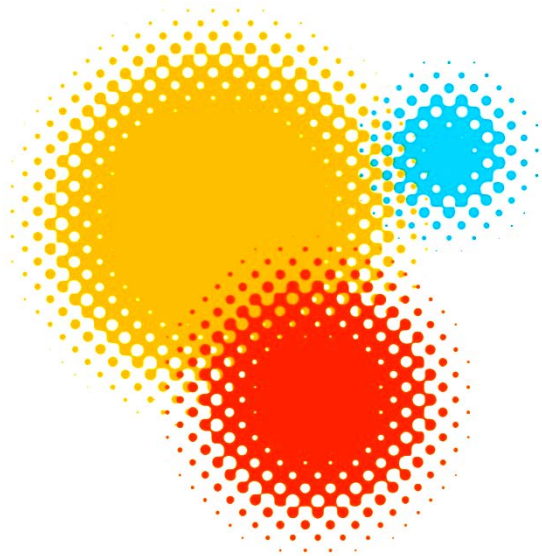
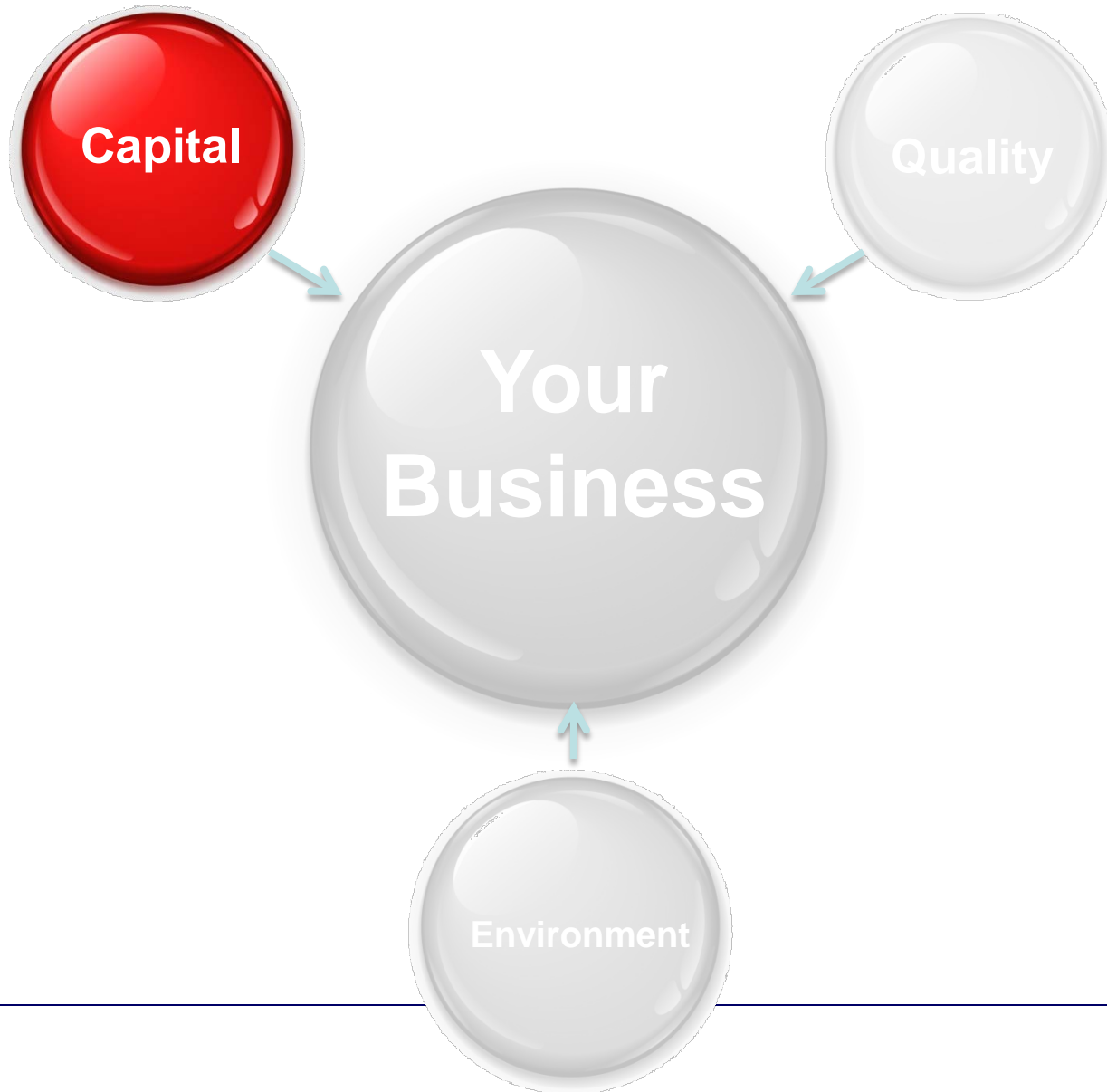


FPPA Presentation

Challenges and Choices









Capital Challenges



Capital

- Technology
- Existing Equipment
 - Analog Liquid or Sheet
 - Cost and waste stream
 - Obsolete film processing equipment
 - Size limitations
 - Requirement for I-Plates
 - More converters are requesting
 - Hi Speed Presses
 - » Lower Weight
 - Driven by CPC's



Capital Challenges



Capital

- Technology
- New Equipment
 - Digital
 - Cost
 - Upgrade path
 - Analog
 - Silver film
 - No new silver equipment
 - Non-silver options
 - Ink Jet Film
 - » Eliminate darkroom space



Balancing Capital



Capital

- Digital
 - Dots
 - Flat-Top, HD or both?
 - Cost v. Benefit
- Analog
 - Liquid or Sheet
 - New Enhanced Equipment
 - LiquiFlex Design
 - One Button Thickness Change
 - Utilize systems in place
 - I-Plate demand
 - Film Requirements
 - New Ink Jet capabilities









Quality Challenges

A large, yellow, circular button with a 3D effect and a white border. The word "Quality" is written in white, sans-serif font in the center of the button.

Quality

- Increased Quality Demands
 - High Speed Presses
 - “Low mass” plates
 - Decreasing Board Quality
 - Increased Fluting
 - Color and Graphics
 - Solids and screens
 - New Dot and Screening Requests
 - Flat-Top Dots
 - HD Screening



Quality Challenge



- Materials
 - Digital
 - Flat-top dots
 - HD, Surface Cell?
 - Solvent use
 - Analog
 - Liquid or Sheet
 - Solvent issues
 - Film requirements
 - Silver, Ink Jet or Ablative
 - Cost and equipment



Balancing Quality Requirements



- Digital
 - Quality issues with process corrugated print
 - Fluting
 - Flat-Top Dot Technology LUX®
 - Low additional capital
 - Use only when required
 - Helps eliminate fluting
 - Enhances corrugated as well as thin plate





Balancing Quality Requirements

Quality

- LUX
 - Simple Lamination step
 - Before exposure
 - Enhances HD
 - Better surface cell patterning
 - Type High Highlights
 - Membrane 200
 - Plate Surface Modification
 - Solvent or Thermal
 - Same Process Thick Plates or Thin





Balancing Quality Requirements

Quality

- **Analog**
 - Quadra Ink Jet Film Technology
 - New Printer
 - Better Skew control
 - » Much improved registration
 - Improved screen line counts
 - Up to 110
 - Improved Films
 - Opens Reverses in Plate
 - Water proof
 - Scratch resistant
 - Improved Inks
 - Storable Films





Balancing Quality Requirements



- **Analog Liquid**
 - New Photopolymers
 - 25 Durometer LTL
 - New softer cap for corrugated
 - Can give wear resistance
 - Equipment Upgrades
 - Dual resin reclaim
 - Capping
 - Masking box
 - Bulk polymer packaging
 - Exposure unit retrofit/upgrades
 - Processing Equipment Upgrades

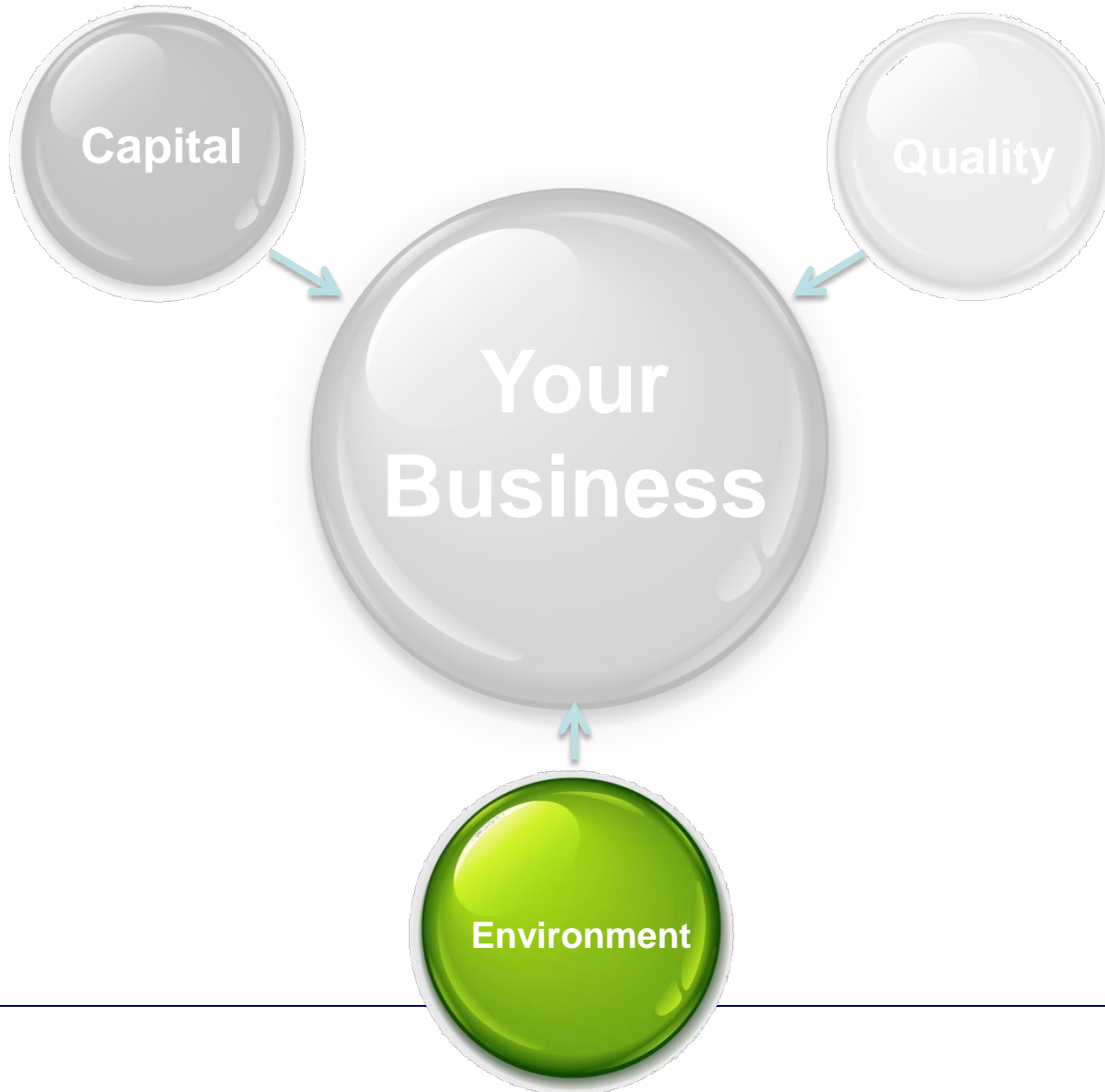


Balancing Quality Requirements



- **Analog Sheet**
 - New Solvit®M100
 - Faster Wash Rate
 - Faster Dry
 - Low Odor
 - No Balancing
 - Only Virgin Add Back







Sustainability Concerns



- W W W
 - Whatever WalMart Wants
 - Drives CPC demand
- Government requirements
 - VOC's
 - Permit required
 - Heavy Metal Disposal
 - Added Cost
- Good Stewardship



Balancing Sustainability Requirements



- Ink Use Reductions
 - Studies in progress
 - Using membrane 200
 - Lower anilox volumes
 - Faster press setups
- Thermal Plate Technology
 - No Solvent processing
 - No VOC's
 - Now up to 5080 plate size
 - Intro this summer



Balancing Sustainability Requirements



- Liquid Photopolymer
 - Water Wash
 - Reclaimable
 - No VOC's
- In-Position Plate
 - 50%+ reclaim of resin
 - Can eliminate PVC mounting
 - Less waste down stream
- New Large Equipment
 - Productivity Upgrades



Balancing Sustainability Requirements



- Quadra Ink Jet film
 - No chemical development
 - No handling
 - No disposal
 - No added cost
 - No silver recovery
 - Classified by govt. as hazardous





Balancing Sustainability Requirements



- Bulk Packaging Options
 - Reduction of packaging materials
 - Recyclable Bulks for Sheet
 - New Totes for Liquid
 - 1200 lb containers
 - Automatic resin systems
 - Pump from tote and reclaim unit
 - » Keeps correct blending
 - » Improves productivity







Thank You