DesignTech

Technology for designing the future

DesignTech Systems Ltd.

Technology for Designing the Future

DesignTech

Technology for designing the future

Corporate Profile

Business Verticals

DesignTech
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VAR for CAD/CAM/CAE, PLM Software Solutions and Additive Manufacturing Technologies

Engineering Services: Product Design and Development Services

DesignTech CAD Academy: Training centre for imparting trainings on CAD and CAE software solutions

Business Alliances

DesignTech
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We are the **Value Added Resellers** of these leading companies for their CAD/CAM/CAE, PLM and 3D Printing Technologies in India

Solution Partner PLM SIEMENS

Altair

stratasys CERTIFIED PARTNER

esri get it right®

SLM SOLUTIONS

solidscape A STRATASYS COMPANY

MathWorks | Authorized Reseller

DCS ENGINEERING IN NEW DIMENSIONS

SYNOPSYS® Silicon to Software™

Engineering Services

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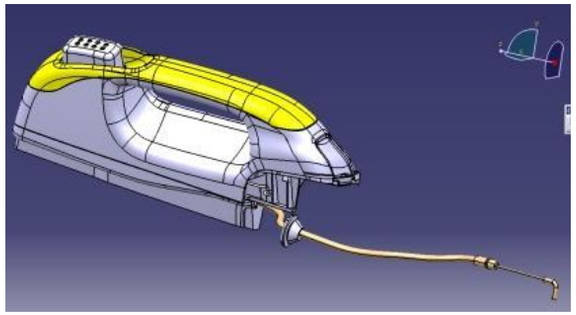
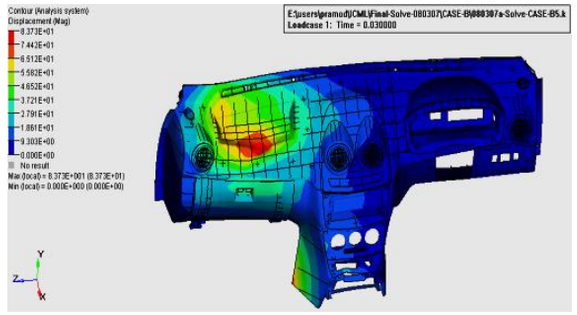
We provide Services at every stage of Product Lifecycle from

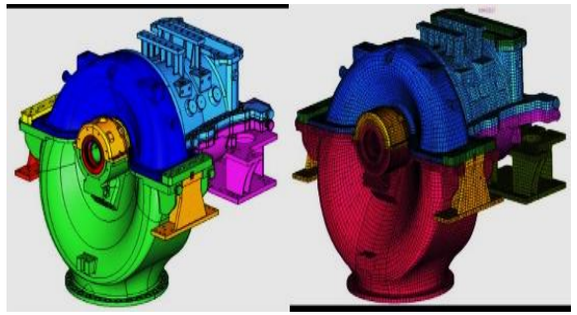


Concept Development



Product Design Validation and Analysis

Styling and Industrial Design



3D Modelling and Simulation

Contd… Engineering Services

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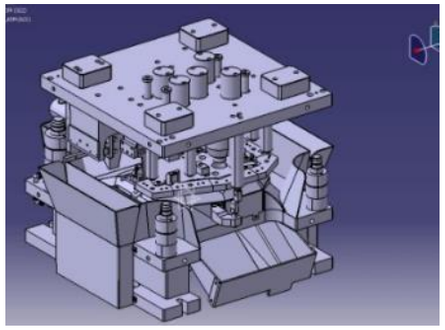
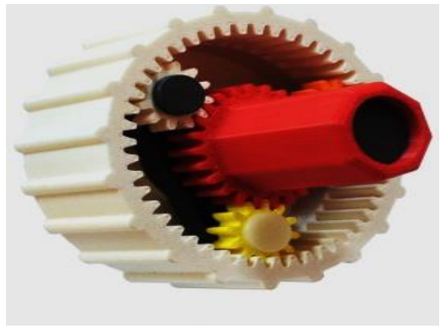
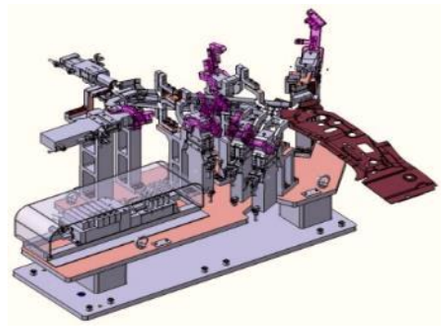


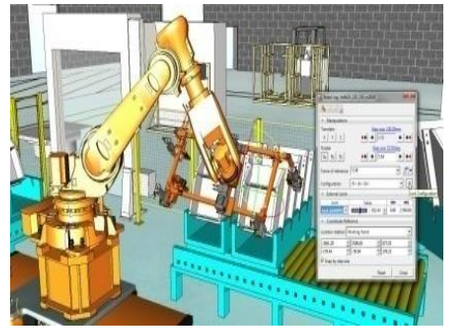
Tooling



Prototyping



Manufacturing



Shop Floor/ Scheduling

To Training & Support

Engineering Services Technical Capabilities

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- Services offered on all the leading CAD and CAE software
- Compliances to International Design codes and standards
- Strong domain specific Technical knowledge backed by rich industry experience
- Industries catered to:

Automotive

Aerospace and Defence

Heavy Engineering

Industrial Machinery

Power & Energy

Electromechanical and Consumer Goods

Markets we operate in

North America

Europe

Asia Pacific

Corporate Profile

DesignTech
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Among top **3** CAD/CAM/CAE and PLM solutions suppliers in India.

20+ years of experience in Mechanical Engineering Industry in India and Overseas

Presence in **9** cities in India along with associate offices in USA , Hong Kong , Singapore and Germany.

750+ Employee Strength including **450+** Engineers & Technical Staff

2200+ Customers in India and Overseas

Empanelment with

- **Bharat Heavy Electricals Limited** (BHEL) – Class A empanelment for design automation and engineering services
- **Nuclear Power corp**. – Empanelment for CAE results
- **International Thermonuclear Experimental Reactor** (ITER) – India – Mechanical Engineering services
- Preferred PLM implementation partner for Nissan Techno, Japan

Awards and Accolades

DesignTech
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NASSCOM Emerge 50 company

NASSCOM® EMERGE 50 2010

DesignTech has been adjudged amongst NASSCOM's top 50 emerging companies in India for Year 2010

NASSCOM Emerge Out company

DesignTech was felicitated for crossing the threshold of Emerging company and for becoming and **"Emerged"** Company in 2011

Awards and Accolades

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The Institution of Engineers (INDIA), at their Industry Excellence Award forum in 2015, conferred DesignTech Engineering Services and Consultation Division with the **“Certificate of Commendation”**

Services Offered in Diverse Industry Verticals

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Automotive OEMs	Vehicle integration, BIW, Crash, Interiors, Meshing and FEA, Packaging, spare part catalog etc.
Auto Components Suppliers	Product Design and analysis, Failure diagnostics, optimization, CAD and automation customization, Training services etc.
Aeronautical	CAD, Meshing and FEA, Composites & their Optimization, Conversion services, Interiors and plastics, BIW
Plastics	Tool Rooms – Tool design and CAM programming, detailing, Design automation, Plastic Product Designers Manufacturers, Mold Design manufacturers
Industrial	Special Purpose Machines (SPM's) Material Handling equipment, Design, automation, Packaging, optimization, design variants standard part libraries, all FE studies
Power	Steam Turbine, Gas Turbine, Heat Transfer, EMAG, CFD, Meshing, FE studies etc.
Atomic Energy	Cryogenic, Multi physics, Design for Seismic Conditions, Heat, Flux, CFD etc.

Services Offered in Diverse Industry Verticals

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Defence	Design Validation for Dynamic Loading, Design Studies for Non-Linear Dynamic Behaviour, Optimization, Training Services etc.
Space	Design Validation for Launching
Manufacturing	CNC Tool path Generation, Post Processor Development
Jewellery	Jewellery package
Industrial	Special Purpose Machines (SPM's) Material Handling equipment, Design, automation, Packaging, optimization, design variants standard part libraries, all FE studies
Software Development	Customization Add on modules/Tools
Ship Building	Shipyards

CAD Capabilities

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DSL uses all popular and latest software tools in-house to cater to various customer requirement. The following software and proficient manpower is available in-house

CATIA	**Unigraphics / NX**
I-deas	**Pro-E / Creo**
Solid Works	**Inventor**
Solid Edge	**Solid Thinking**
Visio	

CAE Capabilities

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DSL CAE team has been working in numerous industry verticals and has proficiency in both software and domain to execute more complex problems. The expertise is available on the following systems

Ansys	**Nastran**	**IDEAS**
LS Dyna	**HyperMesh**	**OptiStruct**
ADAMS	**FEMAP**	**Abaqus**
Radioss	**CESAR**	**Fathom**

CAE Capabilities

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Apart from complex meshing assignments, the following type of analysis have been successfully completed by DSL team on various projects

• Static	• Seismic
• Modal	• Electro-static
• Buckling	• Electro magnetic
• Dynamic	• Electronic System Cooling (coupled thermal and flow)
• Non-Linear	• CFD
• Transient	• Piping system analysis
• Vibrations	• Wind loads (Fluid Structure Interactions)
• Weld Joint analysis	• Vacuum conditions
• Thermal	• Metal forming Simulation
• Crash	• Fatigue
• Force Response	• Durability
• Optimization (weight and performance)	• Noise-Vibration and Harshness (NVH)
• Kinematic and mechanism simulation	• Explosion loads

Infrastructure- CAE

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Static Analysis

- Ansys
- Nastran
- IDEAS
- OptiStruct

Non-linear Dynamics

- LS Dyna
- Radioss
- Abaqus
- Nastran
- Ansys

Kinematics

- MotionSolve
- ADAMS
- IDEAS Mechanism Simulation

Sheet Metal Forming

- HyperForm
- LS Dyna
- Radioss

Durability/Fatigue

- IDEAS Durability
- Nastran
- Ansys

Optimization

- OptiStruct

Exposure to Design Standards

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During the course of last few years, DSL engineers have worked and gained proficiency in design based on international design codes like

FMVSS	ASME	BIS
DIN	EN	IS
SAE	RCCMR	EJMA

DesignTech Stratasys Association

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Stratasys 3D Printers available in two distinct technologies

- FDM and
- PolyJet
- We have been catering to, and working closely with companies from

Aerospace and Defence | **Automotive** | **Industrial Machinery** | **Consumer Goods and Electronics domains**

- Our customers have adjudged us amongst the highest brackets of customer satisfaction index

Award

Stratasys Honored DesignTech Systems Ltd. with the Award for
“Maximum Order bookings versus Target for the year 2015”.

Out of all their Channel Partners across Asian Subcontinent, Stratasys declared this Award to DesignTech Systems.

Stratasys – PolyJet & FDM Technology

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The Additive Manufacturing (AM) Process

3D CAD file

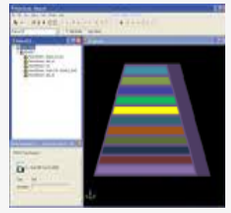
- 3D CAD SW
- Made by designer

STL File

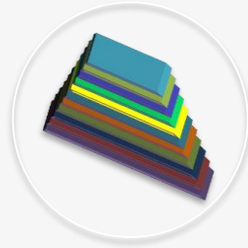
- 3D CAD SW
- “Save As” STL

Slicing of STL

- SW Sliced to layers



AM



- AM System
- Layer upon layer

Stratasys Benefits and Applications

DesignTech
Technology for designing the future

Stratasys **FDM** and **PolyJet 3D Printers** offer wide range of materials to create complex parts that will best help designers test their designs.

Applications	Benefits
• Concept Models	• Helps Save Time and Money
• Styling, Ergonomic Studies	• Early and continuous design iterations
• Functional Testing	• Shortens design and development Cycles
• Patterns for Metal Casting	• Helps get Ideas to market Faster
• Prototype tooling	• Maintains new design concepts in-house
• Marketing Models	• Minimizes the cost of Change

Stratasys Idea Series Products

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uPrint SE Plus

- The uPrint SE Plus 3D printer uses FDM technology to build in real ABSplus thermoplastic material
- Functional prototypes built in uPrint are durable, stable and pinpoint accurate
- Build Size: 203 x 203 x 152 mm (8 x 8 x 6 in)
- Layer Thickness: .254 mm (.010 in) or .330 mm (.013 in)
- You can evaluate form, fit and function in everything from ergonomics to manufacturing processes — right from your desktop

Stratasys Design Series Products

DesignTech
Technology for designing the future

Objet30 Pro

- Objet30 Pro runs on PolyJet technology which is famous for smooth surfaces, fine precision and diverse material properties
- It offers 8 different 3D printing materials
- It features four Rigid Opaque materials, and specialized photopolymers, including transparent, high-temperature and two simulated polypropylene options
- Build Size: 294 x 192 x 148.6 mm (11.57 x 7.55 x 5.85 in.)
- Layer Thickness: 28 microns (0.0011 in.)
- Objet30 Pro is ideal for prototyping Consumer Goods, Consumer Electronics, Medical Devices and more
- The Objet30 Pro gives you the power to create realistic models in-house – quickly and easily

Stratasys Design Series Products

DesignTech
Technology for designing the future

Objet 260 Connex 3

- It lets you play with colors to build some of the most vibrant, vivacious and unbelievably real products through astonishing range of colors to choose from range of Digital Materials with varying translucency, rigidity, thermal resistance or color
- Build Size: 255 × 252 × 200 mm (10.0 x 9.9 x 7.9 in.)
- Layer Thickness: Horizontal build layers as fine as 16 microns (0.0006 in.)
- Produce smooth three-color gradients and vivid multi-color models based on the color information in your original CAD file
- Soluble support material gives you the flexibility to create delicate features, internal voids or undercuts that water-jetting could miss or damage

Stratasys Design Series Products

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Eden 260 VS

- Offers unprecedented return on investment for a wide range of professional rapid prototyping applications
- With a choice of 15 materials, the Objet Eden260V prints ultrafine 16 micron layers for exceptional detail, complex geometries and very thin walls
- Build Size: 255 × 252 × 200 mm (10.0 x 9.9 x 7.9 in.)
- Layer Thickness: Horizontal build layers as fine as 16 microns (0.0006 in.)
- The Eden 260VS is the first PolyJet 3D printer with a soluble support option to minimize to hands-on time and effort

Stratasys Design Series Products

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F123 Series

- The new Stratasys F123 Series is easy to operate and maintain for all levels of experience
- The three printers in the platform, the Stratasys F170, F270 and Stratasys F370, support a broad range of capabilities and budgets for every stage of prototyping
- The most commonly used CAD file formats can be imported directly into GrabCAD
- Multiple material like PLA, ABS, ASA and PC ABS available in FDM technology
- Slice thickness starting from 0.127 mm onwards
- System Size and Weight: 1626 x 864 x 711 mm (64 x 34 x 28 in.) 227 kg (500 lbs) with consumables
- Layer Thickness: 0.330 mm (0.013 in.) ABS, ASA, PC-ABS

Stratasys Design Series Products

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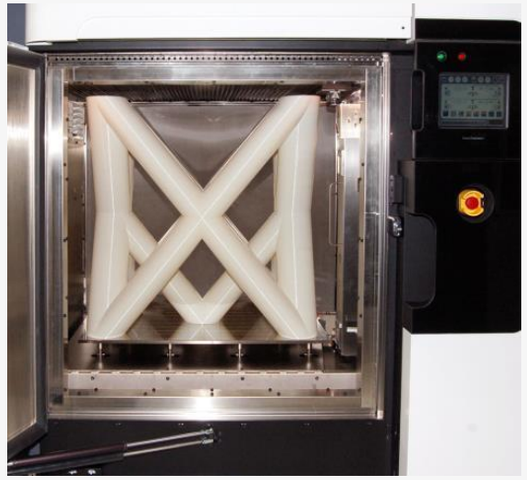
Fortus Series

- Based on FDM Technology these machines are ideal to create parts with end use applications
- With nine material options, it's suitable for building fixtures, factory tooling and end-use parts
- Build Size: 914 x 610 x 914 mm (36 x 24 x 36 in.)
- Two build material canisters 1508 cc (92 in.3)
- Two support material canisters 1508 cc (92 in.3)
- Layer Thickness: 0.013 inch (0.330 mm)
- Materials include high-performance thermoplastics for biocompatibility, static dissipation and resistance to heat and chemicals



Stratasys Design Series Products

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Stratasys J750

- Stratasys J750 lends form and substance to your brightest ideas and boldest ambitions with lifelike colors and materials that make uncertainty obsolete
- New features, available only on the Stratasys J750, will change the way you look at 3D printing
- Automatic color mapping, Easy material selection
- Build Size: 490 x 390 x 200 mm (19.3 x 15.35 x 7.9 in.)
- Layer Thickness: Horizontal build layers down to 14 microns (0.00055 in.)
- By blending up to six materials in specific concentrations and microstructures, right on the build tray, it yields hundreds of thousands of colors, translucencies and durometers.

Stratasys Design Series Products

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Objet 1000 Plus

- Objet1000 Plus amplifies productivity without sacrificing accuracy
- It streamlines production of 1:1 models, patterns, molds, fixtures and other manufacturing tools, in automotive and aerospace industry
- Build Size: 1000 x 800 x 500 mm (39.3 x 31.4 x 19.6 in.)
- Layer Thickness: Horizontal build layers as fine as 16 microns (.0006 in.)
- Accuracy of Up to 85 microns for features smaller than 50mm
- Objet 1000 Plus offers the lowest cost of ownership per part of any PolyJet system

Case Study – Premium Transmission

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Problem

- Engineers from Premium found it difficult to keep up with the fast paced market
- Constant development of new innovative design was costly and time consuming using traditional fabrication methods

Solution

- Premium invested in 3D Printer based on FDM Technology
- Engineers could create the design in 3D CAD and produce the prototype in one print, saving time and resources

Benefits

Method	Cost	Lead time
Traditional method	$ 1000	45 Days
3D Printing	$250.	4 – 5 days
Savings	75 %	90 %

To know more download this case study from link below

http://www.designtechsys.com/download-pdf/

Case Study – Nashik Engineering Cluster

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Need

- Help companies in and around Nashik to accelerate the Product Design and Development Process
- Provide the prototyping services to the industry in a faster and cheaper way

Solution

- NEC decided to implement 3D Printing technology in its facility and bought the Stratasys Fortus 900MC printer in 2007
- It started providing prototyping services to different kind of industries like Automotive, Consumer Goods, Aerospace and Defense
- NEC staff was able to use the Fortus system to shorten the design cycles of its clients and accelerate the product design process
- NEC has now become a vital stop for thousand of companies in Nashik in their design and prototyping stage

To know more download this case study from link below

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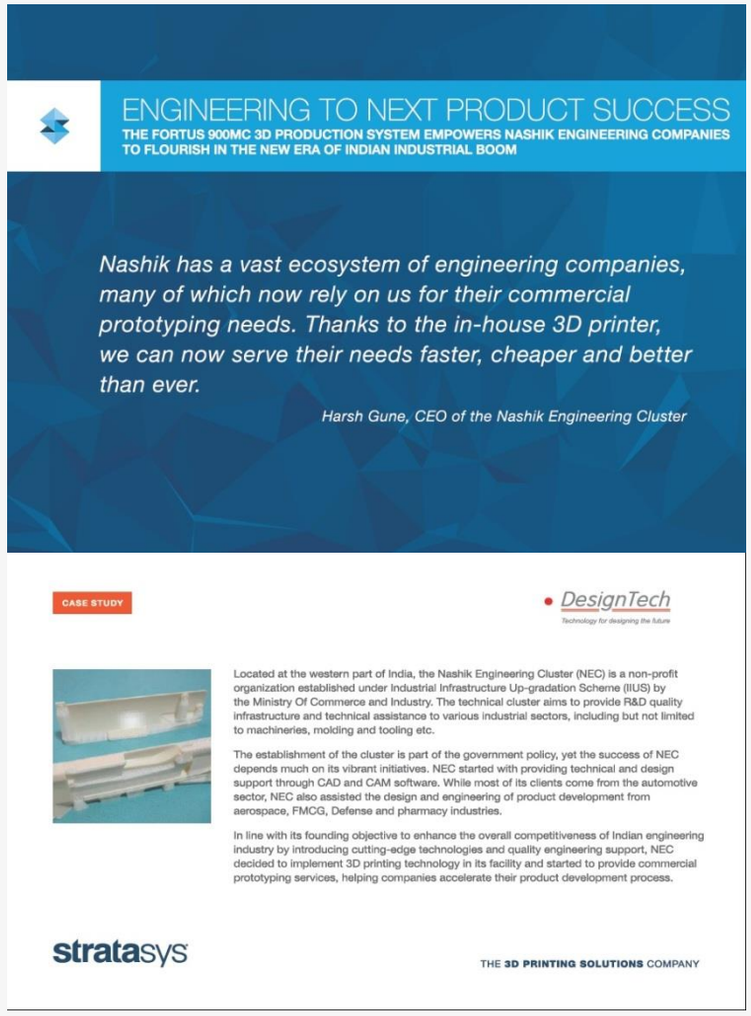
ENGINEERING TO NEXT PRODUCT SUCCESS

THE FORTUS 900MC 3D PRODUCTION SYSTEM EMPOWERS NASHIK ENGINEERING COMPANIES TO FLOURISH IN THE NEW ERA OF INDIAN INDUSTRIAL BOOM

Nashik has a vast ecosystem of engineering companies, many of which now rely on us for their commercial prototyping needs. Thanks to the in-house 3D printer, we can now serve their needs faster, cheaper and better than ever.

Harsh Gune, CEO of the Nashik Engineering Cluster

CASE STUDY

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Located at the western part of India, the Nashik Engineering Cluster (NEC) is a non-profit organization established under Industrial Infrastructure Up-gradation Scheme (IIUS) by the Ministry Of Commerce and Industry. The technical cluster aims to provide R&D quality infrastructure and technical assistance to various industrial sectors, including but not limited to machineries, molding and tooling etc.

The establishment of the cluster is part of the government policy, yet the success of NEC depends much on its vibrant initiatives. NEC started with providing technical and design support through CAD and CAM software. While most of its clients come from the automotive sector, NEC also assisted the design and engineering of product development from aerospace, FMCG, Defense and pharmacy industries.

In line with its founding objective to enhance the overall competitiveness of Indian engineering industry by introducing cutting-edge technologies and quality engineering support, NEC decided to implement 3D printing technology in its facility and started to provide commercial prototyping services, helping companies accelerate their product development process.

stratasys

THE 3D PRINTING SOLUTIONS COMPANY

Introduction to Solidscape 3D Printers

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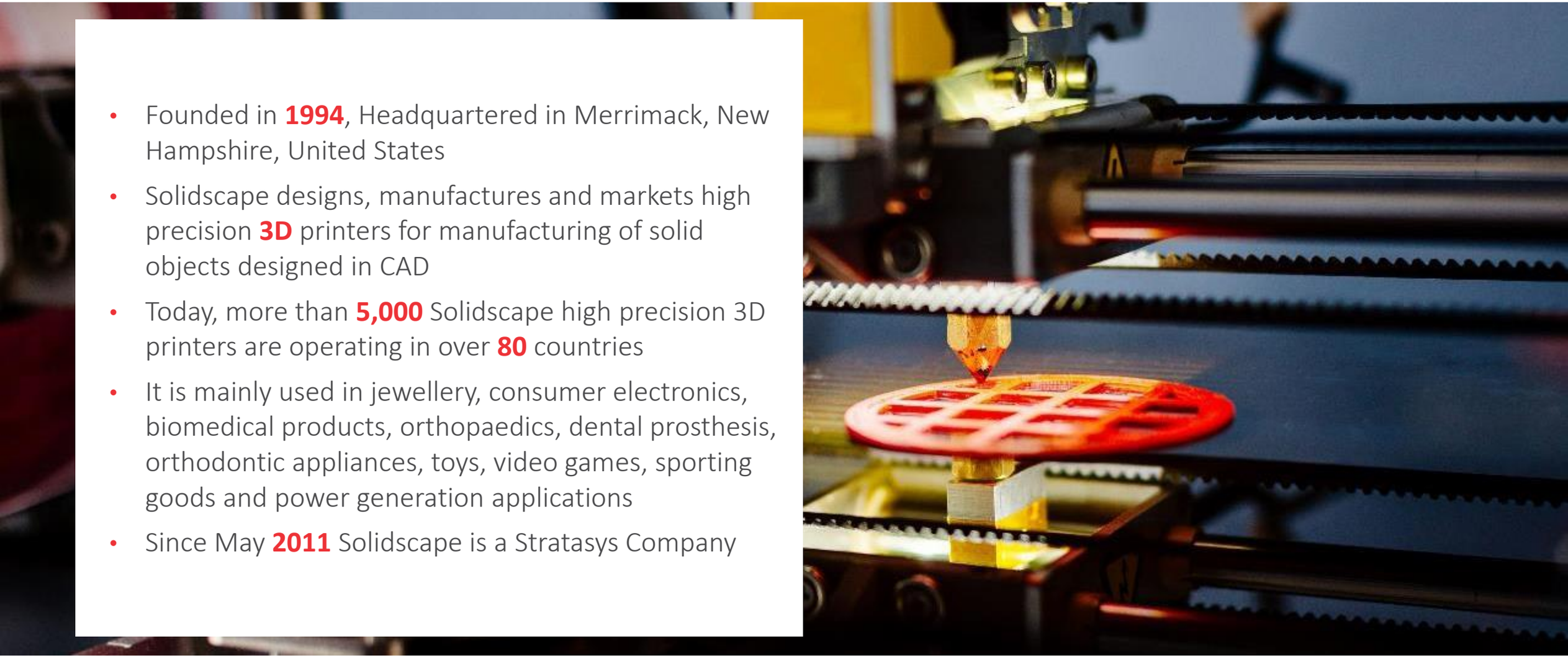

- Founded in **1994**, Headquartered in Merrimack, New Hampshire, United States
- Solidscape designs, manufactures and markets high precision **3D** printers for manufacturing of solid objects designed in CAD
- Today, more than **5,000** Solidscape high precision 3D printers are operating in over **80** countries
- It is mainly used in jewellery, consumer electronics, biomedical products, orthopaedics, dental prosthesis, orthodontic appliances, toys, video games, sporting goods and power generation applications
- Since May **2011** Solidscape is a Stratasys Company

Solidscape Technology

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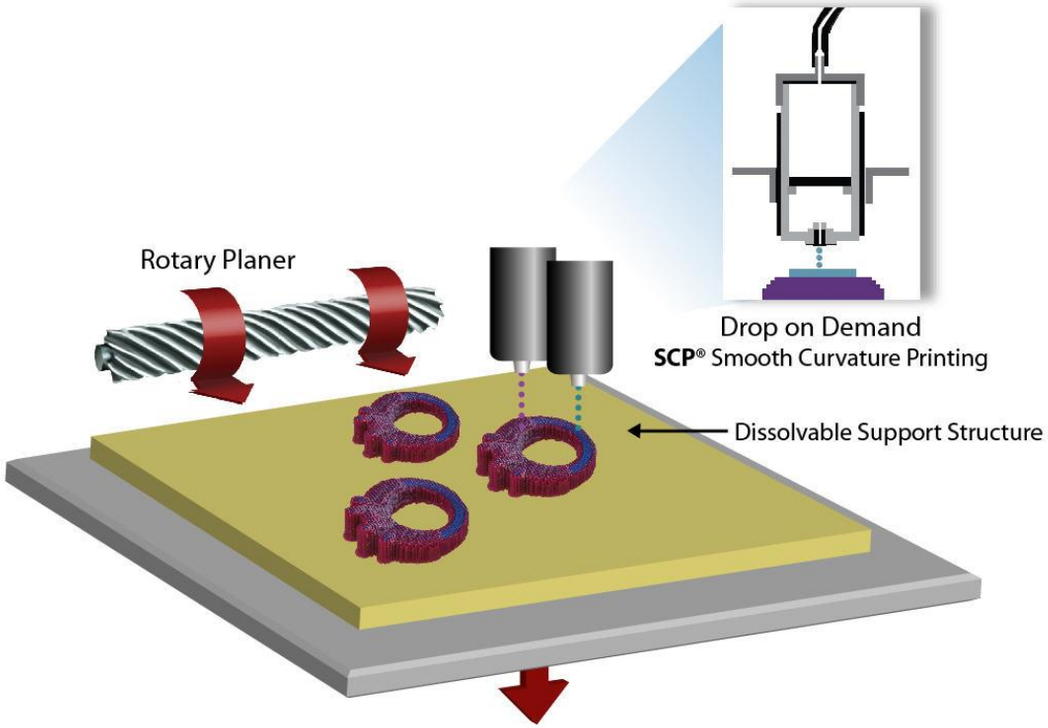
Drop-on-Demand Technology

- Millions of drops land in precise location based on CAD/CAM information

Vector Jetting Technology

- Two print heads work in tandem; one builds the model, the other builds the support structure
- Support material is dissolvable
- Smooth Curvature Printing (SCP) creates industry-leading surface finish
- Combination of rotary planer and incremental movement of Z-Table allow for model resolution up to 6µm



Solidscape: Features and Benefits

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Features	Benefits
• One Button Start	• No time to start machine, enables remote management and reduction in operator error
• Material Packaging	• Easy to use (10) pack crayon-form material helps manage material consumption effectively
• Built-In LCD Touchscreen	• Saves room, no monitor/mouse necessary
• Auto-Bubble and Volume Calibration	• Almost '0' time to set up, enables remote management, encourages proper machine use and consistent model quality
• Build Plate Bar Code System	• Remembers up to last 10 plates, promotes efficient production workflow
• Dynamic Cooling	• Ensures consistent model quality and machine performance despite ambient temperature fluctuations
• Ease of Use	• User-Friendly Touch Screen | One-Button Setup and Start | Automatic Printer Calibration
• Improved Cutter	• Sharper case harden steel cutter enables cleaner model quality and smooth surface finish
• Vacuum Sensor	• Alerts when vacuum bag needs replacement, maintains proper vacuum suction eliminating dust hazard

Solidscape S Series – S 350

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Perfection Simplified

- **Layer Thickness:** User Selectable - 0.00025 inch (0.00635 mm) to 0.003 inch (0.0762 mm) at 0.00025 (0.00635 mm) increments
- **Resolution:** 5000 X 5000 dots/inch (197 X 197 dots/mm) in X, Y
- **Accuracy:** ±0.005 inch (127 µm) for 1st inch (25.4 mm), ±0.001 inch/inch (25.4 µm) each additional inch X,Y and Z
- **Build Envelope:** 6 x 6 x 4 inches (152.4 x 152.4 x 101.6 mm)
- **CAD File Input:** .stl and .slc files
- **Surface Finish:** Layer thickness-dependent, up to 32 micro-inches (RMS)
- **Directly Castable:** 100% castability in Gold and Silver material

Solidscape S Series – S 370

DesignTech
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Perfection Simplified

- **Layer Thickness:** User Selectable - 0.001 inch (0.0254 mm) to 0.002 inch (0.0508 mm) at 0.00025 (0.00635 mm) increments
- **Resolution:** 5000 X 5000 dots/inch (197 X 197 dots/mm) in X, Y
- **Accuracy:** ±0.005 inch (127 µm) for 1st inch (25.4 mm), ±0.001 inch/inch (25.4 µm) each additional inch X,Y and Z
- **Build Envelope:** 6 x 6 x 4 inches (152.4 x 152.4 x 101.6 mm)
- **CAD File Input:** .stl and .slc files
- **Surface Finish:** Layer thickness-dependent, up to 32 micro-inches (RMS)
- **Directly Castable:** 100% castability in Gold and Silver material

Solidscape S Series – S 500

DesignTech
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Perfection Simplified

- **Layer Thickness:** 0.002 inch (0.0508 mm) or 0.0025 inch (0.0635 mm)
- **Resolution:** 5000 X 5000 dots/inch (197 X 197 dots/mm) in X, Y
- **Accuracy:** ±0.005 inch (127 -m) for 1st inch (25.4 mm), ±0.001 inch/inch (25.4 -m) each additional inch X,Y and Z
- **Calibration Capacity:** Quicker calibration
- **Build Envelope:** 6 x 6 x 4 inches (152.4 x 152.4 x 101.6 mm)
- **CAD File Input:** .stl and .slc files
- **Directly Castable:** 100% castability in stainless steel, aluminium and all castable alloys

3Z Studio

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Perfection Simplified

- Small Volume Production (60-70 models per month)
- Suitable for Custom Retailers
- 50% slower than 3Z Pro
- 6x6x2 in (15x15x5 cm) envelope
- **Resolution:** 5000 x 5000 dots/inch (197 x 197 dots/mm) in X, Y 8000 dots/inch (315 dots/mm) in Z
- Slice Thicknesses: 6micron – 25micron

3Z Build Material Properties

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- Cylindrical “Crayon”
  - Pre-Measured Amounts
  - Dust-Free
- Melting Point
  - 221° - 239° F (95° – 115° C)
- 100% Castability
- No Material Shrinkage
- Clean burn-out (no ash/residue)

3Z Support Material Properties

DesignTech
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- Octagonal “Crayon”
  - Pre-Measured Amounts
  - Dust-Free
- Low Melting Point
  - 121° - 162° F (50° – 72° C)
- Hands-Free Removal
  - Avoids mishaps and damage to models.
  - No Sanding/Filing
  - No risk of breaking features

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Thank You