Short Span Bridging System

DEFENCE ENGINEERING BUSINESS

Overview

L&T entered the strategic Defence sector in the mid-80s leveraging its precision equipment capabilities. This was well ahead of the opening up of the sector for private industry participation in 2001. During the preceding one and a half decades, L&T has been associated with the Defence Research & Development Organisation (DRDO) and Indian Navy's indigenisation programme.

With an offerings portfolio of technologies, products, systems, platforms and solutions, the business provides design-to-delivery solutions across chosen defence segments with a focus on indigenous design, development and production of naval (submarines and warships) and land platforms (armoured systems, howitzers), weapon systems, engineering systems, missile & space launch vehicle subsystems, sensors, radar systems and avionics. These are complemented by R&D and Design & Engineering Centres for targeted platforms, systems, and solutions development.

The business operations extend across two R&D centres, three Design & Engineering Centres, and six production centres across India:

- Submarine hull-building facility and an armoured systems manufacturing, integration & testing facility at L&T's A.M. Naik Heavy Engineering Complex at Hazira, Gujarat
- Strategic Systems Complex for weapon and engineering systems and sensors at Talegaon near Pune
- Aerospace Manufacturing shops for India's space launch vehicle subsystems at the Precision Manufacturing & Systems Complex, Coimbatore
- Aerospace and Missile subsystems manufacturing at the Centre of Excellence for Advanced Composites at Coimbatore
- Strategic Electronics Centre at Bengaluru
- Modern shipyard at Kattupalli (near Chennai)

Besides these dedicated facilities, the business also operates a facility at Visakhapatnam under the Government Owned Contractor Operated (GOCO) model. These Work Centres are complemented by R&D Centres at Powai and Bengaluru, Design & Engineering Centres for submarines and warships at Powai and Chennai respectively and a Design & Engineering Centre for weapon and engineering equipment at Powai. The business is headquartered at Powai, Mumbai.

The business is structured into two strategic business groups (SBGs):

1. Defence & Aerospace
2. Defence Shipbuilding

Defence & Aerospace

Since its inception, the Defence and Aerospace (D&A) business has built a portfolio of wide ranging indigenously designed & developed products, systems, solutions, platforms and technologies through in-house efforts

L&T has provided critical subsystems for most of India's space missions

as well as by teaming up with the DRDO. It has also participated in the Indian Navy's indigenisation program for the development of a range of naval engineering systems and weapon systems within the country. Subsequently, L&T Defence built a wide-ranging portfolio of land-based weapon and engineering systems for the Indian Army. To date, the SBG has indigenously developed more than 250 defence products out of which more than 50 of them have been delivered in serial production mode. The business model is uniquely differentiated through its focus on in-house technology and product development, innovation for serial production, mature and equated partnerships with global majors and through-life support offerings. These enable the business to maintain its market leadership position (in the private sector) in an environment where the Government is aggressively pursuing the indigenisation agenda through 'Atmanirbhar Bharat Abhiyan'.

The business also has a Joint Venture (JV) with MBDA, a global leader in missiles and missile systems. The JV is well positioned to indigenously offer advanced missile systems to the Indian Armed Forces.

Defence Shipbuilding

L&T's Shipbuilding business offers end-to-end solutions for design, construction of defence ships and refit services. The business owns and operates a greenfield mega defence shipyard at Kattupalli, near Chennai, located across a sprawling 980-acre complex. The Kattupalli Shipyard is India's largest shipyard, considering just the first phase spread across 150 acres that has been operational for nearly a decade. The design and construction of the yard is modelled to adapt global best practices, such as modular fabrication, construction under covered shops, use of a Ship-Lift with dry and wet berths, etc., to enable simultaneous construction of different classes of vessels until near completion on land, and then launching them on water through the Ship-Lift. It is the only Indian shipyard with Industry 4.0 practices embedded, enhancing construction efficiency, cycle time and build quality.

A dedicated Warship Design Centre at Chennai is equipped with the latest integrated 3D design, analysis, and Product Lifecycle Management tools, and interfaced with project management and ERP systems, in line with global best practices.

The Kattupalli Shipyard has been largely engaged in new builds and refits / repairs of defence ships of the Indian Navy and Indian Coast Guard. Since 2010, the business has designed and constructed 67 defence vessels and delivered them ahead of schedules, these include a floating dock for the Indian Navy, Interceptor Boats and Offshore Patrol Vessels for the Coast Guard as well as five high speed Border Guard boats for a friendly nation. The shipyard has also supplied design and material kits for seven vessels to be built there to empower that country with indigenous shipbuilding using latest shipbuilding practices and processes. The unique capability of the business to achieve on-time or ahead of contractual delivery performance in all the contracts for defence vessels is a benchmark in the Indian shipbuilding industry. The shipyard has a track record of delivering first-of-class OPV vessels on / ahead of schedule and with design and construction maturity and in-built quality. A global benchmark was attained by the Yard in the sea acceptance trials of a 2,130 MT class offshore patrol vessel by completing the entire acceptance trials in the maiden sea sortie of the vessel to affirm its design and build quality.

FDN-2: Floating Dock built for the Indian Navy

While being actively associated with the defence sector, the business has a policy of not manufacturing any explosives or ammunition of any kind, including cluster munitions or anti-personnel landmines or nuclear weapons or components for such munitions. The business also does not customise any delivery systems for such munitions.

Business Environment

With the Government of India initiating substantive policy reforms since past 3 years and allocating higher budgets for indigenous procurement, the macro picture has become more positive for the business. The determined push by the GoI under 'Make in India' initiative and 'Atmanirbhar vision' saw positive traction towards indigenous production by building a robust acquisition pipeline of potential orders with preferential categorisation in favour of indigenous acquisition by grant of Acceptance of Necessity and accelerating issuance of RFPs.

The Defence capex budget witnessed a systematic increase (~12% y-o-y) in the budget year FY 2022-23 over the previous financial year and the allocation for procurement from domestic industry has witnessed an enhancement from 58% to 68% of the total capital procurement budget (₹ 71,000 crore in FY 2021-22 to ₹ 84,600 crore in FY 2022-23). Also, the allocation for acquisition for the private sector has been enhanced from ₹16,000 crore to ₹ 21,150 crore (25% of domestic acquisition allocation).

A major highlight announced in the Union Budget 2022 is the opening up of Defence Research & Development funding to the private sector, start-ups and academia with an earmarked allocation of 25% of the total R&D budget (₹1300 crore) for fresh cases. This would help create intellectual property (IP) within the country, helping reduce cost of indigenously developed and manufactured goods and solutions and also facilitate exports that can unconditionally be done with the Company's own IP. Given L&T's track record in R&D, the business would be in a best position to exploit this initiative and take up development of mega platform projects with large order value potential over coming years.

The concluding part of the year witnessed widescale turbulence across the world on account of geopolitical challenges. However, the business has built in resilience in its supply chain to address the risks on account of these challenges. The 'Atmanirbhar Bharat' initiative of the Government also aids in becoming self-reliant with Indian resources and assets for the business.

Major Achievements

During the year, the business has achieved multiple successes and proud moments, uniquely reaffirming L&T's positioning as a 'nation-builder' through a series of Make-in-India programs. These include:

- Successful delivery of multiple land and naval weapon launch systems, engineering systems and missile systems to the Indian Armed Forces. The 10m Short Span Bridge and Medium Range Surface to Air System were inducted by the Armed Forces in July 2021 and September 2021 respectively
- The business was selected as a 'Strategic Partner' to the Indian MoD and received RFP for Construction of six P-75 (I) Submarines by collaborating with a chosen Foreign Collaborator
- The shipbuilding business won the contract for Construction of Multi-Purpose Vessels (MPV) and conclusion of negotiations for Cadet Training Ships (CTS) as well as Special Pontoon for DRDO, amidst stiff competition

Offshore Patrol Vessel for Indian Coast Guard

- Supplied 223 Medical Oxygen Generation Plants within 75 days of having been called upon to cater to the healthcare requirements during the COVID-19 pandemic
- New benchmarks set up by work centres in terms of serial production of systems and equipment. Noteworthy ones include delivering Combat Engineering Systems (bridging systems, air drop platforms), Air Defence Systems, attaining operational efficiencies through innovation in manufacture and maintenance of safety in operations across work centres aided by digitalisation and automation
- The R&D and Design & Engineering teams continue to focus on emerging technologies to develop a range of products and solutions that are intended to future proof the business. Unmanned systems across four domains (Under Water, Surface Warfare for Navy, Land, Air Domains), Augmented Reality (AR) and Virtual Reality (VR) based solutions and offerings are being emphasized to add a significant value to the business as a differentiator

Significant Initiatives

Evolving through collaboration, the business has identified and signed MoUs / agreements with strategic partners to enhance business opportunities both in domestic and international markets. R&D and innovation has been the backbone of the defence engineering business since inception, and the business continues to invest in R&D to develop new-age technologies and products.

The business has been building a strong position in digital design since the early-90s and has attained proficiency in Industry 4.0 across its multiple R&D, Design & Engineering Centres and Production Work Centres that extend from equipment and systems to the building of complete platforms, such as Warships, Submarines and Armoured Systems.

Focused digital initiatives that were innovated and implemented during the pandemic to overcome associated challenges were adapted to daily operations and the same have been institutionalised to gain higher operational efficiencies. These have also helped in achieving business continuity and meeting key deadlines, evolution of innovative technologies and processes that could adapt to provide through life support, training, digital quality assurance, trial evaluation and acceptance.

Outlook

Against the backdrop of recent global events, the reinforcement of the importance of self-reliance in a strategic sector like Defence has increased. This could result in enhanced spending on the Defence sector. The Government's series of reforms in the Defence sector to enhance indigenisation has been given a fillip by the 'Atmanirbhar Bharat' initiative to innovate and build differentiation in what the Armed Forces deploy. The budget allocation for domestic procurement has been identified by the Government and is expected to be realised in a time-bound manner through the acquisition of the platforms, systems, and equipment as mentioned in the Positive Indigenisation Lists. The recent experiences that have taken place at the country's borders have catalysed the innovative adaption of existing weapons / platforms for high-altitude operations as well as development of indigenous weapons / platforms to combat adverse environmental conditions. This has brought a renewed focus on expeditious completion of trials of systems and their accelerated induction into services.

The MoD has announced significant reforms at different levels as a part of the 'Atmanirbhar Bharat' and 'Make

Air Defence Fire Control Radar

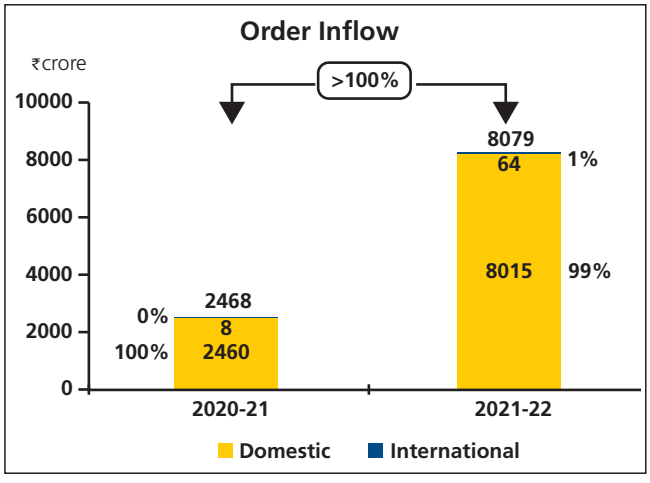
in India' visions. At the strategic level, the revised Draft Defence Production & Export Promotion Policy (DPEPP) has been published and extensively deliberated to incorporate specific inputs from industry stakeholders. This policy focuses on eight pillars of reforms and embeds the vision and roadmap towards achieving significant self-reliance in the Defence sector by FY 2025-26. Over 18 programmes have been identified for acquisition under the 'Make' route of DAP 2020 which focuses on indigenous design, development and realisation using Indian resources. The development and R&D is expected to take off with the formation of SPVs with the DRDO. The MoD also assures grant of a level playing field in naval shipbuilding and inflation linked escalation on long-term contracts of tenures beyond three years. Contracts worth ₹ 500,000 crore are expected to be placed on the Indian industry within the next five years for the procurement of systems / platforms covered in the Positive Indigenisation Lists.

The Government has announced several reforms towards commercial exploitation of opportunities in the space sector. The autonomous promotion and regulatory body, IN-SPACe (Indian National Space Promotion and Authorisation), is working towards handholding and promoting private industry in the space sector. NSIL (New Space India Limited), a PSU under the DoS, is also striving towards working on areas of launch vehicles and satellite production as well as services through private consortiums. The Space Policy is under review by the GoI. It is designed to create a watershed moment for facilitating the role of the private industry and opening up of the space sector. This policy is expected to be released soon.

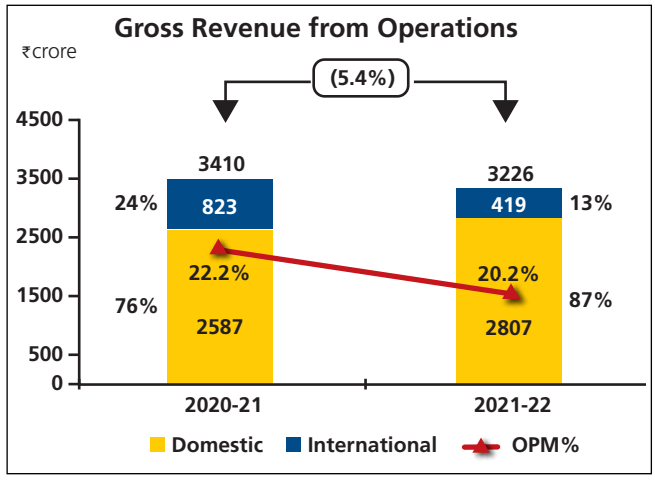
The business has been a trusted industry partner to India Space Research Organisation (ISRO) and has contributed to indigenous capability of the Indian space sector for over five decades. The reforms announced in the space sector will enable private sector companies – like L&T, which has built, and enhanced their capabilities over the last few decades – to take on the complete manufacture and integration of launch vehicles as well as satellite bus manufacturing and associated services.

Tactical Unmanned Aerial Vehicle

Financial Performance of the Segment



With receipt of some large value orders in the Shipbuilding business, the Defence Engineering segment has recorded a substantial growth by bagging orders worth ₹ 8,079 crore as compared to ₹ 2,468 crore in the previous year.



The segment's gross revenue of ₹ 3,226 crore declined by 5.4% compared to the previous year with some large value jobs in the portfolio viz. K9 Vajra, nearing completion in FY 2020-21. Share of international revenues decreased to 13% from 24% in previous year with the tapering of an international order in shipbuilding.

The operating margin declined to 20.2% from 22.2% in the previous year, since previous year had the benefit of release of cost savings in some key projects that got completed.

Funds employed by the segment as on March 31, 2022, at ₹ 1,115 crore decreased by 46.6% y-o-y, on account of better collections on completion of deliveries across some key projects and receipt of customer advance on large value new orders.