CirTex Corportation - SEED (Fall 2024)

After reviewing your application, click the "Submit" button at either the top or bottom of the page.

Instructions And Eligibility

ELIGIBILITY ☑

Company Information

ELIGIBILITY: INDUSTRY AND COMPANY TYPE	Yes
COMPANY HEADQUARTERS IN NC (Required if all of the company founders do not reside in NC)	N/A - founder resides in NC
COMPANY STRUCTURE	C Corporation
INCORPORATION DATE (if applicable)	10/15/2020
WEBSITE	https://cirtexcorp.com
COMPANY LOCATION: NORTH CAROLINA COUNTY	Mecklenburg
BUSINESS CATEGORY	Cleantech/Greentech
BUSINESS SUB-CATEGORY	Advanced Manufacturing; Textile/Apparel
TARGET MARKET	Textiles
UNIVERSITY AFFILIATION	Contract Research Development

If yes, please list the college or university below.	We've recently started talking to NC State about a product development project. In the past, we've collaborated with Textile Technology Center at Gaston College and used the labs at Manufacturing Solutions Center at Catawba Valley Community College.
ADVISORS	Colene McBeth - Early Stage Startup Advisor - Microsoft Terry Pardue - Finance Advisor - P&G Mehmet Sami - Finance Advisor - Deloitte Marisa Adler - Sustainability - RRS Consultancy Patrick Mullen - Textiles - Stein Fibers
SUPPORTING COMMUNITIES	Launch CLT (formerly known as Launch LKN), Accelerating Circularity Project, Center for Entrepreneurship and Innovation (UNC Charlotte), SBTDC, First Turn Innovations.
PREVIOUS APPLICANT	☐
PREVIOUS PROGRAM OR GRANT	
COMPANY PROGRESS	

Business Details

VIDEO URL (OPTIONAL)	https://www.youtube.com/watch?v=MqBoYPl5hlo
ELEVATOR PITCH	A truck of load of textiles is being burned or landfilled every second; making the textile industry the 3rd biggest contributor of Co2 emissions. This is because the infrastructure for recycling used clothes is non-existent. The textile industry is trying to create a circular solution to address this problem but there are several bottlenecks that are preventing this from becoming a reality. CirTex has figured out a scalable solution for sorting clothes, which is one of the major bottlenecks.
PROBLEM & SOLUTION	
PROBLEM	Fast fashion has made shopping for clothes affordable, but this has come at a detrimental cost to the environment. Staggering growth rates and the subsequent waste generated by its linear take-make-dispose model has made the textile industry one of the most toxic today. It's estimated that 85% of all clothes end up in landfills, incineration centers or directly in our environment. To lower its environmental impact, the industry is attempting to switch from a linear to a circular model where recycling is a key component. Recent developments in chemical recycling have established a reliable pathway for production of virgin grade fibers from used cotton, polyester, and cotton-polyester blended textiles. The recycling capacity using these new technologies is scaling. However, despite these important research developments, a systematic change towards creating circularity where end-of-life apparel can be recycled into new raw materials is still not possible. The problem is the lack of Infrastructure. New chemical recycling technologies require feedstock to have precise fiber contents and to be free of non-textile components. This means that before end-of-life clothes can be chemically recycled, they must be accurately sorted by fiber content and be processed to remove all zippers and buttons. Proper sorting and processing of used clothes is an essential step for chemical textile recycling, yet the infrastructure needed to perform this step is missing entirely.
SOLUTION	CirTex developed an automated, scalable process that streamlines sorting and processing of used clothes to close the gap in textile recycling

infrastructure. Using mixed apparel as inputs, CirTex can recover the recyclable cotton and polyester clothes and process these sorted materials into ready-to-recycle feedstock.

DEFENSIBILITY IN THE MARKETPLACE

While CirTex doesn't have any IP over its process at the moment, it has a clear advantage of being one of the first companies in the market to specialize in sorting used apparels. The company has spent 3 years in R&D and developing a business model that will take potential competitors just as long to get to the place where CirTex has already reached. The company's value proposition is as follows: High Precision Products at Competitive Prices: We're innovation and technology driven. Using sorters with integrated NIR technology, CirTex's automated process efficiently produces outputs with precise fiber contents at scale and at competitive prices compared to old-school companies using a manual approach. Dual Industry Expertise: Our experience, knowledge, and existing relationships in both the apparel and the recycling industries allow us to bridge the gap between the two and meet the needs of both our suppliers and customers. Undivided Focus: Sorting and processing apparel for recycling is CirTex's sole focus and core business. We will be the best-in-business in doing this. Proven Business Model: Our pilots and multistakeholder approach to industry engagement allowed us to secure our first customers both on the supply and the demand sides. These relationships allowed us to secure enough supplies and revenue streams to jump start our business. We're actively engaged with a number of recyclers and brands which places us on a good trajectory for growth moving forward.

PATENT DETAILS

RISK

Competition and market risk (which stems from a slow-developing recycling landscape) are the two major risks that CirTex faces. One of CirTex's competitive advantage lies in its ability to seize opportunities, explore niche markets, and establish a strong foothold in the industry by leveraging its agility and flexibility. While large corporations face challenges in deviating from their established systems and investments, CirTex can capitalize on its smaller scale to meet evolving market demands effectively. The company's ability to react fast to the changing landscape will allow it to compete with potential competitors. To mitigate the market risk, the company has established ties with existing textile recyclers rather than waiting on new generation recyclers to become operational. The company currently works with the largest mechanical textile recycler in N. America and is able to sell its products.

CUSTOMER & MARKET

CUSTOMER DISCOVERY

The founder started the consultation process 2 years before the company was launched when he was still working for the Better Cotton Initiative and lasted for 4 years. After being launched, CirTex became a member of the Accelerating Circularity Project, Textile Exchange and the Sustainable Furnings Council. Through its engagement with these multi stakeholder platforms, CirTex became aware of all the bottlenecks in apparel recycling, met different stakeholders, including potential competitors, technology providers, new generation recycling startups, collectors and other supply chain actors in the sector. It's estimated that during this process, CirTex engaged with 100s of stakeholders, including potential suppliers and customers. The company found out the needs and pain points of the retailers and brands and their existing methods of discarding end-of-life clothes. The company also learned about the new recycling technologies that were being developed and the feedstock requirements of these new generation recyclers. This learning process led to the development of company's business model and its automated sorting process.

CUSTOMER DESCRIPTION

CirTex has two distinct customers; those on the supply side and those on the sale side. Customers that are on the supply side are apparel retailers and brands. These companies generate end-of-life apparels (overstock items, returns, damaged goods etc.) and collect post-consumer waste products all of which need to be resold, recycled or responsibly destroyed. While the resale market is emerging and becoming a viable alternative to

	recycling, the need for responsibly disposing what's truly end-of-life is a growing pain. For these customers that are on the supply side, CirTex provides "product destruction through recycling" services for their mixed waste streams. The company charges these customers a per LB fee for this service. On the sale side, CirTex provides feedstock to different recycling companies. This feedstock is waste apparels that are sorted according to the recyclers requirements. The company sells most of it feedstock to recyclers while a small percentage of its materials are shipped to recyclers for free. This way, the company achieves its goal of being a "landfill free" solution provider. Moving forward, CirTex aims to develop an end product using its own feedstock, acquire more brand customers and start supplying new generation recyclers to increase its to increase its revenue streams, and to secure and increase its share in this developing market.
CUSTOMER ACQUISITION	In December 2023, CirTex was awarded a grant from the DEQ of NC. With the support of this grant, the company became operational using a small warehouse in Mooresville, NC. In March 2024, CirTex acquired its first brand customer which is one of the world's leading sportswear brands and it is one of the 2 multinational brands that the company ran pilots with during its R&D phase. On the sale side, CirTex works with the largest textile recycler in North America who caters to the automotive and the furniture industries. During its startup phase, working with these two companies has helped the company generate steady revenues and supply of materials. Moving forward, the company first aims to automate its process before acquiring new brand customers. It does continue to engage brands and retailers in order to inform them of the company's progress and to gauge their interest for collaboration. On the sale side, the company is continuously engages with new generation recyclers. This engagement will allow CIrTex to be ready to supply these new customers when they become operational.
REVENUE MODEL	CirTex generates revenues in two ways: One is by providing a recycling service for retailers and brands and two is by selling recycling feedstock to recyclers. The retailers and brands that the company is currently targeting are US-based apparels brands; both multinationals and domestic companies. On the feedstock sale side, CirTex currently works with the largest mechanical recycler in North America. In addition, the company has been fostering relationships with all the major new generation recyclers for the last 4 years and hopes to become a major supplier for all once these companies scale their operations. New generation recyclers are mostly based in the EU with a couple of exceptions that are US-based.
MARKET OPPORTUNITY	Though it is currently in its infant stage, trends and advancements in the textile industry over the last 5 years indicate that "the market for recycling feedstock " will grow rapidly to meet the increasing demand by recyclers which are already scaling their operations. Current Market Summary • Limited number of buyers; located in the US and the EU • Lack of infrastructure • No established marketplace or market price • Non-standardized commodities and different specification requirements by buyers Using fiber production data for 2020 as baseline and the public commitments made by brands, it's estimated that the demand for textile-to-textile recycled cotton (MMCF) will reach 9.2 million tons and the demand for textile-to-textile recycled polyester will reach almost 8 million tons by 2030. The data used to calculate these estimates were taken from the following sources: https://textileexchange.org/2025-sustainable-cotton-challenge/ , https://textileexchange.org/2025-recycled-polyester-challenge/ , https://textileexchange.org/wp-content/uploads/2021/08/Textile-Exchange_Preferred-Fiber-and-Materials-Market-Report_2021.pdf. According to a recent report by the Global Fashion Agenda and McKinsey, "if barriers to scale are overcome, recycling of textiles could create a 10-20 bn USD profit pool by 2030"

(https://globalfashionagenda.org/news-article/scaling-circularity-a-policy-perspective/).

COMPETITION

The fiber-to-fiber recycling sector is a nascent segment within the textile industry. Due to the existing gap in infrastructure between the expanding recycling capacity and the limited number of companies capable of converting textile waste into recycling feedstock, it currently poses no significant threat in terms of competition. Presently, only a handful of European companies possess automated textile sorting capabilities. Among these, Sysav, a waste management company owned by a municipality in Sweden, has the sorting capabilities that CirTex aspires to achieve. There are ongoing collaborative trials involving automated sorting, and there is awareness of two textile sorting plants that are set to be scaled up in the United States in the upcoming years. However, no official announcements or concrete evidence have been provided thus far to substantiate these claims. Competition can be segmented as follows:1.Existing Textile Recyclers
Activities: Integrated manual sorting and manual processing combined with mechanical recycling
Examples: Recover (Spain/North Africa), Giotex (Mexico), Gama (Turkey), A-One Graders (Pakistan)
2.Collectors and Graders of Used Clothes
Activities: Collection of used clothes, manual categorization by functionality for re-sale.
Examples: I:CO and Soex (Germany), Texaid (Switzerland), Goodwill (USA), Bank & Vogue (Canada)
3.Waste Management Companies
Activities: Collection of solid wastes and recyclables, commoditization of recyclables by material type
Examples: Waste Management (USA), Sysav (Sweden), Lounais-Suomen Jätehuolto (Finland)
Existing textile recyclers have business models based on mechanical recycling, not chemical recycling. Collectors and graders are re-sale specialists and don’t have the precision-sorting capabilities required for chemical recycling. Waste management companies, despite having access to capital and sorting know-how, mostly specialize in residential and post-industrial wastes. They are also textile industry outsiders. Sysav and Lounais-Suomen Jätehuolto operate outside the US and are very unlikely to expand into the US market.
CirTex plans to compete in the market by specializing and becoming best in business in sorting used apparels. This will allow the company to deliver the best possible quality products and services to its customers at the most economic levels and the most efficient manner. The company intends to leverage its first-to-market advantage and establish long-term relationships with its customers to secure and increase its revenue streams moving forward. 4. Startups: Other startup sorting businesses. The technology used for sorting and pre-processing is available off-the-shelf which makes this market somewhat accessible.High capital investment requirement, required know-how, securing inputs and outlets and building a sustainable business model are big barriers to entry for newcomers.

TRACTION

TRACTION

CirTex has made amazing progress in the last 6 months. With the help of the grant it was rewarded by the DEQ of NC, the company basically went from "being an idea" to an operating company. In February 2024, the company signed an agreement with one of the largest sportswear brands in the world as its first client, in March 2024, the company secured its warehouse space, in April 2024, the company received its first materials to be processed, in July 2024, the company reached an agreement with North America's largest textile recycler to supply them with feedstock. In August 2024, the company signed its first PO for a capital investment in a high density baler and in September 2024, the company will be purchasing a fit-for-purpose forklift to increase the efficiency of its operations. Also in August, the company started its recruiting process to hire two employees to work in its production process.

REVENUE	Yes
EXPECTED REVENUE	0
For the following three questions, please enter whole numbers. If your company is pre-revenue, please enter 0.	
Total Revenue Generated To-Date Over the Life of the Company	$37,921.00
Time Period of Total Revenue (in months)	5
Last 12 Months Gross Revenue	$37,921.00

Additional Funding

FOUNDER(S) CONTRIBUTION	$50,000.00
GRANTS	$60,000.00
LOANS	$20,000.00
GIFTS	
AWARDS/PRIZE MONEY	
OTHER FUNDING	
PAST FUNDING DETAIL	Contributions by the founder were spent in 2 different phases. Roughly $25K was spent during the R&D phase while the company was running tests and trials in collaboration with brands, research institutions and manufacturers. The founder recently contributed an additional $23K to finance the purchase of new equipment for the business. In the addition to the $25K the founder spent during the R&D phase, a loan of $20K was obtained from the founder's family to facilitate this phase. In December 2023, CirTex was awarded a $60K grant by the DEQ of NC. The company plans to spent this grant by the end of 2024 on new equipment purchases.

Grant Request

IMPACT	At the moment, CirTex sorts clothes manually. This approach isn't scalable and conflicts with the company's mission to accelerating circularity in the textile industry. The company will use the NC IDEA SEED to build a small scale automated sorting line using a specialized camera that uses NIR technology to detect fiber contents of clothes. This will provide CirTex

	with the must-have proof of concept to attract future investment and grants.
MILESTONES	During this period, CirTex aims to automate its process thus increasing its processing capacity while lowering its COGS. With the help of this increased capacity, the company will be able to attract and work with more customers. Specifically, the company will aim to attract 2 more major brands and 3 more recycling customers during this period. Automation is key to the company's growth and future success in attracting further investment and grants. At the same time, it allows the company scale its production and increase its efficiency. It is difficult to estimate the savings on COGS after automating its sorting process as this depends on several factors. However, it is believed to be a significant improvement.
USE OF FUNDS	During Fall 2024, CirTex aims to find a partner(s) to work on building its automated sorting line. This partner or partner are mostly going to be the camera maker (Specim) and another partner that can assist with the integration process. The integration partner is mostly likely a research institution (UNCC, or NC State) or a technical incubator (First Turn Innovations). Having all the pieces of the puzzle in place will allow the company to hit the ground running as soon as the funds become available in December/beginning of January 25. Since the funds will be received in 4 payments, the company will finance this R&D project out of pocket initially and use the funds to pay back its borrowings.

Final Information

CONFLICT OF INTEREST

Kerem Saral

LIABILITY WAIVER & INFORMATION DISCLOSURE

I acknowledge and agree that NC IDEA may provide feedback and suggestions regarding the information included in my Application, and that such feedback and suggestions shall not be deemed professional business advice. I further agree that to the extent that I incorporate in my business plans feedback or suggestions from NC IDEA or modify my business plans based on the feedback or suggestions from NC IDEA, I do so at my own risk. In submitting this Application, I hereby release NC IDEA from any and all liability related to my participation in the Application process, including without limitation any liability related to feedback or suggestions from NC IDEA, and I hereby release NC IDEA from any and all liability related to the information contained in my Application.

I acknowledge that NC IDEA reserves the right to maintain all information contained in this application. By applying to an NC IDEA Program, I recognize that my email and company demographics may be added to the NC IDEA mailing list and, when appropriate, shared with an exclusive list of NC IDEA Partners. If you do not want to be included on the NC IDEA mailing list or you do not want us to share your information with our exclusive partners, you can opt out by sending an email request to programs@ncidea.org.	
SIGNED (ENTER FULL NAME):	
Was this your first time hearing about NC IDEA?	No
How did you initially hear about this particular application opportunity?	Online Search; NC IDEA/Other Community Event; Recommendation from NC IDEA
Please provide more detail regarding your selection above (i.e., specific name of media outlet, social network or referring organization/individual). (max characters: 2,000)	We've been looking for ways to start this company for 4 years now. During this process, we've engaged with many local and federal stakeholders, many of which provided amazing help for us. We've heard about NC IDEA from the SBTDC (at UNCC), DEQ of NC, several incubators we've been involved with including Launch CLT and FTI. Until today, we did not meet your requirements or our timing didn't align with your funding cycles. Finally, we're going for the NC IDEA grant and we're super excited. We feel that this is a good fit for us and the timing is perfect.