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Valuing the essentials

Press Release

About the winning projects

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'Smart Way', by IES (Secondary School) Ricardo Bernardo, is a more efficient lighting system for the outskirts of rural towns that offers not only energy savings, but also reduces light pollution. The 'Three Musketeers' propose installing lighting sensors on street lights on highways and roads that will be activated when they detect a vehicle approaching. This means that they are not left on when there is no traffic. This will promote the installation of new street lights on stretches which are not currently lit for financial reasons, thus contributing to road safety.

In the meantime, the '***Photovoltaic Salt Flats***' team in Fuengirola decided to develop a charging station for mobile devices with directable photovoltaic panels fitted with a controller that measures the energy generated and consumed and transmits it to a remote IoT network already installed at the centre. This system is able to generate graphs showing certain parameters and which help to determine the extent to which these renewable energies can reliably replace traditional ones and how to optimise their use.

In the second category, Telecommunications, the '***Soundlights***' project from IES Miraflores de los Ángeles addresses how to tackle the high noise levels experienced in classrooms, which often diminishes both the teaching capability of the teachers and student performance. This is done by means of a digital prototype in the form of a traffic light that measures noise levels and alerts when they are high, allowing for appropriate actions to be taken at any given moment.

Up against the same challenge, the '***Traffic Chronometer***' project proposes a system to improve traffic flow and air quality in cities by providing traffic lights with a counter that shows drivers how long they have left to wait until the light changes from red. So, if the waiting time is long enough, the driver can choose to turn off the vehicle's engine. This provides a dual benefit: fuel reduction and a decrease in gas emissions into the atmosphere. Additionally, the girls from 'Team Alme' propose reducing waiting times at stops by installing sensors that enable traffic lights to interact with each other and change colour based on the traffic in the area.

In the SDG category, the winning projects were those presented by 'The astronauts' from the Colegio de La Asunción in Granada. Through their '***Acuoponía***' project, they achieved an ecosystem in which fish and plants live together in balance. The objectives achieved include producing fresh organic food, reducing water and fertiliser consumption, and creating a closed system that reduces pollution and promotes biodiversity in an

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environment where temperature, pH, and water quality are controlled and monitored using a mobile application for Android that allows data visualization.

Finally, the 'Climatológicas' team from Pamplona are concerned about the potential construction of a car park planned in the square in front of their school. After noticing the little importance their classmates at IES Plaza de la Cruz placed on the air quality they breathe, they set out to design three scientific-technological activities to inspire '***Environmental Awareness***' among the students. To achieve this, they have proposed a weather station capable of measuring CO_2, a virtual game that shows how the gases we breathe can cause irreversible harm to health, and an escape room based on the physical and chemical parameters studied in the classroom (such as combustion).

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