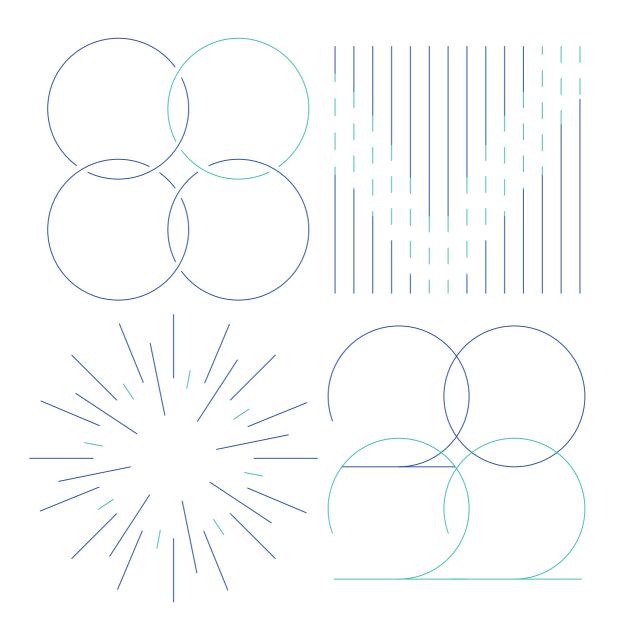
# ENVISIONING PARTNERS IMPACT REPORT 2022



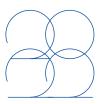
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#### Disclaimer

Envisioning Partners ("Envisioning") is a newly established impact venture capital firm formed as the key investment professionals at Yellowdog, a first-generation impact investing firm in Korea, transferred over along with the investment assets therefrom. Included in this report are our investment philosophy and key strategies, as well as the stories of our portfolio companies in 2021. Our investment professionals invested directly in some of these portfolio companies in early 2021 while at Yellowdog, and continue to provide post-investment management support. Our impact assessment of each portfolio company is as of when we made the investment.

# ENVISIONING PARTNERS IMPACT REPORT 2022

envisioning partners



## Contents

Letter from Managing Partners

About Envisioning Partners
Mission
Envisioning Partners 2022
Investment Thesis and Strategy
Impact Domains & Portfolio
Impact Management System

Impact Insight
Meet Novoloop, a Leading Circular Economy Solution Startup

## Starting 2022

2021 was a special year for impact investors. The emergence of ESG as a key word has grown at a pace faster than anyone expected and is impacting the investment industry overall. Although there are various reasons for the rapid rise in the importance of ESG, one of the major factors is that, in the midst of Covid19 and its challenges, expectations for the level of social responsibility of companies and the financial industry have risen significantly. The many extreme incidents of climate change that occurred around the world have also undeniably been a factor. This can also be seen in that within ESG, environment (E) and within E, climate change in particular has been receiving the most attention. The inevitable demands of such change have extended beyond moral pleadings to the actual movement of significant financial assets into these areas. And this has been possible because a consensus is developing that ESG based investment strategies provide a framework for producing higher long term gains. ESG based investing has, in particular, proven to produce relatively more stable returns during recessions and periods of high volatility. It is becoming widely accepted that the moral responsibilities expected of companies are consistent with higher long-term returns and we welcome this development.

Even as ESG based investing is growing, some continue to be concerned whether such investments will indeed produce higher performance. The number of companies exhibiting strong ESG cannot grow as fast as the amount of money increasingly seeking such companies. This is because money can move much faster than companies can mobilize its physical and human resources to grow in a new direction. Hence, as the amount of financial assets seeking ESG based investments increases rapidly, it is possible that the returns expected from such investments might be lower, at least for a short period of time. However, this will not persist for long. Eventually, the ability of investors to select the higher performing ESG investment opportunities will increase and the demand for more diversified and differentiated ESG investment strategies will increase. As the "ESG market" increases, investors will go from simply asking "is this an ESG investment" to trying to differentiate "what is a good ESG investment." As this happens, companies will be required to change from thinking about ESG as a risk to be managed to thinking about ESG as a critical part of the company's business strategy.

In addition to making companies minimize the negative impacts to society, impact investing aims to help companies grow faster by solving the myriad problems that society faces. This is why impact investing is often referred to as the most assertive form of ESG investing. As financial assets increasingly move to ESG investing, there will be increased query on what is the best outcome that can be achieved through ESG investing. Impact investors have a responsibility to provide a good answer to such questions.

In 2021, after almost 5 years of impact investing under the Yellowdog name, Envisioning Partners was launched under a partnership structure as the key investment professionals and assets of Yellowdog were transferred over. The increased urgency of climate change and the surge in the importance of ESG mark an important point to re-calibrate the role of impact investors. At this critical juncture, we consider it a fortune that we have the opportunity to make a new start under our new name. In the midst of undergoing our internal restructuring, we are glad to report that during 2021, we invested 15.3 billion Korean Won in 13 startups which was an increase over the prior year. In addition, as we started 2021, we pledged that we would give top priority to climate change related investments and in line with this, in September 2021, we had a first close on the fundraising for Envisioning Climate Solutions Fund, a 100% climate change focused venture fund. As much as the investors in this fund are mostly industry players who are also focused on the need for solutions to combat climate change, we plan to facilitate the cooperation between such existing industry players and start-ups. We believe that in order to quickly grow the size and impact of climate change technologies, it will be critical that there be multi-party cooperation among the various constituents.

We believe that 2022 will see an acceleration of the change that we witnessed as impact investors in 2021. We will continuously strive to be the best partners to the entrepreneurs who understand our changing society, who have sharply defined the problems that need to be addressed and who are creating the most important impact through their start-up companies.

Envisioning Partners, Managing Partner Hyunjoo Je, Yong Hyun Kim

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#### **MISSION**

# We build bridges connecting the capital markets with impact makers.



We invest in companies where the business model and impact model are closely interlinked.



We refine our own impact investing perspective and strategy and redefine the role of capital for people, community and the environment.

## **Envisioning Partners 2022**

As of the end of February, 2022

**Assets Under Management** 

USD 140<sub>M</sub>

Companies in our portfolio

32

Full-time jobs created by the portfolio companies

1,658

Invested to date

57<sub>N</sub>

Amount raised in total by our portfolio companies

USD 556<sub>M</sub>

Women-led companies in our portfolio

37%

# **Envisioning's Investment Thesis and Strategy**

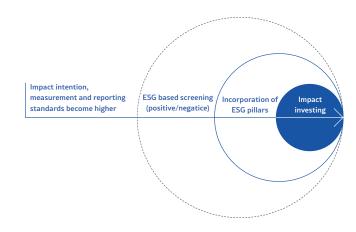
Envisioning Partners ("Envisioning") is a venture capital firm based in Seoul, with impact investing at the core of its investment philosophy and strategies. We invest in start-ups that turn major social and environmental challenges of our time into great market opportunities.

#### **Investment Thesis**

Environmental, Social and Governance ("ESG") is a term that has gained the most attention in Korea during the past couple of years, in particular in social and economic sectors. It has become a popular investment criteria in capital markets and has been declared by many companies as their business priority.

In the realm of ESG investing, ESG considerations can be applied loosely mainly for positive or negative screening purposes in the selection of companies for inclusion in a portfolio, or more specifically and comprehensively across investment strategies and decision-making processes to achieve ESG integration.

Impact investing is a type of ESG investing at its most assertive form. Impact investors invest in companies that explicitly tackle social and environmental issues directly as a part of their business activities. The underlying philosophy and strategies at the core of impact investing is to capture market opportunities that bring environmental and social benefits and to inspire better decision making from the diversity and inclusiveness standpoints. The proverbial phrase "attack is the best form of defense" can be aptly applied in the ESG space. We believe companies that utilize ESG considerations as an opportunity, as opposed to being a cost for the business, are on a path toward long-term success, and impact investing is an apt means to achieve this goal.



The Spectrum of sustainable investing
Source: World Economic Forum

Envisioning Partners Impact Report 2022 About Envisioning Partners Investment Thesis and Strategy

#### **Investment Criteria**

#### Start-ups with impact creation embedded in their business models

A company's commercial results and social impact can grow hand in hand when the theory of change triggering impact is integrally interlinked with the company's business model. We invest in start-ups that demonstrate high collinearity between business growth potential and social impact.

#### Start-ups with innovative solutions to problems

We invest in start-ups that create significant market opportunities by delivering innovative solutions to major social and economic problems of our time. Game changers that innovate the market through new technologies and creative business models will be able to scale up the impact.

#### Business leaders that contribute to the market and our society

We invest in people and teams with exceptional leadership. We believe good entrepreneurship can manifest itself in the products and services of a company, and ultimately has an impact on customers and the society. We invest in business leaders with strong commitments to resolving social issues and who are able to deliver the commitments while growing their businesses.

#### Investment Strategies

# Through proactive business strategy development as the lead investor, we refine the company's impact model and support value enhancement

Envisioning aims to ingrain impact models into the DNA of start-ups and their founders. The early investors of a start-up company and their relationship with the founder can determine the way impact models are established in the company. As the lead investor, we focus on Series A and Series B funding rounds with the strategic goal of providing the necessary financing and actively supporting the company's business growth.

#### We make investment decisions based on a clearly defined impact perspective and provide post-investment management support

Before making an investment decision, Envisioning conducts an impact relevance test to see if the start-up's business matches the impact areas prioritized by Envisioning, and an impact model test to determine whether there will be sustainable impact creation. Subsequently, Envisioning designs impact assessment and management system based on a theory of change. After making the investment, Envisioning continues to take an active role in establishing the start-up's impact models and enhancing business value. Our professionals specializing in impact assessment and management explore ways to maximize impact values from the moment we start investing in the start-up. These professionals are responsible for individual impact assessment and post-investment management, and also for ensuring that the start-up's business activities remain focused on impact creation.

Envisioning Partners Impact Report 2022 About Envisioning Partners Impact Domains & Portfolio

## **Impact Domains and Portfolio**

#### Climate Change

Businesses that contribute innovatively to the transition to a decarbonized economy

#### **UNLIMEAT**









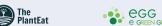


DIMENSIONAL













#### Wellness

Businesses that provide healthier eating/lifestyle services, or quality healthcare services to a wider range of people















FRESHCODE

Envisioning strives to make an impact in the domains of climate change, wellness, education and future of work.

In recognition of the magnitude and urgency of climate change issues and the role of technology in bringing about the solution, we have prioritized climate change solutions. Among various climate solutions, we are concentrating our expertise and investment in technologies that accelerate energy transitions, sustainable food and agriculture, industry and circular economy, and carbon to value.

#### Education

Businesses that present innovative educational models and provide access to education across physical and economic barriers, from children to adults

#### **QANDA**

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**@** CLASSTING

#### The Future of Work

Businesses that enhance the quality and diversity of jobs under the changing paradigms of 'work' and help resolve the gap between supply and demand in the labor market. Lifestyle services reflecting changes in the labor market

#### WECOOK







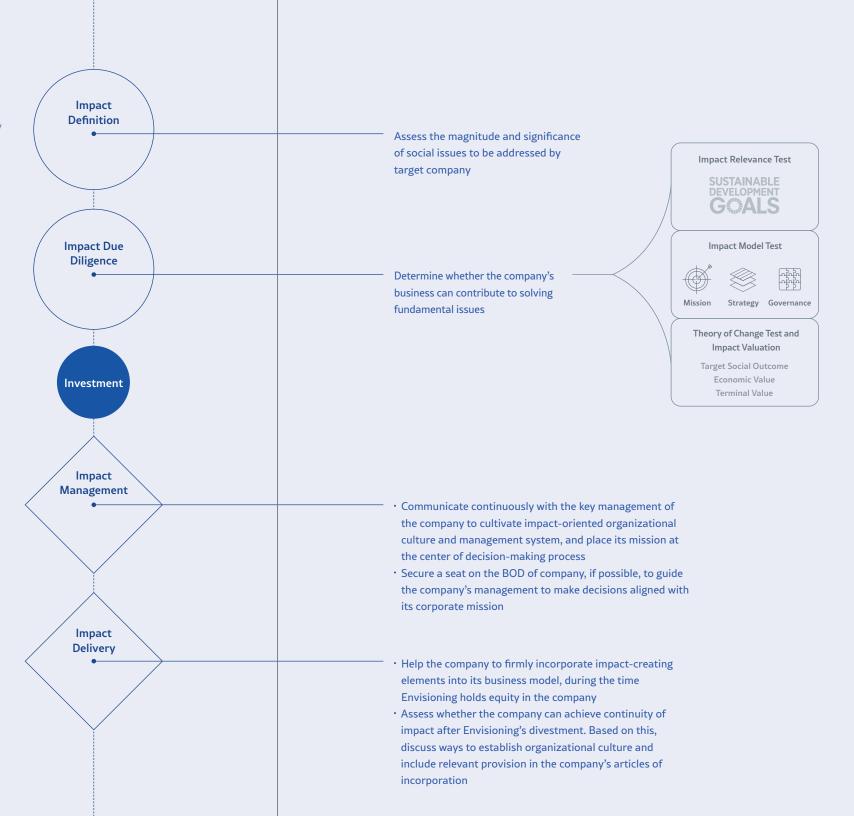




Envisioning Partners Impact Report 2022 About Envisioning Partners Impact Report 2022

# Impact Management System

At Envisioning, we strive to ensure directionality and continuity of our investment by implementing a 4-phase impact management system, which encompasses our activities before and after an investment decision making. The four phases of impact management system are impact definition, impact due diligence, impact management and impact delivery.



Whether to make an investment is determined at 'impact due diligence' phase, which entails the following steps.

#### Step 1 Impact Relevance Test

We determine whether the potential company's business can resolve social issues relevant to key impact domains and therefore, directly contribute to achieving corresponding Sustainable Development Goals ("SDGs") of the UN. If the potential target company engages in a business that falls under one of the key impact domains of Envisioning and directly contributes to at least one of SDGs, we will consider whether to make an investment in the company.

#### **Step 2 Impact Model Test**

We comprehensively test the impact model based on the following three areas:



#### Mission

Whether the potential target company has clearly defined corporate mission relevant to the social issues it aims to address, proclaimed it and communicated continuously



#### Strategy

Whether the potential target company's key elements of business model directly contribute to solving the social issues it aims to address



#### Governance

Whether the potential target company has the right shareholders and corporate governance structure to sustain its impact orientation

#### **Step 3 Theory of Change Test and Impact Valuation**

In this step, we define the theory of change as it relates to the impact to be brought on by the potential target company, and perform a valuation to quantify the potential impact. During this process, we develop performance indicators that will be used to track impact after making the investment. We conduct impact valuation using the three sub-steps as follows:

- Assessment of relevance to social issues and the size of demographic group to be impacted, and understanding target social outcome based on the theory of change: We try to understand the impact to be created and the relevant social issues, as well as the magnitude and significance of the impact. We conduct a detailed assessment of the theory of change to anticipate impact creation through business activities, and develop impact KPIs to be used for tracking and managing post-investment performance.
- Economic valuation of target social outcome: We identify the priority between impact KPIs during the course of quantifying economic value in reference to baseline studies based on the theory of change
- Estimation of terminal value upon divestment: We consider whether the impact created by the potential target company would be sustainable in the long-term, and determine the conditions that would make it possible.

#### Measurement and Assessment of Environmental Impact of Climate **Solutions**

When it comes to climate change, which is one of Envisioning's impact domains, we focus our investment on technological solutions that reduce greenhouse gas emissions. Unlike in social impact assessments where we should consider the chain reaction at a social level, environmental impact assessments require a review of direct impact inherent to the relevant technology.

When we consider making an investment into a company under the climate change impact domain, we consider i) the size of impact, ii) scalability, and iii) directness of impact, as individual value assessment criteria. For all climate technology solutions that are ready for a full investment review, we conduct assessments to find out whether they take innovative approaches to meet the "net zero" targets, and how efficient and effective they are in reducing greenhouse emissions.

#### **Assessment Criteria**

#### Size of impact

If the technology is implemented, how effective is it in reducing greenhouse gas emissions?

#### Scalability

How likely is it that the technology will be widely implemented within a short period time?

#### Directness of impact

How much does the technology directly contribute to reducing greenhouse gas emissions?

#### Alternatives & Risk

If an alternative technology is introduced, how likely is it that the technological solution will become obsolete?

From the overall value chain perspective, is there a concern that the technological solution might in fact disrupt meeting the net zero targets?

#### **Key Considerations**

- · The portion of greenhouse gas emission sources that can benefit from the technology
- Greenhouse gas reduction potential of the technology
- · The likelihood that the technology will reach commercially meaningful scale by 2040
- Technological and non-technological barriers that need to be overcome, before the technology is utilized at a meaningful scale
- The technology's ability to contribute to greenhouse gas reduction - whether the application of the technology alone can directly contribute to reducing greenhouse gas emissions, or it contributes to decarbonization of industries in general. The technology's impact is assessed for each case
- Alternative technologies or systems that might render the potential target company's technology obsolete
- The risk that the technology would temporarily reduce greenhouse gas emissions but ultimately delay meeting net zero targets

Disclaimer In principle, the assessment and measurement of impact are not an end in themselves, and they will only be utilized as the basis for objective decision making and actual impact creation. In particular, the conversion of impact into monetary value is solely for the purpose of understanding the theory of change and aligning priorities, and is not intended for relative comparison between impact domains.

# Impact Insight

Meet Novoloop, a Leading Circular Economy Solution Start-up



## Novoloop

## **Impact Insight: Meet Novoloop**, a Leading Circular **Economy Solution Start-up**

Novoloop is a California-based startup that upcycles plastic waste into high-value raw materials. It produces high-performance materials using ingenious chemical recycling technology. Envisioning Partners made an initial investment in Novoloop in May 2020 and participated in Series A round as the lead investor in November 2021.

#### Investment



#### Info

| Product and<br>Service | Plastic waste upcycling solution |
|------------------------|----------------------------------|
| CEO                    | Miranda Wang                     |
| Company Name           | Novoloop, Inc.                   |
| Establishment          | 2015.5                           |
| Location               | US                               |
| Website                | novoloop.com                     |

#### **Key Impact Factors**

**UN SDGs** 







Impact Model



STRATEGY

#### Theory of Change

- · Novoloop keeps down the production of petroleum-based raw materials through upcycling of end-of-life plastic into high-value materials such as thermoplastic polyurethane (TPU)
- The company recycles plastic waste that would otherwise go into landfills or incinerators, to mitigate greenhouse gas emissions

#### **How Novoloop Began**

Miranda Wang and Jeanny Yao, the cofounders of Novoloop, discovered their mission during their trip to the waste plant as high school students.

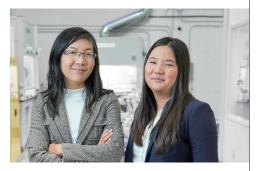
Inundated by the mountains of plastic waste and even more shocked by the fact that a mere 9% of the plastic waste is being recycled, these two high school students decided that it is their life's mission to tackle plastic waste issues. They diverged into their own ways trying to find a solution to the issues, as Wang went on to study Molecular Biology at University of Pennsylvania and Yao to study Biochemistry and Environmental Sciences at University of Toronto. Finally in 2015, they cofounded Novoloop to start a journey together for their shared mission.

Novoloop chemically processes plastic waste and turn them into TPU\*\*, which is an economical, high-value added plastic material. When it comes to carbon emissions and the use of energy and water, the recycling solution developed by Novoloop has been proven to be more sustainable compared to conventional manufacturing processing of plastics. Also, in an effort to capture more value in the circular economy, Novoloop utilizes its innovative technology to replace petroleum-based raw materials with end-of-life plastics for the manufacture of plastics, and produces high-performance materials that would have been impossible to make with conventional recycling methods.

- Recycling rate of plastic waste is low for a number of different reasons. Most of the plastic waste collected is too contaminated to be recycled. Even for plastic waste that has been washed and sorted properly, the recycling process typically requires an addition of virgin plastic materials. Also, the reprocessing steps to recycle plastic waste into recycled products will rarely achieve a quality that is as good as new.
- Thermoplastic polyurethane (TPU) is an elastic, lightweight and sturdy plastic material that is widely used for making footwear outsoles, mobile phone cases, kitchen supplies, etc.

Envisioning Partners Impact Report 2022 Impact Insight

## Interview with Miranda Wang, CEO of Novoloop



Jeanny Yao, COO | Miranda Wang, CEO

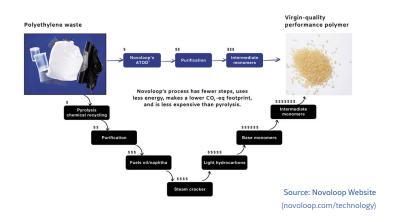


Novoloop has invented the unique plastic upcycling technology called "ATOD™". Please describe how the ATOD platform differs from the other plastic recycling solutions.



Novoloop is a circular economy technology company that transforms plastic waste into high-performance materials. Our core technology is chemistry that does not only derive value from plastic waste, but it also reduces the carbon footprint of plastics. At the forefront of our innovation is ATOD™(Accelerated Thermal Oxidative Decomposition).

ATOD is a proprietary chemical process technology developed by Novoloop that transforms plastic waste into good-as-new chemical building blocks for sustainable materials. ATOD stands for Accelerated Thermal Oxidative Decomposition, and it is a 4-6 hour process that breaks the carbon bonds in plastic waste. This transformation is enabled by an oxidative mechanism that happens at low temperatures of less than 150°C.











@Novoloop/David Salpete

ATOD is currently designed to chemically recycle polyethylene plastic waste. You know polyethylene as plastic bags, shampoo bottles, shipping packaging, and takeout containers. As a whole polyethylene is the most common plastic, making up 1/3 of all plastic production or over 100 million metric tons.

The main differentiation between ATOD and other chemical recycling technologies is that ATOD has a smaller carbon footprint and better economics. Currently, other chemical recyclers are turning plastic waste into oil or syngas. Then they refine the oil or syngas into base chemicals and perform many steps of chemistry from there. These technologies have more steps and generate more waste than ATOD, and so they carry a larger carbon footprint.



We would like to discuss the environmental footprint of the ATOD platform as any novel and innovative solutions can be challenged by its efficiency or the degree of energy consumption. According to your LCA (Life Cycle Assessment) report, the ATOD platform is expected to have lower carbon, energy, and water footprint than conventional TPU production. Can we expect the environmental impact of your proprietary platform to improve as you optimize the processes further?



First I want to talk a little bit about Novoloop's sustainable materials platform. I mentioned that we transform polyethylene waste into monomers, or chemical building blocks. What we do next is we take these monomers and formulate them with other chemicals we source to produce performance materials. Because the monomers we produce are so versatile, we are able to create an entire platform of different specialty performance polymers.

The most impactful aspect of Novoloop's ATOD platform is that our monomers, or chemical building blocks, can be produced at a 68% lower CO2-eq footprint. Carried forward into the final materials formulated with this monomer, such as OistreTM TPU, the carbon reduction comes out to be 45% at the end polymer level. This is really remarkable because it means for the first time, it is more resource-efficient to produce chemicals and materials from plastic waste than it is from fossil fuel resources.

Based on a third-party performed preliminary life-cycle analysis (LCA), there are other environmental benefits that come with Novoloop's process. On an end-product level, our materials require 33% less energy and 8% less water to produce than fossil fuels-based TPU.

What I personally find to be the most exciting aspect of our LCA is that the majority of our carbon emissions is actually inherited from the raw materials we currently source. This means as Novoloop's process becomes more efficient, uses less raw materials, and also becomes more vertically integrated, we would be able to further reduce our carbon emissions.



While climate change has become one of the most urgent issues of all time, companies are pressured to incorporate more sustainable systems into every aspect of their businesses. Do you also witness such changes in the business environments around Novoloop? What are the recent changes you have found most impressive along with such recent trends? Do you expect further changes or opportunities to occur over the next 1-2 years?



I think when companies begin to make sustainability become a numerical measurement that is taken across the board, then it is no longer marketing fluff. The transformation we're seeing is that everyone is calculating their environmental footprint and quotas like food rationing and they're making complex comparisons between the different options in front of them. The limitation often times is not having enough sustainable and affordable options to adopt. That is why start-ups that are making this decision easy will move much faster and do much better.

Within Novoloop, we have the benefit of creating a new technology and being able to use these measures to pulsecheck on how well we are doing, and whether there are efficiency gaps we can still squeeze.

I think there's a massive opportunity in front of us. I've heard the "climate revolution" being described to be at the scale of the industrial revolution but happening at the speed of the digital revolution. I expect that in 1-2 years, early success stories will drive more momentum in this space and even more resources will be available to grow. Riding the huge climate revolution, mainstream companies will engage in new innovation with start-ups, or new stars will be formed to bring us to a better future.

"Riding the huge climate revolution, mainstream companies will engage in new innovation with start-ups, or new stars will be formed to bring us to a better future."



©Novoloop/David Salpeter



People tend to state that all the stakeholders ranging from policy makers, corporates, investors, and consumers should take their part to achieve the circular economy. We'd love to hear your thoughts on how the circular economy can come into play in the not too distant future. As the CEO of a company in the circular economy space, what are the most important agenda that you would like to tackle? What kind of agenda do you really want other stakeholders to solve?



What's really important today for the circular economy is to demonstrate that these new and sustainable materials can be profitable and scalable. At Novoloop, we're accelerating our time to market by formulating our first product Oistre TPU to work as a drop-in replacement for materials that manufacturers are already using. This means that our product not only performs like fossil-fuel based "virgin" products, but they are also priced in an affordable range for customers who are ready to use them at scale. This is step one: creating a drop-in replacement for materials in use today that are more sustainable.

Step two is creating new materials that may take longer to get into the supply chain but have even better long-term circularity potential. These materials may not be economical today, but eventually, they can reduce the complexity of the plastic problem. I think we will also see a convergence of many materials, and some things we are using today but don't need will be out, and more circular replacements will take over.

At the same time, more materials that are linear today will be made circular. There are many start-ups working on circularizing PET, nylons, foams, cotton... and we will see even more companies doing this. These are the companies that will lead supply chains in 20 years.



©Novoloop/Wiatral



You must be excited about all the achievements that Novoloop has made to date. What was the one that you were most excited about so far? And what are the next milestones you would like to accomplish with priority?



For many months now, we've been working hard to reveal Oistre to the world in an exciting new form that is tangible to everyone. We are almost there!

I am really proud of the team we've built. I also feel rewarded for growing through some more uncertain, open-ended discovery periods and coming through with a differentiated, patented technology with potential for serious impact.



What does Novoloop aim to achieve in the year 2022, and how is it different from what Novoloop aims to deliver by 2030 (as 2030 is the year that should see the realization of our ambition to Net Zero).



In 2022, we're demonstrating demand for Oistre TPU. This year, we're expecting explosive growth on the customer front, but we're still just getting started. In 2030, we will be building our 4th or 5th plant and saving megatons of CO2-eq per year.





7. What does "impact capital" mean to you as a founder? What do you think about Envisioning Partners as one of the VCs that has invested in the company since its early stage?



Whether some investors want to admit it or not, any capital that's deployed will make an impact. It's just that too often, that impact is one-sided or zero sum: for every good thing it does, it also makes the world pay a huge cost. I think that "impact capital" today refers to the selective and sophisticated investors who realize that abstaining from voting is not actually an option, so they are choosing to vote based on more calibrated and equalized measures. In a world that is confronted with so many challenges, this type of capital is necessary for creating a more ethical and intelligent world.

I believe Envisioning Partners has invested in Novoloop at an early stage because they share the vision that my team has. We can see a clear path to success and impact, and we're excited about getting there together.

## ENVISIONING PARTNERS IMPACT REPORT 2022