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#MTAR Technologies - Leader in Niche Precision Engineering ■■■■

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CMP - ■ 1803



1. Company Overview

MTAR Technologies is a leader in the precision engineering industry. They serve clients in the Defence, Space, Nuclear and Clean Energy industries. The company is engaged in the manufacture of

mission-critical precision assemblies and components with close tolerance levels of 5-10 microns.

2. Business Segments

The company operates in 4 segments: Nuclear, Defence, Space and Clean Energy.

Nuclear: In the Nuclear Segment, the company is partnered with Nuclear



Power Corporation of India Limited (NPCIL) which controls all operational, under construction and planned reactors in the country given India does not allow private participation. They manufacture products which are highly critical to the functioning of nuclear reactors.

They have 14 kinds of products with a wide range of applications.

Defence: In this segment, the company has undertaken complex assemblies for the DRDO, such as the base shroud assembly for Agni missiles and the assembly of Secondary Injection Thrust Vector Control (SITVC)

valves and Hydraulic Fin Tip Control (HFTC) valves. They also supplied critical defence products such as aluminum weldments and other machined components to international customers including, an Israeli defense technology company.

Space: In the Space segment, the company mainly serves ISRO. They offer a wide variety of mission critical components and critical assemblies such as liquid propulsion engines, components and assemblies for cryogenic engines, specifically turbo pumps,

booster pumps, gas generators and injector heads for such engines and electro-pneumatic modules to serve space launch vehicles.

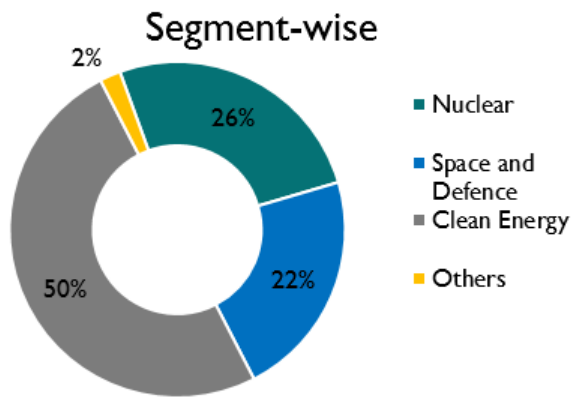
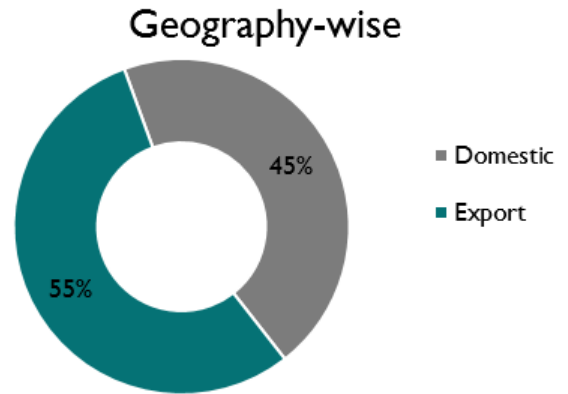
Clean Energy: This is their biggest segment and most of their revenues in this segment comes from Bloom Energy.

They manufacture power units - specifically hot boxes (which use methane to produce energy) and are also involved in the development and manufacture of hydrogen boxes and electrolyzers. Bloom is one of the largest and the fastest growing players globally in the

stationary hydrogen fuel cell segment and has 70% of its revenues coming from these product segments, the balance comes from services.

3. Revenue Split:

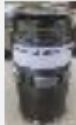
About 50% of their revenues come from the Clean energy segment where Bloom energy is their main customer. 26% of their revenues come from the Nuclear segment and 22% comes from Space and Defence.



The company derives 55% of its revenues from exports and 45% is from domestic customers.

4. Products:

Nuclear

 <p>Fuel Machining Head Comprises of 600 components; Used in loading & unloading of fuel bundles in nuclear reactor</p>	 <p>Bridge & Column Moves fuel machining head in sideways and vertical directions to allow loading and unloading of various fuel bundles in the nuclear reactor</p>
 <p>Grid Plate Used for resting the fuel sub-assemblies in prototype fast breeder reactor</p>	
 <p>Shield Plug</p>  <p>Liner Tube</p>	 <p>Sealing Plug</p>
<p>Coolant Channel assemblies - Sealing Plug, Shielding Plug, End Fittings Used in the core of civilian reactor</p>	
 <p>Drive Mechanisms Critical equipment used for regulating purpose and shutdown of nuclear reactors under normal and undesirable operating conditions</p>	 <p>Top hatch cover beams and deck plate assembly Requires high positional and dimensional accuracies</p>

Defence



Base shroud assembly and air frames

Used in Agni missiles such as A1, A2 A3, A4, A5, A1 P.

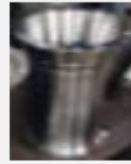
Components for Aircraft



**Main Gear Box
- Magnesium**



**Titanium
Center Piece**



**Sukhoi -
HPC Shaft
Nickel Alloy**



**Control Manifold
HAL Tejas**

Ball Screws



Ball screws and Water Lubricated Bearings

Import substitutes used in actuators of nuclear reactors, space launch vehicles, missiles etc.

Roller Screws (under development) - Used in various assemblies in missiles, space launch vehicles and nuclear reactors

Space

Components for Geosynchronous Satellite Launch Vehicle (GSLV)



Cryogenic Engine - Turbo Pump, Injector Head, Gas Generator, Booster Pumps, Interfaces And Start Up Systems



POGO Command Module

**Modules used
in Stage 1 & 2**

Stage 3



**Stage 4 - Inside
Satellite**

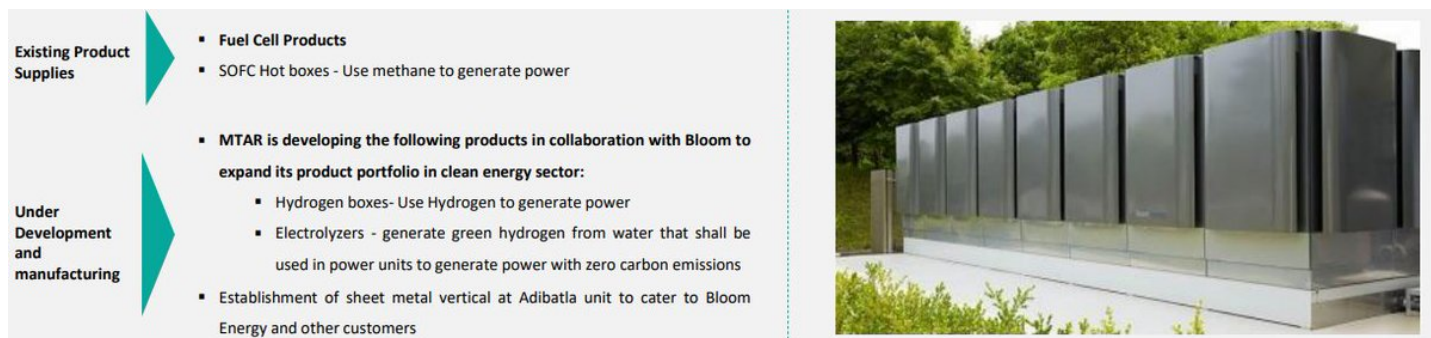
Stage 2 - 4 Nos.

Stage 1 - 4 Nos.



**Liquid Propulsion Rocket
Engine (Vikas Engine)**

Clean Energy

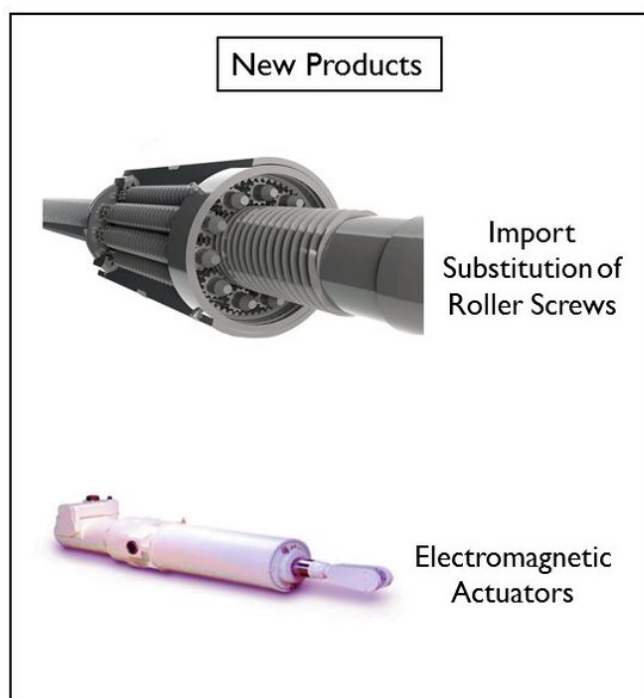
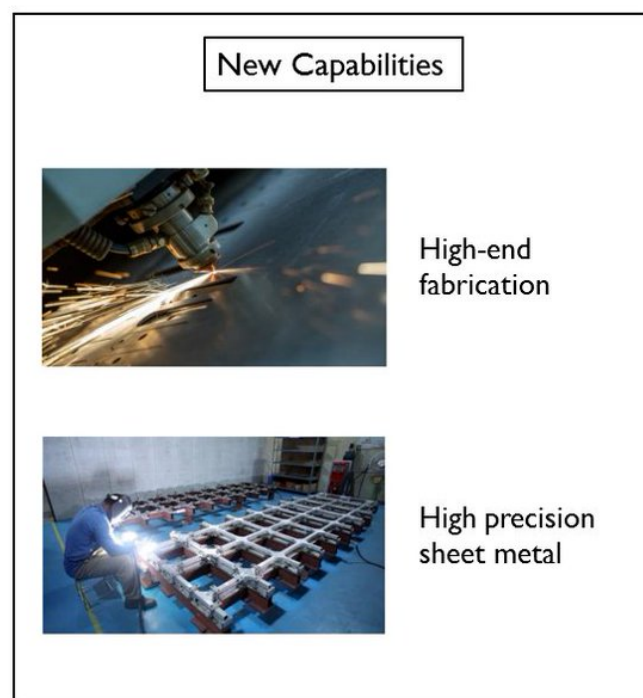


5. New Products/Capabilities

They company is launching new products and new capabilities which can provide significant growth in the future. They are developing roller screws which are very complex to manufacture and are used in space and defence applications.

Currently, there are no manufacturers for this product in India and roller screws are imported for all of India's requirements. MTAR is hoping to be the sole manufacturer of this product in India. The market for this product in India is ■80 Cr.

They are also developing electromagnetic actuators for space and defence applications and have already received an order for ■1.3 Cr from Defence.



They are also expanding their capabilities to offer high end fabrication and high precision sheet metal to their customers. They are already in talks with ISRO and Bloom energy to fabricate products for them.

6. High Entry Barriers

This is a very high entry barrier business because the products are extremely complex to manufacture and there is no room for error. Any kind of fault in the product is completely unacceptable when you are dealing with rocket engines and aircraft parts.

Relationship with customers



16+ years

Bloomenergy®

9+ years



30+ years



40+ years

Also, since these products are so complex to manufacture, the new suppliers have to go through a long qualification process. Also, the customer is very dependent on MTAR for the manufacturing as they are usually involved in the development process of the products as well.

7. Financials

The company has the ability to pass on price increases in their contracts. So the management has indicated the EBITDA margins are sustainable over 30% in the long term.

They enjoy the best margins in the space segment as the raw material is procured by ISRO and the company only focuses on the manufacturing.

Particulars	FY21 (in ₹Cr)	FY20 (in ₹Cr)	FY19 (in ₹Cr)
Revenue	246.4	213.8	183.7
EBITDA	83.1	58	53.7
EBITDA %	33.7%	27.1%	29.2%
PAT	46.1	31.3	39.2