

Social Progress Credit:  
EBPM (Evidence Based Policy Making)  
driven Outcome Based Funding

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# Impact in Place

Technology  
for everyone



Impact  
in  
Place

Impact In Place is a story of social enterprises  
participating in Social Performance Credit that creates  
a meaningful social impact on our society.





# Clean water created by innovative technology and imagination

Water is the most essential and basic element for human life. However, millions of people around the world do not have access to safe drinking water. The United Nations reports a severe water scarcity, where one out of every five people in the world cannot afford to drink a glass of water.

Water scarcity occurs for a number of reasons. Population growth, climate change, environmental pollution, and disasters such as earthquakes cause many people to suffer. Water scarcity in extremely poor countries, in particular, increases the occurrence of diseases and has devastating effects on food production, further exacerbating poverty.

Companies with advanced technology have stepped up to solve these problems. WaterHealth International, a multinational company based in California, has developed various water purification systems that filter out contaminated water and provide safe drinking water. These systems have been deployed in numerous developing countries, including Asia and Africa. They incorporated various technologies including ozone disinfection, ultraviolet sterilization, and revers osmosis, making them easy to maintain and usable even in remote areas with no electricity.

Meanwhile, Charity: Water, a nonprofit foundation, is carrying out the “Clean Water Project”, providing safe and clean drinking water to water-scarce areas by collecting donations. While allocating 100% of the donations to water projects, they have also utilized GPS and Google Maps to allow tracking of where the projects are taking place.

Additionally, by installing remote sensors in the wells created by the project, it is possible to monitor their performance, which can be checked online. These efforts have eliminated the opacity of the traditional donation system and attracted many donors.

Innovation technology and social value may seem unrelated at first glance, but in today’s digital society, where everyone lives a digital life, it is perhaps the most effective synergetic combination. Discover more innovations and their social impact in this first volume of “Impact in Place”!

**Cover Story**  
Mandro tries to make more affordable prosthetic hands of better quality for people who are unable to afford such assistive devices.  
As such, appropriate technology has infinite possibilities to change human life.

## Greeting from President of Center for Social value Enhancement Studies (CSES)

In 2013, at the Davos Forum in Switzerland, Tae-won Chey, chairman of South Korea's SK Group first proposed the concept of Social Progress Credit. Social Progress Credit aims to monetize and measure the social value generated by companies in solving social problems and environmental problems and provide incentives proportional to the measured social value.

Social Progress Credit follows the principle of "The better, The more". It is an outcome-based funding model where more incentives are given (as rewards) to companies generating more social value. This has motivated domestic small and medium-sized firms (including social enterprises) in South Korea to create more social outcomes.

Social Progress Credit, an unprecedented social experiment on an international scale, has now been proven effective through papers published in top business journals such as Harvard Business Review and Management Science.

Evidence-based policy-making is emerging in contrast to opinion-based decision-making. Evidence-based policy-making refers to policy-making based on scientific evidence. Evidence-based policy-making was expanded in the US during the Obama administration, and the Japanese government also actively launched the Evidence-Based Policy Decision Promotion Committee to promote EBPM-driven policies in each department.

Currently, many local governments in Korea use Social Progress Credit as policy evidence to support social enterprise support projects. Efforts are also being made to establish related ordinances to support this policy. In China, research is being conducted on the social value measurement of SE companies through Social Progress Credit.

To support companies around the world that are solving various social problems around the world to create a greater impact, and to expand the social impact ecosystem, outcome-based funding that reflects the diverse needs of social impact companies must be considered worldwide.

Recently, the combination of Social Progress Incentives and SIM (Social Impact Management; Japan's impact management system), along with the expertise of CSES and JFRA, has led to the initiation of outcome-based funding collaboration to measure and reward the social performance of local Japanese companies.

It is hoped that outcome-based funding, which supports more companies beyond Korea and Japan to create more social outcomes, will be expanded so that many stakeholders from various countries can participate to create a borderless social impact ecosystem together.



Suk-kwon Na  
President of Center for Social  
value Enhancement Studies(CSES)

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# Innovative Technology, Solves Social Problems

Technological advancements have brought our lives to a completely different level. In particular, the infinite possibilities of artificial intelligence (AI) are expected to further revolutionize the future. It is analyzed that AI has significant potential in solving social problems that humanity faces, such as climate change, poverty, disease, education, and transportation. In fact, it can process and analyze massive amounts of data, offering groundbreaking alternatives to complex problems that have been difficult for humans to solve. In this first volume of Impact in Place, we met SPC companies aiming to solve social problems through innovative technologies like artificial intelligence.

Let's take a look at the achievements of these companies, where good intentions meet cutting-edge technology!

• Tuat • Mandro • Cizion • TestWorks



Tuat's application that reads all the scenery in the world

# AI Becomes the Eyes of the Visually Impaired

The daily life of modern people begins with a smartphone and ends with a smartphone. But did you know that smartphones play a very important role in the lives of the visually impaired? The application "Sullivan Plus", which is provided by Tuat for the visually impaired, acts as their eyes to see and hear the world for them. Through Sullivan Plus, visually impaired individuals can "hear" street signs, text on instant noodle packaging, and images in magazines if they set their minds to it.



## The Scene of Tuat

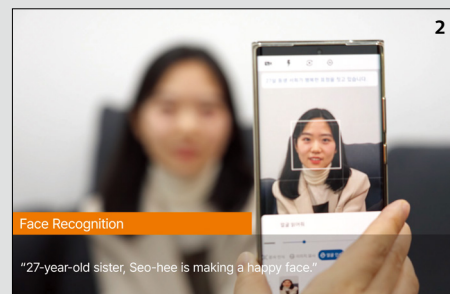
In July 2018, Tuat introduced Sullivan Plus to the world. This AI-based visual aid & voice guidance application was an innovation that made the lives of the visually impaired more comfortable. In October 2019, global services were also launched. Winning the APEA Best Award at a startup pitching competition was a great help. With this opportunity, Tuat was able to gradually introduce Sullivan Plus to the world, and it naturally spread through word of mouth among visually impaired individuals worldwide. YouTube reviews and video content introducing Sullivan Plus were produced in various languages by users of Sullivan Plus. Messages of gratitude also arrived from all over the world. In particular, a student in India wrote us an e-mail saying that he was able to pursue his studies with Sullivan Plus, which greatly moved us and gave us a new mission. This single message made the monetization issue clear, which had been a concern until then. For visually impaired individuals in economically disadvantaged environments, Sullivan Plus became their eyes, showing them a new world. If the service were to be monetized, it would be like taking away their eyes and opportunities for growth. Even if we were facing the task of maintaining the existing service for free and creating a new revenue stream, Tuat did not lose faith in the belief that where there is a will, there is always a way.

From the perspective of non-disabled individuals, the first question that comes to mind is, "How can visually impaired individuals use smartphones when they can't see?" The advantage of a smartphone is that you can operate all functions by touching the large screen, but it is meaningless if you cannot see it. However, iPhone and Android-based smartphones are equipped with accessibility features such as 'Voice Over' and 'Talk Back' for the visually impaired. For example, if Voice Over is activated when you touch a specific application on the screen, the app does not immediately run but reads out what the object is. Therefore, even if you can't see the screen, you can use your smartphone through sound. In this way, even visually impaired people can connect with the world and access a lot of information through their smartphones. Various applications for the visually impaired are being developed based on these functions. Tuat, too, has developed and provided an application that reads out text and colors from photographs taken by visually impaired individuals, called "Sullivan Plus". We met Soowon Cho, CEO of Tuat, and heard her story from the beginning of the startup to the present global service expansion.





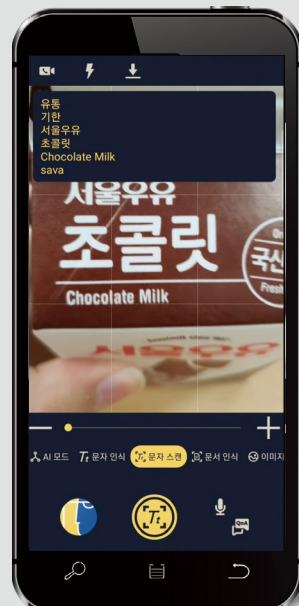
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1 Soowon Cho, CEO of Tuat, says that as she gains more and more business experience after starting her business, she is becoming more aware of the meaning of social value.

2, 4 The screen of Sullivan Plus, the application produced and serviced by Tuat. The image of the object perceived by the camera is read out loud.

3 An actual visually impaired person is demonstrating the use of Sullivan Plus.

### Vision and Value of 'Our Work'

Soowon Cho, the CEO of Tuat was originally an ordinary office worker. Born and raised in Daegu, after seeing her friends and other people leaving for the metropolitan area after graduating from college, she wondered, 'How can talented people from Daegu no longer move out of the city and stay in the region?' The most effective way would have been to attract large corporations to the region, but this is not easy in reality, so instead, she thought that if there were many solid small and medium-sized enterprises (SMEs), young people from her hometown would be able to work without leaving the region. She talked about this idea a lot, and someone who did listen to her introduced a young software development team to CEO Soowon Cho, which led to the start-up. CEO Soowon Cho describes this process as 'starting a business by chance'. However, on second thought, the motivation behind the startup itself was embracing the social value of creating local job opportunities. That's how Tuat started. At first, the main focus was on software services. More than two years have passed without a clear purpose or goal.

"Outsourcing is basically making something for someone else. When a startup founder wants to do something, we make it happen for them. As I continued doing that kind of work, I felt drained. I was only making other people's dreams come true. Employees there including myself were starting to think that we want to do 'our own work'."

CEO Soowon Cho didn't know exactly what to do, but set a goal of doing something essential, something like providing food rather than just vitamins. CEO Cho began searching for a service that was truly necessary, not something that could be taken or left.

"In the meantime, I heard that one of our team member's friends had unfortunately become visually impaired due to an illness. I created Sullivan Plus in the process of thinking about how to help that friend, which naturally led to doing 'our work'."

### World where our small adventures meet

Sullivan Plus was a project that started with a light heart at first. Frankly, from the company's point of view, outsourcing projects are like sweet honey. All you need to do is work and you can secure basic operating funds. However, at the same time,

### Talk about SPC

Soowon Cho, CEO of Tuat

**What are your expectations for SPC in the future?** I'm grateful to have been selected as an SPC participant and consider ourselves very lucky. Ultimately, small companies like ours need time to grow properly and establish a foundation, so I believe it will be of great help in securing that precious time.

**You have participated in various overseas exhibitions such as CES and MCW. If you could share your expertise with other tech-related SPC companies, what would you do?** In the case of Tuat, we launched the domestic service and started the global service just one year later. We boldly pursued global expansion, thinking that it was essential, but on the other hand, I felt very helpless. I guess I was less afraid because I didn't know much. I even participated in an overseas pitching competition without fear, even though I couldn't speak English well. Then, as I tried to do things that I could do right away, stepping stones appeared before my eyes, and a path began to form. All CEOs are busy. It's an insanely busy schedule, but no matter how bothersome and difficult it is, you have to try something. Even in difficult situations, if you face them head-on, unexpected opportunities will surely come. CES, for example, offers more awards and is better known domestically than MWC. It becomes an indicator that can objectively show the value of a company. While having that kind of experience doesn't necessarily make us anything, but having that experience when we have become something, can make us shine even more.

there were limitations to the work as most of it was carried out on a one-time basis and lacked stability. When the work piled up, it would come all at once, and when there was none, there was nothing at all, so developers have no choice but to work overtime all night.

CEO Soowon Cho realized that if this situation continued, employees would not be able to find vision in the company. That's when CEO Soowon Cho decided to break away from the operating method that relied on outsourcing services and started Sullivan Plus, his own service.

Tuat started global service one year after the launch of its service. Participating in the APEA Best Award to find a way to publicize Tuat's technology to the world, and winning the award was an unforgettable experience for CEO Soowon Cho and a great opportunity for the company. After winning the award,



The signboard at Tuat office. TUAT means 'the realm of death' in ancient Egyptian mythology. However, it also symbolizes 'a new beginning, not the end' and 'light and regeneration'.

Sullivan Plus experienced a significant increase in global users as they began advertising through Google's advertising platform. This continued even after the ads ended. It was literally a 'global word-of-mouth'. While conducting market research, Tuat also discovered that there were around 150 review videos of Sullivan Plus on YouTube.

"Promoting applications for the visually impaired is challenging. Even if you do a visual advertisement, the likelihood of exposure to the target audience is low. Usually, their family or friends would see the advertisements and let them know. However, it was truly touching when I saw the users themselves experiencing our service and recommending it to other visually impaired individuals."

#### Gathering good intentions, approaching perfection in service

Tuat continued to face new challenges while carrying out the global service for Sullivan Plus. Initially, it was only available in Korean and English, but we had to meet the needs of disabled individuals in various language groups. Since then, the number of service languages has increased to 6, including Japanese, Spanish, Russian, Chinese, and even Arabic, which is a language prone to exclusion in this type of service due to its reversed writing direction. The UI and UX were also refined and provided accordingly. As a free application, all of these choices and efforts come at the expense and burden of the company. However, it was not easy to turn away those in need. Could it be that the sincerity of Tuat came through? Letters started pouring in from all over the world.

"I received an email from Italy. He asked for

Italian to be added to the application as well and even offered to do the translations himself. So many people like him from all over the world were donating their talents in translation. The awkward expressions of automatic translators have become much more natural. That's how Sullivan Plus now supports 22 languages."

Thanks to volunteers, Sullivan Plus has been translated into 22 languages, enabling visually impaired individuals from most parts of the world to hear and experience the world's scenery in their language. In the Sullivan Plus app, there is a section called 'Thanks' where the names of volunteer translators from around the world are listed to express gratitude.

#### Persistence to challenge the limit

It has been 5 years since Sullivan Plus was introduced to the world in 2018. Tuat, which had been providing free services, released its first paid service, 'Sullivan A'. It is a business-specific service that not only assists visually impaired individuals in their daily lives but also helps them perform their work more perfectly.

The existing Sullivan Plus has helped the visually impaired to become independent by converting various writings and images they encounter in their daily lives into speech. However, there were problems such as the fact that it was somewhat inefficient and time-consuming to use the service for work, as it read long amounts of text from beginning to end. The AI on Sullivan A quickly identifies the document type and summarizes the key contents of each document. You can also search for specific words in the text, and the ability to recognize information on business cards or receipts has been greatly improved. It is a two-track strategy where Sullivan Plus, which is essential for daily life, is kept free of charge, while Sullivan A, which is useful for work (ie, for users with economic means), is a paid service. Tuat is a new member of the 8th participant of the Social Progress Credit Project. CEO Soowon Cho says that she hopes a social atmosphere will be created where many companies that are working hard to practice social value can be encouraged. We look forward to the future performance of Tuat, which will steadily realize social values, and believe in goodwill.

## Interview with Members

### Team Leader at Tuat Chanyong Park



**Please introduce yourself.** My name Chanyong Park, and I am in charge of backhand, web development, and AI-related work at Tuat. I have been working here for about 7 years since the start of the business.

**As a founding member, it must be a unique experience to witness the growth of the company these days.** This is also the first company I joined as soon as I graduated from university. The company has improved a lot since I joined, and I hope it grows even more in the future. After coming in as a developer, we focused on outsourcing work, and one day, the CEO suggested 'Let's find our own service'. Coincidentally, a junior colleague of mine suddenly lost his eyesight, so the thought of wanting to help him led to the development of our company's service. It is part of my job, but I am very happy when many people respond positively, especially when visually impaired individuals give good feedback.

**Has anything changed while working to share social value, like Sullivan Plus?** If you look at the application feedback, you can see that not only the service itself but also the developers get support from users. I think it's because there is a perception that Sullivan Plus provides a good

service to the world. My thoughts have started to change, and I also think about what kind of service would be helpful for these individuals, not just as a workable concept. I didn't pay much attention when I saw visually impaired individuals on the street

before, but I feel that my mindset has changed since the launch of our service. I have started observing how visually impaired people behave and naturally developed an interest in where they may face difficulties in their daily lives.

**Is the junior colleague also using Sullivan Plus?** He is helping us test the service while also handling simple tasks. Our service is certainly not perfect for the visually impaired, and I personally feel that there is a lot of room for improvement. To meet those needs, we are putting effort into developing AI models that can be used in specific situations and working together to make it easier to use the mobile app.

**What kind of world would you like to live in, in the future? (Social issues you want to see resolved)** What I feel the most about is the environmental issue. Many people check the fine dust levels when they wake up in the morning to decide whether to wear a mask, right? Social inequality also seems to be getting worse. Those problems that have been somewhat neglected.



Mandro's affordable 3D prosthetic hand

# Revolutionary cost reduction, Hope for everyone

People who have lost their hands due to accidents or illnesses face many inconveniences and limitations in their daily lives. A prosthetic hand provides stability to users, and if they have electric functionality, it can be used more conveniently by performing actions such as picking up or placing objects. However, electronic prosthetic hands are still too expensive for ordinary people to afford. Mandro's CEO, Sangho YI, offers electronic prosthetic hands of similar quality to overseas products costing tens of millions of won at a fraction of the price, thanks to the use of 3D printing technology.



## The Scene of Mandro

A high school student reached out to Sangho Yi, CEO of Mandro. His dream is to become a singer in the future, but he could not play the guitar due to a congenital disability. He asked for a prosthetic hand so that he could hold a guitar pick. The student's arm had only developed about half of its length, as his hand was entangled in the umbilical cord when he was a fetus. This request for a guitar-specific prosthetic hand was the first for Mandro. Since he was very busy at the time, CEO Yi pondered over this request several times. Seeing the student's passion and hard effort, he felt that Mandro's technology could provide him with an opportunity.

Eventually, Mandro made a prosthetic hand that could hold a guitar pick and gave it to the student as a gift. He struggled to hold the guitar properly at first, but with constant practice, he is now able to play beautiful melodies using his prosthetic hand. Later, he went to university, completed a practical music course, performed concerts with his songs, and even released his album.

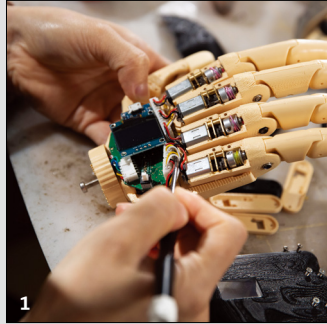
CEO Yi was greatly inspired by the fact that such a small technological solution can bring about a big change to help someone achieve their dreams. With the realization that solving the problems of people in need with appropriate technology is both necessary and truly valuable.

Mandro? It's an interesting name. You can tell that it is a company that 'makes' something, just by hearing the name (in Korean). Mandro uses 3D printing to make prosthetic hands. 3D printing is a technology that uses computers to create three-dimensional objects. This technology creates a 3D model by layering materials one on top of another. It allows for faster small-scale production, and objects can be made using various materials such as plastic, metal, and ceramic, so they are widely used in various industries. The idea of using 3D printing technology to create prosthetic hands is what made Mandro it is today.

### Doing what I love the most led me to starting a social enterprise

Sangho Yi, CEO of Mandro, decided to quit working for a large corporation after 3 years. "When I was young, I loved computer games, but I fell in love with programming. I started AI programming, and surprisingly, people reacted positively. It was something I enjoyed, and I even won awards in competitions. I realized that I can excel at something I love. I was interested in 3D printing, around the time I started my business. I engaged in various





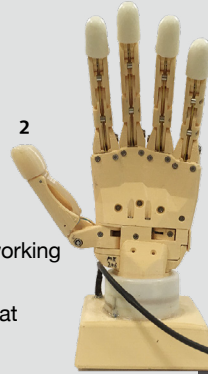
activities related to it and participated in networking events. Also, since my major was software engineering, I decided to develop software that would make 3D printers easier to use.”

#### From talent donation to a full-fledged business

Mandro started with the vision that even an entry-level 3D printer can produce results comparable to industrial ones if good software is used. However, it was a post on the 3D printing community that suddenly led Mandro to change the direction to making prosthetic hands. The post was about a person in their 30s who had lost both hands in an accident, inquiring whether it would be possible to use a 3D printer to create prosthetic hands since imported prosthetics were too expensive. CEO Yi felt a deep sense of empathy for this man, similar in his age, had experienced such misfortune, and he wanted to help in any way possible. So, despite negative responses, he left a comment saying that he would at least try to create a prototype. That's how Mandro's research into prosthetic hand production began.

#### The result of countless help and trial & error

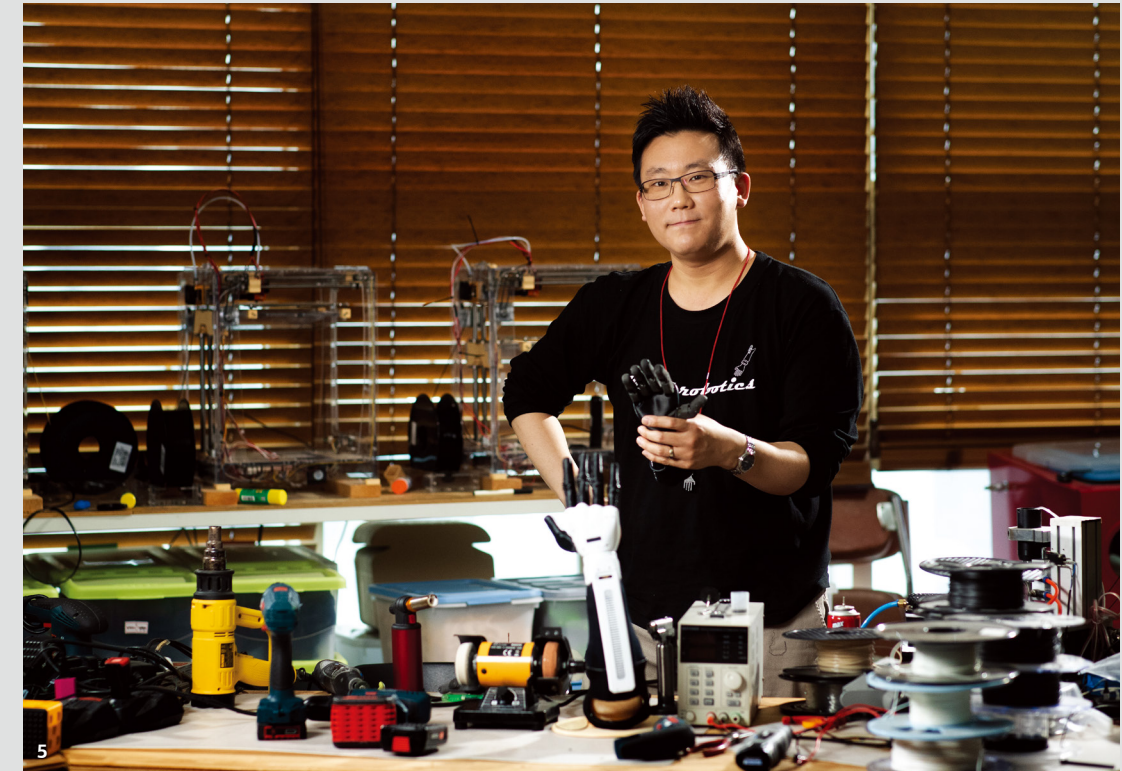
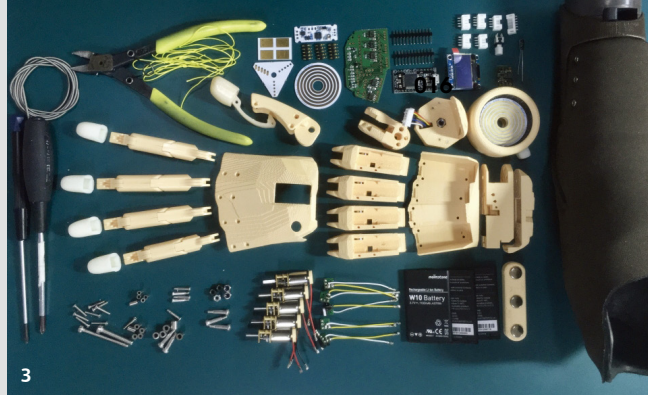
During the initial research and production of electronic prosthetics, Mandro received help from numerous people. They received usable printers, as well as assistance from patent application experts. The encouragement and support from those who recognized the value of business came together, providing the foundation for producing affordable and high-quality electronic prosthetics. The domestic electronic prosthetic hand market



1, 2 Mandro's mission and strategy is to use 3D printing technology to drastically lower prices while maintaining good quality.  
3 Mandro's prosthetic hand does not use existing technology or parts, but newly develops and manufactures all the components.  
4 An electronic prosthetic hand for individuals with palm amputations, made in February 2020.  
5 CEO Sang-ho Lee, at Mandro's office, reminiscent of a skilled craftsman's workshop.



is small, and most of the production is custom-made, leading to high prices. Traditional electric prosthetic hands were expensive, heavy, and required significant maintenance costs. For example, if you lost one hand and got an electronic prosthetic hand, the initial cost alone exceeds 40 million KRW (approximately \$35,000), and even if you buy it at a high cost, it can only be used for a maximum of five years due to durability limitations. As a result, although there is demand, the number of people actually using them is less than 0.1%. So Mandro developed and built everything from scratch, without relying on existing technology or parts, to reduce costs. They maximized the use of 3D printers and significantly reduced production costs. It is also much lighter since it is made of plastic. In July 2016, Mandro's first electronic prosthetic hand,



#### Talk about SPC Sangho Yi, CEO of Mandro

**What challenges did you face during the SPC's social value measurement?** The social value created by Mandro addresses the problem of no one using the existing electronic prosthetic hands for amputees due to their high price. Therefore, the SPC's social value measurement had to be carried out by comparing the price of existing electronic prosthetic hands, and when comparing the price of existing electronic prosthetic hands with our product, there is a difference of about 20 times. However, since the companies selling existing products are all competitors, it was not possible to obtain direct quotations. As an example, a five-finger electronic prosthetic limb from a company in Europe is delivered to a national hospital in Korea at a price ranging from 42 to 57 million KRW, but obtaining an official estimate for this was problematic because there was a conflict of interest. Additionally, since our product and technology are specific to a certain minority, the measurement itself may be easy, but there were difficulties in the measurement process, as mentioned above.

**Have there been any changes to Mandro after SPC participation?** The first change was meeting the CEOs of various companies who are interested in social impact through SPC, and receiving social progress credit to give employees more incentives to motivate them. Additionally, it wasn't much but we were able to utilize it for the development of our new products.

#### As an SPC graduate company, do you have any advice for junior companies or SPC?

I don't think there are seniors or juniors in business, but if someone considers starting a social enterprise, I would like to tell them one thing. Achieving social impact requires significant effort, and it is important not to lose the members who make up the company during the journey to the final destination. Along with social performance, what is more, important is the relationships with the people you work with. It would be great if you could share values and vision sufficiently with those you work with so that you can overcome difficulties together.





A student of Jordan received a donation of a prosthetic hand made by students from Boseong High School during a Mandro prosthetic hand production workshop. The student shared a photo of himself wearing the hand as a way of expressing thanks.

called “Mark Series”, was released. After going through numerous trials and errors, it has been upgraded through repeated modifications and supplements until recently. Such efforts and social values of Mandro have been recognized both domestically and internationally. They have also carried out projects to produce and distribute electronic prosthetic limbs for Syrian refugees in Jordan. Before the COVID-19 pandemic, they had active sales in the Middle East and Africa. Exploring overseas markets is seen as the best alternative to overcome the limitations of the small domestic market.

#### **So that poverty is not a reason for a disability**

“There shouldn’t be anyone who cannot afford a prosthetic limb because of money.” This is the first phrase that pops up when you open Mandro’s website.

“That message is the philosophy and vision of our company. We aim to create a world where everyone can afford an electronic prosthetic limb. That’s the only purpose, so we just have to achieve it. By doing so, we naturally generate social value. However, it is also important to address the issue of whether we can earn money and sustain the company while doing this. The company needs to survive in order to continue this work. It is a problem that our company is destined to face. To solve this problem, we need to tackle challenges in a more innovative way than others do and focus as much as possible on technological development. That’s why we don’t do any marketing. We solely focus on technology. We need to create our products better and cheaper than anyone else, in an innovative way, using our own technology. We

face trial and error every day, but we believe that’s our homework, and it is necessary to solve this problem. While one might think that “selling more expensive products for profit” is a valid perspective, that would be the perspective of a businessman. Our mission, however, is to challenge the limits of costs that people have and provide our products at a price that both the company can sustain and customers can afford. That’s the challenge we are currently facing. If we can solve that, success will naturally follow.”

People who were suddenly put into a situation where they could no longer use their hands. Simple everyday tasks like holding objects, playing a musical instrument, or brushing their teeth may become tearfully desired moments for them. Mandro faces each and every customer individually and is opening up new possibilities for their daily lives that best suit each individual. With 9 years of accumulated know-how and technology, Mandro takes pride in understanding the hearts of amputees better than anyone else and being able to solve their problems. So, what are Mandro’s plans for the future ahead?

“In the long term, we want to create products and services that help people with hand disabilities live their daily lives without any inconvenience. We want to make these products accessible worldwide. If that becomes a reality, the company will become more established and stable, don’t you think? In the short term, we want to work hard this year to secure funds and expand the size of the company.” In the dedicated pursuit of Mandro’s beliefs, we can depict an image of the future when their mission is fulfilled, which is a world where poverty is no longer an “obvious reason” for disability.

## **Interview with Members**

Assistive Prosthetic Device Technician of Mandro

Ha-hyeon Jo



**Please introduce yourself.** Hello, I’m Ha-yeon Jo, an assistive device technician at Mandro. I mainly work on overall prosthetic limb manufacturing and research, as well as designing sockets for prosthetic hand attachments.







**Did you major in a related field?** Yes, there is a major called Assistive Device Engineering (Prosthetics). We learn how to manufacture assistive devices such as prosthetic limbs and various medical knowledge.

**Have there been any changes in your perspective or attitude towards society while working at Mandro.** Our CEO believes that even people with disabilities who do not have money should be able to benefit from technology. However, when I was studying, I thought it was better to pursue good, high-end products, even if they were a bit expensive. But after directly meeting and interacting with individuals with disabilities at Mandro, I realized that it’s not just about expensive and high-quality products. It’s about providing products that are comfortable for everyday use. I now hope to offer more affordable

products to those individuals.

**You have been working at Mandro for the longest time among the employees. Are there any memorable customers, in particular?** As CEO Yi mentioned, making a guitar prosthetic limb for an aspiring singer was memorable. I’m very proud to see that he is one of the most satisfied users of our product. Also, there was an elderly lady who had an amputated wrist due to necrosis. Her spouse would always call us to check if there were any updates or better products available. I could feel their love because he was always concerned about the discomfort she experienced and tried to make her life a little more comfortable.

**How do you envision Mandro’s growth in the future?** Currently, we are conducting research at a rigorous pace, almost upgrading our products every month. There are many areas of conflict around the world these days. We hope to expand our market to these regions where assistance is needed, so that more people can use our high-quality electronic prosthetic limbs at an affordable price, just like the mission of our company.

<h1>Impact of Mandro at a glance</h1>		<div><div><div>Employment performance</div></div><div><div>Social Ecosystem Performance</div></div><div><div>Environmental performance</div></div><div><div>Social service performance</div></div></div>	
<div><div></div><div><div><b>Company Name</b></div>Mandro<div><b>CEO</b></div>Sangho Yi<div><b>SPC Entry Year</b></div>2019 (as 5th year SPC participant)<div><b>Website</b></div><a href="http://mand.ro">http://mand.ro</a><div><b>Mission of the company</b></div>Mandro develops and sells affordable, lightweight electronic prosthetic hands with the fundamental principle that “There shouldn’t be anyone who cannot afford a prosthetic limb because of money”. These prosthetic hands are priced at 1/30th of the cost of conventional options.</div></div>		<div><div><b>Measurement</b></div><div><b>Measurement of solution and comparison of prices</b>  Comparison of prices among existing 3D-printed electronic prosthetic hand products.  <small>* market prices are estimated and converted to monetary value.</small></div></div>	
<div><div><b>Problem</b></div><div><b>Stakeholders</b></div><div><b>Solution</b></div></div> <div><div><b><u>Social issue to be solved</u></b>  Social mission: Mandro aims to create a world for upper limb amputees, who have been excluded from the conventional market, to lead better lives.</div><div><b><u>Stakeholders who gain from social benefits</u></b>  Upper limb amputees in need of electronic prosthetic hands. (Sold at a lower price than the existing electronic prosthetic arms, reducing the economic burden of the upper limb amputees)</div><div><b><u>Comparison with solutions in the market</u></b><div><div><div>Social service performance</div></div><div><ul style="list-style-type: none"><li>• Development of 3D-printed electronic prosthetic hands for upper limb amputees.</li><li>• Selling and distributing at a lower price than the existing expensive high-cost options.</li></ul></div></div><div><small>* SPC only acknowledges objectively measurable performance that can be agreed upon generally.</small></div></div></div>		<div><div><b>Social Performance</b></div><div><b><u>Measured social performance</u></b> <small>In million Korean Won</small></div><div><div><div><b>Social service performance</b></div><div><div>500</div><div>400</div><div>300</div><div>200</div><div>100</div></div><div><div>FY17</div><div>FY18</div><div>FY19</div><div>FY20</div><div>FY21</div></div><div><div>263</div><div>385</div></div></div><div><div><b>Total performance</b></div><div><div>500</div><div>400</div><div>300</div><div>200</div><div>100</div></div><div><div>FY17</div><div>FY18</div><div>FY19</div><div>FY20</div><div>FY21</div></div><div><div>263</div><div>385</div></div></div></div></div>	



## Cizion's Solution for a Healthy Online Environment

# Vivid Online Communication without Hate Comments

Hate comments (malicious comments) refer to comments that slander or use abusive language at a specific target on the internet. Since anyone can easily post them anonymously, hate comments often contain extremely aggressive and violent content. From newspaper articles to personal posts on social media, being the target of hate comments can cause severe mental and physical damage. Cizion is a comment platform that significantly reduces the possibility of such hate comments, and is striving to create a cleaner online communication environment.

Cizion is an IT company founded in 2009 with a mission derived from 'Civilization'. It aims to contribute to the civilization of the internet world by leading proper communication through innovative technology and ideas. 'LiveRe' is the first social comment service in Korea that made Cizion what it is today. You can easily log on to it through your social media account and leave comments. When you write comments, your social media profile, photo, and name are displayed along with the comment, increasing the reliability and quality of the content. As a result, the percentage of hate comments decreases.

### The answer to solving the problem: 'start-up'

Mikyun Kim, the CEO of Cizion, recognized the seriousness of the problem of hate comments, which was a big social issue during her university years. Her thinking about solutions to this problem led to her starting a business.

Determined to solve the problem of hate comments, Mikyun Kim even took a semester off and continued to brainstorm and develop ideas together with co-founder Beom-jin Kim. They also planned and conducted campaigns to reduce hate comments. Then, based on the idea that "people's behavior could be changed by one small tool", they created a widget-type comment system.

"An NGO hosting World Malaria Day contacted us, expressing their interest in using our program. We gave it away for free as we never expect to make money from it, and it was for a meaningful cause. However, after seeing it being used there, other NGOs started reaching out to us saying that they wanted to use it on their website as well. Initially, we continued to offer it for free, but the NGO, Good Neighbors asked us if we were okay with 7 million won, as that was their budget.

7 million won was a huge amount of money for us at the time. With a pounding heart(!), we developed and carried out the project with that money. That set a good example and gave us confidence. It was the first time we fully embraced the concept of getting paid for solving problems. Before, I had always had doubts and kept asking myself 'whether it is right to get paid for doing good deeds'"

### Posted comments within social relationships, the magic of hate comments disappearing

Cizion's LiveRe service is currently being used in almost all news comment sections of various media outlets. It's no exaggeration to say that almost every comment section you see below news articles is powered by LiveRe. In the past, users had to log in to each media outlet or portal to post comments. But now you can use your own



## The Scene of Cizion

Is there any way to fix hate comments? The moment that gave CEO Mikyun Kim, who was a college student, a bright inspiration, occurred during a lecture she attended after a long break from school. During a cyber communication class, it was said that there are four ways to solve problems that occur online: law, market, norms, and structure. Among them, CEO Mikyun Kim paid attention to the "structure" approach. For example, if sensors were placed on trash cans in a park, and they made an interesting sound when people threw trash in, it would naturally encourage people to use the trash cans because they find the sound fun.

Interestingly, CEO Kim learned coding instead of piano or taekwondo when she was young. Co-founder and CEO Beom-Jin Kim, also briefly majored in computer engineering. So the two were able to make a basic form of Live Re by putting their heads together and creating a script. It seems like a miracle where many coincidences fell into perfect harmony, but beneath it, there were countless trials and errors and worries that flowed like a river. Perhaps the trajectory of that river is what made Cizion today.



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social media accounts such as Facebook, Kakao, or Naver of your choosing to comment, enabling more convenient communication. This feature is called social commenting. Furthermore, the comments written are also shared on the user's social network, leaving a record. Since not only you but also others with social connections can see the comments, more caution is required when writing comments, which reduces the possibility of hate comments. Additionally, the ability to like or dislike comments helps filter out malicious comments more easily.

"Currently, almost 100% of media comment sections are using our platform called LiveRe. Comments written through this platform are collected on our company server, where we monitor and filter out hate comments. We used to have a monitoring team comprised of disabled

people to monitor and identify comments that are difficult for machines to judge. Nowadays, with remarkable developments in technology, most of these tasks are performed by AI. We started applying the ChatGPT technology, which resulted in the detection of hate comments has risen to 99.5%. It has become incredibly intelligent. While the development of technology is beneficial, there is also regret that we can no longer employ people with disabilities due to company management." Did you know that there are patterns in hate comments? Cizion has an algorithm that detects these patterns. First of all, spam (promotional) messages are also a type of malicious comment and have their own distinctive patterns. Additionally if offensive words appear repeatedly or if words constituting personal attacks are continuously used, the comment is identified as malicious



- 1 The majority of Korean media outlets are using Cizion's 'Live Re'.
- 2 Mikyun Kim, CEO of Cizion.
- 3 Live Re, is also known as a social comment feature. It connects to social networks without membership registration, and has a great effect on reducing malicious comments through Cizion's own screening program using artificial intelligence.

and filtered out. However, just because there are profanities, it doesn't categorize a comment as malicious. Judgment may vary depending on the nature of the site or platform on which the article is posted, and context should also be identified. Through such meticulous work in filtering out comments, the number of malicious comments has significantly decreased.

"When we initially introduced Cizion, around 350 media outlets were using LiveRe. Now, that number has increased to 650. The total number of clients has exceeded 1,024, up from 500. It has more than doubled. Malicious comments have also decreased significantly. In the beginning, when the service was first launched, there were hardly any normal comments. The comment sections were filled with spam and profanities, as if it was a battlefield, making it an environment unsuitable for meaningful communication. Currently, LiveRe maintains a malicious comment ratio of less than 5%, indicating a significant difference."

#### For Healthy Online Communication

Cizion is a company created to solve social problems caused by malicious comments. That mission is still at the heart of the company.

"I believe that online space is a very important environment for human beings. When glaciers melt due to climate change, the oceans are filled with plastic, and animals die, we start to worry that "the Earth is sick". However, the online world is even more desolate than the offline world. Moreover, we spend much more mental energy in the online environment than in the offline one. Children make friends in the metaverse and learn about the world in it. If online communication is not healthy, our mental well-being is also at stake. Cizion is currently in charge of a very small part of the online environment, the comment section, but if the business expands further in the future, we want to develop various tools that make online communication healthy."

It has already been 14 years since Mikyun Kim founded the company with a strong Aspiration to solve social problems as a student. "It was not easy to bear the weight of being a CEO at a young age. I think it was good that I failed a lot at a young and reckless age, when I had a little more stamina. Now, at my age, I'm already shy and hesitant.

However, due to my lack of experience, I made a lot of trial and error. If I had some work experience, I would have learned how to communicate without letting my emotions interfere, with the process of dividing tasks and producing results. I started as the CEO, so I had no knowledge about HR. I think I was a really terrible CEO (laughs). I also had a sense of inferiority due to my young age. Even now, I often think that I want to work at another company and experience office life, preferably in a rapidly growing company. I want to become an entrepreneur who does not stop at being a founder and continues to pursue new values." CEO Mikyun Kim argues that social entrepreneurs should engage in chain entrepreneurship, creating businesses that continuously create new social values. We are curious and look forward to her next start-up and the social problem she will solve.

#### Talk about SPC







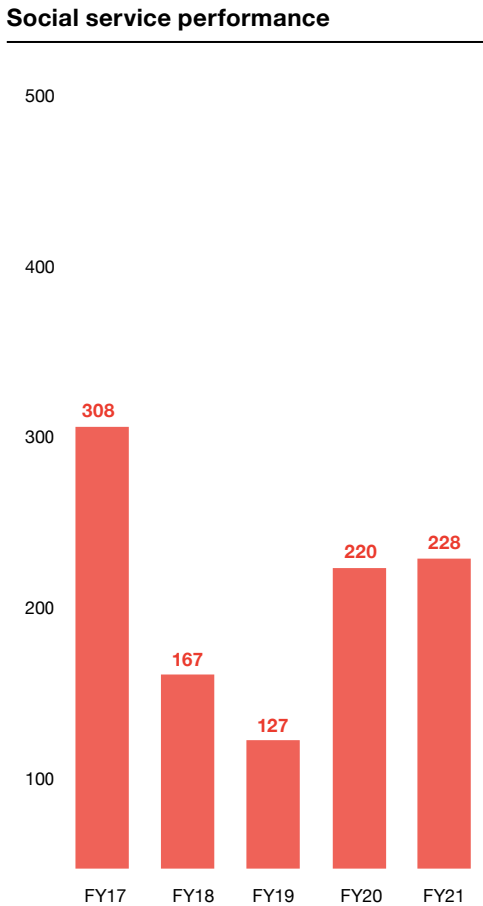
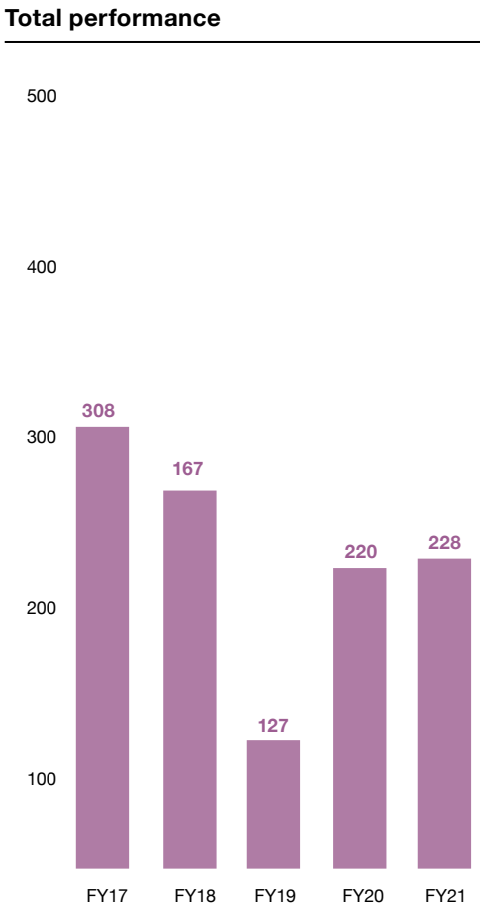
CEO Mikyun Kim from Cizion

#### How were social progress credit used in Cizion?

The SPC incentive was quite large in the beginning. So, we were able to use some of the incentives we received to research and develop what the NGOs we are collaborating with needed. It was something we had always needed, but it was not possible because it was a development project that required significant manpower for at least a month or two. However, it became possible with the incentives. I think most of the funds we received were used for labor costs and research & development.

**As an SPC senior company, what advice would you like to give to junior companies?** I think all the procedures were relatively easier in our time than now (laughs). Personally, I consider "social" in "social enterprise" as an adjective. In other words, we must not lose our identity as a business. So, it doesn't mean you have to make less money to do good work. Pursuing profitability is connected to sustainability, and if you don't solve the problem sustainably, it's akin to giving false hope or torment to those affected by the problem. Then you have to come up with a sustainable model, which is really difficult. You must solve it, even if it is difficult. It will require a lot of focus and effort. You can overcome the ups and downs of reality only when you sincerely feel and sympathize with the social problems that need to be solved.



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TestWorks, Non-discriminatory employment that embraces disabilities

# Difference and diversity, our competitive edge

For people with disabilities, jobs are an important issue that guarantees economic independence and social participation. However, compared to non-disabled people, there are many cases in which people with disabilities are discriminated against or restricted, making it difficult to get a job. This is caused by social prejudice and lack of information that people with disabilities are less productive than non-disabled people and will not be able to adapt to the workplace. TestWorks is a social enterprise and an AI-specialized company that goes against these prejudices and limitations and realizes social values by discovering and employing the unique abilities of the socially vulnerable groups.



## The Scene of TestWorks

This is a story from the early days of TestWorks. CEO Sukwon Yoon selected three individuals with autism as trainees and attempted to train them as software testers. People with autism have a tendency of showing extreme focus and interest in specific objects or subjects. This could be interpreted as 'having a special talent for objects and analytical skills', and CEO Sukwon Yoon also paid attention to this point.

However, the education process was not always smooth. There were times when the class itself could not take place. Sometimes CEO Sukwon Yoon felt skeptical about the feasibility of the project when they would suddenly start screaming in the middle of the class, go to the bathroom freely, and not pay attention to the class at all. The classes went on, nonetheless. He also created a 20-minute class with a 10-minute break format and provided 1:1 tutor session with college students. They diversified the program by incorporating games to develop social skills and completed 200 hours of education. After that, all three of them took the international certification exam.

The results were amazing. All three of them passed the exams with outstanding scores. Having gone through a difficult process, CEO Yoon thought it would be a relief even if only one of them passed. In reality, they were all focused on the lectures and had even greater potential and possibilities than expected. CEO Yoon still can't forget how he felt then. The feeling of fulfillment when reaping unexpected results on a path that is not easy - but has to be taken. He thinks about it every day, reminding himself not to give up.

Founded in 2015, TestWorks provides a one-stop solution for the entire development process, from AI data collection to data labelling and data quality inspection for its clients. It is also well-known as a social enterprise that leads the creation of jobs for socially vulnerable groups by providing employment regardless of gender, origin, age, or disability. TestWorks has achieved both professionalism and social value realization by winning the 'Baby Unicorn 200' selected by the Ministry of SMEs and Startups in 2022 and winning the Changemaker Award in Korea in 2023. We had the opportunity to meet with CEO Sukwon Yoon and heard the many stories behind their achievements.

### Creating a Company Where the Socially Vulnerable Groups Can Work

Sukwon Yoon, CEO of TestWorks, decided to start his own business after working as a software expert at large global companies such as Microsoft and





1 Sukwon Yoon, CEO of TestWorks  
 2, 3 TestWorks provides services for the entire development process of artificial intelligence data, from data collection, data labelling, quality inspection, including data expert service.  
 4, 5 TestWorks actively employs the socially underprivileged. Also, have a variety of educational programs for these individuals.



Samsung Electronics. What prompted him to leave a stable life and venture into the uncertain path of entrepreneurship?  
 “While working at a company for a long time, I began to feel a significant lack of meaning and value in my work. The success seen within the company, such as promotion to executives, didn’t resonate with me. I wanted to do something meaningful that aligns with my values and ignites my passion. Then, I had a chance to briefly help a social enterprise that creates employment opportunities for young North Korean defectors. From that experience, I realized how important the role of a leader is. I thought I could do something if I combined my aspirations with the expertise I gained as a software engineer for 20 years, so I left the company and started TestWorks.”

#### A Tough Journey of Killing Two Birds with One Stone

TestWorks placed a mission of employing vulnerable populations at the core of its entrepreneurship, since the beginning. However, it is very difficult to achieve

both social value and corporate profit. So, there were many trials and errors in the early days of the business. As a result of delivering data processed by employees with disabilities directly to clients without inspection, contracts were terminated. One of the reasons was the difficulty in communication with individuals with autism. It was a precarious episode that emerged from solely emphasizing social value and authenticity. However, that incident served as an opportunity to establish the quality management process. The team gathered and discussed all night, cross-validated the data, and created a system to communicate with customers. With the implementation of such a system, customer dissatisfaction significantly decreased. “During the first two years of our startup, I made a great effort to design a business model where those two values do not clash. By employing people with disabilities or women with experience, we focused on recognizing their strengths and designing work in a way that allows them to excel. As they gained experience, we discovered aspects in which their

job productivity was even better than that of non-disabled individuals and made continuous efforts to connect that with productivity. For example, data processing tasks are repetitive tasks that require great attention to detail. Such types of work are suitable for individuals with autism. In the case of hearing-impaired individuals, they have a heightened sense of vision and high concentration, so we assigned them tasks that require those abilities. We also entrusted the role of managing them to women with excellent communication skills and understanding. We try not to use expressions like ‘social enterprise’ or ‘company that employs individuals with disabilities’ because we don’t want our mission to be seen as an “emotional seller” to customers. We are competing purely with technology and our skills.”

#### Social value, the driving force

CEO Sukwon Yoon had never been in the position of subcontractor (lower position) before starting his own business. He had always been the contractor

#### Talk about SPC

Sukwon Yoon, CEO of TestWorks

**What does Social Progress Credit mean to TestWorks?** The best part was receiving incentives based on the social value we created. We allocated a significant portion of these incentives toward R&D purposes. Initially, TestWorks started with a model of hiring employees, but then we needed to transition into a technology-based company platform or solutions. That’s when the SPC incentives were incredibly helpful. The company was able to grow based on that foundation. From 2017 to last year, our average growth rate was about 67%, and now we are one of the top-tier companies in the field of AI data. It was a huge help in R&D, which enabled us to create platforms and solutions that could support technological competitiveness. Thank you, CSES.

**What advice would you like to give to junior SPC companies?** First and foremost, I think it is important to effectively promote the social impact they create by utilizing as much imagination as possible. That doesn’t mean exaggerating social performance. In many cases, companies are not aware of the social impact they are actually creating. Imagination is required here. Additionally, while it is good to promote social impact, it is equally important to generate economic profits. So, I would tell them to try not to separate social impact and economic performance but rather strive to create a virtuous cycle structure. Once that becomes possible, the company will naturally experience economic growth, which will, in turn, amplify the social impact. So please think about such a business model.



TestWorks inclusive employment helps people with disabilities become independent and presents opportunities to plan their own lives.

(superior position). In the early stages of the business, a management consultant even told him, “This is the perfect situation for a business to fail.” If large corporations had all systems and colleagues with professional capabilities, for startups, you needed to do everything on your own from start to finish.

“I worked really hard. I put everything down and worked really hard. There were many times when I wanted to give up, but in the end, I was able to endure thanks to the employees I was working with. Working with individuals with autism, I learned that this job was more than just providing job opportunities and paychecks. The family he or she belongs to can be relieved of the burden of caregiving, and the individuals with disabilities can find work that suits their aptitude, and there is even a possibility of planning for their old age. I think we were able to do this business because of our vision, and that social value. If not for that, I would have already run away. There would be no need to do such a difficult job.”

In order to employ individuals with disabilities and keep them working, significant changes had to be made at the company. They established a support system to help people with autism from employment to the adaptation of work and created a “self-management checklist” that enables them to manage their company life on their own. This checklist includes items such as punctuality, appearance, cleanliness, email checking, basic norms and etiquette within the workplace, and work attitude. By improving the hiring process for individuals with autism and implementing a management system,

their capabilities grew remarkably. Customers that once requested termination of contract are still collaborating with us as good partners.

“Sometimes the parents of our employees with autism send me text messages or letters. They say their son gave them pocket money from their salary. It may have been our project managers who taught them, but it's hard to expect such social exchanges due to the nature of autism. It is very touching for the parents. They are very happy and say things like, ‘I feel like my child has really become a member of society now.’ Actual tests show that their intelligence, cognition, thinking, emotions, and all other areas have grown after they started working. Especially their social skills have improved to an unbelievable extent. Even the doctors say they have never seen such a case before and are amazed.”

#### **A company that grows together with diversity.**

TestWorks not only contributes to the social value of creating employment opportunities for people with disabilities but has also been growing significantly as an IT company based on artificial intelligence technology. Through years of collaboration with clients who requested data and model construction and by developing and enhancing solutions for problem-solving, TestWorks has gained expertise and technological capabilities to lead the market in AI data-centric solutions. On the other hand, TestWorks has been moving rapidly to pursue international expansion recently. In 2021, to establish a foundation for global expansion, TestWorks participated in the KSC (K-Startup Center) program in Stockholm, Sweden, organized by the Korea Institute of Startup and Entrepreneurship Development (KISED). In 2022, TestWorks initiated the establishment of a local subsidiary and a data education and processing center in Vietnam, through the KOICA IBS project. Additionally, TestWorks was selected for the KIC (Korea Innovation Center) Express Soaring 2 program in Silicon Valley, and started communication and partnerships with AI specialized companies.

“Becoming a respected impact unicorn.” This is the response of CEO Sukwon Yoo regarding their long-term goals. We hope that TestWorks, which opens new opportunities for socially vulnerable groups and always strives for mutual growth with them, to achieve that goal soon.

## **Interview with Members**

Team Leader of TestWorks

Ji-su Bae



#### **Please introduce**

**yourself.** My name is Bae Ji-su, and I am the team leader of the Impact Platform team at TestWorks. Many people are not familiar with the name “Impact Platform Team”, so many people ask me about it. I create content to promote the social value created by TestWorks, and I am in charge of planning and operating projects related to public data.

**Why did you choose TestWorks? Were you always interested in social enterprises?** I think I may have been destined to do something like this one day, but I didn't originally work in this field. TestWorks is my third company, and I had always worked in the marketing division. My previous goals were always about attracting more customers and generating more profit. The reason I got into TestWorks was that the IT job looked promising, not specifically because it was a social enterprise.

During the final interview, I shared a story about my experience volunteering abroad in my senior year of college. At the time, people were very worried about my choice. They wondered why I would waste time on volunteering when I didn't have enough time for job preparation. They questioned whether the world would change because of it. However, when the CEO heard about my experience he said, you have had so many diverse and valuable experiences, which I

think will be a significant asset for working in this company. You have lived such an impressive life. That made me realize that there are companies that pursue such values.

#### **What kind of changes have you experienced while working at TestWorks?**










I fundamentally believe that the feeling of

fulfillment motivates people. Everyone says that self-realization happens in other areas of life, and a job is just a job, and money is just money. I also used to think that way. However, working at TestWorks has brought about a fundamental change in my values, where I realized that doing good deeds and pursuing values can also contribute to the company's future profits. I am leading a team that dedicates significant effort towards accomplishing this goal.

#### **What kind of world would you like to live in?**

I want to live in a world where I can feel happiness without trying too hard. Our society seems to demand a lot for us to be happy. We have to study hard, earn money, have successful marriages, and achieve self-realization as if happiness can only be felt by surpassing one stage after another. However, misfortune comes unexpectedly one day; sometimes several at the same time. I want to live in a world where I can feel happiness without having to work hard for it. I hope to fully appreciate the small joys in life, like good weather, or leaving work 10 minutes early.



<h1>Impact of TestWorks at a Glance</h1>		<div><div><div>Employment performance</div></div><div><div>Social Ecosystem Performance</div></div><div><div>Environmental performance</div></div><div><div>Social service performance</div></div></div>	
<div><div></div><div><div><div>Company Name</div><div>CEO</div><div>SPC Entry Year</div><div>Website</div><div>Mission of the company</div></div><div><div>TestWorks</div><div>Sukwon Yoon</div><div>2017 (as 3rd year SPC participant)</div><div>www.testworks.co.kr</div><div>As a social enterprise and IT specialist company dedicated to social innovation, we achieve social value by providing “Second Chances”, self-realization, and job expertise to women with experience, people with disabilities, and youth in socially disadvantaged groups.</div></div></div></div>		<div><div>Measurement</div><div><div><div><div>Social service performance</div></div><div><div>Employment performance</div></div></div><div><div>Measurement of solution and comparison of prices</div><div><div><ul style="list-style-type: none"><li>The estimated cost per hour when taking education in computer engineering with the goal of employment, from the beneficiary's point of view.</li><li>Average income of women with experience and persons with disabilities</li></ul></div><div><ul style="list-style-type: none"><li>Freelancer (Women with experience)</li></ul></div></div><div><div>* Realistic market prices are estimated and converted to monetary value.</div></div></div></div></div>	
<div>Problem</div>	<div><div>Social issue to be solved</div><div>Social Mission: Growing with Employees, Customers, and Society</div></div>	<div><div>Social Performance</div><div>Measured social performance</div><div>In million Korean Won</div><div><div><div>Social service performance</div><div>Total performance</div></div><div><div><div><div><div>200</div><div>150</div><div>100</div><div>50</div><div>0</div></div><div><div>FY17</div><div>FY18</div><div>FY19</div><div>FY20</div><div>FY21</div></div></div><div><div>63</div><div>26</div><div>41</div><div>91</div><div>192</div></div></div><div><div><div>1,000</div><div>900</div><div>800</div><div>700</div><div>600</div><div>500</div><div>400</div><div>300</div><div>200</div><div>100</div><div>0</div></div><div><div>FY17</div><div>FY18</div><div>FY19</div><div>FY20</div><div>FY21</div></div></div><div><div>162</div><div>158</div><div>153</div><div>489</div><div>940</div></div></div></div><div><div><div>Employment performance</div></div><div><div><div><div>1,000</div><div>800</div><div>600</div><div>400</div><div>200</div><div>0</div></div><div><div>FY17</div><div>FY18</div><div>FY19</div><div>FY20</div><div>FY21</div></div></div><div><div>99</div><div>131</div><div>112</div><div>398</div><div>605</div></div></div></div></div>	
<div>Stakeholders</div>	<div><div>Stakeholders who gain from social benefits</div><div>People with disabilities (In the highly competitive IT industry, where cutting-edge technologies are evolving rapidly, TestWorks aims to provide diverse opportunities to socially vulnerable groups such as people with disabilities who face challenges in employment.)</div></div>		
<div>Solution</div>	<div><div>Comparison with solutions in the market</div><div><div><div><div>Social service performance</div></div><div><ul style="list-style-type: none"><li>Performance of providing free employment training for AI learning data collection/processing</li><li>Employment performance (direct employment and caregiving through employment).</li></ul></div></div><div><div><div>Employment performance</div></div><div><ul style="list-style-type: none"><li>Improving profits for vulnerable employees through additional trading opportunities (creating flexible jobs for women with experience and people with disabilities by developing a new job called ‘Data Labeler’)</li></ul></div></div><div><div>* SPC only acknowledges objectively measurable performance that can be agreed upon generally.</div></div></div></div>		

Lumir, Contemplate s on the Issue of Light Shortage in Indonesia

# A warm light created through observation and empathy

Did you know that one billion people in the world live in a dark environment because they don't have access to electricity? They still use candles and kerosene lamps for source of light in their daily lives, but even that is a burdensome expense for the those in poverty. There is always dangers due to darkness or fire. Lumir started in order to solve this problem of light shortage with technology. Let's explore the story of Lumir, of how an extraordinary experience of an individual while travelling became a business and grew into a socially valuable solution to a global problem.



## The Scene of Lumir

It was when Lumir ambitiously developed 'Lumire K' to solve the problem of light shortage in many parts of the world. It was a lamp based on the principle of lighting a fire with kerosene, generating electricity with the heat, and producing LED light. Hence, the K in the name came from 'Kerosene'. But when The founder of Lumir, Je-hwan Park took the product to a local village in Indonesia for a field testing, Je-hwan Park discovered an unexpected problem. The local kerosene was mixed with impurities and of inconsistent quality, leading to excessive soot, causing the product to break down.

CEO Je-hwan Park studied various ways to solve this problem upon returning to Korea, but there was nothing he could do as it was the problem of the quality of local fuel. But when he revisited the village after a while, the locals were using Lumir K. Instead of using kerosene (which makes soot), they had substituted it with cooking oil. Cooking oil is relatively cheap and common, with consistent quality in the tropical regions. It's easy to find, and it works fine even with used oil. The local residents who had been using Lumir K, which was distributed for testing, had found the best alternative themselves. Could it be that Lumir's dedication to solving the issue of light shortage had resonated with them? This lamp, brighter and more convenient than any candle, was literally perfected through localization. And that's how Lumir K was reborn as a cooking oil lamp.

### A Life-Changing Journey: Becomes the Seed of Business

Indonesia is made up of over 17,000 islands. Most of them still have difficulties getting electricity supply. Especially for the poor, blackouts are a part of everyday life. They are suddenly faced with total darkness while eating, reading a book, or sitting in the bathroom in the middle of the night. As individuals accustomed to living with constant bright lighting night or day, it is difficult for us to imagine such a scene.

Je-hwan Park, CEO of Lumir, first experienced this light shortage problem during his trip to India. It wasn't a grand field experience through organizations like NGOs. Instead, it was a simple backpacking trip where cities would plunge into complete darkness during a glass of beer in the evening. Locals would not panic and go to turn on the generator, or light a candle and wait for the electricity to come back on. As someone from a generation that had rarely experienced power outages, CEO Park found it unfamiliar yet incomprehensible that such frequent blackouts





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**1, 2** Children in Indonesia go to school at 6 am, return home at 11 am, take a nap during lunchtime. Due to the scorching weather, they can study only after sundown.

**3** Living in floating houses is very common in Indonesia as it is made up of over 17,000 islands. Thus, many areas outside big cities suffer from difficulty in decent electricity supply.

**4** The design of Lumir C has a resemblance of a lighthouse. Lighting the tealight candle inside, lights up the LED.



2



3

occurred even in a country like India with relatively developed infrastructure, compared to its neighbouring countries. This led him to discover that many people in developing countries with even worse conditions are still living through dark nights. 'What if I could create a product that could light up these people's dark nights?' he wondered. Looking back, it was a trip he went on with his friends without much purpose. However, the life of this young man who had no dreams changed dramatically from that point on.

CEO Je-hwan Park transferred to the school of Engineering after returning to Korea. As a statistics major, he had a fascination with engineering; thinking that by learning the various techniques, he could bring his ideas to life. After all, he wanted to create a product that could solve the issue of light shortage he encountered on his trip. Engineering courses were not easy. He had little background knowledge and hadn't taken any introductory classes, so keeping up with the third-year engineering curriculum was challenging. The knowledge required to come up with a lighting device without electricity had to be sought out from scratch. Despite the difficulties, he managed to develop a product and achieved favorable results in an on-campus startup competition. The product was a kind of battery device that could be plugged into a light bulb, charging during regular times and automatically turning on during power outages. However, after winning the competition, CEO Park participated in various domestic fairs and realized that it would be difficult to commercialize his product. Perhaps the limitation of the product

was due to making the product without better knowledge of the local situation. It became clear that a deeper understanding of the culture was necessary.

### **The Light of the Two Worlds is Different for Developed and Developing Countries**

In 2015, CEO Je-hwan Park headed to the slums of the Philippines. There, he witnessed and personally experienced the severity of the light shortage issue. The children in that area would go to school at 6 am and return home at 11 am, taking a nap during lunchtime due to the scorching weather. And when the sun goes down, and it gets a little cool, they would help out with housework and study in the evening. However, in situations where the electricity was cut off, they couldn't study at all. The situation where electricity supply is scarce and uncertain is not much different in most developing countries in tropical Asia.

After visiting the Philippines, CEO Je-hwan Park is dedicated himself to the development of a prototype. That's how Lumir C was introduced to the world. This product, which kind of looks like a lighthouse, was inspired by candles and is an LED lighting that is 60 times brighter than a candle. When you light the tealight (a flat-shaped candle) located at the bottom of the product, the LED gradually starts to light up. Since it is operated by candlelight, it can be used semi-permanently without external electricity or batteries. However, Lumir also faced difficulty with its pricing policy. At that time, the selling price of Lumir C was about 100,000 KRW, but with logistics and distribution costs to the islands of Indonesia, the price would more than double. Although it was developed for the residents in remote areas suffering light shortage, it was too expensive to sell there. Furthermore, even the supplies for the product, the candle, were not easy for the locals to get. However, Lumir couldn't simply give up on a product that they had spent so much time and effort creating.

In order to ensure the continuous management of Lumir, CEO Je-hwan Park comes up with a Two-Track strategy. The plan was to first sell Lumir C in developed countries and then use the profits to redevelop lighting solutions for developing countries. In fact, Lumir C was an item that would be attractive to Westerners who owned gardens



4



and enjoyed camping. There was even advice to target the United States, a country with a culture familiar with having a terrace and using a significant amount of candles. Thus, in 2016, Lumir first conducted funding as a trial, through Kickstarter, a US crowdfunding platform. The results were astonishing. It was sponsored by 1,000 people and succeeded in funding 160 million KRW, more than 200% of its target amount, in just a month. The following year, Lumir C achieved its funding target of 500,000 JPY on Makuake, Japan's largest crowdfunding platform, within a day, ultimately reaching a total funding amount of 30 million KRW. Living in advanced countries with abundant infrastructure, we often complain about 'light pollution' and how tiring it can be. The bright lights on the street make dark nights as bright as day, so you can lead a daily life that is no different from the daytime at night. That is why we feel a sense of nostalgia and romance when encountering the

flickering of a faint candlelight. This world, where it is difficult to perceive darkness until the lights are turned off, is clearly different from somewhere on the other side of the world where you have no choice but to put down the book you were reading every time the lights go out. By understanding this discrepancy and transferring the wisdom gained from it into the realm of business, Lumir finally laid the foundation for a leap forward.

#### Finding Solutions from Locals to Local Problems

Although Lumir C was a success, Je-hwan Park couldn't just be happy. His original goal, to create a product for developing countries, occupied his mind. In the second half of 2016, CEO Je-hwan Park started the development of 'Lumir K', which used kerosene as fuel. The principle of generating electricity through heat conversion is the same as that of Lumir C, but it is improved by lighting it



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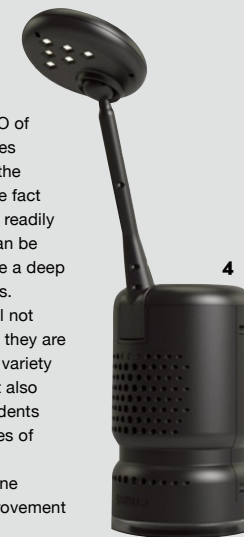


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1, 2 Je-hwan Park, CEO of Lumir and his colleagues introduced Lumir K to the locals of Indonesia. The fact that cheaper and more readily available cooking oil can be used for the lamp made a deep impression to the locals.

3 Lumir K is very useful not only for students when they are studying but also for a variety of household chores. It also prevents possible accidents due to darkness in times of power outages.

4 Lumir K has undergone multiple stages of improvement to be what it is today.



4

#### Talk about SPC

Je-hwan Park, CEO of Lumir

**Lumir was selected as the 2nd year participant of SPC in 2016, and now it has become a graduating company. How do you feel?** I feel grateful and a bit sad. I have a strong attachment to this program since we went through the process of creating something out of nothing at the beginning of our business with SPC.

**How were the SPC incentives used, and what impact did it have on the company?** Social Progress Credit incentive was effectively used for various purposes, such as business trips to developing countries and the production of prototypes for impact projects. Especially for prototype production, it is difficult to produce prototypes with government project subsidies. The Social Progress Credit incentive was of great help because there were no such restrictions. Additionally, SPC's social value measurements were also valuable as an opportunity to quantify and organize our business internally.

**What improvements would you suggest to the existing SPC program?** I felt that three years was a bit too short. For companies in early stages, three years may include a period when they focus on development and may not achieve significant results. So by the time the company shows a significant growth in social value creation, SPC's social value measurement period may already be over. It would be nice if companies could apply for a period of temporary suspension of measurement and resumption and adjust it flexibly.

with kerosene, which is commonly used instead of candles which are expensive and hard to find locally. Furthermore, Lumir K was selected for the Creative Technology Solution (CTS) program, run by the Korea International Cooperation Agency (KOICA). The CTS program aimed to support early startups and social ventures that sought to solve social issues in developing countries through innovative technologies. Lumir K underwent field testing in Indonesia for a year from 2017 as part of the program.

However, an unexpected problem arose during the verification process of distributing prototypes to 250 households for direct use. A phenomenon occurred in which the products did not work in the remote villages far from the city. It turned out to be an issue with the fuel. While there were no problems when using high-quality lamp oil, the



product was affected by the low-quality fake kerosene of poor quality that was distributed in remote areas. An alternative to the unstable quality kerosene was needed. The use of solar power was not suitable in the tropical rainforest region, with more than 60 days of rain and shade. But the answer was not far away. The locals used the product with cooking oil instead of soot-forming kerosene. Indonesia is the world's largest producer of palm oil, and cooking oil is one of the seven essentials along with water and rice. Unlike kerosene, cooking oil is a regulated item controlled by the government, so it is cheap and there is no difference in quality. Afterward, Lumir redesigned the fuel cans to fit cooking oil and introduced Lumir K, which uses cooking oil as fuel. With just 800 KRW per liter of cooking oil, Lumir K provides bright light for over 200 hours. It produces 2.5 times more light with only 20% of the fuel of regular lamps that use kerosene, and the lamp itself can be used for over 10 years. Even used cooking oil can be used, making it a more eco-friendly product than kerosene lamps. It's a gem-like discovery, made by long years of effort and accumulated knowledge.

#### Striving for Sustainability as a Social Enterprise

Lumir is a social enterprise. It started with a mission to solve the lack of light in developing countries and has come a long way. As a social enterprise, it is really challenging to pursue proper social value and make a profit through good business management. The journey of Lumir has been a quest to find a common ground between social value and sustainable management. Lumir has been producing and distributing design lighting for the domestic market since 2018. Lumir's design lighting is loved by many for its youthful and modern taste. However, there was a significant internal conflict in deciding to expand to the design lighting business. The ideal direction as a social enterprise would have been to continue developing products to solve the lighting shortage in developing countries and distribute them locally, as originally intended. However, capital is needed to sustain the business, so it was decided that establishing a self-sustaining system to generate an income stream was necessary. While receiving grants for doing good work is truly appreciated,

they are temporary and have limitations. There were also attempts to register Lumir C for the carbon emission business, but international organizations responded that it was difficult because the concept of an oil lamp itself was not registered. It takes a lot of time and money to register as new categories like 'stove' and 'solar lamps'. That's why Lumir started the lighting business in a slightly larger category. Lumir plans to expand the design-centered and beautiful lighting business sought by developed countries, and continue impact business for developing countries



1, 2 Design lamps of Lumir. Lumir pursues a mission of solving the light shortage problem in developing countries. At the same time, it has also been generating income by producing & distributing design lamps to the domestic market, carrying out a sustainable business.

#### Interview with Members

Director of Marketing at Lumir

Kkotnim Lee



#### Please introduce yourself.

Hello, I'm Kkotnim Lee, in charge of marketing at Lumir. My job is communicating with people and promoting the brand.

#### What kind of a brand is Lumir?

"Lumir is a lighting brand, resolving light poverty and imparting beauty of light", is how we usually introduce ourselves. This one sentence represents the one thing we try to never

lose: balance. At the same time as doing the social impact business, we are running a design lighting business so that beautiful light can be used in the right place to suit the environment in places where the electricity supply is stable such as in Korea. We are striving to become a well-balanced brand without leaning heavily toward one of these two areas.

#### Has your perception and attitude toward social problems changed while working at Lumir?

Since I work for a company that makes lighting, I think that the feeling emitted by lamps and the influence of light within their range is significant. As we introduce design lighting in Korea and engage

in impact projects in Indonesia, I began to think about the great power of light(lightning) in that light creates cozy atmospheres in certain environments and it also enables everyday activities like studying or doing household chores after sun down. I started to recognize important values in things that I had always taken for granted or thought were trivial. As a result, my attitude towards

life has changed; I pay more attention to my surroundings and try to look deeper into the value of seemingly small things.

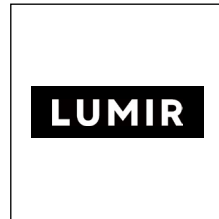
#### Have there been any touching moments at Lumir?

Even in Korea, there are some people who live in the mountains without access to electricity. There was a time we got to know about them through TV, contacted them, and sent them our products to try out. After that, I kind of forgot about it. But one day, we received a package containing a handwritten letter expressing gratitude for the lamp. We have received feedback in foreign languages from overseas, but reading a letter in Korean, that memory has stayed with me.

with the profits. Although this expansion has led to an increase in the number of designers who are not significantly related to the impact business, CEO Je-hwan Park encourages designers to visit Indonesia, the local area, at least once. Although their main task is domestic and international design lighting-related, he still wants to share the values that Lumir essentially pursues. Since the COVID-19 pandemic in 2019, business in Indonesia has become almost impossible to carry out. The already slow progress of business had been blocked. However, collaborating with

various domestic companies in the meantime and promoting the social value pursued by Lumir to many people has been a special experience and has presented new possibilities. Lumir realized that even within the design lighting business, they could do fun things that could have a positive social impact. With the prospect of the pandemic coming to an end, Lumir is also slowly getting ready to make new moves. In the future, the beautiful light of Lumir will continue to brighten up our daily lives and the darkness in various parts of the world where light is scarce.

# Impact of Lumir at a glance



**Company Name** Lumir Inc.  
**CEO** Je-hwan Park  
**SPC Entry Year** 2016 (as 2nd year SPC participant)  
**Website** www.lumir.co.kr  
**Mission of the company** As a lighting brand that solves the problem of lighting shortage and spreads the beauty of light, it aims to address the challenges faced by countless people living without light through technology. And delivers the value wonder of light.

## Problem

### Social issue to be solved

- Light shortage in underdeveloped countries
- Emissions of environmental pollutants from burning raw materials for lighting in underdeveloped countries

A company that contributes to the world by adding value to the warm technology that solves the lack of light and conveys the beauty of light

## Stakeholders

### Stakeholders who gain from social benefits

Number of households using Lumir K  
 Alternative energy lighting B2C seller  
 Neighbors of Lumir K Users

## Solution

### Comparison with solutions in the market

Reducing the environmental costs associated with kerosene lamps, by replacing existing kerosene lamps with cooking oil lamps (Reduced emissions of environmental pollutants through the use of more eco-friendly fuel)

\* SPC only acknowledges objectively measurable performance that can be agreed upon generally.



Employment  
performance



Social  
Ecosystem  
Performance



Environmental  
performance



Social service  
performance

## Measurement

### Measurement of solution and comparison of prices



Social service  
performance

- Performance measurement of providing Lumir K products for free or at a discounted price.
- Estimation of willingness-to-pay to measure differences from existing solutions

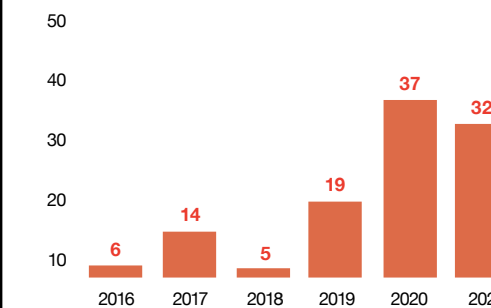


Environmental  
performance

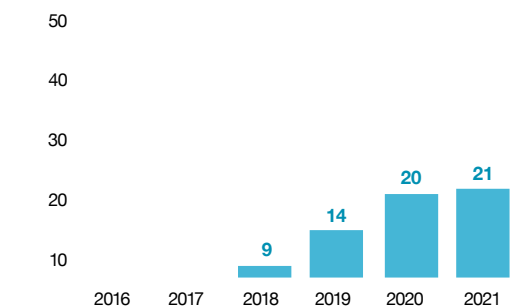
- Replacing conventional materials with eco-friendly resources
- Reduction of resource consumption by replacing kerosene with cooking oil.
- Reduction of pollution from replacement of cooking oil, reduction of exhaust gas

## Social Performance Measured social performance In million Korean Won

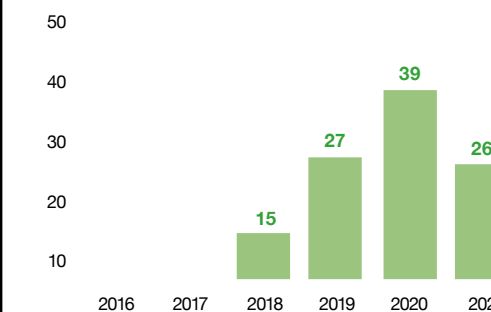
### Social service performance



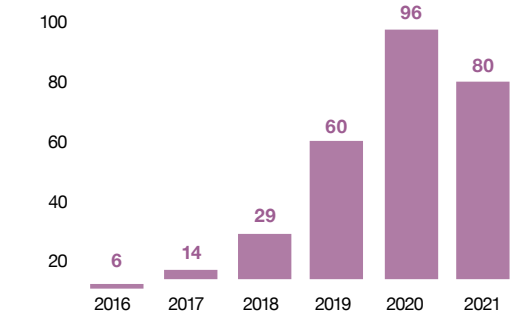
### Employment performance



### Environmental performance



### Total performance





4EN, Reduces Greenhouse Gases with Coffee Grounds

## Green Hope Found In Household Waste

We drink several cups of coffee every day. However, the leftover coffee grounds after making coffee contribute to a significant amount of waste that affects the environment. 4EN is a business that recycles these coffee grounds into various resources. The coffee grounds are transformed into solid fuel, low-carbon fertilizers, and bio-plastics, creating new social value while addressing the climate crisis. Meet 4EN, which is contributing to reducing greenhouse gas emissions by solving environmental problems with innovative ideas and execution.



## The Scene of 4EN

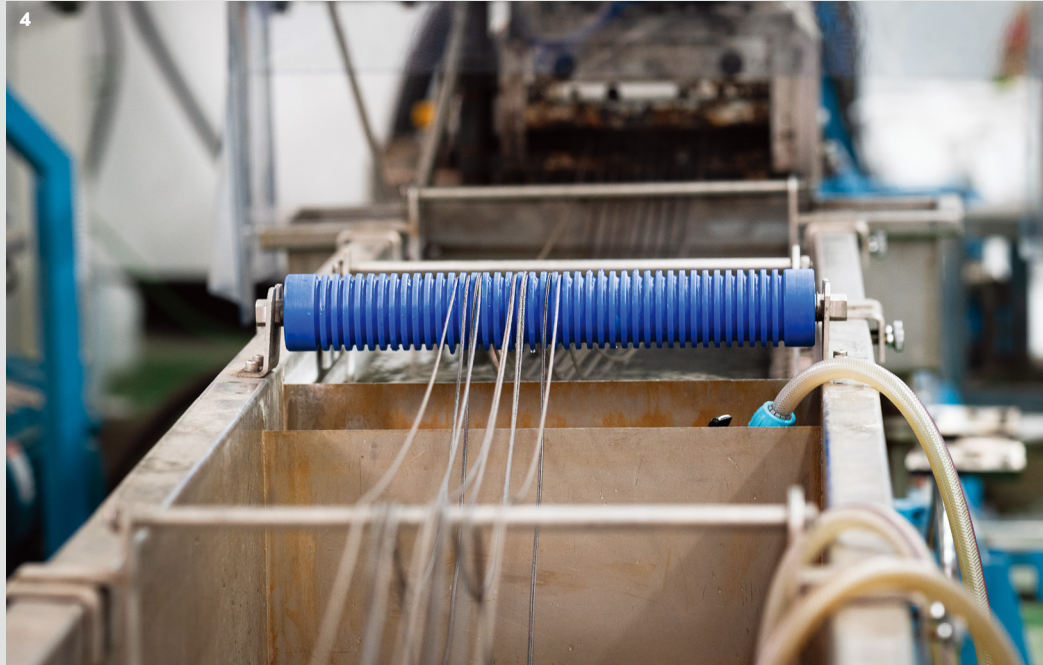
While 4EN focuses on waste collection and recycling, including coffee grounds, within the country, they also concentrate on greenhouse gas emission rights trading in overseas markets. Since 2019, in particular, they have partnered with SK Energy to initiate a Clean Development Mechanism (CDM) project in Myanmar. CDM is a greenhouse gas reduction project jointly carried out by developed and developing countries to alleviate the greenhouse gas. If greenhouse gas reduction occurs as a result of a project implemented in a developing country by a developed country with greenhouse gas reduction obligations, the reduction is recognized as the reduction performance of the developed country. This allows developed countries to lower their reduction costs by reducing greenhouse gas emissions in developing countries, while developing countries receive investments in environmentally friendly technologies for sustainable development. Through CDM projects, companies can obtain Certified Emission Reduction (CER) credits and sell them to countries with reduction obligations.

In Myanmar, 4EN has undertaken a business of producing and selling high-efficiency peanut charcoal using by-products from peanut farming. Myanmar has the lowest electricity supply rate in Southeast Asia, and gas supply is quite uncertain, resulting in the use of firewood or charcoal for cooking. The production of charcoal from wood has led to severe deforestation. Peanut charcoal, made from peanut shells and other materials, is an environmentally friendly alternative to wood/charcoal. The substitution process significantly reduces carbon dioxide emissions, making it eligible for CDM projects. However, just as 4EN was about to start the project after building a pilot factory for peanut charcoal production and completing the registration for CDM projects with the United Nations Framework Convention on Climate Change (UNFCCC), a military coup took place in Myanmar. All ongoing projects came to a halt, and all staff members had to go back to their home countries unexpectedly. It was a chaotic situation. 4EN has not completely overcome the pain yet continues to move forward. While concentrating on the domestic coffee grounds waste business, they are preparing for new business to be carried out in Indonesia. With the belief that these tribulations will serve as a foundation for the growth of 4EN in the future.



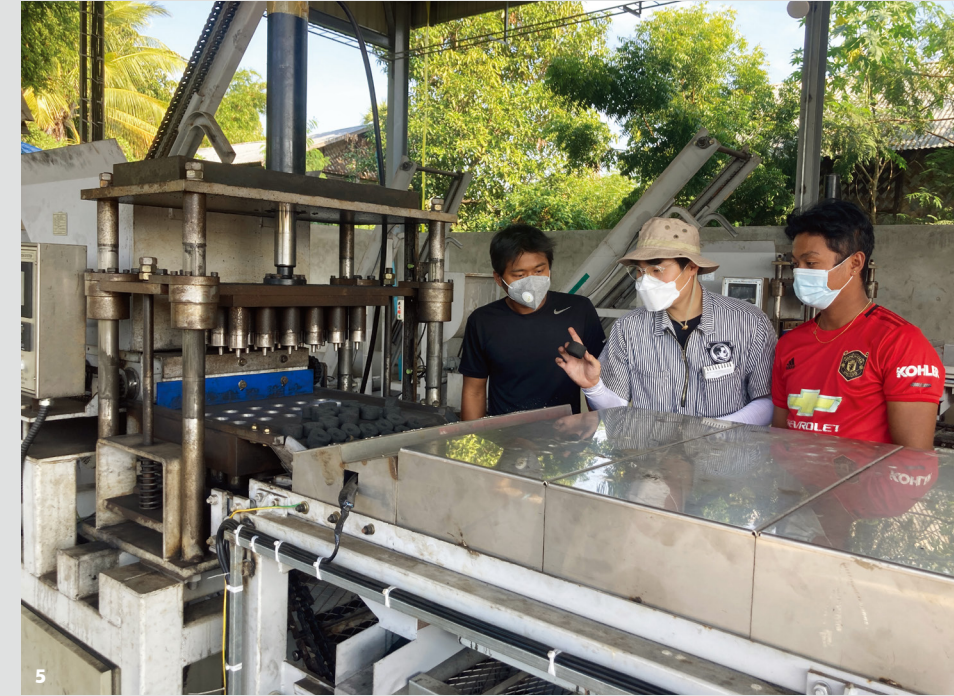


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1 Most of the coffee beans we use in drinking coffee become waste that affects the environment.  
2, 4 Factory site of Seongsu-dong. Production of bioplastics using a combination of coffee grounds and existing plastics.  
3 The process of making solid fuel using coffee grounds.  
5 Factory site of Myanmar. The business has been indefinitely suspended due to a coup that occurred just before its operation.



#### Eco-friendly virtuous cycle from coffee grounds

It is said that about 15g of coffee beans are used to make a cup of Americano. However, 14.97g of this is discarded as coffee waste. As of 2019, the annual coffee ground waste amounted to about 150,000 tons, with the majority classified as household waste and buried in landfills or burned. It goes without saying that a huge amount of greenhouse gases are released in this process. Caffeine in coffee beans also contaminates the soil. Therefore, various studies are being conducted to recycle coffee grounds. This is because it is a resource that does not contain impurities such as heavy metals and has the potential to be used in various ways with its unique scent. Coffee waste is already being used as bioenergy overseas. The UK-based company "Bio-bean" produces biodiesel, ethanol, pellets, and eco-friendly charcoal from 25% (50,000 tons) of the 200,000 tons of coffee grounds generated in London. Nestlé, a coffee manufacturing company, has established a department within the group to research recycling energy and produce coffee ground pellets for

bioenergy to reduce the amount of coffee grounds being landfilled.

"As an overseas example, there is a company called 'Bio-bean' based in London, England. The company received investment from the global oil company Shell. They collected coffee waste from cafes in the London area and called it crude oil there. To put it simply, it extracts bio-refined oil and sells refined biodiesel as a fuel for London's famous red double-decker tour buses. The expenses are supported by the oil company and the City of London. We conducted a case study on that company." (Ho-chul Lee, CEO of FoiEn)  
4EN also produces solid fuel and plastics from coffee grounds and other agricultural by-products. Currently, they are partnering with Starbucks and Maeil Dairy to process coffee grounds from each company. Starbucks collects coffee grounds from each store, while Maeil Dairy collects large quantities of coffee grounds from its food factory in Pyeongtaek, which are recycled into bio-plastics and fertilizers. Since Starbucks has merchandise contracts, some products are made using coffee





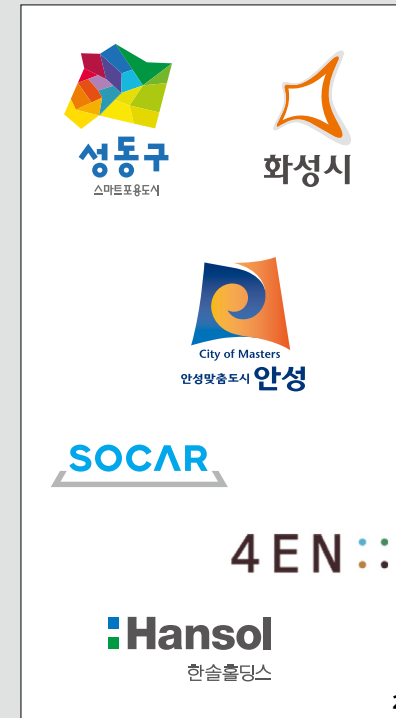
ground plastics, and the produced fertilizer is supplied to contracted farms by Starbucks free of charge. In addition, bioplastics made from coffee grounds are processed into interior materials and supplied to large coffee franchises. There is a virtuous cycle of eco-friendly activities such as creating new economic activities, growing raw materials, and decorating cafe spaces using coffee grounds.

On one hand, 4EN's largest domestic business is the "Resident-Led Regionally Balanced New Deal" project conducted by the Ministry of Public Administration and Security. For three years, the project has been conducted in collaboration with three local governments: Seongdong-gu and Hwaseong-si, and Anseong-si. It is a project in which residents of each area participate in the collection and recycling of coffee grounds from numerous cafes within the local governments. 4EN, Hansol Paper, and Socar have joined hands to establish a local resource circulation system. In relation to this, a pilot project was conducted in 2022. Local residents who were hired for New Deal jobs used Socar's electric cars in pairs to

visit 30 and collect coffee grounds. Even small cafes in the area participated in the project, creating social value such as waste reduction and job creation.

#### **Mission: Reduce Greenhouse Gas Emissions for the Future of the Earth**

4EN is focusing on the CDM business that produces and distributes agricultural by-products as alternative energy overseas, rather than the recycling coffee grounds business. The Myanmar CDM project was suspended due to a coup, leaving everything on hold, and the factories on-site. In Indonesia, 4EN is actively pursuing a biogas CDM project in collaboration with Hyundai Motors. 4EN's business goal is to improve the environment and quality of life through greenhouse gas reduction. The solution for this objective involves developing items that can replace plastics, nitrogen fertilizers, fossil fuels, and other alternatives. It is crucial to have clear numerical evidence of how much greenhouse gas reduction is achieved, especially for CDM projects that require objective indicators. 4EN has developed its own protocols



**1** 1 On the streets of Seongsu-dong. CEO Ho-chul Lee.

**2** The participation of three local governments, Seongdong-gu, Hwaseong-si, and Anseong-si, as well as Socar, Hansol Paper, and others, in the "Resident-Led Regionally Balanced New Deal" project has led to the establishment of a local resource circulation system.

**3** Large coffee related franchises such as Starbucks, Maeil Dairy, Paul Bassett are also important partners of 4EN.

#### **Talk about SPC**

Ho-chul Lee, CEO of 4EN

**What motivated 4EN to join SPC?** We participated in SPC in 2016 (as 2nd year SPC participant). Our shareholder, Impact Square, recommended us to apply for the SPC program. We expected that environmental performance may be measured by CSES. At that time, we already measured the reduction in greenhouse gas emissions resulting from the production of fertilizers from coffee grounds. Bio-plastics have also been included, since two years ago.

**What were the difficulties you faced, if any, during the measurement?** In the case of 4EN, we did not consider employment performance as part of our social performance measurement at all. We focused solely on the reduction of greenhouse gas emissions. Because we only acknowledged that part, the documentation process was relatively simple. You are familiar with the concept of "carbon footprint", right? It is the concept of eco-cost developed by the Delft University of Technology. We discussed how to apply this calculation formula, so there were no major difficulties. It was fascinating to see that the intangible carbon reduction effect be converted into money and actually received.

#### **Have there been any changes to 4EN after SPC?**

The SPC's incentives were very helpful. We used the incentives efficiently as we are not a company that makes a lot of money. Fortunately, we received many awards from SPC. We received a few awards, but SK gave us the most, both in the second and fourth rounds.

**As an SPC graduate company, do you have any advice for junior companies or SPC?** Nowadays, SPC has many participating companies. Since the funding is distributed among many companies, it seems like the size of the pie is shrinking. For companies with no special achievements, it might be worth considering applying weight selectively. There is a perception that if you apply, you will receive the funding, which sometimes leads to a sense of entitlement or lack of appreciation. Since companies have grown quantitatively, I wonder if it would be better if they were weighted qualitatively.





1, 2, 3 Bioplastic comes in many forms from small particles to construction materials, furniture materials, everyday goods, and merchandise, among others.

4 Organic coffee ground fertilizers of 4EN



and method to present the amount of greenhouse gas emissions and reductions through the projects. One of the important solutions of 4EN is the development of a protocol that can measure the effects of greenhouse gas reduction by presenting concrete numerical results in internationally accepted units. Additionally, 4EN is creating an impact report site where they can assess the social value generated from collaborations with partner companies. For example, 4EN designed the site to generate reports when individuals input data on carbon emissions reduction resulting from recycling coffee grounds, similar to a carbon footprint calculator.

"I spent my graduate school days in the Climate Change Response Research Lab. Initially, I wanted to work for an international organization like an NGO or the UN, but I was a bit old when I graduated because I went to graduate school late in the first place. I thought it would be faster to do it as a business in addressing issues such as greenhouse gas reduction and soil ecosystem restoration than to create or implement policies in an institution. At that time, I wasn't familiar with concepts like social enterprises or social economy, but it was the beginning of my journey in trying to solve social and environmental problems through business." (Ho-chul Lee, CEO of 4EN)

As a leading company in the clean development system in Korea, 4EN is contributing to a sustainable future by actively engaging in the carbon emission trading business. The carbon emission trading system is a system in which the government allocates annual emission permits to workplaces that emit greenhouse gases within the district limit, and allows transactions between business sites for surplus or shortfall of emission allowances rights after evaluating the actual greenhouse gas emissions of the business sites. It is a system where large corporations that need carbon credits and 4EN, with its surplus emission credits obtained through CDM projects overseas, can trade with each other. To reduce greenhouse gas emissions, which has now become a global task, 4EN continues innovative challenges domestically and overseas with professional technology and extensive collaboration. We hope the future of the earth will be greener and clearer through the active involvement of 4EN.

## Interview with Members

### Manager of 4EN Kang Seo-young



**Please introduce yourself.** Hello. I'm Seo-young Kang, manager of the 4EN Recycling Business Team, in charge of planning and promoting coffee ground products.







**While working, have you experienced any changes in your thoughts or consciousness due to the social values pursued by 4EN?** Although the issue of climate change caused by greenhouse gases was covered during classes in college, it was challenging to apply and be conscious of it in everyday life. However, I had the opportunity to collaborate with 4EN on a project for one of my classes. That connection led me to work here. First of all, it is very rewarding to solve environmental problems by directly participating in the recycling process of waste materials like coffee grounds and peanut shells. There have been small changes in my daily life, such as bringing shopping bags when going shopping or separating waste more meticulously.

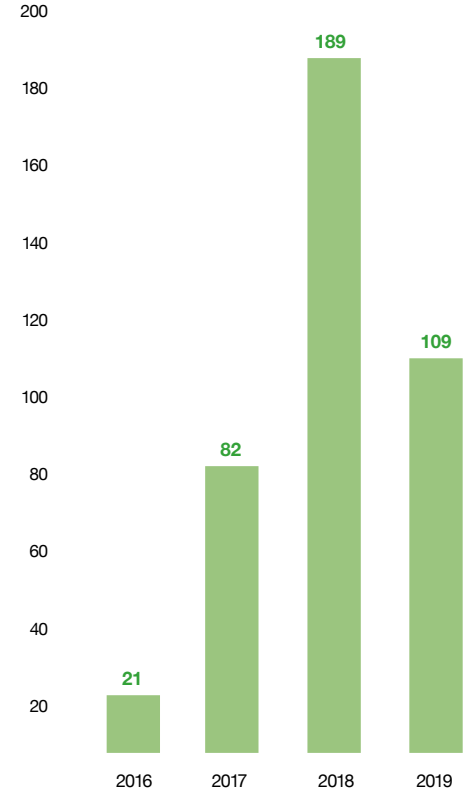
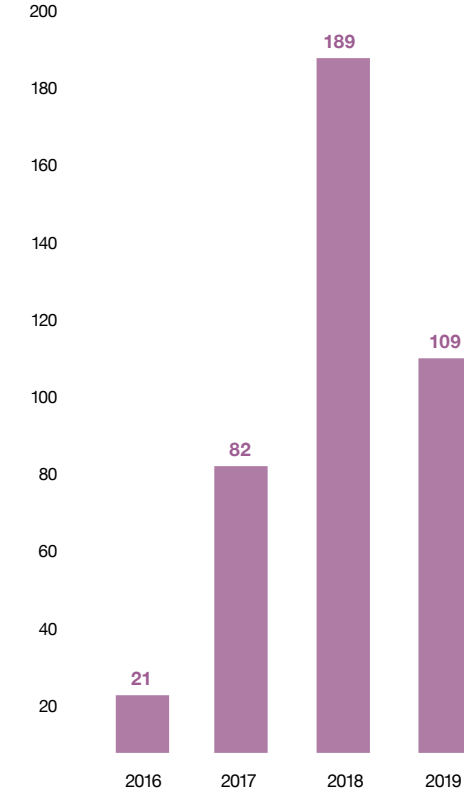
**What was the project you did with 4EN in university?** It was a class called "Climate Change

and Impact Business", and each team was connected with a social enterprise, and we were given assignments to solve from those companies. At that time, our team was given a problem by the representative about how to make the collection of coffee grounds easier in relation to the coffee grounds business. Our team came up with the idea of conducting a volunteering activity called "Coffee Grounds Plogging". We organized a project where students collected coffee grounds while exercising as volunteer work.

**What is something you would really like to do at 4EN in the future?** Currently, our business in Myanmar is on hold due to the coup. However, if it is resumed, it will be an opportunity to expand our carbon trading business throughout Asia. Coffee ground plastic products are not yet eligible for carbon trading. If it becomes possible in that direction, I would like to take charge of the planning. Additionally, we are currently collecting coffee grounds for recycling only in certain areas, but I would like to expand this cycle nationwide.



<h1>Impact of 4EN at a glance</h1>		<div><div><div>Employment performance</div></div><div><div>Social Ecosystem Performance</div></div><div><div>Environmental performance</div></div><div><div>Social service</div></div></div>	
<div><div></div><div><div><b>Company Name</b></div>4EN</div><div><b>CEO</b></div>Ho-chul Lee</div> <div><div><b>SPC Entry Year</b></div>2016 (as 2nd year SPC participant)</div> <div><b>Website</b></div> www.4en.co.kr		<div><div><b>Measurement</b></div><div><b>Measurement of solution and comparison of prices</b><ul style="list-style-type: none"><li>• The environmental cost (Proxy) of CO<sub>2</sub> for ROTO, Ecocost, and social cost of carbon (SCC) are applied</li><li>• Solid fuel (peanut shell charcoal) product replacement rate and CO emissions from combustion of the product (in kg)</li><li>• Bio-Based Plastics Performance measurement compared to products made of 100% synthetic resin.</li></ul><div>*market prices are estimated and converted to monetary value.</div></div></div>	
<div><b>Problem</b></div>	<div><div><b>Social issue to be solved</b><ul style="list-style-type: none"><li>• <b>Reduction of greenhouse gases</b></li></ul>Improving the environment and quality of life by reducing greenhouse gas emissions through the development of eco-friendly fertilizers and fuels. Production of low-carbon fertilizers to replace chemical fertilizers and production/sale of coffee pellet solid fuels to replace coal. Commercialization of emission trading.</div></div>		
<div><b>Stakeholders</b></div>	<div><div><b>Stakeholders who gain from social benefits</b></div><div>General public</div><div>Improvement in environment and quality of life through greenhouse gas reduction.</div></div>		
<div><b>Solution</b></div>	<div><div><div><div>Environmental performance</div></div><div><ul style="list-style-type: none"><li>• <b>Environmental pollution reduction performance through alternative materials</b></li><li>- About Low-Carbon Fertilizer (ROTO), Reduction of CO and methane reduction performance</li><li>- SK Energy and Myanmar CDM (Clean Development Mechanism/System) project: Production of peanut shell charcoal as a result of changes in domestic/overseas main business</li><li>- Production of bioplastics using coffee grounds: Partial replacement of existing PP content with bio-plastics produced from collected coffee grounds</li></ul></div></div><div><div>* SPC only acknowledges objectively measurable performance that can be agreed upon generally.</div></div></div>		

<b>Social Performance</b>		<div><b>Measured social performance</b></div> <div>In million Korean Won</div>	
<div><b>Environmental performance</b></div>		<div><b>Total performance</b></div>	
			

**Mission of the company**

With the business goal of greenhouse gas reduction, 4EN produce and sell low-carbon fertilizers as alternatives to chemical fertilizers and coffee ground solid fuels as replacements for coal. 4EN is also focusing on commercializing the emission trading system.

# Social Progress Credit

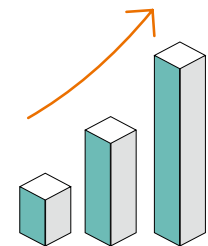
## Background of SPC

### SPC: A Catalyst for a Better Society

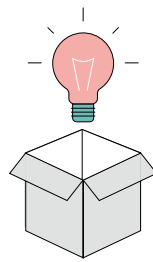
Social Progress Credit (SPC) is a project that measures the amount of social problems solved by companies (social progress) in monetary units and provides post-cash incentives accordingly. The social progress credit, which rewards companies that create social value, serves as a new starting point for forming our social (enterprise) ecosystem more sustainable. It is an innovative approach that can create much more social value than conventional social enterprise support systems, even with the same amount of resources invested. Through SPC's measurement and incentive effects, social enterprises can achieve their original goals, and struggling companies can find opportunities to turn their losses into profits.

### Can we increase the number of “good companies” that solve social problems?

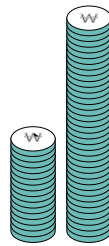
Existing problem-solvers alone are not enough to solve the amplifying social problems. SPC aims to involve more companies in solving social problems through monetary rewards based on social outcomes(performance).



Rapidly growing social problems



Innovative solutions that go beyond existing problem-solving methods is needed.



Encourage more participation in solving social problems through outcome-based incentives (funding).

### Social Progress Measurement/Reward Experiment, Start of SPC

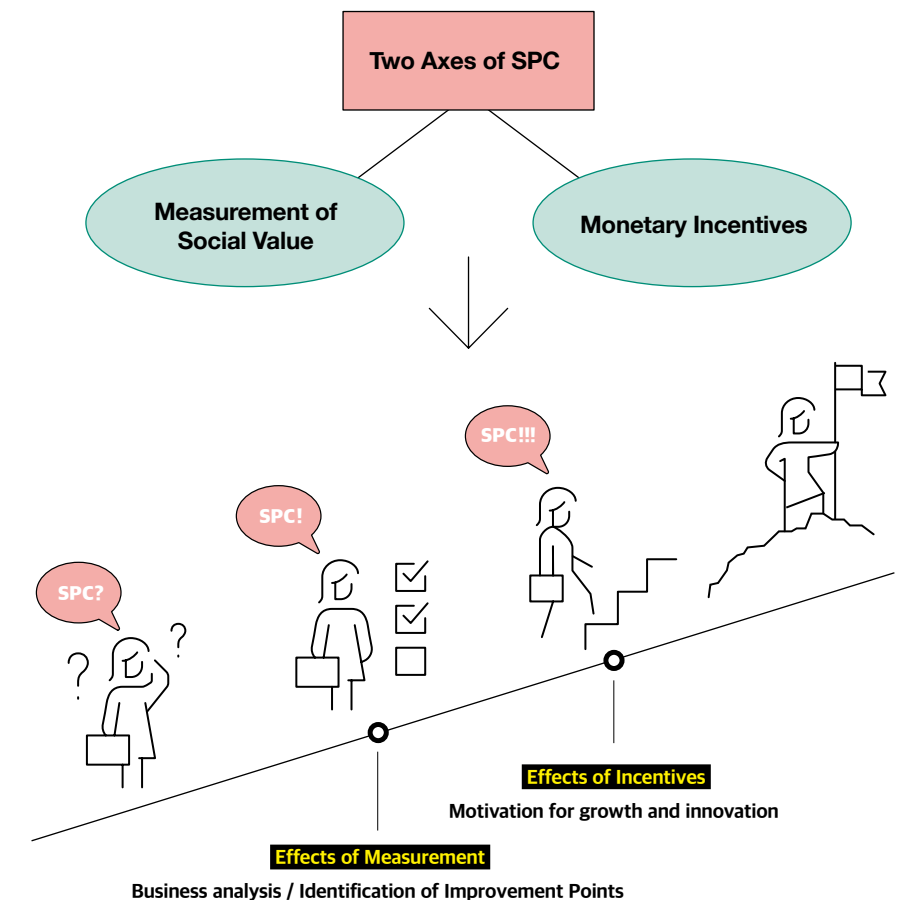
Not only social enterprises but all businesses should pursue social impact in the future. However, it is not easy to successfully run a business while pursuing social impact. There are limitations in attracting impact funds or more human resources to solve social problems. This is a major reason why young people hesitate to start a business that aims for social impact, such as social enterprises.

To solve this market failure, SK Group's Chairman, Chey proposed a policy experiment, Social Progress Credit (SPC) at the Davos Forum in 2013. "SPC provides outcome-based funding to companies that have created social value to improve social problems". In order to validate this policy experiment and to initiate policy diffusion, the Social Progress Credit Project was launched in 2015.

### Two Axes of SPC

SPC can be divided into two main axes: "Measurement of Social Value (outcome/performance)" and "Monetary Incentives (outcome-based funding)"

Through Social Progress Credit incentives, companies participating in solving social problems, can identify areas for business improvement and gain the power for growth and innovation.





# Social Progress Credit (SPC) : EBPM driven outcome-based funding

There is a new trend in recent policy-making methods, known as evidence based policy making (EBPM). There has been an emphasis on the importance of policy analysis and evaluation using objective information such as statistics and quantitative analysis to establish effective policies for the public.

In particular, Social Progress Credit serves as scientific evidence in policy-making in the field of social economy and social impact ecosystem. It has gained attention not only from local governments in Korea but also from countries such as Japan and China.

In this issue of 'All About SPC', we will explore the evidence-based policy-making approach of SPC, and examine various cases where social progress credit has been used as policy evidence.



## Concept and Examples of Evidence Based Policy Making

### Concept and Background of Evidence Based Policy Making

- In contrast to policymaker's opinion-based policy making, meaning a decision-making process in which policies are formulated based on scientific evidence
- Especially in 1997, **Tony Blair** popularized evidence based policies in the UK
- Evidence-based policy making has become more widespread in the United States under the Obama administration



"Statistics are the foundation of national management"

### Effects and How Evidence is Collected



- Methods of Policy Evidence Collection  
: **Randomized controlled trial (RCT)\*** are used as the most powerful policy evidence
- **\*Randomized controlled trial (RCT)**  
An experimental group subject to a policy and a control group not subject to a policy are randomly assigned to rigorously evaluate the effect of the policy on the experimental group compared to the control group  
[The 2019 Nobel Prize in Economics was awarded to Professor Michael Kremer and his research team for their work in experimenting with international development policies using randomized controlled trials]

### Examples

#### • Examples in the United States

The **Obama administration** emphasized the importance of evidence based policy and laid a solid foundation for it.

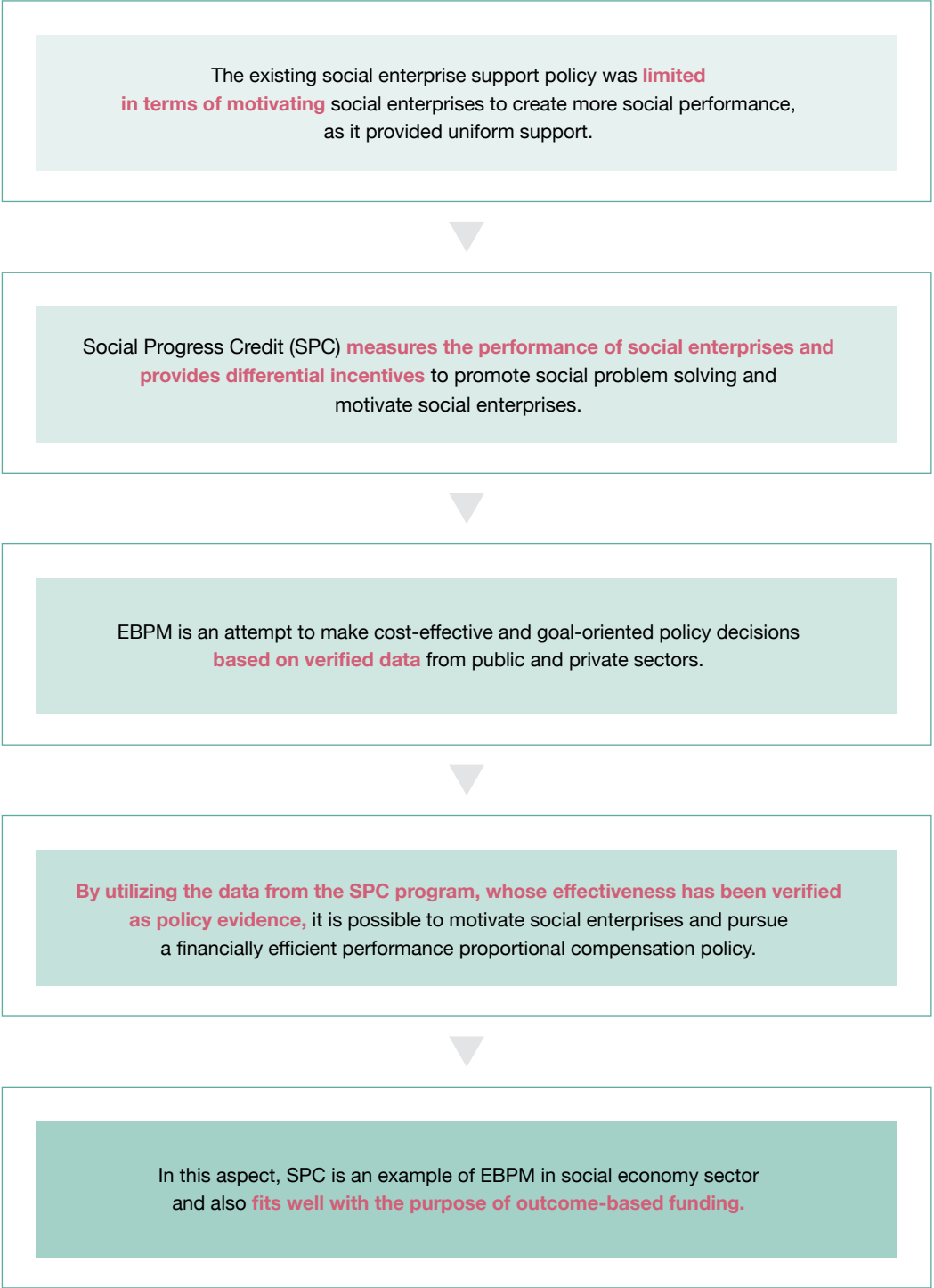
In particular, the **Office of Management and Budget (OMB)** deals with objective data associated with budget, employment, investment, and taxes, among others.

#### • Examples in South Korea

**Evidence based policy making is still in its early stages** in Korea. The Act on the Promotion of Data-based Administration was enacted in 2020.

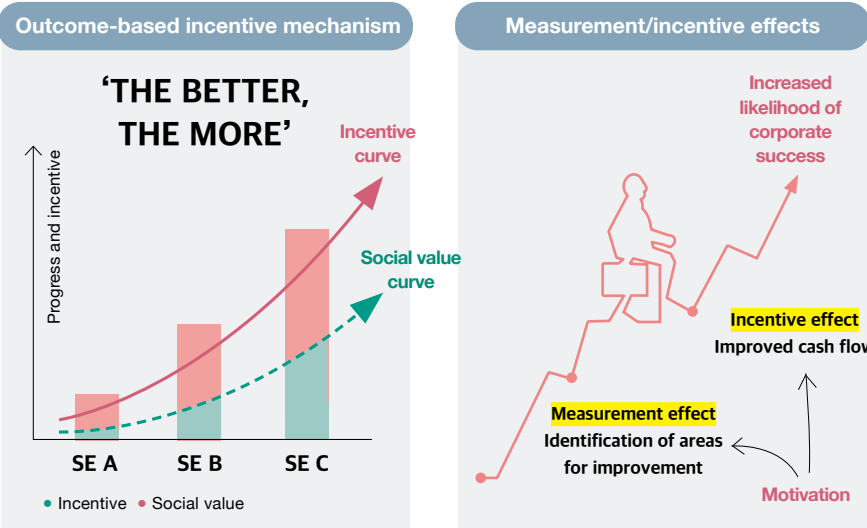
Article 2 of the Act on the Promotion of Data-based Administration specifies that administrative duties of public institutions should be carried out objectively and scientifically by formulating and utilizing policies managed by other corporations or organizations.

Examples of EBPM in Social Economy Sector : Social Progress Credit (SPC)



Social Progress Credit (SPC) as EBPM

The social progress credit (SPC) is an “**outcome-based incentive**” given **in proportion to the social outcome made by enterprises**  
“The Better, The More” mechanism is designed to motivate the creation of social progress



The success of the social progress credit (SPC) program can serve as policy grounds for motivating companies to make social progress and cultivate a social enterprise ecosystem

**1 Academic papers on the verification of effectiveness of social progress credit (2022)** A study that quantitatively verifies both measurement and incentive effects of SPC has been published in Management Science, the leading academic journal on management.



Professors Sun-Moon Jung and Jae-Yong Shin Social Performance Incentives in Mission-Driven Firms, 2022

**2 The World Economic Forum reaffirms the uniqueness and effectiveness of social progress credit (2023)** The concept was first proposed in 2013 by SK Group Chairman Chey Tae-won at the World Economic Forum. After a decade, the program was reaffirmed in 2023 for its unique and effective approach.



SK Group's Chairman Chey Tae-won explained the concept of SPC at the impact investing session at the Davos Forum in January 2013

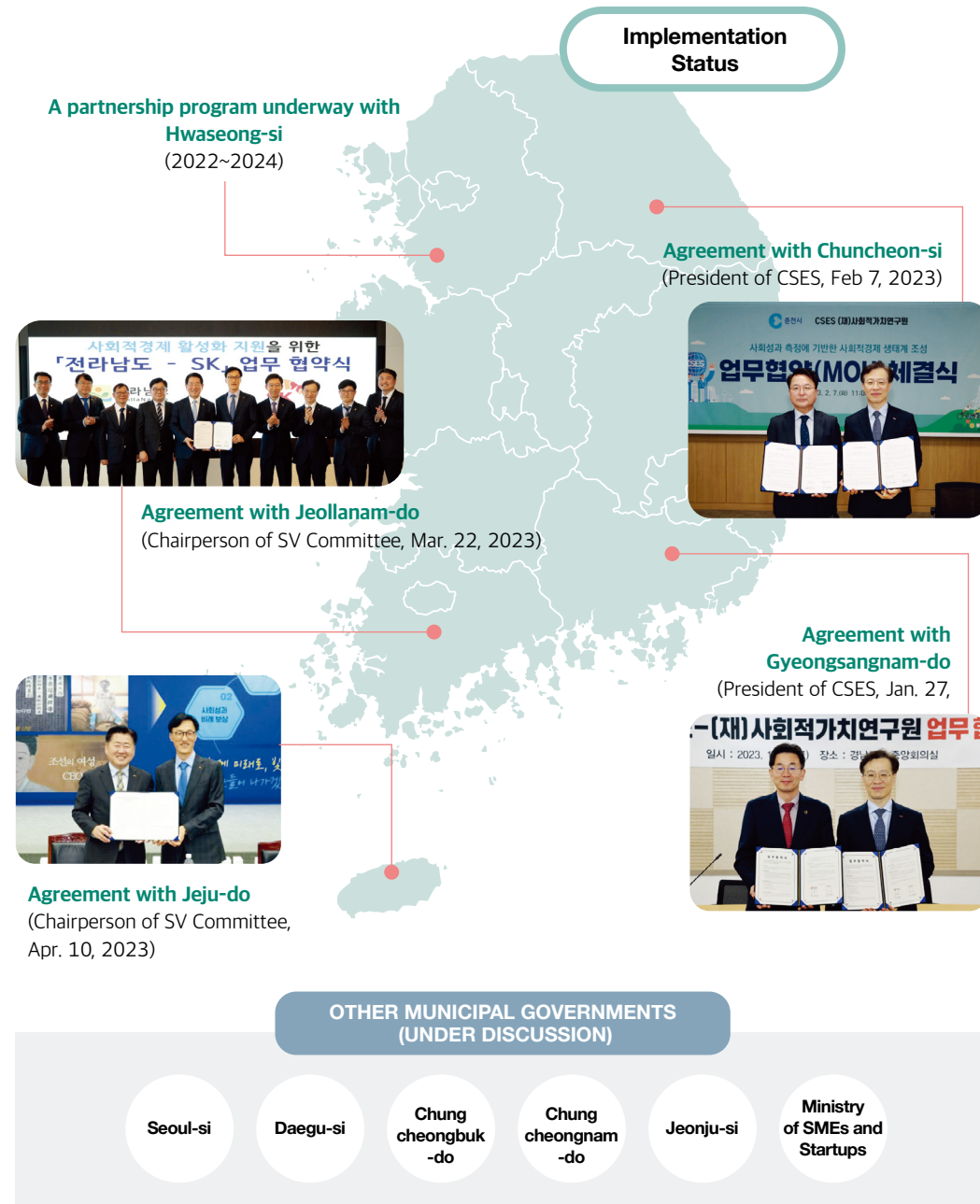
At the WEF OpEd held in January 2023, new light was shed on SPC





## Status of Promoting the Spread of outcome-based Funding

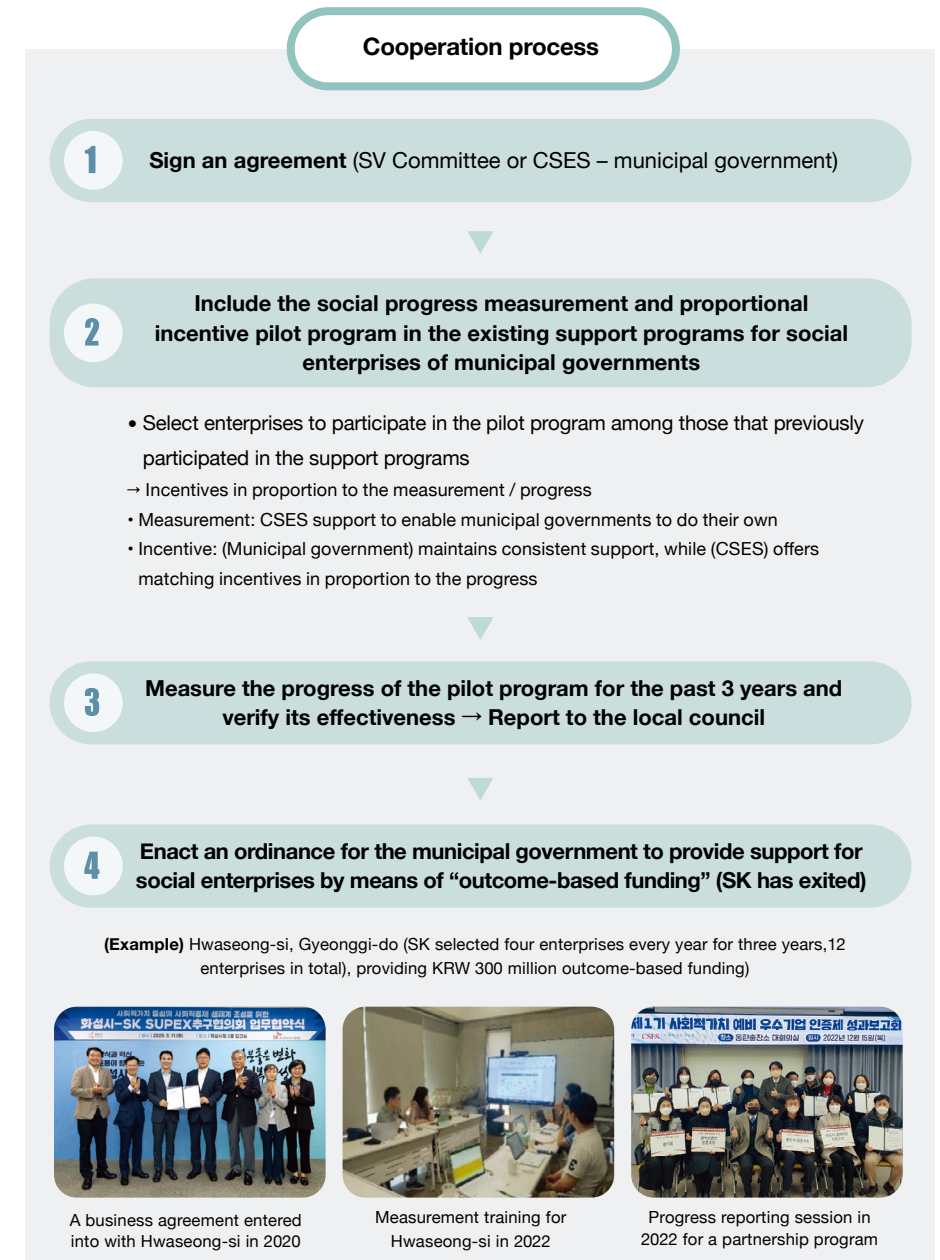
To facilitate partnership programs for outcome-based funding systems, agreements have been made with Gyeongsangnam-do, Jeollanam-do, Jeju-do, and Chuncheon-si and discussions are ongoing with other local governments



## “Collaboration Process” following the Agreement on

Following the agreement with the local government, the “outcome-based funding” method is included in the pilot program to verify its effectiveness

→ The goal is to convince the local council with data and enact a local ordinance allowing “outcome-based funding”





- 1 Suk-kwon Na, President of CSES explains Social Progress Credit, the archetype of EBPM driven outcome-based funding in South Korea.
- 2 Meeting between key institutions and experts (10 organizations) in the field of social impact in Japan.
- 3 JFRA CEO Masataka Uo introduces the purpose and process of the outcome-based funding collaboration project (CSES&JFRA).
- 4 A panel discussion is being held on expectations and significance of the outcome-based funding collaboration project (CSES&JFRA).
- 5 The purpose of the outcome-based funding collaboration project is being introduced on Tokyo MX.

## Outcome Based Funding Collaboration Project (CSES & JFRA) Opening Forum in Japan

On May 16, 2023 (Tuesday), the Center for Social value Enhancement Studies (CSES) held the “SPC Japan Collaboration Project (outcome-based funding) Opening Forum” at the Hibikoku Conference Square in Tokyo.

This forum was held to commemorate the launch of the outcome-based funding collaboration project between CSES and JFRA, as part of the international SPC policy diffusion. In this outcome-based funding project by CSES and JFRA, four local Japanese companies will be selected to measure their social performance

in monetary terms for a period of three years. Incentives will be provided in proportion to their performance. The forum was attended by more than 300 participants, both online and offline. This included President Suk-kwon Na (CSES) and Head of S-Lab, Seong-hoon Park (CSES), as well as key

organizations in the field of social impact in Japan, related experts, and NPO support organizations. The forum began with a keynote speech by President Suk-kwon Na (CSES), followed by a press conference, panel discussions, and the official announcement of the SPC collaboration project. During the panel discussion, a representative from the Social Innovation and Investment Foundation mentioned that they had been suggesting the need for outcome-based funding, such as Social Impact Bonds (SIB), to the Japanese government for the past ten years. However, it did not materialize in Japan. They congratulated the remarkable success of Social Progress Credit in Korea. Meanwhile, in Japan, they expressed high expectations and interest in the outcome-based funding collaboration project between SPC and JFRA. In particular, an interview was conducted with Hori Jun, a journalist who has gained national recognition through Japan's leading

broadcasters NHK and Fuji TV, and the interview was broadcasted on the famous program “Morning Flag” on Tokyo MX. Tokyo MX revealed that Japan's Kishida government is transitioning to a ‘new capitalism’ that overcomes the problems of neoliberalism through growth and distribution. A Nobel laureate Stiglitz also stated at the G7 summit, the importance of managing through impact indicators, not based on GDP. Mentioning this shift to an impact-oriented economy, Hori Jun interviewed President Suk-kwon Na (CSES) and introduced this outcome-based funding collaboration project. Tokyo MX also highlighted the fact that impact management projects in the past have been government-led and not based on social performance, and the first private sector driven outcome-based funding collaboration project of **two countries** will pave the way for the other parts of the world.



**Social Progress Credit:  
EBPM (Evidence Based Policy Making)  
driven Outcome Based Funding**

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