ENOVIA Hi-Tech Accelerator™

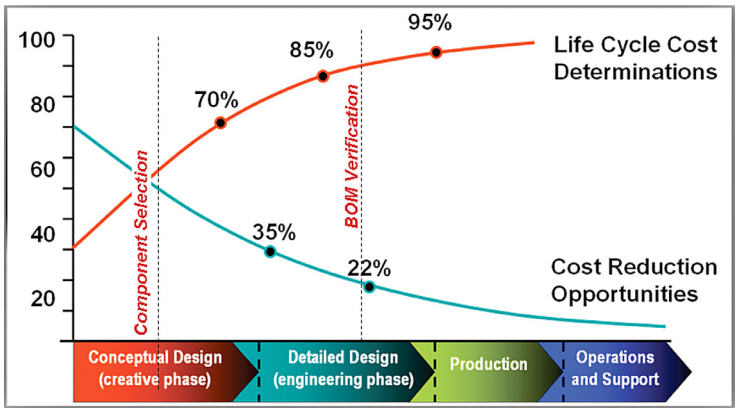
for New Part Request and Development

Today's fast-paced Hi-Tech industry is facing shorter development cycles, more complex product development processes, and a growing need for better collaboration between all disciplines. One area where companies can look for improvements is new part request and development. Increased interaction between mechanical, electrical and software development has placed rising demands on selecting, qualifying and testing parts for new product designs.

The needs for electronic and mechanical parts are completely different, and new part requirements can differ based on division, location or product line. The part development processes for Hi-Tech companies require interaction and approvals by cross-functional users with different skills such as product design, testing, manufacturing, purchasing, and Quality. Coordinating the complex workflows, tasks, and deliverables required for efficient part qualification can raise many issues.

ENOVIA Hi-Tech Accelerator for New Part Request and Development streamlines part development activities, enabling users to manage their development processes for hardware, electrical and software parts (whether designed and manufactured internally, or purchased from suppliers). Users can model complex business rules so that they can initiate, distribute, execute and capture in a consistent and logical way each required task and its related information.

Cost Benefits of Good Component Management



The part approval tasks in the New Part Request/Development Process follow a specific interdependent sequence. Part approval sheets gather specifications coming from the different stages of part development to provide a consistent, repeatable and efficient process.

Key Benefits of the ENOVIA Hi-Tech Accelerator for New Part Request and Development:

- Bring industry-leading products to market quicker and more reliably by leveraging consistent company part processes and optimizing part reuse
- Respond rapidly to market opportunities by streamlining new part development for product definition and improvement
- Standardize the new part request and development process by:
  - Modeling the company rules into consistent workflows
  - Allowing processes to differ based on the part types as needed
  - Managing part maturity upon the completion of new part development tasks
  - Producing and gathering part specifications in relation to part development tasks in order to accurately track progress
  - Automatically producing the part approvals necessary for production
- Monitor part development business metrics at the company, project or product level
- Optimize the supply chain by supporting both internally developed and purchased part business model

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Business Objectives

- Improving global part management efficiencies with standardized processes for creating, validating and canceling part requests of all types
- Reducing the number of parts to control, in order to limit costs via metrics reporting and analysis
- Tracking potential part development delays to avoid late product delivery or other issues and risks though daily control and reporting
- Struggling with timelines, costs, and design complexity in design and production phase thru early lifecycle and approval visibility
- Allowing for multiple production sites where products are manufactured in different geographies using different manufacturer equivalent parts
- Ability to ensure production and maintenance of their products for years, knowing that manufacturer equivalent parts may become obsolete or unavailable
- Support the need to research alternate solutions during the new part introduction process

Key Functionality

Manage the New Part Development Process

Global teams comprised of internal and external resources need to share ideas and participate in development business processes on a global basis. ENOVIA Hi-Tech Accelerator for New Part Request and Development, built on the ENOVIA platform, provides collaboration capabilities including supplier security, formal and ad hoc process support, file sharing and distribution.

Companies can easily tailor the new part development process to meet their specific business needs, including:

- Defining specific new part development tasks based on the part's type and life cycle stages
- Defining the sequence that development activities must occur, and task pre-requisites

ENOVIA Hi-Tech Accelerator for New Part Request and Development allows users to monitor new part development activity easily. Users can access a single list that maintains all parts introduced for a particular product and perform such tasks as initiating a request for a new part, importing many parts at once and cancelling the part development process. In addition, each user has his own default desktop, which provides a list of parts in development requiring his action to proceed. Users, on an as needed basis, can initiate development activities that are appropriate for the part's current development stage. A user defined search for future reference can also produce a parts list.

The product handles the development process for internally developed (Enterprise Part Numbers, EPN) and purchased parts (Manufacturer Equivalent Parts, MEP). EPN creation and revision and MEP selection, validation, revision, and site assignment are a few of the many development processes provided. Regardless of the workflow required, ENOVIA Hi-Tech Accelerator for New Part Request and Development streamlines the part development process and gathers the required specifications in context of the part type requested.

Part and Bill of Material Management

ENOVIA Hi-Tech Accelerator for New Part Request and Development reduces data errors and time delays by providing global development teams with a single, persistent definition of product Engineering Bills of Material (EBOMs). The EBOM can capture specific business behavior and attributes by defining parts of specific types. Parts can have development and production lifecycles for added process flexibility.

Even the most complex products with thousands of parts organized across many levels of hierarchy can structure an EBOM. The EBOM assembly structure updates automatically upon the release of new component revisions. An integrated structure browser allows users to easily navigate and edit multiple levels. Comprehensive BOM editing capabilities include copying parts to and from existing assemblies, and replacing, adding, removing, and re-sequencing parts. Mass change operations automate complex EBOM changes that affect many parent assemblies. Formats for listing EBOM differences include detailed text or intuitive highlighted side-by-side.

ENOVIA Hi-Tech Accelerator for New Part Request and Development also supports preparing EBOMs for manufacturing. Examples include:

- Defining the EBOM with location specific preferred suppliers and component parts (improves communication and reduces data errors internally)
- Providing a list of engineering approved "alternate" or "substitute" parts for manufacturing instead of the primary engineering part (reduces manufacturing downtime and quality issues)
- Enabling a quantity roll up of parts from a multi-level BOM (reduces purchasing delays and errors)
- Using optional ENOVIA integrations to most leading Enterprise Resource Planning (ERP) systems (automatically populates execution systems)

Part Specification Management
ENOVIA Hi-Tech Accelerator for New Part Request and Development can manage any kind of documentation used to define parts and BOMs. In addition, the software works seamlessly with ENOVIA Designer Central, making Computer-Aided-Design (CAD) models available in the context of the BOM. This provides consolidated document and BOM views independent of the authoring tools used.

Most of the specifications attached to a part are produced during its development and certification phase. The intent is to qualify the part by producing these specifications. The global part specification list gathers subsets of the specifications produced during the part development process. An option exists to generate an approval sheet that summarizes the cross validation that occurs when a part is released. A report stores the information associated with the part for future reference.

Product Development Change Processes
ENOVIA Hi-Tech Accelerator for New Part Request and Development contains engineering "best practices" based on the experience of some of the world's largest manufacturing companies. These best practices enable standard and repeatable global engineering processes such as an Engineering Change Request (ECR) process. The ECR process qualifies, analyzes, reviews and approves change requests for released parts, assemblies and technical documentation. By ensuring that a common process and the right level of analysis and oversight is employed, only "approved" changes are implemented, thus reducing the quantity and time associated with implementing engineering changes.

For implementation, the software provides flexibility to split one or many ECRs over one or many Engineering Change Orders (ECOs). The ECO process enables configuring ECO approval and notification templates. When used with optional ERP integrations, the ECO release process automatically updates the associated ERP system(s) to keep engineering and operations synchronous. This automatic synchronization process eliminates redundant, error prone data entry operations, which would otherwise require synchronizing this information manually.

ENOVIA Hi-Tech Accelerator for New Part Request and Development also supports parallel change processes, addressing "ECO stacking." A traditional ECO process forces customers to implement pending changes to a common affected item in the order in which the changes are raised. Often, there is a business need for the ECO implementation order to differ from the raised order. The ENOVIA product addresses "ECO stacking" by enabling users to evaluate in parallel and implement in any order multiple engineering changes that have common affected parts.

Monitoring New Part Development Activity
For performing such tasks as initiating a request for a new part, importing many parts at once and cancelling the part development process, users can access a single list that contains all the parts introduced for a particular product. Each user has a unique default desktop that provides a list of parts in development requiring the user's action to proceed. Users can initiate as needed, development activities that are appropriate for the part's current development stage. A user-defined search can produce the parts list for future reference.

Report and Business Metrics
ENOVIA Hi-Tech Accelerator for New Part Request and Development uses metrics reporting to summarize the new part development activity for a part, a product, a project or a site. These reports highlight potential risks that must be mitigated. Based on the specific key performance indicators for part re-use and development, specific trends can be analyzed. These include:

- Too many new parts in the development phase could result in:
  - High development costs (not enough reuse)
  - Unable to meet the required development schedule
  - Potential production bottlenecks
- Not enough parts in the development phase could lead to too much reuse leading to non-competitive products due to lack of innovation.

The Role of ENOVIA V6 and PLM 2.0

ENOVIA Hi-Tech Accelerator for New Part Request and Development supports PLM 2.0, product lifecycle management online for everyone, and the ENOVIA V6 key values. PLM 2.0 adopts the concepts of online communities and creation, constituting a new paradigm for product innovation. ENOVIA V6 harnesses the collaborative intelligence from diverse online communities to maximize intellectual assets, capturing and leveraging the Intellectual Property (IP) from all business and consumer users.

ENOVIA Hi-Tech Accelerator for New Part Request and Development uses V6 capabilities to bring these benefits to users:

Global collaborative innovation
Everyone with a stake in the product has the ability to participate in the lifecycle of new part requests or development, from initial idea through customer experience.

Lifelike experience
Any user can find information on new part requests and part development to comprehend the impact on new and existing designs using the universal language of 3D. The ability to collaborate in an immersive online 3D environment allows users to easily understand and analyze the impact of new part introductions and re-use opportunities.

A single PLM platform for intellectual property management
All deliverables related to requesting, approving, cataloging and utilizing new parts are accomplished in a single platform and environment, eliminating translation errors.

Online collaboration and innovation
Internet access for all stakeholders involved in the part request and development process means costly queue times dissolve as real time concurrent/parallel work processes occur.

Ready to use PLM business processes
Companies gain immediate value from their investment by using out-of-the-box (OOTB) processes for almost any part supported (hardware, electrical, software, molded, and almost any other Make/Buy part type).

Lower cost of ownership
Users can easily integrate the new part processes with no programming skills and extend the out-of-box processes. This adaptable business model leads to breakthrough Return on Investment (ROI). Built on a Services Oriented Architecture (SOA) platform, and based on market feedback, ENOVIA Hi-Tech Accelerator for New Part Request and Development delivers immediate financial value.

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AcNPRD-0807