

Cold Fusion gets red hot and aims for EU

24 MAY 13 / by DAVID HAMBLING 

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The resurgence of "cold fusion" research just shifted up a gear with the most remarkable development yet.

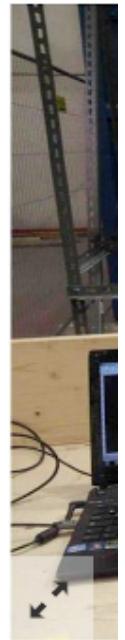
Two years ago, Italian inventor Andrea Rossi showed off his Energy Catalyser or E-Cat, a reactor claimed to produce hundreds of kilowatts. He said it had been purchased by an undisclosed US military customer. Since then Rossi has continued to make extravagant but unverifiable claims, promising that independent tests would be published at some point. Something astonishing has now happened: a third-party report has been published supporting Rossi's claims.



The

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report -- "Indication of anomalous heat energy production in a reactor device" -- concludes that the E-Cat does produce excess energy, and lots of it. "Even by the most conservative assumptions as to the errors in the measurements," say the authors, "the result is still one order of magnitude greater than conventional energy sources." The E-Cat produced at least ten times more energy than any hidden batteries or other power source could have supplied.



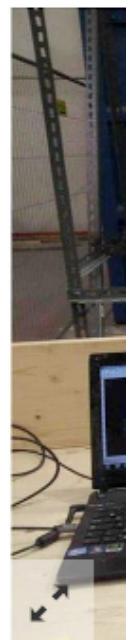
The testers used high-resolution thermographic cameras to measure the surface temperature all over the reactor tube. This data was then used to calculate the amount of heat energy being radiated using a simple physical formula established over a century ago. This methodology was possible because the testers had a new version of the device known as a "Hot Cat", which operates at much higher temperatures than previously -- high enough for it to glow red-hot.

The reason for working at lower temperatures was safety and stability of the reaction, and this may still be an issue. The report was delayed because during an initial test run in November 2012 the steel cylinder overheated and melted: "Although the run was not successful as far as obtaining complete data is concerned, it was fruitful in that it demonstrated a huge production of excess heat, which however could not be quantified."

In the successful runs, the E-Cat was run for 96 and 116 hours respectively, heating to 860C and producing large amounts of excess energy. It produced two kilowatts of heat with a 360 watts input, giving it a Coefficient of Performance (COP) of approximately six. The extended duration was intended to prove that the excess energy was too much to be supplied by a hidden power source. When an inert E-Cat was used, no excess energy was observed and the temperature only reached 300C. This is not a small effect: the E-Cat is either a massive fraud or a reactor capable of producing commercially-viable levels of energy.

The authors of the report are Giuseppe Levi of Bologna University, Evelyn Foschi, four scientists from Uppsala University in Sweden, and Hanno Essén of Stockholm's Royal Institute of Technology. These are all individuals who have previously shown an interest in this area, and

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some critics have been quick to dismiss them as Rossi's friends. However, it's no small matter to put your professional and academic reputation on the line like this, especially when there are so many accusations of fraud flying around.

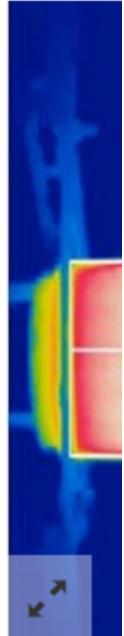
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The report was funded in part by ELFORSK AB, a Swedish energy industry research body, which took the unusual step of issuing a supporting statement:

"The measurements show that the catalyst produces significantly more energy than can be explained by ordinary chemical reactions. The results are very remarkable. What lies behind the extraordinary heat production cannot be explained today."

Rossi himself said of the publication that "This is one of the most important days of my life".

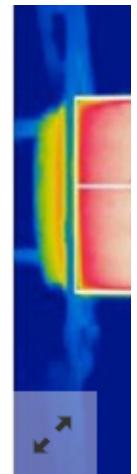


Many commentators are still stunned that a positive report has finally appeared. An alien landing on the White House lawn might have been less surprising. Ecatnews.com, which shut down in disgust last November after too many failed promises by Rossi, started up again with the comment "Never have I longed to be proven wrong so much in my life".

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Frank Acland, editor of *ECatworld*, has been following the ups and downs of the Rossi saga. He believes the report could be a major step towards acceptance.

"There are people in industry, science and among the general public who have been paying attention but have been quite skeptical of Rossi's claims will get off the fence and start taking him more seriously," Acland told Wired.co.uk. "This is the kind of technology that people want to see come along, if only they could have solid reason to believe -- and this report could provide that."



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"The measurement was performed by some of the parties that have been involved in this scam since 2011"

Steven Krivit, *New Energy Times*

However, not everyone is convinced. Steven Krivit, editor of *New Energy Times* and a steadfast critic of Rossi's carnival sideshow approach to science, suggests that this latest test was more than a little staged.

"This is a partially independent measurement, performed on a device that was built by and controlled by Rossi, and located in Rossi's facility," Krivit told Wired.co.uk. "The measurement was performed by some of the parties that have been involved in this scam since 2011. The fact that the authors of the paper have stated that they have performed an independent test is a significant misrepresentation and would qualify as research misconduct by some organisations."

The report would seem to put Rossi's Leonardo Corporation well ahead of others competing to get similar devices to market, including Kresenn in the UK, Rossi's former partners Defkalion now based in Canada and Brillouin in the US.

It may also be significant that the EU is hosting a session on cold fusion in Brussels on 3 June. Organised by ENEA, Italy's nuclear research agency, it's called "New advancements on the Fleischmann-Pons Effect: paving the way for a potential new clean renewable energy source" and will be attended by Herbert von Bose, director of the EU's Industrial Technologies Programme, and US cold fusion researchers from the University of Missouri where there is a well-funded cold fusion research program.

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There are many questions still to be answered. But the new report might just provide the kick needed to get those answers. Will EU taxpayers support a project to establish once and for all whether this is a gigantic con, or the biggest new technology of the century?

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