SEPTEMBER 2025

The Digital Transformation of Cost Management

How Dana Unlocked $4M in Savings

Scott Steward

aPriori

Manufacturing Insights **2025**

DETROIT / SEPTEMBER 23 - 24

Scott Steward

Senior Engineering Manager

DANA

Dana Snapshot

1904
history dating back 120 years

83
major manufacturing facilities

11k+
patents

$10.3B
2024 sales

9
country network of technology centers

30
countries with Dana presence

39k
employees globally

12k+
customers in 135 countries

6
continents

Last Updated: February 20, 2025

Vision, Mission, Values

OUR VISION

Powering Innovation To Move Our World

OUR MISSION

Driving stakeholder value by:

- powering vehicles and machines around the world;
- shaping sustainable progress through invention and execution; and
- making the amazing happen wherever people live, work, and play.

This mission is embodied in our company theme:

People Finding A Better Way®

OUR VALUES

Value Others	Inspire Innovation	Grow Responsibly	Win Together

Agenda

1. Getting Started
2. Understanding Cost Drivers
3. Commodity Based “Sprints”
4. Engineering Cost Optimization
5. Savings Opportunity Methods
6. Organizational Integration

Getting Started

Gap Identification and Improvement Opportunity

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Getting Started

Start with a Vision

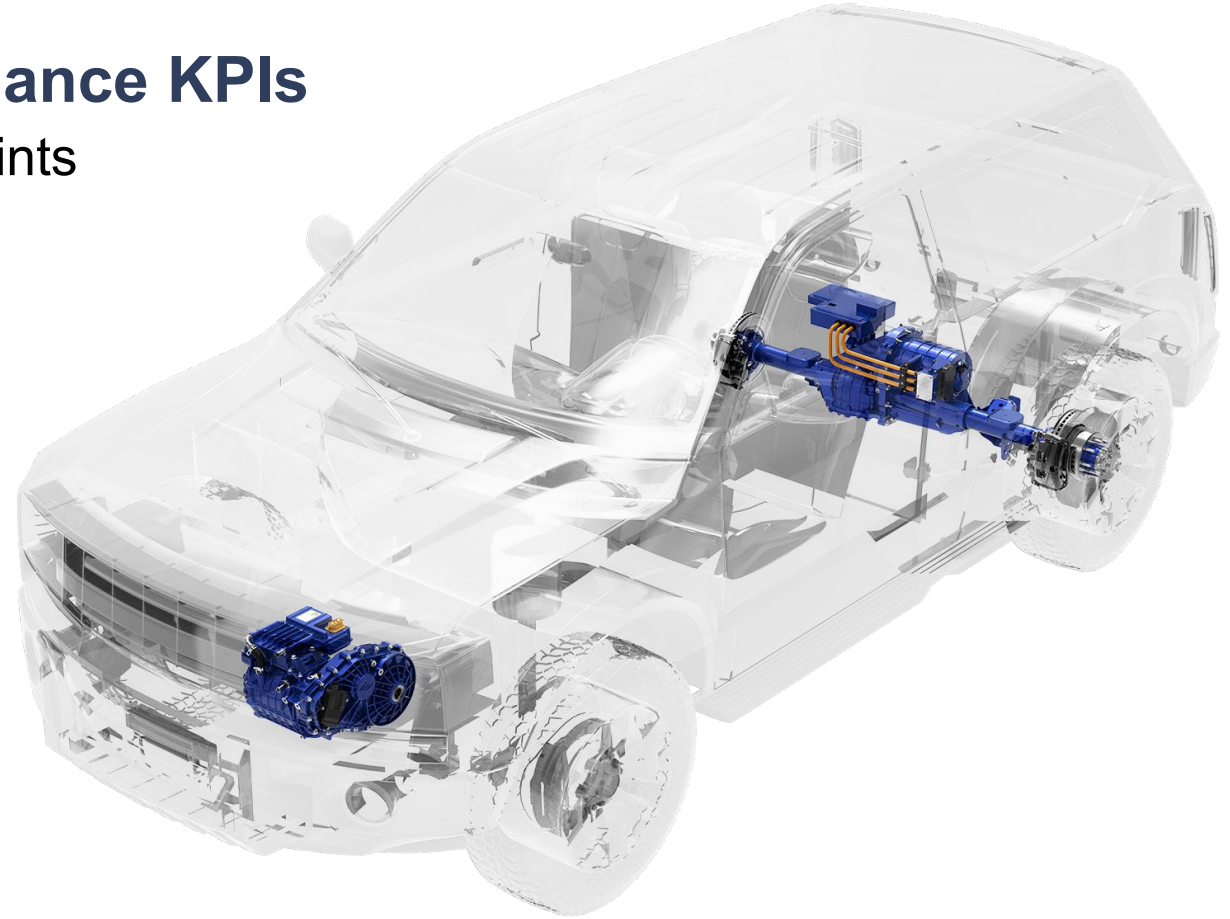
- What does success look like?

Set clearly defined goals with performance KPIs

- Established “Hard” Checkpoints during sprints
  - Business Analysis
  - Identify areas of opportunity

Identify areas we wanted to improve

- Gaps in information
  - Cost Breakdowns
  - Quality of data
  - Design for Manufacturing
- Improvement Opportunities
  - Process Efficiency
  - Early design for cost impact
  - Knowledge sharing



Vision of Success

Vision:

Create a system to optimize cost and quality for products through a deep understanding of manufacturing throughout the product development process. Design Engineers to have early visibility during product development to Design to Cost targets.

Challenges:

Understanding cost while chasing new business

- Lack of visibility to Cost Drivers during design & in the supply base
- Balancing cost & manufacturability vs. customer requirements to win future projects
- Strategic shift to change management integration to get things done right the first time, avoid misses, and maximize profitability

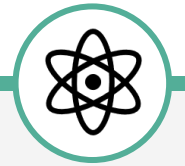
Process | Organization Challenges

- Analysis is inconsistent or subjective with Limited Expert bandwidth
- Siloed work structure and work is off the digital thread

Key Areas of Focus

Commodity Based – Supply Chain

- Cost Evaluation by region balanced with logistics and risk
- Communication of “Should Cost” expectations with Supply Chain
- Cost breakdown discussions to meet “Should Cost” or provide feedback on gaps in analysis
- Develop supply base to achieve “Should Cost”



New Product Development

- Design to Cost
- Design for Manufacturing & Quality
- Establish Cost Targets
- Down selection of design concepts based on cost
- Optimization of new designs based on refinement of process

Understanding Cost Drivers

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Design for Manufacturing, Assembly, Quality and Cost

DMFAQ+C Center of Excellence Team is comprised of cross functional support roles, including engineering, design, manufacturing, purchasing, and IT has been assembled to define and establish processes for “Design for Manufacturing” and “Should-Cost”.

Mission: Change manufacturability and cost from a poorly understood, late-stage output based on quoting to a design variable that is optimized early in the design process and delivers a “should cost” target for sourcing and manufacturing.

EARLY-STAGE VALUE OPTIMIZATION METHODOLOGY

REDUCE RESPONSE TIME AND COMPONENT LEVEL COST TRACKING

UNDERSTANDING OF COST DRIVERS AND OUTLIER ANALYSIS

GLOBAL LOOK AT COST DRIVERS BY REGION.

“Should cost” definition: Realtime or near real-time manufacturing feedback for cost and quality throughout the product development process through visibility to the manufacturing process implied by the specifications.

Tactical Objective: Use DFMAQ and “Should Cost” methodology to win and maintain profitable business.

Commodity Based “Sprints”

Focused Approach

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aPriori Digital Factory Focus


Sheet Metal Forming


Bar & Tube Fab


Plastic Molding


Casting


Machining


Gears


Composites


Extrusions


Forging

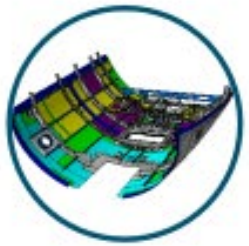

Powder Metal


Additive


Chemical Milling


PCBA

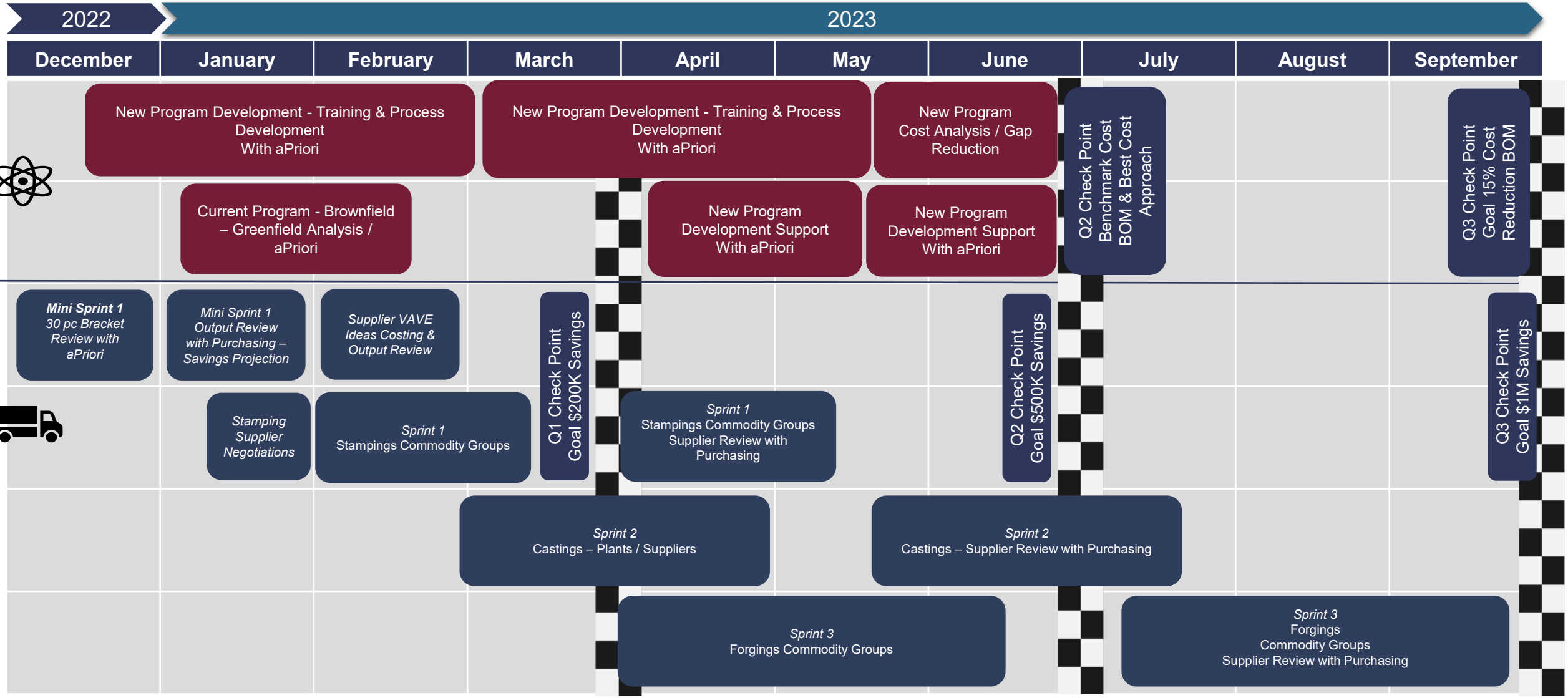

Wire Harness


Mechanical Assembly


Welding

+ Surface Treatments | Heat Treatments | Anodizing | Clean, Test & Inspect | Packaging & Logistics

“Should Cost” Targets & Timing



aPriori “Should Cost”

Identified key commodities

- Commodities selected based on key aPriori Digital Factories

Utilize Sprints as parallel training

- aPriori expert services provide training to core Dana team
  - Design to Cost (Regional / Best Cost)
  - Current cost vs Should Cost comparison

aPriori configuration refinement

- Dana specific processes and Design rules
  - Cost Breakdowns
  - Quality of data
  - Design for Manufacturing
- Raw Material input cost & secondary processes

aPriori “Should Cost” / quoted cost

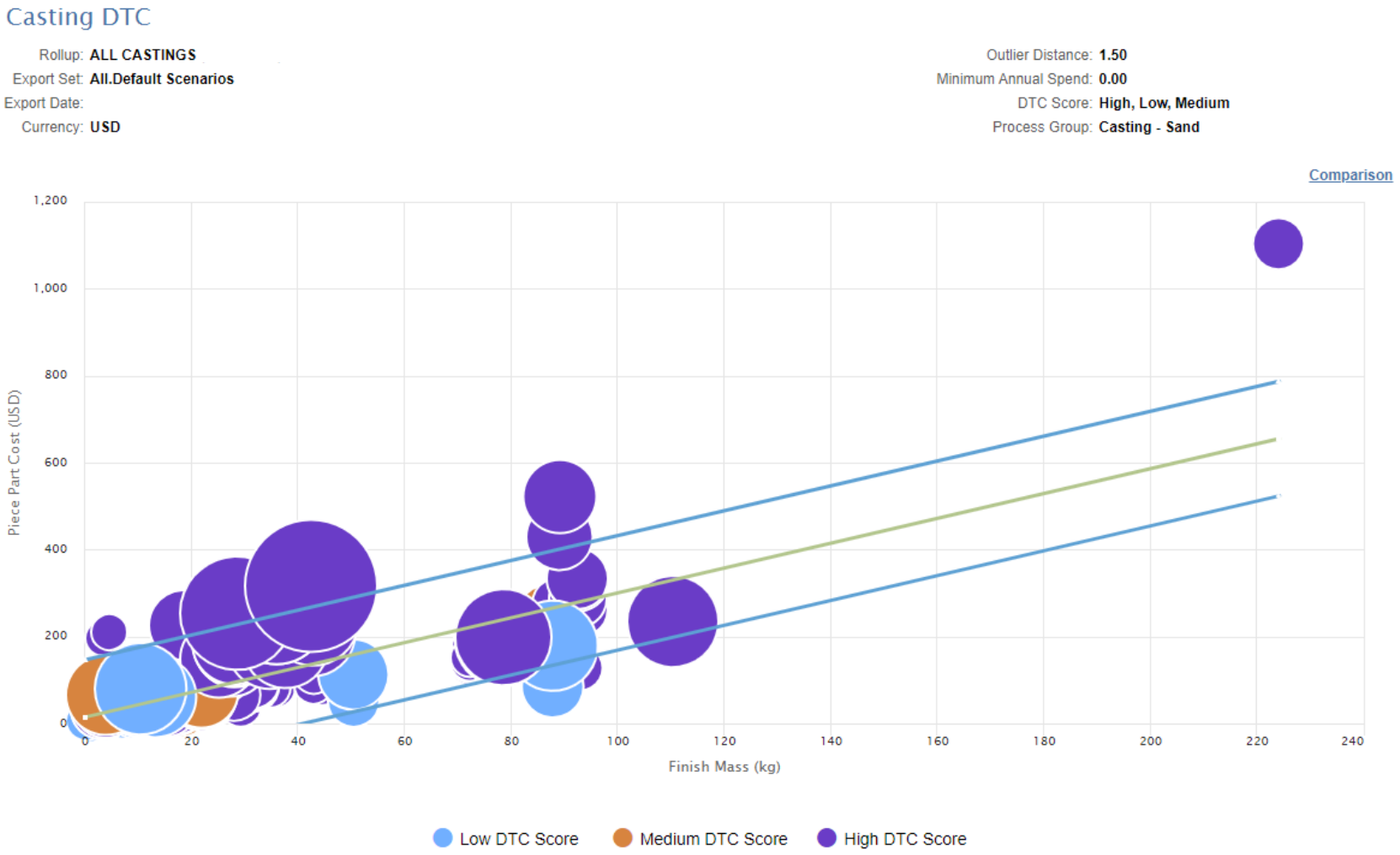
- Focus on components where variation shows +/- 8%

Design to Cost Analysis

300+ similar sand castings analyzed and reviewed for areas for potential opportunity.

Opportunities could be supplier reviews, design changes or complete redesign depending on stage of program life.

The DTC analysis guides where the areas of highest potential of cost impact reside.



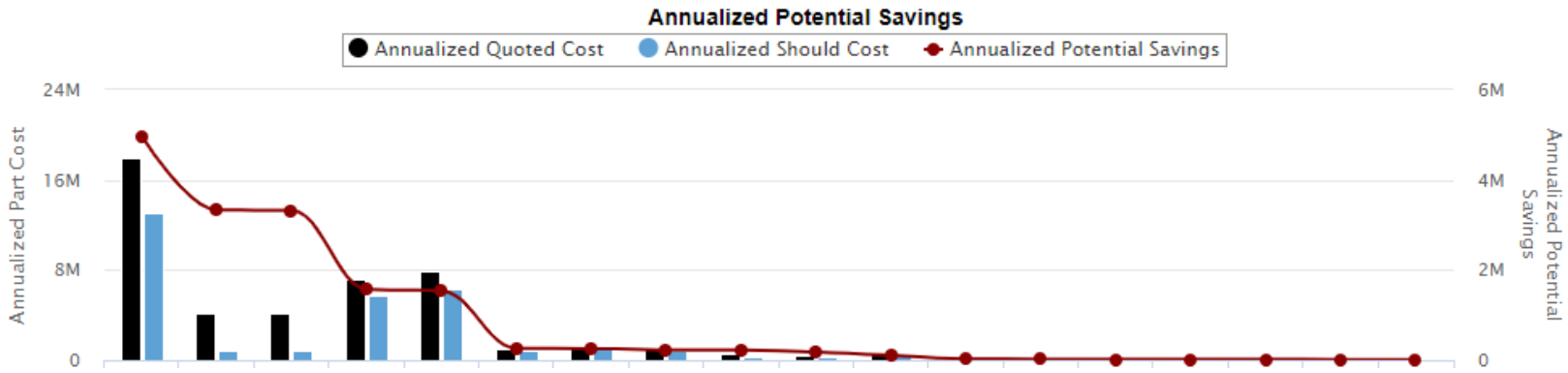
Cost Outlier Analysis

We often use the Cost Outlier analysis to allow us to quickly identify outliers in a certain commodity and their current variance from “Should Cost”

At this time due to the nature of change management and supplier negotiation, 8% has proved to be a decent flag for the team to further evaluate.

Cost Outlier Identification

Rollup:	**ALL CASTINGS**	aPriori Cost Min:	**0.10**	Currency:	**USD**
Scenario Name:		aPriori Cost Max:	n/a	Sort Order:	**Annualized Potential Savings**
Export Date:		Percent Difference Threshold:	**8.0%**	Cost Metric:	**Piece Part Cost**
		Annualized Potential Savings Threshold:	n/a		details



Business Analysis – Year 1

- $100M in business spend analyzed in year 1
- Achieved 4% annualized savings
  - Supplier Negotiations for cost downs
  - Cost Avoidance due to data driven “Should Cost” during cost increase discussions
  - Regional resourcing activity
- Anything outside of the +/- 8% variance to cost was investigated.
  - Additional savings opportunities not captured in year 1 were also carried into year 2.

2023

Business Analyzed

$100M

Savings

$4.1M

Savings Goal: $1M

Engineering Cost Optimization

Design Directionality – Manufacturing and Design Feedback

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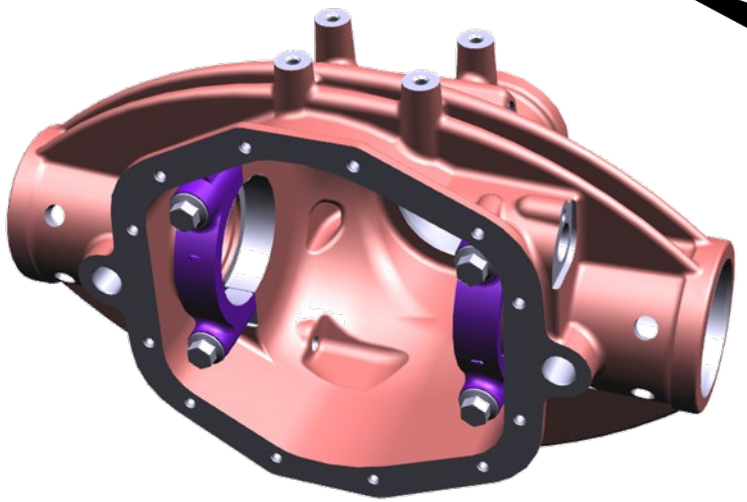
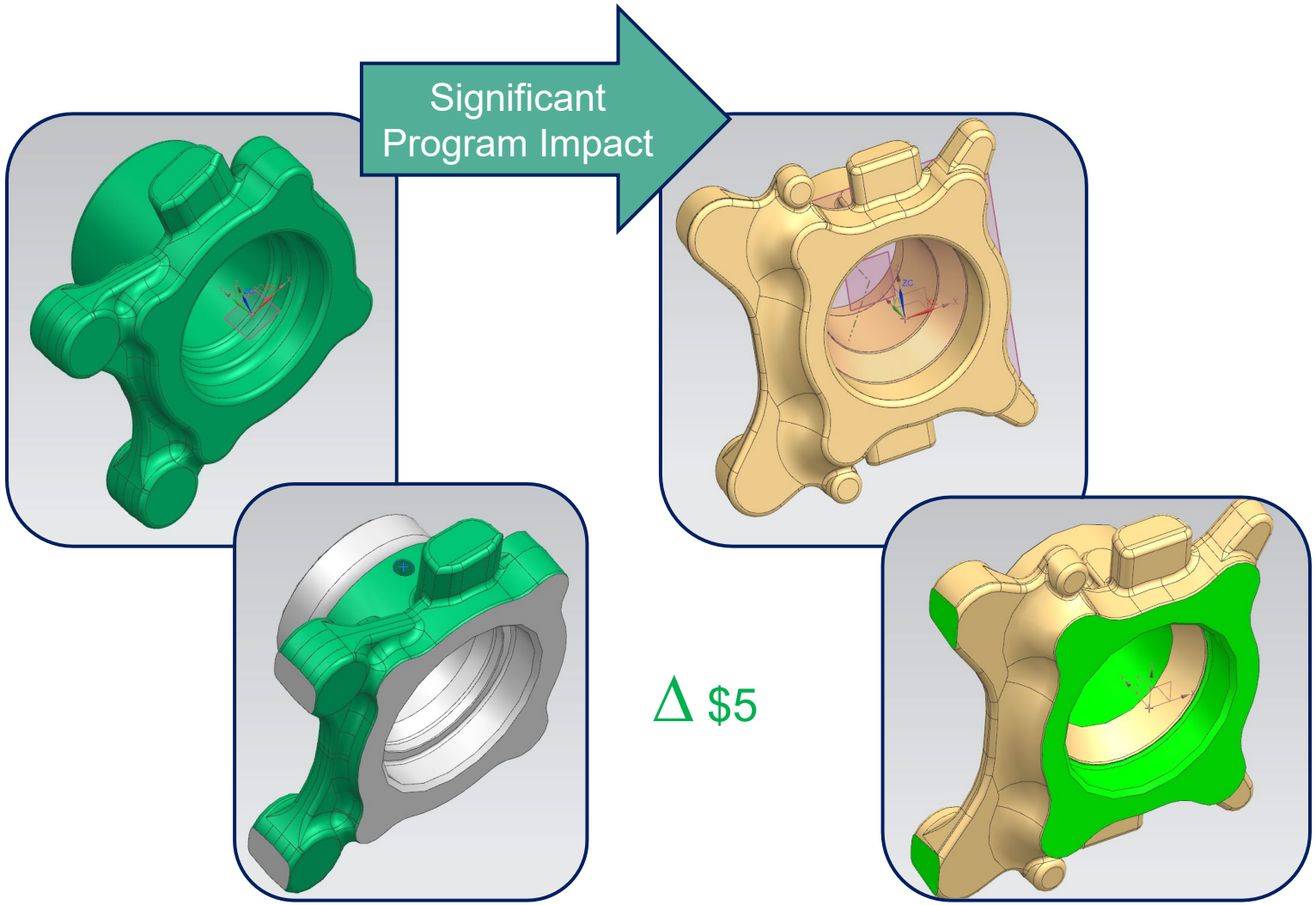
Cost Optimization

- Design Team
  - Real time feedback for design change cost impacts
  - Manufacturing concerns identified at early stage
- Procurement
  - Early “Should Cost” availability
    - Speed to quote new business
    - Identifies areas of focus
- VAVE
  - Support customer VAVE goals
    - Real time value assessment based on CAD geometry as opposed to sending out for requote



Design For Cost Initiative @ Design Concept Stage

Deployment of aPriori - aP Design to the CAD development stage where design engineers are provided with live feedback regarding manufacturing risks, concerns and cost impact influenced by design.



Utilized DFMA to drive down cost through an iterative design process

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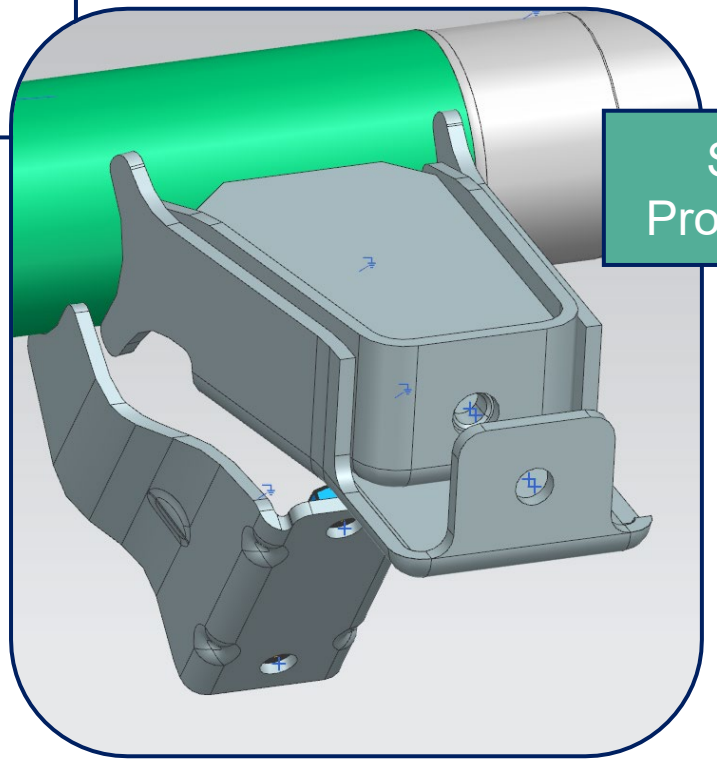
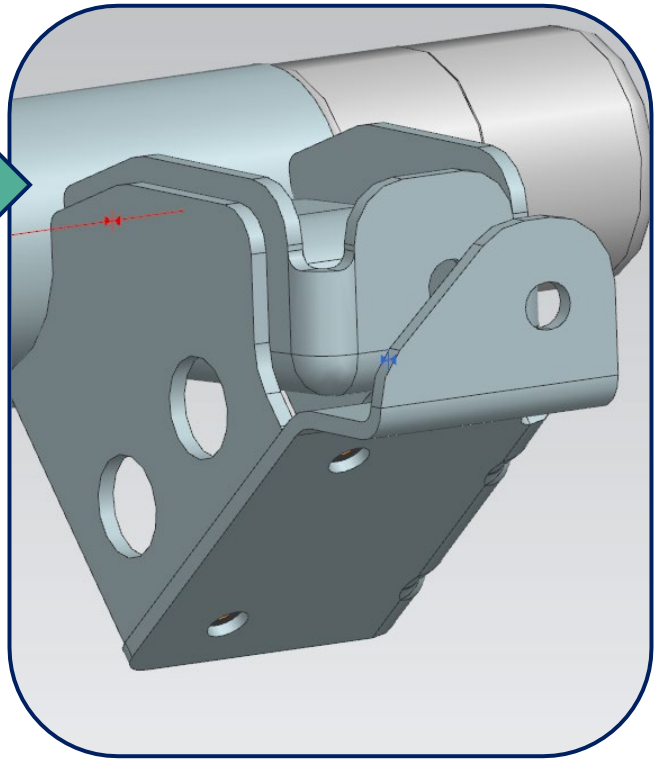


Significant Program Impact

Δ $6

2.67kg



Utilized DFMA to drive down cost and mass through an iterative design process

Savings Opportunity Methods

Leveraging Realtime Feedback

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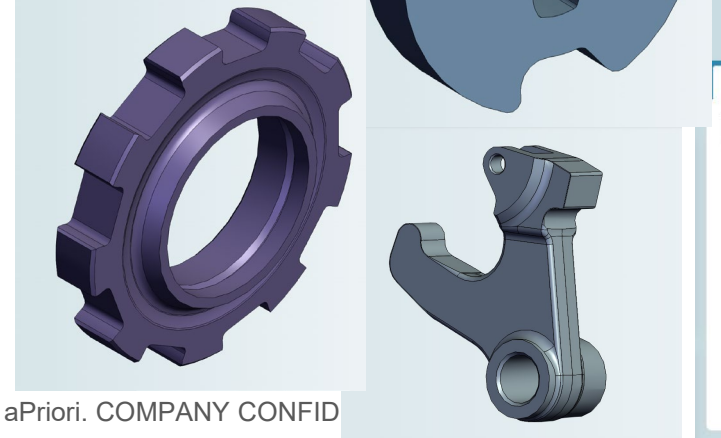
Saving Opportunity Methods

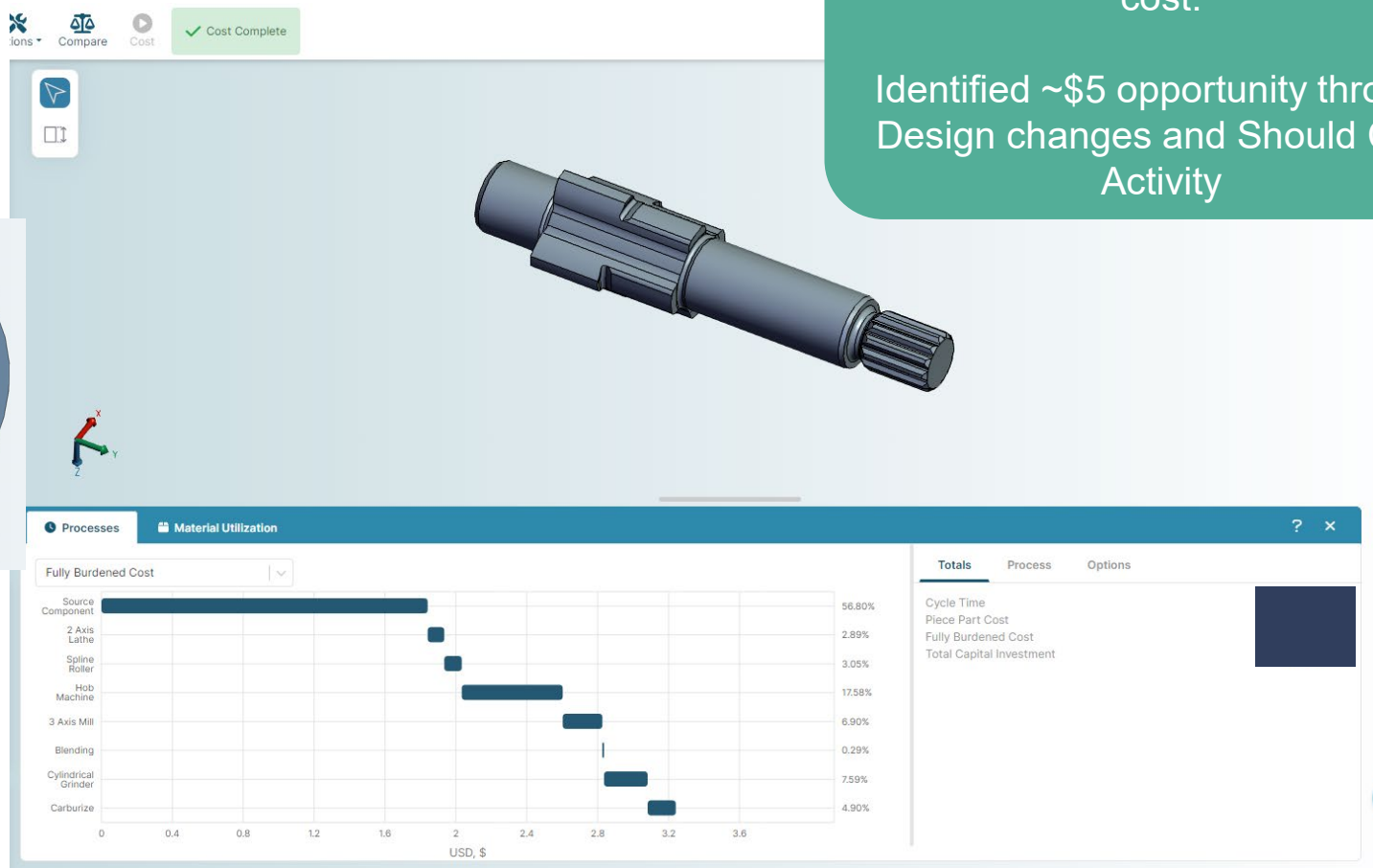
- Cost Negotiations
  - Data driven “Should Cost”
- Up Front Design to Cost
  - Design team able to understand how design methodology impacts component cost
- Cost Avoidance
  - Design Influence
  - Data backed “Should Cost” utilized to avoid cost increases
- Continuous Value Analysis
  - Regional Costing
  - Supply Base book of business approach

DFM / Should Cost Example for New Product

Failed to Cost in aPriori due to being a potential manufacturing issue

Significant Opportunity Identified for this sub system





Designer was able to make the required updates for the part to cost.

Identified ~$5 opportunity through Design changes and Should Cost Activity

Organizational Integration

Leveraging Realtime Feedback

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Value Stream Analysis

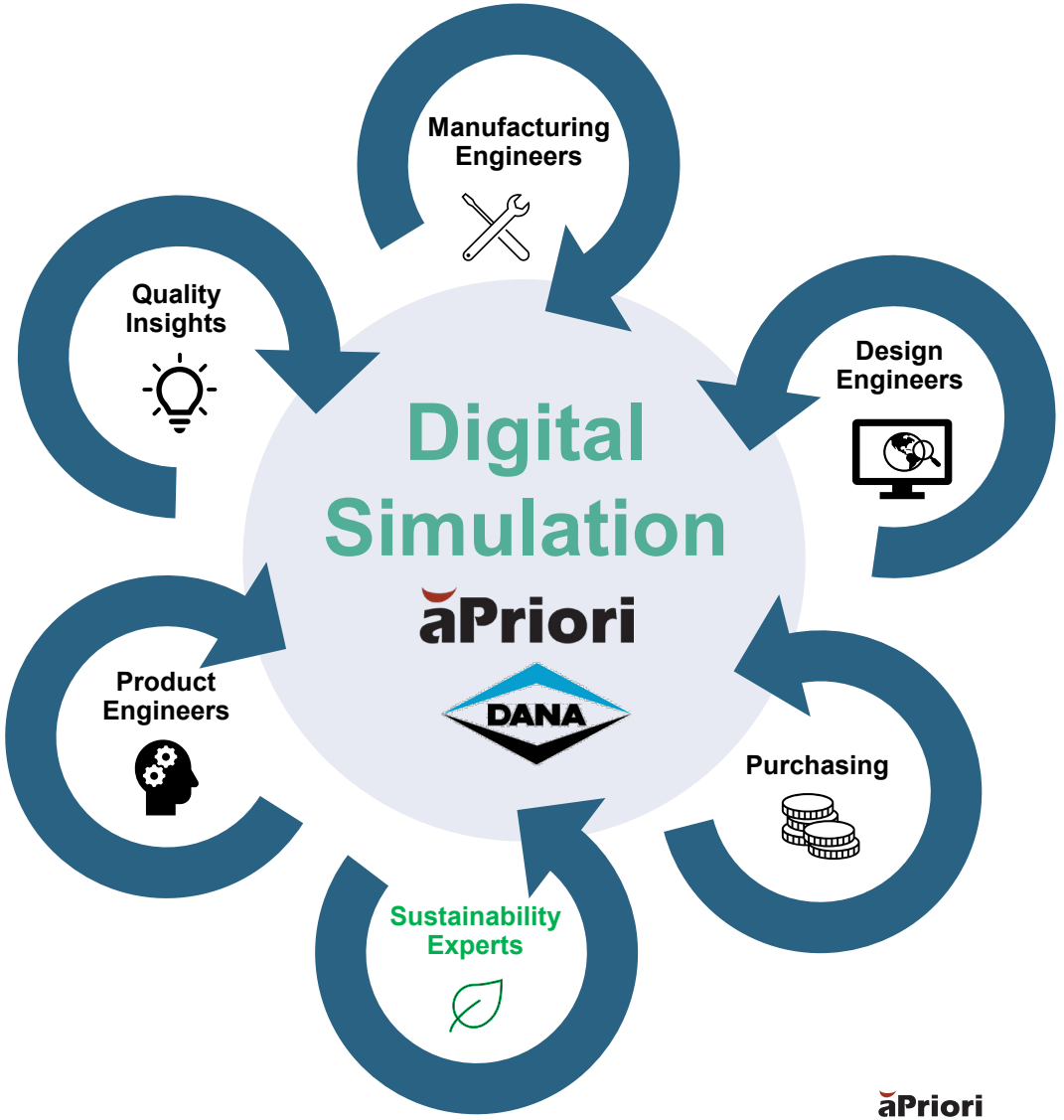
New Product Development
Analysis of Performance Metrics vs Manufacturability

- Concept selection based on cost and functional analysis
- Optimize the design for manufacturing / quality / cost
- **Reduce the carbon footprint**
- Upfront evaluation and throughout product lifecycle

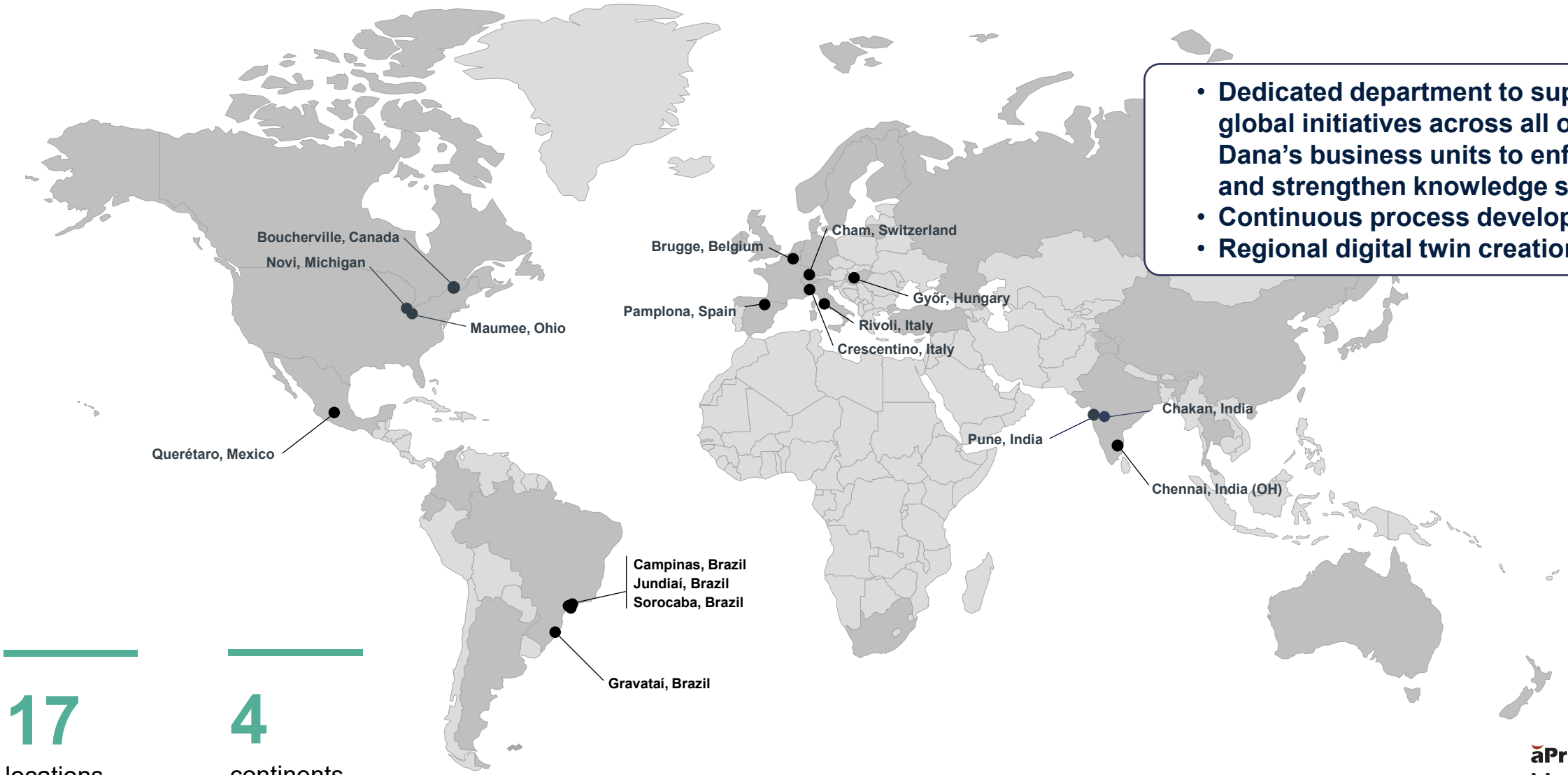
2 Value Streams : 1 Centralized Tool

Value Analysis & Value Engineering
Process Based Cost Analysis

- Evaluate manufacturing cost and freight in various regions
- Develop and / or rationalize supply base to achieve "should cost" through technical detailed expectations
- Commodity cost savings through "should cost" analysis
- Source at an optimized sustainable cost level



Dana aPriori Global Usage Footprint to Date



- **Dedicated department to support global initiatives across all of Dana's business units to enforce and strengthen knowledge sharing.**
- **Continuous process development**
- **Regional digital twin creation**

17 locations

4 continents

Thank You!

Closing slide placeholder text

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