

Latest reports 04/03/2020 Solar energy

## Smart solar box for village school in India

Students from southern Germany have developed a smart solar power box which is providing air conditioning for a remote school in southern India.

**Publisher:** German Energy Solutions Initiative



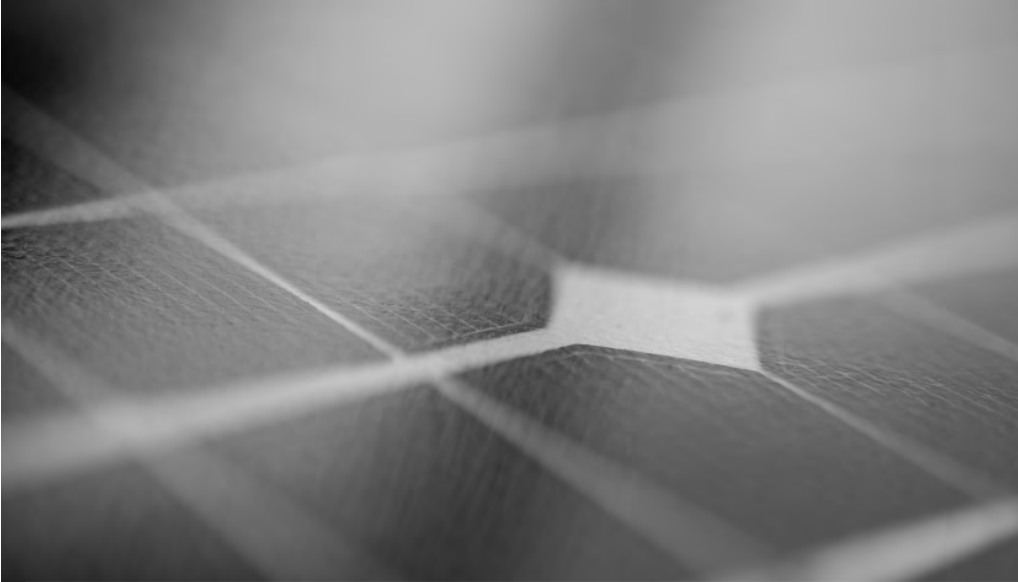
The smart box can be built from widely-available components and set up locally for as little as € 300.

A group of students from Munich working together with the Research Institute of the Free State of Bavaria for software-intensive systems (fortiss) have come up with a portable power solution that can provide cheap electricity for remote rural areas. It is currently powering a small village school in Madikonda, in the hot southern Indian state of Telangana.

Until recently, the Sri Vidyaranya Awasm school had no direct power supply but can now provide air conditioning for its classrooms in an environmentally-friendly way. The genius of the smart box, which is controlled via a mobile app, is that it can be built from widely-available components – a motorcycle engine, a solar charge controller and a Raspberry PI credit card-sized computer – and set up locally for as little as 300 euros.

The box was built by the students under the guidance of experts from fortiss, who designed the energy management system. The aim of the project was to show that a compact, decentralised energy supply unit can be built with common components at low costs.

Based in Munich, fortiss is a not-for-profit, independent research institution which drives innovation in the area of software systems and digital transformation. "It was important for us to show that a pragmatic solution can be created with technical know-how and low costs," explains the project manager Venkatesh Pampana on [fortiss's website](https://www.fortiss.org/en/news/details/wie-eine-indische-dorfschule-ihre-klassenraeume-umweltfreundlich-klimatisiert) (<https://www.fortiss.org/en/news/details/wie-eine-indische-dorfschule-ihre-klassenraeume-umweltfreundlich-klimatisiert>). He continues, "The advantage of the smart solar box is that the components can be bought and set up much cheaper locally. The training of the experts can also take place on site. In addition, conventional diesel generators can be replaced."



([https://www.german-energy-solutions.de/GES/Redaktion/EN/Images/News/20190919-finale-solarpanel.jpg?\\_\\_blob=poster&v=1&size=1170w](https://www.german-energy-solutions.de/GES/Redaktion/EN/Images/News/20190919-finale-solarpanel.jpg?__blob=poster&v=1&size=1170w))

**19/09/2019 SOLAR ENERGY**

## **High-efficiency solar cells thanks to an innovative screen-printing process**

(<https://www.german-energy-solutions.de/GES/Redaktion/EN/News/2019/20190919-finale.html>)