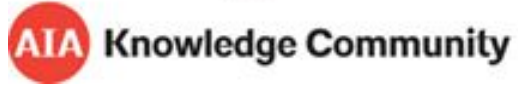

Design for Aging



The mission of the AIA **Design for Aging** (DFA) Knowledge Community is to foster design innovation and disseminate knowledge necessary to enhance the built environment and quality of life for an aging society.



Continuing Education Credits

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Questions?

Submit your questions through the Q&A pod at the bottom of your screen.

Content-related questions will be answered during the Q&A portion as time allows. Any questions not answered during Q&A, will be answered and posted online within two (2) weeks. Tech support questions will be answered by AIA staff.



Designing Trending Technology for Optimal Outcomes

December 2021

Introductions

Strategic Planning & Business Development



Gaurie A. Rodman

Director of Development Services
grodman@directs.com

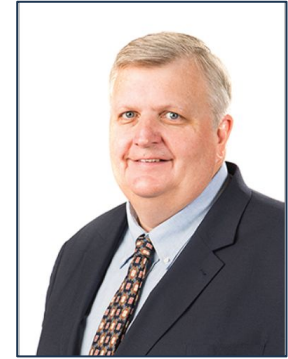
Technology Solutions



Christian Buesing

Director Operations Technology
Christian.Buesing@directsupply.com

Technology Design, Systems, and Solutions



Patrick Mahoney

Senior Technology Designer
Patrick.Mahoney@directsupply.com

Agenda

Operational and Technology Innovation

Technology Strategy - Planning & Design

- Design Impact on Operations
- Technology Design Considerations
- Building Sustainable Network Infrastructure





OPERATIONS AND TECHNOLOGY ...

Innovation Drivers and Trends

Trends Impacting Senior Living

- Demographics
- Consumerism
- Economics
- Technology



Leveraging Technology Innovation

Resident and Staff Needs

- Safety and Security
- Health and Wellbeing
- Social Engagement

Operational Efficiency

- Staffing & staff optimization
- Change management
- Building design

Financial Viability

- Affordability
- Cost to serve
- Cost of construction



Bringing What's Next to Senior Living



DIRECT
SUPPLY®

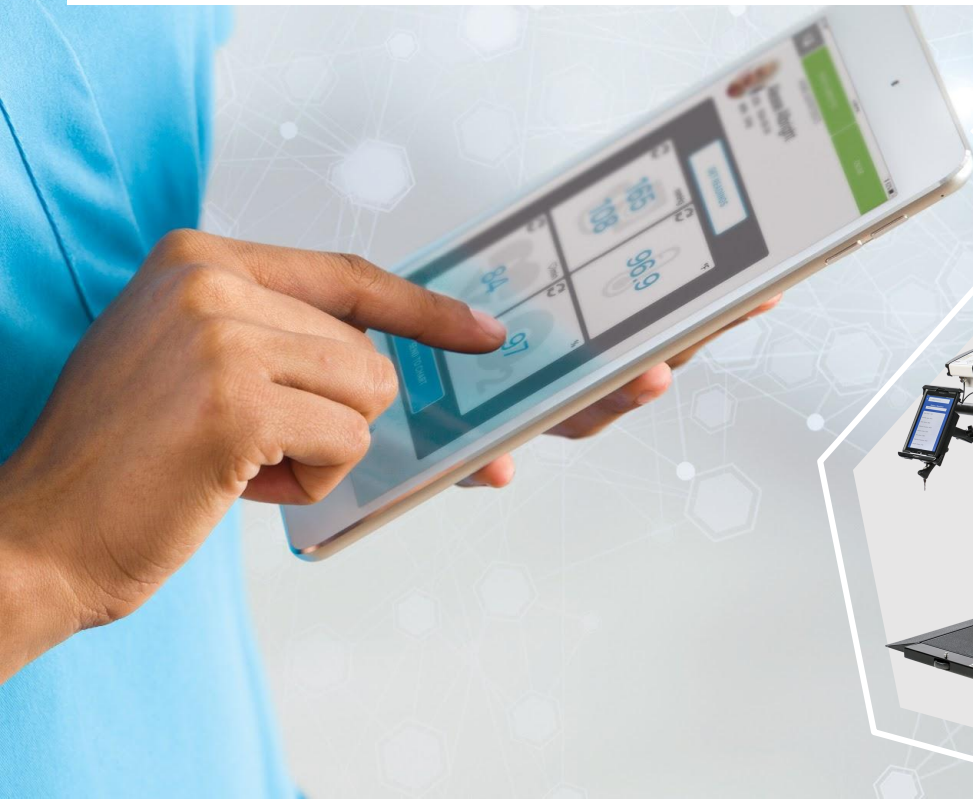
**INNOVATION &
TECHNOLOGY**
CENTER @ MSOE

Focus on Emerging Technology

- Connected Clinical
- Machine Vision
- Artificial Intelligence
- Infection Control
- Passive Resident Monitoring

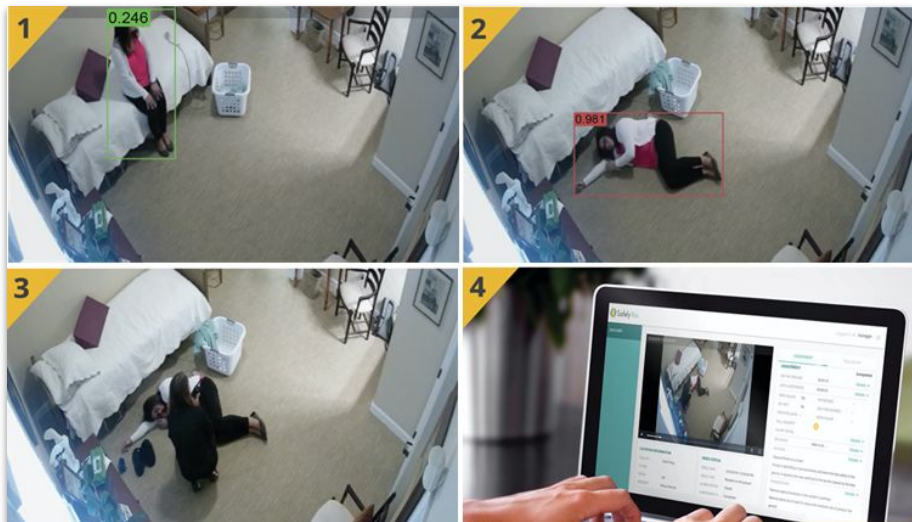


Boost accuracy and collect vitals
40% faster



Passive Monitoring

Machine Vision - Falls Monitoring



UWB Radar Monitoring

Vital Sign Analysis



Barbara Johnson
Room: 404

Occupied

Type of Care

SNF Memory Care

65 BPM

Heart Rate

Real time

BPM Change

+1

18

Breath/min
Respiratory
Rate

Real time

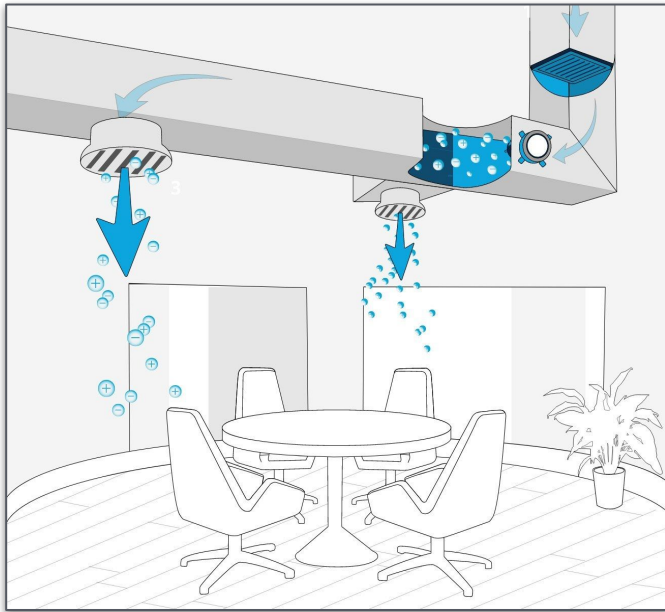
Breath/min
Change

+10



Environmental Factors

Needlepoint Bi-Polar Ionization



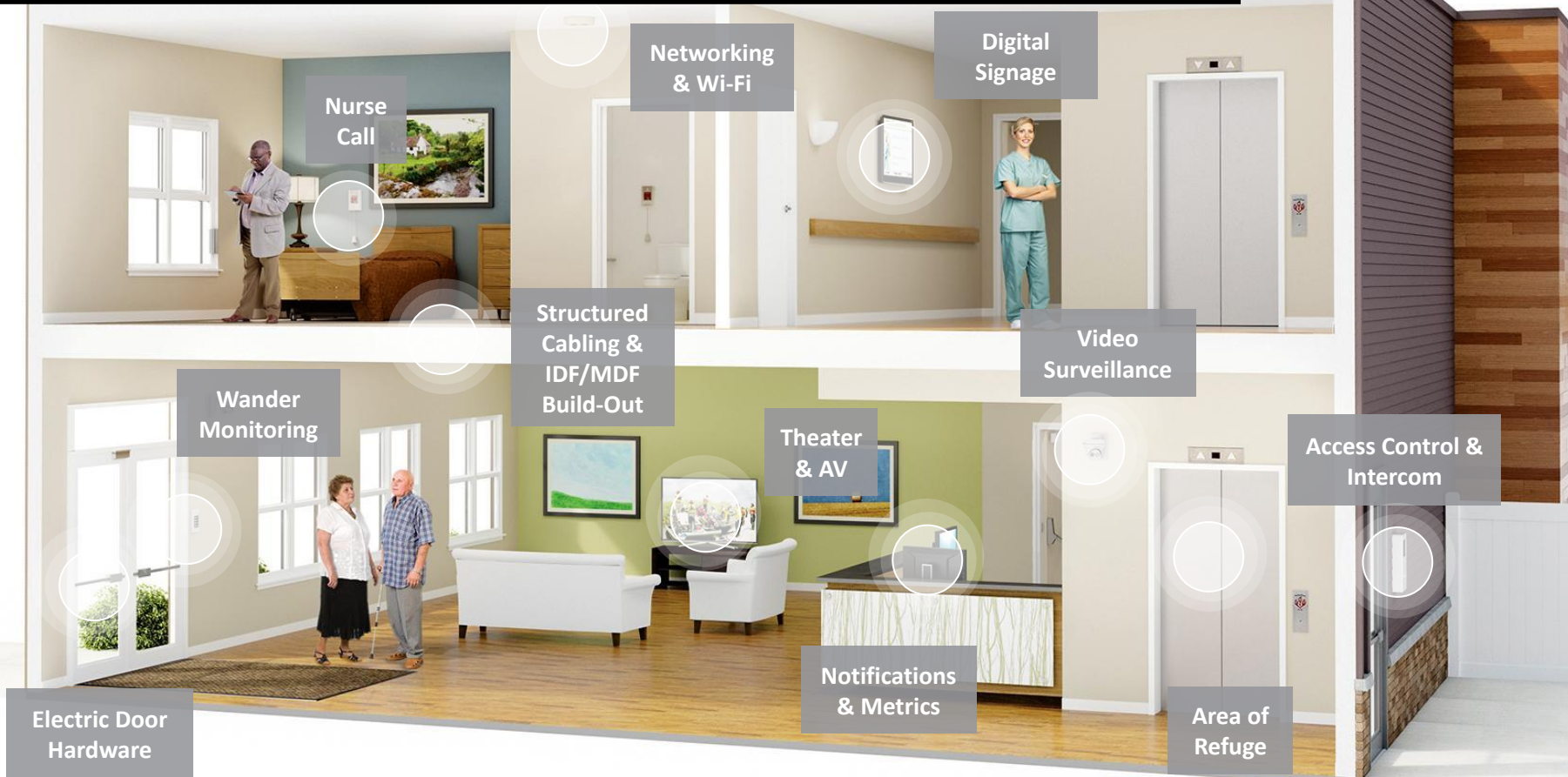
Thermal Screening



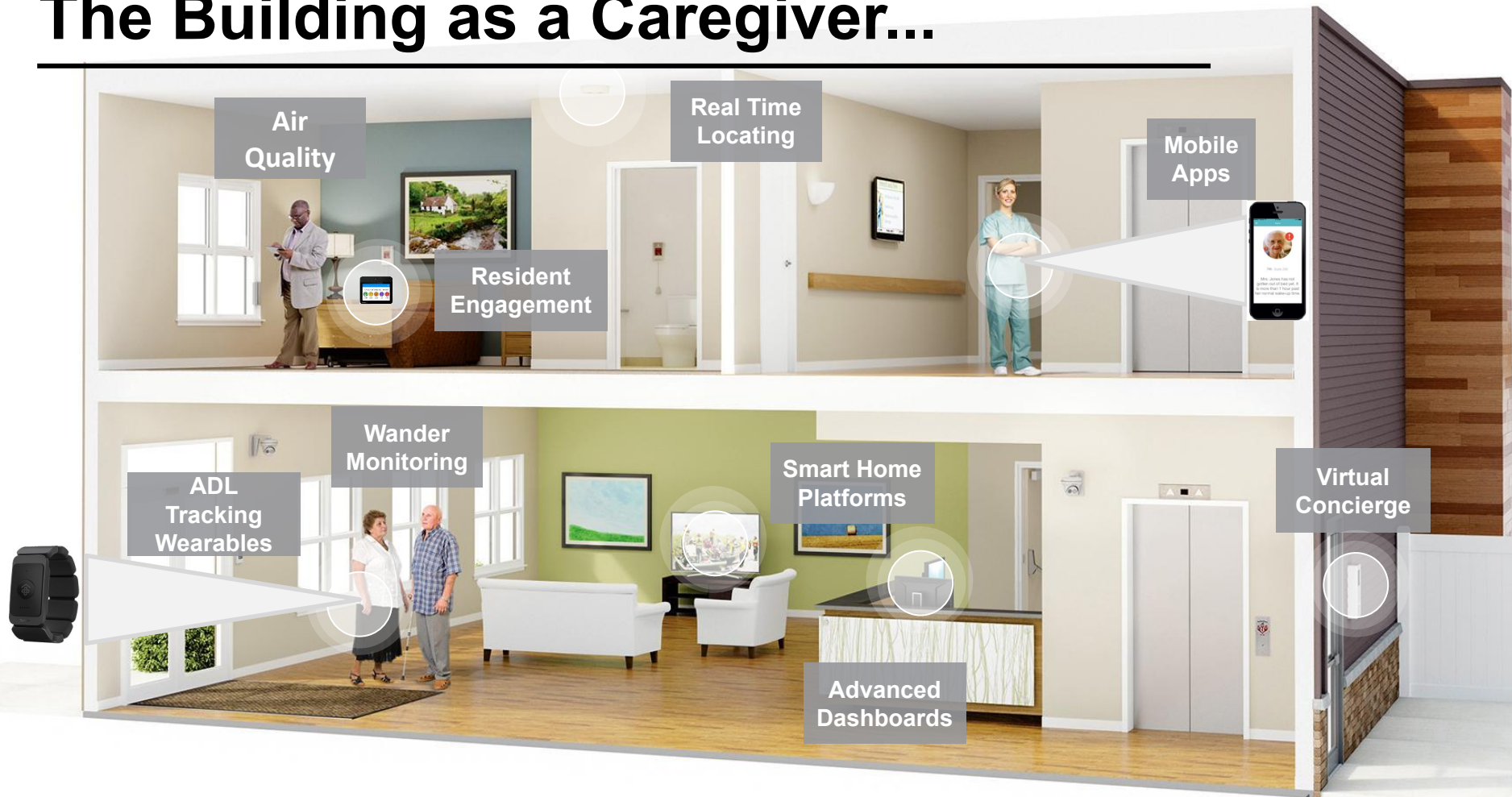
UV-C Robotics



Internet of Things



The Building as a Caregiver...



Community Health

BioBot

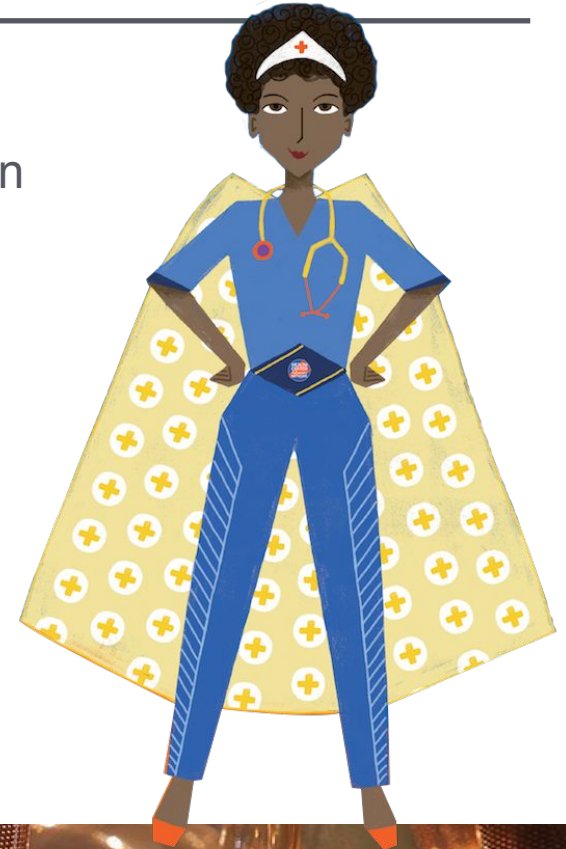
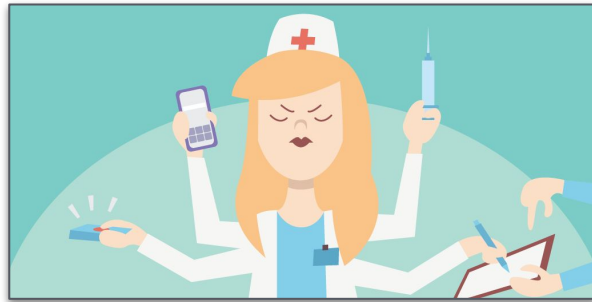


Toi Labs



Instead of Replacing, Let's Optimize...

- Shifting non-value added work off of clinical staff
- Automating new solutions instead of adding more to an already full plate
- Workflow Redesigns (Fewer Steps) (Dedicated Staff)
- Automating or Shifting non-value added work off of clinical staff





TECHNOLOGY STRATEGY ...

**Planning and
Design**

Adaptable

Scaleable

Flexible

Sustainable

Designing for Sustainable Network Infrastructure

- What/Who are we Designing for?
- Wired vs Wireless - You don't have to choose
- Space and Equipment Planning
- The Importance of Early Engagement



Technology Planning & Design

BUILDING TECHNOLOGY

- Connectivity
- Flexibility
- Systems

STAFF TECHNOLOGY

- Smart Buildings
- Facility Management

RESIDENTS TECHNOLOGY

- Wearables
- Consumer Electronics
- Health Wellness Devices
- Marketability
- Tele-Health



Network Infrastructure Needs to Support Operations

OPERATIONAL EFFICIENCIES

OPERATIONS

- Reduced staff, Resident Satisfaction

STAFF

- Avoid duplication, Streamlined response, Uptime for Production

RESIDENTS

- Wellness and Safety, Enhanced Experience, Convenience



Preparing For Technology

How can technology support the building

Understand the Systems

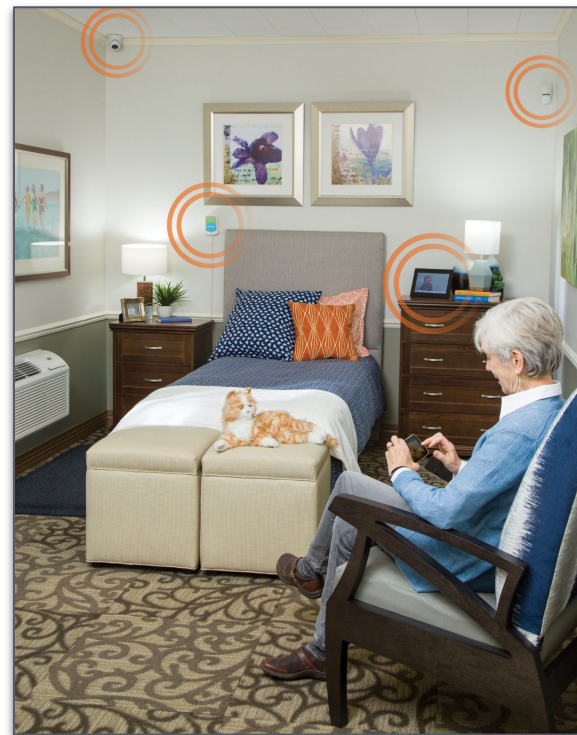
- Audiovisual
- Monitoring: includes wireless Nurse Call
- Information Communications Technologies: includes Wi-Fi
- Safety & Security: includes Access Control

Understand desire to Integrate Systems with Operations

- How should “systems” communicate to and with the staff?
- How should “systems” communicate with operating partners?

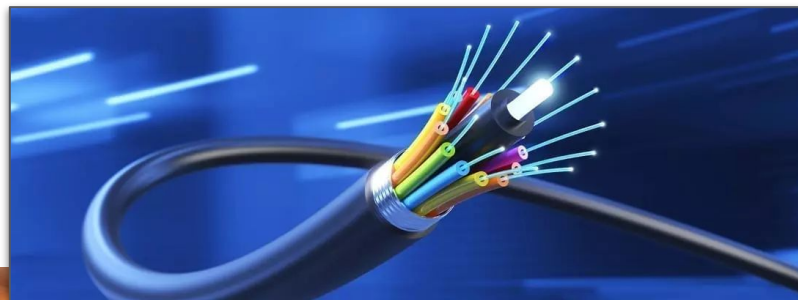
Enhance Resident Experience

- Communication
- Passive Monitoring
- Enhancing Living Experiences



Infrastructure Options

- Wired and Wireless
- Agnostic and Proprietary



INFRASTRUCTURE – Permanent Cable

STRUCTURED CABLING

- Optical Fiber
 - Copper
-

CONSTANTLY IMPROVING

INDUSTRY STANDARDS

- Connection – IEEE
 - Electronics – TIA
 - Premise - BICSI
-

COST TO REPLACE CABLE FOR NEW TECHNOLOGY?

Cable will outlast devices connected!



Network Infrastructure Needs to Support Operations

**There are a lot of wires
in wireless!**

Wi-Fi

- Internal

Cellular

- External

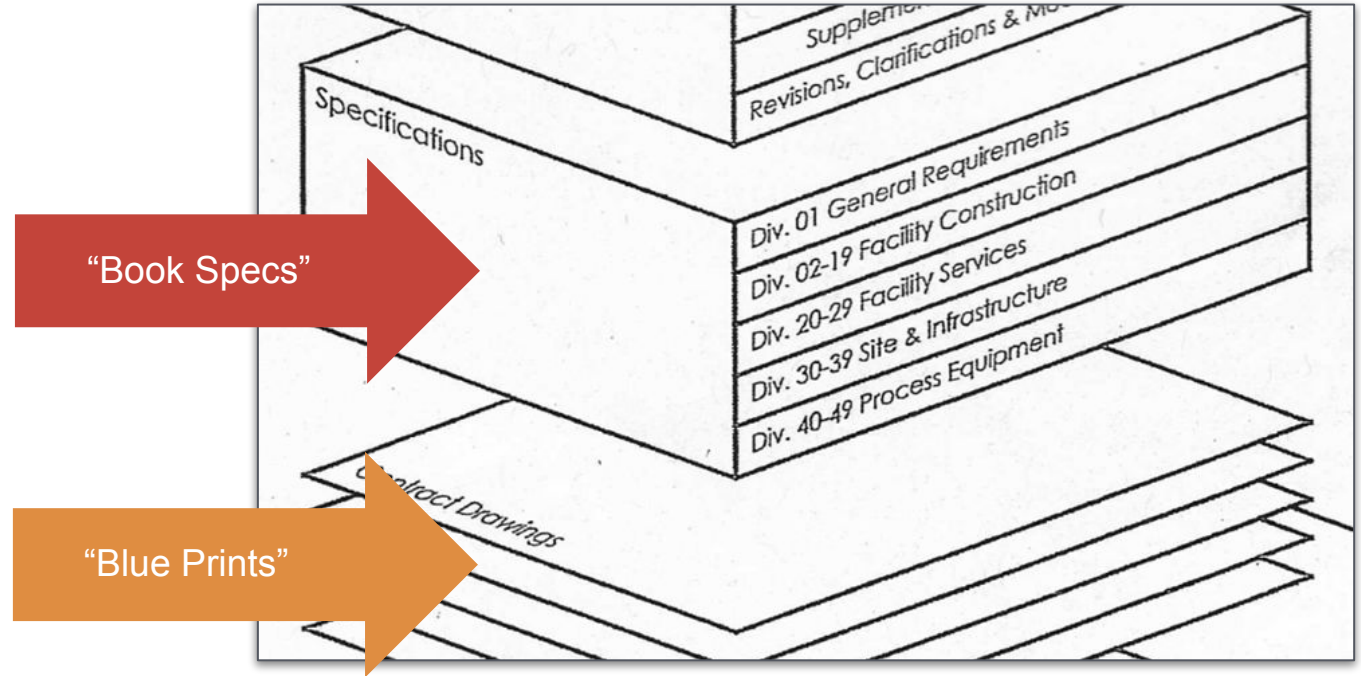
Nearfield

- Bluetooth
- Contactless



Know the Finish Line

Understand the limitations and applications of the different network technologies and design the community to suit



Space Planning

These are the brains of communities

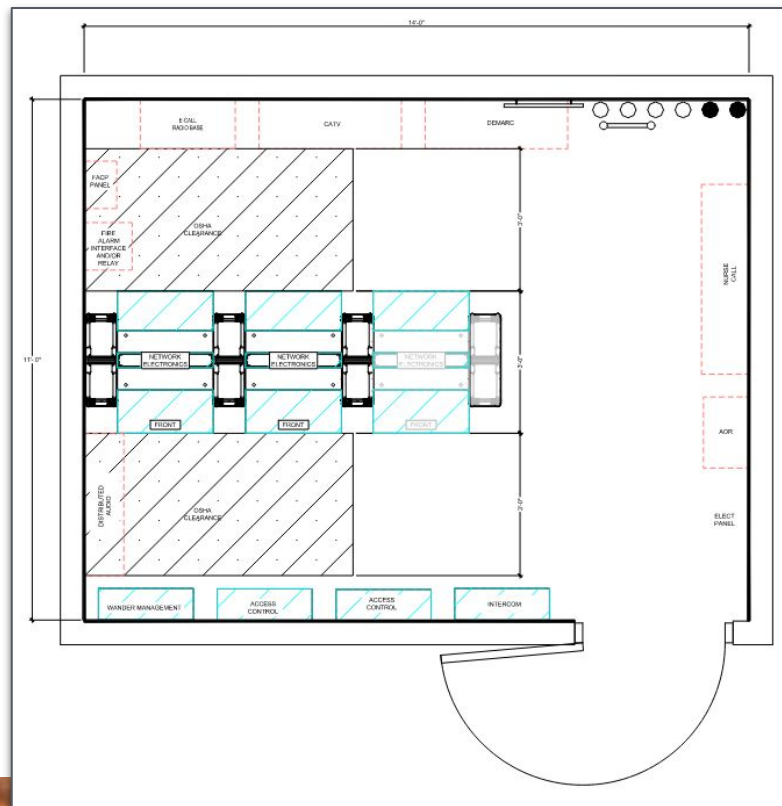
- Mech/Electrical are the heartbeat

Future moves and changes are dependant on this space

- Avoid placing adjacent to large utilities, ducts, elevators, vaulted ceilings, stairways, and shafts

Proper layout and sizing of Telecommunications rooms

- Don't call them closets anymore!

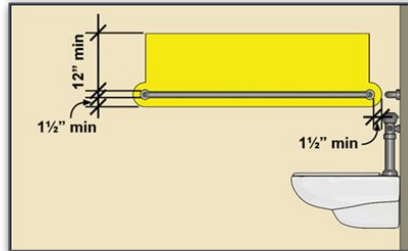


Early Engagement - Design Impact

Even “Simple” equipment requires design coordination

Nurse Call Example

- Top of grab bar mounted 33-36 inches AFF
- Clearance of 12 inches above grab bar
- Clearance of 1½ inches below grab bar
- Toilet paper dispenser 7-9 inches from front edge of the toilet
- Nurse call device or pull cord cannot obstruct the dispenser
- Nurse Call station complies with ADAAG



Early Engagement - Integrated Security

Senior Living Security is Unique

- Someone's residence
- Should not look like prison

Risk

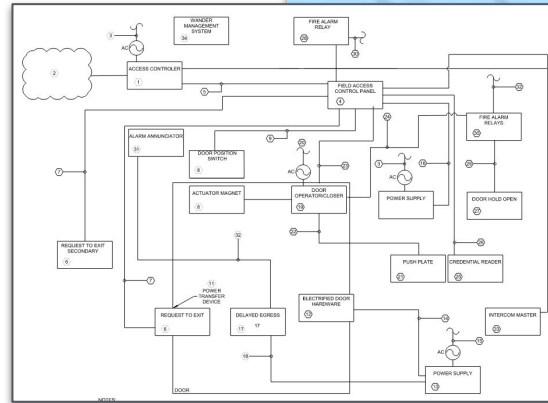
- Keep people in

AL

- Elopement

Memory care

- Controlled Egress
- Wireless Locks
- Fall Detection

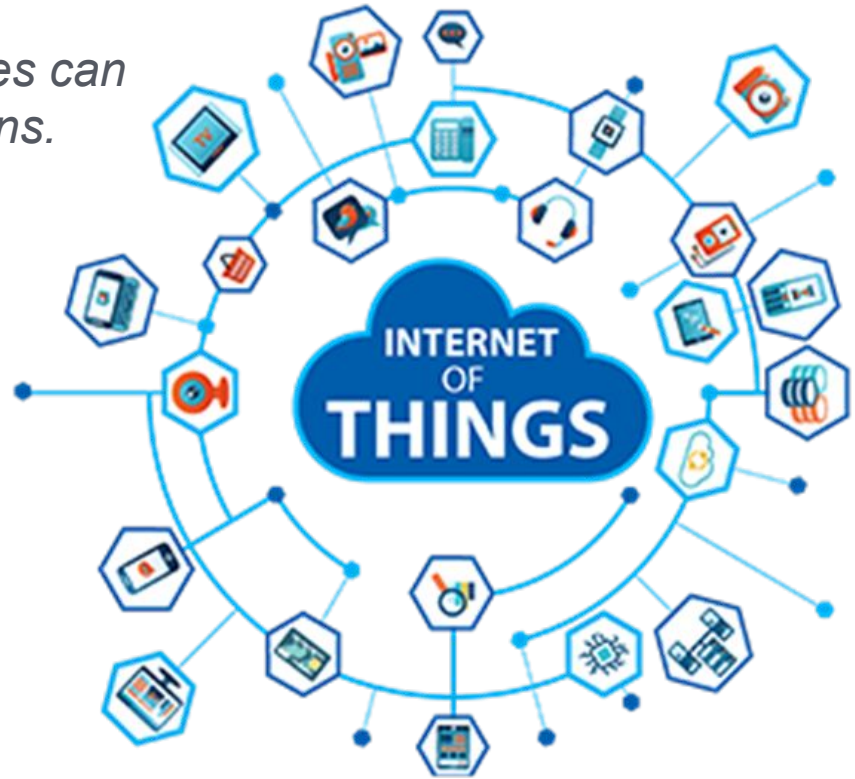


Early Engagement - IoT

Machines communicating with machines can respond to real time operating conditions.

What Fits the IoT Description?

- Devices with electronics, software, sensors, actuators, and connectivity which connect, interact, and exchange data with each other
- Potential for cloud enabled, allowing for remote monitoring and/or control.



Planning for Innovation

Know who your client is

- What is their value proposition; residents, the marketplace, staff, investors?

Know who they serve

- What are the residents and their families' expectations?
- Who are outside stakeholders

How can innovation and technology support how they serve?

- Understand where technology can impact their work flow streams
- Integrate Systems (audio visual, monitoring, safety & security and information & communication technology) with your Operating Model
- Enhance Resident, Families and Marketplace Experience



QUESTIONS OR COMMENTS?

Designing Trending Technology for Optimal Outcomes

Thank You!

Please reach out if you would like any additional information



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Feedback survey

We encourage all attendees to complete the post course survey at <https://form.jotform.com/213369140270146> by **December 10** at 5pm ET.

Please email knowledgecommunities@aia.org if you have any questions.



Thank You

aia.org/dfa

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Who we are

The mission of the AIA **Design for Aging (DFA)** Knowledge Community is to foster design innovation and disseminate knowledge necessary to enhance the built environment and quality of life for an aging society. This includes relevant research on characteristics, planning and costs associated with innovative design for aging. In addition, DFA provides outcome data on the value of these design solutions and environments.

COVID resources

Strategies for Safer Senior Living Communities
This resource includes strategies for dining facilities, amenity spaces, and individual units. [Download >](#)

Upcoming Events

22 Feb	Live course: Senior Housing Design Directions for a Post-Pandemic World Feb 22, 12:00 PM - 1:00 PM (ET)
28 Aug	Environments for Aging Aug 28 - 31, (ET) Chattanooga, TN, United