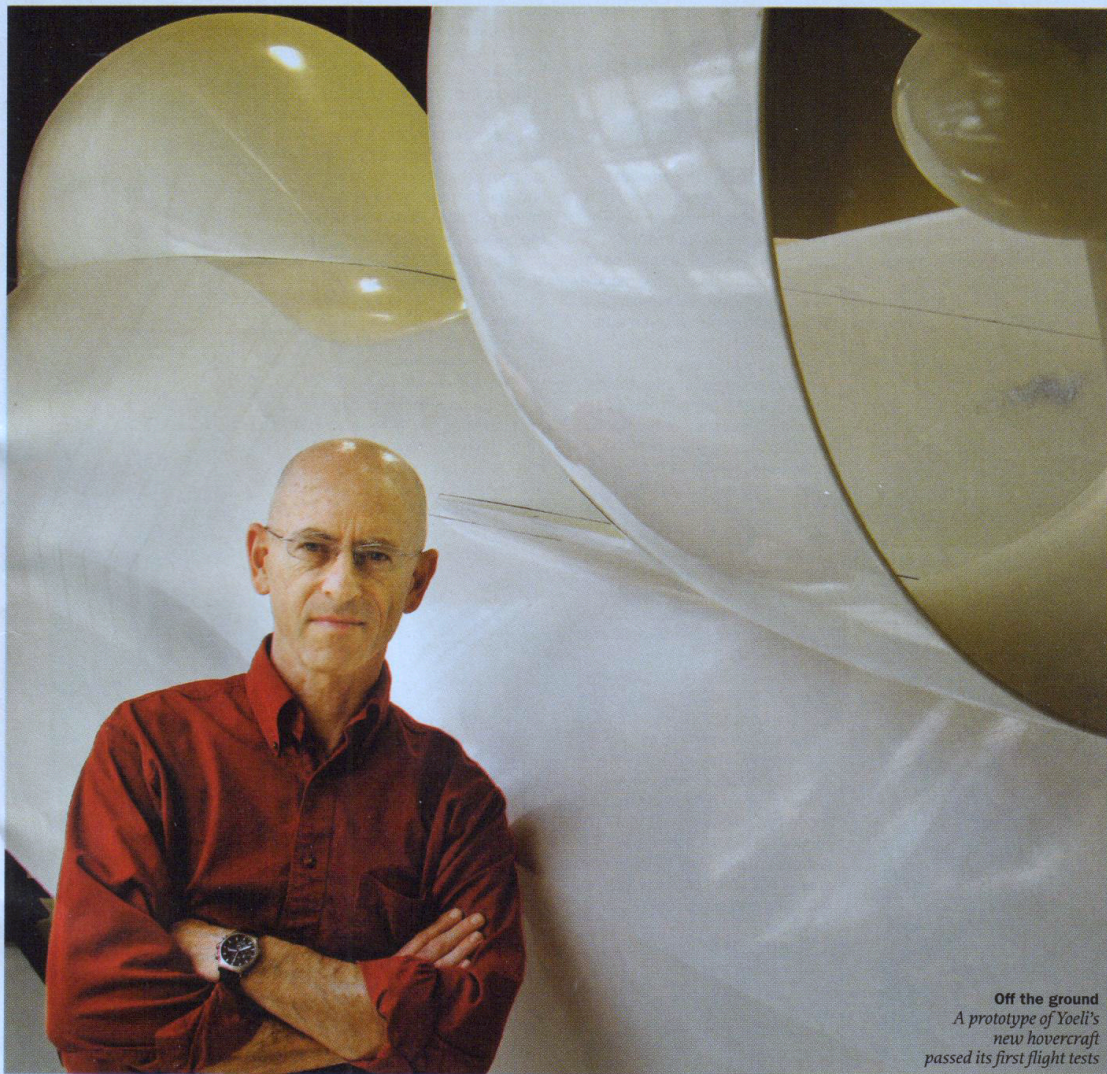


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Aerospace Inspiration. Space planes, space suits, hovercraft and cosmic cameras don't have to come from NASA anymore



Off the ground
A prototype of Yoeli's new hovercraft passed its first flight tests

Rafi Yoeli

The helicopter may have had its day. An imaginative new URBAN HOVERCRAFT has already flown, and customers are starting to call

DESIGNER There is something about Rafi Yoeli's physique—he's wiry and reed-thin—that somehow creates an impression of weightlessness. And there's something about his latest invention that actually appears to achieve it. If ever a designer and a machine were meant for each other, it's Yoeli and his new CityHawk hovercraft.

Yoeli, 56, grew up in Israel,

where he attended the Technion, the local equivalent of MIT. After a stint in the air force, he joined Israel Aerospace Industries Ltd., then spent 18 months with Boeing in Seattle. In 2001 he started his own company in Israel, Urban Aeronautics. Its mission, he says: "Developing robots and flying machines."

What held special interest for Yoeli was hovering vehicles that

work a bit like helicopters but have the cockpit and passenger area on top and the rotors below. Build it right, with relatively small blades, and you'll have an agile craft that can swoop in to rescue wounded troops, pluck victims from floodwaters or dock alongside a burning skyscraper so people can jump aboard.

In the 1950s and '60s, the U.S. military experimented with

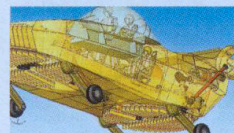
just such aircraft, but they wobbled, and a gust of wind could send them spinning. "Nobody had touched this technology for 40 years," says Yoeli.

He decided to revisit the hovercraft, this time with the help of light modern materials and advanced computers and other electronics. In 2003 he unveiled the result, his futuristic CityHawk, which in its first test rose and hovered just as advertised. The craft has two horizontal blades housed inside its body to keep them away from people, power lines and buildings. Rows of vents direct airflow to provide maneuverability and stability while rear-mounted vertical propellers move the vehicle forward and backward.

Yoeli is working in the U.S. with Bell Helicopter, which hopes to build a military version of the craft called the X-Hawk, capable of carrying a 12-person crew, reaching 155 m.p.h. (250 km/h) and climbing to 12,000 ft. (3,700 m).

The first X-Hawk will be ready to fly in 2010, and Yoeli already has orders lined up. "I think about the future a lot," he says. Now he's helping shape it.

—BY TIM MCGIRK, WITH REPORTING BY REBECCA LEITCH/JERUSALEM



Innovative innards The hovercraft has a roomy interior; top. Vents on its underside direct air from interior propellers. Rear props provide forward thrust