

Current Status of CMET

Nov. 8, 2008

CMET Inc., Yokohama, Japan

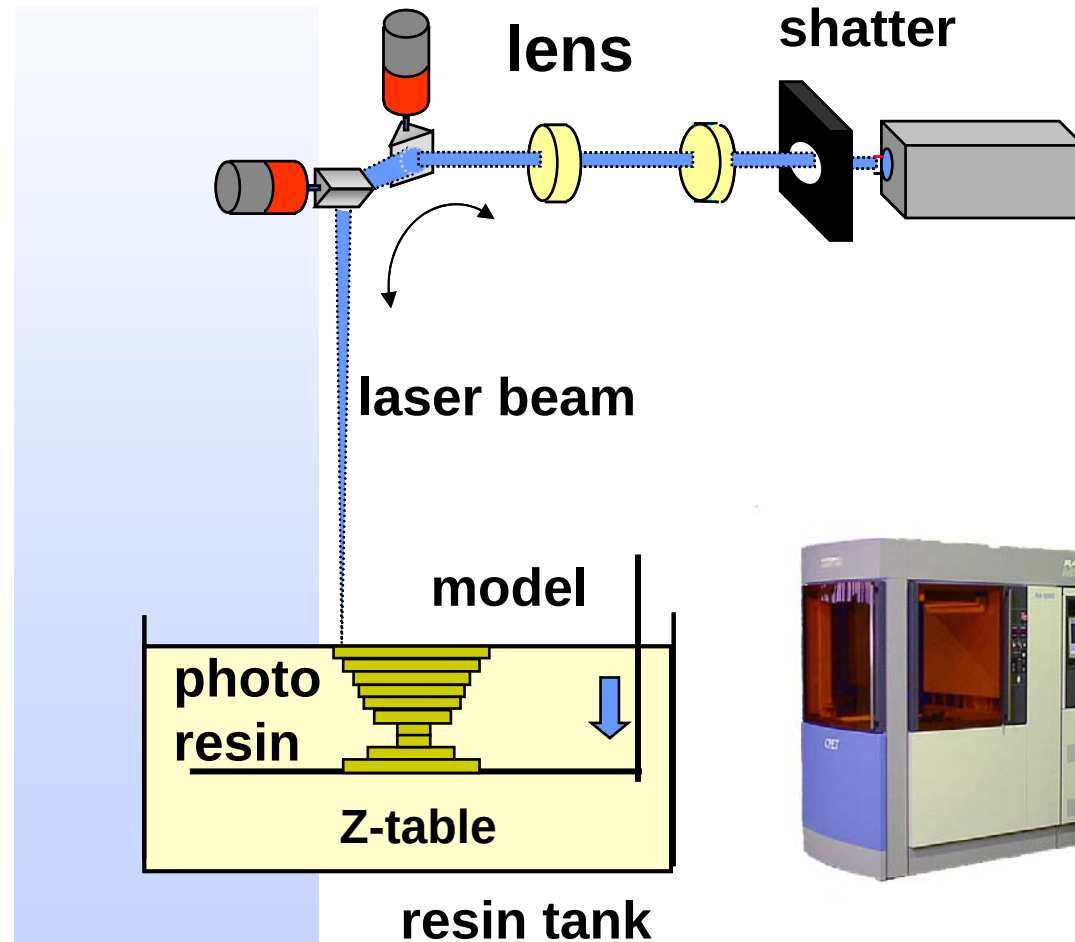
Dr. Tsuneo HAGIWARA

(萩原恒夫)

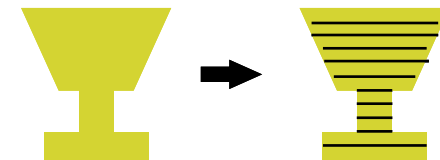
<http://www.cmet.co.jp>

Schematic diagram of stereolithography system

scanner mirror



On the 3D-CAD

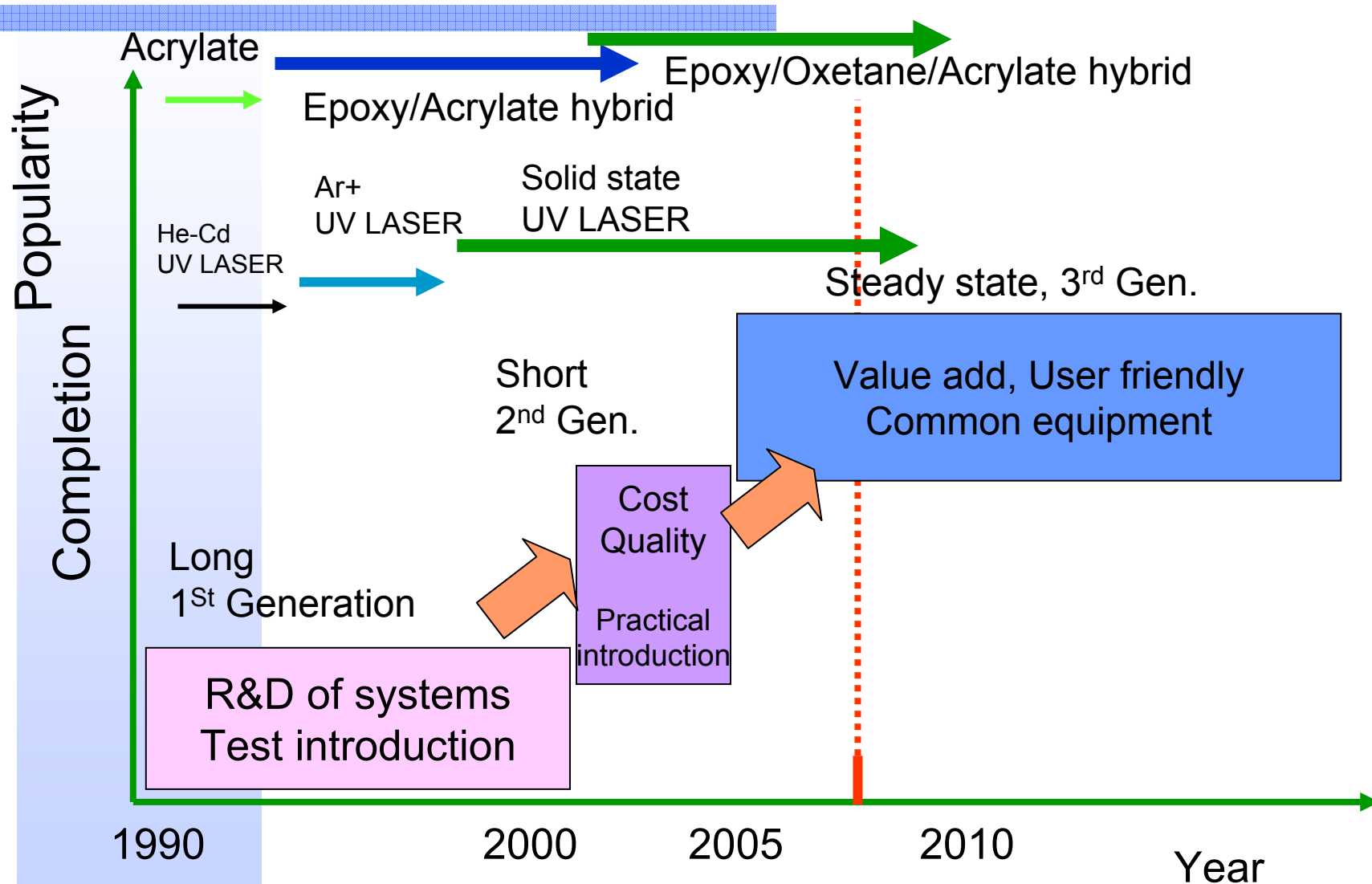


CAD data → slice data



CMET Rapid Meister 6000 II
(610x610x500mm work size)

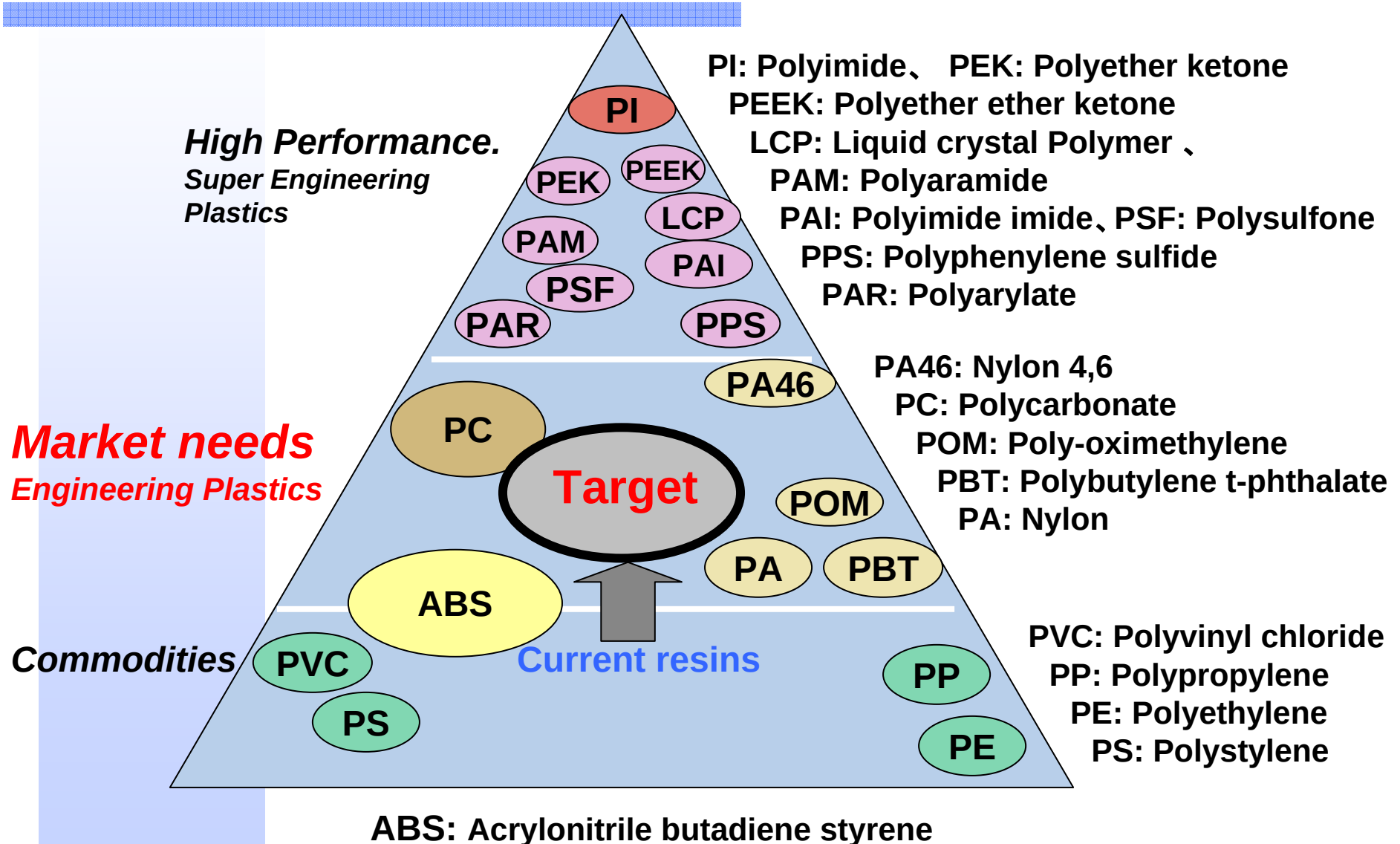
Situation of stereolithography technology in Japan



Why stereolithography is important in Japan?

- Originally born in Japan
- Well **balanced** RP system
 - Accuracy, quality, post-processing etc.
- **Easy** to make “**ACCURATE**” prototype in reasonable period
 - Accuracy is very important in Japan.
- Most effective tool for R&D in Japan
 - Reduce developing cost and time
- Customers **can use a various type of resins.**
 - Durable resin, high temperature resin, rubber like resin, water resist resin, and etc.

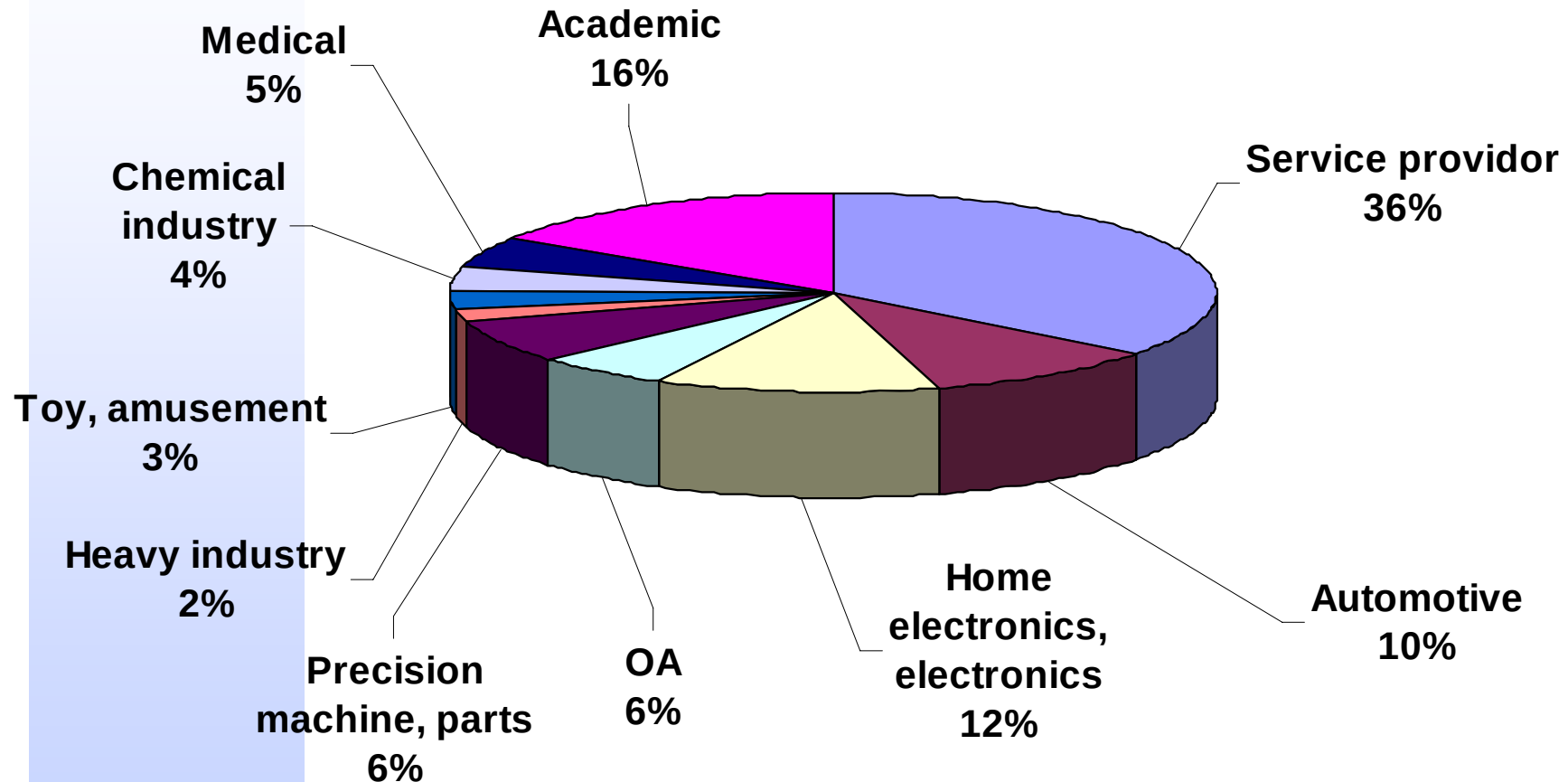
Market needs and thermoplastics



Resin is the “key” for stereolithography

- ▶ Resin performance is the key factor for stereolithography
- ▶ A new resin makes a new market and usage
- ▶ Trend for Direct/Rapid manufacturing (DM/RM)
 - ABS performance is the short “Target.”
 - High temperature, durable resin (POM, PC performance) creates “New Markets.”

CMET Customers in Japan and Asia Countries



Data from CMET 2008/3E

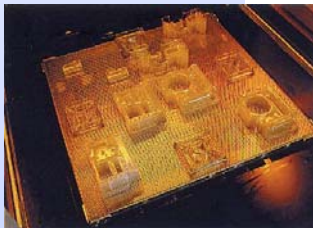
1. CMET Stereolithography Systems

Rapid Meister 6000-II

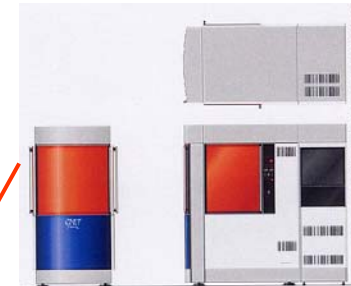
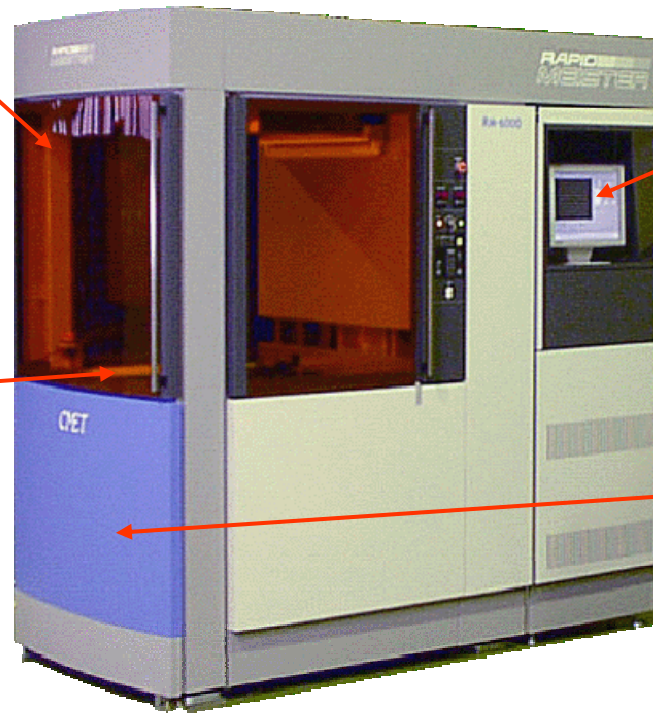
- Sophisticated, Innovative Design
- Digital Scanner
- 800mW LASER
- MH Recoater

RM-6000II

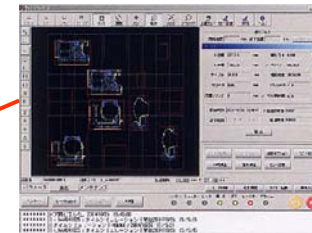
Three Doors Opening
is Possible



610mm Wide Size



Compact Design



Easy Operating
Software

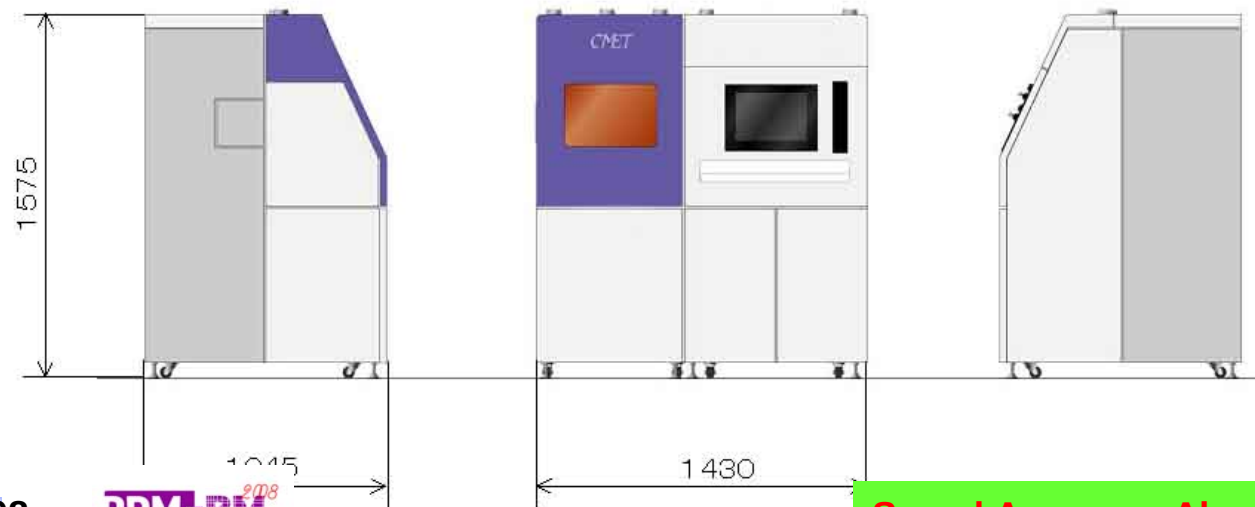


Changeable Resin Tank

Rapid Meister 3000



1. Wide size of 300 × 300 × 250mm
2. Enable smaller model by detailed building condition
3. Minimum layer thickness, 50μm is possible
4. Easy detachable modeling table
5. Interchangeable resin vat



2. CMET TSR Resins for Stereolithography

Durable TSR-821 resin

- **TSR-821: Best seller Resin of CMET Inc.**
 - Epoxy/Acrylate hybrid resin
 - Durable
 - ABS performance without HDT



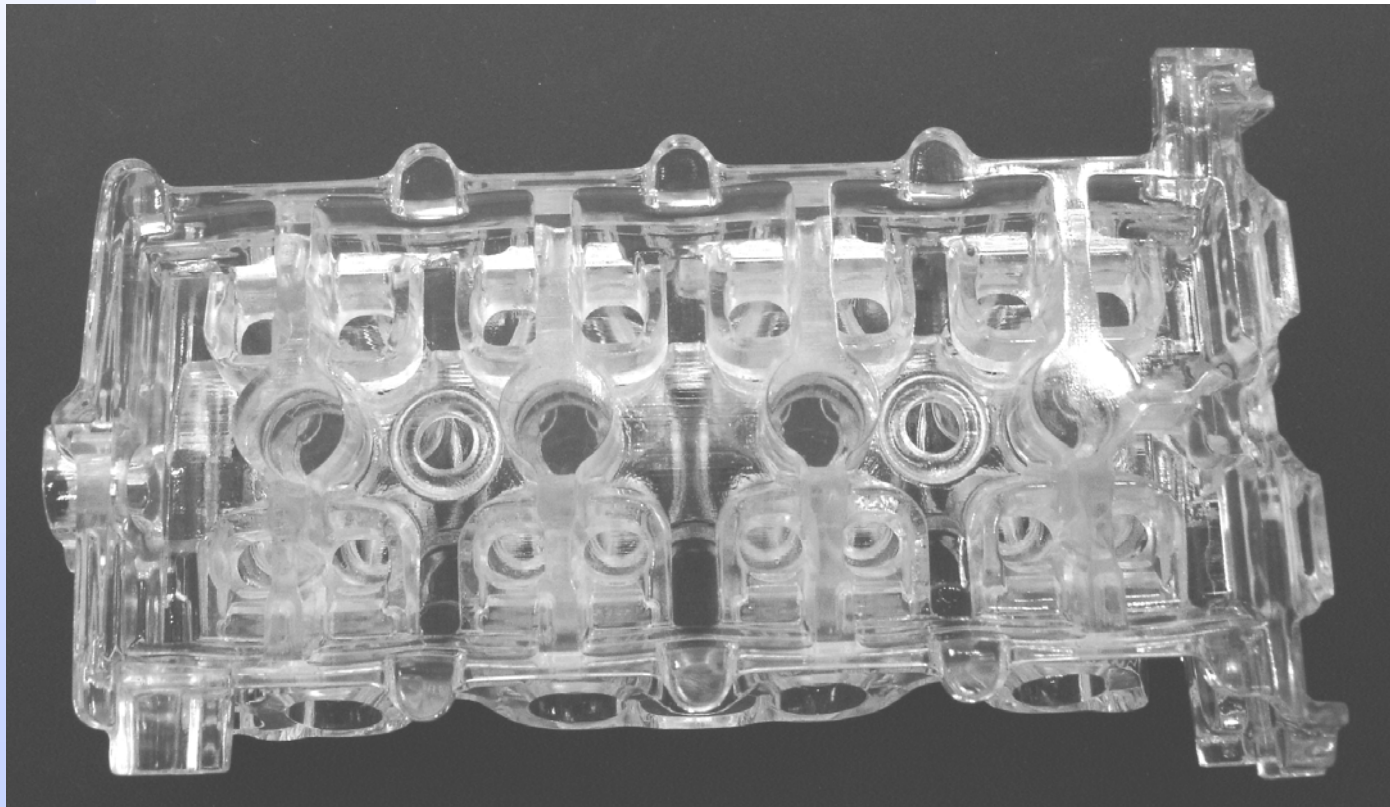
New Durable TSR-831 Resin

- Superior properties at high humidity
- Durable, PP performance



TSR-829 Transparent Resin

- PMMA level transparency
- Anti humidity



High Temperature TSR-920 Resin

- Stable at $>100^{\circ}\text{C}$



Super High Modulus TSR-755 Resin

- Filled Resin
- Flexural modulus: >15GPa
- HDT: >250°C



First Rubber Like TSR-1920B Resin



The First Silicone Rubber TSR-510 Resin



Continuous R&D for Market Needs

