

NATURALDYERS

Textile Innovation Technology

TEXSELF

DIGITAL WORKSHOP



Whitepaper V 1.0

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INTRODUCTION

Naturaldyer OÜ (ND) is a digital company focused on the digitization of textile manufacturing processes by developing natural dyeing technology related to a smart application dedicated to digital weaving procedures.

ND offers online mass personalization of biodegradable textiles by collecting available products and services provided by spinner-mills and weaving facilities in order to be activated on a digital customizer able to manage personalized order reports on small and flexible quantities of fabrics.

The method works on defined warp-chains to be shared with online business users who demand access on the market by evaluating new yarns and colors for adding value to their brand identity. The format works as an information technology Instrument able to manage online estimation of personalized fabrics in line with styling, technical requirements, and expense capacities of each one. The increasing demand for bio-based materials shows the opportunity to develop the digital Hub by integrating the software with a prototyping laboratory dedicated to natural dyeing technology, for

ensuring cloud computing services related to availability and traceability of biodegradable components dedicated to a small business such as interior designers and fashion stylists.



PROJECT PRESENTATION

VIRTUAL GIGAFACTORY

Promote digital design and natural dyeing technology through software that offers integration, scalability, transparency, traceability, availability, eco-sustainability, and end to end automation to solve the deficit of the textile production industry.

Our eco-textile reality promotes the need for sustainability in the fashion sector, we offer a precise and clear choice of the field that replaces synthetic fibers with natural ones.

Next to organic cotton, which has a much lower ecological impact than the traditional one, our products strong are innovative and more eco-sustainable natural fibers, such as broom, hemp, linen, nettle, fibers derived from algae, bamboo, eucalyptus, beechwood, waste from the agricultural supply chain such as orange peel and non-toxic dyes.

The plants from which natural fibers are obtained are renewable resources, allow a high yield, do not require chemical products or artificial irrigation for their growth and give durability and biodegradability to the fibers that produce. We make our concept of integral sustainability, of circular economy and we demonstrate it through the promotion of sustainable agricultural development and the valorization of agricultural wastes as precious productive resources.

The development of ecologically virtuous agricultural and textile companies helps to correct the offer of the fashion sector, directing it towards greater sustainability, but this is not enough because consumers also need to support this reality by making informed purchase choices. That's why our portal is born and the activities of promotion and awareness of users.



Problems

STANDARDIZED POLLUTION

The textile industry is the second most polluting in the world and it is characterized by high water consumption, high CO₂ emissions, and the production of a large amount of harmful waste. The textile sector is also characterized by a complex and highly fragmented value chain, with difficulties in planning and scalable production of biodegradable materials such as bio-based yarns. Climate change is destabilizing the regular supply of organic raw materials and the small players involved in the textile supply-chain are struggling for further industrialization, automation, and consolidation of market power in the hands of big industries, standardized in high minimum quantities required for evaluating sampling procedures and subsequent production of textiles.

The amount of clothes bought in the EU per person has increased by 40 % in just a few decades, driven by a fall in prices and the increased speed with which fashion is delivered to consumers. Clothing accounts for between 2 % and 10 % of the environmental impact of EU consumption.

The production of raw materials, spinning them into fibers, weaving fabrics, and dyeing require enormous amounts of water and chemicals, including pesticides for growing raw materials such as cotton. Less than half of used clothes are collected for reuse or recycling, and only 1 % are recycled into new clothes since technologies that would enable recycling clothes into virgin fibers are only starting to emerge.



The textile industry is one of the most profitable and polluting sectors for the environmental system. With an annual turnover of 1,500 billion euros and over a billion clothes a year, it is characterized by high consumption of water, high CO2 emissions, and the production of large quantities of waste; all this generates strong environmental unsustainability of the sector which is not limited only to the production phase but also continues during the use and disposal phase.

Especially the use of synthetic fibers such as polyester and elastane, as a result of washing activities, release plastic micro-fibers that compromise the delicate balance of aquatic and marine environments, directly interfering with the life cycle of aquatic fauna and, therefore, with the human food chain.

Synthetic fibers and toxic substances used in dyeing activities continue to have a very serious environmental impact even with the finished product; after their use, garment disposal is a serious problem due to economic cost and environmental issues. Last but not least, the use of toxic substances and non-natural fibers causes damage not only to the environment but also to human health, as the use of such clothing affects the delicate thermoregulatory balance of the skin and poisons the body, day after day, through contact with the skin.

The fashion and textile industry supply-chain is demand-driven, on one side controlled by major retail corporations, 'Big Retail' that manages fast fashion systems, and on the other by exclusive luxury design houses, 'Haute Couture'. The supply-side market is highly fragmented and oriented to the two mentioned sectors: industrial high-volume and low-cost producers serving 'Big Retail', having low bargaining power and minimal margins, and on the artisan small-scale high-cost producers serving 'Haute Couture'.

In recent years, the fashion industry is increasingly oriented towards the use of natural dyes, also due to their environmental sustainability characteristics. However, the bio-textile supply chain is characterized by a complex and highly fragmented value chain, with difficulties in planning and scalable production of biodegradable material and in the production of bio-based yarns, due also to climate change and other natural phenomena.

Big Retail is heavily geared towards chemical-based material because it ensures predictability and scalability, not affected by seasonal cycles or climate change, as is the case of bio-based material. On the other hand, designers and artisans are increasingly demanding high-quality customizable fabrics with stringent sustainability criteria to meet the new ecological and social challenges.



Solutions

Digital Workshop

In this context, the emergence of digital technologies(eg connectivity, cloud platforms, Internet-of-Things, and the new Smart Factories business models) is opening the door to a new era that will transform the way the textile industry is organized, redefining the bargaining relationships along the entire supply chain, and promoting new forms of production of biodegradable fibers. Digitization opens the way to new methods that can make biodegradable production of natural fibers and dyes predictable and scalable, mitigating climatic risks, seasonality, and organizing the supply of raw materials, favoring the development of a bio-based circular economy.

Furthermore, digitization represents an opportunity to make the sector more “democratic” in favor of all participants in the value chain who ask for the opportunity to supply biodegradable products from eco-sustainable practices and who can increase their bargaining power to supply products customized, put their creativity to work and increase sales volume and margins. Having grasped the challenges and needs for change required of the textile market, ND has already invested heavily in the project that allows the traditional value chain and relationship structures to be interrupted for facing the important challenges that the textile industry must face.



ND focuses on the ambitious goal of supporting the business development of all players in the organic textile industry, redefining bargaining relationships along the entire supply chain, and promoting new forms of biodegradable fiber production.

The ND platform is based on a specific digital Hub serviceable to guarantee high-quality organic products at the lowest prices to the textile community. Mostly, ND implements an innovative “zero water waste” technology developed by Dekonta for the pharmaceutical sector. The mentioned technology works on chemical photo-oxidation of water wastes by ensuring treatment, analysis, and conservation of water wastes.

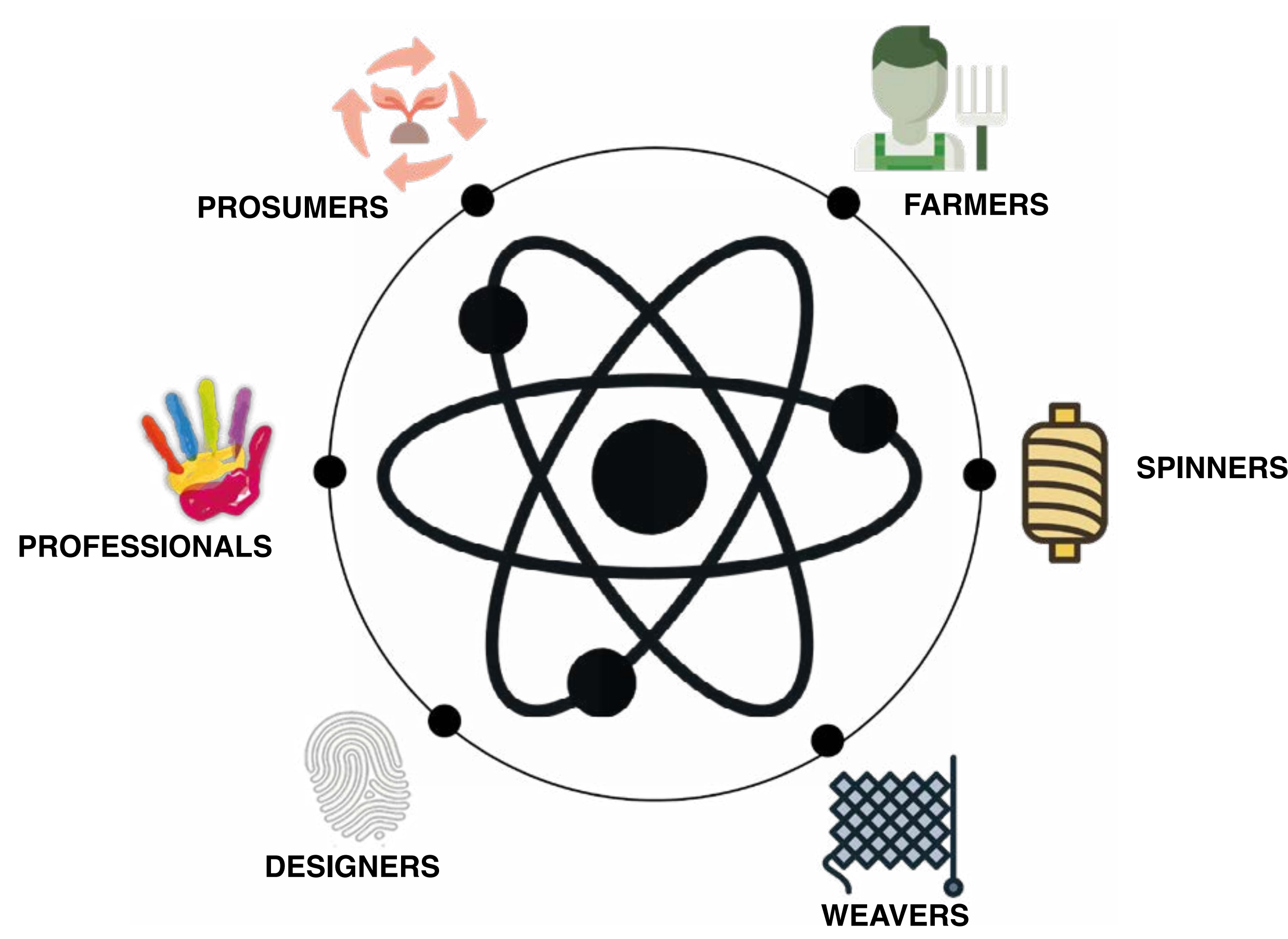
Faced with the polluting impacts of a textile model based on the principles of the linear economy, the erosion of natural resources, and the introduction of polluting chemicals into the environment, with the NaturalDyers project the ND aims to revolutionize the textile sector through the divulgation of a zero waste solution by implementing the current “zero wastewater” technology of the Dekonta partner, focusing development of natural dyeing technology on reuse the wastewater originated from the maceration and dyeing process, and a new business model based exclusively on the use of natural raw materials and the circular economy. Furthermore, thanks to its digital platform, ‘Virtual Giga Factory’, it engages, connects, and develops the business of all the players in the bio-based textile industry (from farm to market), where supply and demand of the various stages of the production process can be satisfied in an optimal way, ensuring the personalization requirements, delivery times, and the transparency and traceability of processes with eco-sustainability certification along the entire supply chain (eco-label).

Specifically, Dekonta’s photochemical oxidation UVC/H₂O₂/O₃ unit, allows to eliminate many toxic and persistent organic compounds without producing any by-products and to reuse the treated water in the Naturaldyers process. Dakota’s photochemical oxidation unit has been implemented already in various industry and public sectors; and has been treating successfully water contaminated with a broad spectrum of organic substances, like aromatic hydrocarbons, nonpolar crude bio-based hydrocarbons, polyaromatic hydrocarbons, and pharmaceutical micropollutants. The substances used by ND during the maceration and dyeing process have weaker chemical bonds, thus the method provided by Dekonta suits the scope.

According to the five-year financial projection, by 2024 it is expected thanks to the completion of large-scale demonstrations, to develop the market in the EU, USA, and ASIA and to exceed 51ML EUR in net revenues with EBITDA exceeding 80%. For this evaluation, we wish to compare with the EU commission the possible method to share profits with all value-chain on cryptocurrency, in order to manage EBITDA over 50%.



THE PLAYERS



Process	Internal	External
Registration Form	Textile Supply-Chain register personal data	To get first amount of tokens in order to upgrade the tool by personalizing offers in line with each one productive capacity
Digitization Phase	Uploading available products and services	To personalize order report by selecting demonstrative samples as the physical basis needed to support digital design activities
System Integration	Specifying technical data related to products and services Note:- Investment objectives with prototyping laboratory located in Italy to share static data with 100k and with pilot plant located in India to share dynamic data with 200k	Tool Implementation with new natural colors by using NaturalDyers commercial tokens
Process Automation	Price related to each product and services related to moq requirements of each player	The personalize fabrics are used to prototype new items by promoting the creativity, ability and know-how of each small business user
Smart Application	Smart contracts related to moq suitable to each one timelines delivery	Smart contracts allow to track each step of manufacturing processes for ensuring monitoring of timelines delivery in line with terms and conditions of the web portal. The method enable users to manage digital wallets for exchange transactions with a fixed fee of 8%
Recycling Procedures	Certified protocol to be offered to local Spinner-mills in order to standardize the production of tested Bio blends, to be distributed to nearest weaving facilities	Certified Label related to dynamic data offered by dashboards to add value to Brand identity of each one



Internal-The digital format enables the online mass-personalization of biodegradable textiles to be promoted to end-users by customizing showcases dedicated to designers.

- The farmer upload natural pigments
- The spinner upload yarns catalogs
- The weaver upload looms textures
- The Team tests products and services by divulging demo samples of fabrics
- The designer starts working on a demo report to personalize the sample by using new yarns and colors, to obtain suitable weight and height of textile basis
- The designer customizes fabrics by confirming online payment on the naturaldyers web portal
- The designer retires fabrics directly by supply chain
- The software rationalize revenues related to reports by sharing profits of 5% with each player such as farmer, spinner, weaver

External-The digital format enables to manage design services dedicated to online users

- The designer upload IPR
- The professionals will be able to personalize the articles by selecting different natural colors from the virtual showrooms offered by designers.
- The prosumers upload delivered lead products to be recycled.



HOW IT WORKS

Produce at least 200 meters for each warp, they are guaranteed to give continuity of work to the machinery and operators assigned by law. Even The graphic customizer is able to propose on the tool of the components offered online, specific boxes with the proposals of the recipes tested in the 5 identified categories, so that the data obtained during the transformation cycle of the agricultural product into textile fiber are activated, and each detail on the origin of the products and the origin of the services, in addition to the technical information offered by the designer.

Specifically, we select suitable yarns to meet the design needs of each proposed pattern, offering different warp densities to identify new weights and color variations for each selected textile structure. In this way, we collect the greatest number of reports for each weaving density and manage the customized order reports from the online user in order to plan and rationalize the lengths to be organized for each warp chain, in order to increase the number of meters of thread to be knotted on the loom and exponentially increase the supplier's margins.

Furthermore, for each warping, through the online format, it is possible to promote multiple customization variables while always maintaining the same warp and weaving density, so it is not necessary to increase the inventory stock because each demonstration collection is developed in minimum sizes of 5 meters. by chromatic variant, so that weavers used to making 200 meters for each design and color, can choose whether to interchange the colors in the weft by engaging an operator in exchange for 5% on sales volumes or vary the patterns from the loom panel with a button, and create the same chromatic variable on 10 different designs. In this way the weavers, accustomed to doing, therefore, to cut the costs of the employees and instead improve the profit margins.

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THE DIGITAL HUB TO PROVIDE REGISTRATION FORMS TO TEXTILE

Digital Workshop

The web platform develops a digital Hub that collects the registration of products and services available in textile industries such as spinning and weaving, to activate them on a digital tool connected to a graphic customizer dedicated to fabrics, able to generate customized order reports via web in minimum and flexible quantities of 5/10/15 mt. depending on the supplier. The service consists of registering your account in order to access a reserved dashboard where you can upload the reference images for each yarn in the warehouse and textile base available on the loom, in order to allow the withdrawal of 1 kg. of yarn or 1 mt. of fabric as a demonstration reference of the image uploaded to the monitor by the supplier. The references relating to the yarns are scanned and photographed to be displayed in a digital tool while the loom bases are verified with the textile cad in order to be displayed on a graphic customizer. An internal database console generates reports fabric orders identification samples to be subjected to graphic customization via the web, developing patterns demonstrated as a support activity, to guarantee the verification of the loom bases by testing the yarns. The procedure allows you to withdraw the prototyped fabrics to check for possible defects or compare useful measures and make any changes.



THE DEMONSTRATIVE SAMPLING AT DIGITIZATION PHASE

After the analysis of the tested fabrics, ND photographs, and displays on the web portal the demonstration samples that be can be activated on the customizer both to guarantee the tactile verification of the prototyped textile bases and to support the digital design activity on the monitor, in order to offer the customization of a new report fabric by choosing new weights and heights according to the technical and stylistic needs of each user. The supply chain involved in the process consists of weaving, which allows the reading of the order reports on the loom by customizing the weaves of the fabric with the yarn mills made available by the spinning through the activation of smart contracts. time, the ND shares 5% of the sales volume with each supplier involved, transmitting weekly total orders in a minimum quantity of 200 meters, and depositing the sum equivalent to the amounts obtained via the web in a digital wallet on the personal dashboard for carrying out the transaction in decentralized tokens on the public register. In the case of spinning, any defects are detailed by the weaving, which delivers the fabric to the user online; in the event of any defects claimed by the user online, the portal retains the amount relating to the products and services of the suppliers involved pending the management of a new report and calculating the costs of collection.



THE SYSTEM INTEGRATION WITH TEXTILE VALUE-CHAIN

The process of supporting graphic design via the web consists of in-depth research and development of an increasingly wide range of demonstrative patterns, this activity highlighted the opportunity to involve in the customization process all emerging designers interested in promoting their IPR through a digital platform to share profits on decentralized cryptocurrency by increasing the value of your wallet.

The offer is aimed at textile design studios and all the artisan companies involved in the supply chain, to allow the registration of their IPRs, such as prototype fashion models, designs, cutting models, graphic patterns, and participate in sharing the profits generated by the value of their IPR in proportion to the volume of sales generated by online users. Users are divided into two distinct categories, the designer and the unskilled professional.

Registration as a business user is required of the designer for the formulation of a first fabric order report, in order to offer access to a specific dashboard capable of managing the fabric customizer, implementing the digital tool with new patterns and colors to increase the fabric customization variables through the complementary services provided by the team through technical partners such as textile design studios and prototype dyeing laboratories, to which 5% quotas are offered in exchange for new fabric demonstration samples and colors by testing the color recipes on available yarns chosen by business users.



THE PROCESS AUTOMATION BY DIGITAL CUSTOMIZER

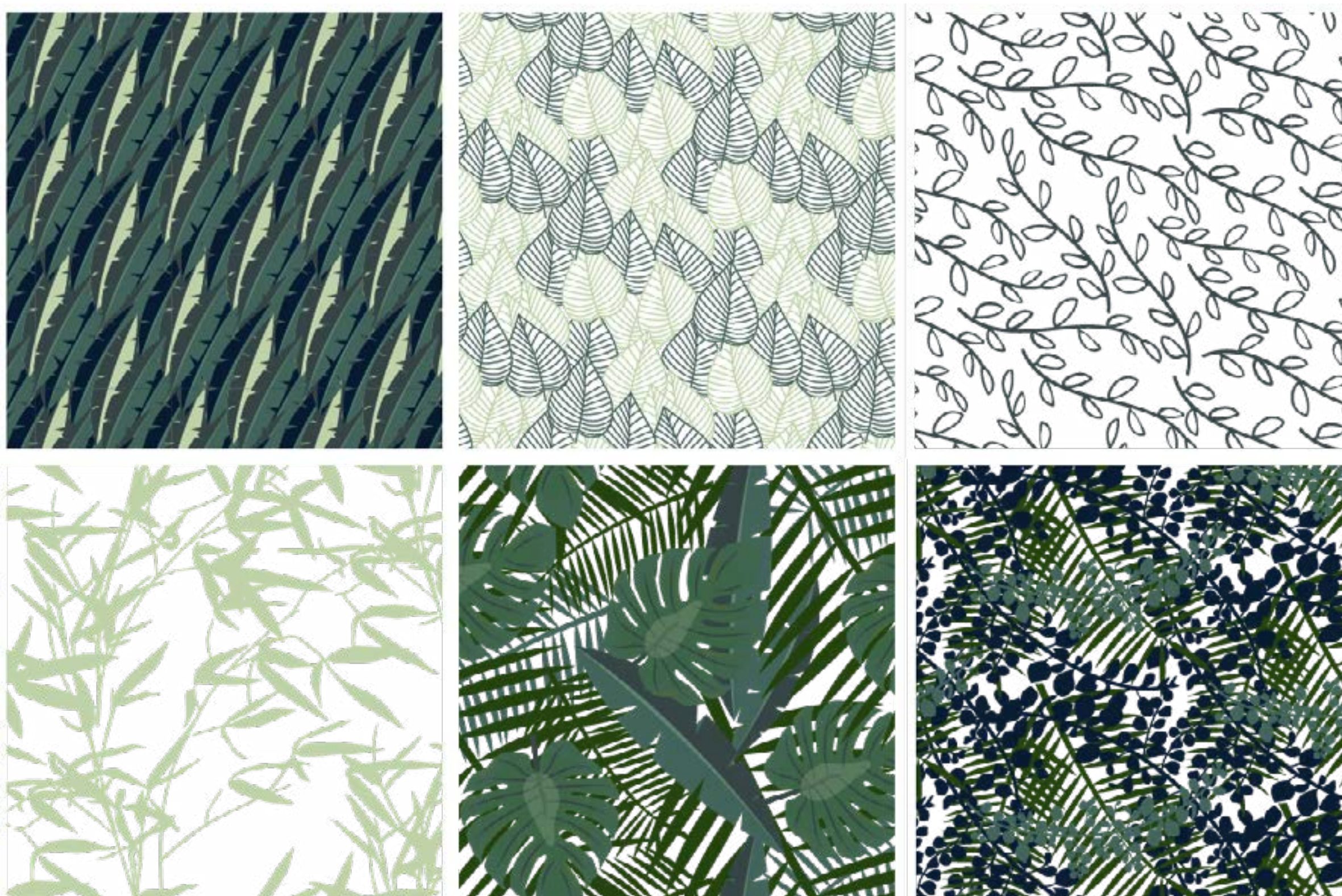
The services provided by the team are activated on the tool through a token transaction, to offer a new decentralized circular economy model. The digital tool is able to be customized with a wide and constant range of new yarns and colors tested on the available textile bases, to evaluate the right weight and performance of the fabric to be used for the creation of the product.

The notice board integrated with the customizer allows the display of the prototyped textile product connected to the customizer through the tool customized by the designer to offer the appropriate quantity of customization variables to the non-specialized user in proportion to their production capacities, to guarantee the agreed delivery times and deliver the product directly to the user in a minimum quantity of a unique and exclusive garment.

The collection of customized reports from public users allows the format to collect multiple requests in final reports for each color customization variable. In detail, the designer who proposes 4 colors on the tool in each module of a fabric that works on two wefts, offers a range of chromatic variables equal to 16 different possible intertwining colors.

The method guarantees the selection of the product by the non-specialized user through the use of the digital tool customized by the designer to manage the selection of colors and receive the garment directly from the designer.

The new reports order generated by the customizer using the tool customized by the designer, allow the software to identify the owner of the IPR and proceed with the rationalization of the yarn mills available in the inventory in the warehouse of the spinning and the optimization of the machine downtime of the loom of weaving through the planning of plants warping.



THE APPLICATION BY SMART CONTRACTS

The method identified consists of a confidential dashboard where each profiled user can select the reference timeline according to the availability of the moment in line with the products and services subjected to online digitization. In this way Naruraldyer can guarantee the delivery times communicated on the terms and conditions of the portal and optimize the margins of the supply chain through the software, collecting customized order reports via the web to rationalize inventories and the use of frame operators.

Through the dashboard, the professional user can check the number of order reports for each customization variable offered on his tool, in order to verify the quantity of fabric necessary to satisfy the requests and send the fabric reports to the supplier companies involved. Access to the related confidential dashboard from a digital wallet is necessary for the transaction in the fiat currency of the decentralized tokens necessary to take advantage of the services provided by the team for the customization of the tool, integrating new colors on the yarn mills available at the spinning and new patterns on the base textiles ' weavers.

The amount of sales value generated by the published pattern referring to your IPR is shared in exchange for 5% of the profit share. The designer finds in the digital tool a very useful tool for disseminating his brand, adding value to his proposal via the web through the personalization of his IPR with new colors by the public users involved in the digital customization process of new biodegradable and recyclable textile products, a user with medium to high-level cognitive abilities and conscious purchasing responsibilities.

The method allows you to contact any user interested in customizing their clothing, fashion accessories, and any textile product for the home and personal hygiene via the web. The Portal thus represents a useful tool for families to interact with the artisans of the area, digitally connected to the traditional textile industrial districts present in every nation and registered on the web platform



SMART CONTRACTS:

TERMS & CONDITIONS TO GET ROYALTIES	TIMELINES Production AVAILABILITY
-------------------------------------	-----------------------------------

FARMER	SPINNER	WEAVER	DESIGNER	PROFESSIONAL	PROSUMERS
SEMESTER: RAW MATERIALS CROPS	QUARTER: YARNS CATALOG	MONTHLY: LOOMS TEXTURES	WEEKLY: ONLINE VIRTUAL FASHION WEEKS	DAILY: CHOOSE ITEMS TO BE PERSONALIZED	HOURLY: GROWING YOUR TOKENS VALUE
It allows you to identify the available collection semester.	It allows you to select suitable yarns to guarantee the loom test according to the textures.	It allows you to identify the type of loom and the warp reduction required to plan the demonstration activity.	It allows designers to customize the fabric and access their own showcase where they can display the prototyped garment.	It allows the professional public to evaluate the quantities of product to be customized according to whether retailer or private.	It allows a public with lower spending capacity to access biodegradable products instead of continuing to enrich the system that wants to destroy and make us sick.

SMART CONTRACTS TO GET PROFITS	TIMELINES sampling DELIVERY
--------------------------------	-----------------------------

FARMER	SPINNER	WEAVER	DESIGNER	PROFESSIONAL	PROSUMERS
QUARTER: RAW MATERIAL DELIVERY	MONTHLY: YARNS STOCK SERVICE	WEEKLY: READY WARP-CHAINS	DAILY: UPGRADE THE TOOL TO WORK WITH ALL COMPONENTS	HOURLY: GROWING YOUR TOKENS VALUE	MINUTE:EVERY MINUTE THAT GOES TO LOCKTIME TO SAVE THE PLANET
It allows you to identify the cost of raw material depending on the amount of crop available	It allows you to plan the offer on the customizer by offering the yarns tested and ready in stock to ensure fabric production times within one month.	It allows weavers to program warps according to the amount of meters collected by the web portal through online order reports.	Allows you to customize the tool every day with new colors and patterns verified in line with the textures used according to the warp density to increase the customization variables dedicated to the public	It allows you to get a stake in the profit shares in the case of the custom garment a collection is offered for sale if it is a retailer or offered as a second hand	It allows you to support the project by participating in the ICO, starting to use the NDS token to support the monthly budget of your family

SEMESTER: I select wools, natural fibres and pigments	DAILY: User upgrade the tool
QUARTER: I retire available quantity to test new bio blends	WEEKLY: User confirm fabric order reports
MONTHLY: I verify procedures to test available yarns on registered looms	MONTHLY: User receive fabrics to prototype new items to be offered to mass-personalization by free users
WEEKLY: I propose defined warp-chains integrating a digital tool on the customizer or be offered to business users	QUARTER: User find continuous offers of new colors and bio based yarns
DAILY: I collect online order reports to calculate supplements and needed moq quantities required by supply-chain	SEMESTER: User select fall-summer or fall-winter demonstrative collections for evaluating new personalized proposals

UP GO NATURALDYERS CIRCULARITY DOWN RETURN



THE GOAL

RECYCLING PROCESS OF BIODEGRADABLE TEXTILES

The goal of the digitization process consists in the implementation of the digital tool with new colors and textile bases, in order to increase the customization variables dedicated to the designer to identify the weights and heights most suited to the stylistic needs according to the mood of the moment. , in line with the spending power and technical characteristics required by the various market segments.

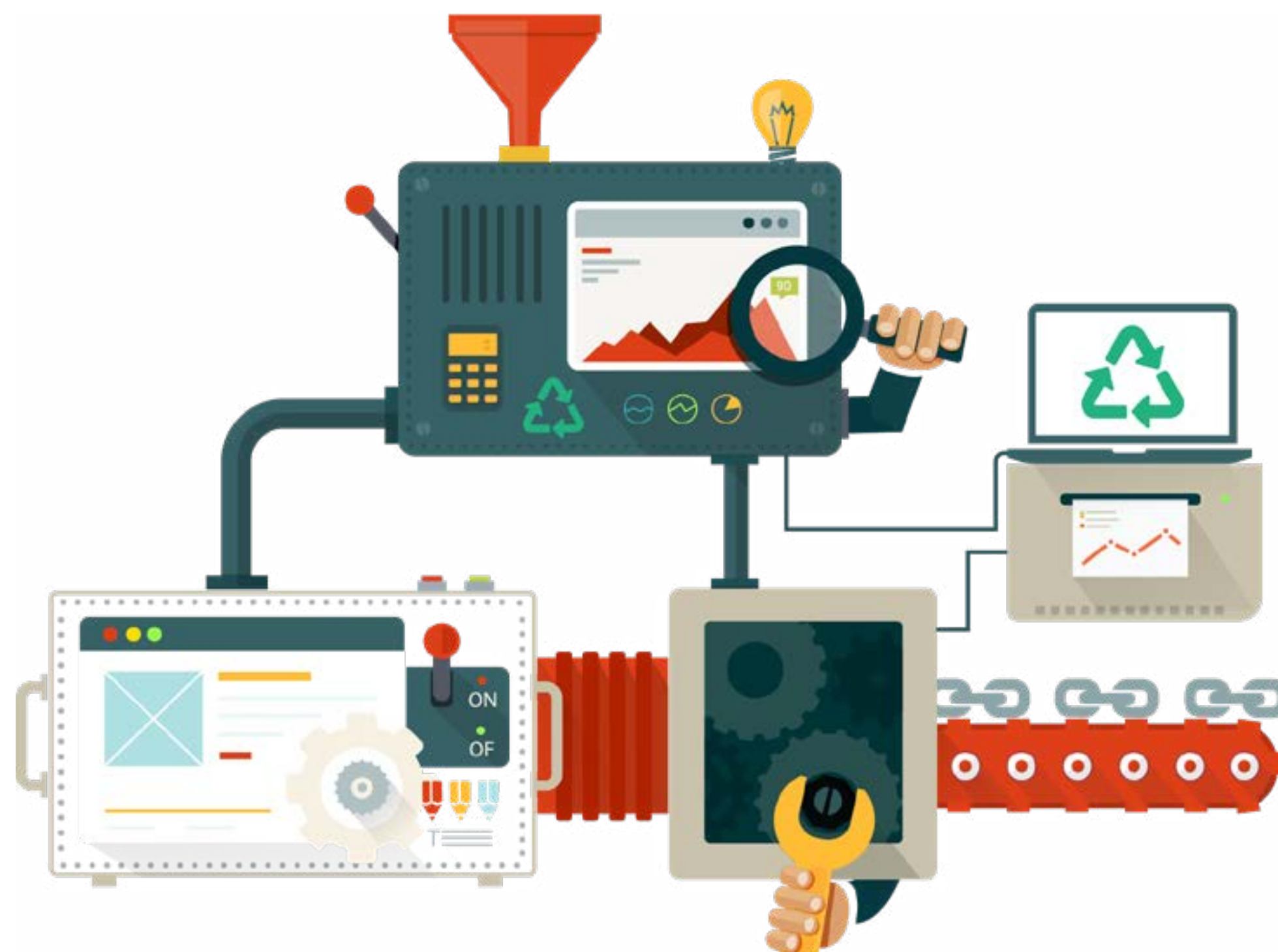
The users interested in the service are made up of individuals and small businesses that do not find space on the current market due to the many activities involved in the manufacturing process and the high standardization of chemical and polluting products. The digital format is proposed on a public blockchain to identify the real value that each emerging designer is able to generate through their added value in relation to the quality of the products and services offered by suppliers.

The business model connects traditional textile districts with small and medium-sized artisan companies that turn to the web portal as designers able to customize fabric and create a finished garment to be promoted to mass customization through a tool integrated with an activatable customizer. from Smartphone.

The business model allows for a concrete, innovative, and highly scalable value proposition. Through the format, each designer can interact with the online public to offer their personalization services

through the use of a specific digital tool. The value of the customization service offered by the tool is thus related to the volume of sales in relation to each IPR, in order to increase the value according to one's manufacturing ability.

This principle, linked to the standards of meritocracy imposed by the competitive system, allows suppliers and designers to demonstrate their added value through the shared use of a token capable of verifying the real economic value of their services in relation to the volume of sales. generated by the web portal, to build together a highly scalable profit model and directly proportional to the quality of the products and services offered by the value chain adhering to the format.



BENEFITS

Naturaldyers value-chain

Farmers - Natural fibers, Natural pigments

Spinners - Spinning mills

Spun Yarns - Bio blends certified by Naturaldyers technology

Weavers - Looms

Dye-works (Chromatic range) - The pilot plant will work as a removable dye-work plant directly on the field.

DESIGNS

Designers

Ateliers

The digital customizer allows retailers to directly connect with designers and supply-chain

Converters

Long-Terms Expansion

Consumers

Poverty

Our proposal about Circular economy to provide sustainable way to manage textile value chain by sharing profits on sales volume with all players;

Hunger

We promote blockchain technology for equilibrate richness in the world by sharing profits with local small farmers;

Health

Natural pigments and plant fibres demonstrate benefits for health and some pathologies about rheumatism and cancer;

Instruction

NaturalDyer hub service is an Information technology Instrument that offers data by open sourcing repository for supporting consumers to approach to purchases with responsibility and knowledge;

Climate Changes

Biodegradable textiles subtract co2 during life cycle, the digital format promises to restore entire textile value chain on new eco-sustainable products by stopping utilization of chemical substances that are suffocating the planet;



Gender Equality

Online mass-personalization allows to identify own mood and style for getting in touch with similar people interested to share sustainable principles and life model;

Water

Naturaldyers technologies aims to ensure zero water wastes solutions;

Sanitation

Over Dyeing services guarantee recycling process and sanitation of garments;

Energy

Prototyping pilot plant will be engineered as removing modules in order to ensure on demand services on the field to small farmers for avoiding external expenses about treatment and management of wastes to be used for utilities by working on bio-charts;

Urbanization

Territorial harvesting areas manage local high-standard raw materials to identify new natural dyes and fibres. This method enables to re-organize traditional textile districts that has been impoverished by globalization and fast fashion system;

Environment

We ensure re-use of agri-food wastes;

Social Equality

The global brand identity offers add value to all small business asking for visibility and access on the market;



HOW TO START

The main objective is to guarantee conscientious information in order to teach environmental protection to the new generations (fashion institutes and students)

Web portal	Supplier	Provider	Stakeholder	Professional	Farmers
The Team provides online customizer of fabrics managed by a digital tool	ND selects new yarns to manage defined warp-chain	ND tests demonstrative samples of fabrics on available looms	ND offers online estimation on to personalize order reports on flexible quantities of fabrics	ND provide to stakeholders a personalized colors on the tool for promoting prototyped items to online users	ND selects local high-standard raw materials to be tested on small size of 5 kilos in order to divulge new bio based yarns and colors
digital tool				online users	colors
Registration form	Spinner fill the form with personal data in order to get access to a reserved dashboard needed to upload products	Weaver fill the form with personal data in order to get access to a reserved dashboard needed to upload services	Designer fill the form with personal data in order to get access to a reserved dashboard needed to upload prototyped items	Consumers fill the form with personal data in order to validate reserved order report of personalized items	Farmer fill the form with personal data in order to get access to a reserved dashboard needed to upload available raw materials
Digitization phase	uploading of yarns catalogs to be activated on the digital tool	uploading of looms textures to be activated on the digital tool	uploading of IPR patterns to be activated on the digital tool	uploading of selected items to be personalized with new colors	uploading of natural pigments to be tested on available blends
System integration	technical data related the products in order to manage digital design	technical data related the services in order to manage digital design	technical data related the prototyped items in order to manage digital design	technical data related the zip area in order to share profits by tokens	technical data related the stock in order to manage delivery and testing procedures
Process automation	Price related each product to allow online estimation	Price related each service to allow online estimation	Price related prototyped items to allow online personalization	Price related personalized item in order to reserve the production	Price related each raw material to allow online estimation
Smart application	Selection of minimum order quantity required for each product	Selection of minimum order quantity required for each service	Selection of minimum order quantity required for each item	Selection of minimum order quantity of items required for each report	Selection of minimum order quantity required for each raw material
Recycling procedure	Smart contract confirmation to start sharing profits on fabric order reports	Smart contract confirmation to start sharing profits on fabric order reports	Smart contract confirmation to start sharing profits on IPR sales volume	Smart contract confirmation to start sharing profits in each local zip area	Smart contract confirmation to start sharing profits on sales volume related each raw material



Business Model

Partners

Spinners
Weavers

Key Activities

Demonstrative samples of fabrics to be online personalized
Demonstrative samples of colors to be activated by a reserved dashboard.

KEY RESOURCES

Yarns catalogs provided by spinners
Looms textures provided by weavers
Digital customizer developed by the Team

Value Propositions

Anyone able to prototype a textile finds access on the market
by purchasing small quantities of fabric needed to show
items to be personalized by free users, in order to get profits
on the personal trademark.

Customer Relationships

The digital Hub collects spinner's yarns and weaver's textures
to allow personalization by online customizer managed by
the digital tool of components to be upgraded on tokens

Customer Segments

Professionals customers (retailers or professional consumers)

Channels

The digital tool allows online estimation on demonstrative samples
to be customized by selecting new components such as new
colors and patterns.

Cost Structure

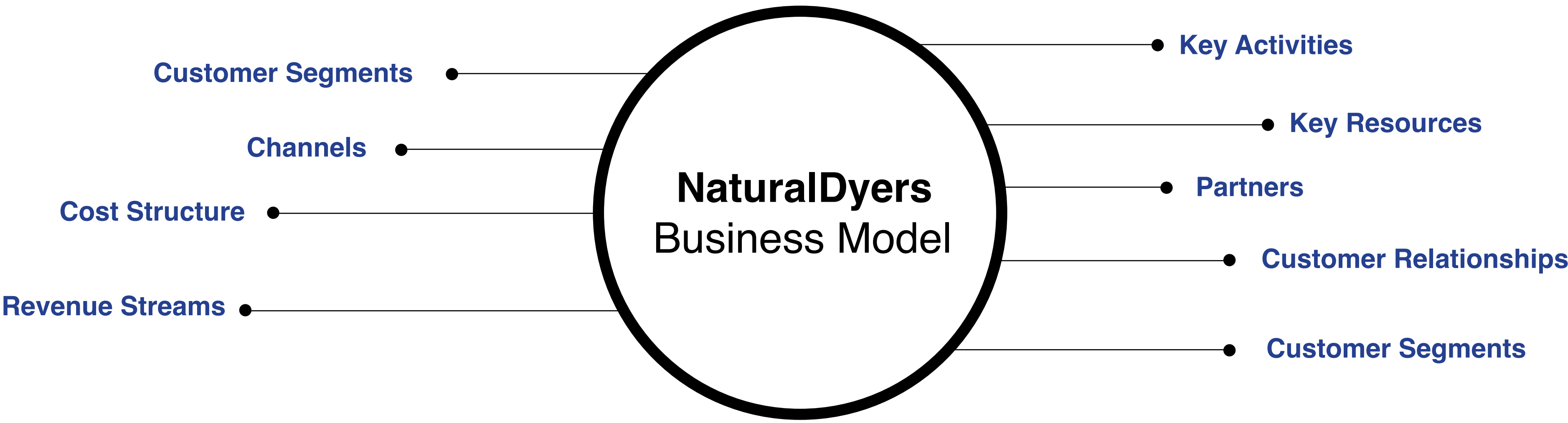
Digital weaving to prepare demonstrative samples of fabrics
Dyeing laboratory to prepare demonstrative samples of colors
Delivery costs between supply-chain and delocalized laboratories for testing references and providing
components related to each order report.



Revenue Streams

- Demonstrative samples of fabrics on own patterns (5 tokens)
- Demonstrative samples of colors on available yarns (2 tokens)
- Online fabric order reports on moq 5 / 25 mt.
- Online items order reports on moq 1 / 24 Pz.
- Online fee transactions on 8% (Fiat exchange)

B2B fabric order reports represent the first revenue with private marginality, in order to share 5% on commercial tokens to involved supply-chain / Additional services are activated by tokens on a SaaS formula dedicated to the implementation of the tool components needed to personalize fabrics and demonstrative samples purchases such as yarns, fabrics, items / D2C item order reports represent the second revenue with 8% of the fixed fee on tokens transaction / Additional services are related the packaging personalization and recycling process on second-hand prototyped items.



Business Model B2B

Custom	Royalties on production volume	percentage 3%	percentage 3%	percentage 3%	percentage 3%
Smart	Quotes on sales volume	Quote 5%	Quote 5%	Quote 5%	Quote 5%
Municipalities	spinners	Weavers	Designers	Dye-works	Farmers
FREE	BASIC	BUSINESS	CUSTOM	NATURALDYER	FINGERPRINT
<div>Yarns samples sale</div> <div>↓</div> <div>Skein 100 grams cone 500 grams</div> <div>Fabric sample</div> <div>Threads samples</div> <div>↓</div> <div>customized folder catalog</div>	<div>upload now yarns catalog</div> <div>upgrade your catalog with new natural colors</div>	<div>upload new weaving textures for fabric sampling</div> <div>upload new warps for fabrics production</div>	<div>upload your draw or old textile to make it biodegeradable</div> <div>upgrade your tool with new natural colors</div>	<div>upload dye-works</div> <div>upload new natural colors</div>	<div>upload natural pigments</div> <div>upload native wools</div> <div>upload plant fibres</div> <div>Loan for use of plant by remote controlled retting system</div>



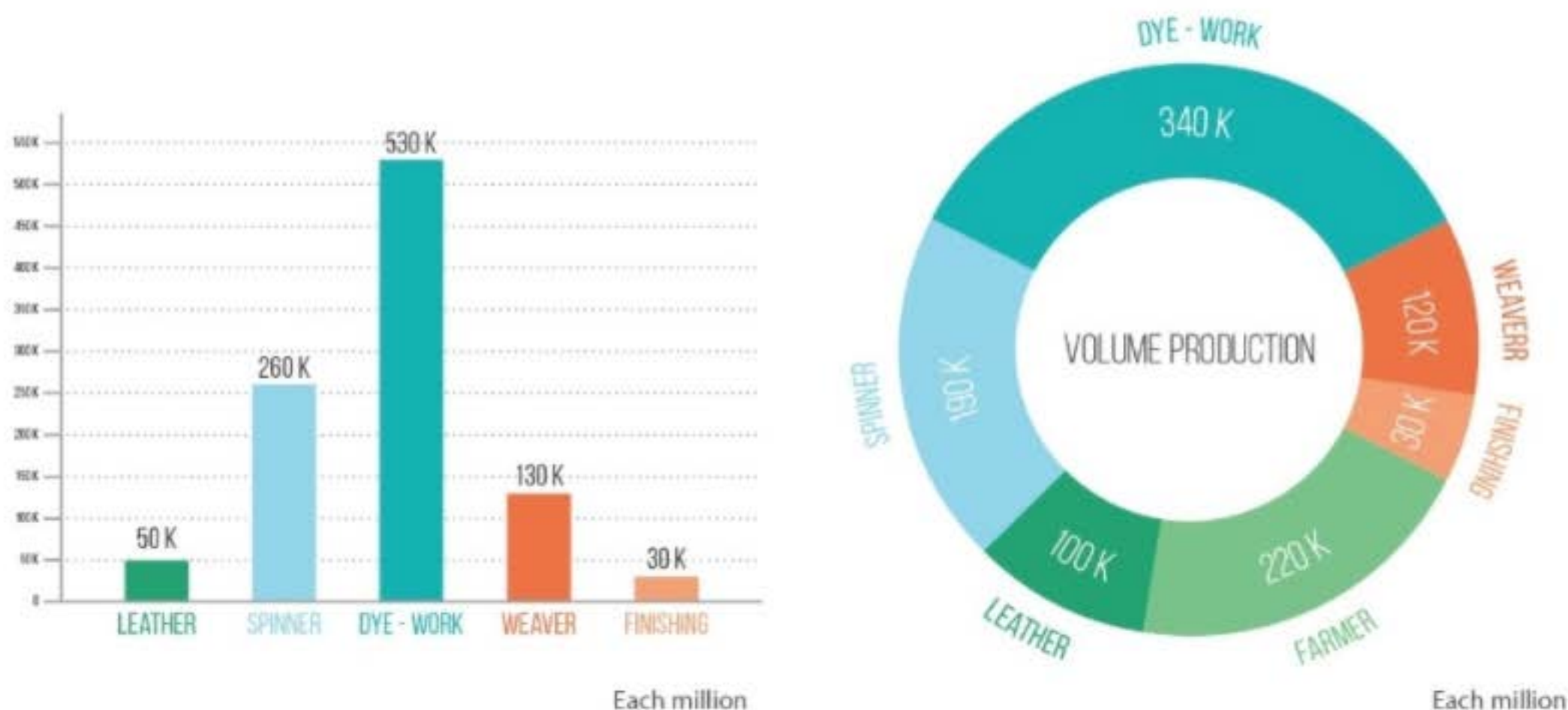
Business Model D2C

Business Model Canvas D2C			Designed by: Massimiliano Merlicco	Version: 1.0	Date: 17/01
Key Partners	Key Activities	Value Propositions	Customer Relationship	Customer Segments	
Famers Spinners Weavers Designers	testing natural pigments to be offered on the digital tool	Certified data to divulge new exclusive Bio based Blends to be offered to positioned Brands	digital tool to manage availability of raw materials by tokens transaction	Professional consumers	
	Key Resources		Channels		
	Pilot plants				
Cost Structure			Revenue Streams		
The territorial Pilot plants are connected with software that works as a digital Hub able to integrate players such as spinners and weavers in sampling procedures managed by prototyping laboratories in order to be activated by specific smart contracts.			<ul style="list-style-type: none">- Tokens by natural colors to be activated on the tool;- Tokens by new samples of natural fabrics to upgrade catalog;- Tokens by new samples of bio blends to upgrade catalog;- Fee on items sales volume by designers transactions;- Tokens by loan for use of pilot plants to registered farmers.		

THE MODEL OF CIRCULAR ECONOMY NATURALDYERS

Circular Economy is the term used to define an economic system designed to be able to regenerate itself. The circular economy takes its cue from the non-linear feedback mechanisms that characterize living systems and assumes that economic systems must function like organisms, in which nutrients are processed and used, to then be reintroduced into both the biological and technical cycle. . Hence the recurring concept, in the context of the circular economy, of “closed cycle” or “regenerative”. A product that manages to be modular, versatile, and able to adapt is a product that manages to fully exploit the potential offered by the Circular Economy, and modularity, versatility, and adaptability are to be privileged in a world in uncertain and fast evolution.

Having as a goal a system that is based on the circular economy, we should focus on creating garments that are developed to be then updated, which are durable and repairable, considering strategies such as sustainable design.



Benefits for India

Textile has played a significant role in the Evolution of Humankind, and also one of the first industries that adapted to the first industrial revolution was the textile sector.

- India is a land of rich natural resources but with the wrong administration over the past has impacted biodiversity and damaged badly. The overuse of chemicals and synthetics are making things worse than ever. Concern about the environment among consumers in India has been growing in recent years, and more and more people are interested in buying green options for regular products. An eco-label identifies the general environmental performance of a product spanning its entire textile supply chain and contributes to consumer safety and reducing the environmental impact, thereby supporting sustainable textile consumption patterns. Naturaldyers offers an eco friendly solution by using biodegradable fiber and natural colors on a technically advanced platform.
- Naturaldyers aims to connect the Indian ecosystem with the world, creating new jobs for the Indian workforce boosting the economy
- By implementing the Pilot plant in India , we will directly connect farmers and prosumers to have access to dynamic data that is generated in different environmental conditions which will add great value to the textile industry. The total profit will be shared equally between all the players on the basis of the value generated in the ecosystem.
- Naturaldyers is an advanced focused solution to fight against plastic and other harmful components that degrade the environment
- The NaturalDyers web portal becomes a bridge to integrate small handcrafting artisans with a fashion system.
- Designers and freelancers promote products and services related to each small user's styling and technical requirements.
- The formation of textile parks helps India gather a more significant share of the apparel and textile export trade.
- Naturaldyers are promoting women's empowerment by providing a mutual platform to uplift society by participating.
- Naturaldyers is dedicated to worldwide farmers to support them in this delicate transition needed to protect nations and their ecosystem.
- Sharing profits with everyone and eliminating intermediaries from the whole natuladyers ecosystem.



SWOT ANALYSIS

INTERNAL	POSITIVE	NEGATIVE
	<div>Strengths</div> <div><ul style="list-style-type: none">• Total chain control and distribution of raw material of absolute quality in line with the principles of Carbon footprint• The pilot plant ensures to prepare raw materials as retted or directly extracted by dyeing bath in the specific module• Growing demand of biodegradable materials• Growing demand of traceability and transparency of data• Strong sustainability of the reference market for eco-sustainability and organic products• Natural coloring process “Natural Dyers certified” as the first and unique in the world• recycling process on selected prototyped items to ensure sanitation by over dyeing services• Biodegradable natural colors to be activated on the digital tool by decentralized tokens• Realization of a controlled fiber maceration system and the consequent algae cultivation for the ex traction of new natural dyes.• Growing number of active players as for potential partnership potential technology partners involved in bio-based colors• NO WASTE technology• Testing and monitoring of available raw materials in order to certify needed protocol to be standardized industrial production• Recycling process by over dyeing services• The digital format guarantees the tracking of raw materials subjected to add value provided by small business users such as designers, whose ability and creativity increase value to end-product created by using mentioned raw materials.</div> <div><p>Open Sourcing dynamic data performances about new raw materials such as native wools, natural pigments and fibres;</p></div> <div><ul style="list-style-type: none">• Expertise and know-how of the entrepreneur in the textile industry sector• Mass production and customisation of biodegradable yarns and fabrics at lower costs• Automation of the entire supply-chain from farmers-to-consumers (B2B and B2C)• Traceability and transparency from fiber-to-consumers• Avoiding time down machinery in supply-chain by rationalizing stocks• Totally outsourced production structure, which allows a significant reduction in fixed structure costs• Warp-chain optimization for avoiding stop machinery and increasing margins• Demonstrative Inventory of personalised yarns and fabrics• Greater efficiency and cost savings• Prototyping laboratory dedicated to test small and flexible quantities to ensure certified procedures to brands• ZeroWaterWastes solution• Eco-sustainable certification along the entire supply-chain• Secure brands against counterfeits</div> <div><p>GROWING DEMAND FROM SMALL FARMERS TO TEST THEIR PRODUCTS IN COMPLEMENTARY CHAINS THAT FAVOR GREATER PROFITS</p></div> <div><ul style="list-style-type: none">• Prototyping laboratory dedicated to test small and flexible quantities to ensure certified procedures to industrial facilities by verifying qualities and technical requirements;• Protocolled standardized procedures for offering suitable plant fibres to Spinner-mills in order to ensure samples production on minimum quantities in line with their available services;• Dynamic data by sensors connected with prototyping modules machineries;• Ecologically compatible environment products subjected to recycling process by over dyeing services and subsequent sanitation of customized ones;• Innovative solutions about Zero water wastes;• Management of agri-food wastes for evaluating patentability of zero wastes technology;• At each recycling process the product is placed on the market at a lower cost in order to reach a wider target of final consumers currently with a GDP less than 45k;• Strong sustainability of the reference market for eco-sustainability and organic products; mostly about traceability and availability of biodegradable textiles;• Total chain control and distribution of raw materials and agri-food wastes in line with the principles of Carbon footprint and zero water wastes;• Interesting link between various territories for evaluating quality assurance;• The pilot plant provides for maceration, allows to identify the</div>	<div>Weaknesses</div> <div><ul style="list-style-type: none">• Reputation is still to be developed for promoting certified label• Delivery of raw materials as NOT Scratched or extracted pigments• Dyeing plant, extracts and other matrix to promote tested and defined chromatic recipes to be subjected to each blend for promoting infinitesimal color nuances and standardized pal ette dedicated to business cus tomers who demand about exclusivity for add value to their Brand identity• Analysed Dynamic Data about treatment and fermentation of waters and other organic and inorganic properties ;• Team needs the entry of new members with complementary skills• Low availability of funds to support the communication campaign and further developments;• Availability of raw materials in nearest countries (implementation of local harvesting areas);• Multichannel communication and fragmented market;<ul style="list-style-type: none">• Availability of raw materials in nearest countries (implementation of local harvesting areas);• Fermentation process to be developed by comparing Data with other laboratories</div>



E X T E R N A L	micromanage suitable for the technical specifications of the yarns already distributed	involved in Mushrooms and algae
	<p>Opportunities</p> <p>FUNDAMENTAL THE POSSIBILITY OF REALIZING EXCLUSIVE BIO BLENDS ALLOWS THE DISCLOSURE OF A GLOBAL BRAND OWNED BY INVESTORS IN ICO !!!!</p> <p>How were the myths of Prada and Gucci etc born? With lead products !!!! The same method of NDS to propose to freelancers to develop their own brand identity online and directly obtain profits.</p> <p>Publish page five so as to put together the middle ground that no longer wants corruption and product forgery!</p> <ul style="list-style-type: none">• Growing demand of “second-hand” products as linear recycling process• Infinite chromatic nuances related to each percentage of raw materials that compose the bio based blend<ul style="list-style-type: none">• Possibility to online purchase low-priced demonstrative samples for the promotion of natural pigments and new bio-based fibres;• Absence of a direct competitor on the market;• A certified label divulges eco-sustainability principles to add value to customized biodegradable collections;• The implementation of a virtual atelier provides suitable technology for traditional ateliers and specialized retailers in order to divulge their creations by avoiding IT investment and communication campaigns, by joining in global brand that ensures visibility and promotion with a label of Naturaldyers certification;• Be a link between various organizations on the ground• Strong and daily collaboration with design studios and dyeing laboratories• Just in time offer for divulging demonstrative collections, 1 week timeline delivery;• On demand services about sampling on specific chromatic recipes to identify new colors to be verified on customized blends, 2 weeks timing delivery;• Hub service for online registration of available products and services provided by textile value-chain, 1 week timing delivery of yarn catalog, looms textures and raw materials samples on 1 kilo;.• Prototyping laboratory provide customized samples OF COLORS on moq 1 kilo, 2 weeks timing delivery;• Digital weaving laboratory provide customized patterns of demonstrative samples OF fabrics on moq 1 meter, 2 weeks timing delivery;• The digital customizer collects online order reports reserved by professional users to rationalize consumption and production of requested items, 6/8 weeks timing delivery;• Lead products showed in a smart app for ensuring recycling process on moq 1 dedicated to prosumers, 2 weeks timing delivery;• To be the main partner of public and government sector organizations and of a broader municipality interested in evaluating profit sharing to the extent of 3% in reference to the distribution of territorial pilot plants capable of collecting discarded clothing for their recycling and new marketing to less economically capable users.	<p>Threats</p> <ul style="list-style-type: none">• One of the direct competitors extends its value proposition to supply-chain manufacturing integration to improve production planning, and mass customisation of biodegradable textiles• Key raw materials stocks are geographically dispersed and needed to be transformed for delivery costs optimization



THE BENEFIT OF THE PILOT PLANT FOR THE TRACKING OF THE ORGANIC AND INORGANIC COMPONENTS PRESENT IN THE WASTEWATER AFTER THE TREATMENT OF THE PLANTS AND OF SOME AGRO-FOOD WASTE FOR THE IDENTIFICATION OF THE GLUES AND POLYPHENOLS PRESENT FOR EXAMPLE IN HEMP. THE DATA OBTAINED WILL BE OFFERED TO THE SECTORS RELATED TO BIO-MEDICAL AND BIO-COSMETICS INCREASE IN THE PRICE OF RECYCLING OPERATIONS AND INCREASE COST OF NATURAL RESOURCES (WATER), FOOD / RAW MATERIALS (GLOBALIZATION WAR AND CENTRAL BANK PROBLEMS)

- New economic model for involving farmers and consumers community interested to evaluate alternative methods for investing in new crops and tokens related to the raw materials needed to ensure eco sustainable products and recycling services to adding value to second hand-products;
- Prototyping laboratory dedicated to test small and flexible quantities to ensure certified procedures to industrial facilities by verifying qualities and technical requirements;
- Increasing demand for organic textiles
- Increasing demand of consumers for personalised products
- Pandemic make difficult to have direct contacts between players and this will change permanently the way to market
- Supply-side value-chain of the textiles industry is highly fragmented, with difficulties in planning and scalable production of biodegradable material and produce bio-based yarns
- Demand for verticalization and organisation of the emerging bio-textile market
- Brand reputation by divulging color personalization on end-products
- Local harvesting areas ,managed by NPO to involve community in ICO
 - Loan for use of removing modules for services dedicated to small farmers;
 - Actually, it doesn't exist a pilot plant able to provide testing on small quantities of bio based textile components and products;
 - On demand services for Farmers interested to evaluate new crops and financial sources about needed investments by identifying open sourcing data, by getting water treatments on the field;
 - New job opportunities in depressed areas to limit the flow of illegal workers;
 - Promoting new exclusive bio blends to add value to each Brand identity;
 - Realization of a controlled fiber maceration system and the consequent algae and mushrooms analysis for the testing process of new
 - natural dyes;



Execution

PUBLIC BLOCKCHAIN

Blockchain is a decentralized, distributed ledger that stores transactions sequentially. It is essentially a database that is shared across a public or private network. This database only allows you to add to it but not modify anything after it is posted.

It can provide a peer-to-peer network that does not involve any intermediaries or governing authorities. There are many things blockchain technology can be used for. It can build a chain of ownership or authenticity because its data can not be changed or corrupted.

This provides a totally transparent and fraud protected system. Relevance in the Fashion Industry: The fashion industry is overcome with fraudulent products and unethical supply chain practices.

Transparency in fashion is practically non-existent. Many people do not know where the products they are buying truly come from or what they are actually made of. Blockchain could allow customers to review every step of the production process. This will allow the industry to be transparent, authentic, and ethical. It will also allow consumers a more personalized experience.

Blockchain will also be a way of dealing with the surplus of counterfeit products. Supply Chain Transparency: Blockchain can create a sustainable and transparent supply chain. With blockchain, brands can create a digital token attached to each garment that creates a digital history of each taken in the

production process. Being able to record each step, location, and time of a product will open a variety of new products to brands in consumers.

This will allow brands to ensure their suppliers are actually maintaining ethical practices. Suppliers will be unable to change any unethical practice. It will also give customers more insight into what they are purchasing. Product Authentication: With the implementation of a transparent supply chain, it will be very easy to ensure that products purchased are authentic.

Blockchain creates a unique digital ID to each product that cannot be altered or replicated thus preventing any duplication. This will also allow brands to track and authenticate their products at each step of the production process.



Competitors

Direct Competitors

Direct competitors are emerging startups involved in the manufacturing process and online personalization. The Naturaldyers format is pioneering as attested by the Seal Of Excellence officialized by the EU commission of experts, therefore, at the moment, there is no competitor able to offer mass customization through design digital within a digital workshop.

The growing invasion of incubators and accelerators for startups are however pursuing the common and declared objective of verifying and controlling natural resources to share transparent data on manufacturing procedures in order to manage the control of the production and distribution of new patterns. colors and yarns, indispensable tools for building your own brand identity and conquering market shares.

In this challenge, ND proposes itself as a breakwater to convert a centralized system that stifles the creativity of small designers hired as freelancers and small artisans to whom ridiculous margins are reduced in exchange for high prestige manufacturing processes with hourly wages below the limits of law in many areas of the world such as Congo, Indonesia, Vietnam, Bangladesh, India and in some European areas such as Italy and Greece.

Indirect Competitors

Direct competitors are emerging startups involved in the manufacturing process and online personalization. The indirect competitors are represented by large retailer marketplaces such as Zalando, ETSY, and Amazon, which are establishing themselves on the market to manage the entire retail segment, which in recent years has sold to new concept stores, such as showrooms and fashion ateliers to counter the growing number of franchising activities financed by large monopoly groups and international brands compromised with the globalist and standardized creative and production level of the countries of Southeast Asia, with which large financial groups have made a snack to monitor and circumvent the spending habits of the world population.

Market Potential

Big players are promoting online personalization related to each one brand identity.

Potential Competitors

Potential Competitors became partners by connecting their websites with NaturalDyers digital tool for creating new capsule collections dedicated to a zero waste technology implemented thanks to the support of the entire community involved in the textile value chain.



Market

We have tested the technology and we have a solid technical development plan to complete the innovation and then demonstrate the pilot solution in an operational environment with the engagement of our technology and business partners. All the stakeholders of the value-chain have confirmed their interest and commitment to become part of the NaturalDyer association and we have already a few customers and prospects. Our Business Plan also confirms that this is a solid and profitable business and the estimated payback period is 2,5 years. From the environmental and socio-economic point of view the EU and society at large pressure to have solutions that can accelerate the transition of the textile and fashion industry towards a more eco-sustainable approach to production, based on the circular economy and with a low environmental impact, like the one at the basis of the NaturalDyer mission and plans.

Emerging artisan workshops, designers, boutique retailers, and many SME who serve a growing niche market for bio-based products have difficulty organizing themselves in a market that is either dominated by 'Big Retail' verticals, or around 'Haute Couture' district clusters. The NaturalDyer business model will disrupt the textile bio-based market by shifting to democratization and distributed production automation of the sector, removing traditional barriers to entry and creating new value where smaller players can compete, while industrializing the production of biodegradable textile material based on bio-fibers and bio-dyes.



MARKETING PLAN

20k dedicated to equipment of digital weaving focused on testing of new demonstrative samples related to registered product and services provided by supply-chain: this investment allows showing demonstrative samples such as yarns, fabrics, items in an outlet webpage so as to offer moq 1 on tested samples to be verified as tactile basis needed to support online digital design.

Related purchases are validated by free users interested to register with two distinct profiles, Designers as business users to get first free promo amount of 100 tokens in order to personalize folder catalog as ICO investment or Professionals as free users to get first free promo amount of 50 tokens in order to personalize packaging as ICO investment / 30k dedicated to test prototyping laboratory colors on available yarns in order to allow business users such as Designers implementing the tool of components integrated with the fabric customizer to be connected to each prototyped item: this investments allows to get tokens transaction needed to increase the variables of personalization dedicated to free users such as Professionals / 50k dedicated to the digital marketing dedicated to first validated 100 business users to be growth as 1000 users in the first testing year 2021: this investment allows to validate metrics related prototyped items proposal in a common virtual sales area integrated with fabric customizer.



STEPS PLANNED TO TAKE INNOVATION TO THE MARKET

Migrate the existing MVP on blockchain technology for providing digital wallets on cryptocurrency

The old technology (Jacq3G by AVL Looms Inc.) unable to connect via web-based applications, to the most recent technology (Compu-Dobby 5 / Jacq4G by AVL Looms Inc.) that has built-in web-based controls. The loom controls are done through a browser compatible page. The main aspect is related to the testing procedures of the most suitable micromanage of new bio blends in line with the performance required by business customers

To complete the development of the Digital e-workshop and integrate it with the new digital loom. The project only needs to develop the API to manage the controls from the NaturalDyer web platform to the prototyping laboratory in order to manage dynamic data. The method has been compared with Powerloom organization in India, where a wide range of skills and knowledge can be promoted by the Naturaldyers digital workshop. AVL-NaturalDyers partnerships will guarantee the time-to-market. Thanks to the integration with the technology of the most recent loom, the project will be in the position to work on a custom loom developed on mechatronic technology so as to offer sampling and production on the same machinery by offering online sampling procedures on moq 1 mt.

Fully complete the development of the NaturalDyer Digital e.workshop reaching the capacity to handle the full value chain, from farmers to designers and textile agents, and connected components of the system (i.e. Retting System/Farm IoT, Manual Weaving process integration, Textile CAD, etc). This will allow the final NaturalDyer prototype to be ready for demonstration in an operational environment.

Set-up and manage large-scale demonstration pilots to be able to deliver the fully-ready market version of the product, working in partnerships with FBK in Trento. Our partners developed mechatronic technology in a specific Prom facility to support implementation on digitization of manufacturing processes. The large-scale pilots will demonstrate the validity of the business model with the final users and will demonstrate the whole supply chain starting from selected agricultural wastes to be worked by the prototyping laboratory based in Biella, Italy, where the team will select the plant fibers in order to test bio certified blends to be divulged on a specific digital tool able to activate new colors by SaaS formula on cryptocurrency. The natural chromatic recipes will be implemented with Mushrooms and some algae matrices for ensuring standardized production of natural pigments and subsequent divulgation of natural dyeing technology in partnership with Dakota. The demonstration phase in the operational environment will involve a small size remote controlled retting system, as well as the integration of the existing small size plotting area and, will deliver sample production.

Start and complete the certification of the production process and of each raw material. The project aims to develop certification procedures on selected raw materials in order to provide assurance across the value chain (similar to organic and fair-trade certification for example for the coffee market).

To gain control of the market and raw materials availability and provenance by certifying a protocol needed to subject selected bio blends to local industrial spinner-mills. In order to guarantee the process certification and subsequent promotion of a certified label dedicated to stakeholders, ND will establish partnership relations with local research & development centers in each territorial harvesting area, in order to develop and implement each resource according to the characterization of the territory.



TARGET

Small business users such as students, interior designers, and fashion stylists, ateliers and converters, tailors and upholsters, artisans, and makers. The connected consumer's target is represented by high-level professional users and prosumers, an emergent category that demands personalization, eco-sustainability principles, traceability, and transparency of data related to manufacturing procedures.



TRACTION

In 2018, the feasibility study was promoted by the SME Instruments program with a significant mark of excellence, during the testing and benchmarking phase between 2017 and 2019, it highlighted a growing demand for eco-compatible materials and certified data relating to the traceability of products and the transparency of services.



FASHION SYSTEM

Fashion and textile industry Standardized on high minimum quantities related to sampling procedures of fabrics and poor proposal of biodegradable materials.

Fast fashion systems close access to marginality and visibility.

Social Impact

After the pandemic situation, people around the world suffered loss mentally and financially. Significant losses have provoked the middle class and lower-class to dive into the pool of debts, thus creating an adverse impact on the working class. Naturaldyers provides an efficient system to upgrade their work skills and passion for textile. It offers equal profit sharing with every person according to its value addition.

Economic Impact

We expect to carry out a testing year on the first million revenue by getting in contact with active business customers.

The in-depth analysis of the textile market in the post covid situation has shown the opportunity to integrate the software with a specific pilot plant to communicate dynamic data about raw materials transformation.

Naturaldyers provide online users with all information needed to create their label identity to create their brand with apparent transparency and traceability to get a real value.

Potential Market Impact

The in-depth analysis about the textile market in post covid situation has shown the opportunity to integrate the software with a specific pilot plant able to communicate dynamic data about raw materials transformation, to give to online users all info needed to create their label identity (Global brand Naturaldyers) with evident transparency and traceability method that ensure to get a real value of our token.

- The NDS token can be integrated with a national crypto value because we can ensure a growing value of the token in line with territorial excellence subjected to Natrualdyers technology.
- The small business users and positioned big brands can integrate digital customizers as API to their websites to evaluate new biodegradable yarns and colors needed to personalize luxury brands' lead products.



How

The established Spin-Off is able to test small sizes of local high-standard raw materials to be subjected to the Natural Dyeing technology.

WHEN

The ICO is promoted at <https://www.hyperledger.org/use/fabric> in order to ensure sharing 5% of profits on to the production volume related to each supplier and provider. The format allows rationalizing 3% on sales volume generated by related Zip areas.

WHERE

The ICO aims to establish specific NPO in each involved territorial harvesting area in order to guarantee a certified protocol needed to standardize the tested bio blends by local Spinner-mills.



ICO Participation

The community's participation in the crowdfundering program allows each individual person to have the intellectual property of the process certification and of the technology developed by us in the modular laboratory so that every single component can be offered to the players participating in the program.

The Naturaldyers project follows the general objectives:

Contributing to the transition to a resource-efficient economy with lower carbon emissions and resilient to climate change, contributing to the protection and improvement of the quality of the environment and to the interruption and reversal of the process of biodiversity and combating the degradation of ecosystems, Improve the development, implementation and application of the Union's environmental and climate policy, and catalyze and promote the integration and dissemination of environmental and climate objectives in other EU policies, also by increasing their capacity, Better support environmental and climate governance at all levels, including greater participation of civil society and local actors.

The textile industry is one of the most profitable and, at the same time, polluting of the Earth. It produces an annual turnover of 1,500 billion euros and over a billion clothes a year. It is a sector with high water consumption, high CO2 emissions and produces a large amount of waste. For the production of clothes in 2015, the fashion industry consumed about 80 billion cubic meters of water, emitted over one million tons of CO2 and produced 92 million tons of wastes.

The current textile model based on the principles of 'linear' economics and on the thrust towards exaggerated consumption (fast fashion) contributes, in a significant way to the ecological footprint of man on earth; it pollutes the planet and consumes its resources naturally. We need to provide a new ecologically oriented production approach capable of embracing a concept of sustainability at 360° which includes ecological, social and economic aspects.

Our eco-textile reality promotes the need for sustainability in the fashion sector, we offer a precise and clear choice of field that replaces synthetic fibers with natural ones. Next to organic cotton, which has a much lower ecological impact than the traditional one, our products are innovative and more eco-sustainable natural fibers, such as hemp, flax, nettle, algae-derived fibers, bamboo, eucalyptus, beech wood, waste from the agricultural supply chain such as orange peel etc, and on the use of mordanting substances and non-toxic dyes of certified vegetable origin. The plants from which natural fibers are obtained are renewable resources, allow a high yield, do not require chemicals or artificial irrigation for their growth and give durability and biodegradability to the fibers they produce. We make our own the concept of integral sustainability, of circular economy and we demonstrate it through the promotion of sustainable agricultural development, the valorisation of wastes as a valuable productive resources.

Sustainability is not achieved only through the careful selection of natural and recycled fibers but attention is also paid to the processes of fiber extraction and tissue production, mainly mechanical and closed-cycle, and also using renewable energy sources through a management protocol integrated supply chain. Our eco-sustainable textile enhances the work of artisans and local communities, favoring a transparent supply chain



The development of ecologically virtuous agricultural and textile companies helps to correct the offer of the fashion sector, directing it towards greater sustainability, but this is not enough because it is necessary that consumers also support this reality by making informed purchasing choices. This is why our portal is born and the activities of promotion and awareness of users.

The project proposes to replace the linear model with that of the circular economy, in which waste is limited, reused and transformed by a problem to be disposed of as a resource. The new approach involves four basic steps: the use of non-polluting materials already at the beginning of the supply chain to prevent the escape of microfibres in the oceans; focus on quality to extend the life of the garments, considering the way they are designed and marketed; supporting the issue of re-use and recycling; improve a more efficient use of resources and renewable energies.

NaturalDyers promises to break the traditional value chain and relational structures to address the important challenges faced by the industry 4.0.



ICO Summary

ND is a digital company that develops a digital Hub capable of registering the products and services available at the textile industries in order to be activated on a component tool present on a graphic simulator to allow the choice of yarns and loom textures and of the most suitable yarns to evaluate new weights and heights of the fabrics necessary for the realization of a finished product.

The web portal allows anyone who is able to design a fabric, to display the prototyped garment in a virtual sales area integrated with a textile graphic simulator that allows the garment to be customized by selecting new colors.

The business model offers business users new colors tested on the available yarns and new prototyped patterns on the textures available on the loom, in order to disseminate demonstrative fabric samples as a physical reference capable of validating the delivery of s produced by the weaving, collecting via the web the customized order reports from online users, offering the possibility of varying the wefts of the fabric on a predefined warp.

The revenues are obtained through the order reports of the customized fabric by the business user by managing the multipliers to manage the transport costs from the spinning mills to the weaving mills depending on the location. The digital format allows offering the customization of biodegradable fabrics by integrating the software to a pilot plant capable of testing small batches of raw material for textile use such as wool and plants to be transformed for the creation of a natural yarn to be dyed with pigments natural products obtained from flowers, berries, algae, bark, and mushrooms.

The development of the natural dyeing technology is guaranteed by a prototype laboratory to be implemented with a closed water system in order to integrate a specific module dedicated to the decontamination of polluting water through the treatment and analysis of wastewater through chemical photo-oxidation.

The engineered system allows the management of different modules dedicated to the enzymatic maceration to remove oxygen of the bast fibers via remote control, to which a new module for washing the macerated fiber can be integrated, to which the dirty wool is added, and thus provide for the restoration of rinsing water. The modules dedicated to maceration and washing are integrated with the water treatment and analysis module in order to obtain a natural yarn to be dyed.

The modules thus conceived allow the conservation of the water to be reused during the recycling process and the relative over-dyeing of the pigment at the end of its life cycle. The plant engineering procedure is implemented in a container to ensure its use directly at farms interested in participating in sharing the profits generated by the volume of sales made via the web by business and public users. Profit-sharing aims to raise awareness in the supply chain so that delivery timelines necessary to meet the needs of online customers are guaranteed.



The realization of the pilot plant allows the drafting of a certification protocol suitable for the standardization of new yarns dyed with natural pigments at the registered spinning mills, in order to involve neighboring dyeing plants to disseminate new exclusive yarns and customized colors.

The main objective is to offer dynamic data shared with business users so that they can design a biodegradable textile product that is certified and available to the recycling protocol by means of pigment over-dyeing and consequent sanitization of the product. The current state of development allows the registration to the portal by farmers interested in delivering natural pigments, in order to allow the test by means of skein dyeing on yarns available in stock at the spinning mills. The implementation of the pilot plant allows the creation of a new unique and exclusive bio blend owned by the community involved.



NDS Token

The tool of components can be upgraded by tokens exchange needed to activate the complete range of available products and services in order to increase the variable of personalization dedicated to free users interested to customize the color of fabric used to create selected items.

Naturaldyers Ecosystem - Naturaldyers ecosystem will be available in each country as per the Government rules and regulations for implementing the best-decentralized ecosystem. All government-approved digital cryptocurrencies will be available for local municipality players.

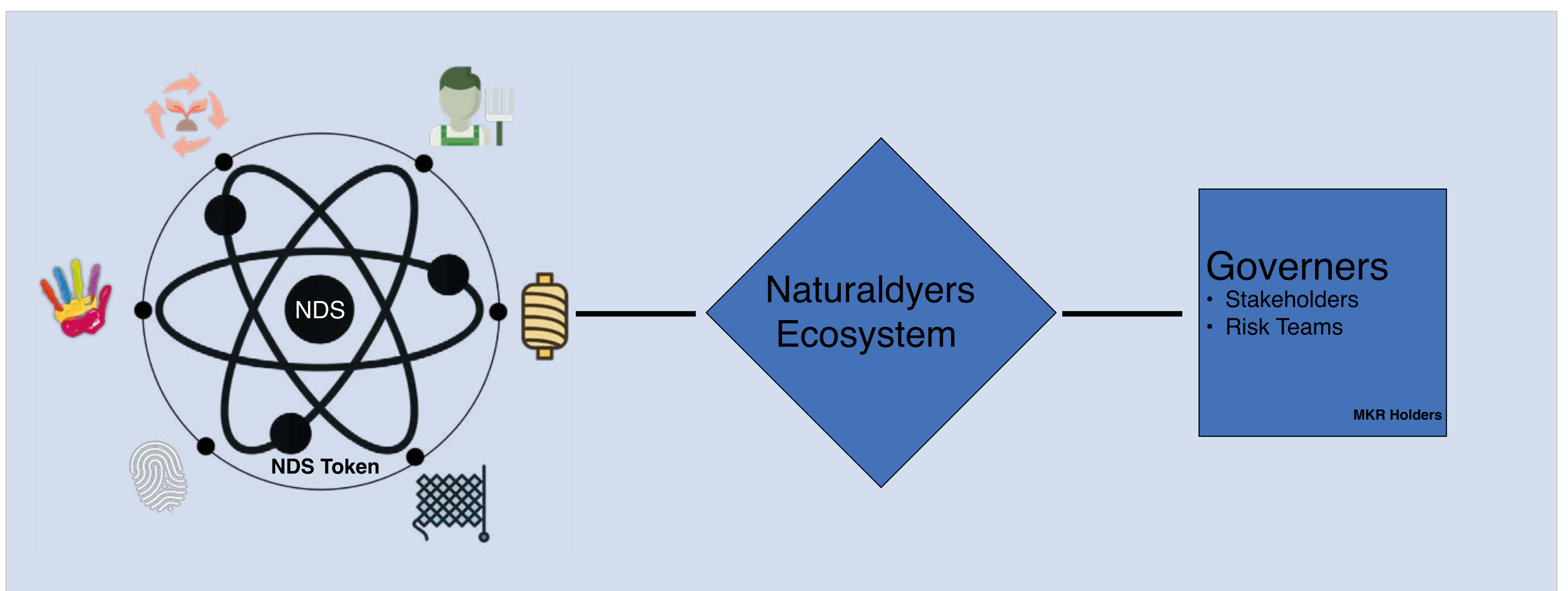
NDS Token – DAI token pegged to US Dollar which will be used by each player of Naturaldyers ecosystem for transactions.

MKR Token – Digital asset which will be distributed among all Naturaldyers stakeholders. It will be created using Ethereum protocol to implement DAO.

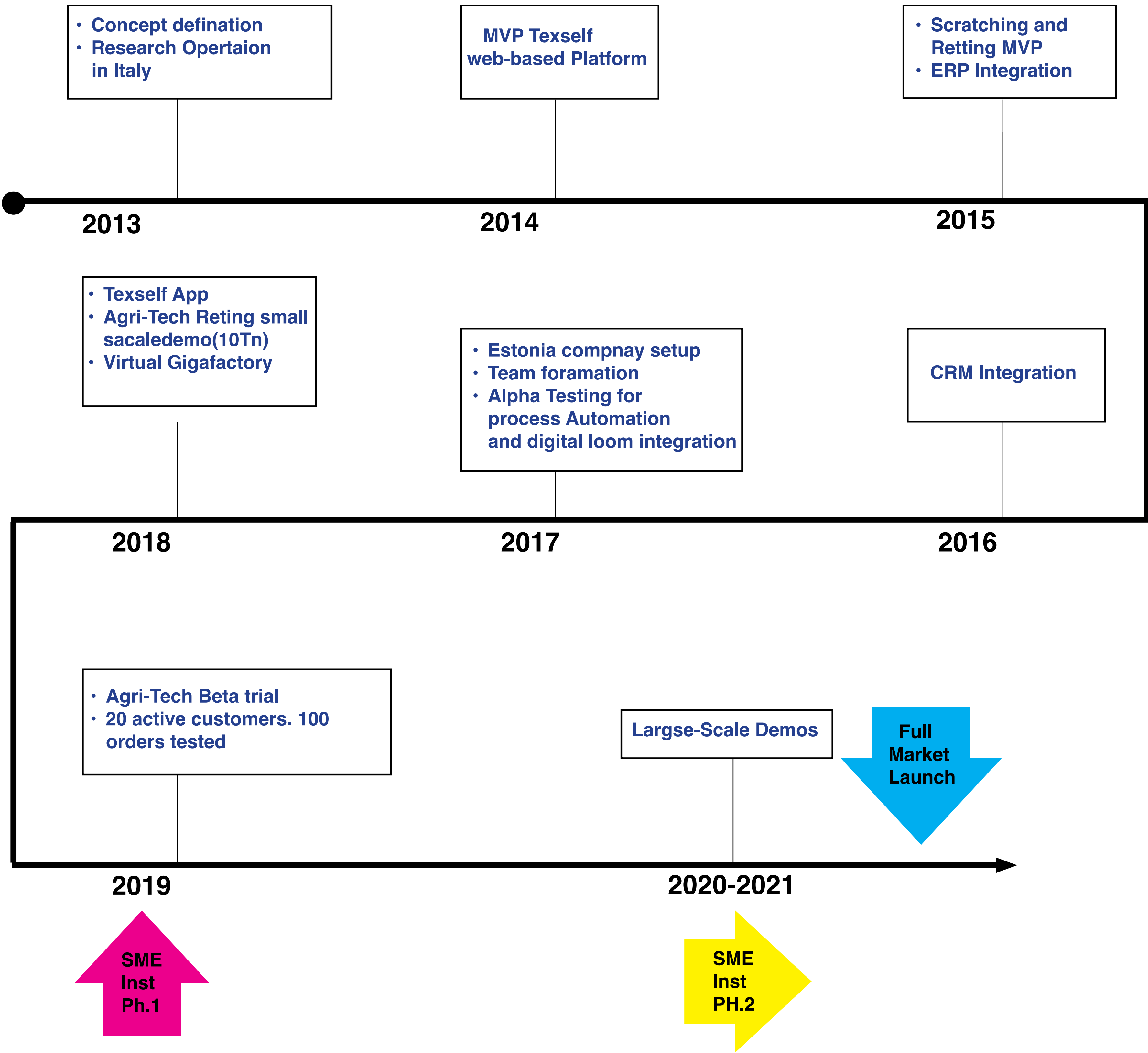
MKR Token Holders – They will be referred to as Naturaldyers platform governors who will Monitor, partake, and vote on upgrades/changes in the DeFi Protocol.

Risk Teams - Collect/compile relevant data and develop risk models, assessed by MKR Holders.

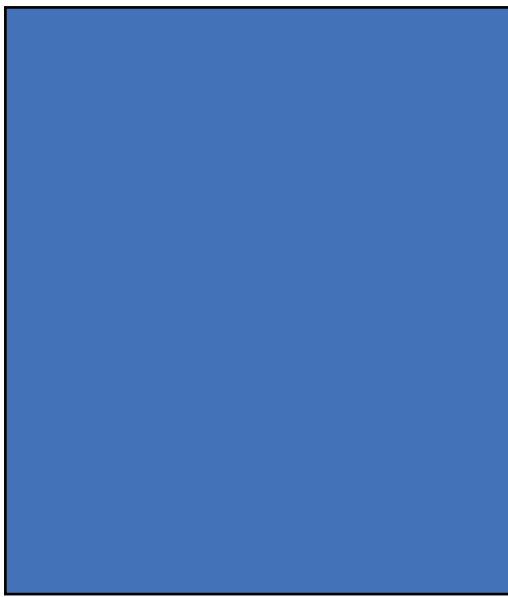
NaturalDyers Ecosystem



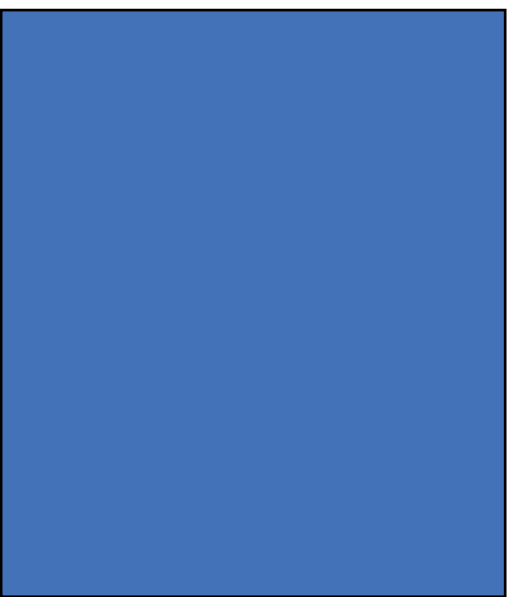
Road Map



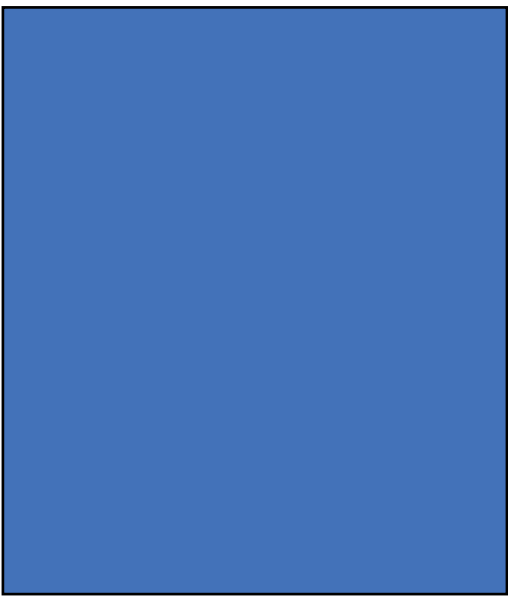
TEAM



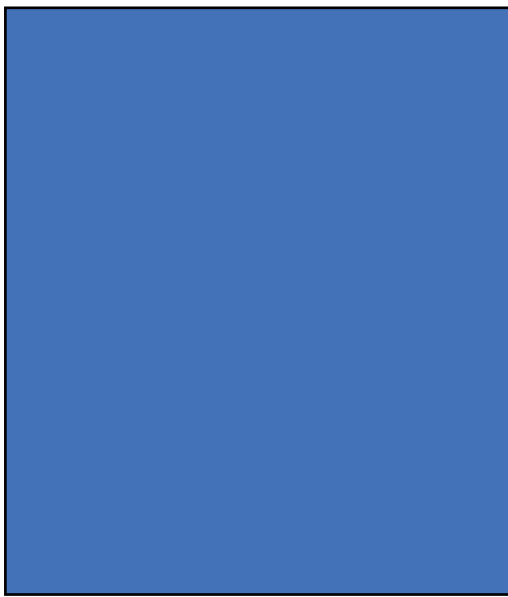
Massimiliano Merlicco
(Founder)



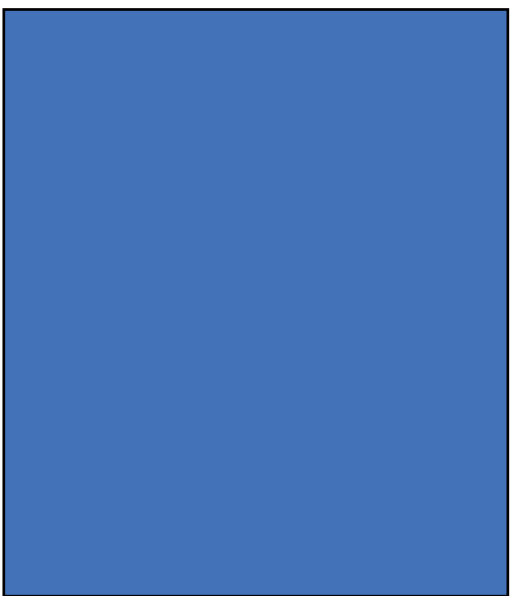
Fabio Consonni
(Expert Surveys)



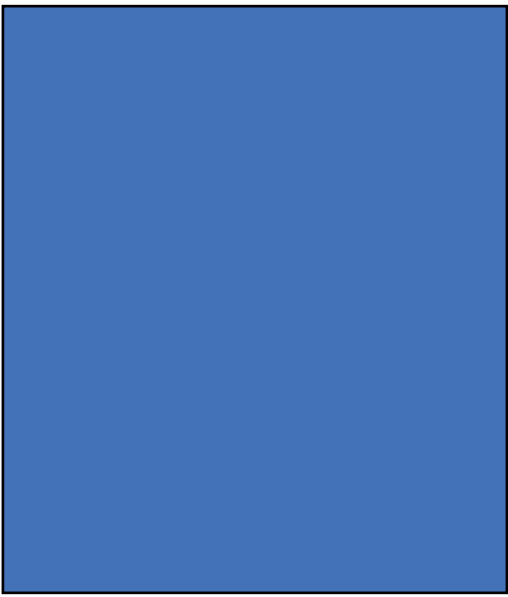
Riccardo Marchello
(Textile Cad)



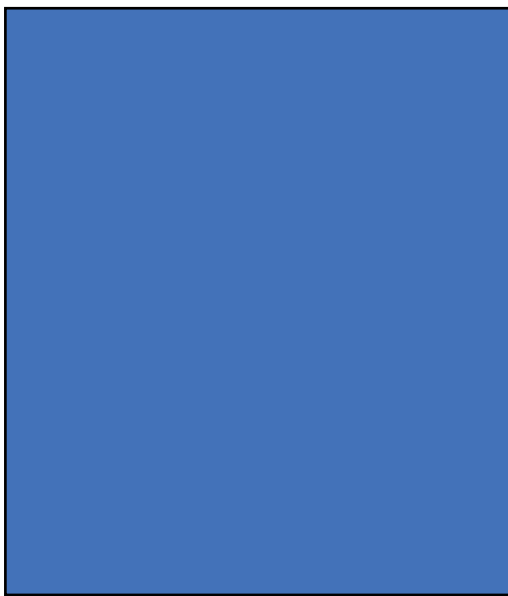
Luca Dal Bello
(Biologist Retting sys)



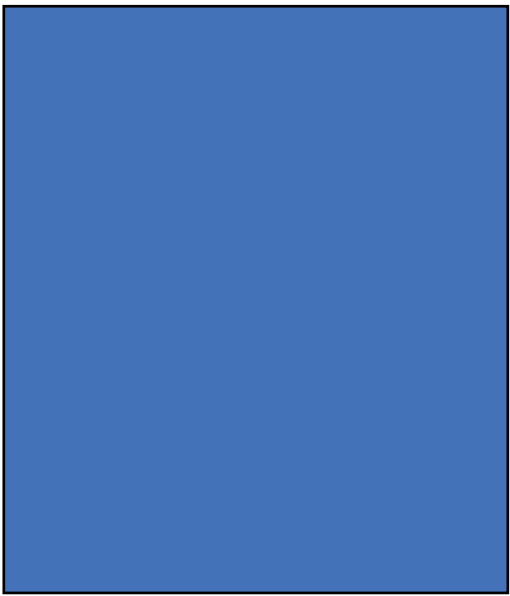
Amber Singh
(Chief Operating officer)



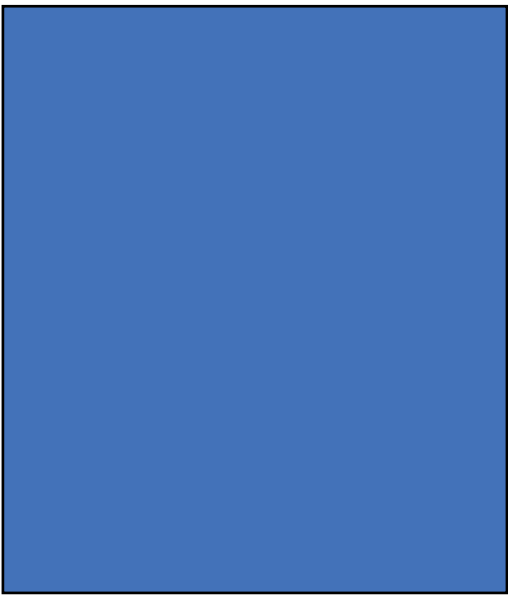
Alberto Pezzin
(chemical engineer)



Bob Kruger
(software integration)



Aditya Kaul
(Chief Marketing Officer)



Nigam Saini
(Chief Technical Officer)



Disclaimer

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