

INsights

Motorola Automotive

Telelogic®DOORS®Integration

Business Drivers

Business influences that compel the need for change within an organization

- **Regulatory Driver** Compliance with ISO/TS-16949 a MUST in order to maintain viable business presence in industry
- **Quality Driver** Reliable, predictable product launch processes that yield products conforming with OEM requirements
- **Cycle Time** Product Launch Process velocity - OEM's forcing shorter delivery cycle
- **Customer Needs Management** Visibility to a complex set of tangibles that change frequently through-out the product lifecycle
- **Quality Driver** Zero-tolerance for 'factory escape defects by OEM's
- **Competitive Driver** Pricing/cost must comply with OEM product targets
- **Internal Driver** Margin growth
- **Post-Sale Driver** Warranty management being pushed to suppliers and Product End-of-Life (Recycling) mandates

Corporate Strategies

Common strategies adopted in response to industry drivers:

- Automate the Traceability of requirements from voice of the customer to development to production and to post-sale/product end-of-life
- Increase Product Launch Process velocity utilizing Design For Six Sigma processes and best practice gate reviews
- Adopt 'Product Lines' (Product Platforms) thus allowing reuse of intellectual assets, product features, and product components
- Employ best practices for factory defect escape avoidance – emphasize and validate design conformance to requirements (i.e. design-in quality versus testing-in quality)
- Globalize Motorola Automotive – leverage concurrent, low-cost resources in design, testing and production

Business Value Assessment



The Business Case for the Telelogic® DOORS®/MatrixOne Product Central® Integration

Motorola Automotive, an early-adopter of both PLM and Customer Needs Management solutions, has identified that an integrated new product launch process is a key success criteria for maintaining a competitive advantage in their industry. The ability to manage product launch processes from concept to product end-of-life and conformance of those products to customer requirements and specifications throughout that product lifecycle will determine a product's quality, marketability, financial contribution and risk quotient for both Motorola Automotive and its OEM customers.

Integrating Best-of-Breed Solutions

Motorola Automotive already leverages two best-of-breed solutions in its deployment of digital PLM—MatrixOne's PLM Platform and Engineering Central application and Telelogic's DOORS product for software requirements management. Recently, MatrixOne and Telelogic announced the integration of their products in response to the growing need for Customer Needs Management across the entire product lifecycle. This integration broadened the utility of both products to encompass requirements and content management from concept to post-sale and was an immediate enabler to Motorola Automotive's initiative to deploy a common, global process for new product launch that could support the idea of reusable product lines (product platforms).

This report highlights recent analysis of Motorola Automotive's initiative to integrate its new product launch process into a common, global system and captures the drivers, strategies, metrics and solution components within the scope of that project. This information was developed via a MatrixOne Business Value Assessment (BVA). The BVA provides a unique methodology and toolset used to determine the predictable impact of a specific solution on a given business or organization.

The Metrics

Metric improvements observed or projected:

Time Metrics (Average Reduction %)		Operational Metrics (Average Reduction%)	
Searching Data	45%	Product Launch Costs*	~1%/yr
Entering/Re-keying Data	50%	Engineering Costs/Program*	~5%/yr
Authoring/Managing Customer Requirements & Specifications	25%	Engineering Costs* (design re-use)	~2%/yr
Initiating/Processing Changes	25%	Cost of Poor Quality*	~20%
Managing Customer Programs	30%	Cost of Goods Metrics (Average Reduction%)	
Authoring/Managing Designs	25%	Prototypes & Samples	**
Gate Reviews & Related Activity	25%	Overtime	**
Testing Product to Requirements	10%	Revenue Metrics (Average Improvement%)	
Addressing Potential Defects	20%	Lost Sales-Preventable* (cost & capabilities)	~2%/yr
Preparing Bid/Quote/Estimate	10%	Lost Margin*	~1%/yr
Personnel (Hiring Practices) Metrics (Average Reduction %)		* UPSIDE (not used in financial calculations)	
Staff Avoidance (growth-based hiring practice)	~25% FTE/Yr	** Not Published	
Cost of Staffing (interview/select/hire/train)	~25% FTE/Yr		

Business Case Results

Traditional Cost/Benefit analysis of this investment:

- 4 Year ROI: 4374%
- Payback Period: 1.03 Years
- 4 Year IRR: 2161%
- 4 Year NPV Benefit-to-Cost Ratio: 39:1

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Enabling Solutions

Solution components driving metric improvements:

- Telelogic DOORS is a world leader in requirements management. DOORS provides a multi-platform requirements management tool that captures, decomposes, links, traces, analyzes and manages information in order to ensure a product's compliance with specified requirements and standards.
- Matrix PLM Platform serves as the foundation for the overall Matrix10 environment and is the underlying engine for Matrix10's business process applications, modeling capabilities and integrations. Within the platform is the Modeling Studio which allows companies to easily configure processes, interfaces and data schema to ensure that they meet needs, today and tomorrow.
- Telelogic DOORS/MatrixOne Product Central Integration leverages the strength of DOORS to capture, decompose and group requirements with the power of MatrixOne Product Central to map and manage those requirements to features and parts—and to provide their visibility throughout the extended enterprise.
- MatrixOne Engineering Central enables companies to manage the mechanical, electrical and software definitions of a product in order to automatically capture, communicate and synchronize product designs. This application provides companies with visibility into the design change process and allows them to more efficiently hand-off product definitions from research and development to manufacturing, therefore improving new product time to market.



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