ASSEMBLING
AN
OPEN
SOURCED
SMART
BUILDING
TEAM

Once Upon a time…

Mission: Open Sourced Solutions to Common Problems

IMACS

Competitive Service

Funding

MSP Restrooms

- Usage based cleaning

- Smart signage

- Lighting Control

- Ventilation Strategy

Door Monitoring

- Notification of door failure

- Tracking open/close cycles

Usage & Uptime

- Lighting cycles

- Lighting run hours

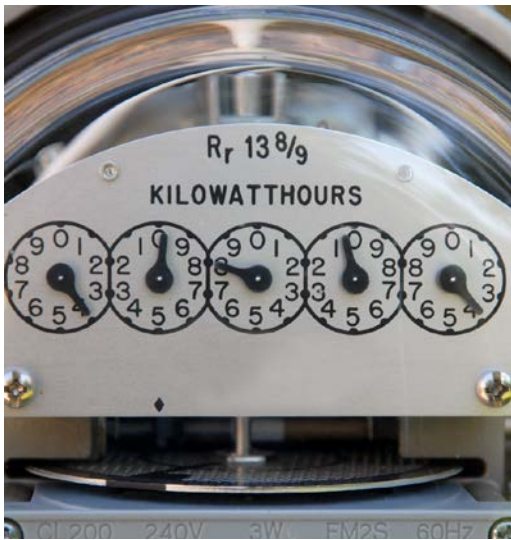- Warranty documentation

- Consumable equipment usage tracking

Usage & Uptime

Plumbing Systems

Cost Allocation
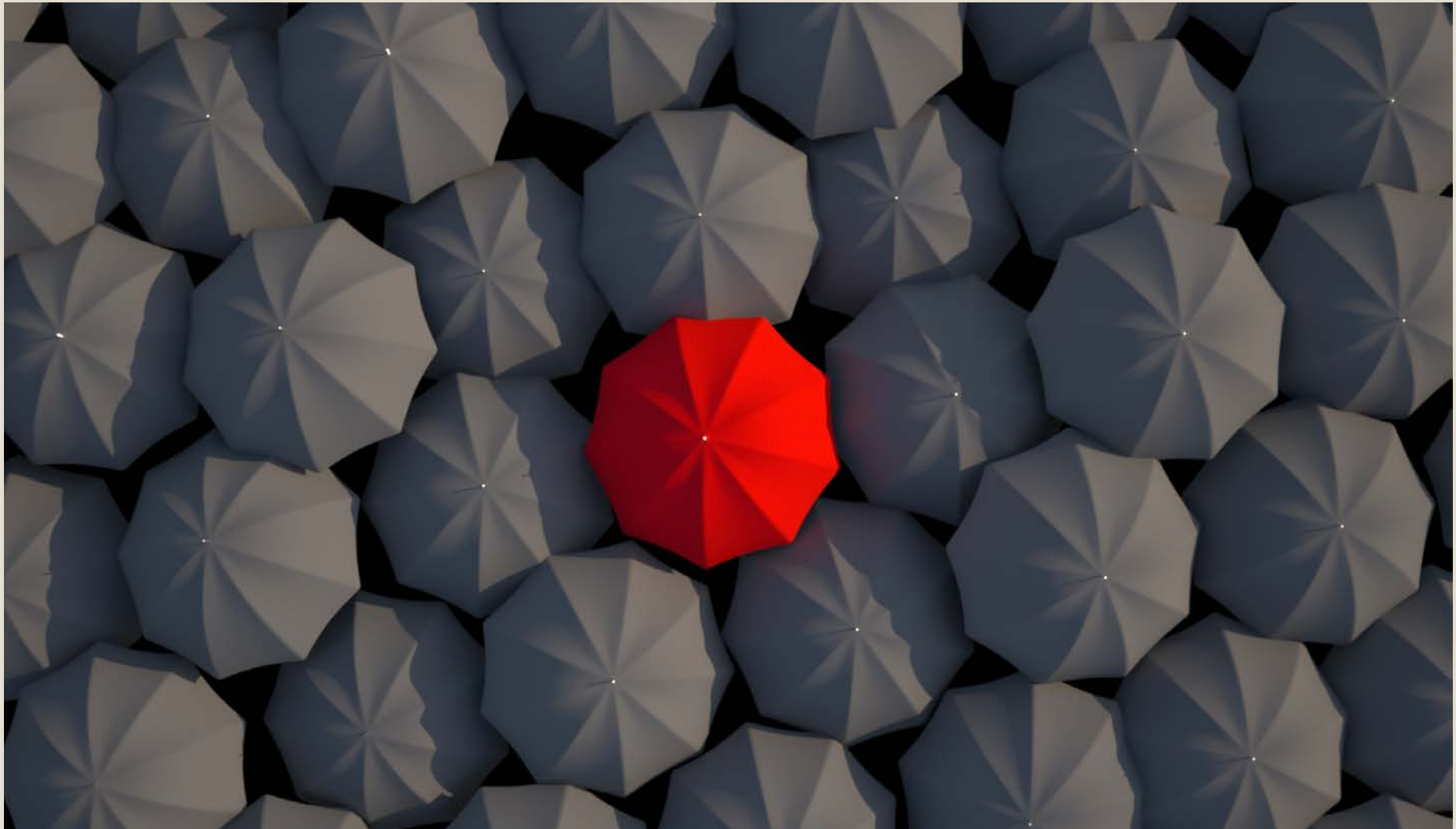
◦ Tenant billing

◦ Cost center allocation

Wetland Protection

Equipment utilization

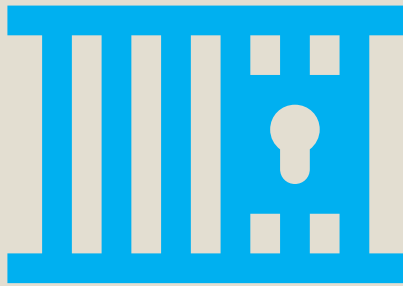# Notice the uniqueness and alignment to mission

That could be you!

MAC is 10 years into the journey…

Where could you be in 10 years?

You could have a Smart Open Source facility like MSP

Smart Correctional Facility

- "…the Department of Corrections demands safer, more comfortable and sustainable environments. Meanwhile…the funding is just not available, forcing administrators to look for innovative solutions to reduce energy costs, relieve deferred maintenance issues and improve infrastructure without the use of taxpayer dollars." - *Lowery*

- "With the use of the [mobile device], the staff has the ability to operate in any portion of the facility and will no longer be tied to a specific geographic location…Operational flexibility is what it provides." - *Mashburn*

Smart Prisons

- *Drone Detection*
- *Perimeter Protection & Notification*
- *Illegal Cell Phone Usage*
- *Video Surveillance Monitoring*
- *Access Control*
- *Lighting Control*
- *Climate Control*

Smart Offices

Predictive maintenance

Wayfinding

Push notifications

Workflow optimization

Data analytics

Climate Control

Energy Efficiency /
Water Efficiency

Asset Protection

Preservation

Resource Reuse

Educational Data
Sharing

Smart Building Technology in Historical buildings

Smart College & University Campuses

SPACE UTILIZATION

ENERGY EFFICIENCY, WATER EFFICIENCY, COST ALLOCATION & ANALYTICS

TECHNOLOGY – CLASSROOM & STUDENT USE

LABORATORIES, CLASSROOMS

SECURITY

RESIDENCE HALLS

Independent Systems Operate with Singular Objectives – Not Smart!

Wireless Devices

Fire Alarm

Energy Management

Audio Video

Lighting Control

HVAC Control

Structured Cabling

Access & Surveillance

What is a Smart Building to us?

- Platform-centric
- Systems are assets not liabilities
- All systems are interoperable
- Resource and operating efficiencies
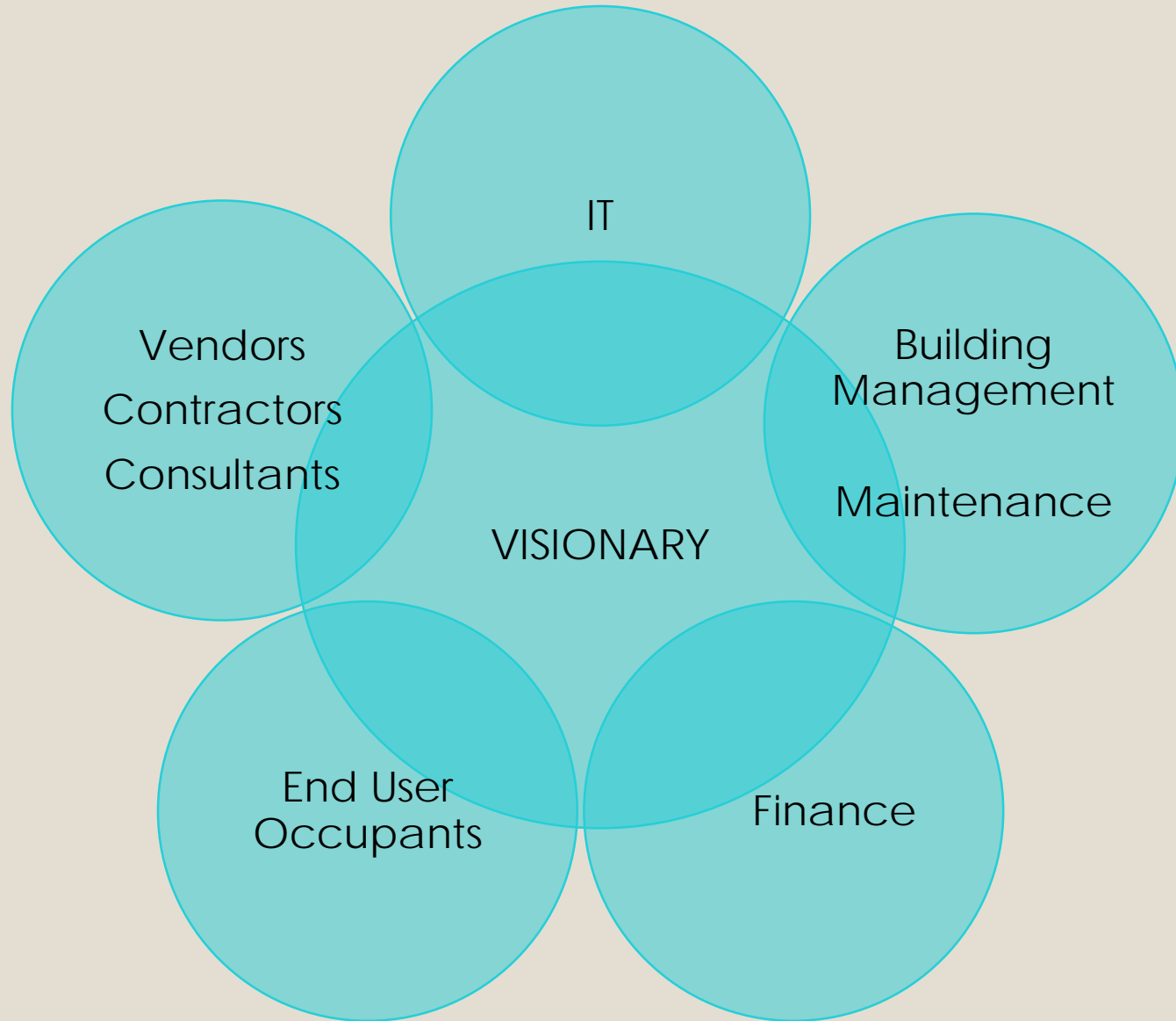- Open systems

Assembling a Smart Building Team

The Process

1. Identify vision and desired outcome
2. Identify internal stakeholders
   a. Understand each's needs and goals
   b. Gather priorities and input
3. Develop project metrics and specific goals
4. Identify skills and services needed

The Dream Team

Working Together

SYSTEMS

- Systems work together

- Depend on each other

- Individual expertise

TEAM

- Teams work together

- Depend on each other

- Individual expertise

The Dream Team - Vendor

- Reputation
- Excellent performance record
- Safety
- Open source
- Long-term relationships

Dream Team - Vendor

Invested in vision

Important to do well while doing good

Ethics & integrity

Response time

Risk management & mitigation

Team depth

The Dream Team - Manufacturer

- Open source lines
  - Non-proprietary
  - You can fire them
- Certification for vendors
- Premier partnerships
- Innovative
- Training & support

The Process

1. *Identify vision and desired outcome*
2. *Identify internal stakeholders*
   a. *Understand each's needs and goals*
   b. *Gather priorities and input*
3. *Develop project metrics and specific goals*
   a. *What do we have in place today?*
4. *Identify skills/services needed*

5. **Refine vision with input from partners**
6. **Implement, fund and Commission the plan**
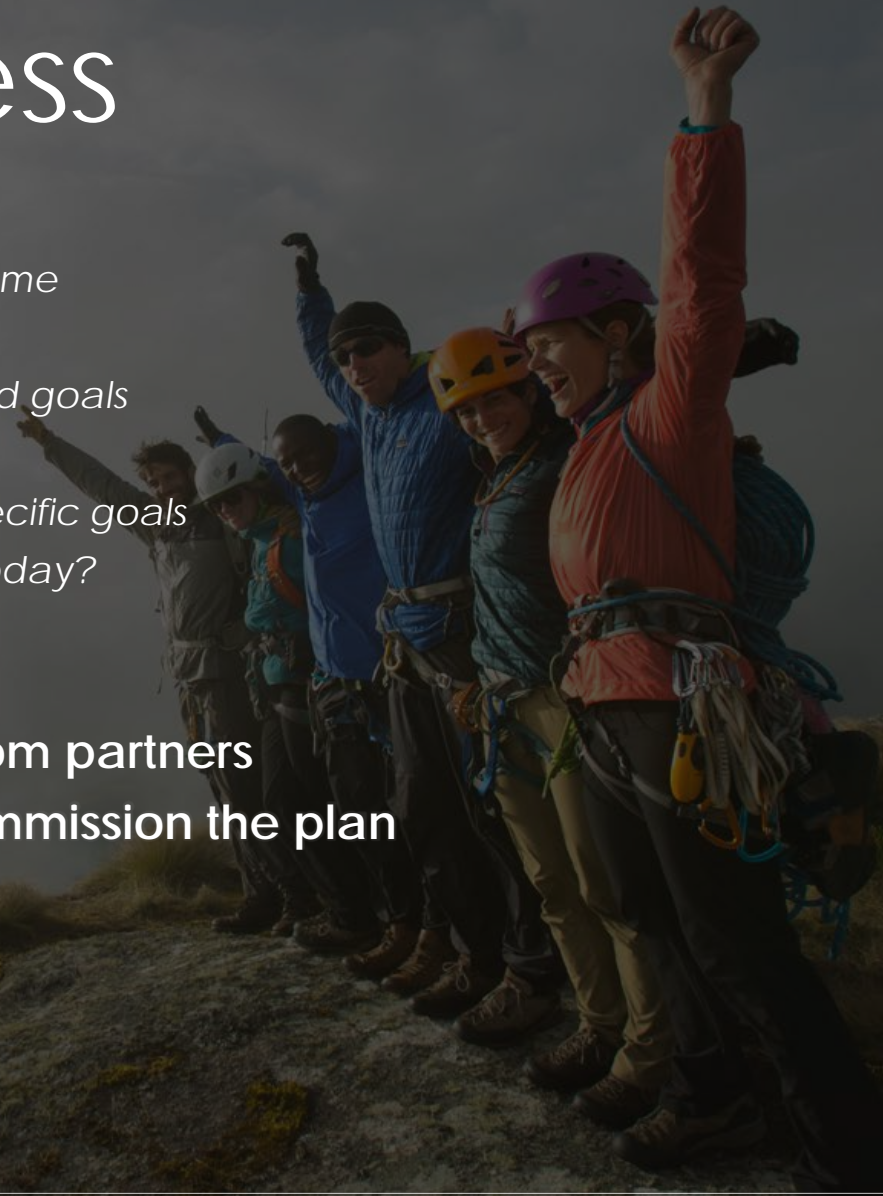
That could be you!

You may have systems that are expiring…

How will you leverage that opportunity

To make your building Smarter?

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Where could you be in 10 years?

Q & A

Thank you!