

# **HBL POWER SYSTEMS LIMITED**

## **INFORMATION FOR SHAREHOLDERS**

**14 Feb 2023**

# WHAT DOES HBL DO?

- Organising Engineering talent to fill Technology Gaps is HBL's purpose.
- There are six pillars to HBL's strategy, which are based on the founder's background in learning, teaching and practicing, both technology development and management.
- Specialized Batteries for Defence and Industry happened to be the first domain to which this strategy was applied.
- But HBL has later applied it to Defence Electronics, Railway Signaling, Artillery Fuzes and Electric Truck Drive Trains.

# STRATEGY PILLARS 1,2 AND 3

1. Because most Indian companies rely on foreign technical collaborations, but foreign companies are unwilling to transfer technology, ***technology gaps exist*** in the Indian market. ***These gaps offer business opportunities, for those with the Technical judgement*** in deciding which products can be developed with available engineering talent.
2. The ***Business judgment*** is in choosing ***niche markets*** (too small for big firms and too hard for small firms) to create secure market spaces for a long period of time, so each business can survive infant mortality.
3. With success, there will be ***less competition***. Better prices will lead to a good return on investment. HBL has succeeded technically in most attempts so far; and commercially, even if with long delays, in enough attempts to be what it is today.

## STRATEGY PILLARS 4,5 AND 6

4. A single product is too big a risk for a small company. So, a portfolio was developed with ***related products*** (in both technology and market extensions).
5. HBL chose Specialized Batteries, Electronics and Electric Motors as the set of ***related technologies within which to develop businesses without foreign collaborations.***
6. To develop technology indigenously, HBL taps diverse sources of talent, and encourages an entrepreneurial spirit within the company.

# BUSINESSES SEGMENTED BY EXPECTED GROWTH RATES

<b>Traditional; Low Growth</b> <i>Industrial Batteries for</i>	<b>Established; Moderate Growth</b> <i>Defence Batteries for</i>	<b>Emerging ; Rapid Growth</b> <i>FY 24 Plus Electronics for Rail &amp; Defence</i>	<b>Future FY 25 Plus</b> <i>Electronic Fuzes and Electric Drive Trucks</i>
Telecom Towers, Rail Coaches, UPS (VRLA)	Torpedoes	Train Collision Avoidance Systems (Kavach)	EV Motors for E-Trucks
Engine Starting, Data Centres (PLT)	Missiles	Train Monitoring Systems (TMS) Armoured Vehicle Communication Systems (DCH)	Electronics for E-Trucks
Oil & Gas, Utilities, Metro Coaches (Nickel)	Aircraft	Electro Optics Products (Made for Tonbo Imaging)	Batteries for E-Trucks
Battery Backup Systems (Lithium)	Submarines	Grenades, Electronic Fuzes, Reserve Batteries	Electronic Fuzes for Artillery Guns, Rockets, Bombs

**Note :** Investors interested in details of the products/applications are referred to the Annexure to this presentation

## Disclaimer

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# MACRO ECONOMIC TAIL WINDS FOR HBL PRODUCTS

- Batteries made by HBL are replacement products for essential infrastructure. Demand is less subject to the state of the overall economy, thus more stable.
- Electronic signaling is a priority investment for the Railways because it enables higher utilization of existing track infrastructure. Safety is a bonus.
- Defence indigenization is at last being taken seriously.
- Electric mobility is necessary for energy security. Reduce petroleum imports. Trucks consume a lot of diesel and diesel prices will continue to go up.

# POTENTIAL SALES BY BUSINESS SEGMENT, OVER NEXT 3 YEARS

Please read Disclaimer again!

*“There is many a slip, between the cup and the lip”*

Rs. Crores

YEAR	Traditional Low Growth <i>Industrial Batteries</i>	Established Moderate Growth <i>Defence Batteries</i>	Emerging Rapid Growth FY 24, Plus <i>Electronics for Rail &amp; Defence</i>	Future FY 25 Plus <i>Electric Drive Trains. Electronic Fuzes.</i>	TOTAL SALES	EBITDA	EBIDTA %
FY 23	959	183	65	-	1308*	170	13
Capex FY 24	37	18	12	23	Excluding equity Investment in Tonbo Imaging Ltd of 150 cr		
FY 24	1060	220	420	50	1750	262	15
FY 25	1100	250	800	150	2300	414	18
FY 26	1160	300	1200	240	2900	522	18

\* Including sales of 101 cr of products not shown in any of the three segments

## **BASIC STRENGTHS OF THE COMPANY**

- HBL has developed the technology for most of its products in house and has freedom to export and sell technology. Physical and intellectual infrastructure already exists to support steady growth.
- HBL market position in India is # 1 or # 2 in all products, except telecom tower batteries where it is # 3.
- Much of the cost of product development has been expensed. This is one reason why the profitability has been low in recent years, and why it will be higher in future.



# CONCLUSION

- For the next few years, R&D expenditure would be lower and Working Capital would increase. The high capex of FY 24 will not be needed again in the next few years.
- HBL avoids the risk of large Capex intensive projects, and should therefore have little volatility in its financial performance.
- HBL aspires to be a high value technology based business, like the leading Mittelstand firms of Germany. We are on track to become one such company.
- Organising Engineering Talent to fill Technology Gaps remains our purpose.

**ANNEXURE**

**BRIEF NOTES ON HBL BUSINESSES**

**14 Feb 2023**

# # 1. Telecom Tower Batteries

- Most telecom batteries today are Valve Regulated Lead Acid. HBL developed the technology in-house. This is a B2B procurement by private telecom operators; and tender based by BSNL.
- There are now only three firms in the Telecom market in India, versus six firms about 10 years ago.
- Amara Raja has the highest share, followed by Exide and then by HBL. ARBL and Exide both expanded capacity only to find that the demand had declined. This excess capacity depressed prices and the margins are still low.
- Addition of 5G towers and return to normalcy on replacement schedules of batteries for older towers (which was deferred when the operators were impacted by JIO) will increase demand with effect from FY 24.

## # 2. Rail & Metro Coaches / Loco Batteries

- Every rail/ metro coach needs a battery. These are made as Lead Acid or Nickel Cadmium Alkaline Batteries. HBL has been a recognised supplier in India and in export markets of both types.
- HBL is the second largest producer of Industrial Nickel Cadmium Batteries, globally.
- Siemens – Germany has selected HBL as the OEM supplier for their new generation of coaches, called RRX. Siemens – America has bought HBL batteries for coaches they sold to Canada.

## # 3. Batteries for Oil and Gas and Utility Industries

- There are many industries where Nickel Cadmium Pocket Plate Batteries are used because reliability and safety are of paramount importance. Oil and Gas is one such industry.
- Reliance Industries Jamnagar Refinery has been using HBL batteries since its inception.
- HBL has been successfully exporting these batteries for thirty years.

## # 4. DC Power Back up Systems

- Pure Lead Tin batteries are Lead batteries designed to deliver higher power (more than automotive) for short durations. They are being used for stationary engine starting (Cummins resells HBL made batteries under its brand). Also used for Tanks, Army trucks operating at -30°C temperature etc.
- These batteries are now also being preferred for Data Centers. HBL is the only producer in India and the second in the world, based on in-house development of technology. HBL also has export markets.
- Lithium Ion battery packs supplied with imported cells and HBL made Battery Monitoring Systems are a market where HBL brand has value.

## # 5. Torpedo Batteries

- HBL is one of two suppliers in India which have been supplying batteries for Torpedo Propulsion to the Indian Navy. HBL also exports these batteries in limited numbers.
- HBL has two contracts from NSTL/ DRDO for development of state of the art Al AgO Torpedo Batteries. Only two companies in the world make such batteries today.

## # 6. Missile Batteries

- Most of the Missile Batteries used in India are designed, developed and manufactured by HBL. Including for the Agni V.
- HBL exports Missile Batteries to Israel and UAE.
- There are very few manufacturers of such batteries globally.

## # 7. Aircraft Batteries

- HBL took six years from 1977 – 1983, to develop technology for Sintered Plate Nickel Cadmium Batteries. Today, HBL supplies almost all the batteries used by the Indian air force.
- Globally, there are perhaps four other companies in this market.
- The FAA and EASA had certified HBL batteries as acceptable for Boeing 737 and Airbus 320 series of aircraft. But sales have not yet occurred, because companies insuring aircraft want OEM's to approve the batteries used. However, OEMs are indifferent to the cost saving by buying from HBL.

## # 8. Submarine Batteries

- All submarine propulsion batteries in India are “Tubular plate flooded lead acid”.
- HBL and Exide supply the same types of batteries. Tenders decide who gets the business. The average life of a submarine battery is four years; and indicative cost about Rs. 15 crores.
- The market in India is small, but should grow. HBL also has export opportunities because there are less than ten companies globally, making such batteries.
- HBL has been awarded a contract by NSTL / DRDO to develop prototype modules for Li Ion batteries for Submarine application.

## # 9. KAVACH (Train Collision Avoidance System)

- HBL pioneered the system with help from RDSO; the demo trial occurred in October 2012 at Tandur, SCR. The Railways announced that they will install Kavach over at least 30,000km of track in ten years.
- There are now three companies approved for supply of TCAS. Interoperability among the three designs has been established. New suppliers must also be interoperable with the current suppliers and this is a time consuming process.
- For the nine EPC tenders in 2021, the value for 3000 km was 2000 crores. HBL has EPC contracts on hand for Rs 592 crores. The EPC part is subcontracted. The TCAS part varies from Tender to Tender. For tenders on hand, the TCAS part averaged at 70%. Each contract needs two years to complete.
- Expected service life of a TCAS system is 15 years. Electronics systems need maintenance, and railways pay for this annually (after the first few years).

## # 10. TMS (Train Management System)

- A Train Management System is a master control centre where a huge display panel shows the status of all trains in the territory of that system. There are very few systems in use today in India; a few imported and two from HBL.
- HBL is the only approved and proven Indian company for TMS.
- Depending on size and traffic, each railway zone would need at least one system.
- Demand is expected to slowly grow from FY 2024. Compared to TCAS, the value of business is small; at most 200 crs per year. A typical price per system would be 40 to 50 crs.

# # 11 Electro Optics (Page 1)

- HBL has committed to invest in the equity capital of Tonbo Imaging India Pvt Ltd, as informed to NSE and BSE on 13 Feb 2023.
- Tonbo Imaging is an Indian company that indigenously designs and manufactures electro-optics and imaging systems for surveillance, reconnaissance and targeting. Electro-optics and imaging subsystems are “the eyes” and “the brain” of surveillance platforms and weapon systems.
- Over the last 10 years, Tonbo Imaging has built a large portfolio of products addressing the needs of land, air, and missile systems. It counts among its customers, global military forces, special forces and international Tier I defense manufacturers.

(contd....)

## # 11 Electro Optics (Page 2)

- Tonbo's growth has been driven by increased demand from both developed and emerging markets that are looking to modernize their military equipment.
- HBL will use its Electronics manufacturing capacity to support Tonbo in its rapid growth. The manufacturing facility has been set up and sales to Tonbo should begin early in FY 24. The potential sales to Tonbo could reach a few hundred crores a year by FY 28.
- For large value contracts, where Tonbo is not financially eligible, HBL will bid based on Tonbo Technology. These will be HBL sales direct to user, with the purchase of necessary parts from Tonbo.

## # 12. Grenades with Electronic Fuzes

- Under a “Development cum Production Partner” contract with ARDE/DRDO, grenades made by HBL have been approved by the Ministry of Home Affairs for use by the paramilitary forces. Sales to MHA are expected to begin FY 24 and increase rapidly.
- Electronic Fuzes are essential for reliability and safety. HBL is the only Indian supplier for the Electronic Fuzes, and can also supply to other firms making the rest of the grenades.
- Approval of the Army for their needs of Grenades is expected during FY 24.
- HBL has facilities and licenses for handling explosive materials.

## #13,#14, #15 Electronic Drive Trains For Trucks

- Apart from Li Ion cells, India currently imports motors & controllers for most EVs made in India. HBL has been investing on in-house development of all parts of the technology for Motors and Controllers since 2017 and plans to test products on the highways in 2023.
- The business plan is to convert old diesel trucks to Electric Drive using HBL's Electric Drive Trains. The truck operator could save up to Rs. 100,000 per month from Electric Drive (if all goes well!). The solution does not need subsidy.
- Sales may begin in FY 2025. The number of old trucks is very large, but the HBL solution will only be viable for a small percentage of them. Even so, the scope is huge. At this time there are no competitors, because there is no subsidy for electric trucks.

# # 16. Electronic Fuzes for Guns, Rockets, Bombs,.....

- A fuze is a complex device that ignites ammunition. Electronic fuzes are preferred to mechanical fuzes because they are much more reliable.
- Over the last 15 years, HBL has developed 100% in-house technology for Electronic Fuzes for grenades and other ammunition, including Artillery guns. HBL is the only Indian company with 100% indigenisation.
- ECIL (DAE) and BEL (MoD) have been supplying Electronic Fuzes for artillery, with import content of about 80% of Bill of Materials. MoD says it wants Atma Nirbhar.
- HBL fuzes have already been tested on army guns many times. Eligibility for bulk supply is expected end FY 24.
- The market is huge and there are very few companies in this area globally. So, exports are expected.

# Background Note on HBL Capability in Defence Electronics 1/2

- HBL has proven capability for manufacturing complex Defence Electronics products. This capability is illustrated below:
  - Digital Control Harness. A HBL/ELBIT(Israel) developed product has been installed in nearly six thousand armoured vehicles, to be used for communications in the battlefield. All new armoured vehicles being built will use this DCH as original equipment. HBL is the only supplier. The market is not very big.
  - Integrated Platform Management System and Steering Consoles for four Scorpene (P75) Submarines, were built to print by HBL and supplied to the OEM – Naval Group; France. All these submarines are now in operation.

## Background Note on HBL Capability in Defence Electronics 2/2

- HBL is a registered “offset” supplier. We did some offset contracts but decided not to continue, because it was merely manufacturing without any learning on the technology involved.
- Licensing foreign technology is becoming less and less attractive every year. Licensing almost always involves continued import of the critical high value high margin items. This is what HBL wants to avoid. The aspiration is to be in businesses where we develop and own the technology.