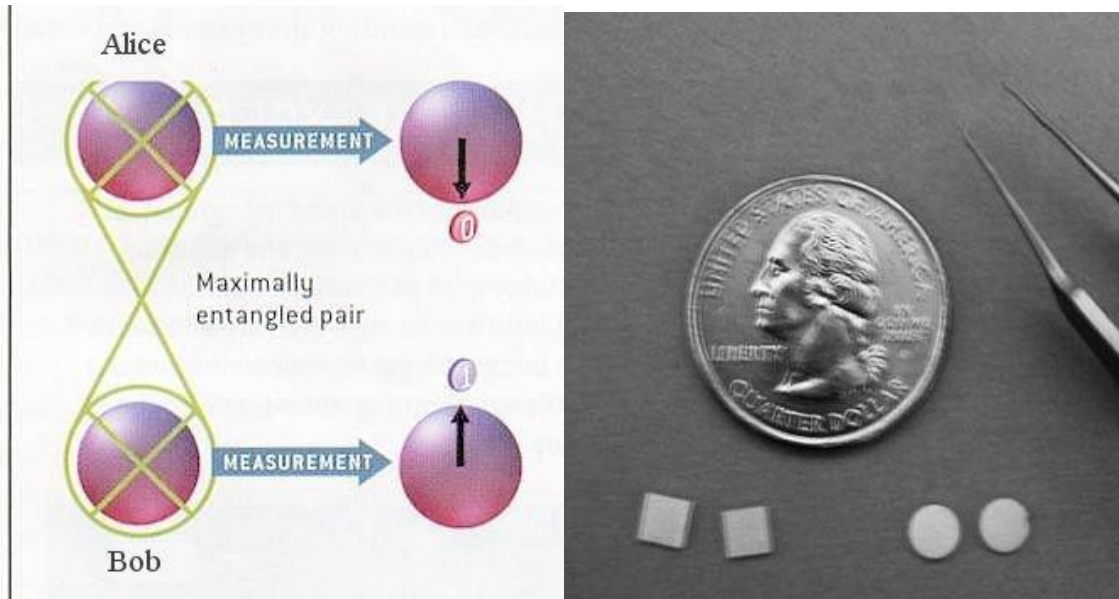

FedEx 2020

Author: Guy Cobb



Program:	Quantum Monitoring Service
OPCo's:	All
Primary Use:	Method for monitoring hazardous goods shipments
Value Proposition:	Can provide immediate notification if a hazmat shipment is affected in any way.



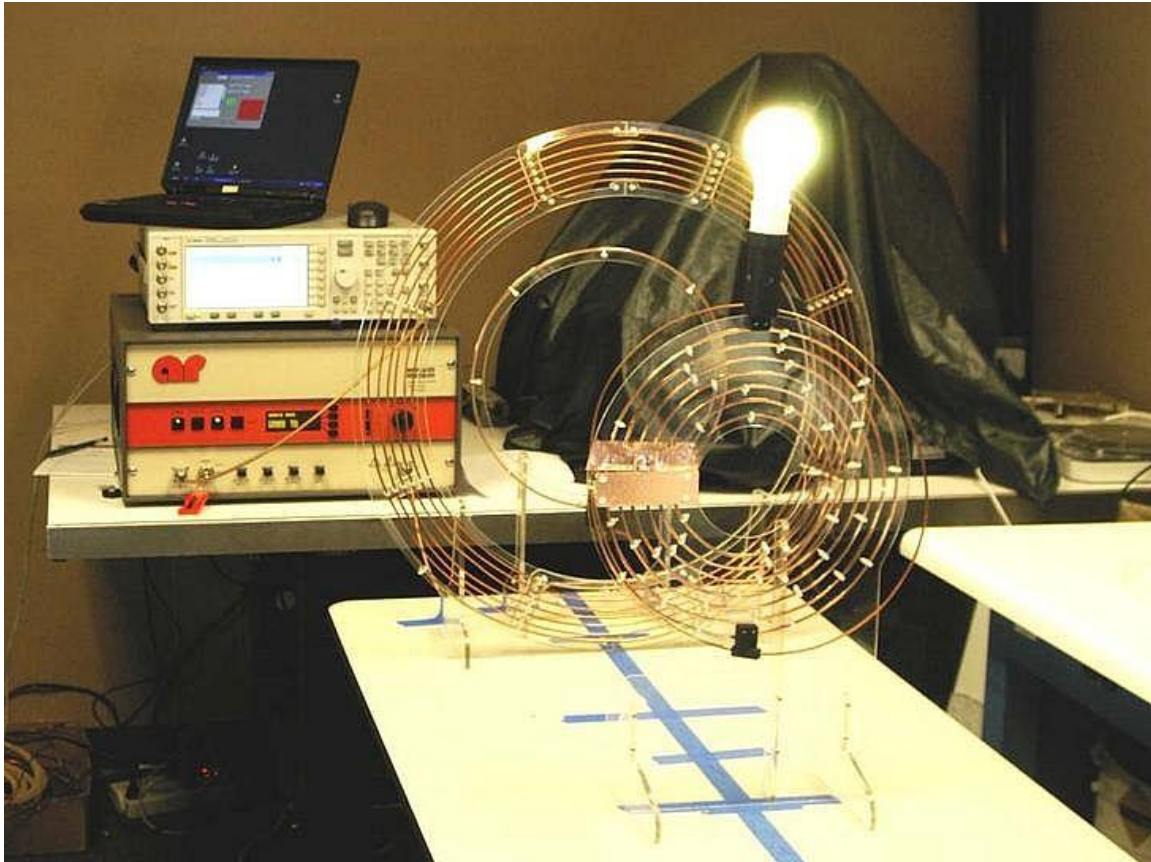
At right, pairs of crystal laced chips have been irradiated by X-Rays which causes quantum entanglement between the two chips. Each pair of chips can then be separated at any distance and remain connected until an outside force causes the connection to collapse.

A breakthrough within the research space of quantum entanglement by a French company called E-Quantic Communications has successfully demonstrated that they can irradiate two crystal chips with X-rays and/or Gamma rays, separate the two chips physically by thousands of miles, use a laser to heat the master chip and then record the slave chip's immediate temperature change in response to the Master's change.

By developing pre-irradiated chip sets that can be embedded within hazardous materials shipments, Master chips could remain at a FedEx host site to be monitored by temperature sensitive equipment such as photomultipliers or Digit Cams and the slave chip would travel along with the hazmat shipment. Any change in the hazmat chip's temperature would immediately signal the master chip with no time delay.

The obvious benefits here are not only the immediacy of the signal back to the home monitoring service but also the fact that distance has no affect upon the results.

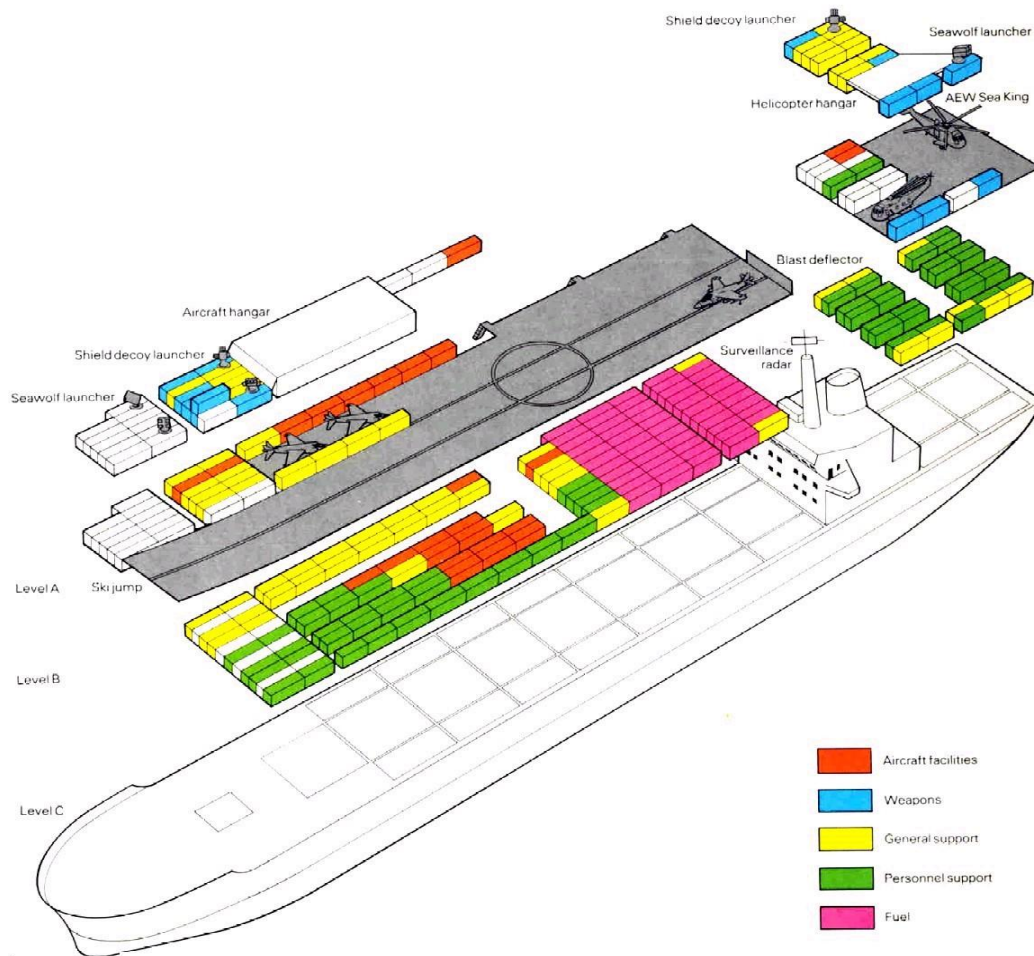
Program:	Wireless Power
OPCo's:	All
Primary Use:	Charging of batteries or transmission of electricity wirelessly
Value Proposition:	Can be used to charge batteries in mass or transmit power to a source where wires are not desired



This is a wireless power demonstration in place at Intel powering a 60 Watt bulb

In unique situations where you might want to charge a large number of devices such as cell phones or FedEx Powerpads, wireless power would allow you to broadcast energy to the devices which could be coupled with coil receivers attached to them to receive the energy. The technology could also be used to charge a device that is inside of a package preventing you from having to open the box. In this scenario you might have a whole pallet of devices packed and ready to ship. You would then broadcast the energy across the pallet. The receivers, either embedded inside the devices or attached to them directly, would then begin charging the devices.

Program:	FedEx Bluewave30
OPCo's:	Express, Ground, Freight, Trade Networks
Primary Use:	Move freight via barge and customized container ship
Value Proposition:	Significant cost reduction due to extended delivery window



FedEx Container Ship with FedEx Jets riding on top back to USA

- Time Definite within 30 days
- FedEx has a unique advantage located in Memphis on the Mississippi River. Large freight containers can be moved to the coast via barges on the river. Significant savings here because of the movement downstream.
- Customized container ships using electrolysis and ocean water for fuel.
- Create staging islands.
- Use the ocean currents for South American traffic.
- Use the top level of our container ships to transport our FedEx Express jets back to the coast.
- Use Rover to allow customers to see all the sensor data about their packages or containers in real time.
- Leverage the significant advantage there is for momentum based freight movement via water rather than gravity based movement via air.

Program:	ScieLo (Scientific/Technology Learning Silos)
OPCo's:	All
Primary Use:	Method for learning about new technology hands-on
Value Proposition:	Opportunity for accelerated learning



Tesla generator ScieLo with wireless power module

ScieLo's are designed to be modular in such a way as to allow an individual or group to learn about different technologies while working with the gadget hands-on. These units could also be utilized by school science programs. The unit above was built for the annual Make Magazine's "Maker Faire" which draws approximately 80,000 people each year.

Program:	Virtual Kiosks
OPCo's:	FedEx Office
Primary Use:	Customer access to low overhead, remote shipping kiosks
Value Proposition:	Low cost & minimal footprint where space is a premium



Virtual Keyboard communicating via Bluetooth

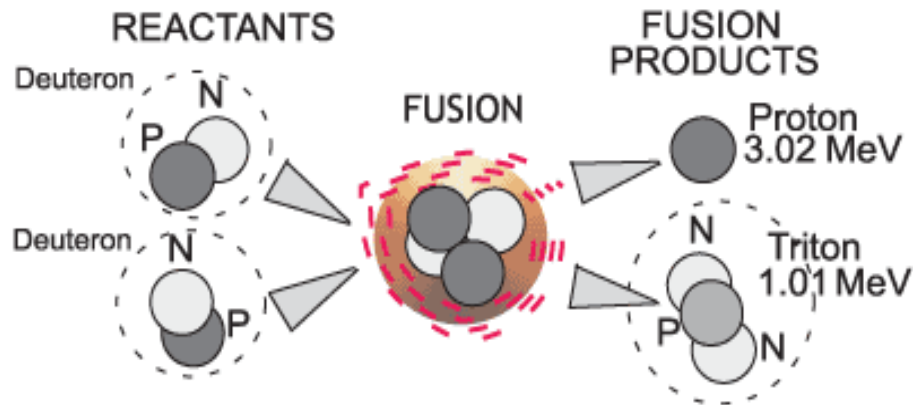
Utilizing a single Blackberry device, a Virtual Keyboard and a small projector or monitor, the virtual kiosk would allow for a shipping kiosk to be embedded at a location anywhere there is cell phone coverage and power available either via a hardwired power chord or a mechanism for power beaming to the unit (this would be useful if the Blackberry is mounted someplace out of reach such as in a ceiling near the projector lens).

Power beaming works when a laser is used to transmit light to a small solar cell that, in turn, converts the laser light into electricity. This power can then trickle charge a battery or feed directly into the Blackberry.

There is also a program available which allows for the screen of a Blackberry to be displayed on a computer Monitor. If a FedEx Mobile application were brought up on the screen, a customer could interact with the screen using the virtual keyboard.

The reasoning for the use of the virtual keyboard is that it eliminates a piece of hardware that might otherwise be damaged or stolen from a location.

Program:	Spin Fusion Energy Generation
OPCo's:	All
Primary Use:	Facility Energy Production
Value Proposition:	Energy Cost & Carbon Reduction



Two deuterium particles, each having one proton and one neutron, fuse to produce a charged proton and a charged triton (the latter having one proton and two neutrons).

Currently there are multiple ways to generate low energy fusion reactions by deuterium manipulation/compression. Deuterium is an isotope of hydrogen and is readily available in ocean water. When two deuterium ions are fused together they release "excess" energy; that is, more energy is released than was required to create the reaction.

Electrochemical electrolysis, ultrasonic vibration, radio wave bombardment, and shockwave compression are all methods of cold fusion. Naval ship propellers can be severely damaged when cavitations take place upon the ship's blades. The implosions of collapsing bubbles release enough energy to cause the surfaces of the propeller blades to pit with small craters.



(d deuterium, n neutron, 1 MeV = one million electron volts)

Conditions for Break-Even

The heating of the plasma requires an enormous amount of energy and for the plasma to be self-sustaining it must produce at least the same amount of energy that it uses. There are three parameters that must be considered to 'break-even'.

The plasma temperature - the temperature for fusion to occur depends on the kinetic energy required by the nuclei to overcome the repulsive Coulomb barrier at a distance of 10-15 m.

The plasma density - once the temperature is high enough to initiate fusion, the ion density must be high enough to ensure that the collisions release more energy than they need to start.

The confinement time - the confinement time is defined as the time the plasma spends above the critical ignition temperature. Each of these factors is bundled into a performance figure known as the Lawson criteria. It sets the lower bound on break-even. That is to say, if your plasma has a lower figure than the Lawson criteria you are using more energy than you are producing.

D-T fusion $n \tau \geq 10^{14} \text{ cm}^{-3} \text{ s}^{-1}$ (deuteron-tritium equation)

D-D fusion $n \tau \geq 10^{16} \text{ cm}^{-3} \text{ s}^{-1}$ (deuteron-deuteron equation)

Spin Fusion is a theoretical fusion process whereby liquid deuterium is compressed at very high speeds using centrifugal force. If it works, this process will eliminate the need for mechanically generated shockwave compression as well as electrochemical electrolysis. A second advantage over existing methods is the potential to sustain heat generation (resulting from the deuterium reactions) within a self balancing infinity wheel. The wheel itself is filled with deuterium, and at the outer most edge of the inside of the wheel are small cone shaped pits pointing outward. As the spin reaches the speed fast enough to overcome the repulsion of the individual deuterons they will begin to fuse causing intensive heat to be released.

Program:	Global Unmanned Aerial Vehicle (UAV) Shipments
OPCo's:	Express, Custom Critical
Primary Use:	Same Day (Expedited) Shipments



FedEx Global Hawk UAV

Same Day Custom Critical shipments can be delivered via Unmanned Aerial Vehicles (UAVs). The Global Hawk is capable of flying at 70,000 feet--twice as high as commercial airline traffic, and can land at both commercial and military air bases in the US, Europe, and Japan. A trip from New York to California can be completed in three hours.

An additional advantage with the Global Hawk fleet is one pilot can "drive" two FedEx Global Hawks at the same time from a secured bunker in Memphis, thus reducing the risk of injury or loss of pilots, increasing critical shipment volumes and delivery speed and, unlike traditional FAA regulated human flights, these jets can run in near continuous operation.

Program:	Robotic Conveyor Belt Probes
OPCo's:	Express & Ground
Primary Use:	Conveyor Belt Fire Prevention at Primary Sort Facilities

mindstorms HOME COMMUNITY PRESS PRODUCTS

Home - Overview

MEET THE ROBOTS

Name: Spike

Robot Type: Animal (A Scorpion!)

What this robot can do:
Spike reacts like a real-life Scorpion. It crawls on six legs, has a set of pincer arms (pedipalps), can see and hear with ultrasonic and sound sensors, and can quickly "paralyze" its prey with a touch-sensor enabled stinger!

See how easy it is to program Spike to attack!
This simple program allows the Scorpion to move forward to a target, play a sound when it hits the target with its stinger, retract the tail again and go back to its starting point. You can use or modify this program, or create one of your own!

Overview

- The NXT
- Touch Sensor
- Sound Sensor
- Light Sensor
- Ultrasonic Sensor
- Servo Motors
- MINDSTORMS NXT Software

Meet the Robots

- Alpha Rex
- Spike
- RoboArm
- Tribot

Other Features

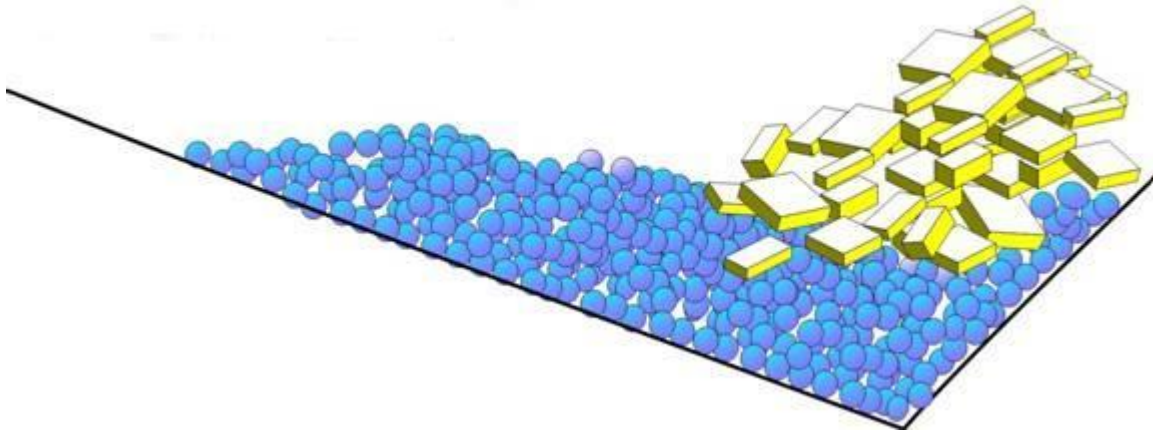
Off-the-shelf Mindstorm robots have integrated sensors for multiple readings including: touch, sound, light, and ultrasound.

The Memphis SuperHub has over 250 miles of conveyor belts. When humidity in Memphis is high, the belts can begin to slip over the steel belt rollers and generate heat. This is the primary cause of belt fires inside the SuperHub.

Multiple robotic belt probes would constantly "ride" throughout the SuperHub beltways sensing, receiving and transmitting real time temperature readings back to a central host. Based on the probes incoming data, an alarm notification can be triggered if the probe discovers a specific location on the belt where the temperature has exceeded threshold and is within range of igniting.

The same robotic probes can also detect motors that are about to fail using acoustic sensors. This would eliminate having to install a large sensor network throughout the hub.

Program:	Egyptian Package Pits
OPCo's:	Express, Ground
Primary Use:	Accelerate Package Transfers from Containers to Belts



Egyptian Package Pit

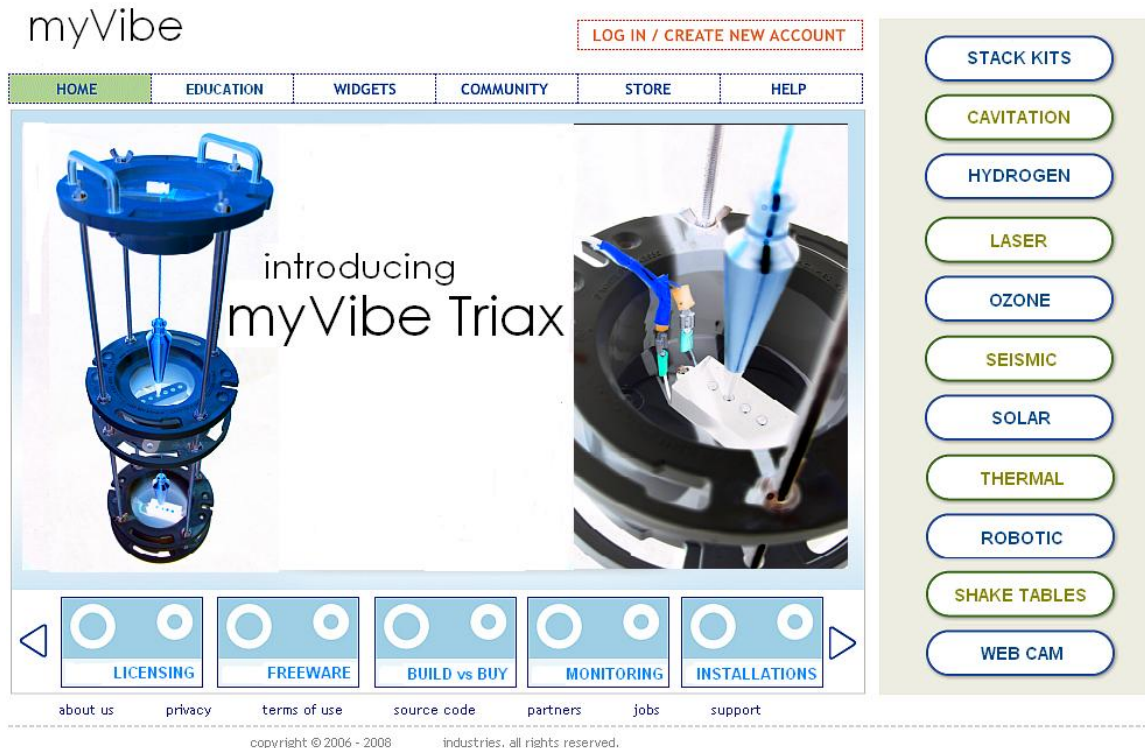
To carefully lower large stones into place, Egyptians utilized large sand filled pits that were constructed in an hourglass design. Once the stones were placed in the pits, the sand was drained out from below allowing the stone to slowly settle into place.

Heavyweight and irregular FedEx packages could be handled in a similar manner whereby the packages from our containers are slowly poured into a pit filled with small rubber balls to act as a cushion. Once the packages are in the pit, a conveyor "grate" with rubber rollers positioned just far enough apart for the balls to "drain" through will be raised to lift all of the packages.

The rollers would be turned on and the packages will move forward along the rubber grate rollers onto the conventional sort belts.

Program:	Seismic Recording Stations
OPCo's:	Corporate, Express, Freight, Trade Networks
Primary Use:	Accelerated facility damage assessment

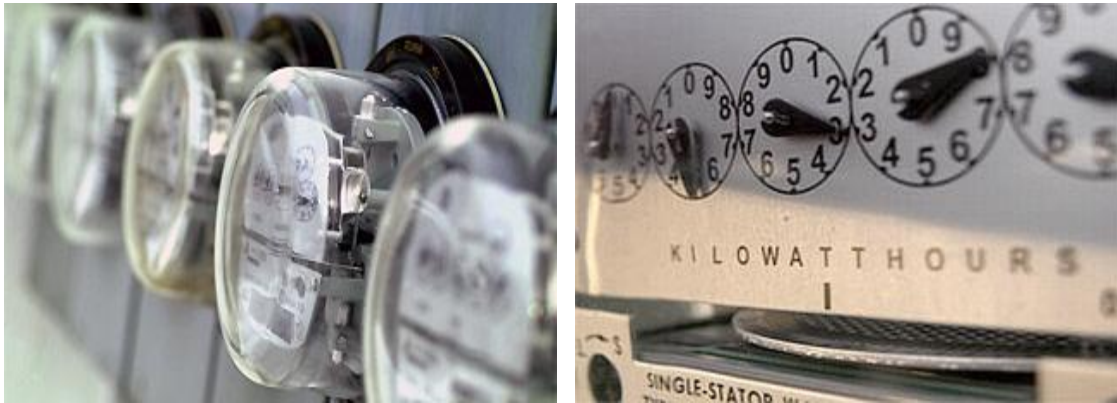
Note that the Memphis/Shelby County Code Enforcement Division does NOT have a prioritization plan for building inspections following an earthquake in Memphis or the region. This means all FedEx facilities could remain closed until inspected.



The FedEx myVibe seismic monitor concept website page

Due to Memphis' close proximity to the New Madrid Earthquake zone and the number of primary FedEx facilities within the region, a seismic monitoring system is being implemented to provide a facility-specific post-earthquake damage assessment. Based on historical seismic data, previous earthquakes along the fault within the 1.0 to 4.0 magnitude have resulted in no damage to FedEx's primary facilities. It's believed that a 6.0 to 7.0 magnitude will result in significant damage. This system is designed to provide a real time assessment of a 5.0 to 6.0 magnitude earthquake; the idea being that if no significant shaking is recorded in the facility, the less time it will take to clear the facility for re-entry.

Program:	MLG&W Power Meter Monitoring
OPCo's:	All OpCos
Primary Use:	Power Bill Auditing Online in Real Time



Miniature Wireless Cameras Capture Meter Readings On-Site

FedEx's 12 month power consumption cost for all of its domestic facilities was over \$85 million dollars. For all of the FedEx campuses in Memphis (WTC, WHQ, CTC, and Shady Grove) MLG&W is manually reading all meters.

Automated Meter Reading (AMR) has become a favorable alternative to manual meter reading since it reduces errors and overhead. The downside to an AMR solution is the replacement or retrofitting of the power meters currently in place.

An alternative to meter replacement or retrofitting is to install small wireless cameras at each of the meters at our highest power usage facilities (data centers and central plants). These cameras can be configured to automatically upload a small date and time stamped image of the actual meter reading on 30 day cycles (or daily if a full audit is needed). These images could then be reconciled against all manual meter readings as a quality assurance measure and also be queried for use in the event of a billing dispute.

Program:	Cash Management Lockbox Monitoring System
OPCo's:	All OpCos
Primary Use:	Remittance Cash Flow Float Auditing



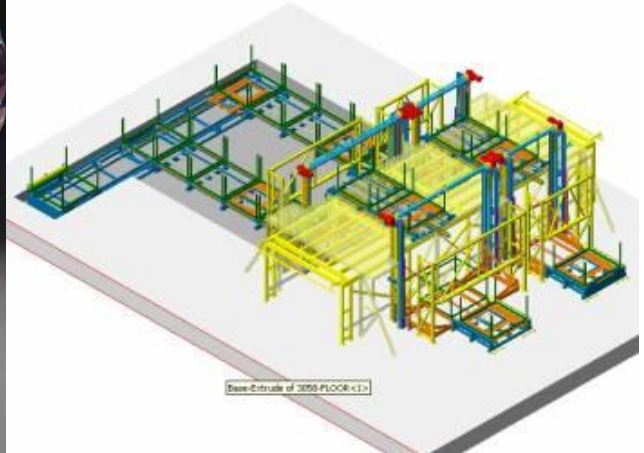
Inbound Remittance Payments to Lockboxes in Pittsburgh and Memphis

Set up fifteen non-revenue Express test accounts: ten for lockbox, one for EDI, one for ACH, and three for credit card. Select ten Express or Kinko's offices in locations dispersed throughout the United States. FedEx individual test payments (maybe for \$1) in U.S. Mail envelopes and have the payments mailed following a pre-defined schedule.

Track the exact time it takes for the payments to post into Solar. Do the same within Memphis (deliver same day to the main post office to eliminate the US Mail delivery time from the mix (only sorting will take place). We can also FedEx payments directly to a bank's lockbox to eliminate the "mail time" and study the length of time it's taking to post the payments.

This program would have two primary goals. This first would confirm if inbound remittance payments are being carried and delivered in a timely manner by the U.S. Post Office and the other would confirm if payments are being processed timely by all of our bank lockboxes and reduce our negative float. Our findings should match our SLA with each financial institution.

Program:	Dynamic Modular Truck Fleet
OPCo's:	Express, Ground, Home Delivery
Primary Use:	Fuel & Asset Cost Reduction



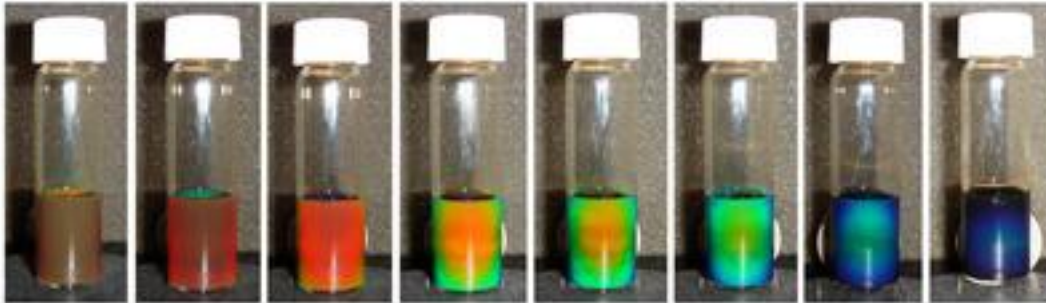
Example of a modular vehicle (left) and daily assembly line (right)

The FedEx fleet of the future could be set up in a station environment where vehicles can be dynamically “transformed” specific to the day’s route requirements. A “base” truck frame would move along an assembly line and have modular storage containers attached to it on the fly. This way, instead of sending out a 10,000 lb truck everyday, you have the flexibility to only send the minimum weight structure.

The “mods” or modules would be painted with traditional FedEx logos to give the unusual looking vehicles a very cool look but the base trucks would be non-branded meaning the fleet would be combined to allow for the loading of both Ground and Express packages. This would eliminate the need for separate local delivery fleets.

In addition the base vehicles would also have the flexibility of being able to swap out their engines based on changing fuel costs or load needs. An Express truck running on Gas and hydrogen on Monday could be running on propane on Tuesday.

Program:	Dynamic Branding
OPCo's:	All OpCos
Primary Use:	Supply Reduction & Customer Marketing



Sequential images of the same vial of ink passing by a magnetic field

Ongoing research at the University of California, Riverside, has developed an ink that can change colors dynamically when passed by or through a magnetic field. The strength of the field can be adjusted in such a way as to manipulate the colors when printed on paper.

The potential benefits are endless. Warehouses full of pre-printed paper or boxes could be reduced immeasurably since you would no longer need to warehouse different brands. An example would be two pallets of FedEx boxes. One has been printed for FedEx Express and the other for FedEx Ground. With this process you would only need one pallet that can be printed for whichever specific opco needs boxes and at the same time, you can change existing boxes to a different pattern, i.e. Express to Ground and vice versa.

Another area for potential growth would be in Kinko's stores where walk in customers could choose a pattern or theme to have printed on their boxes. Here is a link to their research:

<http://www.newsroom.ucr.edu/cgi-bin/display.cgi?id=1628>

Program:	Avian Flu Irradiation at Primary Sort Facilities
OPCo's:	All Opco's
Primary Use:	Facility Immunization for Pandemic Mitigation



Lumalier website (left) and a UVGI installation at the FedEx Air Ops Building at 3131 Democrat (right)

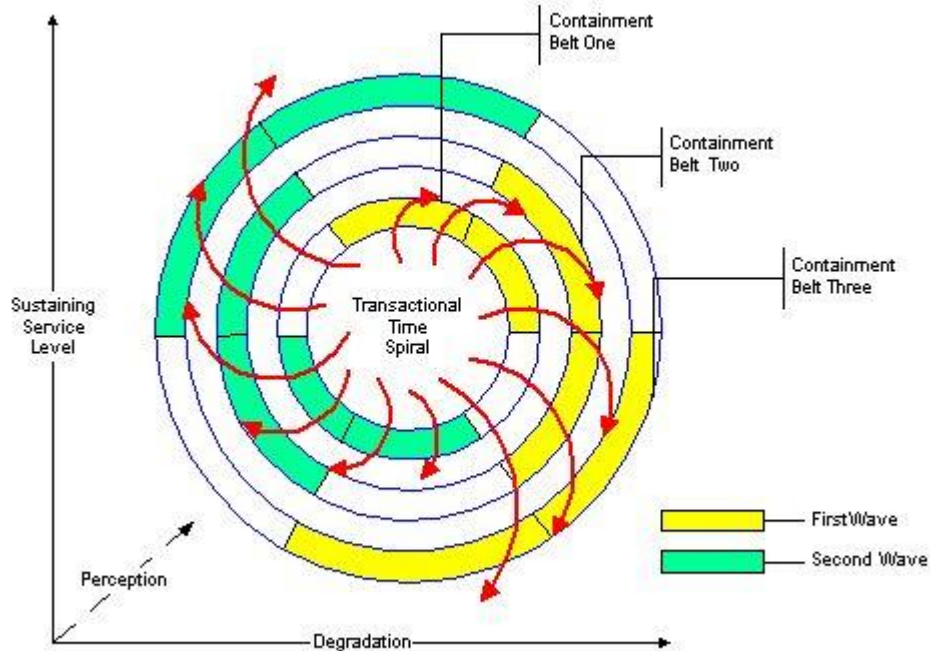
Ultraviolet Germicidal Irradiation (UVGI) was implemented at the FedEx Air OPS building at 3131 Democrat (old IRS building) when it was determined that there was a significant amount of mold present in the HVAC system. UVGI irradiates airflow as it passes across the lamps and can destroy viruses, bacteria, molds and other airborne pollutants.

Memphis Light Gas & Water has installed Lumalier UVGI lamps in all of their primary facilities including their Command and Control War Rooms.

Lumalier believes they can implement a kill rate of 99.8% kill rate of surface viruses and bacteria on six sided packages with an open roller conveyor passing through a 10' UVGI tunnel. The same process could be implemented on a conveyor belt but the lamps would not be able to reach the belt side of a package.

The primary company implementing this solution is Lumalier (www.lumalier.com) which is based here in Memphis.

Program:	Dynamic Customer Perception Management
OPCo's:	All OpCos
Primary Use:	Purple Promise Monitoring



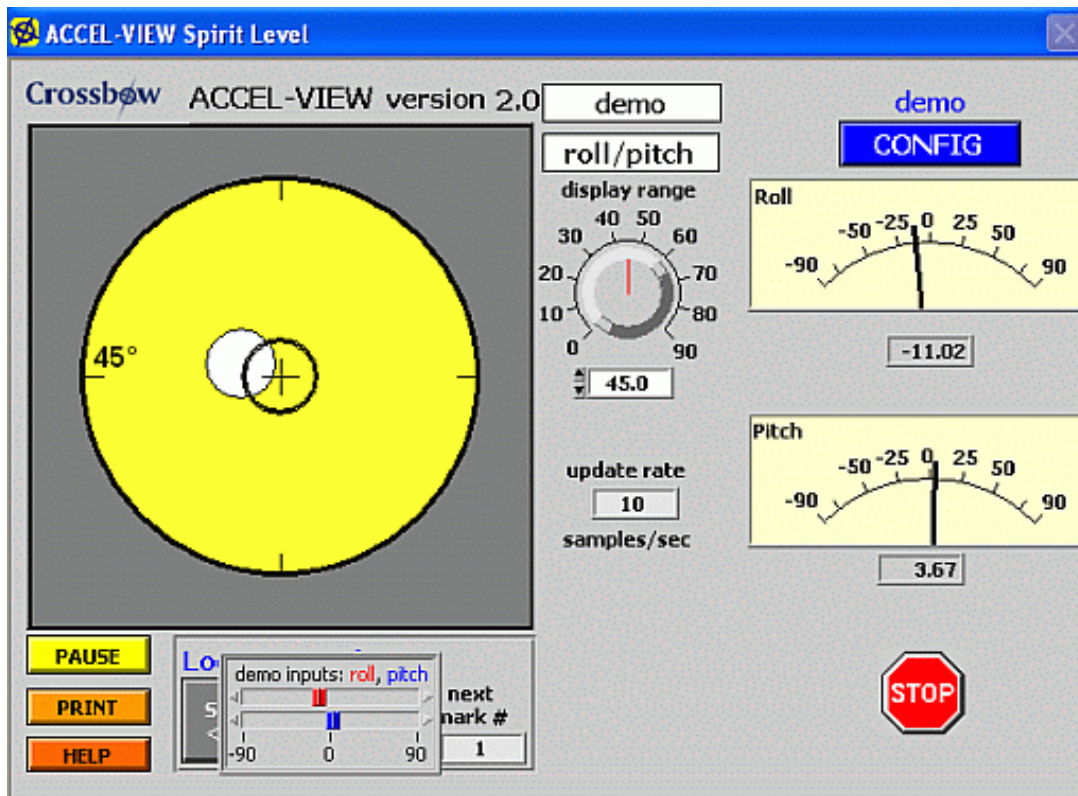
Transactional Time Spiral

The diagram above represents the path of a *perception transaction* by a FedEx multi-OpCo customer. When we consider the Purple Promise to make every FedEx experience outstanding, we need to be able to “ride” on board each customer initiated *revenue transaction* making adjustments to the transaction’s time- sensitive concentric path from multiple dimensions.

The degradation element that is identified above can relate to almost anything that is susceptible to possible degradation such as account relationships, customer service, service offerings, etc.

Containment belts rotate dynamically. If a pre-defined perception transaction passes through successfully (no issues) then both the perception transaction and the revenue transaction will pass to the next belt in time. If an issue does arise, the next containment belt will attempt to correct the problem but the perception transaction will continue forward, breaking away from the revenue transaction. If the issue cannot be resolved quickly, the perception transaction will begin a notification process based upon a customer’s pre-defined profile.

Program:	SuperHub Facility Column Tilt Sensors
OPCo's:	Express
Primary Use:	Accelerated Facility Assessment Following an Earthquake



Crossbow's Accel-View online visual inclinometers (tilt sensor)

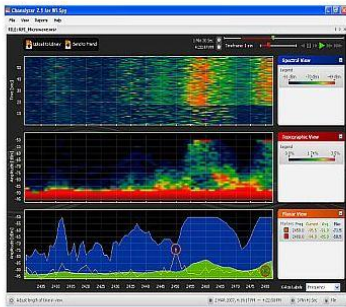
The Memphis SuperHub is our most critical Express facility and the most susceptible to major damage in the event of an earthquake. If a significant earthquake affects the SuperHub, it will be critical to the Express Operations to be able to assess the damage as safely and quickly as possible.

Currently a team of emergency first responders and facility engineers would have to physically examine the SuperHub's millions of square feet which would take days (possibly weeks) prior to allowing employees back into the facility.

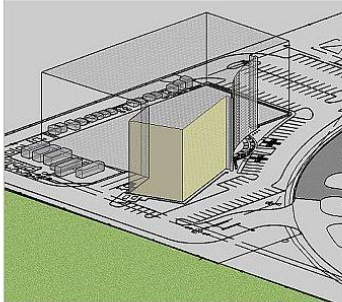
One way to accelerate the damage assessment of the facility would be to install column inclinometers (tilt sensors) that would feed real time information back to a central off-site monitoring area. This data can provide an instant snapshot report showing which columns are displaying post-event tilt damage and which columns appear to have sustained no damage (still setting at 90 degrees).

This would be especially important to the portions of the SuperHub which sit near and directly above the underground Hurricane Creek tunnels which run from Democrat Road all the way under the SuperHub and the 9/27 airport runway.

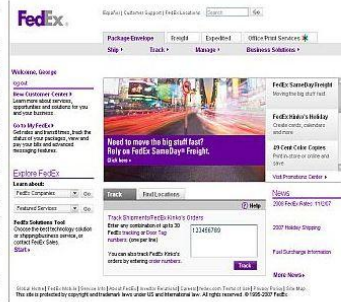
Program:	Global Data Center Vulnerability Monitoring
OPCo's:	All Opco's
Primary Use:	Enterprise Security



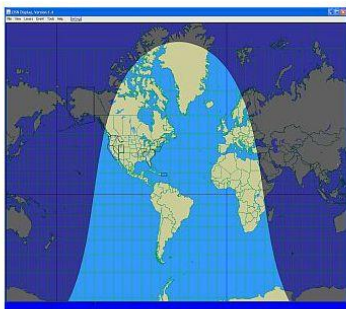
WI-FI Network Spectrum Analyzer
(under construction)



3D FedEx Campus Maps
(under construction)



FedEx.com SuperQuery
(under construction)



Global Day/Night Map
(under construction)



MLGW WTC Campus Power Feeds
(under construction)



Express Air Fleet Tracking
(under construction)

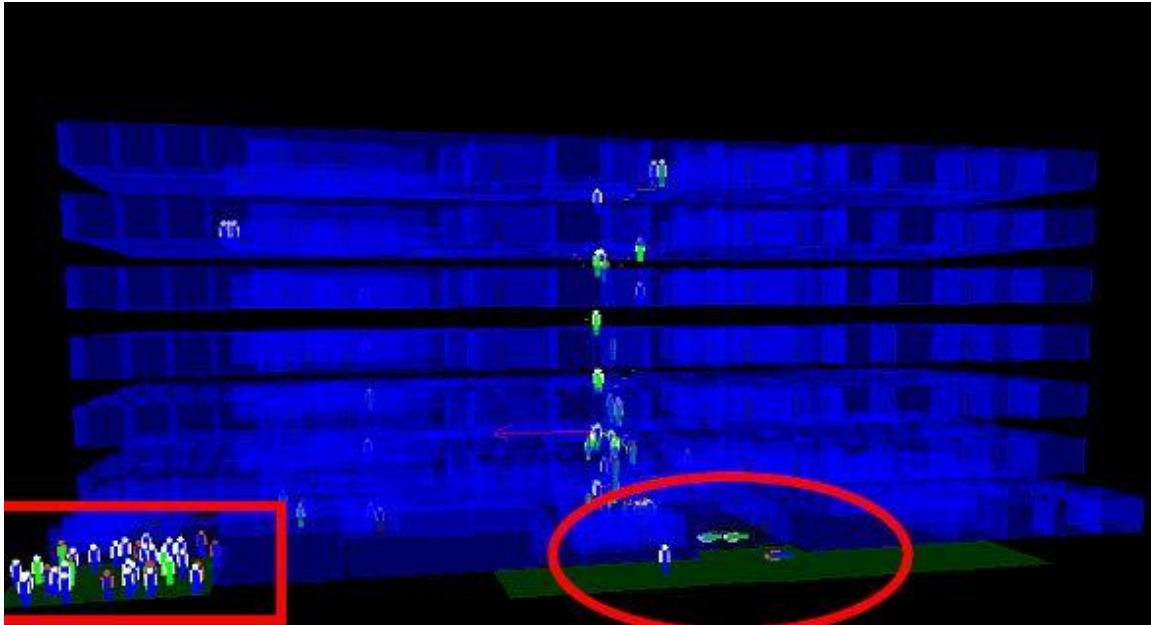


Enterprise Wide Consolidated Monitoring Screen

The image above is a consolidated monitoring screen incorporating live camera feeds from the Memphis Airport, live seismic readings from the Collierville Seismic station (managed by the Center for Earthquake Research & Information at the University of Memphis), acoustic signature readings, and SuperHub facility column position readings (tilt monitoring) for post earthquake reporting.

This idea would bring together a wide mix of sensor equipment into a single monitoring solution via a web interface. This capability currently exists today within Information Security's Crisis Management group.

Program:	Thermal Facility Modeling in Dynamic 3D
OPCo's:	All Opco's
Primary Use:	Physical Security & Post Disaster Rescue & Recovery

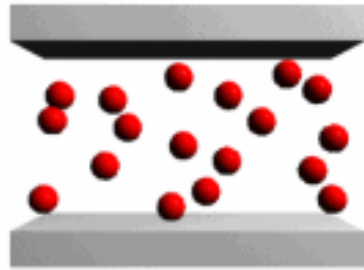


Dynamic thermal 3D holographic structural image monitored from a central control room in Memphis can provide snapshots of employees' locations during a crisis

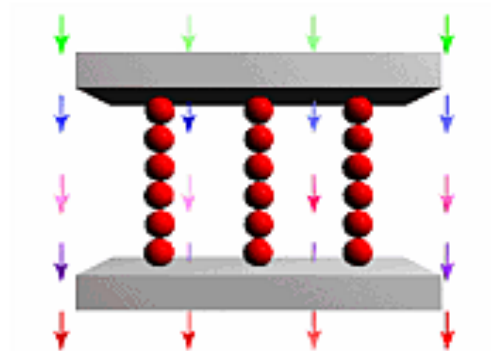
This idea incorporates the relatively new science of *Structural Health Monitoring for the Intelligent Infrastructure*, which is primarily being driven by research in high earthquake regions such as Japan and California. Corporate facilities are being retrofitted with a wide range of both wired and wireless sensors. This solution is specific to Thermal (temperature) sensors.

Thermal sensors installed throughout a facility can be set up to monitor a matrix of floor zones. A continuous thermal "snapshot" would record temperature readings and transmit the readings offsite. In the event of a large-scale disaster such as an earthquake, the thermal sensors, along with the rest of the facility may be destroyed. The readings from the sensors would provide the last known position of employees before the power was cut off. If the power remains connected, then the sensors could continue to provide location data for the injured and/or victims.

Program:	Magneto-rheological (MR) Fluid Vibration Dampers
OPCo's:	All Opco's
Primary Use:	Vibration Mitigation for UPS Diesel Generators



MR fluid prior to magnet charge



MR fluid after electro-magnetic charge

Magneto-rheological (MR) fluids respond to a magnetic field with a dramatic change in rheological behavior. These fluids can reversibly and instantaneously change from a free-flowing liquid to a semi-solid with controllable yield strength when exposed to a magnetic field.

One of our most critical assets are the Uninterruptible Power Source (UPS) Diesel Generators installed at all of our FedEx facilities. These generators provide power when local power is lost. Consideration should be given to reducing the amount of vibration these units may sustain in the event of a mid to major earthquake. Excessive vibration can cause the internal components of the Diesel generators to be damaged and, if the generators break loose from their slabs, power lines from the generator to the facility will be severed.

MR fluids incorporate a vibration sensor, which, when activated, begins to pulse a charge into the MR fluid, causing it to stiffen and thus dampen the vibrations.

Program:	FedEx Solar City at the SuperHub
OPCo's:	Express
Primary Use:	Solar Power Consumption at the Memphis SuperHub



The roof of the Memphis SuperHub represents acres of potential solar space

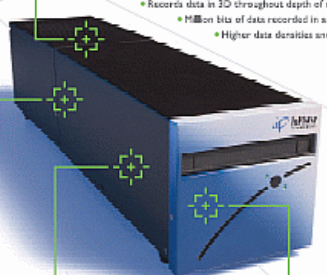
Over 200 acres of prime, unobstructed space could be utilized for solar collection and conversion into power for non-critical systems at the Hub. This type of implementation would continue to reduce our corporate dependency on fossil fuel based power.

Program: Holographic Data Storage
OPCo's: All OpCos
Primary Use: Offsite Data Backup & Storage

Zoom In

HOLOGRAPHIC

DATA AT THE SPEED OF LIGHT



Power of the 3rd Dimension

- Records data in 3D throughout depth of medium
- Million bits of data recorded in a single flash of light
- Higher data densities and faster transfer rates

Safe and Secure

- True WriteOnce-ReadMany (WORM)
- Multi-layer logical and physical security beyond conventional encryption
- 50-year archive life

Invest the Savings

- More cost-effective than tape or optical devices
- Media storage does not require special environmental controls
- One Tapestry™ disk equivalent to 64 DVDs

Ease of Integration

- Industry standard device and network interfaces supported
- Desktop, rack-mount, and library configurations
- Easily integrated with asset management and archive software

HDS 300R DRIVE

HOLOGRAPHIC ROADMAP

Year	Capacity	Media Type
2008	1.5TB	ROM MEDIA
2009	1.5TB	ROM MEDIA
2010	1.5TB	ROM MEDIA
2011	3.0TB	ROM MEDIA
2012	6.0TB	ROM MEDIA
2013	12.0TB	ROM MEDIA
2014	24.0TB	ROM MEDIA
2015	48.0TB	ROM MEDIA
2016	96.0TB	ROM MEDIA
2017	192.0TB	ROM MEDIA
2018	384.0TB	ROM MEDIA
2019	768.0TB	ROM MEDIA
2020	1.5TB	WORM MEDIA
2021	3.0TB	WORM MEDIA
2022	6.0TB	WORM MEDIA
2023	12.0TB	WORM MEDIA
2024	24.0TB	WORM MEDIA
2025	48.0TB	WORM MEDIA
2026	96.0TB	WORM MEDIA
2027	192.0TB	WORM MEDIA
2028	384.0TB	WORM MEDIA
2029	768.0TB	WORM MEDIA
2030	1.5TB	WORM MEDIA

The Right Storage Solution


Imagine recording seven hours of high-definition video onto a single disk at 140 Mbps! The demand for higher capacity storage keeps increasing. If your data storage requirements include high capacity, fast transfer rates, and long archive life, then InPhase's Holographic drive and media is the right storage solution for you.

InPhase TECHNOLOGIES
www.inphase-tech.com

Zoom In

HOLOGRAPHIC MEDIA

DATA AT THE SPEED OF LIGHT



Holographic Media

- Records data in 3D throughout depth of medium
- Million bits of data recorded in a single flash of light
- High-volume storage, from handheld devices to enterprise-level solutions

High-speed Recording & Reading

- More cost-effective than tape or optical devices
- Media storage does not require special environmental controls
- More Storage – 300 GB of uncompressed data
- One Tapestry™ disk equivalent to 64 DVDs

Safe & Secure

- Media is stable in a wide range of environmental conditions
- Multi-layer logical and physical security beyond conventional encryption
- 50-year archive life

HDS 300R MEDIA

VIDEO CAPACITY

Video Type	Video Data Rate (Mbps/KB/s/bytes)	Storage Capacity (Tapestry™ HDS Media)
Resident Quality	19	39 Hours
DVCAM	25	36 Hours
XDCAM	32	30 Hours
DVC PRO50	50	13 Hours
DVC Beta	90	7.4 Hours
DVC PRO HD	100	6.7 Hours
D-5	170	3.9 Hours
Uncompressed HD	1400	25 Minutes

Highest Data Density

By storing data in 3D throughout the depth of the recording media, not just on the surface, Tapestry™ holographic technology breaks through the historical limitations of data storage.

InPhase TECHNOLOGIES
www.inphase-tech.com

The holographic data storage unit pictured above is small enough to sit on a desktop

Holography breaks through the density limits of conventional storage by going beyond recording only on the surface, to recording through the full depth of the medium. Unlike other technologies that record one data bit at a time, holography allows a million bits of data to be written and read in parallel with a single flash of light. This enables transfer rates significantly higher than current hard disk storage.

In addition, traditional hard disks and disk arrays are susceptible to mechanical failure; in particular when the disks have been in storage or unused for long periods of time. Holographic disks have no mechanical parts that can fail.

Holographic storage is comparable to a DVD that holds from 300 gigs to 1 terabyte of space. FedEx has been invited by the InPhase group (primary developers of this technology) to be one of its 10 corporate beta sites.

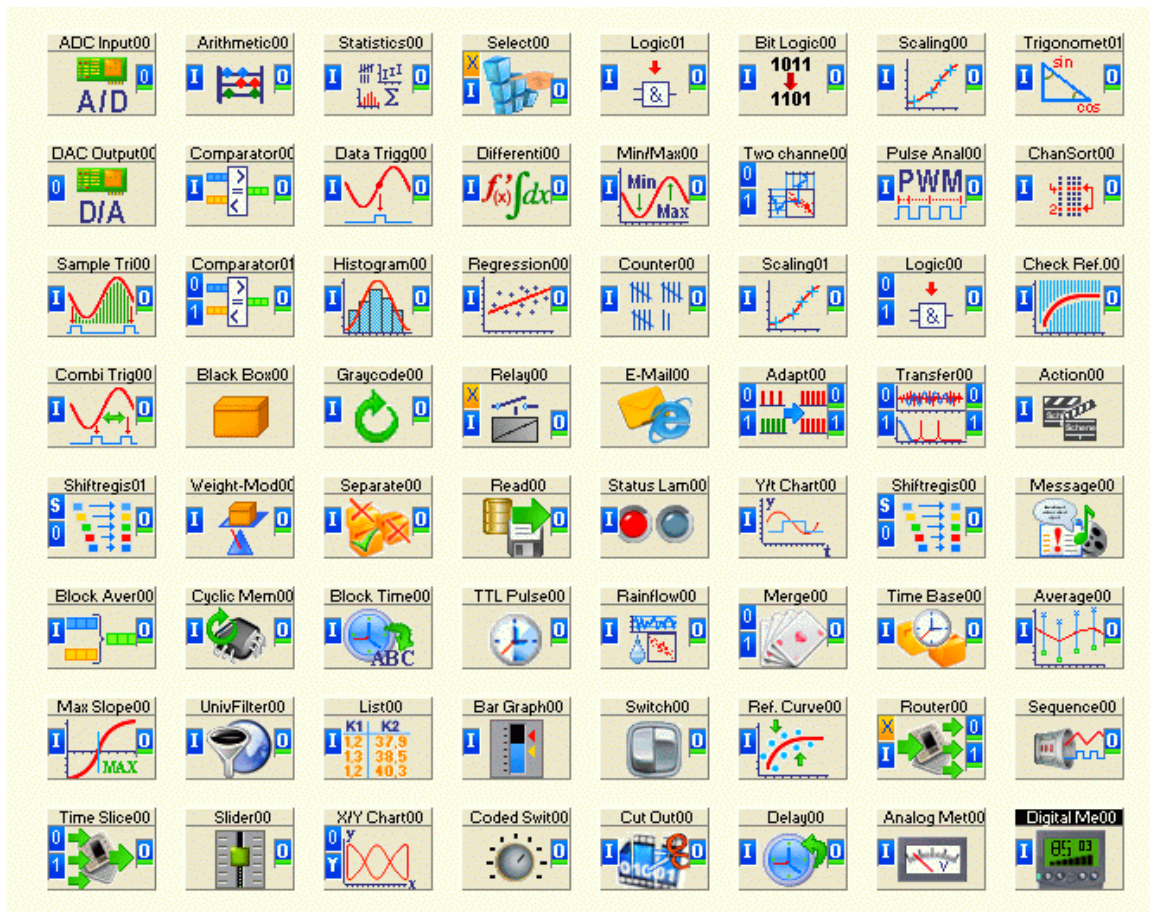
Program:	Individual Executive Think Tanks
OPCo's:	FedEx Corporate
Primary Use:	Isolation "Chamber" where Executives can study
Value Proposition:	Accelerated decisioning at the Executive level



Ovei Isolation Pod

Specific to enhancing the office environment our FedEx Executives utilize for reading, studying, and decision making, an isolation chamber or pod like the *Ovei Isolation Pod* could be customized for each executive to speed up their capacity to process increasing volumes of complex information.

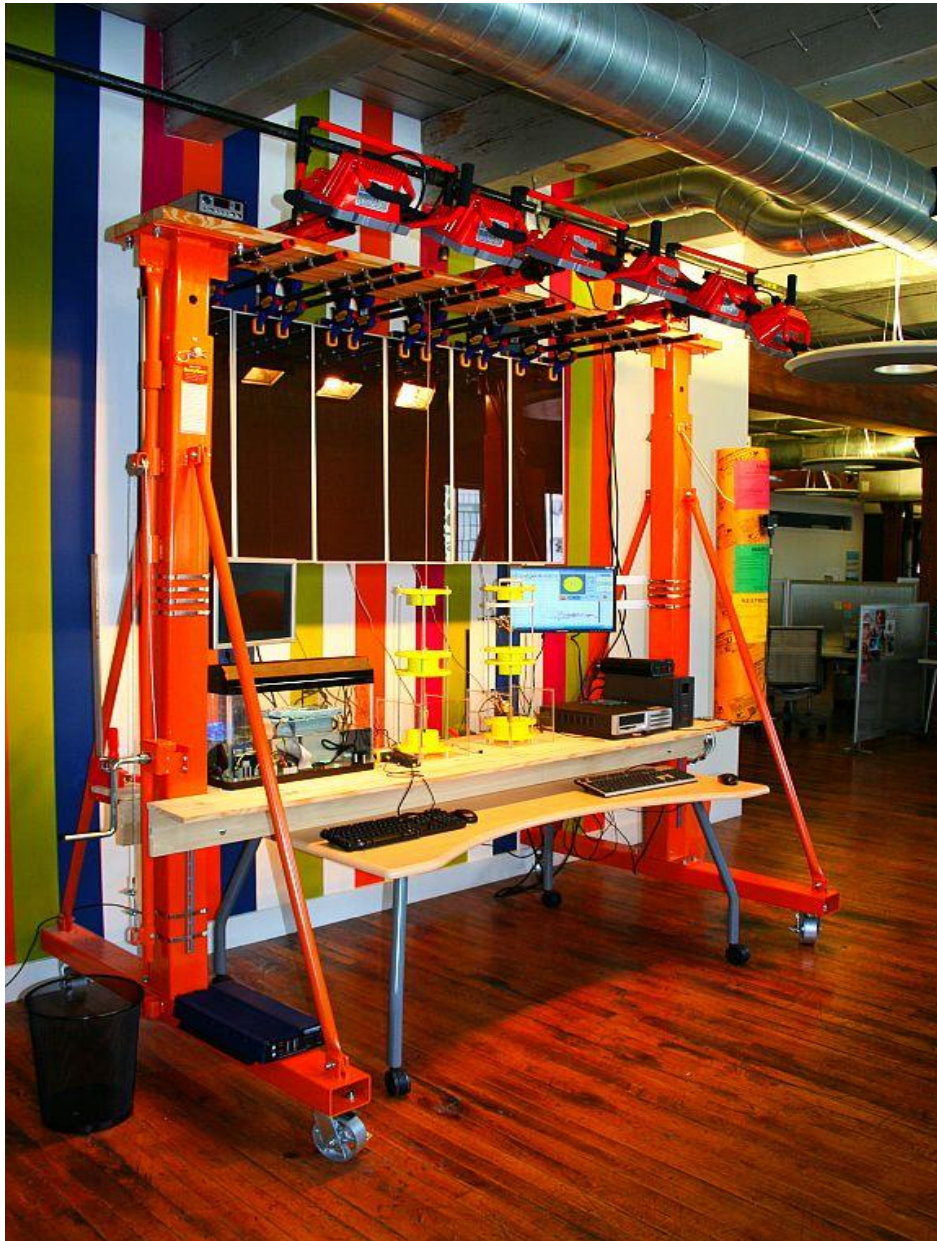
Program:	Random Solution Generator
OPCo's:	All OpCos
Primary Use:	Accelerate Innovation Idea Generation



An Example of Solution "Building Block" Icons

This idea exploits the fact that many innovative ideas result from an accidental combination of two unrelated solutions. By creating a type of "slot machine" application which incorporates a database of both generic and specific solutions represented by text and icons, the application would generate random solution sets. These newly created *potential* solutions might not otherwise have ever been thought of.

Program:	Mobile Innovation GreenBench
OPCo's:	Services
Primary Use:	Test New Ideas with Green Energy



Innovation GreenBench installed at FedEx's Emerge Facility

This idea allows Innovation prototypes to be tested directly with green energy sources such as solar. The entire workbench can be rolled out doors and placed in direct sunlight which will provide power to the solar panels, the batteries, inverters and finally to the test source. The computer in the fish tank is submerged in mineral oil to study methods for dissipating heat.