

# LakshmiCaipo



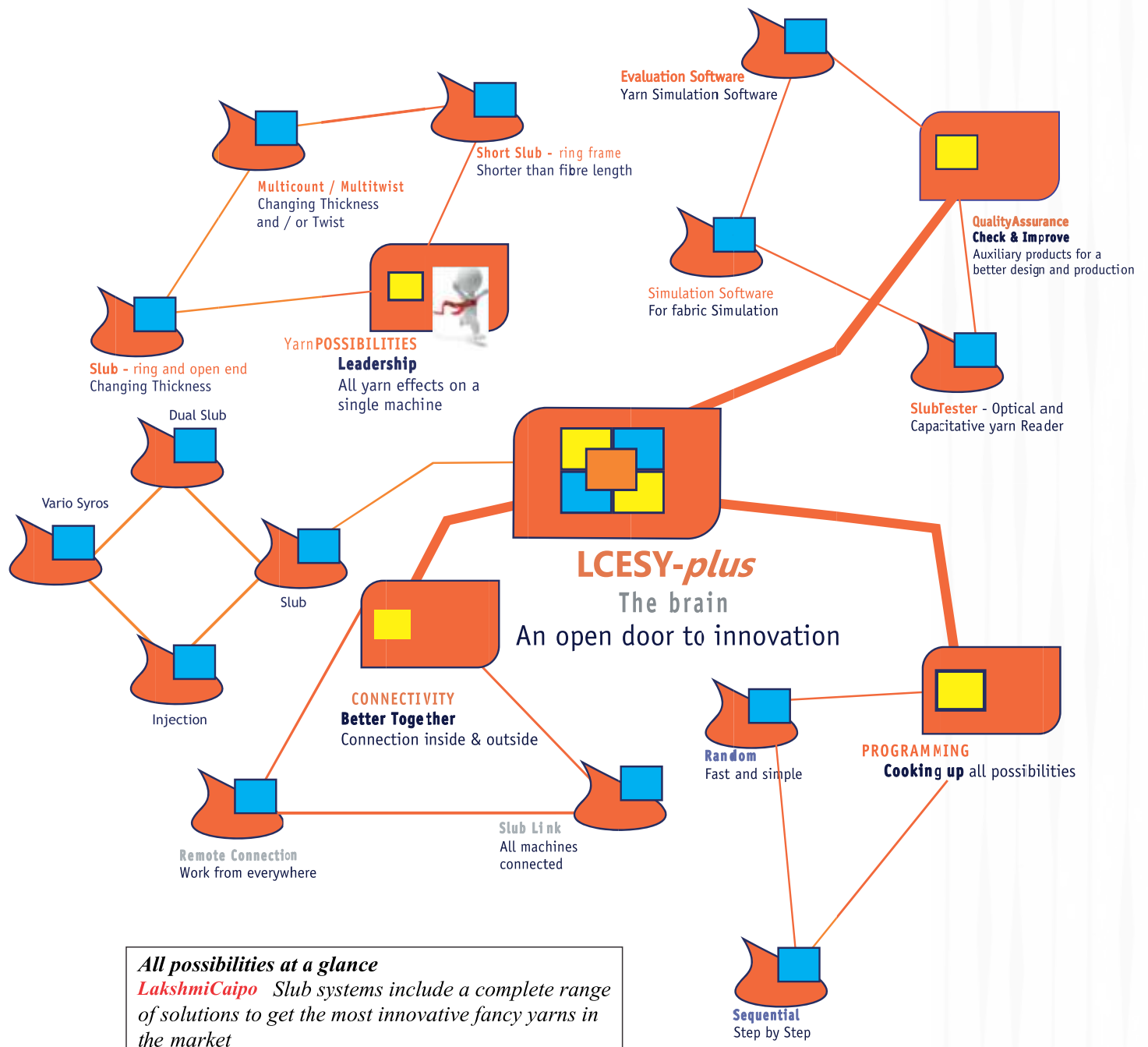
## ***LCESY-plus***

The future of fashion yarn technology

**BUILDING MORE THAN A STRONG BRAND:  
STRONGER RELATIONSHIPS!**

# Lakshmi Caipo Slub

LakshmiCaipo



*Multiple possibilities for a Global solution*



## When Unevenness is the Goal

For years, target has been to improve yarn evenness: regularity was main requirement for selling yarn and fabric.

But time changes. Nowadays **any spinner has to be able to produce irregular yarn** to be in the market. It is one of the main designing tools to match market needs.

### When Irregularity means Quality

Quality is a must to spin without losing production and to process yarn at the **highest warping and loom speed without breaks**. To get the exact fabric appearance as per designer requirements. To be able to repeat a design when needed. This is possible only with **high quality machines**, combining precise mechanical construction with reliable electronic components. Only this can assure the production of sustained yarn quality and design repeatability.

Fancy yarn is a term including **huge range of yams**, from simple Low density random slubs (just to "break" fabric regularity) up to slubs shorter than fibre length, colour injected slubs or high density thick slubs. Common feature is they are produced on a single process. But similarity ends here: components and requirements to get them depend on speciality to produce.

### High Performances for High End yarns

While for producing basic slubs, a simple system may be sufficient (i.e. in built slubs on ring frame or open end), for high end slubs yarn machines must be equipped with **additional mechanisms**, able to give high performance in terms of speed variation

and system **robustness**, to allow and support special efforts without compromising neither yarn quality nor ring frame life.

### Lakshmi Caipo slub:

**-5 milliseconds technology**. Fastest speed reaction and best performance.

**-Reinforcement** of drafting driving elements: your machine will not support extra loads, Lakshmi Caipo will filter them.

**-Renovated electronics**: new **LCESY-plus** control unit combining an incredible response capacity with a very simple user interface.

**-Options and possibilities**: adapting to exact customer need. Options for different specialities are available from the beginning and as **upgrades**: your machine is always ready for future developments.

### Connected to the World

Latest Lakshmi Caipo SLUB improvements in terms of software and communication provide an unmatched level of easy use. With **Colour Touch Screen** and communication through Ethernet and USB, sharing information and controlling production has never been so efficient.

## Explosion of Effects All what you can do with **LCESY-plus**

### Explosion of Effects

#### All what you can do with **LCESY-plus**

**New generation of LakshmiCaipo Slub** allows the production of the widest range of fancy yarns, on a single machine, on a single process. Design the yarn, convert it easily on a program, feed into the machine and start production. Easy. Fast. Reliable.

#### Basic Slub

System controls **feeding rollers** to obtain:

**-Slub Yarn** : variation of yarn thickness (increment respect of base yarn) and its frequency.

**-Negative or Reverse Slub** : variation of yarn thickness (reduction in respect of base yarn) and its frequency.

**-Multi Slub** : combination of sections with different slub thickness in the same yarn.

#### Short Slub

It allows the production of **slubs shorter than fibre length** for an exclusive appearance of the fabric and the final garment. Get designs different from the standards, to lead your market segment with something unique.

#### Multicount - Multitwist

System controls feeding and production rollers to obtain:

**- Multitwist yarn**: variation of delivery speed only to modify yarn twist.

**- Multicount yarn** : variation of delivery speed and feeding speed to change twist and count.

**-Combination with slub** : add any slub type efficient on a multicount yarn for higher designs. Option available for Multicount - Multitwist systems.



**Be global, only with **LCESY-plus****

# Why Lakshmi Caipo?



**Flexibility** : Lakshmi Caipo SLUB put different innovative solutions into spinner's hands allowing diversification with highest quality parameters, best designing possibilities and unmatched productivity.

In Lakshmi Caipo, we believe that to be a market leader, innovation is a must.

For that reason, the R&D Division of Lakshmi Caipo & Pinter Caipo together is in constant focus in improving our machines and components, making them more affordable, developing new technologies and ideas that will revert in wider possibilities for our customers.

No doubt for us: **INNOVATION** is **our way of life**.

LCESY stands today as a market oriented device: Reliable, innovative and user friendly.

A revolutionary instrument with unique and personalized specifications, Lakshmi Caipo Industries Limited raises the bar in slub yarn production like no other. So that you can always stay ahead of your competition.

## 5 MILLISECOND TECHNOLOGY

It is achieved by the combination of,

- ▶ The use of high performance servomotors of constant torque.
- ▶ Special design of electronics to drive the system extremely fast.
- ▶ Maximum mechanical precision avoiding loss of transmission.
- ▶ Direct drive of machine with minimum intermediate connections.
- ▶ Anti patterning device to avoid "Moire" defects.
- ▶ Automatic and manual ramps between normal yarn and effect, increasing yarn strength, avoiding mechanical efforts on the machine and ensures better productivity
- ▶ Special functions to avoid end breaks at starting and stopping of ring frame.



Smart Embedded Ring frame Programmable Industrial Controller. This is the new electronic control board which incorporates a full range of new features:

- ▶ Increased speed response
- ▶ Internet connectivity through Ethernet cable. It allows remote parameter setting and remote diagnosis
- ▶ Scalable technology: it allows to upgrade the system easily.
- ▶ Retrofitting: old slub attachments can be upgraded with this new board
- ▶ Tropicalized board: It withstands higher temperatures and it is protected against moisture/dust.
- ▶ It allows to program directly on the User Interface



*When Success depends on Innovation*

# Lakshmi Caipo

## Colour Yarn Systems



### INJECTION SLUBS

Injection Slub is a revolutionary invention in spinning in which a colored fiber is injected in the plain yarn which gives an attractive look to the fabric. Injection slubs is an innovative slub. System for basic injection slub yarn at an economical price.

Lakshmi Caipo is adding new value and design to the fancy world by introducing new products in this value chain. Lakshmi Caipo is the leader in the fancy yarn segments which always move ahead of fashion and introduces products for the next generation and always be first to introduce unique products

In this line Lakshmi Caipo is happy to give the below.

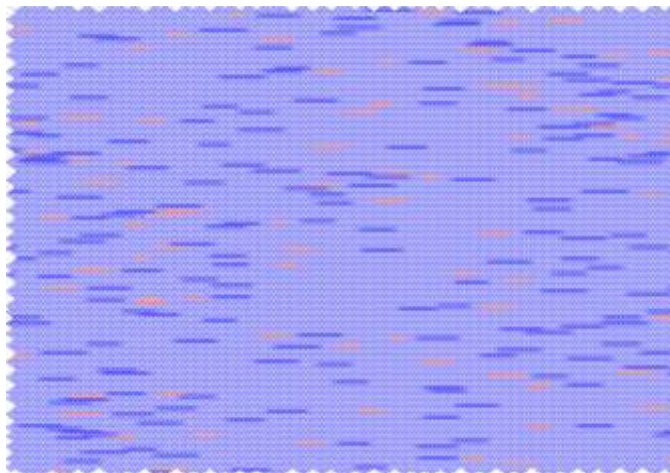
- ▶ DUAL SLUB
- ▶ INJECTION SLUB
- ▶ VARIO SYRO YARN

All the three can be done by a single attachment developed by Lakshmi Caipo. This allows the spinners to make infinite designs in the yarn stage itself and the premium will be huge. The customer who spins more than two materials or two colored fibers in their mills can easily spin the above types of yarn. This allows the spinners to make fashion yarn fully with attractive colors.



### DUAL SLUB.

It is unique invention in the fancy yarn segment. In this type the slub is produced on both injection portion and in the base yarn so this give an attractive design in which the slub can be produced on both the colors. The Injection Slub thickness is based on the injection roving hank. The simulation of the fabric can be viewed in our software itself and the same can be emailed to the buyer in any format. This helps the spinners to make any number of designs without wasting time and money



***More Value additions, More Profits***

# Lakshmi Caipo

## Colour Yarn Systems

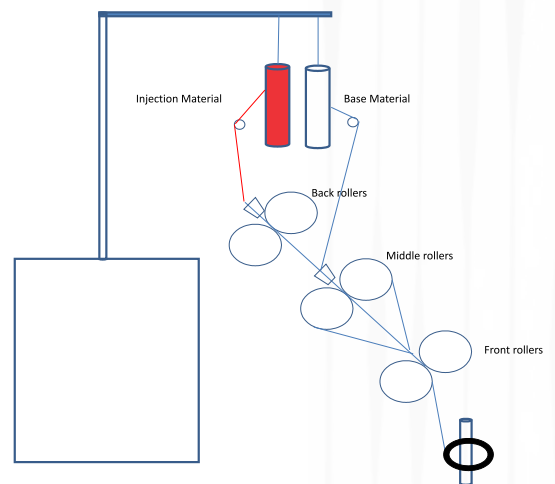


### INJECTION SLUB

The Slub is formed in the injection part alone. The length of the slub can be programmed and the number of slubs per meter is also programmed. Lakshmi Caipo uses a internationally patented technology which ensures the sharp start and end of the slub.

### VARIO SYRO YARN

In this, two coloured roving material can be spun continuously and the length of twin colours be controlled so that the finished yarn will have a solid colour and twin colours in the same yarn which will give an attractive appearance in the fabric. We can control the length of colour insertion. The systems are backed by high – powered diagnostics that record all events and errors for each connected machine over any 30 day spinning operation.



***More Value addition, More Profits***

# Lakshmi Caipo

## Hitech Traverse Core Yarn System (hTcS)



Lakshmi Caipo proudly presents hTcS to Indian market which is a unique attachment which make soft and hard core yarn. Core Yarn means a combination of a filament covered by fibers. In order to get the filament core completely covered, it is a must to keep it always aligned respect of spun fibers, so that it is hidden and wrapped by them. This can be achieved only with the use of a guiding mechanism ensuring the relative position of the core related to spun fibers. Without this, resulting core yarn will be rejected due to improper centering.

### ADVANTAGES OF HTCS

- ▶ 100% Electronic Elastane Control
- ▶ Electronic Pre-tensioning
- ▶ Automatic adjustments with insertion of core in from 1.01 to 7 times
- ▶ Separate Motor for Traverse mechanism
- ▶ Lycra Stop motion is based on negative driven system which makes accurate in case of lycra missing.
- ▶ Roving Stop Motion and Lycra Lift handle

***Perfect Centering. Accurate Elastane control***

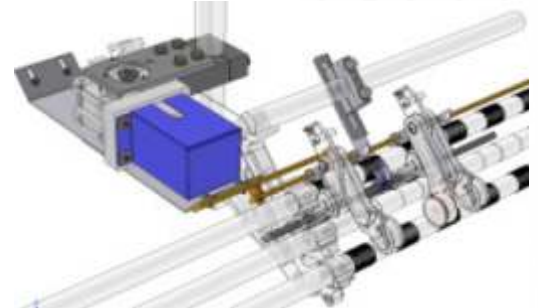
# Lakshmi Caipo



## Hitech Traverse Core Yarn System (hTcS)

### TRAVERSE DRIVING SYSTEM

- Providing controlled traverse to guiding system separate from original traverse
- Increasing the life of cots and aprons
- System designed for upgrading existing machines as it does not depend on ring frame's traverse
- High precision and control of traverse motion to keep filament centering

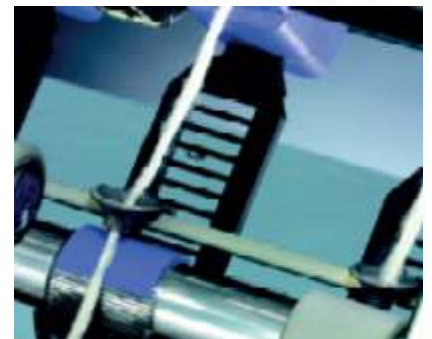


### LYCRA DETECTOR

- The new individual lycra detector with high intensity LED breakage indication
- The rotation of roller is measured and if there is a roller stop, immediately the LED indicates the absence of lycra and this avoid even a single meter of faulty core yarn
- Our latest development in the field of detection is efficient with an immediate detection, to minimise production of faulty yarn
- Ergonomically designed and fully integrated in the guiding set
- No disturbance to operation, Simple to operate and reliable

### Roving Stop Motion

- Connected to lycra guide sensors, and stops roving feeding where the lycra breakage is detected.
- A special rotating wedge is inserted between top and bottom feeding rollers to avoid roving to be processed.
- Once operator attends the spindle, to simply press the button to release rotating wedge and start the roving feeding.



***Perfect Centering. Accurate Elastane control***

# Lakshmi Caipo

LakshmiCaipo

## Slub Tester Optical - Capacitative Slub Reader



Lab equipment to analyze an existing slub yarn, translating it into a program, to:

- ▶ Get the details of an existing sample
- ▶ Assure quality of the production by comparing stored data

Yarn details are immediately translated to Lakshmi Caipo Slub programs so that spinner is able to pass from an existing sample to its real production in few minutes. Slub Tester is composed by a digital optical device as well as capacitance reading from the yarn bobbin along with an in - built computer with a special software module, collecting and elaborating data.

### Main features:

Yarn testing speed: 70m/min

Presetting of yarn analysis length Comparison of original and virtual samples on a single screen Storage of analysed yarns.

Yarn diagram study: mass variation, slub distribution

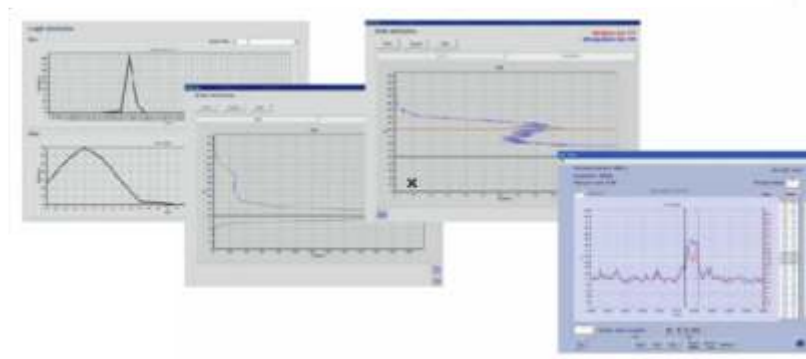
CV% calculation (real and virtual)

Combined with the Dobby Simulation software which we provide – you can realistically see the appearance of black-board and, Knitting and woven fabrics digitally – thereby saving time and money in developing physical samples



### *All options at a click.*

**Lakshmi Caipo** software modules are the best support for your fancy yarns development.



**The perfect team for LCESY - plus**

# Lakshmi Caipo

## Technical Specifications

LakshmiCaipo

### General Features

Description	Lakshmi Caipo system including Multicount, Multitwist, Short Slub.
Adaptation to	Any brand and model of ring frame or Open End machine; up to 1.840 spindles.
Yarn type	Basic slub, Multi slub, negative slub, MC/MT, short, slub, and combinations (according to versions)
Basic yarn count	From Ne 4 (148 TEX) to Ne 120 (5 TEX).
Slub thickness	Ring frame: Up to 9 time basic yarn thickness ( machines with short slub), up to 5 time for normal slub machines. Open End: Up to 3.6 times basic yarn.
Slubs per meter	On ring frame, maximum 22 slubs per meter (depending on spun fibre). On Open End, 360 slubs per minute.
Yarn application	Any type of yarns for weaving in weft or warp (denim, shirting, home textiles) and knitting (circular, flat, warp knitting), any type of staple fibre.

### Driving System

Type	High performance brushless Servomotor of constant torque and direct transmission mechanical set to adapt on ring from or Open End machine.
Technology	05 milliseconds to increase speed from 1,000 rpm to 2,000 rpm.
Motors details	Digital brushless servomotors of constant torque, high dynamic performances for extremely fast speed change, low inertia; in-built resolver, thermal protection.
Driving units per Machine	From 1 up to 12 units, synchronized between them, to drive front, back middle rollers, head stock, end stock and middle stock (upon machines and versions).
Machine speed Control	With high precision encoder, to read machine speeds and process it to adjust Lakshmi Caipo Slub speed accordingly through a closed loop system.

### Control Unit

	Cabinet with cool technology containing drivers, main control board and in - built UPS. Designed for extreme temperature conditions.
Control board	Through LCESY-plus main electronic board controlling the complete system speeds (input & output), drivers, resolver, alarms, UPS and control panel.
Dimensions and number of drivers	Different size according to the number of driving units.

### User Interface

Main interface	7th touch screen
Programming	Multiple programming possibilities:: Random, Sequential, Translator and Objects with max 2500 step, Through a guided programming wizard. Offset faction to achieve infinite length programs and avoid bad patterns.
Upgrade options	Possible on exiting Lakshmi Caipo slub to new LCESY (depending on models).

### Security

In-Built UPS (optional)	Integrated in the system and managed by main control board, It avoids yarn breaks in case of power failure, Power according to number of motors.
Alarms	Complete alarm system preventing yarn without slub, mechanical or electrical problems, overspread, overtemperature, among others, Alarm storage and high powered diagnostic that records all events and errors for each connected machine for past 30 days of running time.
Others	Combination of technologies to prevent weak paint after slub and to prevent thick places at starting of slub.



**Welcome to Lakshmi Caipo & spin Profits!!**

# We Care

## Always with you. Our commitment.



### Customised Programs

We have different solutions available to transfer you our knowledge about Lakshmi Caipo systems, according to each customer's needs.



In any industrial sector, innovation requires big efforts to **transform** original idea to a product acceptable by market. It is not only to create something new but also to get end customer's acceptance. Our aim and policy is to be **beside** our clients in the entire development process, not only selling the machine but supporting till end product is established. Implementing the process and adjusting on market's need.

Our success is based on these principles.

We are experts on innovative solutions and we want to add this background to your market knowledge so that we can get the entry in new products.

And we will put all our organization at your disposal to achieve it:

### "In mill" Technical service

During installation or in a assistance our engineers will take care not only about the machines but also about the human team. Because qualified personnel is the base for enjoying Lakshmicaipo products.

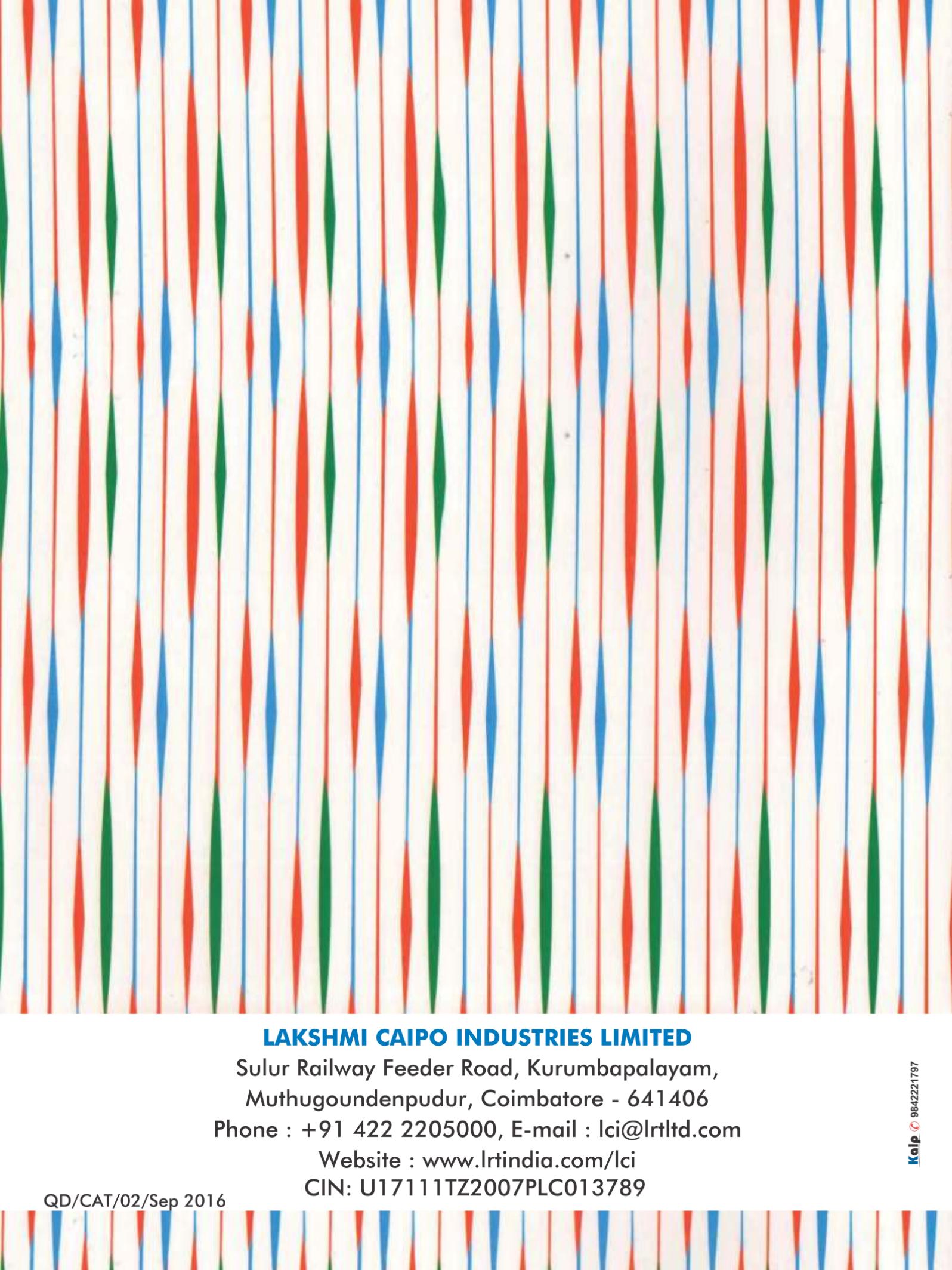
Our **all-round technical service, with local stations**, is prepared to provide a fast and efficient answer to your need.

***Ready for you. Our team is trained to assist you whenever you require it.***

**Profit is in fashion yarn...**

**...Future is in fashion yarn**

***Welcome to Lakshmi Caipo & spin Profits!!***



**LAKSHMI CAIPO INDUSTRIES LIMITED**

Sulur Railway Feeder Road, Kurumbapalayam,  
Muthugoundenpudur, Coimbatore - 641406

Phone : +91 422 2205000, E-mail : [lci@lrtltd.com](mailto:lci@lrtltd.com)

Website : [www.lrtindia.com/lci](http://www.lrtindia.com/lci)

CIN: U17111TZ2007PLC013789