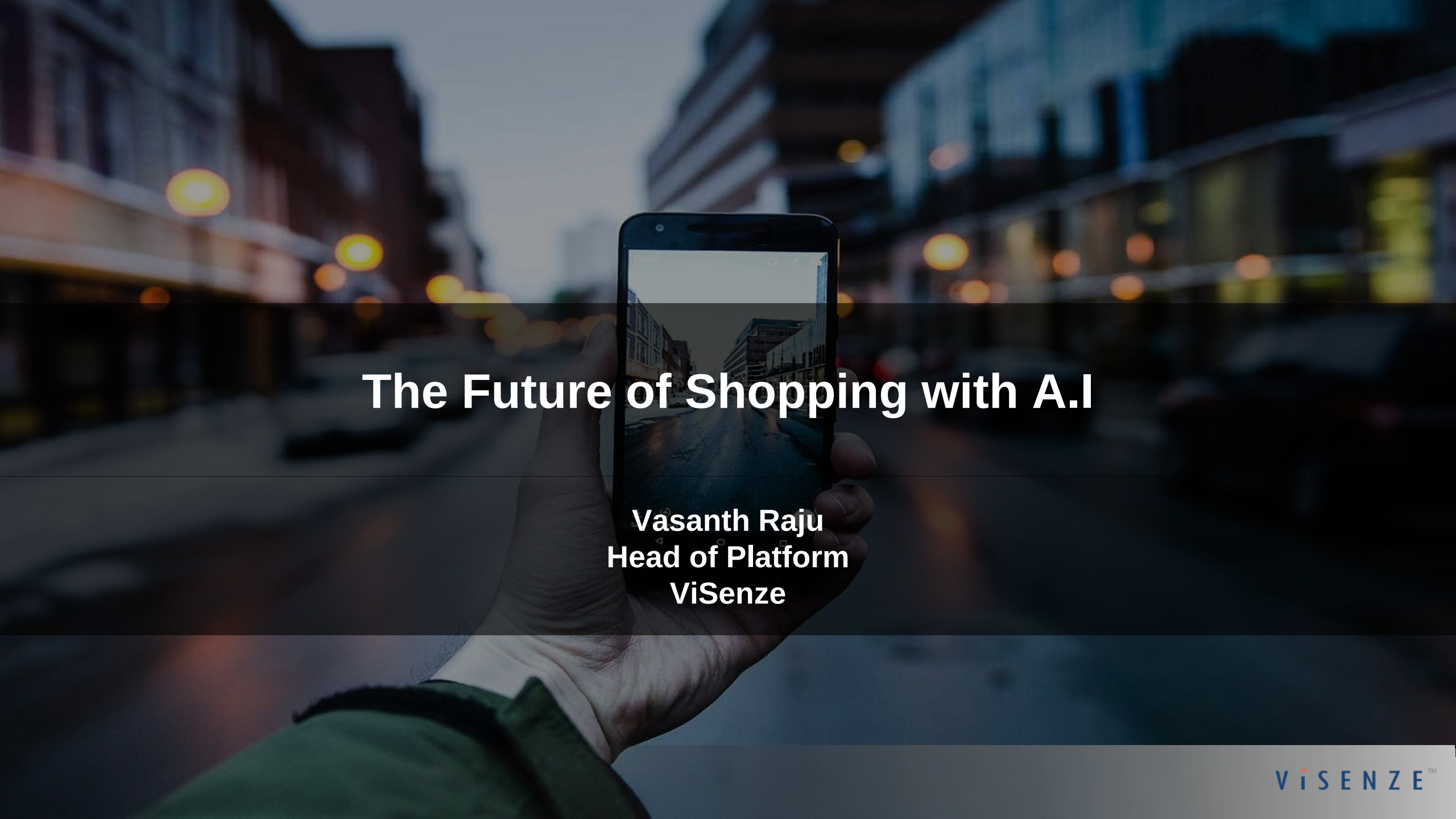


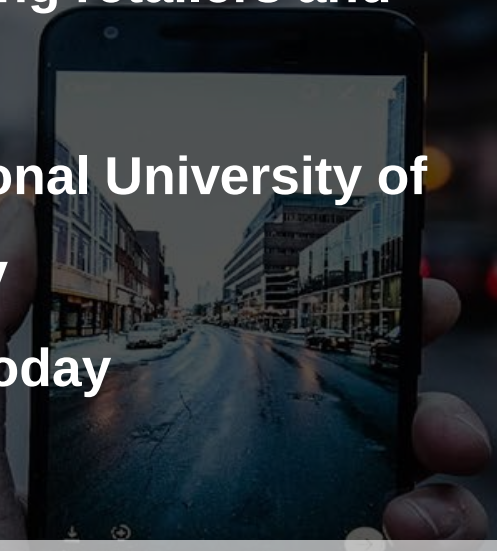
The Future of Shopping with A.I

Vasanth Raju
Head of Platform
ViSenze

ViSENZE™

About ViSenze

- Powering Visual Search for leading retailers and brands
- Deep learning spin-off from National University of Singapore & Tsinghua University
- Reaching 300 million shoppers today



CogX AI Innovation Awards 2017 WINNER Best AI Product in Retail

Interbrand Breakthrough Brands

mastercard

start path

AEA 2017 ASIAN ENTREPRENEURSHIP AWARD
Innovation award for young entrepreneurs to change the world

Rakuten

UNIQLO

SAMSUNG

ZALORA

asos

adidas

INTERPARK

H&M

La Redoute

MYNTRA

al tayer

kravet

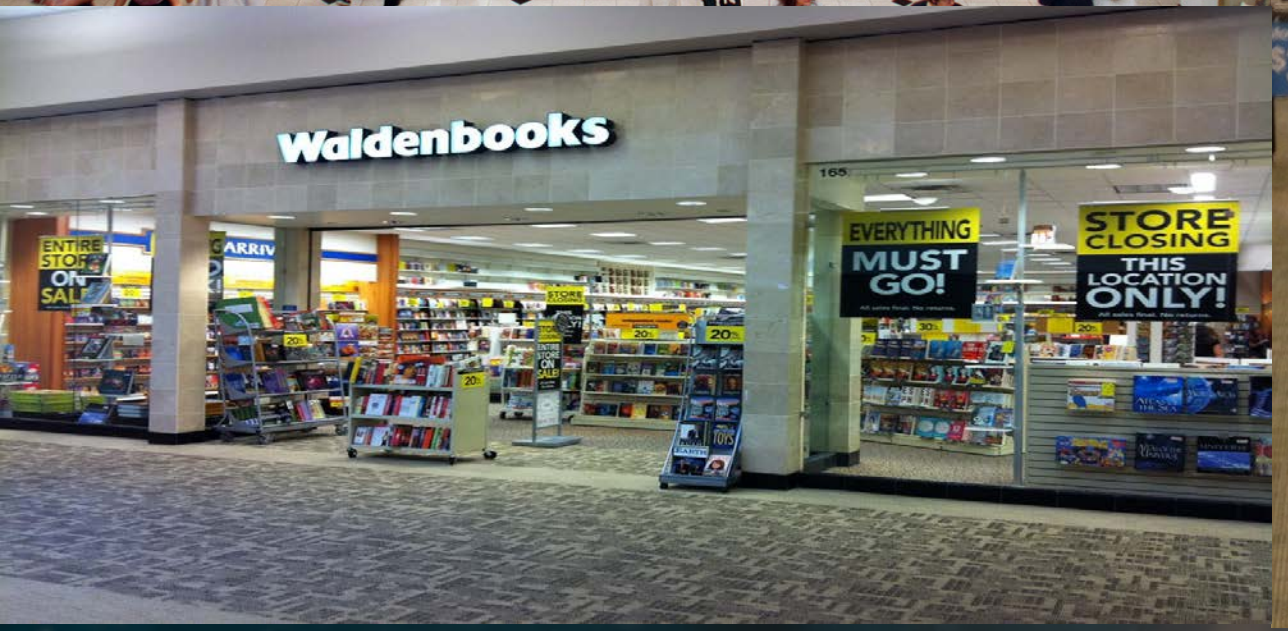
SECOO

JD.ID

hepsiburada.com

ViSENZE

GUCCINI
NORDSTROM • J.C.PENNEY
TAPESTRY & CO.


Waldenbooks
ENTIRE STORE ON SALE
EVERYTHING MUST GO!
STORE CLOSING
THIS LOCATION ONLY!

Sam Goody
ENDLESS SUMMER SAVINGS
BUY 1, GET 1 50% OFF
GRAPHIC TEES
WE BUY USED
Games, Blu-ray, DVDs & CDs
ALL USED BUY 1, GET 1 50% OFF
Movies $10
Movies $8
Movies $5
FREE COOLER
CDs $5
CDs $7
METAL $7 or less

Shopping
Starbucks
Health
Music
News

T-shirt
Pants
Shoe
Bra
Dress

Shop what you see.

The Visual Web

2.5 Trillion

Photos shared in 2017: Deloitte

3 Billion

Photos shared per day on Facebook and Snapchat alone: KPMG

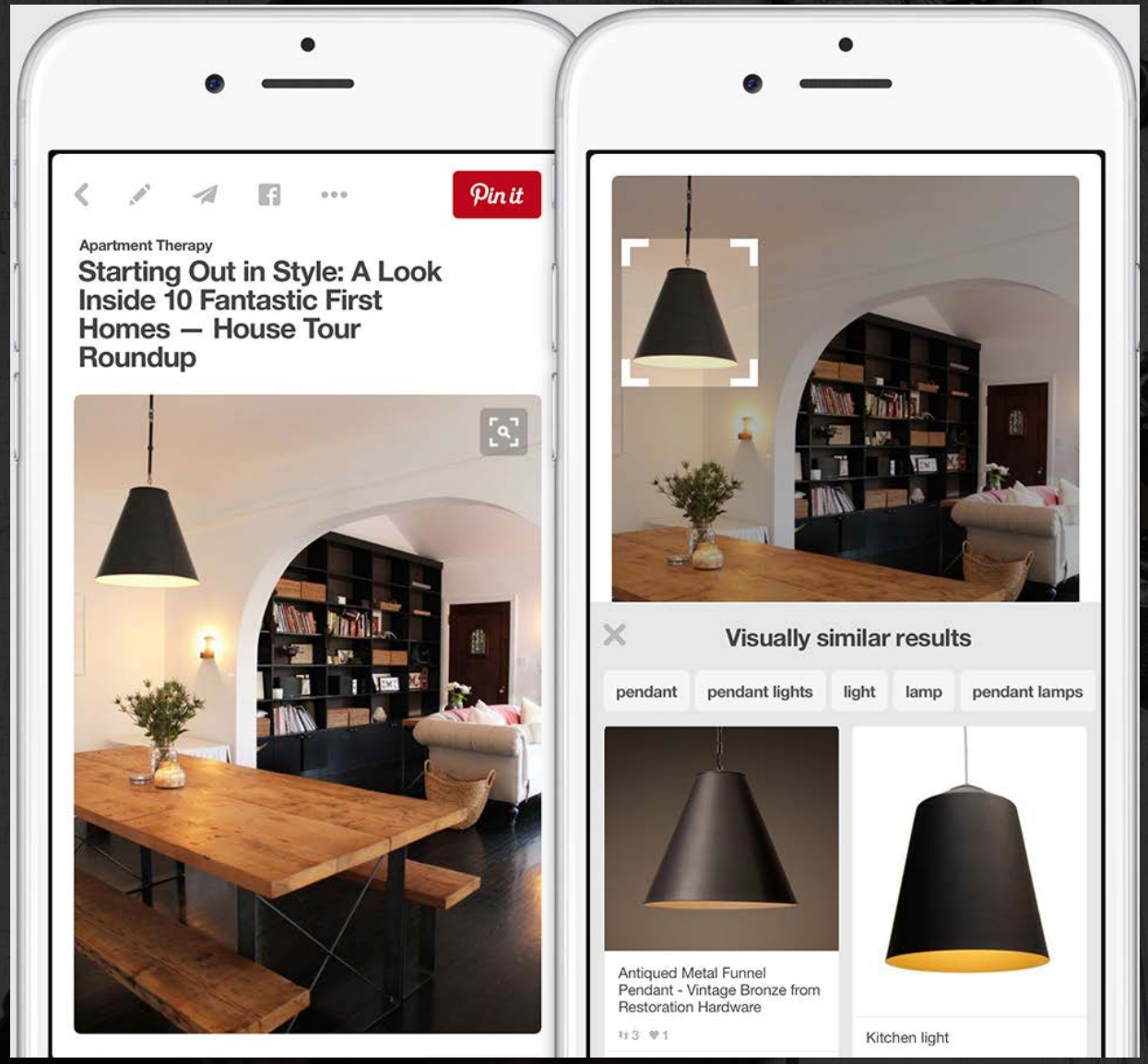
- **80% of Big Data is images and videos**
- **95% of the Digital Universe is not searchable via keywords**
- **Manual tagging is labor intensive, time consuming, and unscalable**
- **Volume of images and videos shared online will double every three years**

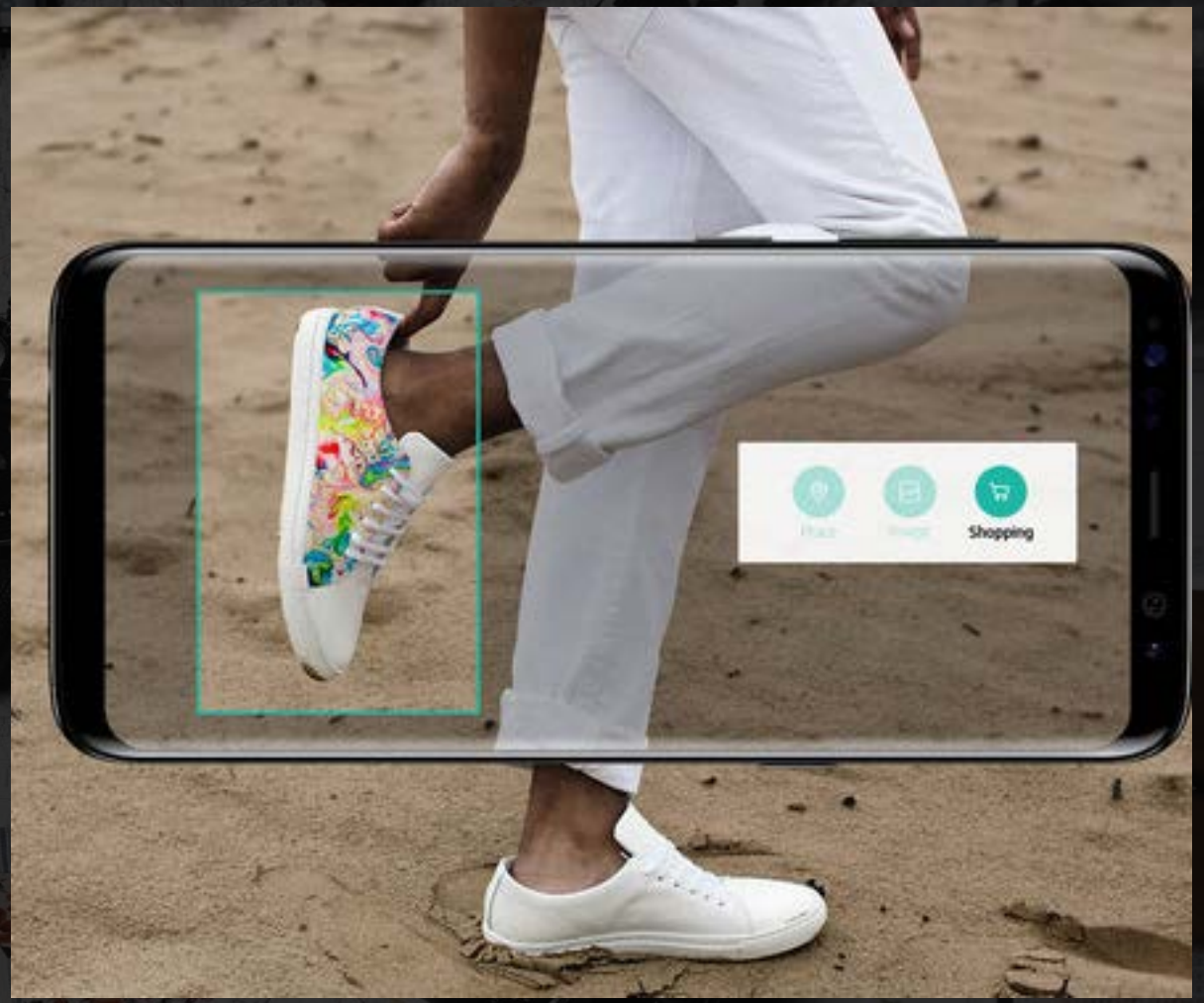
Source: IDC Whitepaper

Retailers Are Fast Turning To A.I.

Deep learning lets ecommerce sites interpret and group images, which makes for better product recommendations and search.

e-Marketer Visual Commerce Report 2017


Pin it
Apartment Therapy
Starting Out in Style: A Look Inside 10 Fantastic First Homes — House Tour Roundup
Visually similar results
pendant
pendant lights
light
lamp
pendant lamps
Antiqued Metal Funnel Pendant - Vintage Bronze from Restoration Hardware
Kitchen light


Shopping

ViSENZE™

Capturing Shopping Interest Anytime, Anywhere for Anyone

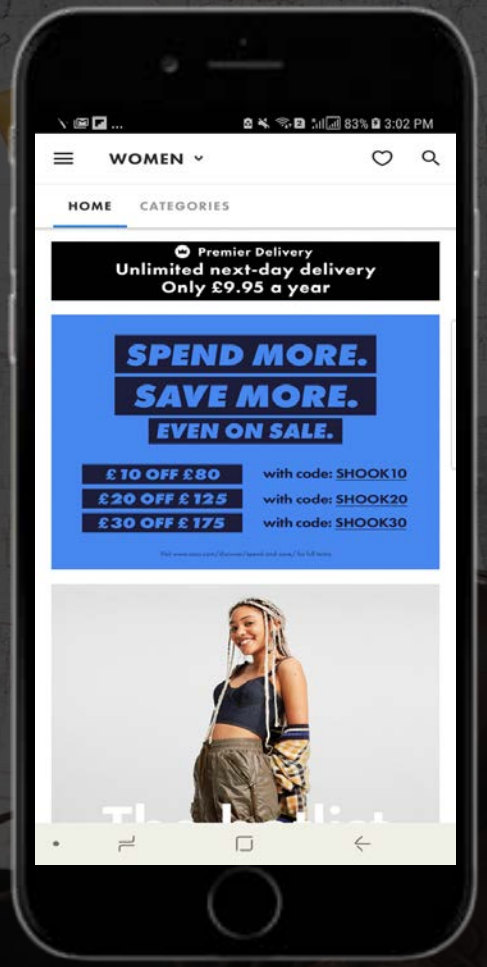
"Asos has seen great engagement from visual search. The feature could eventually become the way many shoppers discover outfits in its app."

Richard Jones
Director, Product Management, ASOS
Sept 2017

Asos sees potential in visual search to drive sales

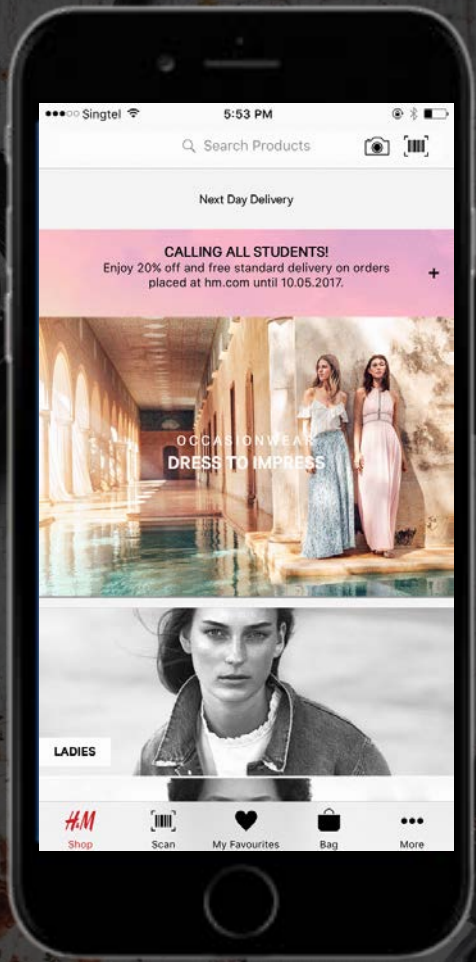
Digiday, October 16, 2017

asos

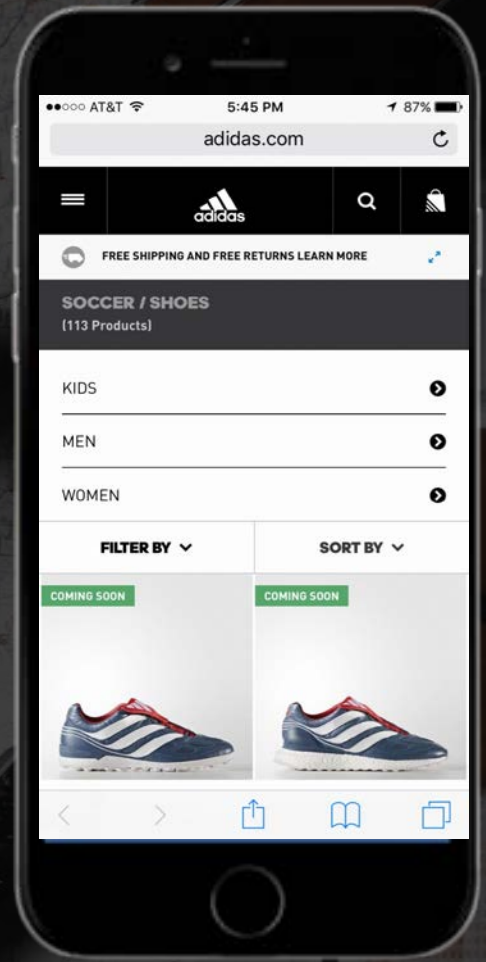


UNIQLO

H&M



adidas



ViSENZE™

Shoot it. Shop it.
Introducing
SAMSUNG mall
SAMSUNG
SAMSUNG mall
100 IMAGE SEARCH RESULTS
FILTERS
Last updated Price
₹ 1999.00
Last updated Price

The Mobile Storefront

BURBERRY

Follow burberry
tumblr.

返回
FARFETCH
Women
Men
返回
关闭
FARFETCH
#TheOne 活动指南
如何寻找专属你的唯一？
Step1
请选择男女分区，进入五个都市情景
挑选你的一“件”钟情
Step2
选满5件单品生成专属 Lookbook 并保存图片
Step3
将你的搭配图片发至 Farfetch 微信后台
或发布微博加上 #TheOne# 并 @Farfetch
即有机会赢取价值 $500 的 #TheOne 基金

ViSENZE™

The importance of Shoppable UGC

#ZALORAStyleEdit

There's no better day to wear it your way

CLICK ON EACH LOOK TO FIND YOUR PERSONAL STYLE

kimcrooz Follow

cinddie
Jakarta, Indonesia
Follow

ainedruce Follow

View Mo

3,368 lik

Get the look

@cinddie 05 Jun 2018

TOPSHOP
Petite Bonjour Long Sleeve...
S$ 43.90
NOW S$ 21.90

Mango
Printed Message T-Shirt
S$ 19.90
NOW S$ 9.90

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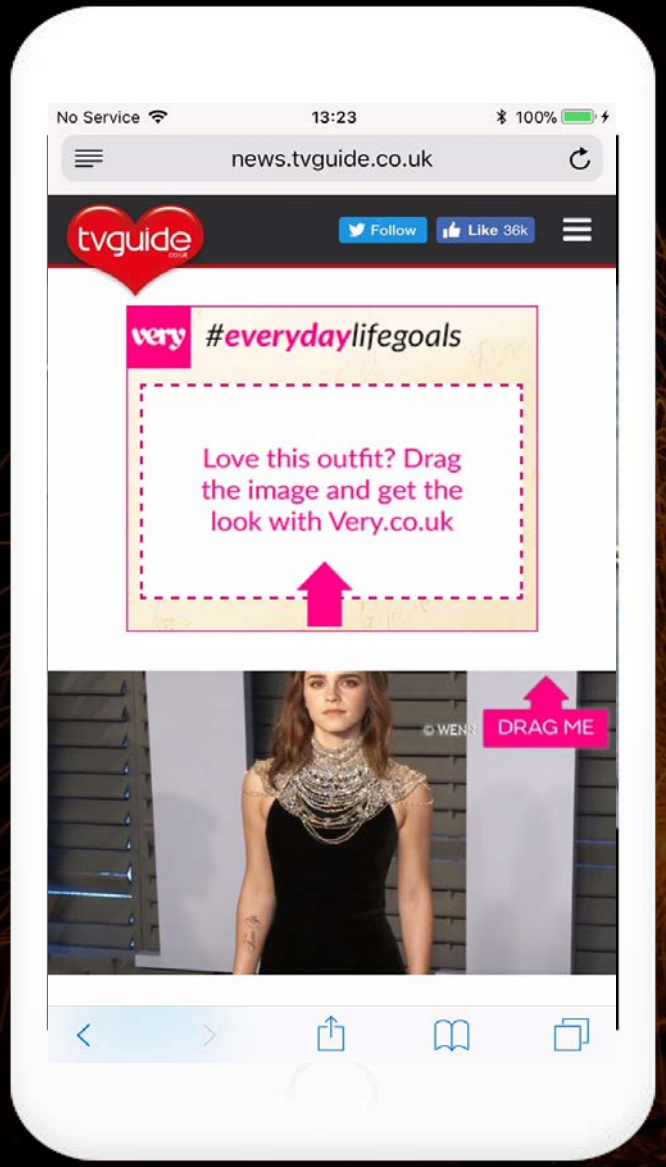
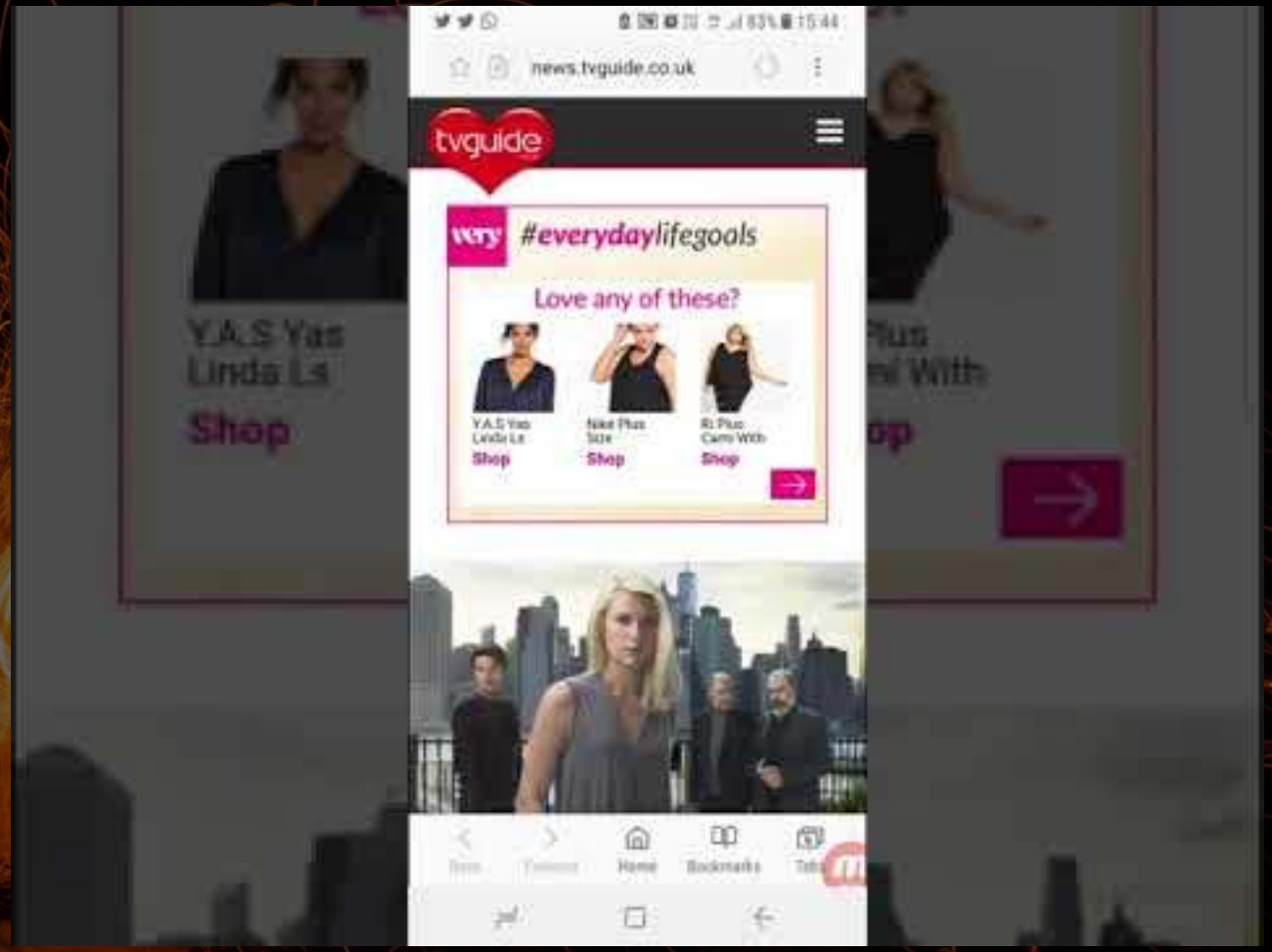
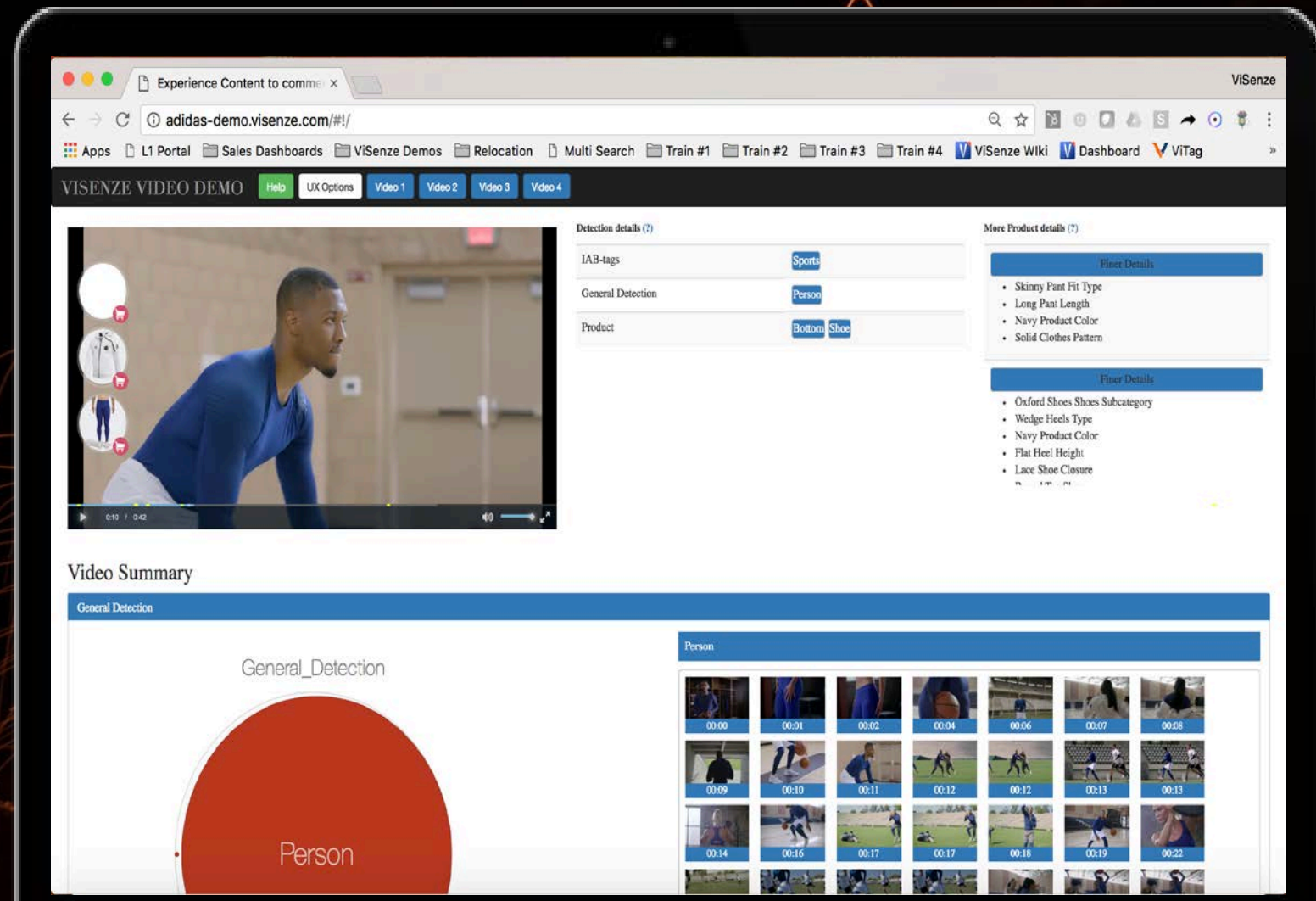

No Service
13:23
100%
news.tvguide.co.uk
tvguide
Follow
Like 36k
very
#everydaylifegoals
Love this outfit? Drag the image and get the look with Very.co.uk
DRAG ME


news.tvguide.co.uk
tvguide
very
#everydaylifegoals
Love any of these?
Shop
Shop
Shop

ViSENZE™


Experience Content to comme
ViSenze
adidas-demo.visenze.com/#!/
Apps
L1 Portal
Sales Dashboards
ViSenze Demos
Relocation
Multi Search
Train #1
Train #2
Train #3
Train #4
ViSenze Wiki
Dashboard
ViTag
VISENZE VIDEO DEMO
Help
UX Options
Video 1
Video 2
Video 3
Video 4
Detection details (?)
IAB-tags
Sports
General Detection
Person
Product
Bottom
Shoe
More Product details (?)
Finer Details
Skinny Pant Fit Type
Long Pant Length
Navy Product Color
Solid Clothes Pattern
Finer Details
Oxford Shoes Shoes Subcategory
Wedge Heels Type
Navy Product Color
Flat Heel Height
Lace Shoe Closure
Video Summary
General Detection
General_Detection
Person
Person
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00:04
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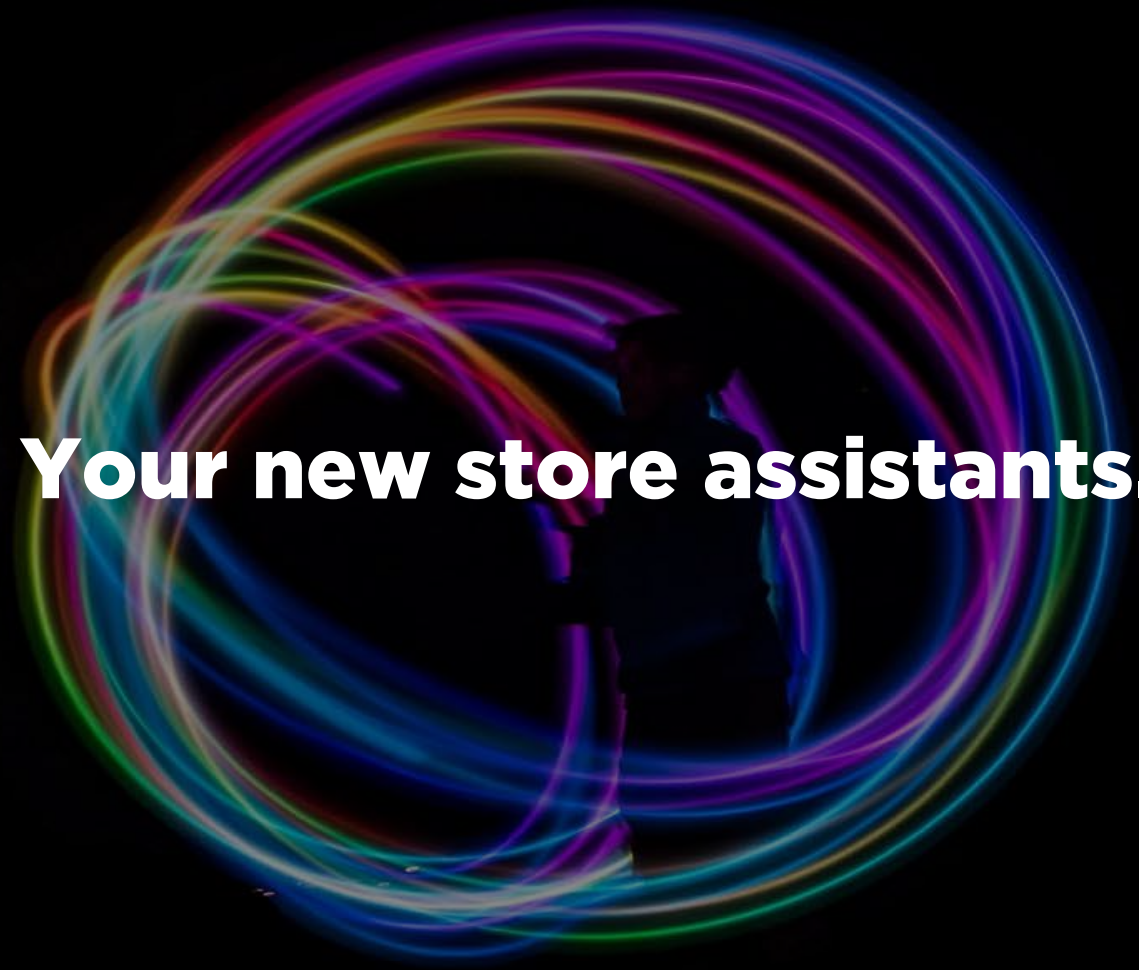
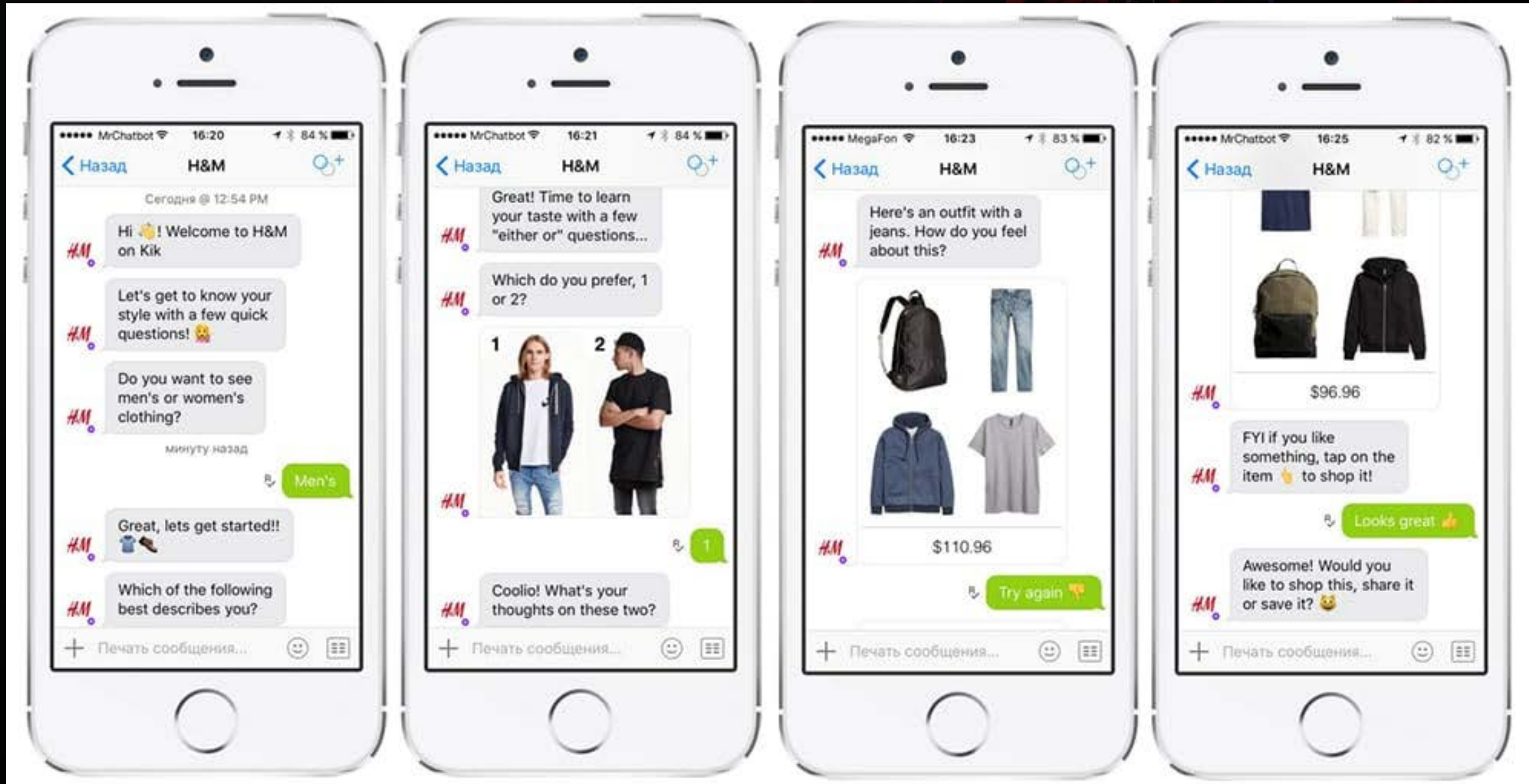
ViSENZE™

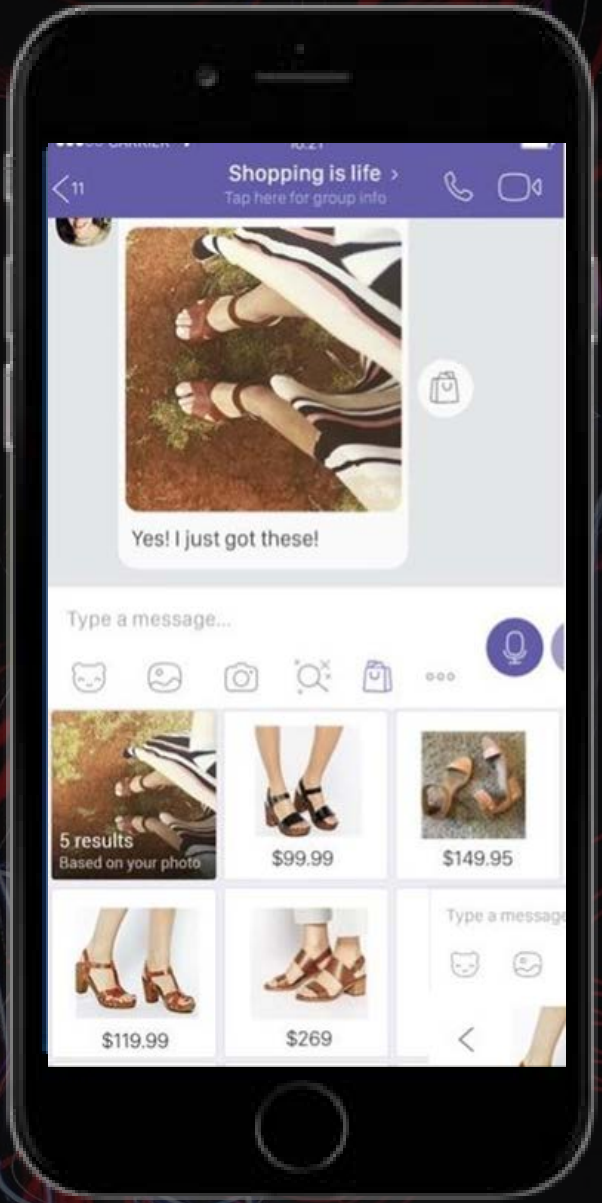


Your new store assistants.

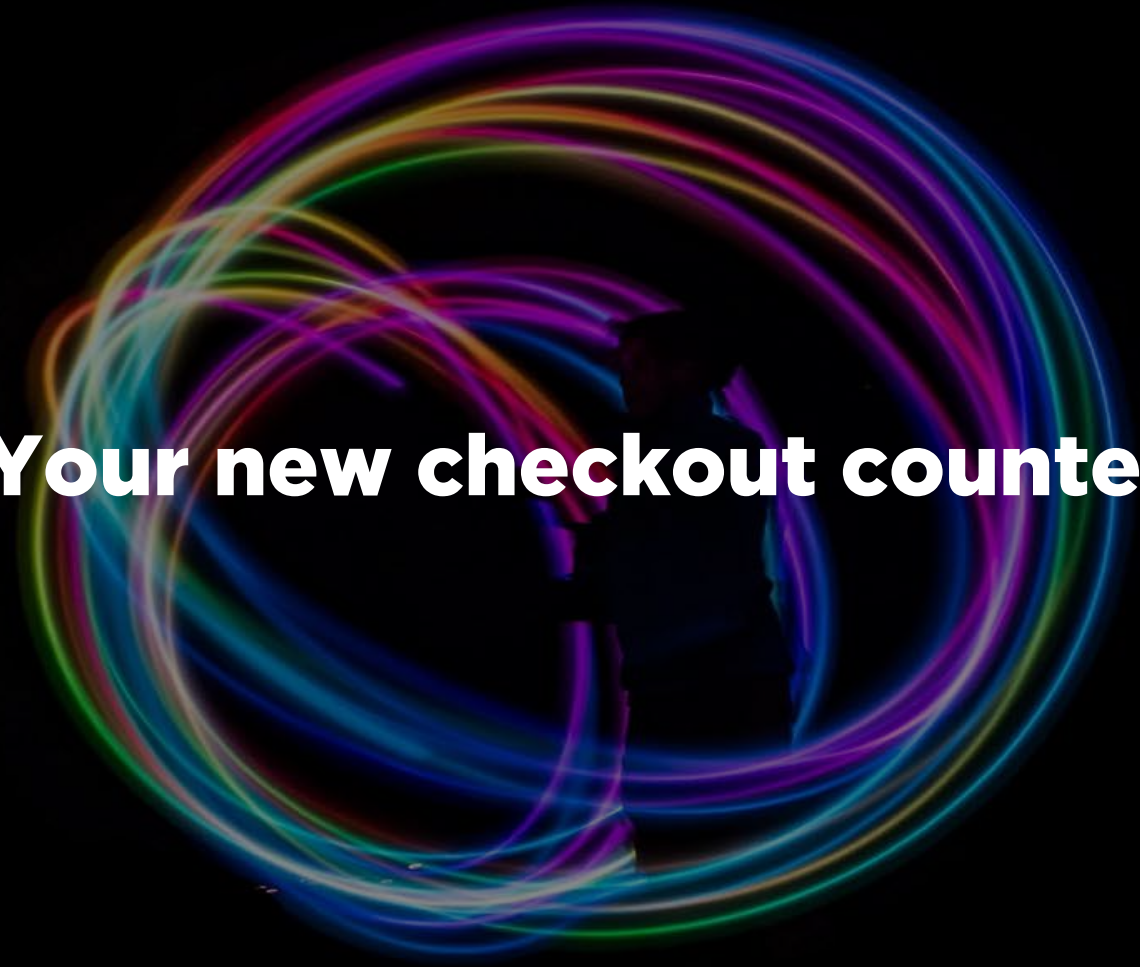

MrChatbot 16:20 84 %
Назад
H&M
Сегодня @ 12:54 PM
Hi 👋! Welcome to H&M on Kik
Let's get to know your style with a few quick questions! 💁
Do you want to see men's or women's clothing?
минуту назад
Men's
Great, lets get started!! 👕👞
Which of the following best describes you?
Печать сообщения...
MrChatbot 16:21 84 %
Назад
H&M
Great! Time to learn your taste with a few "either or" questions...
Which do you prefer, 1 or 2?
1
2
1
Coolio! What's your thoughts on these two?
Печать сообщения...
MegaFon 16:23 83 %
Назад
H&M
Here's an outfit with a jeans. How do you feel about this?
$110.96
Try again 👎
Печать сообщения...
MrChatbot 16:25 82 %
Назад
H&M
$96.96
FYI if you like something, tap on the item 👆 to shop it!
Looks great 👍
Awesome! Would you like to shop this, share it or save it? 😺
Печать сообщения...

ViSENZE™

Singtel
3:44 PM
100%
ViSenze Shopping Bot
Public Account
Today
ViSenze Shopbot
Hi there Rajroshan Sawhney. I'm ViSenze Shopbot. Send me a picture of what you are looking for and I'll see what I can find for you!
3:44 PM
Type a message...
I
Oh
Yeah
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return

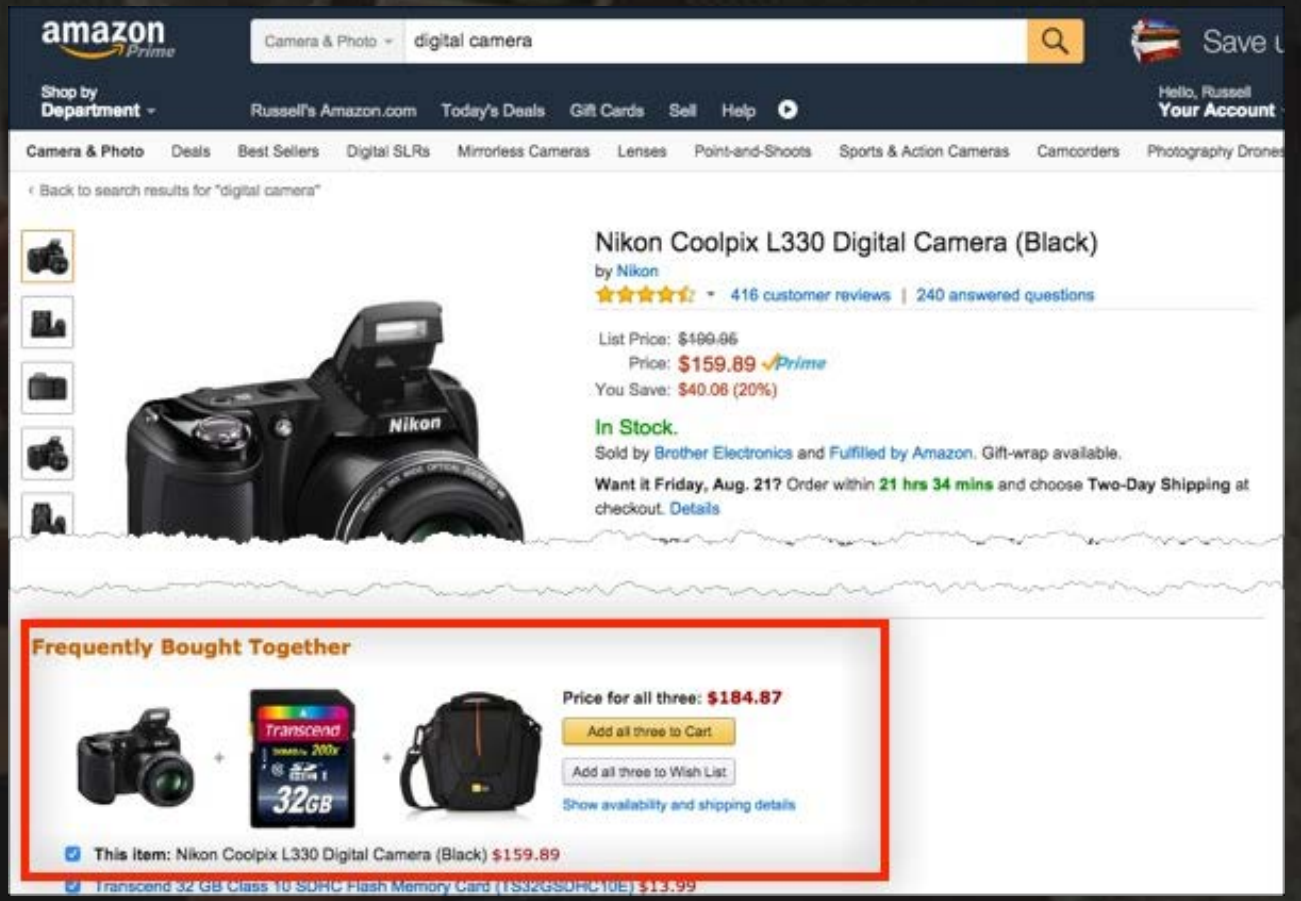

Shopping is life
Tap here for group info
Yes! I just got these!
Type a message...
5 results
Based on your photo
$99.99
$149.95
$119.99
$269

ViSENZE™



Your new checkout counter.

VALUE
a
c
b


amazon Prime
Camera & Photo
digital camera
Save
Shop by Department
Russell's Amazon.com
Today's Deals
Gift Cards
Sell
Help
Hello, Russell
Your Account
Camera & Photo
Deals
Best Sellers
Digital SLRs
Mirrorless Cameras
Lenses
Point-and-Shoots
Sports & Action Cameras
Camcorders
Photography Drones
‹ Back to search results for "digital camera"
Nikon Coolpix L330 Digital Camera (Black)
by Nikon
416 customer reviews | 240 answered questions
List Price: $189.95
Price: $159.89 Prime
You Save: $40.06 (20%)
In Stock.
Sold by Brother Electronics and Fulfilled by Amazon. Gift-wrap available.
Want it Friday, Aug. 21? Order within 21 hrs 34 mins and choose Two-Day Shipping at checkout. Details
Frequently Bought Together
Price for all three: $184.87
Add all three to Cart
Add all three to Wish List
Show availability and shipping details
This item: Nikon Coolpix L330 Digital Camera (Black) $159.89
Transcend 32 GB Class 10 SDHC Flash Memory Card (TS32GSDHC10E) $13.99

Suggest style through image search ?

POWERED BY ViSENZE

Jack & Jill / JACK & NICE Two kinds of dome...

18,710 KRW

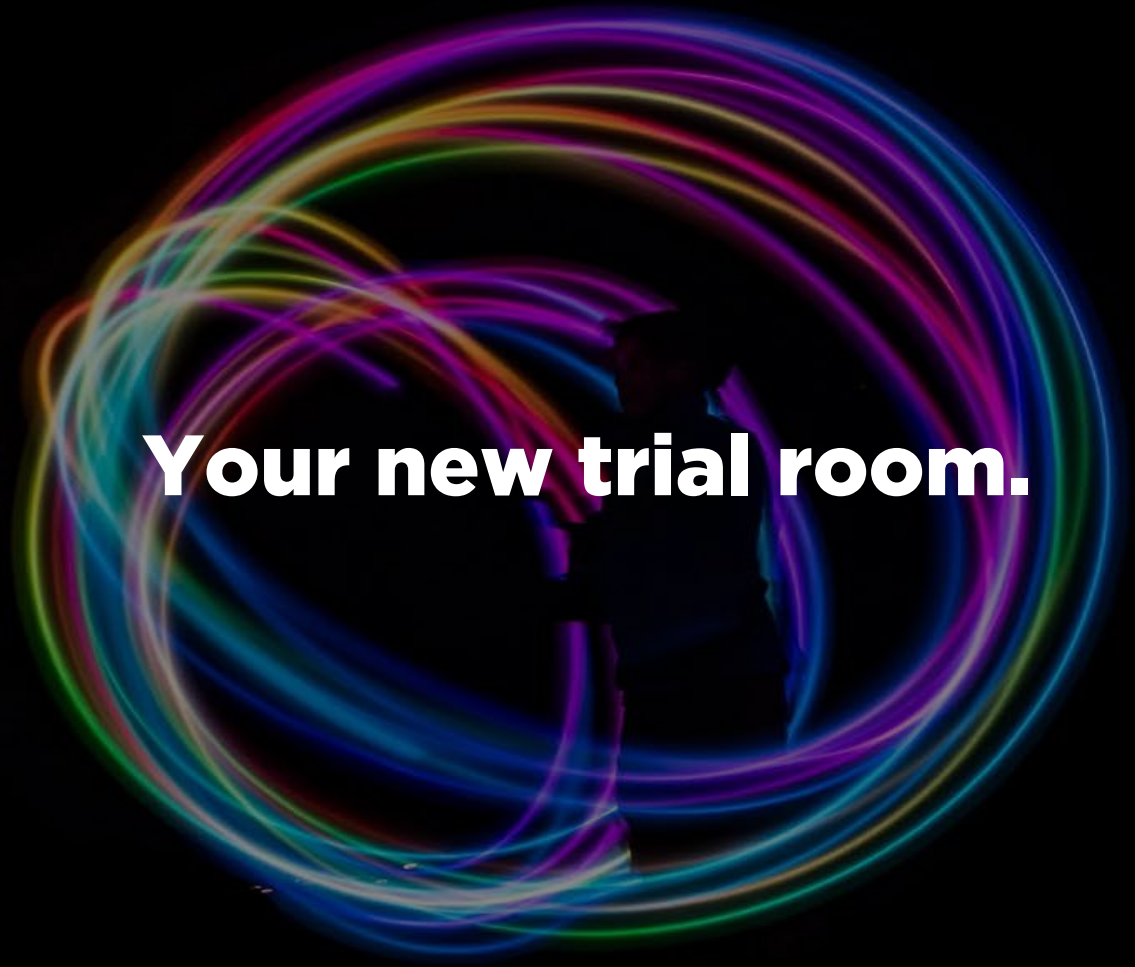
Kuru / Kuru 3cm modern mesh style sneaker ...

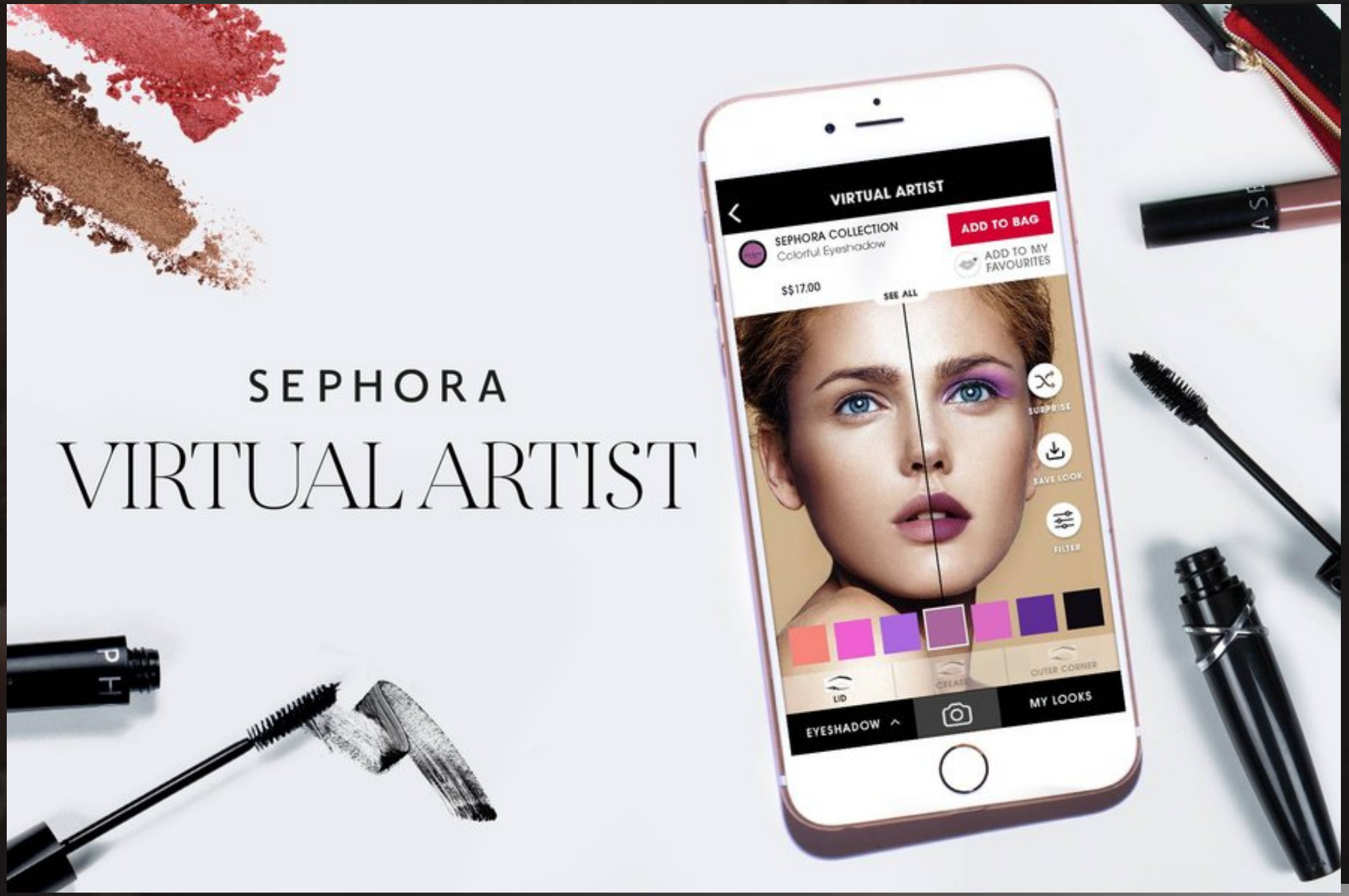
45,120 KRW

0289 4.0cm Women's sneakers Women's fas...

62,710 KRW

ViSENZE


Your new trial room.


SEPHORA
VIRTUAL ARTIST
VIRTUAL ARTIST
SEPHORA COLLECTION
Colorful Eyeshadow
ADD TO BAG
ADD TO MY FAVOURITES
S$17.00
SEE ALL
SURPRISE
SAVE LOOK
FILTER
LID
OUTER CORNER
EYESHADOW
MY LOOKS

ViSENZE™

MEN'S EYEWEAR WOMEN'S EYEWEAR ABOUT SHOWROOMS PRESS

PHOTO

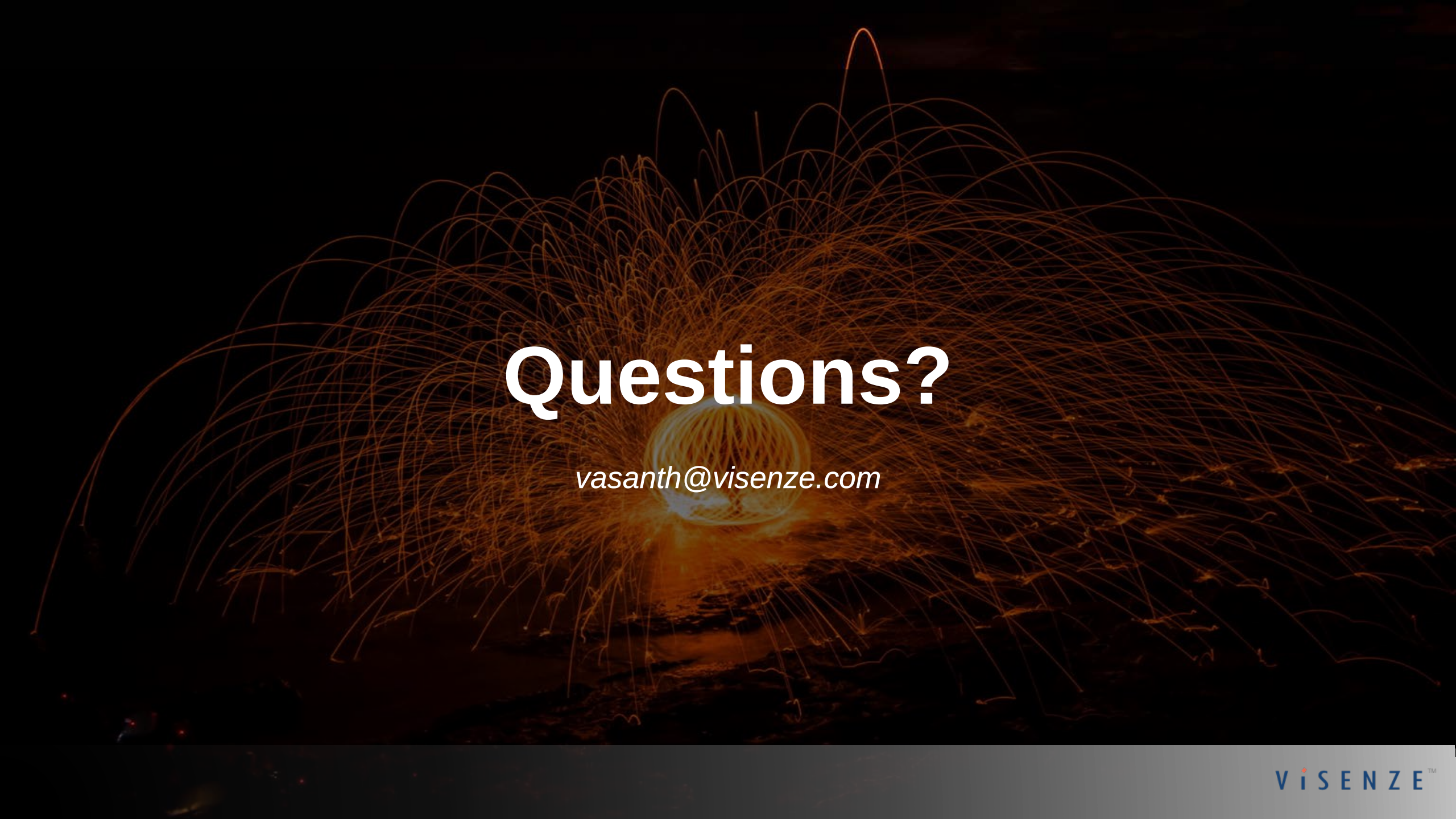
MEN'S EYEWEAR

WOMEN'S EYEWEAR

ViSENZE™

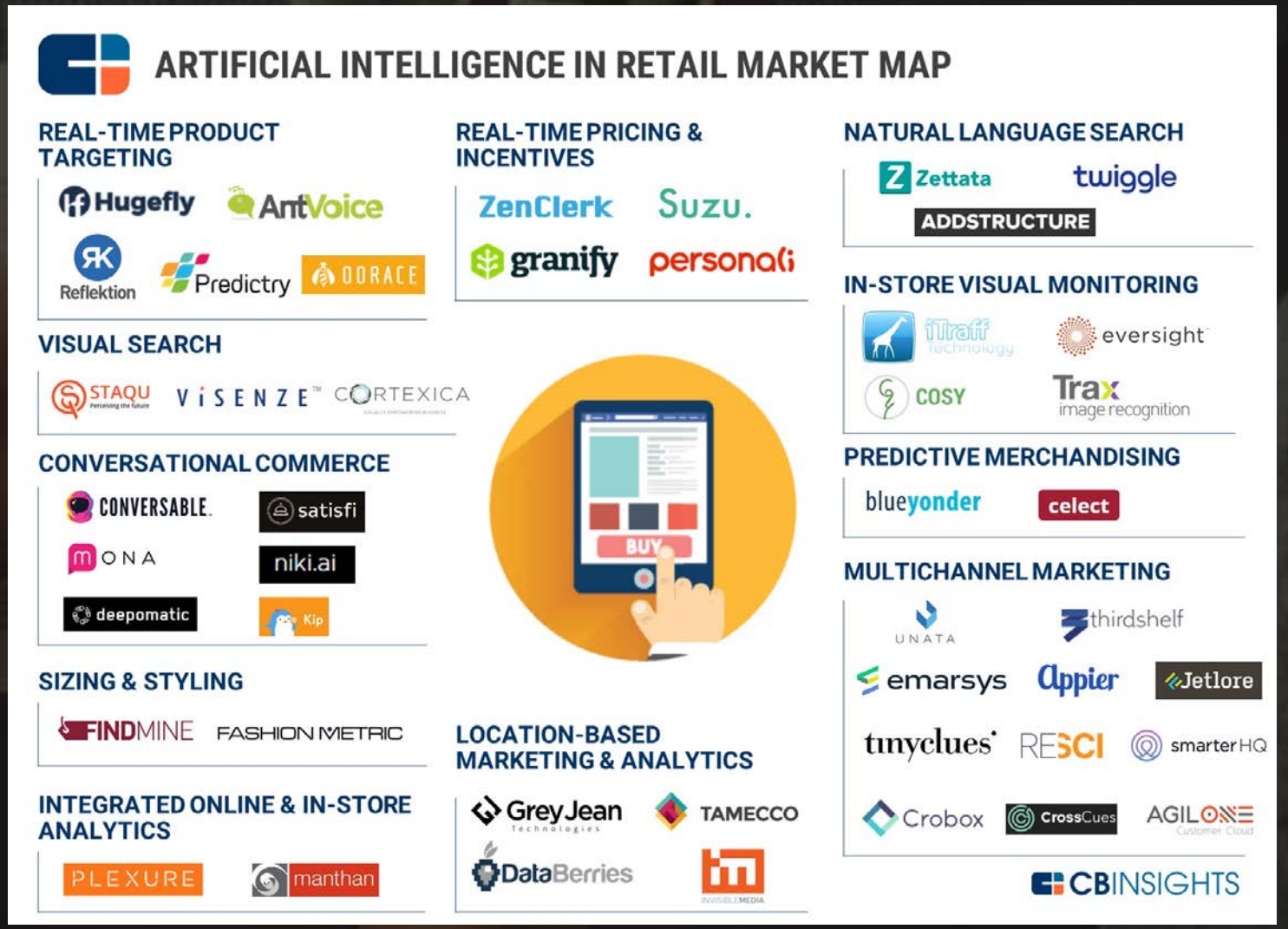
Recap

- The future of Shopping is inside your pocket
- A.I makes it possible to replicate the mall experience
- Visual Search to Buy what you see
- UGC is the new storefront to inspire consumers
- Chat bots are your new store assistants
- Personalized recommendations to make you buy more
- Virtual Try-ons replace your Trial room experience


Questions?
vasanth@visenze.com
ViSENZE™

Over USD27 Billion invested in Retail Technology

- Real-time product targeting
- Visual Search & Image Recognition
- Conversational Commerce
- Sizing & Styling
- O2O Analytics
- Location-based Marketing & Analytics
- Predictive Merchandizing
- Natural language
- Self-Analytics
- Multi-channel marketing



How big is the market for Artificial Intelligence in Retail ?

Artificial Intelligence in Retail Market is Worth ~ USD 5 billion by 2022

Growing at CAGR 38.3% from 2017 (approx ~ USD1 billion in 2017)

Machine Learning technology has largest market share of growth

Fastest CAGR growth in the visual search segment

Source:
Artificial Intelligence in Retail Market by Type MarketsandMarkets™, Oct 2017

** ViSenze profiled as the leading independent AI visual search provider in report.*

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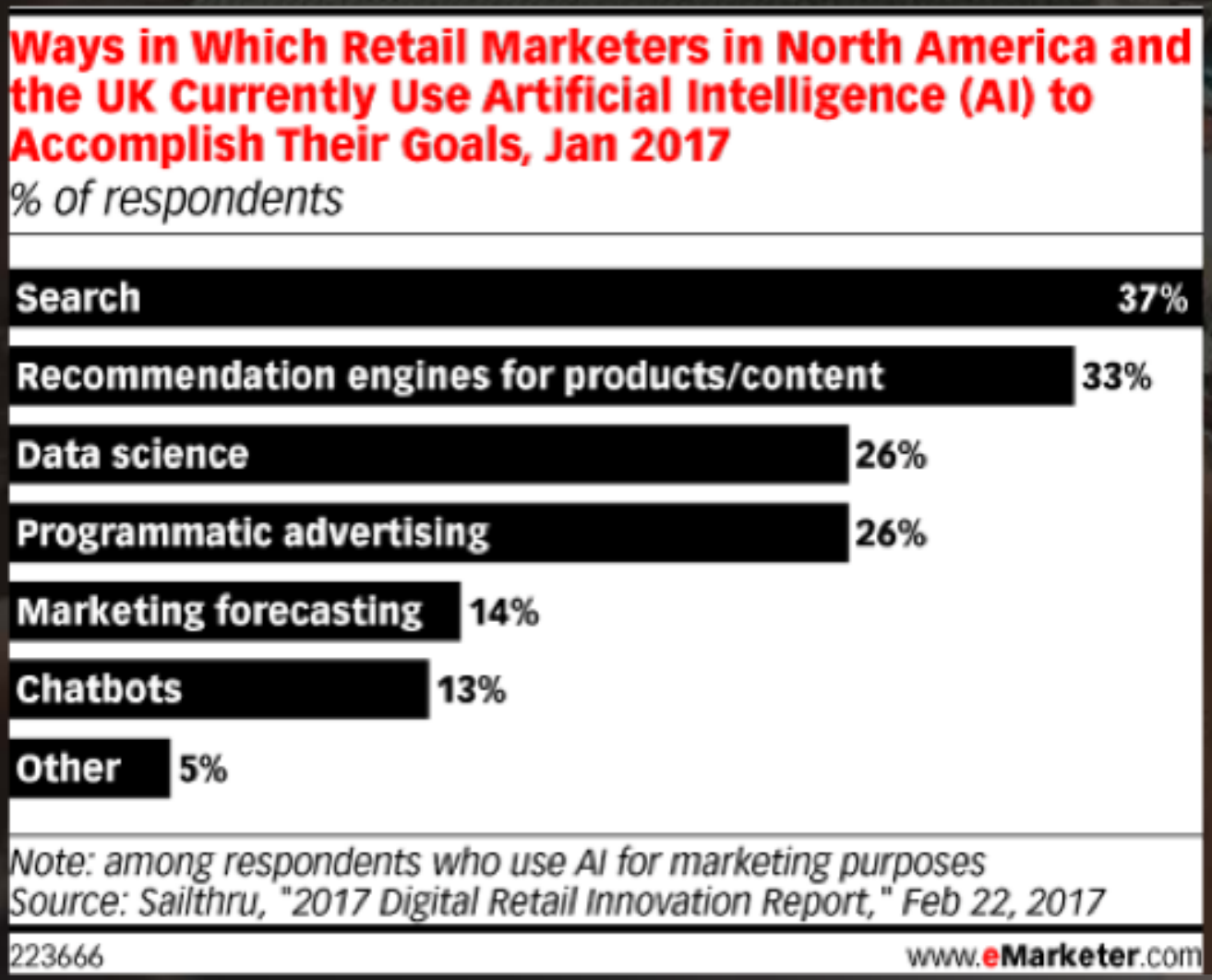
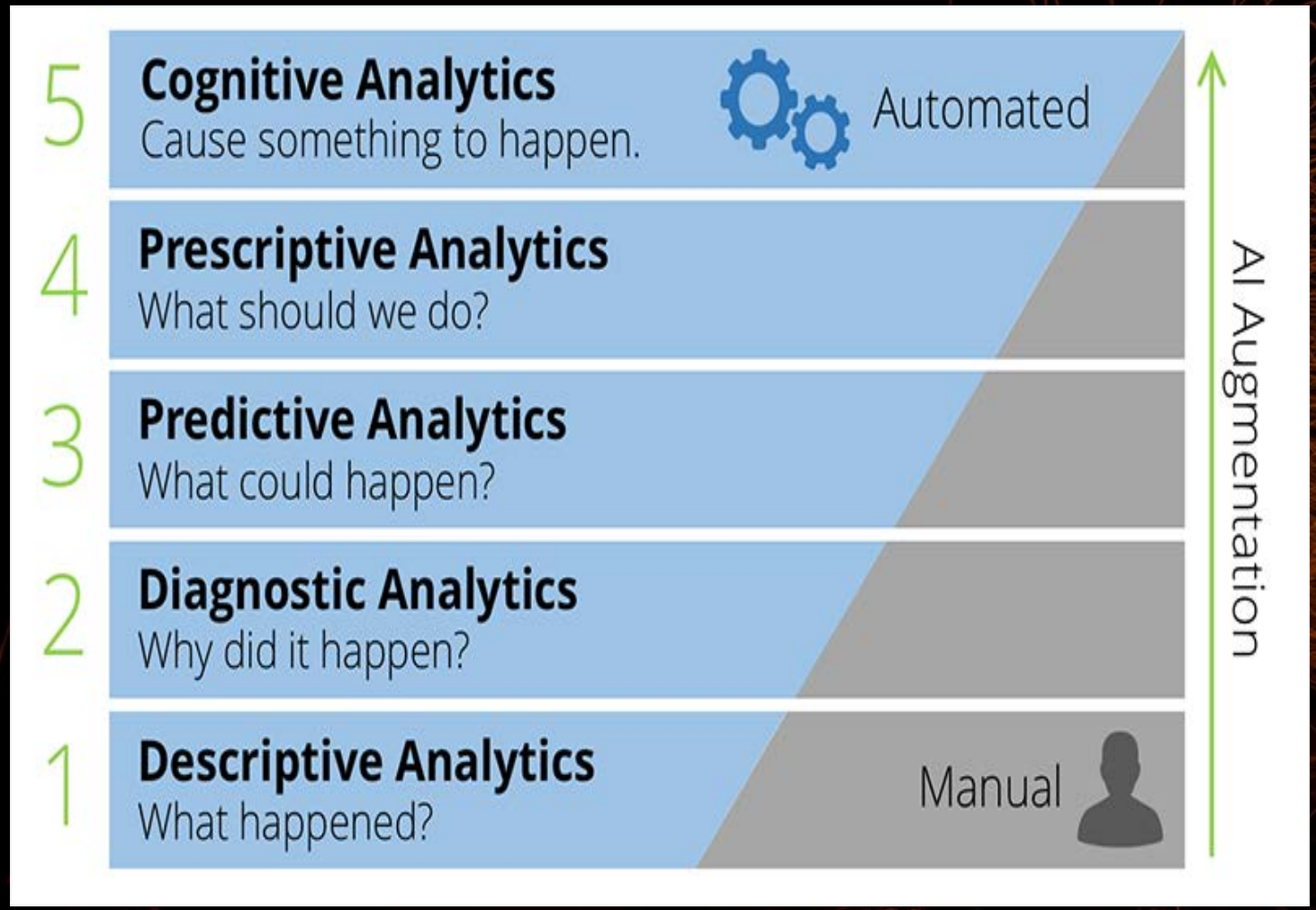
AI is heavily used by Retail Marketers today



- Over 70% of retailers use A.I. to solve problems in Search, Personalization and Recommendation.
- 1 in 4 retailers are using A.I. to process and understand data, including visual data.

The Race for Machine Intelligence



Some Challenges

- **Data vs Privacy**
- **Data bias**
- **Converged world**
- **Consumer Experience**
- **Supply Chain monitoring**
- **Legacy systems**
- **Return-on-Investment**

Outline

- Artificial Intelligence in Retail
- Rise of Visual Content
- Innovations powered by Image Recognition
- Some challenges today

Client ROI Metrics

50%

higher conversions on image search over text based search

50%

higher CTR of shoppers who click on visually similar products

5x

higher conversion rates for shoppers clicking on visually similar products

160%

increase in engagement for shoppers who used find similar

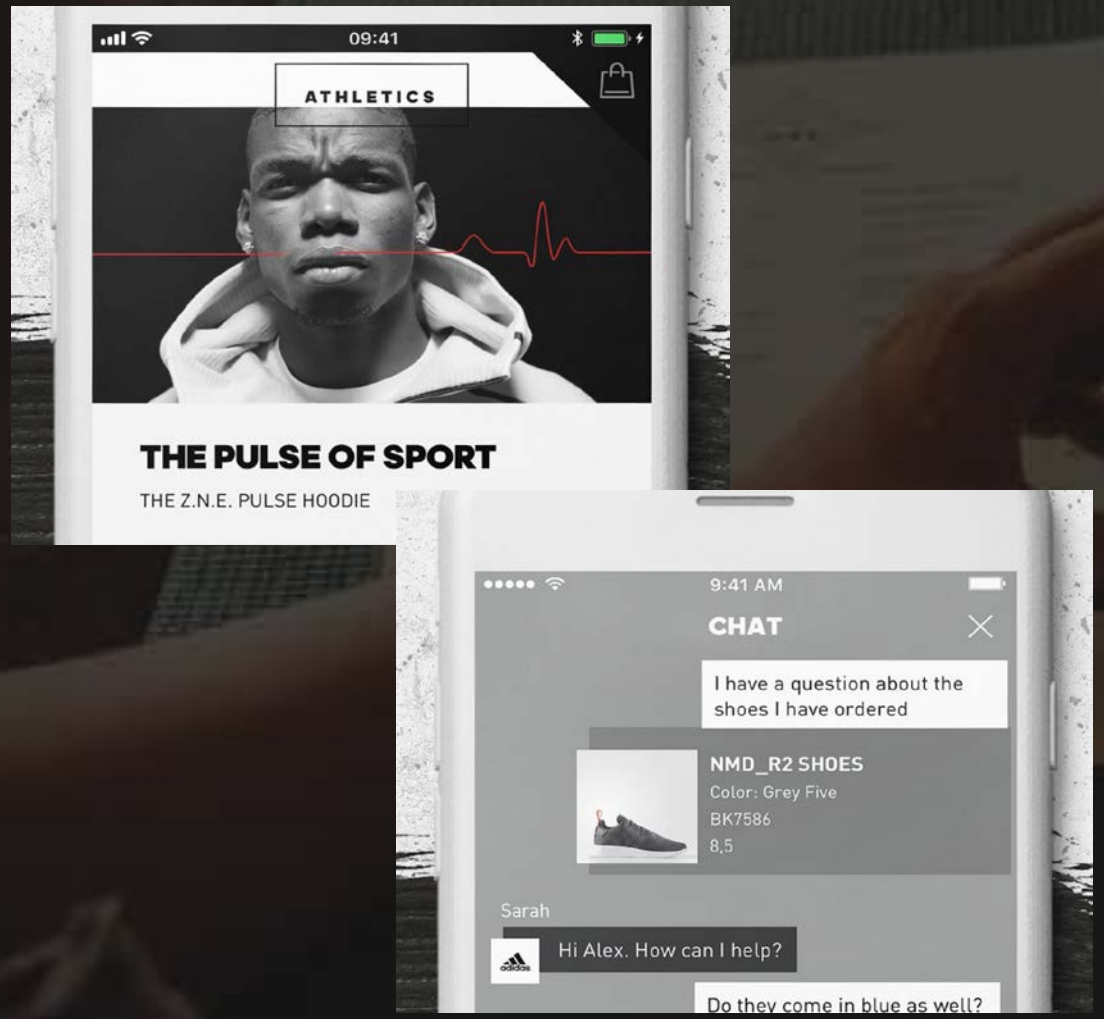
using A.I. powered visual search and recognition solutions to improve engagement and conversions

** All metrics are averaged*

ViSENZE™

COMMERCE

Adidas just launched a new shopping app that learns what you like



A screenshot from the chat function of the app. Adidas

- New app focused on personalization
- Personalized digital interaction:
  - Learns product preferences and offer suggestions
  - A personalized newsfeed
  - AI chatbot to field customer enquiries
- Over 60% of traffic from mobile

ViSENZE™

The Visual Web

2.5 Trillion

Photos shared in 2016: Deloitte

3 Billion

Photos shared per day on Facebook and Snapchat alone: KPMG

- **80% of Big Data is images and videos**
- **95% is not searchable via keywords**
- **Manual tagging is labor intensive, time consuming, un-scalable**
- **Volume of images and videos will double every three years**

IDC White Paper

ViSENZE™

Image Recognition AI Applied in Retail Today

Search by Image

A Snap to Buy experience; user uploads an image to an App/site to search through a product catalogue without keywords

Visually Similar Recommendations

A Visual Browse experience; upsell and cross-sell on PLP and PDP with “You may also like” or “Out of Stock Alternatives”

Shoppable UGC & Visual Analytics

A UGC Moderation tool and analytics for publishers, brands and retailers through real-time moderation, tagging, visual search, and intelligence

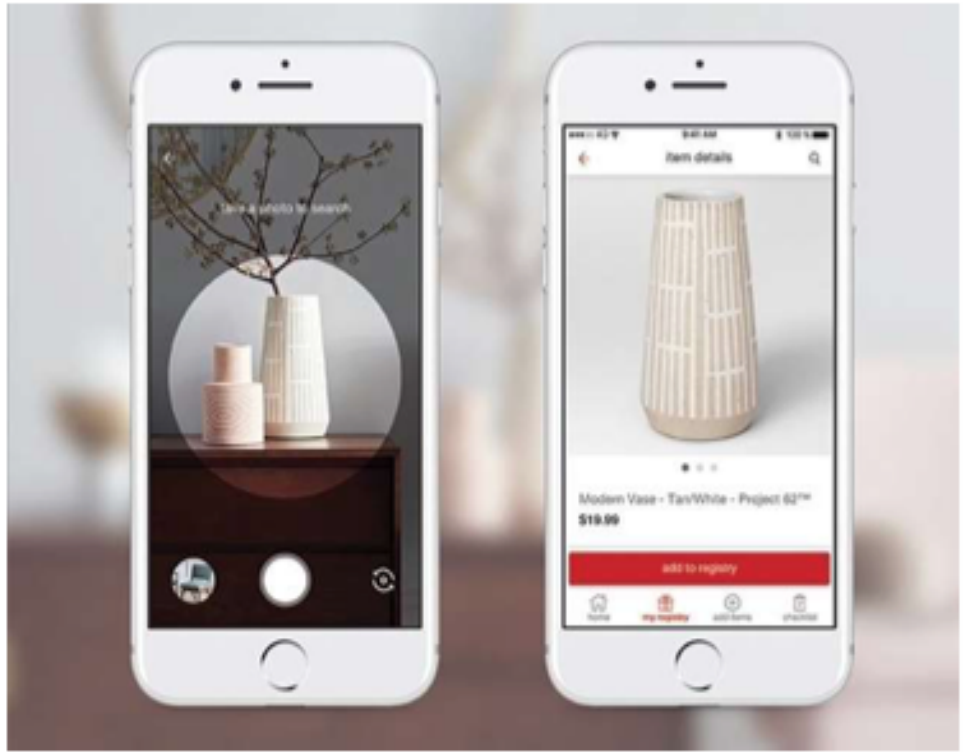
Shopping Lens

An embedded visual search engine; interactive visual commerce experiences on smartphone cameras, chat IMs and content lifestyle apps

AI powered Visual Search moving into mainstream ecommerce

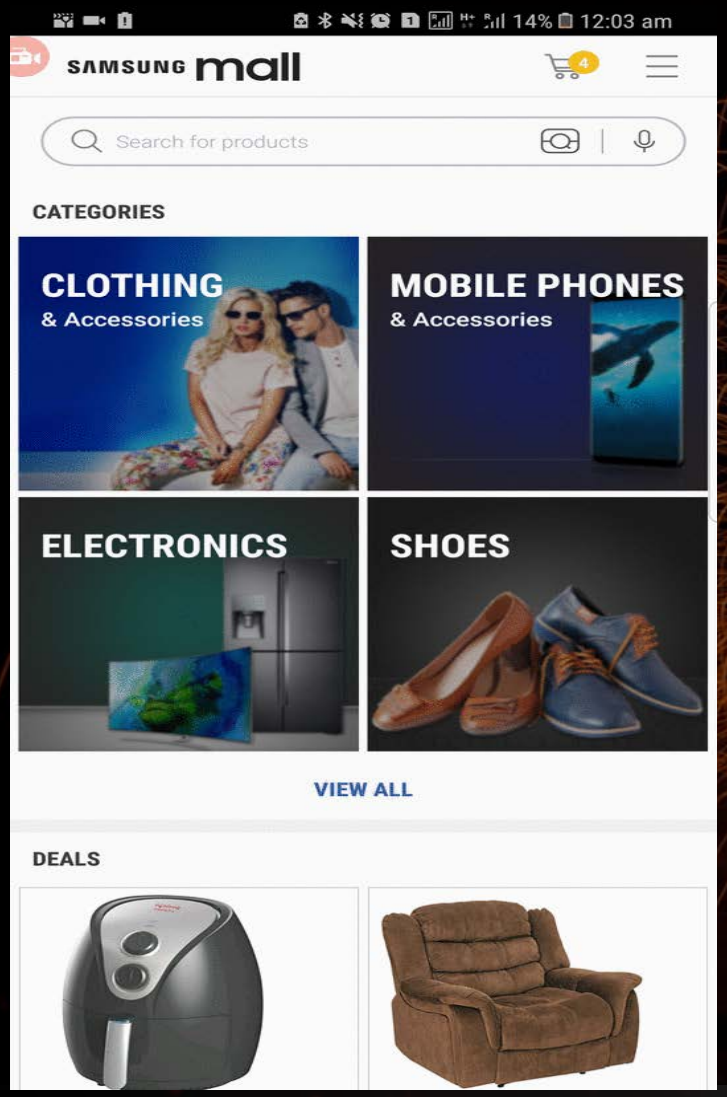
BIG CORPORATIONS
- Pinterest
- Google
- Amazon
- eBay

SMALLER BRANDS + RETAILERS
- Zalando
- Tommy Hilfiger
- Neiman Marcus
- Macy's
- ASOS
- Target
- Wayfair



Using ViSenze':
- Rakuten
- Uniqlo
- ASOS
- H&M
- LaRedoute
- Adidas
- Zalora
- Dafiti
- Flipkart/Myntra
- Mitsui
- Media24/Naspers
- JD.com (ID)
- Secoo
- Al Tayer

Samsung Mall - Capturing Shopping Interest Anytime, Anywhere for Anyone



- **Samsung Mall available on Samsung smartphones in India**
- **AI Powered Image Search for Products**
- **Shop direct from the Camera or Photo Gallery**

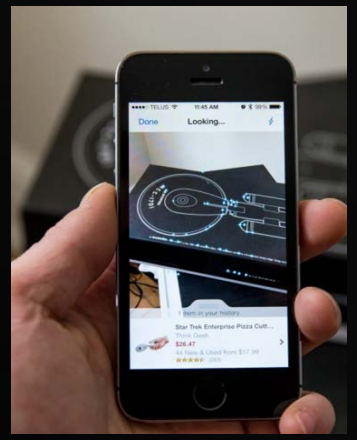
The intent of Bixby Vision is that you can point your camera at any object – but it has got nothing to do with shopping,"

…. when it comes to actually finding you the best deal, Bixby can and will leave you asking for more. This is because Bixby lacks the granular control, vis-à-vis shopping, that Samsung Mall brings to the table.

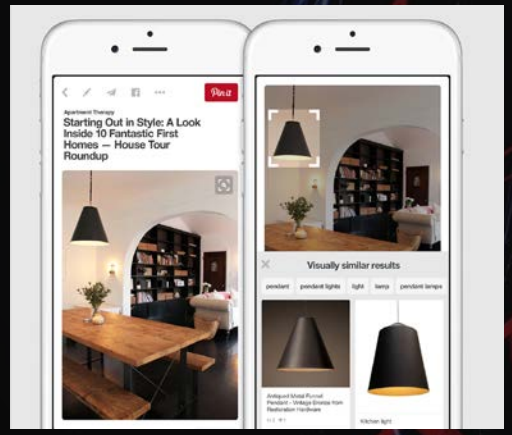
Sanjay Razdan, director, Samsung India

ViSENZE™

Major players are also driving this shift

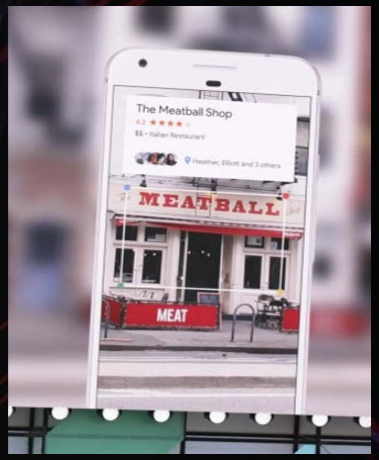


Amazon Visual Search



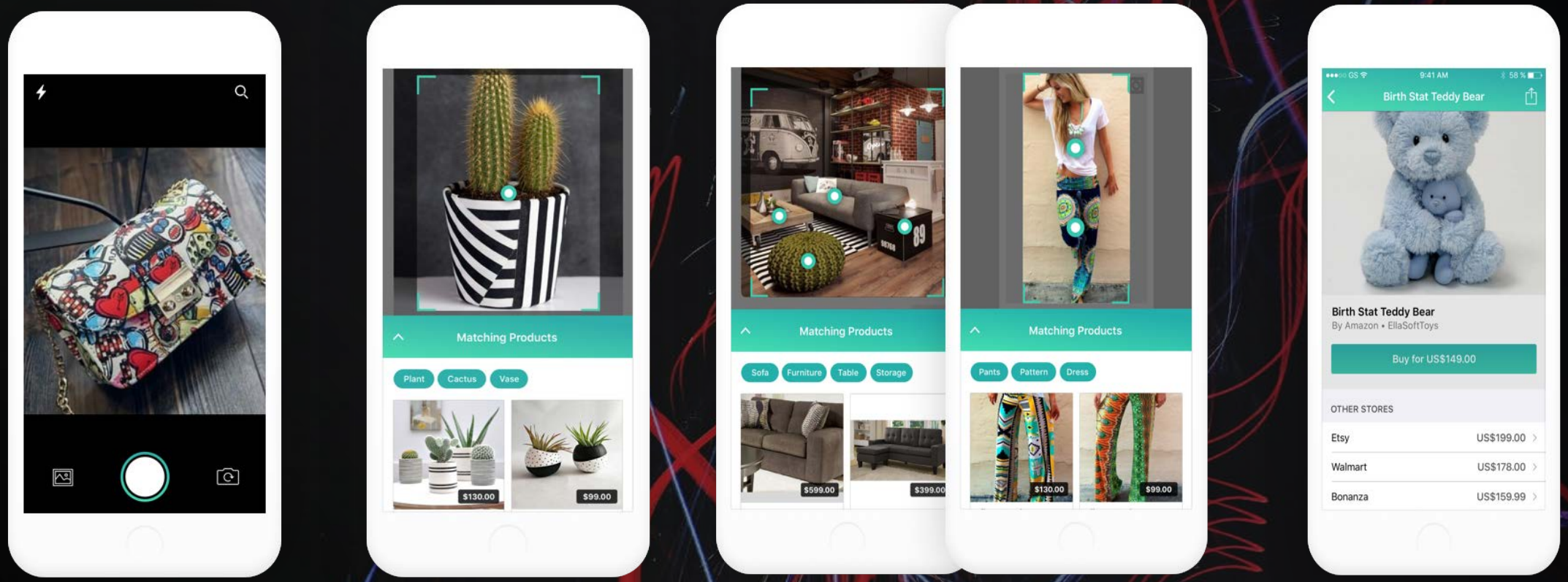
Pinterest Lens

Samsung Bixby Vision



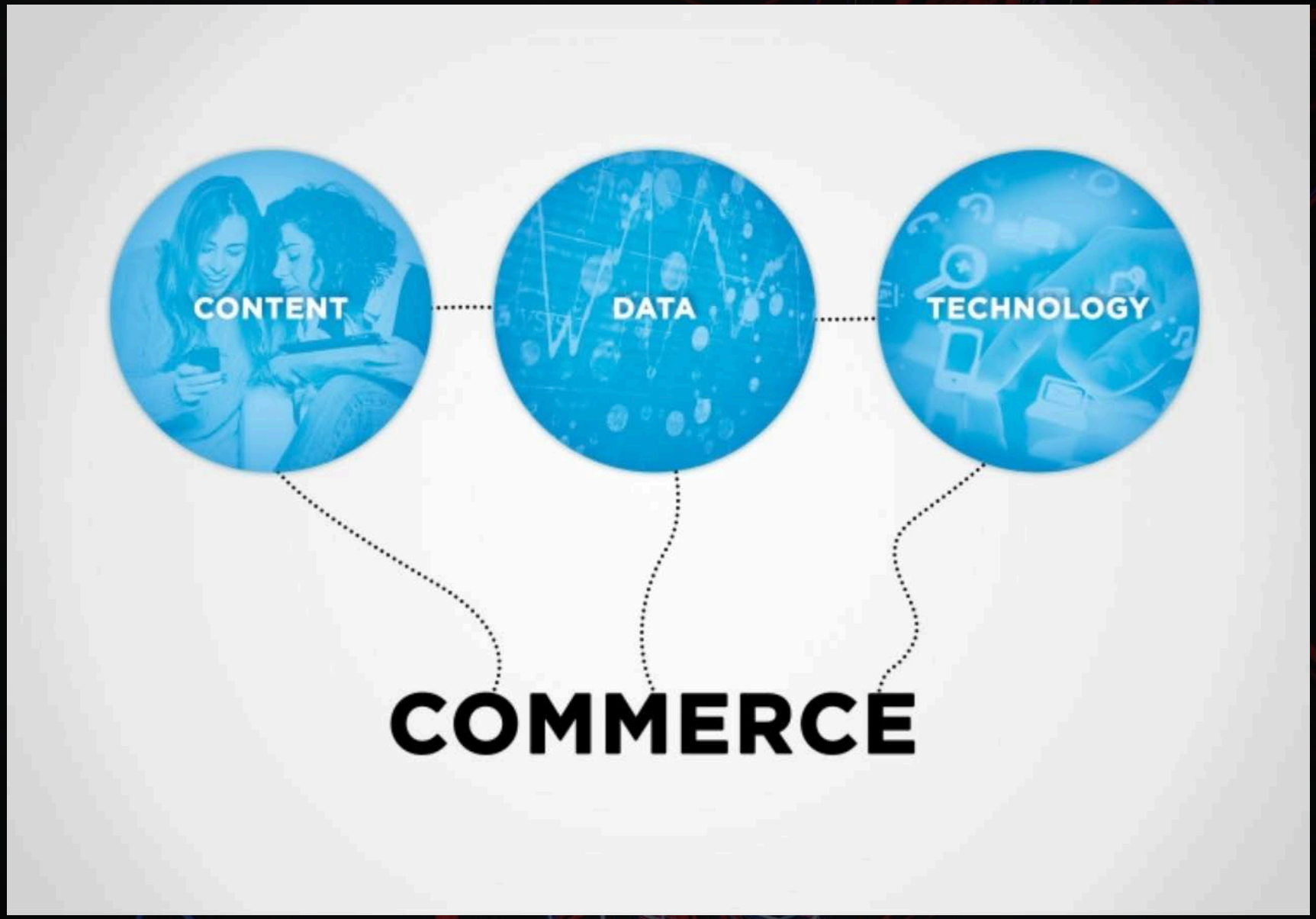
Google Lens

Transforming the camera lens into Product Shopping Lens



Using computer vision and trained on deep neural networks

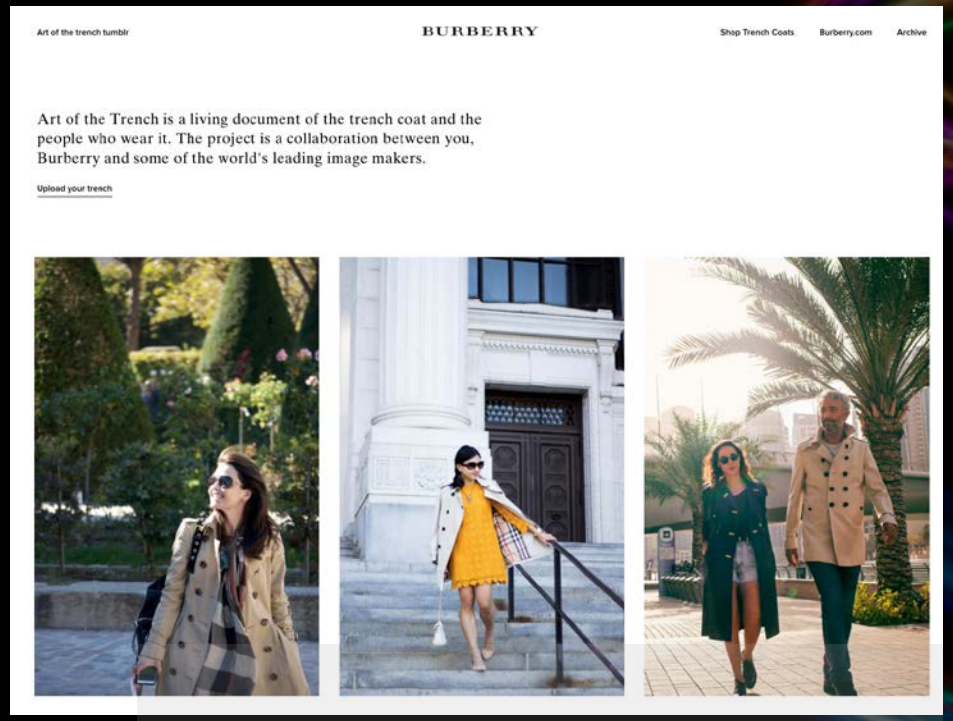
ViSENZE™


CONTENT
DATA
TECHNOLOGY
COMMERCE

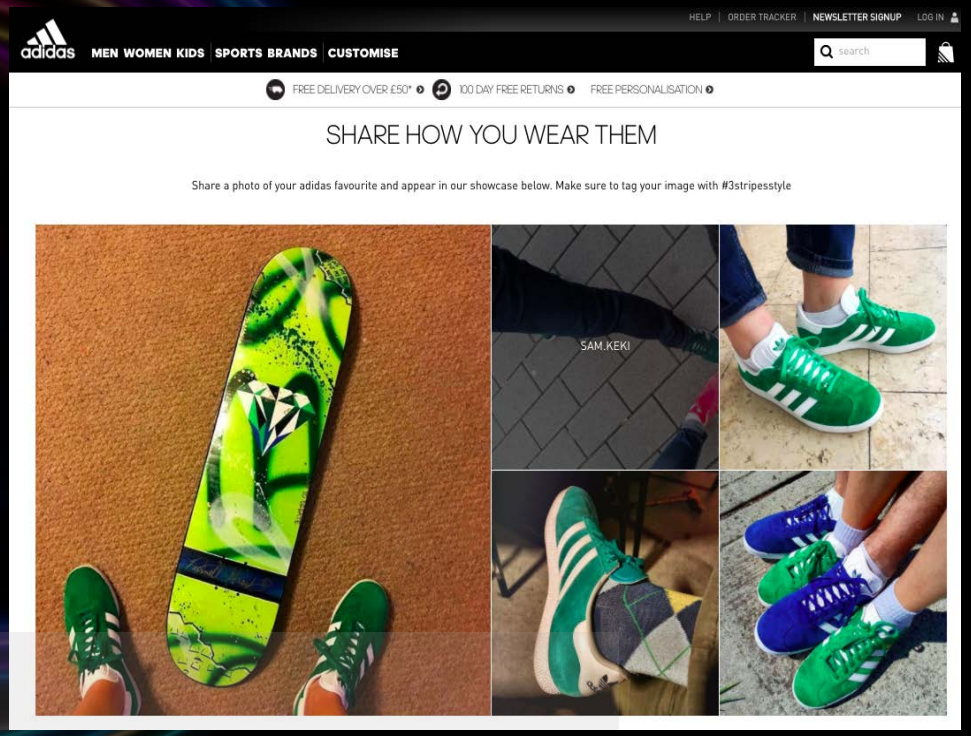
Original User Generated Content is Driving More Engagement

- 51% of US shoppers trust UGC than website content
- 84% of Millennials and 70% of Baby Boomers admit that UGC influences what they buy.

Brands using UGC to Drive Interest and Engagement

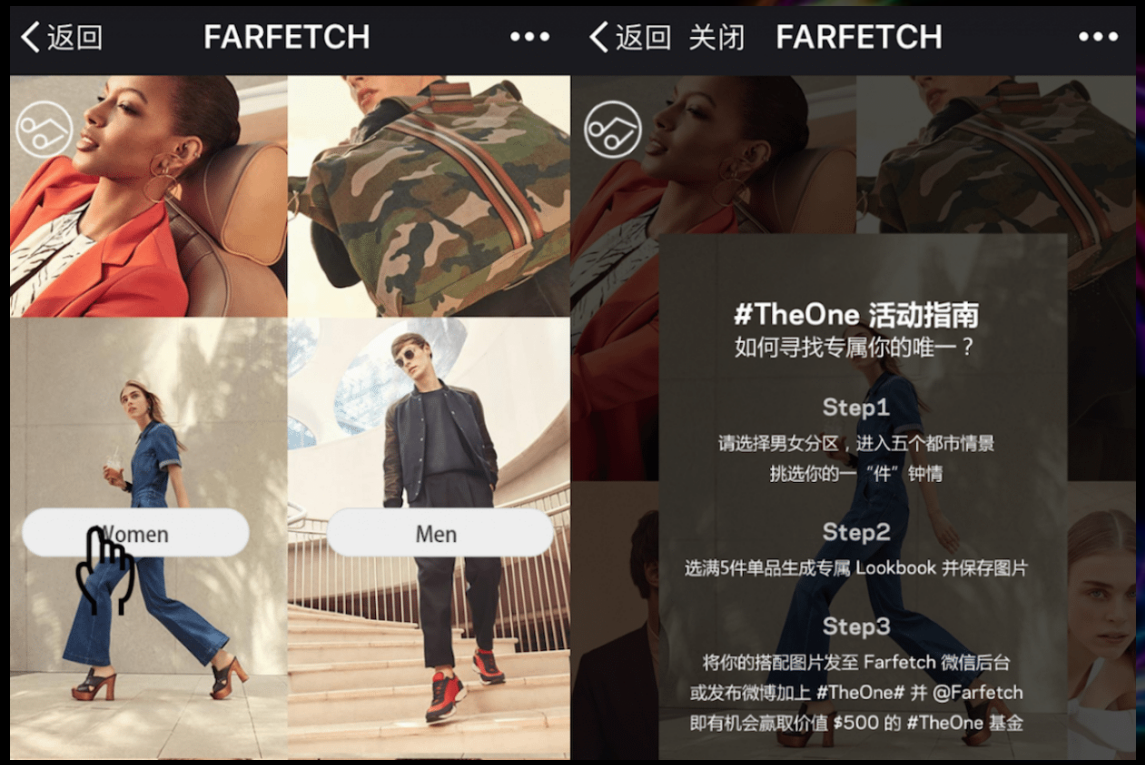


Art of the Trench @ Burberry



#3stripesstyle @ Adidas

China ecommerce is already BIG on social media content



FARFETCH:

- UGC campaign on WeChat
- Mix-and-match clothes to create looks.
- Over 8,000 clicks to purchase in 1st week alone

How can retailers and brands can leverage powerful neural networks combined with computer vision to Curate, Moderate, Tag and Showcase Products in inspiring UGC content ?

ATTRIBUTE BASED NEURAL NET FOR RETAIL

AI powered image recognition for product and image tagging

Image URL

Call ViSenze API

ViSenze identifies attributes

Returns identified attributes

Custom neural networks training specifically for Fashion Wear

Identifying and tagging product images with searchable terms

Category: Blouse
Neckline: Shirt collar
Color: Blue
Pattern: Solid
Sleeve length: three quarter

Category: pants
Fit: skinny
Color: black
Pattern: solid

Category: coat
Closure type: button
Length: long
Style: straight
Color: green
Pattern: solid

Category: jeans
Fit: straight
Color: blue
Pattern: solid

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