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Promesso

Experience the Creation of a New Award Winning Coffee Machine

By Hugo van Andel, Senior Engineer

Promesso

Experience the Creation of a New Award Winning Coffee Machine

- **Van Berlo**
- **Promesso**

VANBERLO
liveworx.com

A few company slides

Location Eindhoven, The Netherlands

VANBERLO
liveworx.com

A few company slides

Location Ypenburg, The Hague

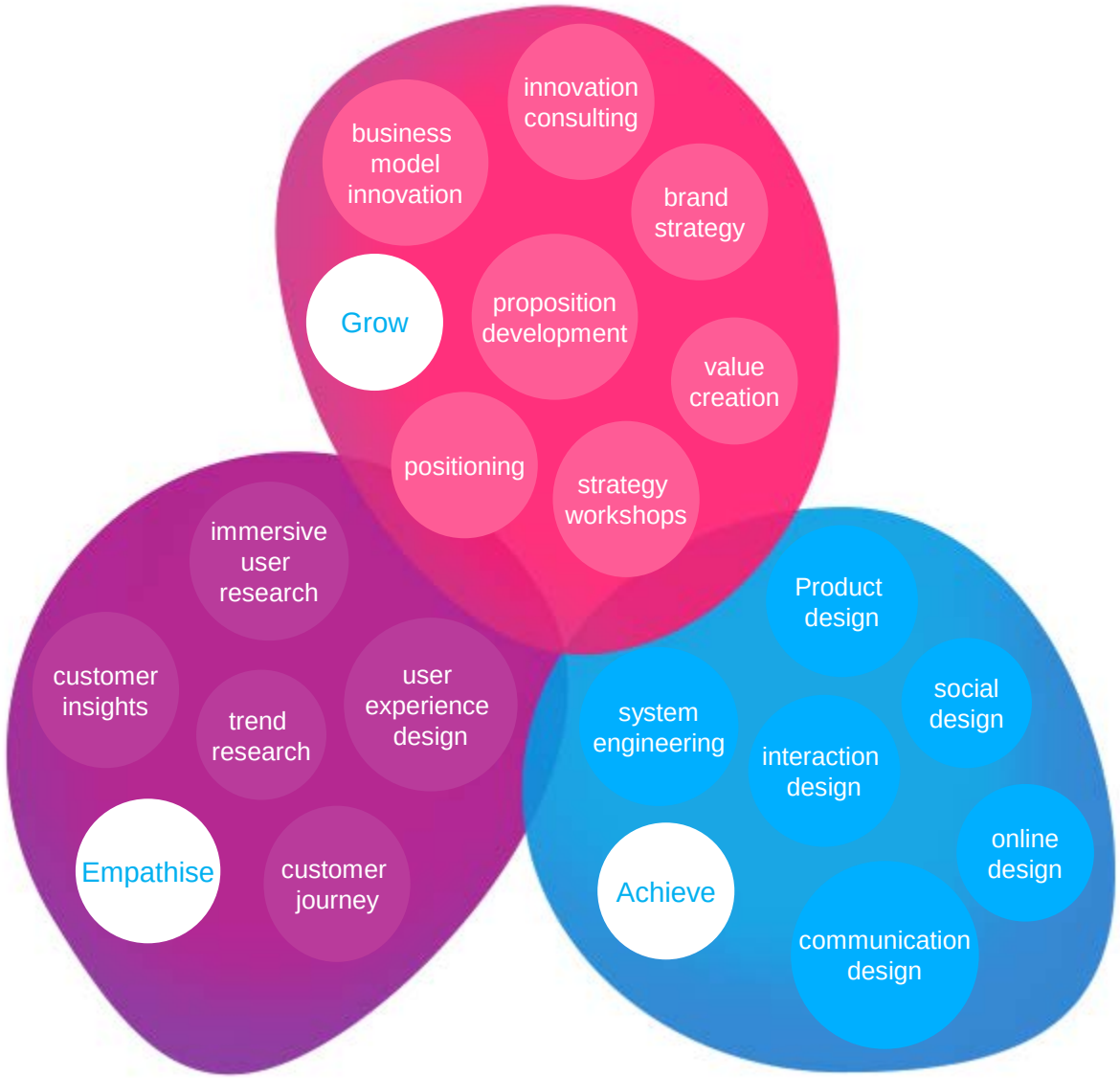
VANBERLO

International Design Agency
Founded: 1982
Employees: >80
Awards: 150 and counting
Projects: Over 5.000 created worldwide

VanBerlo Approach

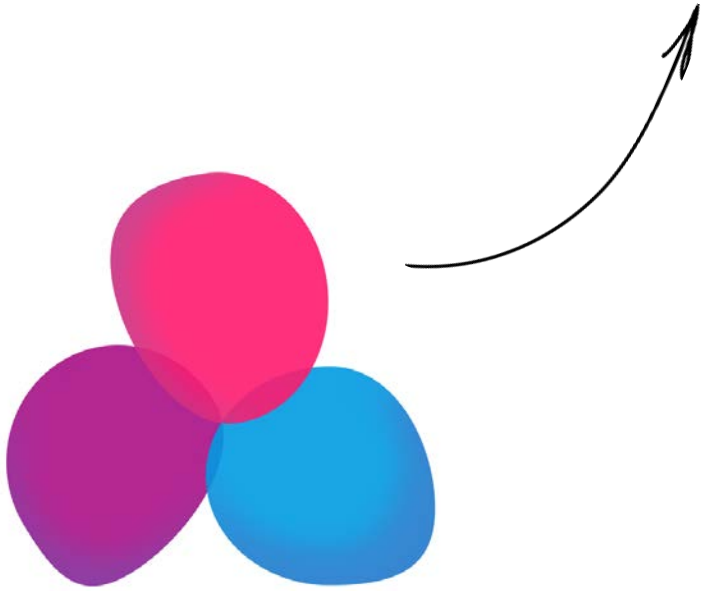
We join up with our partners to build reliable bridges between human needs and desires, opportunities and sustainable business.

VanBerlo Approach



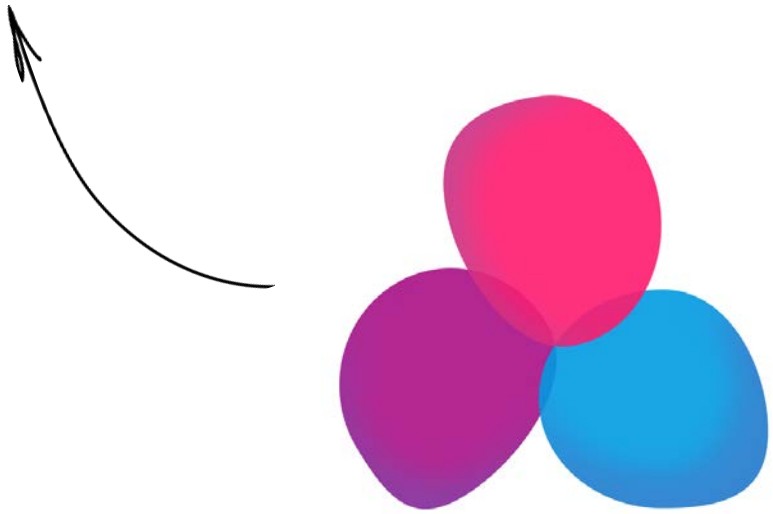
Grow
Knowing the customer

Everything starts with a thorough understanding of the business aspects. What, in essence, is the story of an organisation and its brands? In what does the organisation excel, and what commercial opportunities are generated by that? When those questions have clearly been answered, VanBerlo's design strategists align proposition and strategy.



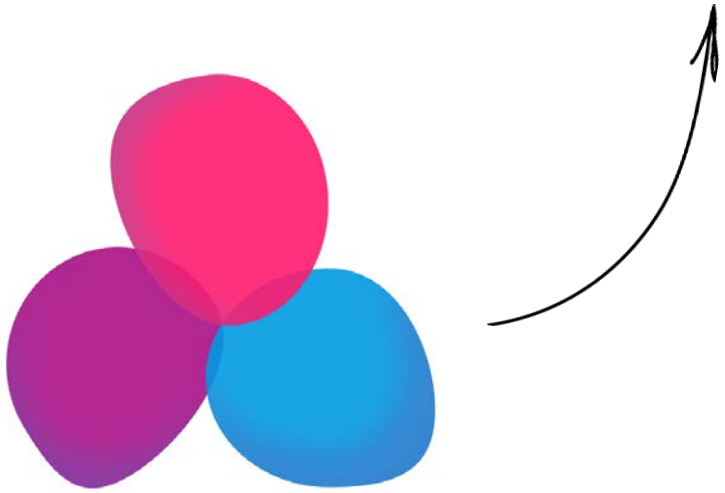
Empathise
Understanding the user

What drives the end user? What role fulfils a product or service in his or her life, and at what moment? What enthuses the end user, what scares him off?
Design research provides answers and insights. VanBerlo translates them into better products or services, tailored to the end users' needs and desires.



Achieve
Serving the market

Even the best products or services will not sell themselves, even the smartest strategy is bound to fail if the implementation is inadequate. The execution phase is crucial – but nowadays, quite complex as well. It starts with engineering, but never ends there. Packaging, pricing, service, online presentation, marketing and PR: each link in the chain has to be strong. That requires craftsmanship. VanBerlo's specialists keep an overview and take the lead.



VanBerlo
People

It’s true, VanBerlo is a special company. That’s in large part due to our people. We can create the difference for our clients not only because we have a highly skilled team of experts, but because we work well together as a whole.

Professional Promesso

The next level coffee experience

The collaboration between design agency VanBerlo and Jacobs Douwe Egberts has produced a whole new kind of coffee machine:
the Professional Promesso.
Promesso holds a rich coffee experience for small and medium businesses. From touchscreen operation to hassle-free cleaning.

Promesso

The next level coffee experience

› Previous machines
› Liquid coffee
› VanBerlo process
› Sketches
› Foam models
› User interface
› Requirements
› Renderings
› Detailled design
› Creo
› Prototypes
› Engineering
› Suppliers
› Branding
› Awards

Cafitesse 600
2003

› 40-80 users
› 11 variations
› 6 sec/cup, 29 sec/jug (1,5L)
› 298 cups/hour

Cafitesse 700
2004

› 40-80 users
› 11 variations
› 6 sec/cup, 29 sec/jug (1,5L)
› 298 cups/hour
› Fast and easy to use

Cafitesse Excellence
2007

› 20-80 users
› 12 variations
› 6 sec/cup, 42 sec/jug (1,5L)
› Top quality in a stylish machine
› Showpiece for every establishment.

Cafitesse Compact
2008

› 10-25 users
› 7 variations
› 17 sec/cup, 90 sec/jug (900 ml)
› Elegant, compact machine

Cafitesse Excellence
Internals

› Cooling compartment
› Liquid Coffee Extract
› Boiler
› Connected to tap
› Few components in contact to coffee, less to clean

Cafitesse
Bag in Box

- Bag in Box
- Liquid Coffee Extract
- Condensed Milk
- Integrated dosing

BRIEFING

- Lower machine
- Wider machine
- Premium
- Better coffee cues
- Fresher feeling
- New horizontal Bag in Box

STANDARD PROJECT STRUCTURE

0 DEFINITION

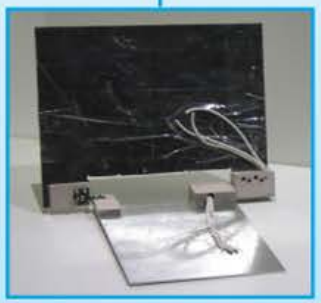
- Offer
- Project approach

1 ANALYSES & STRATEGY

- Kick-off Meeting
- Brainstorm
- Client, competition, trends, use, technical analyses
- Mood Boards
- Schematic representations
- Idea visuals
- Product requirements & objectives

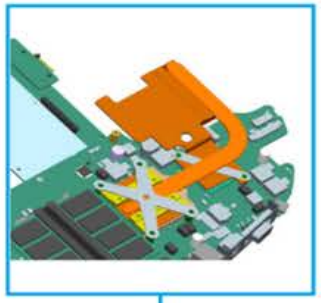
2 CONCEPT DESIGN

- Idea visuals
- Provisional & Bread board models
- Principle solutions
- Concept visuals
- Presentation drawings
- Evaluation diagrams
- Foam model



3 DETAILED DESIGN

- Principle / technical solution sketches
- Graphics proposals
- Cost price calculations
- 2D / 3D CAD design
- Renderings
- Risk list
- Appearance & test model(s)



4 DETAILED ENGINEERING

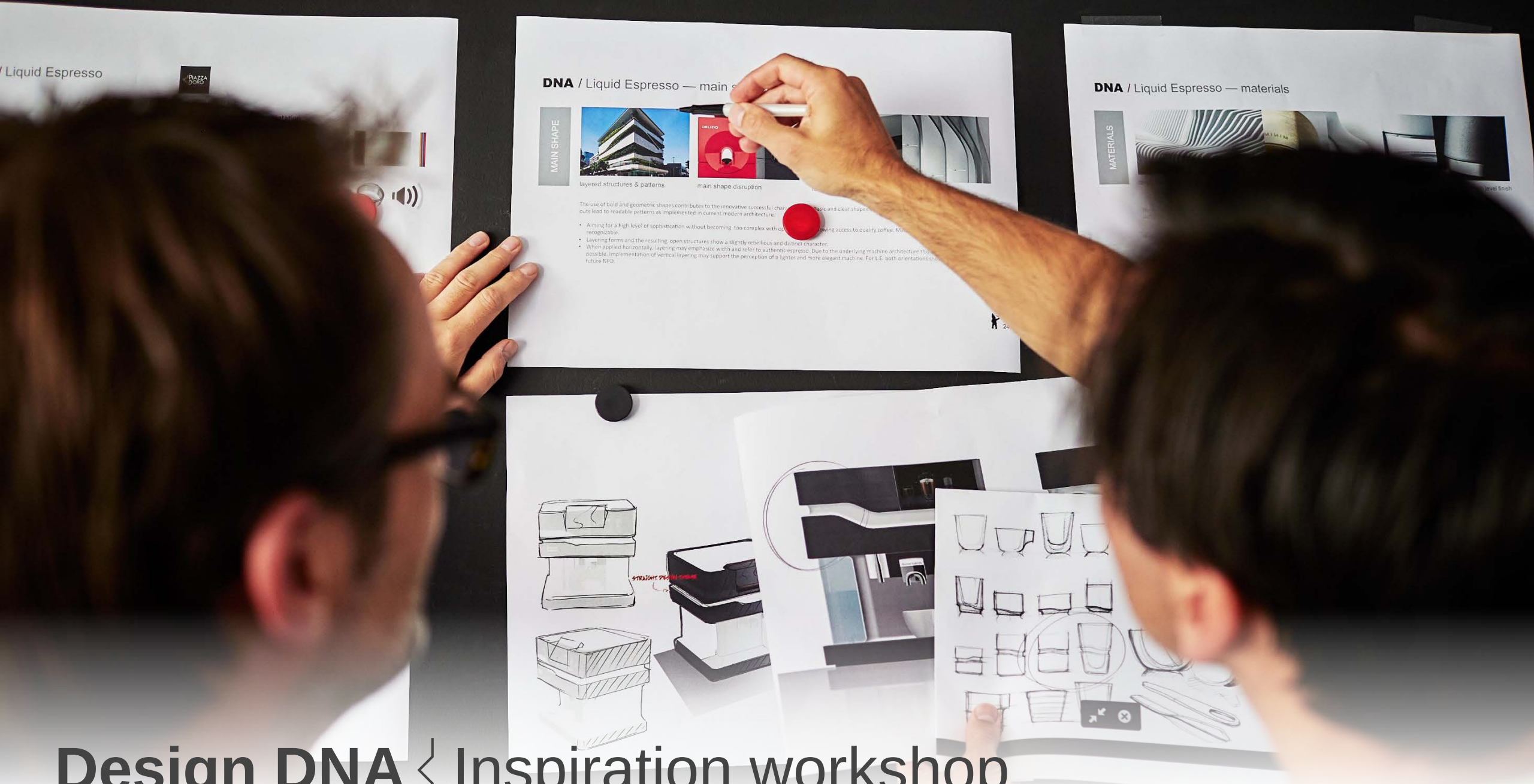
- Geometry in 3D CAD
- Test models
- Analyses
- Prototype
- Preliminary TPD (Technical Product Document)

5 PRODUCTION PREPARATION

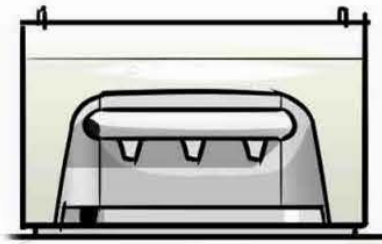
- Product Graphics
- Release of TPD (3D & 2D CAD)
- Preparation FOT's
- 0-series
- Evaluation

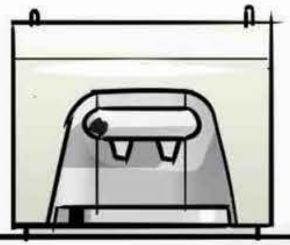
6 CARE & TREATMENT

- Cost engineering
- Detail enhancement
- Logistical improvements
- Instruction drawings
- Asssembly instructions



Design DNA ⟨ Inspiration workshop

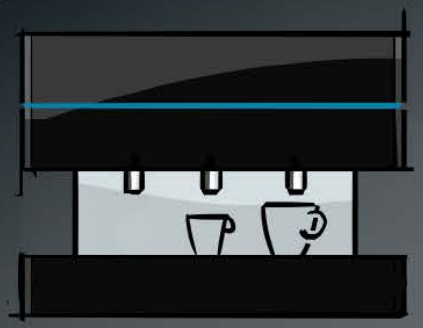


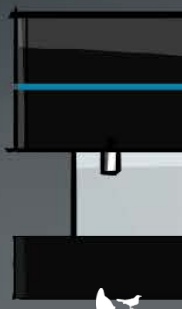


Sketching 〈 First ideas

Sketching 〈 First ideas

Sketching 〈 Choosen idea

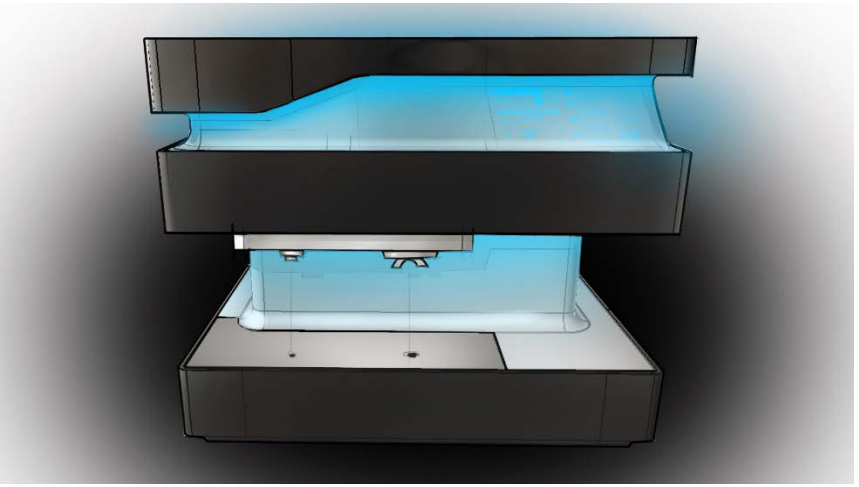


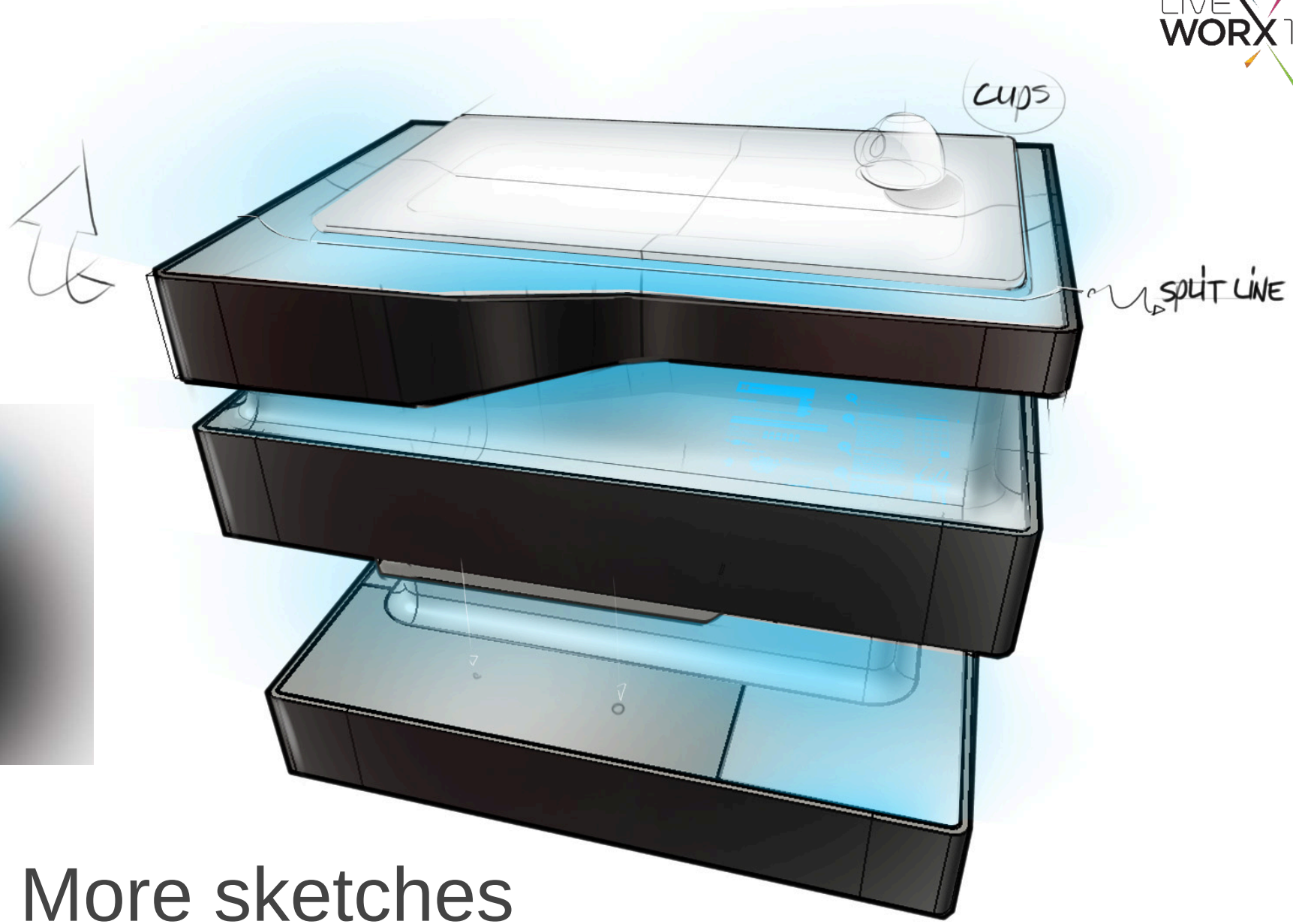


Models ⟨ Volume studies

Concept 〈 Sketching

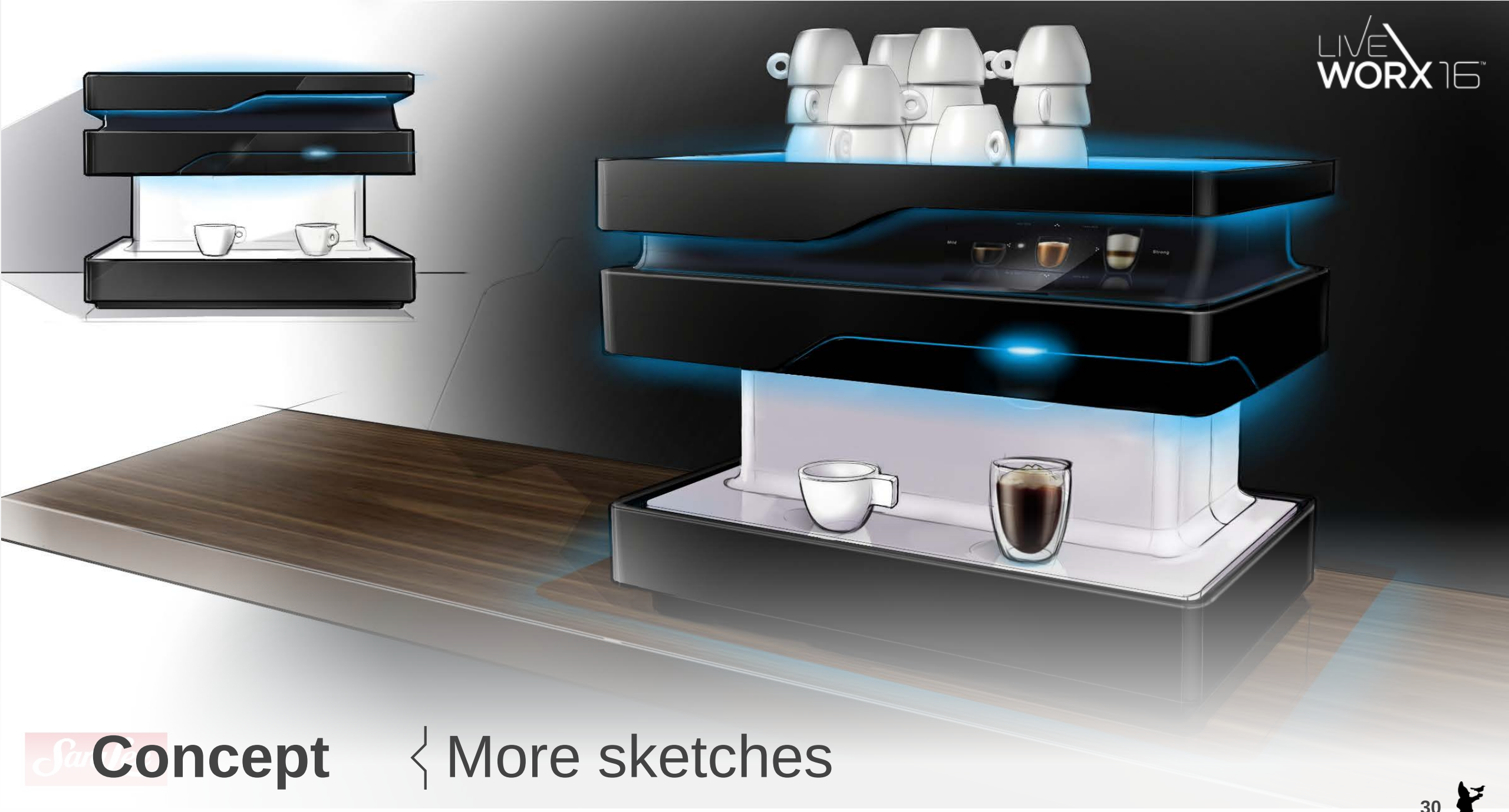
Concept { Sketches





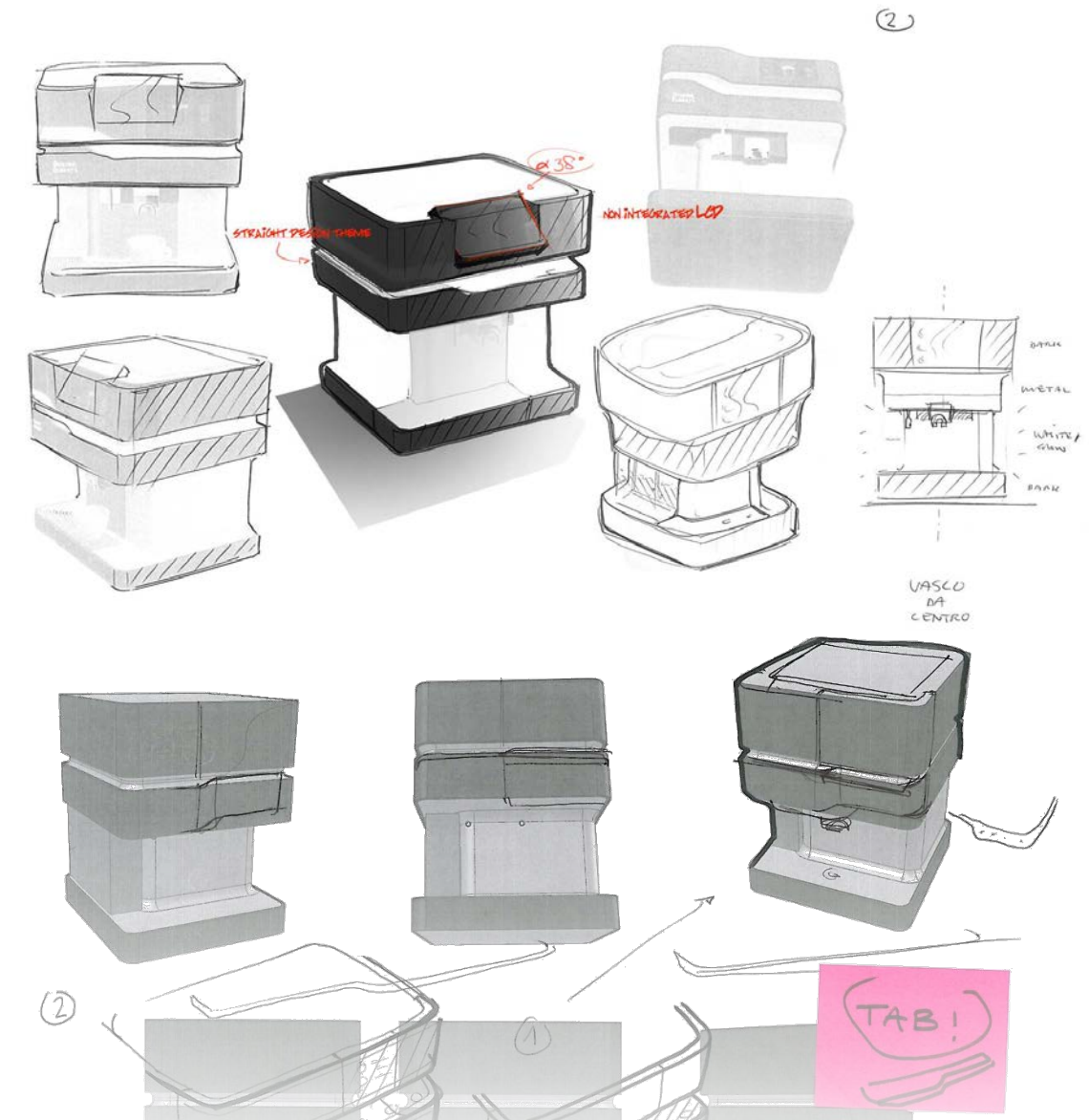
Concept

More sketches



Concept

More sketches



Concept 〈 More sketching

CAD ⟨ Preliminary shape setup in Rhino

VASCO DA GAMA
STATUS 10.01.10
(385X400X495)

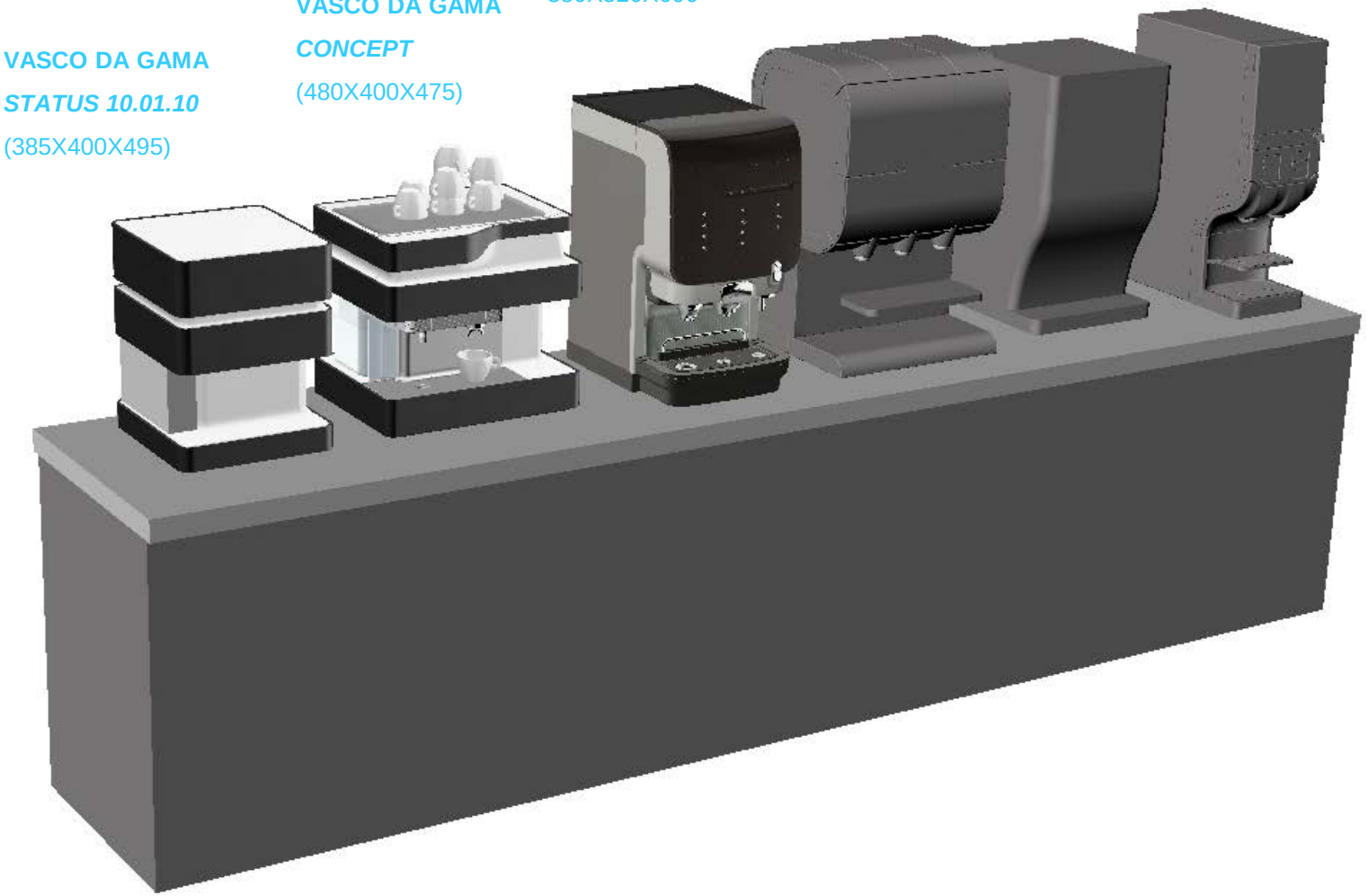
VASCO DA GAMA
CONCEPT
(480X400X475)

COMPOSER
380X520X690

CAFITESSE 600
510X490X790

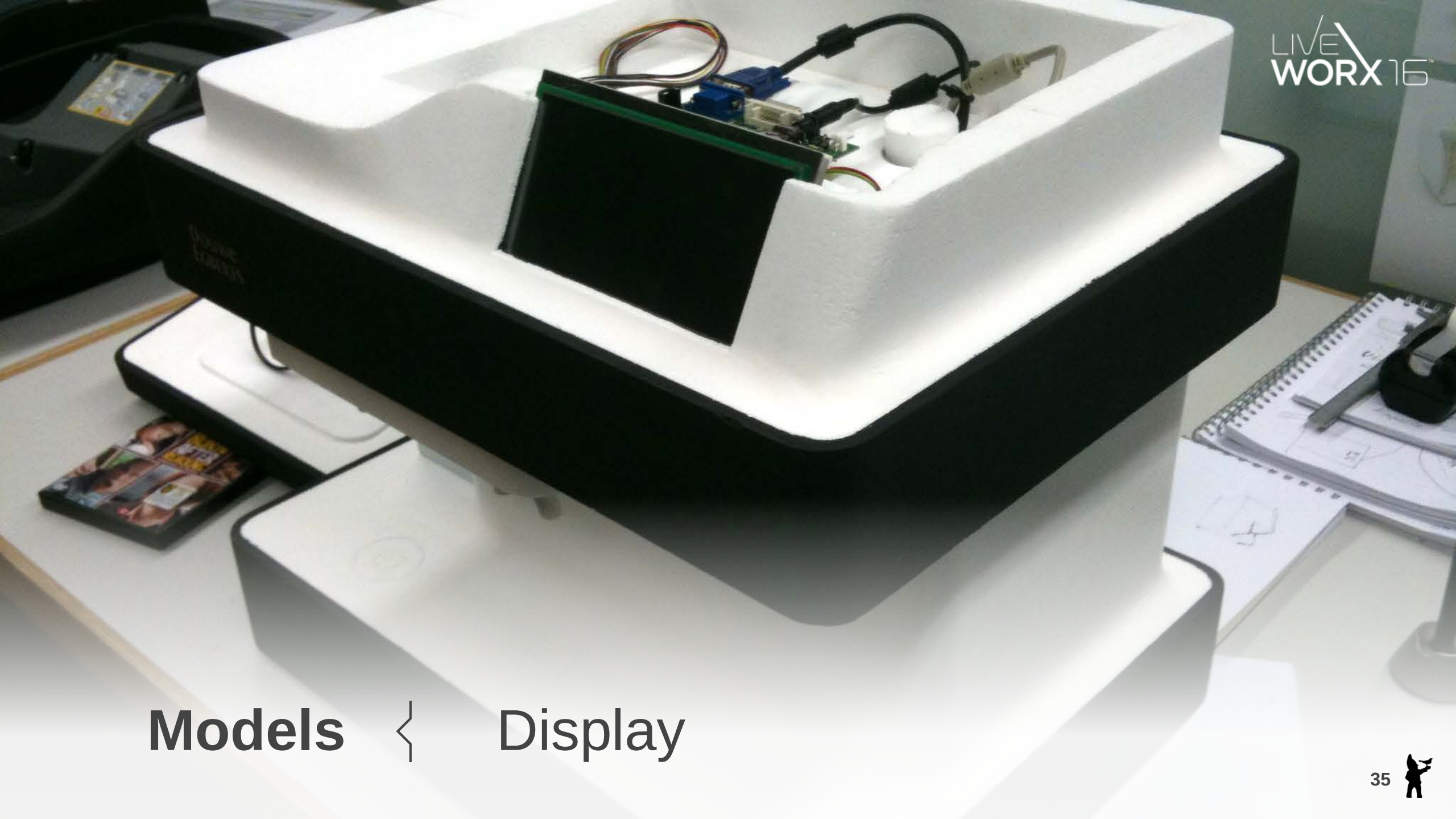
CAFITESSE 60
420X400X715

CAFITESSE 110
260X520X770



Models 〈 Volume studies

Models 〈 In house foam modelshop

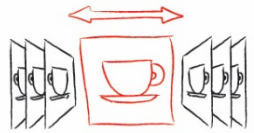
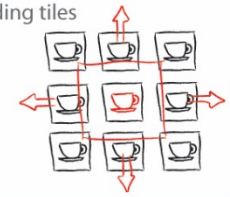
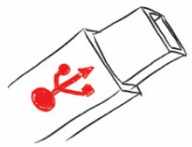
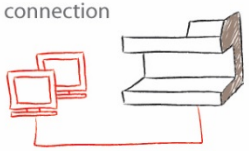
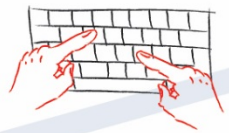
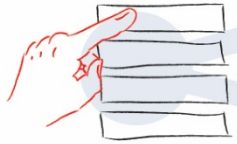
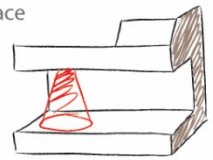
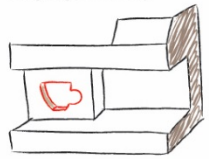
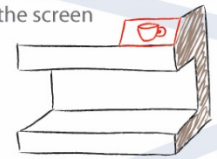
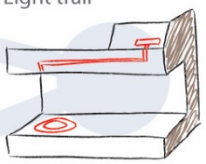
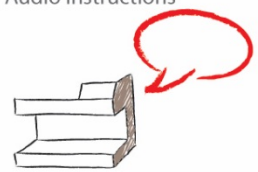
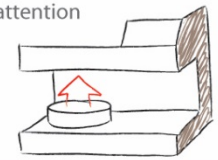
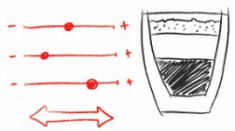
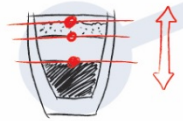
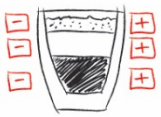
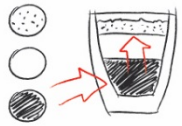


Models ⟨ Display

User interface 〈 Ideation

← solutions →

sub problems ↓ ↑

Navigation & Selection of Items	Bar of images changing size depending on focus (Mac OS dockbar style) 	Images flipping (Coverflow style) 	Carrousel 	Fliping stacked images 	Sliding tiles 	Static tiles 
Grouping of the Available Recipes	By size 	By ingredients (eg. pure coffee,with milk, with chocolate) 	By strenght 	By recommendation (e.g. Day, time, location) 	Cup type 	Per user 
Adding Users to the System	Import via USB / Bluetooth 	Internet / Intranet connection 	On-screen keyboard 	Making a picture of the user with a built in camera (user input required) 	Automatic after first use (no user input needed) 	
Identifying a User	Select from screen 	Automatic Face recognition 	Automatic through RFID chip 	Iris scan 	Voice recognition 	Fingerprint scan 
Communication of the Cup Placement & timing	Spotlight above the right place 	Through geometry 	Picture representation on the screen 	Light trail 	Audio instructions 	Cup base moves to call attention 
Adjustment of Quantities/Ratios	Separate sliders 	Integrated sliders 	+ and - buttons 	Voice commands 	Drag and drop 	

possible solution

User interface 〈 Design

User interface ⟨ Process Design

User interface 〈 Testing

User interface 〈 Display integration


VDG_DesignCheck011010_02.3dm - Rhinoceros (Commercial) - [Perspective]
File Edit View Curve Surface Solid Mesh Dimension Transform Tools Analyze Render Help
Choose world view (Top Bottom Left Right Front Back Perspective): _Perspective
Command:
Perspective
Douwe Egberts
Properties
Viewport
Title Perspective
Width 1570
Height 979
Projection Persp...
Camera
Lens Le... 50.0
X Locati... 3587.066
Y Locati... -841.227
Z Locati... 133.322
Location Place...
Target
X Target 3113.165
Y Target -157.778
Layers - All Layers
Name
Default
465x425x480
outlets
170
90
hulp stuff
knop 1
knop 2

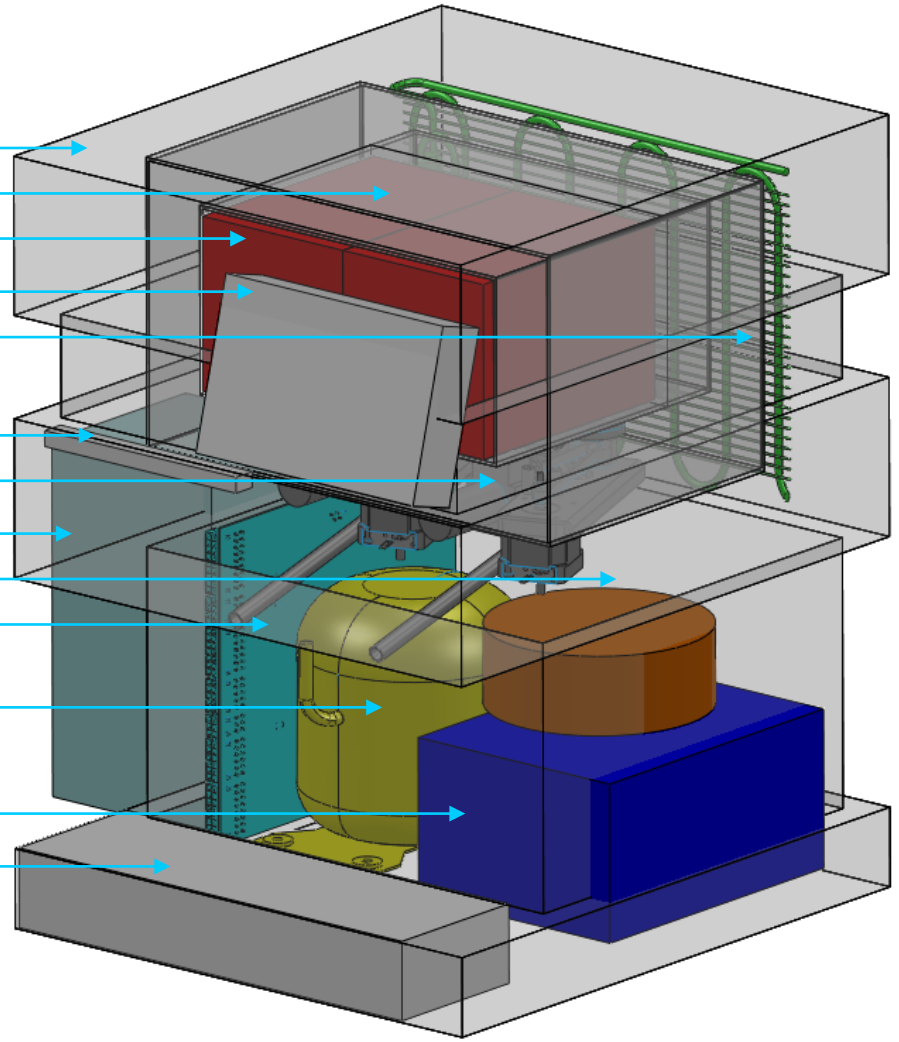
CAD { Rhino

1. Housing
2. Cooling/insulation
3. Box (2x)
4. UI
5. Condenser

6. Physical UI
7. FT
8. Water reservoir
9. Boiler
10. PCB

11. Compressor

12. Power Pack
13. Drip tray



CAD 〈 Technical enveloppe

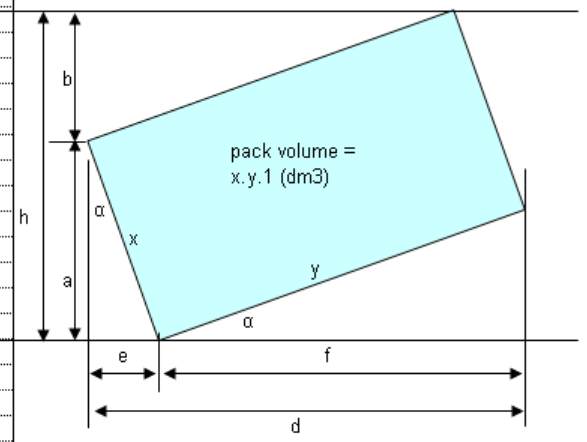
pack volume: 1,7 liter
pack angle: 15 degrees

min. h:
1,3047

assumption: pack width = 1 dm

goal: 1.5 l pack --> 1.7 liter box content

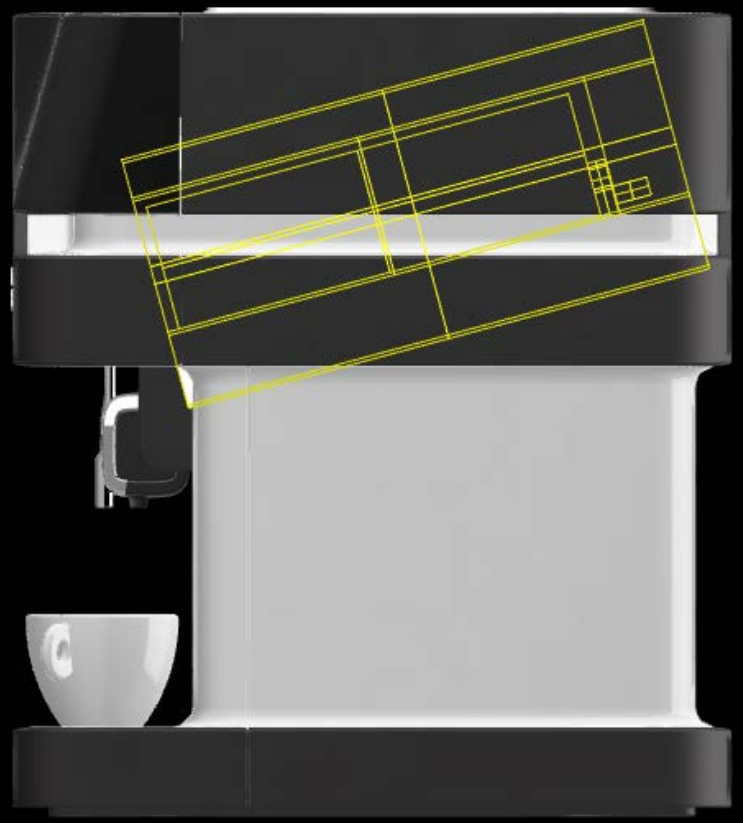
pack height	pack depth	total heigth	total depth		
x (dm)	y (dm)	h (dm)	d (dm)	b (dm)	e (dm)
0,40	4,25	1,49	4,21	1,10	0,10
0,45	3,78	1,41	3,77	0,98	0,12
0,50	3,40	1,36	3,41	0,88	0,13
0,55	3,09	1,33	3,13	0,80	0,14
0,60	2,83	1,31	2,89	0,73	0,16
0,65	2,62	1,30	2,69	0,68	0,17
0,70	2,43	1,30	2,53	0,63	0,18
0,75	2,27	1,31	2,38	0,59	0,19
0,80	2,13	1,32	2,26	0,55	0,21
0,85	2,00	1,34	2,15	0,52	0,22
0,90	1,89	1,36	2,06	0,49	0,23
0,95	1,79	1,38	1,97	0,46	0,25
1,00	1,70	1,41	1,90	0,44	0,26
1,05	1,62	1,43	1,84	0,42	0,27
1,10	1,55	1,46	1,78	0,40	0,28
1,15	1,48	1,49	1,73	0,38	0,30
1,20	1,42	1,53	1,68	0,37	0,31
1,25	1,36	1,56	1,64	0,35	0,32
1,30	1,31	1,59	1,60	0,34	0,34
1,35	1,26	1,63	1,57	0,33	0,35
1,40	1,21	1,67	1,54	0,31	0,36
1,45	1,17	1,70	1,51	0,30	0,38
1,50	1,13	1,74	1,48	0,29	0,39
1,55	1,10	1,78	1,46	0,28	0,40
1,60	1,06	1,82	1,44	0,27	0,41
1,65	1,03	1,86	1,42	0,27	0,43
1,70	1,00	1,90	1,41	0,26	0,44
1,75	0,97	1,94	1,39	0,25	0,45
1,80	0,94	1,98	1,38	0,24	0,47
1,85	0,92	2,02	1,37	0,24	0,48
1,90	0,89	2,07	1,36	0,23	0,49
1,95	0,87	2,11	1,35	0,23	0,50
2,00	0,85	2,15	1,34	0,22	0,52
2,05	0,83	2,19	1,33	0,21	0,53
2,10	0,81	2,24	1,33	0,21	0,54

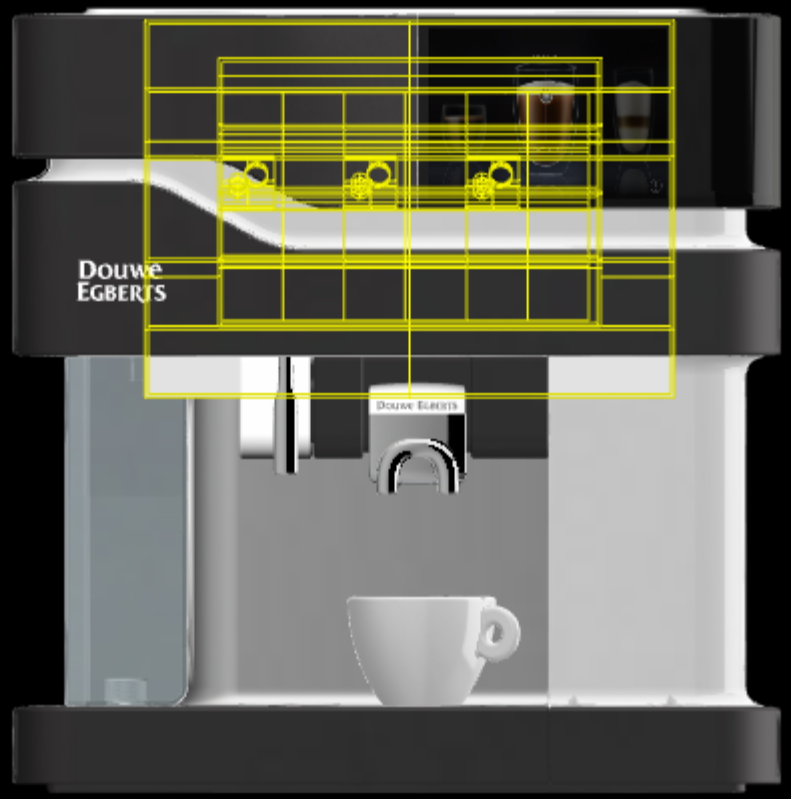


total height (h) = x.cos(α) + (pack volume.sin(α))/x

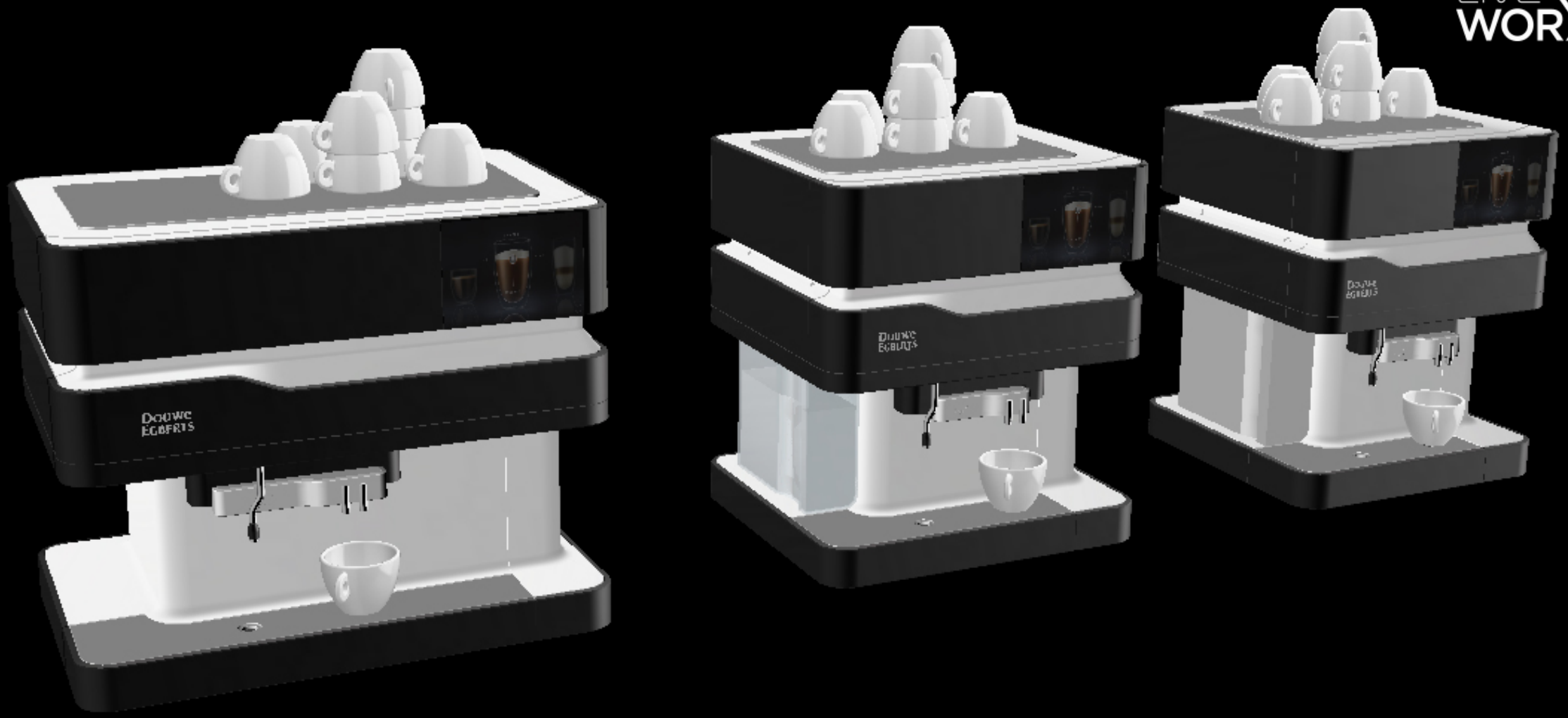
total depth (d) = x.sin(α) + (pack volume.cos(α))/x

CAD ⟨ BIB Specs

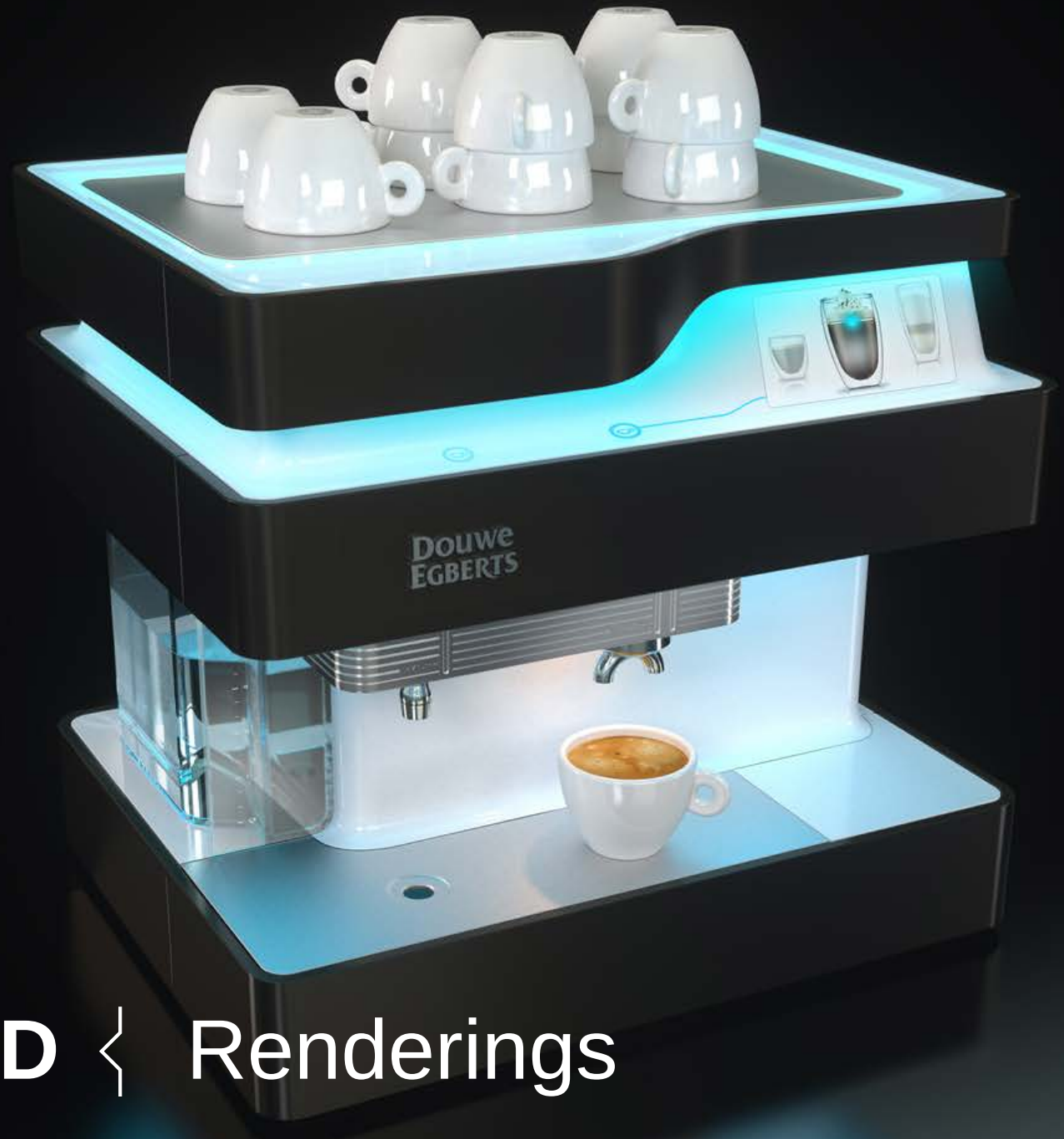




CAD 〈 BIB Specs

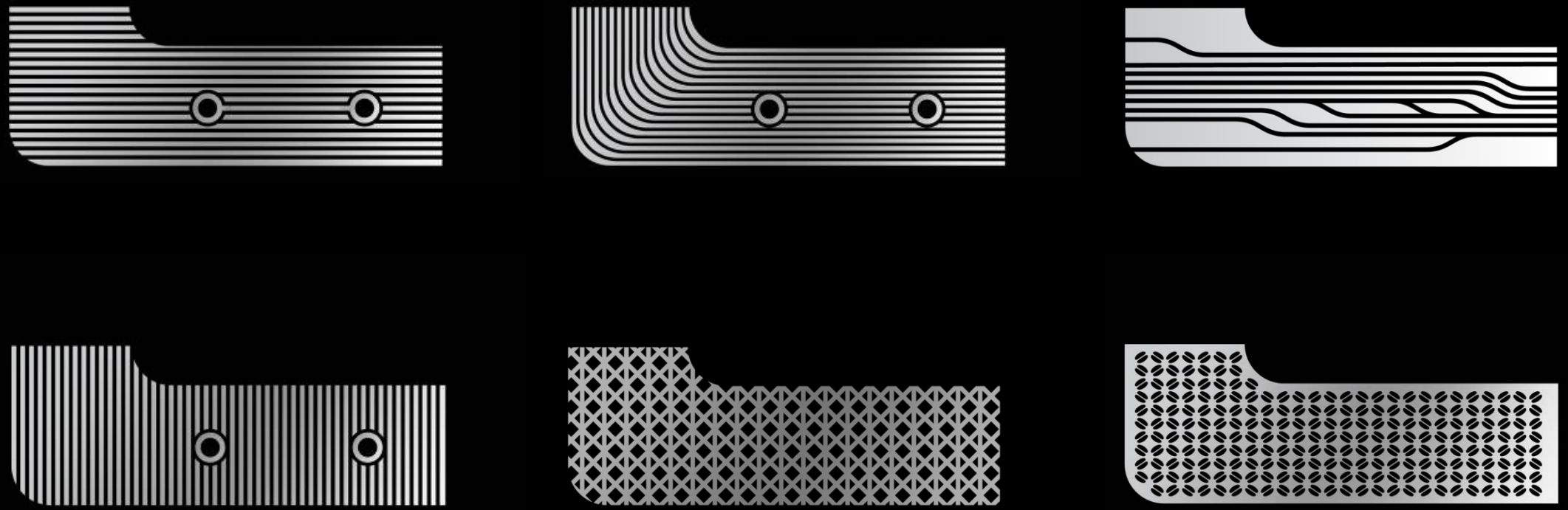


CAD ⟨ Renderings

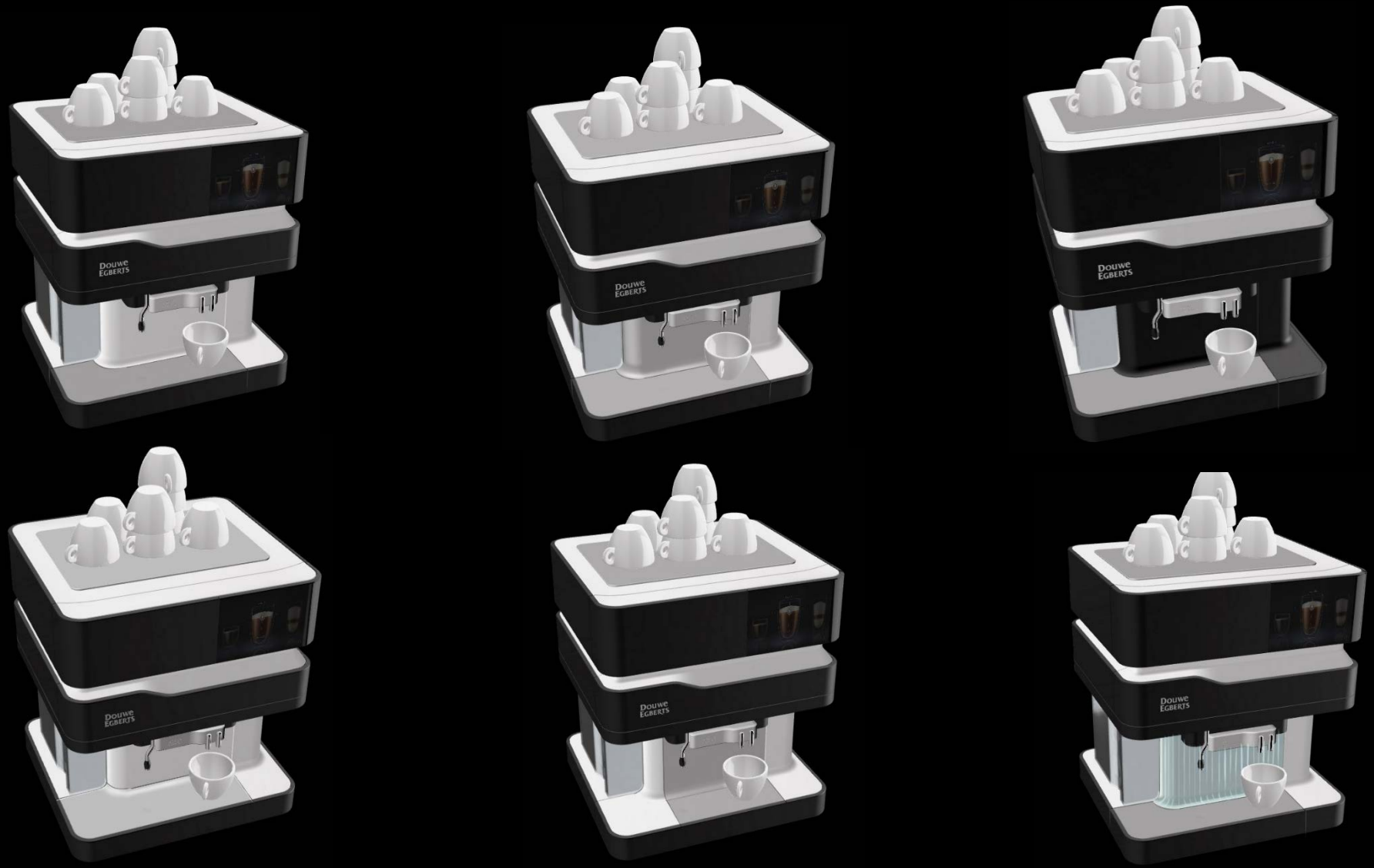


CAD ⟨ Renderings

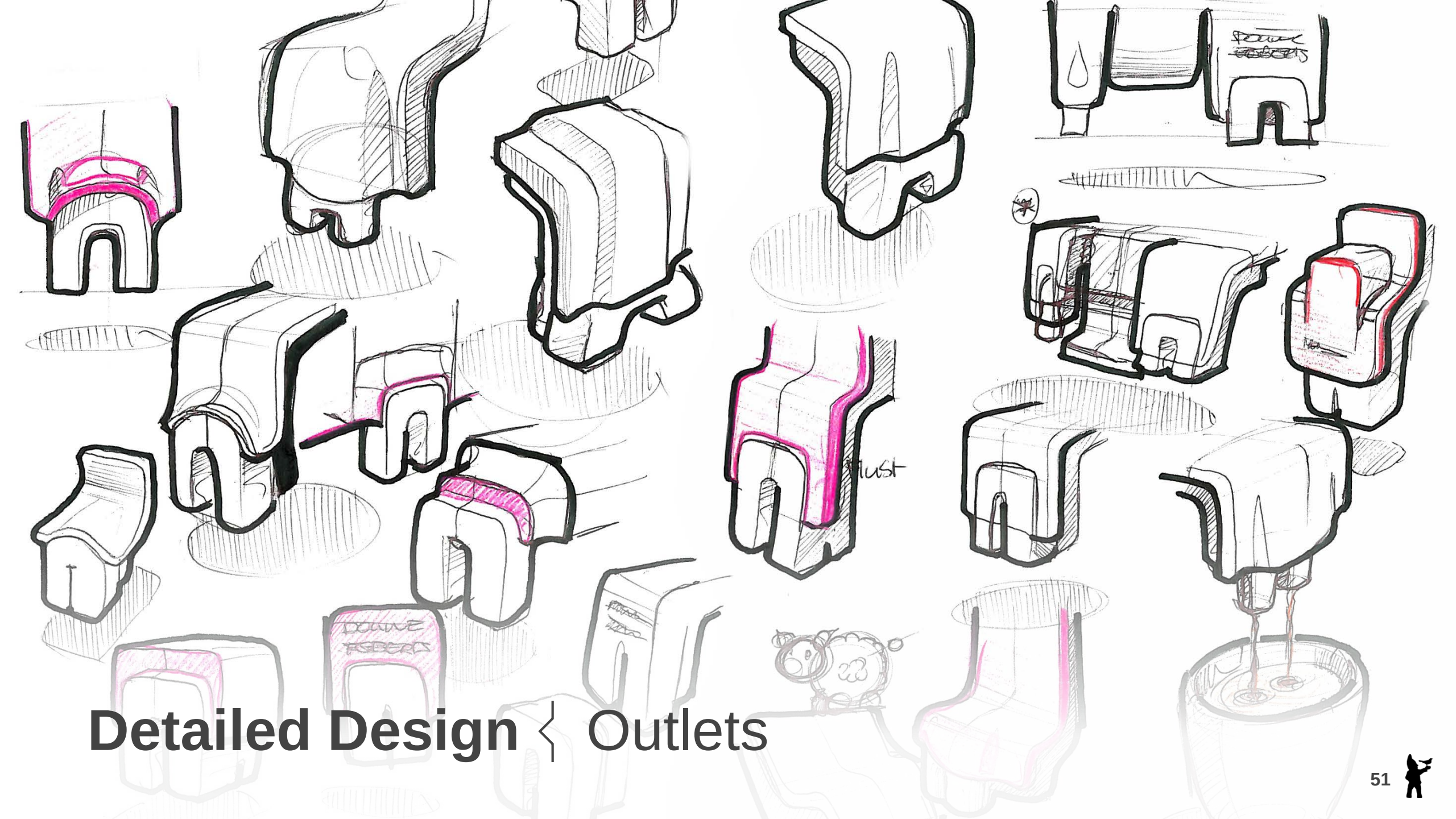
Detailed Design ⟨ Driptray



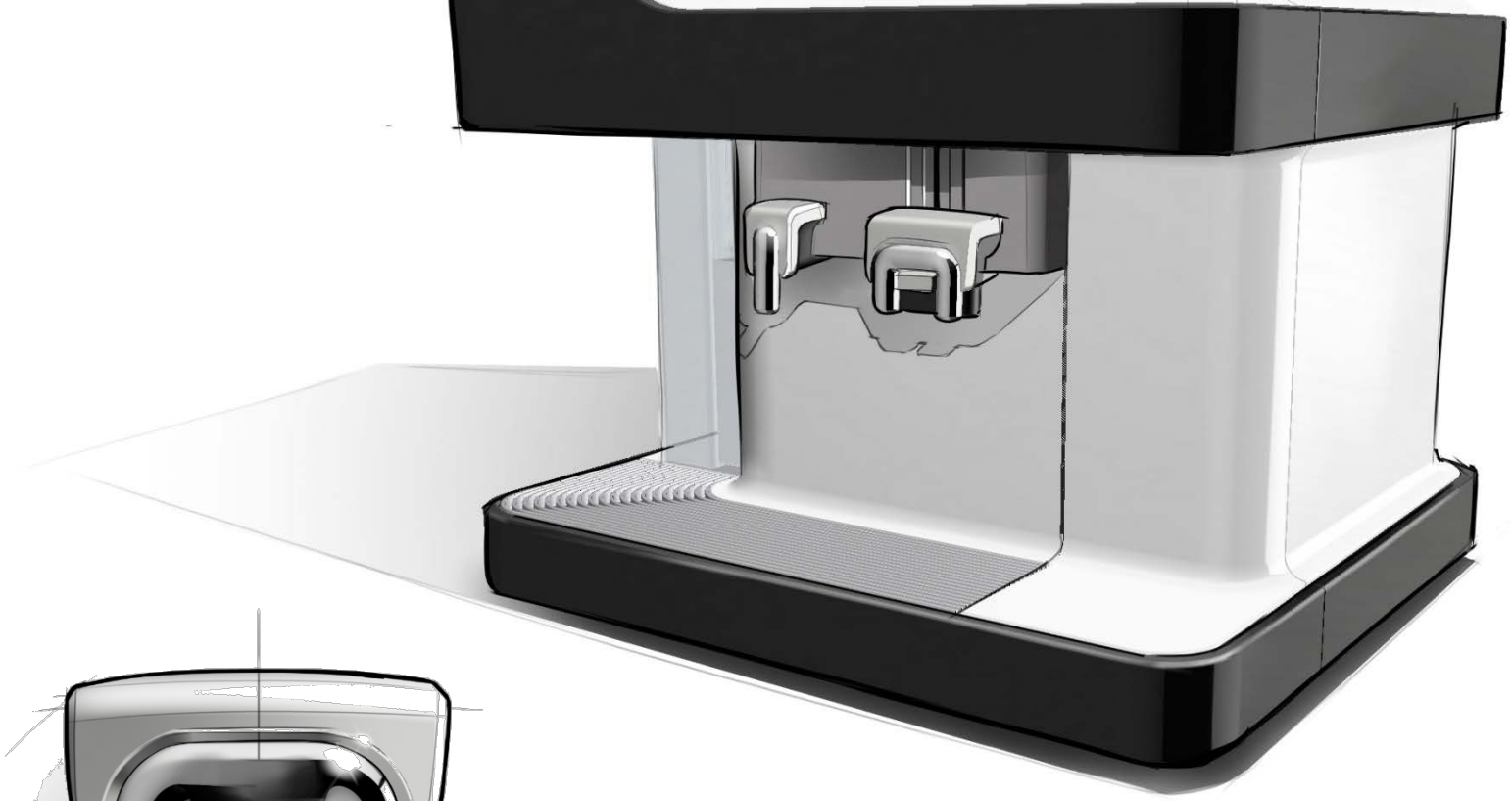
Detailed Design ⟨ Driptray

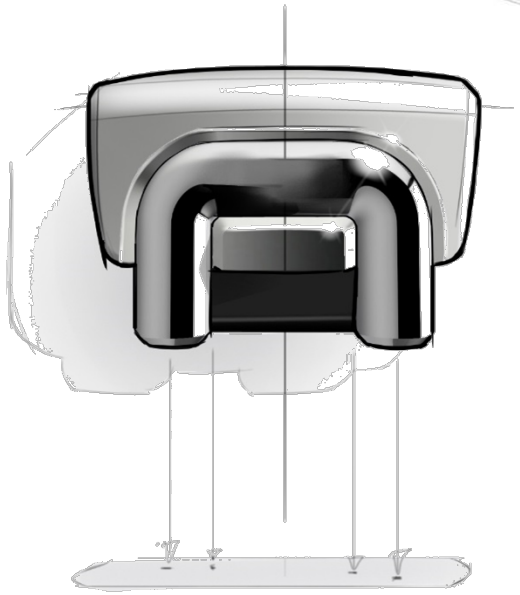


Detailed Design ⟨ Splash panel



Detailed Design ⟨ Outlets





Detailed Design 〈 Outlets

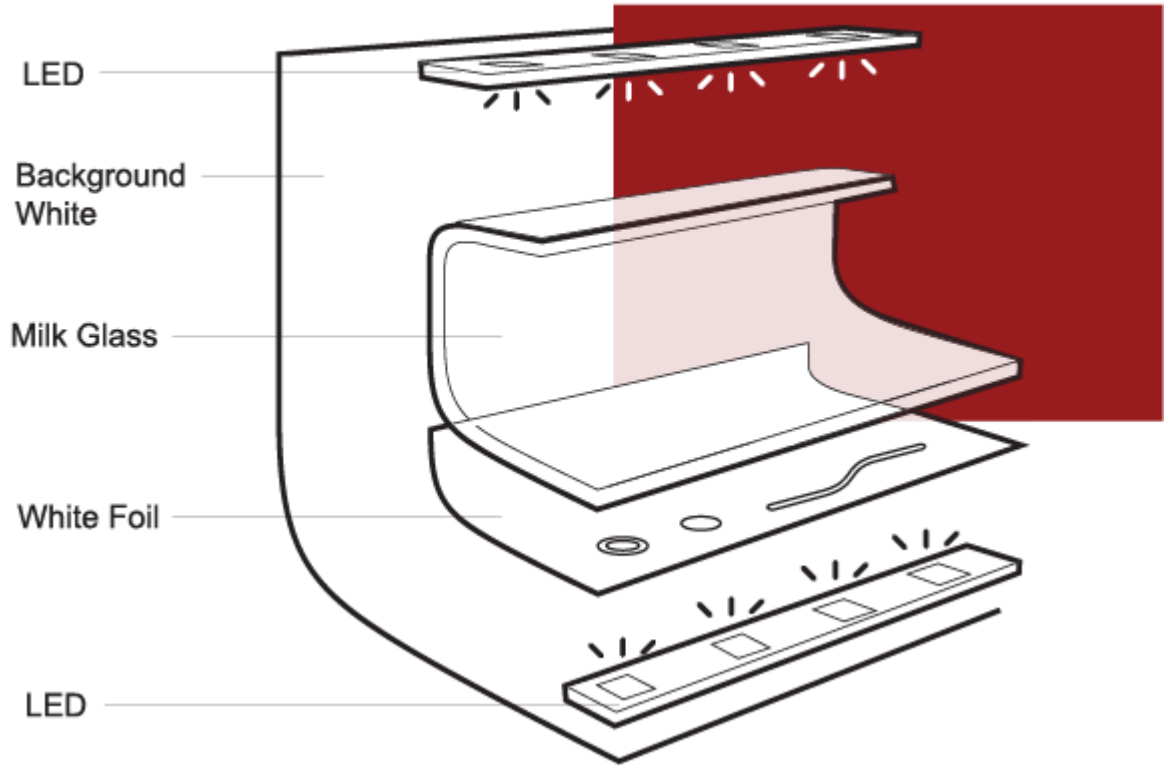
Detailed Design ⟨ Outlets

Lighting 〈 Confirmation button

Difuse lighting

Difuse light

3a ✓



Lighting 〈 Technical setup

Detailed Design ⟨ Flow

TOP PLATE
Stainless Steel
[see sample]

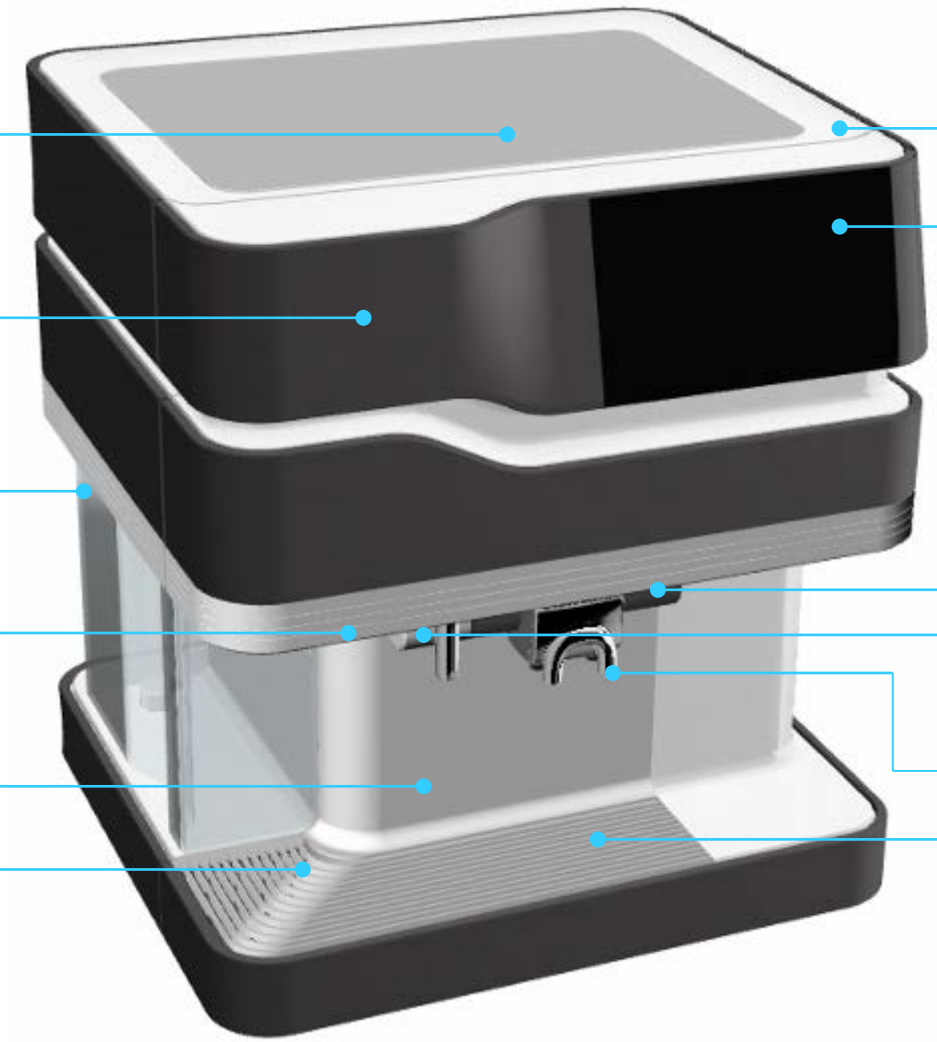
OUTER BODY SURFACE
Black Brown Mat [PMS 406-H1]
[slightly brushed aluminium finish see sample]

WATER RESERVOIR
Transparent High Gloss [blue-ish]
[see sample]

METAL STRIP
Stainless Steel
[see sample]

SPLAH PANNEL
Stainless Steel
[see sample]

DRIP TRAY CIRCLES
Mat Black [RAL 7021 Black Grey]
[textured VDI 30]



INNER BODY SURFACE
High Gloss Signal White [RAL 9003]
[transparent coating applied]

UI COVER IN OUTER BODY SURFACE
Black Brown High Gloss [PMS 406-H1]
[transparent coating applied]

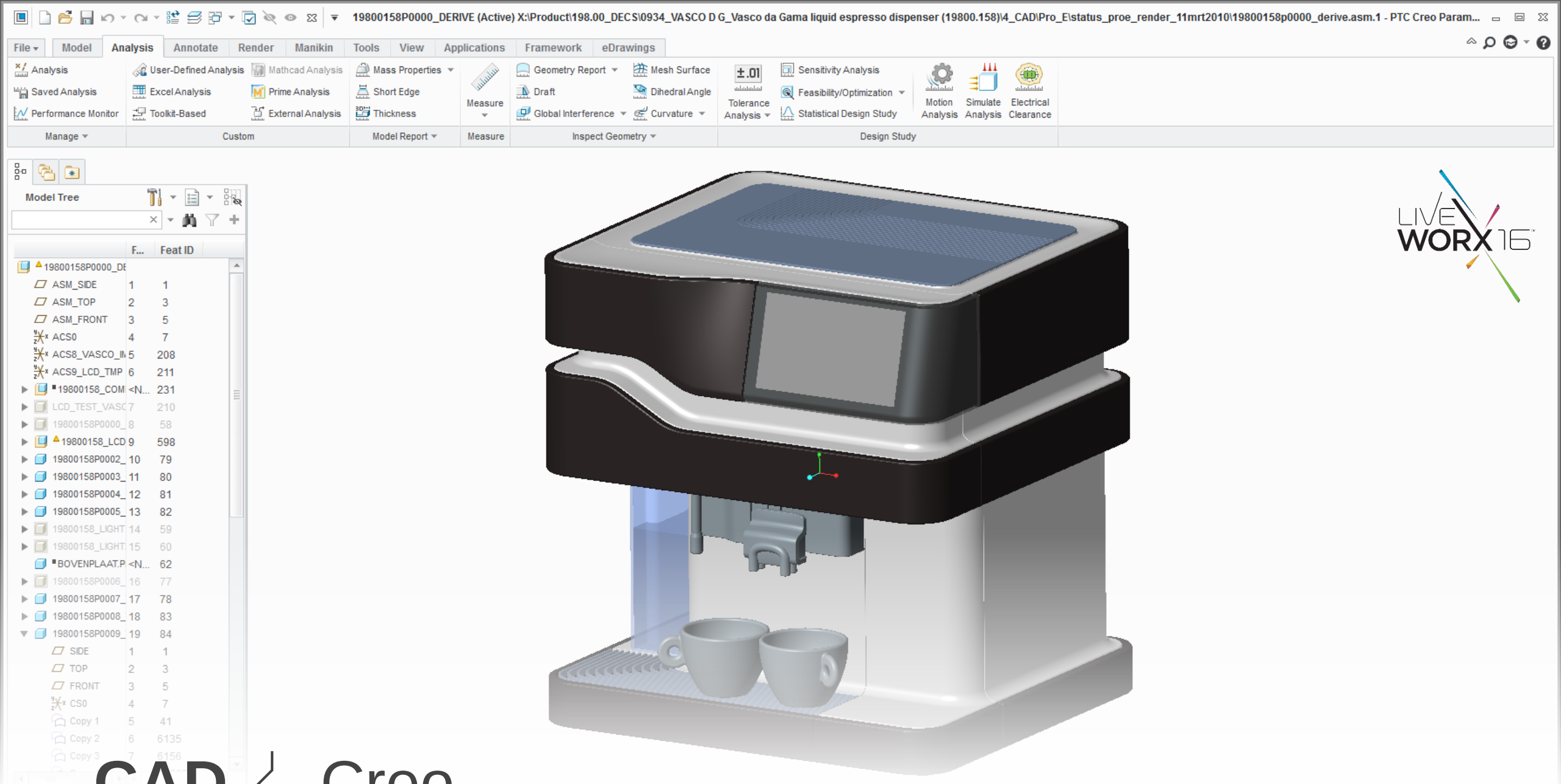
OUTLET BASE PART
Mat Black [RAL 7021 Black Grey]
[textured VDI 30]

OUTLET BODY
Mat Chrome [see sample]

OUTLETS
Chrome

DRIP TRAY METAL RIMMS
Stainless Steel
[use real material for LLR]

Detailed Design ⟨ Colours and materials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Mathcad Analysis
Prime Analysis
External Analysis
Mass Properties
Short Edge
Thickness
Measure
Geometry Report
Draft
Global Interference
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Curvature
Tolerance Analysis
Sensitivity Analysis
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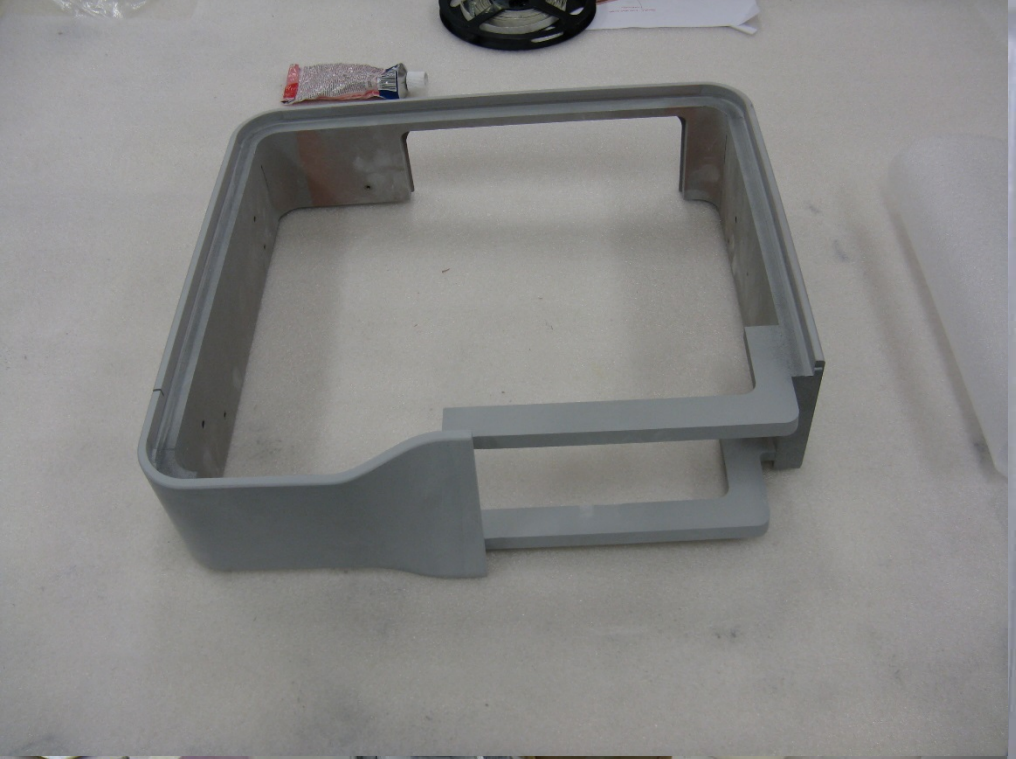
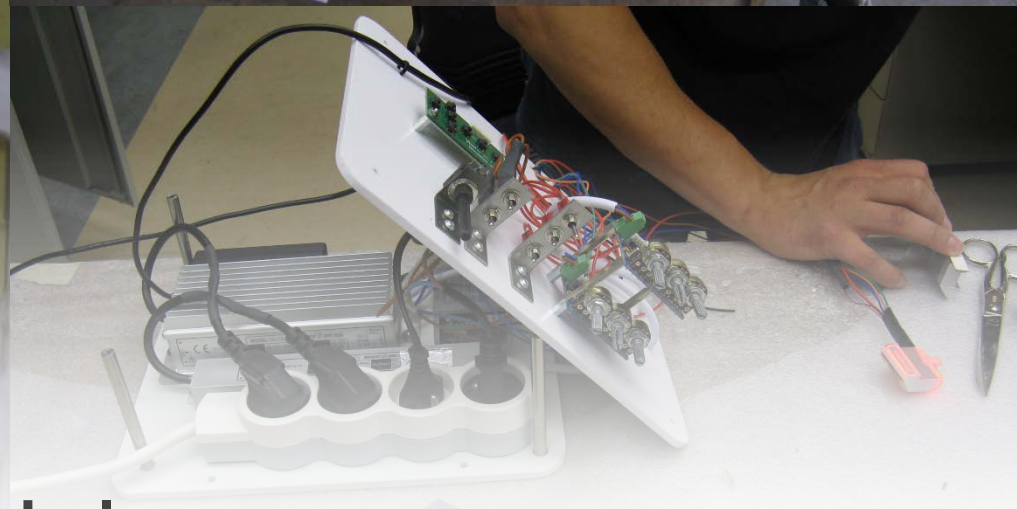




Models ⟨ Looks Like Real Model

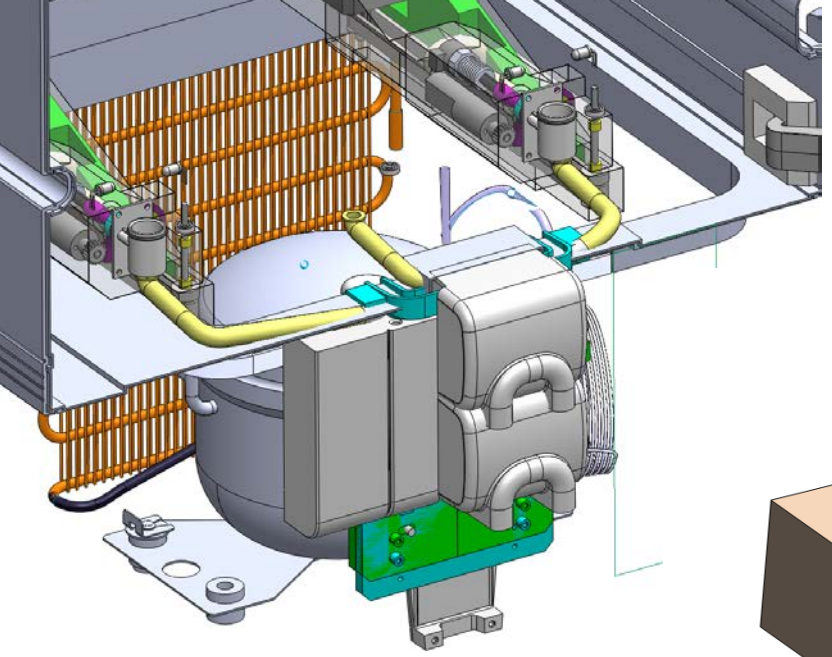
Models ⟨ Looks Like Real Model

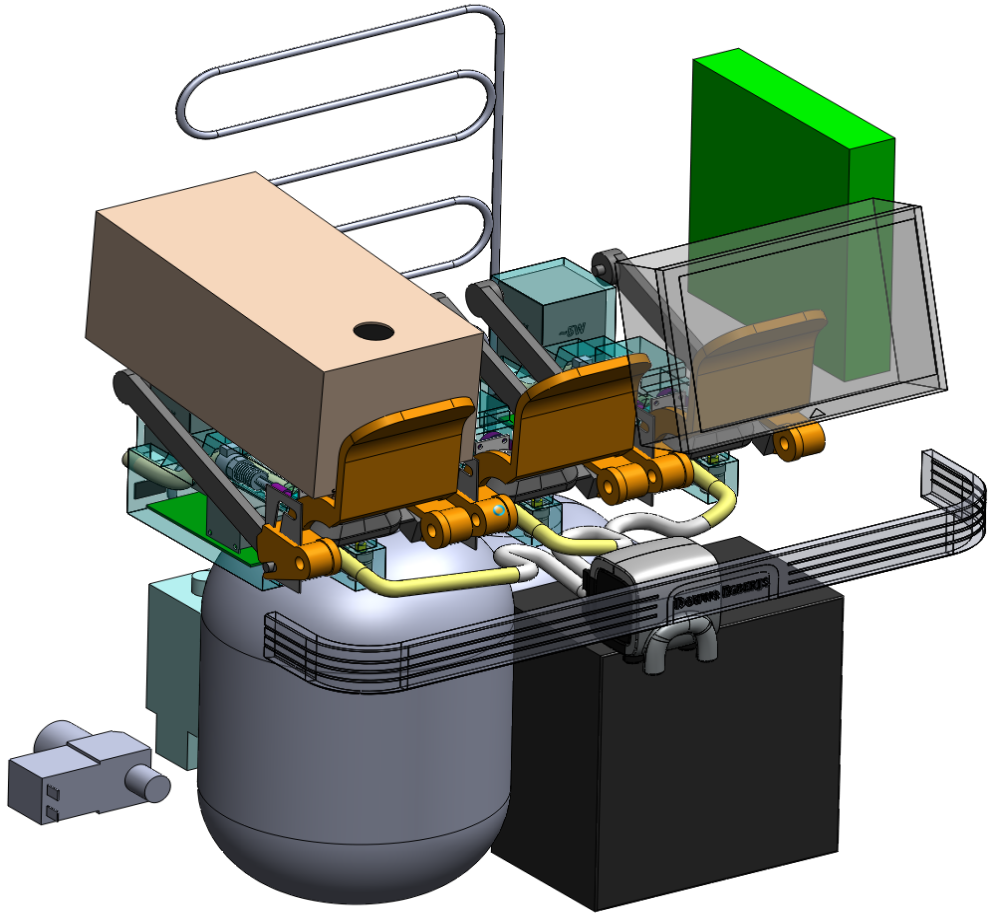
Models ⟨ Looks Like Real Model

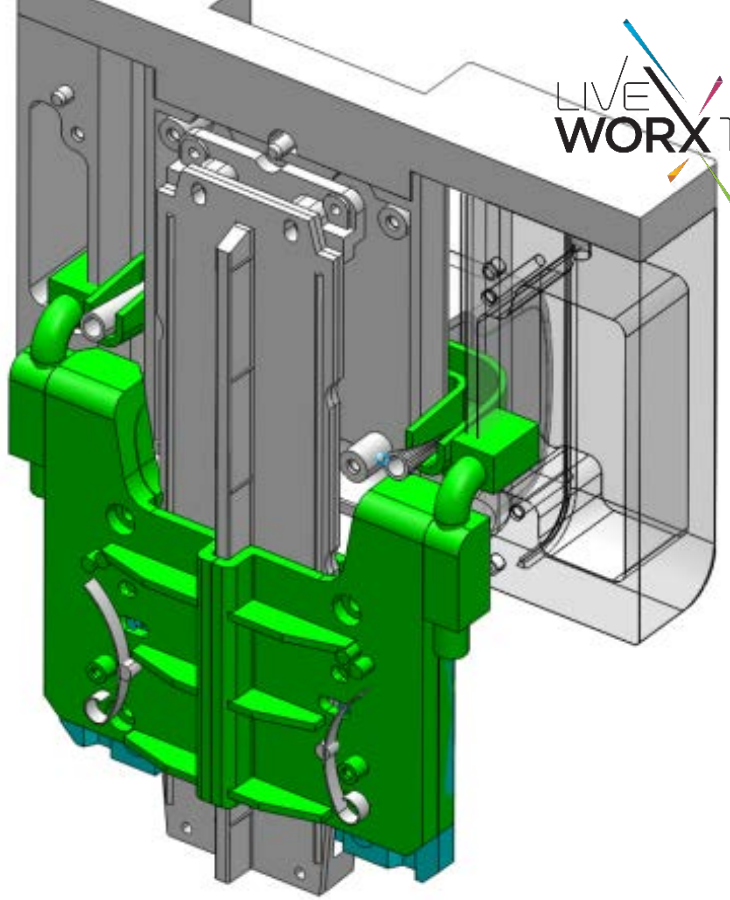
Models ⟨ Looks Like Real Model

Detailed Design ⟨ Final renderings

Detailed Design ⟨ Final UX design

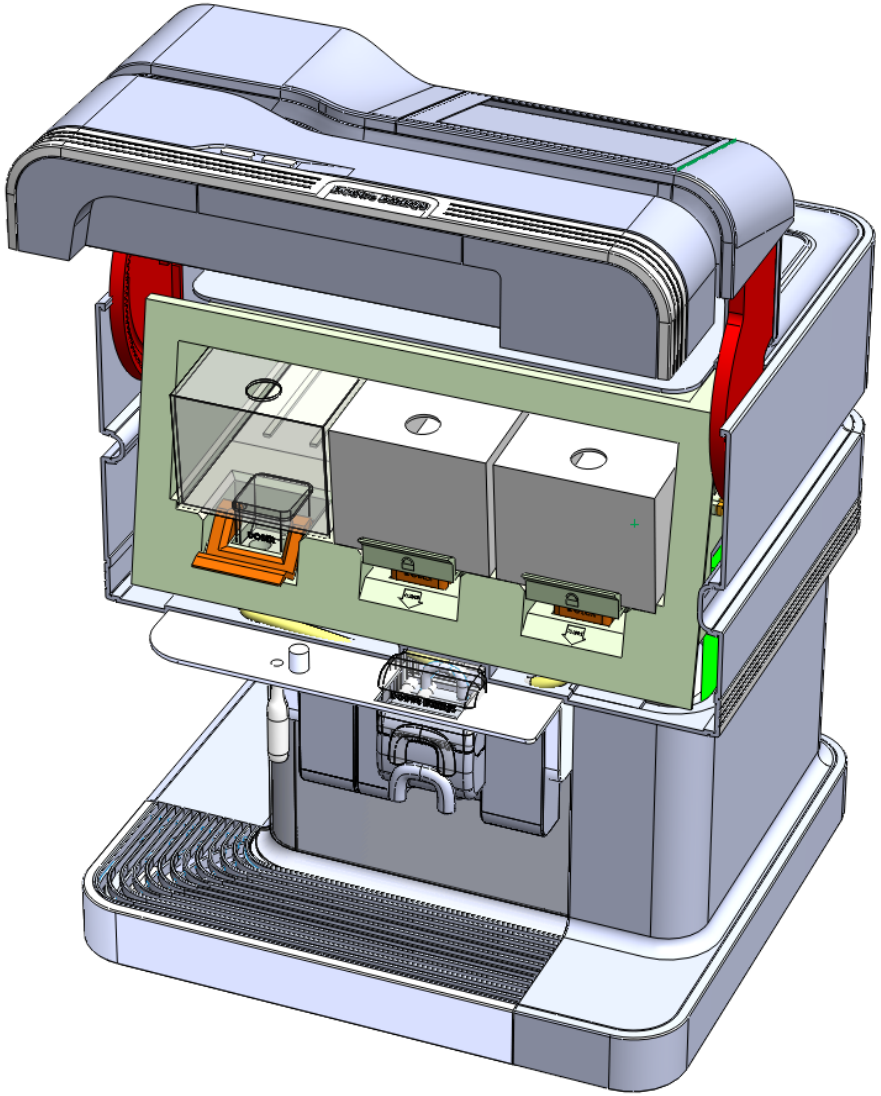


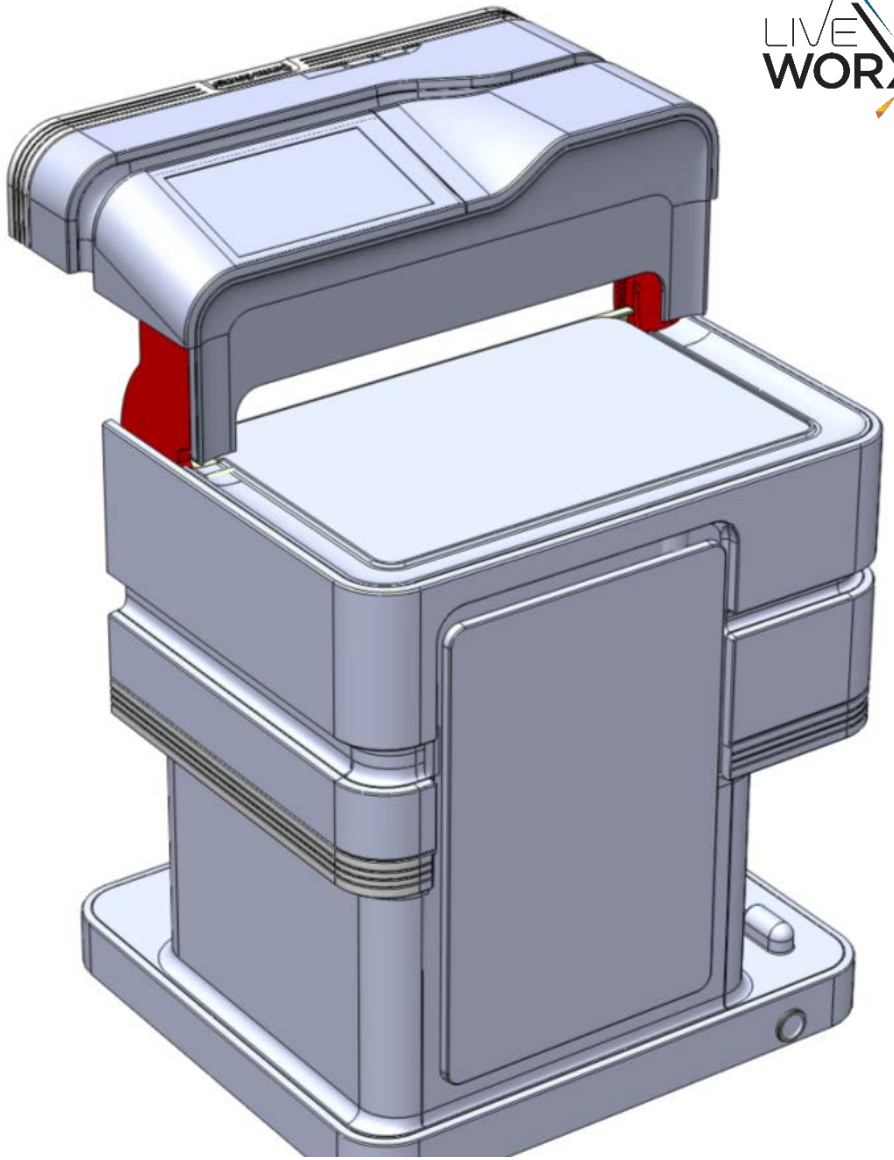




CAD ⟨ Supplier Engineering Activities

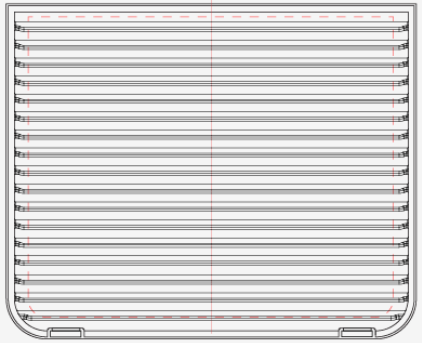
CAD 〈 Supplier Engineering Activities



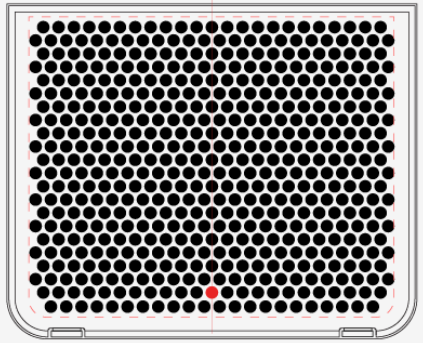


CAD ⟨ Supplier Engineering Activities

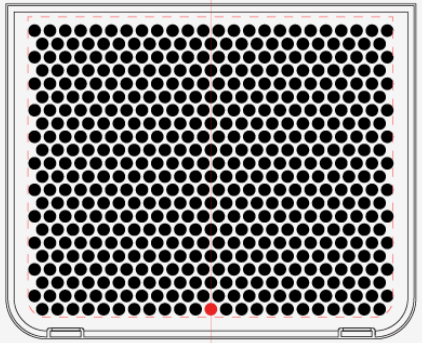
3 mm RIM
Louvre alternative [silver]

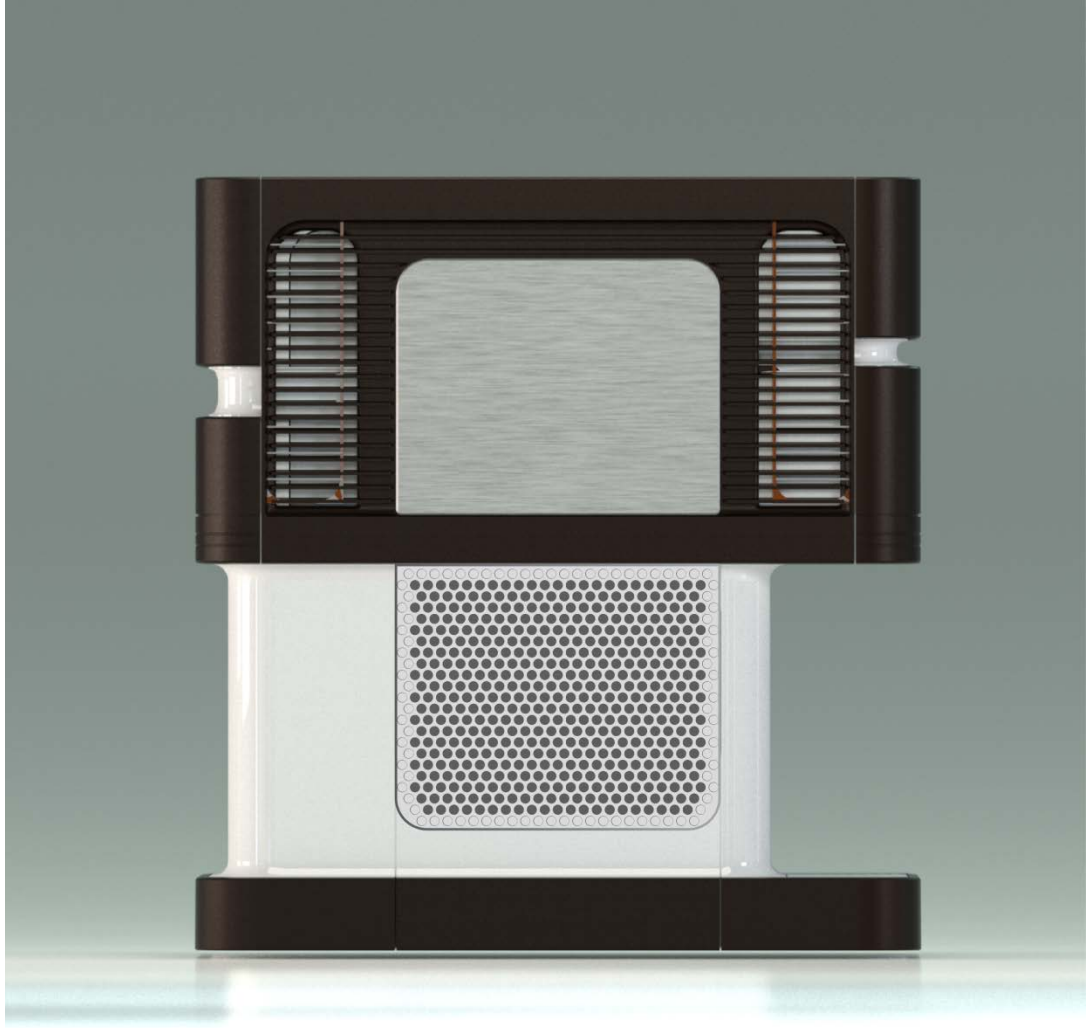


3 mm RIM
6 mm gaten dist. 1.5 mm 66 %

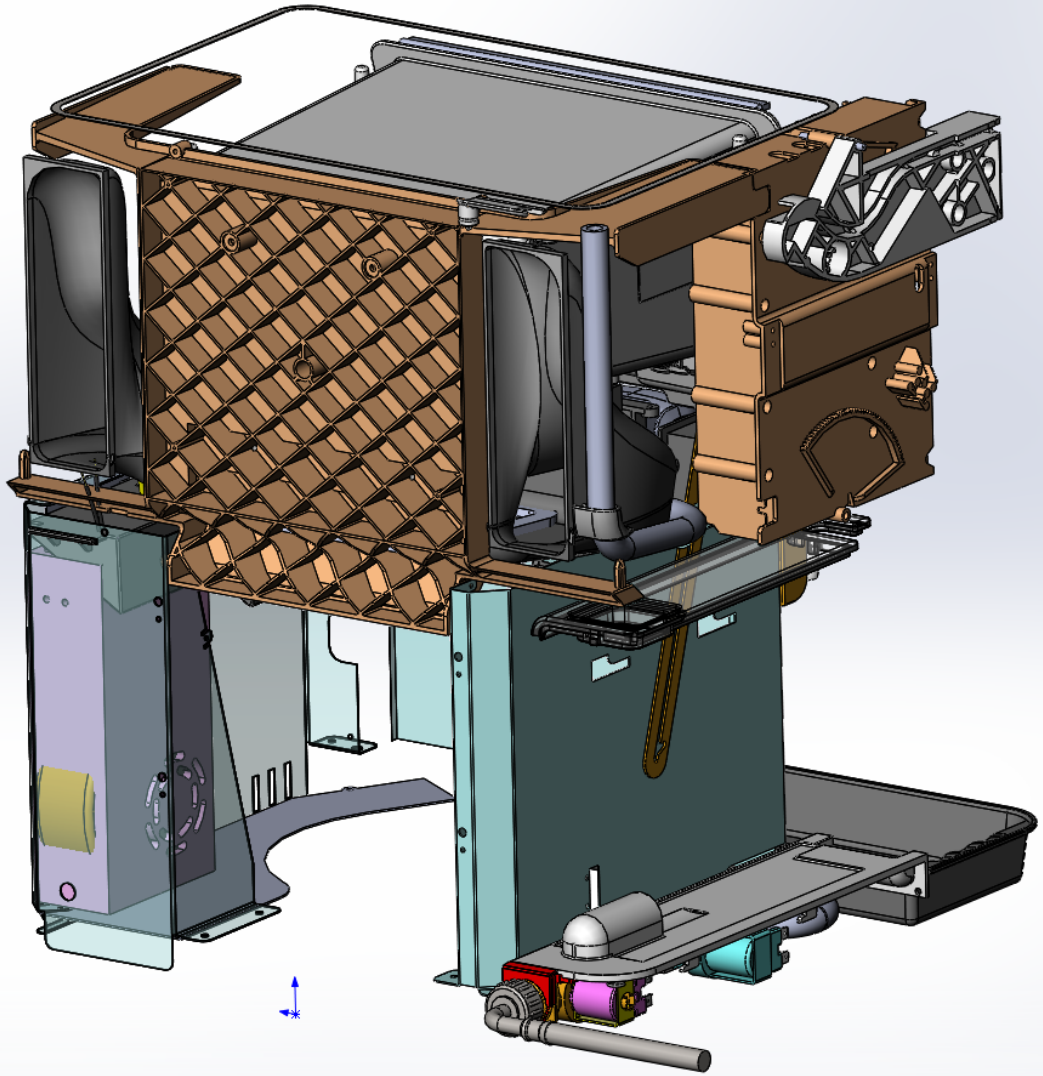


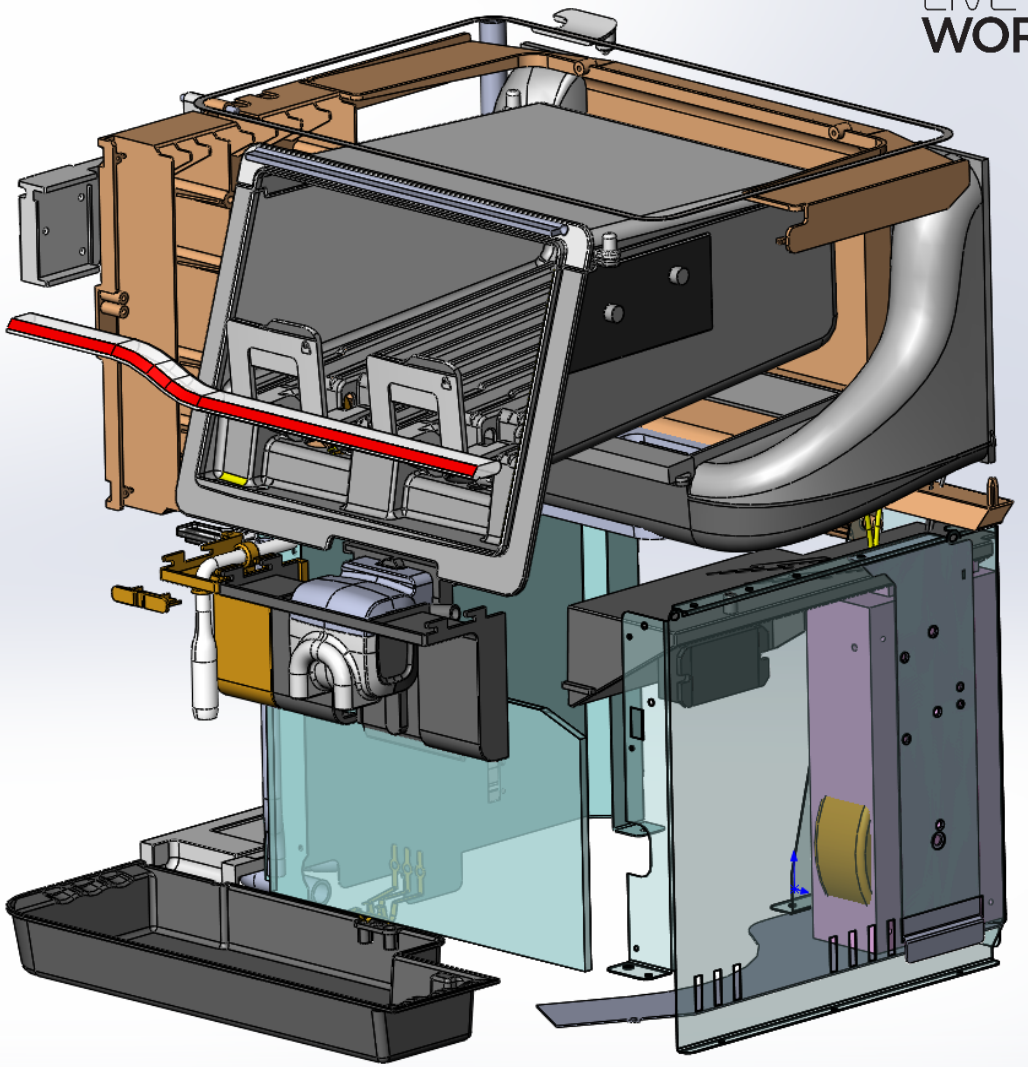
3 mm RIM
6 mm gaten dist. 1.5 mm 66 %





CAD 〈 Detailed design





CAD 〈 Supplier Engineering Activities

BIB 〈 New Bag In Box with integrated mixer

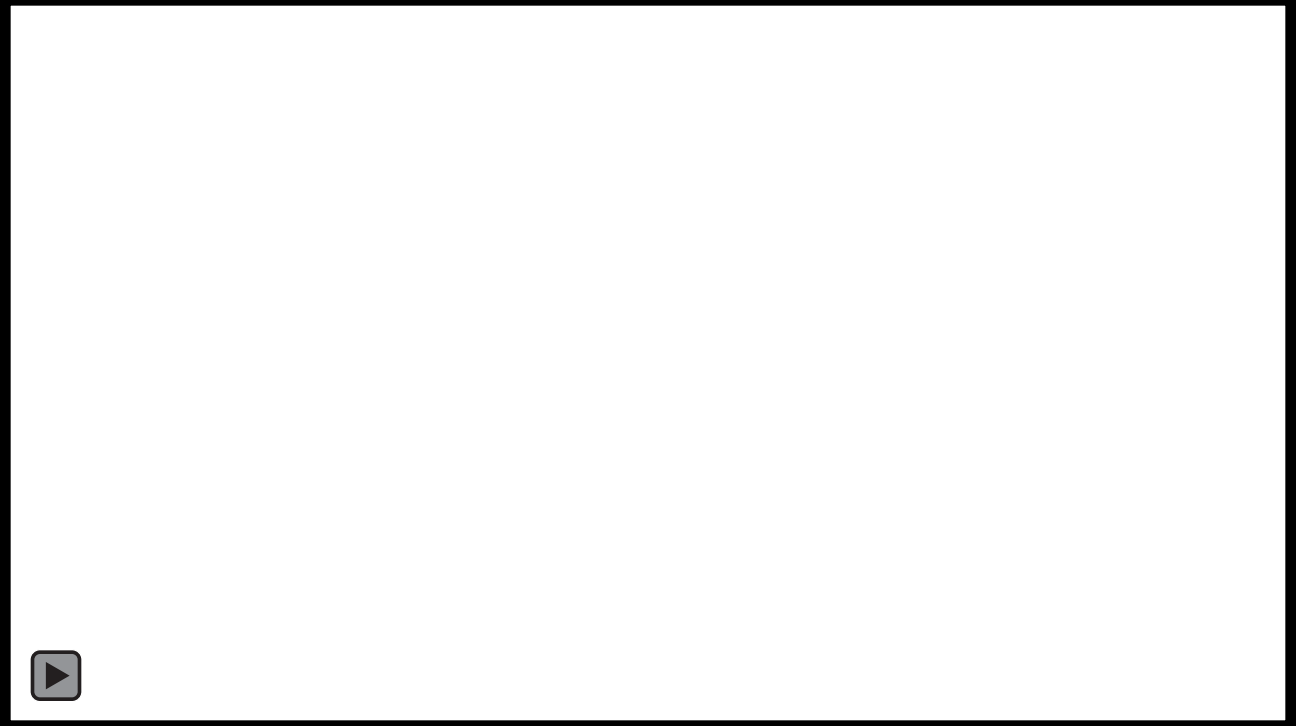
Branding 〈 New Bag In Box

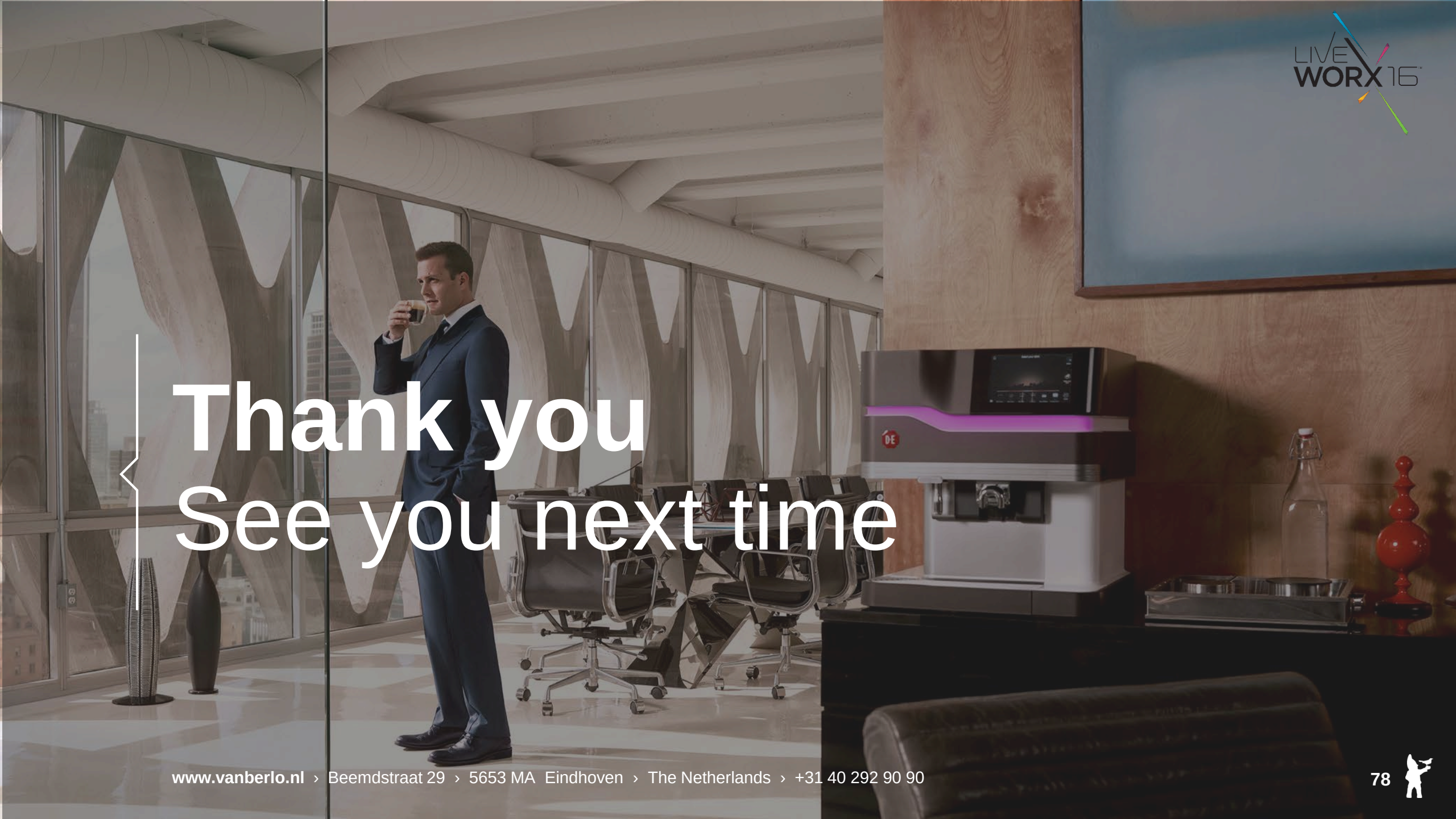
Branding 〈 Dedicated glasses


LIVE
WORX16
Branding
Daniel Macht
D·E
PROMESSO

Awards 〈 Best Industrial Design

Dutch Design Week⟨ World Premiere at our booth





Thank you
See you next time

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