Industry Workshop Fashion, Jewelry & Eyewear Innovation

Myths and Opportunities of AI in the Digital Content Factory

Lugano
October, 3rd 2024

product information

product tech specs

product tags

marketing description

localizations

product 3D renders

product packshots

editorial shootings

adv campaign

...

from content > to business

ecomm product detail pages

store permanent fixtures

catalogues

newsletter

banners

website

social posts

trade POP/POS materials

sell-in reports

Training Bible

...

ACTORS

PROCESSES
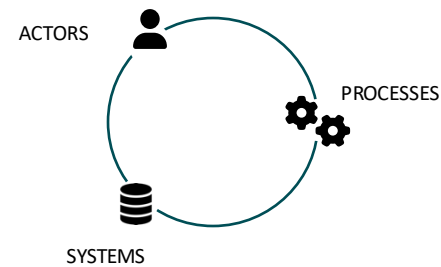
SYSTEMS

HYPHEN

HYPHEN
Group

Hyphen-Formula

_ Consulting

The team dedicated to systemic consulting for the digital transformation of content production and distribution processes.

Hyphen-Solutions

_Software _ Photographic tools

The software (Chalco BrandLife Suite) and photographic hardware (Hyphen Shooting Line) solutions for managing content production, fruition and distribution workflows.

CHALCO Brand Life Suite

HYPHEN Shooting Line

Hyphen-Media

_ Shooting _ Post-production _3D

The team dedicated to the provision of photo and 3D production services integrated with the company's digital content factory.

Who we work with:
Fashion & Luxury

GUCCI   *Brioni*   *Loro Piana*   CELINE

DIESEL   Maison Margiela PARIS   M A R N I   BRAVE KID   STAFF INTERNATIONAL   JIL SANDER

MAX&Co.   MARINA RINALDI   WEEKEND MaxMara   MARELLA   Intrend   PENNYBLACK   *persona* by MARINA RINALDI

BALENCIAGA   BALLY   GUESS   TOD'S   ETRO   CANALI

VERSACE   TRUSSARDI   Blancheporte   *Salvatore Ferragamo*   MATY   WOOLRICH JOHN RICH & BROS.

DSQUARED2   MICHAEL KORS   Safilo   (GRUPPO FLORENCE)   N BROWN GROUP PLC
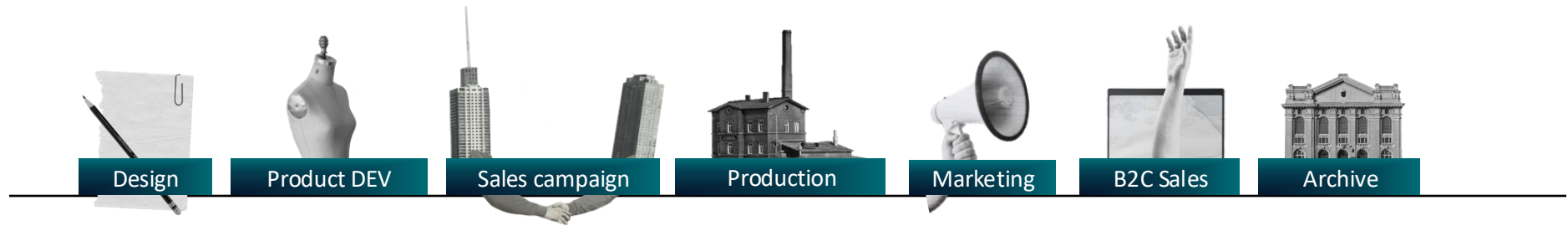
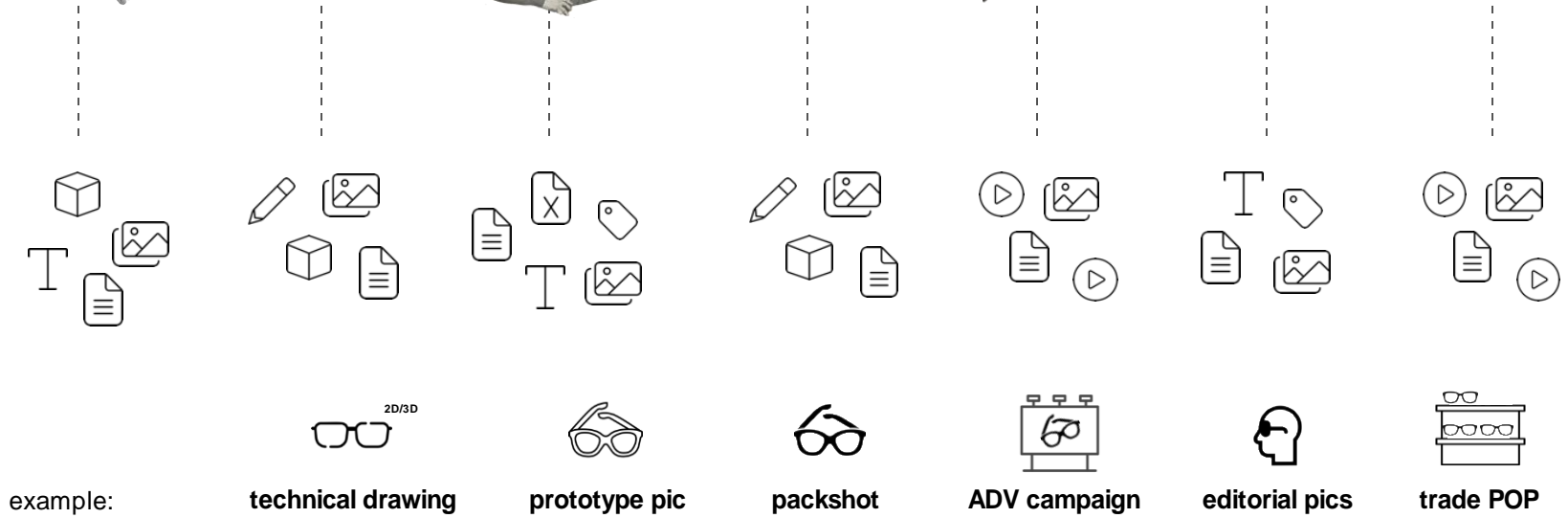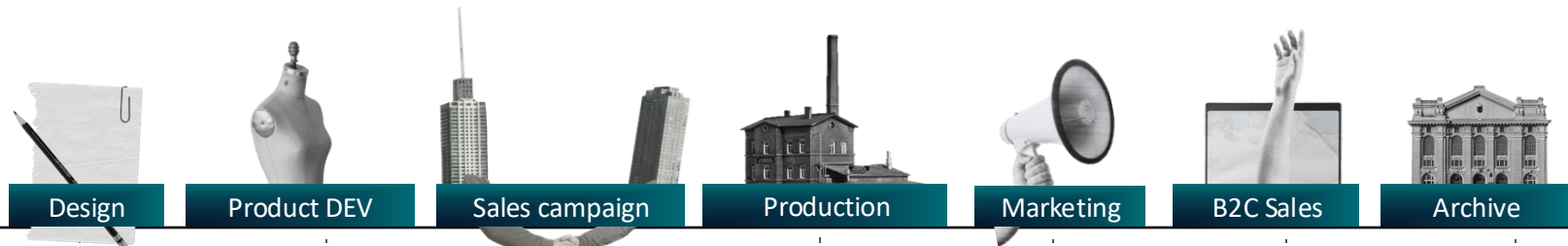MYTHERESA   WYSE   JULIAN FASHION   COLTORTI   *G&B Company*   SORELLE SR RAMONDA

What we mean by

Digital Content Factory

Product Lifecycle

| Design | Product DEV | Sales campaign | Production | Marketing | B2C Sales | Archive |

Product Lifecycle

Design	Product DEV	Sales campaign	Production	Marketing	B2C Sales	Archive

example:

| | technical drawing | prototype pic | packshot | ADV campaign | editorial pics | trade POP |

Product Lifecycle
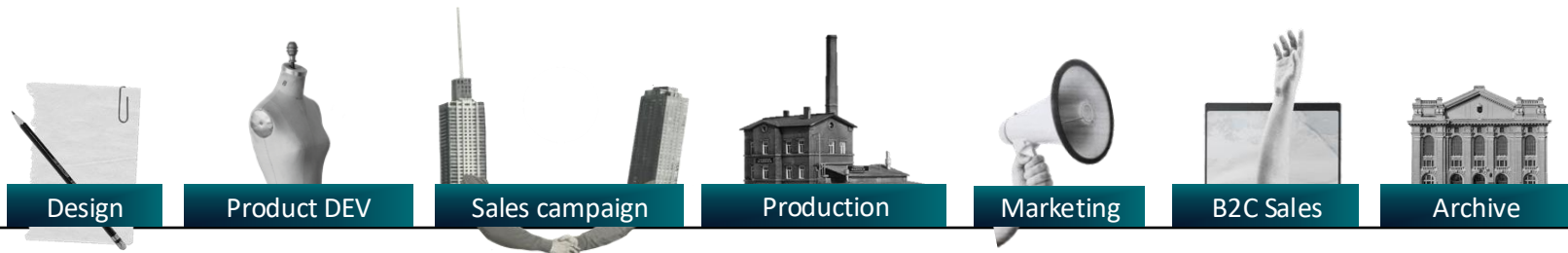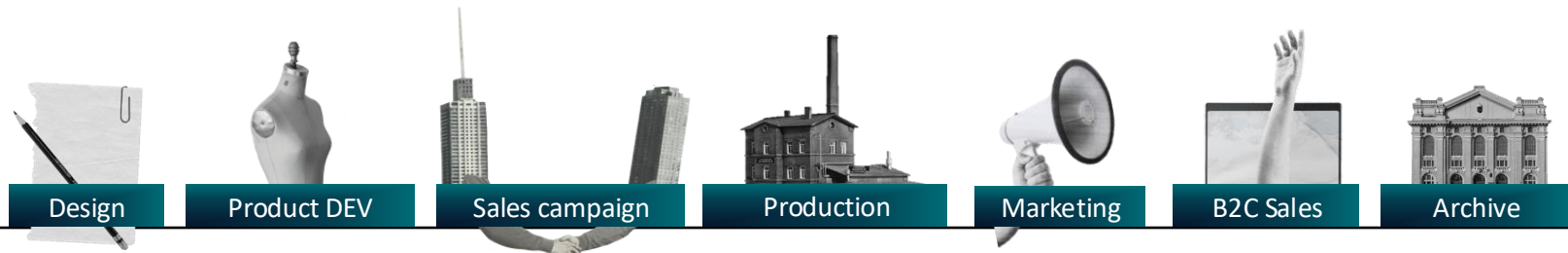
| Design | Product DEV | Sales campaign | Production | Marketing | B2C Sales | Archive |

Digital Content Factory

Product Lifecycle

| Design | Product DEV | Sales campaign | Production | Marketing | B2C Sales | Archive |

Digital Content Factory

Tag, description, translation							
Visual asset							
3D							

Digital Product Identity

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CHALCO Brand Life Suite

CHALCO Digital Production

☰ PRODUCT PUBLISHING	Product info	
◐ CONTENT + SHOOTING	Visual asset	
◆ DIGITAL PRODUCT DEV.	3D	

Acquisition Hardware (Hyphen Shooting Line or other)

ERP, PLM, DAM, PIM
...

B2B, B2C, B2B2C ...

CHALCO Orchestra

WFLW MGMT + DAM/PIM Core Components

Add-on
(SSO) (Chalco AI Gateway) (CDN) (API) (IN/OUT Integrations) (...)

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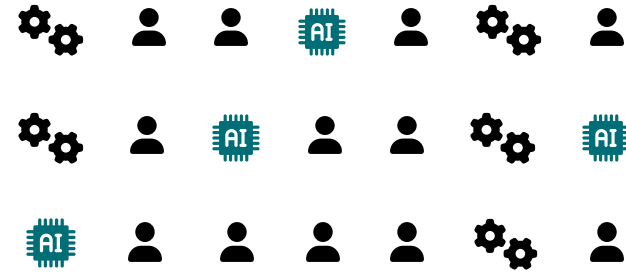
CHALCO Brand Life Suite

CHALCO Brand Life Portal

- HERITAGE
- HYBRID SHOWROOM
- TRADE MKTG
- MEDIA MARKETING PLANNING
- DIGITAL CATALOGUE
- MARKETING PORTAL

Acquisition Hardware (Hyphen Shooting Line or other)

CHALCO Digital Production

- PRODUCT PUBLISHING — Product info
- CONTENT + SHOOTING — Visual asset
- DIGITAL PRODUCT DEV. — 3D

ERP, PLM, DAM, PIM

...

B2B, B2C, B2B2C ...

CHALCO Orchestra

WFLW MGMT + DAM/PIM Core Components

Add-on — SSO | Chalco AI Gateway | CDN | API | IN/OUT Integrations | ...

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Blue shirt 100% Cotton –
12821846RE
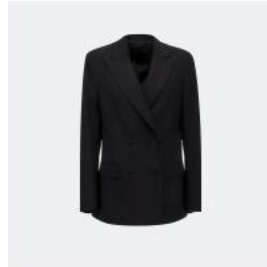
Black Blazer 81% Rayon,
19% Nylon – 49753855BB

Pink Blazer 100% Virgin
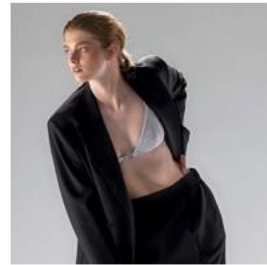Wool – 49754308MU

Black Handbag 100%
Leather – 16278529VR

Blue trench coat 100%
Viscose – 16126527BG

SS21 Adv campaign

SS21 Adv campaign

SS22 Adv campaign

SS22 Adv campaign

SS22 Adv campaign

DAM and PIM

Digital Content Factory (R)Evolution

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CASABLANCA UNVEILS AI-GENERATED CAMPAIGN

BY SHOWSTUDIO ON 1 JUNE 2023

Creative director Charaf Tajer has teamed up with British photographer and artist Luke Nugent to create a retro-futurist campaign entirely from AI.

SHARE

TWITTER
FACEBOOK

It's official. AI is taking over the world. From AI ballets to the first-ever AI Fashion Week, the novel technology is ushering in a new wave of creatives across every medium. It shouldn't come as a surprise that Casablanca Paris would unveil a campaign created entirely from artificial intelligence. Jumping headfirst into the metaverse for S/S 23, creative director Charaf Tajer has teamed up with British photographer and AI artist Luke Nugent to create dreamy visuals that perfectly capture the retro-futurist aesthetic of the brand's 'Future Optimisto' collection.

HYPHEN
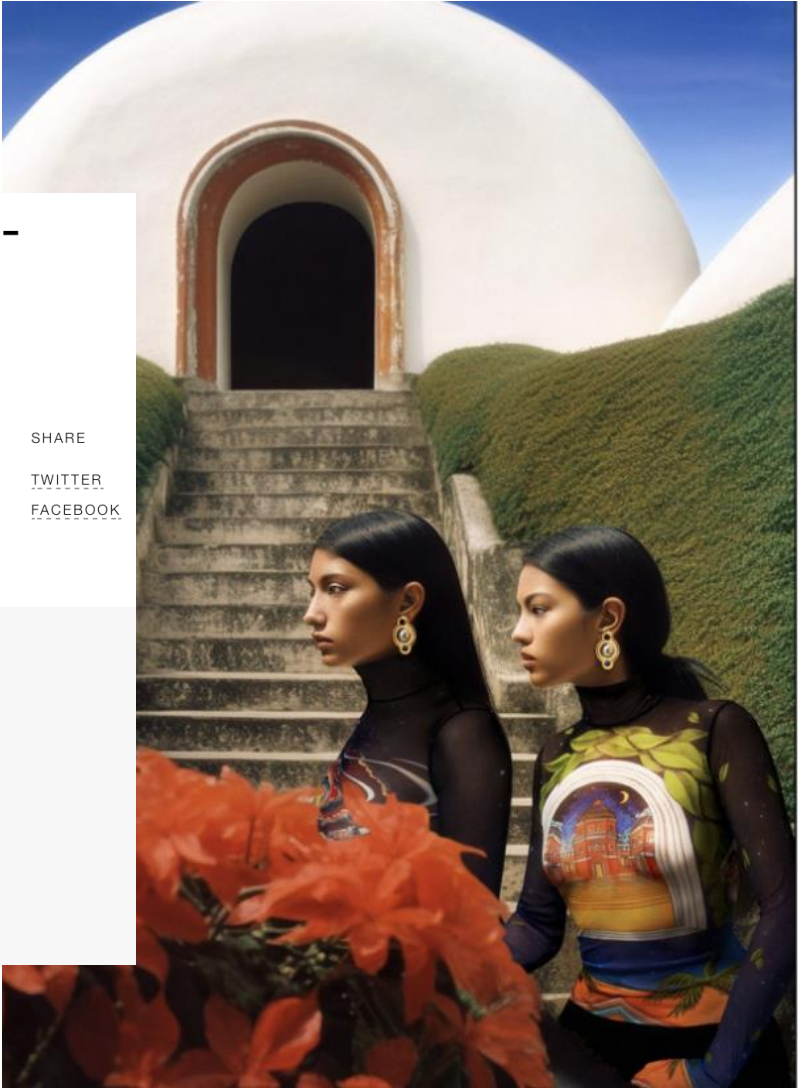
Today's limitations

The results of Generative AI today do not reach satisfactory levels and require high manual control and correction/revision activities, along with adequate prompting syntax.

… leading brands TODAY we can't use Gen-AI assets without an adequate QC and Post Production process.

H Y P H E N

Concrete Applications of AI in
the Digital Content Factory
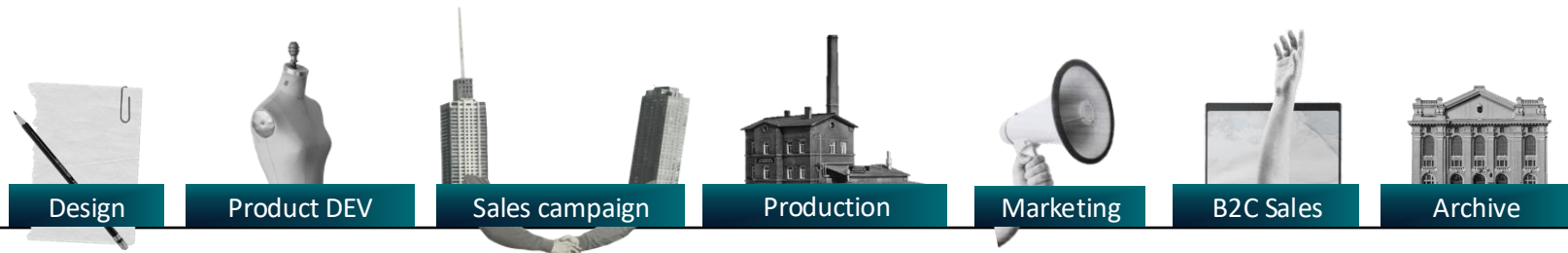
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Product Lifecycle

| Design | Product DEV | Sales campaign | Production | Marketing | B2C Sales | Archive |

Digital Content Factory

Tag, description, translation

Visual asset

3D

Digital Product Identity

HYPHEN

Product Lifecycle

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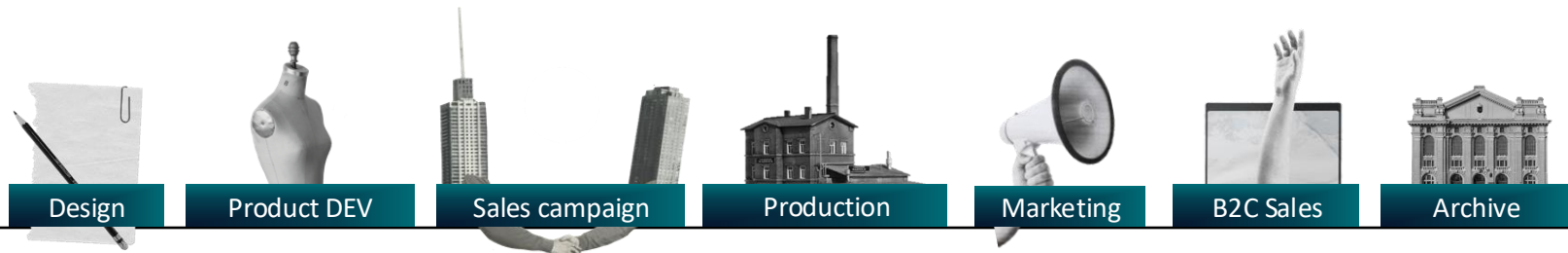
Digital Content Factory

Tag, description, translation	⚙	👤	👤	AI	👤	⚙	👤
Visual asset	⚙	👤	AI	👤	👤	⚙	AI
3D	AI	👤	👤	👤	👤	⚙	👤

Digital Product Identity

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DESIGN & STYLE

PRODUCT SUPPLY CHAIN

LOGISTIC
5

Check in

HSL SET
9 AI

Applicant

Orders by channel

SHOOTING VIEW
7 AI

RFID
QR CODE
BARCODE

HYPHEN-MEDIA EXPRESS PRO
14 AI

APPROVAL

APPROVAL

Digital Showroom

E-commerce

App

Second hand

ERP / PLM / XLS
1

BASIC PRODUCT ID
2

CHALCO DIGITAL PRODUCTION
3

SHOOTING LIST
4

LOOK / GROUPAGE
6 AI

HSL WORKSTATION
8 AI

POST PRODUCTION
10 AI

MASTER PRODUCT ID
11

ADAPTATIONS
12 AI

EXTENDED IMAGE MANIPULATION
13 AI

EXPORT AND DELIVERY
15

Resources allocation

PRODUCT LIST
16

TAGGING
17 AI

DESCRIPTIONS
18 AI

TRANSLATION and LOCALIZATION
19 AI

APPROVAL

APPROVAL

APPROVAL

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AI @ **CHALCO**

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AI-driven support for visual assets

_ Face recognition and trims

_ Optical center (Virtual shelf)

_ Shadow management

_ Background changes

_ Look/groupage definition

_ ...

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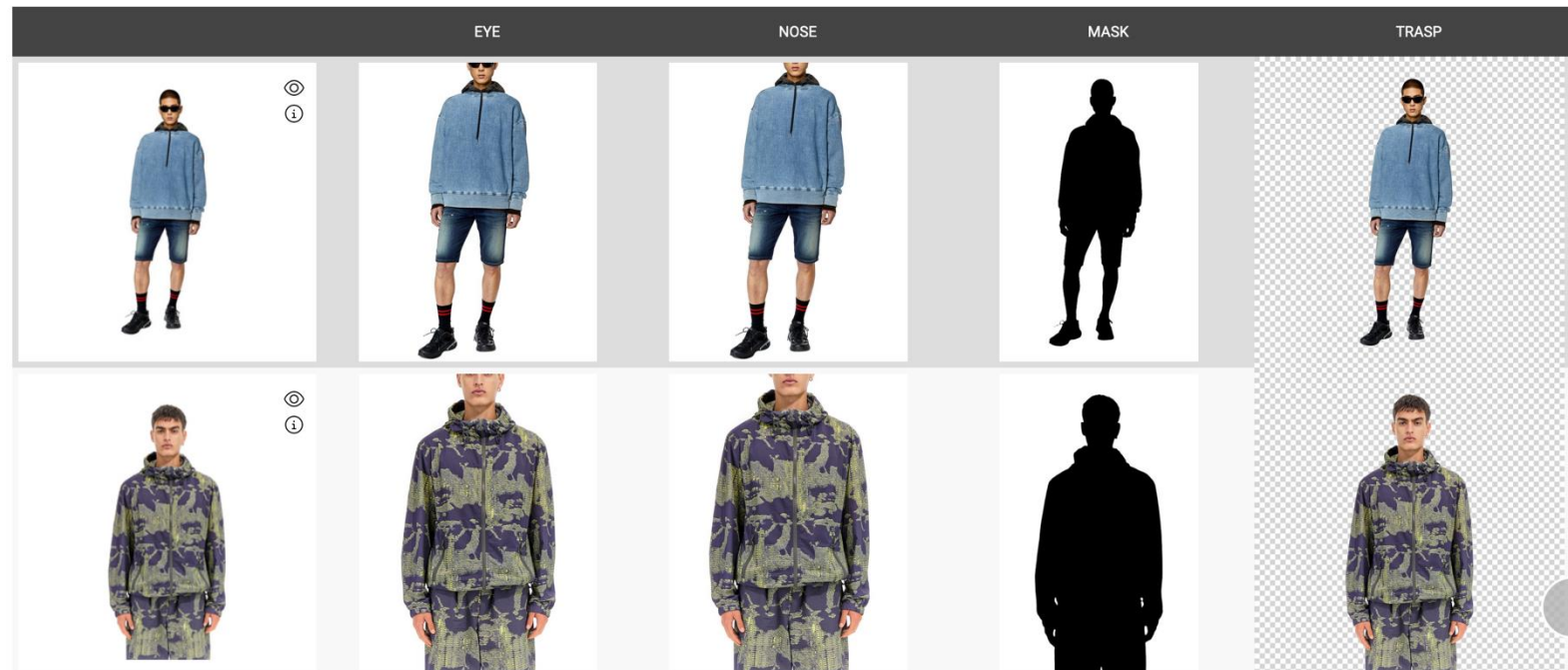
EXPERIMENTS ON EXTENDED IMAGE MANIPULATIONS

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Extended Image Manipulation
Still-life to indox

original

HYPHEN

Extended Image Manipulation
Etnicity Change

original

HYPHEN
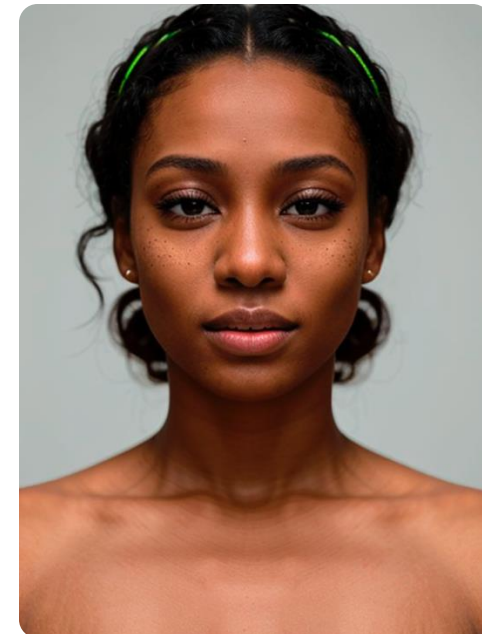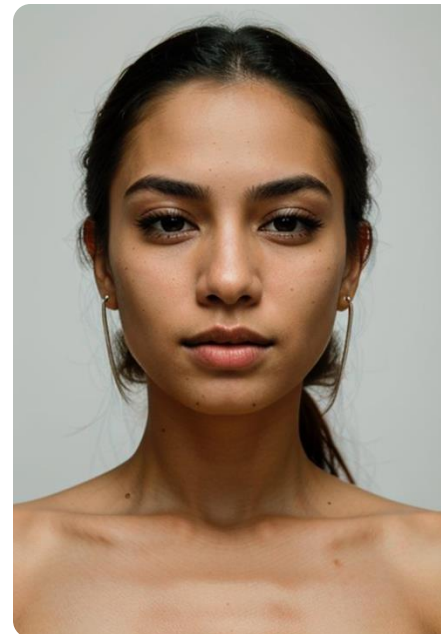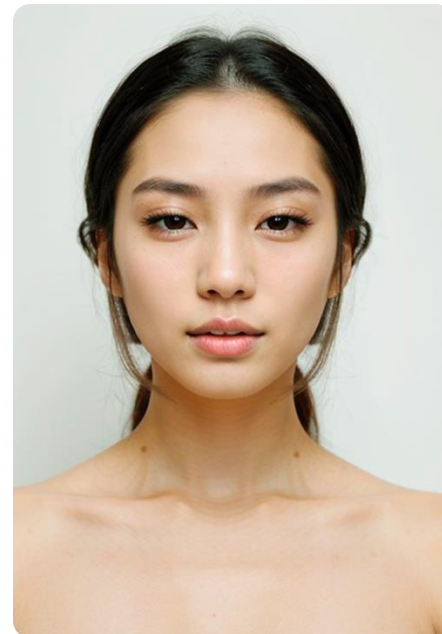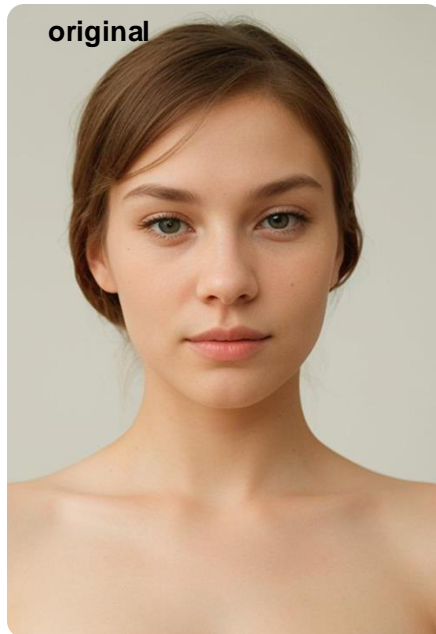
Extended Image Manipulation / **Virtual Models**

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Profound Knowledge meets Academic Competence

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HYPHEN
Digital to Humans

idsia
Dalle Molle Institute for Artificial Intelligence

+

Business competences in
Digital Content Facotory Management
and **+60M assets** under management

Academic competences in
Computer Vision and
Natural Language Processing

With the co-financing of:

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Innosuisse – Swiss Innovation Agency

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AI in the Digital Content Factory - Innosuisse Project (105-470 IP-ICT)
Two Streams of Innovation

Stream 1

BRAND-SPECIFIC TAGS AND DESCRIPTIONS

Training private models for automatic cataloguing and description of clothing items, accessories, fabrics, and textiles from pictures according to brand voice.

Stream 2

NEW AI-GENERATED PRODUCT VIEWS

Through Hyphen's technology, develop 3D models and renders to be able to generate unlimited views and scenes, without the need of additional photo shots.

H Y P H E N

Towards Fashion- and Brand-specific Private AI Models

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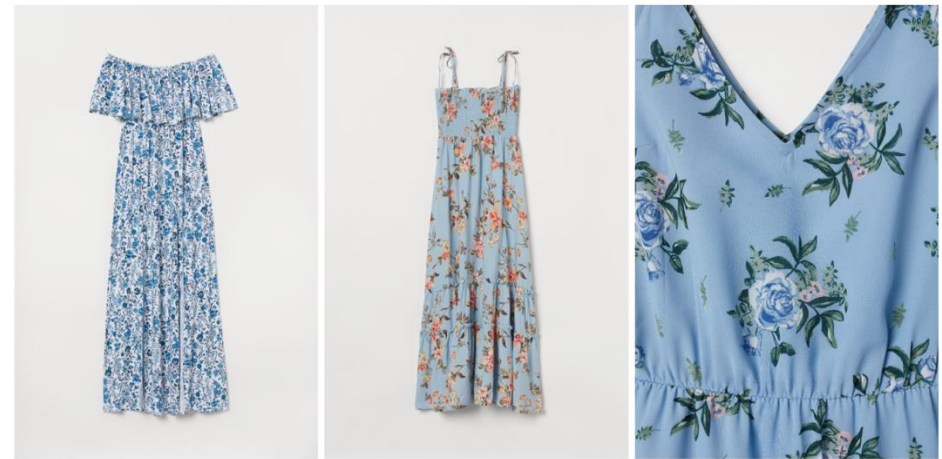# Training FashionCLIP, a domain-specific CLIP model for Fashion

_ CLIP: AI model developed by OpenAI that enables cross-modal understanding between images and text.

_ Fashion-CLIP: a public vision language model for fashion.

_ Trained on 700k image-text pairs from farfetch.com

Photo of a red shirt
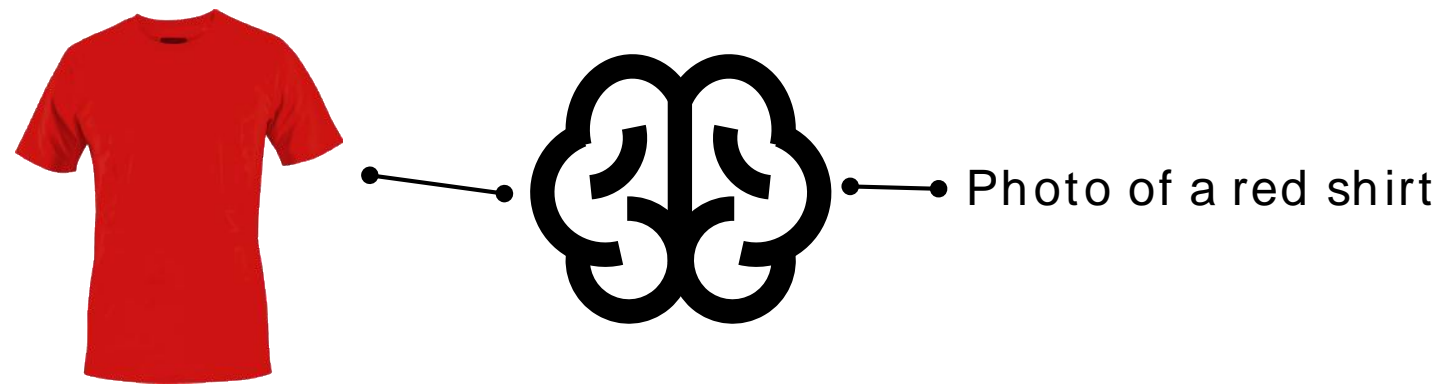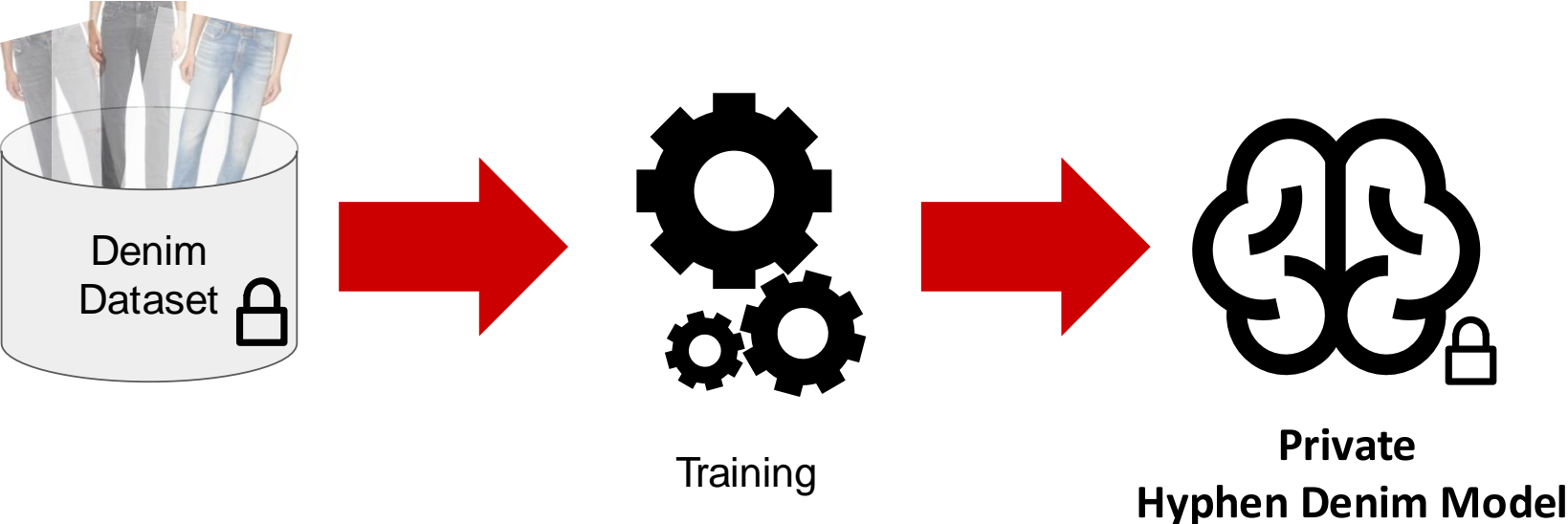
HYPHEN
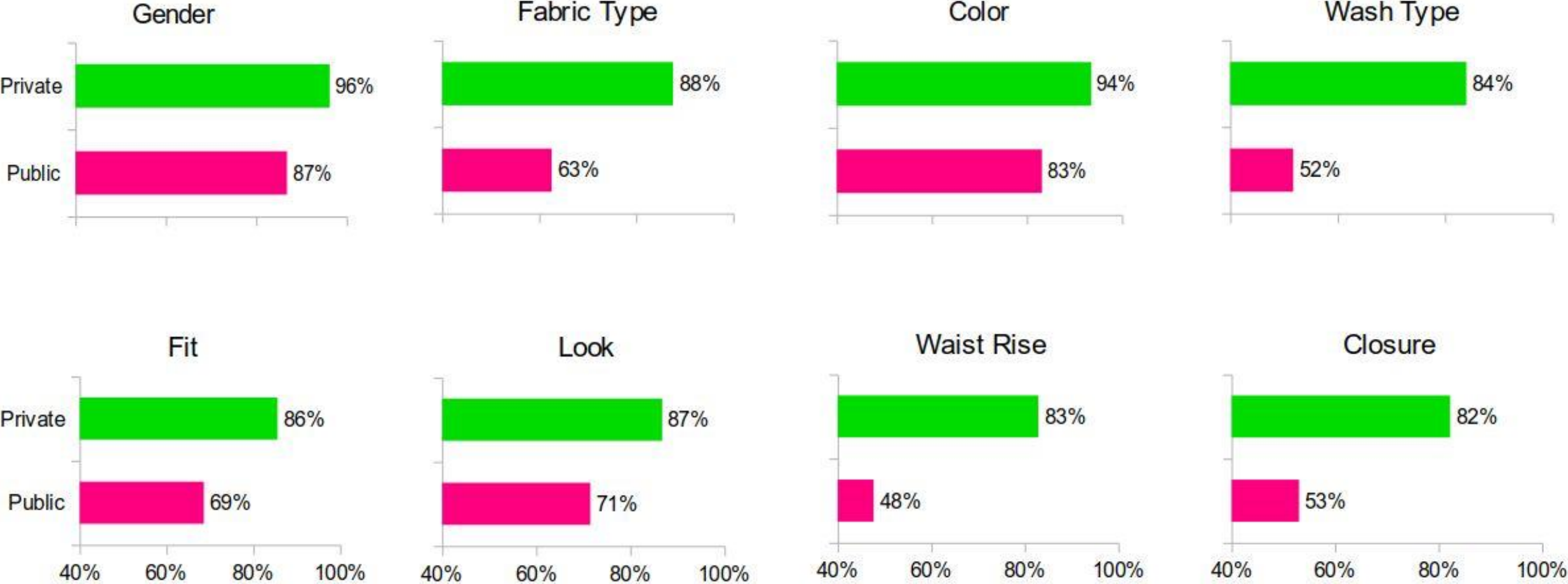
Blue Floral Dress

CLIP Model

Fashion-CLIP Model

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Private Model Training

Denim Dataset → Training → Private Hyphen Denim Model

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Private Hyphen Denim Model Performance Results (AUC)

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Classification

Brand Digital DNA

Product Lifecycle

| Design | Product DEV | Sales campaign | Production | Marketing | B2C Sale | Archive |

Digital Content Factory

Product info			
Visual asset			
3D			

Digital Product Identity

Training
Brands' private AI models

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Reconstructing Product views and scenes via neural networks

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Motivations and state of the art

_ Increasing amount of requests of different types of product content across the full product value chain, from prototyping to ecommerce.

_ Digital models often lack realism or are very time-consuming to create

_ Current technologies (e.g. photogrammetry) can be used in limited scenarios and still require significant manual work (retopology and texture refinement).

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Generating views and scenes without photo shooting the product

_ Use Hyphen hardware technology to shoot once, without pre-defined guidelines or shooting-views

_ Use NeRF technology to recreate a 3D model of the product

_ Cuse the 3D model to generate new product views and scenes

Preliminary results

obtained using 20% of the expected

data for the final version

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_ Thank You