What Is The Next Big Thing?

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Presented June 26, 2014


*Everyone has a different opinion and a different perspective...*

- Is there a product that everyone should know about?
- What technologies are driving major changes in industry?
- What trends will most affect our world - local and/or global?
- What are your ideas and observations that you would like to share?
Contributors

• Dennis Horwitz, Micronor, 3D Printing
• Dennis Horwitz, Micronor, Powering The Digitally Enable Home
• Paul Donohoe, Raytheon, Lively
• Tim Petro, ONR, New Technologies For The Marine Corps
3D Printing: If You Can Image It, You Can Make It

**BENEFITS**

Experts believe that as the machines become simpler to use, with more all-in-one functionality, and their prices drop, they’re more likely to enter the mainstream and change the way consumers think about the things they own, the things they want and how they solve problems. The next generation of kids may understand intuitively that if they can dream something up, they can make it.

**DOWNSIDES**

How will we effectively recycle the waste?
Wall Outlets For The Digitally-Enabled Home
Contributed By Dennis Horwitz

- With the proliferation of electronic gadgets, we need USB charging outlets as much as we need wall outlets...maybe more so...
Wall Outlet Innovation
From Leviton, Cooper and Hubbell
15A or 20A, Commercial or Hospital Grade

...Available at your local Home Depot, Lowe’s or 2-day delivery Via Amazon Prime
But While We Have Eliminated the Wall Charger...We Still Need the Right Cable. At Least That’s Some Progress!
A New Way To Track And Keep In Touch With Older Adults
Contributed by Paul Donohoe

Introducing Lively

Lively respects the privacy of older adults with a way to measure healthy living patterns while giving family members insight when help may be needed. Taking medication on time? Eating regularly? Being as active as possible? When something is amiss, Lively makes sure you're connected.
How Lively works:

1. Learn

Activity sensors log your daily routine. There's nothing to wear and no video cameras.

- **Medication**
  Attach a sensor to any pillbox to keep track of when your daily dose is taken.

- **Food & Drink**
  Attach a sensor to the refrigerator and other kitchen objects to infer when food is prepared or consumed.

- **Getting Out**
  Attach the sensor fob to your keychain to measure time spent out of the home—and when you come back.

- **Custom**
  Attach a sensor to a movable object that is part of the daily routine patterns of older adults to log more detail (e.g., bathroom door or favorite chair).
2. Gather

- Lively hub receives activity signals from each of the sensors to compare daily events with normal routines and healthy preferences.

- Easy-to-install hub includes built-in cellular service for uploading activity data wirelessly. No home internet connection or cellphone plan is required for ongoing use of Lively.
3. Share

- Lively shares activity patterns via a secure "at-a-glance" login that can be accessed through a computer, tablet or smartphone (iPhone and Android supported).

- **Users control who has access.**

- **Notifications** are delivered by email or text message (Or a phone call—coming soon!).

4. Connect

- LivelyGram gives family and friends a creative way to share the events of their lives.

- Pictures and short messages are easily shared using a computer or smartphone—or directly through a favorite social network.

- Twice a month, Lively automatically compiles and publishes a personalized, printed LivelyGram—and then delivers it through the postal mail.

- Perfect for non-internet users or those who just love something they can hold in their hand and share.
Lively is affordable...

Free shipping | Easy Setup | 30-day money back guarantee
Get Lively for only $39.95, including LivelyGram. Ongoing pay-as-you-go service is then only $24.95/month.

(If you cancel in the first 12 months of activation, a $99 fee may apply for the discounted cost of Lively hardware)

$39.95

To get started, add an item to your order.
What we Do:
Develop new technologies for benefit of Marine Corps

Focuses shown here:
- More fuel efficient
- Less maintenance
- Less energy demand and self-sufficiency with water
Fuel Cells

How it works:
- Add fuel (diesel, gasoline, ethanol, “biofuel”, etc.)
- Turn on; heating of fuel begins
- Chemical reaction in “fuel stacks” between diesel fuel and ceramic reactive plates
- DC-power generated

Benefits over current generators:
- 50% more efficient
- Silent operation (no internal combustion engine)
- Extremely robust—aside from fans, no moving parts, no lubrication needed
- No exhaust—only mildly hot air
- Requires NO “Fuel Reformers” (Reforming is a fuel treatment process most fuel-cells need in order for process to work—no longer!)
- Easily tied into other forms of “green” energy (solar, wind, etc.)

Downsides:
- Expensive technology—still a lot of manufacturing science needs to be done
Self-Healing Paint

How it works:
- Microcapsules: special paint on inside, zinc on outside
- Tiny capsules embedded in zinc-based primer
- When primer is scratched, capsules are broken and release paint
- Paint fills in scratch (scratch still visible, but it won't rust)

Benefits over current methods:
- HUGE increase in corrosion-protection
- Could save tens of millions in corrosion-treatment and prevention
- Can be applied using standard methods (spray, brush, whatever)

Downsides:
- Slightly more expensive to add the pellets
UV LED Water-Purification

How it works:
- Ultraviolet Light generated by LED’s can destroy the DNA in viruses that allows them to replicate
- Sterilizes water without the use of added chemicals or filters (chlorine, iodine, carbon, etc.)

Benefits over current methods:
- Immense energy-savings if LED’s can work
- Very compact (current magnesium UV-purification lamps are very large and energy-intensive)
- Application for purification is endless; (humanitarian disaster relief, air-filtration, personal water-purification)

Downsides:
- Highly advanced technology: LED’s that operate at appropriate wavelengths are not efficient
- LED’s that operate at appropriate disinfection wavelength are hard to produce
- Transmissibility of UV-spectrum in water is extremely important: organic molecules absorb UV-light — must filter organics for LED’s to work
What Do You Think Is The Next Big Thing?