

Textiles Technology Development Scheme (TTDS)

replaces ATUFS from 01-04-2022

(07.01.2022)

TUFS- Versions

- TUFS: 01.04.1999 to 31.03.2007 (Interest Incentive)
- Modified TUFS: 01.04.2007 to 28.06.2010 (Interest reimbursement and /or Capital Subsidy)
- Revised TUFS: 28.04.2011 to 31.03.2013 (Interest reimbursement and /or Capital Subsidy)
- Revised Restructured TUFS: 01.04.2013 to 12.01.2016 (Interest reimbursement and /or Capital Subsidy)
- Amended TUFS 13.01.2016 to 31.03.2022 (Capital Investment Subsidy)
- Expenditure since 2014-21: Rs.9,308.81 crore, Expenditure since inception: Rs.27,888.92 crore

Major findings of impact assessment carried out by DMEO, NITI Aayog

- About 80% of the investment in textile sector during 1999 to 2019 emerged from TUFs, investment of Rs.3.2 lakh crore (1999-2019)
- Since inception, TUFs provided employment to approx. 8.4 lakh people
- More than 85% beneficiaries witnessed an increase in production volume
- In weaving segment, more than 75% beneficiaries witnessed an increase in production volume of greater than 5%
- Overall, 75% beneficiaries have witnessed an increase in value of exports. Technical textile segment had the highest positive response of 82% for export increase
- Majority of companies across all segments witnessed cost reduction between 1% and 10%
- About 89% of the beneficiaries agreed that the scheme led to improvement in product quality

Major recommendations of Impact Assessment

➤ **Support Domestic Machine Manufacturers**

- Allocate significant portion of TUFs budget
- Improve domestic machine manufacturing ecosystem
- Significantly promote R&D and innovation to Industry 4.0 requirements
- Encourage formation of JVs & attract FDI from global machine manufacturers

➤ **Promote Industry 4.0 Technology**

- Modern state of the art Machines, technology and software need to be included in machine list
- Actively encourage indigenous manufacturing machinery
- Encourage large scale investments for vertically integrated plants with world class machinery
- Preferential focus on garmenting sector

Textile Machinery import in last 5 years, DGCIS Data

HSN Codes	Description	Quantity (in number)	Total value (in Rs crore)
844630	Shuttleless Looms	381946	16770.84
8452	Sewing Machines	Not available	9902.07
844790	Other knitting machines	335317	7578.86
845129,845130, 845150,845180	Washing bleaching or dyeing machines (other than house hold / laundry)	2049593	6090.31
844540	Winding machine	21161	5567.85
844520	Textile spinning machines	342171	4075.70
844720	Flat knitting machines, stitch/Bonding Machines	61340	3755.02
845140	Other textile processing machines and accessories (other than household laundry)	60897	2223.74
844712	Circular knitting machines with Cylinder Diameter >165MM	88010	1827.40
844711	Circular knitting machines with Cylinder Diameter <=165MM	27170	1277.34
844590	Other textile machines of heading 8445	337608	1153.59
	Others	198215	2580.27
	Grand Total	3903428	62802.99

Textile Machinery Accessories import in last 5 years , DGCIS Data

HSN Code	Description	Quantity (in Kg)	Total value (in Rs crore)
844820	Parts & Accessories of Machines Spinning/SPS Preparatory etc	1,28,83,728	2511.90
844833	Spindles, Spindle Flyers, Spinning Rings and Ring Travellers	15,89,859	409.39
844849	Other Parts & Accessories of Weaving Machines (Looms) or of their Auxiliary Machinery	1,12,89,513	2160.59
844851	Sinkers, Needles & Other Articles used to form stitches	36,83,113	871.78
844859	Other Parts & Accessories of Machines of Knitting Machines etc.	1,02,78,779	958.78
8449	Machinery for manufacture of finishing of felt or non-wooven in piece	2,13,31,111	1903.99
845190	Parts of the Machines	4,02,58,85	811.95
	Grand Total	6,50,81,988	9628.38

Textile Machinery imported under ATUFS –Top 10 source countries (2016-2021)

#	Country	Textile machinery import		
		Quantity of Machinery	Total basic Cost (in Rs. crore)	% of share in total import
1	China	54852	5785.0	31.46
2	Japan	10211	2651.5	14.42
3	Germany	2433	1806.6	9.83
4	Italy	3025	1797.5	9.77
5	Belgium	5059	1764.7	9.60
6	Hong Kong	32252	761.9	4.40
7	Singapore	41727	757.1	4.12
8	Switzerland	381	543.8	2.96
9	Taiwan	4678	526.8	2.86
10	Korea, South	1105	337.1	1.83

Source: iTUFS portal

Kalam Institute Study

- Assessment of technology gap & analysis of critical components used in textile machinery
- Textile machinery, machinery accessories & [60 critical components](#) (validated through industry consultation) for Textiles Machinery not manufactured in India
- Indigenous development of critical Textile Machinery/components to be supported
- DHI/MEITY will be consulted for synergy with other sectors which may also use some of these critical components and also to avoid duplication of efforts

Scheme Part-1

Promotion of Textile Machinery Manufacturing to support indigenous manufacturing of state-of-the art Machines

Scheme Part-1: Promotion of Textile Machinery Manufacturing

- JV of Indian manufacturers with major global textile machinery manufacturers from across the globe (B2B discussions, road shows, round tables for identification of JV partners)
- Focus to develop high end technology in various segments to reduce import dependency
- Support for manufacturing of critical component also
- Support will be provided in the form of grant in aid to set up plant & machinery and preference for use of such machines under Part 2 of the scheme
- Identification and support for commercialization of new technologies being developed by indigenous textile machinery industry
- Encouraging innovations through Hackathon / Start-up India etc.

Scheme Part:1- Pattern of Assistance proposed

➤ Textile Machinery/Critical Component manufacturing infrastructure

- Reimbursement of 30% of capital investment on machinery, Equipment.
 - Overall cap of Rs.50 crore for investment above Rs.250 crore
 - Every additional investment of Rs.50 crore beyond Rs.250 crore will be provided Rs.5 crore as incentive subject to a ceiling of Rs.50 crore
 - In case of JVs by foreign manufactures, incentive on technology transfer @30% of the eligible CIS amount
 - **Preference for use of indigenously manufactured machines under Part 2 of the scheme** with following preconditions :
 - 20 % value addition in India for 1st year of Scheme
 - 40% value addition for 2nd year of Scheme
 - 60 % value addition for 3rd year of Scheme
 - 80% of value addition for 4th year of scheme

➤ R&D in textile machinery/critical component

- Support for R&D and commercialisation @ 50% of the cost involved with a ceiling of Rs 2 crore for developing one innovative/new machine /equipment/ process indentified through Hackathon/ start-up challenge/industry proposals.
- New Technology Adoption Incentive to the Textiles Engineering Industry unit @20 % of sale price to the manufacturer for first 200 machines/equipment/process for the sale and installation of such machines/equipment/process with a ceiling of Rs. 5 crore.

Details of Costing

Scheme Part-1 : Textile Machinery/Critical Component Manufacturing (Amount in Rs crore)

#	Segment intended to be promoted	Estimated avg. Cost of typical unit	No. of units to be supported/ year	Expected investment in one year	Expected investment during 2022-27	Amount of subsidy outgo in 5 years
1	Textile Machinery Manufacturing in various segments @30% with ceiling of Rs. 25 crore for investment below Rs.250 crore(excluding cost of factory shed and land cost)	150.00	20	3000	60000	2500.00 (Rs.25 cr x20 units x 5 years)
2	Textile Machinery Manufacturing in various segments @30% with ceiling of Rs. 50 crore for investment above Rs.250 crore, (excluding cost of factory shed and land cost)- every additional investment of Rs. 50 crore beyond Rs. 250 crore will be given Rs.5 crore as incentive subject to a ceiling of Rs. 50 crore-	250.00	10	2500.00	25000	2500.00 (Rs. 50 cr x10 units x 5 years)
3	R&D, commercialization support through Hackathon & Technology adoption incentive		40 Such innovations			280.00
				Total	85000	5280.00

Scheme Part-2 Strategy

- **Financial Assistance to accelerate the pace of Technology Adoption in Textile Value Chain**
- **Support to All Segments** - Spinning, Weaving, Knitting, Processing, Garment Manufacturing, Technical Textile, Powertex India, and Incentive Scheme on Acquisition of Plant and Machinery (ISAPM) for Jute will be subsumed in new scheme
- **Sustainability, Compliance, innovation and Job Creation** to remain thrust area. To improve scale and technology simultaneously integrated modern textiles manufacturing to be encouraged by way of support to new investment in complete manufacturing lines
- Implementation through new IT based system with 100% online implementation coupled with verification of the milestones of projects by PMA
- Convergence with major interventions such as MITRA and National Technical Textile Mission, **PLI Textiles Beneficiaries to be excluded**

Scheme Part:2(a)- Support for New Integrated Manufacturing Units

#	Particulars of support	Financial Assistance
1	Support for Technology Development in Weaving by modern Shuttle-less Looms (including Weaving Preparatory machines), modern Knitting & installation of integrated fabric manufacturing and garment/made ups/home textiles units	@ 25 % of capital investment in Plant, equipment, Machinery subject to an upper limit of Rs. 25 crore.
2	Setting up of Fabric Processing units and Printing Houses/Digital Printing with all requisite infrastructure including ETP	@ 30% of capital investment in Plant, equipment, Machinery. subject to an upper limit of Rs. 25 crore.
3	Support for technology upgradation in Garmenting (including made-ups & home furnishing)	@ 25% of capital investment in Plant & Machinery, subject to an upper limit of Rs 15 crore.
4	Integrated Jute Manufacturing Facility with all requisite infrastructure for converting Jute fibre to Jute Diversified Products in Jute growing area	@ 30% of capital investment in Plant, equipment, Machinery subject to an upper ceiling of Rs.15 crore.
5	Integrated Yarn manufacturing unit for Yarn manufacturing from Ring, Rotor and any other modern spinning process	@ 25 % of capital investment in Plant, equipment, Machinery subject to an upper limit of Rs. 15 crore.

Scheme Part-2 (a) : Support for Integrated Manufacturing Units

(Amount in Rs crore)

#	Segments/ Machines/ Equipment/ Process intended to be promoted	Unit Projec t cost	Rate of subsidy proposed	Amount of subsidy	No. of units to be supported/ year	Expected investment in one year	Expected investment in 5 years	Subsidy outgo/ year	Total subsidy outgo in 5 years
1	Integrated fabric manufacturing units including home textile (Denim Plant for manufacturing of 100000 mtr per day grey fabric production or 87000 mtr finished production from airjet looms in full capacity)	200.00	25%	25.00	10	2000.00	10,000.00	250.00	1250.00
2	integrated Fabric Processing units with all requisite infrastructure including ETP/ Printing Houses/ Digital Printing. Installed capacity (polyester fabric)-Dyeing-2.83 lakh meter/day, stenter-2.20 lakh per day and printing – 1.18 lakh meter per day	82.00	30%	24.60	10	820.00	4100.00	246.00	1230.00
3	Integrated garment Manufacturing /made ups manufacturing unit manufacturing readymade garments with an annual installed capacity of 4000 units/day of woven product and 8000 units/day of knitted products (about 560 machines of which 315 stitching/sewing machines & rest other supporting machines)	13.00	25%	3.25	100	1300.00	6500.00	325	1625

Contd.....

Scheme Part-2 (a) : Support for Integrated Manufacturing Units.... Contd., (Amount in Rs crore)

#	Segments/ Machines/ Equipment/ Process intended to be promoted	Unit Project cost	Rate of subsidy proposed	Amount of subsidy	No. of units to be supported/ year	Expected investment in one year	Expected investment in 5 years	Subsidy outgo/ year	Total subsidy outgo in 5 years
4	Integrated garment and /or different locations of Manufacturing /made ups manufacturing unit in different locations)manufacturing readymade garments with installed capacity of 30000 units/day of woven product and 60000 units/day of knitted products of about 4500 machines of which 2500 stitching/sewing machines & rest other supporting machines)	100	25%	15.00	2	100.00	500.00	30.00	150.00
5	Typical modern jute mill exclusively for diversified products (excluding cost of factory shed and land cost)	50.00	30%	15.00	02	100.00	500.00	30.00	150.00
6	Integrated Yarn manufacturing unit for Yarn for manufacturing of 55 MT per day grey yarn production from Ring (29MT/day from 16128 spindles) and Rotor (26 MT/day from 2880 Rotors) in full capacity	100.00	25%	15.00	05	500.00	2500.00	75.00	375.00
	Total					1820	24100	956.00	4780.00

ATUFS- Pattern of assistance & progress

#	Segment	Rate of Capital Investment Subsidy	Cap of Subsidy (Rs In crore)	Application registered	Projected Investment (Rs In crore)	Subsidy Amount (Rs In crore)
1	Garmenting	15%	30	1449	3005.03	302.75
2	Handloom	10%	20	92	70.07	05.64
3	Jute	10%	20	12	14.47	01.19
4	Multi activity	10%/15%	20/30	2209	25900.91	1686.55
5	Processing	10%	20	1418	5297.93	367.13
6	Silk	10%	20	43	54.22	03.67
7	Technical Textile	15%	30	469	3342.11	318.27
8	Weaving	10%	20	7407	18590.34	1406.81
TOTAL				13099	56275.08	4092.02

Note: In case the entity had availed subsidy earlier under RRTUFS, it will be eligible to the extent of balance subsidy for new or existing units within the overall ceiling fixed for an individual entity.

Scheme Part-2 (b)

Continuation of technology upgradation as per ATUF with higher % of support

(Amount in Rs crore)

#	Segments intended to be promoted	Rate of subsidy proposed	Cap of subsidy per entity	Investment during 2016-21	Expected investment during 2022-27	Amount of subsidy outgo in 5 years
1	Weaving by modern Shuttle-less Looms (including Weaving Preparatory machines)	25%	15.00	1950.00	5000.00	1250.00
2	Knitting	25%	10.00	0	1000.00	250.00
3	Garmenting	25%	10.00	650.00	1500.00	375.00
4	Technical Textile	25%	10.00	400.00	500.00	125.00
					Total	2000.00

One entity can avail benefit under one scheme part only i.e. either 2(a) or 2(b).

Provision for settling the liability created under ATUFS

To settle the committed liabilities of ATUFS with extended timelines during the scheme at a cost of **Rs.4615 crore** out of the outlay of ATUFS without creating any additional liability, is proposed as follows:

- Extension of the timeline for settlement of subsidy liability of **Rs.2479 crore** under all previous versions of TUFS (MTUFS, RTUFS and RRTUFS) for another 3 years beyond 31.03.2022.
- Approval for timeline of 4 years for settlement of all subsidy claims of **Rs.2136 crore** to be registered under ATUFS till 31.03.2022

Overall outlay for Textile Technology Development Scheme during 2022-27

Component	Support proposed	Outlay (in Rs crore)
Scheme : Part 1	Textile Machinery Manufacturing	5120.00
Scheme : Part 2 (a)	Support to Technology Upgradation in existing clusters/MSME	2000.00
Scheme : Part 2 (b)	Support for New Integrated Modern Manufacturing Facilities in various segments	4780.00
	Admin expense @1%	120.00
	Sub- total	12,020.00
Liability of ATUFS	Settlement of subsidy claims under all previous versions of TUFS (MTUFS, RTUFS and RRTUFS) for another 3 years beyond 31.03.2022	2479.00
	Settlement of all subsidy claims registered under ATUFS during 4 years w.e.f the date of closure of registration of application in iTUFS (i.e. date of introduction of new scheme)	2136.00
	Sub-total	4615.00
	Total	16,635.00

Thank You

#	Process	Core Machines	Critical Components	Technology	National Mfrs	Int'l mfrs
1	Short Staple Spinning	Foreign Fibre/Material Detector Machine - Blowroom Machine	Cameras, Sensors, Precise Duct opening mechanism	Electro-Mechanical	Nestling, Vetal, Premier Evolvics	JOSSI, BARCO
2	Short Staple Spinning	Combing Machine	Circular comb, Top Comb, Cam,	Electro-Mechanical	TRUTZSCHLER, LMW	RIETER,
3	Short Staple Spinning	Finisher Draw frame	Scanner with weighing mechanism and thickness measurement of incoming matl, drive for speed variation and pressure & communication systems	Electro-Mechanical	TRUTZSCHLER, LMW	RIETER,
4	Short Staple Spinning	Open End or Rotor spinning machine	Rotor head	Electro-Mechanical	Amarnaathh	Qingdao tongda textile machinery co. ltd
5	Short Staple Spinning	AirJet (or Vortex) spinning machine	Vortex head, Spin head	Electro-Mechanical	Kirloskar Toyoda Textile Machinery Pvt. Limited,	MURATA
6	Short Staple Spinning	Auto Coner	Suction, Cutter, scanner (profile scanning)	Electro-Mechanical		SCHLAFHORST
7	Short Staple Spinning	Two for one twister	AC Drives, Linear Bearings, Ball Screws, Embeded PCBs (encoder), guide, sensors (reliability wise)	Electro-Mechanical	Palod Himson, Alidhra Weavetech, Savio India Pvt Ltd, Sheth Textiles, Meera Industries, Aditya Textile Engineers, Arun Textile Engineers Pvt. Ltd.,	JINAN

8	Manmade Yarn / Staple Fibre Manufacturing	Continuous Polymerization (CP) - Set of reactors, filters, feeding system, etc.	Synchronous reluctance motor for Spindle, Chambers, mixer, vacuum pump	Thermal, Mechatronics, Chemical	Kristeel-Shinwa Industries Ltd.,	OERLIKON BARMAG ZWEIFERNIEDERLASSUNG DER OERLIKON TEXTILE GMBH & CO.KG, UHDE INVENTA - FISCHER, INVISTA
9	Manmade Yarn / Staple Fibre Manufacturing	Spinnerete Room Accessories - Spinnerete checking & preparation machine	Synchronous reluctance motor for Spindle, Spinnerete	Thermal, Mechatronics, Chemical	Lakshmi Card Clothing Manufacturing Company Pvt. Ltd.,	TONG LI TECH CO.
10	Manmade Staple Fibre Manufacturing	Spinning Line (Extruder)	Extruding nozzle, spin head, cooling chamber	Thermal, Mechatronics, Chemical	UHDE INVENTA - FISCHER	OERLIKON BARMAG ZWEIFERNIEDERLASSUNG DER OERLIKON TEXTILE GMBH & CO.KG, HIGHTECH HEAVY INDUSTRIES
11	Manmade Staple Fibre Manufacturing	Draw Line - Includes various machines - drawer, crimper, annealer & baler	Rollers, heating chamber, heating element	Electro-Mechanical	KCI Bearings (India) Pvt. Ltd.,	DAMON
12	Manmade Filament Yarn Manufacturing	Partially Oriented Yarn (POY) machine (Extruder)	Hooper, Heating chamber, pump, filters, winders	Thermal, Mechatronics, Chemical	AKB Textile Engineers,	OERLIKON BARMAG ZWEIFERNIEDERLASSUNG DER OERLIKON TEXTILE GMBH & CO.KG, TMT MACHINERY

13	Manmade Filament Yarn Manufacturing	Fully Drawn Yarn (FDY) machine (Extruder)	Spindle, rollers, heater	Thermal, Mechatronics, Chemical	Jupiter Engineering Company,	OERLIKON BARMAG ZWEIGNIEDERLASSUNG DER OERLIKON TEXTILE GMBH & CO.KG, TMT MACHINERY
14	Weaving	Direct Warping (Non Denim & Denim)	Stop Motion Sensors, Electronic controls to ensure yarn doesn't slip off Comb	Electro-Mechanical	Jupiter Comtex, Prashant Gamatex, Newmac Warping, AMRITLAKSHMI MACHINE WORKS, DASHMESH JACQUARD POWERLOOM, Newmach Warping, RABATEX INDUSTRIES	Karl Mayer, TSUDAOKOMA CORP. (TSUDAOKOMA), KARL MAYER
15	Weaving	Sectional Warping Machine	AC Drives, PLCs, Microprocessor Controller, Sensors, Hydraulic System, Autostop Motion, Loading tensioner Section tension controller Ceramic Guides	Mechatronics, Hydraulic	Jupiter Comtex, Rabatex, Techmach, Bobbiler, Clartex, Techmach, Sahas Engg., PRASHANT GAMATEX PVT. LTD	Rius, Gionavelli, Karl Mayer etc.
16	Weaving	Sizing Machine (Non-denim & Denim)	Moisture Control, Electronic Component, AC drives, precision motors with gearbox, Warp Tension Control System, Sensors for grasping temperature feedback mechanism (Thermostat) Precision dose control sensors, feedback, pressure padding by hydraulic or spring mechanism	Thermal, Mechatronics, Chemical	Jupiter Comtex, Prashant Gamatex, AMRITLAKSHMI MACHINE WORKS, R. B. ELECTRONIC ENGINEERING PVT. LTD.	TTJ Japan, Karl Mayer, Ukil Korea, SUCKERMULLER,

17	Weaving	Shuttleless Loom - Airjet	Profiled Reeds Airjet Head, Airjet Nozzles, Load Sensors, Loom Control Panel, Prewinder Comm system for multiple functionality to control subsystems Cam, dobbie, Jacquard	Electro-Mechanical		Picanol, Toyota, Dornier, Tsudakoma, Sulzer
18	Weaving	Shuttleless Loom - Rapier	Rapiers, Gripper, Mechanical Cam Manufacturing, Loom Control System, Drives, Precision Load Sensors, Dobbie, Rapier Tape, Winders, Synchronous Reluctance Motor	Electro-Mechanical	Alidhra Weavtech Pvt. Ltd., Lifebond, Laxmi, Premier, Dynamic, Orange, Vaari, Army, Friends, Dashmesh	Picanol, Iteima, Dornier
19	Weaving	Shuttleless Loom - Waterjet	Water jet Head, Nozzles, Water Purification/Recycling System, Dobbie, Loom Control Panels, Winders, Load Sensors	Electro-Mechanical		TSUDAKOMA,
20	Knitting	Circular Knitting Machine	Cam Shell, Cylinder, Needles, AC Drives, Motors, Bearings, Electronic control systems, Needle bed (Flat Bed), Tensioning design, drawing system, yarn needle feeder, feeder design, yarn breakage sensor, lycra attachment with cover factor (5-25%), Autostripper for colour management, Jacquard without colour limitation	Electro-Mechanical	TS Mech. Works, Punjab Machinery Works, Sohal Sons Machinery, Lotay Mech. Works (Ludhiana), Hitech International, Redstar	Fukuhara, JIUNN LONG (Flat), SHIN TA, CHANG DAE, PAI LUNG, TERROT, Ssang Yong, LKM, SANTONI, KEUM YONG
21	Knitting	Warp/Raschel Knitting Machine	Latch Needle bar, Guide bar, Trick plate, Drawing System, Improved Designing Area through under-lap & over-lap,	Electro-Mechanical		KARL MAYER, JINGWEI TEXTILE MACHINERY CO., LTD. (JINGWEI) COMETA S.R.L., COMEZ INTERNATIONAL S.R.L.

22	Nonwovens	Needlepunch	Higher specification carding wire	Electro-Mechanical	Prashant Gamatex Pvt. Ltd.,	ANDRITZ GROUP
23	Nonwovens	Spunbond	Spinnerte	Electro-Mechanical	Kirloskar Toyoda Textile Machinery Pvt. Limited,	SS NONWOVEN MACHINE FACTORY
24	Nonwovens	Airlaid	Air Jet head nozzle, Speed controlled motors	Electro-Mechanical	Lakshmi Automatic Loom Works Limited,	FUZHOU HAOMIN
25	Nonwovens	Spunmelt	Hot air jet head	Electro-Mechanical	Yamuna Machine Works Pvt. Ltd.,	FOSHAN ASEN
26	Nonwovens	Spunlace	Water jet head, Nozzles	Electro-Mechanical	Alidhra Weavtech Pvt. Ltd.,	H2O JET
27	Processing & Finishing	Yarn Dyeing Machine	Dyeing Vessel, Receptacle (Color Kitchen)	Thermal, Mechatronics, Chemical	Dynaexcel, Exolloys, Texfab Mumbai, Weavetex, RBE, Dalal, Sai Engg. Thane, Sahas Engg.,	Go Front, FONG'S, THIES
28	Processing & Finishing	Fabric Singeing Machine	Burner	Thermal, Mechatronics, Chemical	Menzel India, Kusters, Dhalla YAMUNA MACHINE WORKS, Gayatri Machine Works, Dhalla Engg., Harish Textile	OSTHOFF
29	Processing & Finishing	Desizing machine	Desizing chemical chamber	Thermal, Mechatronics, Chemical	Kusters Calico Machinery Ltd., Menzel India, Yamuna, Harish, Dhalla	MENZEL, OSTHOFF, FONG'S
30	Processing & Finishing	Calendering Machine	Rollers, plungers, Pressure applying shafts	Thermal, Mechatronics, Chemical	Prabhat Calendar, Mangesh Calendar, Luxite Industries Limited	SPEROTTO RIMAR, Gurneri,

31	Processing & Finishing	Curing Machine	Guide Rollers	Thermal, Mechatronics, Chemical	Texfab Surat	Monfort
32	Processing & Finishing	Digital printing machine	Ink form rollers	Thermal, Mechatronics, Chemical	SIGMA	REGGIANI
33	Garment Manufacturing	Sewing Machine- Single Needle Lock Stitch	Lever, throat plate, needle	Electro-Mechanical	Ayushi Engineering Company	JUKI, Pegasus, Jack, Siruba IIGM
34	Garment Manufacturing	Sewing Machine- Single Needle Chain Stitch	Face plate, Needle bar, arm shaft, gear box, motor	Electro-Mechanical	Ayushi Engineering Company, Rex	XIAMEN, JUKI, Pegasus, Jack, Siruba, IIGM
35	Garment Manufacturing	Sewing Machine - Overlock machine	Throat plate, cloth plate, spool, cone adapter	Electro-Mechanical	Ayushi Engineering Company	JUKI, BROTHER, YAMATO, PEGASUS
36	Garment Manufacturing	Sewing Machine- Multiple thread machine	Needle bar, pressure foot, front cover, lapper	Mechatronics	Ayushi Engineering Company	JUKI, Siruba, BROTHER, YAMATO, PEGASUS
37	Garment Manufacturing	Sewing Machine - Tacking machine	Bed shaft, loop taker, bobbin case, spool pin	Electro-Mechanical	Ayushi Engineering Company	JUKI, BROTHER, YAMATO PEGASUS
38	Garment Manufacturing	Embroidery Machine (Horizontal & Multihead)	Pressure pin, thread take up lever, needle clamp, lifter, spool, Cam Based Main Shaft for multiple knocking head, Frame Screw (ambidextrous)	Mechatronics		Lasser, Saurer, ZSK, Tajima, Richpeace, Tang, BAR UDAN

39	Garment Manufacturing	Hanger system	Hangers, hooks, straight bar	Mechatronics, Electro-Mechanical	Pipes Hangers and Supporters Ltd	EATON (\$3500 - 4000)/WORKING STATION), INA(\$2000-2500)/PER WORKING STATION, SUNRISE(\$1500+/WORKING STATION)
40	Printing	Inkjet Printing	Nozzles,	Electro-Mechanical	Stovec Industries Limited,	EASTMAN
41	Printing	Rotary Printing	Bearings, Rollers	Electro-Mechanical	Stovec Industries Limited,	EASTMAN
42	Dyeing	Form dyeing	Conveyor, Special grade Rubber	Electro-Mechanical	Tex-Fab Engineers (India) Pvt. Ltd.	SCLAVOS
43	Dyeing	Coating	Rollers, Bearings	Electro-Mechanical	Dalal Engineering Pvt. Limited,	SCLAVOS
44	Technical Textile	Multi Axial Knitting Machine high speed needle loom machine ultrasonic cutting machine	Feeder 3 phase A.C. Motor Ultrasonic Cutter	Mechanical Electro-Mechanical Electro-Mechanical	A.T.E Groups India Susmatex Machinery, UNITECH ALLIED AUTOMATION	Karl Mayer Kyang Yhe Delicate machine co., Ltd. Altrasonic, Hangzhou, China
45	Smart Textiles	technical Embroidery Machine	Stepper motor	Electro-Mechanical	apexmills	ZSK embroidery machines Embr o

46	Weaving	Projectile loom	Projectile, Dobby and Torsion Rod	Electro Mechanical		
47	Processing & Finishing	Weft Starightner	PLC, Microprocessor & Guide Rollers	Thermal, Mechatronics, Chemical	Bianco, Semitronic, E+L India	E+L Gmbh, Pleva, Bianco Srl
48	Knitting	Flat Knitting Machine	Cam plate set, Needles, AC Drives, Motors, Bearings, Electronic control systems, Needle bed Flat Bed	Electro-Mechanical	Hitech International, Redstar	Fukuhara, JIUNN LONG (Flat), SHIN TA, CHANG DAE, PAI LUNG, TERROT, Ssang Yong, LKM, SANTONI, KEUM YONG
49	Weaving	Ball Warper	Spring tensioner, stop motion sensor	Electro-Mechanical	Jupiter comtex, Prashant Gama	Karl Mayer
50	Weaving	Long Chain Beamer	Electronic control panels	Electro-Mechanical	Jupiter comtex, Prashant Gama	Karl Mayer
51	Weaving	Beam to Cone Winder	Electronic control panels	Electro-Mechanical	Jupiter comtex, Prashant Gama	Karl Mayer
52	Weaving	Indigo Sheet Dyeing Range	Electronic control panels, AC Drives, motors with gear box, dye circulation system (dosing station)	Electro-Mechanical	Jupiter comtex, Prashant Gama	Karl Mayer
53	Weaving	Indigo Rope Dyeing	Electronic control panels, AC Drives, motors with gear box, dye circulation system (dosing station)	Electro-Mechanical	Jupiter comtex, Prashant Gama	Karl Mayer

54	Knitting	Computerized Flat Knitting Machines	Knitting cam, Flat knitting bed, Uniform & Smart Drawing System with Sensors, Smart Pressor Footer for all type of yarns, Jacquard with unlimited coloured yarn, Digital System for knitting scheme, Snag System in Yarn Feeder for speed control	Metallurgy, Heat Treatment Problem, Control wear & tear	Elex Intl., Mastana Mechanical Works, Bharat Machinery Works, Rishi Mechanical Works, Saini Mechanical Works	Cixing, Lailian Xing, Long Xing, STEIGER COMETA S.R.L. STOLL, Flying Tiger, SHIMA SEIKI
55	Processing & Finishing	Radio Frequency Dryer for drying the yarn (dried to 8% from 50% after dyeing yarn)	Triode Valve, Capacitors, Contactors	Electronics & Electrical	LCC, Monga Strayfield	Strayfield, Stelam Italy, RF Systems US
56	Spinning/ Weaving/ Processing	Winders/ Twisters	BLDC (Brush Less DC Motors), Servo Motor, Microprocessor/ PLC/ HMI	Electro-Mechanical	Renu - Pune (HMI)	Panasonic, Delta, Sumo, Schneider, B&R Automation, Bau-Mueller, Baumer, Allen Bradley, Siemens
57	Garment Manufacturing	Embroidery Machine - Vertical Embroidery Machine	AC Drives, Servo Motors, Motion Controllers, Sensors, Pressure pin, thread take up lever, needle clamp lifter, spool	Mechatronics	Nantex	
58	Synthetic Spinning	Spinning Machine (Nylon, Viscose, Polyester)	Gear Pump (metering) for spinning machines	Metallurgy	Palod Himson	Barmag, Oerlikon, Slack & Parr, Zenith Pumps
59	Processing & Finishing	Bleaching Machine (Continuous type)	Mechatronics for hi-speed	Thermal, Mechatronics, Chemical	Harish Enterprise Pvt. Limited, YAMUNA MACHINE WORKS, Dhall	MENZEL, FONG'S, BENNINGER
60	Processing & Finishing	Effluent Treatment Plant for Zero Discharge	RO Membrane Technology	Green technology		