

## How Aeromodellers Are Working for the Future of Mankind



The problems of mankind's future are associated with energy and resources. With solar aeromodelling, young people can learn how to use energy economically and efficiently.

### Aeromodellers as pioneers of aviation

Flying with solar energy will occupy us over many more decades to come. Aviation history teaches us that many aviation pioneers were

aeromodellers and the development of solar-powered aeroplanes is no exception. The basis for this was provided around 1905 by Albert Einstein, when he discovered the photoelectric effect which can now be experienced by young and old when designing and building solar-powered model planes.

### There's nothing wrong with theory, especially when it can be experienced in practice

Designing and building solar-powered model aeroplanes requires in-depth understanding of the energy differential for the entire propulsion system and the issues associated with the aircraft structure. Dedication to lightweight construction is required in combination with static solutions that allow the strongest design possible. Students at the Vega college of electrical engineering in Slovenia have built a solar-powered model aircraft. They observed the regulations of FAI category F5E ELECTRIC SOLAR MODEL AIRCRAFT (maximum surface area: 75 dm<sup>2</sup>; max. voltage 42 V).

#### Students of the Vega College, Slovenia



The propulsion system must be powered only by photovoltaic cells while the remote control unit may be powered from a separate battery. Roman Lozar, who was involved in the project has written about it: "As far as I am concerned, our efforts were a pioneering feat and we were able to prove at the Vega college that it is possible and practical to build solar-powered aeroplanes in future. Of course we will continue with our work. We have made a film about our project which was broadcast by RTV Slovenija (national TV station) under the title "Sončne Sanje" (Solar Dream)".



## Aeromodellers never stop learning

Last winter, 14 young and not so young aeromodellers responded to an invitation from the aeromodelling association to build a solar-powered flying wing model. They worked hard from 9 a.m. to 5 p.m. on three Saturdays and completed all models so they were ready for flying. These models have a small lithium-ion storage battery as well as a charge/discharge controller. Small LEDs indicate when the sun is charging the battery. The models were constructed from lightweight foam and flew splendidly. One of

the pilots was pleased to report a flight of more than an hour's duration with an initial battery charge of 82% – and after landing the battery charge was more than 90%. His theoretical considerations have thus been confirmed in practice, which is always hugely satisfying, especially for young people.

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