TATA ELXSI

VALUE ANALYSIS & VALUE ENGINEERING SERVICES

Extend | Optimize | Localize

Trending

In a latest study conducted by Deloitte, 2 of the top 3 priorities of the R&D leaders are diversification of portfolio for existing and new markets, and focus on using real world evidence for future R&D.

In the times of dense competition in the industry, medical device companies are exploring new avenues for growth. From adopting outside-in approach for driving the topline growth, to improving products for better clinical outcomes, the keys to sustaining and growing in the competitive environment are quite evident.

Companies are investing in gathering market feedback and improving or optimizing their products. Also, new technologies such as IoT, AI, etc. enhance product functionalities and at the same time differentiate the product from the competition.

Moreover, emerging markets such as China, India, Brazil, etc. have become attractive prospects due to economic development of the regions and increase in lifestyle related diseases. Medical device brands seeking greater market penetration are bringing in quality products aligned with the market needs and price sensitivity of the region.

**Deloitte-2018*

Opportunities & Challenges

Identification of usage gaps
Customization of a product according to the needs of different markets or market segments is a challenge. It is important to identify and implement the correct set of features considering the consumer behavior and needs.

Constraints in emerging markets
Companies are constantly in a competitive need to align product cost for the emerging markets while ensuring benchmarked product quality and performance.

Tracking returns of value engineering investments
The rigorous process of reiterating the entire product development lifecycle for cost and performance makes it difficult to keep track of the ROI, both in terms of efforts and expenses. Analyzing possibilities and efforts required to carry-out PDLC is crucial.

Risks associated with new technology integration
Companies aiming to improve product functionalities with new technology integration must weigh in potential risks and impact on the intended use of the device.

Benefits for consumers

- Affordable and quality medical devices aligned to user/ market needs
- Better patient outcomes through improved product performance
- Minimized clinical risks through quality and reliability enhancements

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VAVE Methodology

- ECR (Engineering Change Request) and ECO (Engineering Change Order) process
- Process planning and process validation (IQ, OQ, PQ)
- Design transfer to manufacturing and support

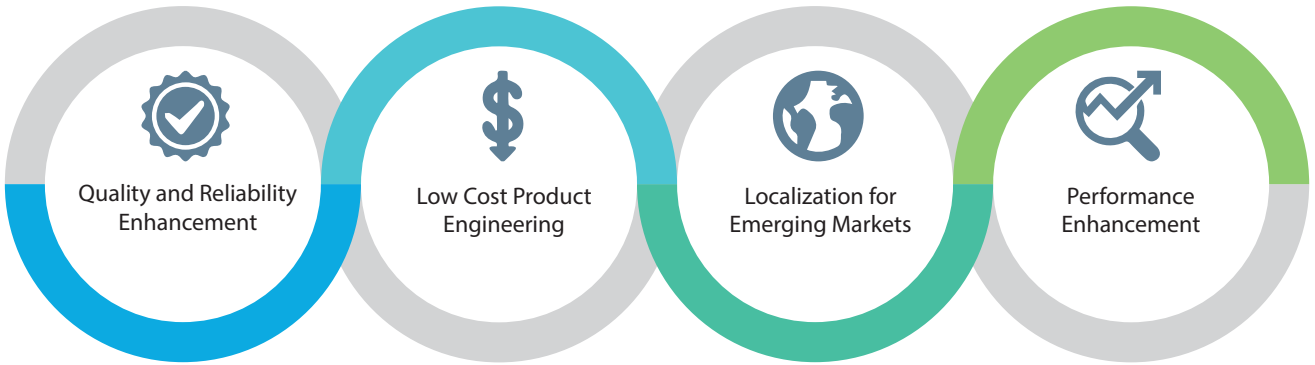
- Competitive benchmarking
- SWOT analysis
- Teardown

- System integration
- Test plan and test protocol
- Test execution and report
- Pre-compliance testing from certified labs

- FAST (Function Analysis System Techniques)
- FCWA (Function Cost Work Analysis)
- FPST (Functional Performance Specification Technique)

- DFM (Design for Manufacturability) and DFA (Design for Assembly)
- 3D modelling, drafting and GD&T
- CAE (Computer Aided Engineering)
- Rapid prototyping

- Value enhancing and cost reduction strategy
- QFD (Quality Function Deployment)
- Cost benefit analysis
- ROI calculations



Differentiators

- Proven VAVE methodology to identify risk in early stages and ensure quality deliverables
- Experience of various markets across the globe
- Multi-level cost down and value enhancement strategy
- Prototyping and testing facilities
- Mature ecosystem of manufacturers, component suppliers and internationally accredited compliance testing labs

Cases

Evaluation and integration of X-ray generator with Extracorporeal Shockwave Lithotripsy (ESWL) device

Identification of a compatible, efficient, and low-cost high-frequency x-ray generator to replace the legacy counterpart. Systematic approach to integrate the generator with the existing flat-panel detector-based lithotripsy system.

Re-engineering of blood coagulation analyzer resulting in 35% BOM cost reduction

Increased portability with enclosure re-design for size and weight reduction. Achieved BOM cost reduction and addressed obsolescence issues.

Value engineering of home-care wound therapy device for market diversification

Re-engineering of a wound care therapy device to address emerging market needs, such as portability and cost reduction, while ensuring robust design with zero tolerance on exceeding clinically set parameters.

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