PROJECT PROFILE ON ELECTRONIC REMOTE CONTROLLED TOY

1. Product:-	**Electronic Remote Controlled Toy**
2. NIC Code (1998):-	**-**
3. Product Code (ASICC-2000):-	**-**
4. Production capacity:-	**Qty. 2400 Nos** **(Value Rs 54,00,000)**
5. Month & year of Preparation:-	**2009 – 2010**
6. Prepared by:-	**MSME-Development Institute** **Govt . of India, Ministry of MSME** **Ayyanthole, Thrissur - 680 003** **Phone No : 0487- 2360638, 2360536, 2360686** **www.msmedithrissur.gov.in** **E.mail:** **dcdi-thrissur@dcmsme.gov.in**

Project at a Glance

Name of the Product	:	Electronic Remote Controlled Toy
Production Capacity	:	2400 nos:
Total Investment	:	Rs.15,46,100
Working Capital Required	:	Rs.10,38,600 (for 3 months)
Rate of Return on Investment	:	65.00%
Yearly Turnover	:	Rs.54,00,000
Break Even point	:	47.74%
Profit Ratio	:	18.61%
No: of Employees	:	13

1. INTRODUCTION

The very word toy makes you remind of your childhood. The toys are categorized into many in India and the plastic toys have a market share of nearly 80% of the total toy industry in the country. Other types of toys available in the market are fabric toys, paper toys, and wooden toys, metal toys and DIY toys (containing arts and craft toys) that are manufactured mostly by the cottage industry. However, out of these the metal toys are considered to be sharp toys which are harmful for children and a hindrance in their safety, that is why these toys are known to be slowly loosing it's popularity. Another popular category of toys seen today are educational toys and activity toys which help build the mind and body of the child, then there are soft toys, Electronic toys, battery operated toys and board games like chess and monopoly.

There are different types of Electronic toys available in the market. Electronic toys with or remote, walkie talkie sets for kids, toy radios, musical toys, hand-held video games, video games used with T.V, Arcade entertainment products, educational toys etc are popular among Indian children. This report is about a remote controlled car toy. There are a number of Remote controlled Toys in the market. These, include Cars, trucks, playing machines and other equipments. There are differences in the mechanical assembly of these types of toys but the basic Electronic principle is the same. These types of toys have four main units i.e., Transmitter, Receiver, Motor and Power Source. The transmitter sends radio wave which is received by the receiver which is fitted with an antenna. These signals are used to activate the motor. The power source is typically a rechargeable battery pack, but sometimes it's just normal batteries.

2. MARKET PRESPECTIVE

The Indian middle class is prospering and even the 20% of the Indian population which is considered as the middle class constitute a huge market for any product/service. India's urban population is the second largest in the world, greater than the combined urban populations of all countries except China, the US and Russia. India has over 800 Indian toys and games manufacturers, exporters and suppliers. Most of the Toy manufacturers in India are from the unorganized sector. Mattel Toys, Funskool & Lego are a few International players in the Indian toy industry. The Indian toy industry, fueled by the vast domestic market, has now turned its attention to global markets and is fast gearing up to meet international demands. The strong points of Indian toy industry are skilled workforce, diverse range, focus on innovation and creativity, and emphasis on learning and education. Indian manufacturers are catering to both large and small volume requirements and are exporting to few of the most developed nations. Indian toy industry set to grow at 25% in the coming years.. Worldwide, the market for toys is huge and offers immense potential for companies to pursue. But the interests of children, who are the primary consumers for toys, are changing faster than ever, toy manufacturers have to create innovative toys to capture their interests.

Toys these days are popular not only with kids but adults have also entered this field through the medium of sports and games. Today many sports and games are played by the adults at national and international levels representing their country. Parents, now-a days also prefer to play with their child in order to interact well with the child So, they are seen to playing boards games and other toys with their children

The Indian market is slightly different from that of overseas, where toys are bought as a child's development aid, i.e. they are considered to be equivalent to books. But in India the scene is slightly different. Unlike other developed economies amount of toys spent per child in India is very low. The metros and 'A' category town account for most of the branded purchase and sell even at higher price points. Largely the rest of the market is highly price sensitive and items above Rs.200 results in planned purchase and not in the impulse buying. In C and D category towns, unbranded and lower priced toys are sold at average price points below Rs.100. However, the scene in India is changing very fast and there is enough scope for more number of players in the field.

The Indian toy industry today faces stiff competition from toy manufacturers in China or Chinese toys. Manufactures of toys in India have repeatedly been raising this issue with the Indian Government since it has become increasingly difficult to compete with China toy manufacturers. Chinese toys are available at a lower cost compared to Indian toys.

3. BASIS AND PRESUMPTIONS :

(i) The maximum capacity utilization on single shift basis for 300 days a year. The Capacity Utilization of the unit is taken as 100% for financial analysis.

(ii) The salaries and wages, cost of raw materials, utilities, civil construction etc. are based on the prevailing rates in and around Kerala. These cost factors are likely to vary with time and location.

(iii) The cost of machinery and equipments refer to a particular make/model and prices are approximate.

(iv) The project preparation cost etc. whenever required could be considered under pre-operative expenses.

(v) The break even point percentage indicated is of full capacity utilization

(vi) Interest on term and working capital loan must be preferably on current rate. In this project it is taken as 12%. Otherwise, the rate of interest on an average may be taken at 16%. The rate may vary depending upon the policy of the financial institutions/agencies from time to time

(vii) The essential production machinery and test equipment required for the project have been indicated. The unit may also utilize common test facilities available at Electronics Test and Development Centers (ETDCs) and Electronic Regional Test Laboratories (ERTLs) set up by the State Governments and STQC Directorate of the Department of Information Technology, Ministry of Communication and Information Technology, to manufacture products conforming to Bureau of Indian Standards.

4. IMPLEMENTATION SCHEDULE

The major activities in the implementation of the project have been listed and the average time for implementation of the project is estimated at 12 months:

Sl.No.	Name of Activity	Period in Months (Estimated)
1.	Preparation of project report	1
2.	Registration and other formalities	1
3.	Sanction of loan by financial institutions	3

4.	Plant and Machinery:	
(a)	Placement of orders	1
(b)	Procurement	2
(c)	Power connection/ Electrification	2
(d)	Installation/Erection of machinery/Test Equipment	2
5.	Procurement of raw materials	2
6.	Recruitment of Technical Personnel etc.	2
7.	Trial production	11
8.	Commercial production	12

Notes

1. Many of the above activities shall be initiated concurrently.
2. Procurement of raw materials commences from the 8th month onwards.
3. When imported plant and machinery are required, the implementation period of project may vary from 12 months to 15 months.

4. TECHNICAL ASPECTS

I. Manufacturing process

The radio controlled toys have four main parts:

Transmitter – The transmitter sends radio waves to the receiver.

Receiver - An antenna and circuit board inside the toy receives signals from the transmitter and activates motors inside the toy as commanded by the transmitter.

Motor(s) - The transmitter sends a control signal to the receiver using radio waves, which then drives a motor, causing a specific action to occur. The motor in a car may cause the wheels to turn wheels, steer the vehicle, operate propellers etc

Power source, the power source is typically a rechargeable battery pack, but sometimes it's just normal batteries. Manufacturing process involves the assembly of electronic circuits, electro mechanical hardware parts,

Mechanical assembly and other sub assembly parts as per the design. Subsequently, the electronics assembly-the ICs, transistor, diodes, resistors, capacitors, coils, electromagnetic relays, are assembled on PCBs as per design. The assembled PCBs are tested for the desired performance. The electronics assembly along with electromechanical assembly, hardware such as connectors/switches, mechanical assembly and light emitting diodes are assembled and housed in a fiber / plastic toy car case.

II. PRODUCTION ENVISAGED

Item	Quantity /Annum	Value/ Annum (Rs.)
Remote Controlled Toy Car	2,400	54,00,000

III. POLLUTION CONTROL

The Govt. accords utmost importance to control environmental pollution. The small-scale entrepreneurs should have an environmental friendly attitude and adopt pollution control measures by process modification and technology substitution.

India having acceded to the Montreal Protocol in Sept. 1992, the production and use of Ozone Depleting Substances (ODS) like Chlorofluoro Carbon (CFC), Carbon Tetrachloride, Halons and Methyl Chloroform etc. need to be phased out immediately with alternative chemicals/solvents. A notification for detailed Rules to regulate ODS phase out under the Environment Protection Act, 1986 have been put in place with effect from 19th July 2000.

The following steps are suggested which may help to control pollution in electronics industry wherever applicable

In electronic industry fumes and gases are released during hand soldering / wave soldering/Dip soldering, which are harmful to people as

well as environment and the end products. Alternate technologies may be used to phase out the existing polluting technologies. Numerous new fluxes have been developed containing 2-10% solids as opposed to the traditional 15-35%solids

Electronic industry uses CFC, Carbon Tetrachloride and Methyl Chloroform for cleaning of printed circuit boards after assembly to remove flux residues left after soldering, and various kinds of foams for packaging.

Many alternative solvents could replace CFC-113 and Methyl Chloroform in electronics cleaning. Other Chlorinated solvents such as Trichloroethylene, Perchloroethylene and Methylene Chloride have been used as effective cleaners in electronics industry for many years. Other organic solvents such as Ketones and Alcohols are effective in removing both solder fluxes and many polar contaminants.

IV. ENERGY CONSERVATION

With the growing energy needs and shortage coupled with rising energy cost, a greater thrust in energy efficiency in industrial sector has been given by the Govt. of India since 1980s. The Energy Conservation Act, 2001 has been enacted on 18th August 2001, which provides for efficient use of energy, its conservation and capacity building of Bureau of Energy Efficiency created under the Act.

The following steps may help for conservation of electrical energy:

i) Adoption of energy conserving technologies, production aids and testing facilities.

ii) Efficient management of process/manufacturing machineries and

systems, QC and testing equipments for yielding maximum Energy Conservation.

iii) Optimum use of electrical energy for heating during soldering process can be obtained by using efficient temperature controlled soldering and de-soldering stations.

iv) Periodical maintenance of motors, compressors etc.

v) Use of power factor correction capacitors. Proper selection and layout of lighting system; timely switching on-off of the lights; use of compact fluorescent lamps wherever possible etc.

6. FINANCIAL ASPECTS

(I) Land and Building

Built up area	200 sq. mtr
Office/ Stores	40 sq. mtr
Factory	160 sq. mtr
Rent (per month)	10,000/-

(II) Plant, Machinery and Equipments

Sl. No.	**Description**	Ind./ Imp.	**Qty.**	**Amount (Rs.)**
1.	Digital Multimeter ,4½Digit	Ind	2	22000
2.	Temp Controlled Soldering Unit	Ind	4	20000
3.	LCR Meter	Ind	2	20000
4.	Drilling machine	Ind	1	6000
5.	Analog Multimeter	Ind	2	2000
6.	Tool Kit	Ind	4	20000
7.	Electronic screw driver & screw feeder	Ind	5	30000
8.	Combined Soldering De soldering Station	Ind	2	35000
9.	High speed mini drill set	Ind	3	30000

10.	Digital Storage Oscilloscope 60 MHz	Ind	1	60000
11.	Personal Computer with UPS and Printer	Ind	2	80000
12.	Electrification charges @ 10% of machinery and equipments			32500
13.	Office Furniture, Working tables and Equipments			50000
14	Tools, Dies and Equipments			50000
15	Pre operative expenses			50000
	Total fixed cost			**5,07,500**

B. WORKING CAPITAL (PER MONTH)

Recurring Expenditure per month

(i) Staff & Labor

Sl.No.	**Designation**	**No. of persons**	**Salary/Month (Rs.)**	**Total salary per month (Rs.)**
1	Accountant	1	6000	6000
2	Design Engineer	1	10000	10000
3	Production Manager	1	8000	8000
4	Sales/Service support Engineers	2	6000	12000
5	Skilled workers	3	5000	15000
6	Semi Skilled Workers	2	4000	8000
7	Un Skilled Workers	2	3000	6000
8	Peon/watch man	1	3000	3000
	Perquisites@ 15%			10200
	Total			**78,200**

(ii) Raw Material

Sl. No.	**Description**	Ind/Imp	Qty(nos)	Amount(Rs)
1	Plastic /Fiber body chassis	Ind/Imp	200	16000
2	RC Toy car motor controller	Ind/Imp	200	52000
3	Front& rear brushless motor		350	52500

4	RC Pro Lite V2 730mAh 7.4V 2 Cell Li Poly 2s 730 Lithium Battery	Ind/Imp	200	16000
5	Fire Retarding Lithium Polymer Battery Charger	Ind/Imp	200	22000
6	Metal Gear Micro RC Servo	Ind/Imp	200	28000
7	Remote control unit	Ind/Imp	200	20000
8	Wires and cables. Connectors, consumables, mechanical parts ,Electronic Parts ,Packing materials etc.	Ind	Ls	10000
Total				**2,16,500**

(iii) Utilities per month

Sl. No.	Description	Amount (Rs.)
1	Power	4500
2	Water	500
Total		**5000**

(iv) Other Contingent Expenses (per month)

Sl. No.	Description	Amount (Rs.)
1	Rent	10000
2	Postage and stationery	2500
3	Telephone /Telex/Fax	3000
4	Repair & maintenance	5000
5	Transport and Conveyance charges	10000
6	Advertisement and Publicity	10000
7	Insurance	1000
8	Miscellaneous expenditure	5000
	Total	**46,500**

Total recurring expenditure per month Rs.3, 46,200

Working Capital (3 months) Rs. **10, 38,600**

C. TOTAL CAPITAL INVESTMENT

(i) Fixed capital	5,07,500
(ii) Working capital for 3 months	10,38,600

Total	**15,46,100**

10. FINANCIAL ANALYSIS

(I) Cost of Production (per annum)

Sl. No.	Description	(Rs.)
1	Total recurring expenditure	41,54,400
2	Depreciation on m/c & Equipments @ 10%	32,500
3	Depreciation on office furniture @ 20%	10,000
4	Depreciation on tools ,jigs and fixture @ 25%	12,500
5	Interest on capital investment @ 12%	1,85,532
	Total	43,94,932

(II) Turnover per annum

Item	Qty (Nos)	Rate/Unit (Rs.)	Total sales (Rs.)
Electronic RC Toy car	**2400**	**2250**	**5400000**

(III) Profit per annum (Before Taxes)

Turn over per annum – Cost of production per annum = 5400000 – 4394932

= **10, 05,068**

Profit ratio = $\frac{\text{(profit/annum) X 100}}{\text{(Sales/annum)}}$

= 1005068/ 5400000

= **18.61 %**

Rate of return = $\frac{\text{Profit/annum X 100}}{\text{Total Capital investment}}$

= 1005068/1546100 x 100

= **65.00 %**

D. Break-even Point

Fixed Cost per annum	Rs
Rent	120000
Depreciation on m/c & Equipments @ 10%	32500
Depreciation on office furniture @ 20%	10000
Depreciation on tools ,jigs and fixture @ 25%	12500
Interest on capital investment @ 12%	185532
Insurance	12000
40% Salaries and wages	375360
40% other contingent expenses (excluding rent & Insurance)	170400
Total	**9,18,292**

Break-even Point

$$= \frac{\text{Fixed cost} \times 100}{\text{Fixed cost + Profit}}$$

$$= \frac{918292 \times 100}{918292 + 1005068}$$

= **47%**

11. FINANCIAL PATTERN

Resources for finance

1. Term loans from financial institutions (65% of fixed capital) @ 12.00% p.a rate of interest = 507500 x 0.65

= **3, 29,875**

2. Bank Loans for 3 months (65% of working capital) @ 12.00% p.a rate of interest

   = 1038600 x 0.65

   = **6, 75,090**

3. Self raised capital from even funds & loans from close ones to meet the margin money needs at a rate of 12.00% p.a rate of interest =

   1546100 – 675090 – 369875

   = **501135**

Instalment Payable in 5 years

Year	To financial Institutions (Rs. 329875) /5	To commercial banks (Rs.675090) /5	To others (Rs.501135)/5	Total
1	65975	135018	100227	301220
2	65975	135018	100227	301220
3	65975	135018	100227	301220
4	65975	135018	100227	301220
5	65975	135018	100227	301220

Interest payable in 5 years

Year	On term loan (Rs. 329875) @ 12.00% p.a	On bank loan (Rs. 675090) @ 12.00% p.a	On Self loans (Rs. 501135) @ 12.00% p.a	Total
1	39585	81011	60136	180732
2	34835	71290	52919	159044
3	30655	62735	46570	139960
4	26976	55207	40981	123164
5	23734	48582	36064	108380

Total Repayment Schedule for 5 years

Year	Interest	Installments	Total
1	180732	65975	246707
2	159044	65975	225019
3	139960	65975	205935
4	123164	65975	189139
5	108380	65975	174355

Depreciation chart for 5 years

Year	Plant & Machinery (Rs.357500) @ 25.00% p.a	Furniture & Office Equipment (Rs.150000) @ 20% p.a	Total
1	89375	30000	119375
2	67031	24000	91031
3	50273	19200	69473
4	37705	15360	53065
5	28279	12288	40567

Profit analysis for 5 years

Year	Cap. Utilization (%)	Sales	Manufacturing Expenses	Gross Profit	Depreciation	Interest before tax	Net profit before tax	Net profit after tax
1	70	3780000	2908080	871920	119375	180732	571813	371675
2	80	4320000	3323520	996480	91031	159044	746405	485163
3	80	4320000	3323520	996480	69473	139960	787047	511581
4	90	4860000	3738960	1121040	53065	123164	944811	614128
5	100	5400000	4154400	1245600	40567	108380	1096653	712825

Cash Flow Statement for 5 years

Year	Cap. Utilization (%)	Net profit after tax	Depreciation	Cash in hand	Repayment of Installment	Net Surplus
1	70	371675	119375	491050	200993	290057
2	80	485163	91031	576194	200993	375201
3	80	511581	69473	581054	200993	380061

4	90	614128	53065	667193	200993	466200
5	100	712825	40567	753392	200993	552399

Projected Balance Sheet for 5 years

Year	1	2	3	4	5	
Cap. Utilization (%)	70	80	80	90	100	
Liabilities						
Promoter's Capital	501135	501135	791192	1166393	1546454	2012654
Net Surplus	0	290057	375201	380061	466200	552399
Term Loans	329875	263900	197925	131950	65975	0
Working Capital loans	675090	540072	405054	270036	135018	0
Total	1506100	1595164	1769312	1948440	2213647	2565053
Assets						
WDV of fixed asset	507500	388125	297094	227621	174556	133989
Working Capital in stock	0	495832	597001	680012	776243	895212
Surplus funds	998600	711207	875217	1040807	1262848	1535852
Totals	1506100	1595164	1769312	1948440	2213647	2565053

12. ADDITIONAL INFORMATION

(a) The Project Profile may be modified/ tailored to suit the individual entrepreneurship qualities/capacity, production programme and also to suit the location characteristics, wherever applicable.

(b) The Electronics Technology is undergoing rapid strides of change and there is need for regular monitoring of the national and international technology scenario. The unit may, therefore, keep abreast with the new technologies in order to keep them in pace with the developments for global competition.

(c) Quality today is not only confined to the product or service alone. It also extends to the process and environment in which they are generated. The ISO 9000 defines standards for Quality Management Systems and ISO 14001 defines standards for Environmental Management System for acceptability at international level. The unit may therefore adopt these standards for global competition.

(d) The margin money recommended is 25% of the working capital requirement at an average. However, the percentage of margin money may vary as per bank's discretion.

13. ADDRESSES OF RAW MATERIAL SUPPLIERS

Sl.No	Addresses
1.	M/s. Applied Electronics Ltd. A-5,Wagle Industrial Estate, Thane-4, (Mumbai)
2.	M/s. Bakumbhai Ambalal Electronics Dept. Kaiser-T-Hind Building, Ballard Estate, Mumbai-38.
3.	M/s. Electronics Trade and Technology Dev. 15/48,Malcha Marg, New Delhi-21
4.	M/s. OEN Connectors Ltd. Vyattila, PB No.2, Cochin-19
5.	**M**/s. DC Plastics 27, D. L. F. Industrial Area, Opposite Moti Nagar, Delhi –110015 Phone:+(91)-(11)-25118936/9810239067 Mobile / Cell Phone: +(91)-9810239067
6.	**M**/s Sun International, A-290, Weavers Colony Ashok Vihar, Phase-iv, New Delhi110 052, India Phone: +(91)-(11)-27442262 Fax: +(91)-(11)- 25461559 Mobile / Cell Phone: +(91**)-9810266345**

14. ADDRESSES OF TEST EQUIPMENTS SUPPLIERS

Sl.No	addresses
7.	M/s Kamal Electronics 14, Lakshmi Building, J.C Road, Bangalore 560002
8.	Aplab Limited XL 1/583,II Floor Krishna Nivas Adv.Eashwara Iyer Road, Kochi 682 035 Phone 0484 2361623 Email aplabkochi@vsnl.net
9.	M/s Guru Agencies, M.G Road, Ernamkulam, Kerala.
10.	M/s. Meco Instruments Private Limited P.O. Box 6388, 301, Bharat Industrial Estate T.J. Road Sewree(W) Mumbai-400015 Tel.022-24137253/24137423 Email sales@mecoinst.comweb. www.mecoinst.com
11.	M/s. Laxmi Electrotek Manappat Centre HMT Junction Kaloamassery P.O Ernakulam District Kerala 683 104 Phone 0484-2551288, 2540321

12.	NI Systems (India) Private Limited Bangalore : 91 8041190000 Delhi : 91 1142658282 E mail ni.india@ni.com