INVESTOR DAY
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Global Architectures & Standardization

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Agenda

Key characteristics that define architecture flexibility

Architecture convergence

Standardization of modules/components

Benefits
Global architecture development:
Architectural convergence & benefits

COMPACT WIDE

A common architecture can provide a broad range of products aligned with the DNA of multiple Brands

Vehicle Architectures
Global architecture development:
Architectural convergence & benefits

A common architecture is comprised of common systems/components & unique modules to deliver the desired range of products.
**CO₂ emissions are:**
- Highly influenced by weight in the city cycle
- Must manage the weight added to the smallest vehicles within an architecture family.

\[ VDE = \text{Aerodynamic drag} + \text{Tire drag} + \text{Weight} \]

*VDE also includes brake drag, bearing friction and other spin losses. Weight included in VDE through the energy required to accelerate the vehicle.*
## Global architecture development:
**Flexible characteristics of an architecture**

<table>
<thead>
<tr>
<th>Track &amp; wheelbase flexibility</th>
<th>Load carrying capability</th>
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<tr>
<td>Powertrain options</td>
<td>Driveline options (FWD, AWD, 4WD)</td>
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<td>Ground clearance flexibility</td>
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<td>Tire &amp; wheel size</td>
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<td>Unique market requirements</td>
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The challenge of a common architecture is to determine its range of **flexibility** without negatively impacting products at either end of the range.
Global architecture development:
Flexible characteristics of an architecture

- Load carrying capability
- Driveline options (FWD, AWD, 4WD)
- Ground clearance flexibility
- Unique market requirements
Global architecture development:
Flexible characteristics of an architecture

- Load carrying capability
- Driveline options (FWD, AWD, 4WD)
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Global architecture development:
Flexible characteristics of an architecture

- **Load Carrying Capability**
- Driveline options (FWD, AWD, 4WD)
- **Ground Clearance Flexibility**
- Unique market requirements
Global architecture development
Flexible characteristics of an architecture

- Load carrying capability
- Driveline options (FWD, AWD, 4WD)
- Ground clearance flexibility

**UNIQUE MARKET REQUIREMENTS**
Global architecture development:
Architectural convergence & benefits

Benefits
- Speed to market
- Improved quality
- Manufacturing flexibility
- Common assembly plant process and corresponding reduction in capital expense
- ER&D expense reduction

Architecture convergence of portfolio provides 5 key benefits
Architecture evolution 2013-2018

2013 Architecture
Families: 18

95% of total volumes in
2013 came from

12

Different architecture
families

2018 Architecture
Families: 15

95% of total volumes in
2018 will come from

9
Different architecture
families
Global standardization: Architecture convergence & benefits

Common architecture families will be used across multiple vehicles within an architecture

Standardized component families will be used across multiple architectures

Improved deployment: 5 vehicle applications

Maximum deployment: 20+ vehicle applications

Vehicle Architectures
Global standardization: Part family convergence & benefits

**PART FAMILIES**

Current

Future

Reduce part families from **1200** to **550** by CY 2018

New innovation through decoupled development and global benchmarking

Converging part families based on optimal performance / value profile

Optimize part performance through the convergence of part families while retaining flexibility for specific customer needs

Vehicle Architectures
More than 70% of the variable cost for a new model can be leveraged across other models and much across multiple vehicle architectures.
Global standardization: Purchasing & Engineering collaboration - results

**INVESTMENT**

Deployment of standardized part families minimizes investments (internal ER&D, supplier ED&D and tooling).

- **Standardization will reduce investment by 20% - 70% depending on capacity available**

![Diagram showing standardized components/modules portfolio](https://via.placeholder.com/150)

- Investment if 100% “all new” families utilized
- Investment if 100% existing families used
- Investment if 100% carryover part numbers utilized

Standardization plan for a new vehicle model will include a mix of new families, deployed families and carry-over part numbers.

Vehicle Architectures
Global standardization:
Purchasing & Engineering collaboration - results

**VARIABLE COST**
Converged part families and volume aggregation within these families reduces variable cost over time.

Estimated 2% savings per annum across targeted part families versus a non-commonized approach
Global architecture development:
Integrated strategies to drive disciplined execution

Integrated teams provide mechanism to harmonize architecture convergence and part standardization plans with commodity strategies and the supplier selection process
Global standardization:
Purchasing & Engineering collaboration - program savings

Estimated €1.5 Billion cumulative program savings by CY 2018 across targeted part families
Global standardization
Summary

• A coordinated strategy for flexible Global Architectures which use standardized components and modules

• **Proliferating vehicles** from Global Architectures to maximize product functionality and differentiation, allowing us to meet unique customer needs and unique brand DNA

• Reducing the number of standard module/component families **54%** by 2018

• Putting the right component families on the shelf to optimize **quality, cost, weight** and **performance** with improved **speed** to market

• Significant reductions in variable cost and investment

• Partnering with global, **motivated and capable suppliers** enabling the optimized industrialization of these components
Perspectives

- **Quality** will continue to be the most important metric – must refine our approach in the selection, maintenance and development of our supply chain;

- **Speed to market** will require different approaches to sourcing business…and a greater amount of trust between FCA and suppliers;

- **Market expansion** in APAC and LATAM will require us to work with new suppliers…and global architecture convergence will require us to work differently with existing suppliers.

- **CO₂ compliance** will require weight reduction in every architecture and enhance the need for even tighter management of the architecture flexibility.

- **3rd party safety ratings** will continue to evolve contributing to the need for evolution of our architectures.
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