

VIRTUAL SAMPLING&PRODUCTION

HVA

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DIGITALISATION: VIRTUAL SAMPLING & PRODUCTION_PILOT 2_HVA

Digitalisation in the industry signifies the incorporation of digital technologies across multiple facets, including design, manufacturing, retail, and marketing. It utilizes the power of e-commerce, virtual reality, and data analytics to revolutionize operational efficiency, customer engagement, and creative innovation within the fashion value chain. Find more valuable information on: <https://transitionsproject.eu/>



Virtual sample in 3d simulation



Sample produced in real



THE CONCEPT OF INDUSTRY 5.0



Skilled Workforce Requirement for Industry 5.0

- We need skilled workers who can use the latest technology well and also think creatively and adjust easily.
- Companies want people who can mix technology with creativity to make things better, from designing products to helping customers.
- But our schools and training programs might not be preparing enough of these kinds of workers, creating a gap in skills that could slow down progress.
- To fix this, companies need to keep teaching and training their employees so they can do well in this new kind of industry.

Q&A:

- In what evolving skills would you like to be trained?
- What can the Industry do for schools to prevent the progress from slowing down?

INVITATION_PILOT 2_HVA

Invitation Transitions Workshops

Are you interested in the intersection between digitalization and sustainability in Fashion and Textiles?

Would you like to contribute to the development of new, cutting-edge curricula on future-proof fashion business models?

For the international research project [Transitions for Fashion and Textiles](#), we are looking for enthusiastic students and professionals to join the Fashion Research and Technology research group at the Amsterdam Fashion Institute for a series of workshops:



Sign up

25 April
15:20–17:50 KMH 1.28

EcoVerse Couture | Digitalization:
Virtual Sampling Workshop
*Learn how to create
sustainable fashion virtually!*

16 May
15:20–17:50 KMH 0.40

Sustainability: Collaborative
Consumption Workshop
*Explore how collaboration
can help us live more
sustainably.*



Sign up



Sign up

23 May
12:50–15:20 KMH K12A
15:20–17:50 KMH 210

Final Workshop and Presentations
with industry partners.
*Feedback and Discussion
with the Industry*

What's in it for you?

- ☐ Have your say in an influential European project that will help shape the fashion curricula of the future.
- ☐ Bolster your CV and Network
- ☐ Food and drinks will be provided

NO PLANET B:

With the information from the workshops, you design in small groups the company of the future, what will be your role?

Create and produce smartly, apply new technologies, show design possibilities, and re-design traditional working methods into Digital Craftsmanship.

For instance:

Eco Verse Couture is a premier fashion label that seamlessly integrates environmental awareness with high-end fashion aesthetics. Renowned for its meticulously crafted garments and accessories, the brand caters to a diverse and discerning clientele. Positioned at the forefront of the sustainable fashion movement, Eco Verse Couture utilizes cutting-edge technology and innovative design to spearhead a more sustainable and inclusive future for the fashion industry. Notably, the brand adopts a "producing on demand" approach, minimizing waste and environmental impact while ensuring each piece is crafted with precision and care.

PRESENTATION: 23 MAY

CLASS STRUCTURE

This class aims to introduce students to the exciting world of virtual sampling in the fashion industry. You will learn how these innovative technologies not only transform the design process, but also contribute to sustainability and efficiency in fashion production.

15.20 – 15.30 Introduction-Nadia Thalman-early draping

15.30 – 15.50 Benefits of Virtual sampling

15.50 – 16.10 Demonstration & Case study

16.10 – 16.25 BREAK

16.25 – 17.25 Create your first digital garment in CLO3d

17.25 – 17.35 Discuss experience and outcomes

17.35 – 17.50 Fill in evaluation form, Summary and Reflection



WEAIR_visual by
Lilly Schilling/ AMFI graduate

FROM EARLY DRAPING TO 3D DIGITAL HAUTE COUTURE: 20 YEARS OF RESEARCH & FIRST DIGITAL CATWALK

o.l.v. Nadia Thalmann, Geneva University Miralab, published in **2005**



Fig. 11. Sketches from Marc Bohan (1946), Hubert de Givenchy (1946), Serge Guérin (1950)



Fig. 1. Recreating animated haute couture garments from sketches

Q&A:

-Why did it take so long before the fashion industry was able to use this technology?



La Haute Couture Mise en Equations 2005

Studying shape, material drape, textures, details & movement

Ref: <https://www.miralab.ch/>

A CHANGE OF PARADIGM, A DIFFERENT MINDSET AND NEW WORKING METHODES

Now we are able to Design one outfit in a few hours with all technical information and more design time

TRUST VIRTUAL SAMPLING



 2D CAD PATTERN










 CLO SAMPLE



 MANUFACTURED SAMPLE

3D DIGITAL FASHION AND TRADITIONAL FASHION DESIGN

Feature	3D Digital Fashion	Traditional Fashion Design
Design Process 	3D modeling and simulation	Sketching and pattern-making
Materials 	Virtual fabrics and textures	Physical fabrics and materials
Prototyping 	Virtual prototypes	Physical prototypes
Time and Cost 	Faster and more cost-effective	Slower and more expensive
Sustainability 	Allows for more sustainable practices	Can result in waste and environmental impact
Collaboration 	Allows for remote collaboration	Often requires in-person collaboration
Presentation 	Showcases designs in virtual environments	Showcases designs on physical models or mannequins

Q&A:

- What new mindset you think you need to adapt this 3D Technology?
- Use the links to study

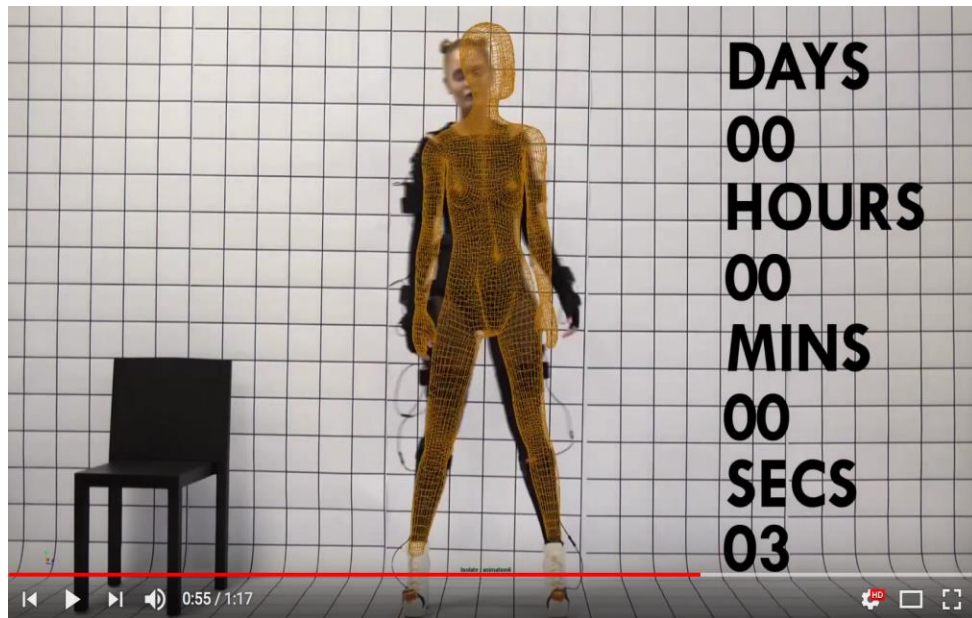
<https://youtu.be/M6QLz6kU9WQ?list=PLqL8Ymi3Z68Apm-KuhD4jE1JOjvldZj05>

AMFI 2015_IMPORTANT 3D BREAK THROUGH

Research in collaboration with Industry partners: Van der Velde Lingerie & Jacob Kok Visual artist

STUDENTS RESEARCHED 3D SOFTWARE (4), MADE A COMPARISON AND
DETECTED **CLO3D** AS MOST USER FRIENDLY_
INTUITIVE_ DESIGN DRIVEN AND FUTURE PROOF

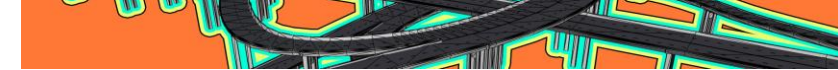
- ☐ 25% more time for the design process
- ☐ Process more self-steering
- ☐ Overview of the entire plan



<http://medialab.hva.nl/3dfashion/>

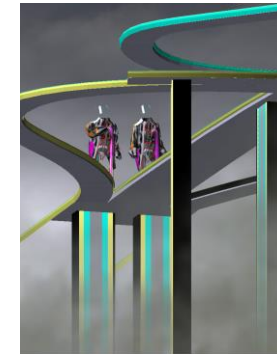
SECOND SIGHT

THE FIRST LIVE VIRTUAL FASHION SHOW



how can we use virtual simulation
to make fashion design processes
more sustainable?

how can virtual simulation help
to extend the way of fashion
presentation?



abstract
The two research questions (see above) brought us to the idea to create a virtual fashion show as an inspiration for young designers for showing their work and as a potential commercial solution for fashion companies to create a more sustainable design process. The virtual fashion show will also be a solution for people that want to be involved in the fashion world. They can watch the show from their homes or anywhere they are. We experimented with new technologies to explore new ways of designing and presenting fashion. Technology helped us achieve options never used before in fashion presentations.

context

Fashion is very much connected to the idea of providing you with 'the latest', 'the newest', 'the hottest', 'the it', 'it's avant-garde. Although today's fashion indeed reflects a gaze into the future, the means of presenting it are still very much like they were at the time of the first runway show in 1885.

Today's generation of fashion designers shows a desire to redefine fashion and its rules. Designers like Dries Van Noten and Jans Kok critically engage with ideas that are so deeply embodied by fashion that they are like laws, never to be broken.... The project has been deeply inspired by them and it is meant to inspire them to return, to provide them with new ways of presenting their collections.

Many big fashion companies are looking for ways to maintain a more sustainable lifestyle. 3D technology shows much potential in helping those companies reduce lead-time and fabric waste. It will enhance the design process.

Virtual fashion leads to less overproduction and it makes online shopping much more consumer friendly.

system
description

The user will receive a package at home with all elements needed to experience the virtual fashion show. It includes a redesigned Google Cardboard, an instruction letter with instructions for putting together the Google Cardboard and a download link for a phone application, a joystick as interactive device to help them interact with the virtual environment, and some earplugs.

The virtual fashion show is in the format of a phone application, currently only available for android phones. A user can download the application and put the phone in the assembled Google Cardboard. By looking through the Google Cardboard, the user will enter the virtual environment created to display the 3D garment designs. The joystick functions to walk around the virtual space and the earplugs play the sound we designed.

The collection we are showing is called NOISE. Weird but recognizable this clothes make you think of an existing connotation, but you don't see it that obviously. We are creating our own landscapes, and the virtual reality will be a reflection of these future laws.

Everything is connected in such a way that we created reality to give people this haptic experience through sight, audio and navigation. All elements presented are connected to the noise the human race created.



conclusion

From our research in 3D fashion we have concluded that there are many possibilities to provide from.

Many programs are in the very first state of their development so they are not very friendly to use yet. With those companies seeing the potential of 3D technology in some new areas such as the fashion industry, the software are maturing as they grow. The user interface becomes more friendly and the communication between software is also increasing.

For now it is quite complicated to achieve the level where we are at now, but we accumulated a lot of experience and knowledge during our project development which can be very helpful to similar projects.

Maybe the 3D modeling software will inspire companies to rethink their workflow and increase efficiency.

We hope this project will inspire more people to get together and use 3D modeling and fashion to experiment. It's not only about only being creative, it's also about adding values.

software

hardware

The main software we worked with to achieve the visual aspect of the application are Maya (5) for modeling and animation, CLO3D (4) for designing 3D clothing and simulating fabrics, Unity (7) as a game engine for developing our environment and Modo for rendering high quality imagery.

We used Google Cardboard (Phone application) and Oculus Rift (computer application) as head mounted devices for users to experience the show. The Oculus Rift offers a better image quality and a more immersive experience for the audience. The Xsens motion capture suit (2) (3) and the Kinect V2 as motion tracking and capture devices (1) which provided us the motion data we used for the animation.

acknowledgment

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Wensley De Kom
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references

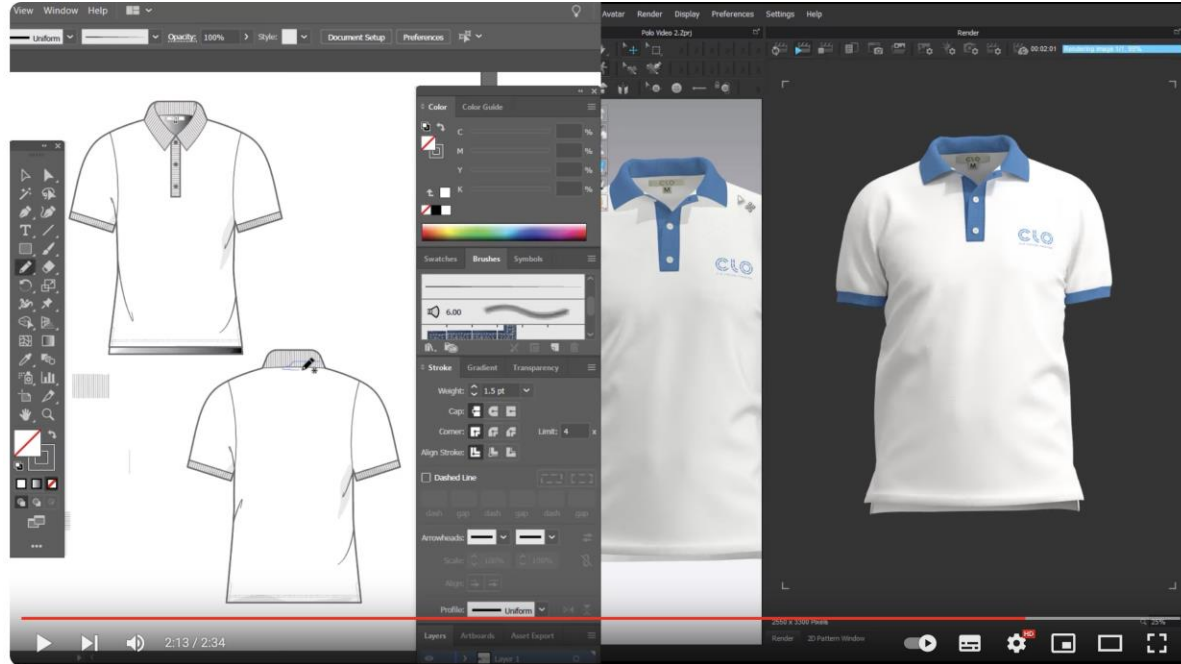
1. "Virtual Clothing Engineering: Introduction to Virtual Agents in an Augmented Reality Environment" written by J. Doolittle, 2013
2. "Unity 4.0 User's Guide" written by J. Doolittle, 2013
3. "Unity 4.0 User's Guide" written by J. Doolittle, 2013
4. <http://www.clo3d.com/>, 2014
5. <http://www.autodesk.com/>, 2014
6. <http://www.unity3d.com/>, 2015
7. <http://www.unity3d.com/>, 2015

TEAM

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HOW 3D DIGITAL SOFTWARE COMPETES WITH STANDARDISATION :

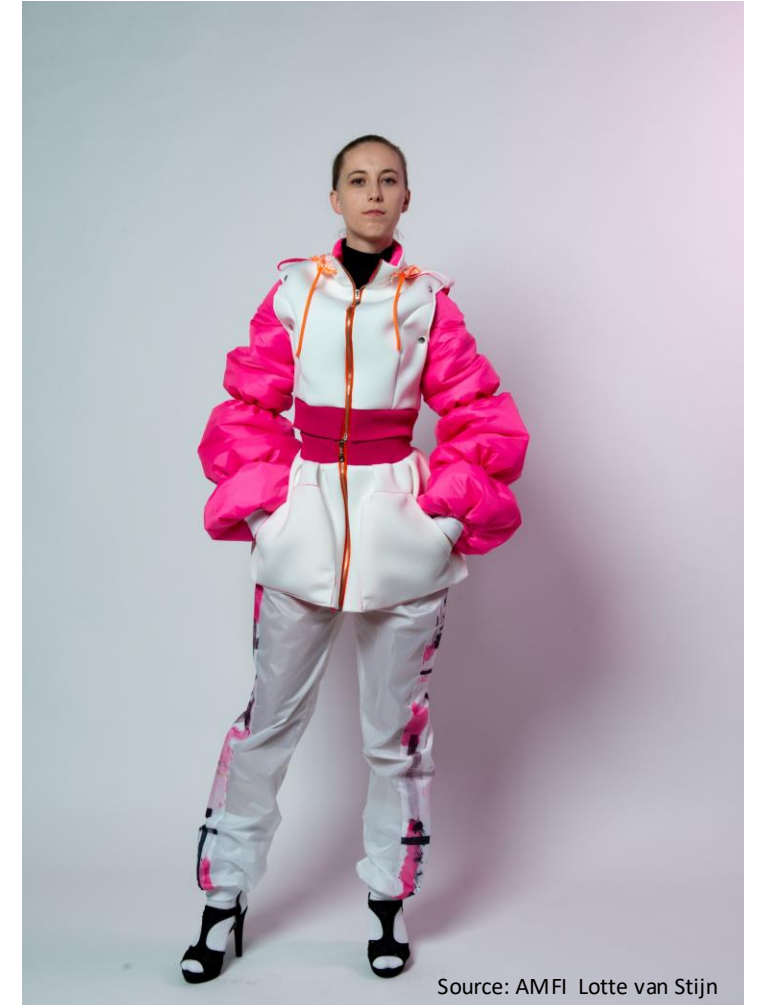
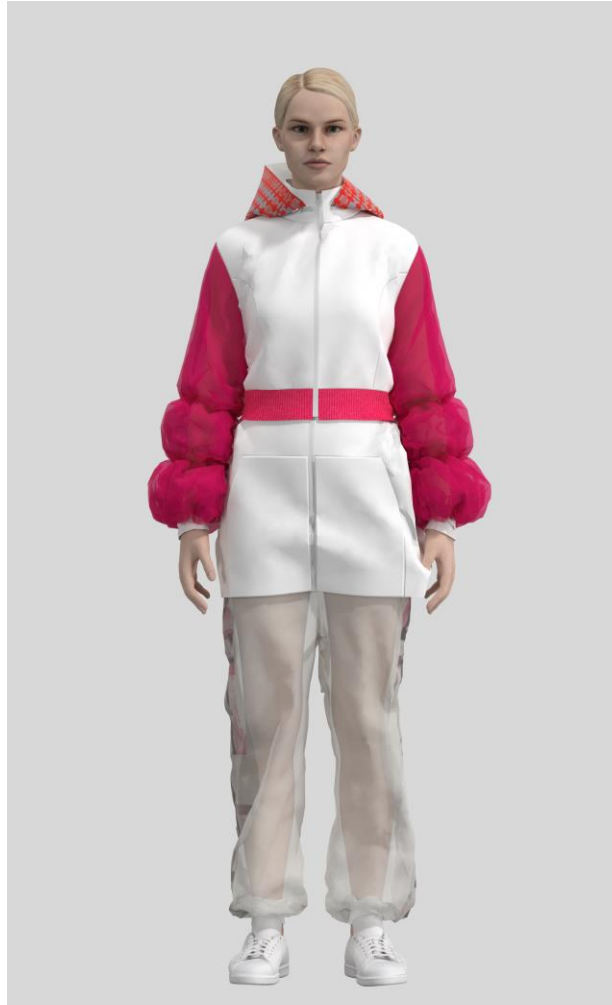
Creating a whole garment from scratch in 3D software is far more efficient than creating a technical drawing in 2D software, watch the video by activating the link.



Source: <https://youtu.be/oCaHeAlxQIU>

FROM 2D SKETCH TO 3D SIMULATION IN CLO3D AND CREATED IN REAL, A STEEP LEARNING CURVE

AMFI-BURBERRY project year two. This outfit is created by a fashion design student, started from scratch with classes 14 weeks, and selfstudy 2 hour's a week.



“Through the combination of traditional and innovative digital craftsmanship, the hyper-crafts, a new generation designers is born” (Grant & Hughes, 2013)

INNOVATION IS NO LONGER A CHOICE; IT IS A NECESSITY

Market leaders in developing high quality digital solutions for the apparel retail industry and architectural.

Virtual sampling in fashion uses advanced computer graphics and 3D modelling to create and test clothing and accessories digitally.

It helps designers and brands assess how a product looks and fits without making physical samples. This method is eco-friendly, speeds up design changes, improves collaboration, and allows for quick exploration of new ideas.



Q&A:

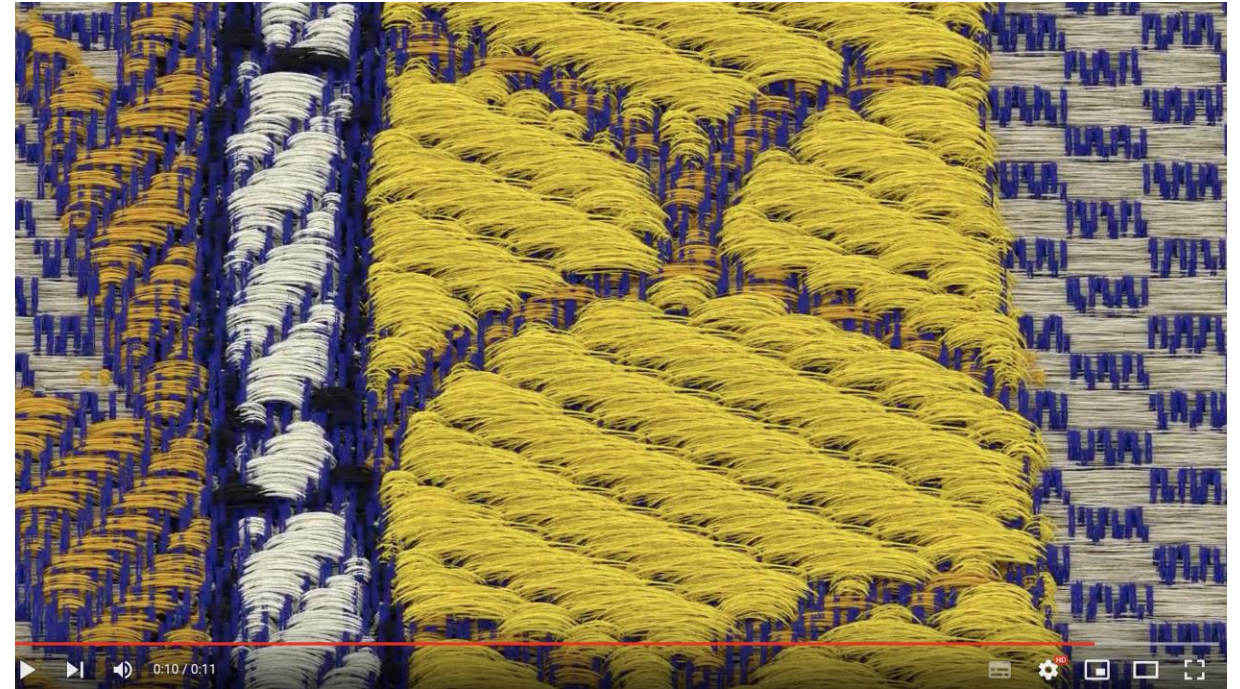
Which one is the virtual sample, and which one is real? Or are they both real?

DESIGNING TEXTILES, A SIMILAR PROCESS, THIS 3D SIMULATION IN WEAVES BRINGS 75% WASTE REDUCTION

Gemell Technology - Generating Photo-Realistic Digital Twins of Fabrics straight from the weave pattern file. No samples, no waste, no scanning.



Large Jacquard Fabric



Using the weave pattern file already created, digital twins of fabrics can be created and shared, speeding up the product development process by days, saving thousands of hours changing looms and manufacturing samples, reducing the amount of sample waste by over 75% and of course saving all those material and manufacturing costs. Garment and product designers can design with the digital twin in their CAD software, giving a more realistic result resulting in manufactured products resembling their designs.

THE BENEFITS OF VIRTUAL SAMPLING FOR THE WHOLE FASHION CHAIN, CONCLUSION ATACAC 2014



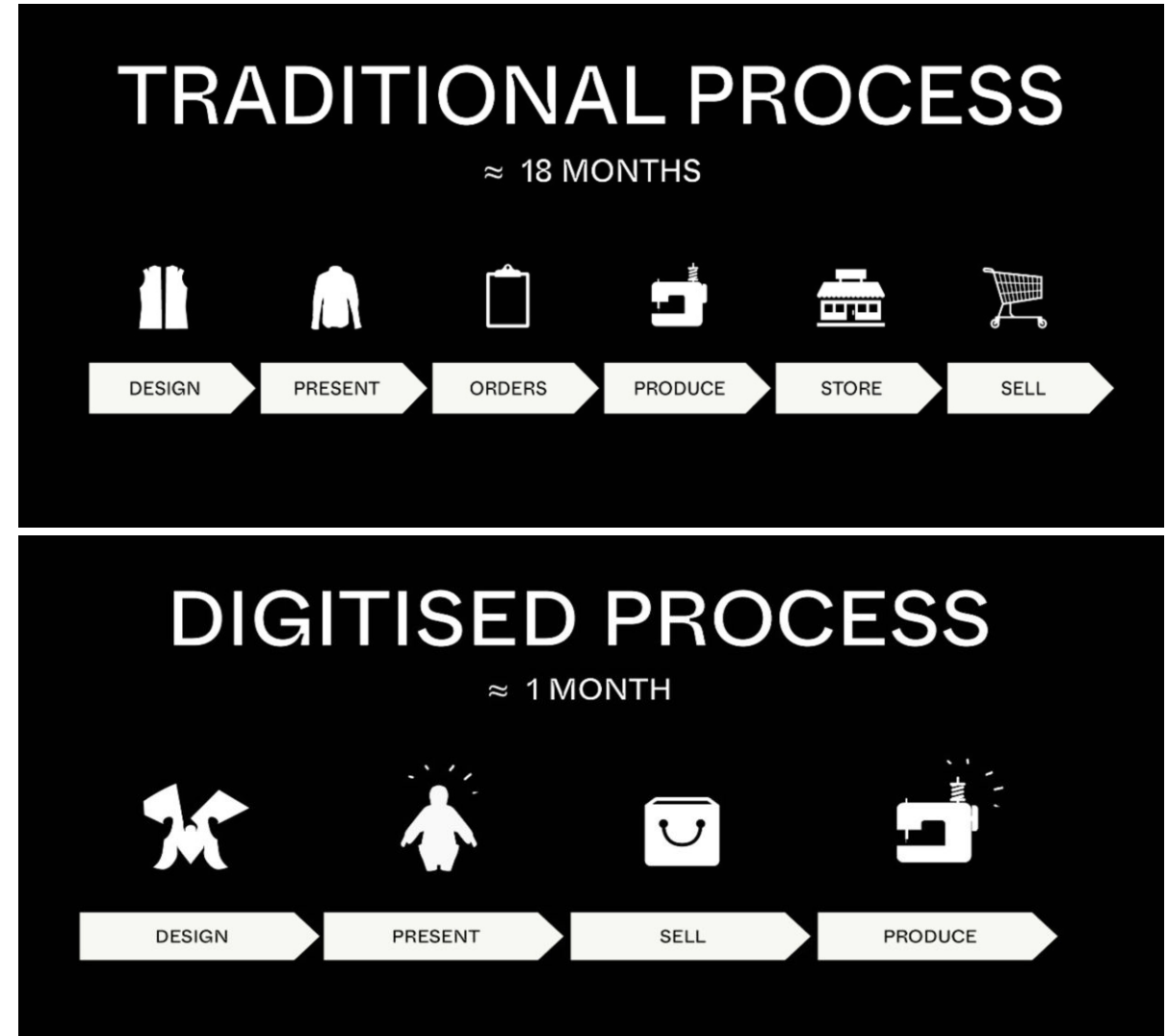
COMPANY

WHY WE DO WHAT WE DO AND HOW

Atacac is a Swedish based fashion studio founded by Rickard Lindqvist and Jimmy Herdberg. Atacac aims to redo the way to **design**, **present**, **sell** and **produce** garments.

Q&A:

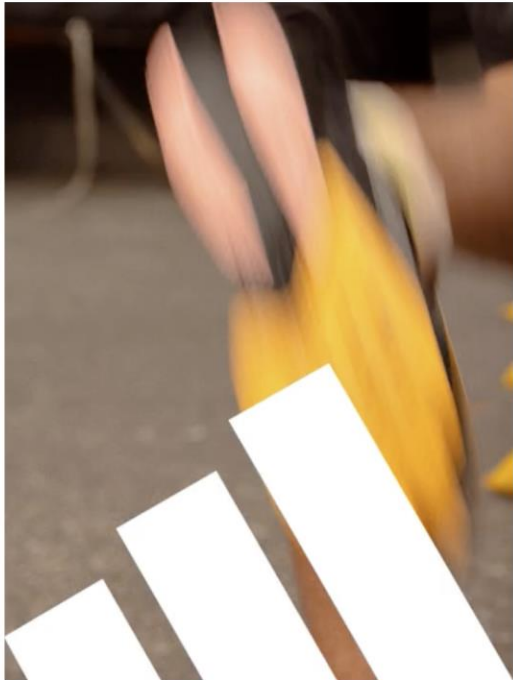
- Can you position the differences between the Traditional and the Digitised process?
- Where can we use the Micro-factory in the process?



Change direction value chain, virtual try-on systems, open source, share-ware, local production

Source: ATACAC RESEARCH <https://issuu.com/rickardlindqvist>

THE COMPANY SALES BENEFITS AND THE DIGITAL DESIGN PROCESS



Ontdek het nieuwe adidas 2024 athlete pack

Gemaakt om alle sporters te verenigen die een vurige passie delen om elk moment te laten shinen.

[SHOP NU](#)



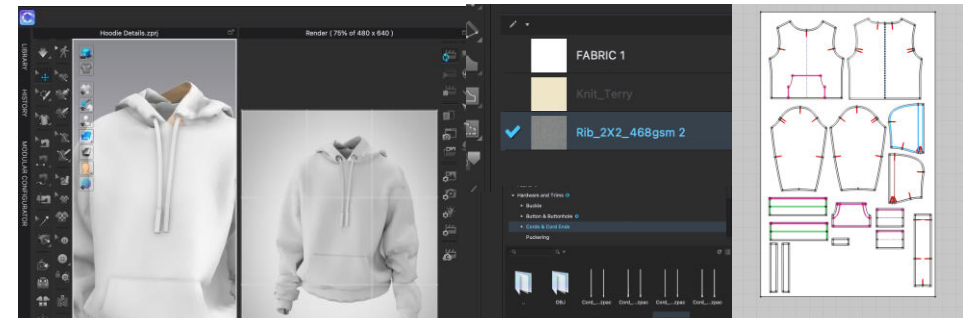
adidas Z.N.E. In the moment

Own your fit: ervaar pure focus.

[SHOP SPORTSWEAR](#)

During its investor day last year, ADIDAS said more than €5 billion (around \$6 billion at the time) of its sales came from products created with 3D design, a figure it planned to continue scaling.

<https://www.businessoffashion.com/articles/technology/inside-adidas-billion-dollar-digital-transformation/>



A smart mirror in Adidas' London flagship. Adidas. (Adidas)

THE 3D DESIGN PROCESS SIGNIFIES A RENAISSANCE OF CREATIVITY, EFFICIENCY & SUSTAINABILITY



The journey towards digital adoption in the fashion industry, while fraught with challenges, opens a door to a realm of unprecedented opportunities. The transformation goes far beyond mere technological upgrades; it signifies a **renaissance of creativity, efficiency, and sustainability**.

UNPRECEDENTED OPPORTUNITIES PMS STUDIO SHOWCASE IN COLOUR AND MATERIAL PALETTES

STUDIO PMS for Bijenkorf SS22 trends

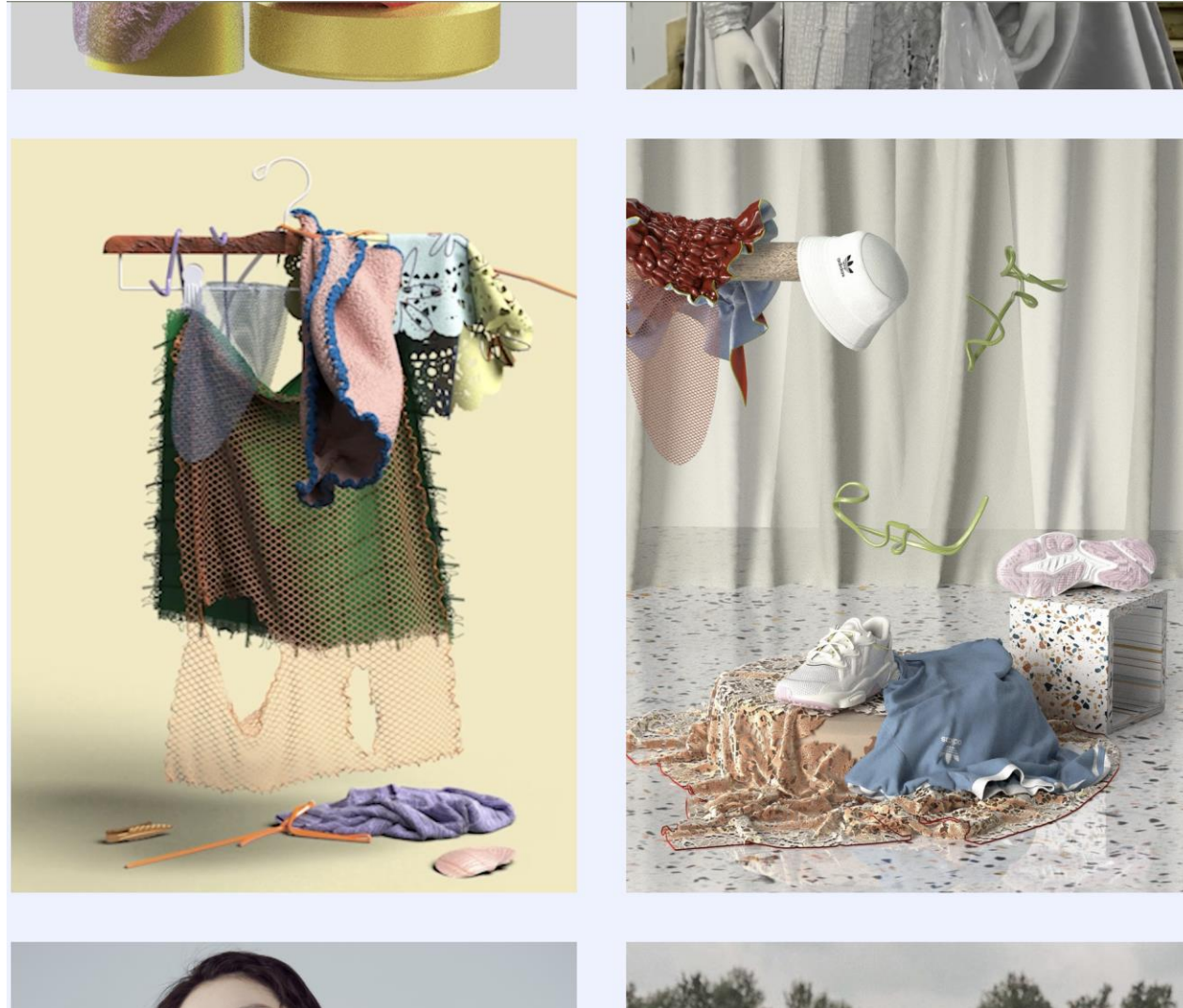
Design and animations for de Bijenkorf's bi-annual trend forecast presentations. These presentations serve as visual input for the future strategies of the Dutch department store. Studio PMS creates a colour and material palette that captures the future focus for the buying department.

client

Creative Office Bijenkorf

type

Visual Input



WHAT 3D SOFTWARE MAKES IT POSSIBLE TO CREATE ALL THESE VIRTUAL SAMPLES

CLO 3D:

Specializes in realistic 3D garment visualization and pattern-making, facilitating virtual prototyping and design validation.

Browzwear:

Known for its 3D apparel design and visualization solutions.

Optitex:

Provides virtual prototyping and 3D simulation for the fashion industry.

Lectra:

Offers integrated solutions for pattern-making, grading, and virtual prototyping.

Gerber Technology:

Provides virtual prototyping software for pattern-making, marker-making, and 3D garment simulation.

The knowledge to decide what will be the best software to use, relates to the products you design, create and produce. Difficult to decide when there is no experience in a company. Can be a bottleneck, in the following case study's examples to discuss



Source: luiiarocheski.com



CASE STUDY VIRTUAL SAMPLING: WHAT ARE THE BENEFITS FOR APPAREL AND ACCESSORIES



ACCURACY OF DESIGN

- Quick decision making
- 3D sample is more realistic than 2D
- No fabric color restrictions when sampling
- Increase the right 1st sample rate



SHARING VISION

- Enabling creative process
- Able to use 3Ds for sell-ins for regions
- Enabling use of imagery for different purposes



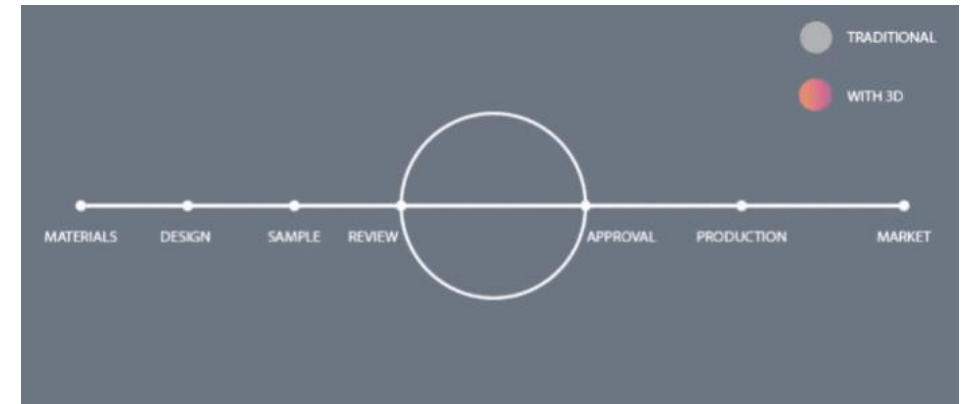
COMMUNICATION

- Solve miscommunication on design details
- Better communication with engineers, suppliers and customers
- Better understanding of occurring technical issues
- Great visual communication and sales tool (internal & external)
- Pre-screen fitting, styling and adjusting before physical sample is made



CUTTING COSTS

- Reduction of physical samples due to changes are immediately visible,
- no transport of physical samples, no fabric and trim use for these samples
- Reusing created designs for production or rendering

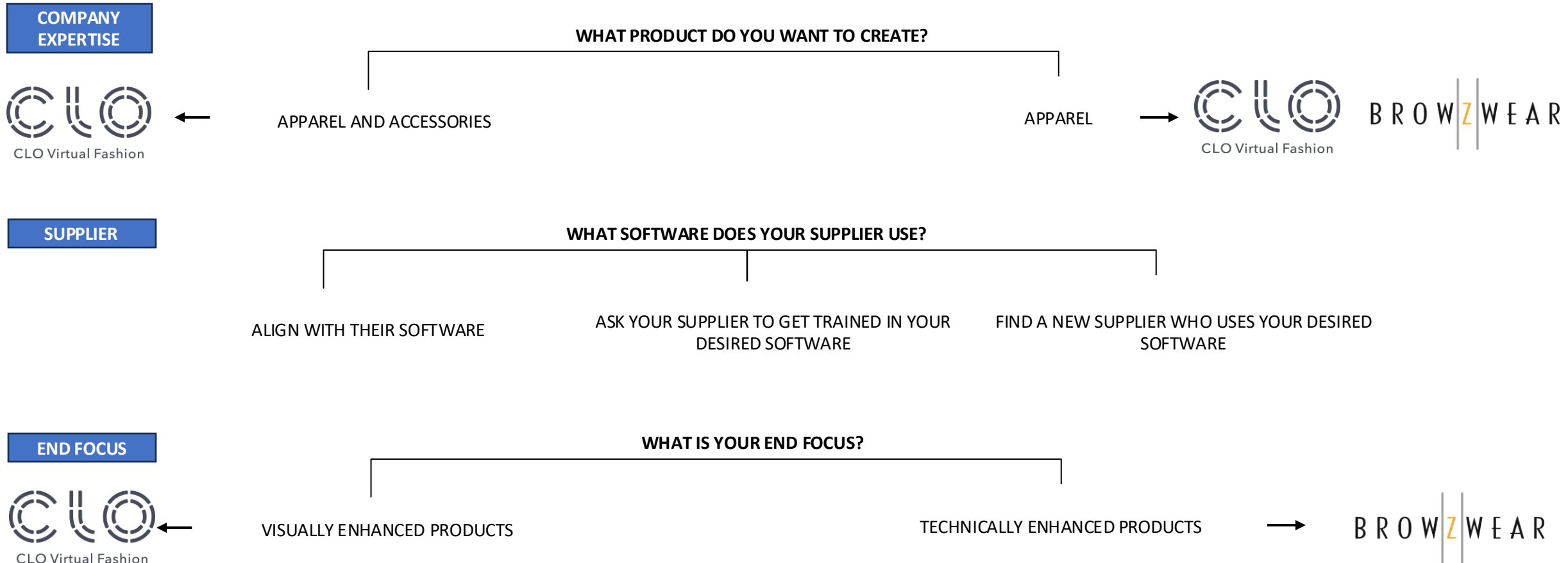


- Advantage of using 3D can be found in the Review to Approval phase.
- Product can be made, further reviewed, cost calculated made in 3D.
- An effective 3D workflow can lead to only 1 final physical sample.



CASE STUDY PUMA: DEPARTMENTS DISAGREED ON THE MOST APPROPRIATE 3D SOFTWARE.

Strategizing for a digital future, what to define first.





CASE STUDY PUMA:
APPAREL AND ACCESSORIES_CLO3D

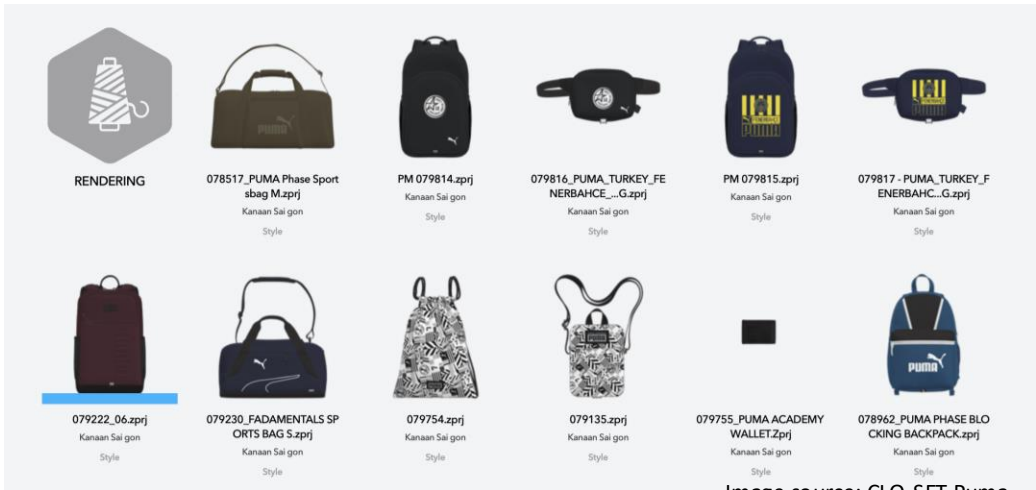
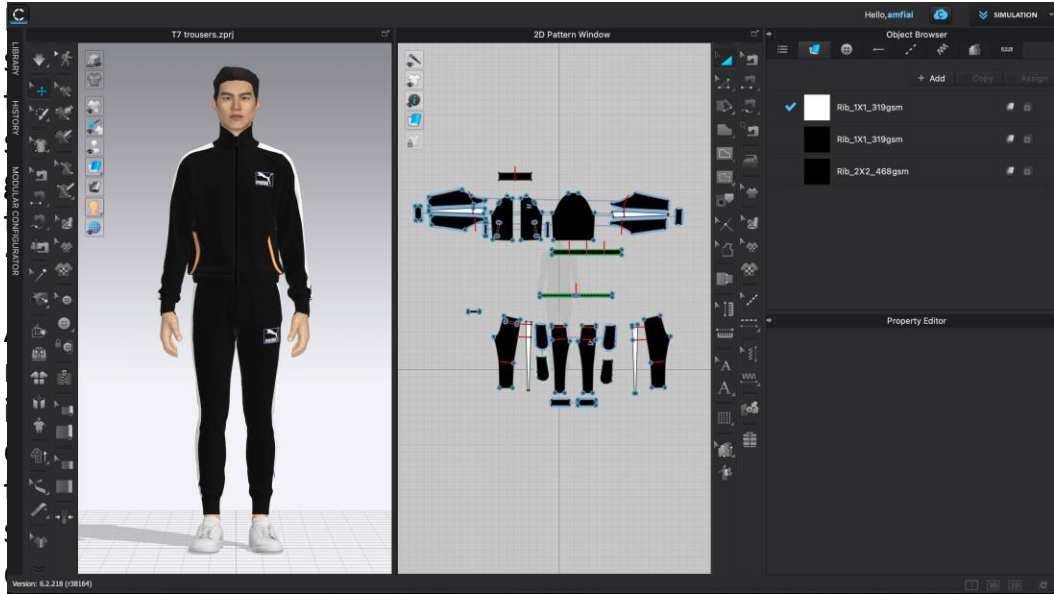


Image source: CLO-SET Puma

APPAREL_BROWZWEAR's VSTITCHER

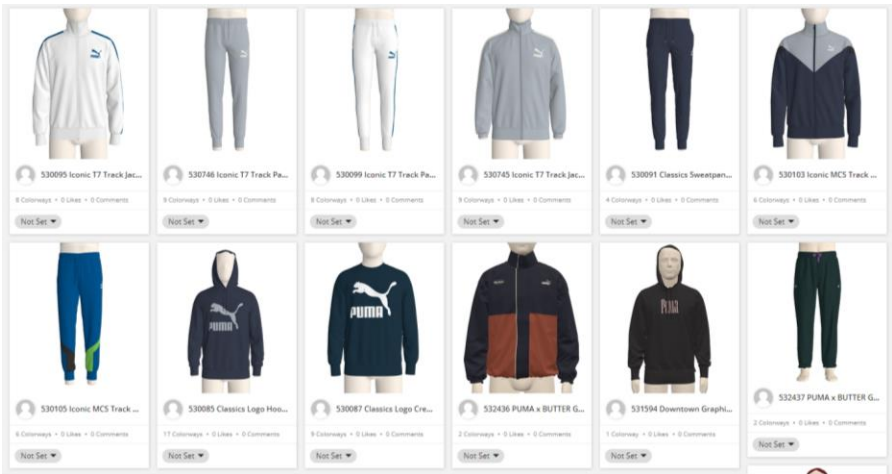
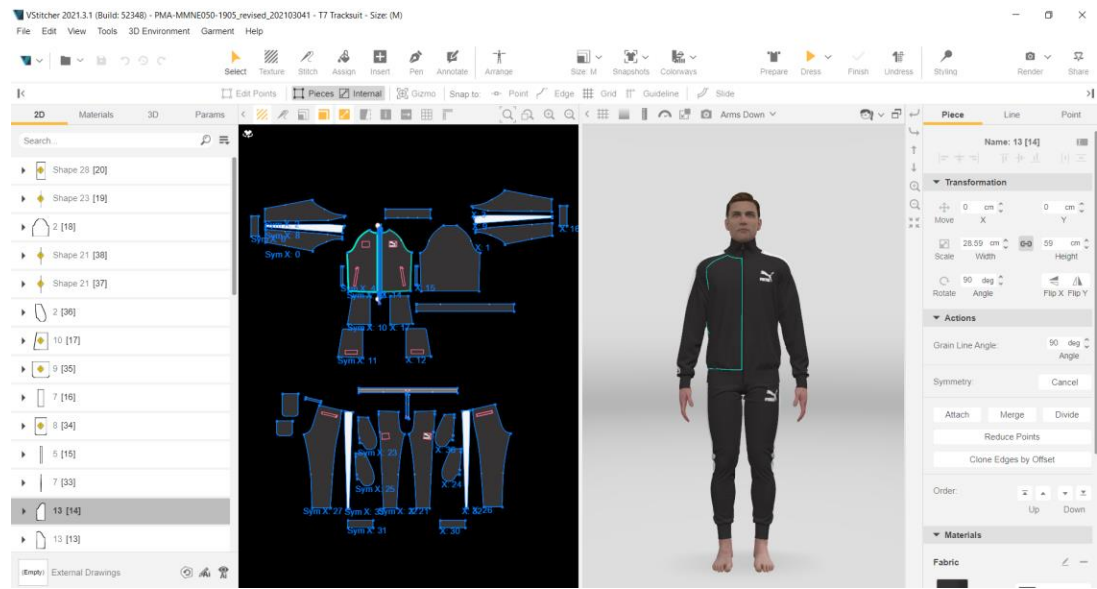


Image source: Stylezone Puma



CASE STUDY PUMA: ABOUT CLO 3D

ANIMATION

RENDERED IMAGE

DETAIL SHOTS

GIF





CASE STUDY PUMA: ABOUT BW's VSTITCHER

ANIMATION

RENDERED IMAGE

DETAIL SHOTS

GIF



CASE STUDY PUMA: CONCLUSIONS COMPARISON

Biggest difference CLO3D and BW's Vstitcher:

- Vstitcher focused on creating garments
- CLO3D on creating garments and accessories.

- Both programs are considered as user friendly, CLO it is seen as more user friendly and easier to adapt

- CLO's 2D screen works like Adobe Illustrator, a program all designers use in the sports fashion industry, helps to adapt the program quicker.

- Due to the more simplistic and technical lay-out of Browzwear, suppliers might find this software easier and quicker to understand.

Q&A:

- Analyse how Virtual Sampling contributes to the consumer response.
- What are eventually ethical considerations of virtual prototyping as a possible reduction of craftsmanship ? Do some research on this topic.

Comparison CLO3D and Browzwear Vstitcher



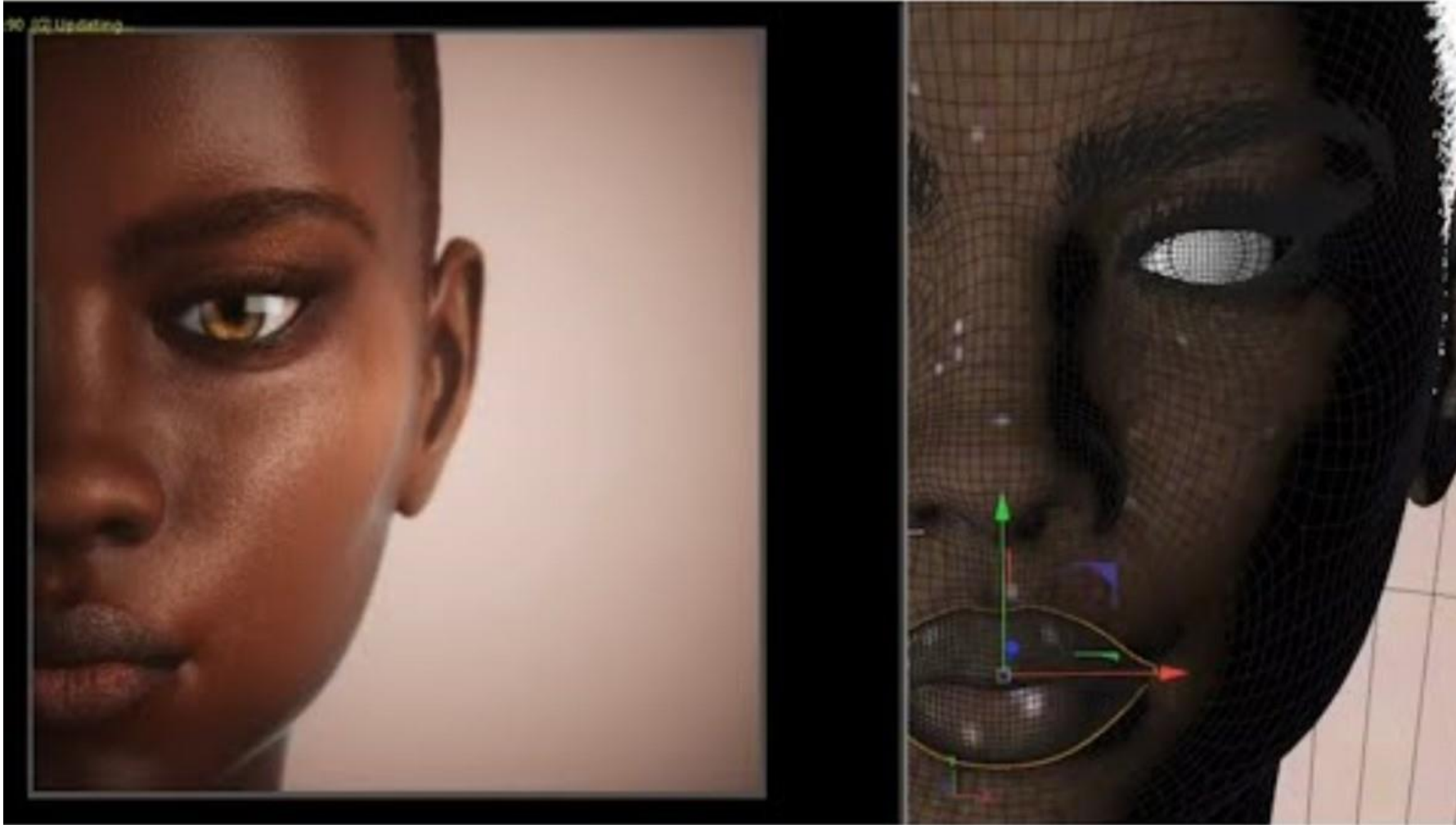
Category	CLO3D	Browzwear
Platforms	CLO and free version of CLO-SET, free version of CLO-Connect	Browzwear has Vstitcher, Lotta, Stylezone, Fabric Analyzer, Smart design and Open Platform. All licenses need to be bought separately
Accessibility	Available for MAC and Windows users	Available for MAC and Windows users
Rendering	High quality render due to light, camera and animation features. The avatar has several animations and there is a catwalk available. CLO has features to make the garment more high quality, like particle distance.	Rendering is possible with less light options. The avatar can move with animations, there is no catwalk but the background can be edited in external programs like Adobe. Vstitcher has less quality render options in terms of the garment.
Visual representation	3D products can be used for Marketing, sales and buying purposes. CLO fits Marketing better than Vstitcher due to its origin that the software is made for videogames.	3D products can be used for Marketing, sales and buying purposes.
Technical use	The purpose of CLO is mostly design, the software is being used in product development but more so for visualisation.	Vstitcher files are easier to understand for suppliers due to the origin of the software being apparel product development.
Usability / user friendly	Very user friendly due to visualization of the program	More technical look but still user friendly
Marketing use	Due to the high quality render, 3D designs are able to be used in Marketing and advertisement.	Other platforms or companies need to be hired to make the 3D high quality enough for visual purposes.
Sales use	3D designs are accurate and realistic enough to use for selling and buying.	3D designs are accurate and realistic enough to use for selling and buying.
Price	Individual \$50 USD Monthly Student \$25 USD Monthly Enterprise separate pricing depending on licenses	Browzwear sells its software per seat, and each seat costs between \$5-10,000 USD
Online tutorials	yes	yes
Can develop apparel	yes	yes
Can develop Footwear	no	no
Can develop accessories	yes	no
fit maps?	yes	yes
poses	yes	yes
animations	yes	yes

A FINAL PRODUCT PROMO



Image source: FABRICANT X PUMA SAINT MARTINS

CASE STUDY: TRANSITION OF A TRADITIONAL COUTURE COLLECTION BY RALPH & RUSSO



Q&A:

-Informative study document

Ref: BY RALPH & RUSSO

CASE STUDY: AMBER JAE SLOOTEN & HOW TO CREATE A METAVERSE HOODY AT AMFI:

linking between digital design, fashion and sustainability



Is the future of fashion digital? | Amber Jae Slooten

Source: <https://www.google.com/search?client=firefox-b-d&q=video%27s+The+fabricant+Amber+jae+slooten#fpstate=ive&vld=cid:82d56661,vid:tjjZ8VcPVQo,st:0>



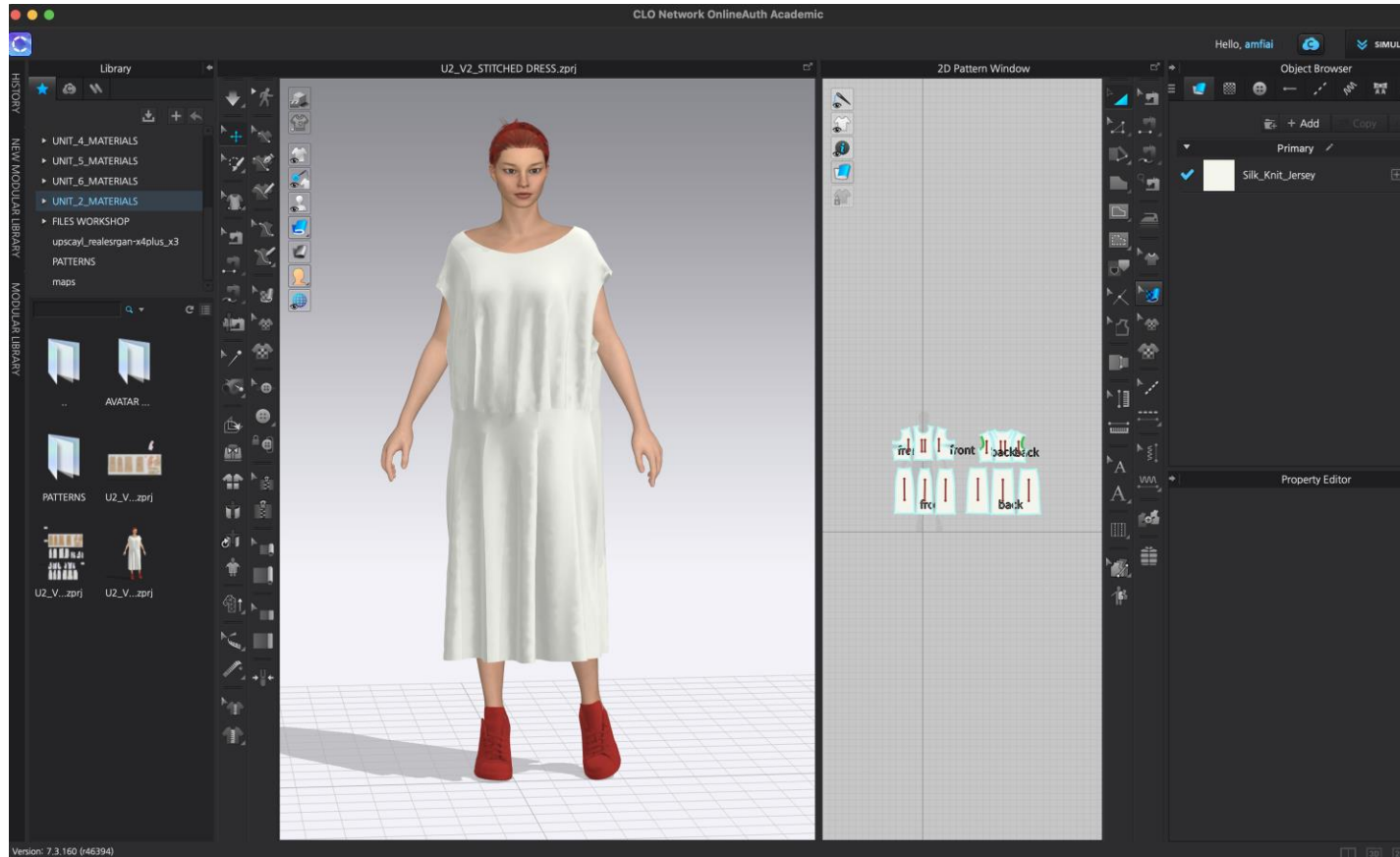
BUCQ: Creating A Metaverse Hoody

Source: <https://www.nxtv.nl/video/metaverse-hoodie>

Q&A:

-Informative study document

LEARNING BY DOING, PRACTISE 3D MODELLING AND 3D SIMULATION, PLAY WITH THE BASIC PRINCIPLES



BLENDED LEARNING: INSTRUCTIONS EXERCISE IN CLASS AND USE INFORMATION ONLINE. AT CLO3D & CLO-SET CONNECT

Q&A:

Reflect on your modelling in CLO3d, which steps in your design process would you like to digitalise in the future?

DISCUSSION AND BRAINSTORM: THE RELUCTANCE TO EMBRACE CHANGE

The Reluctance to Embrace Change

- The financial aspect
- The skills gap
- Cultural resistance to change
- Integration challenges

Strategizing for a Digital Future

- Is a phased approach
- Collaboration between technology providers and fashion brands
- Creating a culture that embraces innovation
- Education and knowledge sharing
- Create novel professional paths
- Build new business models



Clo3d + Blender Animation - Substance Painter/ Blender / DAZ / Mixamo / Clo3d / - Animation Workflow

Q&A:

- What is your reluctance to embrace change?
- What will be your strategy for the Digital future as a student/as a company?

CHANGING AND EVOLVING JOB ROLES

Digitalisation, will require an investment in new sknowledge and kills, it brings new roles as 3d digital designers, 3D patternmakers, digital fabric creators, change managers, 3D render specialists. 3D visualization, AI programmers, AI Designers, digital value chain analysts and managers, digital merchandisers, e-commerce experts.....and more

The technology opens many new possibilities for hybrid profiles in digital design and production to create novel professional paths. Entrepreneurs find new niches and their sustainable values can be reached. It's an interesting time.

Within **Adidas 3D journey**, the role of **the designer** reshaped to '**digital creator**'. The main task still is creating Design's, but the focus is more on playing with the aesthetic possibilities, and less on the technical aspects.

A **patternmaker** first translates a designer sketch into a digital pattern, whereafter the creator starts designing digital. (L. Jurica, design director adidas 2018) But this is just a starting point.

Innovation is no longer a choice; it's a necessity!

Q&A:

- If you think about your role what would change the most you think?
- What would be your pick as a company or student?

Job Board

APG & Co. PTY. LTD. <small>Sydney, Australia</small> CLO 3D Technical Design Assistant	APG & Co. PTY. LTD. <small>Sydney, Australia</small> CLO 3D Technical Design Assistant	GERRY WEBER International AG <small>Germany - Halle (Westfalen)</small> PRAKTIKANT (W/M/X) 3D VISUALISIERUNG
New World Knitting Fty.Ltd <small>Home Base</small> Fulltime/Contract Knitwear Designer (3D software), 誠聘全職/ 合約毛衫(3D 軟件繪圖)設計師	H&M <small>Stockholm, Sweden</small> 3D Artist - Freelance	Deckers Brands <small>Santa Barbara, CA, USA</small> Associate 3D Apparel Developer
ZXY International <small>Dhaka, Bangladesh</small> 3D Technician (CLO3D)	JAKKS, Pacific Inc. // Disguise, Inc. <small>Poway, CA, USA</small> 3D Costume Designer	Texport Industries Pvt. Ltd. <small>null</small> CLO 3D Technician / Pattern Maker
Techno Design <small>Gurgaon, Haryana, India</small> 3D CLO Apparel Designer	Direct Source <small>Hong Kong</small> 3D Patternmaker	Adidas <small>Ho Chi Minh City, Vietnam</small> Manager Creation Technologies APP

Source: <https://www.clo3d.com/en/resources/jobs>

-HYPER CURVE STUDIO-PTTRNS -PVH_STITCH- ATACAC- ADIDAS -H&M-BURBERRY-
 GYZMO-LAB-VIVIENNE WESTWOOD-THE FABRICANT-PIXELPOOL-INDG-THE NEXT
 CARTEL -G-STAR-HUGO BOSS_PMS STUDIO_ @sa.m.co_VEGAN_VIRTUAL ART
 _FASHION & more....

Follow SYLWIA SZYMCZYK: fashionINSTA.ai co-founder | From Seamstress to Fashion Geek & Keynote Speaker

Today she wrote:

99% of fashion companies don't leverage 3D prototyping.
They show fancy 3D renders or some animations.
But they don't get the real value of 3D.

If you use 3D in the product development process,
You can achieve ROI with 3D.

-> Faster time-to-market
The development process lasts up to 12 or 18 months.
This still happens in fashion companies. It's crazy.

-> Consumer insights at every stage of development
Consumers see for the first time in e-commerce or in a shop.
The best way to have massive overproduction.

-> Fit testing
Physical samples travel worldwide, only to realize that the fit
is wrong, or the design doesn't match the collection.
Paid and dropped.

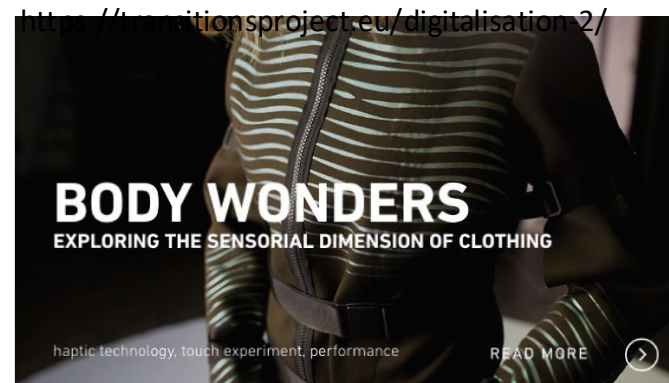
-> Environmental impact analysis
Soon required by law, finally.
But without digital data available and waste at every stage
of the development process, scores can't be high.

Too much traditional sketching.
Too much physical samples.
Too much waste.

Not enough innovation.

Want to know more about new Technologies ?

Visit the website of these designers
to understand their goals and achievements.
For more information about TRANSITIONS:
<https://transitionsproject.eu/digitalisation-2/>



<https://www.paulinevandongen.nl/>



<https://www.irisvanherpen.com/>

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