

# Design guidelines voor duurzame elektronica behuizingen

Vinoud Douglas



**FLOW PRODUCTS**

Realiseert nieuwe kunststof producten

- WE KIJKEN ALTIJD OF HET DUURZAMER KAN



SMART DESIGN



RENEW



REDUCE IMPACT



CARE



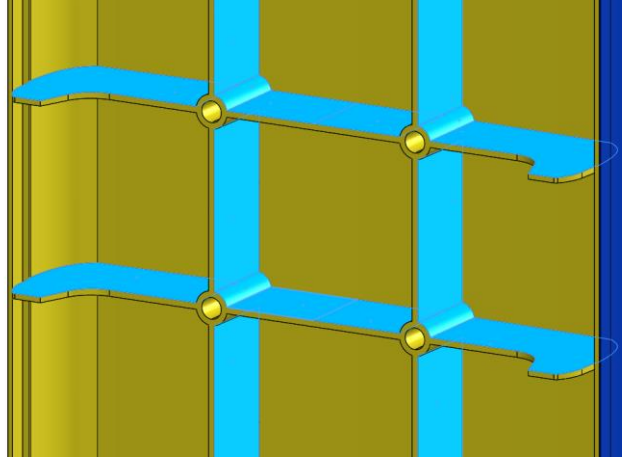
# Elektronica behuizingen

# Design guidelines

- Materiaalgebruik
- Materiaalkeuze
- Modulariteit en repareerbaarheid
- Design for (dis)assembly



Holte- en ribstructuren

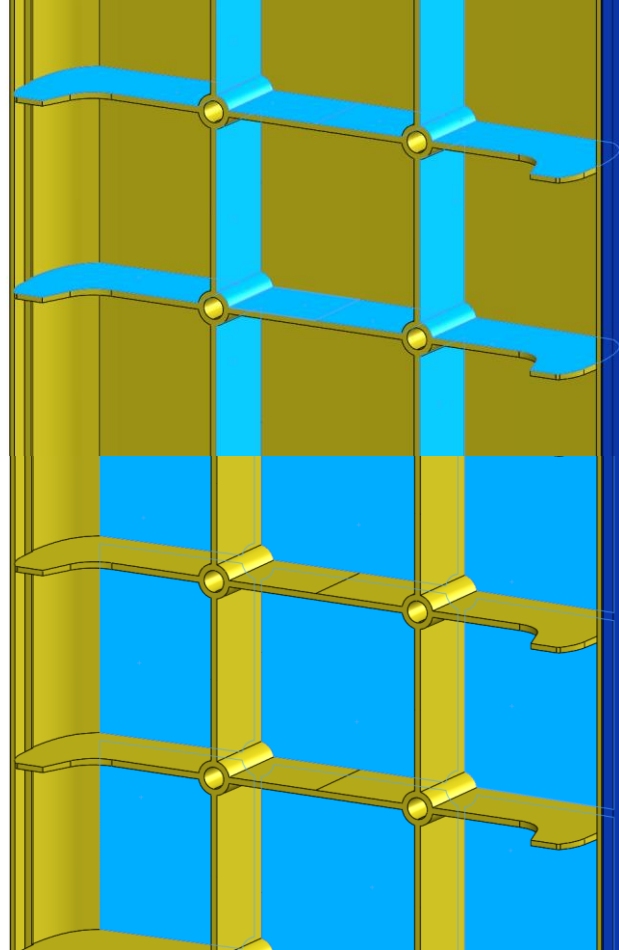


**flow/products**



Holte- en ribstructuren

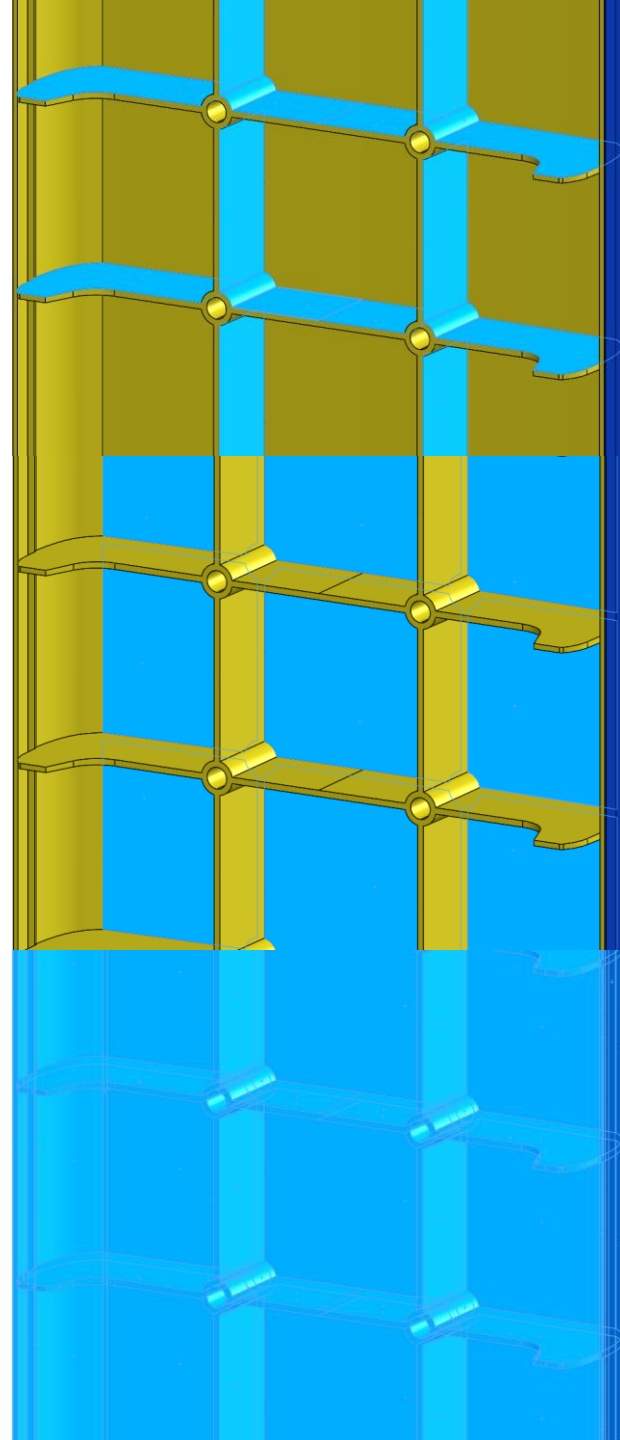
Optimalisatie in wanddikte

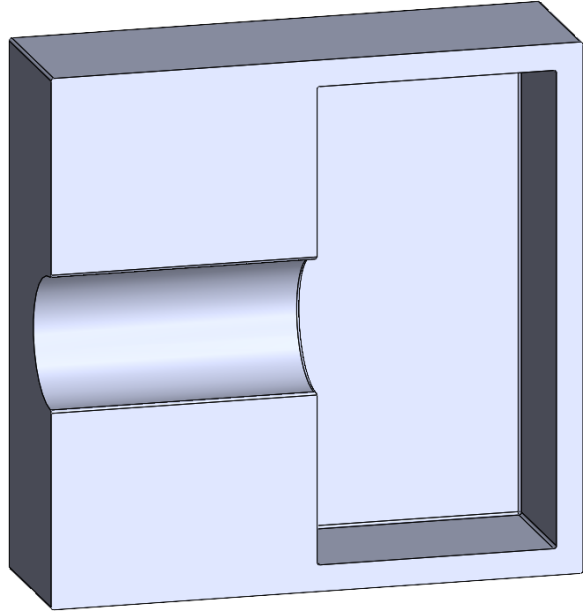


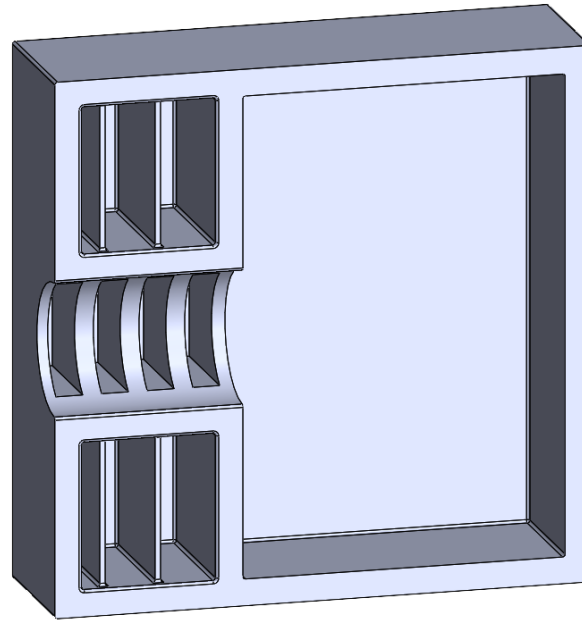
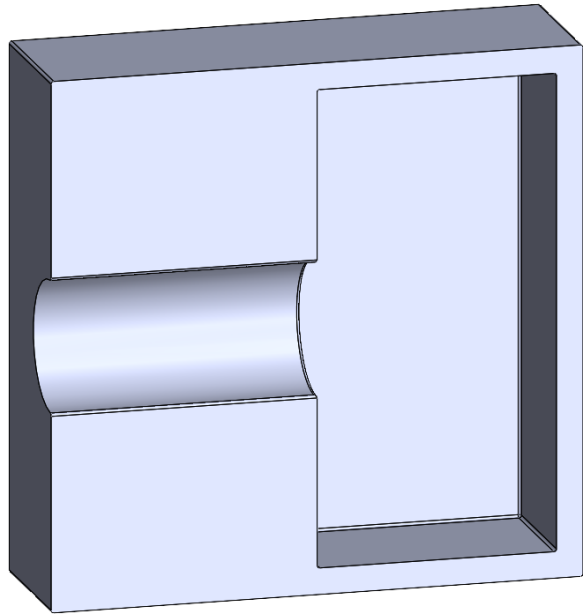
Holte- en ribstructuren

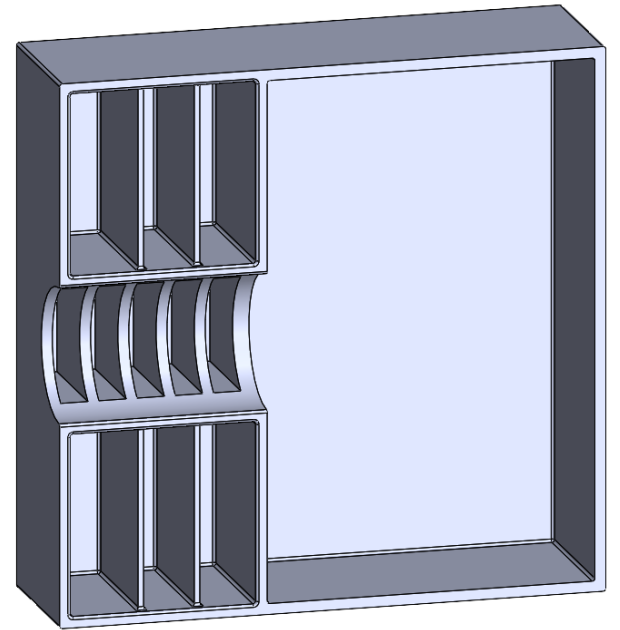
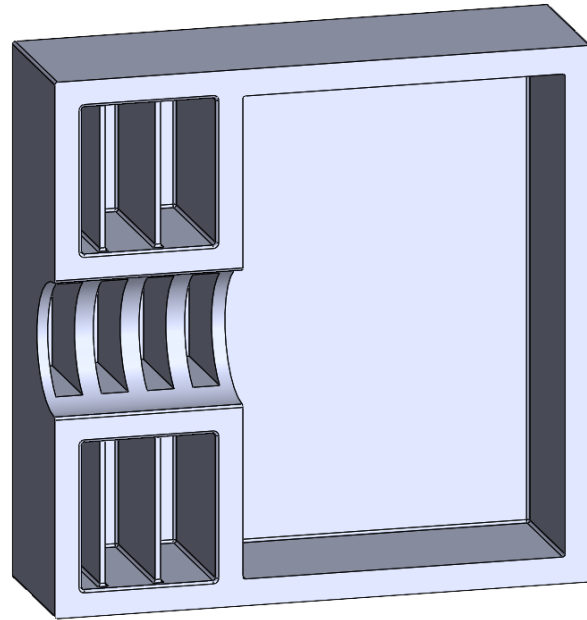
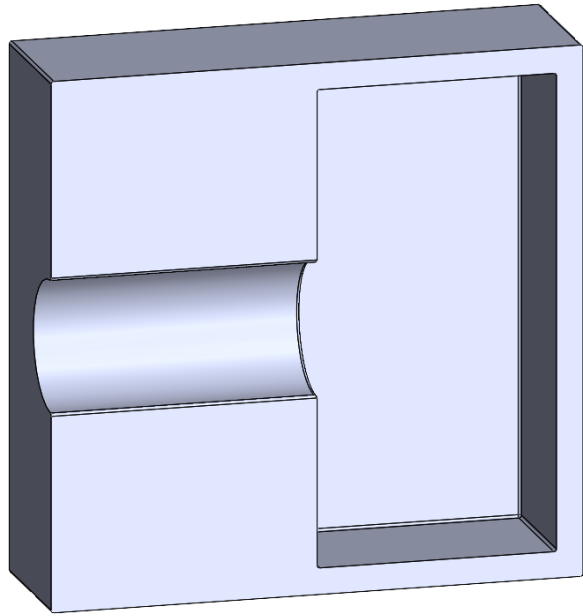
Optimalisatie in wanddikte

Materiaalkeuze

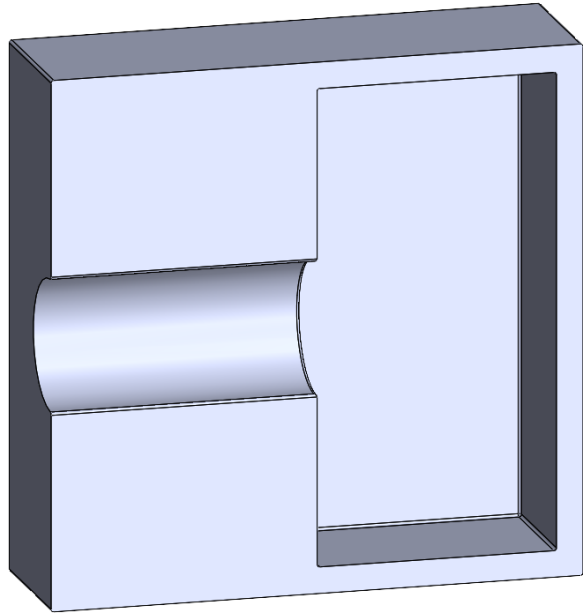




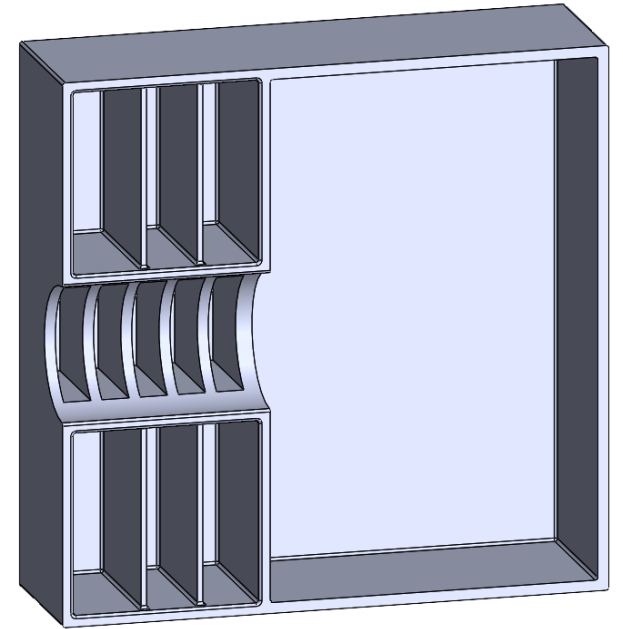
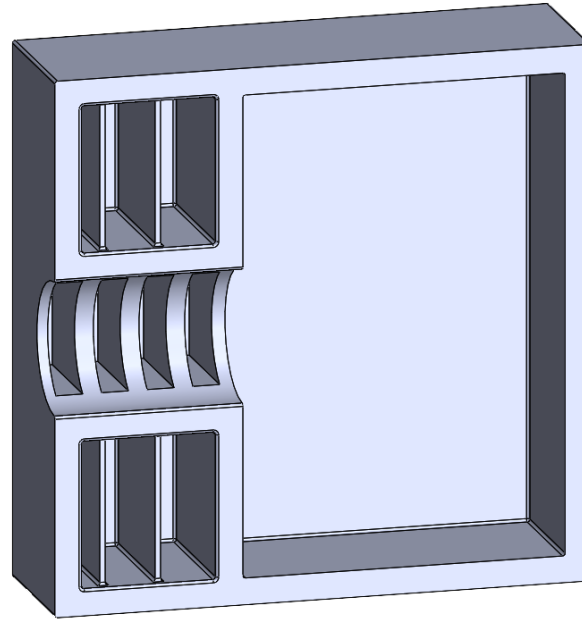




186 gram

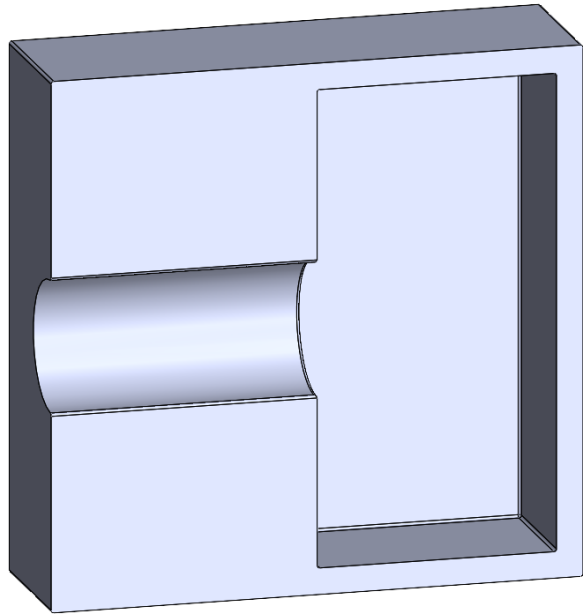


114 gram

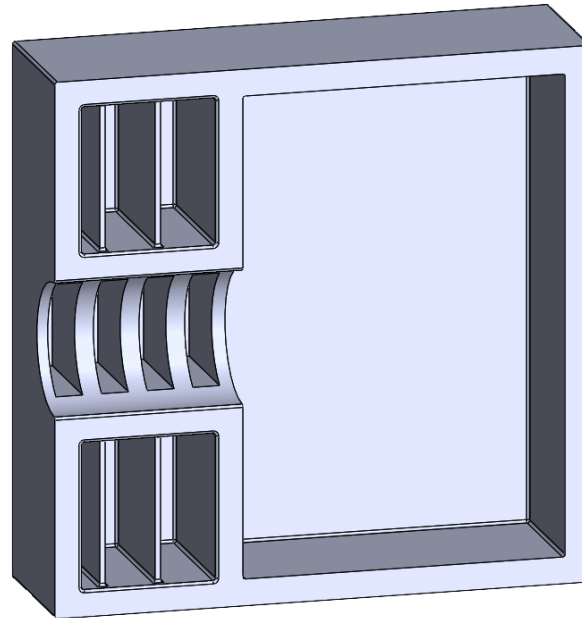


39%

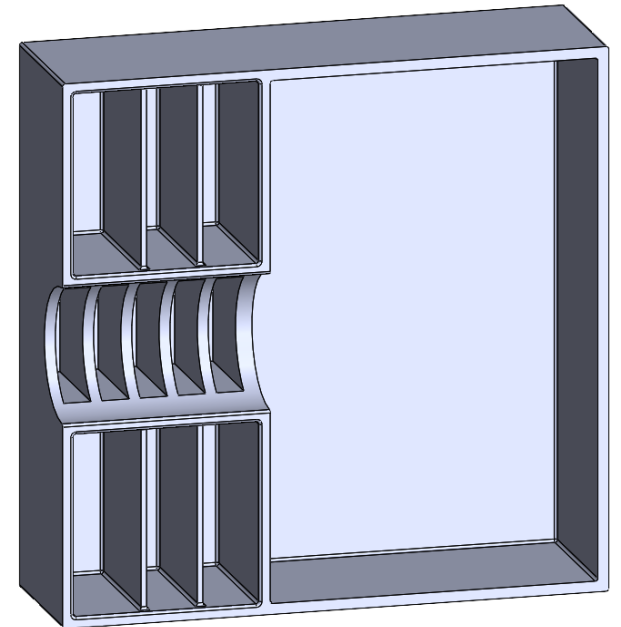
186 gram



114 gram



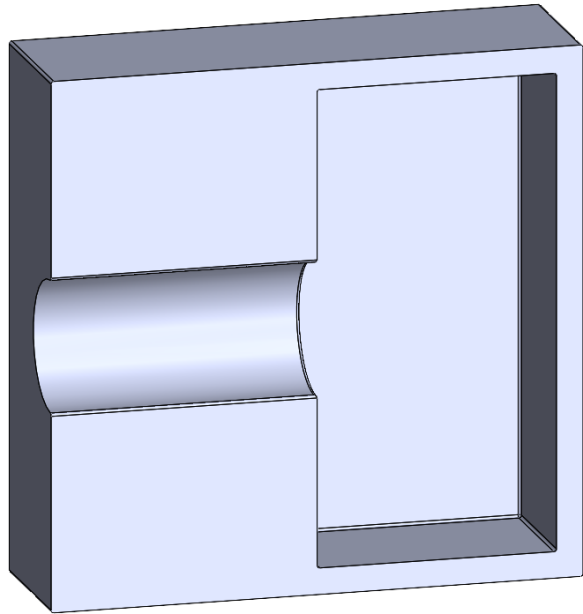
60 gram



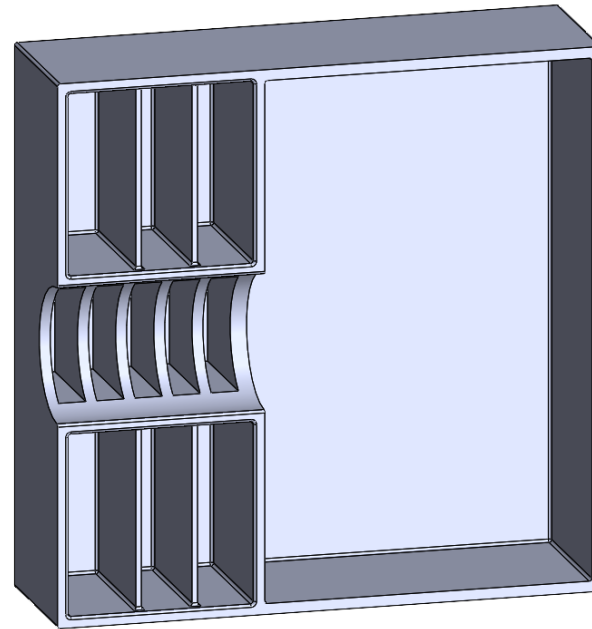
39%

68%

186 gram



60 gram

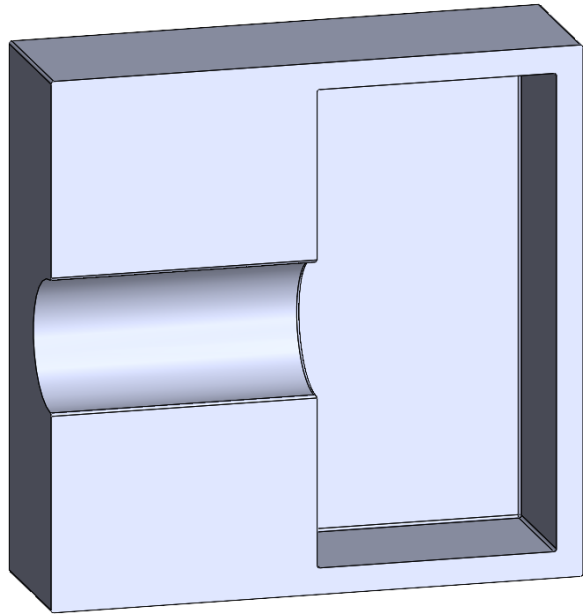


Afval

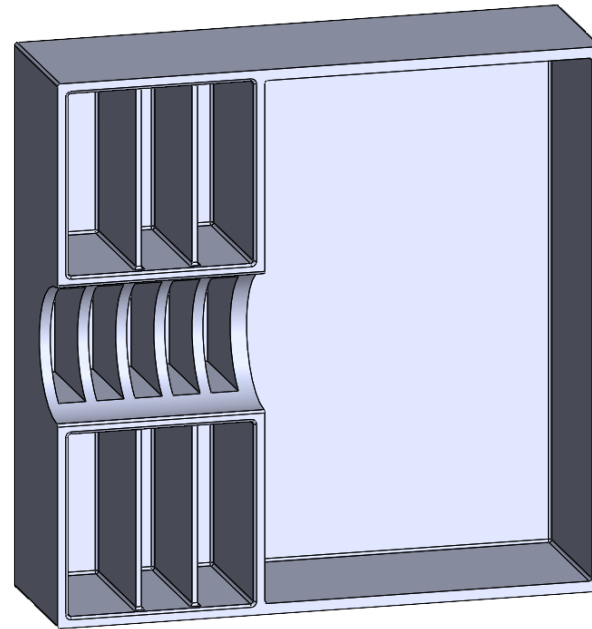
68%



186 gram



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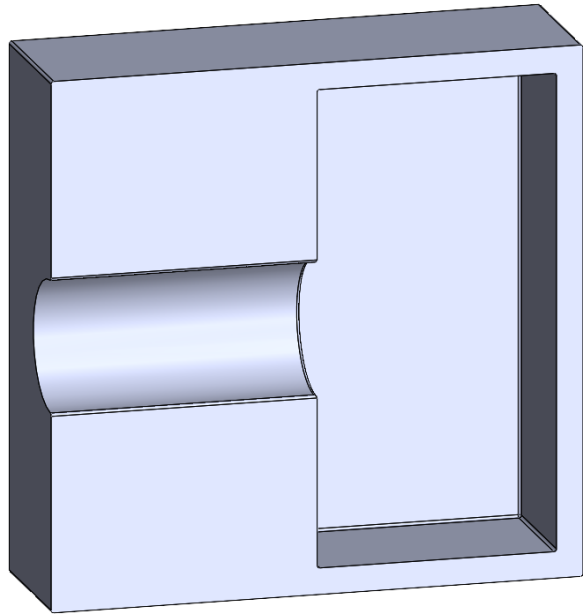


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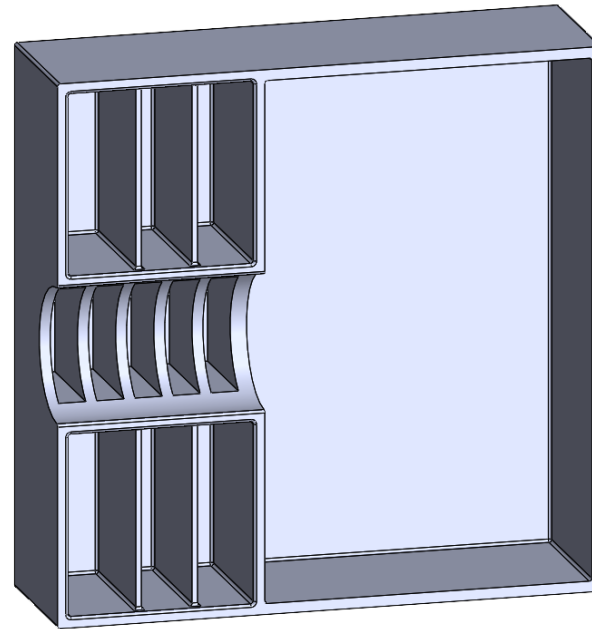
Transport

68%

186 gram



60 gram



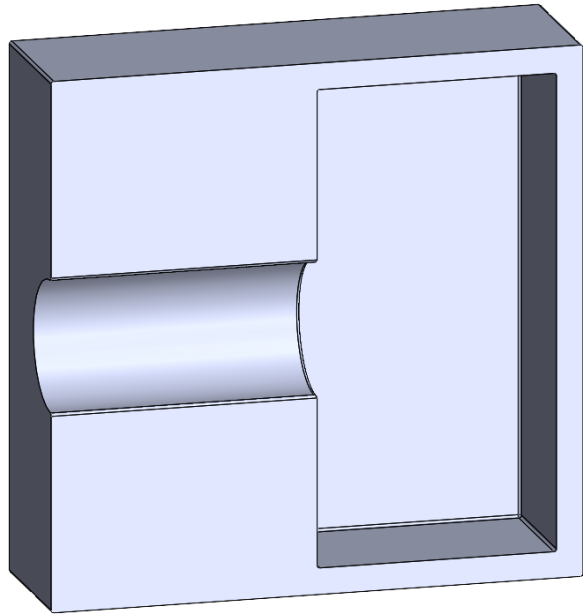
68%

Afval

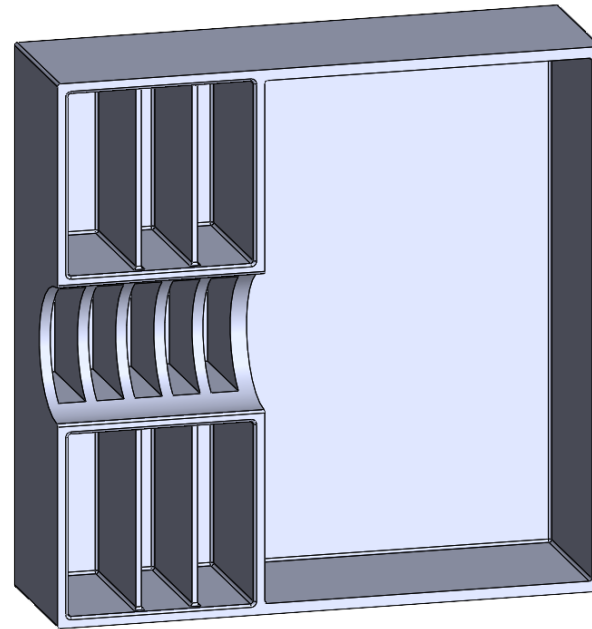
Transport

Kosten

186 gram



60 gram



68%

Afval

Transport

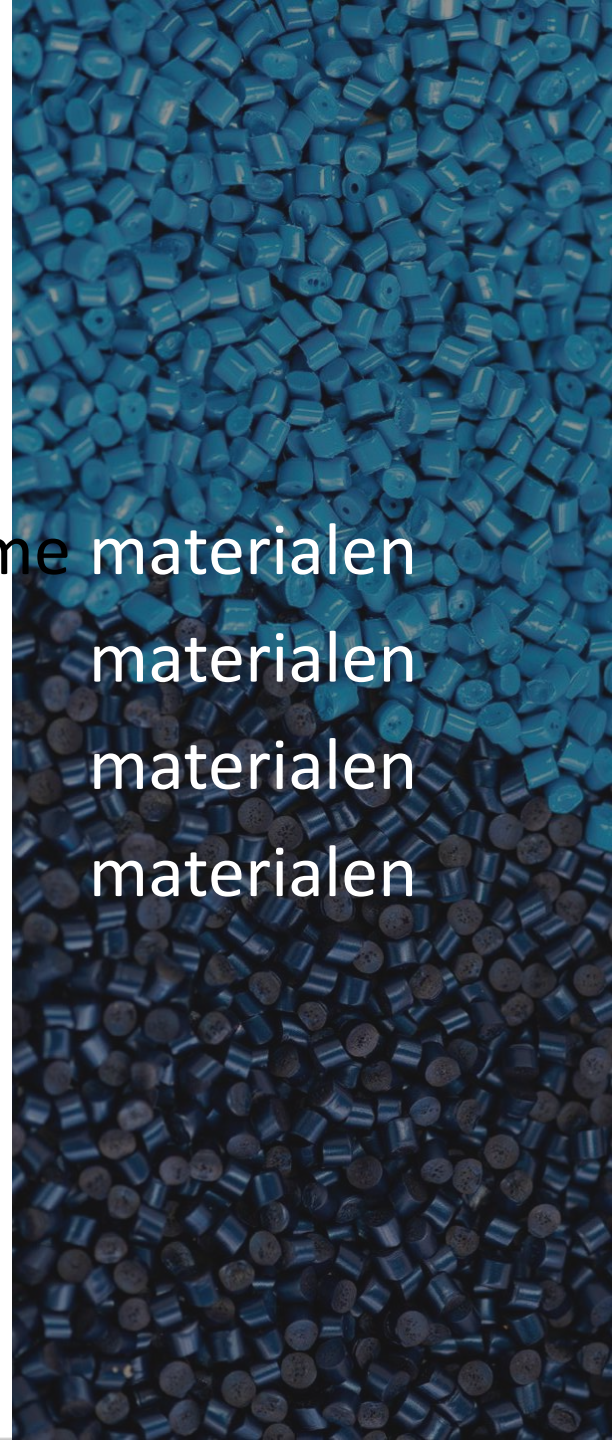
Kosten

Grondstoffen

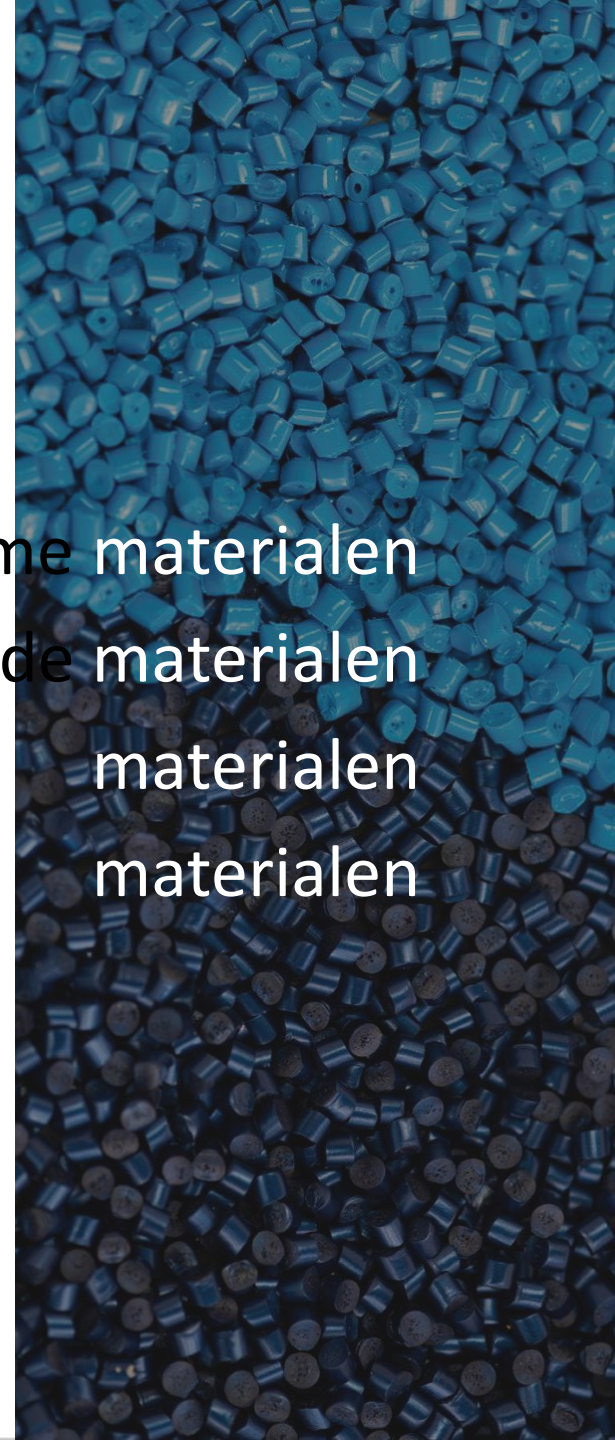
# Materiaalkeuze



Gebruik maken van duurzame materialen  
materialen  
materialen  
materialen



Gebruik maken van duurzame materialen  
Kiezen voor het gebruiken van gerecyclede materialen  
materialen  
materialen





Gebruik maken van duurzame materialen

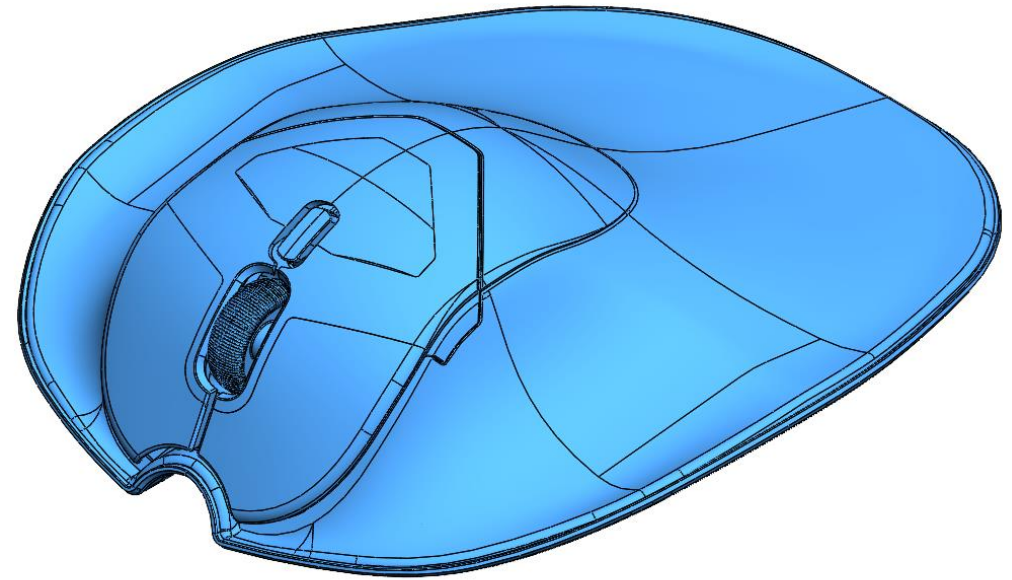
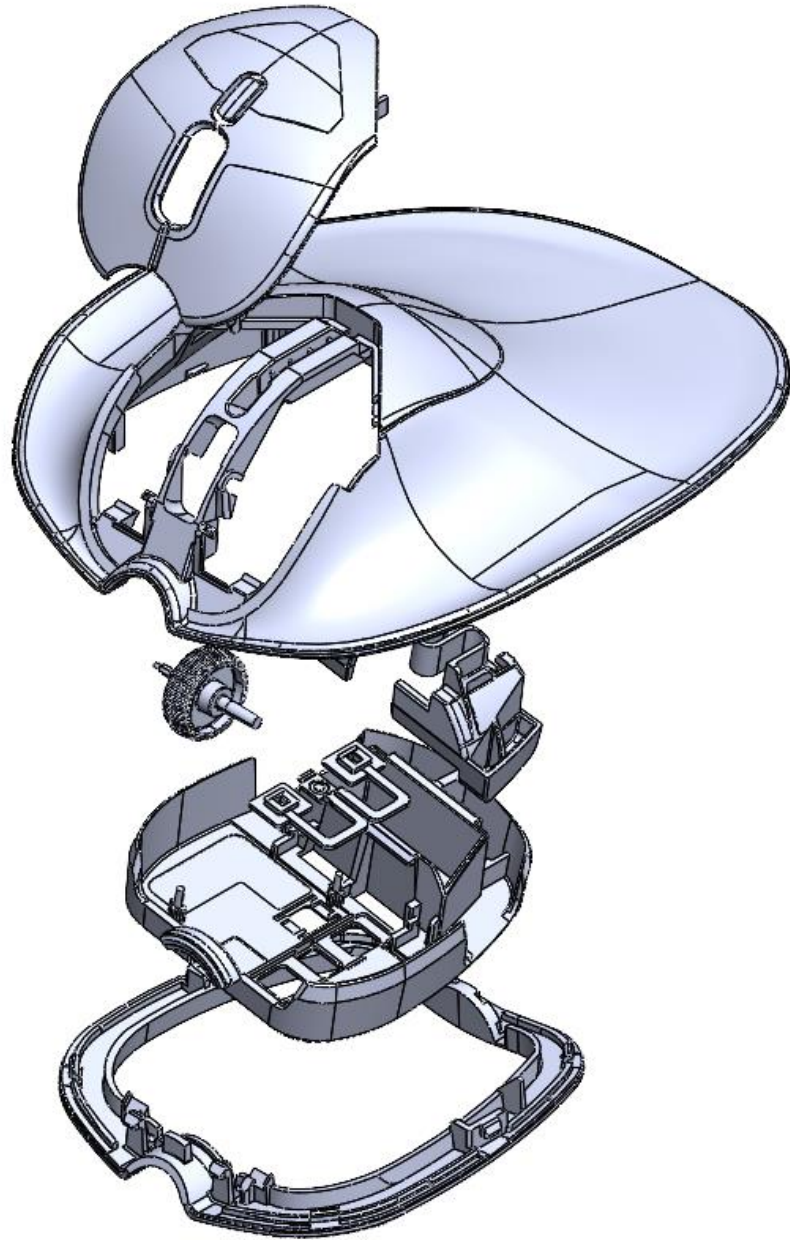
Kiezen voor het gebruiken van gerecyclede materialen

Gebruik van monostroom materialen

materialen





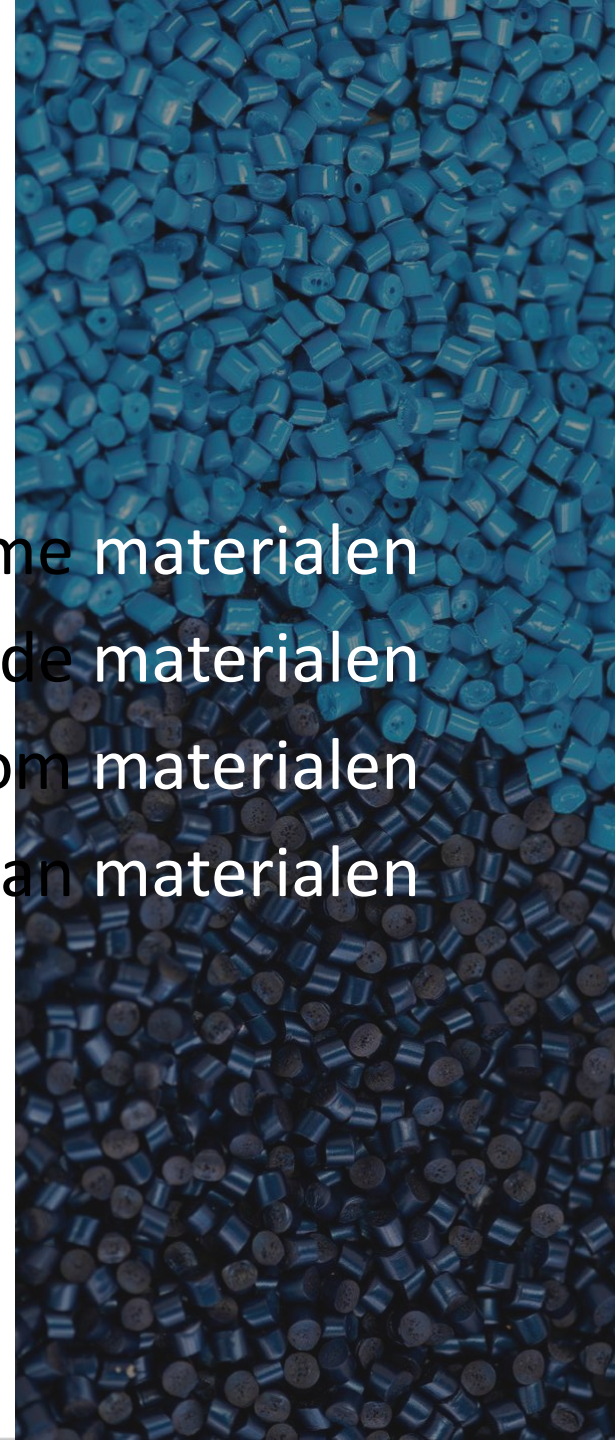


Gebruik maken van duurzame materialen

Kiezen voor het gebruiken van gerecyclede materialen

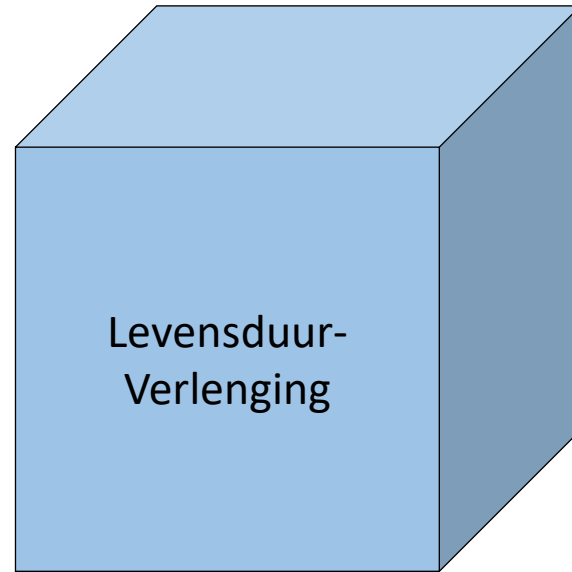
Gebruik van monostroom materialen

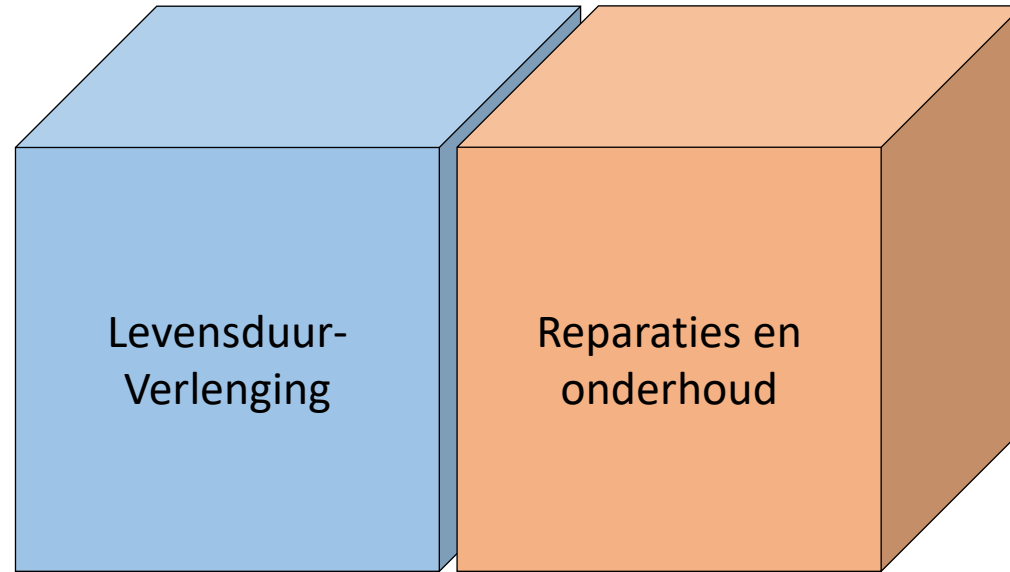
Eisen en eigenschappen van materialen

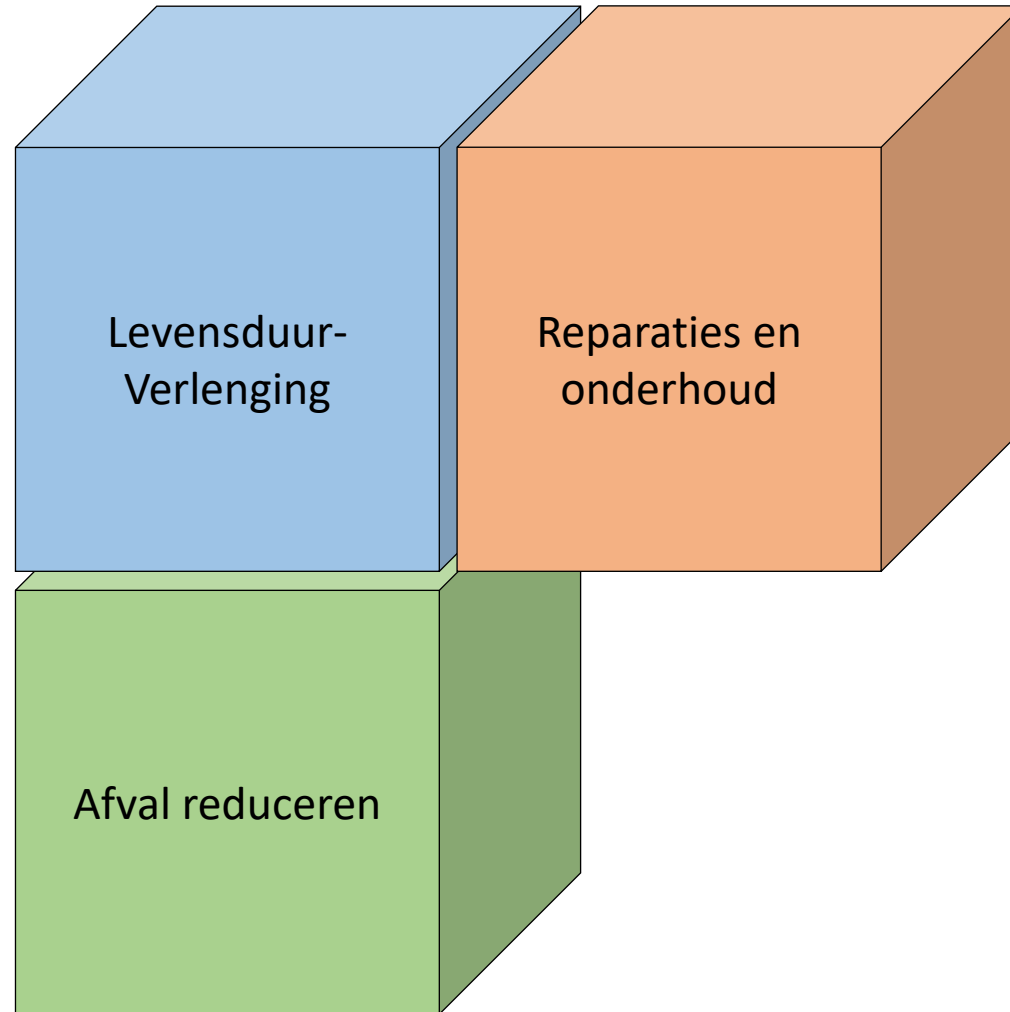


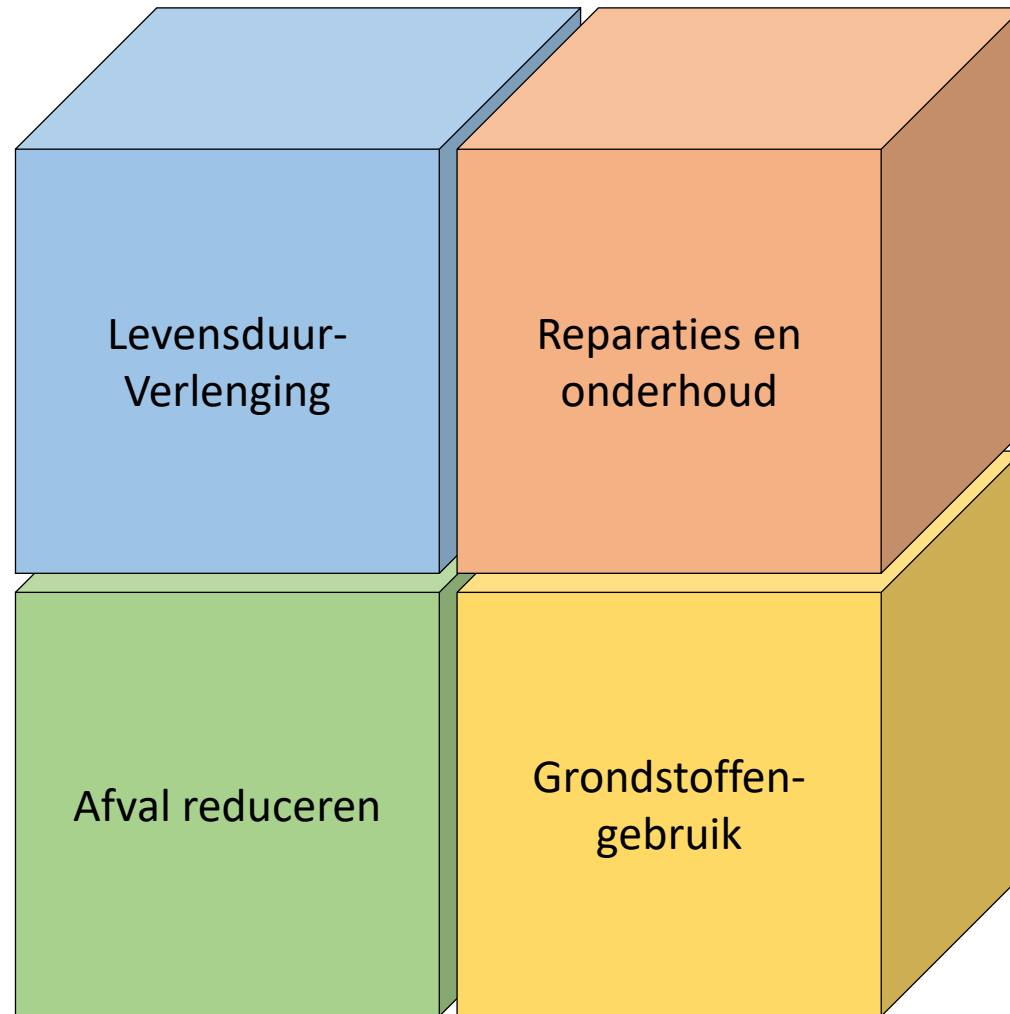
# Modulariteit en reparerbaarheid















Modulariteit en reparerbaarheid



# Design for (Dis)assembly



# Design for (Dis)assembly

Reparaties en onderhoud



# Design for (Dis)assembly

Reparaties en onderhoud  
Grondstoffen



# Design for (Dis)assembly

Reparaties en onderhoud

Grondstoffen

Recycling



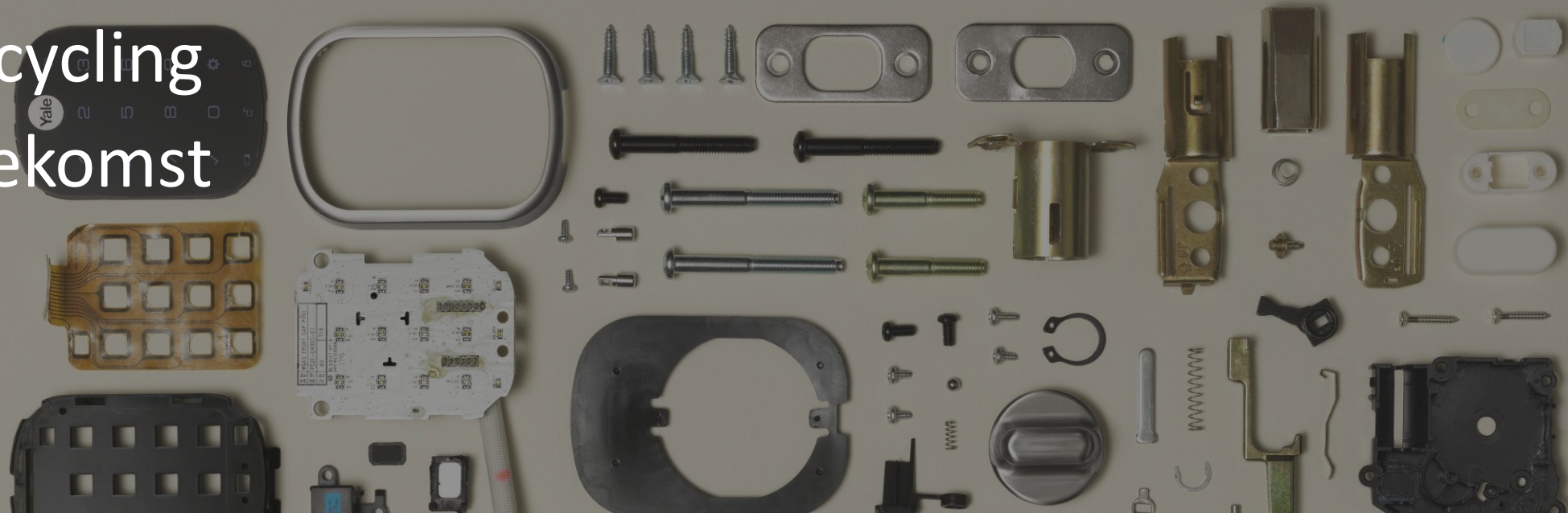
# Design for (Dis)assembly

Reparaties en onderhoud

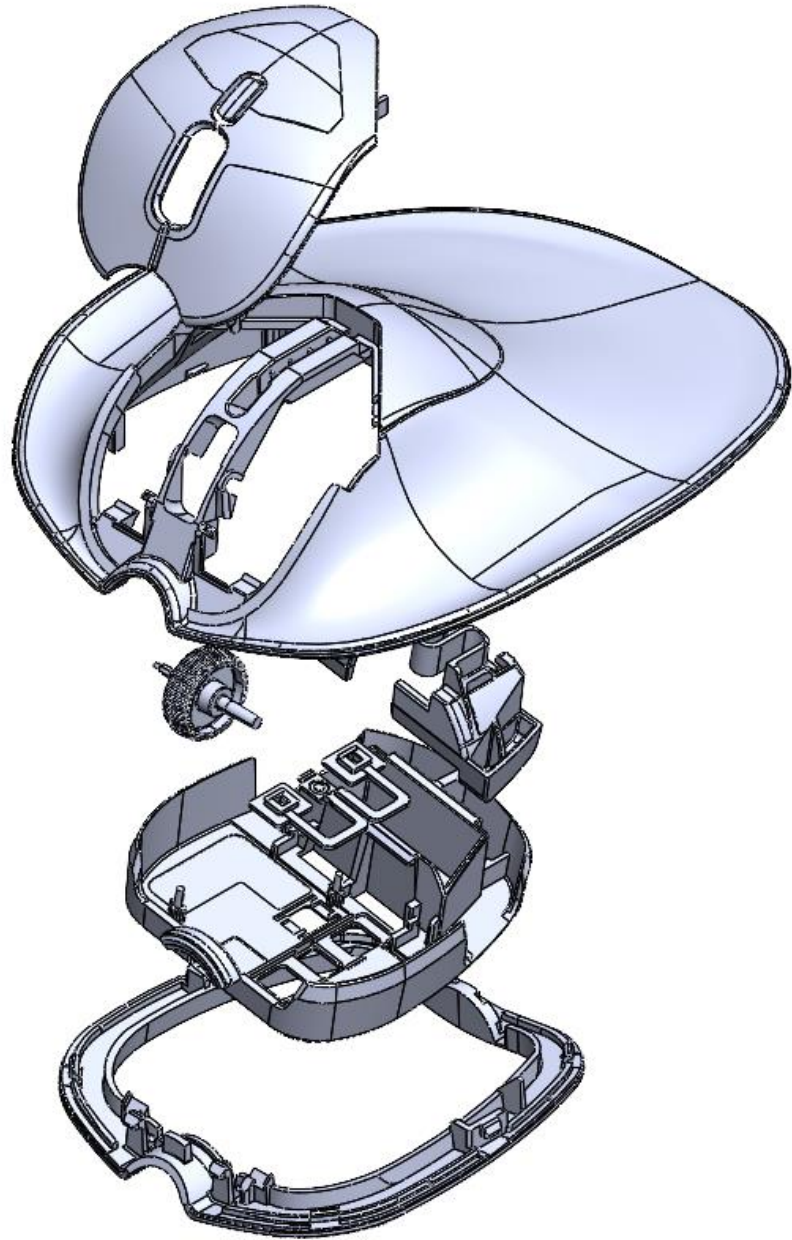
Grondstoffen

Recycling

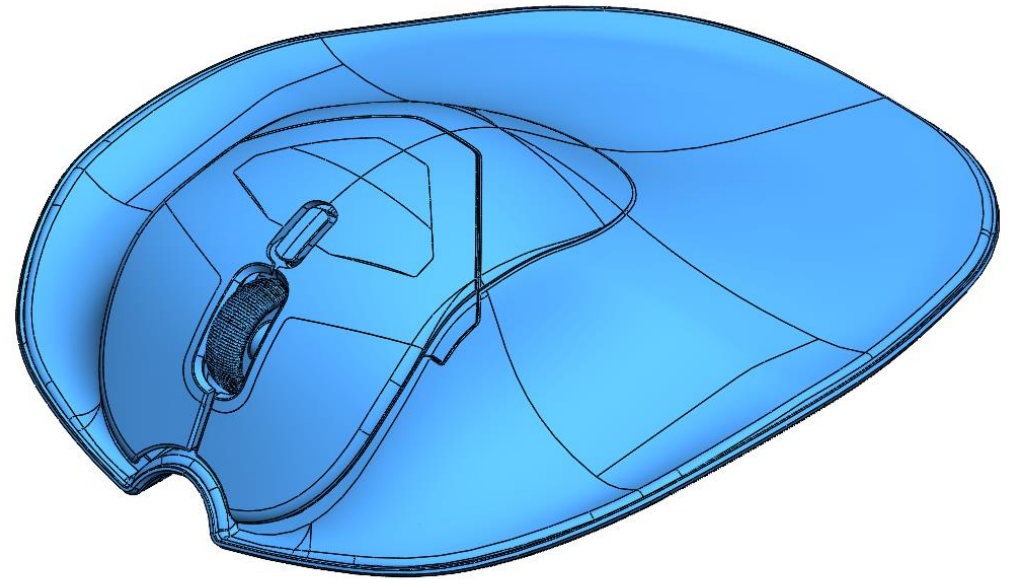
Toekomst



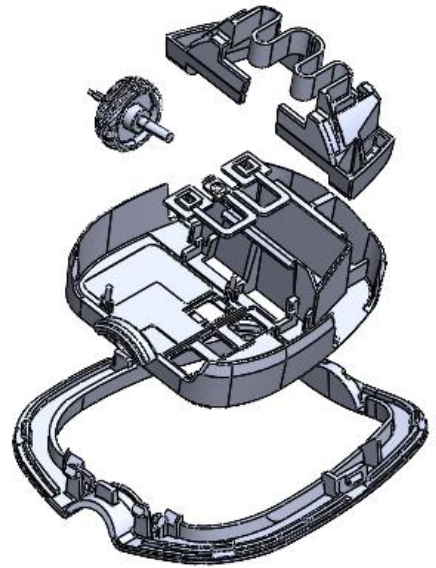
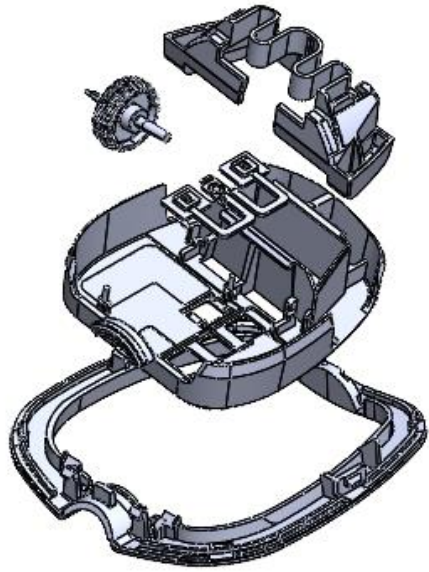
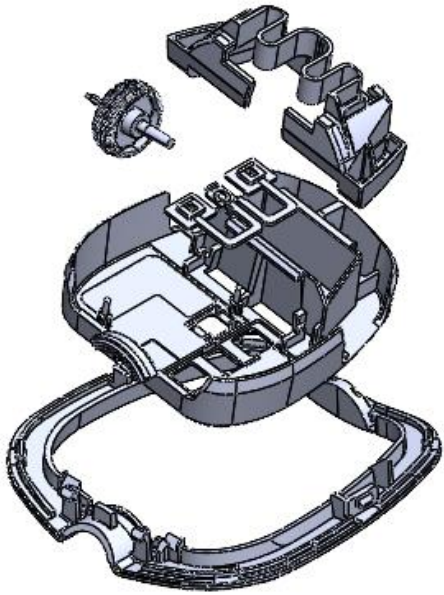
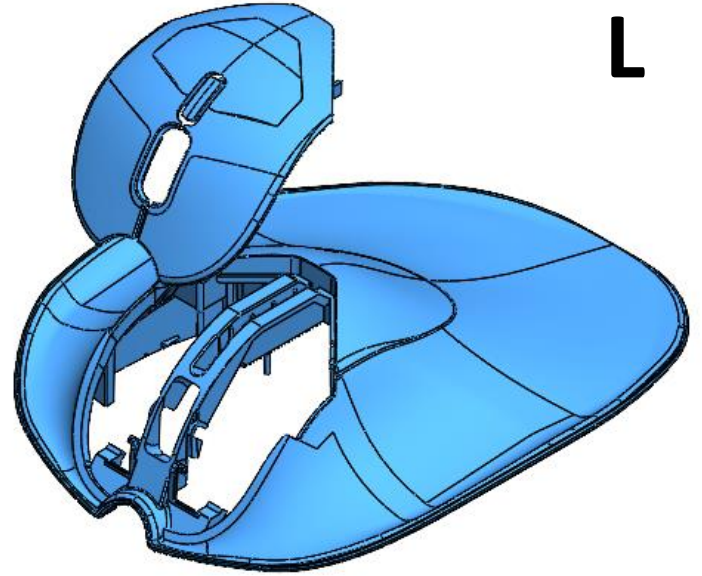
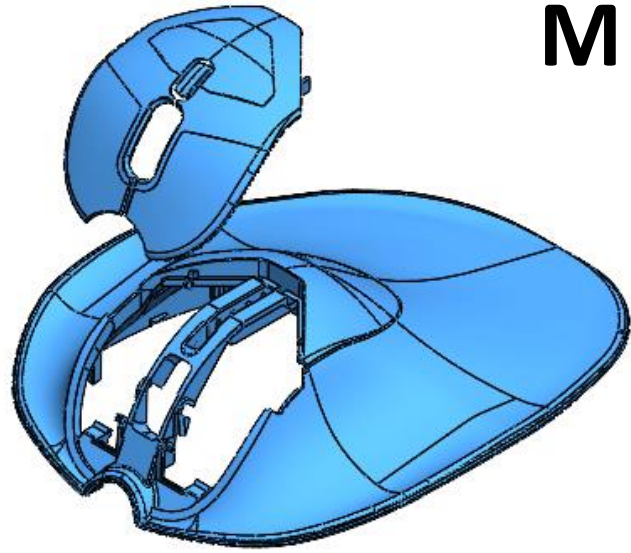
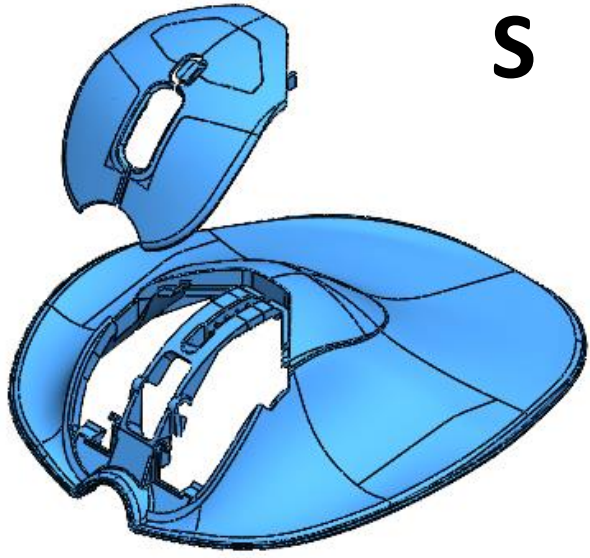
Design for (Dis)assembly



**flow/products**

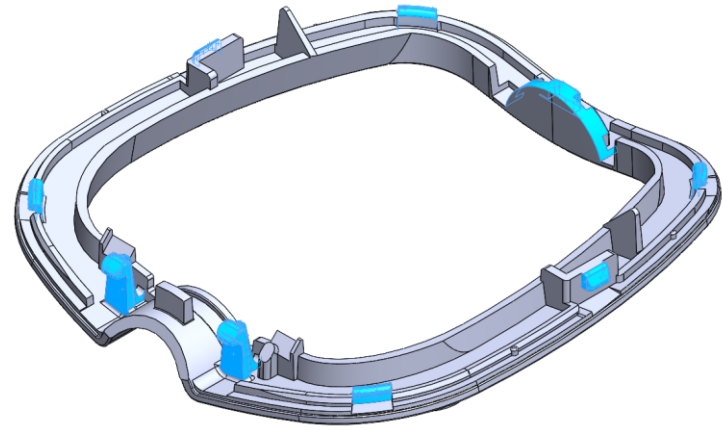
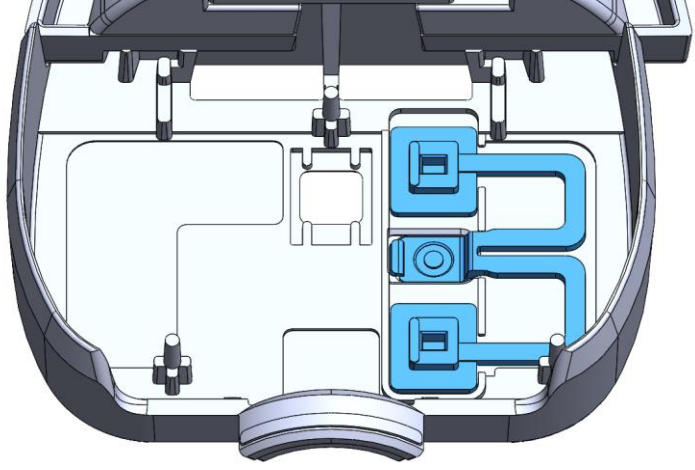
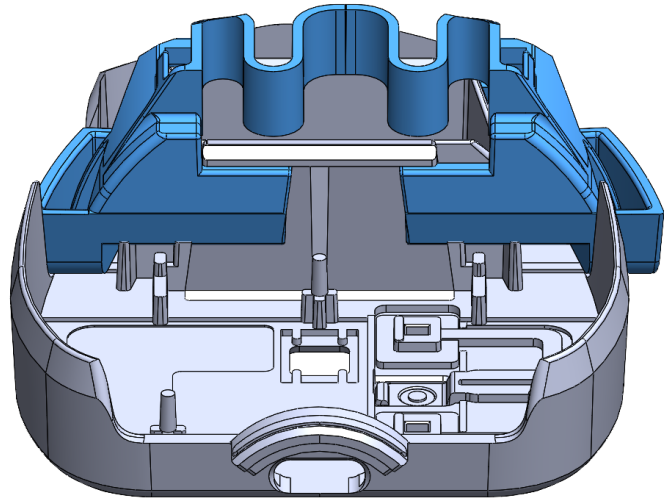


Design for (Dis)assembly



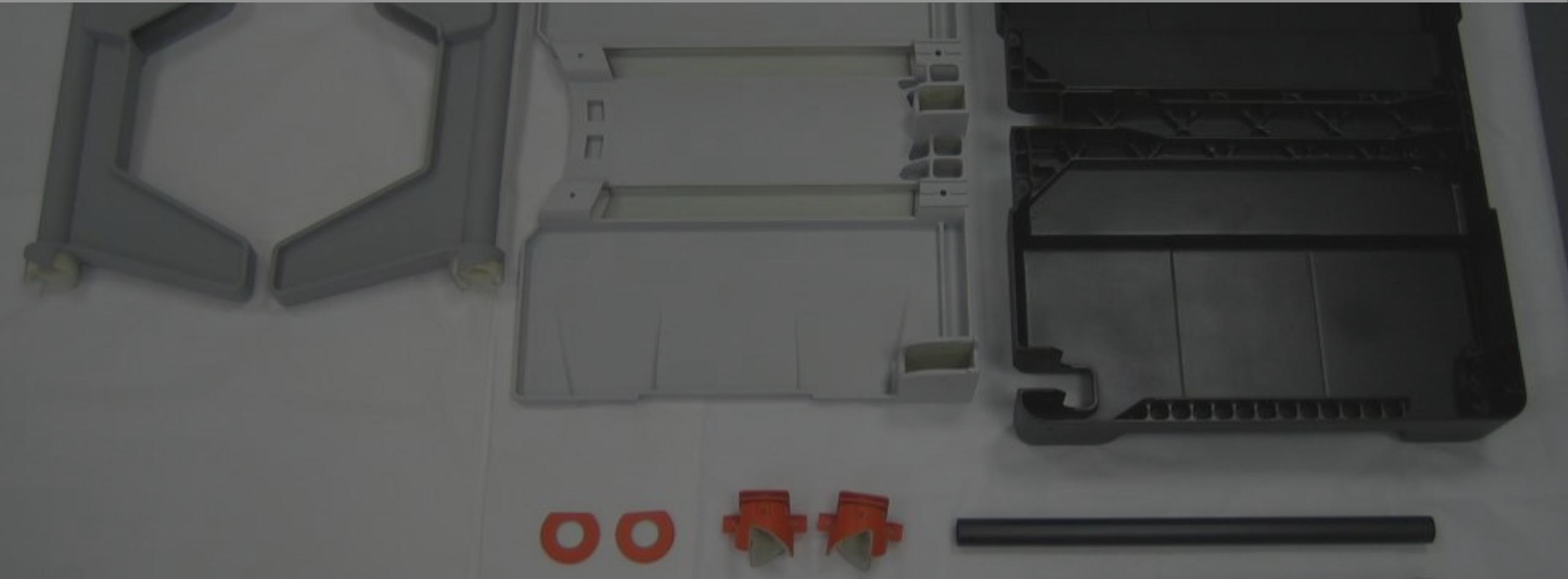


# Design for (Dis)assembly



**flow/products**

# Duurzaamheid en Bedrijfsmodellen



## Bedrijfs- modellen

### Hybride

Functioneert door de verkoop van relatief goedkope producten met een korte levensduur die alleen werken in combinatie met een speciaal daarvoor ontwikkelt hoogwaardig product

### Klassiek duurzaam

Biedt een hoogwaardig product aan met een lange levensduur, met verkoop als de klassieke inkomstenbron. Aftersales ondersteuning draagt bij aan het kwaliteitsimago.

### Prestatie

Houdt ook de verantwoordelijk in handen van de provider, maar er is een contract, gebaseerd op de te leveren prestatie. De provider bepaalt welke producten worden ingezet om de gewenste taken uit te voeren.

### Toegang

Gebaseerd op geld verdienen door het verschaffen van toegang tot een product, terwijl de toegangsverschaffer eigenaar blijft. Er is een tijdslimiet en de producten worden gebruikt in beurten.



Ontwerpers  
Fabrikanten  
Leveranciers  
Klanten



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