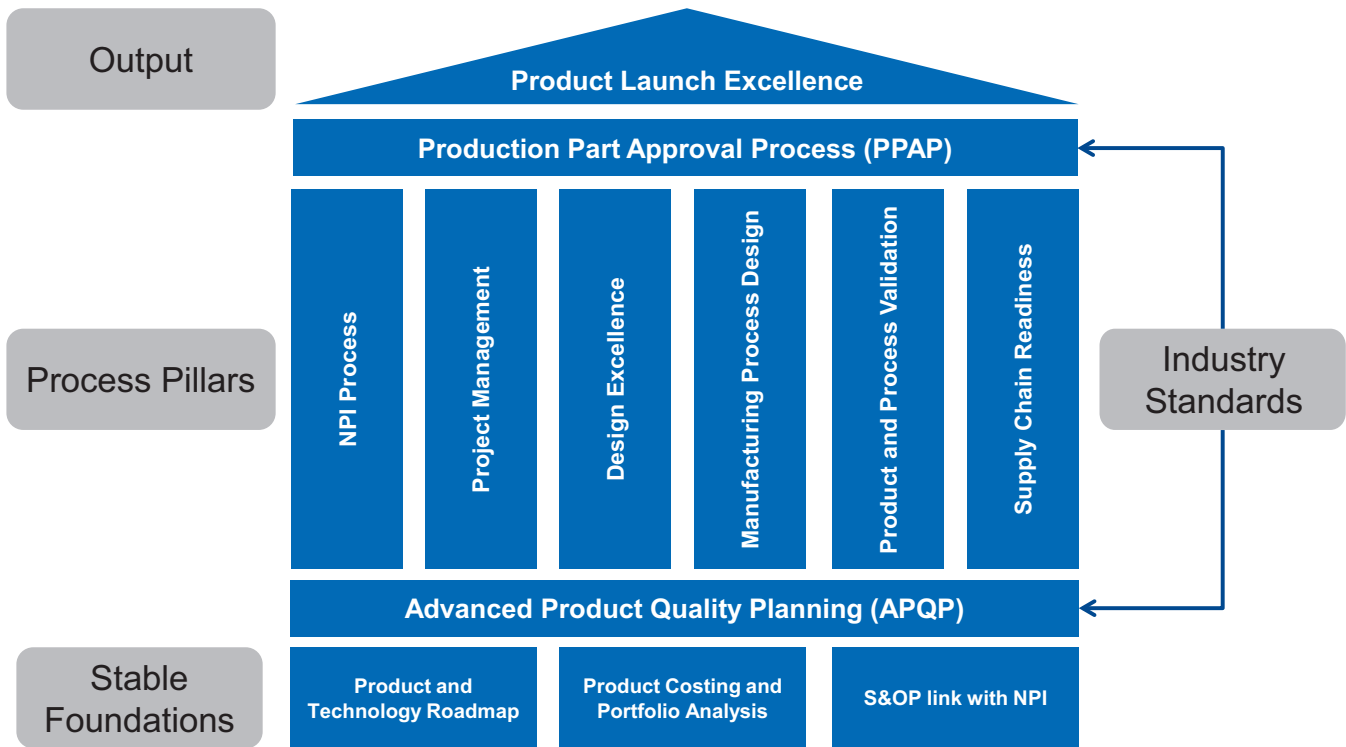# New Product Introduction (NPI)
Training and Implementation Programmes

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if
Industry Forum

Product Launch Right First Time, On Time In Full and at Target cost

Output

Product Launch Excellence

Production Part Approval Process (PPAP)

Process Pillars

NPI Process

Project Management

Design Excellence

Manufacturing Process Design

Product and Process Validation

Supply Chain Readiness

Industry Standards

Advanced Product Quality Planning (APQP)

Stable Foundations

Product and Technology Roadmap

Product Costing and Portfolio Analysis

S&OP link with NPI

What is New Product Introduction (NPI) and Why is it Important?

NPI is a business process that converts a market need into a new product that can be successfully manufactured, sold and subsequently phased out.

There was a time in the not-too-distant past when a company could create a notable product and reap the benefits of that product for many years. Unfortunately, today's market is far more competitive than it used to be, and companies now face the prospect of market saturation for single product designs. This can cause revenues and profits to decline and limit the growth potential of a business. Aspirational growth targets are fundamental to future business strategy, and a large part of achieving this growth will involve the introduction of new opportunities and new products into the business.

What are the Common Challenges in NPI?

Anyone involved in NPI is likely, at some stage, to face schedule delays and not right first time (NRFT) product quality. The result is customer dissatisfaction and the impact can range from simply an annoyance, to new business hold for potential future opportunities. Factors contributing to schedule delays or NRFT product could be down to tooling, sourced components, equipment delivery or readiness, quality issues, product design freeze...the list is endless. Considering the number of deliverables to manage, it becomes imperative that a robust NPI process is put in place to manage the launch of new products. Results from Industry Forum's NPI self-assessment show that 63% of respondents have concerns over the effectiveness of their NPI process.
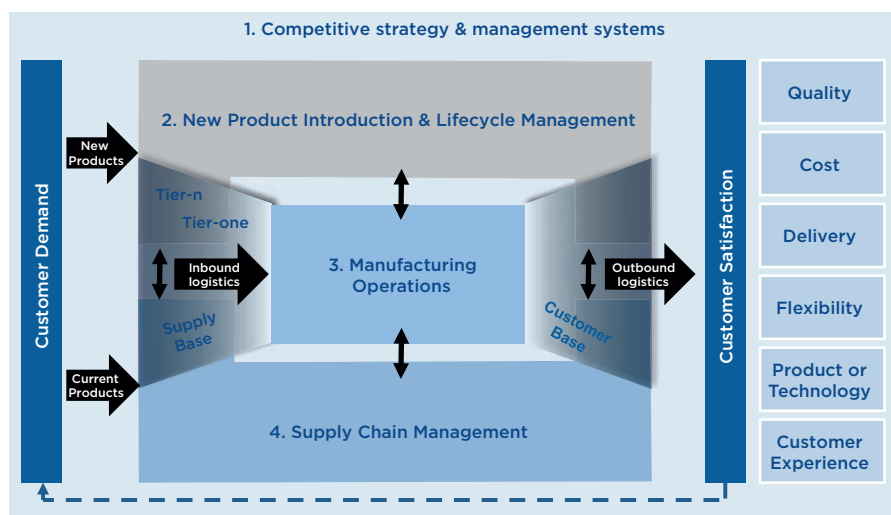
Why choose Industry Forum?

Industry Forum helps major global manufacturers understand, optimise and improve both manufacturing capability and business performance.

An integrated team of consultants and practitioners – all seasoned expert engineers with multi-sector manufacturing experience – Industry Forum brings together a world-class combination of improvement competency, insight, process and best practice.

Spanning automotive, aerospace, consumer appliance, electronics and food sectors, for over 20 years, Industry Forum has planned and delivered some of the world's most consistent and successful transformations for business-critical manufacturing operations.

Industry Forum provides companies with support across their organisation, enabling them to drive improvement across all the capability areas that in combination, deliver the outputs required to satisfy customers and drive competitiveness.

This breadth of knowledge ensures that we are able to guide organisations to integrate the right tools across their operations for business benefit. Our approach provides course delegates and activity team members with the understanding and confidence to successfully implement their knowledge, working with colleagues for mutual success.

Industry Forum's Experience in NPI

Over the years, Industry Forum has worked with different manufacturing organisations to improve their NPI approach in delivering launch excellence. We have been successful in adapting good NPI practices to different organisation sizes and manufacturing sectors. Our customers operate in automotive, aerospace, civil nuclear, industrial and construction equipment sectors. Industry Forum's experience of delivering NPI training and consulting activities include:

- NPI expertise provider for a large aerospace and civil nuclear supply chain improvement programme.
- NPI expertise provider for a large automotive supply chain improvement programme.
- Design of a New Product Launch Excellence programme for the automotive sector.
- Leading NPI technical gap assessment and implementation at small and medium sized enterprises (SMEs).

Our trainers are expert practitioners in NPI, with hands-on industrial experience and highly developed communication skills. They have a wealth of technical expertise and often provide on-site advice and coaching. During every customer engagement, we encourage collaboration and sharing of practical experiences, ensuring learning can be put into context, empowering delegates to apply their new skills successfully in their workplace, as well as making sustainable improvements.

Industry Forum NPI Training

Industry Forum has created a series of courses designed to provide Essentials (understanding) or Practitioner (application) levels of capability in NPI:

- Our Essentials courses are designed for leaders who will be responsible for providing resource and direction in the implementation of the tools, as well as staff who will need to have an understanding but will not be responsible for application.

- Our Practitioner courses are designed for staff who will be responsible for leading or actively participating in the implementation of the tools. They need to have practical understanding, not only of the implementation, but also of how to achieve the right result and the expected depth to which the tool should be applied.

Recognition

On completion of Practitioner courses, learners will receive a uniquely numbered, certificate of attendance in electronic format. Industry Forum maintains certificate records, enabling future confirmation of training completion if required to support audit processes.

Certificates of attendance will also be provided for Essentials courses on request.

NPI Essentials Courses

NPI Essentials courses are delivered as a closed course at your site:

- New Product Introduction Essentials – 2 days
- Essentials for Project Management in New Product Launch – 1 Day
- Essentials for Project Risk and Change Management in New Product Launch – 1 day
- Essentials for Lessons Learned Management in New Product Launch – 1 day

NPI Practitioner Courses

NPI Practitioner courses are delivered as both open courses and closed courses at your site:

- Practitioner in NPI Process Mapping for New Product Launch – 4 days
- Practitioner in Project Management Principles for New Product Launch – 3 days
- Practitioner in New Product Design for Product Launch – 3 days

Industry Forum is also able to provide bespoke training programmes to best match your needs. These will normally combine standard course content with practical application activities, working with your own documentation and developing processes that drive effective implementation.

Industry Forum NPI Consulting

Good practices for NPI process have been in existence for nearly 3 decades. Organisations today are using new business processes, approaches and enabling technologies to continually improve NPI processes in pursuit of launch excellence. With available resources, improving all aspects of NPI at once is next to impossible. Some improvement opportunities are obvious for the team, whereas others may require a more structured, assessment approach. Industry Forum works with customers to complete a structured, technical gap assessment to help answer questions like:

- What are our strengths and weaknesses in each area of NPI?

- What improvements are required and what are the priorities, given the resources available?

- What is our current state performance against good practice in each area of NPI?

- What should our NPI improvement targets for future state be, considering both good practice and business needs?

Approach

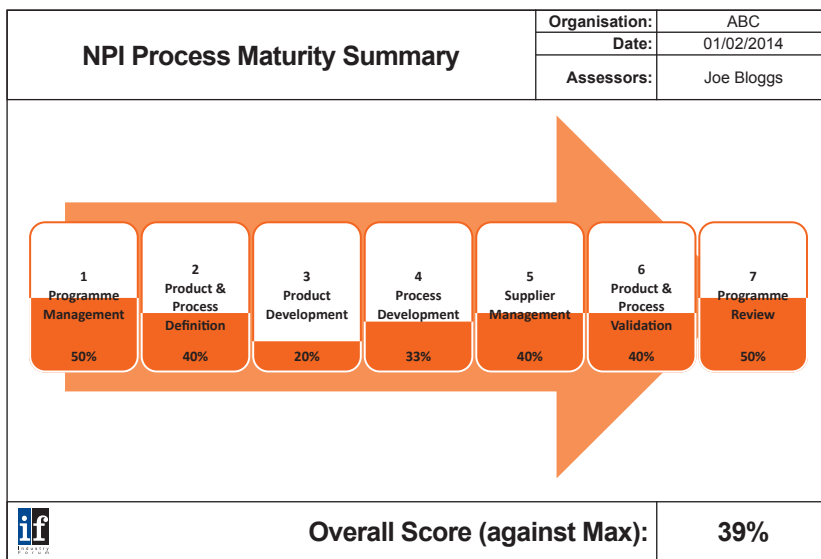|	Preparation Day	NPI Technical Assessment	NPI Implementation Plan
Duration	1 Day	2 Days	1 Day
Location	On your site	On your site	On your site
IF Resource	1 – NPI Lead	1 – NPI Lead	1 – NPI Lead
Customer Resource	Senior management and functional heads as per agenda	Functional team for allocated slots in agenda (typically 2 hour slot)	Senior management and functional heads
Key Objectives	• Understand business and strategic direction • Review existing NPI process and performance • Brief on NPI technical assessment	• NPI effectiveness and current process maturity assessment completed • Future state targets are defined for each section of NPI	• Present strengths and improvement opportunities for each section of technical assessment • Improvement areas defined with proposed journey for the future state

NPI Technical Assessment

The objective of the NPI Technical Assessment is to complete the current state and target state assessment against the best practice criteria. The assessment comprises 36 questions in total, covering the seven areas in NPI.
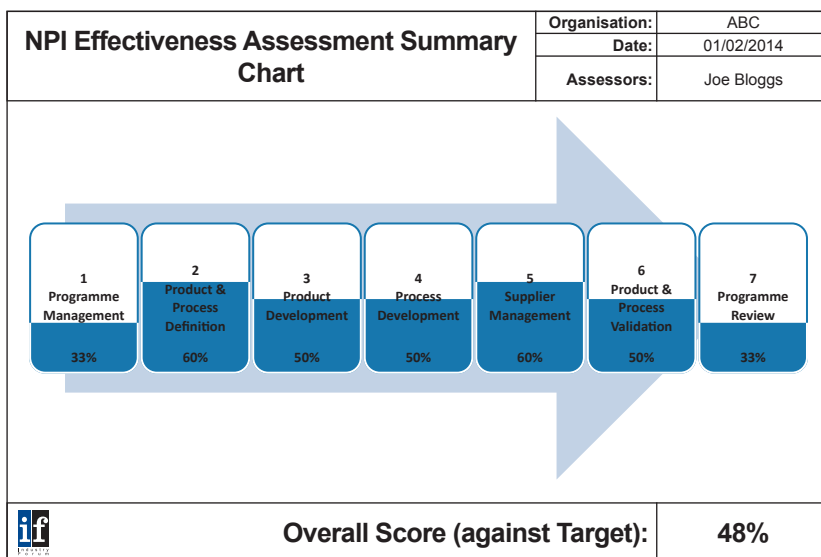
Output of NPI Technical Assessment

On completion of an NPI technical assessment, initial results are presented to the management team and those who have contributed over the two days. Areas of strength and opportunities for improvement are identified for each of the seven focus areas of NPI assessment.

NPI Performance Against Best Practice Criteria

NPI Process Maturity Summary	**Organisation:**	ABC	
	Date:	01/02/2014	
	Assessors:	Joe Bloggs	

1 Programme Management	2 Product & Process Definition	3 Product Development	4 Process Development	5 Supplier Management	6 Product & Process Validation	7 Programme Review
50%	40%	20%	33%	40%	40%	50%

Overall Score (against Max):	**39%**

In this example, the orange bars show the percentage of best practice application within each NPI area, resulting in the overall NPI Process Maturity score of 39%.

NPI Performance Against Future State Target

NPI Effectiveness Assessment Summary Chart	**Organisation:**	ABC	
	Date:	01/02/2014	
	Assessors:	Joe Bloggs	

1 Programme Management	2 Product & Process Definition	3 Product Development	4 Process Development	5 Supplier Management	6 Product & Process Validation	7 Programme Review
33%	60%	50%	50%	60%	50%	33%

Overall Score (against Target):	**48%**

At Industry Forum, we encourage the concept of "best fit", using the guiding principles of "best practice" criteria. To support this, we ask teams during the assessment to set future state targets based on business needs - this helps to prioritise focus areas for improvement. The NPI Effectiveness Assessment summary chart here shows the total current rating for each area against the total target that the team have set.

NPI Implementation Plan

Following the two day onsite technical assessment, a report of the findings and a proposed programme of training and support activities will be prepared. The programme is designed to close any gaps identified in the assessment.

The report explains what training and development activities are recommended, the reasons why, in what sequence and the overall timescale.

The report will comprise the following elements:

- Executive summary – a high level overview of opportunities and proposed work streams.
- Business case – what the proposed work streams will do for the organisation.
- Current state summary – maturity and effectiveness charts, plus KPIs where available.
- Key issues identified – summary of the most important issues identified.
- The IF approach – overview of how we facilitate NPI training and support activities.
- Work stream charters – one page per work stream proposed to explain the objective, the days of activity that will be undertaken, required involvement and activity content.
- Proposed work stream timing plan – an outline timing plan for discussion to show the recommended sequence of work streams and when they will occur.

The NPI implementation plan is then discussed with the stakeholders and leadership team to agree upon the next steps for improvement activity.

NEW PRODUCT INTRODUCTION ESSENTIALS

2 DAY COURSE

Course Overview

In many ways, we can compare launch excellence to rocket science - the coordination of activities that need to happen at predefined moments and to a certain standard is not an easy task. To get the fundamentals right, companies need to work on a standard approach for launch excellence. Successful implementation would depend on the required skills existing in a cross-functional team.

This two day course provides an understanding of principles in New Product Launch Excellence using Industry Forum's NPI Model for Launch Excellence.

Who should attend?

This course is designed for anyone involved in implementing, managing or directing new product launch in an organisation. Examples of functional roles that will benefit from this course are product managers, project managers, commercial managers, quality engineers, design engineers, manufacturing engineers and supplier development engineers.

Benefits and Learning Objectives

A good understanding of each element in product launch excellence will help improve team work and adherence to procedures. Teams involved in new product launch can look to develop skill sets that allow them to undertake a greater variety of work. Overall, it will increase the ability of teams to respond effectively to change.

By the end of this course, you will be able to:

- Understand the launch excellence model in the product lifecycle.
- Understand the role of each process pillar in delivering launch excellence.
- Understand stable foundations linking NPI to business strategy.
- Reflect on current day-to-day practices in line with the launch excellence model.

Topics covered

- Product lifecycle phases and competitive advantage.
- NPI Model for Product Launch Excellence.
- Role of stable foundations in product launch excellence.
- Purpose of industry standards.
- Process pillars for product launch excellence.
  - NPI process.
  - Project management.
  - Product design excellence.
  - Manufacturing process design.
  - Product and process validation.
  - Supply chain readiness.

ESSENTIALS FOR PROJECT MANAGEMENT IN NEW PRODUCT LAUNCH

1 DAY COURSE

Course Overview

There are various ways in which projects can be approached and a host of 'methodologies', 'frameworks' and 'processes' have been developed over the years. While every project is unique, there are basic project management principles which underpin most of the project work. With this course, we aim to build a strong foundation of these project management principles, which will help you in successful implementation within your respective project environments.

This one day course provides an understanding of principles in project management to support successful launch of new products.

Who should attend?

This course is designed for individuals responsible for projects as project leaders or managers, project sponsors held accountable in their roles for successful projects and cross-functional members within project implementation teams. Project support members involved in either providing admin support or conducting internal audits on projects can equally benefit from this course. In addition, quality engineers, design engineers, manufacturing engineers and supplier development engineers can also benefit from this course.

Benefits and Learning Objectives

Without good project management embedded, many organisations find themselves 'firefighting' NPI projects to launch. For a successful product launch, project management needs to be a specialist skill on a par with other technical and business skills. Project teams with a good understanding of project management principles are more likely to deliver project output(s) on time to schedule and within budgeted cost.

By the end of this course, you will be able to:

- Understand how projects are defined and why they are different from business as usual.
- Understand the project lifecycle and how all projects relate to a basic project lifecycle structure.
- Understand the process steps involved in building a project plan.
- Understand definition of project management roles and responsibilities.
- Understand the elements in project reporting, control and close down.

Topics covered

- Defining projects and understanding how project management methodologies help us.
- Introduction to project charter and steps in project planning.
- Project roles and responsibilities and the journey to high performing teams.
- Overview of project reporting tools and introduction to project escalations.
- Role of project change management and lessons learned.

ESSENTIALS FOR PROJECT RISK AND CHANGE MANAGEMENT IN NEW PRODUCT LAUNCH

1 DAY COURSE

Course Overview

Risks and changes are inherent in a new product launch process. Often, risks are not considered early enough in a project and mitigation actions are not sufficiently or well developed. This leads to "unconscious issue allowance", rather than conscious decision making to minimise the impact of risks, should they become an issue. On the other hand, changes are almost inevitable but the way of dealing with them varies enormously. Key to change management is the understanding of the impact of the change and ensuring sufficient allowance in the time and financial budgets.

This one day course provides an understanding of principles in risk and change management to support successful launch of new products.

Who should attend?

This course is designed for individuals responsible for projects as project leaders or managers. It will equally benefit cross-functional members within project implementation teams. Project teams do not have much influence over the way the project risk and change management process works, but they should be aware of what it is and be able to use it in an efficient manner.

Benefits and Learning Objectives

An understanding of risk management principles will help to develop risk management plans and ensure that risks are managed properly. This approach will reduce the impact of negative risks and increase the impact of opportunities. At the same time, it will provide a tool for reporting risk to senior management, as well as the project sponsor and team. Controlled change management will provide mutual benefit for both the change requester and change implementer(s). It will ensure that costs/benefits associated with change are understood, planned and realised.

By the end of this course, you will be able to:

- Understand risk and change management principles.
- Understand the role of a cross-functional team in project risk and change management.
- Understand project risk and the change management process.
- Understand the link between project risk and change management.

Topics covered

- Defining risk and understanding the principles of risk management.
- Introduction to risk threshold levels (impact and likelihood).
- Exercises to reflect upon current practices in project risk and change management.
- Practical definition of risks and understanding the linkage to risk registers.
- Purpose and benefits of project change management.
- Types of issues and planning of project changes.

ESSENTIALS FOR LESSONS LEARNED MANAGEMENT IN NEW PRODUCT LAUNCH

1 DAY COURSE

Course Overview

It is often mistakenly assumed that we cannot predict the issues we may encounter because we are dealing with a new product. The concept of learning from experience is useful to ensure that lessons learned on previous projects can be captured, understood and acted upon for any future similar situations. The skill required to apply a generic level solution to a specific problem can be learned and developed through training in system level thinking and setting up a structured method to capture, review and act on knowledge gained from similar circumstances in other projects.

This one day course provides an understanding of principles in lessons learned management to support the successful launch of new products.

Who should attend?

This course is designed for individuals responsible for projects as project leaders or managers, project sponsors held accountable in their roles for successful projects and cross-functional members within project implementation teams. Project support members involved in either providing admin support or conducting internal audit on projects can equally benefit from this course. Examples of functional roles that will also benefit from this course are quality engineers, design engineers, manufacturing engineers and supplier development engineers.

Benefits and Learning Objectives

A lessons learned approach will result in reduced issues discovered at later stages of projects, when it is more costly and time consuming to fix. It will reduce reactive time spent re-engineering product or process designs, as well as rework and scrap at the production phase, leading to a reduction in overall project lead-time. All in all, there will be a reduction in frustration, allowing a proactive approach to resourcing within project teams.

By the end of this course, you will be able to:

- Understand the theory behind lessons learned.
- Understand the lessons learned cycle and process management.
- Understand lessons log management as a project record.
- Understand the facilitator's role in lessons generation through participation in group exercise.

Topics covered

- Definition of lessons learned and review of common challenges.
- Maturity model for lessons learned implementation.
- Steps in the lessons learned cycle and process management.
- Review of external case study for lessons learned.
- Group exercise to generate lessons learned and generation of lessons log.

PRACTITIONER IN NPI PROCESS MAPPING FOR NEW PRODUCT LAUNCH

4 DAY COURSE

Course Overview

75% of all NPIs do not achieve quality, cost or delivery expectations. Only 25% of companies follow their NPI process, and 25% do not have a defined process at all. The result is significant reliance on key individuals' skills, experience and influence to make projects work. Often, key steps are duplicated or missed and decisions are not escalated to the correct decision makers in a timely manner, resulting in a highly reactive working environment with significant levels of rework and stress.

This workshop will look at current state of the NPI process and define a future state NPI process, building stakeholder agreement to deliver successful new product launch.

Who should attend?

This course is aimed at anyone involved in defining, improving or implementing NPI process in an organisation.

Benefits and Learning Objectives

Current state NPI process mapping will help to build consensus in the team on how far the best practice needs to be implemented, considering the needs of the business. The workshop with key stakeholders to develop a future state NPI process map will help to build stakeholder buy-in and increase the success rate for adherence to a defined process.

By the end of this workshop, you will have:

- Understanding of NPI best practices.
- Reviewed current state of NPI process and defined challenges.
- Defined future state NPI process, considering business needs.
- Defined measures to succeed in NPI process implementation.

Topics covered

- Introduction to good NPI practices with some common challenges faced.
- Introduction to a gated process and reasons for implementing this.
- Review of key gate decision points.
- Introduction to Four Fields Mapping methodology to define a future state map.
- NPI future state process definition to include:
  - Key gate decision points, their purpose, evidence required and commitment level.
  - The tasks that need to be completed between each decision point.
  - Definition of roles and responsibilities for each task.
  - Standard work definition to show outputs and deliverables of task.
  - An outline timing for completion of tasks.
- Defining a combination.

PRACTITIONER IN PROJECT MANAGEMENT FOR NEW PRODUCT LAUNCH

3 DAY COURSE

Course Overview

NPI projects are often not given sufficient priority in the business to have specific project management resource allocated. It often falls to design and development engineers to run projects in amongst their other responsibilities, without the cross-functional support for project activities or escalation of issues. This can result in a late launch into manufacturing, with incomplete information and a stressful push through the final production stages in an attempt to deliver on time to the customer. Effective project management requires an agreed approach, clear communication, defined resources and strong support from the management team.

This course provides an understanding of tools required, together with the principles of project management to deliver new product launch.

Who should attend?

This course is designed for individuals responsible for projects as project leaders or managers, project sponsors held accountable in their roles for successful projects and cross-functional members within project implementation teams. Project support members involved in either providing admin support or conducting internal audit on projects can equally benefit from this course.

Benefits and Learning Objectives

For a successful product launch, project management needs to be a specialist skill on a par with other technical and business skills. Project management in new product launch will ensure that projects are properly planned, controlled and delivered to both customer and business requirements. It will also help in team ownership of risk and change management actions, reducing stress on individuals.

By the end of this course, you will be able to:

- Understand project management tools required for new product launch at Practitioner level. This includes:
  - Good practices for product launch and common challenges faced in implementation.
  - How projects are defined and why they are different from business as usual.
  - Project lifecycle and how all projects relate to a basic project lifecycle structure.
  - Process steps involved in building a project plan.
  - Definition of project management roles and responsibilities.
  - Elements in project reporting, control and close down.
  - Risk and change management principles.
  - Role of a cross-functional team in project risk and change management.
  - The project risk and change management process.
  - The link between project risk and change management.
  - Theory behind project lessons learned.
  - Lessons learned cycle and process management.
  - Lessons log management as a project record.

Topics covered

- Defining projects and understanding how project management methodologies help us.
- Introduction to project charter and steps in project planning.
- Project roles and responsibilities and the journey to high performing teams.
- Overview of project reporting tools and introduction to project escalations.
- Defining risk and understanding principles of risk management.
- Introduction to risk threshold levels (impact and likelihood).
- Exercises to reflect upon current practices in project risk and change management.
- Practical definition of risks and understanding linkage to risk registers.
- Purpose and benefits of project change management.
- Types of issues and planning of project changes.
- Definition of lessons learned and review of common challenges.
- Maturity model for lessons learned implementation.
- Steps in lessons learned cycle and process management.
- Review of external case study for lessons learned.
- Group exercise to generate lessons learned and generation of lessons log.

PRACTITIONER IN NEW PRODUCT DESIGN FOR PRODUCT LAUNCH

3 DAY COURSE

Course Overview

In an increasingly competitive and complex environment, a company's product success requires excellence along the entire product creation process. Excellence in new product design provides a key competitive advantage to companies, but consistently achieving high performance in this area remains a constant challenge for even the most innovative companies. While consistently achieving true product excellence is always a challenge, the payoff - growth in market share, increased sales - usually makes the effort more than worthwhile.

This course provides an understanding of tools required, together with the principles of new product design to deliver a successful new product launch.

Who should attend?

This course is designed for anyone involved in product design and development to deliver a successful new product launch. It is equally beneficial for manufacturing engineers requiring an understanding of product design and development to support their role in manufacturing process design. Project managers and leaders can benefit with having an appreciation for elements of new product design.

Benefits and Learning Objectives

New product design tools help to manage product risks and drive value throughout new product design and development process. These tools also help to gain stakeholder buy-in for new product design and avoid costly changes post design freeze point in product launch.

By the end of this course, you will be able to:

- Understand new product design tools required for product launch. This includes:
  - Principles of new product design in product launch.
  - Concept development process.
  - Design for manufacturing and assembly.
  - Value management.
  - Principles of Design FMEA.
  - Design verification planning and reporting.

Topics covered

- Identifying customer needs and converting into target specifications.
- Product concept definition and selection.
- Principles in design for assembly and design for manufacturing.
- Value management principles and how to carry out value management.
- Design FMEA principles and planning for prototypes.
- Design verification planning and reporting.

NOTES

IMPROVING MANUFACTURING COMPETITIVENESS