

The image features two digital models standing in a field of cotton plants. The model on the left is a Black woman with her hair in a bun, wearing a white short-sleeved blazer over a white top and a white skirt. The model on the right is a white woman with her hair in a bun, wearing a light blue off-the-shoulder crop top and a light blue skirt. The background is a lush field of cotton plants with green leaves and white cotton bolls. A semi-transparent grey banner is overlaid across the middle of the image, containing the text.

DIGITAL PROTOTYPING

DPC Best Practices



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Webinar Support



Type your questions using the Q&A feature at any time during the webinar.



A recording of this webinar will be available on cottonworks.com.

Today's Speakers



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Digital Product Creation Best Practices

The goal of this webinar is to improve the understanding of how Digital Standards and their Implementation can assist in creating Best Practices in Digital Product Creation (DPC) workflows and business processes.

The most efficient approach to developing digital products is to set long term strategies, catering to both current and future technology requirements.

This approach can empower brands to recognize present technology limitation while factoring in future design and business goals when making decisions.

Digital Product Creation

- **What** are some Best Practices in DPC.
 - Creating Standards
 - Engaging Stakeholders
 - Implementation across the DPC Process
- **Why** should we use them?
 - Consistency
 - Building for the Future
- **How** do you get started?

Setting Standards

Setting Standards

- Consider End Use (Internal or Consumer Facing)
- Set Standards
 - Digital Fabric Standards
 - Avatar Standards / Sizing
 - Sewing standards
 - Render Standards
 - Lighting/Export Standards

End Use

Internal

Low Res

Merchandising

Sales

Line Sheets

Consumer Facing

High Res

Highly Detailed

Scanned Fabrics/Textures

PBR/Export Ready

Digital Fabric Standards

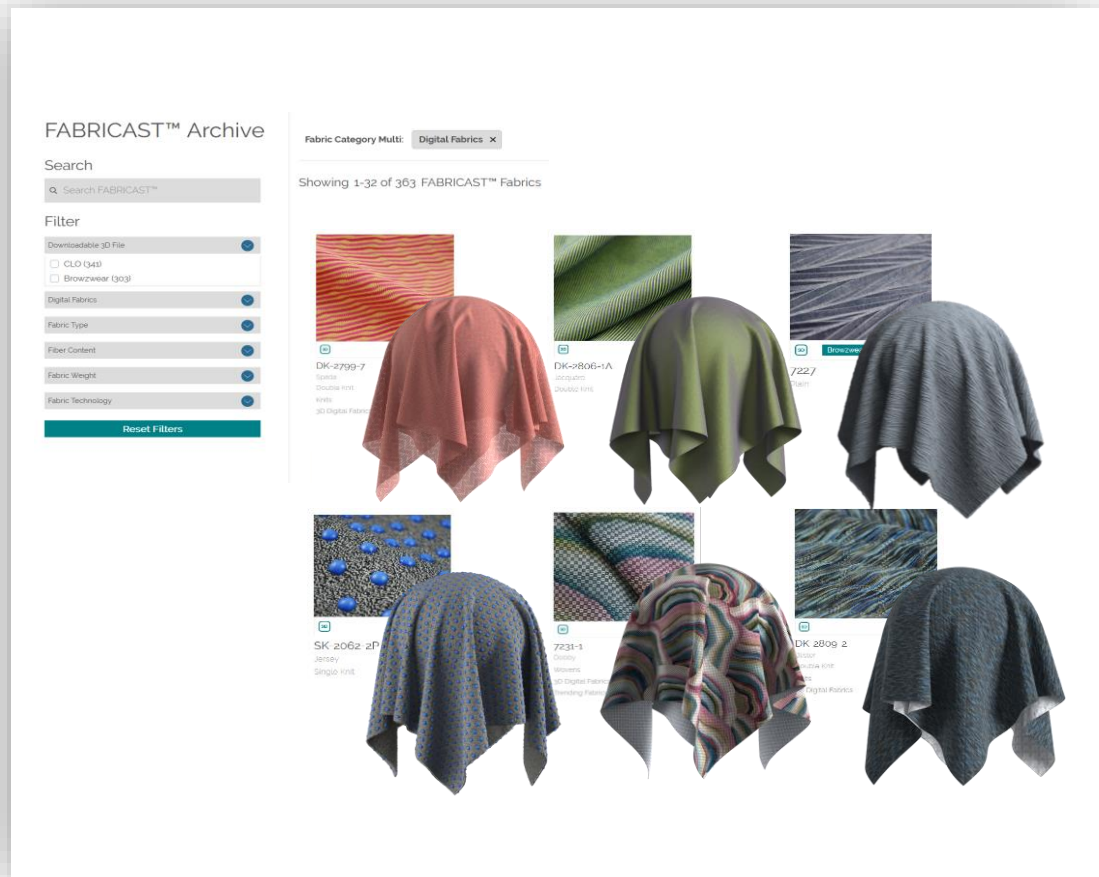


- Scan Materials Using the Same Technology
- Creating Naming Conventions
- Categorize Fabrics by Weights:
 - Light
 - Medium
 - Heavy
- Establish Material Libraries
 - Core/Foundational
 - Seasonal
- For Late Adds: Substitute with the closest match until material is approved

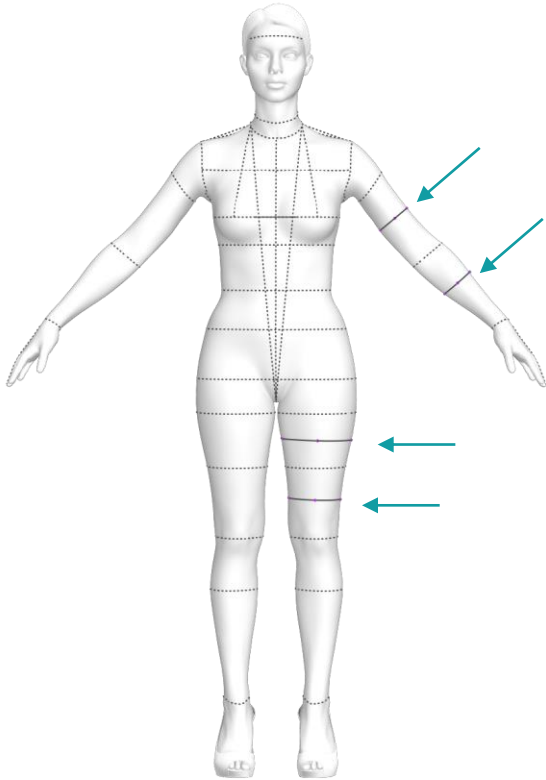
CottonWorks™ Resources

Digital Fabrics

- Over 300 inspirational cotton & cotton-rich fabrics
- Compatible with CLO3D & Browzwear (.zfab & .u3ma)
- Everything 2021-1 and later is physical + digital wherever possible



Avatar Standards



- Create a Digital Twin of your brand's physical fit form.
- Share Digital Twin with suppliers and design teams.
- Custom mark avatars w/brand specific measurement standards.
- Establish a graded size range.

Digital to Physical

Build Translation Knowledge

Property of © Cotton Incorporated

- Always analog to start!
- Perfect the paper pattern.
- Build 3D version.
- Study the translation.
- Continue this process to build trust and confidence.



Physical Dress



3D Digital Dress

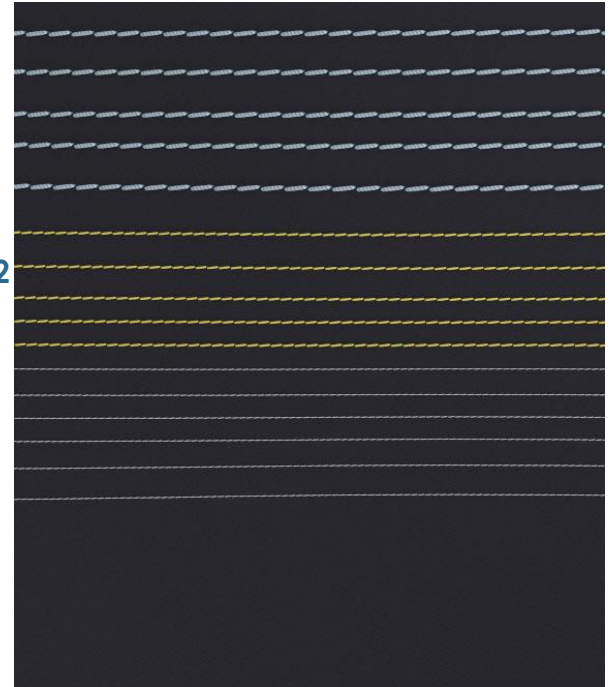
Sewing Standards

- Build 3D assets to manufacturing specs.
- Stitches.
- Seam constructions.

Tex 200 / SPI 6

Tex 100 / SPI 12

Tex 40 / SPI 20



Sewing Standards

More Detail = More Time = Larger File Size



Elastic Waist: Poor
1 Layer fabric
Elasticized Stitch
Particle Distance: 10



Elastic Waist: OK
2 Layers fabric
Elasticized Stitch
Particle Distance: 10



Elastic Waist: Best
3 Layers fabric
Elasticized Stitch
Particle Distance: 5

Render/Lighting Standards

- Consistency in output is key.
- Create your own setting preferences.
- Share settings with partners
- Outsource lighting standards.



Standards Summary

- End-Use: Lo-Res vs Hi-Res
- Control Quality and Output within Teams and External Vendors
- Upfront Time Investment Pays Off
- Long-Term Success and Consistency

Implementation

Strategic Planning

Getting Started in 3D



Key Challenges in Adopting 3D Prototyping

Company Internal

Leadership: Need support from upper management to help change culture and invest in budget, time, and staff.

Change in Culture: All divisions within Brands need to integrate 3D technologies for a successful transition. Creating strategic plan to move forward.

Examples:

- Moving away from physical samples to 3D assets
- Team integration: Technical Design, Fashion Designers, Sourcing, Merchandizers, and Sales Team

Vendor capability: Not all mills/garment vendors have upgraded to 3D technologies.

Training – Internal teams need time to calibrated

Cost – Upfront cost and budget

Technical

Technology Islands – No standardization and technologies are proprietary.

Digitized Fabrics: very little link between Fabric Design Software and 3D Fabric Technologies.

- Limited in showing : Textures, Fabric After Treatments, Large Repeat Sizes (limited to scanning capabilities)

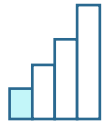
Color:

- Not all computer monitors are calibrated
- Colors matching is not 100% accurate

Fit: Simulations can give an estimate on fit, but not 100%

Memory Size

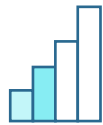
4 Stages in the Industry



The Curious

Has not started using 3D Programs

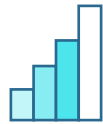
100% Use of Physical Samples



The Beginner

Testing 3D internally
Utilized 3D in Marketing or Showrooms

90-100% Physical Samples



The Intermediate

Using 3D Design in Production & Marketing

50% in 3D Designs
50% Physical Samples



The Progressive

Advanced in 3D
Looking at Generative AI

10-20% Physical Samples

Strategic Planning: 3D Implementation

Scaling for Efficiency



Team Effort

- Everyone on the Team needs to work together
- Design, Fit, PD, RM, Merch, & Vendors need to be aligned when creating 3D collection.
- Decision maker & support from Upper Management



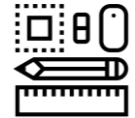
Setting Strategic Goals

- Setting a clear vision that helps to support your entire enterprise from:
 - Design
 - Sourcing
 - Merchandising
 - Sales
- New skill sets across the brand are important to measure along the way



Time Management

- Take the time to adapt to new technologies
- Level set
- Start easy to have big wins to influence enterprise partners
- Set goals to where you want to be and adjust calendars to reflect process

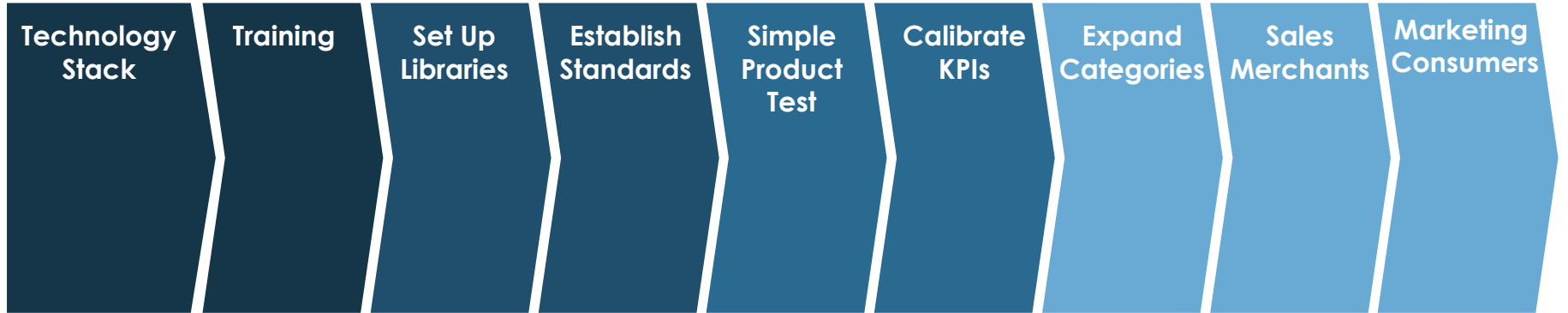


Having The Right Tools Tech Stack

- 3D Software
- Material Libraries
- Virtual Fit Forms
- Product Lifecycle Management Systems
- All should seamlessly integrate together

Process Map

Example timeline for implementation



Technology Stack

Training

PLM/PIM/DAM

3D Design Software

Sales/Merchandising Software

- Consider: Security, Integration, Adaptability, Hardware vs Cloud, Ease of Use

Teams:

Technical Design

Design

Product Development

Raw Materials

Timeline: 6 months – Ongoing

Set up Libraries

English Standards

Material Libraries: Core Materials

- **Internal:** Create internal Digitized Libraries
- **Outsource Options:** Fabricast Virtual Libraries and Other 3rd party vendors
- **Timeline:** 3 months – Ongoing

Garment Libraries: Core Block Styles

- **Internal:** Focus on Core Styles
- **Outsource:**
- Customized 3D Core Libraries: 3rd party companies
- Difficult styles: Vendors and 3rd party companies.
- **Timeline:** 3 months – Ongoing

Standards - Uniformity throughout internal and external teams.

Ex: Technical Design, Design Teams, and Vendors/ 3rd Party

- Digitized Material Libraries
- Avatar Standards / Sizing
- Sewing standards
- Render Standards
- Lighting/Export Standards
- **Timeline:** 3 months - Ongoing

Simple Product Test

Calibrate / KPIs

Build Core Library

- Simple items (minimal trims/fabrics)
- Simple tech pack and approval process
- Focus on libraries to make sure all digital assets are available

Calibrate

- Tech gains translation knowledge on a simple product and procedure.
- Quality check with vendors standards.
- Improve on processes and execution (start simple before adding complexity).
- Each team will require learning and calibration.

KPIs: Set key metrics to track.

- Materials savings
- Time/Calendar savings
- Overhead expenses
- Agility response
- Sustainability

Expand Categories

Sales Merchants

Marketing Consumer Facing

Expand Core Library

- Add more core styles to digital product development transition.
- Eventually add fashion skus and more complex items.
- Includes building out all libraries.

Introduce Merchandising Tools

- Feedback process for products
- Collaboration tools
- Line sheets
- Assortment tools

Marketing and Ecom

- 3D product ready for marketing and Ecom site
- Tools for online presentation: 360 viewing, AR, customization
- Consumer engagement tracking, social media, testing
- Virtual showrooms: example: Cotton Incorporated Digital Show Room
- Virtual Fashion Shows

Recap

- 1. Start Small:** Create a strategic plan for where your company is.
- 2. Software:** Choose software that integrates with your current tech stack and is scalable.
- 3. Set KPIs to target:** Progress should be recorded to track success and share with leadership.
- 4. Physical First:** Apparel is still analog. Work off of approved patterns always.
- 5. Simple First:** Start with a simple easy classification for quick success and learning.
- 6. Set Standards:** Spend the time to set standards to avoid inconsistent work across teams and partners.
- 7. Leverage/Partner:** Minimize operational expenses by partnering with suppliers or 3rd party services. DPC benefits both brands and suppliers
- 8. Manage Culture Change:** Building trust takes time. Start with champions. Re-enforce trust by sharing results.
- 9. Upskill Employees:** Train on software relevant to the division. Learning curve is steep. New hires should be skilled in 3D.
- 10. Scale:** Build upon your success and solid foundation. Expand to more classifications and take more ownership of in-house 3D (if needed).
- 11. Time Well Spent:** Spending time to properly set standards and implementation practices will save both time and money long term.



Q & A



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