

# IJIRA

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# NEWSLETTER

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Feb. 2026/Vol.14, Issue 01



## *From the Desk of the Director*

### **From Feedback to Breakthrough: IJIRA's Smarter Automatic Doffing**

*When mills said automation was too costly, IJIRA reinvented the solution—delivering a one-click doffing system that makes smart spinning finally affordable.*

### **Precision Shaping for the Future of Jute Processing**

*A simple yet powerful engineering innovation—the IJIRA roll-former brings new precision, consistency, and efficiency to traditional jute processing.*

### **When Strength Meets Whisper-Light Luxury**

*A remarkable silk–ramie fabric at just **68 GSM** proves that natural fibres can feel as light as mulmul while carrying the strength of bast fibres.*

### **Denim, Reimagined with Nature**

*Jute steps into the world of denim—creating a rugged yet sustainable fabric where the heritage of the Golden Fibre meets global fashion.*

### **From Lab Enzymes to Field Microbes: A New Era for Ramie**

*After mastering enzymatic degumming, IJIRA now pioneers microbial processing that could bring eco-friendly ramie fibre production directly to farmers' fields.*

### **Skill Initiatives**

*From classrooms to shop floors, IJIRA's NTTM skilling programmes are preparing the next generation of engineers and mill professionals for the natural-fibre revolution.*

### **Testing / Consultancy Services**

*Behind every reliable jute product lies rigorous science—IJIRA's testing and consultancy services continue to support industry with precision, quality assurance, and technical expertise.*

□ **Come, explore these stories of innovation and discover how IJIRA is transforming natural fibres into technologies for the future.**

-- Dr. A. K. Sharma  
Director, IJIRA

## *In this Issue*

- New Technologies
- Skill Initiatives
- Testing/ Consultancy Services
- Events

## *Editorial Board*

- Dr. Pradip Chakrabarti
- Soumita Chowdhury
- Partha Sanyal
- Ipsita Roy
- Apsara Nath
- Jitesh Kayal
- Kuntal Chakraborty

## *Technology No. 1:*

### **From Feedback to Breakthrough: IJIRA's Smarter Automatic Doffing**

When IJIRA first developed an automatic doffing retrofit for the S.D. frame, industry feedback was clear—the system worked, but the cost was too high for widespread mill adoption. Instead of stopping at innovation, IJIRA went back to the drawing board and re-engineered the concept into a far simpler design. The result is a new cost-effective retrofit delivering one-click automatic doffing at nearly one-third of the earlier cost, making automation finally practical for spinning mills. The system is being now adopted by a mill.

□ A powerful example of IJIRA's philosophy: innovation is complete only when industry can actually adopt it.



*Auto doffing retrofit being implemented in a mill*

## *Technology No. 2:*

### **Precision Shaping for the Future of Jute Processing**

Innovation often lies in perfecting the smallest step of a process. IJIRA's newly developed Roll Former system brings precision engineering into jute processing by enabling uniform shaping and controlled forming of material with greater consistency and efficiency. Designed to reduce manual dependency and improve process stability, the system represents a smart step toward modernizing traditional jute machinery which is being adopted by a mill.

□ A simple mechanical innovation—yet a powerful move toward smarter, more efficient fibre processing for the industry.



*Precision roll forming technology being implemented in a mill*

### *Technology No. 3:*

## **When Strength Meets Whisper-Light Luxury**



*Production of lightweight silk-ramie fabric demonstrating next-generation natural luxury textiles in handloom sector*

**What if a fabric could carry the strength of a bast fibre yet feel as soft and airy as mulmul?**

**IJIRA's latest innovation blends silk and ramie to create an ultra-light fabric of just 68 GSM, delivering a remarkably smooth, breathable, and luxurious touch. The result is a textile that combines natural strength with feather-light elegance, opening new possibilities for sustainable premium fabrics.**

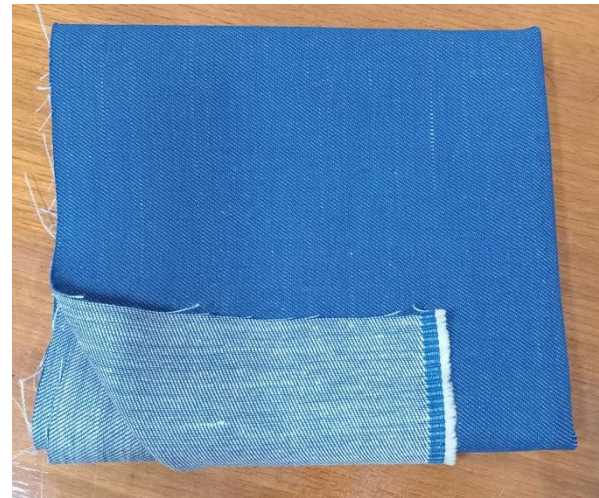
- A fabric that feels almost weightless—yet carries the promise of next-generation natural luxury.**

### *Technology No. 4:*

## Denim, Reimagined with Nature

What if the world's most iconic fabric could become greener without losing its rugged character? IJIRA has demonstrated a new path by weaving lightweight jute-blended yarn as weft in denim, creating a fabric that blends the strength of natural bast fibres with the comfort and familiarity of classic cotton denim. The resulting indigo denim shows balanced strength, stability, and dimensional behaviour comparable to commercial denim, proving that sustainability can walk confidently into mainstream fashion.

□ A bold step where the heritage of jute meets the global language of denim—turning everyday jeans into a story of sustainable innovation.



*Denim woven with light jute-blended weft yarn*

### *Technology No. 5:*

## From Lab Enzymes to Field Microbes: A New Era for Ramie

After perfecting enzymatic degumming technology for Indian ramie, achieving remarkable gum reduction and improved fibre quality, IJIRA is now taking the next bold step—microbial degumming. The vision is simple yet transformative: develop a bio-based retting process that farmers themselves can adopt at field level, turning ramie processing into a cleaner, cheaper, and farmer-friendly technology. This breakthrough could dramatically reduce chemical use while unlocking the true strength and fineness of India's ramie fibres.

□ From laboratory science to village fields—IJIRA is redefining how sustainable fibres are prepared for the future of textiles.



*Microbial degumming process for sustainable ramie fibre preparation*



## Skill Initiatives

### *Ongoing Skilling Programmes under NTTM*

- The Final Assessment of 37 no. of candidates for Batch ID: 03IJIRA2025TG2 (Batch-01) were assessed on 18<sup>th</sup> February 2026 at IJIRA, Kolkata.
- Skilling programmes are currently being conducted at IJIRA, Kolkata and Bowreah Jute Mills, Howrah.

## Testing / Consultancy Services

### Performance of service departments:-

	Physical Testing (Nos.)	Chemical Testing (Nos.)
Sample tested	24	51
Moisture Meter calibrated	162	-
FGJP Audit	-	05
MOSH & MOAH inspection	-	01

580g B.Twill bag inspected	86,324 bales
NAFED & Other bag inspected	1,843 bales

## Events

- Director, IJIRA visited IGAU, Raipur for collaboration on agromulch project.
- Director visited IIIT, Naya Raipur for collaboration of automation in jute processing.
- Director attended Chintan Shivir on Future of India's Wool Sector organized by CWDB, Avikanagar, Rajasthan
- Director gave presentation in Textile Ministry on Ramie and Jute PP-granule project
- Smt. Soumita Chowdhury, Scientist attended the 44th meeting of the BIS TXD 03 Committee on Jute and Jute Products held in Delhi.
- Shri Moninoy Das, Tech. Officer visited Nedampur, Gurap, Dist. Hooghly on Application of Natural Geotextiles in Slope Stabilizations under NTTM for Civil Engineers
- Smt. Ipsita Roy attended the 24th Meeting of the TXD 07 (BIS)
- Smt. Ipsita Roy attended the meeting with European Cocoa Association and SSAFE, Netherlands regarding MOSH MOAH in jute and cocoa supply chain.
- Smt. Ipsita Roy attended the meeting with Prof. Giorgia Purcaro, University of Liège and European Cocoa Association regarding drafting of Industry standard
- The Best Research Paper Award was received for the research paper entitled "Effect of Yarn Elongation and Beam Pressure on Loom Efficiency" authored by Smt. Soumita Chowdhury and Shri Biswarup Nandy and published in the The Indian Journal of Natural Fibres.

Innovating Natural Fibre  
  
for  
Sustainable Future

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