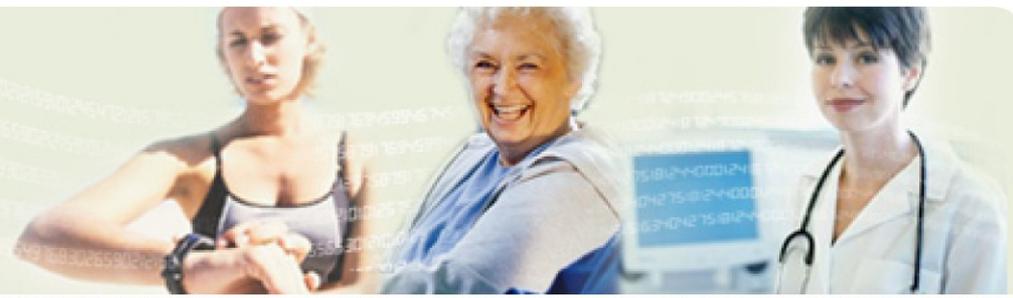




**Continua**  
HEALTH ALLIANCE



# High Level Consultation Workshop with Industry Innovative ICT Tools & Telemedicine Services Home & Mobile Care

**David L. Whitlinger**

President & Board Chair, Continua Health Alliance

April 2<sup>nd</sup>, 2008



A non-profit, open industry alliance of the finest healthcare and technology companies in the world joining together in collaboration to improve the quality of personal healthcare



GE Healthcare



ADT Well Health  
Agilent Technologies  
Alere Medical, Inc.  
Altera Corporation  
AMC Health  
AMI Semiconductor  
Analog Devices  
Analogic Corp.  
AT4 Wireless  
AT&T Mobility  
Avita  
BiancaMed  
BL Healthcare, Inc.  
Boston Scientific  
British Telecommunications  
Canada Health Infoway  
Capital Health  
Card Guard Ltd.  
Cardiff University  
Cardionet  
CELS, Ltd.  
Cerner Corporation  
Chiptech Limited  
Christus Health  
Claricode, Inc.  
CSR plc  
CYPAC AB  
Cypress Semiconductor  
Dell  
Digi International  
Dovetail Health  
EarlySense  
empirica GmbH  
FitSense Technology  
France Telecom R&D, LLC  
Frontline Test Equipment

Fullpower Technologies  
Healthsense  
Home Diagnostics Inc.  
Honeywell HomMed LLC  
Industrial Technology Research  
Institute  
InfraRed Integrated Systems Ltd.  
Innomed Medical Zrt.  
In Practice Systems Limited  
Institute for Infocomm Research  
Institute of Biomedical  
InterComponentWare, Inc.  
Jennic Ltd.  
Konami Sports and Life  
LG Electronics  
Lifescan  
MedApps, Inc.  
MedCare Systems  
Medred, LLC  
MedTech Systems Inc.  
Microlife Corporation  
Misys Healthcare Systems  
Molex Inc.  
Motorola  
Neusoft Medical Systems  
NHS Connecting for Health  
Nippon Telegraph and Telephone  
Corporation  
Novo Nordisk  
nSpire Health, Inc.  
Oracle  
Oregon Medical Labs  
Oregon Scientific Inc.  
Palm, Inc.  
Precor Fitness  
Proskauer Rose LLP

RMD Networks  
Rossmax International Ltd.  
RTX Healthcare  
Ryoyo Electro Corporation  
Sensor Technology & Devices Ltd  
SHL Telemedicine  
Silicon and Software Systems  
Sinapsys Srl  
Smartlife Technology Ltd  
Stichting IMEC - Nederland  
STMicroelectronics  
Suunto  
Tactex Controls, Inc.  
Tanita Corporation  
Telbios, SpA  
Telecom Italia SpA  
Terumo Corporation  
Textronics Inc.  
The Lewin Group  
The Scottish Centre for Telehealth  
Timex Corporation  
Toshiba Consumer Marketing Corporation  
Toumaz Technology Limited  
Training Peaks, LLC  
Tyco Electronics  
Tynetec Ltd  
Ubiquitous Corporation  
University of Miami - Miller School of Medicine  
Verizon  
VTT Technical Research Centre of Finland  
Westchester Institute for Human Development  
Whole Health Management  
Wipro  
Zarlink Semiconductor  
Zensys



“Our Mission is to establish a market of interoperable *personal telehealth systems* that empower people & organizations to better manage their health and wellness”



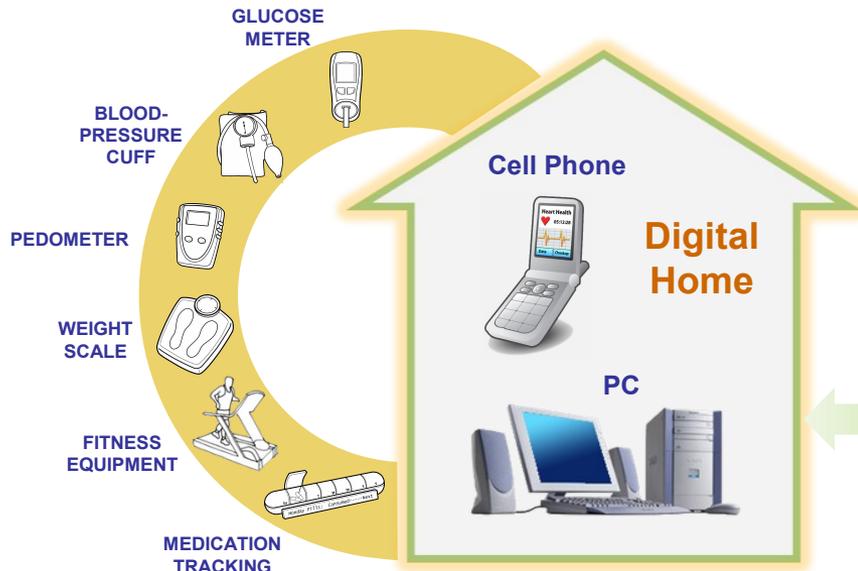
**Healthy Family**

## Health & Wellness

- Weight loss
- Fitness
- “Worried Well” vital sign monitoring:
  - Weight
  - Blood pressure
  - Glucose
  - Cholesterol
  - Activity level
- Personal Health Records
- Appointment scheduling

## In the future...

- Extension of healthcare system into the home
- Initial triage of non-emergency conditions
  - Vital signs
  - Images
  - Email / chat / video



*Continua member companies help people live healthier, more active lives by connecting them to their health and wellness team through a more efficient exchange of their personal fitness information.*



**Weight loss and fitness coaching**



**Healthcare Professionals**



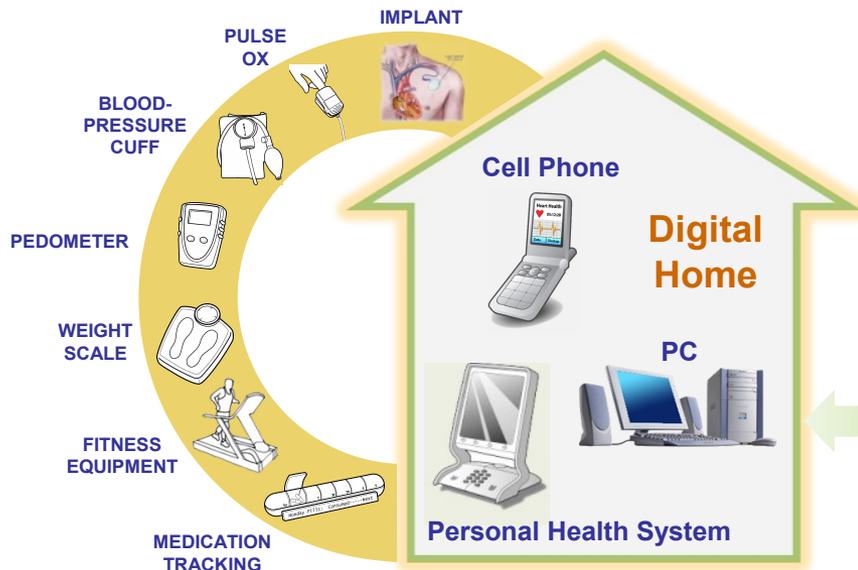
**Personal Health Record**



- Chronic disease
- Post trauma
- Pre-op

## Disease Management

- Vital sign monitoring (Remote Patient Monitoring)
- Medication reminders and compliance
- Utilize home network to locate devices in logical places:
  - Scale in bathroom
  - Pill minder in kitchen
  - Blood Pressure cuff in living room
- Trend analysis and alerts
- Email, chat, video
- Appointment scheduling



*Continua member companies help people with chronic conditions live healthier lives by connecting them to their care team through a more efficient exchange of personal health information.*

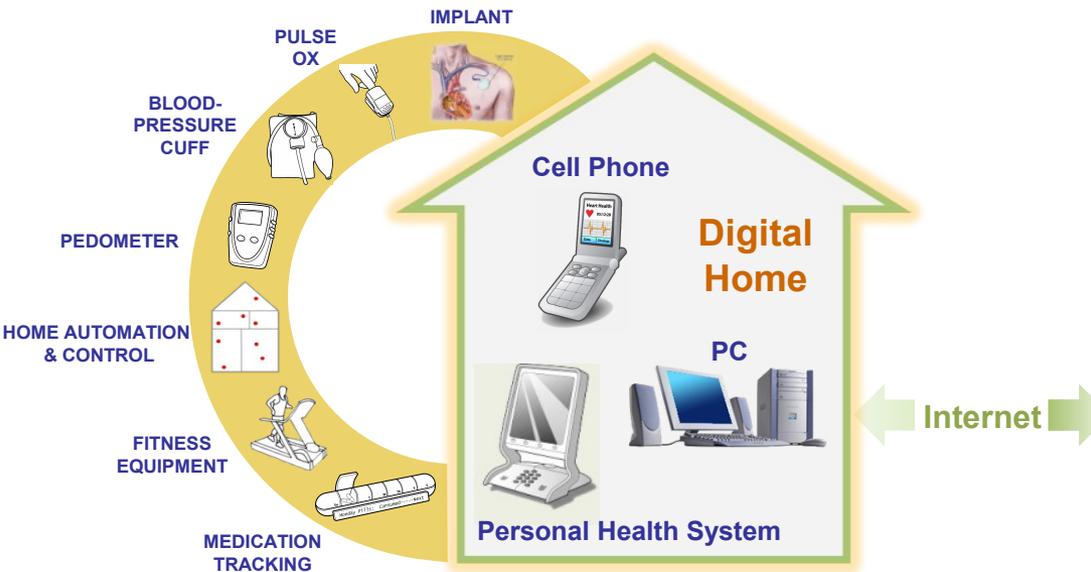




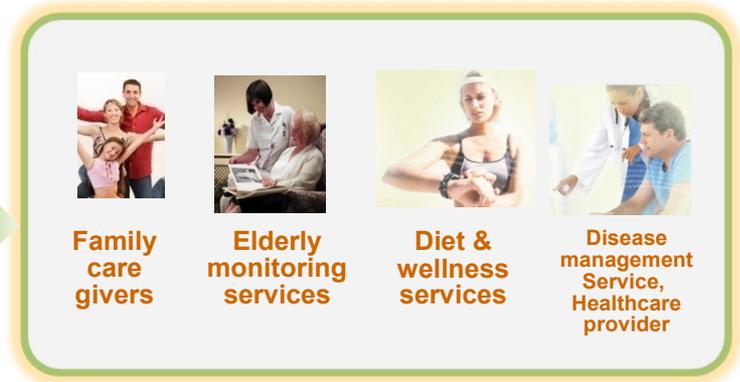
- **Independent living**
- **Chronic disease**

## Aging Independently

- An adult child helping their elderly parents age gracefully in their own home
- Basic life monitoring as appropriate (ADL):
  - Bed pressure (sleep)
  - Bathroom sensor
  - Gas / water sensor
  - Emergency sensor
- Vital sign monitoring (RPM)
- Medication reminders and compliance
- Trend analysis and alerts
- Email, chat, video
- Appointment scheduling



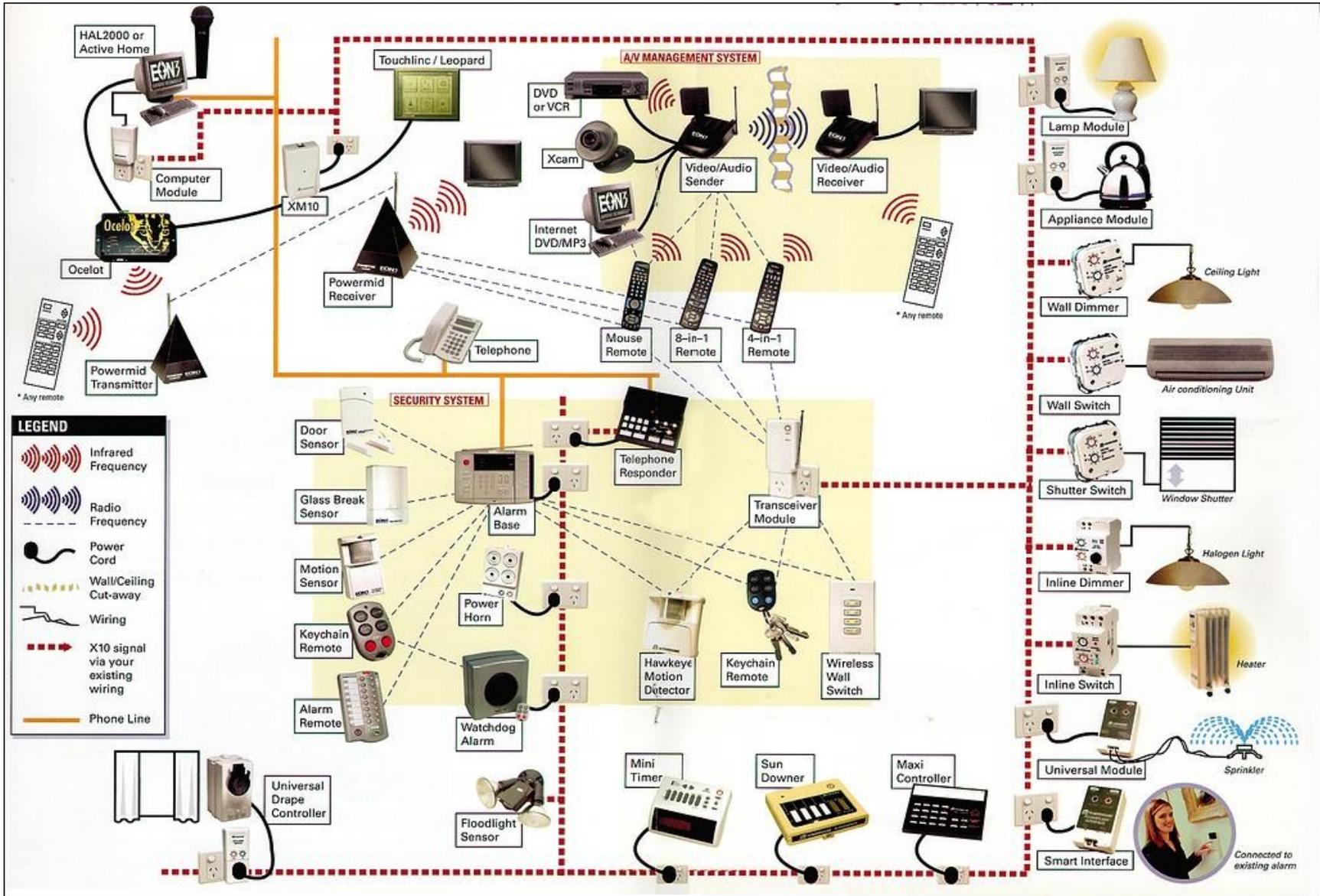
*Continua member companies help the elderly age independently, with dignity and security, through the efficient exchange of personal health and safety information that connects them to their family and care team.*





# Key Barriers

- Awareness
- Difficulty of deployment
  - Needs to be CE simple...for your parents





Cell Phone

Bonnie

Nursing Bag

Video Conferencing Equipment

Stethoscope

ID Badge

Coagulometer

Point of Care Device (Laptop)

Ultrasound

Glucometer

Telemonitor

Pulse Oximeter

Weight Scale (missing: Baby Scale)

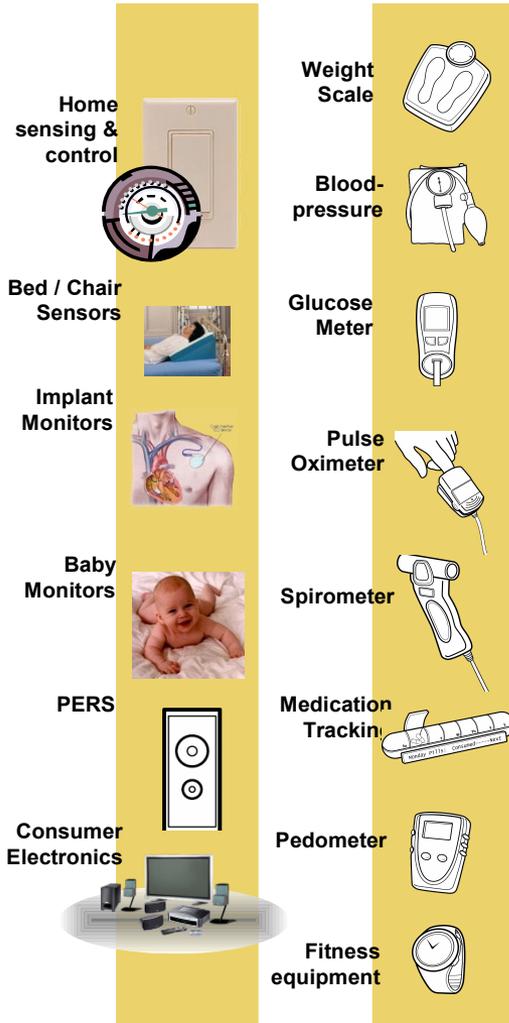
Pager

Instant Camera (missing: Digital Camera)

Sphygmomanometer (Blood Pressure Cuff)

Trunk Box of Medical Supplies

## SENSORS



## CONNECTIVITY



## MICS / MEDS

Ethernet



## AGGREGATION COMPUTATION



PC



Personal Health System



Cell Phone



Set Top Box



Aggregator

NETWORK (POTS, Cellular, BB)

## SERVICES



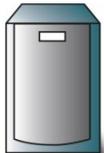
Healthcare Provider Service



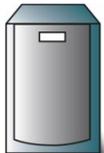
Disease Management Service



Diet or Fitness Service



Personal Health Record Service



Implant Monitoring Service

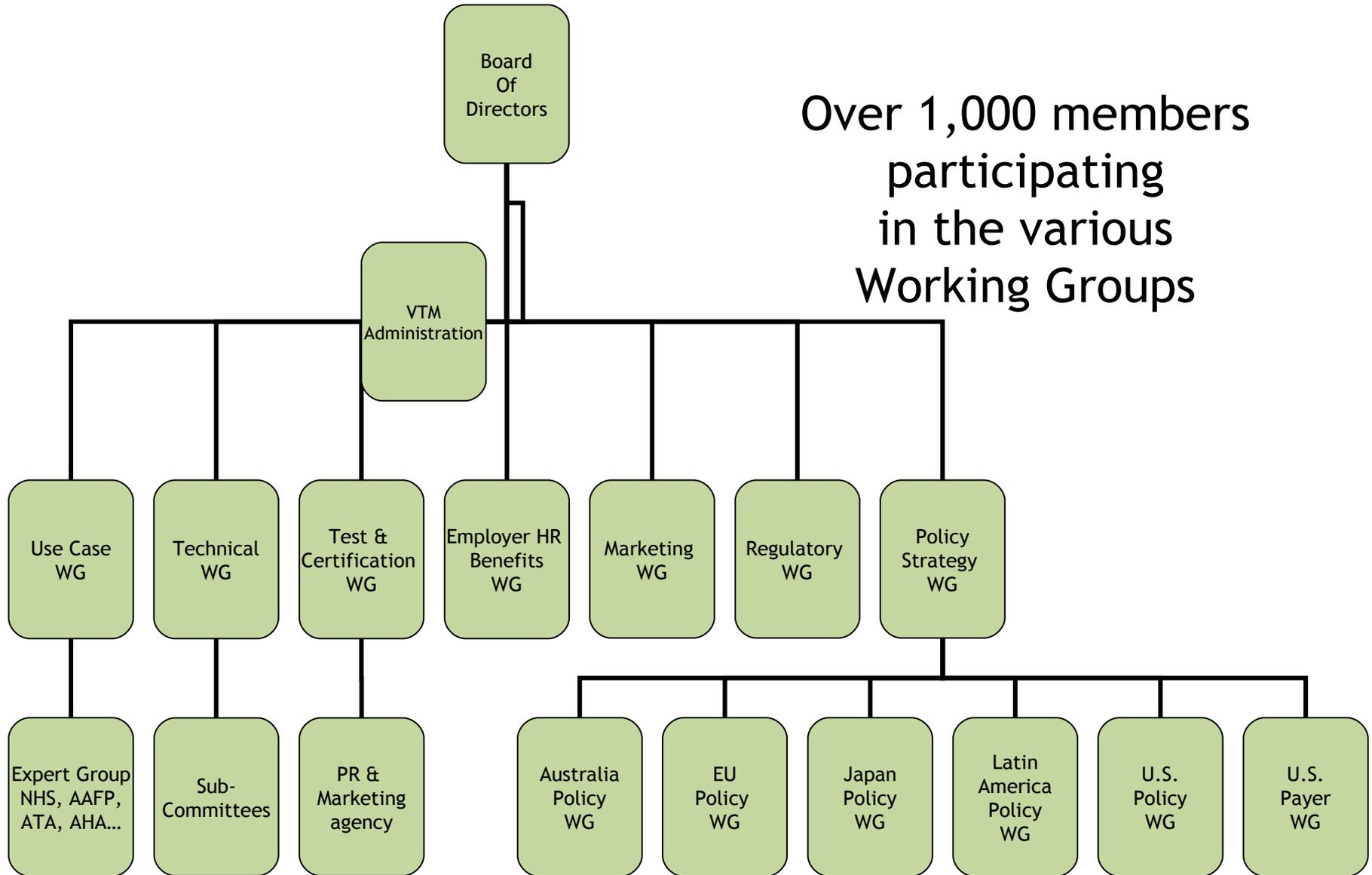


- **Groundbreaking platform allows medical devices to communicate wirelessly**
- US\$10 platform lets consumers effortlessly monitor health at home
- Cambridge Consultants today announced the first demonstration of the emerging industry standards for medical device interoperability. The ‘Vena’ platform is a breakthrough software solution on a single chip that allows medical devices such as blood pressure monitors to transmit data wirelessly. The development gives consumers, especially those with chronic conditions, the ability to monitor their own health accurately, systematically and independently. This platform uses low-cost wireless technology and will allow devices to deliver medical readings to a central monitor located in the home, or even to an online health record such as Google Health or Microsoft Health Vault. The Vena software solution can be added to a medical device using hardware with a potential cost of less than US \$10 at the appropriate volumes and could even be available in medical devices by the end of 2008.
- For the first time, the Vena platform embeds both the emerging **IEEE11073 standard**, which ensures compatibility of data exchanged between different types of devices, and the emerging **Bluetooth Medical Device Profile**, optimised for the secure transport of medical data, onto the single chip. Successfully concept tested with a pulse oximeter and weighing scales, the platform will be expanded to include other types of devices including blood pressure monitors. The platform is also capable of delivering a complete display, which means that device manufacturers now simply need to add their sensor of choice and the device is wireless-ready.



# Key Barriers

- Awareness
- Difficulty of deployment
  - Needs to be CE simple...for your parents
- Cost
  - Needs to get down to near CE level
- Perception of the lack of “proof”
  - Is the quality of care better?
  - Is there sufficient return-on-investment?
- Low penetration of EHR or enterprise software
- Lack of legal certainty...improving



- There are hundreds of trials and pilots around the world with various healthcare providers and health workers utilizing technology to automate their activities...
- It is time to **JUST DO IT!**

- US:
  - The Veterans Administration (VA) 20K patients
  - Kaiser Permanente 6K patients
  - Hundreds of employer programs initiated
    - 10K Steps a Day, HRA tracking, BMI, hypertension, pre-diabetic
  - Nike Plus, Google Health, Microsoft HealthVault, Dossia
- Japan:
  - Metabolic Syndrome - mandatory HRA
- Europe:
  - UK: Initial trials set for three locations of 1300
  - NI: Announced 5K patient deployment
  - Other examples of trials and pilots...thanks to the Commission and Framework 6/7
- Aging Independently
  - Personal Emergency Response (PERS)...Tunstall, Lifeline (700K)
  - Limited systems