

MIC ELECTRONICS

INR 367

LED by innovation

BUY



* Growing market potential in LED; low cost manufacturers to gain

The global market for LED (light emitting diodes) is expected to grow at 20% (CAGR) to USD 8 bn by FY11E. Increasing share of emerging applications like illumination and outdoor media will provide attractive growth opportunities. Low cost manufacturers like MIC Electronics (MIC) are best placed to gain from the shift of sourcing and import substitution in previously unexplored applications like indoor-outdoor media, commercial and residential lighting.

* In-house technology and cost competitiveness provide strong entry barriers

MIC is currently the only Indian player with capabilities in multi-color LED displays and LED lighting. The LED lighting space has gained demand on account of the global drive to save electricity. Significant investments in R&D have enabled the company develop strong skill sets in product engineering, hardware design, embedded systems design, and software solutions to develop compact LED screens, panels, and the proprietary software *Scan+*.

* Strong order book and healthy pipeline

MIC has a confirmed order book for the media segment of INR 1,500 mn largely comprising of sales of video walls and a small share of lighting as of June 2007. Over the next three years the pipeline in LED division is likely to be around INR 4,000-5,000 mn with more than 80% of the orders for video walls.

* Investment in market development and capacity expansion to tap strong growth

MIC will be investing INR 750 mn to increase capacities and expand marketing operations. It raised INR 765 mn from its recently concluded IPO to fund the same. On the marketing front, MIC through its subsidiaries in the US and Australia, and a marketing office in Dubai is aggressively investing in setting up a robust marketing and distribution network.

* Valuations

We expect MIC's media division to post a CAGR of 70% over FY07-09E to INR 2,305 mn, which will drive total revenue CAGR of 17% to INR 3,302 mn in FY09E. Overall, net profit is likely to see an increase at a 44% CAGR. At CMP the stock is trading at 15.3x our FY08E EPS of INR 24.0 and 11.1x FY09E EPS of INR 33.2. We believe that the emerging scope for LED applications globally will benefit MIC and it will emerge a leader in the LED display and lighting space over the next three to five years. We expect it to see re-rating on the back of large order additions and their successful execution. We initiate coverage with a 'BUY'.

Financials

Year to June	FY06	FY07UA	FY08E	FY09E
Revenues (INR mn)	1,003	2,397	2,562	3,302
Rev growth (%)	312.4	138.8	6.9	28.9
EBITDA (INR mn)	200	422	636	877
Net profit (INR mn)	155	322	483	668
Shares outstanding (mn)	9	20	20	20
EPS (INR)	17.0	16.0	24.0	33.2
EPS growth (%)	794.2	(5.6)	50.0	38.4
P/E (x)	21.0	22.3	15.3	11.1
EV/EBITDA (x)	17.1	16.4	11.2	8.1
ROAE (%)	44.8	29.7	25.5	27.6

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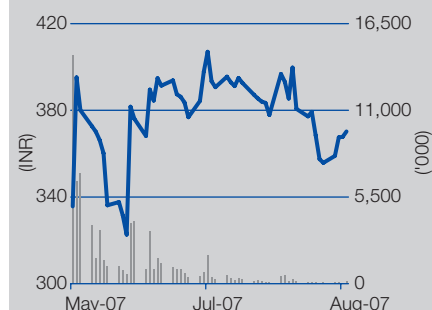
Reuters : NA
Bloomberg : MICEIN

Market Data

52-week range (INR) : 439 / 210
Share in issue (mn) : 20.1
M cap (INR bn/USD mn) : 7.4 / 182.6
Avg. Daily Vol. BSE/NSE ('000) : 3,353.6

Share Holding Pattern (%)

Promoters : 37.0
MFs, Fls & Banks : 14.0
Fls : 10.0
Others : 39.0



Investment Rationale

* Monopoly with technology and cost competitiveness as entry barriers

MIC is currently the only Indian player with capabilities in true multi-color LED displays and LED lighting. It has significantly invested in R&D to develop compact LED screens, panels, and the proprietary software *Scan+* which allows programming of LED screens to accommodate varying and moving content.

MIC's screens are thinner and more compact on account of optimization of hardware. The company's strengths in embedded software have allowed it to reduce the hardware component in these screens, giving it distinct advantages of low cost and easy maintenance. The company's products are 25-30% cheaper than those of global peers like Barco and Daktronics. MIC's cost competitiveness, in-house software, strong supplier relationship with Nichia Corporation (inventor of blue and white colored LEDs and a world leader in LED technology), and first mover's advantage serve as entry barriers for new entrants.

Scan+ allows programming of LED screens to accommodate varying and moving content, and improves image quality. The company has made consistent investments in R&D to maintain its technological and cost advantage and currently has 48 engineers in its R&D team.

* Venture into LED lighting systems

In addition to the video wall space, the company is also bidding for orders in the LED lighting space. This space has gained demand in developed nations on account of the global drive to save electricity. With increasing power shortage, highly durable and efficient LED lighting has the potential to become consumers' choice. The LED lighting market, pegged at USD 6.6 bn currently, is expected to grow by 20% (CAGR) till 2011. A power LED can last for thousands of hours without any degradation in the light output. The typical efficiency of a power LED (measured in lumens per watt) is 20-30, which is much higher than incandescent light sources. Since LED is a solid-state device, it can withstand shock and vibrations unlike a filament bulb.

The company has already tested LED lighting products and has bid for a railway tender to install four emergency lamps in each coach to ensure passenger safety in case of an accident. The company is looking at an initial order of INR 200 mn for emergency lights. Going forward, this order has the potential to scale up to more than INR 500 mn. MIC has submitted the specifications for the tender and it is in the processing stage.

Table 1: LED lighting applications

Automotive and aircraft cabin lighting	Industrial and outdoor lighting
Automotive and aircraft instrument panel lighting	Traffic and railway signals
Architectural emergency exit lighting	Automotive brake lights
Architectural color effect lighting	Dot matrix signs and video displays
	Personal flashlights

Source: Company, Edelweiss research

The company is also targeting the rural street and home lighting initiatives undertaken by the ministry of non-conventional energy. The company has initiated discussions with the ministry of non-conventional power to supply solar powered LED lights for rural areas where electricity is unavailable. The company has supplied specifications of LED lights attached with solar powered panels. This tender worth INR 500 mn is in the pipeline.

* Strong order book and growing pipeline

MIC has a confirmed order book for the media segment of INR 1500 mn largely comprising of sales of video walls and a small share of lighting as of June 2007. Majority of these orders are to be executed in one year while some of them over eighteen months. The company also has a healthy pipeline with ongoing negotiations for large orders both in the domestic market and the global markets.

It has received a lot of leads from its subsidiaries in Australia and USA and marketing office in Dubai. It is negotiating with the railways for coach lighting and is also undertaking street lighting. Going forward it is also looking to enter the general lighting space. We have however not included significant contribution from the lighting division in our estimates.

Over the next three years the pipeline in LED division is likely to around INR 4500-5000 mn with more than 80% of the orders for the video walls. The potential for the pipeline in lighting to expand is very high and we have only taken into account the orders that the company is likely to get from government agencies like Railways where it has put in tenders which are under various stages of negotiation. Considering the high growth potential in OOH advertising, event management, advertising in malls and multiplexes in the domestic market and the global growth in LED applications the opportunity for MIC is large. With its subsidiaries in USA and Australia and marketing office in Dubai coupled with presence across major cities in the country, MIC is well placed to emerge a leading LED display and lighting player in the next three to five years.

* LED display rental: Steady revenue streams

MIC is diversifying its business model to include revenues form renting of LED screens in addition to the existing traditional model of outright sales. It is setting up additional capacity to maintain around 26 screens for rental purpose. We expect revenues from the rental business to improve significantly by 2010. Though the company has been renting out its screens for election rally meetings, music concerts and weddings on a small scale, we have not included any revenues form renting of screens till FY09E.

Based on our rough calculation for the revenue stream from the rental division, we expect that at a base case utilization level of 10% (10% of 300 days) the 26 screens could generate revenues of INR 156 mn. The utilization will improve with the business gaining scale and recognition. At a utilization of 50% the rental revenues could account for one third of the FY09E revenues. Additionally the recurring costs in the business will be lower. Hence we expect this revenue stream to become a significant share of the media business going forward.

Table 2: Revenue scenarios for the rental division

	Utilization @ 10%	Utilization @ 25%	Utilization @ 50%
Screens to rent	26	26	26
No. of screens on rent per annum	26	26	26
No. of days on rent per annum	30	75	150
Average rent per day INR mn	0.2	0.2	0.2
Revenue expected per annum INR Mn	156	390	780
% of FY09 revenues	6.8	16.9	33.8

Source: Company, Edelweiss research

Internationally, the LED rental segment is among the fastest growing businesses, aided by the live entertainment industry (LED displays are rented out to big outdoor events like concerts, fashion shows, and corporate promotions). Moreover, this segment is growing healthily even in the domestic market on account of companies' increased marketing budgets and growing importance of live entertainment.

These factors, together with fast and steady growth of the event management industry globally are pushing usage of LED outdoor video displays, which augurs well for companies like MIC.

*** Robust expansion plan**

MIC is investing INR 750 mn over the next two years to increase capacities, expand marketing operations, and acquire the balance stake (50%) in Infostep. This acquisition will provide a gateway to the company’s media business into the US. It is investing INR 300 mn in enhancing its manufacturing capacity (at Rookie and Hyderabad) from ~6,000 modules p.a. currently to 15,000 modules per annum over the next two years. The balance will be invested in R&D, distribution, and marketing set ups.

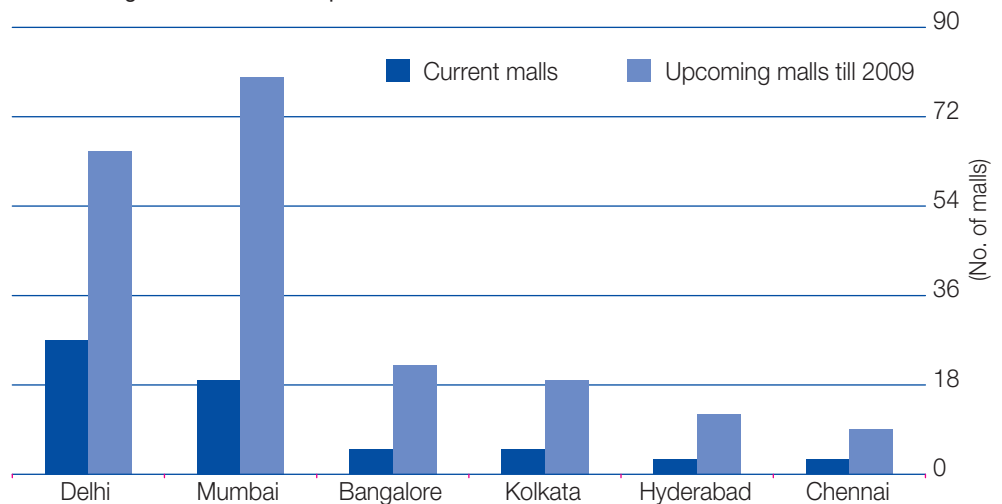
In addition to the expansion, the company has engaged the capacities of a local manufacturer of voting machines ECIL to outsource the plotting of LEDs. Once the plotting is outsourced the company can use all its in-house capacity for testing which is necessarily done in-house. ECIL’s capacity will be able to produce approximately 6,000 modules per annum. Thus the company is looking to enhance its capacity almost threefold.

*** New product launch; looking to capture the indoor LED space**

MIC recently launched its new product MIC- DigiScreen-6i-120 which is a 120 inch LED TV for close viewership. This product targets indoor applications like use of screens in malls, corporate boardrooms, etc. This product was launched at Hyderabad in June with the chief guests being Mr. Arjun Singh, HRD minister at the Centre, and Smt. Purandeshwari, HRD minister of state Andhra Pradesh.

The scope for OOH at malls and multiplexes is immense in the country with the ongoing retail boom. India is expected to have close to 600 malls by 2009. This represents a significant opportunity for media companies.

Chart 1: Large scale mall development in future



Source: India retail report 2007, Images F&R research

* Targeting larger range of application

MIC is looking at targeting the following applications and the relevant sets of users:

- **Sports and live events:** True colour displays are capable of showing the big action live. They have very good potential in different sports stadiums and clubs for sporting events like foot ball, cricket, athletics, horse racing, and motor racing.
- **Advertising applications:** As new display technologies continue to lower costs and improve the visual impact of electronic billboards and signs, it is likely that these displays will begin to replace static signs and billboards, both on roadside and other applications.
- **Indoor applications:** High resolution screens of almost any size can be provided to give a desired impact to the viewer. These screens serve the dual purpose of informing the viewers of developments and schedules, while displaying a television show, movie or any other entertainment in between.
- **Mobile applications:** This refers to large trucks that contain a fully assembled LED video screen, complete with a small video command center to manage the event's video content.

Table 3: Target clientele in new applications

Sports & Events	Schools, colleges and universities, sports clubs, federations, stadium owners and organisers, recreation centres, sports federations, event management companies & audio rental companies, television channels, news agencies & other media participants like film production companies
Advertising	Outdoor advertisers, direct marketing agents, public relations offices, shopping malls, media companies,
Indoor	Government agencies, corporate clients, TV broadcasters, civic arenas and convention centers, municipal corporations, owners & operators of public utilities such as railways, airports, bus terminals, courts etc.
Others	Religious establishments, temples, churches

Source: Company, Edelweiss research

* Key installations: Exploring new avenues

Some of the company's key media installations are listed below. MIC has already made headway in advertising and sports segments, and is working towards obtaining orders in indoor applications. Its installations are diverse and it has also shipped screens abroad.

Table 4: Key installations spread across the country and abroad

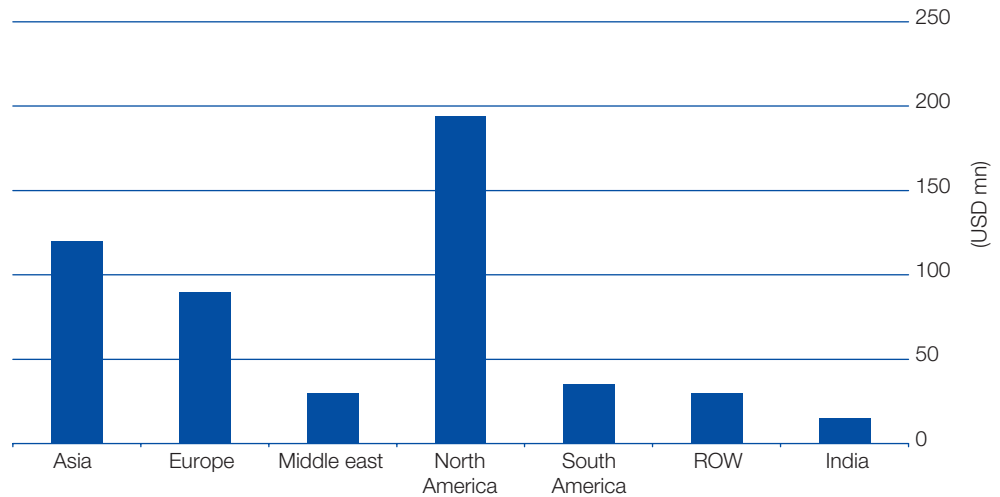
Location	Value INR mn	Application
Gujarat	27	Sports & Live Events
South Melbourne	3	Sports & Live Events
Dubai	11	Sports & Live Events
Chennai	11	Sports & Live Events
Dubai	13	Sports & Live Events
Dubai	19	Sports & Live Events
Dubai	19	Sports & Live Events
Kedah, Malaysia	1	Advertising Application
New Delhi	6	Advertising Application
Park Street	7	Advertising Application
Vishakapatnam	12	Advertising Application
Digital Live Ads	8	Advertising Application
Durban, South Africa.	11	Mobile & Video Walls
Tirumala Tirupati	13	Mobile & Video Walls
Durban, South Africa	13	Mobile & Video Walls

Source: Company, Edelweiss research

* Aggressive build-up of marketing plan

Majority of LED video wall sales are in the North American continent including Canada and Mexico; they constituted 38.85% of the total sales in 2005. Asia was the second largest market, followed by Europe, South America, and the Middle East. To cater to these large markets, MIC is aggressively investing in setting up a robust marketing and distribution network.

Chart 2: North America dominates video display sales



Source: EDG research, LED Video Display Report, 2006

Through its subsidiaries in the US and Australia, and a marketing arm in Dubai, MIC is looking at catering to the LED screen demand (for sale as well as on rent) of global media and entertainment companies. The demand for mobile screens has been very high in markets like Australia and the company has installed a couple of screens in Durban. Going forward it is looking to target companies in the business of renting screens for functions and tie up with them for renting out of screens. This will give the company global visibility, required scale, and steady rental revenues as well. However, in the initial stages it is looking to break into the markets through sale of screens to renting companies and OOH companies.

Through Infostep, MIC has entered into a MoU with Visual Display Corporation (VDC) for distribution of LED mobile units in the US for five years. It is looking for more such tie ups and is negotiating with companies for venturing into the South African, Australian, and other growing markets.

* Infostep: A gateway to the US market

Infostep's main service areas include business intelligence, performance measurement, survey management, corporate governance, risk management, and enterprise applications. It also provides software product suites such as *eLustro* (an enterprise solution for managing feedback and survey programmes) and *eLustroHarmony* (an enterprise solution for corporate governance/risk management), which offer revenue diversity and means to drive further professional services. The products are built as flexible, configurable, and easily integrated set of tools and components, providing the foundation for building applications involving feedback on processes, products, systems, and people. The products are sold both through software license and an ASP service.

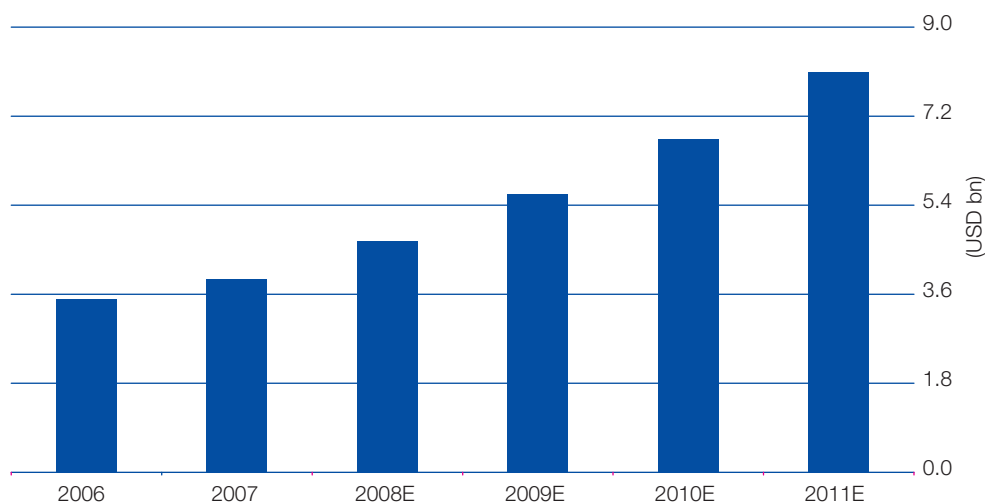
MIC acquired Infostep with a view to gain a foothold in the US market, which is the largest market for LED video walls. In addition, Infostep's high-end IT business will complement MIC's existing product profile. The deal value of the acquisition is at around INR 190-200 mn with half of the payment in stock and balance in cash. MIC has already issued 0.4 mn shares to Infostep shareholders and currently holds 51% stake in it. It will buy the remaining stake before the end of FY08.

* LED on the threshold of explosive growth

LED market size was pegged at ~ USD 3.9 bn in 2007 and is expected to grow at 20% (CAGR) till FY11E to reach USD 8 bn, against a CAGR of 15.98% during FY04-07. In addition to the overall growth, the growing share of emerging applications is a bigger positive. Mobile displays currently account for 42% of the market, but going forward, growth will be driven by emerging applications such as illumination, signage, outdoor media screen applications, automotive headlamps, and backlights for LCD monitors and TV screens.

In the domestic market, growth for MIC will come from import substitution and the increasing use of LED videos in previously unexplored applications like indoor and outdoor media, passenger information systems, and commercial and residential lighting.

Chart 3: 20% CAGR in LED market



Source: LED Signage

* OOH industry to be revolutionized by LED

The INR 9-10 bn out of home (OOH) market's share in advertising increased from 7.4% in 2002 to 9.1% in 2005, and is further expected to grow at 14-15% (CAGR). LED signs are gaining popularity due to their programmability which enables targeted marketing and interactive interface; like websites, they can be networked and updated remotely with fresh and topical content. MIC is actively trying to tap global and domestic OOH firms to get a share in the growing opportunity in both sale and rental segments.

LED used in OOH advertising in the form of signage and interactive message display accounts for 25% of the LED market. In value terms, the market for LED signage is estimated to be ~USD 625 mn currently and is expected to reach USD 1 bn by 2007E. The outdoor market is growing faster than the total media industry, which will translate into higher demand for LED screens going forward.

Table 5: LED signage gaining share

LED signage (%)	2001	2002	2003
Neon	43	41.3	41.7
Fluorescent	47.3	46.9	46.3
LED signage	3.9	6.2	7.2
HID	1.9	2.4	2
Incandescent	2	1.9	1.8
Fiber optic	0.5	0.3	0.6
Other	1.4	0.9	0.3

Source: LED Signage: Opportunities in Commercial Applications by Intertech

Valuations

At CMP the stock is trading at 15.3x our FY08E EPS of INR 24.0 and 11.1x FY09E EPS of INR 33.2. Given MIC's limited execution track record and the nascent nature of LED applications in the country we believe that the company will be rated on its delivery skills in the larger orders signed and the ability of the management to book future orders. The company has a healthy order book of INR 1,500 mn and its pipeline is seeing healthy additions rapidly. We expect the media pipeline to be in the range of INR 4,000-5,000 mn over the next three years.

The company does not have any listed comparables in the country and the listed foreign players are much larger in size to provide any indication of valuation. However, given the strong 44% CAGR in EPS over FY07-09E, and the improving fundamentals of the company in light of improving margins, return ratios and increasing free cash flows we believe the company is well poised to deliver superior returns over a one year period. We believe that the emerging scope for LED applications globally will benefit MIC and it will emerge a leader player in the LED display and lighting space over the next three to five years. We expect it to see re-rating on the back of large order additions and their successful execution. We initiate coverage with a 'BUY'.

Table 6: Compares well with global video wall peers

Currency	Daktronics USD mn	Barco Euro mn	MIC* INR mn
Year end	Apr-07	Dec-06	Jun-07
Revenue	433	751	2,054
2 year CAGR (%)	37.1	5.7	727.8
EBIT	37	62	443
EBIT Margin (%)	8.5	8.3	21.6
2 year CAGR	37.8	7.2	304
PAT	24	33	319
PAT Margin (%)	5.6	4.5	15.5
2 year CAGR	24.9	(15.9)	353
EPS	0.6	2.6	16.0
P/E (x)	44.8	25.5	23.0
1 year forward P/E (x)	35.7	14.8	15.3
ROE	15.9	8.1	29.1
CMP	26.5	67.3	367.6
FY08 EPS	0.74	4.54	24.0

Source: Bloomberg, Company reports and Edelweiss research

Prices as of 8th Aug '07

* Prices as of 8th Aug '07

Sensitivity Analysis

The media business is the growth driver for the company going forward and the sooner the company downsizes the telecom and IT business the faster the company's profit expansion will be. We have analysed the impact of a 10% increase and decline in the revenues of the media division on the profits and the earnings per share of the company as a whole. The profits of the company are highly sensitive to the fluctuations from this division. Hence the company is working to increase the share of media to total revenues. We expect this proportion to increase to 69% in FY09E from the current 33%. This implies a CAGR of 70%.

Table 7: Media division most sensitive to profits

Media division	Actual		10% decrease		10% increase	
	FY08	FY09	FY08	FY09	FY08	FY09
Revenues (INR mn)	1,350	2,305	1,215	2,075	1,485	2,536
PAT (INR mn)	484	668	372	479	593	857
Change (%)	NA	NA	(23.0)	(28.3)	22.9	28.3
EPS (INR)	24.1	33.2	18.5	23.8	29.5	42.6
P/E (x)	15.7	11.3	19.9	15.5	12.5	8.6
No. of shares (mn)	20.1	20.1	20.1	20.1	20.1	20.1

Total revenues	Actual		10% decrease		10% increase	
	FY08	FY09	FY08	FY09	FY08	FY09
Revenues (INR mn)	2,562	3,302	2,336	3,023	2,855	3,695
PAT (INR mn)	484	668	330	434	636	903
Change (%)	NA	NA	(0.3)	(0.4)	0.3	0.4
EPS (INR)	24.1	33.2	16.4	21.5	31.6	44.8
P/E (x)	15.7	11.3	22.5	17.1	11.6	8.2
No. of shares (mn)	20.1	20.1	20.1	20.1	20.1	20.1

Source: Edelweiss research

Key Risks

Some risks to our estimates could come from the following:

- The company's order pipeline includes large orders from government agencies. Delays in sanctions from these agencies can impact revenue estimates.
- Competition from new entrants may result in some pricing pressure impacting revenues and margins.
- Acquisition of clients in foreign markets could be delayed since MIC is a relatively new player on the global scenario.
- Any huge one time order in the ICT business could impact margins at the company level.
- Delay in scaling down of telecom revenues could impact our margin assumptions

Company Description

MIC started operations in 1988 with three business segments—Media, Infotech, and communication & electronics. The company has, over the years, made significant investments in R&D to reduce dependence on the increasingly competitive and low-margin communication business and developed competency in the LED business. This media business is expected to be the growth driver going forward. The company's business divisions are as follows:

* Media division

MIC's media division is involved in the development, production, and sale of LED video, graphic animation displays, and other display services including lease/rental of LED video walls. In India, the company has a monopoly in the design and development of true colour large displays for indoor/outdoor/mobile applications, providing true color motion picture images with their proprietary *Scan+* technology. At present, MIC is the only Indian company to have “design to manufacture” capability in the field of LED video display systems. Its other LED products include LED lighting applications with or without solar power and LED /LCD-based 3D display systems.

The company's investment in R&D and development of in-house software coupled with its expertise in embedded software have become entry barriers for new entrants in the domestic market. Even in comparison with its international peers, MIC is at an advantage due to its cost efficiencies in production and in-house R&D.

* Infotech services division

The Infotech group provides telecom and system software solutions to different telecom service providers in the following domains:

- **Interactive Voice Response Systems (IVRS) & Network Management:** They offer these services as complete solutions for large fixed-line telecom providers. They had implemented these systems with Mahanagar Telephone Nigam Limited and BSNL in 1994-95 and have been contracted by them for AMC of these systems.
- **Internal Fraud Detection System (IFDS):** IFDS is used by a telecom service provider who is facing revenue loss due to mistakes or frauds by employees operating the switch-room. The system analyses transactions for identification of unauthorized usage against the standard norms of the service provider.
- **i-Call Suite:** Interactive Voice Response Systems for fault booking, fault clearance, changed number announcement, payment reminder, bill enquiry, bill through FAX, etc. in MTNL and BSNL circles.
- **Traffic Control & Management Information System (TCMIS):** This solution provides convenience to the telecom network administrator for remotely monitoring the usage of telecom network and subscriber service levels. The use of TCMIS also helps in generating complete MIS reports for efficient management of different telecom resources centrally covering different aspects like faults, security management, etc, which helps in better network management.
- **Network Management Services (NMS) for Digital Loop Carriers (DLoopCNMS):** NMS is responsible for managing and monitoring the access network solution via central network management system and remote element management system fulfilling the features of fault, configuration, accounting, performance and security management aspects of telecom network management.

- **Telecom Switch Access & Protocol Stack Domain:** The company offers these services as a complete solution for large fixed-line telecom providers. It had implemented these systems with Mahanagar Telephone Nigam Limited in 1997 and till date and has been contracted by them for annual maintenance contact (amc) of these systems.
- **CDR Data Collection System (cDCS):** The prime function of cDCS is to collect the Call Detail Records (CDRs) on a high-speed synchronous communication link using File Transfer Access and Manipulation (FTAM)/Common Management Information Service Element (CMISE)/File Transfer Protocol (FTP) protocols and send the CDR files to a central server to be used for any kind of down-stream applications like interconnect billing, convergent billing, fraud detection & control, telecom revenue intelligence, etc.
- **Onsite & Off-shore Outsourced Software Project Domain:** Infostep Inc. was formed in 1998 in Santa Clara, US, the heart of the Silicon Valley. Since inception, Infostep provided innovative products and services in IT to the US enterprise markets. The acquisition of Infostep has given access to business intelligence & performance measurement services, survey management services, corporate governance & risk management services, enterprise applications services, product offerings, global customers.

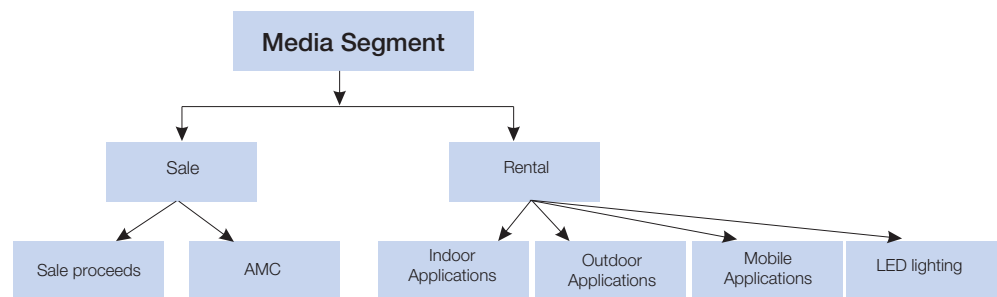
*** Communication and electronics services division**

Marketing and selling arrangements: BSNL and MTNL are MIC’s main customers since they are bulk purchasers of telecom equipment in the country. Operations of private telecom operators have also resulted in significant increase in demand for telecom equipment. The growth in procurement plans of all telecom operators is also likely to increase the scope of the company’s products such as broad band digital loop carrier, hand held computer, GSM/CDMA payphones, GSM fixed cellular terminals (FCTs), CDMA, fixed wireless terminals, fixed wireless phones. The selling arrangements for BSNL and MTNL are through open tenders and for private telecom operators MIC’s marketing team has regular interaction.

*** LED innovations**

Advances in nanotechnology, compound semiconductor materials, and enhanced manufacturing techniques have helped in generating a new generation of high brightness LEDs in nearly all colours of the visible spectrum as an effective medium for outdoor advertisement.

Fig. 1: LED business revenue streams



Source: Company, Edelweiss research

* **R&D focus works as an entry barrier to other players**

MIC's sustained R&D investment over the years has given it an advantage in the LED segment in terms of cost competitiveness and differentiated product offerings. Its research team comprising 48 engineers is continuously focused on developing innovative ideas, identifying market trends, cost reduction, feature enhancement, and customer satisfaction. The company has been able to continuously improve its product offerings and launch variants in the market regularly. The current projects in the R&D phase are LED display software enhancement, indoor display, and solar LED lightings for rural applications.

* **Some key R&D successes have been:**

Hardware design: The hardware design team is strong in the areas of high speed circuit design, digital, analog, mixed signal designs, high speed multi-layered PCB design, design verification, and testing. The design team has been working at ensuring minimum usage of hardware in screens to minimise costs and make compact products.

VHDL: VHDL is a hardware description language used for designing of chips and application specific integrated circuits (ASIC). MIC has used VHDL and high speed field programmable gate arrays (FPGAs) to develop its own proprietary technology for video systems.

System software: MIC's system software development capabilities have led to the development of a lot of system software for internal requirements as well as external clients for a variety of domains and applications. This had led to the successful development of *Scan+*.

* **Raw material sourcing: Forging close ties with vendors**

MIC has limited suppliers for LEDs, its key raw material, on account of requirement of high quality standards that only a few can meet. It sources its requirement of LEDs from Nichia Corporation, Japan. The company enters into purchase orders, under which, it agrees to purchase a minimum amount of products in exchange for guaranteed price terms during the contract period that generally does not exceed a year. Such arrangements have enabled MIC develop close relationship with its vendor.

Other Growth Drivers

* **Entry into ‘theme parks’ with outdoor digital theatres**

MIC’s theme parks are aimed at creating an environment for entertainment and recreation. It has already established a theme park with a giant LED video display as the central theme at Tenneti Park, Visakhapatnam. In due course, the company plans to carry out similar projects in Hyderabad, Bangalore, Mumbai, and Delhi.

* **Focus on R&D to explore opportunities in 3D display**

Stereo display is an upcoming technology for entertainment and outdoor advertising with three-dimensional (3D) visual capabilities. MIC is exploring opportunities to develop LED-based 3D display products jointly with the University of Western Sydney, Australia.

* **Expanding scope of LED display to semi retail applications**

By varying the size and pixel pitch of screens and the technological ability of its display systems to operate on any kind of input signals, has opened up a number of new application avenues. The company is exploring options of semi-retail applications like outdoor television or ‘backyard TV’ for its display systems, to cater to families living close by in small housing complexes or societies. MIC is also looking at mass entertainment options like drive-in theatres, large hotels, food courts, restaurants, which currently operate cumbersome projectors or LCD televisions.

* **Securing bulk permission for advertisement sites from municipalities**

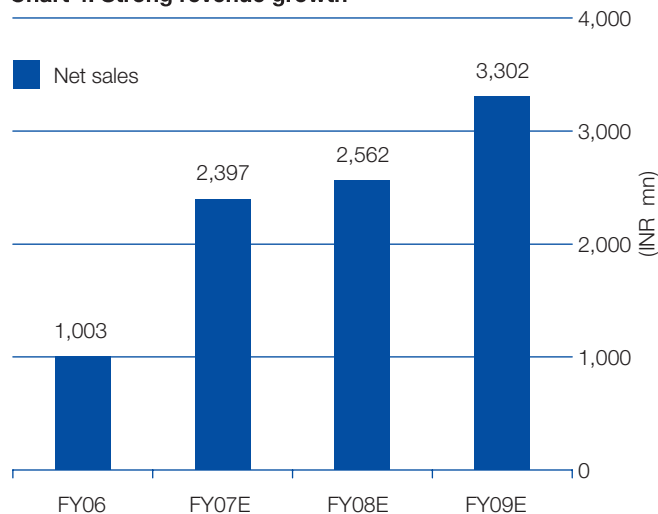
MIC previously sold outdoor LEDs directly to its customers, who in turn, obtained permission from the respective municipalities for displaying these LEDs at specific sites. Now the company is looking at setting up a model, wherein, it will be able to secure permission for bulk sites with installations.

Financial Outlook

* Media business to drive revenues

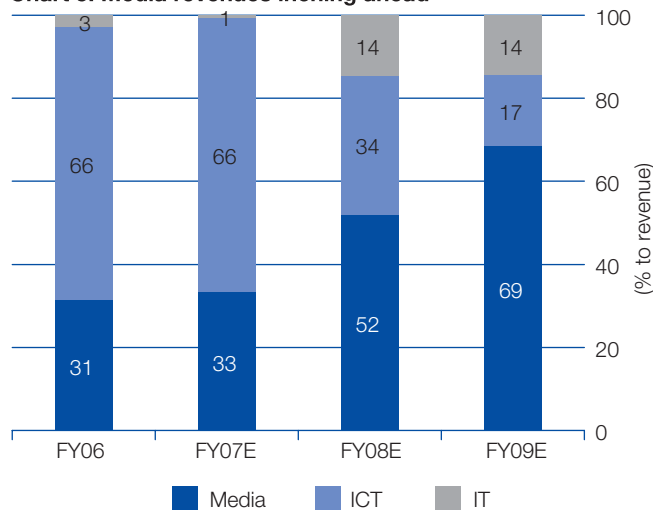
We expect MIC’s media division to post a CAGR of 70% over FY07-09E to INR 2,305 mn, which, in turn, will drive total revenue CAGR of 17% to INR 3,302 mn in FY09E. Overall, net profit is likely to see an increase at a 44% CAGR to INR 668 mn in FY09E. The total revenue is likely to grow slower than the media business on account of the de-focus from the communication business, which in FY07 accounted for 66% of revenues. This contribution is likely to fall to 17% in FY09E. The contribution of the media business is likely to rise from 33% in FY07 to 69% in FY09E.

Chart 4: Strong revenue growth



Source: Edelweiss research

Chart 5: Media revenues inching ahead

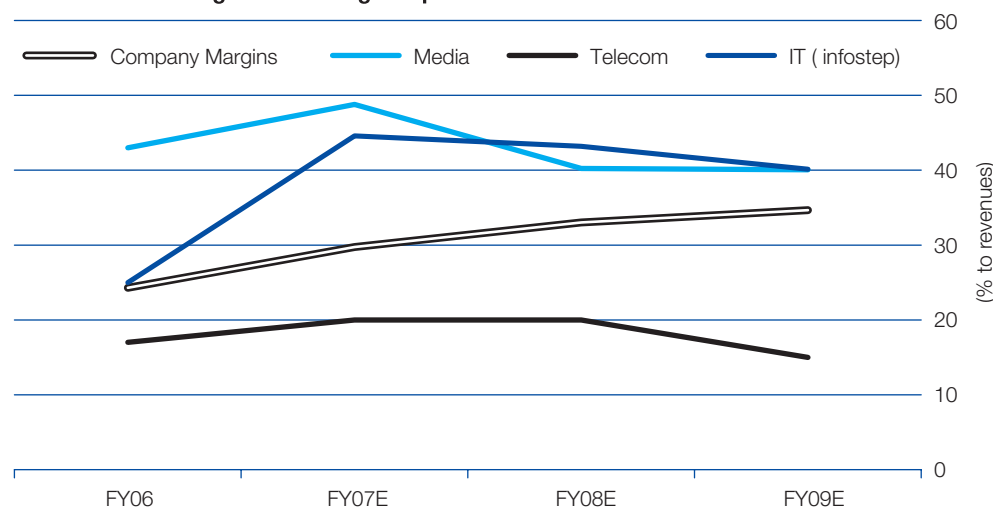


Source: Edelweiss research

* Gross profit expansion due to growing share of media business

We expect MIC’s gross margins to increase from 30.0% in FY07UA and 35.0% in FY09E on account of increased contribution from the high-margin media business. We estimate the higher margins in media business (at 42% against 20% for telecom business) to drive gross profits. The share of the media business in MIC’s gross profits is estimated to increase from 56% in FY07 to 81% in FY09E.

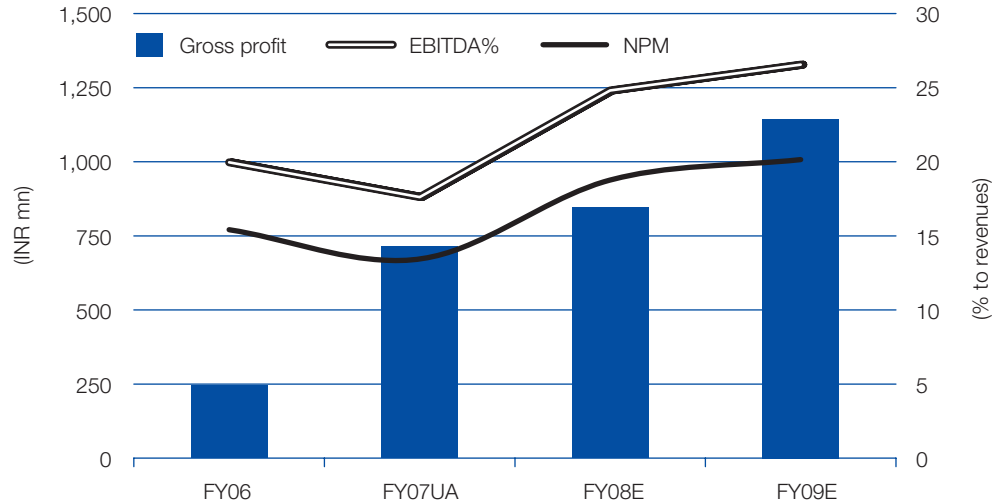
Chart 6: Gross margins lead margin expansion



Source: Edelweiss research

Going forward, the higher salary costs on account of the Infostep IT business will result in EBITDA margins growing slower than the gross margins. MIC's net profits are expected to grow at 44% (CAGR) over the next two years. The net margin over the same period is likely to expand from 13.4% in FY07UA to 20% in FY09E.

Chart 7: Steady margin improvement

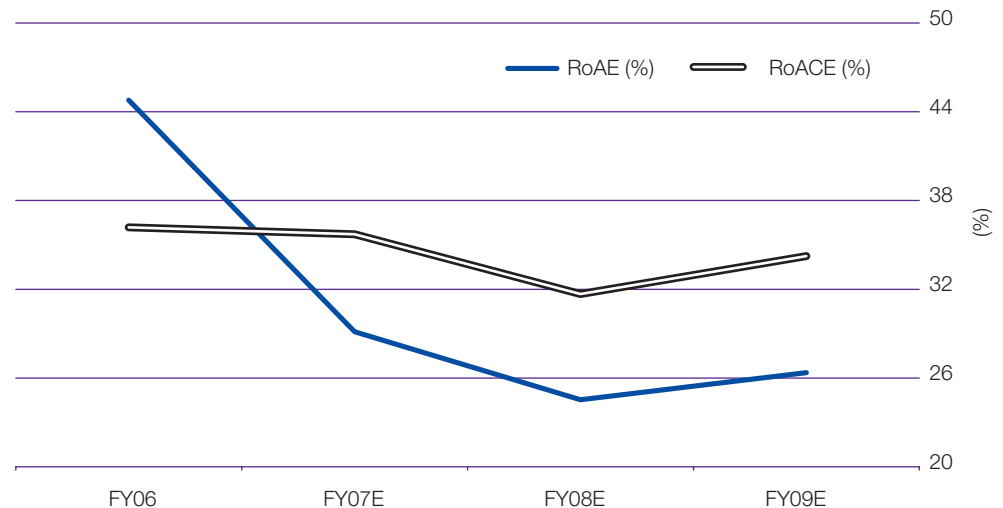


Source: Edelweiss research

*** Return ratios to continue to be strong**

MIC has good return ratios with ROE's at 29% in FY07UA and ROCE at 36%. The low leverage and the high margins in the media business have made the ratios attractive. The company is moving from a predominantly trading (on account of high proportion of revenues from telecom and IT) to a more manufacturing based business with rising media revenues. This has led to a temporary dip in the ratios in FY07UA and FY08E. However, going forward with the media revenue dominating revenues, the return ratios show signs of improvement.

Chart 8: Attractive return ratios



Source: Edelweiss research

Financial Statements

Income statement						(INR mn)
Year to June	FY05	FY06	FY07UA	FY08E	FY09E	
Income from operations	243	1,003	2,397	2,562	3,302	
Direct costs	182	760	1,702	1,716	2,157	
Employee costs	13	28	33	159	202	
Other expenses	14	15	240	51	66	
Total operating expenses	209	803	1,975	1,926	2,425	
EBITDA	34	200	422	636	877	
Depreciation and amortisation	7	16	17	59	77	
EBIT	27	184	405	577	800	
Interest expenses	15	17	24	20	29	
Other income	0	1	-	10	15	
Profit before tax	12	168	381	568	786	
Provision for tax	(3)	13	39	85	118	
Extraordinary items	-	-	20	-	-	
Reported profit	16	155	322	483	668	
Adjusted net profit	16	155	322	483	668	
EPS	1.9	17.0	16.0	24.0	33.2	
Shares outstanding *	8	9	20	20	20	

* fully diluted

Common size metrics as % of net revenues

Year to June	FY05	FY06	FY07UA	FY08E	FY09E
Operating expenses	86.0	80.0	82.4	75.2	73.4
EBITDA margins	14.0	20.0	17.6	24.8	26.6
Depreciation	2.9	1.6	0.7	2.3	2.3
Interest expenditure	6.1	1.7	1.0	0.8	0.9
Net profit margins	6.4	15.4	13.4	18.8	20.2

Growth metrics (%)

Year to June	FY05	FY06	FY07UA	FY08E	FY09E
Revenues	83.8	312.4	138.8	6.9	28.9
EBITDA	102.1	485.9	110.8	50.6	37.9
PBT	186.4	1,259.3	127.2	49.1	38.4
Net profit	377.2	893.0	108.0	50.0	38.4

Cash flow statement						(INR mn)
Year to June	FY05	FY06	FY07UA	FY08E	FY09E	
Net profit	16	155	322	483	668	
Add: Depreciation	7	16	17	59	77	
Gross cash flow	21	183	359	541	745	
Less: Dividends	-	-	45	45	45	
Less: Changes in W. C.	9	(309)	(354)	(234)	(296)	
Operating cash flow	30	(126)	(41)	263	403	
Less: Change in investments	(1)	9	-	-	-	
Less: Capex	(85)	(44)	(365)	(121)	(309)	
Free cash flow	(56)	(161)	(407)	142	94	

Balance sheet						(INR mn)
As on 30th June	FY05	FY06	FY07E	FY08E	FY09E	
Equity capital	82	91	201	201	201	
Reserves & surplus	113	404	1,473	1,910	2,533	
Shareholders funds	195	496	1,674	2,111	2,734	
Secured loans	144	188	125	200	275	
Borrowings	144	188	125	200	275	
Sources of funds	340	683	1,799	2,312	3,010	
Gross block	229	250	615	736	1,045	
Depreciation	40	55	72	131	208	
Net block	189	194	543	606	838	
Capital work in progress	0	24	24	24	24	
Total fixed assets	189	218	567	629	861	
Investments	16	6	6	6	6	
Inventories	46	91	79	353	473	
Sundry debtors	94	347	708	676	874	
Cash and equivalents	7	15	426	643	812	
Loans and advances	46	82	102	118	124	
Total current assets	193	536	1,315	1,788	2,283	
Sundry creditors and others	44	54	47	47	59	
Provisions	5	21	42	65	82	
Total CL & provisions	49	75	89	112	141	
Net current assets	144	461	1,226	1,676	2,142	
Net deferred tax	(9)	(2)	0	0	0	
Uses of funds	340	683	1,799	2,312	3,010	
Book value per share (BV) (INR)	24	54	83	105	136	

Ratios

Year to June	FY05	FY06	FY07UA	FY08E	FY09E
ROE (%)	8.5	44.8	29.7	25.5	27.6
ROCE (%)	8.9	36.2	31.0	28.6	30.6
Current ratio	3.9	7.1	14.8	15.9	16.2
Debtors (days)	141	126	100	95	95
Fixed assets t/o (x)	1.6	4.9	6.1	4.3	4.4
Debt/Equity	0.7	0.4	0.1	0.1	0.1

Valuation parameters

Year to June	FY05	FY06	FY07UA	FY08E	FY09E
EPS (INR)	1.9	17.0	16.0	24.0	33.2
CEPS (INR)	2.8	18.7	16.8	26.9	37.0
P/E (x)	193.9	21.7	23.0	15.3	11.1
Price/BV(x)	15.0	6.6	4.4	3.5	2.7
EV/Sales (x)	12.5	3.4	3.0	2.8	2.1
EV/EBITDA (x)	89.3	17.1	16.8	11.2	8.1

NOTES

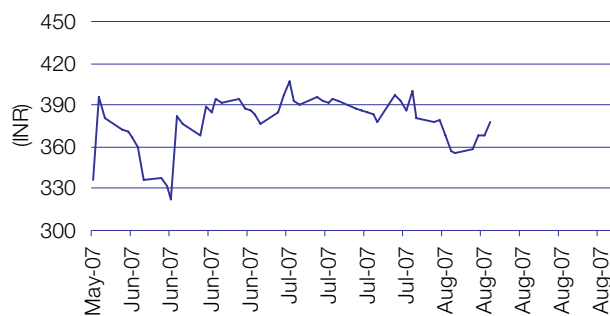
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Coverage group(s) of stocks by primary analyst(s): Media:

Inox Leisure, New Delhi Television, PVR, Shringar Cinemas, Television Eighteen India, TV Today Network, Zee Entertainment Enterprise

MIC



Recent Research

Date	Company	Title	Price (INR)	Recos
31-Jul-07	TV Today	Good quarter; Bleak outlook; <i>Result Update</i>	159	Sell
31-Jul-07	Inox Leisure	Growth on tract; <i>Result Update</i>	123	Accum
25-Jul-07	Shringar Cinemas	Another strong quarter; <i>Result Update</i>	60	Buy
20-Jul-07	PVR	Good show; <i>Result Update</i>	226	Accum

Distribution of Ratings / Market Cap

Edelweiss Research Coverage Universe

	Buy	Accumulate	Reduce	Sell	Total
Rating Distribution*	95	40	24	6	175
* 10 stocks under review / rating withheld					
	> 50bn	Between 10bn and 50 bn	< 10bn		
Market Cap (INR)	76	67	32		

Rating Interpretation

Rating	Expected to
Buy	appreciate more than 20% over a 12-month period
Accumulate	appreciate up to 20% over a 12-month period
Reduce	depreciate up to 10% over a 12-month period
Sell	depreciate more than 10% over a 12-month period

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