No. 29

SAP MANUFACTURING

SAP PP Security

Production planning and shop floor authorizations in SAP S/4HANA

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BEFORE YOU BEGIN

How to use this book

What this book covers, who it is for, and how to use it.

Production Planning (PP) is where an SAP system decides what to make, when and how, and then records what was actually made. It holds the company's product structures, its production methods, its plans and its shop-floor results. Errors or misuse here do not only cost money; they can stop a factory, ship defective products or leak the recipes that make a company competitive.

This book explains **how to secure PP in SAP S/4HANA**, for beginners in SAP security or in manufacturing: master data, planning, production and process orders, confirmations and goods movements, shop-floor integration, Fiori business roles, segregation of duties and monitoring.

Which versions this book covers

The book is written for **SAP S/4HANA 2023 and 2025** (on-premise and Private Edition) and notes where **SAP S/4HANA Cloud Public Edition** differs. Many PP authorization objects are the same as in SAP ECC; where S/4HANA adds checks or changes behaviour, SAP knowledge base articles are cited.

Who this book is for

- **Security analysts** building manufacturing roles.
- **PP consultants and key users** who want to understand authorization errors.
- **Plant managers and quality leads** who own production access.
- **Auditors** reviewing inventory and production controls.

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How the book is organized

- **Part I — Foundations** (Chapters 1–3): what PP does, PP in S/4HANA today, and the fields that structure PP authorizations.
- **Part II — Securing the process** (Chapters 4–11): materials and BOMs, routings and work centers, planning, production orders, process orders, execution and goods movements, repetitive manufacturing and kanban, and protecting manufacturing know-how.
- **Part III — Control and operation** (Chapters 12–18): shop-floor integration, Fiori roles, segregation of duties, monitoring and troubleshooting, worker data and privacy, a worked example and checklists.

Conventions

TIP
Practical advice you can apply straight away.

IN SAP
Product-specific details and names.

WATCH OUT
Common misunderstandings.

KEY IDEA
The one thing to remember from a section.

A note on screens, objects and examples

Screens are **simplified illustrations**, not copies of SAP screens. Object names come from SAP's standard and SAP documentation; confirm fields and checks in your system with **SU21**, **SU24** and an authorization trace. Plants, users and values are invented.

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PART I

Foundations

These chapters explain what production planning does, what SAP S/4HANA adds, and which fields shape PP authorizations.

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CHAPTER 1

What PP does

PP covers plan-to-produce: from demand to finished goods.

Plan-to-produce



Figure 1.1 Plan-to-produce in SAP S/4HANA.

1. **Demand** comes from sales orders and forecasts.
2. **Material requirements planning (MRP)** calculates what to make or buy and creates **planned orders** and purchase requisitions.
3. Planned orders are converted into **production orders** (discrete manufacturing) or **process orders** (process industries), or handled in **repetitive manufacturing**.
4. On the shop floor, components are issued, work is **confirmed** and finished goods are received.
5. Order costs are **settled** to controlling.

Behind this flow sit **master data**: materials, bills of material (BOMs), routings or master recipes, and work centers or resources.

What can go wrong

- An unauthorized **BOM change** puts the wrong component into thousands of products.

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- A user **confirms** more output than was produced, inflating stock and hiding scrap.
- Someone in one plant **changes orders of another plant**.
- **Goods movement errors** are "fixed" by forcing postings that distort inventory.
- A contractor **downloads recipes** or routings that represent years of process know-how.
- A broad technical user for the **manufacturing execution system** can post anything.

KEY IDEA

PP security protects three things: **master data integrity** (what and how we build), **transaction integrity** (what we actually did) and **know-how confidentiality** (how we do it better than others).

Who works in PP

Production planners and MRP controllers, production supervisors, shop-floor workers and line leads who confirm, manufacturing engineers who maintain BOMs and routings, and plant controllers who look at costs. In process industries, **recipe** or formula owners are an additional, very sensitive group.

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CHAPTER 2

PP in SAP S/4HANA today

SAP S/4HANA keeps the classic PP objects and adds new tools around them.

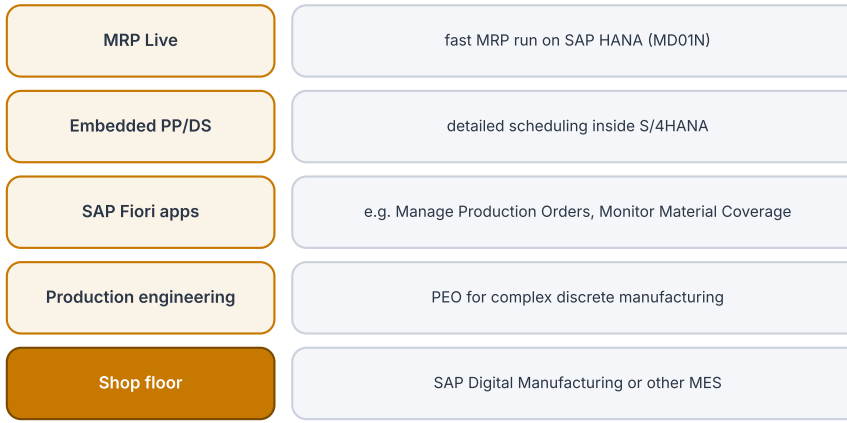


Figure 2.1 PP-related building blocks in SAP S/4HANA.

MRP Live

MRP Live (transaction MD01N) runs material requirements planning on SAP HANA, much faster than classic MRP. It still uses MRP authorization concepts (Chapter 6), but because it can plan many plants in one run, check who may start it and for which scope.

Embedded PP/DS

Production planning and detailed scheduling (PP/DS) is embedded in S/4HANA. Planners use it for finite scheduling and optimization. SAP's knowledge base mentions business roles such as **SAP_BR_PRODN_PLNR** and an

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advanced-planning variant **SAP_BR_PRODN_PLNR_APS** for advanced planning apps. PP/DS has its own authorization objects in addition to classic PP.

SAP Fiori apps

Planners and supervisors use Fiori apps such as **Manage Production Orders**, **Manage Production Operations** and material coverage apps. Apps call the same back-end checks as transactions, plus OData service authorizations.

Production engineering and operations

SAP S/4HANA Manufacturing for production engineering and operations (PEO) supports complex discrete manufacturing, such as aerospace and machinery, with its own business roles. SAP Learning describes business PFCG role templates for PEO apps.

Shop floor systems

Execution increasingly happens in a **manufacturing execution system (MES)**, such as **SAP Digital Manufacturing** in the cloud, connected to S/4HANA. Orders flow down; confirmations and goods movements flow back. Chapter 12 covers the security of that link.

IN SAP

In **S/4HANA Cloud Public Edition**, apps come through **business catalogs**. SAP KBA 3611631, for example, explains that the production order apps need the business catalog SAP_SCM_BC_PRODN_ORD_MPLN_MC in the business role. Restrictions are set with restriction fields, typically plant.

Upgrades

With two-year S/4HANA releases, each upgrade may bring new apps and new checks. SAP KBA 3382418, for example, describes a C_AFKO_REL authorization error when creating production orders in S/4HANA 2022 that did not occur in 2021. Plan an **authorization regression test** in every upgrade.

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CHAPTER 3

Fields and organizational levels

A handful of fields structure almost every PP authorization. Learn them first.

The key fields

Field	Typical use in PP authorizations
Plant (WERKS)	the main restriction for almost every PP object
Order type (AUFART)	production or process order types
Order category (AUTYP)	e.g. 10 production order, 40 process order
MRP controller (DISPO)	planning responsibility
Work center (ARBPL)	confirmations by work center

Figure 3.1 Fields that structure PP authorizations.

- **Plant (WERKS)** is the main organizational level in manufacturing. Almost every PP object checks it.
- **Order type (AUFART)** distinguishes, for example, standard production orders from rework or prototype orders.
- **Order category (AUTYP)** distinguishes production orders (10) from process orders (40) and other order categories; SAP documentation uses category 40 for process orders, for example in archiving authorizations.
- **MRP controller (DISPO)** assigns planning responsibility for materials.
- **Work center (ARBPL)** and work-center-related fields restrict confirmations to a line or area.

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