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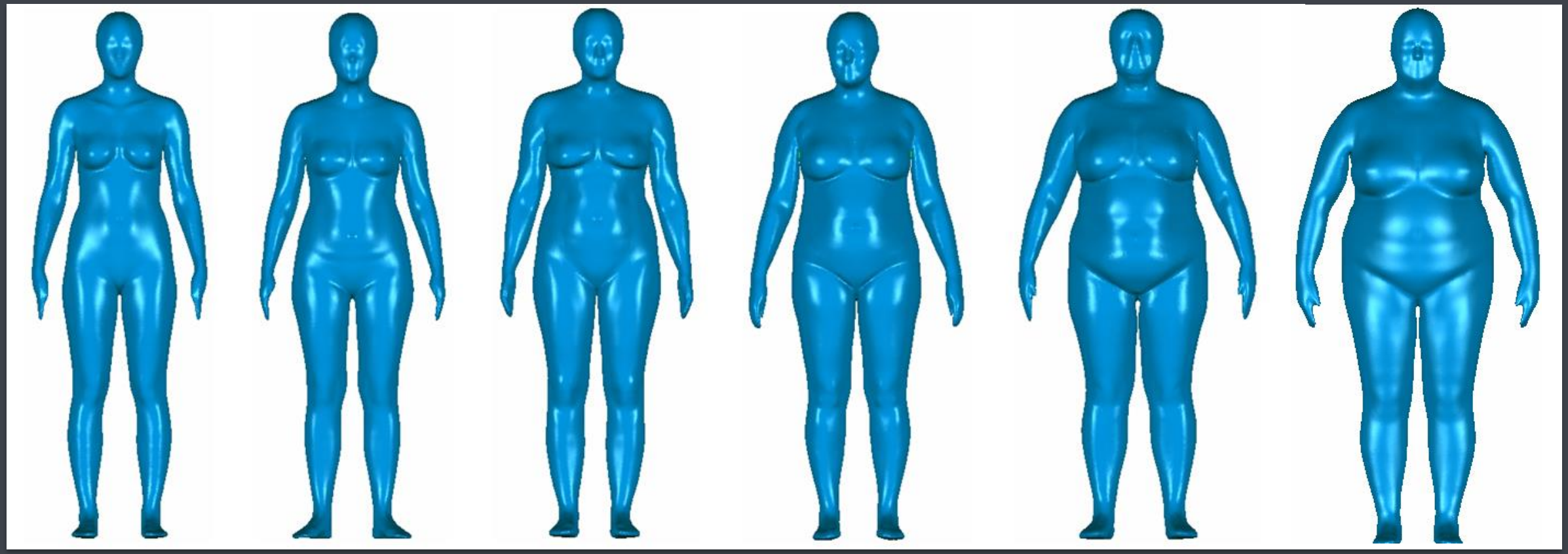
Plus Size Women
Fit across entire size ranges



Fitting across full size ranges is challenging!

That's where apparel wear testing can help:

- fit & shape conformity in all sizes
- brand identity across all sizes
- reduction of development costs and returns

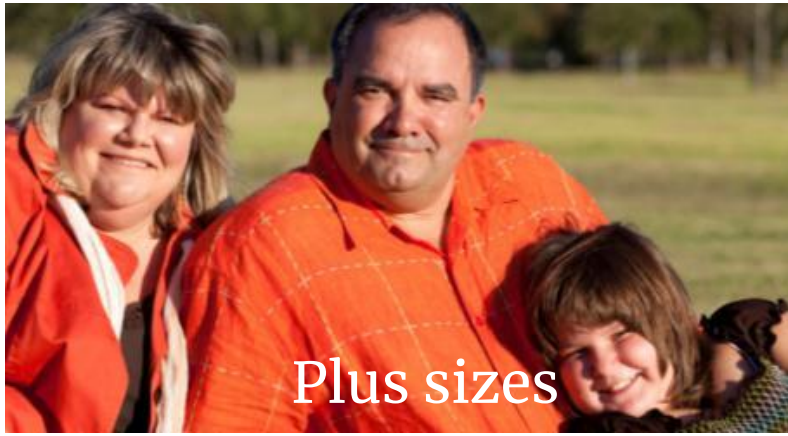
Apparel is expected to fit and look good in every size

Body measurements and shapes of different target groups are fit affecting!

Apparel wear testing at Hohenstein

> 1000 fitting models
> real people & 3D avatars

- men, women & kids
- all sizes & body shapes
- all age groups
- different markets:
  Germany, Europe, USA



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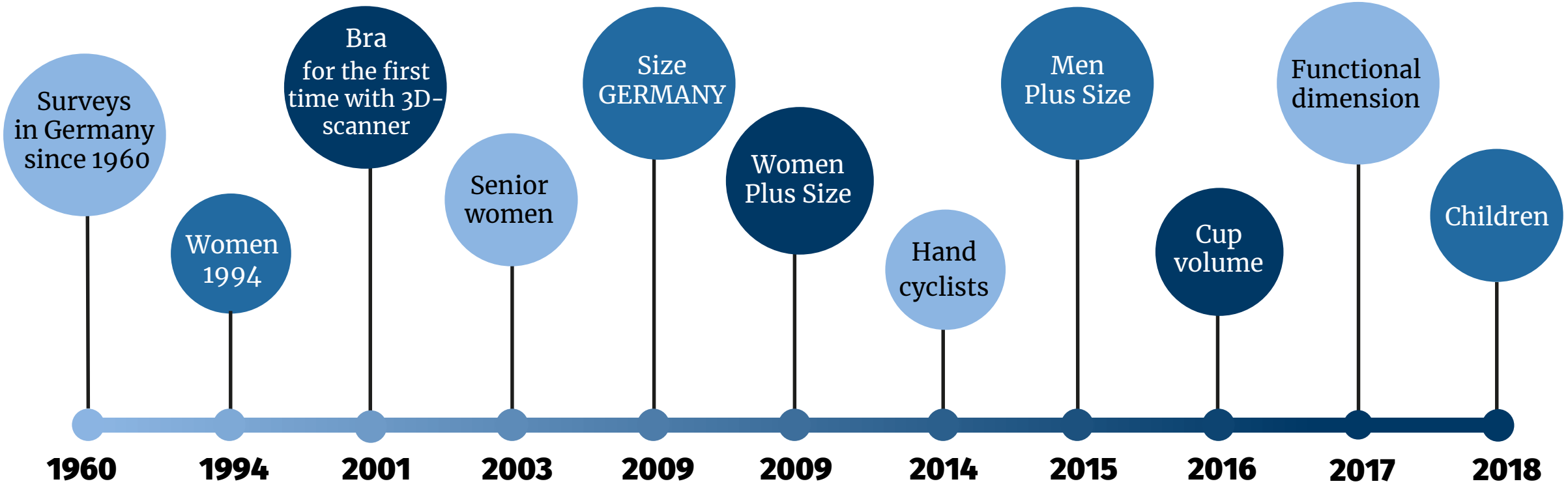
Anthropometric surveys by Hohenstein



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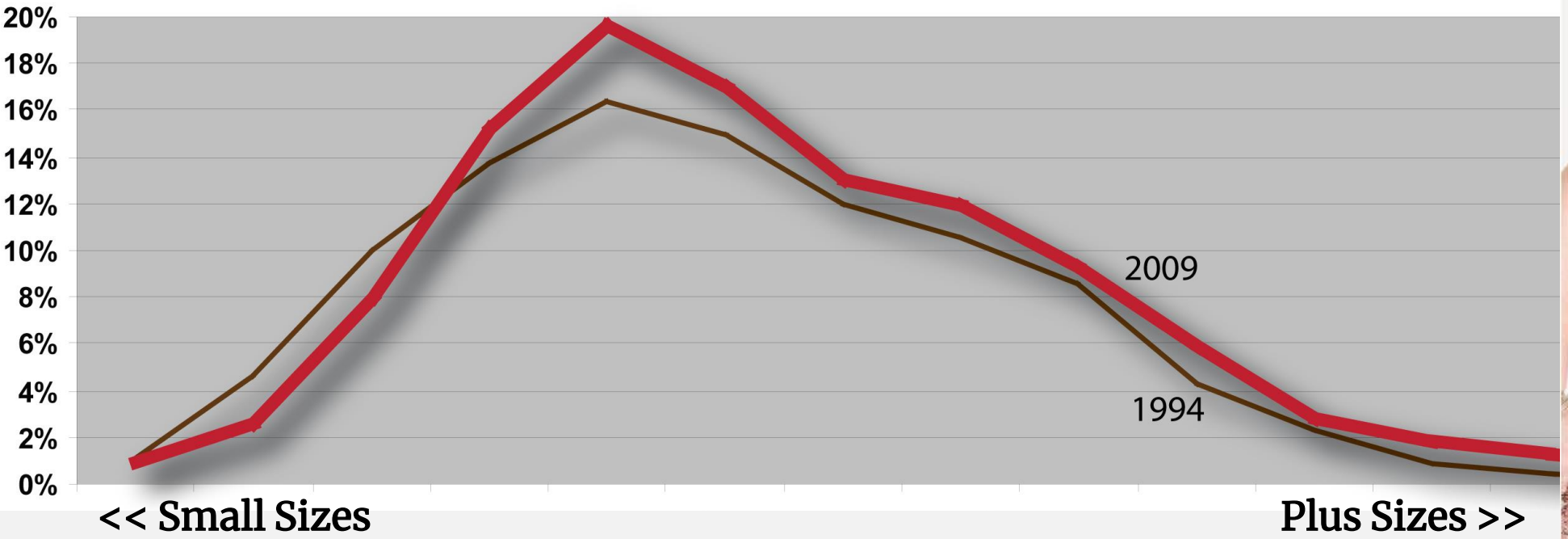
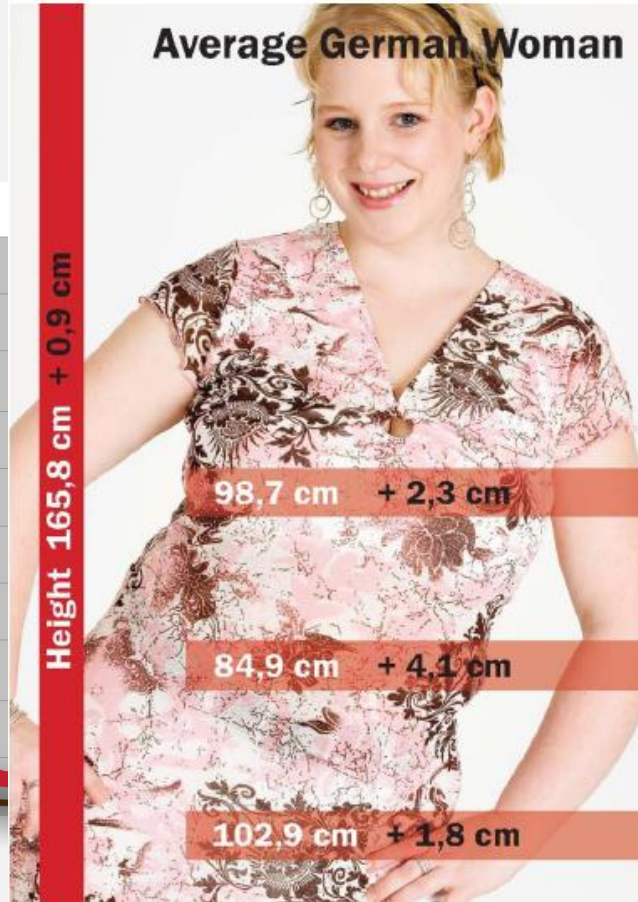
Clear trend towards plus sizes

Increase of garment sizes for womenswear in percent

Comparing the German sizing surveys results from 1994 and 2009





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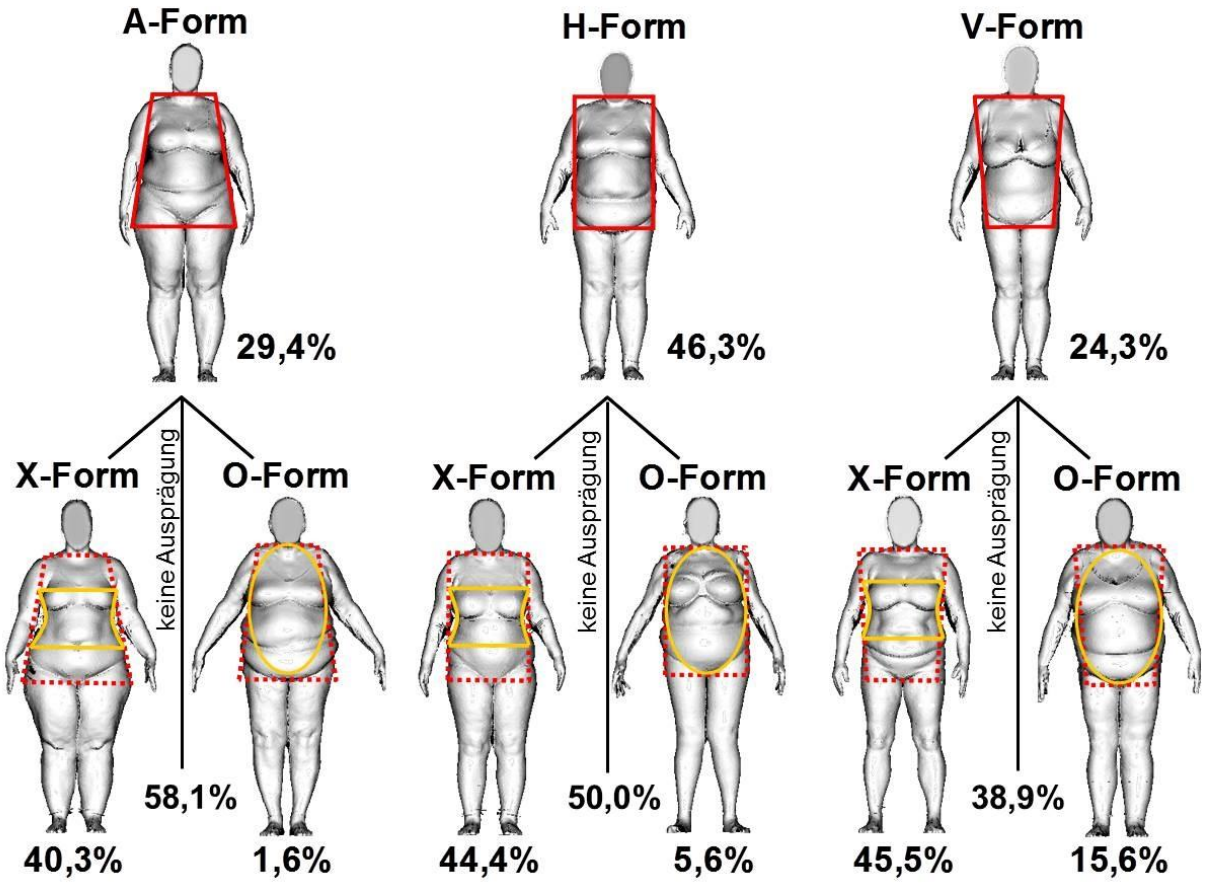
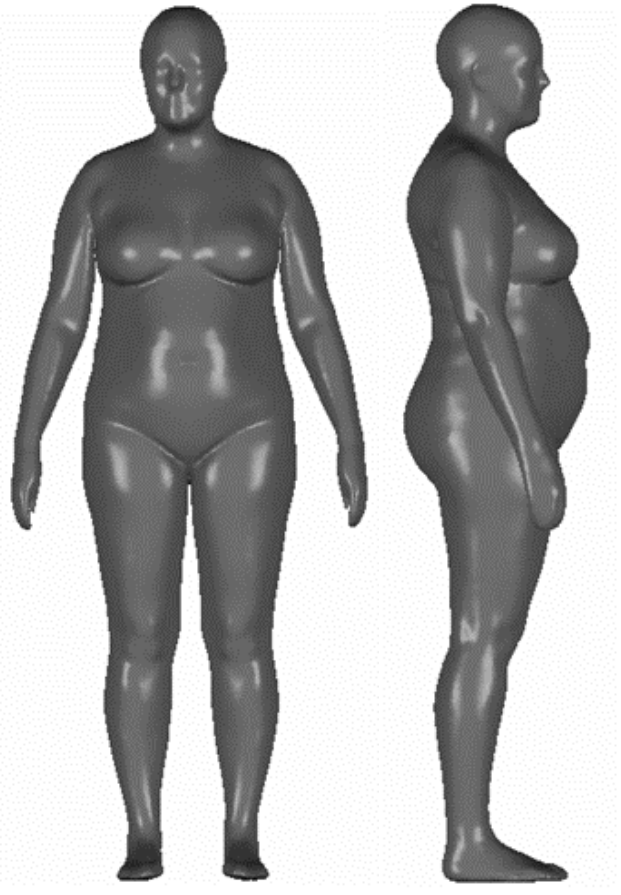
R&D project "Plus size women"

Project period 01.02.2007 to 31.05.2009





Acknowledgment

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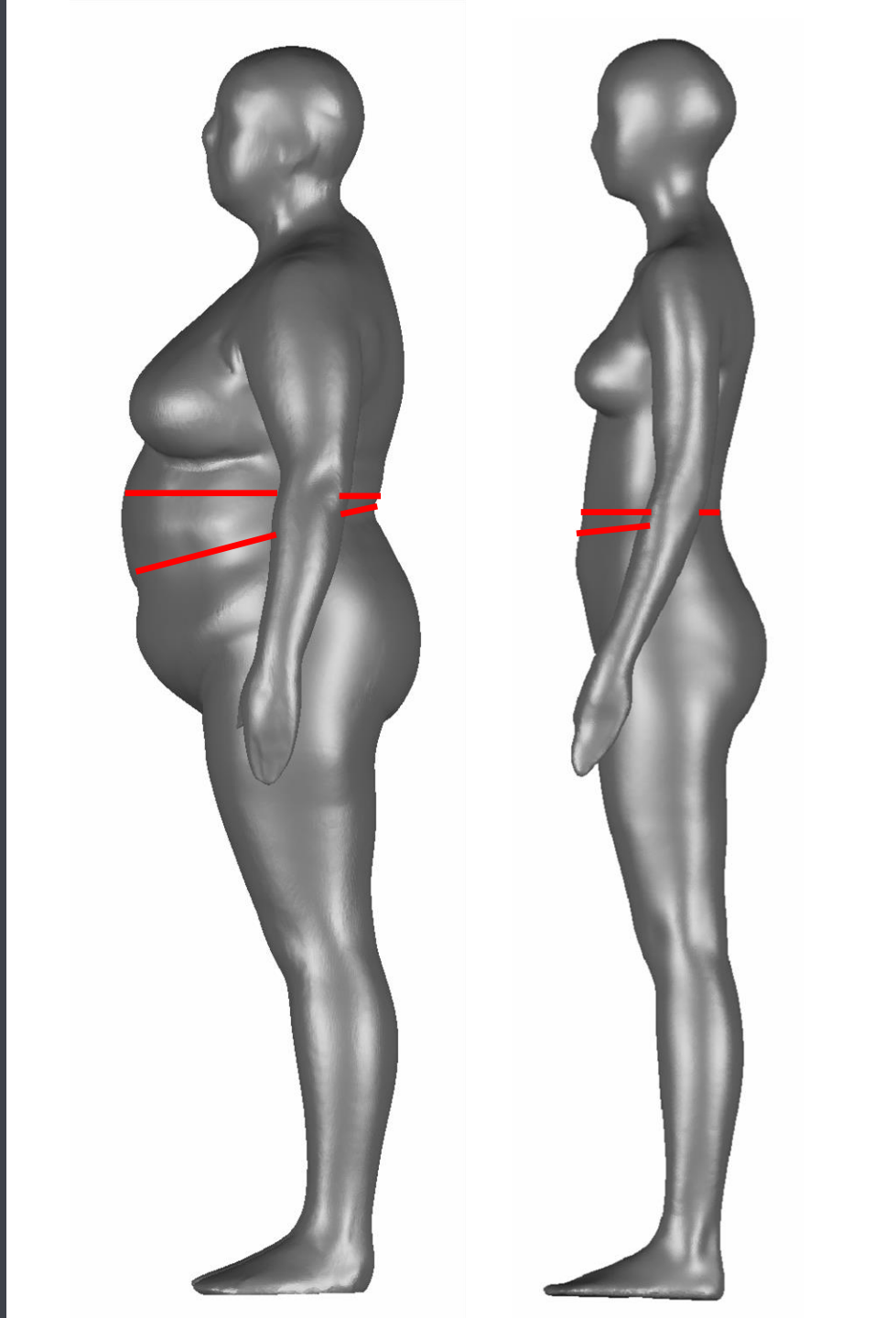
Project Output

- research report including
- size charts
- markets share tables
- visualization of the target-group specific body shapes
- pattern basics



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New size chart „Plus Size Women“

- German size 48 to 64 - breast 110 cm to 158 cm
- 3 primary measurements
- 47 secondary measurements plus weight
- Describing three figure types as well as three body height types

48	50	52	54	56	58
110	116	122	128	134	140
113	118	123	129	135	141
168	168	168	168	168	168
97,5	104,0	110,5	117,0	123,5	130,0
100,5	107,0	113,5	120,5	127,5	134,5
4,4	5,2	5,9	6,5	7,0	7,4
93,0	99,0	105,0	111,0	117,0	123,0
104,8	104,9	105,0	105,1	105,2	105,3
105,8	105,9	106,0	106,1	106,2	106,3
76,0	75,8	75,6	75,4	75,2	75,0
37,7	38,8	39,9	41,1	42,3	43,5

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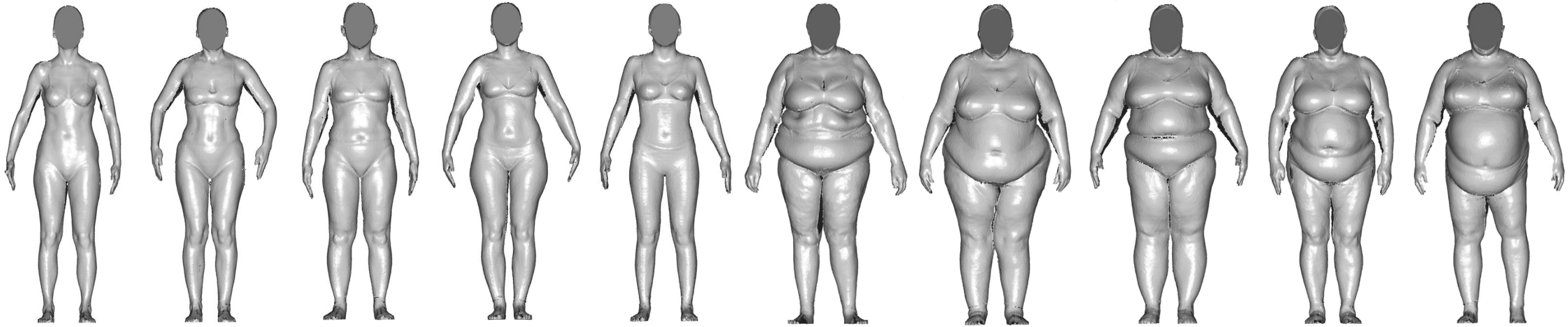
Increasing body shape variance



breast circumference 88 cm

breast circumference 140 cm

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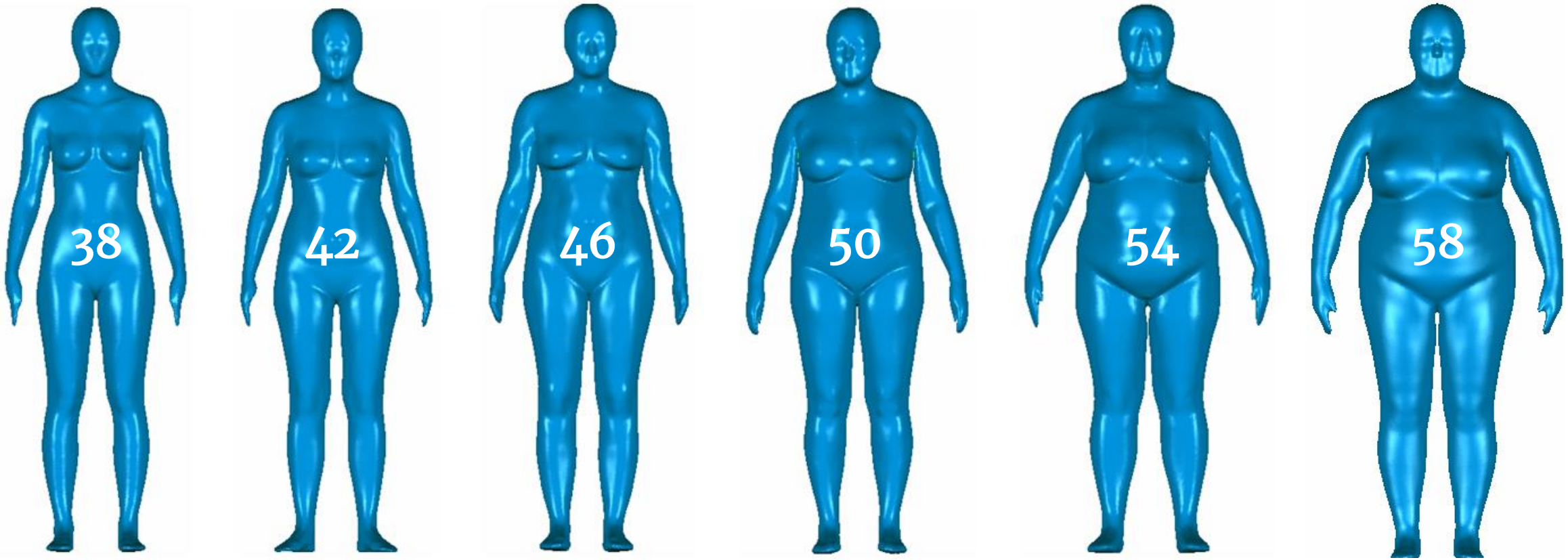
The change of body shape across the sizes



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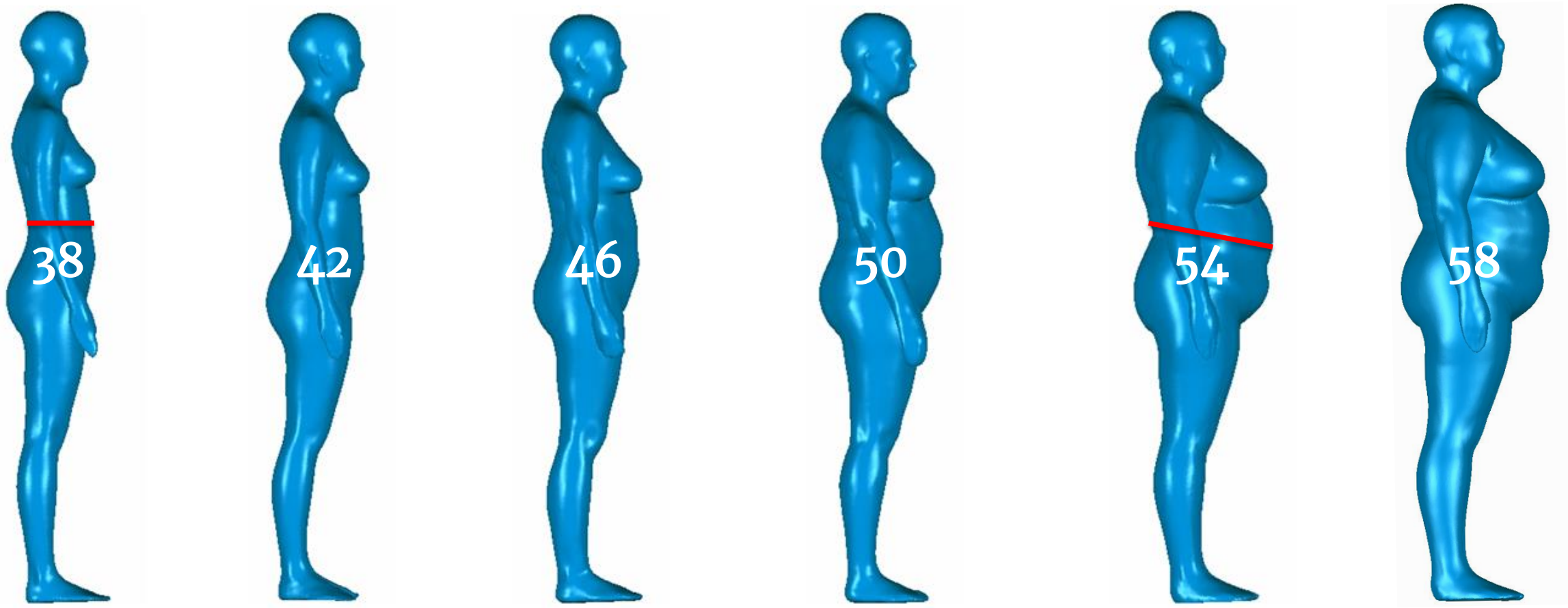

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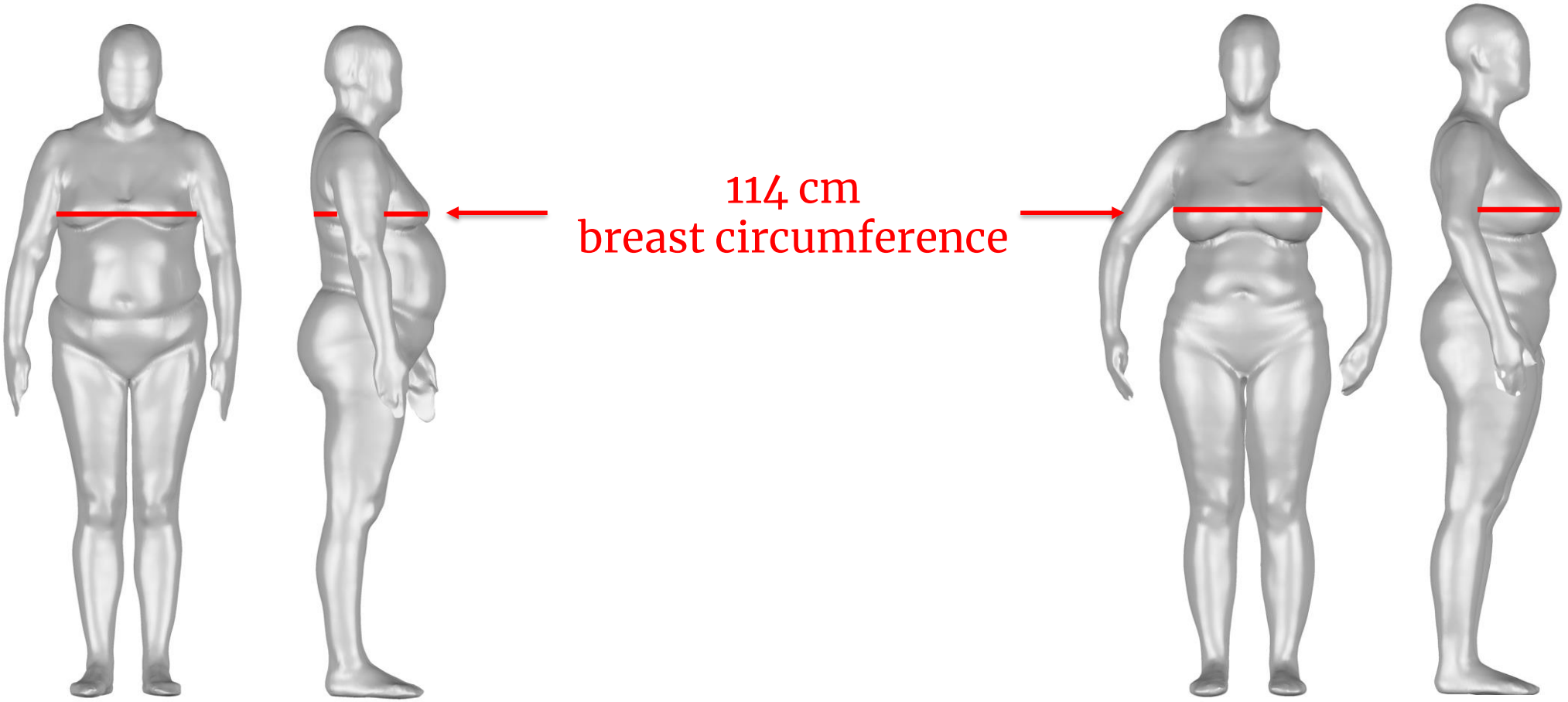
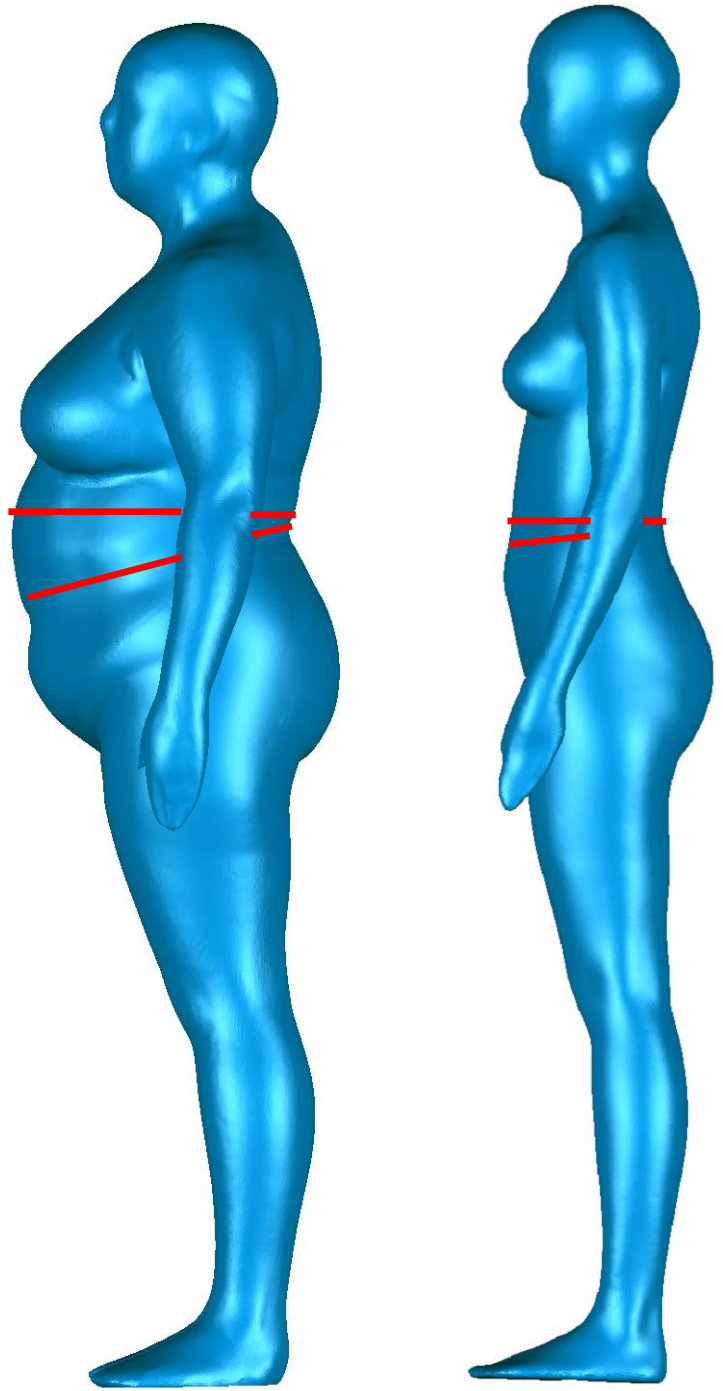
Same circumference - different cup volume



Transfer of body data into pattern

Waist circumference

- Definition of the waistline is fit influencing
- The traditional waist circumference is measured horizontally
- Using the horizontal waist measurement leads to fit problems in the plus sizes
- Natural waist circumference and height were measured and included in the size charts



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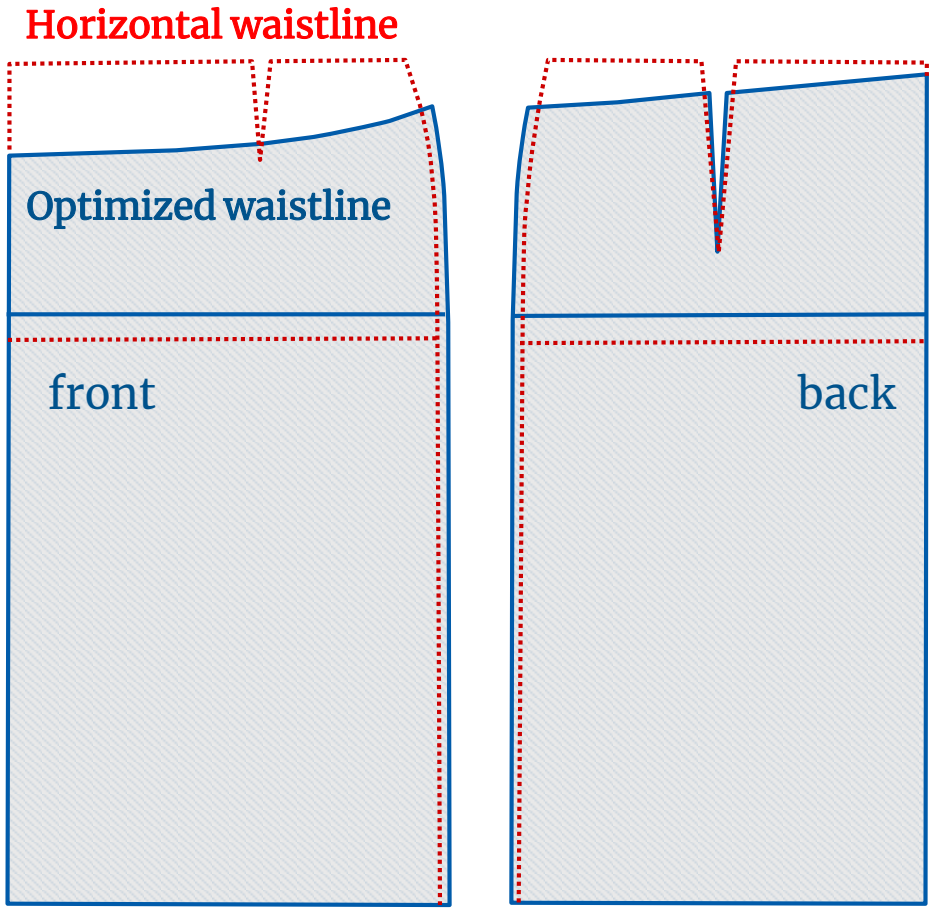
Influence of waist measurement on the fit

Horizontal waistline



Optimized waistline

Transfer into 3D simulation

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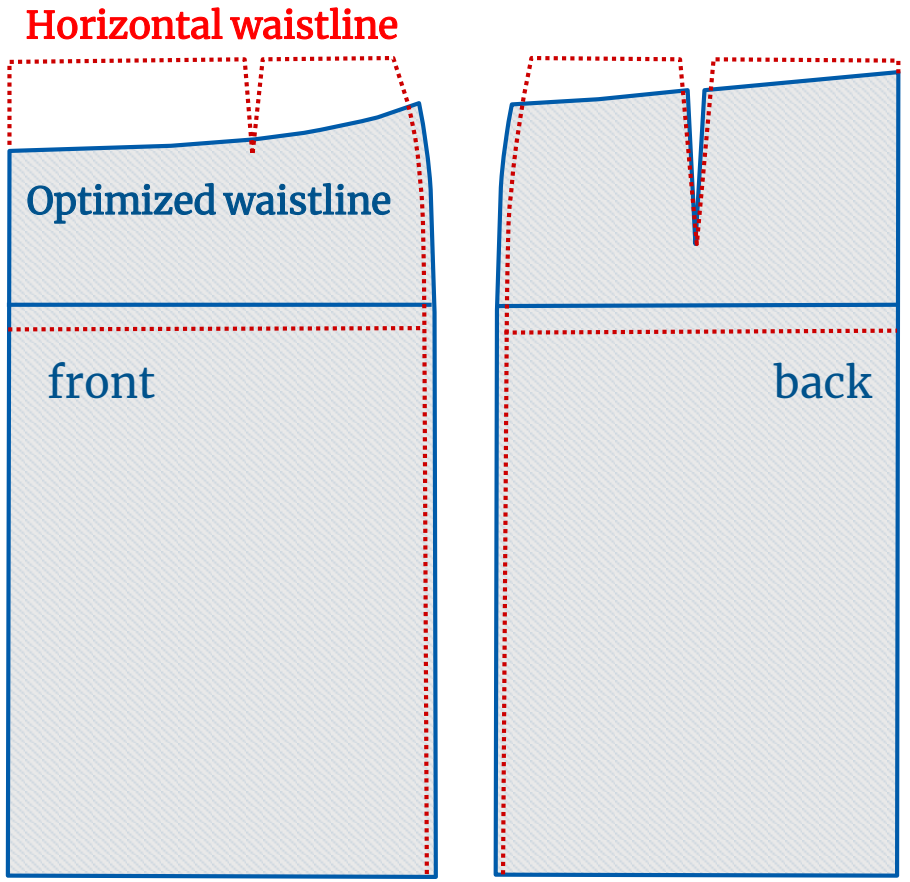
Influence of waistline on the fit

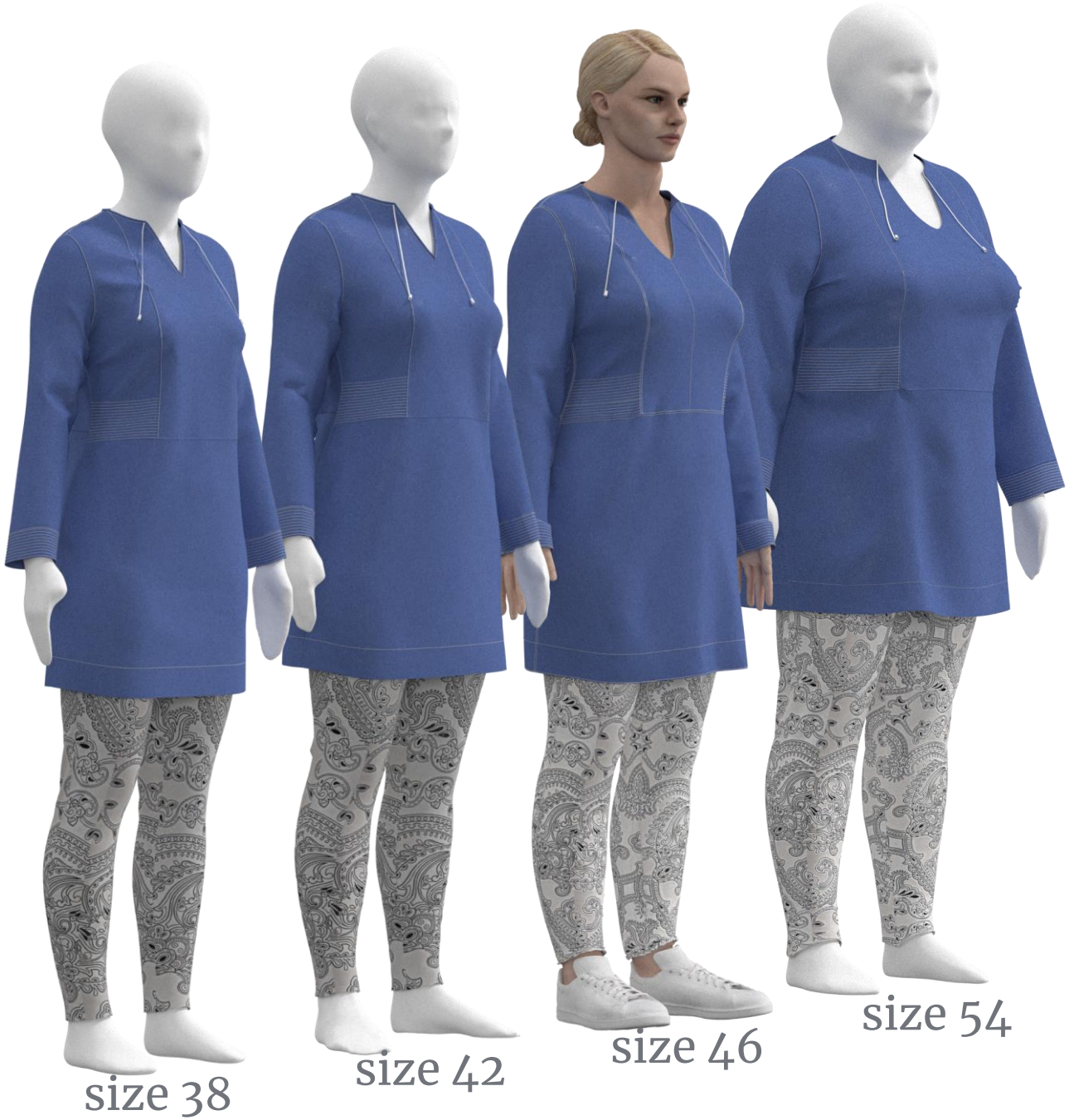
Horizontal waistline



Optimized waistline

3D fitting across the sizes

based on representative 3D avatars



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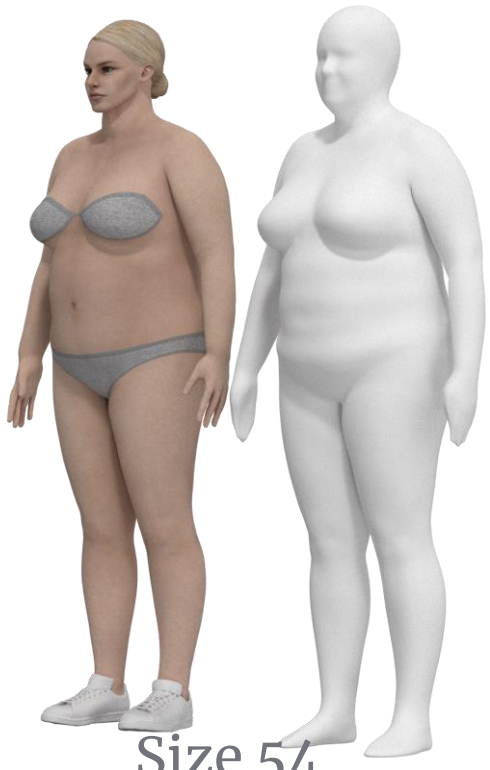
The correct avatar
How to make them nice looking?

Size 38

Size 46



Size 54

Size 58

The correct avatar forms are the basis for realistic 3D fitting!

Starting 3D simulation of clothing: plus size avatars with realistic body shapes are not provided by default.

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