

# First Battery Based on 'Nanograss'

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mPhase Technologies and [Lucent Technologies](#) today announced a major milestone for future commercialization of a **nanotechnology-based battery**. Lab tests, which have been replicated, proves it is possible to fabricate nanotech-based [batteries](#), which can store and generate electric current. The project is based on a joint program with [Bell Labs](#), the [R&D](#) arm of Lucent Technologies.

The prototype battery is based on a Bell Labs discovery that **liquid droplets of electrolyte will stay in a dormant state atop microscopic structures called "nanograss" until stimulated to flow**, thereby triggering a reaction producing electricity.

The prototype demonstration was conducted at Lucent's New Jersey Nanotechnology Consortium (NJNC), one of the world's most advanced design, development and fabrication facilities for nanotechnology, based at Bell Labs in Murray Hill, N.J. The companies had previously announced a broad agreement to develop and commercialize this technology.

The prototype battery is based on a Bell Labs discovery that liquid droplets of electrolyte will stay in a dormant state atop microscopic structures called "nanograss" until stimulated to flow, thereby triggering a reaction producing electricity. The experiment proved that this super-hydrophobic effect of liquids can permit precise control and activation of the batteries on demand.

Future batteries based on this technology have the potential to deliver far longer shelf life and better storage capacity than existing battery

technology. Potential initial applications for this technology may include defense, industrial, healthcare and consumer electronics. mPhase is also targeting the nanobattery for use in a technically-improved, lighter weight battery design.

"The theory behind the nanobattery is now proven in practical terms, and we are delighted to proceed with development of prototypes to meet initial customer requirements," said Ronald A. Durando, CEO of mPhase Technologies. "Considering that we have come this far in only six months of collaboration with Bell Labs and the NJNC illustrates the solidity of this technical approach and bodes well for practical commercialization."

"The use of nanograss for battery technology is an exciting development for the fields of nanotechnology and power management," said Dave Bishop, vice president of nanotechnology research at Bell Labs and president of the New Jersey Nanotechnology Consortium. "In general, improvements in battery technology have come very slowly in comparison to accelerating development cycles such as Moore's Law in semiconductors. We believe nanotech, specifically nanograss technology, will allow us to make a significant leap forward in battery capabilities."

mPhase and Lucent announced an agreement in March 2004, under which mPhase plans to commercialize the nanobattery under license from Lucent. mPhase projects its nanobattery to be commercially available in 12-15 months, and plans to produce the technology packaged in various configurations. A primary development goal is to create a battery that could have a shelf life lasting decades, yet can be activated instantaneously.

Source: Lucent

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