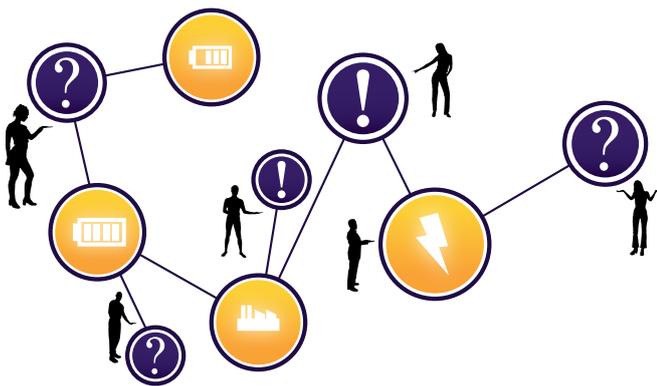




PROJECT SUMMARY (HOW THE COSSMIC SYSTEM WORKS)

To cope with the fluctuations in energy production and demand, grid operators use back-up systems that run usually on fossil fuels. When all over a sudden the demand for energy rises, the back-up system starts producing energy to fulfill the demands. So, when people take a shower in the morning or start up their washing machines, the back-up system has to swing into power. This causes extra costs for the grid operator, which are then being invoiced to the customer.

In order to have a more predictable power demand and supply, as well as grid investments and transfer costs, CoSSMic aims to increase the coordination between users of local grids, supplemented by enhanced storage technology. By storing the power and sharing it between a limited group of users (for example in a neighbourhood), the production and demand can be coordinated with each other.



This coordination necessitates sharing of information and exchanging excess power production and storage capacity, between micro-grids as well as with the central power grid, all in accordance with policies defined by the home owners as well as other relevant information, such as input from weather stations, weather forecasts, and habits and plans of inhabitants. For example, when a period of cloudy weather is expected, solar cells might produce less energy and the storage of energy has to be utilized.

You might want to share your excess power with your neighbour, but simultaneously you might like to ensure that your washing machine still runs or the heating does not switch off. To interact with your house, smart devices such as a smartphone or touchpad can communicate with CoSSMic hardware installed in your house. You can set preferences and limitations, so that the system can interact with other users within the borders you set in advance.

To test this idea, CoSSMic contacted users in Konstanz (Germany) and Caserta (Italy) that will test the technology and see if the ideas that underline it function in practice.

