



Astra Microwave Products Ltd

Defence **Space** **Telecom** **Meteorology** **Satcom** **Security**

CORPORATE PRESENTATION

Our Belief
Explore
Innovate
Invent

The background image shows a scientist in a white lab coat looking down at a tablet. Overlaid on this are six rectangular images: 1. A row of missiles on a launch pad (Defence). 2. A space shuttle launching from a cloud (Space). 3. A telecommunications tower with multiple satellite dishes (Telecom). 4. A weather station tower with a radar dome (Meteorology). 5. A satellite dish antenna (Satcom). 6. A lightning bolt striking a dark cloud (Security).

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Abbreviations



AESA radar	Active Electronically Scanned Array radar
AWS	Automatic Weather Station
BFSR	Battle Field Surveillance Radar
CAR	Central Acquisition Radar
DRDO	Defence Research and Development Organisation
IJT	Intermediate Jet Trainer
LCA	Light Combat Aircraft
LRU	Line Replaceable Units
MMIC	Monolithic Microwave Integrated Circuit
MSS	Mobile Satellite Services
OEM	Original Equipment Manufacturer
RISAT	Radar Imaging Satellite
RFID	Radio Frequency Identification
Satcom	Satellite Communication
T/R Modules	Transmitter and Receiver Module
UHF, L, S,C, X, Ku	Different bands of radio frequency



Company Overview

Company Overview



Company Overview

- ❖ Established in 1991 by a team of industry professionals / scientists
- ❖ Astra Microwave Products Limited (AMP) is in the business of designing, developing and manufacturing a wide array of radio frequency systems, microwave chips, microwave based components and subsystems
- ❖ AMP also manufactures associated digital electronics for OEMs of radars, telemetry equipments, ground based surveillance, satellite communications, equipments used in defence sector like missiles, light combat aircrafts and equipments used for meteorology etc.
- ❖ Four production facilities in Telangana (two in Medak District and two in Ranga Reddy District)
- ❖ R&D centers in Ranga Reddy District, Telangana and Bengaluru, Karnataka recognized by Ministry of Science & Technology, Department of Scientific and Industrial Research

Key Sectors Served

Defence

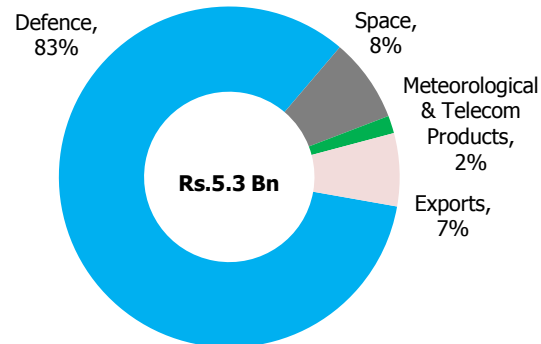
Space

Telecom

Meteorology

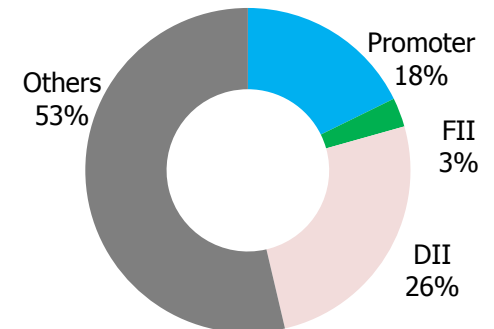
Order Book

As on October 31, 2015

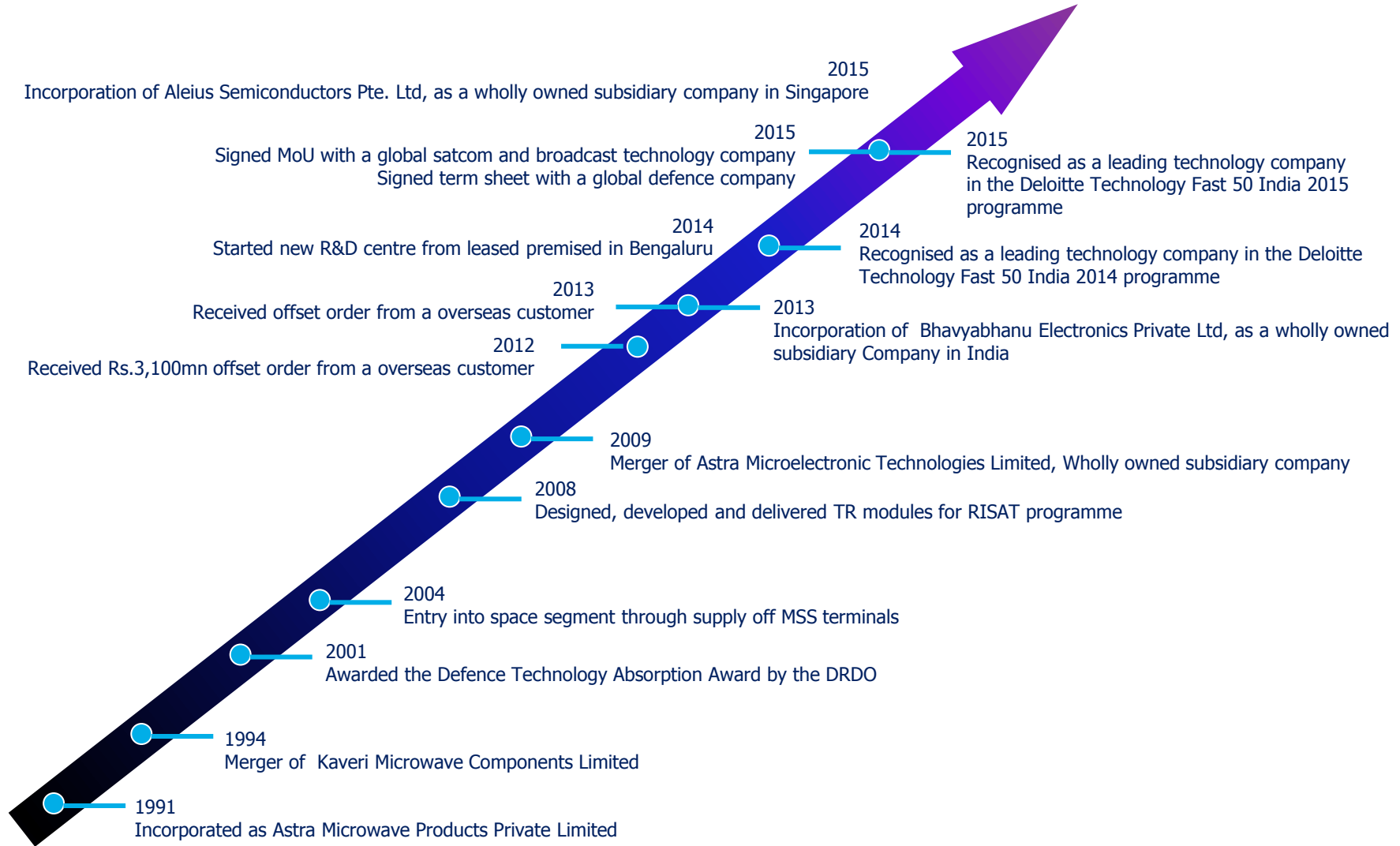


Shareholding Structure

As on September 30, 2015



Journey so far



Product Portfolio & Customers

Products and Applications

Defence

Radar

- ❖ Transmit/receive (T/R) modules in UHF, L, S, C, X and Ku band
- ❖ Low power microwave sub-systems for central acquisition radar (CAR)
- ❖ Electronic beam former for 3-D radar
- ❖ Microwave receivers and Higher power limiters

Telemetry:

- ❖ Data & video telemetry transmitter systems for LCA & IJT
- ❖ Video telemetry receivers

Ground-based surveillance:

- ❖ 8 and 16 channel frequency synthesizers
- ❖ VHF/UHF and microwave range front end, LRUs
- ❖ VHF/UHF and microwave range biconical, dual-polarised antennae

Missiles

- ❖ Command guidance sub-systems
- ❖ Radio proximity sub-systems

Space

Ground based:

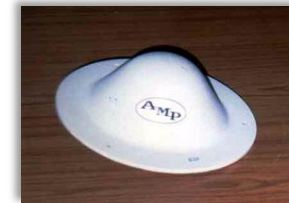
- ❖ Type-D mobile satellite terminals
- ❖ 8x8 routers
- ❖ Automatic weather stations
- ❖ 16 channel transceivers L-band TR module

Onboard (shuttle/space):

- ❖ C band T/R modules
- ❖ S band transmitter
- ❖ Ku band MMIC receivers
- ❖ TR controller units

Others*

- ❖ Automatic weather stations (AWS)
- ❖ Met Towers
- ❖ Mobile jammers
- ❖ Tower mounted amplifiers and boosters
- ❖ MSS terminals
- ❖ RFID solutions
- ❖ Industrial security system
- ❖ Non linear junction detector



Breakup

Revenues (FY15)

30%

10%

60%

Order Book (1H FY16)

83%

8%

9%

*Includes Exports for Defence segment and products related to telecom and meteorology

Awards and Certifications

Awards



2001
Defence Technology Absorption Award



2015
Aerospace & Defense Award- Best achiever in R&D Award category



2015
ELCINA 1ST Prize for business excellence



2006
SIATI Aerospace Award



2015
2014
Deloitte Technology Fast 50-India



Certifications



ISO 27001:2013

ISO 9001:2008



*ANSI/ESD S20.20-2007
 National Quality Assurance, USA*

AS9100 C



Key Highlights

Key Highlights



1 Strong R&D capabilities leading to track record of new product development

2 Track record of executing contracts under defence offset clause

3 Experienced management team with a skilled employee base

4 Order book

5 Key industry drivers in place

6 Impressive financial performance

Strong R&D Capabilities Leading to New Product Development

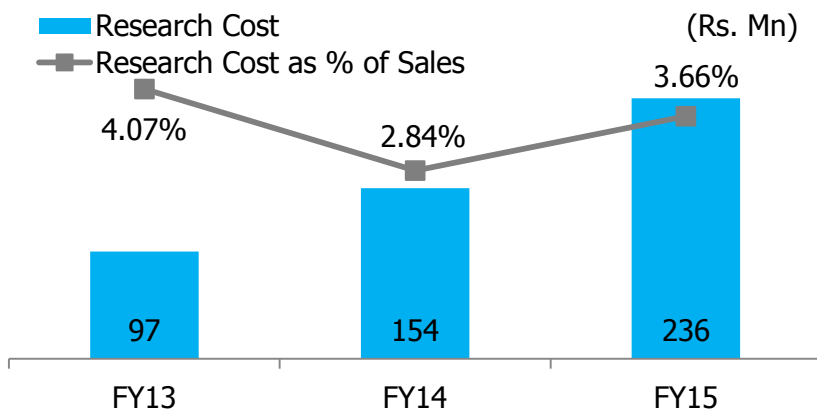


				
Plant 1 – Medak District, Telanga (Mfg. Unit)	Plant 2 – Medak District, Telanga (Mfg. Unit)	Plant 3 – Ranga Reddy District, Telanga (Mfg Unit and R&D Centre)	Plant 4 – Ranga Reddy District, Telanga (Mfg. Unit)	R&D Centre in Bengaluru, Karnataka

Astra's R&D strengths

- ❖ Well-established team of 165 employees as on October 31, 2015
- ❖ R&D professionals with decade-plus experience with government research organisation
- ❖ R&D labs recognised by Ministry of Science & Technology, GoI
- ❖ In-house MMIC design, testing and manufacturing capabilities

Strong track record of new product development and seamless execution leading to new orders



- ❖ Defence – Developed sub-systems for various defence programmes and new technologies in India such as AESA radars, BFSR, 3D-CAR and electronic warfare equipment
- ❖ Space – Developed sub-systems for India's RISAT program
- ❖ Meteorology – Developed and manufactured automatic weather stations along with met towers

Experienced Management Team



Dr. Shibhan Koul
Chairman

B Malla Reddy
Managing Director

PA Chitrakar
Director and COO

C Prameelamma
Director

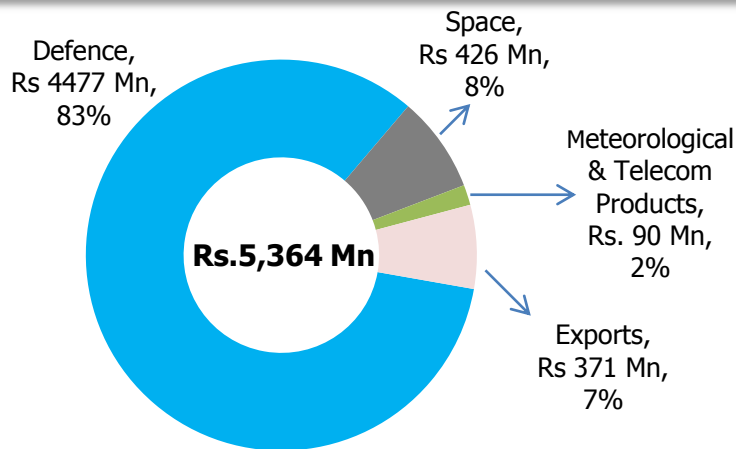
MV Reddy
Director – Marketing & Operations

S Gurunatha Reddy
CFO and Whole time Director

Order Book

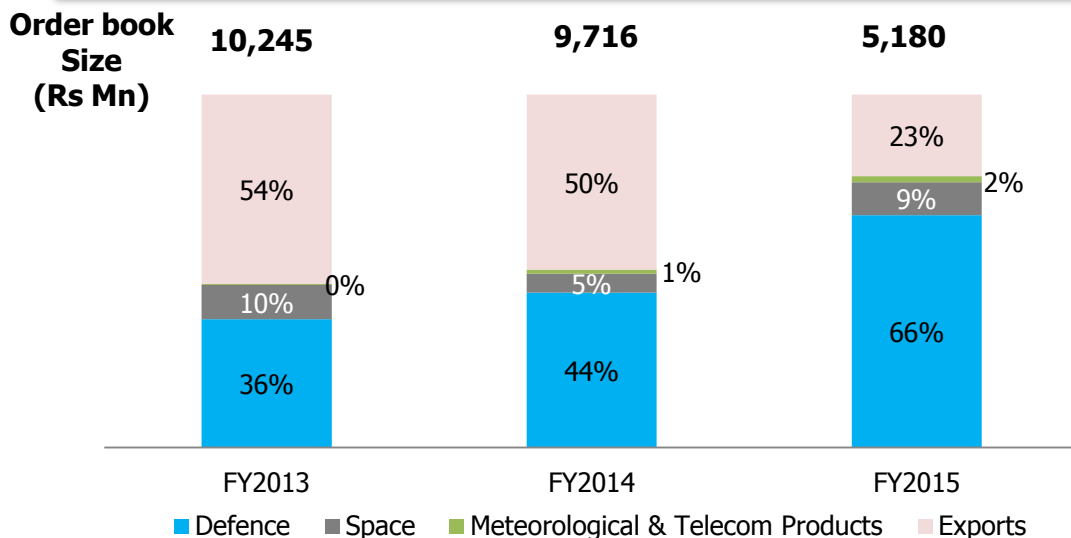
Order Book Summary

As on October 31, 2015



- ❖ Order book as on 31 October 2015 of Rs.5.3bn
- ❖ Major clients include navratna public sector enterprises and large multinational defence electronics companies

Order Book Split – Historical



- ❖ Defence continues to be the largest segment in the order book
- ❖ New products such as seekers, advance radar warning receivers and wind profile radar which we believe have the potential to drive order book growth

Key Industry Drivers : Defence Spend & Make-In-India



Defence spend in India expected to get a boost

- ❖ Defence Budget projects India's defence spend will reach US\$65.4bn in 2020 from USD 38.38bn in 2013-14
- ❖ Defence allocation in Union Budget 2015-16 increased 7.7% y-o-y to Rs. 2,467bn
- ❖ India's extensive modernisation plans, an increased focus on homeland security to increase government allocation for defence expenditure (~1.8% of GDP in 2014-15)

Offset Policy – A huge opportunity

- ❖ The offset policy (which stipulates the mandatory offset requirement of a minimum 30% for procurement of defence equipment in excess of Rs.3 Bn) introduced in the capital purchase agreements with foreign defence players would ensure that an eco-system of suppliers is built domestically
- ❖ Defence offset obligations to the tune of Rs. 250bn expected in the next 7-8 years

Make-In-India – A game changer

- ❖ GoI is seeking to expand procurement through indigenous sources, from the current 30% to the target 70% over the next decade
- ❖ The opening of the strategic defence sector for private sector participation will help foreign original equipment manufacturers to enter into strategic partnerships with Indian companies and leverage the domestic markets and also aim at global business. Besides helping build domestic capabilities, this will bolster exports in the long term

Favorable regulatory environment

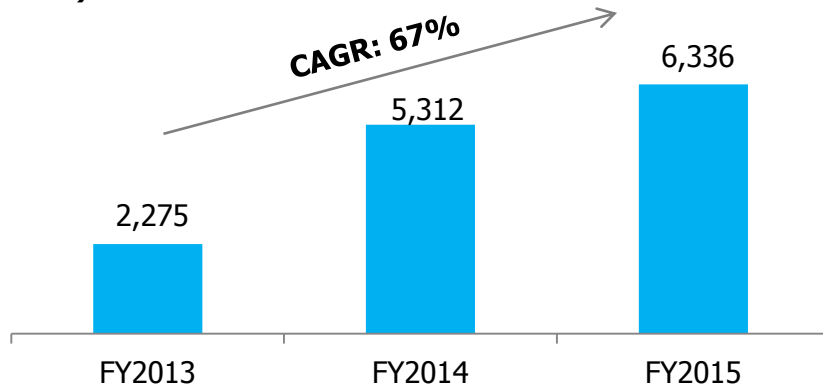
- ❖ FDI in defence allowed upto 49% under automatic route and beyond that through FIPB approval
- ❖ Defence Procurement Policy 2013 prioritizes sourcing arrangement and the priority list is as follows – (i) Buy (Indian), (ii) Buy & Make (Indian), (iii) Make (Indian), (iv) Buy & Make with Transfer of Technology and (v) Buy (Global)
- ❖ Other policy such as guidelines for setting up joint ventures, procedure for grant of industrial license, etc clearly laid out

Financial Performance



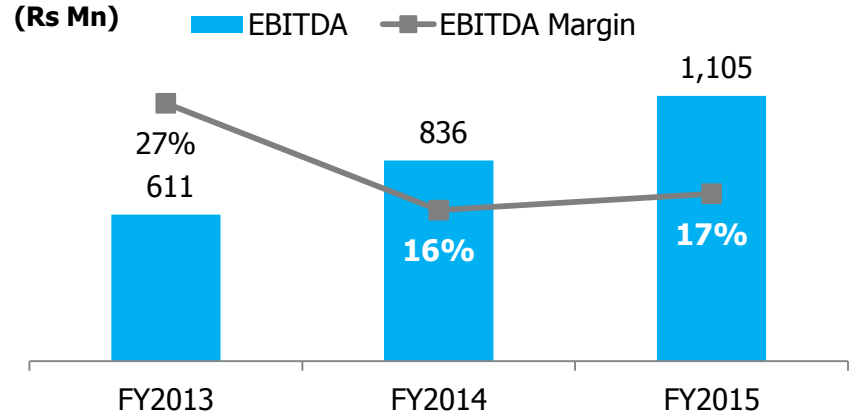
Revenues

(Rs Mn)



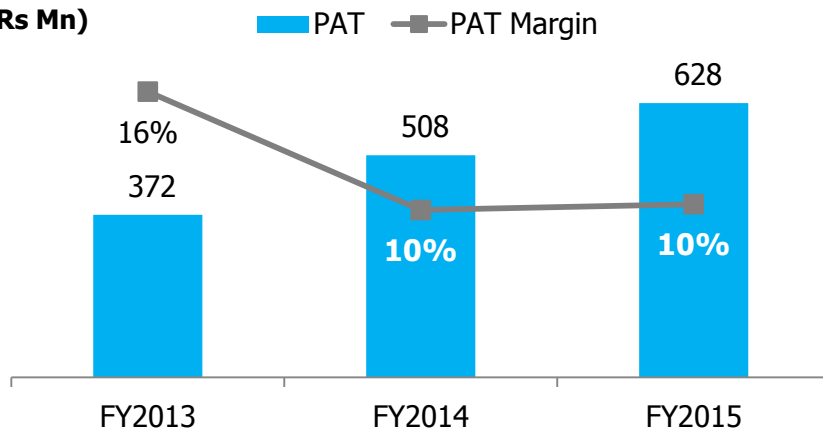
EBITDA & Margins

(Rs Mn)

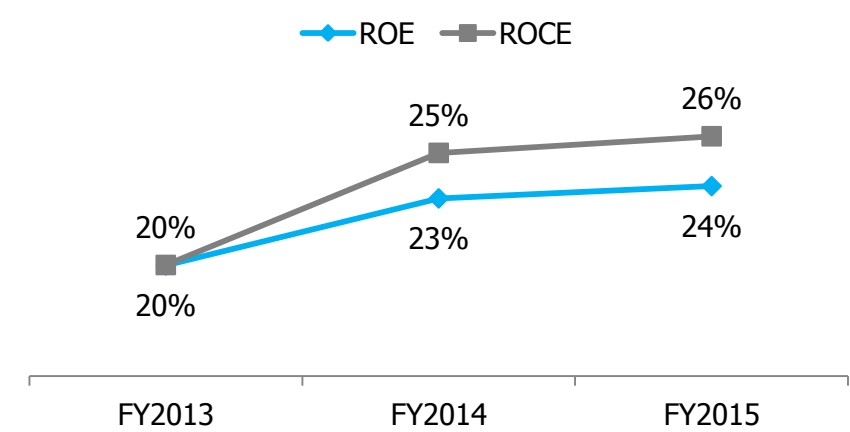


PAT & Margins

(Rs Mn)



Return Ratios





Business Strategy

New product development to accelerate growth

- ❖ Develop products in close association with government research organisations for defence and space
- ❖ Grow business by producing new and innovative products which will add customers in existing and new markets
- ❖ Enter commercial end user markets for radars

Development of human resources and skills enhancement

- ❖ Maintain a professional work environment along with a participative leadership and management team
- ❖ Add to the existing pool of research, development and engineering professionals



Focus on R&D

- ❖ Invest in modern technology and equipments to address changing industry trends and customer requirements
- ❖ Leverage strong R&D base to broad base domestic offerings
- ❖ Started R&D center in Bengaluru to focus on developing complete systems

Improve productivity and competitiveness

- ❖ Increase the efficiency and competitiveness of operations by investing in state of the art machinery and equipment and related operating methods

Joint ventures and strategic alliances

- ❖ Form joint ventures and/or strategic alliances, to offer improved technology and products
- ❖ Target the offset requirement in large defence procurement programmes of GoI
- ❖ Signed MoU with a global Satcom and Broadcast Technology company; signed term sheet with a global defence company



Annexure: Financials

Income Statement



(in Rs Mn)	FY2013 Standalone ⁽¹⁾	FY2014 Consol	FY2015 Consol	1HFY2016 Standalone
Net Revenues from Operations	2,275	5,312	6,336	2,057
Cost of Materials Consumed	953	3,944	4,507	1,168
Changes in Inventories	51	(465)	(272)	22
Employee Benefit Expenses	280	378	415	216
Other Expenses	379	620	581	212
EBITDA	611	836	1,105	439
Depreciation and Amortization	134	148	220	109
EBIT	478	688	885	330
Other Income	69	78	63	11
Financial Costs	41	67	100	43
Profit before exceptional and extraordinary items and tax	506	699	848	298
Exceptional & Extraordinary items	(1)	(2)	(1)	(1)
Profit before tax	504	696	847	297
Tax Expense	133	188	220	67
- Current Tax	125	161	194	64
- Deferred Tax	8	27	26	3
Net Profit before Minority Interest and Share of Profit / (Loss) in Associates	372	508	628	230
Net Profit after Minority Interest and Share of Profit / (Loss) in Associates	372	508	628	230

Note:

1) In FY2013 the company had no subsidiaries

Balance Sheet



(in Rs Mn)	FY2013 Standalone ⁽¹⁾	FY2014 Consol	FY2015 Consol	1HFY2016 Standalone
Net Worth	2,009	2,412	2,918	3,130
Borrowings				
- Long-term Borrowings	181	351	434	281
- Short-term Borrowings	282	257	489	502
Deferred Tax Liabilities (Net)	56	83	109	111
Liabilities & Provisions				
- Trade Payables	2,194	2,242	752	410
- Provisions	151	191	163	31
- Other current liabilities	115	111	76	177
Total - Equity & Liabilities	4,988	5,646	4,942	4,643
Net Tangible Assets	1,079	1,261	1,416	1,347
Investments	236	23	1	4
Current Assets, Loans & Advances				
- Inventories	738	1,585	1,732	1,398
- Trade Receivables	1,434	1,313	1,119	1,204
- Loans & Advances	355	818	375	262
- Other Current Assets	13	11	8	7
- Cash and Bank Balance	1,133	637	291	421
Total - Assets	4,988	5,646	4,942	4,643

Note:

1) In FY2013 the company had no subsidiaries

THANK YOU
