ADVANCED APPLICATIONS
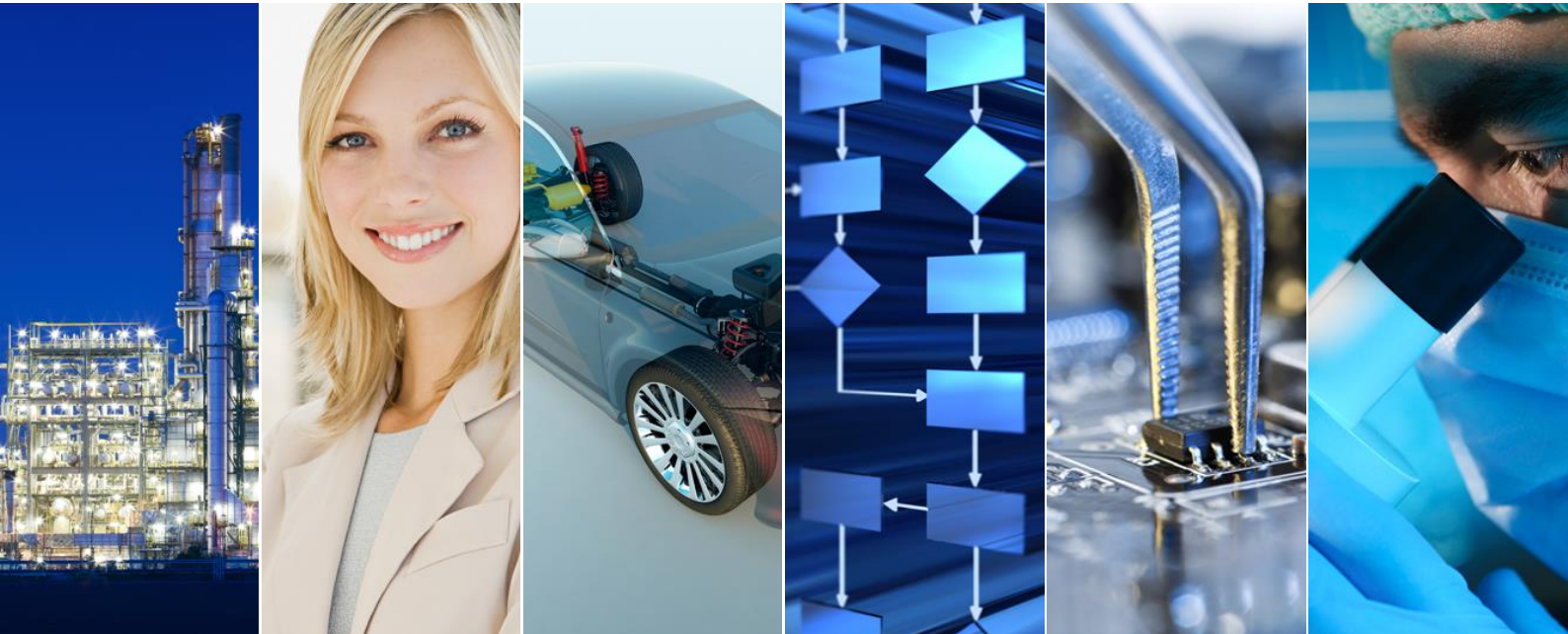
FAQ Advanced Manufacturing
Integration of shopfloor processes in SAP ERP

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1   Foreword

The solution is available for SAP ERP and SAP S/4HANA as Advanced Manufacturing On-Premises. The AddOn is fully integrated into SAP ERP ECC 6.0 or SAP S/4HANA On-Premises and has been in productive use in various industries since 2014.

The following chapters summarize the most important questions and answer them in an accessible way. If you require further information, please contact us.

2   General

2.1   How does the Advanced Manufacturing solution work?

The solution is based directly on SAP standard functions and provides all the information required for the production or assembly of a product via an intuitive user interface at the workplace. In addition, machines and sensors can be connected to Advanced Manufacturing and the functionality thus also provides all information for production-related activities.
The SAP Fiori user interface provides direct service for functions e.g., displaying documents, drawings or work instructions, reporting quantities and/or time events, recording batches and/or serial numbers, and is posted to SAP in real time.

Advanced Manufacturing hence offers many functions which are often assigned to external MES systems directly integrated into SAP and meets all current compliance/validation requirements.

2.2   What are the benefits of fully integrating the AddOn into SAP?

The product is fully integrated into SAP and accesses standard functions directly. This eliminates the need to maintain a fault-prone interface or periodically update the data in SAP. Due to the direct integration, the SAP standard checks are carried out before the data is posted and in the event of an error, the feedback is carried out directly at the terminal. Therefore, complex, subsequent error corrections are a thing of the past. In terms of reporting, up-to-date data can always be accessed due to real-time data processing.

2.3   Does the solution also improve dependent/downstream process?

By recording the data in real time, dependent processes can immediately access the data and react accordingly. For example, it is possible to pass on the current dates to sales via disposition.

2.4   In which industries is the solution currently used on the market?

The solution is used by customers in the following industries:
- High tech
- Component manufacturing
- Aerospace
- Mechanical engineering
- Medical
- Drive engineering
- Packaging industry
- Electrical engineering

3   Hardware/Software

3.1   What are the system requirements?

SAP ERP ECC 6.0, EHP7 or higher.
The following software components are required in detail:

Component	Release	SP-Level	Support Package	Description
SAP_BASIS	756	0000	-	SAP Basis Component
SAP_ABA	75G	0000	-	Cross-Application Component
SAP_GWFND	756	0000	-	SAP Gateway Foundation
SAP_UI	754	0013	SAPK-75413INSAPUI	User Interface Technology
SAP_APPL	617	0018	SAPKH61718	Logistics and Accounting

3.2   Can external data processing devices, such as scales, scanners, RFID readers, be integrated?

Since the solution is fully integrated into the existing SAP functionality, all devices enabled by SAP can be used. In addition, data collection devices can be integrated directly at the front-end devices (based on existing interfaces or customer-specific development). More complex interfaces e.g., machines, are integrated into Advanced Manufacturing via the module Interfaces (IF).

3.3   Does the solution also work with SAP HANA or SAP S/4HANA systems?

In addition to SAP ERP ECC 6.0 (any DB), the AddOn is also available for systems with a HANA database and for SAP S/4HANA.

3.4 Which printers can be connected?

The solution can access all printers connected to SAP. In addition, the device's local printers can be accessed.

3.5 Which end device are compatible to display the user interface?

The solution works for all network-enabled devices that have a standard browser (Microsoft IE, Google Chrome, Mozilla Firefox, Safari). On mobile devices with an iOS or Android operating system, the SAP Fiori Client can also be used instead of the browser. Advanced Manufacturing recommends the use of Google Chrome.

4 Functions

4.1 What features are supported by default?

In the Core Module (CM) Advanced Manufacturing provides all the information required to manufacture the product e.g., production order and operation. Furthermore, the component list or the overview of the production resource tools can be accessed. The desired work operation is selected from the worklist, which is set by an individual selection and sorting and thus displays the relevant tasks.

Different barcode types can be defined via the Core Module for processing barcodes. This central function is used by all other modules to unravel the barcode to access relevant information for further processing.

In addition to the manufacturing information, basic functions for the production order are offered. These include:

- Release of the production order (if the status "REL" is not yet set).
- Printing of production order papers.
- Display of the confirmation number as barcode (if external devices require this information). In addition to the confirmation barcode, further information can also be displayed via a customer-specific form.
- Display and selection of associated serial numbers.
- Capture and view notes about the production order (services for object).
- Attach and display attachments to the production order (services for object).
- Capture, attach, and view photos and images for the production order.

4.2   Are there any other features that can be used to extend the standard solution?

Yes, in addition to the module CM, additional modules are available for the expansion of the solution, which can be activated if required. The following modules are currently available:

- **Business documents (BD)**
  All documents and media for the production order e.g., assembly instructions or drawings, are drawn at run time from the SAP PP standard structures (routing, BOM, etc.) and displayed either in the same or a separate window. This ensures that the correct information is always up to date at the work center. In addition to displaying PDF files, it is also possible to display 3D models (SAP 3D Visual Enterprise Viewer) or to play videos (formats depending on the browser).

- **Capture of production data (CP)**
  The recording of time events and the reporting of yield and scrap quantities is possible via this module. It is also possible to post the time events as a time ticket in SAP. Beside to the exchange from TARGET to CURRENT work center, confirmations can also be tracked at the serial number level via the module.

- **Interfaces (IF)**
  Machines and sensors e.g., test systems, calibration programs or label management software can be connected to Advanced Manufacturing via many integration templates. A customer-specific specificity of the respective template is possible at any time.

- **Manufacturing logistics (ML)**
  The different applications of the module are specially designed for the needs of the production supply. By coloring the component position, it is very quickly recognizable which items have already been processed and which are still to be processed. The user is supported in the best possible way by the integrated inventory and batch determination. There are currently 4 different applications available:
  - Assignment of batches to component items
  - Posting goods issues for components
  - KANBAN overview, including the possibility of status management and change
  - Posting unplanned component consumption

- **Production-related quality management (PQ)**
  If production-related tests are necessary during production, the results or measurement data can be recorded via this module and recorded in the corresponding inspection lot. The test specification is accesses from the QM test plan.
  In case of problems during production, e.g., be it in the process, with components to be installed or with production resource tools, a quality or service notification can be created directly from Advanced Manufacturing and handed over to the quality assurance or maintenance department.

- **Reporting (RP)**
  The production or assembly monitor informs quickly and easily – similar to the display board at the airport. The monitors provide an overview of the situation of the production plan. By designing the display and displaying the status via different colors, problems in the production process can be addressed quickly. The status board updates automatically after a customer-specific interval and

provides foremen and shift leader with quick accesses to standard transactions for detailed display of production orders.

- **Traceability (TA)**
  Based on a system-aided scanning process, serial numbers used in production are recorded and logged in the background in an equipment BOM. The deinstallation and re-installation of an assembly are also possible and is also recorded, providing a complete history of the equipment.

4.3   Is the solution available in other languages as German?

Yes, in addition to the German language, English and Turkish are also available by default. Other languages can be integrated if required.

4.4   Which reporting functionalities are included?

All reports set up in SAP ERP / SAP S/4HANA can be used. Several reports are already delivered with the above-mentioned functions (module RP) and can be customized.

4.5   Can information be sent to other users e.g., the dispatcher by e-mail?

Yes, e-mail integration is available by default. This facilitates e.g., a direct information of the dispatcher by the operator in case of missing parts. Different workflow scenarios are customizable.

4.6   How can Advanced Manufacturing be adapted to customer-specific requirements?

Numerous customizing settings allow the product to be individually adapted to customer or process requirements. In addition, numerous user exits are available for modification-free adaptation of the standard.
If these settings are not sufficient, AA performs a complete individualization on customer requirements e.g., of the front end.

5 Licensing

5.1 How is the solution licensed?

Advanced Manufacturing is not sold through a classic licensing model but can be rented by the customer in the desired form and a defined period.
A monthly base price is used to license each plant in which the solution is in use. In addition, a rental license is required per screen workstation (= end device). The modules used are invoiced monthly, and plant-independently.

5.2 How is the maintenance fee for the AddOn calculated?

The maintenance is covered by the monthly rent.