



## <sup>4</sup>PEP Product Structure and Variant Management

### Efficient variant management for configurable products

#### Benefit from our proven solution!

Successful companies know how to reduce the growing complexity of products and processes in a targeted manner using variant management. It is the **control of the variant diversity** that makes it possible to serve the market optimally with modularized solutions. Configurable products have long been the key to success, surpassing individually developed variants. However, the majority of companies find it challenging to map **the variant management in an efficient way** when it comes to data. With *<sup>4</sup>PEP Product Structure and Variant Management*, we offer an approach for a smart variant management that serves as a basis for sustainable business success.

#### Best Practices in Variant Management

- **optimization of variant diversity** and creation of a balance between inner and outer variance,
- separation into different worlds and areas of responsibility (e.g., production and sales),
- use of a mathematically described and therefore analyzable variant model,
- **reliable mapping** of changes made to variants using versions and validity periods,
- decoupling of the variant modeling from SAP-master data and **automatic creation** of master data at the right time.

#### Your Benefit

- You control variants throughout their **entire life cycle**.
- You create a uniform communication basis for everyone involved.
- You **reduce costs** by evaluating necessary follow-on processes early on.
- You avoid creating unnecessary master data.
- You create a **savings potential of 30-50 per cent** by improving data quality and by **saving time**.

**4PEP Product Structure and Variant Management** allows you to define the variants of a product that is to be developed along with the structure of the product in a simple and quick way. This web-based solution in the modern SAP Fiori® technology offers you **transparency, flexibility** and **data safety** while being closely integrated into SAP standard processes.

The **project** represents the entry point and also the overall framework of the application. Each project consists of different development statuses, each of which in turn summarises the individual information and structures at a defined point in time. The **continuous development** of the product across its life cycle is mapped with versions of the development status (baselines).

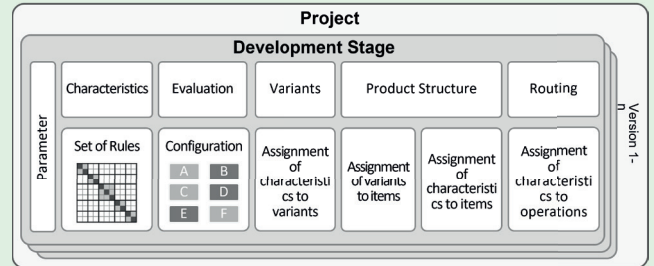


Figure: Project

The screenshot shows a web interface with a 'Filter' section on the left and a large matrix on the right. The matrix has rows for parameters like S\_TYP, S\_LIMITE, S\_AOU, S\_RAL, OP\_MASS, and OP\_LORD. The columns represent different characteristics. The matrix cells contain symbols like '+' and '-' in red and green, indicating the combinatorics of the product variants.

Figure: Maintenance of the combinatorics

A product is described by mapping its properties in the form of characteristics. In the early phase, it is not necessary to have SAP classes or SAP characteristics. Allowed product variants are defined using a rules set that displays the **combinatorics** between the characteristic values. The rules are edited in different, **clearly arranged matrices**. The reuse of rules via a **rule catalogue** is also possible. The object dependencies required in the SAP variant configurations are created automatically without manual programming.

The **product structure** separates the product or system into its physical elements like assemblies, sub-assemblies and parts. It displays the maximum structure of the product. In the early phase, it is possible to model the product without SAP master data. The product structure keeps the connection to the variants or the characteristics, which means that **closed** as well as **open variant concepts** are supported:

The screenshot shows a product structure tree with columns for 'Nummer', 'Version', 'Beschreibung', 'M.', 'Status', 'El.', 'Anhänge', 'Material', and 'Material...'. The tree lists various components like 'Struktur', 'ST Stützliche', 'ST Rückenziehe', 'Sicherheitsbauteile', 'Isotix BG', 'Gurtschloss', 'Auhlag', 'Verpackung', 'Verpackung A', 'Kleinteile', 'Armlehne', 'Heizung', 'Elektrische Komponenten', 'Steuergerät', and 'Kabelbaum'.

Figure: Product structure

- The maximum structure with variants can be used to derive individual (manufacturing) BOMs by assigning assemblies to variants. The allowed variants including the parts list can also be automatically derived via the characteristic value assignment.
- The direct connection of characteristic values with the elements of the product structure makes it possible to define selection conditions that can be derived in a rule-based SAP material parts list.

Similar to the product structure, a (maximum) **routing** can be modelled for which selection conditions can be defined by linking characteristic values with individual operations of a sequence, which are later transferred to the derived SAP routing.

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ILC GmbH  
Saarpfalz-Park 7  
66450 Bexbach

Phone +49 (0)6826 189-0  
Fax +49 (0)6826 189-189

E-Mail: [info@ilc-solutions.net](mailto:info@ilc-solutions.net)  
[www.ilc-solutions.net](http://www.ilc-solutions.net)