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## China-Backed Project Focuses On The Energy-Efficient 'Green Network'

Institute IMDEA Networks is to participate in a new project aiming to develop theories and techniques for globally reducing energy consumption in wireline networks.

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As the Internet Society continues to evolve, communication and computer networks are growing in importance, creating new energy demands—as well as a growing impact on the environment. There is an urgent need for smarter energy-management systems, and for solutions that reduce energy consumption without affecting service quality. Now, [Institute IMDEA Networks](#) has announced a new project focused on the "Green Network", devoted to developing theories and techniques for globally reducing energy consumption in wireline networks. This project ties into IMDEA Networks' existing focus on Energy-Efficient Networking, which, along with Wireless Networking and Network Protocols and Algorithms, is one of the organization's three general areas of concentration. Work began on the Green Network project in January 2011, and it is scheduled to conclude in December 2014.

The research will focus on the development of more energy-efficient techniques for the design of networking infrastructure and the deployment of network nodes, as well as the creation of scheduling and routing algorithms and protocols that can reduce network energy consumption. Researchers will provide correctness proofs and theoretical analyses of the protocols and algorithms. Additionally, they will build a platform for simulating them, and for testing the infrastructure design and node deployment schemes. The project will also formalize system models that can realistically express the characteristics and restrictions of current network technologies.

The Chinese government is playing a significant role in the project —funding is provided by the National Natural Science Foundation of China, and the research is to be led by Prof. Zhiyong Liu of the [Institute for Computing Technology](#) (ICT) at the Chinese Academy of Sciences. The research thus opens the way for further collaboration between Institute IMDEA Networks and the Chinese government, including government-backed institutions such as [Chinese Academy of Sciences](#), and [Tsinghua University](#), the most important Chinese university in this field. This creates new opportunities for innovation and economic growth, something particularly crucial in the current economic climate. IMDEA Networks' role on the project has been facilitated by [Dr. Antonio Fernández Anta](#), who is co-Principal Investigator of the project. Dr. Fernández Anta has

been a Senior Researcher at the Institute since the fall of 2010, on leave from a Full Professor position at the [Universidad Rey Juan Carlos in Madrid](#), one of the project partners. The other three partners are the Institute of Computing Technology (Chinese Academy of Sciences), Tsinghua University, and Bell-Labs of Alcatel-Lucent.

The Institute for Computing Technology (ICT) at the Chinese Academy of Sciences is playing a leading role in the Green Network project.

**Source(s): IMDEA Networks Institute**

URL: [China-Backed Project Focuses On The Energy-Efficient 'Green Network'](#)

## About us

**IMDEA Networks Institute, promoted by the Regional Government of Madrid, is a research organization on computer and communication networks** whose multinational team is engaged in cutting-edge fundamental science and technology. As a growing, English speaking institute located in Madrid, Spain, IMDEA Networks offers a unique opportunity for pioneering scientists to develop their ideas. IMDEA Networks has established itself internationally at the forefront in the **development of future network principles and technologies**. Our team of highly-reputed researchers is designing and creating today the networks of tomorrow.

**Some keywords that define us:** 5G, Big Data, blockchains and distributed ledgers, cloud computing, content delivery networks, data analytics, energy-efficient networks, fog and edge computing, indoor positioning, Internet of Things (IoT), machine learning, millimeter-wave communication, mobile computing, network economics, network measurements, network security, networked systems, network protocols and algorithms, network virtualization (software defined networks – SDN and network function virtualization – NFV), privacy, social networks, underwater networks, vehicular networks, wireless networks and more...

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