1

Creating a Consistent User Experience at Scale

-Jim Maltese, CTS-D, CTS-I, CQD, CQT
VP of Quality Standards
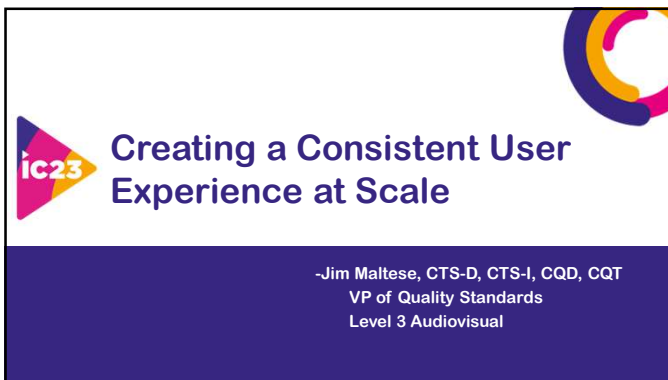Level 3 Audiovisual

2

The "Why"

3

The "Why"

VS

4

The "Why" (User Remix)

VS

5

What if I told you AV systems could be:

Globally managed as one "AV Program"

Designed accurately, quickly, and inexpensively

Deployed completely and consistently

Easily managed and maintained

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How?

1. Manage Global AV as one AV Program

2. Create catalog of standard systems

3. Leverage a single quality management system

4. Implement a maintenance/management plan

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One AV Program to Rule Them All!

- Accountability
- ROOM Information
- Roadmap Planning
- Vendor Relations
- Std Catalog/POC
- Risk Management
- Cost Management

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Polls

Let's get to know each other

9

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What type of organization are you representing?

ⓘ Start presenting to display the poll results on this slide.

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Are your rooms consistent from site to site?

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11

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Once turned over to the users, are managing your systems centralized and "easy"?

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Do you have a process in place where an improvement or change in system design/configuration/operation could be easily distributed to all AV stakeholders?

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Curated Catalog of Standards

- **Reviewed Often**
- **POC**
- **Rapid Estimation**
- **Consistent Offerings**
- **Global management of design & installs**
- **Build user trust**
- **Improve MFG relationships**

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Standards Demo

- Create a quick design for a four-person huddle room (4m x 4m), furthest participant is 3m away from wall:
  - Display
  - Mount
  - Camera
  - Microphone
  - Loudspeakers
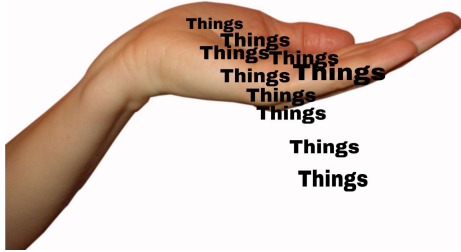 - Touch Panel
  - Scheduler

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Variance: Who went with:

1. ZR, MTR, BYOD?
2. All-in-One or Separate Kits?
3. Manufacturers?
   1. Display?
   2. Mount?
   3. Camera/Codec/Mic/Spkr?

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Things get out of hand quick!

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Standards Samples

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Accessible User Training

30% of Service Calls are User Error/ Poorly trained users
Every system needs:
- User Guide
- Periodic User Training
- Easy access to system information
- Handoff to Serv/Supp

"An ounce of prevention is worth of pound of cure!" – Bennie Frank

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How do your users access operational information about their systems now?

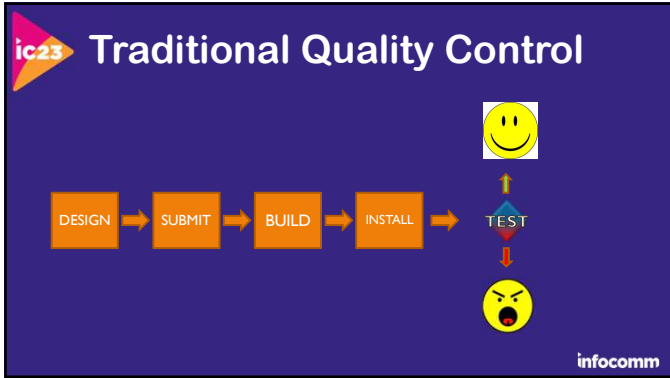ⓘ Start presenting to display the poll results on this slide.

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Quality Management/Assurance

- **AV9000**
- **Iterative Testing**
- **Used by all**
- **Audited**
- **Confirms Design, Install, Training, Docs**
- **Consistent XP**

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Traditional Quality Control

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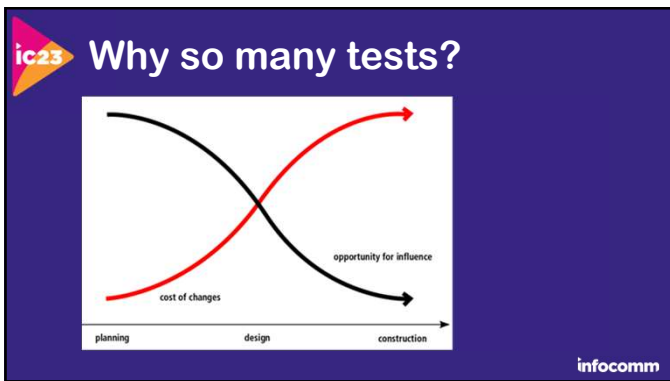## AV9000 Quality Assurance

23

Why so many tests?

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**Top 5 Risks:
No Design Review**

25

#1: Incomplete Design Package

- Incomplete design gets passed down line
- Decisions are filled in by anyone
- Often way down the line, far removed from client
- Who do you want making design decisions?
  - Experienced designer
  - New tech on the job
  - Users

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#2: Missing/Wrong Equipment

- BOM never reviewed
- There may be critical or frustrating pieces missing
- May not be able to issue CO for change
- Lost profits and project delays

#TheWrongTool

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#3: Poor Performance

- If the design isn't reviewed, it might not deliver what the client expects

- Feedback on audio system
- Too hard to read material on screen
- Poor audio coverage in space
- Terrible contrast on projector screen
- Etc.

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#4: Lack of Coordination

- Missing floor boxes
- Missing power/data when walls are up
- Need to re-do construction
- Equipment overheating

- Very expensive

- Client has to choose between
  - Very expensive fix
  - Live with a poor installation

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#5: Small Changes = Big Problems

- Designs "evolve" with lots of small changes

- Each small changes needs a review

- Small changes can have HUGE impacts

small change, big difference

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Top 5 Risks:
No Staging

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#1: Intersystem Communications

- As integrators, we make sure different devices can communicate and function together. This takes time.

- Much better to do it in a controlled shop space

- 3:1 Rule
  - Every troubleshooting hour in a shop environment
  - Would have taken 3+ hours in the field

A FAILURE TO COMMUNICATE

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#2: Firmware

- Devices stay on shelves for months

- Many need a firmware update

- This takes valuable resources

- Doing in the field is a huge waste of resources
  - 3:1 Rule
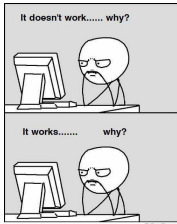 - Limited computer resources
  - Increase time on site

33

#3: DOA Equipment

- Finding DOA equipment in the field adds tremendous time

- Each device should be staged

- Think about time it takes to:
  - Pack up equipment
  - Ship to site
  - Unpack
  - Install
  - Test and realize there's an issues
  - Get an RMA (time wasted in the field)
  - De-Comm
  - Re-pack
  - Re-Ship
  - Get a new device
  - …Lots of time lost

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#4: Unexpected Performance

- Designs and design reviews rely on specifications

- They are not always accurate

- Staging is used to verify the system CAN perform as expected

Advertising.

Reality.

35

#5: Difficult Troubleshooting

- Staging can "certify" a rack
  - So everything inside the rack works

- When the rack goes to the field, and there's an issue, it should only be field cabling
  - Everything else was tested in the shop

- Installs go incredibly smooth

PROBLEM SOLVING FLOWCHART

36

12

Top 5 Risks:
No Commissioning

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#1: Systems Not Tested

- Not all aspects of the system are tested

- Job deemed "complete" but after a month the client notices something
  - A Warranty call is scheduled
  - A month later, something else is noticed
  - Another warranty call
  - A month after that, something else is noticed
  - Another warranty call

- Users never trust the system

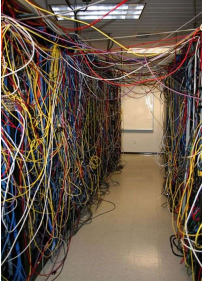- Installers never leave the site

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#2: Poor Audio Performance

- Feedback
- Echo on conferencing
- Poor duplex/double talk on conferencing
- Can't hear microphones
- Uneven audio coverage
  - Aka: "cheap seats"

- Audio systems are supposed to support natural conversations

- "Good enough" is the enemy of "great"

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#3: Poor System Maintainability

- Systems must last 3-7 years

- Eventually something will go wrong

- Updates, maintenance must happen easily

- Systems need to have
  - Consistency
  - Documentation
  - Accessibility
  - Proper labelling

40

#4: No Trust in System/Tech/Integrator
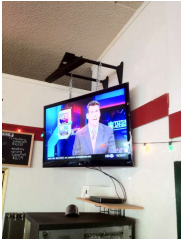
- Large project with no commissioning will lead to endless issues

- Clients will begin to expect systems to fail
  - No trust in technology
  - No trust in integrator

- Warranty calls will happen for things that have nothing to do with the system
  - Client builds habit of calling
  - Integrator submits because they did such a poor job

- Not good for client relationship

THE LIST OF PEOPLE

I TRUST

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#5: System Deployed by Hobbyist

- AV needs more respect among the Construction Trades
  - Competing with engineered systems and Amazon-culture

- Installation must meet codes, specs, and expectations

- Without commissioning, it looks like "someone's cousin" installed the system
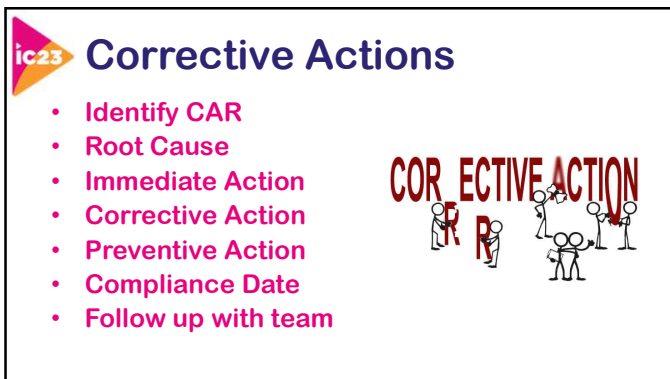
42
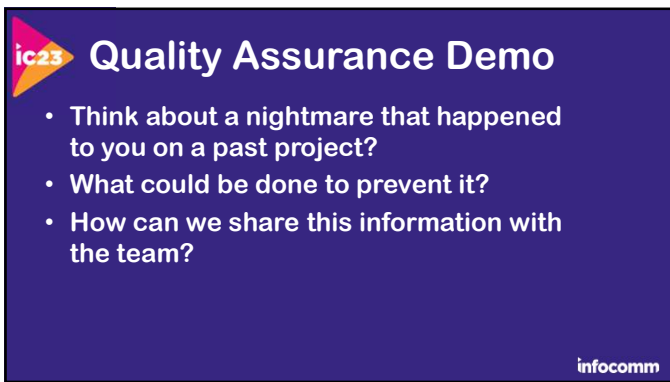
Quality Assurance Samples

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Quality Assurance Demo

- Think about a nightmare that happened to you on a past project?
- What could be done to prevent it?
- How can we share this information with the team?

infocomm

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Corrective Actions

- Identify CAR
- Root Cause
- Immediate Action
- Corrective Action
- Preventive Action
- Compliance Date
- Follow up with team

CORRECTIVE ACTION

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Monitor, Manage, & Maintain

- **RMM for all systems**
- **Effective remote support**
- **Preventive Maintenance for Critical Systems**
- **Usage Analytics with Manager Review**

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Preventive Maintenance (PM)

- Interview
- Function test
  - Yes, even that thing that no one ever uses
- Commissioning-Lite
- Document Visit/Exec Summary
  - Review database yearly to look for trends
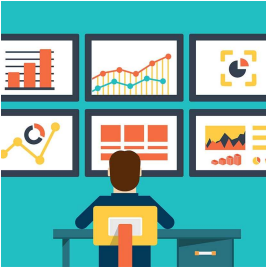- "Re-Commissioning" in the Cx World

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Room Usage Analytics

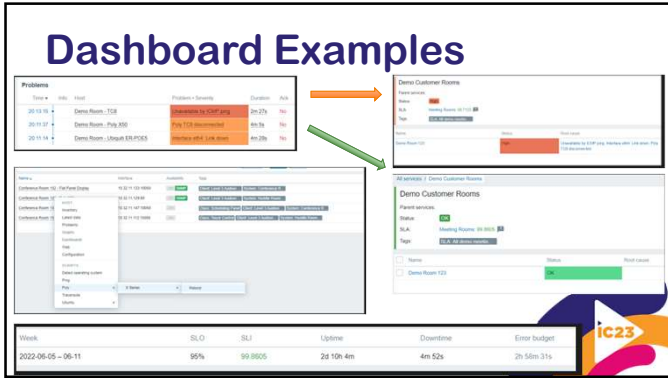**Guessing Conference Space requirements can be costly**

Fairly easy to introduce Analytics

- Start with Baby Steps
  - Room Usage (Use & Capacity)
  - Room Booking Efficiency
  - Source Usage
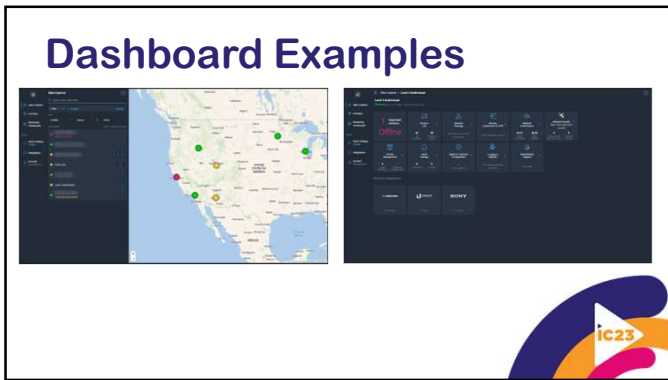 - Service Issues
  - User Experience

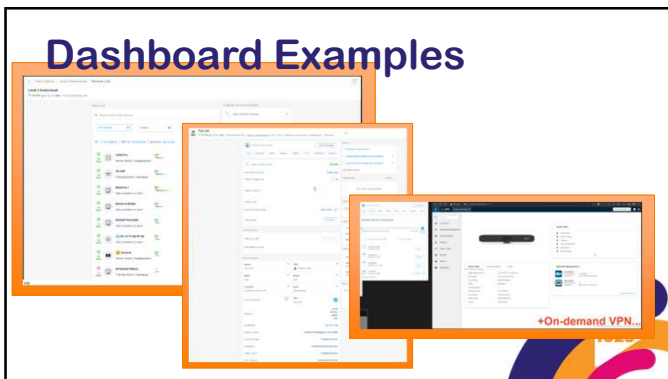**Base decisions on data metrics instead of guesses.**
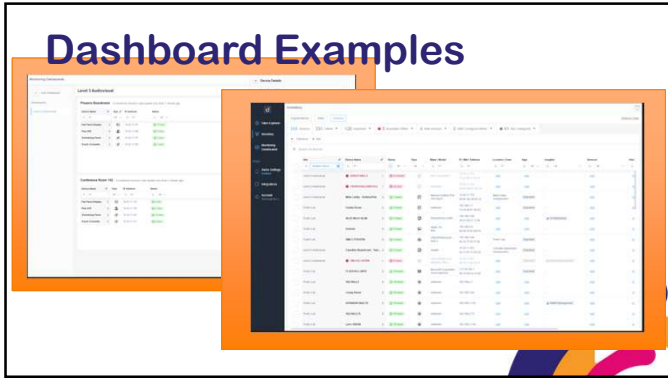
48

49

50

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Dashboard Examples

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RMM Dashboard

- **What is the ideal AV RMM dashboard?**
  - Assets?
  - Uptime?
  - Utilization?
  - User Experience?
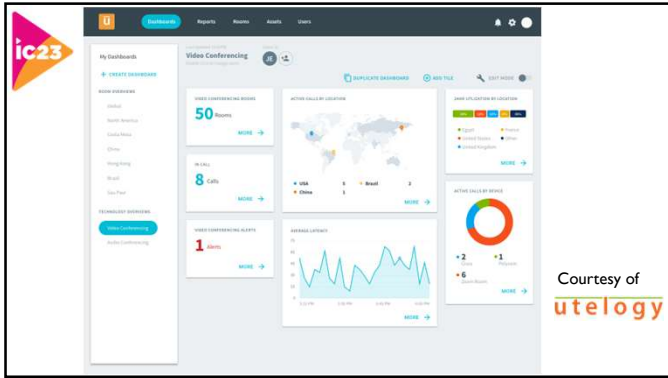- **Keep in mind personas**

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I am most interested a dashboard/KPIs for the following persona:
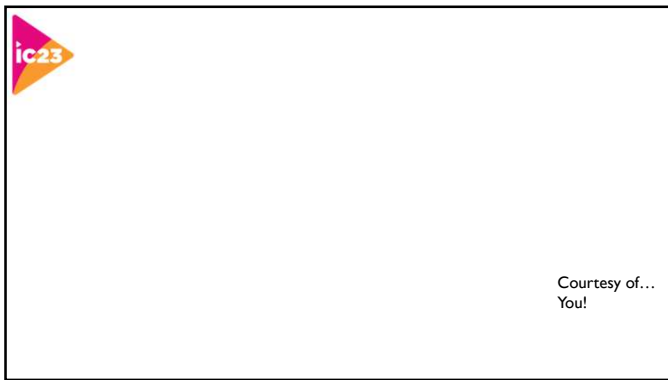
ⓘ Start presenting to display the poll results on this slide.

54

Courtesy of
utelogy

55

Courtesy of…
You!

56

Are your KPIs supported?

Designs must allow for data to be collected

One pane of glass, or multiple services?

Drives importance of standardization and vendor relationships
     Scalability!

Most AV MFGs are terrible at IT

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System Utilization

People Counting:
- **Is it supported?**
- **How do I get the information?**
  - API?
  - Network security?
- **How do I compile the information?**
  - Dashboard?
  - Control system?
  - SaaS?

E70

SPECIFICATIONS

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Customer Satisfaction (CSAT)

User Survey:
- **Is it supported?**
  - Not in pre-baked TPs
- **How do I get the information?**
  - Custom UI?
  - Network permissions?
- **How do I compile the information?**
  - Dashboard?
  - Control system?
  - SaaS?

How was your call today?

What could we improve?

SEND RATING

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What is required?

Documentation	Strategy/Design	Training
• Complete documentation	• Equipment that supports monitoring	• Trained Technicians
• Equipment Inventory	• Software	CTS, CTS-I, CTS-D
• System Drawings	• Services	CQT, CQD
• Network Schedule	• Key relationships	
• Login information	• Feature roadmaps	• Trained Users
• File per room		
• Not per project		

60

But it costs to much money!

It is already costing you money
- Support Techs for "fire drills"
- Renting new spaces/equipment for events
- Expediting Service and Equipment
- Overtime Labor/ Supervision/ Security
- Other Hidden CoPQ

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I just told you AV systems could be:

- Globally managed as one "AV Program"
- Designed accurately, quickly, and inexpensively
- Deployed completely and consistently
- Easily managed and maintained

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Your Mission

Pick one aspect, and try it:
- **One AV Program**
- **Standard Systems**
- **Quality Assurance**
- **Maintenance Plan**

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