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Case Studies + Situated Technologies
[1]
[1] Spray-On Photovoltaic
New Energy Technologies
By **2030**, Japan hopes to increase solar energy production by **40%**, and the US will supply **10%** of its peak energy loads with solar power.
Currently, these nanoparticles produce electricity at only 1% efficiency, as compared to 14% for conventional silicon-wafer solar cells.
Quantum dots are small enough to maintain a degree of visible light transmissivity. Spray-on PV cells can therefore be applied as part of a building’s glazing system.
Conventional photovoltaic systems have an unmistakable associated architecture. What new forms are possible with spray-on photovoltaics?
MC10
Flexible circuitry enables microdevices to flex and conform to the curvature of the human body. RF technology allows the devices to communicate wirelessly.
MC10 BioStamps have widespread applications in pediatric intensive care units, where invasive monitoring devices are not an option.
“The human body is neither flat nor rigid. MC10 enables high performance sensing and therapeutics that gently conform to the body's complex shapes and sensitive tissues. The days of designing products according to the limitations of rigid electronics are over. We call these intelligent medical systems interventional circuits.”
[3] Nike + iPod
Nike Inc. + Apple Inc.
In 2006, Apple and Nike filed joint patents on the next generation of Nike+ sportswear. The Nike Trainer+ shoes were officially released in July 2012.
Nike will sell the Nike Trainer+ shoes for around 140.00 USD with embedded sensors, bringing the technology of product research laboratories to the average customer.
Nike is not the only game in town. Adidas also plans to sell a smart trainer that, “Automatically senses movements within the shoe to adjust the fit to be most comfortable for the activity.”
[4] Natural Fuse
Usman Haque
CO₂ SEQUESTERED BY PLANTS IN THE SYSTEM

OFFSETS

CO₂ RELEASED BY PRODUCTION OF ELECTRICITY CONSUMED IN THE SYSTEM
“The Natural Fuse creates a city-wide network of electronically-assisted plants that act both as energy providers and as circuit breakers.”
The Natural Fuse system leverages the “Network Effect” whereby the efficiency of the network is exponentially related to the size of the network.
Energy consumption is also shared between different locations so if one person has more plants, then that allows someone else to use more electricity. However, if anyone starts to use too much electricity then both their own plant AND SOMEONE ELSE’S will break the circuit (i.e. the plants will be killed).

NATURAL FUSE: networking units
The system creates what is known as the “Internet of Things” that connects devices into our lives and creates new interactions between human and machine.
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End