# Tiedonhallinnan jatkuvuus ja vaatimukset

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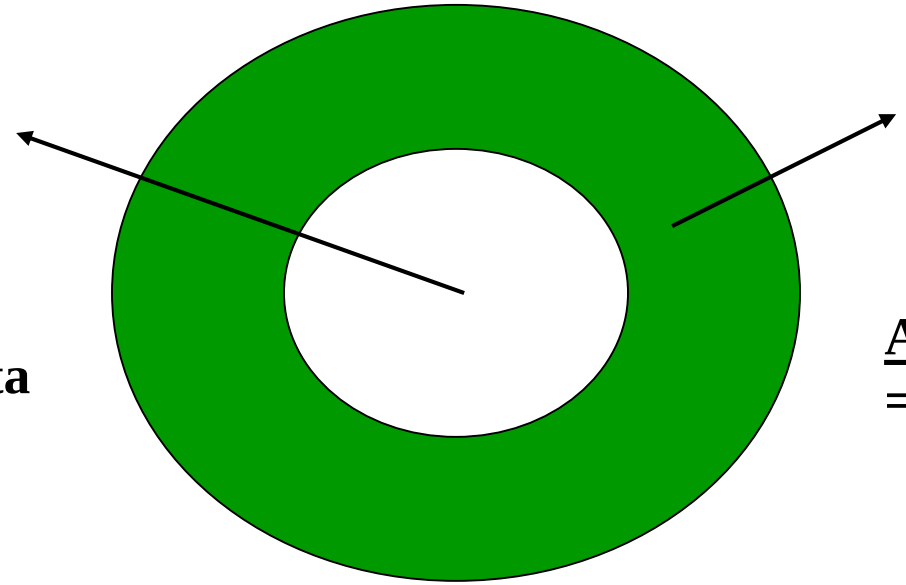
# What is the product?

**Core Product**
**= Primary Benefit**

**Supplementary Product**
- **Customer Service**
- **Service Quality**
- **Service Guarantees**



**Core Product Data**
**= static product data**
**The "DNA"**

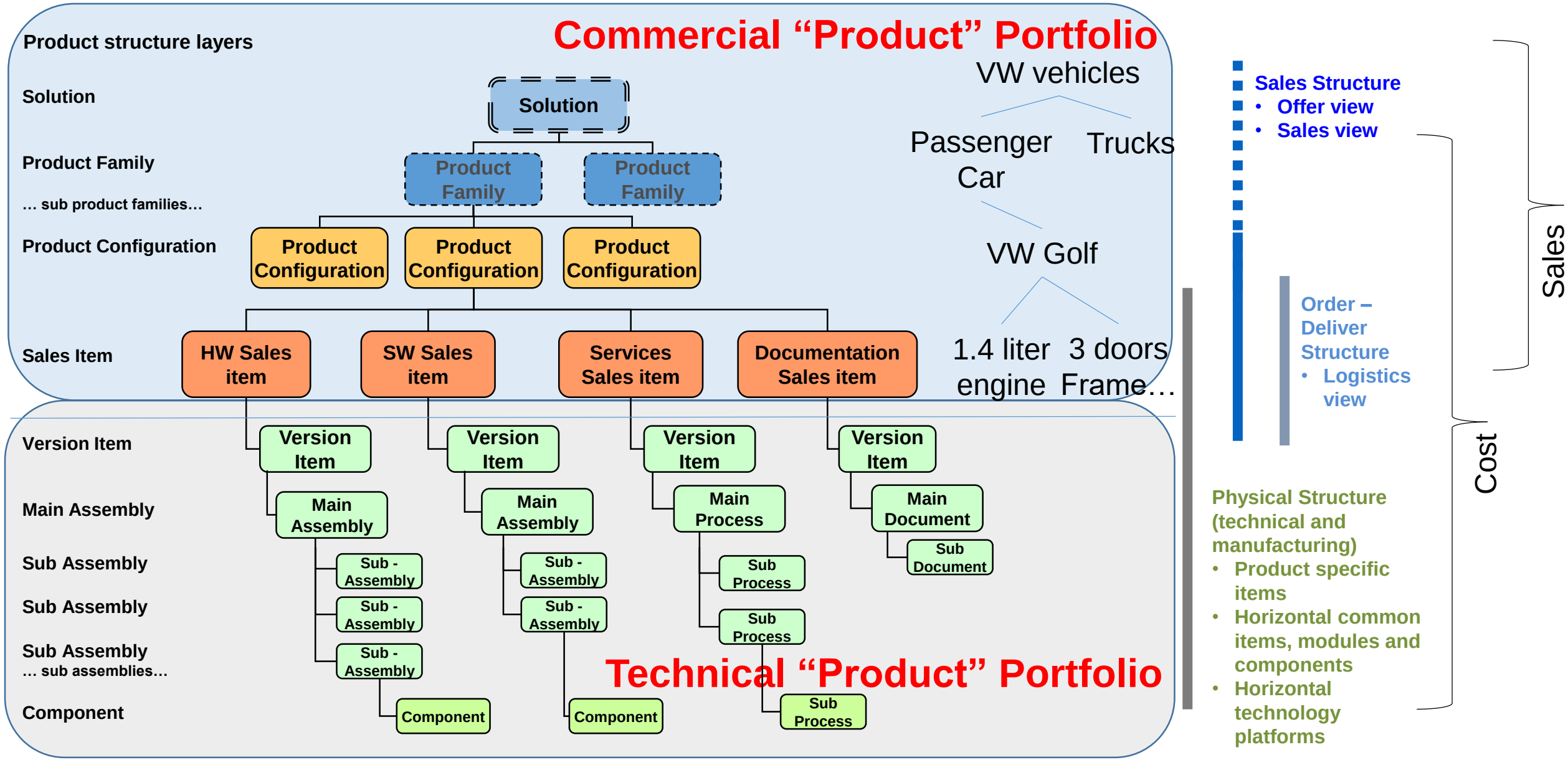
**Additional product data**
**= dynamic product data**

What needs to be defined???

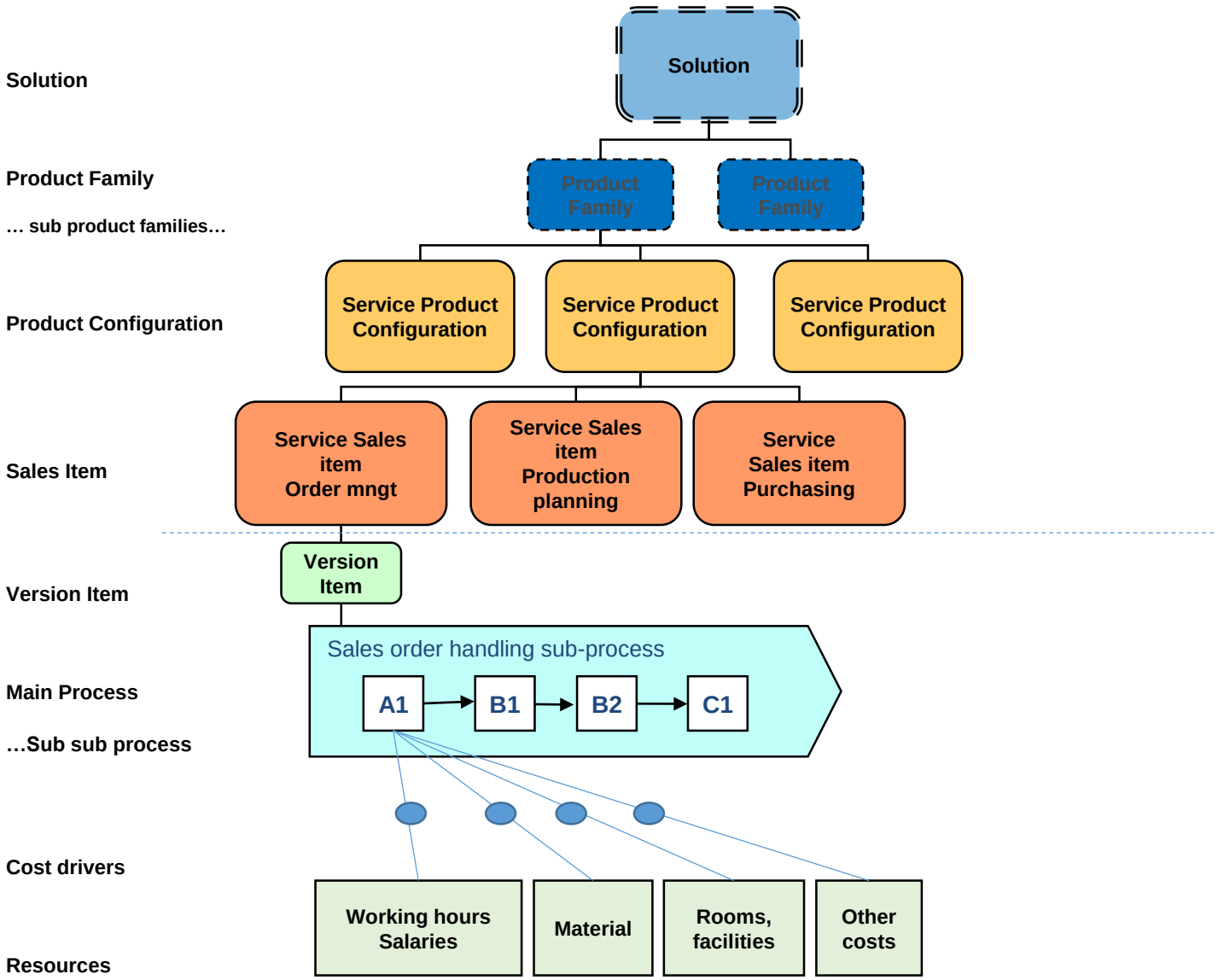
# Product structure

- seen as a typical way to model manufactured products
- product structure represents the product, information linked to the product, as well as the relationship between product components
- also utilized in some information systems to conceptualise the product, mainly in configurators, in product data management system and in ERP systems

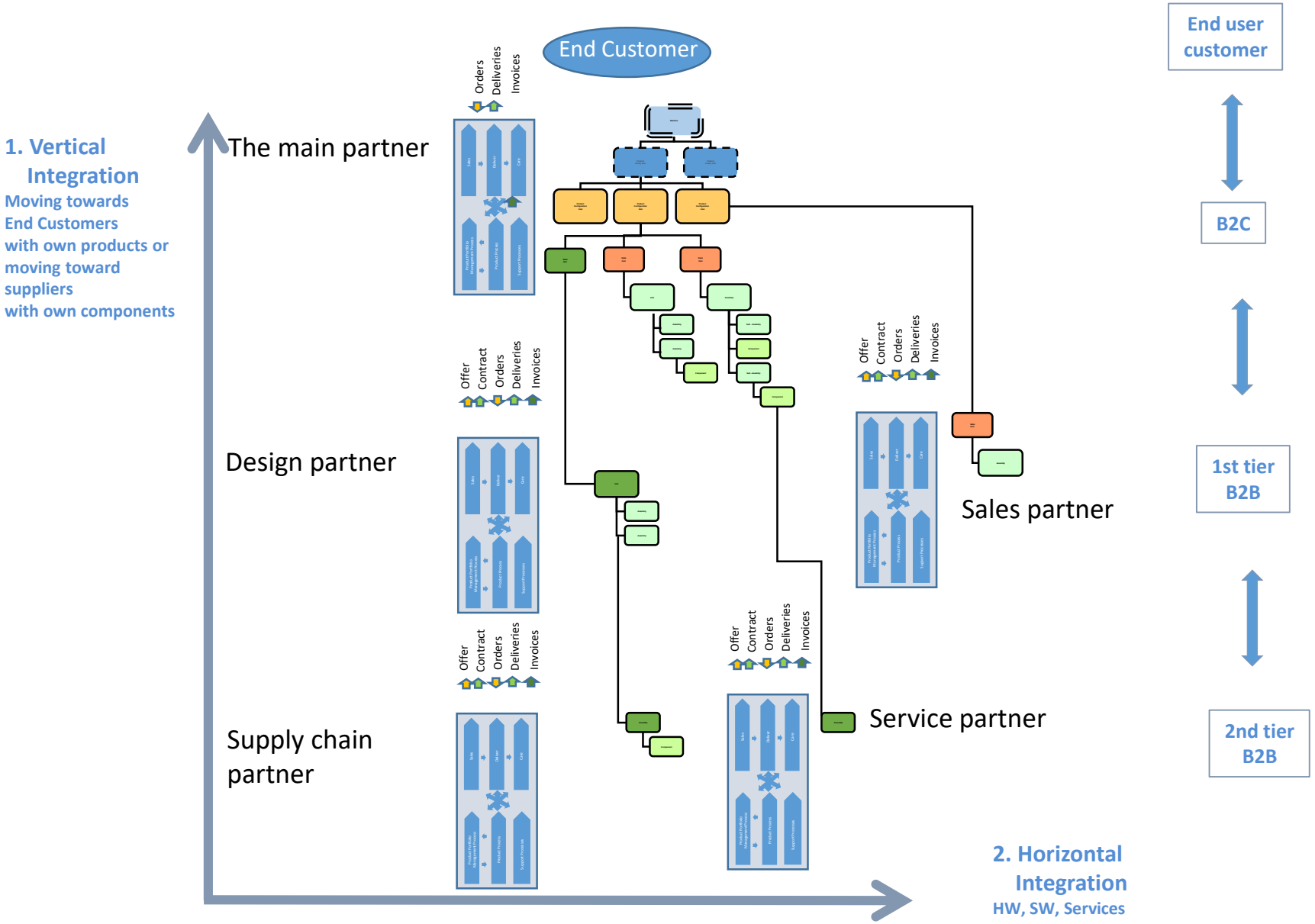
# The "Product" Structure



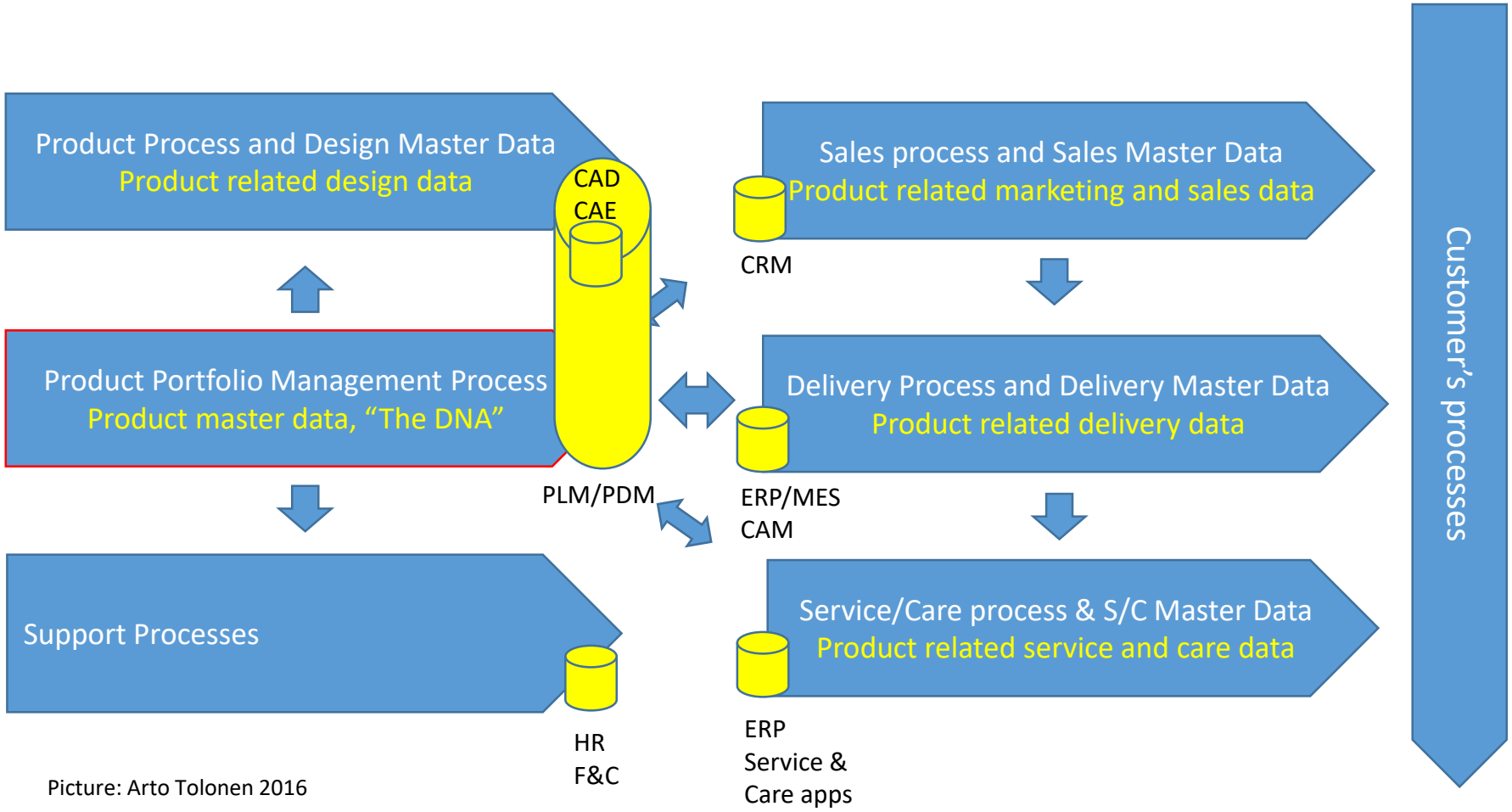
# Service Productization - Service Processes



# *Product in partnered business ecosystem*



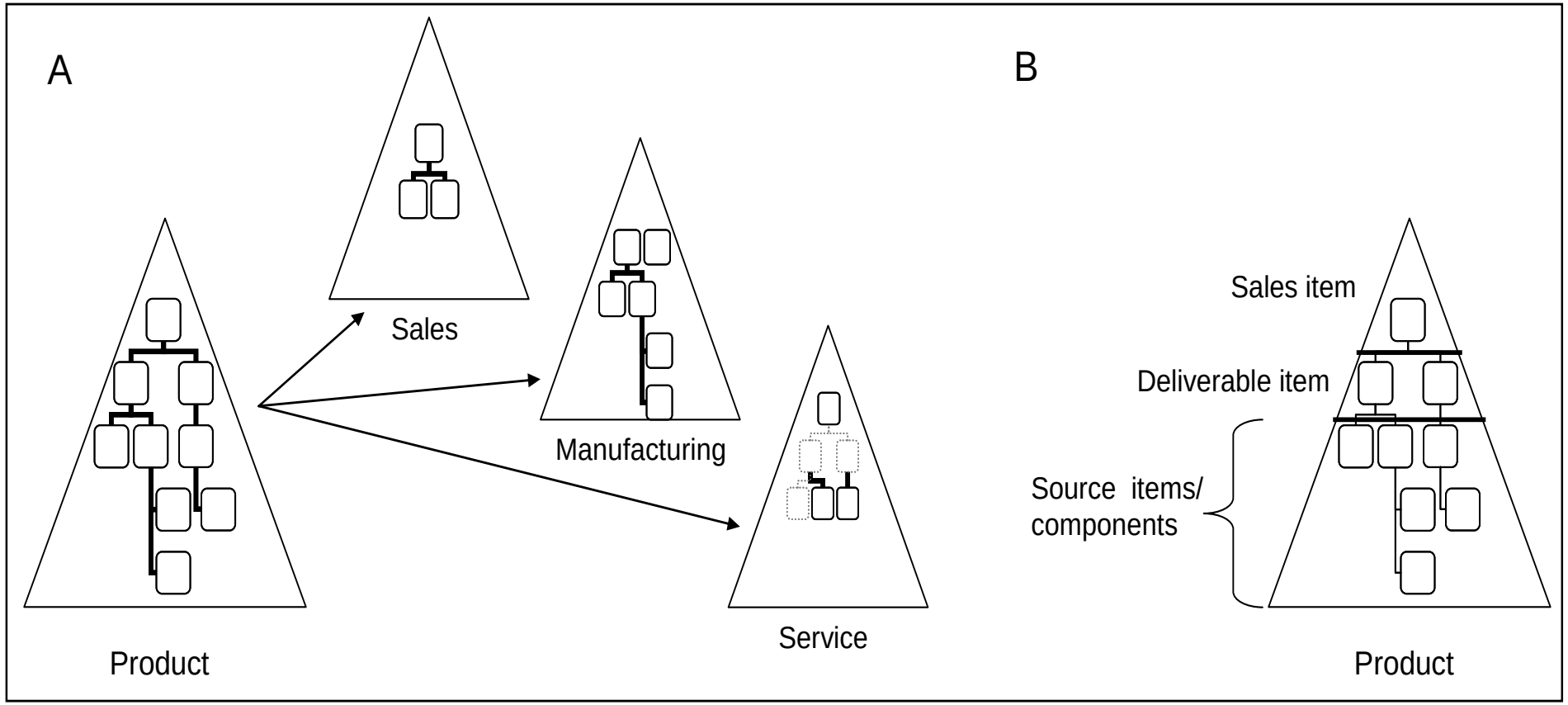
# *Digitalised 3D product information model utilisation in all business processes and partnered business ecosystem*




Picture: Arto Tolonen 2016

The meaning of the business processes and their interactions to be defined and agreed for clarity of the terminology and understanding

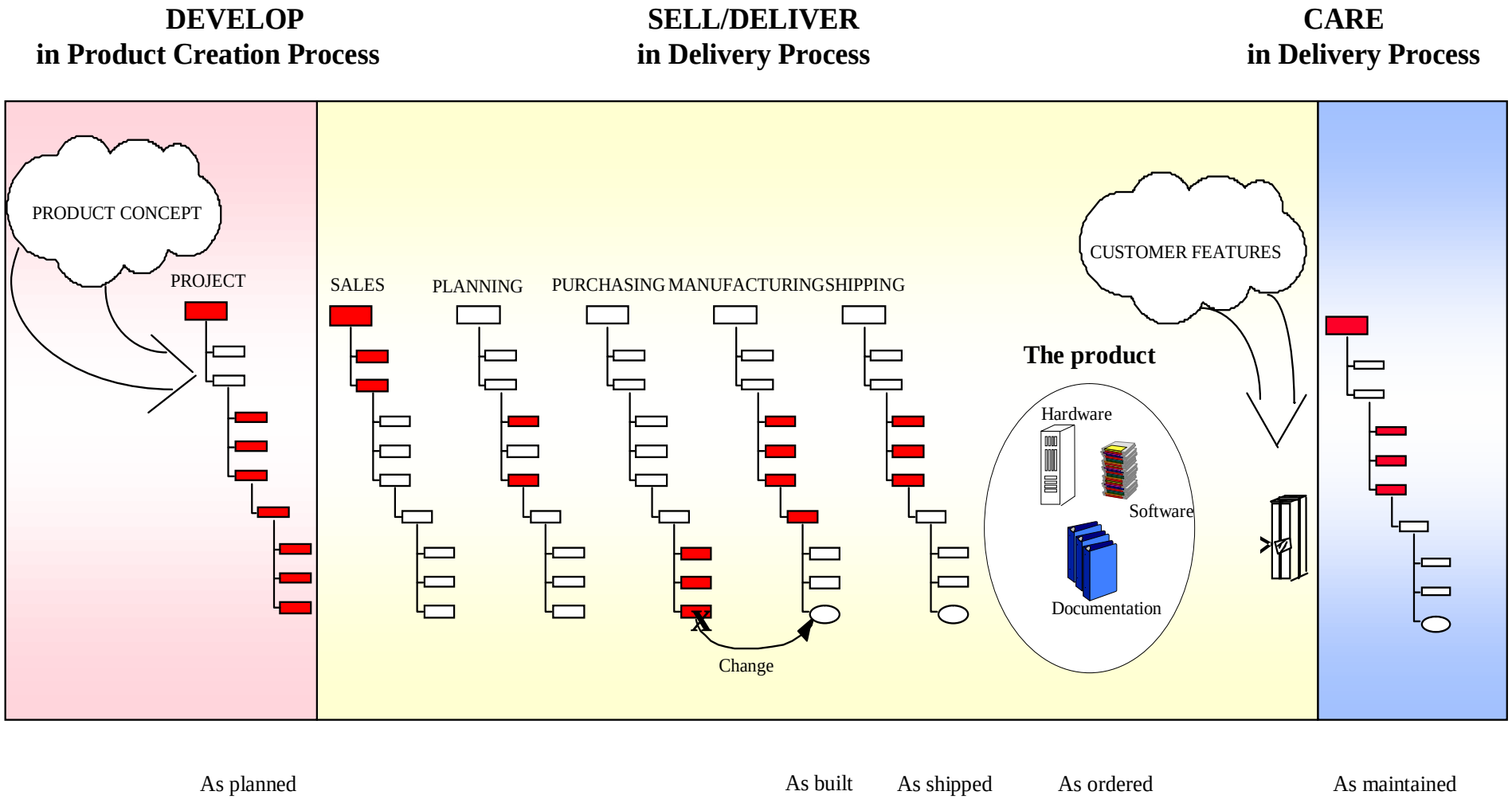
# Stakeholders' view on product data




A) Example on product lifecycle views filtered from general product

B) Product composing diverse item views

# The principle of Configuration Management



# Product Data

- Examples od the data connected to product
  - Paper documents
  - Digital files:
    - Document files: specifications, configurations, purchase orders, CAD drawings, models, assemblies, parts lists, CAE analysis, NC programs and plans
  - Information stored in databases

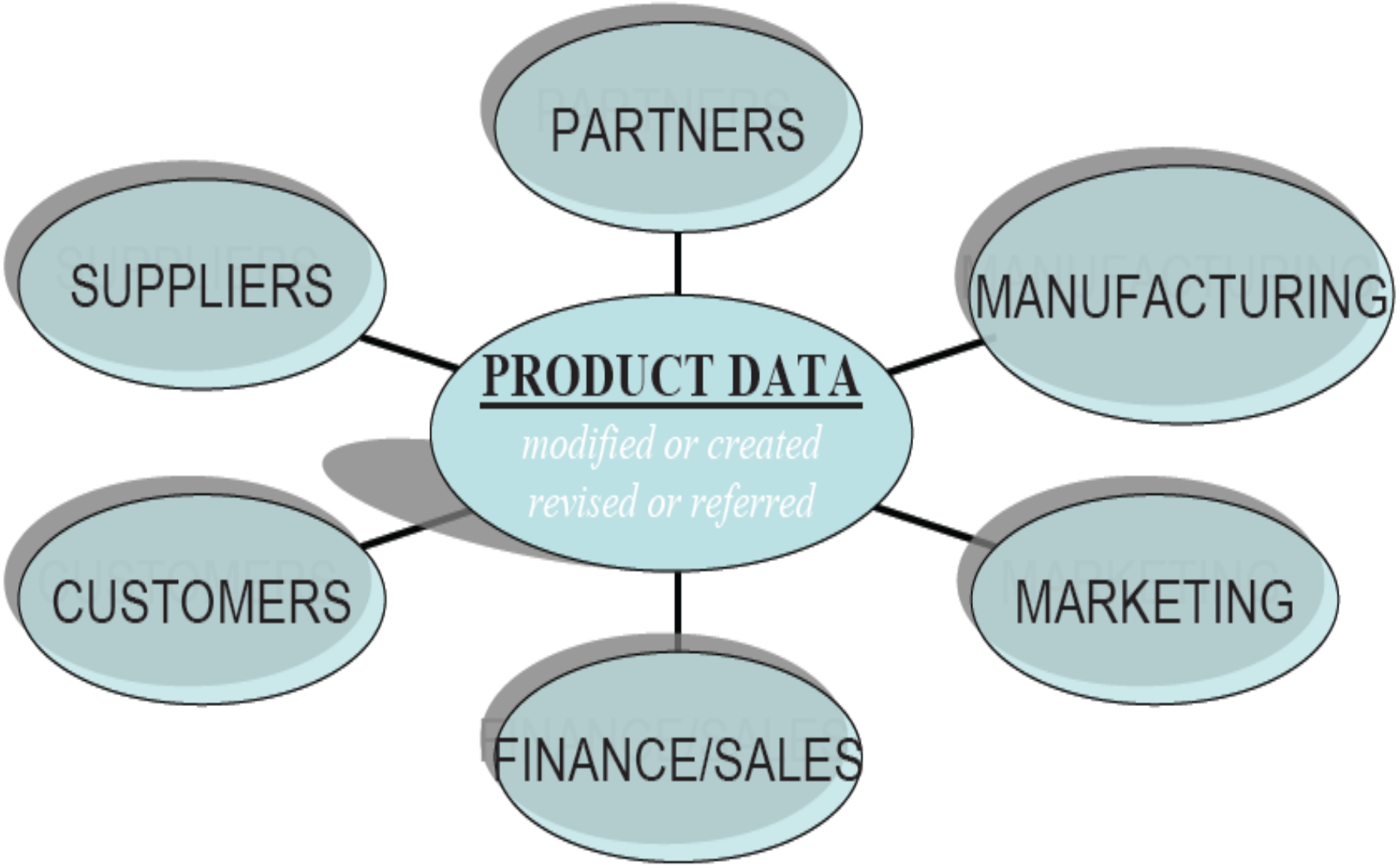
- Departments and purposes of data usage (Peltonen 2000):
  - **Product development** is the primary source of new product data, such as specifications, drawings, part lists, test reports and product cost estimation.
  - **Marketing** prepares marketing material.
  - **Sales** use data for making tenders and customer orders, may also need information about inventory levels and production schedules.
  - **Production planning** makes production plans and sourcing attaches production instructions into production plans.
  - **Manufacturing** uses data in production  (production planning data).
  - **Invoicing** keeps record of sold products, actual prices and customers.
  - **After-sales services** maintain product data until the end of product life cycle.

# Product Data Management

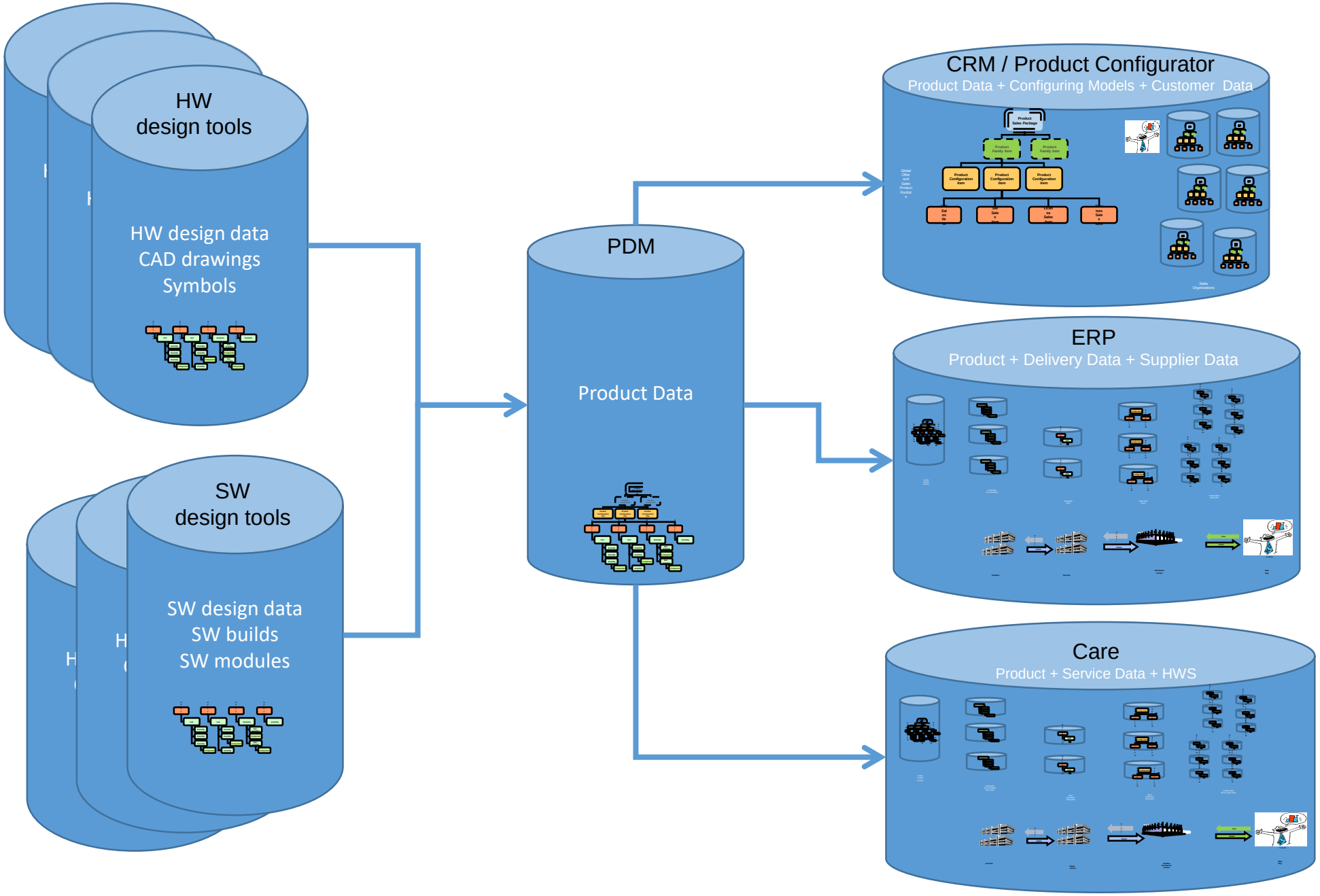
- PDM is able to control all the basic data about how to design, maintain, and dispose of a product.
- It can organize and use information so that it is able to accelerate time to market due to reduced lead-times. (Sulaiman 2000)
- Product data means wide amount of data associated with a product and they can be divided into
  - definition data of the product,
  - life cycle data of the product, and
  - Metadata (metadata is information about data).

## Benefits of implementing PDM

Updated product data can be accessible to everybody shown below irrespective of location and function.



# Product Data create & usage in Business Processes



# Synteesiä…

- Ensimmäiseksi täytyy saada yhteisymmärrys käsitejärjestelmästä – mitä mikin tarkoittaa.
- Datan/ information laatu täytyy saada korkeaksi.
- Rakennushankkeen **lopputuotteelle** täytyy löytyä yksi kuvaus ja kaiken tiedon täytyy sijaita yhdessä tietovarastossa.
  - Tietoa voi olla monen tyyppistä; tuotteeseen, toimittajiin, asiakkaisiin, ohjeisiin jne…
- Eri toimijoiden “lopputuotteiden” pitää “loksahtaa” malliin.
- Täytyy löytyä mekanismi, jolla hankkeen suunnittelun, rakentamisen ja ylläpidon tiedot dokumentoidaan tietovarantoon
- Lopputuotteeseen on määriteltävä erilaisia kerroksia, joihin eri stakeholdereilla (myös nämä pitää määritellä/kuvata) on “oma näkymä”

kiitos

# Ksymykset Työpajaosuuteen:

1) Mitkä ovat olennaisimmat osapuolet/käyttäjät tiedolle tuotteen/rakennuksen elinkaaressa?
2) Mitkä ovat suurimmat esteet ”käyttäjälähtöiselle” tiedonhallinnalle?
3) Miten (millä keinoilla) saavutetaan jatkumo; as designed, as planned, as built, as maintained?