

Get early visibility into manufacturability and product cost

Deliver high quality designs faster at lower cost with powerful DFM software



Today organizations spend millions of dollars over engineering change orders (ECO). A single ECO can cost up to \$30,000.

DFMPro, an easy to use CAD integrated Design for Manufacturing (DFM) software, identifies & provides recommendations to resolve potential downstream manufacturing issues.

Helps reduce expensive and time-consuming design iterations resulting into faster development of high-quality products.



Typical Business Challenges

Overwhelming engineering change orders (ECO / ECN)

Product cost escalations and depleting margins

Product launch delays

Dispersed organization knowledge



DFMPPro

Capture design issues early and reduce engineering rework

Understand opportunities for cost reduction right at design stage and save cost

Avoid late stage engineering changes and time-consuming rework

Capture best practices and bring in standardization in design review process



Easy and Powerful DFM Software to Drive Measurable Results Fast

Automates the DFM/DFX Review Process

- DFMPPro automates and formalizes the design review process
- Seamlessly integrated inside PTC CREO Parametric™, Siemens NX™ and SOLIDWORKS®



Rule Manager

- Select and configure organization specific guidelines as design rules
- Bring in standardization in Design Review Process



Enables Best Practice Knowledge Capture and Dissemination

- Customizable framework to capture in-house best practices, tribal knowledge and industry standards
- Facilitates continuous design improvements and knowledge retention of retiring workforce

Industry Best Practices



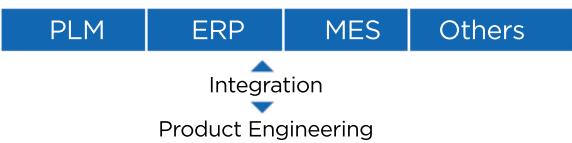
Organization Specific Best Practices



Easily Integrates Into Existing Enterprise Infrastructure

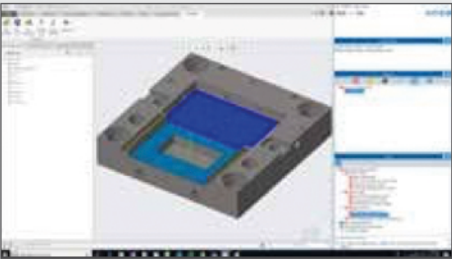
- Integrates easily with PLM, ERP, and MES systems
- Scalable framework for capturing and disseminating manufacturing knowledge upstream

Enterprise Systems

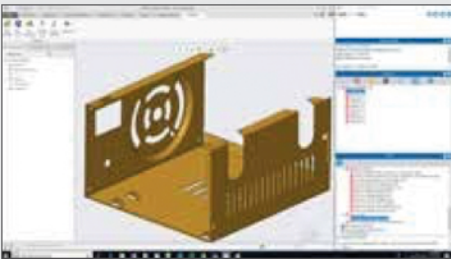




DFMPro modules support common manufacturing processes



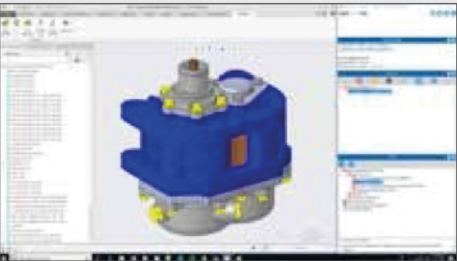
Machining



Machining



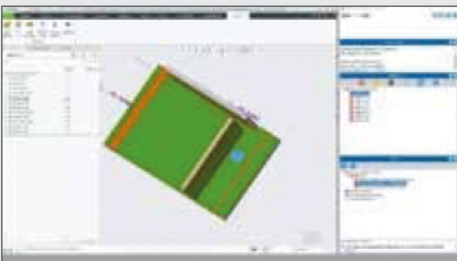
Injection Molding



Assembly



Die casting



Welding

And More



DFX Platform

A scalable, extensible and flexible DFX framework that has collection of application, processes and technologies that are coupled with customization and support services based on customer needs.



Design Engineer



Program Manager



Management



Quality Engineer



Manufacturing Engineer



Tooling Engineer



Rule Manager

DFMPro UI Inside CAD

Reports Publisher

Cost Admin Vault (CAV)*

Integration

Cost add-on*

Analytics Dsshboard*

DFX Command Line Batch

GeomaticDFX Standalone

DFX Analytics Engine

DFX Batch Engine



DFX Enterprise platform to drive design quality, reduce product cost, bring in traceability and improve time to market



Cost Add on

Evaluate design choices based on material, features, geometry & manufacturing regions

Identify expensive design features impacting cost due to manufacturability and get recommendations for cost reduction

Track the cost as designs are getting created

DFMPro cost add-on provides early cost visibility to design engineers right from when designs are getting created.



DFX Analytics

Enabling organizations to develop more collaborative and data driven culture



Capture the data generated by designers



Visualize the data with predefined plots



Analyze and take action



Plan effectively with supporting data

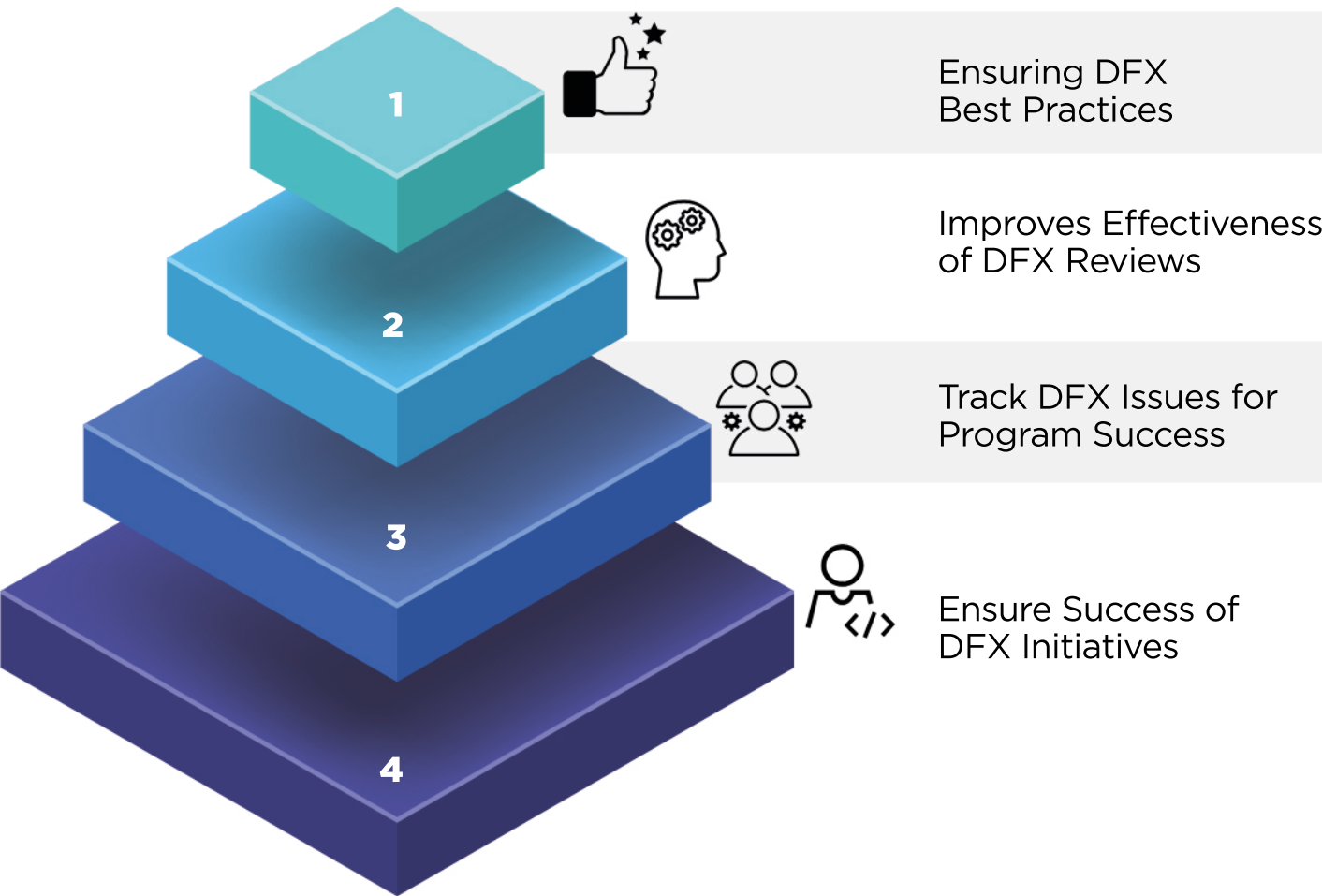


Monitor the process with live data



Identify and reduce waste

DFX Analytics Provides Value Across the Enterprise





DFMPro Success Stories

Celestica expertise is in design and engineering, electronics manufacturing and supply chain management services. Our suite of solutions spans the entire product lifecycle- from design, through to delivery and after market support. Geometric DFX (rights reserved logo) solution helped us to improve productivity by almost 12% and helped us to identify quality issues earlier right during design phase.

Frank Huang
ME Director, Celestica

DFMPro helps our designers quickly identify the issues which are otherwise difficult to capture at the design stage. These issues include things like mold wall thickness and undercuts in plastic parts, incorrect bends in sheet metal parts which cause problems downstream. This tool helps our design teams understand the processes involved in manufacturing. In other words, helps them understand how to Design for Manufacturing. This leads to a significant reduction in design iterations due to issues with manufacturability and a reduction in design checking time. Our aim is to get designs right the first time and this tool helps us achieve this goal.

SK Pradeep Kumar
Director, E&T Capabilities

George Angelov
Director, Global Prototyping & Planning, Whirpool

Now 3D design data of our products are checked by the DFMPro in the design process. Our conventional checking process by designers was highly time-consuming. In contrast, the DFMPro checking is truly fast and reliable in searching the parts to be redesigned or corrected, and the checking criteria can be customized for the appropriate checking of our own products. As a result, we successfully reduced 75% of the checking time of the wall thickness to enhance the efficiency and effectiveness of our design improvement before the release of drawings.”

Kaoru Mizoroki
Group Manager, Toshiba Corporation



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