

Energy & Store  
Development Conference

E+SD 2016

## Engineered Collaboration: Building a Case for Teamwork

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Engineered Collaboration: Building a Case for Teamwork



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THE VOICE OF FOOD RETAIL

Energy & Store  
Development Conference

E+SD

2016



Steve Duffy

*VP Grocery*



Joe Keene

*VP Engineering*

“In today's disruptive grocery sector, collaboration in the store design process is a mandate...”

Engineered Collaboration: Building a Case for Teamwork



## Engineered Collaboration: Building a Case for Teamwork

In today's disruptive grocery sector, **collaboration** in the store design process is a mandate for survival and a path to **success**. With the advent of compressed **schedules**, limited **resources**, and restrictive **budgets**, the conventional design-bid-build method does not always "pencil out" to be the most effective or cost-beneficial process.

Collaboration should involve the entire sector, including the merchandising and operation team, design, construction, and the supplier community. The design lead acts as the information agent for the **entire team**, facilitating a fully functioning grocery store environment that exceeds expectations. We will look at the **various tools** of collaboration, including Value Engineering, Design Assist, Design Build and Integrated Project Delivery (IPD), and consider the **benefits and challenges** of these methodologies, cite examples, and seek to engage our audience.

# Engineered Collaboration: Building a Case for Teamwork

## Learning Objectives

- 1. Collaborative Process - *Overview of collaboration and making the case to adapt*
- 2. Tool Chests- *Consider deploying the appropriate collaborative tools within the various chests such as DBB, Design Assist, Design Build, IPD, VE etc...*
- 3. Experience Matters - *Example of success and "the other"*
- 4. Benefits - *Making the case for collaboration*

“We are putting the Band back together”

Please Join Us, September 29, 2015

Steven Duffy  
Moderator  
VP Grocery  
Cuhaci & Peterson

Joe Keene  
MEP Engineering  
VP Engineering  
Cuhaci & Peterson

**"We're putting the band back together."**

Our Panel - Addressing regulatory trends  
With the advent of increased urbanization of our downtowns, retail grocers and developers have responded to the opportunity with "the urban grocery store."

Don't get the Blues in New Orleans – Collaborate

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## How do Architects & Engineers Collaborate?

Topics of interest by last year's attendees...

- *“ This conference seemed very heavy on engineering and energy...it would have been nice if there was a stronger balance with the store design side of things, there could possibly be more collaboration between design and engineering.”*
- *“Building positive relationships with vendors.”*

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# col·lab·o·ra·tion

[kəˌlabəˈrɑːʃ(ə)n] 

**NOUN** Is the process of two or more people or organizations working together to realize mutual goals

## Collaboration Attributes:

- One single common goal
- Communicate and work together successfully
- Networking, role delegation and ownership, and also build team trust and cohesiveness

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## Where Collaboration Failed

“What we have here is a failure to communicate ...”



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## Collaboration Overview

The key to a successful collaboration is the architect consulting with engineers, surveyors and other specialists throughout the design process to ensure aspects such as: S, HVAC, E, P, R, LV... elements are coordinated as a whole.

Control and planning of Construction Costs are also a part of these consultations. Coordination of the different aspects involves a high degree of specialized communication, including advanced computer technology such as BIM (Building Information Management), CAD and cloud-based technologies.



### Factors effecting the level of collaboration:

- Project size
- Type of Project
- Speed of delivery to market
- Client goals
- Complexity of Design
- Public vs. Private
- New Concept/Unique
- Continuous Cost Monitoring

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## Today's Disruptive Grocery drives innovation and dependence upon Collaboration



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## Who's on your team ?

★ Key Decision Makers  
along process

### ★ Developer – Land Lord

- RE / Legal
- Project Designers - Shell AOR / Special Land Use / Civil / Traffic / Noise / Environmental
- CM – Construction Management expertise to develop shell and coordinate TI

### ★ City – Public

- Development / Planning / Boards / Building / Health ... Public Buy-in

### ★ Grocer

- Executive Leadership
- Real Estate / Legal
- Store Planning / Procurement EQ
- Merchandising
- Operations / Safety / IT
- Facilities
- Grocer Architect of Record TI (AOR)
- PM / CM / GC – Project Delivery Methods
- Vendor Partners – Refrigeration Systems/ Lighting / Cases / Fixtures /
- Store Environments + Branding – Décor / Marketing / Signage

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## Collaboration Tools



## Collaboration Tool Chests



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Varying Needs of:



Private Sector – more flexible & adaptive

Public sector - less flexible – tends to favor Design Build

## Design-Build Institute of America (DBIA) since 1993

Descriptions of Common Project Delivery Methods:

Common project delivery methods include:

### Design-Bid-Build (DBB) or Design-Award-Build (DAB)

An owner develops **contract documents** with an **architect** or **engineer** consisting of a set of **blueprints** and a detailed specification. Bids are solicited from **contractors** based on these documents; a contract is then awarded to the lowest responsive and responsible bidder.

### DBB with Construction Management (DBB with CM)

With partially completed contract documents, an owner will hire a construction manager to act as an agent. As substantial portions of the documents are completed, the construction manager will solicit bids from suitable subcontractors. This allows construction to proceed more quickly and allows the owner to share some of the risk inherent in the project with the construction manager.

### Design-Build (DB) or Design-Construct

An owner develops a conceptual plan for a project, then solicits bids from **joint ventures** of **architects and/or engineer** and builders for the design and construction of the project.

### Design-Build-Operate-Maintain (DBOM)

DBOM takes DB one step further by including the operations and maintenance of the completed project in the same original contract.

### Build-Operate-Transfer (BOT)

BOT represents complete integration of the project delivery: the same contract governs the design, construction, operations, maintenance and financing of the project. After some **concessionary period**, the facility is transferred back to the owner.

### Integrated Project Delivery (IPD)

A project delivery method in which the interests of the primary team members are aligned in such a way that the members can be integrated for optimal project performance resulting in a collaborative, value-based process delivering high-outcome results to the entire building team.<sup>[1][2][3]</sup>

## Common Acronyms

DBB , DBB + CM, DB , DBOM , BOT , IPD

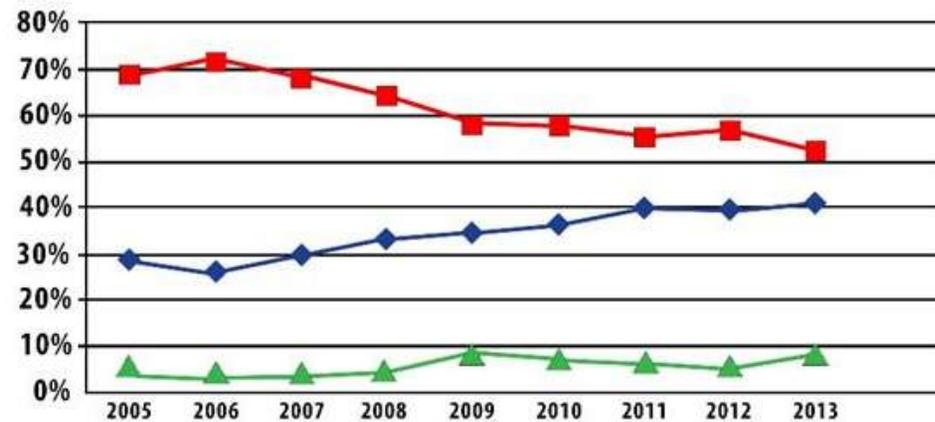
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## Project Delivery Trending – How relevant to our sector?

	Traditional (Design-Bid-Build)	Construction Manager at Risk	Design-Build
Single contract for construction services	✓	✓	✓
Competitive bidding of subcontracts	✓	✓	✓
Cost input during design process		✓	✓
Cost savings through value engineering		✓	✓
Early guarantee of construction costs	✓	✓	✓
Reduces Owner's time required on project	✓	✓	✓
Returns cost savings to Owner		✓	✓
Allows for fast-track construction		✓	✓
Reduces change orders		✓	
Provides total project accountability			✓
Performance-based quality guarantee			✓
Minimizes (potentially eliminates) change orders			✓
Early guarantee of project costs (including design)			✓

**Project Delivery Method Market Share for Non-Residential Construction**



■ Design-Build    
 ■ CM-at-Risk    
 ■ Design-Bid-Build

*Analysis by RSMeans Market Intelligence a div. of Reed Construction Data*

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## What the store/client can do to improve:

### *Before store design and construction:*

*Perform prototype review and analysis with the main goals of:*

- Reduction of Project Development Costs and /or Development Time
- Capital Cost savings/Long Term Operations Costs Savings
- Customer Experience Improvements that Increase Sales Volume and/or Customer Visit Frequency

*Perform the review/analysis as you progress through a project – the review will address topics in the planning/data gathering phase, Analysis Phase (pre-design), Implementation Phase (design and construction) and Evaluation Phase (performance of running store).*

## Planning/Data Gathering Phase

The Planning Data Gathering Phase asks basic questions about Mechanical Systems, Water Systems, Refrigeration Systems, Power Systems, Lighting Systems and Architectural Systems to ensure early identification of potential issues or improvements.

## Analysis Phase

The Analysis Phase takes all the information gathered in the planning phase, reviews the design in order to make recommendations as well as suggest the best project delivery method.

## Implementation Phase

Moves forward with relevant recommendations and project delivery method from Analysis Phase. Team designs project and construction occurs.

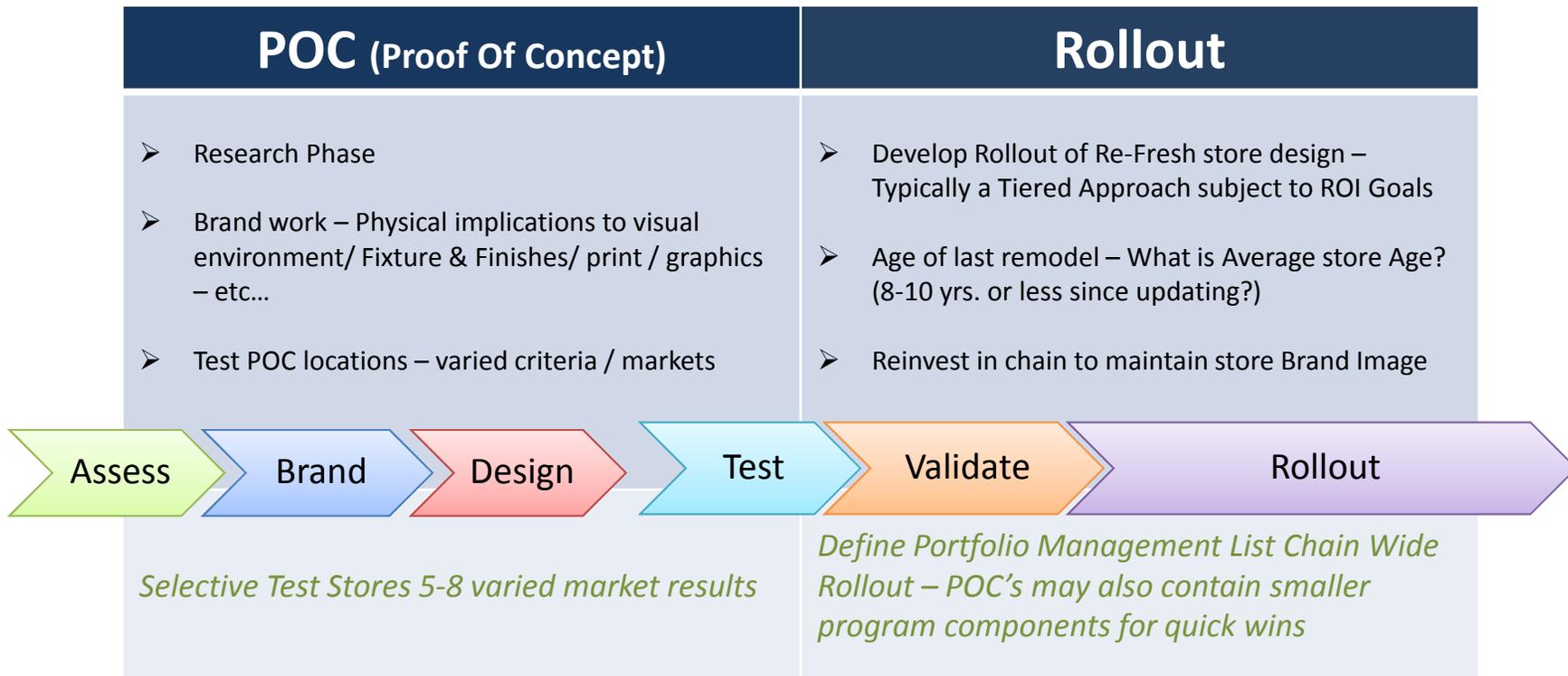
## Evaluation Phase

The Evaluation Phase evaluates the results of the items/changes implemented. Did the customer experience improve and sales volume increase?

- *Is the HVAC system zoning rational?*
- *Does the HVAC system manage humidity and temperature efficiently?*
- *Does the HVAC system controls maintain comfort and reduce energy?*
- *Is the building equipment a good steward of water use?*
- *Is the refrigeration system the most efficient with respect to efficiency, maintainability, sustainability and future government restrictions?*
- *Does the overall strategy minimize the amount of power required, reduce installation and maintenance costs?*
- *Does the lighting system light product and work surface?*
- *Is the lighting system deployed strategically for ambient lighting, perimeter lighting, spot lighting, case lighting, general lighting, etc?*
- *Is the lighting system the most efficient with respect to power usage, maintainability and controls?*
- *Are the finishes economical, maintainable, work with signage, lighting system, etc?*

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## TIMELINE of Review/Analysis



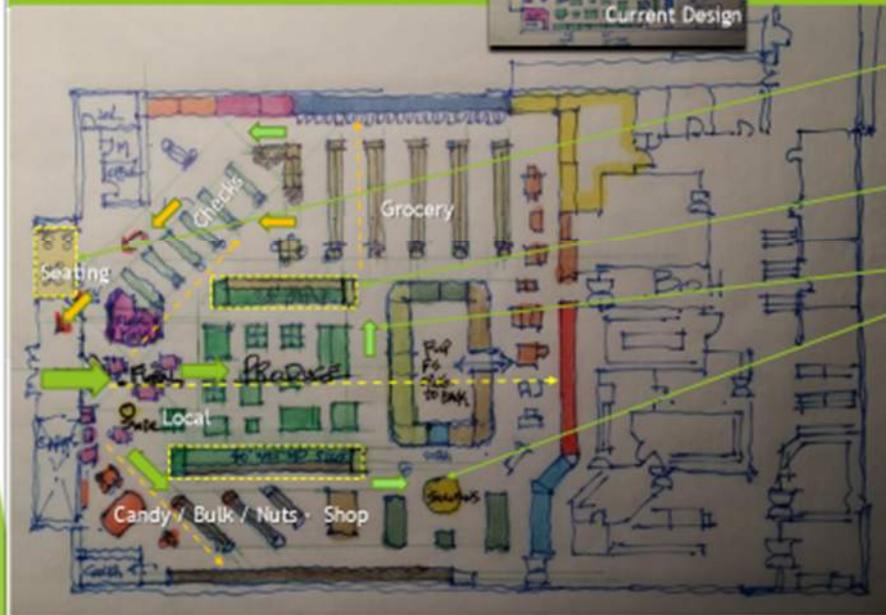
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## Layout Analysis (cont.)

Concept Plan Proposal Question # 2



Enhance Key Fresh Presentation -Elements of Floral / Produce are directly (on axis) encountered upon entering the store.



### Concept Proposal Other Notes:

- > **Seating Area Proposed** - Convenience. With revised vest entry point increased cart storage
- > **Plan Organization**- Oriented with a simplified geometry and more intuitive layout.
- > **Vertical Fixtures** additional on sales floor - These improve merchandising capacity but decrease visibility- Produce / bulk + Added Key End Cap opportunities to promote Fresh/ Impulse sales
- > **Circulation Indicated** - simplified
- > **Solution center** - Demo / Info kiosk - Engage the shopper . Also Enhance Sample stations

### "Guardrails - Other"

- > Elements of this concept can be phased into implementation to existing prototype chain wide after POC testing .
- > BOH - Always a goal to maximize efficiency, however many efficient shared resources are noted on plan such as doubling up on coolers / prep areas
- > Décor, Color Palette, lighting and Case updates will also drive a significant change in Re-Fresh Brand perception. -(refer to observations)

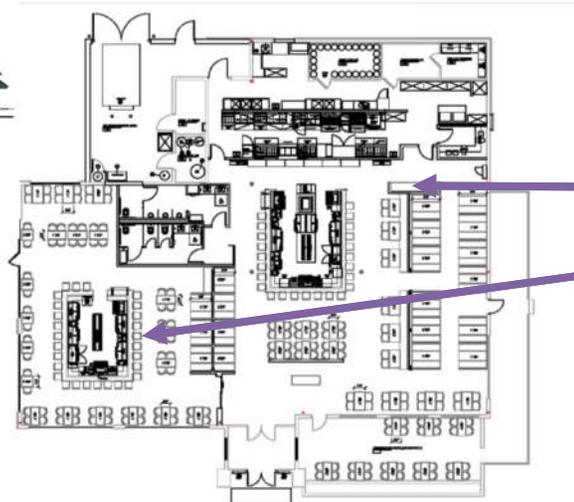
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Collaborative Exploration:

Grocery Market Sector drives innovation and dependence upon Collaboration

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## Value Engineering Exploration



Millers Ale House – new management demanded 25% budget reduction. Implementations included removing ceiling, simplifying lighting, and adding more unconditioned “sunroom” space to maximize bar/restaurant income.

- Winn Dixie Jacksonville – reused/refurbished abandoned Seasoned 4 RTU, reused duct mains, reused electrical switchgear and panels.

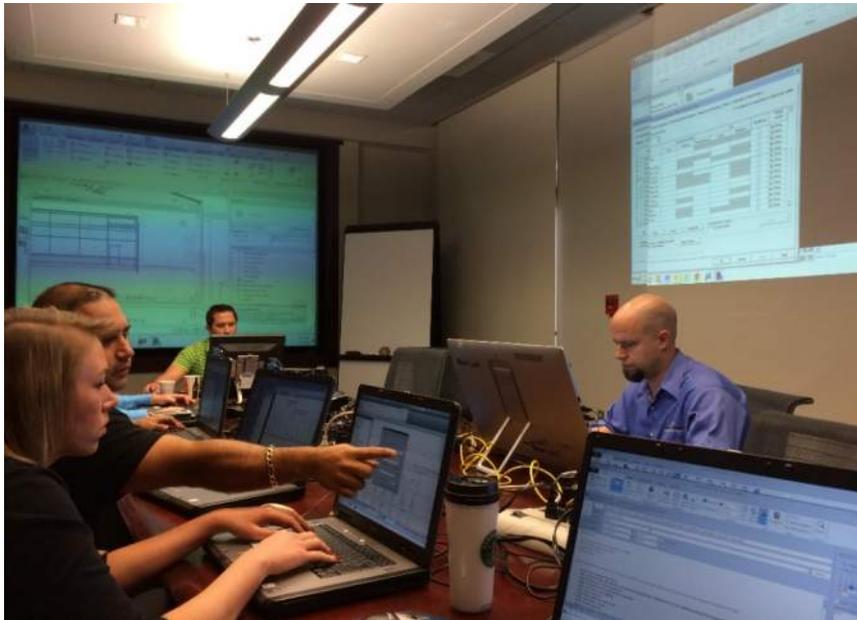
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## Cuhaci & Peterson – “how we collaborate”



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## Cuhaci & Peterson's "One Room Concept"

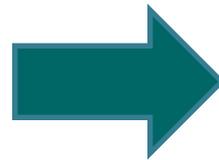


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## Cuhaci & Peterson's "One Room Concept"

### Process

- Singular Focus
- Daily Deliverables
- All Disciplines in One Room
- Integrate the Client



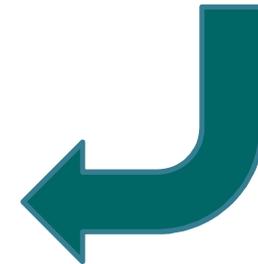
### In-Process Yield

- Reduced Response Time to Questions
- Large Reduction in Email
- Solution Focused on Best for the Project
- Real Time Prototyping

### THE IMMEDIATE RESULTS!

- Process Moves Forward Quickly
- More Information Is Shared Earlier
- Early Discovery of Project Risks
- Team Environment Generates a Sense of Shared Responsibility
- Long term team effectiveness and communication

(Implementation)  
(Planning stage)  
(Analysis)



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## Market Reinvention – Flagship Grocerant: Case Study in Collaboration

Market Bistro

*Chef's Grill*



3-D Modeling Study



Chef's Grill Concept Study Plan

Concept Rendering



Market Bistro

Overview: Pick from our specialty salads menu or create your own from a wide selection of fresh ingredients tossed with one of our signature dressings.  
Highlights include:  
• Ice cold crisp lettuce variety with market fresh vegetables  
• Home style croissants and dressings  
• Super chilled salad plates



16 Food concept studies

Restaurant concept studies  
Large Collaborative Team  
Merch.-Design-Const. extensive  
Vendor Partners

Tossed to Order Salads



The food court experience of Bistro Blvd. begins with the "Chef's Grill," a full service restaurant. Curved seating creates a theater to watch the chefs at work; a shopping trip becomes not only an opportunity to buy food, but to rest and socialize with family and friends while dining. Menu items include higher end offerings and full service wait staff.

# PROGRESSIVE GROCER

WELCOME TO  
Flagship Grocerant



Market Bistro by Price Chopper, Latham, N.Y.

STORE DESIGN CONTEST  
**VISUAL VANGUARDS**

Innovation and reinvention set the tone for a new state of winning supermarket design concepts.

## Market Reinvention – Flagship Grocerant: Case Study in Collaboration - Produce Department Design Innovation Process



**Concept Modeling**  
entire remodel - store expansion

**Lighting Modeling**

**Hydroponics**  
Innovation & extensive vendor collaboration

**Specialty Cases**  
extensive Merchant collaboration in design

**Branding - extensive**

**Department studies**  
All disciplines on one board

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## Webster MA – Case Study in Collaboration

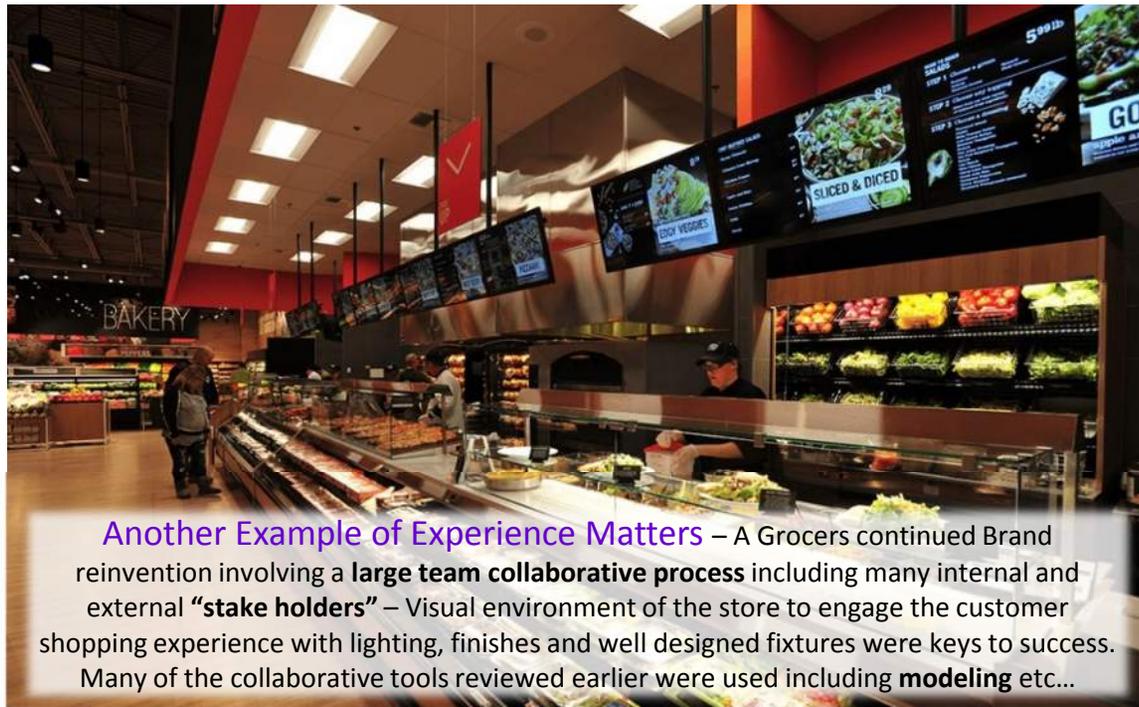
**Experience Matters** – An example of a Grocer continuing its Brand reinvention involving a **large team collaborative process** including many internal and external “**stake holders**” – Visual environment of the store to engage the customer shopping experience with lighting, finishes and well designed fixtures were keys to success. Many of the collaborative tools reviewed earlier were used including **modeling** etc...



The **Brand** design was implemented rapidly based upon an **expedited** design and construction **schedule** - The team used various **collaborative tools** delivering a very successful store.

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## Reinventing a Brand - Case Study in Collaboration



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## Experience with Successful Collaboration

DCLS (Department of Consolidated Laboratory Services Virginia):  
194,000 sf; \$50,000,000 state laboratory. IPD Delivery consisting of representatives from the State of Virginia, Architect/Engineer, Laboratory Consultant, Construction Manager and Subcontractors.



Howmet Chemical Milling Facility:  
\$3,000,000 Titanium milling facility. IPD Delivery consisting of representatives from Howmet, Engineer, Contractor, and Equipment Vendor



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## Experience with Successful Collaboration

### **Mercedes Benz Parts Distribution Facility**

400,000 sf; \$20,000,000 office, training facility, warehouse for Mercedes Benz parts. DBB with CM method of delivery consisting of intense One Room Concept meetings with representatives from the Mercedes Benz and Architect/Engineer, and bidding and construction start without 100% complete design drawings.

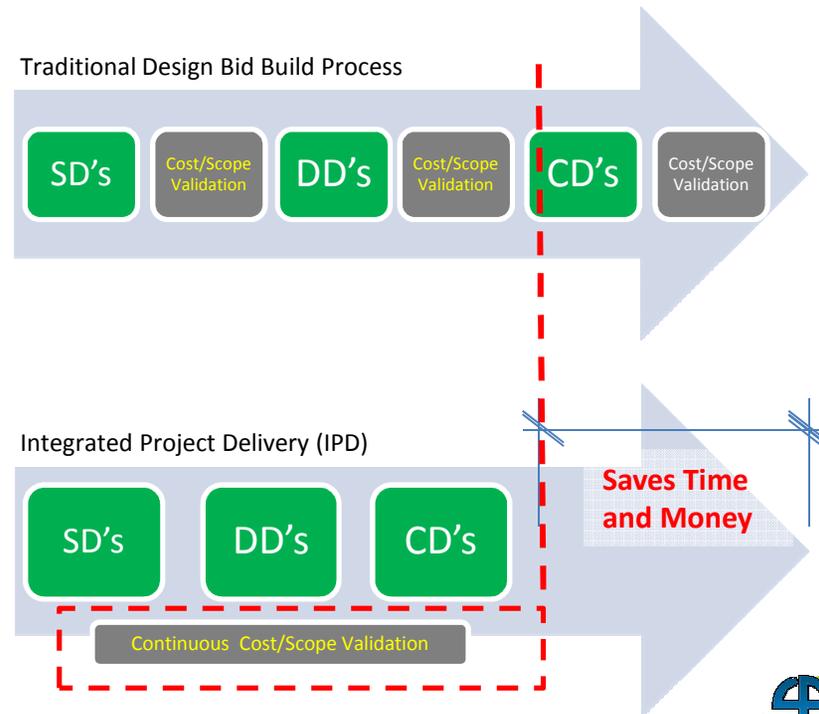


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## Collaboration Success relies upon...

- ✓ Early stakeholder involvement
- ✓ Having the right team of experts
- ✓ Selecting the collaboration right tools
- ✓ Anticipating and Managing change
- ✓ Clear lines of Communication
- ✓ Transparent Cost Management

## How DBB v IPD stack up



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## Questions & Closing Comments ?

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# Engineered Collaboration: Building a Case for Teamwork

## Thank you !

Learning Objectives

- Collaborative Process
- Tools
- Experience
- Benefits

✓ We hope you've put a check in each of the boxes