

Transphorm, Accelergy Among Top 10 Innovators to Watch

Switched-reluctance motors, liquid-metal batteries and synthetic transportation fuels are among the emerging technologies highlighted by Lux Research.

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By Josh Cable Lux Research offers a look at 10 companies that it says are "developing emerging technologies that are poised to impact global megatrends like sustainable energy and infrastructure, sustainable health and wellness, and materials revolutions."

Lux, a Boston-based emerging-technology research firm, profiled 328 companies across 15 emerging-technology domains in first-quarter 2012, as part of its ongoing intelligence services. These 10 are the pick of the litter.

Note: Each firm gets a "Lux Take" that ranges from "strong caution" to "strong positive," to provide a bottom-line assessment of its prospect, with a "wait-and-see" rating for companies that still face too much uncertainty for a definitive call.

1. **Transphorm** (energy electronic) -- *Wait and see*. "This high-profile, VC-backed, vertically integrated [manufacturer of GaN-based power devices](#) is a leading startup with new-product releases and demonstrations in the power-supply, PV-inverter and motor-drive areas."
2. **Zyvex Technologies** (advanced materials) -- *Positive*. "Combining a savvy business strategy with its core proprietary polymer technology, [Zyvex](#) is one of the few developers to successfully commercialize structural nanocomposites."
3. **Clearford Industries** (water and alternative fuels) -- *Positive*. "With a low-maintenance, easy-to-install distributed wastewater-treatment system that is vetted in the developed world, [Clearford](#) is poised for a

successful transition to developing world markets."

4. **Accelergy** (alternative fuels) -- *Positive*. "A leading developer of catalytic coal-to-liquid (CTL) and gas-to-liquid (GTL) technologies that convert cheap, available feedstocks into jet fuel and diesel, [Accelergy](#) is currently testing its CTL technology in China and looking for GTL partners in North America."
5. **Cbrite** (printed electronics) -- *Positive*. "Novel metal-oxide semiconductor materials could liberate flat-panel displays from dependence on silicon and open new frontiers in cost and flexibility."
6. **Amyris** (bio-based materials and chemicals, and alternative fuels) -- *Positive*. "In spite of revised production and cash-flow targets, [Amyris](#) still tops the list of bio-based innovators we briefed last quarter with its biosynthetically produced farnesene that readily converts into products relevant to cosmetics, flavorings, diesel-compatible fuels and other specialty chemicals."
7. **Global Solar** (solar components, solar systems and sustainable building materials) -- *Wait and see*. "As a Tier 1 flexible-copper indium gallium (di)selenide (CIGS)-based module manufacturer, [Global Solar](#) is one of the flexible-cell suppliers for Dow Chemical's PowerHouse Shingles."
8. **Liquid Metal Battery** (smart grid) -- *Wait and see*. "With its entirely liquid electrodes and electrolyte, [this early-stage MIT spinout](#) could enable drastic cost reductions for numerous grid-scale energy storage applications."
9. **Encap Drug Delivery** (formulation and delivery) -- *Positive*. "[Encap](#)'s all-round capabilities include pre-formulation and formulation services for poorly soluble drugs, potent drugs requiring specialized facilities and biologics, followed by liquid-filled capsule manufacturing services."
10. [Controlled Power Technologies](#) (electric vehicles) -- *Wait and See*. "Despite requiring expensive control, switched-reluctance motors do not use expensive rare-earth magnets and can use cheaper cooling systems, providing micro- to mild hybridization with the potential for lower costs."

See Also:

- ["Ten Emerging-Technology Innovators to Watch in 2012"](#)

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