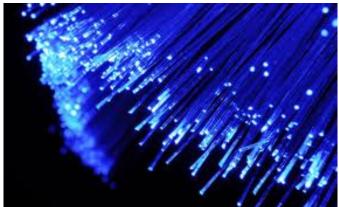# The EU's Data Centre Energy Plan

Written by Marco Attard
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Despite developments such as more efficient processors and innovative cooling systems data centres remain major power consumers. Which is why the EU launches PhoxTroT, an initiative aiming to replace copper cabling with fibre.

Headed by Germany's Fraunhofer Institute, the PhoxTrot project describes optical data transmissions as "key" to slashing the energy consumption of European data centres by at least 50% over the next 4 years, while doubling data connection capacity to 2 terabits per second (Tb/s).

Optical data transmission uses a fraction of conventional means. The technology already exists, and also extensively researched. It is also more disaster-proof-- after the Hurricane Sandy disaster took down communications around the US east coast telcos rushed to replace all cabling with fibre, boosting network speeds in the process.

"The novelty of the PhoxTroT project is that we are now researching the synergies between the various technology components and are combining them with each other in a new research plan based on the 'mix-and-match' principle," project coordinator Dr Tolga Tekin says.

The project combines both existing and new technologies, until systems "able to guarantee a photonic data connection that remains constant across hundreds of kilometre" emerge. Eventually optical transmissions will connect entire data centres, scaling from rack-to-rack and board-to-board down to printed circuit board ("on-board") level.

The EU contributes €9 million in funding for the 4-year project, which involves Fraunhofer and

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17 other European companies and research institutes.

"The greatest challenge is coordinating partners from a wide range of disciplines. On the one hand, for example, there are the technology experts, and on the other hand, systems experts," Tekin concludes "We have to bring them all to one table, establish an understanding between them and guide the communications into the right channels."

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