
“Nana” Technology[©]

Healthcare Technology Network of Greater Washington

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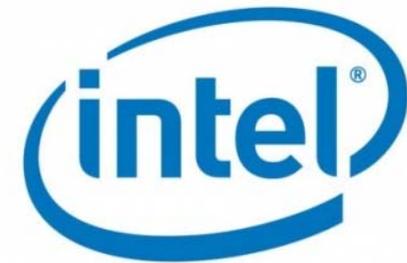


“Nana” Technology[©] - Defined

“Microchip based technology designed, intended, or that can otherwise be used to improve quality of life for older adults.”

- A. Carle

http://en.wikipedia.org/wiki/Nana_technology



- **\$5 Billion** market for the microchips needed to operate these technologies.



■ **“Nana technology” tools help seniors be independent**

Why It's Important:

“Global Aging”

Every 7 Seconds a U.S.
Baby Boomer Turns 60*

**78 million born
between 1946-1964**

*U. S. Census Bureau



The Aging of the Boomers...

- **Pop. age 85+** expected to quadruple from 4.3 million (2000) to 18.2 million (2050).
- Age **100+**:
 - 1900 U.S. Census: 3,536 people age 100+.
 - 2050 U.S. Census (Est.): **834,000 age 100+**.
- **NOT** an American phenomenon:
 - U.S. only **43rd** of countries in % of pop. 60+ (U.N. 2007).
 - World Population (HSBC 2004):
 - **World Pop. 1900 = 1.65 Billion.**
 - **World Pop. 60+ 2050 = 2 Billion.**

**“Global Aging” will effect
us long before
“Global Warming”.**

Outcome:

- Individuals who in **1968** thought they would change the world, by **2028** Actually will:
 - Travel
 - Entertainment
 - Retail
 - Food
 - Technology
 - **HEALTHCARE**
 - **HOUSING**



Largest (Business) Questions?

- 1. Who will take care of them?**
- 2. Where will they live?**



Issue #1:

Collapse of “Three-Legged Stool of Caregiving”

Approx. **80%** of current senior care is provided by **34 million** unpaid “Caregivers” (family or friends).

(U.S. Agency for Healthcare Research and Quality)

■ **Time (already collapsed)**: Dual-working spouses means **44% of caregivers are now men**, but combined time available to dedicate to task may be **LESS**. (National Family Caregiver Assoc.)

■ **Proximity (collapsing)**: **15%** of family caregivers live an hour or more away, with percent expected to increase each year. (Family Caregiver Alliance).

■ **Energy (preparing to collapse)**: If your Mom is **100...**how old are **YOU**?

- 30+% of family caregivers are over the age of 65 **today**.

(U.S. Dept. of Health and Human Services).



Issue #2: Professional Caregiver Labor Shortage

Retirement of “Boomers” will create critical gap in labor pool:

- ❑ **35 million** more jobs of **any kind** than **people to fill them** by 2030. (GAO)
- ❑ **6 million** LTC nurses and nurses aides needed by 2050. Only **2 million** available today. (U.S. DHHS/DOL)



The Answer...(and Business Opportunity)

Technology:

- Allows seniors to remain independent in their homes **without** human resource assistance,

OR

- Makes available human resource assistance **more productive**.
 - Making **one** nurse or nurse's aide in the future as productive as **three** today.



Categories of “Nana” Technology[©]:

■ Health & Wellness

□ Medications:

- Individuals 65+ are 12% of population, but consume 50% of OTC and 1/3 of Rx medications. (JAAPA, 2006)
- Estimated 22,500 deaths/year due to medication error. (AMA, 2004)

■ Safety

□ Falls:

- #1 cause of death due to injury in individuals 65+ (CDC).
- Projected to cost U.S. **\$55 Billion** in medical and related costs/year by 2020.(CDC).

□ Alzheimer’s (wandering):

- Up to 60% will be involved in a “critical wandering” incident (become “lost”). (Alzheimer’s Association)
- Nearly half (47%) **DIE** if not found within 24 hours.

■ Cognition

□ Alzheimer’s Disease:

- Affects nearly **half** of those 85+.
- From 26 million to **106 million cases** worldwide by 2050. (Johns Hopkins,2007)

□ Mild Cognitive Impairment:

- Affects 12-20% of those 70+. (Mayo Clinic, 2006)

■ Sensory

- Vision/Hearing

■ Communication

- Audio, Video, Text

■ Mobility/Transportation

□ DRIVING

- Ambulation (walker/wheelchair)

■ “Lifestyle”

- Cook, Clean, Garden, etc.

■ Robotics/Whole Home Systems

- Technologies that address two or more categories in one “System”.

Technologies for TODAY:

Health & Wellness:

- MD.2®
(e-pill)



www.epill.com

Cognition (3 Categories):

- “Brain Games” (Nintendo/“Brain Age”)
- “Brain Gyms” (Lumosity.com)
- “Brain Trainers”
 - Targeted to seniors and personalized
 - “Vigorous Mind”
www.vigorousmind.com



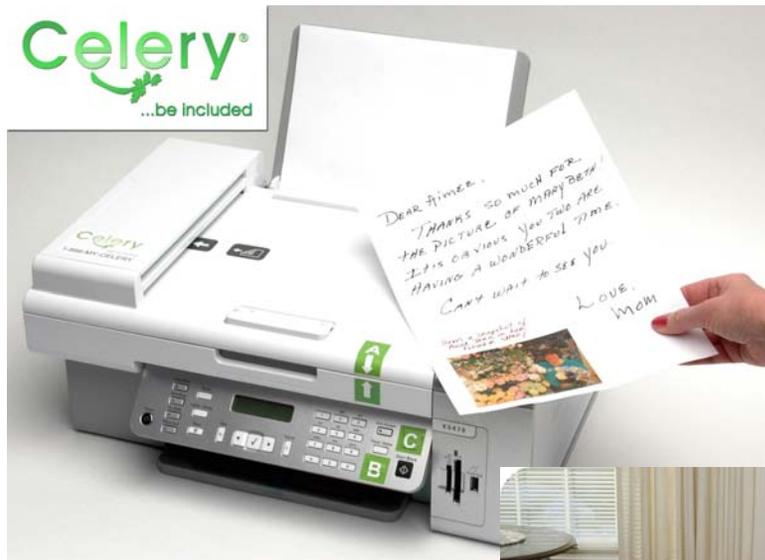
Back Main Men



Technologies Today...

Communication:

“Computerless email”



www.mycelery.com



“Senior” Cell Phone:



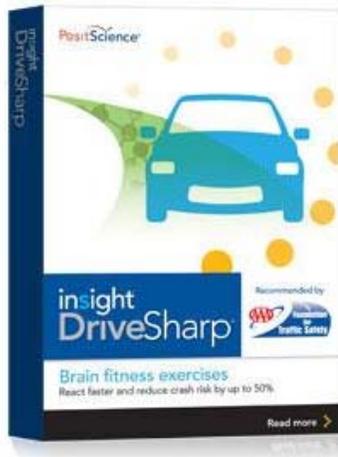
Jitterbug®
(GreatCall)

www.jitterbug.com

Technologies Today...

Mobility:

- DriveSharp™ (PositScience)
 - Also a “Brain Trainer”
 - Reduces crash risk up to 50%
 - AAA Recommended



www.positscience.com

“Lifestyle”:

- “Mail Chime™” (Hanna Products)



www.hannaproductsinc.com

Technologies Today...

Whole Home Systems:



- Uses sensors to **Monitor** health & wellness:
 - Motion (Bedroom, Bath, Med Cabinet, Kitchen)
 - “Tele-health” (Temperature, BP, Weight).
- **Establishes baseline** of normal activities:
 - “Reports” emergencies or requested information to caregiver or health professional, via password protected website.
- “**Communicates**” with senior via dedicated “**GrandCare**” TV channel:
 - Reminders (meds/appointments)
 - Video/Photo’s (even grandkids from cell phones)
 - Greetings



www.grandcare.com



Technologies for TOMORROW...

Health & Wellness:

- “Magic Medicine Cabinet”
(Accenture Corp.)
- Face recognition.
- Voice communication.

www.accenture.com



Safety:

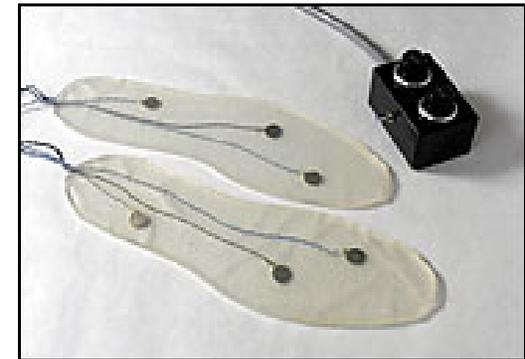
- **Falls: “Smart Shoes”**

(Afferent Corp.)

Pilot Study:

- 73 year olds had same balance as 23 year olds.

www.afferentcorp.com



- **Alz. Monitoring:**

- **“Ambulator™”** (GTX Corp/Aetrex)

- Tracks within 30’ anywhere on planet.

www.gtxcorp.com

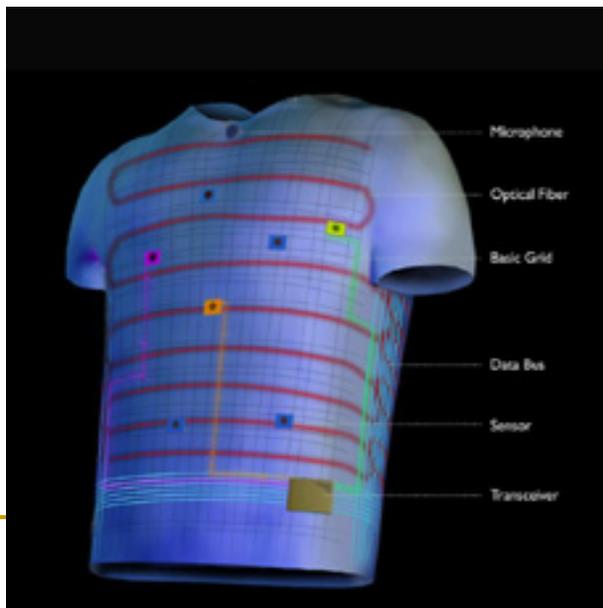
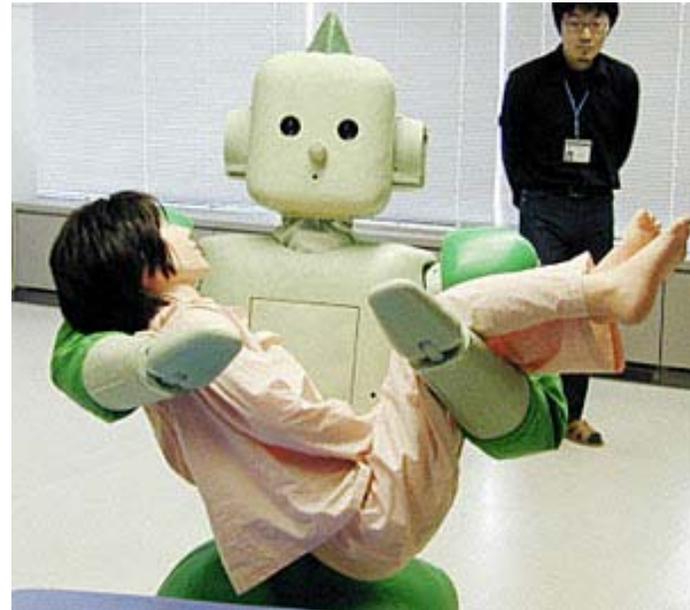


Examples TOMORROW - con't...

Robotics:

- “**RiMan™**”
(Riken Labs)
- Can “See”, “Hear”, “Smell”.
- Currently lifts up to 90 pounds.
- Next phase to be designed for assistance to Japanese elderly.

www.bmc.riken.jp



Integrated Systems:

- “**Smart Shirt**”
(Sensatex, Inc.)
- “**iTextiles**”.
- Vital Signs & Safety Monitoring.

www.sensatex.com

Final Thoughts...

“When Boomers were growing up there were three flavors of ice cream; now there are a thousand.”

- Drew Leder, Prof. – Loyola College



- Boomers will demand even MORE choices in technology.

- And they have CRITICAL MASS and PURCHASING POWER to get it:

- Control more than 70% of wealth in U.S.

- Need a “**Portfolio of Products**” to meet their needs.

Thank You!

Questions...

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