



MORIYASU DYEWORKS CO., LTD

New Business Building Program

01 Company Overview

■ Corporate Profile

| | |
|----------------------------|--|
| Company Name | MORIYASU DYEWORKS CO., LTD. |
| Established | 1928 |
| Main Business | Dyeing and processing of wool thread • Dyeing and processing of threads for clothing, auto/train/plane seats, furniture, etc Dyeing technologies • Cheese dyeing, material processing, high pressure dyeing • Product dyeing, tie-dye dyeing |
| CEO | Norio Hayakawa |
| Number of employees | 65 |
| Capital | 31.5 million JPY |
| HQ | 32, Sanjo Orito, Ichinomiya City, Aichi Prefecture |
| Factory information | Factory space: 8,707m ² Monthly capacity: 200 ton |
| Certification | ISO14001 (Obtained in 2004, integrated to ISO9001 in 2018) ISO9001 (Obtained in 2006) |

■ Business profile



Dyeing & Processing (Thread cheese dyeing)

We not only dye threads but we are also able to add functionality through material processing

We are a specialized thread dyeing company in Aichi prefecture, and have answered various dyeing demands from clothing to car seats. We can dye both natural and synthetic threads. We are capable of special dyeing processes like uneven dyeing as well as special material processing like water repellent processing, odor prevention, and anti-bacterial processing. We have extensive R&D capability and have developed chlorine-free washable wool processing, electric conduction processing, radio blocking processing and metal coating technologies.

■ Yarn Dyeing

Unlike fast fashion brands, where piece dyeing is common (fabric dyeing) is common, we specialize in yarn dyeing (thread dyeing). It takes more process, but is able to produce high-quality, long-lasting dyeing

| | Yarn Dyeing | Piece Dyeing |
|-----------------|---|--|
| Dyeing timing | Thread (Thread → Dyeing → Weaving) | Fabric (Thread → Weaving → Dyeing) |
| Main use | Luxury items · Suits | Fast fashion · Jeans |
| Color richness | Deep, rich color | Uniform and vivid |
| Color variation | Can create various patterns by weaving threads | Usually single color, but able to modify with post-processing |
| Longevity | Long-lasting and strong against friction | Short-lasting |

■ Yarn Dyeing Process

Roll the yarn onto a bobbin and make it into cheese-shaped. Put it into a high-temperature, high-pressure dyeing machine and circulate the dye with a pump to dye an even-colored yarn.

Step1 Receive Original Yarn

Client delivers that yarn to be dyed



Step2 Winding

Collaborate with a winder factory and Moriyasu facility to wind the yarn into cheese-shape



Step3 Testing · Color Formulation

Trained craftsmen will confirm the appropriate dye formulation that match with the material



Step4 Preparation

Place the wound yarn onto a carrier



Step5 Dyeing

Place the yarn into a high-temperature, high-pressure cheese dyeing machine to be dyed



Step6 Drying

Use a drying machine to sap out moisture



Step7 Inspection

Inspect the coloring and finishing



Step8 Delivery

Deliver the dyed yarn to the client after checking with any stains or irregularities



■ Business Composition

Moriyasu provides dyeing solutions to various type of yarns/materials. Our clients are major corporations such as Toyota Group and Teijin Group, and our products are used for various products from clothing, to cars to furniture

What We Manufacture

Composition of Dyeing methods

- Cheese dyeing (Yarn dyeing): 92%
- Stock dyeing: 8%

Composition of materials

- Wool: 35%
- Cotton: 15%
- Polyester: 20%
- Mixed yarn: 30%

 Performs dyeing on wide range of materials

Who Our Clients Are & Where Our Products Are Used

Clothing



60%

TOABO

Kunishima

Nishikawa Keori

Vehicle (Seats and Airbags)



20%

Toyota Boshoku

AUNDE

TEIJIN
FRONTIER

Others (Interior etc.)



20%

TEIJIN
FRONTIER

Toyota Motor
Corporation
etc.

■ Special processing technologies to produce high-value products

Our strength includes a wide range of special processing that adds functionalities. This includes patented technologies such as chlorine-free washable wool technology which we are looking to commercialize

Commercialized Tech

Functionality for comfort

- Water absorption/Quick drying
- Cool touch fabric
- Heat generation
- Electric conductivity
- Anti-static functionality

Functionality for hygiene/health

- Anti-bacterial
- Anti-tick
- Skincare

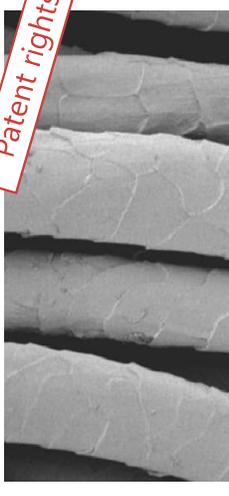
All-weather functionality

- Water repellent functionality

Protection/resilience functionality

- Flame resistance
- Heat resistance
- Wear and tear resistance

Developed Tech Pending Commercialization



Chlorine-free washable wool technology



Electro-magnetic shielding, Electric conduction



Metal ion coating

■ Our strengths and assets

1

Knowledge on dyeing & functionality processing

High-quality yarn dyeing technology and dyeing & processing R&D capabilities

2

Production capacity for high-quality yarn dyeing

In addition to facilities and talents, we have access to abundant clean water and publicly provided water treatment facility

3

Strong client base with leading Japanese companies

We have strong relationships with major corporations like Toyota and AUNDE as well as collaboration/joint research with research institutions and universities

02 New Business Idea

■ Our objectives and challenges

In order to produce high-value products, we are aiming to incorporate new technologies as well as commercialize our patented technologies

A. New Technologies

B. Chlorine-free washable wool

| Trend | Issues |
|--|--|
| <p>Fabric industry is shifting more towards high value products with added functionality and sustainability</p> | <p>We would like to mass-produce and commercialize our patented chlorine-free washable wool by partnering with an machinery manufacturer that can manufacture machineries for mass productions</p>  |
| <p>In addition to internal R&D, we would like to incorporate innovative technologies to produce high value products</p>  | <p>Japan has a small market for wool products, and we were not able to identify manufactories willing to manufacture machineries necessary for mass-production</p>  |
| <p>We are looking for partners that possess technologies (material·dyes·functionality·dyeing technology) for joint development and commercialization, but were not able to identify suitable domestic partners</p>  | |

■ 2 collaboration ideas

We are looking for a partner who has new technologies (material, dyes, functionality, dyeing technology) or ability to manufacture machineries needed for commercializing washable wool

Collaboration pattern A

Incorporate innovative technologies (material, dyes, functionality, dyeing technology), to produce high value products through increased functionality, lower environmental impact, lower costs and increase quality

Moriyasu and an Israeli partner to jointly develop new technology and commercialize it in Japan



Collaboration pattern B

Leverage Israeli machineries to mass-produce and commercialize Moriyasu's patented chlorine-free washable wool

Moriyasu and Israeli manufacturing company to jointly develop machineries to mass-produce washable wool



Direction

Business model

What We Seek

SourcingTech (example)

- Technology that contribute to improved functionality, lower environmental impact, lowering cost, improved quality

[Material]

- Recycled material
- Bio-degradable
- Bio material
- Carbon fiber
- RFID fiber

[Dyes]

- Bio-dyes
- UV ink

[Functionality]

- Conductivity/Heat generation
- Fatigue recovery
- Sleep
- Skin care

[Dyeing technologies]

- Supercritical CO2
- Digital dyeing
- Low temperature dyeing

SourcingTech

- Technology to manufacture machineries to mass-produce chlorine-free washable wool

Our desired assets

- Technology & manufacturing capacity to manufacture machineries we seek
- Ability to sell machineries to Moriyasu

■ Roadmap for collaboration

Collaboration A

Incorporate new technology from Israeli company (material·dyes·functionality·dyeing technology) , functionality, lower environmental impact, cost reduction, improved quality to produce high value products

1 Understand the new technology & discuss commercialization
Understand the new technology and consider ways to commercialize

2 Commercialize new technology & joint development as needed
Incorporate the new technology into products

3 Moriyasu to deploy the technology in Japan
Moriyasu to manufacture/sell products developed with the new technology

4 (Moriyasu will be the distributor of the new technology in Japan)
Moriyasu to become the distributor of the technology in Japan

Collaboration B

Mass-produce Moriyasu's patented chlorine-free washable wool by **incorporating Israeli machineries**

1 Confirm resources/ability and market research
Confirm the partner's ability to manufacture machineries & market research on demand for chlorine-free washable wool globally

2 Jointly develop mass-production machineries
(In case of joint development)
Incorporate Moriyasu's patented technology into the machine

3 Moriyasu to mass-produce chlorine-free washable wool
Supply the wool to sustainability conscious brands

4 Sell the technology and machinery globally
(In case of joint development)
Supply chlorine-free technology and mass-production machinery globally

Summary

| | | | | | | | | | | |
|--|--|--|--|------------------------|----------------------------|--|--|---|--|---|
| Direction | <p>A. Incorporate Israeli technology (material, dyes, functionality, dyeing technology)</p> <p>We wish to produce high value products by incorporating Israeli technology (material, dyes, functionality, dyeing technology) to realize improved functionality, lower environmental impact, cost reduction, improved functionality</p> | <p>B. Incorporate Israeli dyeing machineries</p> <p>By incorporating Israeli machineries that allows mass-production of washable wool, mass-manufacture Moriyasu's patented chlorine-free washable wool</p> | | | | | | | | |
| Issues | <p>We wish to incorporate new, innovative technologies to develop new products, but there are no suitable partners domestically</p> | <p>The Japanese wool market is too small, and there is no company that manufactures machineries we seek</p> | | | | | | | | |
| What We Seek | <p>SourcingTech (example)</p> <ul style="list-style-type: none"> In the dyeing process, technology that contributes functionality, lower environmental impact, cost reduction, improved quality <table border="0"> <tr> <td>[Material]</td> <td>[Dyes]</td> <td>[Functionality]</td> <td>[Dyeing technology]</td> </tr> <tr> <td> <ul style="list-style-type: none"> Recycled Bio-degradable Bio material Carbon fiber RFID fiber </td> <td> <ul style="list-style-type: none"> Bio-degradable Bio dyes UV ink </td> <td> <ul style="list-style-type: none"> Electric conduction/heat generation Fatigue recovery Sleep Skin care </td> <td> <ul style="list-style-type: none"> Super critical CO2 Digital dyeing Low temperature dyeing </td> </tr> </table> | [Material] | [Dyes] | [Functionality] | [Dyeing technology] | <ul style="list-style-type: none"> Recycled Bio-degradable Bio material Carbon fiber RFID fiber | <ul style="list-style-type: none"> Bio-degradable Bio dyes UV ink | <ul style="list-style-type: none"> Electric conduction/heat generation Fatigue recovery Sleep Skin care | <ul style="list-style-type: none"> Super critical CO2 Digital dyeing Low temperature dyeing | <p>SourcingTech</p> <ul style="list-style-type: none"> Technology that can manufacture machineries that can mass-produce chlorine-free washable wool <p>Our desired assets</p> <ul style="list-style-type: none"> Technology and manufacturing capability to produce dyeing machineries Ability to sell dyeing machineries |
| [Material] | [Dyes] | [Functionality] | [Dyeing technology] | | | | | | | |
| <ul style="list-style-type: none"> Recycled Bio-degradable Bio material Carbon fiber RFID fiber | <ul style="list-style-type: none"> Bio-degradable Bio dyes UV ink | <ul style="list-style-type: none"> Electric conduction/heat generation Fatigue recovery Sleep Skin care | <ul style="list-style-type: none"> Super critical CO2 Digital dyeing Low temperature dyeing | | | | | | | |
| What We Can Provide | <ul style="list-style-type: none"> High quality medium lot yarn dyeing capability (technology, facility, talent, energy, water resources) and R&D capability Strong domestic client base (Toyota Boshoku, AUNDE, etc) and broad network | <ul style="list-style-type: none"> Technology to produce chlorine-free washable wool Strong domestic client base (Toyota Boshoku, AUNDE) Relationship within the domestic dyeing industry | | | | | | | | |

■ Message

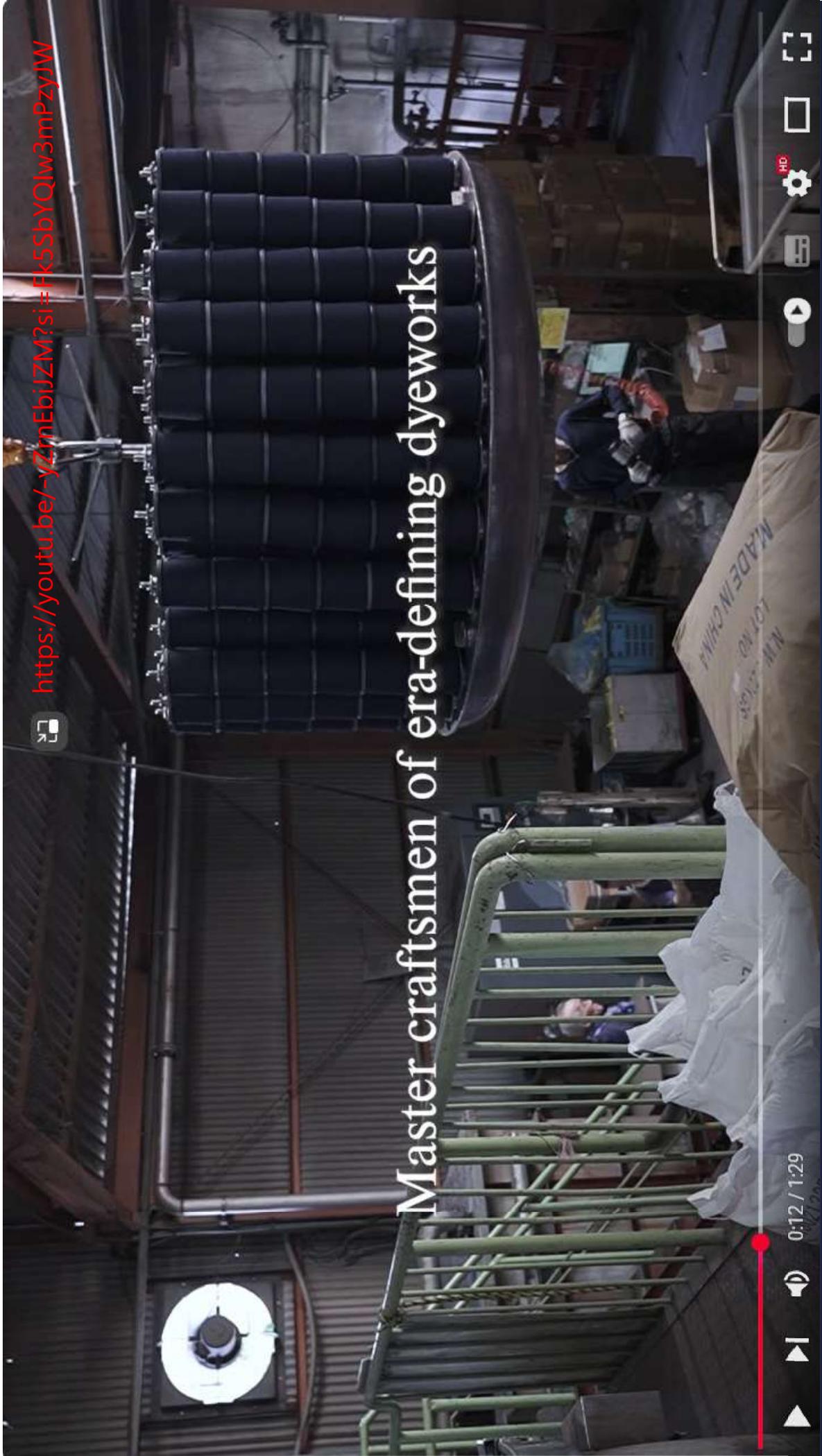
***We are looking for Israeli startups with cutting-edge dyeing and textile-related technologies as collaboration partners! We hope this program will be a great opportunity not only for us, but also for Israeli companies with innovative dyeing technologies.
Thank you very much!***



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Master craftsmen of era-defining dyeworks



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