

Introduction to PRINCE2

PRINCE2 is a structured project management method based on the experience of scores of project managers, who have contributed, some from their mistakes or omissions, others from their success.

PRINCE2 has a process-based approach to project management. The processes define the management activities to be carried out during the project. In addition, PRINCE2 describes a number of components that are applied within the appropriate activities.

The Processes

The PRINCE2 process model consists of eight distinctive management processes covering the activities from setting the project off on the right track, through controlling and managing the project's progress, to the completion of the project. The common Planning (PL) process is used by four of the other processes.

Any project run under PRINCE2 will need to address each of these processes in some form. However, the key to successful use of the process model, is in tailoring it to the needs of the individual project. Each process should be approached with the question: "How extensively should this process be applied to this project?"

The eight processes are:

- Starting up a Project (SU)
- Directing a Project (DP)
- Initiating a Project (IP)
- Managing Stage Boundaries (SB)
- Controlling a Stage (CS)
- Managing Product Delivery (MP)
- Closing a Project (CP)
- Planning (PL)

The Components

The eight components that are applied as appropriate to each of the processes are:

- *The Business Case.* The existence of a viable Business Case is the main control condition of a PRINCE2 project. The Business Case is verified by the Project Board before a project begins and at every major decision point throughout the project. The project should be stopped if the viability of the Business Case disappears for any reason.
- *Organisation.* PRINCE2 provides a structure of a project management team and a definition of the responsibilities and relationships of all roles involved in the project. According to the size and complexity of a project, these roles can be combined or shared.
- *Plans.* PRINCE2 offers a series of plan levels that can be tailored to the size and needs of a project and an approach to planning based on products rather than activities.
- *Controls.* PRINCE2 provides a set of controls which facilitate the provision of key decision-making information, allowing an organisation to pre-empt problems and make decisions on problem resolution. For senior management, PRINCE2 controls are based on the concept of management by exception, i.e. we agree a plan, and then let the manager get on with it unless something is forecast to go wrong. In order to promote sound management control, a project is split into stages as an approach to defining the review and commitment points of a project. (Using stages also helps to reduce the amount of work that a Project Manager needs to plan in detail at any one time.)
- *Management of Risk.* Risk is a major factor to be considered during the life of a project. PRINCE2 defines the key moments when risks should be reviewed, outlines an approach to the analysis and management of risk, and tracks these through all the processes.
- *Quality in a project environment.* PRINCE2 recognises the importance of quality and incorporates a quality approach to the management and technical processes. It begins by establishing the customer's quality expectations and follows these by laying down standards and quality inspection methods to be used and by checking that these are being used.
- *Configuration management.* Tracking the components of a final product and their versions for release is called configuration management. There are many different methods of configuration management available. PRINCE2 defines the essential facilities and information requirements for a configuration management method and how it should link with other PRINCE2 components and techniques.

- *Change Control.* PRINCE2 emphasises the need for change control, and this is enforced with a change control technique plus identification of the processes that capture, analysis and progress the change control.

The Processes

Starting up a Project (SU)

Fundamental Principles

- There must be a basic business requirement that triggers the project. Indeed, before any work is commenced or resources committed, there is a requirement to be able to answer the basic question: “Do we have a viable and worthwhile project?” This question must be answered honestly to ensure that resources are not committed and wasted
- Nothing can be done in the project until responsibilities are defined and key roles have been filled. Someone has to “kick-start” the project into being and make the first decisions
- Certain base information is needed to make rational decisions about the commissioning of the project
- An initiation Stage Plan must be submitted for approval before the initiation stage can be entered

This is the first process within PRINCE2. The project begins once this process has been conducted and the Project Board has approved commencement of project initiation.

Projects can be identified in a variety of ways and thus have a wide variation in the management information available to the project management team at the time of start-up. The trigger for the project is the Project Mandate. This is normally provided by corporate or programme management. It is accepted that the Project Mandate may be anything from a verbal request to a full Project Brief.

Process Description

The work of the process is built around the production of seven elements:

- Designing and appointing the project management team
- Ensuring that the information required for the Project Brief is available
- Establishing the Project Approach
- Establishing the customer’s quality expectations
- Creating an outline Business Case

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- Setting up a Risk Log
- Creating the initiation Stage Plan

The objective of the process is to enable a controlled start to the project by ensuring that:

- All the necessary project management authorities exist for undertaking the project
- Sufficient information is available to formalise the terms of reference for the project
- Individuals are appointed who will undertake the work required in project initiation and/or will take significant project management roles in the project
- The work required for project initiation is planned
- The organisation that will host the project team is informed of the existence and implications of the new project.

Initiating a Project (IP)

Fundamental Principles

A successful project should observe the following principles:

- A project is a finite process with a defined start and end
- All parties must be clear on what the project is intended to achieve, why it is needed, how the outcome is to be achieved and what their responsibilities are, so that there can be genuine commitment to the project.
- Well managed projects have an increased chance of success.

Following these principles will ensure that the project can be successfully scoped and managed to its completion.

Process Description

The purpose of Initiating a Project is to draw up a “contract” in the form of a Project Initiation Document between the Project Board and the Project Manager, so that there is a common understanding of:

- The reasons for doing the project
- What key products the project will deliver
- How and when these will be delivered and at what cost
- The scope of what is to be done
- Any constraints which apply to the product to be delivered
- Any constraints which apply to the project
- Who is to be involved in the decision making
- How the quality required will be delivered
- What risks are faced
- How the project is to be controlled
- Who needs project progress information, how and when

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- The next commitment that the Project Manger needs (the next stage plan)

This information can be agreed as informally as the Project Board and the Project Manger wish. The Project Manager should always document the understanding, however small the project, and get it signed by the project board, even if this is one person. People's recollection of a verbal agreement can differ weeks, or even days later.

In formal terms, the objectives of Initiating a Project are to:

- Document and confirm that an acceptable Business Case exists for the project
- Ensure a firm and accepted foundation to the project, prior to the commencement of the work, via the creation of the Project Initiation Document
- Enable and encourage the Project Board to take ownership of the project
- Enable and encourage the project board to:
 - Make a decision on whether the project is viable
 - Agree to the commitment of resources to the next stage
- Provide the benchmark for the decision-making processes required during the project's life
- Ensure that by carrying out initiation in an organised manner, the investment of time and effort required by the project is made wisely, taking account of the risks to the project.

Directing a Project (DP)

Fundamental Principles

Senior management who have the authority and responsibility for:

- Defining what is required from the project
- Authorising the funds for the project
- Committing the resources
- Communicating with external interested parties

will typically delegate the day-to-day charge of the project to a Project Manager. However, the Executive must exercise overall control and be responsible for the key decisions. It is also important that levels of authority and decision-making processes are clearly identified.

Process Description

The objectives of Directing a Project (DP) are to:

- Ensure the ultimate success of the project, judged by:
 - the ability of the products of the project to deliver the business benefits set out in the Business Case
 - delivery to agreed time, cost and quality parameters
- Manage the identified risks in the project
- Ensure the effective management of all people and resources concerned with the project
- Commit the required resources
- Make decisions on any changes requested by the Project Manager
- Provide overall direction and guidance throughout the project
- Make decisions on exception situations
- Ensure that the project and the products remain consistent with business plans and the external environment

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- Ensure that the necessary communication mechanisms are in place
- Sponsor appropriate external communication and publicity about the project.

This process covers the direction of the project throughout its life cycle. The project board pro-actively manages the project's response to the external environment. Within the project, the Project Board should "manage by exception". The Project Board members are normally busy executives with a range of responsibilities; demands on their time should be kept to a minimum while fulfilling their responsibilities to the project.

The key responsibilities are:

- Overall direction and decision making
- Resource commitment.

The key processes for the Project Board are predominately event driven and focus the Project Board members on a small number of key decision points, plus informal discussions where required. These key processes break into four main areas:

- Initiation (starting the project off on the right foot)
- Project re-evaluation at stage boundaries or following an exception situation (commitment to further work after checking results so far)
- Ad Hoc direction (monitoring progress, providing advice and guidance)
- Project closure (confirming the project outcome and bringing the project to a controlled close, or premature closure of the project should the Business Case no longer be valid).

Controlling a Stage (CS)

Fundamental Principles

Once a decision has been taken to proceed with work and resources have been committed, the project management team must focus on delivery within the tolerances laid down.

This means controlled production of the agreed products:

- To stated quality standards
- Within cost, effort and time agreed
- Ultimately to achieve desired benefits.

To achieve this success, the project must:

- Focus management attention on delivery of the stage's products
- Focus the resources used during the stage towards this end
- Keep the risks under control
- Keep the Business Case under review
- Carefully monitor any movement away from the direction and products agreed at the start of the stage to avoid "scope-creep" and loss of focus.

Process Description

The objectives of Controlling a Stage are to:

- Deliver the right products
- Ensure that quality is achieved as planned
- Deliver products on time and to cost within agreed tolerances
- Correctly direct and conduct work on products
- Keep control of products via configuration management
- Properly direct and utilise resources

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- Update plans with actuals, enabling progress to be checked against the plan
- Correctly cost resource usage
- Correctly manage any deviations from Stage or Project Plans
- Inform all interested parties about project progress in a timely manner
- Ensure that projects are stopped or redirected if the reasons for setting them up have been invalidated by internal or external events.

Central to the ultimate success of the project is the day-to-day control of the work that is being conducted. Throughout a stage, this will consist of a cycle of:

- Authorising work to be done (CS1)
- Monitoring progress information about that work (CS2 and CS9)
- Watching for and assessing Project Issues (CS3 and CS4)
- Reviewing the situation and triggering new Work Packages (CS5)
- Reporting (CS6)
- Taking any necessary corrective action (CS7)

If changes are observed that are forecast to cause deviations beyond agreed Stage and/or project tolerances, Capturing Project Issues (CS3), Examining Project Issues (CS4), Reviewing Stage Status (CS5) and Escalating Project Issues (CS8) cover the activities of bringing the situation to the attention of the Project Board.

Other factors that must be borne in mind are as follows:

- The current stage contains work and involves resource expenditure that has been authorised by the Project Board. It is therefore important to give the Project Board feedback on progress against its expectations.
- All individual items of work in a stage should be authorised
- Project work can be adequately controlled only against a plan
- If the project is to be successful, the Project Manager and Project Board must react quickly to changes and deviations from the agreed Stage Plan.

Managing Product Delivery (MP)

Fundamental Principles

Managing Product Delivery (MP) allows a controlled break between the Project Manager and Team Manager, or between the Project Manager and product creation/provision by third-party suppliers. The process needs careful implementation to avoid being over-bureaucratic.

Process Description

The objectives of this process are to allow a Team Manager to:

- Agree work with the Project Manager
- Get it done
- Hand it back to the Project Manager

This agreement to do a defined amount of work is parcelled into Work Packages. Where external suppliers are involved, the acceptance of Work Packages will be affected by the terms of their contract.

The Team Manager ensures that planned products are created and delivered by the team to the project by:

- Accepting and checking Work Packages from the Project Manager
- Making certain that work on products allocated to the team is effectively authorised and agreed
- Ensuring that work links to any interfaces identified in the Work Package
- Creating or revising a Team Plan for the work
- Ensuring that the work is done
- Ensuring that work progress, quality inspections and forecasts are regularly assessed
- Ensuring that completed products meet specified quality criteria
- Obtaining approval for completed products.

Managing Stage Boundaries (SB)

Fundamental Principles

Projects, whether large or small, need to be focussed on delivering business benefit, either in their own right or as part of a larger programme. The continuing correct focus of the project should be confirmed at the end of each stage. If necessary, the project can be redirected or stopped to avoid wasting time and money.

Process Description

The objectives of the process are to:

- Assure the Project Board that all products in the current Stage Plan have been completed as defined
- Prepare the next stage plan
- Provide the information needed for the Project Board to assess the continuing viability of the project
- Obtain authorisation for the start of the next stage, together with its delegated tolerance margins
- Record any information or lessons that can help later stages of this project and/or other projects.

There could be changes of personnel and management, needing changes to the project management team.

There is also the requirement to review the Project Quality Plan and Project Approach to check whether they need changing or refining.

The stage that follows initiation is normally approved at the same time as the Project Initiation Document. If so, this process would need customising for that situation.

Closing a Project (CP)

Fundamental Principles

One of the defining features of a project is that it is finite – it has a start and an end. If the project loses this distinctiveness, it loses some of its advantages over purely operational management approaches.

A clear end to the project:

- Is always more successful than the natural tendency to drift into use and subsequent modification of the product. It is recognition by all concerned that:
 - The original objectives had not been met
 - The current project has run its course
 - Either the operational regime must now take over the products from this project, or that they should become inputs into some subsequent project or into some larger programme.
- Helps to achieve business objectives by avoiding wasted time and by providing a useful opportunity to take stock of achievements and experience
- Provides an opportunity to ensure that all unachieved goals and objectives are identified so that they can be addressed in the future.

Process Description

The approach to Closing a Project (CP) has to be tailored to suit the needs of the particular project. For example, if the project is part of a programme or a series of projects, this may affect how some of the fundamental principles, such as how follow-on actions are handled. The project may be closely connected with a subsequent project and may have been planned ahead that way. All the results of the first project feed into the subsequent one, in which case there may be no need to be concerned about maintenance or subsequent operational arrangements, or other follow-on actions. As another example, if the project had delivered an intangible product – for example to bring about a change in philosophy – then the objective of ensuring that operational and support arrangements are in place may not be appropriate.

The following is an illustrative list of the aims of the Closing a Project (CP) process. Depending on the type of project, they may not all be required:

- Ensure that the objectives or aims set out in the Project Initiation Document have been met
- Ensure that all expected products have been handed over and accepted by the customer or relevant subsequent project

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- Ensure that the acceptance criteria have all been met and get the customer's confirmation of this
- Ensure that arrangements for the support and operation of the project's products are in place (where appropriate)
- Request formal acceptance of the products from the Project Board
- If the project has been closed prematurely, document what has been achieved and recommend the way forward
- Identify any Follow-on Action Recommendations
- Capture and document lessons resulting from the project
- Prepare an End Project Report
- Plan any post-project review required
- Prepare notification to the host location of the intention to disband the project organisation and resources
- Arrange secure and orderly achieving of the project's records.

This process covers the Project Manager's work to close the project either at its end or at premature close. Most of the work is to prepare input into the Project Board to obtain its confirmation that the project may close. If the project is being brought to a premature close, this process will have to be tailored to the actual project situation. It will be a case of what can be saved for use by another project or what remedial work is now required to fill any gaps left by the cancellation of this project.

The Project Initiation Document is examined to check the actual results of the project against the original expectations of (or as modified by the Project Board). All planned products should have been approved and delivered to the customer or be ready for handover. There must be documented confirmation from the customer that all Acceptance Criteria, defined at the outset of the project, have been met.

The Project Manager prepares an End Report that comprehensively evaluates the actual project results versus that envisaged in the Project Initiation Document.

There may be a number of Project Issues that were put in suspension by the Project Board. These may lead to new projects or enhancements to the products of the current project during its operational life. The project Manager sorts these out into appropriate Follow-on Action Recommendations.

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The Lessons Learned Log, which has been developed during the project, is now turned into a report and made available outside the project.

Notification to the host location that any provided facilities and resources will no longer be required is prepared for Project Board approval, including release dates
Archiving of the management documents should be arranged, such that any later audit or retrieval can be done conveniently.

Planning (PL)

Fundamental Principles

Effective project management relies on an effective planning and control process. Even small projects require planning.

Planning provides all personnel involved in the project with information on:

- What is required
- How it will be achieved and by whom, using what specialist equipment and resources
- When events will happen

The Planning (PL) process is where the technique of product-based planning is used, this being one of the key techniques used by PRINCE2. A brief description of this technique follows.

Product-based Planning

Four products are created within the product-based planning technique:

- A Product Description of the final product of the project
- A Product Breakdown Structure
- Product Descriptions of each product
- A Product Flow Diagram

Producing a Product Description of the final product

The first task in product-based planning is to assist the customer to write a Product Description for the final product of the project. The purpose of these is to:

- Understand the detailed nature, purpose and function of the final product
- Identify the sources of information or supply for the product
- Describe the appearance of the final product
- Identify the level of quality required of the final product

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- Enable identification of activities to develop and quality control the final product
- Define the people or skills required to develop and check the final product.

Producing a Product Breakdown Structure

The second task in product-based planning is to produce a Product Breakdown Structure (PBS). The objectives of this are to:

- Identify the products to be created or obtained by the planned work
- Identify additional products needed to build and support the final products
- Build a consensus on the best product groupings that should be used to generate ideas on what products have to be created or obtained.

Product Descriptions of each product

As stated earlier, product-based planning should begin with the writing of a Product Description for the final product of the project. It is also recommended that Product Descriptions are written for each significant simple product and each integration product on the Product Breakdown Structure or Product Flow Diagram.

Creating a Product Flow Diagram

The final task in product-based planning is producing the Product Flow Diagram (PFD). The Product Flow Diagram is created from the Product Breakdown Structure and indicate the order or sequence in which the plan's products will be created. It precedes the identification of activities in Identifying Activities and Dependencies (PL3).

A Product Flow Diagram needs very few symbols. Each product to be developed within the plan is enclosed in a rectangle. Arrows connect the rectangles, showing the sequence in which the products are to be created. Any products that already exist or are outside the planner's control should be clearly identified by using a different type of enclosure, an ellipse.

The diagram begins with those products that are available at the start of the plan (perhaps many of these are documents, such as statements of requirements or designs) and ends up with the final product(s) of the plan.

Creation of a Product Flow Diagram may reveal new products that are required. These should also be added to the Product Breakdown Structure and Product Descriptions should be written for them.

Although the Project Manager or Team Manager is responsible for creation of the Product Flow Diagram, it is sensible to involve those who are to develop or contribute the products contained in the plan.

Planning Process Description

The philosophy behind producing plans in PRINCE2 is that:

- Plans are constructed by identifying the products required, and then the activities and appropriate resources necessary to deliver them
- Plans should cover management needs as well as the customer's products
- There should be assurance that all activities are thought through in advance and to a level consistent with the control requirements identified in the Project Initiation Document.

The product-base planning technique provides a start to the planning activity and a planning framework. It involves:

- Establishing what products are needed for the plan
- Describing those products and their quality criteria
- Determining the sequence in which each of the products should be produced and any dependencies.

After these initial steps, the normal steps of planning are:

- Identifying the activities needed to produce the products
- Deciding when the activities should be done and by whom
- Estimating how much effort each activity will consume
- Estimating how long the activities will take
- Agreeing what quality control activities and resources are needed
- Producing a time-base schedule of activities

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- Calculating how much the overall effort will cost
- Producing the budget form the cost of effort plus any materials and equipment that must be obtained
- Assessing the risks contained in the plan
- Identifying the management control points needed
- Agreeing tolerances for the plan.

The steps involved are the same for all levels of plan.

Sample Product Description – Organising a Conference

Title

List of Venue Requirements

Purpose

To identify all the requirements that must be met by suitable venues for the conference

Composition

The date on which availability is required

Start and end times

Expected numbers of attendees

Accommodation requirements

Facilities required

Refreshment requirements

Parking requirements

Derivation

Mailing list

Required date

Previous conference numbers

Any previous conference list of requirements

Format and Presentation

Typed list with sub-headings as per Composition

Allocated to

Conference organiser

Quality criteria

List must identify everything that will be required of a site to hold the conference

List should clearly separate mandatory from desirable features

List must cover all items defined under Composition

Each item should be defined in a way that is measurable

Quality method

One check of the list against the headings in Composition

Proof-reading by word processing software and independent reviewer

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Comparison against the list for any previous conference
Check against any offered checklist from conference sites

Quality tolerance

The list should recognise the interaction of quality and cost, with the emphasis on quality up to a 10% differential in cost
Where possible, any acceptable range of tolerance for an item should be given

Quality check skills and/or people required

Proof reader

Ideally a person who has either organised a conference before or a conference director from a hotel chain