

NATIONAL TECHNOLOGY NETWORKS AND RESOURCES

BHUTAN

CSI Technology Request Database

<https://www.dcsitechnology.bt>

This technology transfer database center serves as a one-stop database for accessing all technology requests and for the exchange of technology offers within and outside Bhutan. The database includes all the contact information of local suppliers, including descriptions of equipment. All the cottage and small-scale entrepreneurs and startups can obtain the following benefits from using CSI (Cottage and Small Enterprises) Online Technology Request Database System. It provides information on the technologies available for transfer (technology offers) and the technologies needed (technology requests).

The online database facilitates the exchange of technology offers and requests both in Bhutan and at the global level. The database search engine is connected to selected international database centers. The establishment of CSI Technology Request Database was supported by the Asian Pacific Center of Technology Transfer (APCTT) of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).

CSIR Compendium of Technologies

https://drive.google.com/file/d/10VWMxkKo3La83ea0r2_NNY-ksHomlpk2/view

The CSIR Compendium of Technologies 2021 has been compiled by the National Institute of Science Communication and Policy Research of Council of Scientific and Industrial Research (CSIR-NIScPR), India. The compendium is a compilation of technology details provided by different CSIR laboratories of India at TRL (Technology Readiness Level) 6 and above. The compendium is based on the validation of these technologies by experts. The CSIR-NIScPR executed this exercise based on laboratory inputs and the final selection was based only on expert assessment. A total of 467 technologies at TRL 6 and above were identified for assessment, out of which 154 technologies were not considered for this compendium as they were generic. However, these technologies might have potential in rural entrepreneurship. This compendium shortlists 313 CSIR technologies that are promising (TRL 6 and 7) and market-ready (TRL 8 and 9).

INDIA

CSIR Technology Showcase

<https://techindiacsir.anusandhan.net/online/Control.do>

CSIR Technology Showcase is the online resources portal of the Council of Scientific & Industrial Research (CSIR) of India. Having pan-India presence, the CSIR has a dynamic network of 38 national laboratories, 39 outreach centers, 3 innovation complexes, and 5 units. The CSIR's R&D expertise and experience is embodied in about 4,600 active scientists supported by about 8,000 scientific and technical personnel. The portal provides information on CSIR technologies, patents, success stories, and social interventions.

CSIR Technologies for COVID-19 Mitigation

<https://drive.google.com/file/d/1DxoHfMnjY2kflVr516UeQAUejByEiol/view?usp=sharing>

About 60 technologies for COVID-19 mitigation are listed in this compendium developed by different CSIR laboratories across India and they have already been transferred to industry partners. The COVID-19 technologies are licensed on a non-exclusive basis, and the industrial partners have engaged with the CSIR in the larger interest of taking these technologies to the needy in a short time.

TECHNOLOGY OFFERS AND OPPORTUNITIES

High-speed charging electro cars with solar technologies

Sector

Renewable energy technologies

Country

Republic of Uzbekistan

Areas of Application

With the help of solar photovoltaic systems with energy storage systems adapted to the climatic conditions of Uzbekistan, it is possible to install a fast charger for electric vehicles operating in parallel with the local power grid in remote areas of Uzbekistan. Excess energy generated by solar photovoltaic systems with energy storage systems is used as an energy source in the establishment of small service stations.

Description

The electric vehicle charging system consists of a 19,680 W photovoltaic module, a 20 kW hybrid inverter, and a 38.4 kW lithium-ion battery energy storage system (EST). The inverter controls the flow of electricity between different power sources. It has an array of photovoltaic modules and two DC ports connected to the EST and two AC ports connected to the local mains and the electric car charger, respectively. Photovoltaic module power can be used to charge an electric vehicle, store energy in batteries, or transmit power to the grid. The energy stored in the EST can be used to charge the electric vehicle or connect it to the mains. Photovoltaic modules can provide electricity to charge an electric vehicle via the EST and a local area network. An automatic control strategy has been developed to maximize the energy of the photovoltaic modules used for charging and to reduce the demand for electricity. Depending on the availability of network power, the charging station is connected to the network and individual operating modes are developed when the photovoltaic module is connected to the mains in the operating mode. If more power is needed, the rest of the power is supplied by batteries or the mains. If the photovoltaic module is not connected, the energy is stored in the battery, and if the battery is fully charged, the excess power is transferred to the mains.

Benefits

The developed system can be used in various fields: in transport and electricity networks, for fast and safe charging of electric vehicles, for private entrepreneurs engaged in the installation of medium-power and distributed generation facilities, and others. It can be used by senior students and masters in higher and secondary education, and researchers working in this field.

In the country, each high-speed electric vehicle charging solar technology generates 32,000 kWh of electricity per year and autonomously supports an average of 950 electric vehicles.

The structure housing the system can be used as a parking lot that protects five cars from the sun.

Environmental Aspects

Each system installed in the country saves 11.2 thousand cubic meters of gas per year and prevents the release of 19.8 tons of industrial gas.

Development Status

The first high-speed charging station for electric vehicles using solar technology has been launched in Uzbekistan.

The characteristics of the power supply system that affect the parameters of the charger were studied. The charging system has been developed for simultaneous power supply from the power grid and solar photovoltaic power plant.

The technology was developed on the basis of the European standard GB / T 20234.2—2015 “Connecting device of conductive charging of the car”, and UZ-Q / SD-C-0482-2016 “Connecting device of conducting car charger.

Legal Protection

A utility model has been applied for a fast-charging system for electric vehicles connected to the mains and operating in parallel with a solar photovoltaic plant with an energy storage system: FAP 2021 0323 dated 19.10.2021.

Technical Specifications

- The main controller is a 32-bit industrial-grade microprocessor.
- Level 1 gauges are used to accurately measure the charging capacity of electric vehicles.
- The device is equipped with an additional temperature sensor to prevent the internal temperature from rising and even has the ability to completely stop the charger and signal unusual temperatures.

Transfer Terms

- The device meets the requirements of existing regulations in Uzbekistan.
- Our specialists can troubleshoot equipment malfunctions.
- The device is relatively cheap to produce in series, as it saves on transportation costs (logistics, customs, and other fees).
- The device can be quickly delivered and repaired, and the components are produced in-house .

Target Countries

Uzbekistan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and India

Estimated cost (US\$)

Sales price of the product: 47.5 mln. UZS (USD 4250, USD 1 as of May 10, 2022 = 11 190.00 UZS)

Together with the solar photovoltaic system: 450 mln. UZS (USD 40,200, USD 1 as of May 10, 2022 = UZS 11,100.00)

Assistance Sought from Potential Partner

We are ready to cooperate with all manufacturers. However, due to the lack of staff and raw materials at the institute, we offer to work with professional companies in the field of electronics.

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Development of a basic corset called "SASH" in the treatment of intervertebral disc herniation

Sector

Medical technologies

Country

SASH CORSET LLC, Uzbekistan, Bukhara Region, Romitan District

Area of Application

1. Employees of all state enterprises who work in a chair for 4-5 hours
2. Pharmacies
3. Centers for neurology and vertebraology
4. Private clinics

Description

The basal corset works for the rapid, effective, and uncomplicated treatment of lumbar osteochondrosis and disc herniation, which results from degenerative and disturbing changes in the pulp nuclei of the intervertebral discs.

The essence of the base corset is that it wraps around the waist like a mandrel, supports the center of the hips of the waist brace, and leads to keeping the body upright. Mobilization helps to strengthen the addition of power to the weak among them. The development of the corset has helped in import-substitution for treating severe injuries and reduction of demand for the drug.

Advantages

Nowadays, there are many types of such corsets, and their specific disadvantages are enough. For example, orthopedic corsets (\$ 22) only serve to maintain the accuracy of the spine and prevent scoliosis, but they are almost useless in disc herniation. A bandage (\$ 5) protects this belt from additional loads and helps distribute the load properly. Fixation corsets (\$ 13) fix the lumbar region at the spine, mainly to prevent additional misalignment of the lumbar region. Apparently, almost all of these tools are used for secondary prophylactic purposes and to prevent post-disease complications, but they cannot cure disc herniation. Their function and coating are also simple and that's why some corsets come at low prices. The basic corset we have developed is used not only for fixation purposes but also in the treatment of the early stages of spinal disc herniations and degenerative and dysplastic diseases of the spine, and in the prevention of similar diseases.

Environmental Aspects

When the project is developed, patients with disc herniation and those suffering from the disease will be protected, The people who usually work sitting on a chair will also be protected from future pathological conditions.

Development Status

Equipment such as inventory, equipment, a vertical machine for the production of corset fabric is purchased and transported to the building tower, other equipment, tools and raw materials are produced in the building. is developed and the quality, metal temperature, operating mode, degree of adaptation in the lumbar areas are measured. To do this, a statistical product quality indicator is developed, a recipe is found that is the best and strongest, and a corset is produced on the basis of a single production mode.

Legal Protection

The corset is copyrighted as a new and unique innovative technology.

FAP 20190002

Intellectual Property Agency of the Republic of Uzbekistan

Technical Specifications

At present, we have all the required inverters and raw materials, which meet the requirements of economic savings. Currently, the amount of equipment and necessary inverters required for the project is 154 million. The main workforce of the company is 8 people.

Transfer Terms

The project will be implemented in the innovative zone in Rometan District of Bukhara Region.

Currently, an enterprise has been established to implement this project—SASH KORSET LLC.

Bukhara branch of the National Bank

H / R 20208000205419904001

STIR: 308730107 MFO: 0001

Target Countries

The project is currently being developed only for the market itself.

Estimated Cost (US\$)

Two hundred orthopedic corsets and 200 fixation corsets will be produced at the expense of the Ministry of Innovation Development.

- The cost of one orthopedic corset is \$ 13,7.
- The selling price of one orthopedic corset is \$ 22.
- The cost of one fixation corset is \$ 19,5.
- The selling price of one piece of fixation corset is \$ 280,000.

The project has a production capacity of 500 units per year.

Assistance Sought from Potential Partner

Currently, there is no need for support from other organizations to sign the contract. In the future, the issues of scientific and economic cooperation with clinical centers of neurology and vertebrology in foreign countries are being considered.

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Technology for the production of concrete blocks using industrial waste (ash) from thermal power plants

Sector

Construction

Country

The Republic of Uzbekistan

Areas of application

These blocks can be used in the construction of residential and commercial buildings. The main goal of the project is to prevent the environmental impact of industrial waste generated by thermal power plants and the production and accumulation of large amounts of cheap concrete blocks.

Description

There is a shortage of cheap and high-quality blocks for multi-storey houses and various residential and non-residential buildings under construction in Piskent District. The launch of the project will solve these problems. The role of aerated concrete blocks is important in the production of energy-efficient building materials:

- The use of highly energy-efficient building materials will lead to the production of a new type of building material, zolo beton blocks.
- Using industrial waste, these blocks improve the territorial ecological situation.
- Using industrial waste as raw material is cost-effective.

Advantages

The main materials are as follows: ash, 50-65 per cent; cement, 20-25 per cent; lime, 8-15 per cent; aluminum paste, 0.02-0.04 per cent; caustic soda, 0.02-0.04 per cent; and basalt fiber.

Environmental Aspects

Production of cheap concrete blocks prevent the impact of large quantities of industrial wastes from thermal power plants on the environment.

Development Status

Phase 1. The main materials are as follows: ash, 50-65 per cent; cement, 20-25 per cent; lime, 8-15 per cent; aluminum paste, 0.02-0.04 per cent; caustic soda, 0.02-0.04 per cent; and zolo beton with basalt fiber. In order to obtain a high-quality block product, the terms of reference and the design of an energy-saving device are being developed.

Phase 2. Carrying out industrial experimental testing. Determination of technological parameters. The detected defects in the device were eliminated.

Step 3. The finished experimental test device will be introduced at the production enterprise of the Association "Uzpromstroymaterialy" and the act will be issued.

Legal protection

1. In order to prepare the project for commercialization, the adaptation of the production line has been completed.
2. Preliminary experimental samples were developed under the project.
3. GOST (interstate standard) and hygienic certificates as well as technological regulations are being drawn up for the received test batch.

Technical specifications

Portland cement, gravel, caustic soda, aluminum powder, secondary polymers are the main raw materials.

Transfer terms

Under the terms of transfer, income is determined by the sales volume and the financial result by the amount of profit. Given the market demand for zoloblok mainly in the hot season, seasonal fluctuations in demand are observed during the forecast period. At the same time, the dynamics of sales growth should be planned due to the increase in equipment capacity utilization.

Target countries

Tajikistan, Turkmenistan, Kazakhstan, Russia, India, and Afghanistan

Estimated cost (US \$)

\$ 500 000

Assistance from potential collaborators

In the framework of potential cooperation, the project should pay special attention to the development of production and logistics infrastructure. When organizing the logistics infrastructure, it is necessary to determine the number of objects (warehouse complexes) with a certain geographical location and take into account the stocks of products stored everywhere. The logistics infrastructure should include buildings, transport systems, production facilities, which will be necessary for the implementation of logistics activities, increasing the competitiveness of the blocks produced.

Contact

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