

Design for MSMEs

January 13, 2012

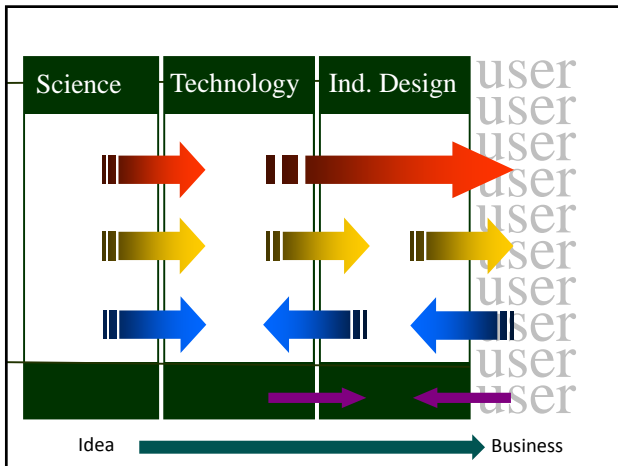
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National Institute of Design

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“It is not difficult to be *different*, What is difficult is to be *better*”

- Jonathan Ive,

www.krabble.com
www.thebizofcoding.com



...humanizing technology

SMEs contribute an overwhelming 95% of industrial units
(www.moneycontrol.com)

Center for Technology Extension DRDO New Delhi

- Converting Constraints into Unique Opportunity
 - Offshoot applications - New applications
 - Indigenization

...comparison

Design Projects

MSME Unit: Zandig TQM Solutions, Bangalore, Karnataka

Design Consultant: Icarus Design Pvt Ltd, Bangalore, Karnataka

Project Brief: Redesigning an ENT Multiscope (Ear, Nose and Throat)

Salient Features of the New Design :

- The ENT scope is now redesigned from the users perspective.
- It is easy to hold for examining the ear, nose and throat.
- Most used controls have all been ergonomically placed.
- The device accept most popular ENT scopes available in the market.
- The light source which was external is now camouflaged in the device.
- The LED light for the various scopes can be switched with a single button.

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Design Projects

MSME Unit :
Dura Vision Systems,
Pune

Design Consultant:
Abhijit R Takale,
Neodes Design , Pune

Project Brief
DBV machine Aesthetics Display & Controls and Interface Design

Scope of work :

- To address functionality, usability and aesthetics.
- Design for mass manufacturing

Salient Features of New Design :

- Improved Aesthetics
- Technology improvement
- Cost effective solution
- Modularity : adopted for different size of bottles and different conveyor sizes



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Design Projects

MSME Unit:
Synergy Agro- Tech Pvt. Ltd.
Ahmedabad, Gujarat

Design Consultant:
Platypus Designs Pvt. Ltd.
Ahmedabad, Gujarat

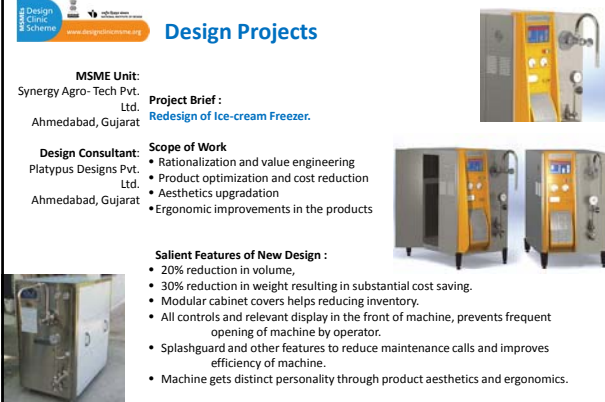
Project Brief :
Redesign of Ice-cream Freezer.

Scope of Work

- Rationalization and value engineering
- Product optimization and cost reduction
- Aesthetics upgradation
- Ergonomic improvements in the products

Salient Features of New Design :

- 20% reduction in volume,
- 30% reduction in weight resulting in substantial cost saving.
- Modular cabinet covers helps reducing inventory.
- All controls and relevant display in the front of machine, prevents frequent opening of machine by operator.
- Splashguard and other features to reduce maintenance calls and improves efficiency of machine.
- Machine gets distinct personality through product aesthetics and ergonomics.



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Design Projects

MSME Unit:
Sharp Industries,
Coimbatore

Design Consultant:
Sunil Sudhakaran,
Icarus Design, Bangalore

Project Brief :
To redesign and reposition the 0.5hp industrial pump in the domestic.


Scope of work

- Brass insert in the Centripetal pump area .
- Fixable/portable with transparent opening;
- Cord winding and Power indicator and Switch
- Housewife friendly,

Salient Features

- The pump is repositioned with a stylized enclosure,
- Stands out from the competition with its New Design and Product Aesthetics.
- The enclosure covers pump and electrical components.
- Redesigned in terms of its Customer category.
- Aesthetically appealing, clean and safe styling.

New Designed Product



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Design Projects

MSME Unit:
Scrum System Pvt. Ltd.
Pune, Maharashtra

Design Consultant:
Aakruti Consultant,
Pune, Maharashtra

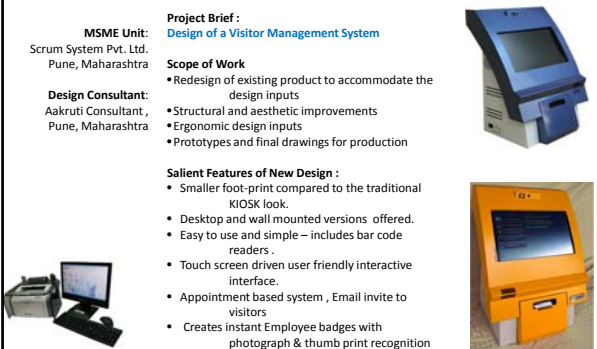
Project Brief :
Design of a Visitor Management System

Scope of Work

- Redesign of existing product to accommodate the design inputs
- Structural and aesthetic improvements
- Ergonomic design inputs
- Prototypes and final drawings for production

Salient Features of New Design :

- Smaller foot-print compared to the traditional KIOSK look.
- Desktop and wall mounted versions offered.
- Easy to use and simple – includes bar code readers .
- Touch screen driven user friendly interactive interface.
- Appointment based system , Email invite to visitors
- Creates instant Employee badges with photograph & thumb print recognition



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Design Projects

MSME Unit:
Suyash Engineering and Automation Pvt. Ltd.,
Pune, Maharashtra.

Design Consultant:
AUTOMOTIF, Pune,
Maharashtra

Project Brief:
Design Electric Portable Hydraulic Power

Scope of Work:

- For applications like riveting, lifting, bearing pulling etc.
- Compact for portability to different location.
- Better aesthetics and ergonomic solution for the power pack

Salient Features of New Design :

- New design one step ahead of their existing offerings.
- The new design is primarily portable and mobile.
- Ergonomic in handling and operation
- New Control panel design
- Components packaged under FRP cover, protected & safe
- Clean & neat aesthetics



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Design Projects

MSME Unit:
M/s Wadia Bodybuilders,
Ahmedabad, Gujarat

Design Consultant:
Mr. Amit Paul,
Ahmedabad

Project Brief :
Redesign of Mist Machine Vehicle for making it more export worthy.

Scope of work:

- Styling of the complete vehicle including redesigning of the front facia.
- Complete structural and paneling design of the rear including controls.
- Placement of various aggregates in a simple and easy to use manner.
- Ergonomic issues to be handled

Salient Features of New Design :

- The vehicle exterior - dynamic and robust
- The water tank is low lying and so the vehicle is more stable.
- The tool box is the side bottom which makes their access faster and better.
- An additional rolling shutter to protect the mist machine unit for external factors when not in use.



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Design Projects

MSME Unit:
Plenum Tech Pvt. Ltd,
Nagpur, Maharashtra

Design Consultant:
Neodes Design,
Pune, Maharashtra


Project Brief:
Redesign of Volumetric Infusion Pump

Scope of work:

- User friendly and aesthetically appealing look.
- Reduce uncertainty in user operation through new interface development.

Salient Features of New Design :

- Installation time of IV set and starting up the device reduced
- Prioritizing the alarms (problems in infusion) made easier during emergency situations
- Anti free flow mechanism and orientation of the product was reoriented to make it cost efficient and easier for operation for the end user
- Contemporary aesthetics in interface evokes visual comfort for operation.



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Design Projects

MSME Unit :
M/s Airpro Engineers
Pvt. Limited

Design Consultant:
DesignLife, Thane,
Maharashtra


Project Brief
Design of Volume Control Damper

Scope of work :

- Addresses the issues related to manufacturing, installation
- Reduced assembly time & hence manufacturing cost
- Contemporary style with higher perceived value

Salient Features of New Design :

- Better layout of angle-gauge with coloured handle,
- Improved visibility of the Angle-gauge during inspection.
- Handle with Direction of the Blades inside the VCD
- Bolting instead of Welding, for better productivity.
- Stronger Sections less prone to handling damages
- Clean looks and good aesthetics.



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Design Projects

MSME Unit:
Sangaru Design Objects
Pvt. Ltd. Bangalore

Student Designer :
Anuja D. Dhulekar

Design Institute :
National Institute of
Design, Ahmedabad

Project Guide :
Neelima Hasija
(Ceramic Design
Faculty at NID)

Project Brief :
Ceramics Product Design & Development

•A range of utilitarian products in Ceramics /Terra-cotta/combination of appropriate materials,

•kitchen and dining product range derived as Cookware for Flame and Microwave cooking and Serve-ware for Storage / Dispenser

Salient Features of New Design :

- Traditional and sustainable ways of preparing, preserving and serving food
- The porousity helps in cooking and also adds a unique flavour to the food, making the food healthier.
- Specially designed for the slow cooking process.



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Design Projects

MSME Unit:
Creative Educational
Aids Pvt. Ltd. Greater
Noida, (U.P)

Student Designer :
Ashish Kumar

Design Institute :
National Institute of
Design Ahmedabad

Project Guide :
Gayatri Menon
(Faculty & coordinator
Toy & Game Design)

Project Brief :
Design of Language Program / Kit for Pre-school children

Scope of work:

- To improve learning ability of children.
- Concept and Prototype development for understanding the design outcome

Salient Features of New Design :

- Help recognize, correlate letters, practice writing both forms of letters.
- Help in early reading skills
- Enhance vocabulary, visual discrimination skills
- Learn words that rhyme,
- Learn words that are opposites



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Design Clinic Scheme for MSMEs

Design Ambition
for MSME Sector

Ministry of MSME,
Government of India.

Nodal Agency –
National Institute
of Design, Ahmedabad,

Targets -
200 clusters

Total Budget –
73.58 crores

GOI assistance -
49.08 crores

17th February 2013, Scheme



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Design Clinic Scheme for MSMEs

outlay Rs. 73.58 Cr. Govt. Support Rs. 49.08 Cr.

200
Design Sensitization Seminars

200
Design Awareness Programmes

300
Professional Design Projects

100
Student Design Projects

National Institute of Design – a Nodal Agency

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Design Awareness Seminars

(As on 12th Jan- 2012)

Design Awareness Seminars conducted across the country

Activities	East	NE	West	North	South	Total
Seminars Conducted	37	25	49	21	36	168
Seminars Proposed/Scheduled	05	09	18	15	31	78

Up to Rs.60,000/- Financial Assistance Provided by Govt of India

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Design Awareness Seminars

(As on 12th Jan- 2012)

Progress - Design Awareness Seminars conducted across the country

Industrial Sectors Covered under Design Awareness Seminars

Industrial Sectors	Total
Product Packaging	3
Bamboo	2
Toy	3
Rubber	3
Machine Tools	5
Handicraft	6
Garments	5
Handloom	6
Leather Products	6
Machinery	7
Auto Components	9
Metal Products	11
Ceramic	10
Food Products	13
Electrical Equipments	11
Wood /Steel Furniture	12
Plastic Products	11
Gems & Jewellery	12
Agriculture Products	13
Engineering Components	20
Total	168

State Wise Design Awareness Seminars Completed

States	No. of Seminars
Gujarat	14
Maharashtra	14
Madhya Pradesh	12
Rajasthan	08
Uttar Pradesh	10
Punjab	05
Uttarakhand	02
Haryana	02
Karnataka	10
Kerala	11
Tamilnadu	05
Andhra Pradesh	09
Pondicherry (U.T)	01
West Bengal	25
Bihar	03
Orissa	08
Assam	18
Manipur	03
Meghalaya	01
Sikkim	01
Mizoram	02
Daman (U.T)	01
Chattisgarh	01
Himachal Pradesh	01
Delhi	01
Total	168

- 6288 Participants in 154 Seminars
- 40 Participants per Seminar
- 28 Industries per Seminar
- 130 Seminar expenses reimbursed

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Design Awareness Programme

Need Assessment Survey
5- 15 Days Survey

Design Clinic Workshop
1 to 5 Days Workshop

Design Awareness Programme Expenses – 4 Lacs max.

Rs.3,00,000 Govt of India +
Rs.1,00,000 MSME Asso. Contribution

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...strategizing scope for design intervention

...product design ...product diversification ...package design
...branding ...exhibitions ...displays ...product graphics

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...strategizing scope for design intervention

...skill up-gradation ...workstation design ...tool designs
...materials & processes design ...joineries & details

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Standardization of Parts
Aesthetic Integration of Parts

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Display and controls

(Need Assessment Survey and Design Clinic Workshop)

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Product Ergonomics – Legibility of data

(Need Assessment Survey and Design Clinic Workshop)

- Display small for the viewing distance
- Complicated controls

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Product Ergonomics - Safety

(Need Assessment Survey and Design Clinic Workshop)

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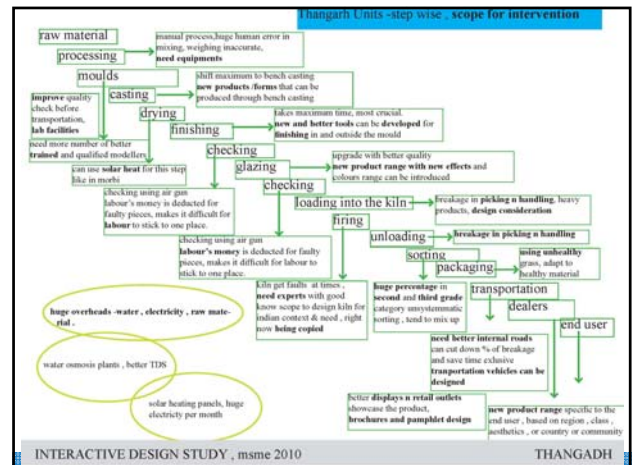
(As on 11th Jan- 2012)

Design Awareness Programme Status

(Need Assessment Survey & Design Clinic Workshop)

Activities	East	NE	West	North	South	Total
Design Awareness Programmes Completed/ In progress	13	15	11	04	04	47
Design Awareness Programmes Proposed/Scheduled	03	20	06	05	03	37

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Slip Casting, drying and finishing :

CRITICAL ISSUES AND RECOMMENDATIONS :-

BRICK BREAKAGE WHILE PICKING AND PLACING AT GREEN STAGE
REDESIGN FROM AND PRODUCT KEEPING IN MIND THE PROCESS,
REDUCE BREAKAGE.

It is not advisable to put products on floor as bending time and again causes back problem and increases the chances of developing cracks.

Heavy and ergonomically difficult forms, labour tend to break more or is very slow.

INTERACTIVE DESIGN STUDY , msme 2010 THANGADH

CRITICAL ISSUES:

HUMAN ERRORS TO BE MINIMISED

WORKSTATION AND TOOLS TO BE REDESIGNED FOR BETTER PRODUCTION QUALITY AND EFFICIENCY

Because of various mentioned reasons, faults occur, may or may not be rectified, lead to breakage and inefficient production.

Using tool, which scratches the plaster hence leading to more accuracy.

Due to extra cutting, the primary joint gets thicker and takes extra time to finish.

Manually done holes, not in line, reduces the quality and brand value.

INTERACTIVE DESIGN STUDY , msme 2010 THANGADH

Awareness Programme

Organiser :
CAD CAM People's Association, Pune Engineering & Fabrication Cluster

Observation during need assessment survey :

- Improper/no fixtures, lack of standardization
- Old and copied designs, over designed and lack of optimization
- Improper communication for inventory, production and packaging

Scope for Design Intervention:

- New product design / Redesign for distinction and premium at market place.
- Automation and Ergonomic condition improvement for better quality and productivity
- Standardization of product and packaging for cost effective production and distribution
- Designing of communication, collaterals for better presentation and reach.

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Professional Design Projects

Experts Project
Up to 09 Months dedicated

- Design intervention in Product/Process
- Full Ownership by MSME Unit/s
- Reduced Investment on Design Resources
- NID Controlled Administrative / Funding Process

Rs.15,00,000/- Cost for 1-3 MSME Unit/s (Assistance up to - 9 Lacs)

Rs.25,00,000/- Cost for Group of MSME Units 4 and more (Assistance up to 15 Lacs)

60% Financial Assistance Provided by Govt of India

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Student Design Projects

Student Projects
Up to 6 Months

Project Duration : 4 - 6 Months

Project Budget : Rs.2,00,000/-

Financial Assistance by Design Clinic Scheme : Rs.1,50,000/-

MSME Contribution : Up to Rs.50,000/-

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Design Projects

Implementation Status - Design Projects

Zone	Project Received	Project Approved	Project Rejected	Under Evaluation	Clarification Sought
West	3	2	1	1	1
East	4	0	0	0	0
North	2	4	4	4	0
North East	2	0	0	2	0
South	1	1	2	4	0
Total	13	7	7	11	1

Ph. IV/ Completed	11
Phase III	06
Phase II	03
Phase I	11
Proj. Withdrawn	02
Total	33

Product Segments Covered	No. Of Projects
Automotive Products	2
Home/business appliances	6
Electronic and interface device	2
Furniture	3
Industrial Equipments (medical devices)	6
Medical devices	5
Packaging Solutions	2
Safety equipments	2
Toys Design	1
Agriculture equipments	2
Ceramic & Glass	2
Total	33

Online Application and proposal facility on website

- Professional project guideline
- Project proposal format

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Project initiatives by MSMEs

MSMEs interested in taking up design projects may provide details for designer's reference.

Designers contact interested MSMEs and discuss the project for further processing ..

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Registrations

Designers

Registrations	North East	East	West	North	South	Total
Design Consultants Registered	26	33	178	127	68	432
Design Firms Registered	5	15	86	29	40	175
Design Institutes Registered	4	1	7	6	2	20
Design Students Registered	0	2	40	104	4	150

MSMEs

Registrations	North East	East	West	North	South	Total
MSME Associations Registered	12	20	67	39	24	162
MSME Units Registered	3	25	94	272	44	438
Government Organizations Registered	3	1	6	4	1	15

As on 11th January 2012

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MSMEs Design Clinic Scheme

राष्ट्रीय डिजाइन संस्थान
NATIONAL INSTITUTE OF DESIGN

www.designclinicmsme.org

Thank You !!

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