

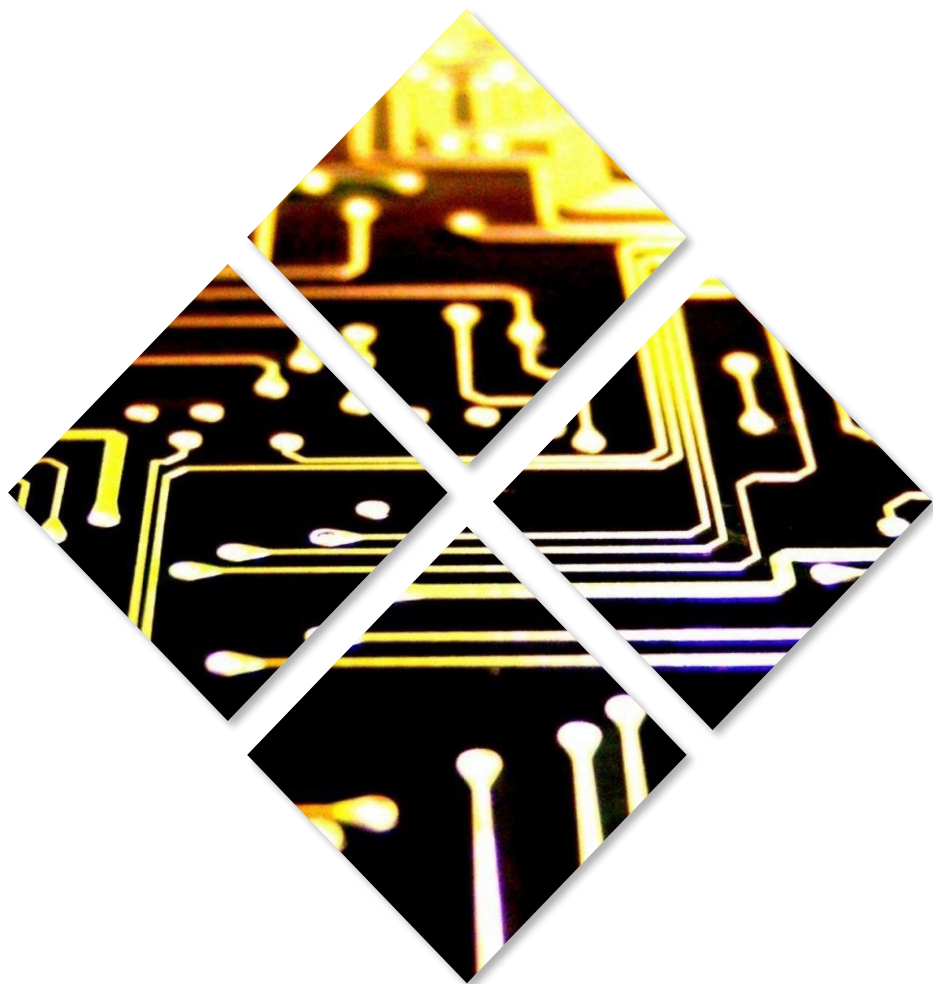
**“SEM” LLC** was established in 2012 to develop, produce and implement electronics based technologies in the information technology sector of Mongolia. “SEM” is the abbreviation of **S**ystem **E**ngineering **M**ongolia.

**“SEM” LLC** is the first electronics-based information technology company operating in Mongolia today.

Facts and figures related to us:

- 5 companies
- 40+ IT engineers
- 500+ users
- 250+ partner companies
- 3 Utility model certificates
- 20 Electronic based projects
- 7 Front-end equipment designed
- 6 Back-end system developed





- ✔ **VISION**  
To become a leading national electronics company that can compete internationally.
  
- ✔ **MISSION**  
With the help of skilled engineers and innovative technology, we will create advanced products and make a positive change in the lives of our customers.
  
- ✔ **VALUES**  
Skilled engineers, innovative technology

## EXPANSION, INNOVATION ROADMAP

- The company is established.
- Introduced **"CLIX GPS"** tracking service in Mongolia.
- Developed the first **Taxi Meter System** software and Bluetooth hardware in Mongolia and supplied to "VIP Taxi" LLC.
- **Taxi Meter Equipment** was designed, manufactured and installed at the request of "UB Cab" Taxi Company.



2014



2018



2020



2012



2016



2019



2021, 2022

- **"Fuelmetrix"** gas station automation and loyalty system was launched to "TES Petroleum" LLC for the first time in Mongolia.
- **"Aquametrix"** smart water kiosk was invented and received the "Utility Design Certificate".

Introduced **"Fuelmetrix"** Embedded System to Dashvaanjil LLC's gas distribution stations.

- Implemented the **"Energymetrix"** project to transform and develop electricity meters into smart, IoT solutions.
- The **"Dronex"** project was started to provide national drone production and drone-based services.
- Introduced **"e-Pass"** payment system for public transportation.
- **"Aquametrix 5.0"** smart water kiosks have been installed in Nalaikh district.

- Created and produced the first **"Bionic Arm"** in Mongolia for children with disabilities.
- A contract was signed with "EVM Group" to develop and manufacture **Electric Car Chargers**.

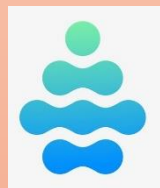
## OUR MAJOR PROJECTS ARE:



### CLIX GPS

GPS-based integrated monitoring and management system.

Read [More](#) →



### AQUAMETRIX

Comprehensive hardware and software system for smart wells.

Read [More](#) →

**FUELMETRIX**

### FUELMETRIX

A complete system of hardware and software for full automation of gas and gasoline station.

Read [More](#) →



### PLAYMETRIX

An integrated platform for video content and advertising.

Read [More](#) →



### UB CAB

Electronic based hardware solution for taxi meter.

Read [More](#) →



### ENERGYMETRIX

A project to develop simple smart electricity meters into IoT based solutions.

Read [More](#) →



### BIONIC ARM

Project for the production of bionic arm for children with disabilities.

Read [More](#) →



### ELECTRIC CAR CHARGER

Development and production of the charger for an electric vehicles.

Read [More](#) →



### DRONEX

National drone production and development project.

Read [More](#) →



### E-PASS

A comprehensive system of hardware and software for public transport payments.

Read [More](#) →

During the last 5 years, we have developed over **20** electronics based projects, **7** types of front-end equipment, **6** back-end software systems and tech-oriented business services. **"SEM" LLC** has delivered and honored over 250 B2B contracts.

Our range of clients include such as:

<b>20</b>	<b>7</b>	<b>6</b>
Projects	Front-end equipment	Back-end software



"SEM" LLC, which operates in the field of electronic based information technology, has 3 consultants, 30 full-time employees and 10 part-time employees.

From the total employees:

**35%** Women

**67%** Engineers and Technicians

**70%** Employees are under 30

**9%** Management

**60%** of the Management team has a Master degree from abroad





### TOPCIT certified.

7 engineers are "Test of Practical Competency in ICT" certified.

<https://www.topcit.or.kr/home.do>



### IoT Training.

5 engineers have "IoT training" certificate.

<https://itpark.mn/>



### INTEL MOBILEYE Certified.

4 engineers are "Intel Mobileye" certified.

<https://www.mobileye.com/>



### HSE Training

All employees receive annual "Occupational Safety and Health Training".

<http://www.oshmi.mn/>

## TRAININGS ATTENDED LAST 12 MONTHS

	TRAININGS	DATE	DETAILS
Professional	The "I Developer" training was attended by the 2 engineers of the software development department.	Jan 2022	
	4 engineers participated in the "Information Technology Engineering Exam Preparation Training".	Mar 2022	
	7 engineers participated in the training on "Information Security".	Mar 2022	<a href="https://itpark.mn/">https://itpark.mn/</a>
	4 employees participated in the training on "Digital Marketing Strategy and Methodology".	Mar 2022	
	Team of the Software development department participated in the "HTML & CSS" training.	Apr 2022	
	2 engineers participated in the "ICDL Workforce" training.	May 2022	<a href="https://icdl.org/icdl-programmes/">https://icdl.org/icdl-programmes/</a>
	4 engineers participated in the "Computer Network" intermediate level training.	Jun 2022	<a href="https://itpark.mn/">https://itpark.mn/</a>
Personal development training	All employees of the company participated in a week-long personal development training organized by "Dale Carnegie Training Course".	Dec 2021	<a href="https://www.dalecarnegie.com/sr/franchise-locations/mongolia">https://www.dalecarnegie.com/sr/franchise-locations/mongolia</a>
	Organized trainings on "Understanding Financial Statements" and "Taxes" organized by "McKenzie and Partners" LLC.	Nov 2021	<a href="https://www.mckenzieandpartners.com/">https://www.mckenzieandpartners.com/</a>
	Training on "Contracts and arrangements" was organized by "Fidelitas partners" law firm.	Sep 2021	<a href="https://fidelitaspartners.mn/">https://fidelitaspartners.mn/</a>
	All employees receive annual "Occupational Safety and Health Training".	Jan 2022	<a href="http://www.oshmi.mn/">http://www.oshmi.mn/</a>



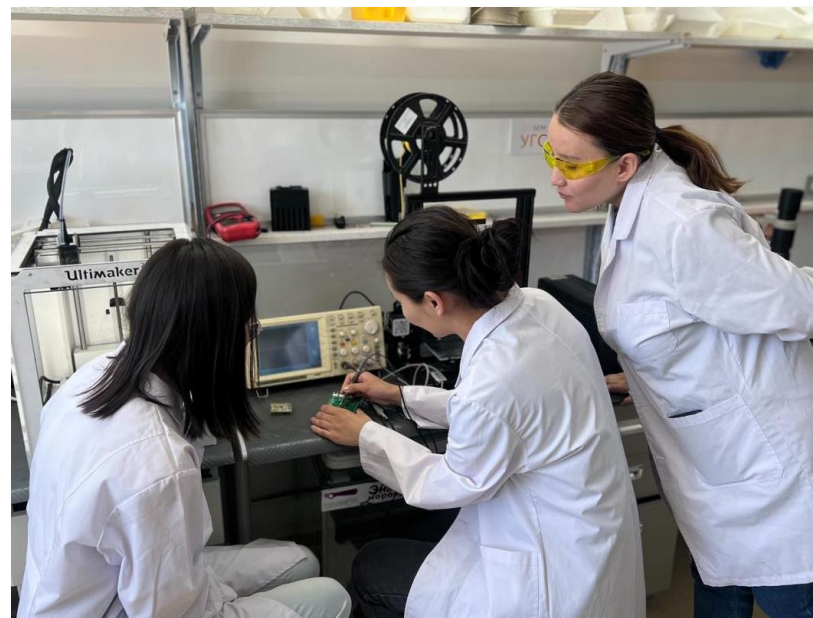
## WOMEN'S PARTICIPATION IN IT SECTOR

We support women's involvement in the IT industry. One manifestation of this is that **35%** of our company's employees are women. We believe that increasing women's participation in the workforce has positive impacts on organisational culture and on operations.

- ✓ Women make up **69%** of the company's management or decision-making staff.



- ✓ **90%** of all female full-time employees are senior managers.

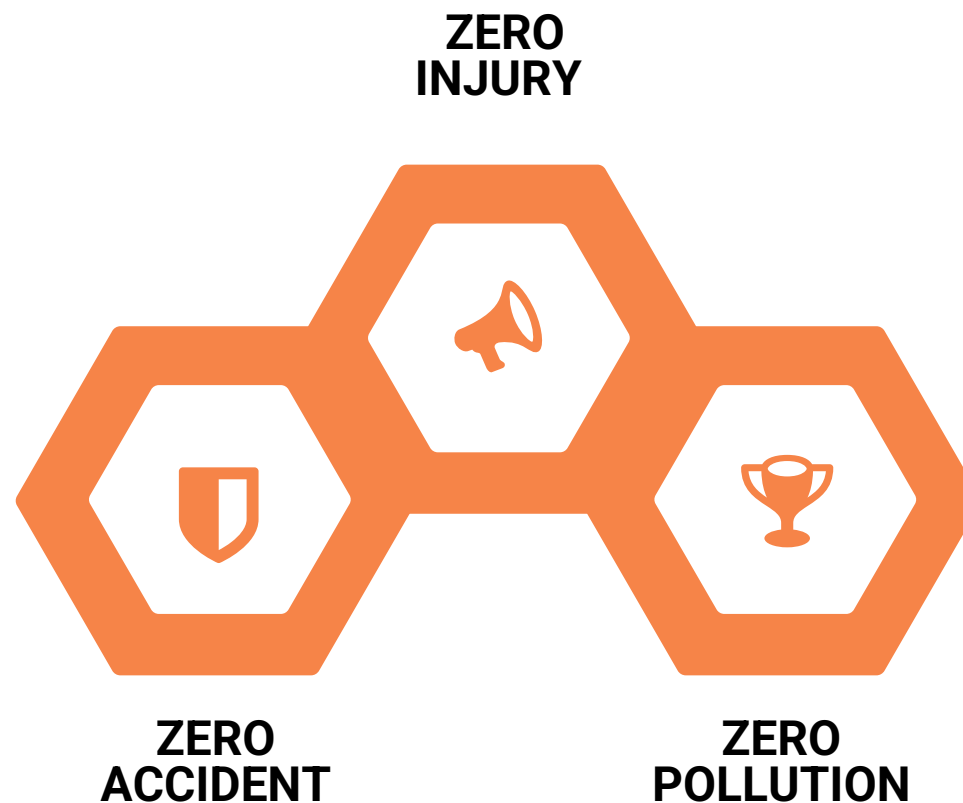


Our company has introduced “occupational safety” rules in the workplace, and the rules are followed by a safety engineer. This rule is required to comply at all stages of product development, testing, electronic manufacturing, installation and maintenance.

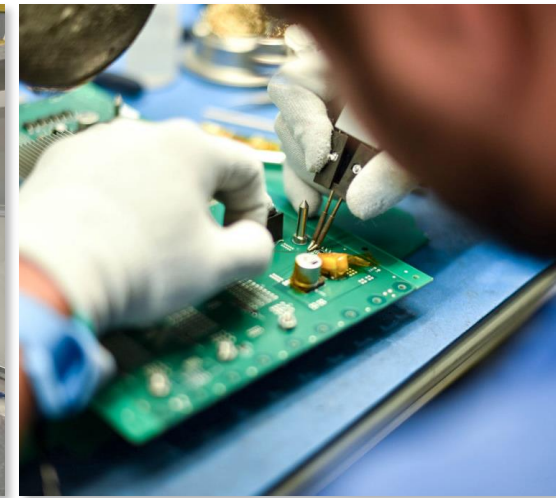
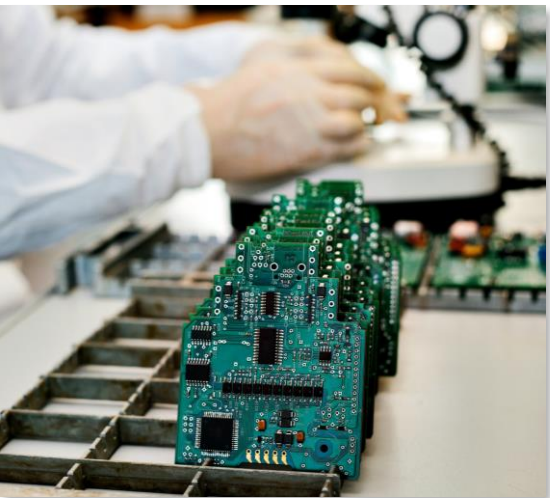
HSE Goals: Zero Injury, Zero Accident, Zero Pollution

The current Safety Policies in our company include:

- Incident reporting policy
- Drug and alcohol policy
- Distracted driving policy
- Seat belt policy
- PPE policy
- Tagout / Lockout procedures
- Transitional duty policy
- Defensive driving agreement

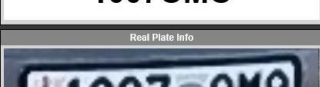


"SEM" LLC has an **electronics production laboratory**, which tests, develops, assembles and manufactures new products. The laboratory has research and developed the following products and projects, such as "smart water kiosk", "taxi meter", "fuel level gauge", "GPS locator", "bionic keyboard", "electric car charger", "drone", "advertising screen", "public shipping payment system", "CCTV system"...etc. Our team is working to implement "**PC-A-610: Electronics assemblies training and certification**".



Photos show only two project details from the work performed by the Installation Team:

1. Installation process of "**Aquametrix 5.0**" smart water dispenser kiosk installed in Nalaikh district in 2021.
2. Installation process of "**CCTV with vehicle number plate recognition system**" installed in Umnugovi province in 2022.



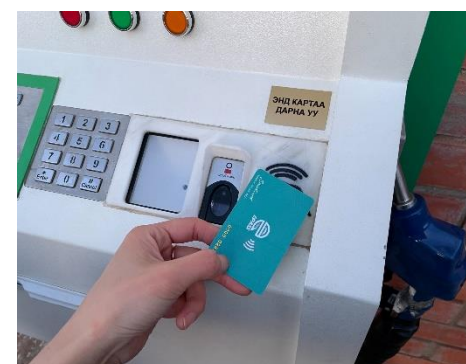
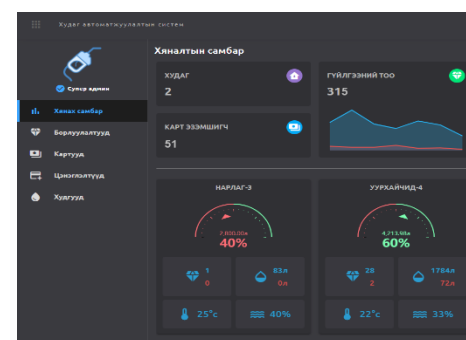
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3	ANPR	2022-03-31 17:50:58	1007ӨМӨ	Unknown	79x19	Unknown	SUV





"SEM" LLC has been conducting research and development of hardware and software solution of **"Smart Water Kiosk - Aquamatrix"** project since 2014 with its own funds.

The latest version of the product three (3) "Aquamatrix 5.0" devices with a comprehensive system, was installed in Nalaikh district. The cost of installing the three devices was covered by the Japanese Government's Grassroots Program and "SEM" LLC at 50% and 50% respectively.





- **84%** of Mongolia's population draws water from water.
- **55%** of Ulaanbaatar's population draws water from water kiosk.
- It is estimated that an apartment household consumes an average of **200 liters of water per day**, while a member of a ger household consumes **7-15 liters of water per day**.
- This means that all citizens need to be provided with safe drinking water and sanitation in an accessible manner and at an appropriate level of service without any discrimination\*.

### What are the challenges facing ordinary water kiosk today?

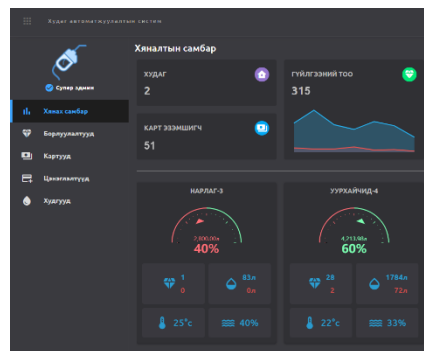
- Works only during working hours. Not smart.
- Water supply hoses are easily contaminated.
- Hot water is not distributed.
- Water loss during distribution is about 5%.
- Poorly maintained, healthy and safe environment is not provided





**"Aquamatrix 5.0" smart water kiosk project that was implemented by our company have the following advantages for consumers:**

- Water supply is available 24 hours a day.
- Not only cold water but also hot water for households.
- Due to the installation of water distribution nozzles, water loss was reduced to 0% and sanitation requirements were met.
- Comprehensive monitoring and management software was developed and handed over.
- Stress tests were performed in cold winter and hot summer weather.
- Bank cards, fintech apps (e.g. Qpay, LendMN), loyalty points (e.g. Candy, UPoint) can be integrated.
- It is ready to be connect the government e-Mongolia services.





**BEFORE**



Works only during working hours

**AFTER**



- Smart technology
- Works 24 hours a day

**BEFORE**



- The hose is not hygienic
- Water loss 5%

**AFTER**



- The nozzle meet sanitary requirements
- Water loss 0%

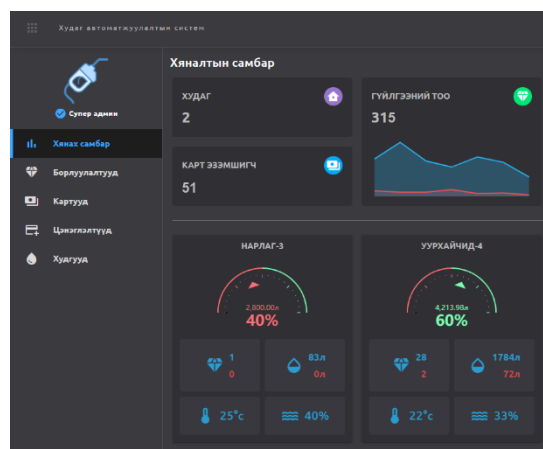




## "AQUAMETRIX 5.0" KIOSK Additional Features



Hot water is available



Comprehensive monitoring and management software



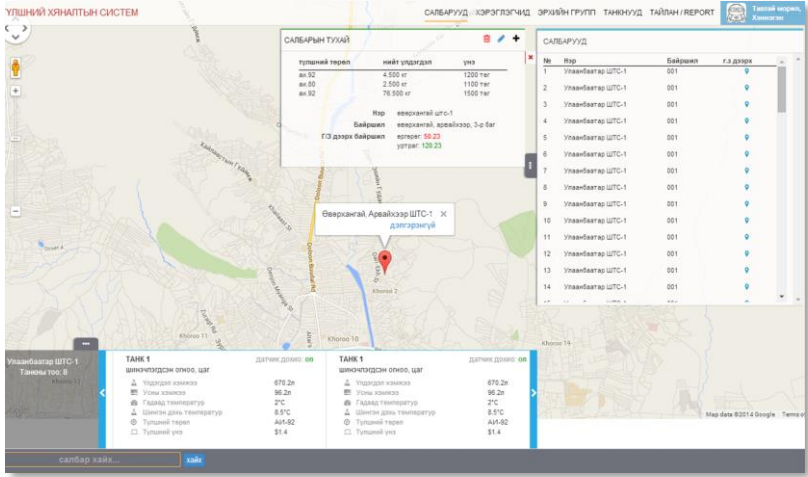
Video and Audio content and Emergency Broadcasting

Ready to be connected to e-Mongolia services



Bank cards, Fintech apps, Loyalty points ready be integrated

From July 2018 **“Dashvaanjil” LLC** was able to exercise the transition to automated LPG dispensing via **98 dispensers** spread across the country. “SEM” LLC installed necessary hardware and equipment with wireless communication modules on the dispensers and provided an efficient web monitoring tool for back-office staff and management.



The transition to automated dispensers provided following advancements:

- Elimination of human error
- No paperwork
- Real time sales data available
- Access to customer data via loyalty cards and payment integration

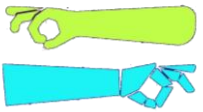
Now based on the statistics the customer became able to conduct much more efficient and targeted marketing activities, boosting the sales revenue in return.

The system and smart dispenser equipment developed by the engineers of "SEM" LLC **functioned for 4 winters and 5 summers**

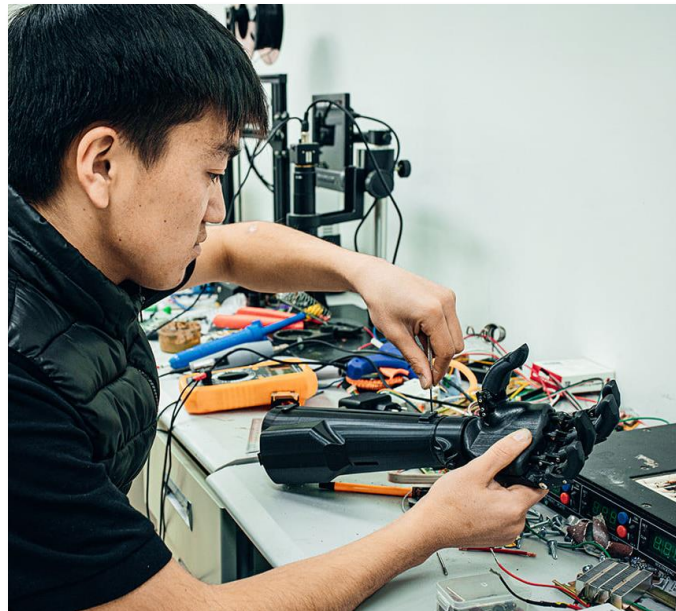
## "BIONIC ARM" CORPORATE SOCIAL RESPONSIBILITY PROJECT

"**Children's Simple Dream**" project is a social welfare project implemented by "SEM" LLC since 2019 within the framework of corporate social responsibility. The aim of the project is to produce and present "bionic arm" for children with disabilities.

As of 2020, there are a total of **6,784** children with disabilities in Mongolia, and the project aims to reach out to **500** children.



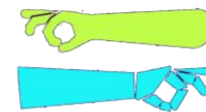
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As of today, with the help of donors, the project has donated "Bionic Arm" to twelve children.



**“BIONIC ARM”**  
CSR PROJECT IN PICTURE



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