



How Programmable Logic Provides More Options for Consumers

The market has shifted dramatically in the last ninety years. Today the buzzword is “mass customization”—unique products at a price comparable to

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It's been over ninety years since Henry Ford first introduced the Model-T. By 1918, half of all the cars in the United States were Model-Ts. Ford's genius was in the area of precision manufacturing, standardization, the use of interchangeable parts, and division of labor on the assembly line. These factors enabled the mass production of automobiles at an affordable price. Of course, the vehicles that Ford produced were all black and exact carbon copies of one another.



are leveraged across a broad range of products. And through design reuse, parts and component count reduction can be achieved through intelligent design and standardization.

Programmable logic devices are uniquely suited to benefit design engineers in meeting demands for a compressed design cycle and for flexible product customization. The intrinsic adaptability of PLDs easily accommodates design customization in many applications:

- Customization for geographic markets and standards.
- Differentiation on a cost or performance basis (such as video game upgrades versus new game add in cards).
- Adaptation to specific customer or key contract requirements.
- Incorporation of new intellectual property, or cores, to meet specific requirements.

As consumers continue to demand more and more variety, and more options for less, designers are facing the formidable challenge of keeping customers satisfied. To illustrate just how broad a phenomenon this product proliferation is, the model and option combinations for Ford's Escort brand alone result in more than 45,000 possible car configurations.

1999 Ford Escort Options*	
Models	3
Packages	3
Powertrain	2
Exterior	10
Seats	2
Interior Color	3
Audio	3
Tires	2
Options	7

Closer to home, Dell has leveraged mass customization and has continued to deliver top earnings to investors in the

highly competitive PC market. Dell has compressed their order-to-manufacture cycle to as little as four hours**.

Programmable Logic is the Key

So what are the rules for success in the electronics mass customization environment? Through concurrent modular engineering, product design cycles may be compressed. At the same time, greater product varieties may be offered as modular designs

As electronic devices become more and more pervasive among consumers, our industry faces the challenge of being everything to everyone. Programmable logic technology offers a compelling design alternative that will help you get your products to market much sooner and keep your products in the market longer.

Conclusion

Although it may appear to be a daunting task, the advantages of product differentiation are enormous in terms of higher customer satisfaction, customer retention and loyalty, and higher profitability through shortening the supply chain. Mass customization, using programmable logic technology, provides an innovative, competitive strategy that will make your product more useful and more profitable. **Σ**

*Source: Ford Motor Company, 1999 Ford Escort
 **Austin American-Statesman (TX), Sept 28, 1998