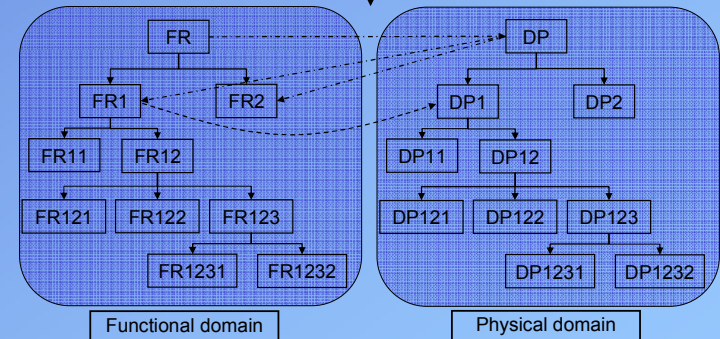
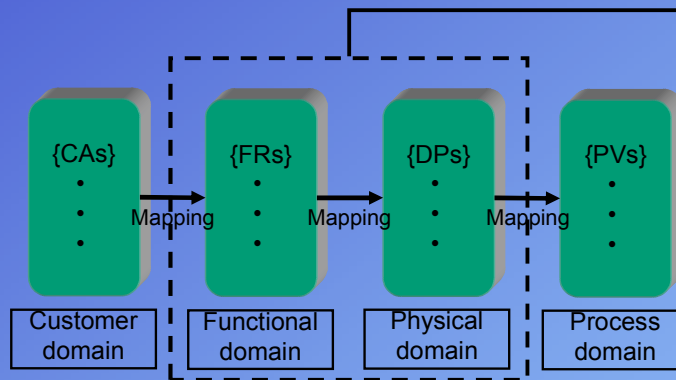
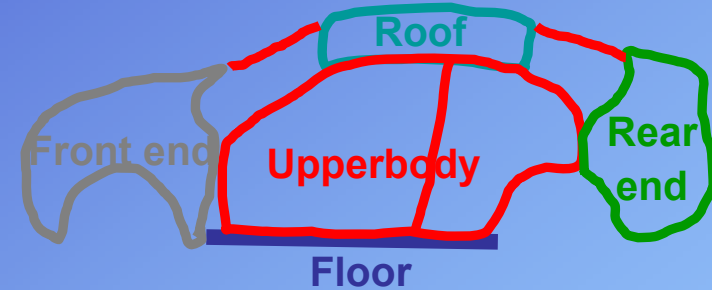


# Innovative Manufacturing Processes

## Systematic Design approaches in the Automotive industry

- Modularity concepts of the body in white
- Modular car body design requirements investigation:
  - Number of modules
  - Joining sequence between modules
  - Tolerance management



$$\begin{bmatrix} FR1 \\ FR2 \\ FR3 \end{bmatrix} = \begin{bmatrix} x & 0 & 0 \\ 0 & x & 0 \\ 0 & 0 & x \end{bmatrix} \begin{bmatrix} DP1 \\ DP2 \\ DP3 \end{bmatrix}$$

Uncoupled design

### Systematic comparison and evaluation of conventional unibody vs. modular automotive vehicle design approaches