

# Producing Multi-Camera Events

for broadcast quality live streams

**NABSHOW**  
Where Content Comes to Life



# About the Instructor

- Began career in NYS Senate TV
- Worked in agency world for 5 Years
- Founded DDW in 2004
- Produced 1<sup>st</sup> multi-cam live stream in 2006
- Provides full-service live production today



# What we'll cover

- Live production formats
- Live-to-drive vs. live streaming
- Building a live production team
- Choosing the right tools for the job
- House sound vs. broadcast sound
- Maximizing your production budget

# Multi-Camera Formats

1. Conferences and Meetings
2. Talk shows
3. One-on-one interviews
4. Music, theater, sports +more



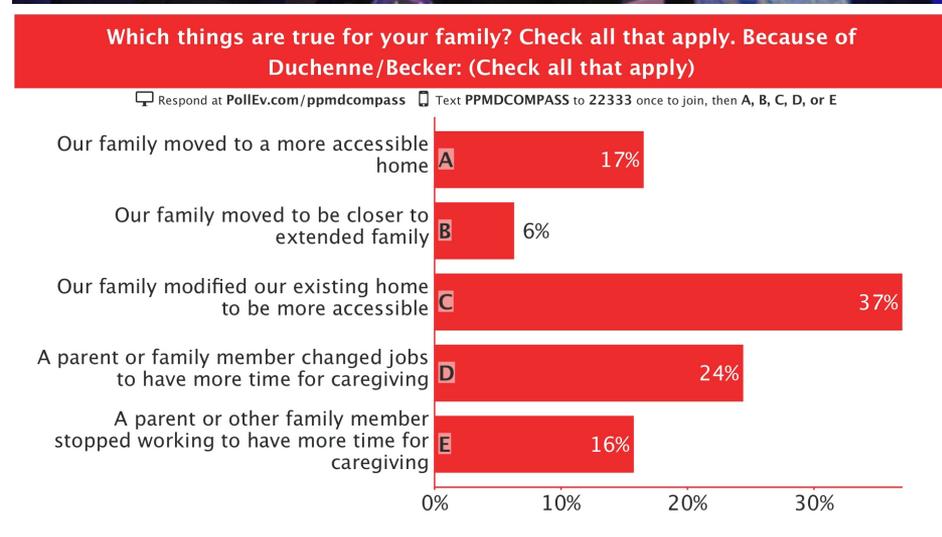
# Conferences & Meetings

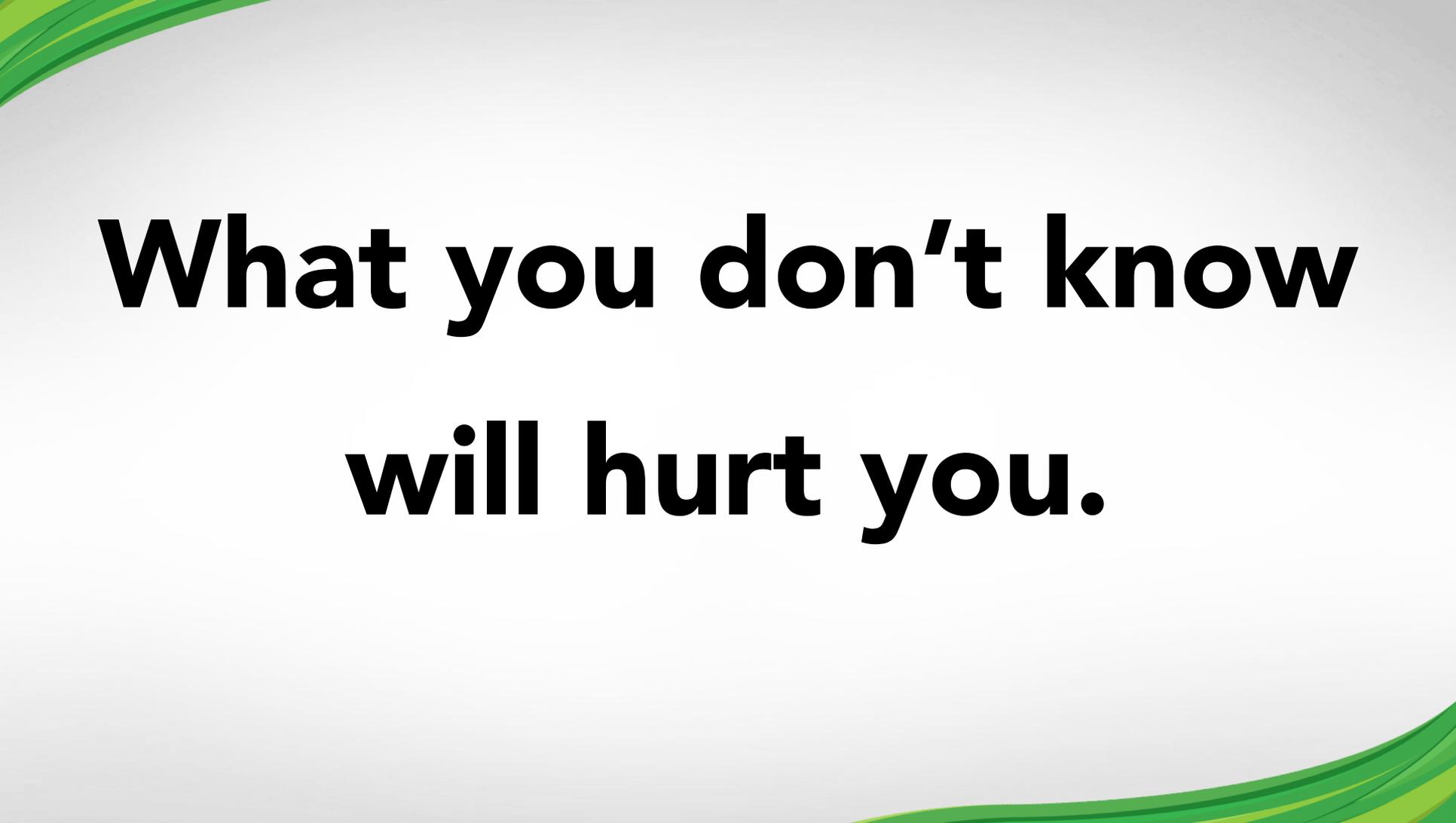
# Conferences & Meetings

- Conducted in hotel or meeting spaces
- Address or panel discussion focused
- Broadcast is not the only focus
- Working in tandem (or around) A/V
- Requires integrating into event workflow
- Planning and logistics determine success

# Conferences & Meetings

- Live switch or edit in post?
- How many cameras are required?
- What's your recording strategy?
- Can you achieve the right positions?
- Are your lenses long enough?
- Do you need more than house lighting?





**What you don't know  
will hurt you.**

# The Pre-Event Site Survey

- Initiate venue communication *ASAP*
- Check power drops and circuits
- Develop camera/lighting plan
- Determine an audio strategy
- Connect with IT early if live streaming

House sound  
is different from  
broadcast audio





# Talk Show & News Formats

# Talk Show Productions

- Conducted in studio or on location
- You control the set and the workflow
- Conversational with a host (teleprompter)
- Three matching camera minimum
- Lighting and set design required
- Sound engineer/recordist needed



**SPORT: BIATHLON**  
**SCHOOL: IDAHO VIRTUAL ACADEMY**

**ARIANA WOODS** AGE 18



WINTER OLYMPICS

# One-on-One Interviews



# One-on-One Interviews

- Conducted in studio or on remote location
- You control the set and the workflow
- Interviewer and subject are on-Camera
- Two matching camera minimum
- On-the-fly light, sound and set design
- Can be delivered in full or cut-down





# Live-to-drive tips

- Have a camera sync workflow established
- Sound is just as important as picture
- Pick-ups are OK... if you do it right
- Nobody ever regrets redundancy
- Bridge the divide between field and post
- Trust and follow your process



# Live Switch and Streaming

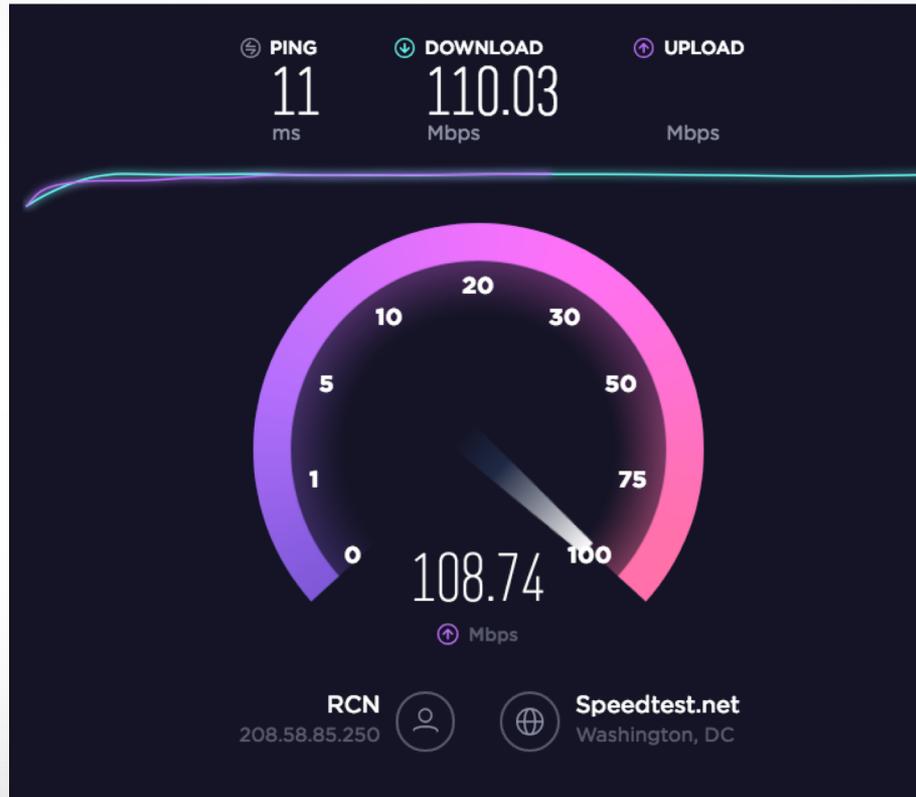
# Broadcast and streaming tips

- Invest in pre-production and a strategy
- Pre-build as much as you can
- ID your shot caller & let them drive
- Synchronize camera, sound and GFX
- Have a means of crew communication
- Follow your process, but be flexible

# Speed Kills

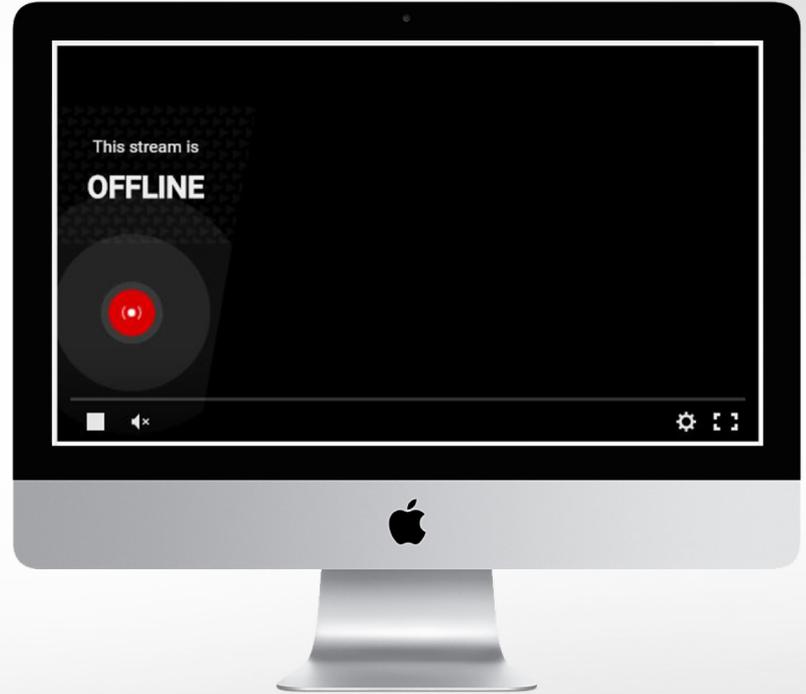
- You're only as good as your connection!
- Don't make any assumptions!
- Bring IT into the fold from the start!
- The bigger the pipeline, the better!
- Test location upload speed repeatedly!

# Speedtest.net



# The Recipe for Failure

- Lack of Preparation
- Incompetence
- Inflexibility
- Complacency
- Cutting Corners





# Switching & Encoding Hardware



TriCaster TC1  
with TC1LP  
(4K 60p Capable)



# Switching & Encoding Software



Wirecast





**What's the best  
solution?**





**It's only time  
and money.**



# DIY Multi-Camera Model

## Edit in post

- Utilize safety lock down camera positions
- Isolate audio tracks
- Envision the final product during recording
- If unsure, get multiple takes

# Mid-Tier Multi-Cam Model

## Live switch and stream

- Technical Director
- Camera Operator (1-3)
- Audio Engineer
- Stream Tech / Utility Infielder

# Enterprise Productions

## Big Spender Model

- Producer/Director/Floor Director/TD
- Camera Operators (4+)
- Lighting Director/Gaffers/Grips, etc.
- Dedicated Audio Engineers
- Front & Backend Stream Support
- and many more...

# Finding a Balance

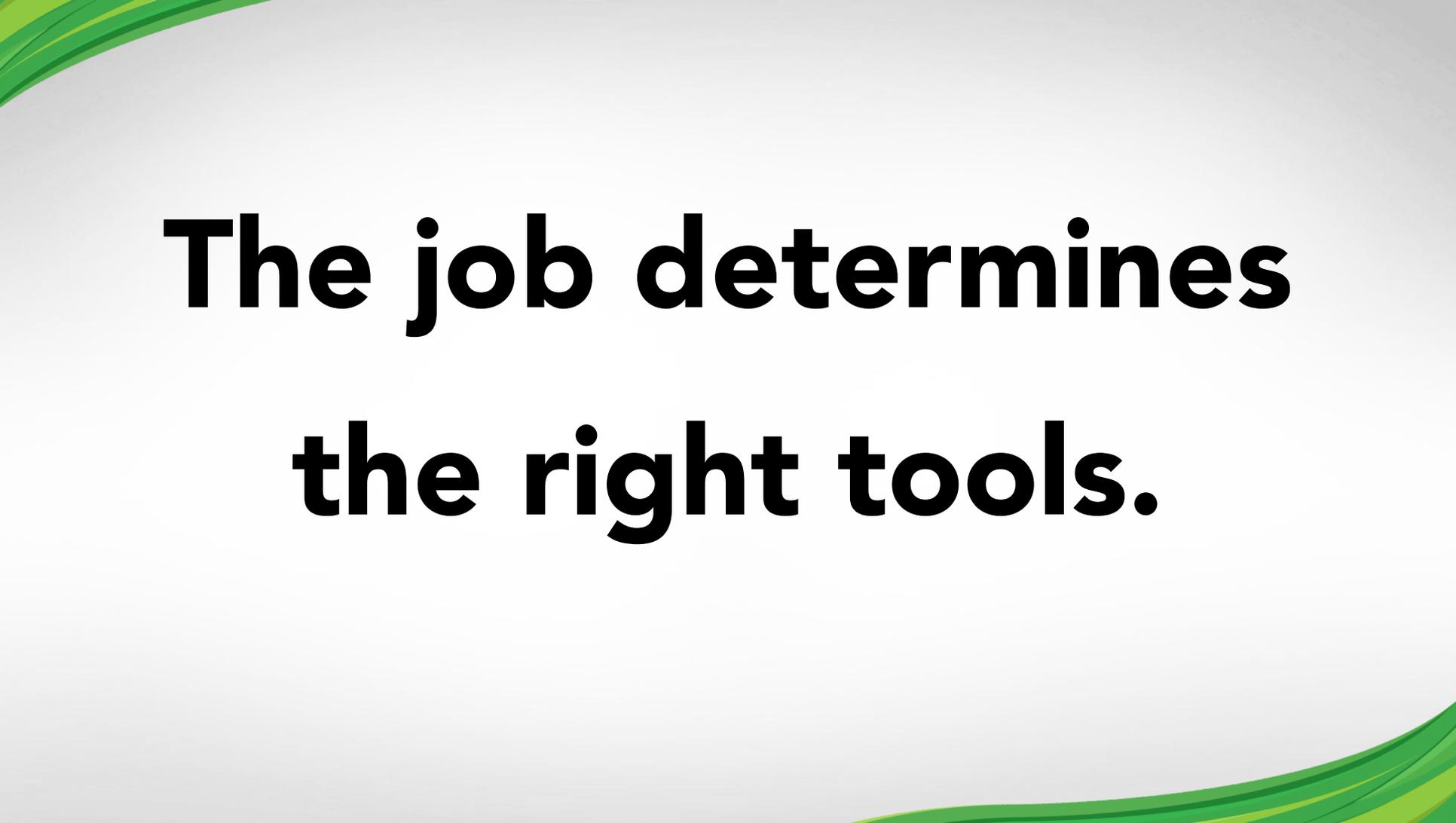
What's the scope and budget?

What's the deadline?

Risk vs. reward?

Production complexity vs. project goals?

Do you have the talent and tools to execute?



**The job determines  
the right tools.**

# Building Your Toolbox

## Camera Requirements

- Resolution – 480p, 720p, 1080p, 4K?
- Format – NTSC, PAL or both?
- Outputs – SDI, HDMI or both?
- Servo Zoom or DSLR Lenses?

# Building Your Toolbox

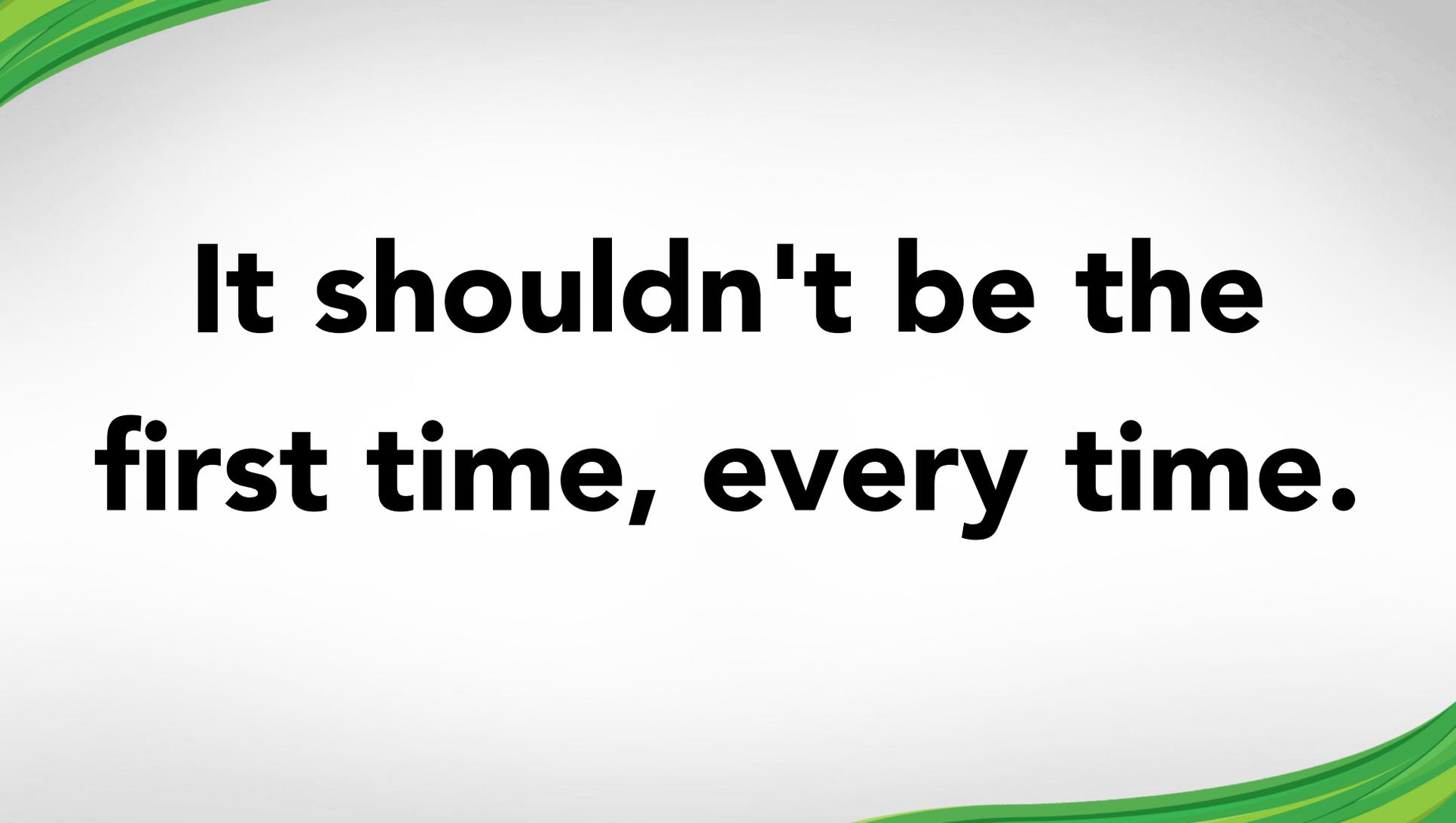
## Lighting Requirements

- Tungsten, daylight or variable?
- Wattage - short or long throw?
- Incandescent, fluorescent, LED or HMI?
- Grip and electrical support?

# Building Your Toolbox

## Sound Requirements

- Field mixer or console?
- Analog or digital?
- Lavs, headsets or handheld?
- Wireless or cabled?



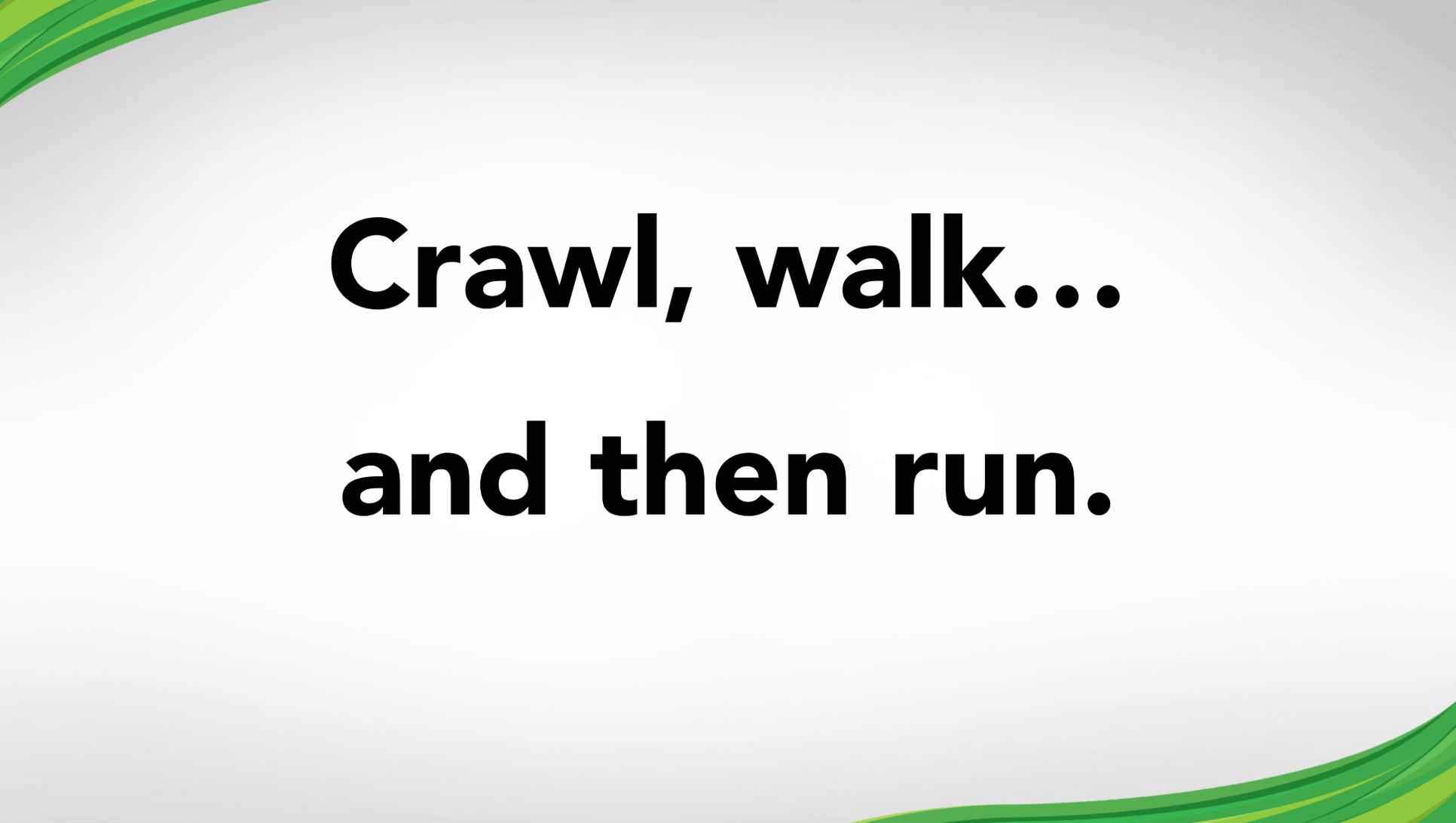
**It shouldn't be the  
first time, every time.**

# Live multi-cam is all about...

1. Shaping/managing expectations
2. Creating an executable strategy
3. Aligning all the moving parts
4. Foreseeing potential problems

# Live multi-cam is all about...

5. Having solutions at the ready
6. Delivering on your promises
7. Having the right partners
8. Trusting/following your process



**Crawl, walk...  
and then run.**

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