY10E	FY11E	FY12E
Net revenues (INR mn)	28,584	35,538	44,257	54,008
Revenue growth (%)	*29.0*	*24.3*	*24.5*	*22.0*
EBITDA (INR mn)	4,963	6,803	8,726	10,814
Net profit (INR mn)	1,933	2,702	3,568	4,679
Share outstanding (mn)	73	76	76	76
EPS (INR)	26.1	34.5	46.4	60.9
EPS growth (%)	*63.7*	*32.5*	*34.4*	*31.2*
P/E (x)	32.3	24.4	18.1	13.8
EV/EBITDA (x)	15.8	12.0	9.5	7.7
ROAE (%)	22.3	26.2	27.2	27.9

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Investment Rationale

Yields of major crops in India at 50% of those in developed countries

■ India's need for resource conservation to drive micro irrigation

With the fixed availability of land and water, higher agricultural growth could be achieved only by increasing productivity through effective use of better technology. Yields of major crops in India vary from 20% to 50% of those in the developed countries. Government has allocated capital expenditure of ~INR 100,000 on every hectare of land, to build the necessary infrastructure for bringing land under irrigation. By employing water saving technologies, government can save on this capital investment to a great extent. Government expenditure on agricultural subsidies for power and fertilizers has been consistently increasing and crowding out investments in much needed irrigation development, agricultural research, rural roads and electrification. For FY09, the food and fertilizer subsidy alone has been over INR 1,200 bn. According to the Planning Commission, budgetary subsidies in agriculture increased from ~3% of agricultural GDP around the late-1970s to about 7% in the early 2000s. In addition, India has the highest freshwater withdrawal globally, over 80% of which is being used for agriculture against 70% across the world. In this context, the government realizes the need for latest technologies like micro irrigation, especially drip irrigation.

Micro irrigation, especially drip irrigation, provides solutions for most of these problems by increasing crop yields and conserving water, power and fertilizer usage.
Major benefits of drip irrigation are as follows:

- High water application efficiency, leading to water saving
- Higher yields against those obtained through conventional irrigation
- Energy saving, which could save subsidized electricity supplied to the agriculture sector
- Conservation of fertilizers by means of fertigation i.e. applying of fertilizers using drip irrigation systems
- Reduced labour requirements
- Weed and disease reduction
- Improved production on marginal land
- Increased pest control management

Micro irrigation can increase yields by ~20-50% for most crops

Table 1: Yield increase with drip irrigation system

	Yield (MT/ha)		
Crop	Conventional	Drip	Yield increase (%)
Banana	57.5	87.5	52.2
Grapes	26.4	32.5	23.1
Sweet Lime	100.0	150.0	50.0
Pomegranate	55.0	109.0	98.2
Papaya	13.4	23.5	75.4
Tomato	32.0	48.0	50.0
Water Melon	24.0	45.0	87.5
Okra	15.3	17.7	15.7
Chillies	4.2	6.1	45.2
Sweet Potato	4.2	5.9	40.5
Sugarcane	128.0	170.0	32.8
Cotton	2.3	2.9	26.1

Source: Task Force on Micro Irrigation (2004)

Table 2: Yield increase and water saving with sprinkler irrigation system

Crop	Water saving (%)	Yield increase (%)
Bajra	56.0	19.0
Barley	56.0	16.0
Cabbage	40.0	3.0
Chillies	33.0	24.0
Garlic	28.0	6.0
Gram	69.0	57.0
Groundnut	20.0	40.0
Jowar	55.0	34.0
Maize	41.0	36.0
Onion	33.0	23.0
Potato	46.0	4.0
Wheat	35.0	24.0

Source: Task Force on Micro Irrigation (2004)

Table 3: Saving in fertilizer and increase in yield via fertigation

Crop	Saving in fertilizer (%)	Increase in yield (%)
Sugarcane	50.0	40.0
Banana	20.0	11.0
Onion	40.0	16.0
Cotton	30.0	20.0
Potato	40.0	30.0
Tomato	40.0	33.0
Castor	60.0	32.0
Okra	40.0	18.0
Broccoli	40.0	10.0

Source: Task Force on Micro Irrigation (2004)

Table 4: Water use efficiency with drip irrigation system

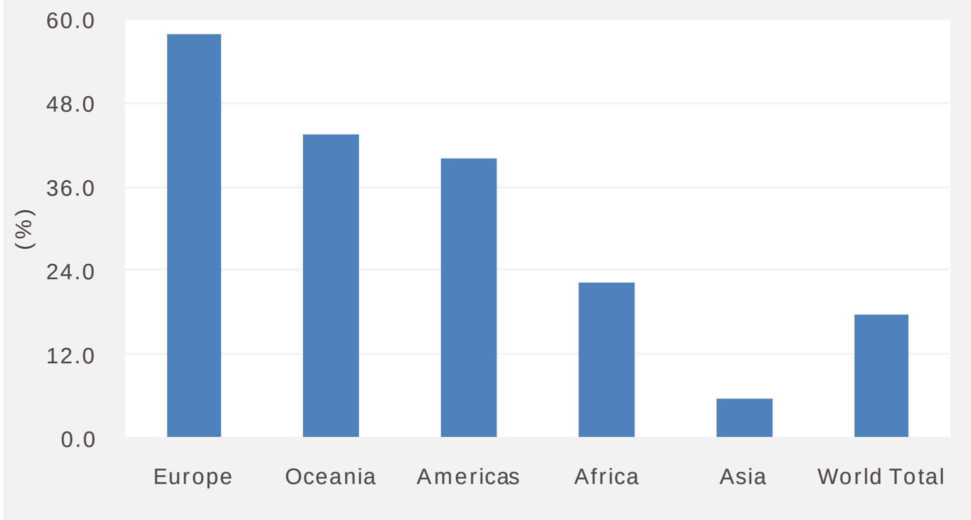
Crop	Yield increase (%)	Water saving (%)	Increase in water use efficiency (%)
Banana	52.0	45.0	176.0
Chillies	45.0	63.0	291.0
Grapes	23.0	48.0	136.0
Groundnut	91.0	36.0	197.0
Sweet Lime	50.0	61.0	289.0
Sugarcane	33.0	56.0	204.0
Tomato	50.0	31.0	119.0
Water Melon	88.0	36.0	195.0

Source: Task Force on Micro Irrigation (2004)

- **Vast proportion of Indian market untapped by micro irrigation**

  India is among the countries with very low penetration of micro irrigation. India and China account for 76% of Asia's total irrigated area, but their micro irrigation penetration is as low as 6.5% and 8%, respectively. This has resulted in Asia having the lowest penetration of 6% against 40% in the Americas (North and South America) and 58% in Europe. Even Africa has a higher penetration of 22%. This shows the vastness of the untapped market present in India to be captured by micro irrigation.

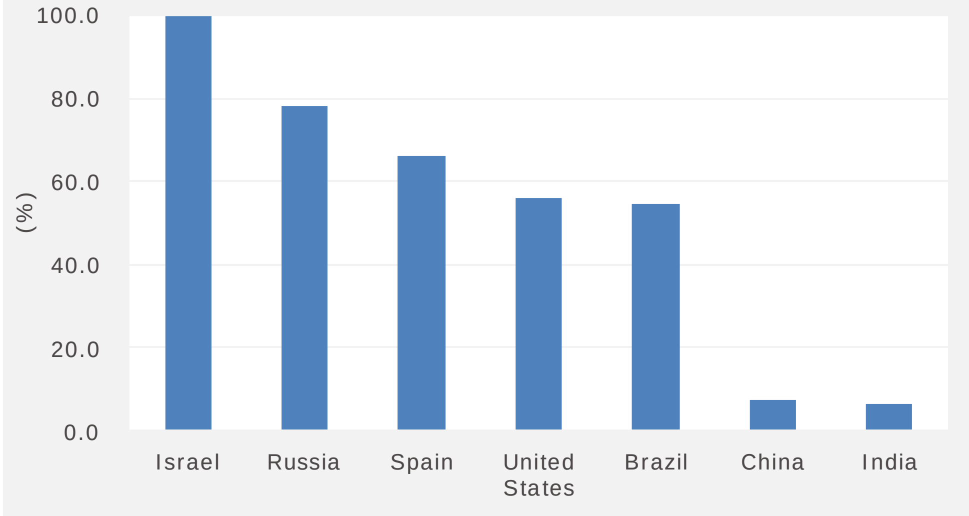
Chart 1: Continent-wise micro irrigation penetration (proportion of micro irrigated area to total irrigated area)



Source: Kulkarni S.A., Reinders F.B. and Ligetvari F.: Global Scenario of Sprinkler and Micro Irrigated Areas, 7th International Micro Irrigation Congress, 2006

Micro irrigation penetration is only 6.5% in India against 40% in the Americas, 58% in Europe and 22% in Africa

Chart 2: Country-wise micro irrigation penetration (proportion of micro irrigated area to total irrigated area)



Source: Annual Report 2008 – 09, International Commission of Irrigation and Drainage

- **Huge opportunity in the micro irrigation space in India**

  The micro irrigated area in India is 3.7 MHa as on FY09, which accounts for 6.5% of the 57 MHa total irrigated land area in India. The total micro irrigated land has to increase at a CAGR of 10% if India has to achieve 50% penetration of MIS in 20 years. We estimate that the total land coverage would post CAGR of 25–30% over the next 7 years, when the penetration reaches ~27%; the growth rate is expected to taper off from there.

15 MHa of land expected to be brought under micro irrigation over next 7 years

Replacement demand would compensate for the drop in pace of growth of new land coverage under MIS after few years

Opportunity of INR 450 bn in next 7 years

Table 5: Scenario analysis for micro irrigation penetration in India

Total irrigated area (M Ha)	57.0
Area covered under micro irrigation till FY09 (M Ha)	3.7
Time period for achieving 50% coverage (years)	**CAGR (%)**
5	50.0
10	23.0
20	10.0

Source: Edelweiss research

The task force on micro irrigation said the following in its report in 2004:

"The aim should be to cover an area of about 3 MHa (2 MHa drip and 1 MHa under sprinkler) under micro irrigation in the country during the Tenth Plan and another 14 MHa during the Eleventh Plan."

Table 6: Proposed annual target for micro irrigation

	Proposed area for adoption, MHa		
Year	Drip	Sprinkler	Total
2004-05	0.5	0.3	0.8
2005-06	0.7	0.4	1.1
2006-07	0.8	0.4	1.2
Xth Plan	**2.0**	**1.0**	**3.0**
2007-08	1.0	0.6	1.6
2008-09	1.5	0.7	2.2
2009-10	2.0	0.8	2.8
2010-11	2.5	0.9	3.4
2011-12	3.0	1.0	4.0
XIIth Plan	**10.0**	**4.0**	**14.0**
Total	**12.0**	**5.0**	**17.0**

Source: Task Force on Micro Irrigation (2004)

However, we feel that these targets are aggressive, and expect this 17 MHa of coverage under micro irrigation to happen only by FY16, bringing the total micro irrigated area in India to 18.7 MHa. This implies a potential 15 MHa to be covered in the next seven years. This gives visibility of huge opportunity in the micro irrigation space in India of INR 450 bn in the next seven years.

We expect the pace of land coverage under MIS to slow down after the next seven years; however, this will be compensated to a reasonable extent by the replacement demand that comes from existing land under coverage. For drip irrigation, two-third of the setup has to be replaced in five-seven years. Though we assume that there will not be considerable revenue from replacement demand in the next few years, increasing contribution from the replacement demand can be seen in around five-seven years from now.

Table 7: MIS market potential in India in the next 7 years

Area covered till FY09 (M Ha)	3.7
Targeted area by FY16 (M Ha)	18.7
Area to be covered (M ha)	15.0
% under drip	60.0
% under sprinkler	40.0
Cost per Ha for drip (INR)	40,000
Cost per Ha for sprinkler (INR)	15,000
Market potential (INR bn)	450
CAGR of incremental coverage area in next 7 years	28.0

Source: Edelweiss research

MIS poised to grow rapidly aided by state governments' increasing subsidies

Government subsidies ranging from 50% to 75% of the setup cost are driving MIS penetration

Central and state governments continue to boost micro irrigation by providing 50-75% of the installation cost as subsidy to farmers. Following a bad monsoon in FY10, state governments are likely to increase their focus on increasing the penetration of micro irrigation in India.

Based on the recommendation of task force on micro irrigation, central government has been providing 40% subsidy for micro irrigation installation, while state governments were providing 10% subsidy for coverage of up to 5 hectares per farmer. Over the past few years, however, various state governments have increased their subsidy offerings, aiding faster penetration of MIS.

Table 8: Aggregate subsidy available for micro irrigation

	Drip (%)	Sprinkler (%)
Maharashtra	50.0	50.0
Gujarat	50.0	50.0
Andhra Pradesh	70.0	70.0
Tamil Nadu	50.0	50.0
Karnataka	75.0	50.0
Madhya Pradesh	70.0	70.0
Chhattisgarh	70.0	70.0
Punjab	75.0	75.0
Bihar	70.0	70.0
Himachal Pradesh	50.0	50.0
Rajasthan	70.0	70.0
Kerala	50.0	50.0
Uttar Pradesh	75.0	75.0
Uttarakhand	50.0	50.0

Source: Company, Edelweiss research

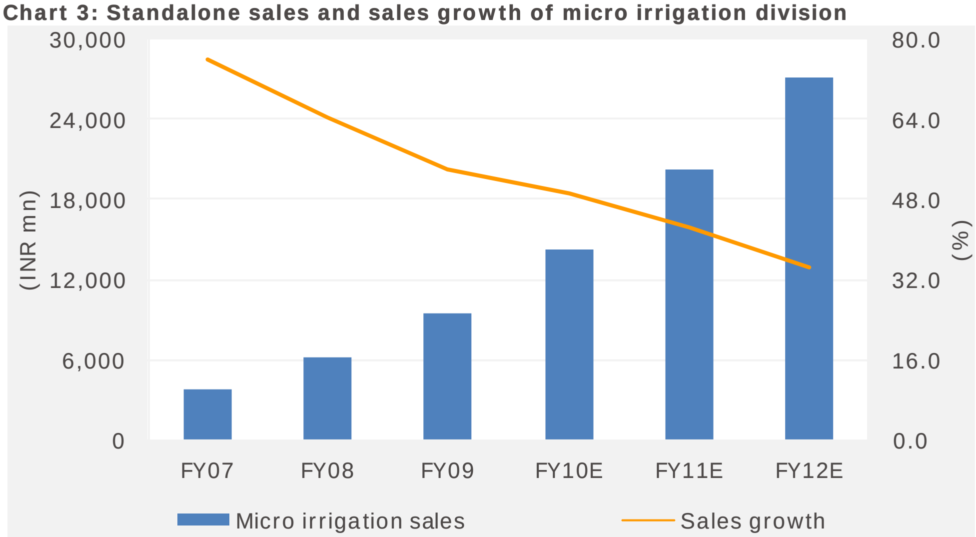
The subsidy amount from the state and central governments is collected within 3-6 months. Owing to this time lag, the MIS division of JISL has higher working capital requirements. However, JISL has tied up with few banks for getting finances against the receivables from the government. The banks treat these receivables in priority sector lending and keep them on their books rather than in JISL's book. This bill discounting is helping JISL in reducing working capital requirement in the MIS division to some extent and to grow the segment at a faster pace.

Indian micro irrigation to continue to drive JISL's growth

Standalone MIS revenue to rise at 42% CAGR in FY09-12E

Standalone sales of the MIS segment of JISL have posted a CAGR of 68% over FY05–09. We expect this segment to continue to drive the company's growth for few more years, and estimate a CAGR of 42% in this segment over FY09–12E.

Chart 3: Standalone sales and sales growth of micro irrigation division



Source: Company, Edelweiss research

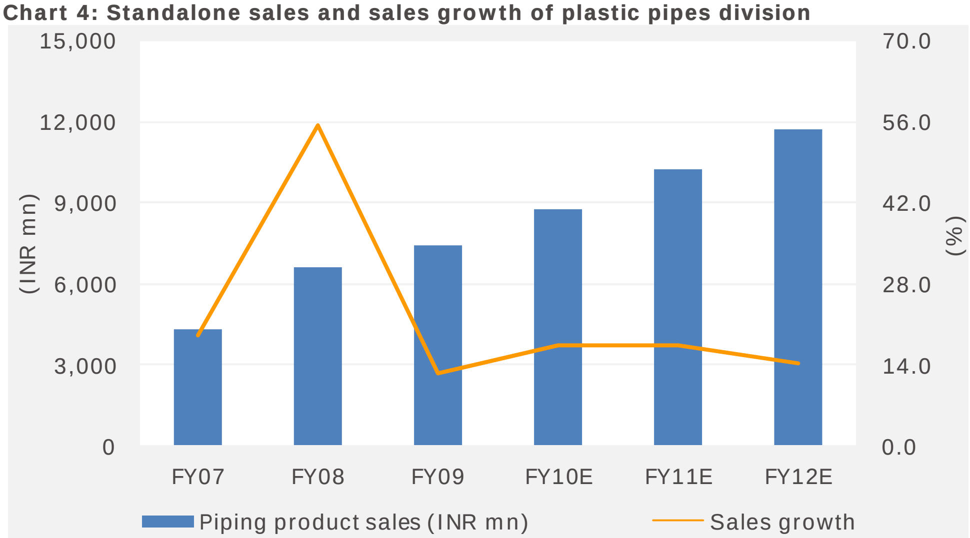
JISL is poised to capture substantial portion of the INR 450 bn opportunity present in Indian MIS market over the next seven years. This is by virtue of JISL being the market leader, with 55% market share in drip irrigation and 35% market share in sprinkler irrigation in India. Moreover, it is the only listed player in the Indian MIS segment, which makes it an attractive bet. The company also has strong relationships with farmers in various states, established distribution network, contacts with government, along with proven execution abilities - which strengthen its position.

Contribution from new states likely to increase

JISL's domestic MIS revenues have predominantly been coming from Maharashtra and Andhra Pradesh. The contribution from these states has been more than 50%. However, out of the additional business in MIS from FY10, the company is expected to get 30-35% from Maharashtra and Andhra Pradesh, 30-35% from states which are well established but growing like Tamil Nadu, MP, and Karnataka, and the balance growth from new states in the North like Himachal Pradesh, Haryana, Chhattisgarh, and Rajasthan.

■ PE pipes to grow steadily on JISL's capex plans and revival in overall demand

Chart 4: Standalone sales and sales growth of plastic pipes division



Source: Company, Edelweiss research

PVC consumption volume in India has been growing at 10% CAGR for the past five years, driven by the agriculture and construction sectors. Pipes account for ~70% of the total PVC consumption of ~1.4 mn tonnes in FY08. in India, the PVC industry is expected to post 10% CAGR in terms of volumes for the next 3-4 years. JISL is one of the three major players in the organized market – the other two being Finolex Industries and Supreme Industries. Increased micro irrigation spends, Command Area Development Programme and push for urban infrastructure by government agencies are expected to improve the demand situation for the PVC pipe industry.

Increasing infrastructure spend by the government to drive growth in the piping segment

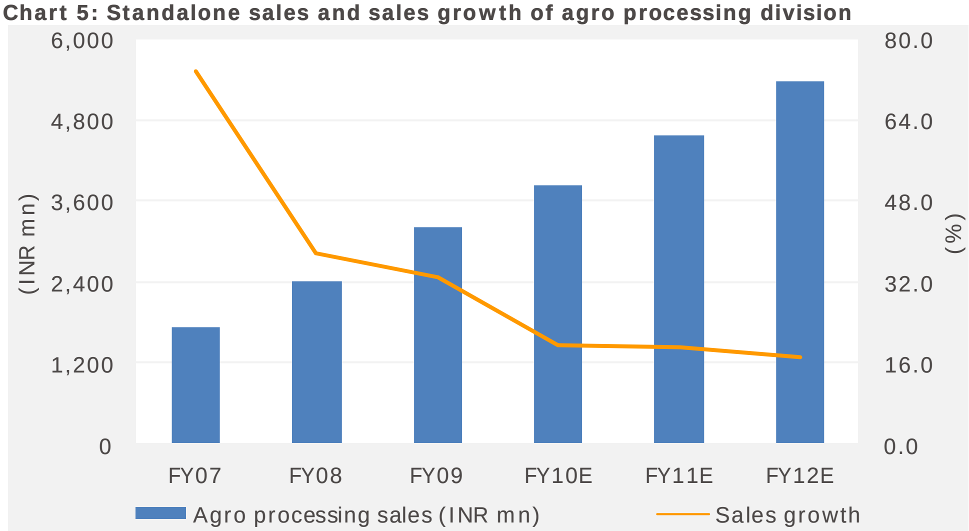
In JISL's PE pipe division, demand has been sluggish for the past two years due to slowdown in infrastructure spends. JISL has, however, seen positive growth in the latest quarter, and this trend is expected to continue. The Indian government has allocated an amount of INR 349,155 mn in Eleventh Five Year Plan towards rural drinking water and an amount of INR 69,102 mn towards central rural sanitation campaign. These expenditures would drive the growth of the PE pipe industry in India.

With the new stable government coming into place in India, infrastructure spends are back on track and are expected to be robust in the next 3-4 years. Massive infrastructure projects undertaken under Bharat Nirman Yojana, increased investments in telecom industry and plans for piped gas in cities would drive demand in this segment.

Though margins in the piping business are low i.e. about 10% against 25-30% in MIS and 15–20% in agro processing, JISL's piping division (to the extent of pipes supplied to agriculture) is a negative working capital business with very high ROCE. The pipes supplied to agriculture are sold on cash basis, while JISL gets a credit of 90 days. For the pipes supplied to telecom and gas distribution industries, JISL gives a credit of 60-90 days.

- Changing demographic profile driving growth and agro processing penetration

Chart 5: Standalone sales and sales growth of agro processing division



Source: Company, Edelweiss research

India is the second largest producer of fruits and vegetables globally

Only 2% of the produce is processed in India against 80% in many developing countries

The agro processing industry in India would be driven by the low penetration of processed foods and export demand. Despite being the second largest producer of fruits and vegetables in the world, only 2% of the produce is processed against 80% in many developing countries.

The fruit processing industry, in particular, is being driven by the exponential growth of ~30% in fruit juices, beverages and convenience foods. With the changing demographic profile of consumers, increasing disposable income and health consciousness, the demand has been shifting from basic foods to healthy and convenience foods. This would drive the growth and penetration of the agro processing industry in India. It is also evident from the order book of JISL, which is already at INR 2,200 mn i.e. about 70% of the total standalone revenues of this division in FY09.

JISL is the world's third largest player in onion dehydration and India's largest in mango processing

Moreover, JISL has immense opportunity in this division in terms of the variety of products to which it can expand. Currently, the company's portfolio comprises mango and onion predominantly. Banana, tomato, guava, amla, papaya, pomegranate etc account for minor portion of the revenues currently. The company is planning to increase processing in these as well as to expand to other fruits and vegetables so as to ride the growth in this segment.

In addition to mango and onion, JISL has aggressive plans to expand to processing of other fruits and vegetables

With regard to onion dehydration segment, world's onion dehydration industry is increasing at 6-8% every year and is currently estimated at 180,000 MT per annum. Of this quantity, JISL accounts for ~14%. Moreover, JISL has increased the proportion of contract farming to 50-60% currently, which helps it to maintain healthy operating margins.

Being the third largest player in the world in onion dehydration and the largest player in mango processing in India, JISL is in a very good position to capture growth in the agro processing industry.

Valuations

Historically, JISL has been trading at 1-year forward P/E band of 20-25x

We arrive at a one-year target price of INR 986 per share of JISL based on the DCF valuation methodology. Our DCF assumptions are 13.6% cost of equity, 7.7% post tax cost of debt, WACC of 10.65%, and a terminal growth rate of 5%. We have explicit forecast till FY15, after which we have assumed a high growth period of four years with a growth rate of 15% and a period of three years beyond that for the transitory period.

At target price of INR 986, JISL is trading at P/E of 16.2x, based on FY12E EPS

At CMP of INR 841, JISL is currently available at 18.1x and 13.8x consolidated P/E of FY11E and FY12E, respectively. On EV/EBITDA basis, the stock is trading at 9.5x and 7.7x consolidated EV/EBITDA of FY11E and FY12E, respectively. At target price of INR 986, JISL will be trading at P/E of 16.2x on FY12E EPS. Historically, the stock has been trading at one-year forward P/E band of 20-25x. Given the growth prospects of micro irrigation in India, we believe JISL will continue to command high multiples for a few more years. We initiate coverage on the stock with a 'BUY' recommendation.

Table 9: Standalone revenue growth rates of JISL's business divisions **(%)**

Business division	FY09	FY10E	FY11E	FY12E	FY13E	FY14E	FY15E
Micro irrigation systems	53.9	49.1	42.5	34.5	35.1	31.0	30.0
Piping products	12.5	17.3	17.3	14.2	12.2	10.2	10.2
Agro processing	33.1	19.6	19.4	17.2	15.8	13.5	13.5

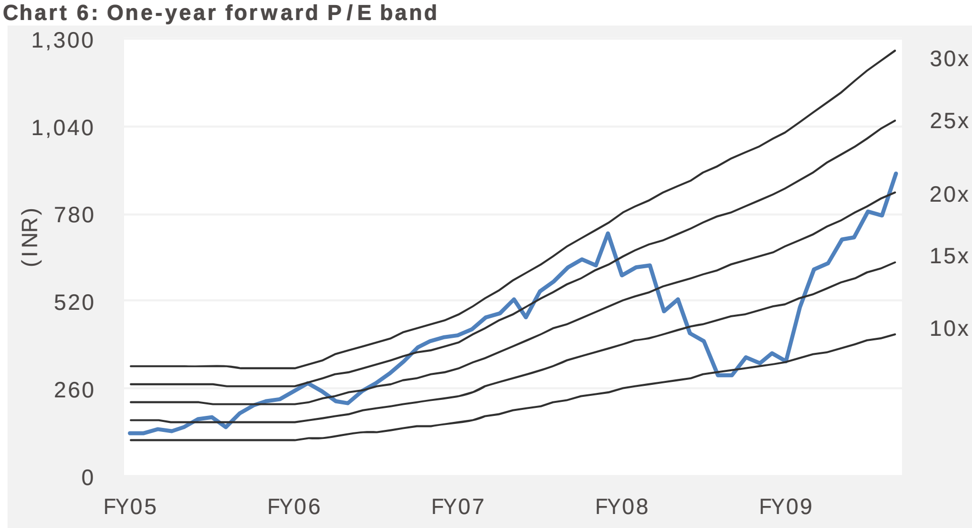
Source: Edelweiss research

Table 10: Sensitivity analysis

Agro processing CAGR from FY09 to FY12E		MIS CAGR from FY09 to FY12E		
	DCF Valuation	37%	42%	47%
	14%	860	981	1,110
	19%	865	986	1,115
	24%	870	991	1,121
	FY12E EPS			
	14%	54.4	59.9	65.9
	19%	55.3	60.9	66.9
	24%	56.3	61.9	67.9
	FY12E Forward P/E(x)			
	14%	15.5	14.0	12.8
	19%	15.2	13.8	12.6
	24%	14.9	13.6	12.4

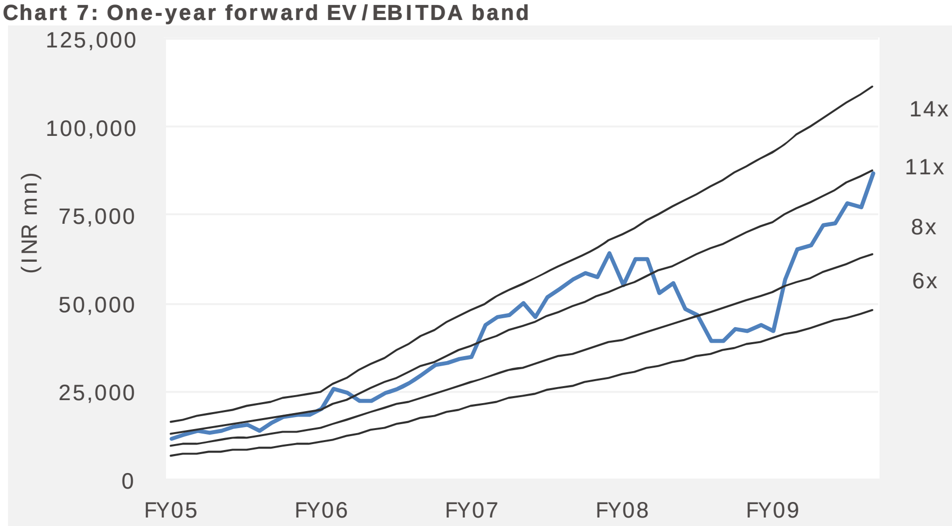
Source: Edelweiss research

Chart 6: One-year forward P/E band



Source: Edelweiss research

Chart 7: One-year forward EV/EBITDA band



Source: Edelweiss research

Key Risks

- **Withdrawal of subsidies for micro irrigation**

  This is a key risk that could cause JISL's growth rates to slow down drastically. The company's MIS division has been performing exceptionally well and is expected to drive growth for a few more years. Lowering/withdrawal of subsidy by central or state governments could dent JISL's prospects. However, we do not expect the government removing or lowering these subsidies, at least for the next 7-10 years; instead, we expect state governments to increase them.

- **Poor monsoon, seasonality and cyclical nature of agriculture**

  These risks could impact the company's agro-processing division by hitting the availability as well as prices of agro commodities. This, in turn, could impact growth and margins in this division. Though poor monsoon is unlikely to impact MIS in the short term, in case of recurring monsoon failure, the segment's growth may slow down.

- **Growing competition**

  Intensifying competition from the unorganized sector as well as supply from China may impact the MIS business. Only from the context of manufacturing MIS systems, it is a low entry barrier business. However, competencies needed to manage the inherent issues of weather, dealing with government, small holdings by Indian farmers etc., limit the scope of most players in the Indian MIS market. JISL continues to have a huge advantage over competition in terms of its relationship with farmers, rapport with government officials, robust dealer network with over 1,600 dealers and an impressive track record as a water management solution provider. This is in contrast with most competition which acts more like MIS product suppliers.

- **Higher working capital requirements**

  Most of JISL's activities are working capital intensive, which may constrain the company from achieving targeted growth. Especially, the MIS and agro processing segments, due to their inherent nature, are high working capital businesses. In this context, managing the working capital cycle is an important concern for JISL.

- **Currency fluctuation and tightening of interest rates**

  USD/INR volatility may impact export revenues as well as margins. As the company is having high D/E, interest rate tightening may impact profitability.

Company Description

The world's second largest and India's largest micro irrigation company

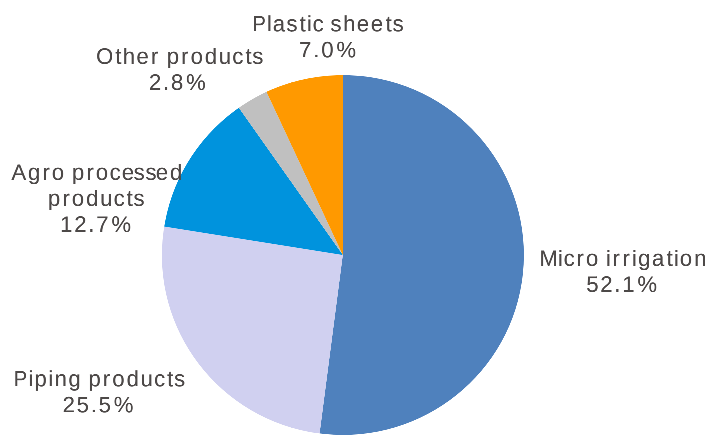
Established in 1986, JISL is currently the world's second largest and India's largest micro irrigation company. It has four major business divisions—micro irrigation systems (MIS), piping systems, agro processing, and plastic sheets. Apart from these, it also derives a minor portion of revenues from tissue culture, hybrid & grafted plants, and solar devices. JISL has a global presence in more than 100 countries with a robust dealer and distribution network; it has 24 plants and employs over 5,000 people. The optimum utilization in most divisions is only 70-80% of installed capacity due to seasonality factor. All divisions of the company are ISO-9001: 2001 certified. JISL has been named by Standard & Poor's in May 2007 as one of the eight Indian companies expected to emerge as challengers to the world's leading companies.

Fig. 1: JISL's business divisions

Micro irrigation systems	• Drip irrigation system • Sprinkler irrigation system
Piping products	• PVC pipes • PE pipes
Agro processing	• Dehydrated onion and vegetables • Fruit purees and juice concentrates
Plastic sheets	• PVC plastic sheets • Poly carbonate sheets
Others	• Tissue culture • Solar devices

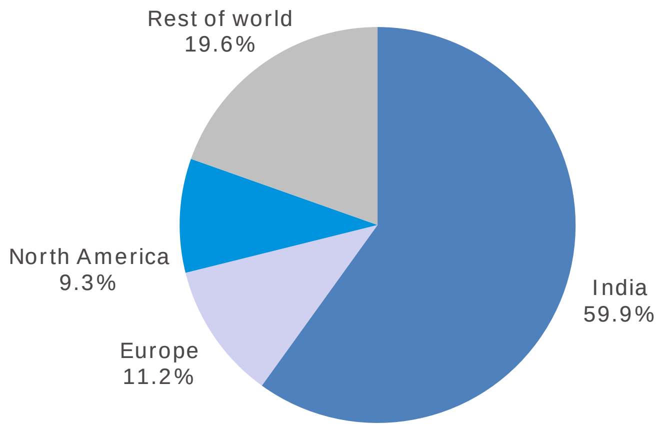
Source: Company

Chart 8: Consolidated revenue distribution across business segments in FY09



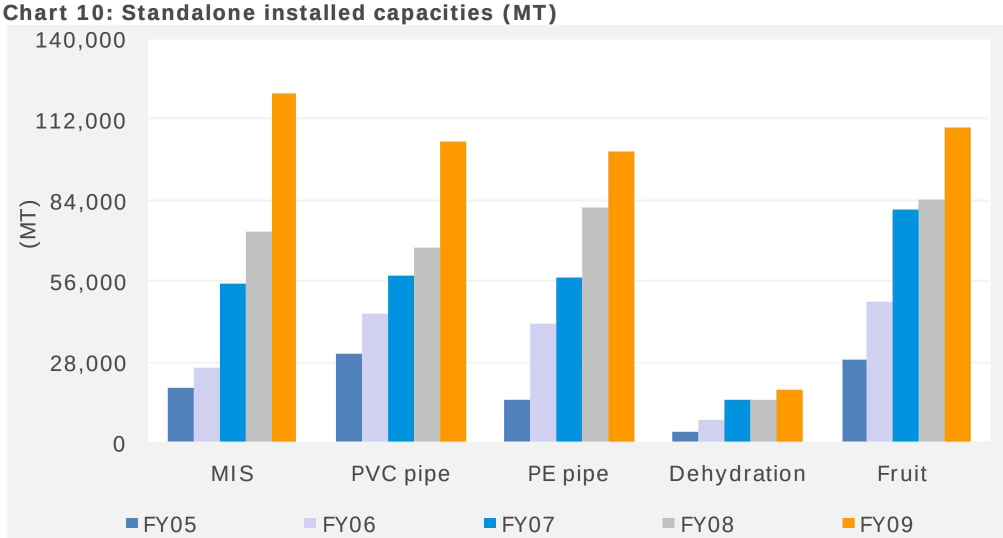
Source: Company, Edelweiss research

Chart 9: Consolidated revenue distribution across geographies in FY09



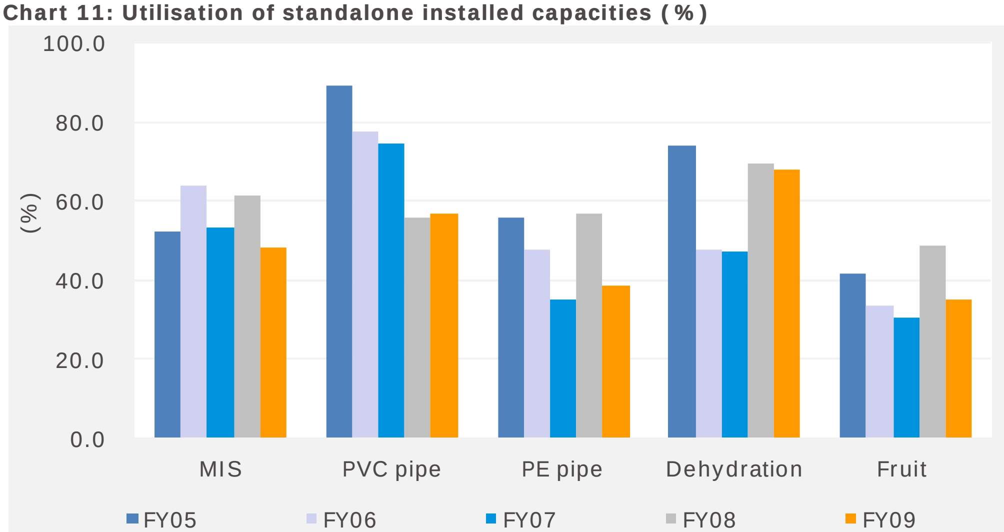
Source: Company, Edelweiss research

Chart 10: Standalone installed capacities (MT)



Source: Company, Edelweiss research

Chart 11: Utilisation of standalone installed capacities (%)



Source: Company, Edelweiss research

Major customers

India: Aditya Birla, Bharti, BSNL, Coca-Cola, Gujarat Gas, HUL, Indra Prastha Gas, IVRCL, Larsen & Toubro, Mahanagar Gas, Nestle, Power Grid, Ramky, Reliance, Tata.

Overseas: Alcatel, Cargill, Coca-Cola, GE, General Mills, Heinz, Innocent, Kerry, Langers Juices Company, Mars Incorporated, Mitsui, Nestle, Schumacher, Sleaford, Taiyo, Unidelta, Vink, Worlee.

Management

Mr. Bhavarlal Jain, the founder of JISL, is the current chairman of the company. His sons hold some of the key management positions in the company—Mr. Ashok Jain (Vice Chairman), Mr. Anil Jain (Managing Director), Mr. Ajit Jain (Jt. Managing Director), and Mr. Atul Jain (Director-Marketing).

Acquisitions

JISL has made few overseas acquisitions during FY07–08, mainly for MIS and onion dehydration. These acquisitions have helped JISL to fill up gaps in technological abilities as well as to acquire new markets.

Table 11: Acquisitions by JISL

Company	Ownership (%)	Acquired for (USD mn)	Acquired in	Segment
Chapin, USA	100	6.8	Apr-06	MIS
JII (Aquarius), USA	100	21.5	Feb-07	MIS
NuCedar, USA	80	4.0	Aug-06	Plastic sheets
Cascade, USA	80	7.8	Dec-06	Onion dehyd
NaanDan, Israel	50	21.5	May-07	MIS
Thomas, Switzerland	70	1.5	Mar-08	MIS

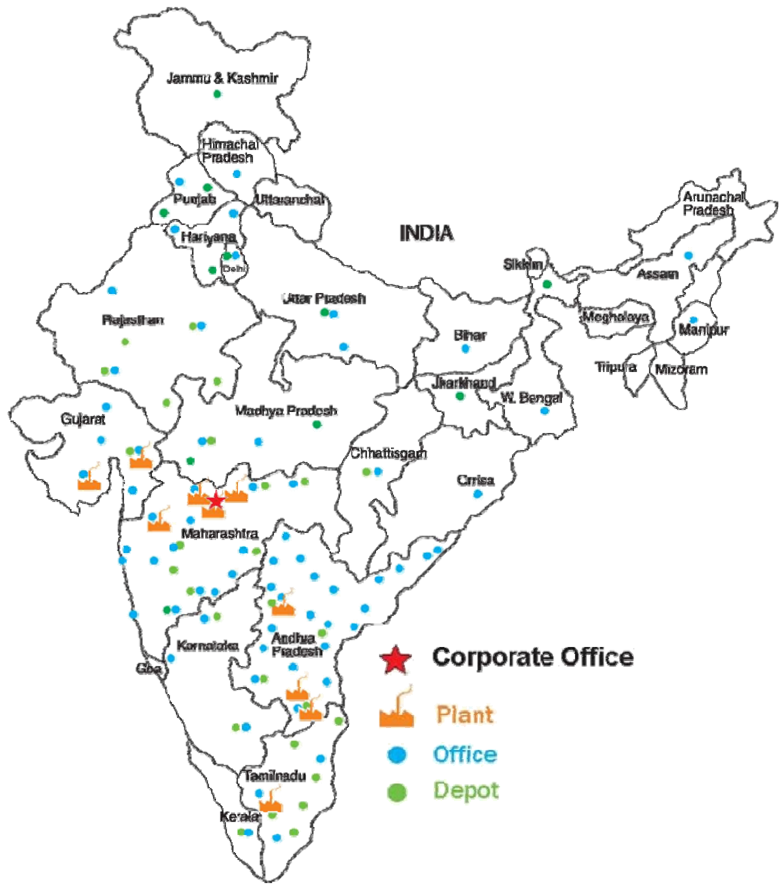
Source: Company, Edelweiss research

With effect from April 01, 2009, Chapin Watermatics is merged with Jain Irrigation Inc. (JII). The corporate structure of JISL is provided in the annexure.

JISL has call options to acquire the balance 50% ownership in NaanDan over the next eight years and remaining 30% ownership in Thomas Machines over one year. The company also has a definitive agreement to acquire the balance 20% stake in Cascade over the next two years.

JISL's network in India

Fig. 2: Sales and service – Indian network



Source: Company

Table 12: Distribution of JISL's Indian operations

State	Plant	Offices	Depots	Dealers
Maharashtra	4	15	9	730
Madhya Pradesh	-	1	3	124
Karnataka	-	3	2	158
Gujarat	2	4	1	133
Tamil Nadu	1	5	3	57
Rajasthan	-	3	5	25
Andhra Pradesh	3	22	4	283
Other states	-	15	11	175
Total	**10**	**69**	**38**	**1,685**

Source: Company

Financial Outlook

- **Consolidated net revenue to post CAGR of 24% over FY09-12E**

  We estimate the consolidated net revenue of JISL to post 24% CAGR over FY09–12, driven by growth in the domestic MIS and agro processing segments. Following a dip in growth in FY09 against robust 4.9% growth in FY08, the agriculture sector is expected to decline further in FY10. In this context, we expect the government to provide more resources to the agriculture sector to bring back the growth rate to 4% on an annual basis. This will help companies like JISL achieve high revenue growth.

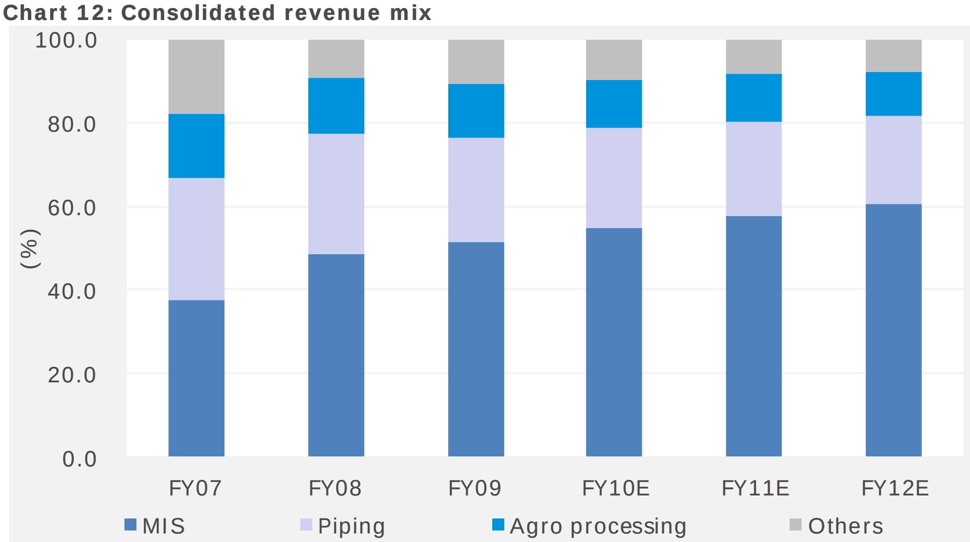
- **EBITDA margin to expand due to rising contribution of domestic MIS segment**

  We estimate JISL's consolidated EBITDA margin to expand to 19.7% by FY11 from 17.4% in FY09, due to the increasing contribution of the domestic MIS segment to total consolidated revenues.

Standalone EBITDA margin increased from 14.6% in FY05 to 20.8% in FY09

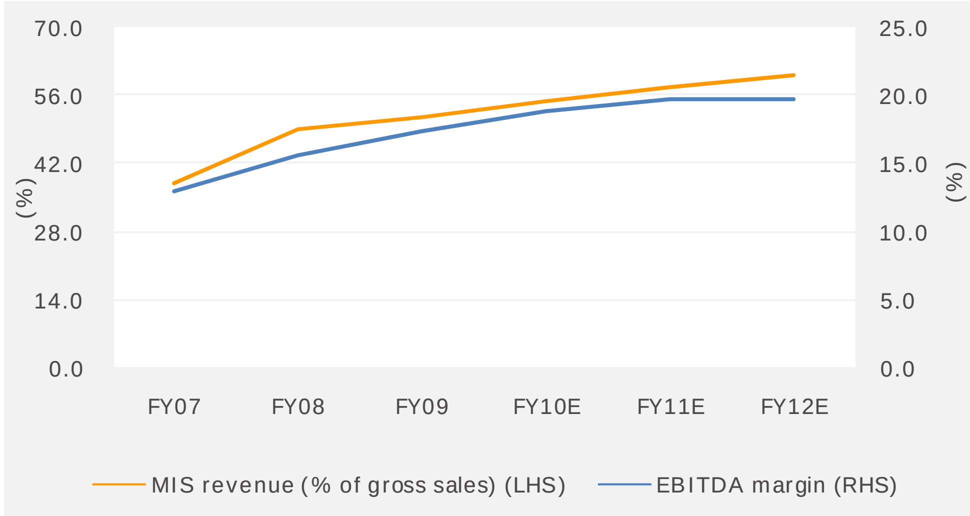
The Indian scenario is dominated by farmers with small holdings of land i.e., about 80% of farmers in India hold less than 2 hectares of land. This scenario, coupled with government subsidies, is helping JISL earn handsome operating margins of 25-30% in the Indian MIS market, against 10% in overseas markets. Throughout the world, the MIS industry works like a commodity market contrary to the Indian market where the MIS industry is working more like a complete solution provider to farmers. Contribution of the MIS division at the standalone level has increased from 19% in FY05 to 43% in FY09, which we expect to continue to improve given huge MIS opportunity in India. Thus, increasing contribution from the domestic micro irrigation segment, which has the highest margin among all its divisions, will contribute to expansion of JISL's margins.

Chart 12: Consolidated revenue mix



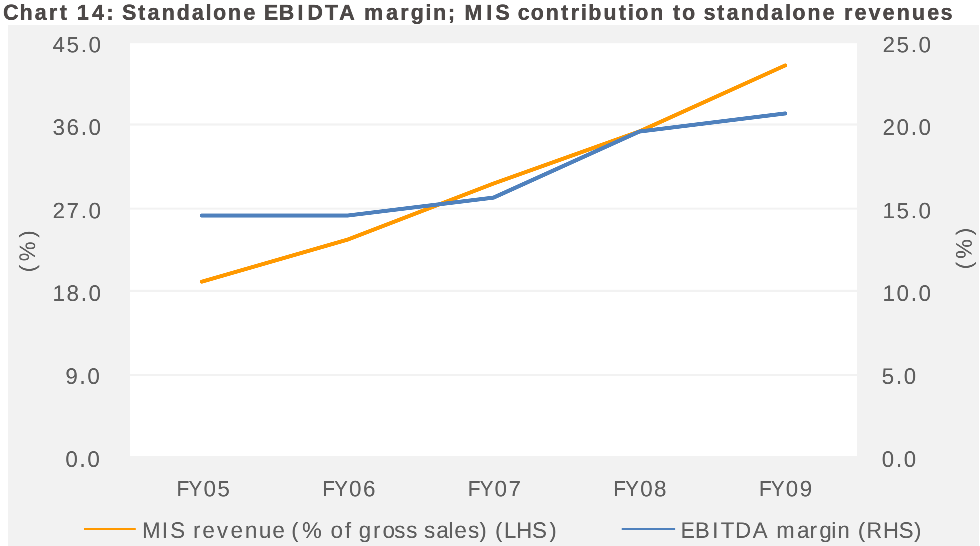
Source: Company, Edelweiss research

Chart 13: Consolidated EBIDTA margin; MIS contribution to cons. revenues



Source: Company, Edelweiss research

Chart 14: Standalone EBIDTA margin; MIS contribution to standalone revenues



Source: Company, Edelweiss research

- **Net profit to post CAGR of 34% over FY09–12E**

  We estimate JISL's consolidated net profit to post a CAGR of 34% over FY09–12, aided by the company's expanding EBITDA margins and lower borrowing costs; borrowing cost is expected to dip to 11% of average gross debt in FY10E compared with 11.7% in FY09. With the company expected to turn free cash flow positive in FY10, it will be able to fund its capex through internal accruals. Also, JISL targets achieving a debt–to-equity ratio of 1.0x from the current 2.0x. Hence, the interest expense is unlikely to increase much in FY11 and FY12, resulting in higher net margins.

- **Profitability**

  For FY09, ROACE was at 17.3% and ROAE at 22.3%, which are expected to increase to 23.1% and 27.9%, respectively, in FY12E.

Key highlights from JISL's annual report for FY09

- Exchange losses aggregate INR 1.1 bn (comprising exchange loss expensed—INR 597.7 mn—and exchange loss added to inventory cost—INR 485.5 mn) vis-à-vis exchange gains aggregating INR 184.6 mn in FY08. Exchange losses aggregate 54.3% of PBT.
- Unrealised losses on derivative instruments aggregating INR 712.3 mn have been accumulated in the hedging reserve account and will be recognised in the income statement at the materialization of underlying transaction.
- Unhedged derivative exposure, net liabilities, aggregate INR 2.2 bn, primarily denominated in USD. Outstanding derivative instruments include currency options (USD), aggregating USD 43.8 mn and interest rate swaps aggregating USD 30.0 mn.
- Since March 2008, the INR has appreciated ~10% against the USD and a significant part of MTM losses and exchange losses incurred are likely to be recouped.
- In the first half of FY10, JISL has reported a MTM gain of INR 240 mn, while the INR appreciated from INR 50.7/USD to INR 47.7/USD. We estimate the company will gain about INR 100 mn on MTM in Q3FY10.
- JISL invested about INR 3,000 mn towards acquisitions in the past three years. Till FY09, the net profit from these subsidiaries has been negative. However, they have been contributing to JISL at the EBIDTA level. These subsidiaries are expected to contribute to the net profit from FY10.
- We have performed the consolidated cash flow statement analysis for the past three years for JISL and observe that the cash profit after working capital investment has turned positive in FY09.

Table 13: Consolidated cash flow statement

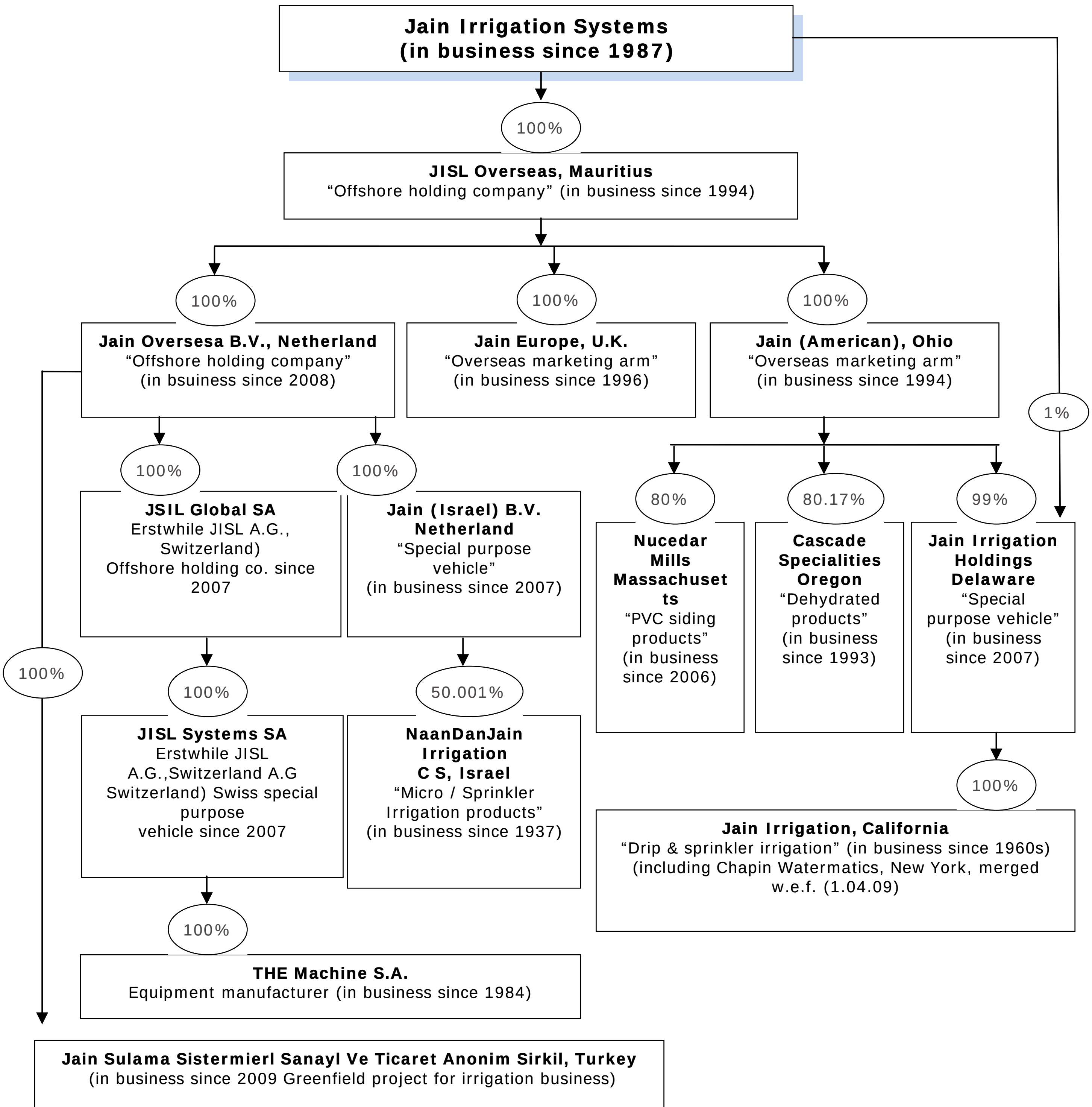
Sources of funds	FY07	FY08	FY09	Total	Application of funds	FY07	FY08	FY09	Total
Operating profit	1,995	3,735	4,538	10,268	Capex	2,561	2,429	4,637	9,627
Less: Interest	(788)	(1,328)	(1,845)	(3,961)	Acquisitions	664	925	449	2,038
Less: Taxes	(89)	(233)	(225)	(547)	Other misc. items	46	185	88	320
Add: Investment income	71	1	36	108	Dividend	259	197	227	683
Cash profit	**1,190**	**2,175**	**2,504**	**5,869**	Preference shares	53	39	432	524
Less: Working capital investment	(1,746)	(6,072)	(2,043)	(9,861)	**Net cash retained**		111	384	495
Cash profits after working capital investments	**(556)**	**(3,898)**	**461**	**(3,992)**					
Sale of current investments	0	0	403	403					
Debt	1,534	5,965	5,302	12,801					
Equity shares	658	1,820	51	2,529					
Net cash consumed	1,947			1,947					
Total	**3,583**	**3,887**	**6,217**	**13,687**	**Total**	**3,583**	**3,887**	**6,217**	**13,687**

Source: Company, Edelweiss research

Annexure

Corporate structure of Jain Irrigation Systems

Fig. 1: Corporate Structure



Source: Company

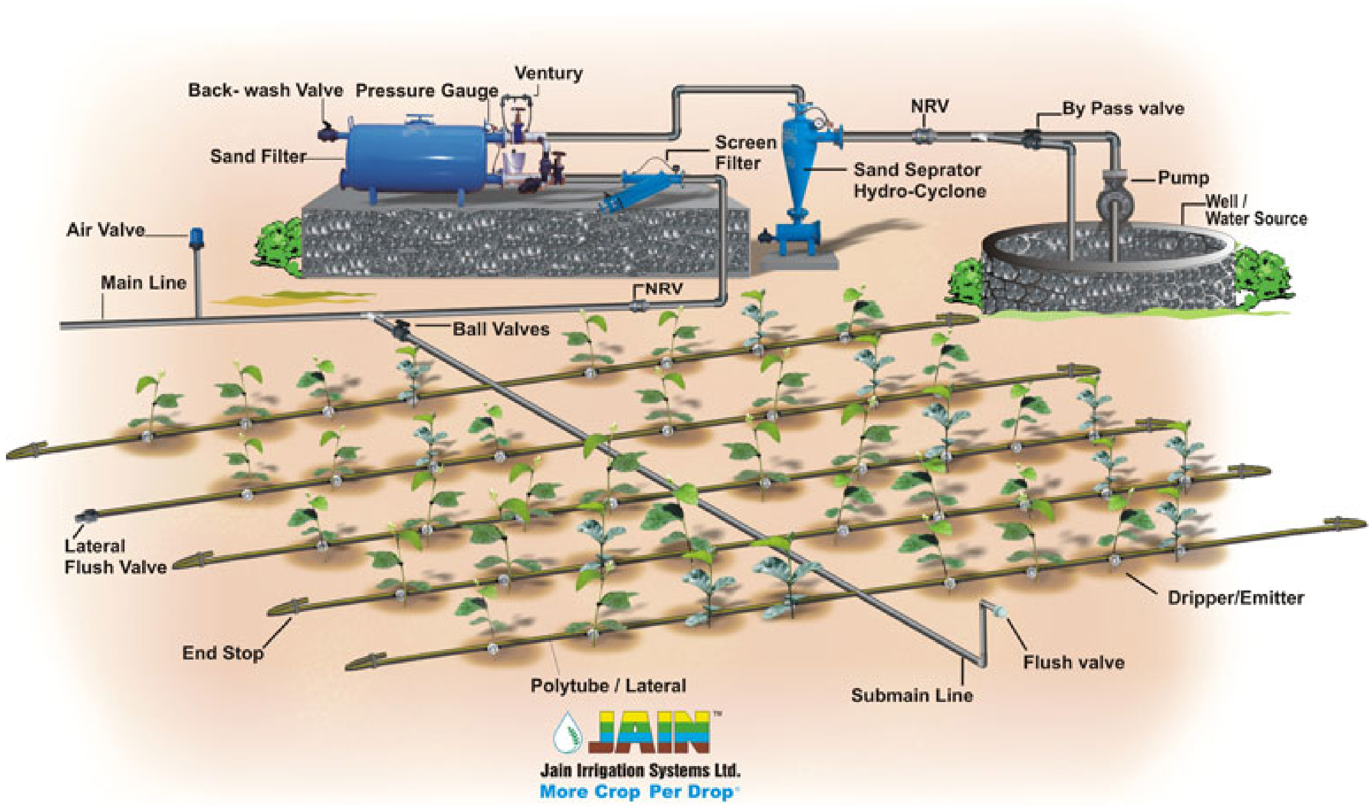
Drip irrigation

Drip irrigation is a method of micro irrigation, which saves water and fertilizer by allowing water to drip slowly and directly to the roots of plants through a network of pipes, valves, tubing and emitters/drippers. The dripping of water can happen either onto the soil surface (normal drip irrigation) or directly onto the root zone (sub-surface drip irrigation – where the laterals and drippers are buried under the surface).

The emitters/drippers allow for a uniform and controlled supply of water directly into the root zone of the plant. This helps the plant to absorb only the required amount of water, thus resulting in saving the plants from water stress, saving of water and increased yield of the plants. Drip irrigation also provides the option of having a fertigation unit, which helps supplying growth nutrients like fertilizers to the plants in a controlled fashion, helping the yield of the plants and also in saving the wastage of fertilizer.

We shall briefly see how the drip irrigation mechanism functions. First, the pump is connected to the water source which pumps water into the water filters. These water filters help in increasing the yield by providing cleaner water to plants as well as in protecting the tubing from clogging, thus decreasing the maintenance cost. The water then enters into the fertigation system to take up the plant nutrients fed into this unit and then enters into the main lines. From the main line, the water would travel into sub-main lines and then further into polytubes/laterals. These polytubes run along the rows of plants and have emission points where drippers are arranged for the purpose of dripping of water. From these drippers, water drips directly near the root area of individual plants.

Fig. 2: Drip irrigation system



Source: Company

Components (listed in order from water source)

- Pump
- Water filter (sand separator like hydro-cyclone, screen filter, media filters)
- Fertigation systems and chemigation equipment
- Backwash controller (backflow preventer)
- Main line (larger diameter pipe and pipe fittings)
- Control valves and safety valves (hand-operated, electronic, or hydraulic)
- Laterals (smaller diameter polytube)
- Poly fittings and accessories (to make connections)
- Emitter/ Drippers

Financial Statements

Income statement (INR mn)

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Net revenues	22,159	28,584	35,538	44,257	54,008
Raw material costs	11,773	15,506	18,784	23,582	28,882
Gross profit	10,386	13,078	16,754	20,675	25,126
Employee expenses	2,450	2,927	3,198	3,541	4,321
Other expenses	4,481	5,188	6,752	8,409	9,991
Operating expenses	6,931	8,115	9,951	11,949	14,312
Total expenditure	18,703	23,621	28,735	35,532	43,194
EBITDA	3,455	4,963	6,803	8,726	10,814
Depreciation & amortisation	558	684	946	1,084	1,244
EBIT	2,898	4,279	5,857	7,642	9,569
Interest expense	1,327	1,809	2,120	2,440	2,708
Other income	186	123	123	123	123
Profit before tax	1,757	2,592	3,860	5,325	6,984
Provision for tax	540	659	1,158	1,757	2,305
Core profit	1,217	1,933	2,702	3,568	4,679
Extraordinary/ Prior period items	174	(602)	-	-	-
Profit after tax	1,390	1,331	2,702	3,568	4,679
Minority interest + pre-acquisition profit	66	37	86	51	67
Profit after minority interest	1,324	1,294	2,616	3,516	4,613
Equity shares outstanding (mn)	72	72	76	76	76
EPS (INR) basic	16.0	26.2	34.5	46.4	60.9
Diluted shares (mn)	72	73	76	76	76
EPS (INR) diluted	15.9	26.1	34.5	46.4	60.9
CEPS	27.0	41.1	47.0	60.7	77.3
DPS	2.2	2.6	3.5	4.0	5.0
Dividend payout (%)	14.9	17.6	12.5	10.1	9.6

Common size metrics (% net revenues)

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Cost of goods sold	53.1	54.2	52.9	53.3	53.5
Operating expenses	31.3	28.4	28.0	27.0	26.5
EBITDA margins	15.6	17.4	19.1	19.7	20.0
Depreciation & amortisation	2.5	2.4	2.7	2.4	2.3
Interest	6.0	6.3	6.0	5.5	5.0
Net profit margin	5.5	6.8	7.6	8.1	8.7

Growth metrics (%)

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Revenues	59.2	29.0	24.3	24.5	22.0
EBITDA	92.5	43.6	37.1	28.3	23.9
PBT	112.2	47.6	48.9	37.9	31.2
Net profit	94.2	58.9	39.8	32.0	31.2
EPS	49.3	63.7	32.5	34.4	31.2

Balance sheet **(INR mn)**

As on 31st March	FY08	FY09	FY10E	FY11E	FY12E
Total equity capital	721	724	758	758	758
Total preference capital	885	449	23	-	-
Total equity share warrants	358	358	-	-	-
Reserves & surplus	6,768	7,440	10,555	13,717	17,886
Shareholder's equity	8,732	8,971	11,336	14,474	18,644
Secured loans	12,146	17,546	20,300	22,000	23,000
Unsecured loans	610	623	70	70	70
Total debt	12,756	18,170	20,370	22,070	23,070
Deferred tax liability (net)	(53)	412	991	1,683	2,242
Minority interest	649	705	600	530	460
Sources of funds	**22,084**	**28,257**	**33,297**	**38,758**	**44,416**
Gross fixed assets	12,617	17,501	20,344	22,999	26,780
Accumulated depreciation	4,856	5,806	6,752	7,835	9,080
Net fixed assets	7,760	11,695	13,592	15,164	17,700
Capital work in progress	1,202	1,208	1,244	1,328	1,350
Total fixed assets	8,963	12,903	14,836	16,492	19,050
Investments	603	201	201	201	201
Inventories	8,099	9,859	10,035	12,599	14,639
Accounts receivable	6,556	8,663	9,736	12,732	15,537
Cash and cash equivalents	1,036	1,174	2,085	2,475	2,931
Loans and advances	2,865	3,203	3,203	3,203	3,203
Other current assets	174	221	221	221	221
Current assets	18,731	23,119	25,280	31,230	36,530
Current liabilities	6,793	8,787	7,205	8,722	10,287
Provisions	620	849	1,485	2,112	2,748
Current liabilities & provisions	7,414	9,636	8,690	10,834	13,035
Net current assets	11,317	13,483	16,591	20,396	23,495
Goodwill	1,201	1,669	1,669	1,669	1,669
Uses of funds	**22,084**	**28,257**	**33,297**	**38,758**	**44,416**
Book value per share (INR)	116	119	150	191	246

Free cash flow **(INR mn)**

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Net profit	1,324	1,294	2,616	3,516	4,613
Add: Depreciation	558	684	946	1,084	1,244
Add: Others	1,581	2,335	2,699	3,133	3,267
Gross cash flow	3,462	4,313	6,261	7,733	9,124
Less: Changes in working capital	(6,072)	(2,043)	(2,197)	(3,414)	(2,644)
Operating cash flow	(2,610)	2,271	4,064	4,318	6,480
Less: Capex	(2,429)	(4,637)	(2,879)	(2,739)	(3,803)
Free cash flow	**(5,039)**	**(2,367)**	**1,185**	**1,579**	**2,677**

Cash flow metrics

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Operating cash flow	(2,610)	2,271	4,064	4,318	6,480
Financing cash flow	6,220	2,849	(170)	(1,118)	(2,152)
Investing cash flow	(3,428)	(4,698)	(2,984)	(2,809)	(3,873)
Net cash flow	182	422	910	391	455
Capex	(2,429)	(4,637)	(2,879)	(2,739)	(3,803)
Dividends paid	(197)	(227)	(327)	(355)	(443)

Profitability ratios (%)

Year to March	FY08	FY09	FY10E	FY11E	FY12E
ROACE	17.3	17.3	19.2	21.3	23.1
ROAE	18.5	22.3	26.2	27.2	27.9
ROA	7.1	7.7	8.8	9.9	11.3
Current ratio	2.5	2.4	2.9	2.9	2.8
Receivables (days)	84	97	94	93	96
Inventory (days)	198	211	193	175	172
Payables (days)	142	131	120	123	120
Cash conversion cycle (days)	140	178	168	145	148
Debt-equity (x)	1.5	2.0	1.8	1.5	1.2
Debt/EBITDA	3.7	3.7	3.0	2.5	2.1
Adjusted debt/Equity	1.5	2.0	1.8	1.5	1.2
Long term debt / Capital employed (%)	57.8	64.3	61.2	56.9	51.9
Total debt / Capital employed (%)	91.1	99.9	90.3	89.2	86.3
Interest coverage (x)	2.2	2.4	2.8	3.1	3.5

Operating ratios (x)

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Total asset turnover	1.3	1.1	1.2	1.2	1.3
Fixed asset turnover	3.3	2.9	2.8	3.1	3.3
Equity turnover	3.6	3.4	3.6	3.4	3.3

Du pont analysis

Year to March	FY08	FY09	FY10E	FY11E	FY12E
NP margin (%)	5.2	6.6	7.4	7.9	8.5
Total assets turnover	1.3	1.1	1.2	1.2	1.3
Leverage multiplier	2.8	3.0	3.1	2.8	2.5
ROAE (%)	18.5	22.3	26.2	27.2	27.9

Valuation parameters

Year to March	FY08	FY09	FY10E	FY11E	FY12E
Diluted EPS (INR)	15.9	26.1	34.5	46.4	60.9
Y-o-Y growth (%)	*49.3*	*63.7*	*32.5*	*34.4*	*31.2*
CEPS (INR)	27.0	41.1	47.0	60.7	77.3
Diluted P/E (x)	52.8	32.3	24.4	18.1	13.8
P/BV (x)	7.2	7.1	5.6	4.4	3.4
EV/Sales (x)	3.3	2.7	2.3	1.9	1.5
EV/EBITDA (x)	21.1	15.8	12.0	9.5	7.7
Dividend yield(%)	0.3	0.3	0.4	0.5	0.6

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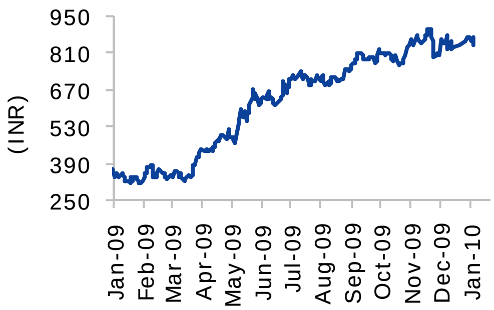
Coverage group(s) of stocks by primary analyst(s): Miscellaneous

Elecon Engineering, Escorts, Mahindra Holidays & Resorts, Opto Circuits, Shree Renuka Sugar, TIL and TRF

Jain Irrigation Systems



Recent Research

Date	Company	Title	Price (INR)	Recos
31-Dec-09	**Escorts**	On a turnaround; *Initiating Coverage*	130	Buy
12-Oct-09	**Mahindra Holidays**	Membership-led growth; *Initiating Coverage*	346	Buy
04-Sep-09	**TRF**	Core infrastructure play; *Initiating Coverage*	458	Buy
21-Aug-09	**Elecon Engineering**	Engineered for growth *Initiating Coverage*	75	Buy

Distribution of Ratings / Market Cap

Edelweiss Research Coverage Universe

	Buy	Hold	Reduce	Total
Rating Distribution*	95	54	11	162

* 2 stocks under review

	> 50bn	Between 10bn and 50 bn	< 10bn
Market Cap (INR)	104	46	12

Rating Interpretation

Rating	Expected to
Buy	appreciate more than 15% over a 12-month period
Hold	depreciate up to 15% over a 12-month period
Reduce	depreciate more than 5% over a 12-month period

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