

Healthcare Multiplied By 3D Printing

Our “Health Maker Lab” MANIFESTO Debut

The Latest In Planning & Implementation of HCx3DP’s “HML” Program

Presented at *HCx3DP Meetup NY’s **Health Maker Lab** Workshop #3*
at HUGE Inc., DUMBO, Brooklyn: 29 July 2015 (Rev #13: 20 Aug 15)



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Building Community Via 3D Printing

Land Grant, Founder

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- *Your Meetup Organizer/Moderator:*

- **Land Grant:** Fndr, 3DP Media & HCx3DP Meetup NY Organizer
- Media House | Think Tank | Event Producer | Product Designer | 'Preneur
- Publisher/Blogger NYC3DP.com & "This Week in NYC3DP"
- Contributing Writer, NYC for 3DPI (3D Printing Industry Ltd.)
- 3DP-Business Tweeting: [@NYC3DPLand](https://twitter.com/NYC3DPLand) & [@land_grant](https://twitter.com/land_grant)
- Chair, **Medical Conference**, 3D Printshow (17 April '15, NYC)



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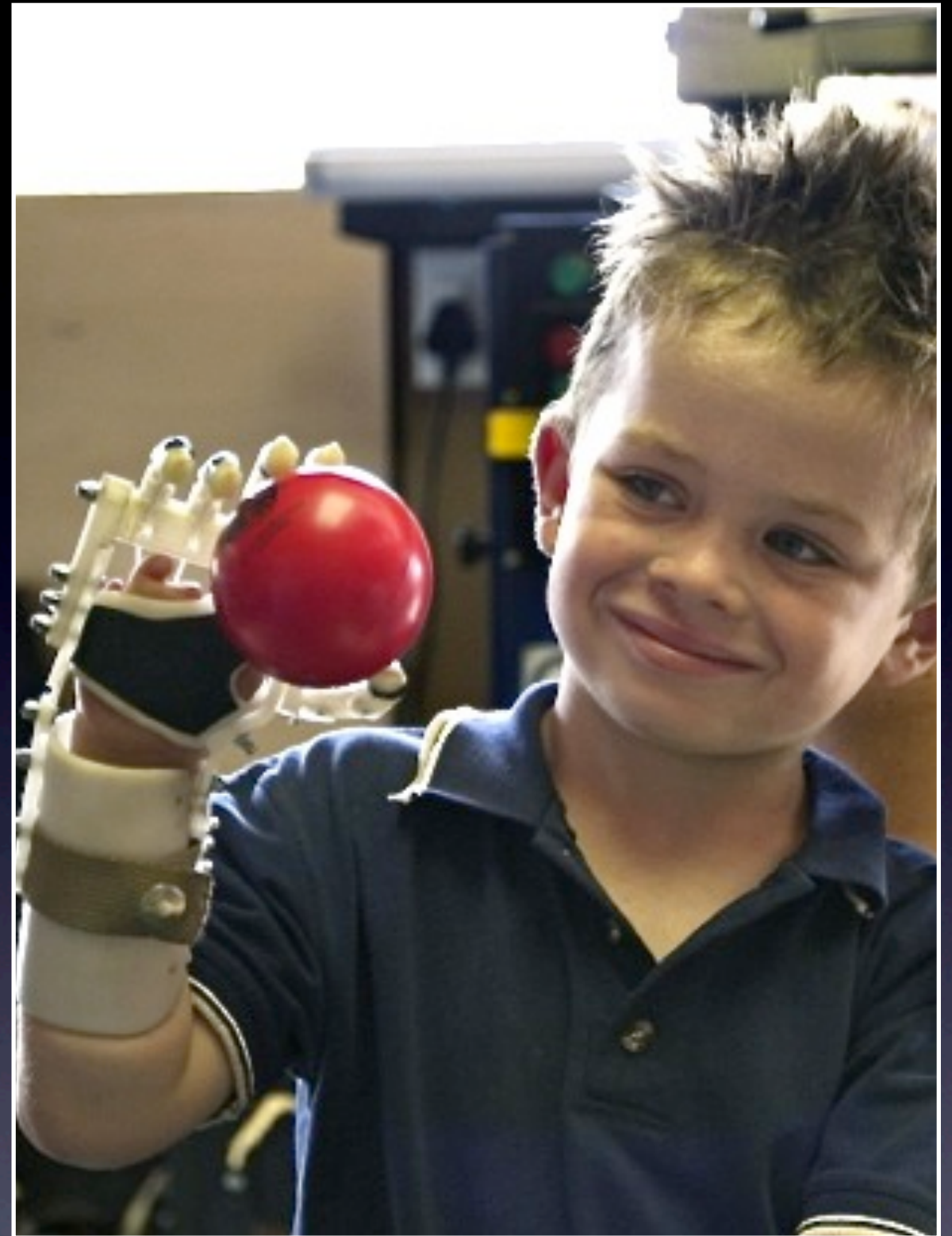
- **Our “Health Maker Lab” (HML) Workshop Evening’s Agenda here at HUGE Inc.:**
 - Orientation; Announcements; Introductions
 - Attendee Self-Intros, Hopes, “Asks” &/or Personal Goals
 - Debut of Our HML’s “Manifesto”--Slide Deck
 - Our Workshop Discussion (+ Audience integrated input)
 - Audience Polling | Suggestions | Networking



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- **Liam: Poster-Boy for Great “Maker” Patient-Outcomes:**
 - **Maker-Made DIY/DIT *Robohand*: Evolved into *eNABLE* Movement**
 - **3DP'd Semi-Patient-Specific Grasping Prosthetic-Hand**
 - **Mechanical Actuation**
 - **Extremely Inexpensive**
 - **On-Demand Iterative Evolution To Match Child Physical Growth**



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HCx3DP & Health Maker Lab (HML): *WHY* & *WHAT*

- ***WHY*---**3 Drivers for Creation of HCx3DP & HML:
 1. **U.S. Healthcare Is Broken**
 2. **3DP is Booming:**
 - 2015: Worldwide Sales of \$5.2 Billion
 - 2019: \$20.2 Billion (CAGR of 44%)
 3. **Healthcare is THE Fastest-Growing 3DP Sector**
- ***WHAT*---**4 Prime HCx3DP/HML Actions (to Date):
 1. **Recruited Topic & Tech Leaders (Informal Advisory Team)**
 2. **Studied Issues for Opportunities/Actions: Built Solutions**
 3. **Presented This Debut Manifesto “Deck” to 29 July Meetup**
 4. **Evolved “Action Centers” Concept to Prototype Six**



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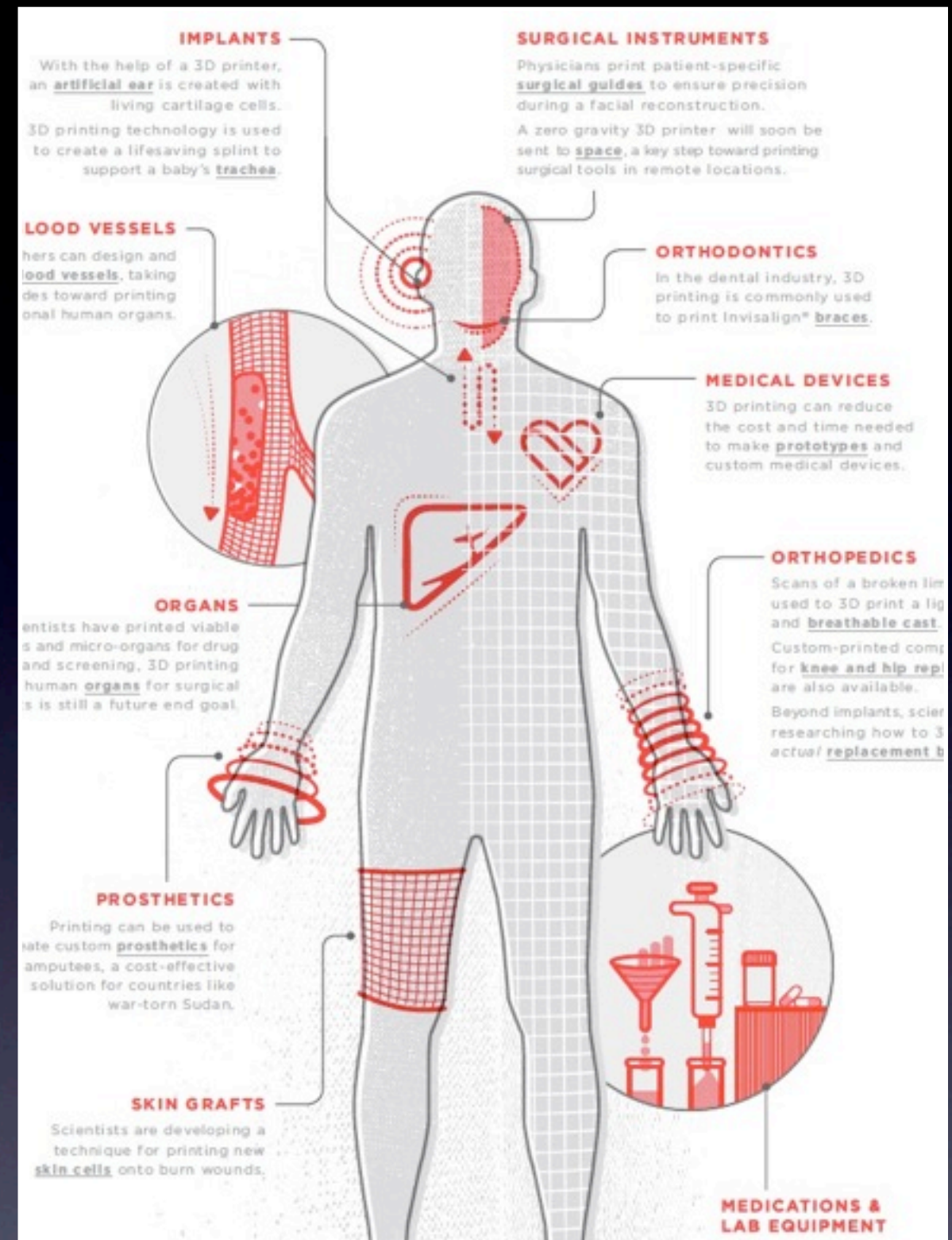
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- The 3DP-Modulated Body:
 - Prosthetics & Orthopedics
 - Implants & Orthodontics
 - Medical Devices
 - Medical Modeling
 - Surgical Instrmnts & Guides
 - Vascularization: Blood/Lymph
 - Skin, Tissues & Organs

- Infographic by Ovaitt Health for Worrell Design



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- **Our Health Maker Lab (HML) *Engines of Empowerment:***
 - U.S. Healthcare System's Acute Need for New Solutions
 - 3DP->4th Disruptor: (1) PC (2) Internet (3) Soc Media (4) 3DP
 - NYC: Becoming U.S. Center of 3DP & #2 in Tech Startups WWide
 - NYC: Center of HC Practice, Education & Commerce in U.S.
 - 3DP/DigiFab DIY/DIT HC Offerings: Hyper Growth & Innovation
 - HCx3DP WILL Create:
 - HC Industry Makeovers
 - Time-To-HC-Market Accelerations
 - Slashing of HC Costs
 - Vastly Improved HC Patient Outcomes



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HCx3DP Team Begets Health Maker Lab (HML):

- ***100 Days of HML Startup Effort***
 - Preceded by Maimonides Med Ctr & HCx3DP Foundation Work
- ***Hyper-Local Community Focus***
 - Prototype for a Grassroots Healthcare Citizen-Sci Ecosystem
 - Uber-Goal: HML Network Worldwide
- ***“Making” Wellness Offerings (some examples)***
 - Nurse-Makers Creating “Bedside” Solutions for Local HC Ctrs
 - DIY Prosthetics: Partnering with eNABLE for Worldwide Impact
 - HC “Job Gen”---Startups, 3DP How-2 & BioLab Techs
 - DIT NeuroTech & Bio Labs Push the Innovative Edge



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● Health Maker Lab -> 6 Prototype “Action Centers”

1. Healthcare Maker Space
2. GenBiology Wet-Lab
3. Maker-Nurse Collaboratory
4. NeuroTech Lab
5. Bio-STEM/STEAM Lab
6. eCottage (HC) Industry Lab

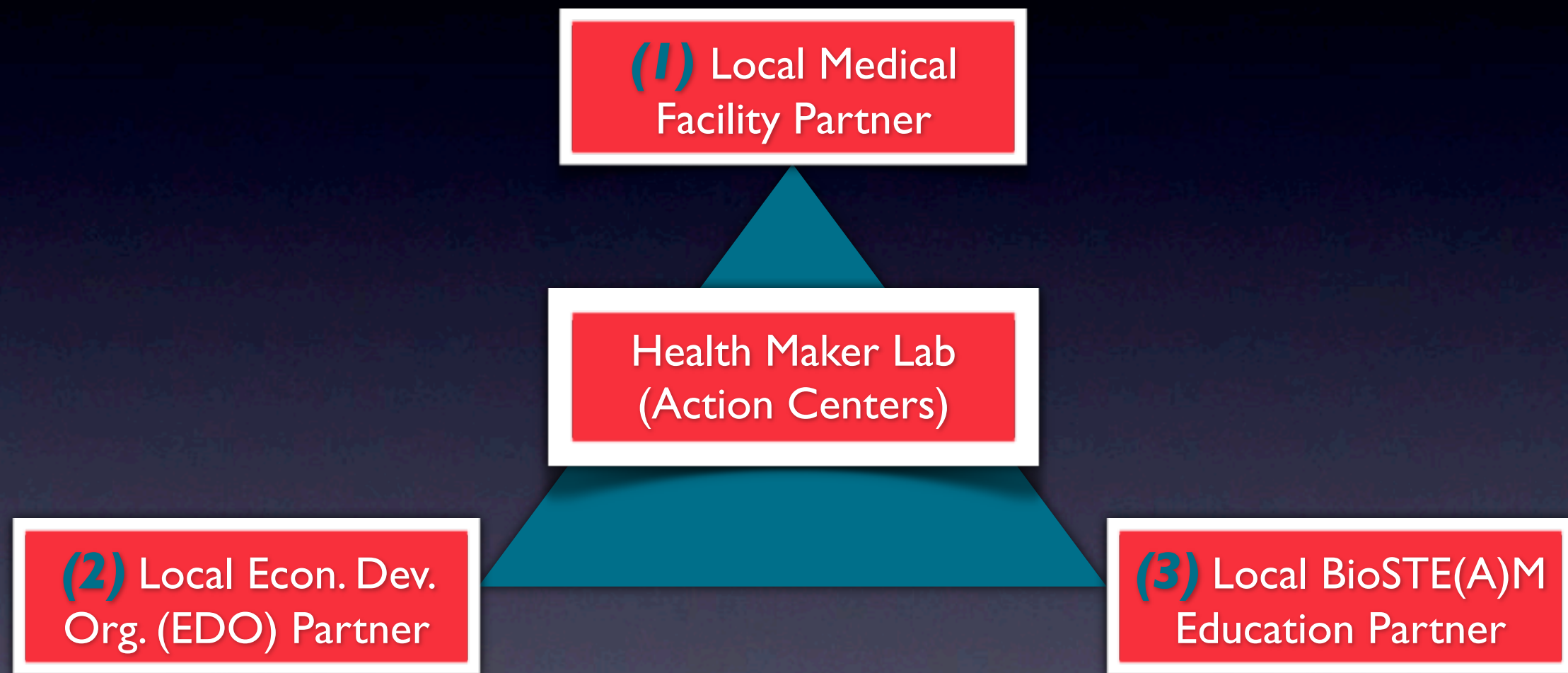


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- **Health Maker Lab -> Collaborating w/Key Local Partners:**



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- **Our “Health Maker Lab” *Latest Milestones:***

- Captured “HealthMakerLab.com” Domain Name
- Working on Branding Package with 2D Design-Pro Volunteer
- Considering Best DIY Way to Build HML Web Site (WordPress CMS?)
- Providing Teammates Bckgrders, Outlines, Decks, Docs Privately Online
- Applied To BK Law School “BLIP Clinic” for Free NonProfit Formation
- Targeting “Friends & Family”-Level Sponsors for Startup Resources



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Cogitations, Challenges & Provocations:

- **U.S. Healthcare** => Overwhelming Expense: Underwhelming Result
- **3DP** => As 4th Disruptor, The First More About Atoms Than Bits
- **HCx3DP/DigiFab** => It's Early, BUT It Gets Late Earlier & Earlier...
- **FDA** => Gatekeepers (Stasis) Vs. Gate-Crashers (Statistical Hazards)
- **STE(A)M** => More Art/Design, Less Science (see Steve Jobs)
- **TechRoots** => Makers, Fab Lab'ers & Techreatives Do DIY/DIT
- **IoT/E** => Sensored-Up, Hyper-Connected, Cloud-Ubiquitous
- **GAFA** => Neo-MedTechers Cometh (**G**oogle, **A**pple, **F**acebook, **A**mazons)
- **Our Health Maker Lab** => Rich Content/Radical Context



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