



Value Delivered. Always

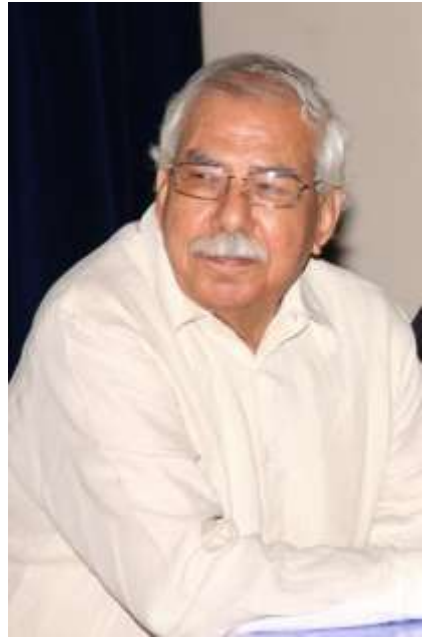
MAINI GROUP
VALUE DELIVERED. ALWAYS

**Introduction to
MAINI Group**



MAINI GROUP

MAINI
PLASTICS &
COMPOSITES



Founded in 1973 by Dr. S. K. Maini, the group is one of India's premier design and manufacturing entities, synonymous with innovation & cutting edge technology, offering comprehensive solutions in;

- High-precision components and sub-assemblies
- In campus material handling, people movement and aviation
- Industrial racking and warehousing
- Vacuum formed & Injection molded plastic components and sub-assemblies.
- Electric mobility and infrastructure

MAINI
PRECISION
PRODUCTS

MAINI
MATERIALS
MOVEMENT

MAINI
PLASTICS &
COMPOSITES

 **armes maini**TM
STORAGE SYSTEMS. PVT. LTD.

 **SUN
MOBILITY**

 **virya**
MOBILITY 5.0

India Gave The World Zero

It is nothing more complicated than a Circle – And yet in that symbol, is a world of meaning.

By the way it places itself, it can multiply any number, to dizzying heights.

Zero is the cosmic order of things- eternally in motion – yet ever unchanging, it is not about nothingness – it is about infinity.

It is not about failure – it is about perfection beyond standards.

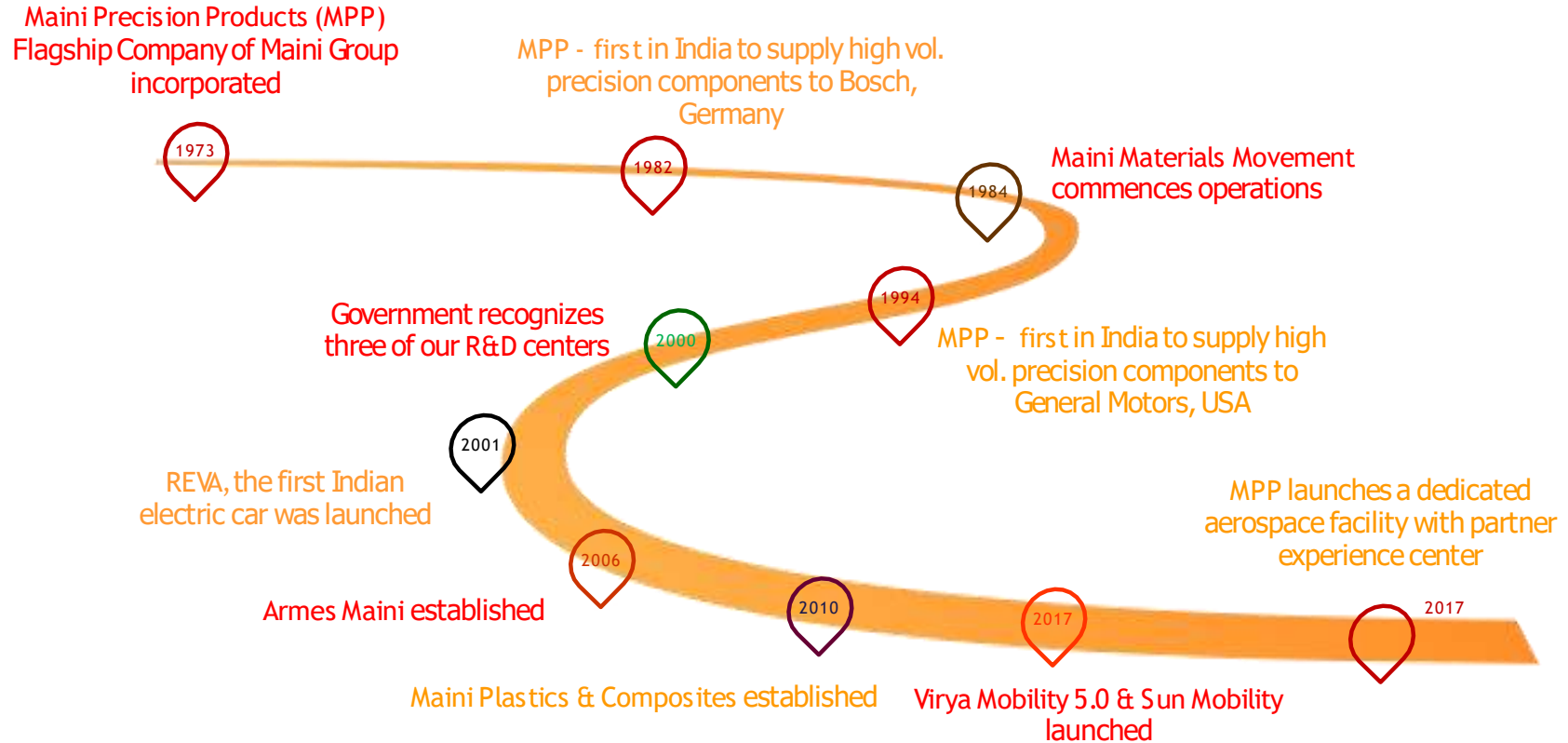


Maini Group's **Zero Philosophy**, is built around our key areas, that realize the exponential value, the group delivers to all its stakeholders.



Our Defining Moments

**MAINI
PLASTICS &
COMPOSITES**



Maini Group's Pioneering Initiative India's First Mass Produced Green Electric Car – Reva



- Reva Electric Car Company (RECC) formed in 1994
- First company to showcase fuel cell technology in 2004
- Technology leadership with almost 30 patents globally
- Reva EV – exported to 24 countries, holds the distinction of being an electric vehicle under continuous commercial production for the longest period in the world.
- Reva was acquired by Mahindra Group in 2016.



MAINI
PLASTICS &
COMPOSITES

MSKK, setup in 1999, is the group's CSR wing. MSKK's work, focusses on sustainable village development and conservation, of art and culture, comprising of , Gramothan Foundation, and, the Sandeep & Gitanjali Maini Foundation.



Gramothan Foundation's objective is to create a scalable and sustainable model for rural upliftment. The key areas are environment, healthcare, education & micro finance. The foundation has adopted 13 villages in rural Karnataka, touching the lives of over 6000 people.

<http://gramothanfoundation.org/>



SGMF has been setup, to provide a platform for artists, of all genres, who help in promoting India's Art, Culture & Value systems.

The SGMF has given artists an opportunity to help promote India's art and cultural heritage.

<http://www.sgmf.co.in/>



Value Delivered. Always

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Introduction:

Maini Plastics & Composites Pvt. Ltd
(Vacuum forming Unit)



MAINI PLASTICS & COMPOSITES

MAINI
PLASTICS &
COMPOSITES

MPC, is an industrial plastic design and manufacturing facility, for automotive, non-automotive, medical, railways, defence, and other, special kind applications.

- Started as an in-house vacuum-forming division for REVA (EV), before becoming, an independent group company, in 2010.
- Design and manufacturing process covers everything from re-engineering to proto- sampling, manufacture and assembly.
- Processes designed for conventional raw materials like ABS, PP, HDPE and HIPS, and also, for complex materials like ABS-PMMA, PC, TPO, Acrylics etc.



Infrastructure

MAINI
PLASTICS &
COMPOSITES

1. Design:

- Design capabilities cover process, product and equipment, including, tools and patterns.
- Our design capability for part-to-tool design conversion is compatible with a spectrum of software platforms.
- Input CAD data can be direct part files in Pro-E, Catia, IGES or STEP.

2. Proto sampling & Patterning:

- Wooden patterns, for quick proto-part development, are CNC machined.
- The sample goes to the client for process and product integration testing and approval.

3. Tooling Capability:

- Wooden tools.
- FRP tools.
- Epoxy Tools.
- Aluminum tools.



Infrastructure

MAINI
PLASTICS &
COMPOSITES

1. Vacuum forming:

- We deploy the latest vacuum forming machines with wide-ranging capacity.
- All machines are PLC-controlled, with sandwich heating, pre-blow facility, plug assists, sheet temperature sensors and blow sensors, among other features.

2. CNC router:

- Parts are trimmed using 5-axis & 6-axis CNC routers.
- Wooden Tools are developed as per designs using CNC

3. Bonding & Assembly:

- We use various adhesives to bond the child parts.
- We also use various assembly methods to bond all kind of child parts.

4. Ultrasonic welding:

- Introduced USW for plastic to plastic bonding.
- Advantage over adhesive: Easy application, reduction of cycle time.

Infrastructure



Paint Shop



Testing



Design & Development



**Prototyping &
Tool Development**

Tool development machine



- ❑ MPC has installed a wood tooling machine to develop wooden tools in house.

The wood tooling machine develops tools that produce samples or prototypes. The wooden tools are used for low volume orders, proto part development for the part approval.

Vacuum forming machines



Rotary forming machine

Capacity

3.0 M x 2.0 M

1 Machine

Vacuum forming machines



Capacity
2.0 Mx1.0 M
3 machines



Capacity
2.5 Mx1.5 M
1 machine

CNC router machines



Bed Size: 3.0Mx1.5Mx0.6M–5 Axis - 2 machines

Bed Size: 3.0Mx3.0Mx0.9M–5 Axis - 1 machines

Robotic CNC machine



Bed Size: 1.0Mx1.1 Mx0.6M–6Axis - 2 tables

Ultrasonic welding





Capabilities

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COMPOSITES

1. Large Workpieces:

- We manufacture parts of up to 2.6 meters in length and 1.5 meters wide.

2. Substantial quantities:

- More than 50,000 parts rolled out every month.

3. Pre- colored parts manufacturing:

- We excel in manufacturing pre-colored parts.

4. Re-Engineering:

- We re-engineer the metal and fiber glass parts to vacuum formed parts.



Spectrophotometer: To measure color differences.



Moisture Analyzer: We get 70% rejection due to moisture issues.



Density Tester: To measure the density of plastic.



Lux Meter: To measure Brightness.

1. **ABS:** Acrylonitrile Butadiene Styrene.
2. **ABS PMMA:** Poly methyl methacrylate.
3. **PC:** Poly Carbonate.
4. **HIPS:** High intensity polystyrene.
5. **HDPE:** High density Polyethylene.
6. **PP:** Polypropylene.
7. **TPO:** Thermoplastic olefin.

Product Portfolio

Medical & Robotic parts



Product Portfolio

Medical & Robotic parts



Product Portfolio

Medical & Robotic parts



Product Portfolio

Automotive parts



Product Portfolio

Automotive parts



Product Portfolio

Automotive parts



Product Portfolio

Automotive parts



Product Portfolio

Automotive parts



Product Portfolio

Automotive & Non automotive parts



Product Portfolio

EV car exterior parts



Product Portfolio

EV Buggy exterior parts



Product Portfolio

EV charging station parts



Product Portfolio

Travel bag shield





Product Portfolio

**MAINI
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Green energy parts



Product Portfolio

Garage equipment parts



Product Portfolio

Railway parts





QMS Certification

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MPC has obtained quality management system certifications by following total quality management .



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Thank You