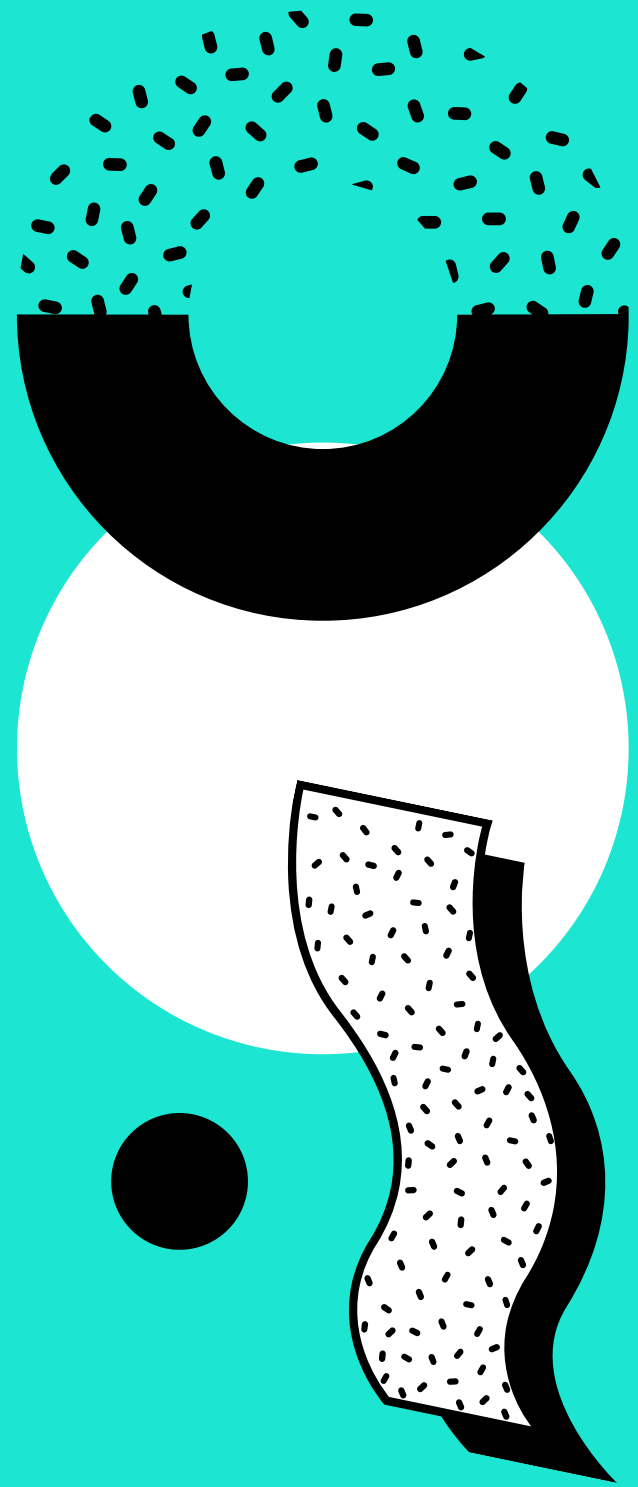


# VALUE ADDED ADVERTISING

HCI Industry Project for SKIDATA

**Final Presentation**

*Severina Cengu, Abdelhamid Abdelmegid, Dennis Schoepf*



**WHAT DOES  
THAT EVEN  
MEAN?**



# TRADITIONAL ADVERTISING

## **TRADITIONAL ADVERTISING**

Raise brand awareness, market specific products,  
transport a corporate identity, sell more

## **TRADITIONAL ADVERTISING**

Raise brand awareness, market specific products,  
transport a corporate identity, sell more



**CORPORATION  
IN FOCUS**

## **TRADITIONAL ADVERTISING**

Raise brand awareness, market specific products,  
transport a corporate identity, sell more



**Add value that goes beyond  
traditional advertising goals  
to benefit both the corporation as  
well as the individual**



# THE PRODUCT(S)

their application context and how  
advertising currently looks like





**HOW IS ADVERTISING DONE  
CURRENTLY WITH THESE  
MACHINES?**

SKIDATA

Ticket Vending

Day Tickets	More	Pay Method
1 Day Ticket € 45	2 Days Ticket € 74	1 Euro Coin
Morning Ticket € 30	Afternoon Ticket € 25	2 Euro Coin
1 Day Ticket € 35	2 Days Ticket € 68	5 Euro Coin
Morning Ticket € 20	Afternoon Ticket € 17	10 Euro Coin
Family Package € 21	Senior Ticket € 30	15 Euro Coin

155,00

Pay now

Info Help

Cancel



SKIDATA

Payment area with a coin slot, a contactless payment symbol, and a card reader.

SKIDATA

Ticket Vending

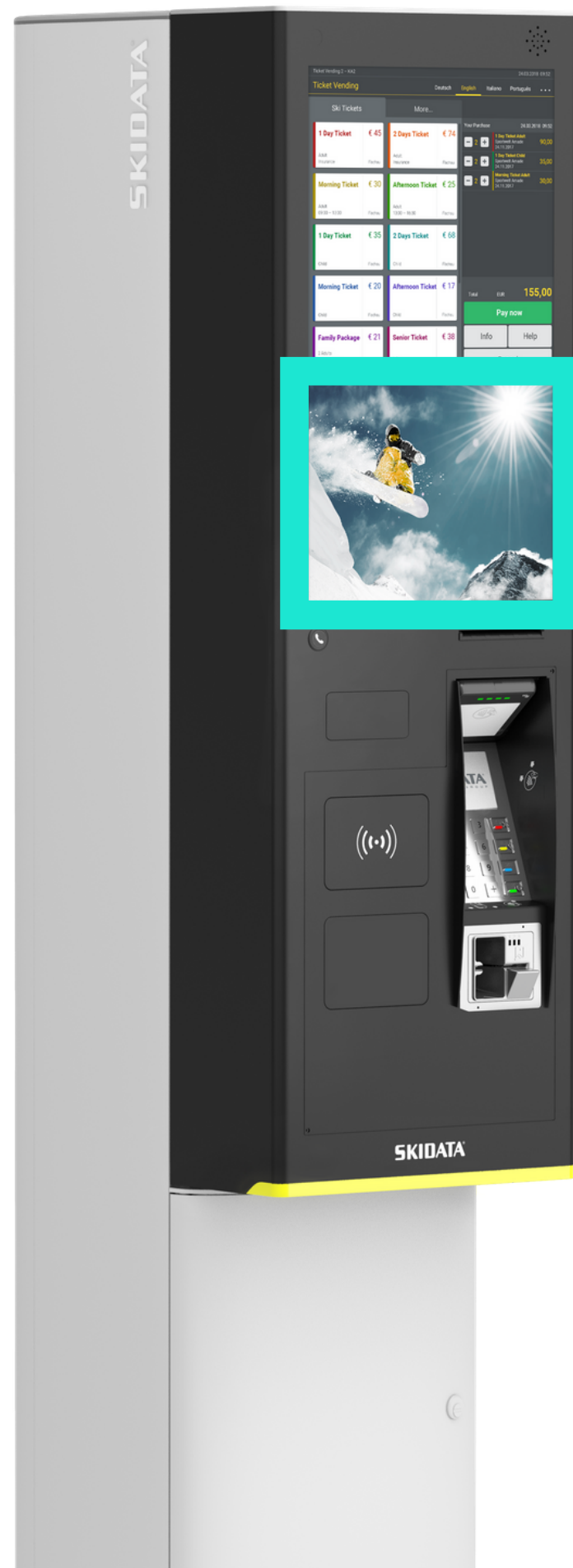
Day Tickets	More	Pay Method
1 Day Ticket € 45	2 Days Ticket € 74	Chip Payment
Morning Ticket € 30	Afternoon Ticket € 25	Chip Payment
1 Day Ticket € 35	2 Days Ticket € 68	Money Transfer
Morning Ticket € 20	Afternoon Ticket € 17	155,00
Family Package € 21	Senior Ticket € 30	Pay now

Info Help



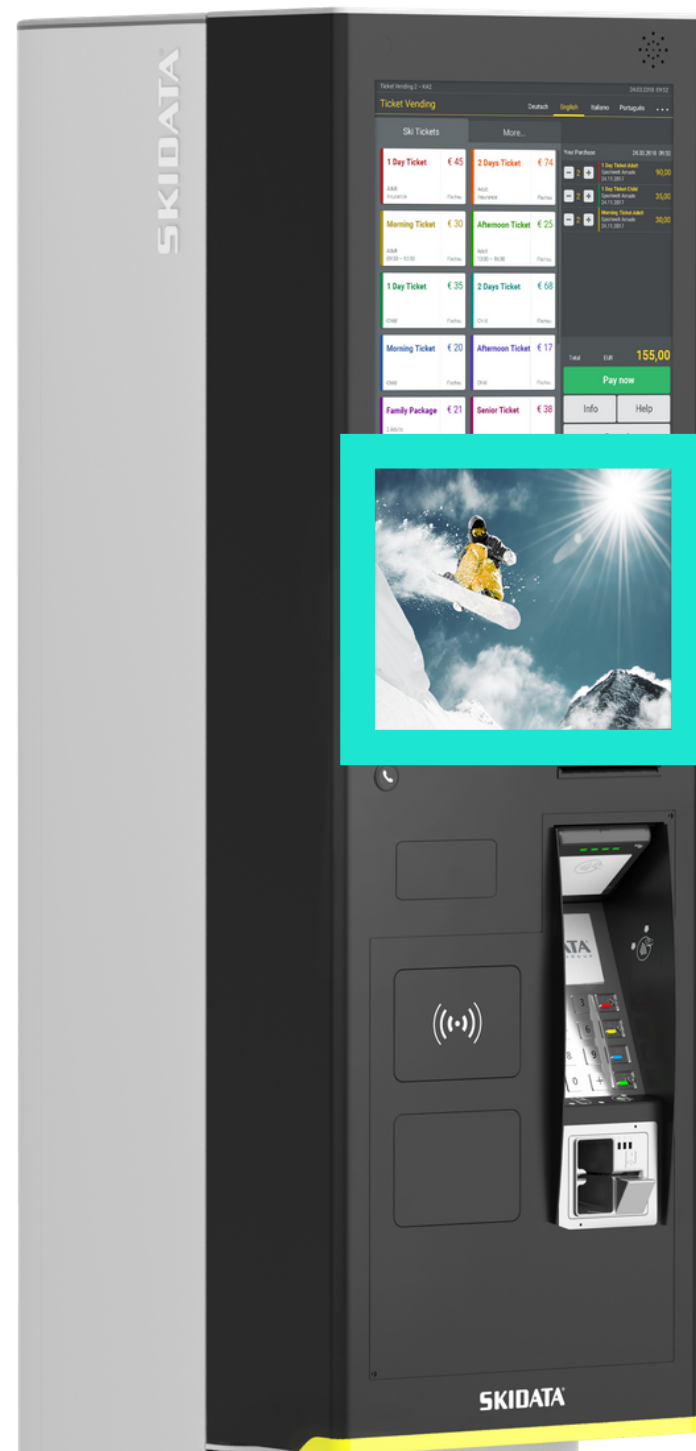
SKIDATA

Payment area with a contactless symbol and a card reader slot.



## STATIC ADVERTISING

A portion of the screen is reserved for ads (information)

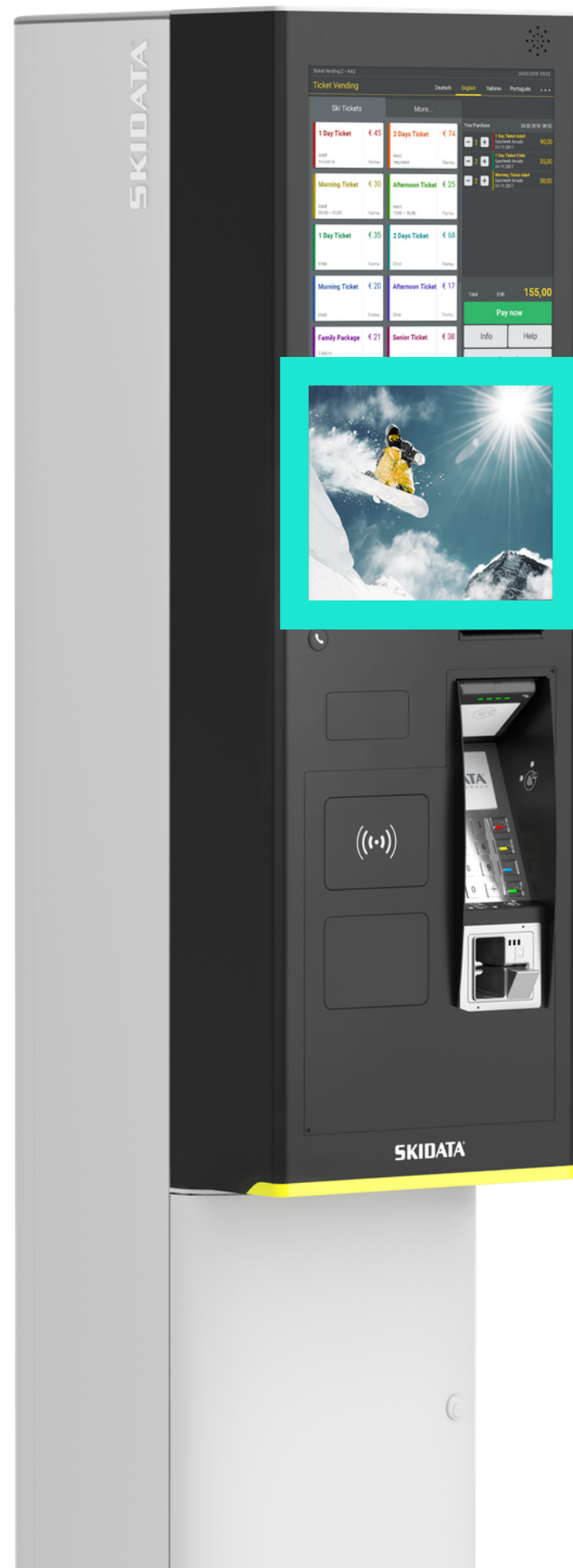


## STATIC ADVERTISING

A portion of the screen is reserved for ads (information)

## CUSTOMER-MANAGED ADVERTISING

SKIDATA's customers select what is displayed



## STATIC ADVERTISING

A portion of the screen is reserved for ads (information)

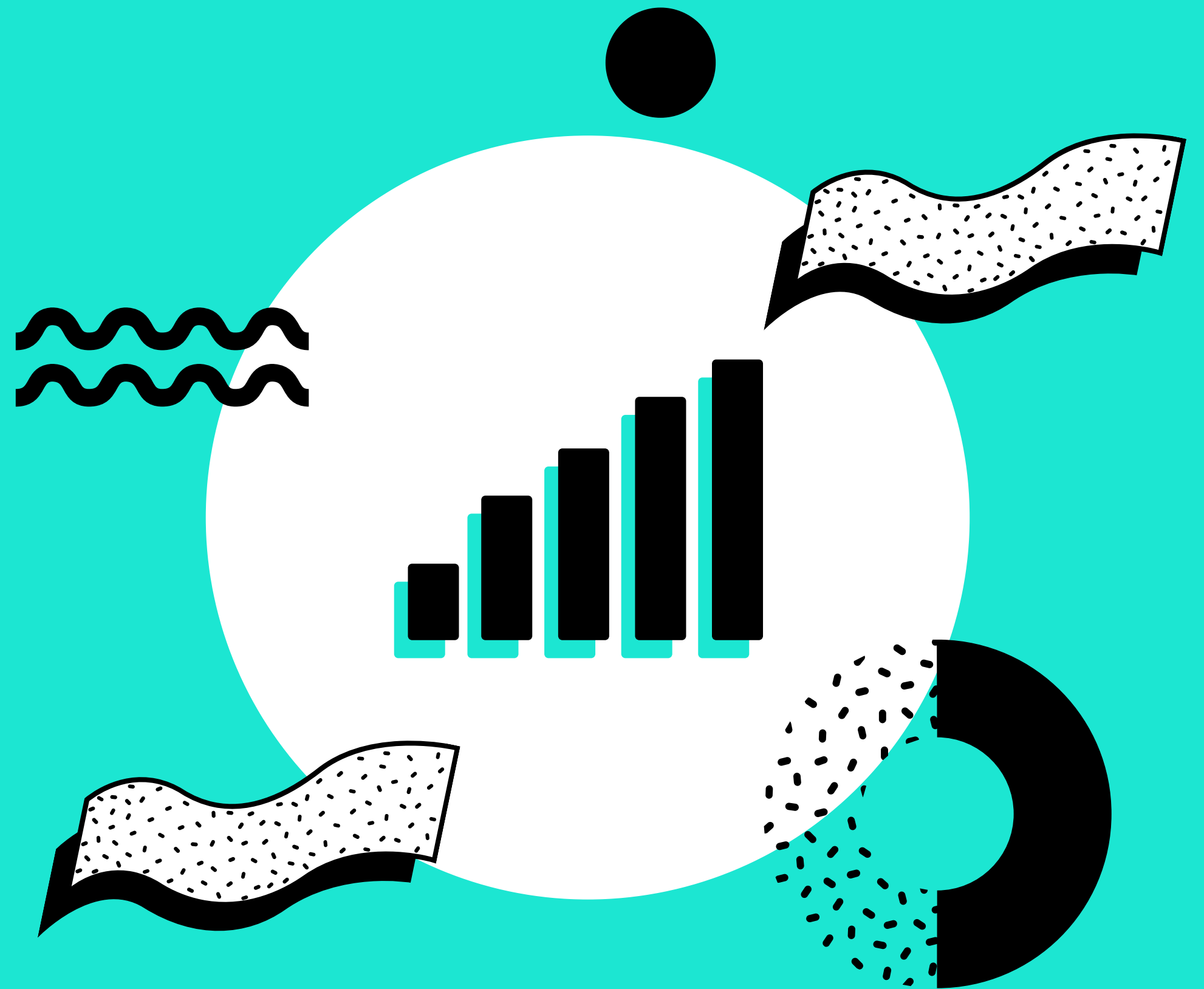
## CUSTOMER-MANAGED ADVERTISING

SKIDATA's customers select what is displayed

# WHAT & HOW SHOULD WE IMPROVE?

# OUR GOAL

& the path towards it




# DEMONSTRATE WAYS TO ADD VALUE TO SKIDATAS IN-PRODUCT ADVERTISING



for SKIDATA customers

**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**

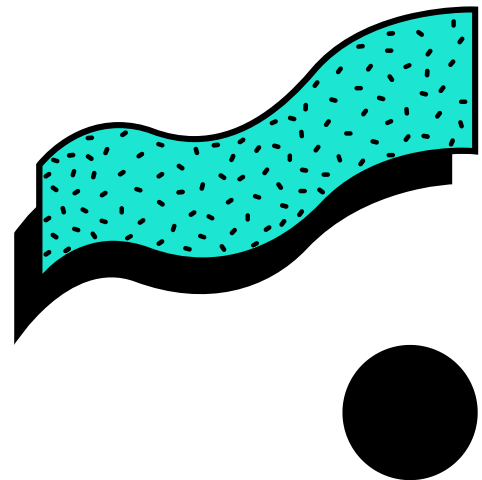


for SKIDATA customers

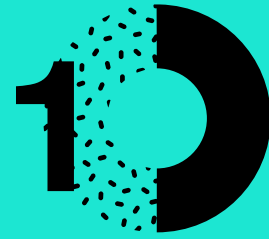
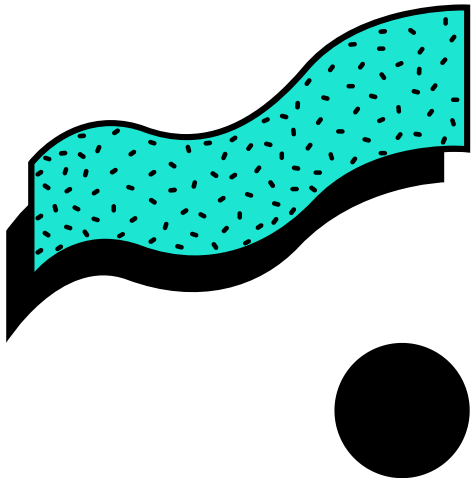
**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**

for SKIDATA customers  
customers

# THREE STEPS TO ADD VALUE



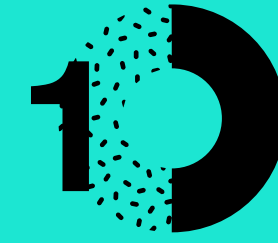
# THREE STEPS TO ADD VALUE



## OBSERVATION

Current state & Inspiration

# THREE STEPS TO ADD VALUE



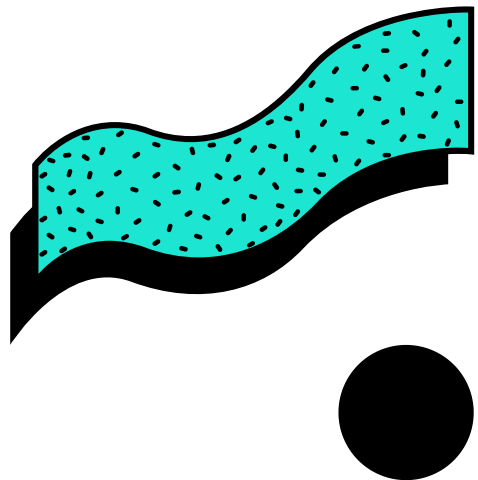
## OBSERVATION

Current state & Inspiration

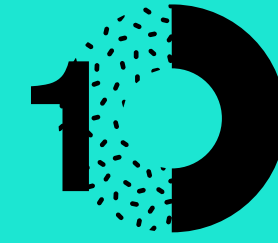


## IDEATION

Brainstorming & Sketching



# THREE STEPS TO ADD VALUE



## OBSERVATION

Current state & Inspiration



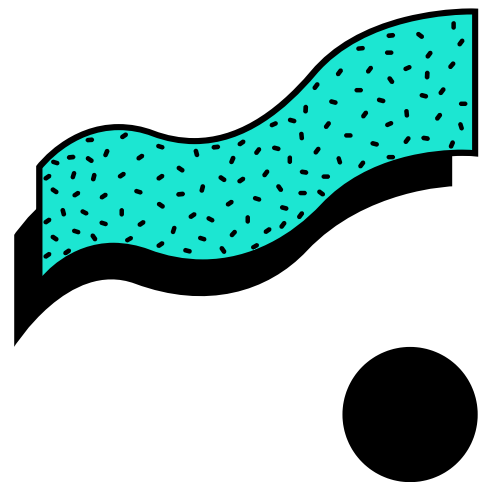
## IDEATION

Brainstorming & Sketching

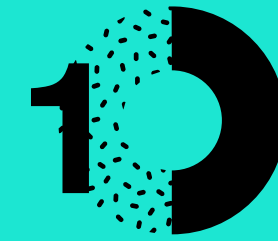


## IMPLEMENTATION

Visualizations



# DELIVERABLES FOR EACH STEP



## OBSERVATION

Current state & Inspiration



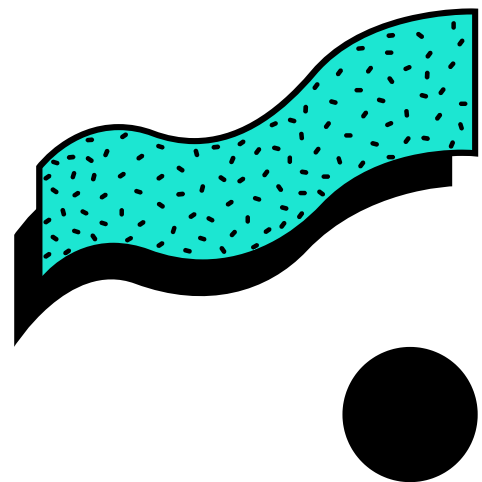
## IDEATION

Brainstorming & Sketching

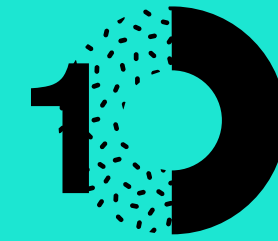


## IMPLEMENTATION

Visualizations



**Identifying competitor  
strategies, best practices  
and scientific themes**



## **OBSERVATION**

Current state & Inspiration



## **IDEATION**

Brainstorming & Sketching

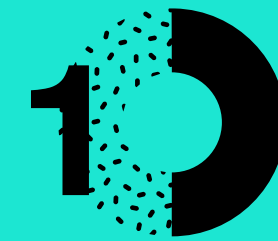


## **IMPLEMENTATION**

Prototyping

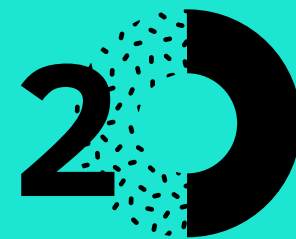


**Create concepts on how  
to combine the research  
results with SKIDATA  
products**



## **OBSERVATION**

Current state & Inspiration



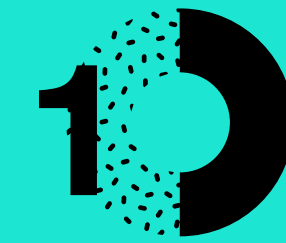
## **IDEATION**

Brainstorming & Sketching



## **IMPLEMENTATION**

Prototyping



## OBSERVATION

Current state & Inspiration



## IDEATION

Brainstorming & Sketching



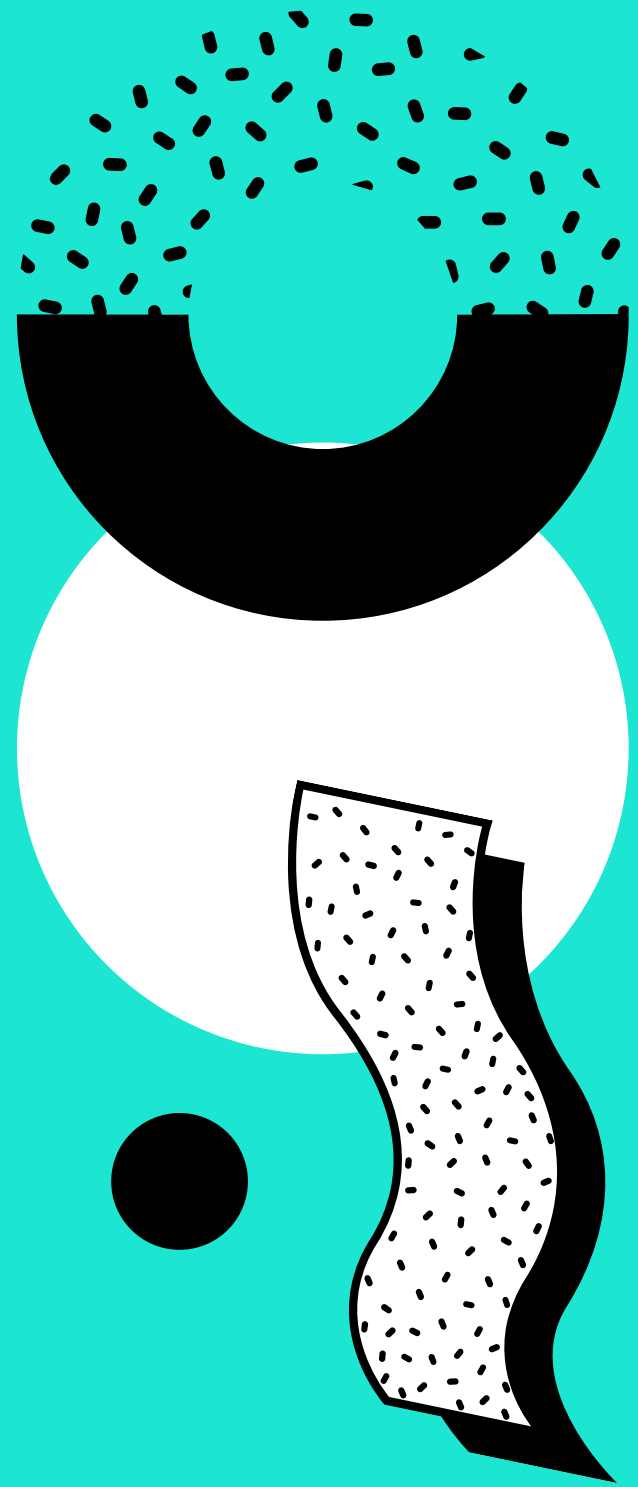
## IMPLEMENTATION

Prototyping

**Prototypes/Storyboards  
to visualize our concepts**

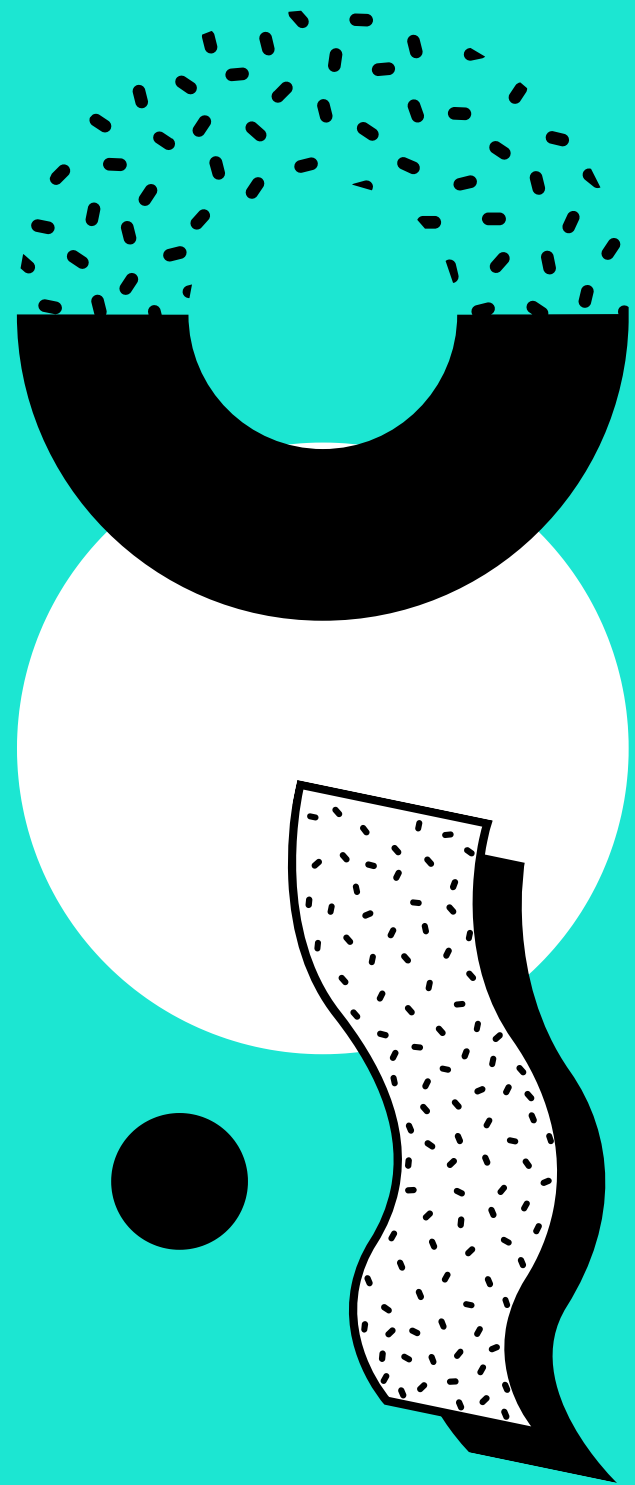


**WHAT YOU  
ARE HERE FOR**

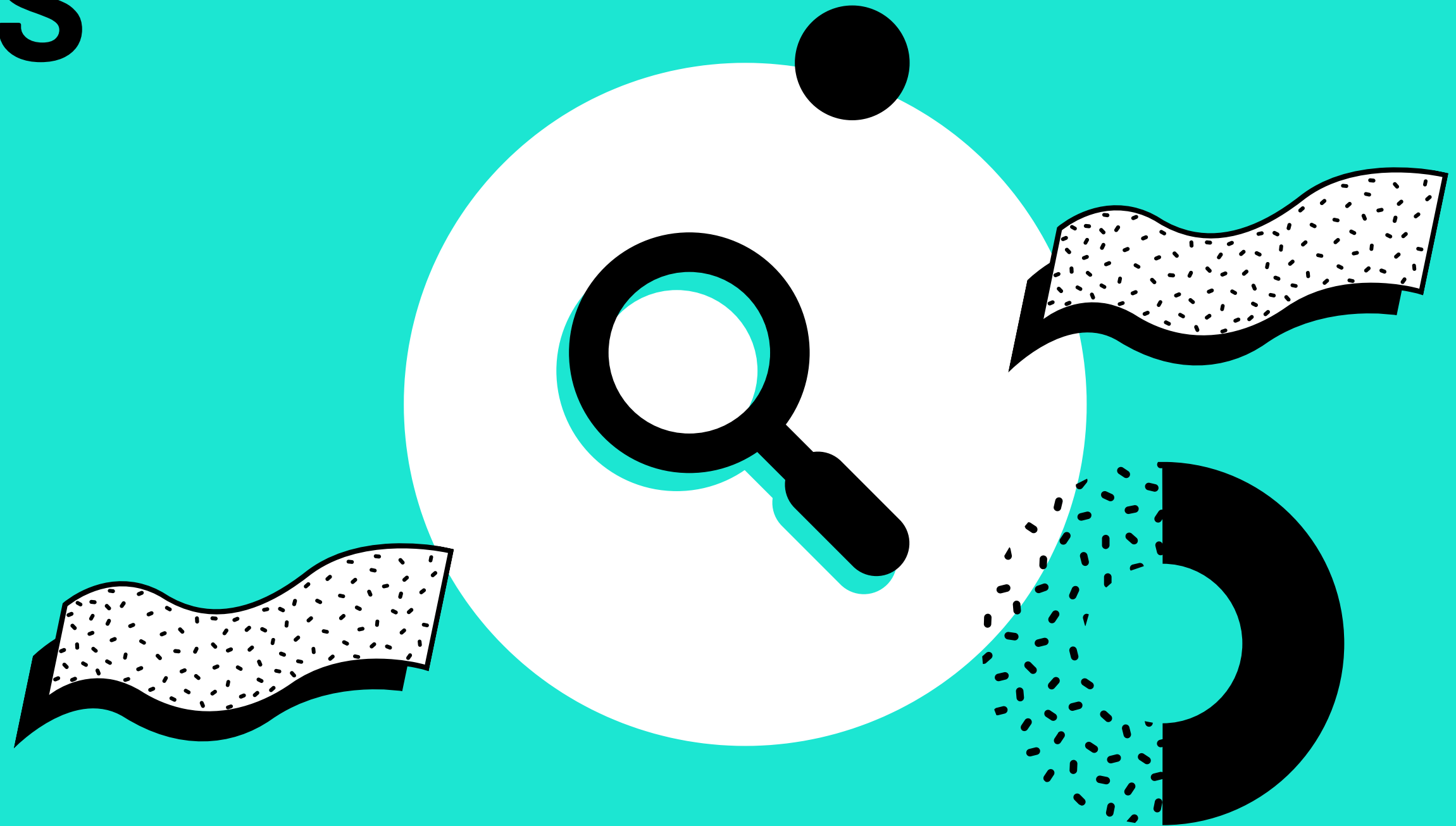


# WHAT YOU ARE HERE FOR

*These are our results.*



# RESEARCH RESULTS



*Deliverables*

**DIRECT COMPETITOR RESEARCH**

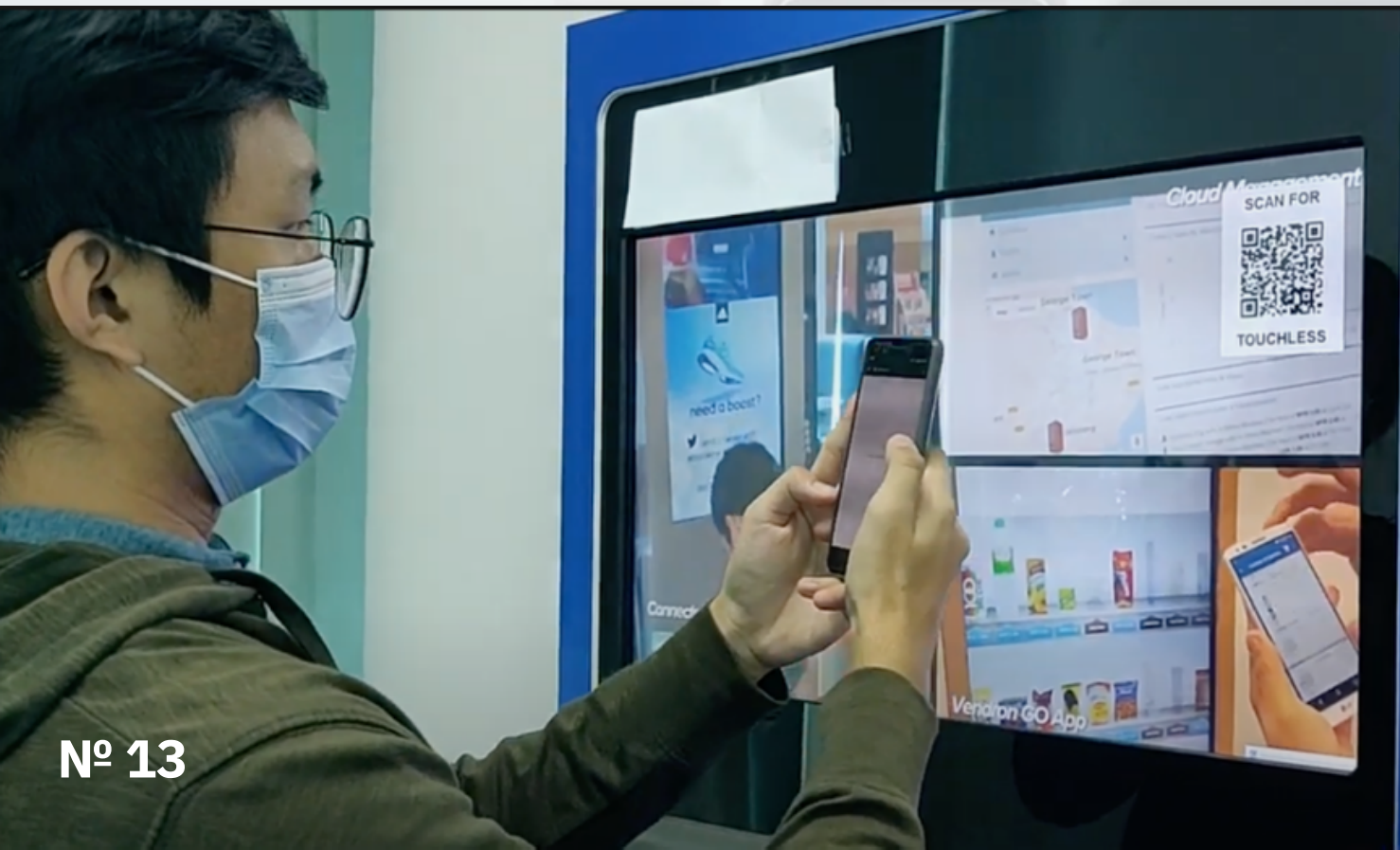
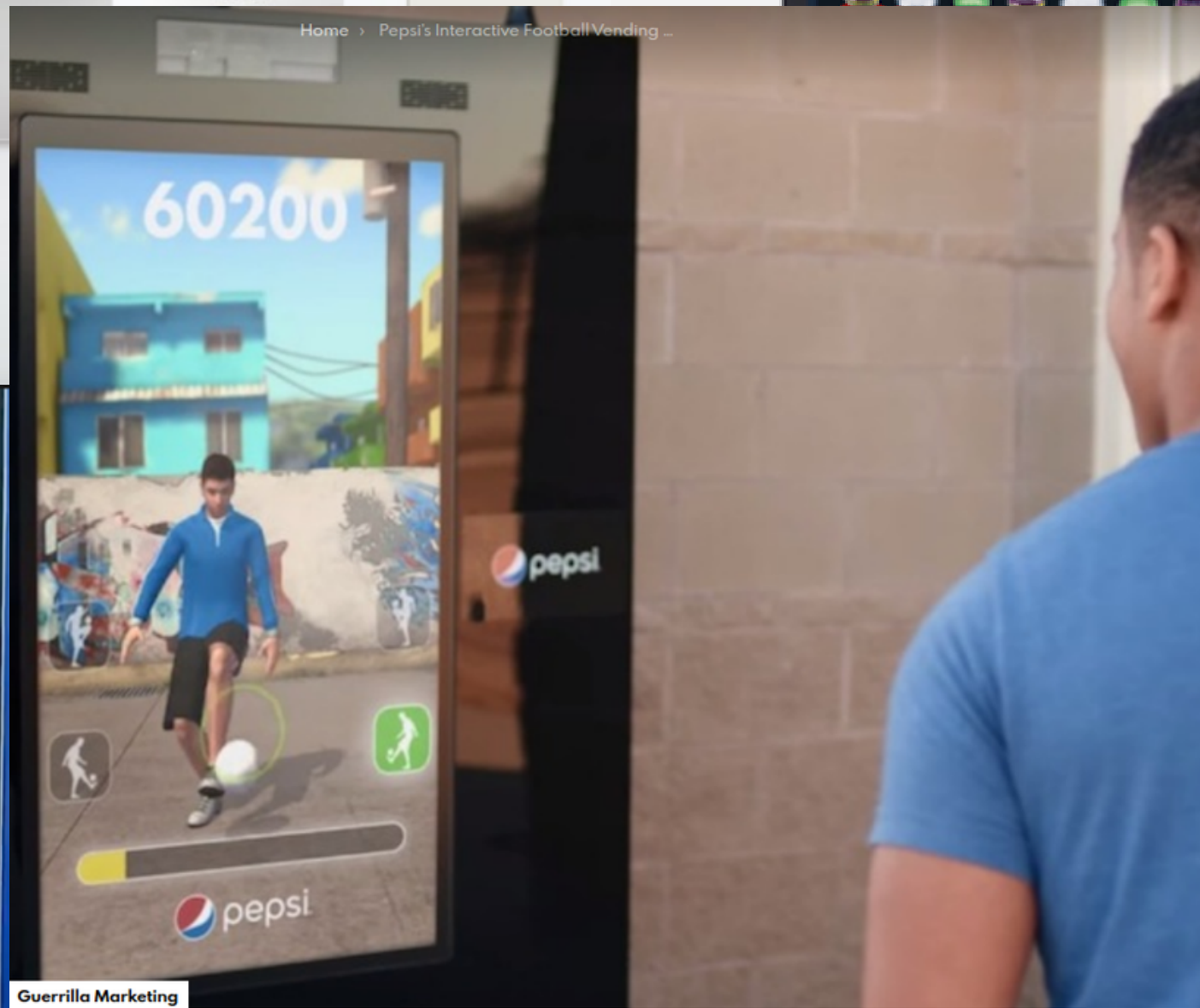


**INDIRECT COMPETITOR RESEARCH**



**LITERATURE RESEARCH**

# **DIRECT COMPETITOR RESEARCH**



Guerrilla Marketing  
**Pepsi's Interactive Football Vending Machine**



# INDIRECT COMPETITOR RESEARCH

**Showing progress  
in video ads**

**Leverage different  
emotions**

**Actionable  
Ads**

**Add value through  
discounts**

**Allow users to  
resize/hide ads**

**Show ads during  
waiting times**

**Ads max. 20%  
canvas size**

# SCIENTIFIC RESEARCH

# KEYWORD BASED SEARCH

Contextual Advertising

Future Advertising

Advertising Trends

Vending Machine Advertising

Physical Advertising

# KEYWORD BASED SEARCH

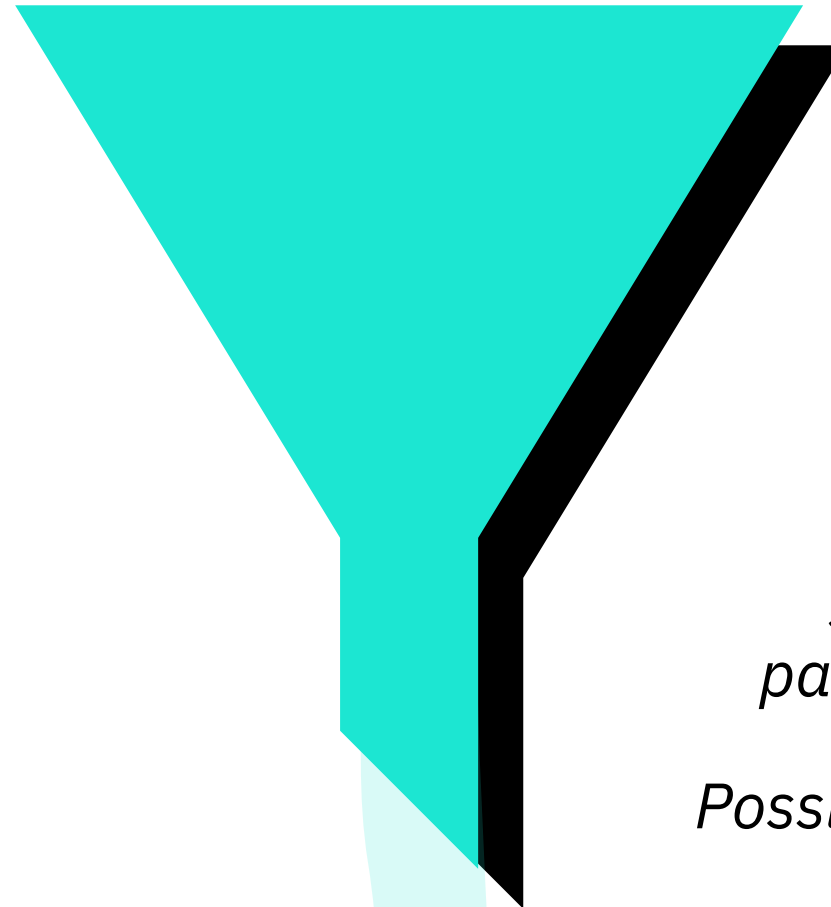
Contextual Advertising

Future Advertising

Advertising Trends

Vending Machine Advertising

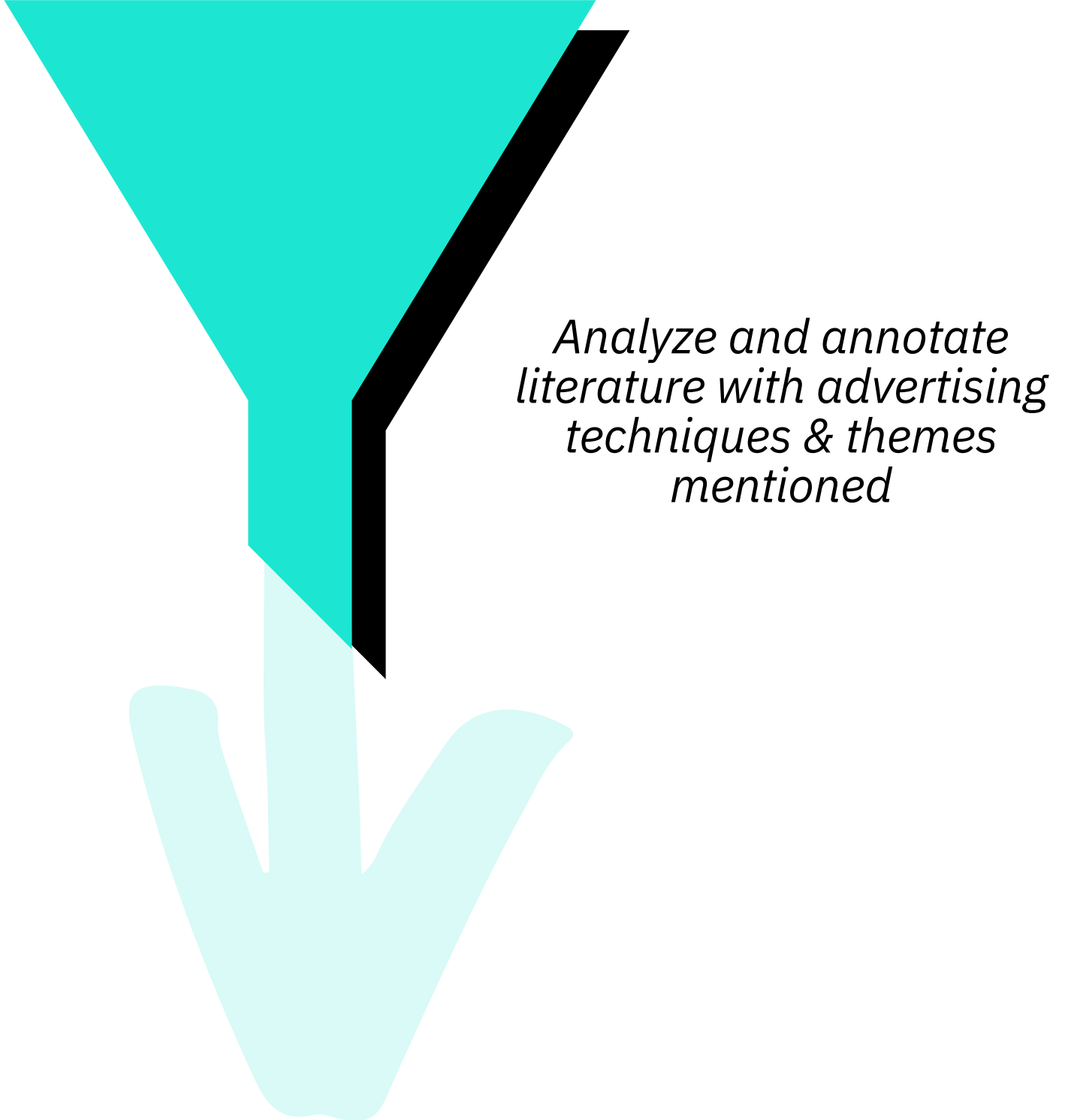
Physical Advertising




*Since 2016*

*Scientifically relevant  
papers(citations, journals)*

*Possible application in vending  
machine (screens)*



*Analyze and annotate  
literature with advertising  
techniques & themes  
mentioned*



*Analyze and annotate  
literature with advertising  
techniques & themes  
mentioned*

## **IDENTIFIED THEMES**

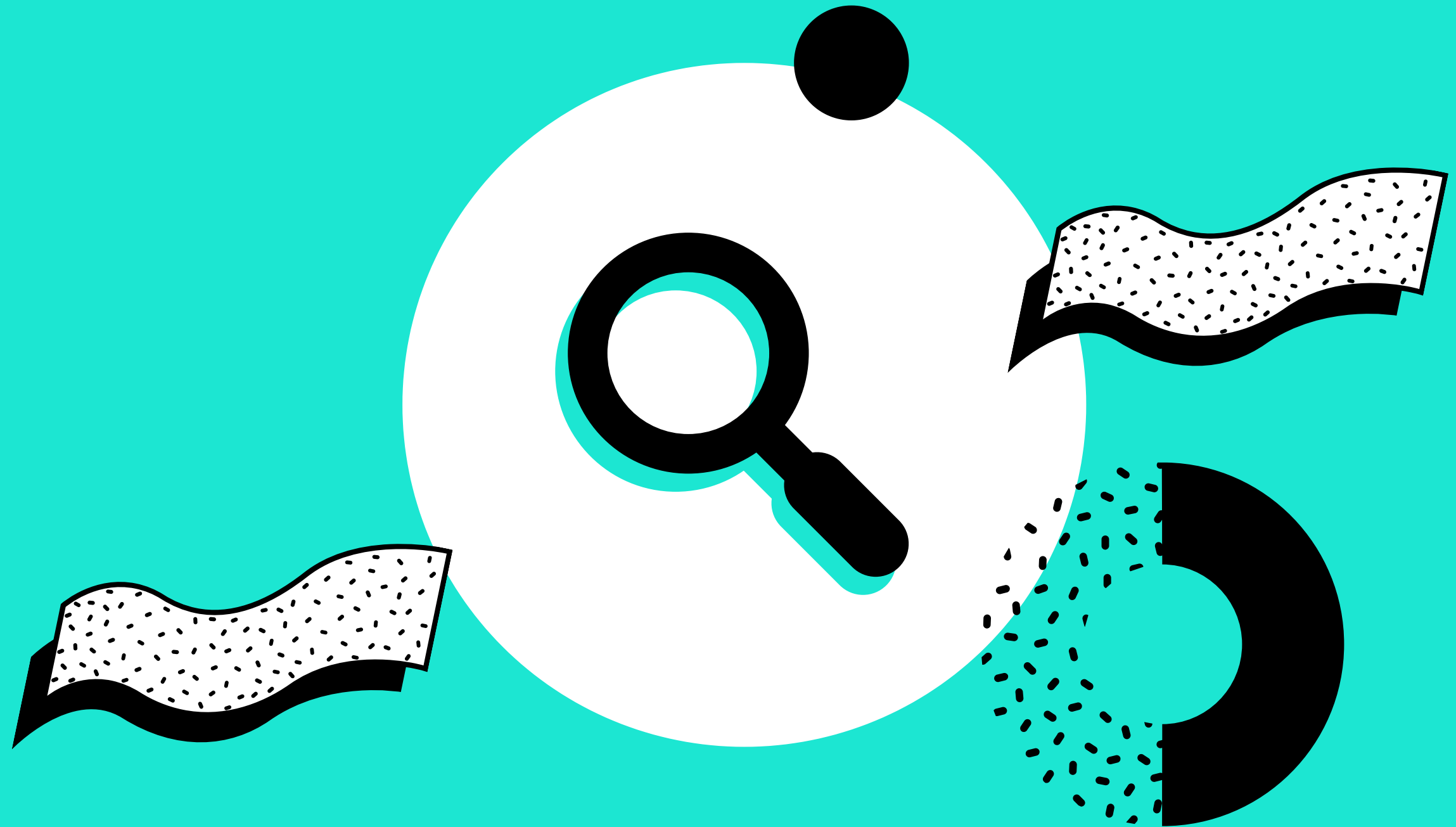
Contextual Advertising

Connected Advertising

In-Media Advertising

Semantic Advertising

# THE CONCEPTS





## *Advertising Stories*



*Advertising Stories*

# **Nº 1 UTILIZING WAITING TIME**



*Advertising Stories*

**Nº 1 UTILIZING WAITING TIME**

**Nº 2 EMOTION RECOGNITION**



*Advertising Stories*

**Nº 1 UTILIZING WAITING TIME**

**Nº 2 EMOTION RECOGNITION**

**Nº 3 GAMIFIED ADVERTISING**



*Advertising Stories*

**Nº 1 UTILIZING WAITING TIME**

**Nº 2 EMOTION RECOGNITION**

**Nº 3 GAMIFIED ADVERTISING**

**Nº 4 CONNECTED ADVERTISING**



*Advertising Stories*

**Nº 1 UTILIZING WAITING TIME**

**Nº 2 EMOTION RECOGNITION**

**Nº 3 GAMIFIED ADVERTISING**

**Nº 4 CONNECTED ADVERTISING**

**Nº 5 SEMANTIC ADVERTISING**



# Advertising Stories

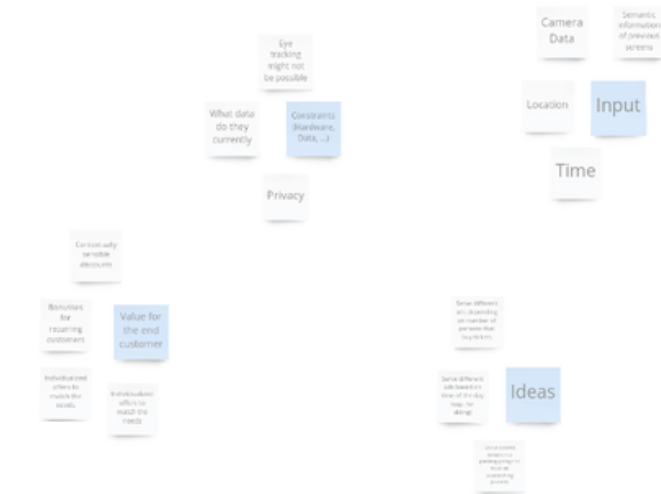
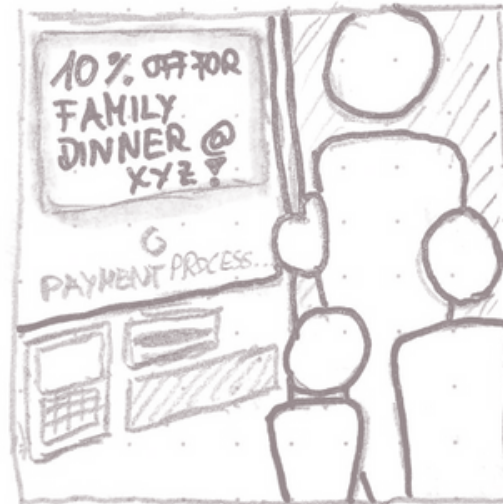
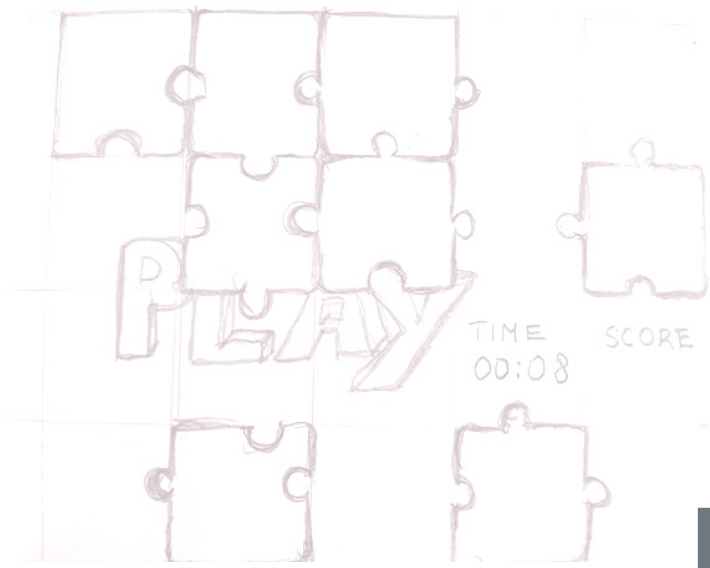
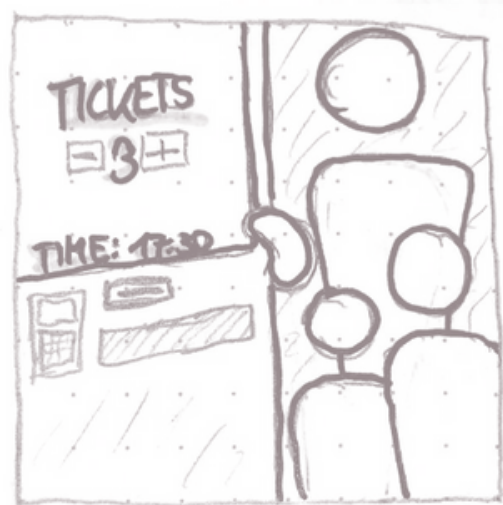
**No 1 UTILIZING WAITING TIME**

**No 2 EMOTION RECOGNITION**

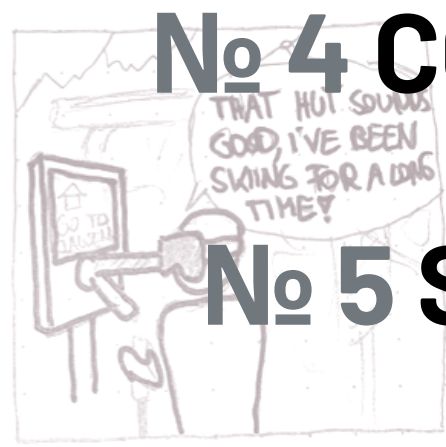
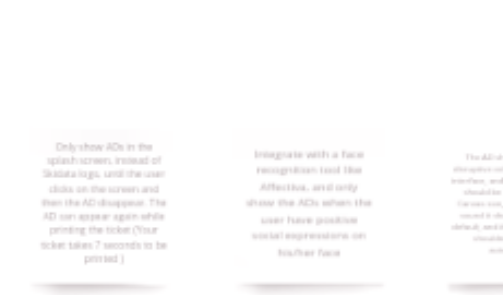
**No 3 GAMIFIED ADVERTISING**

**No 4 CONNECTED ADVERTISING**

**No 5 SEMANTIC ADVERTISING**



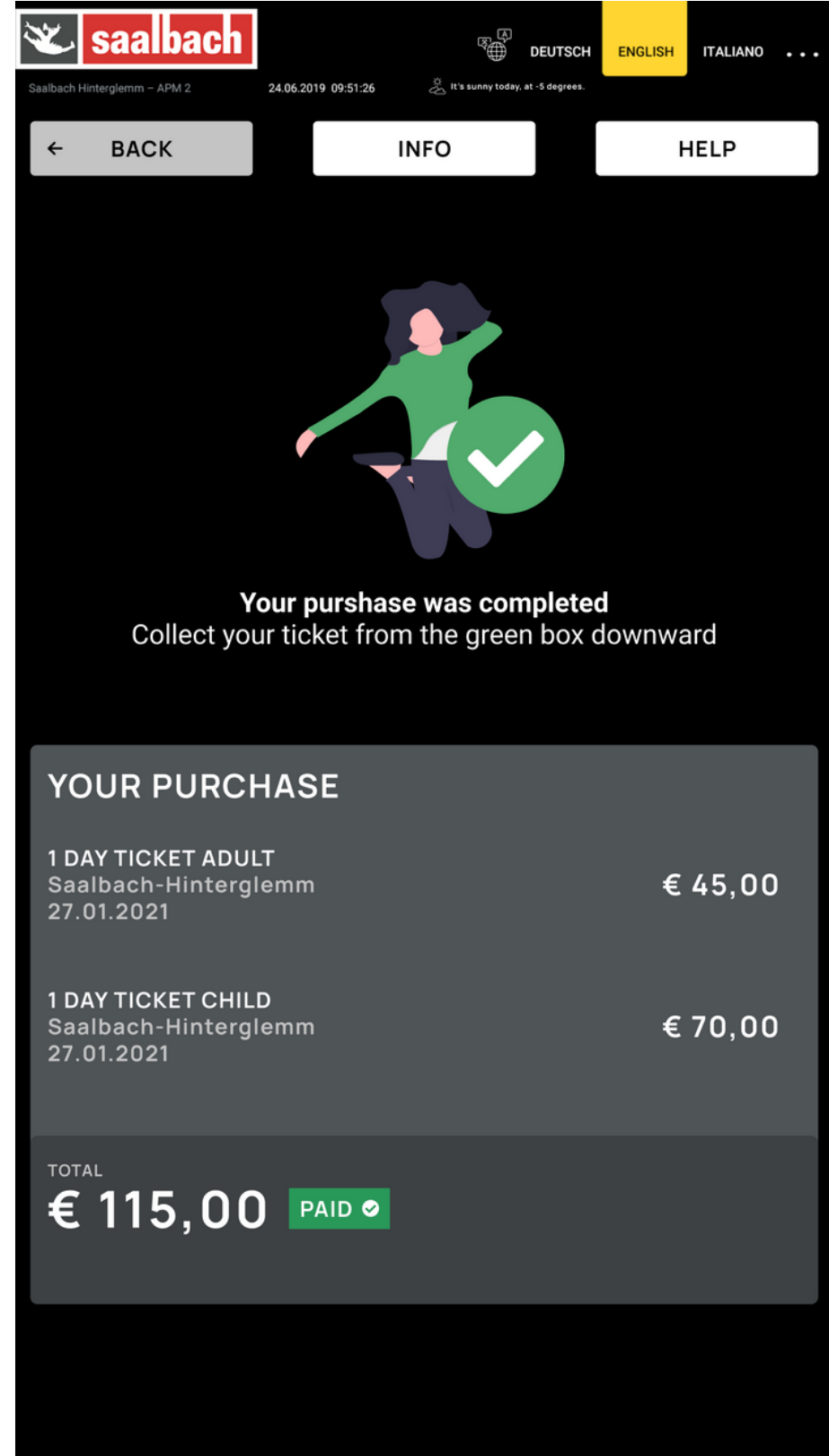
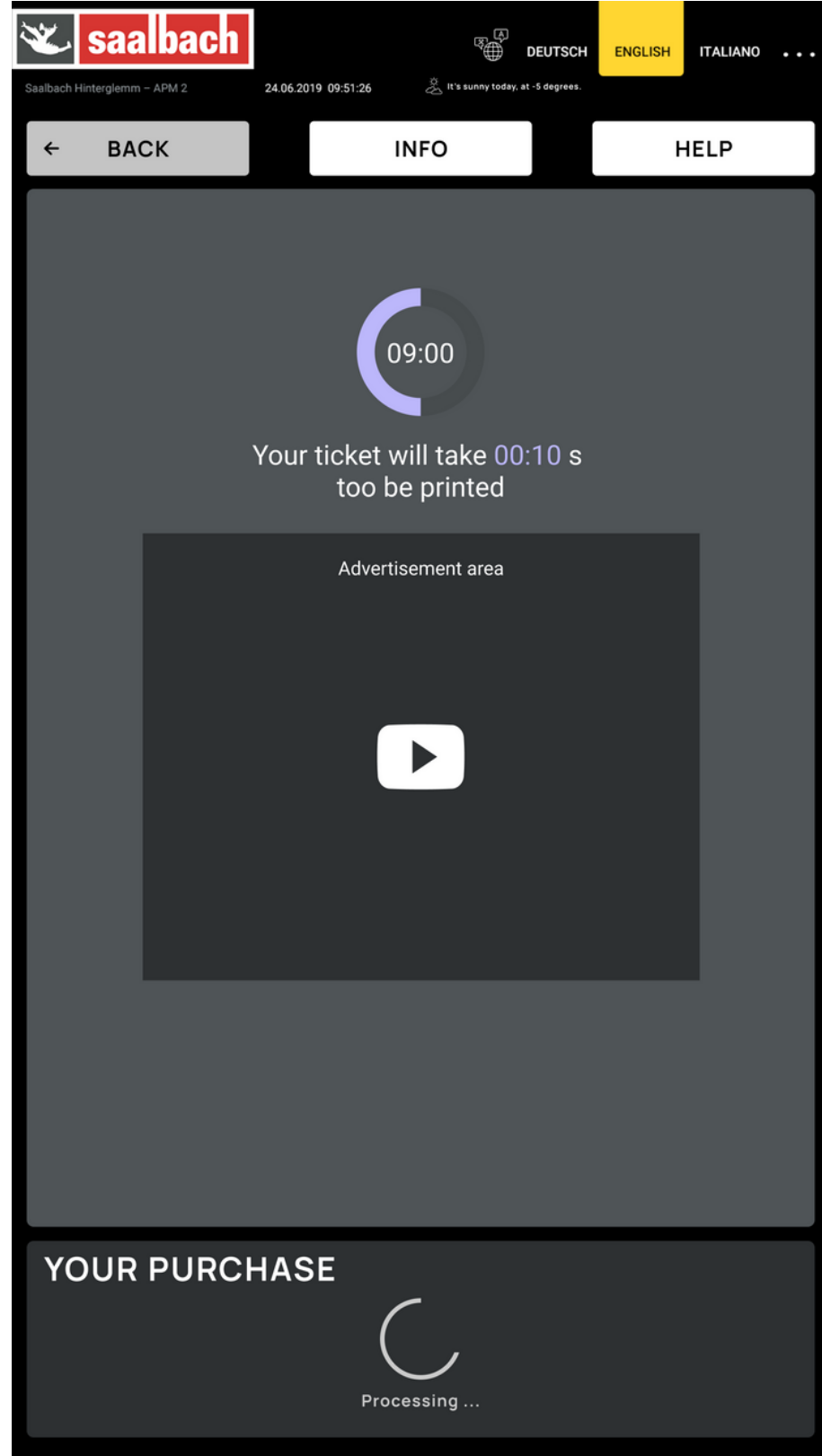
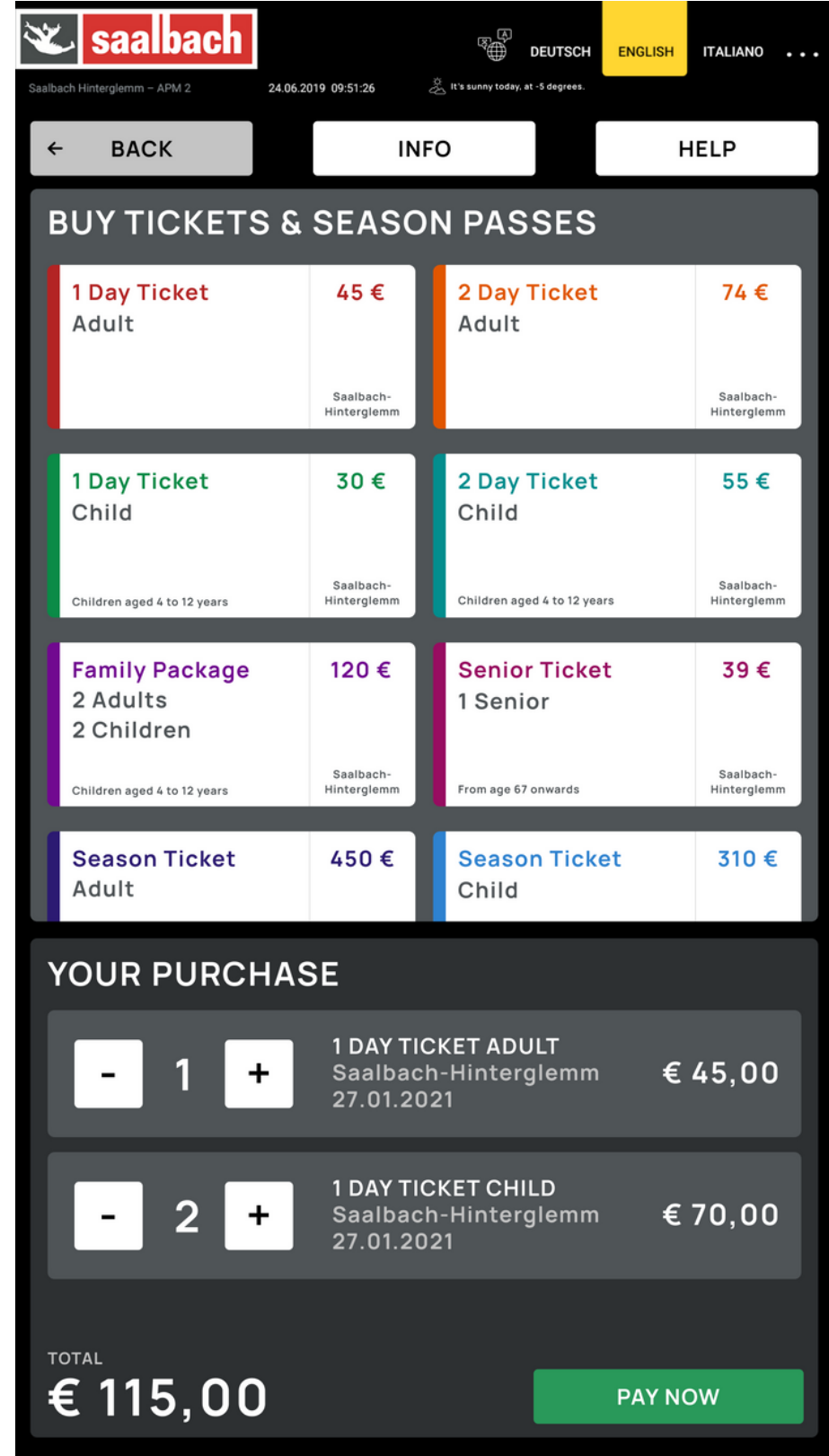
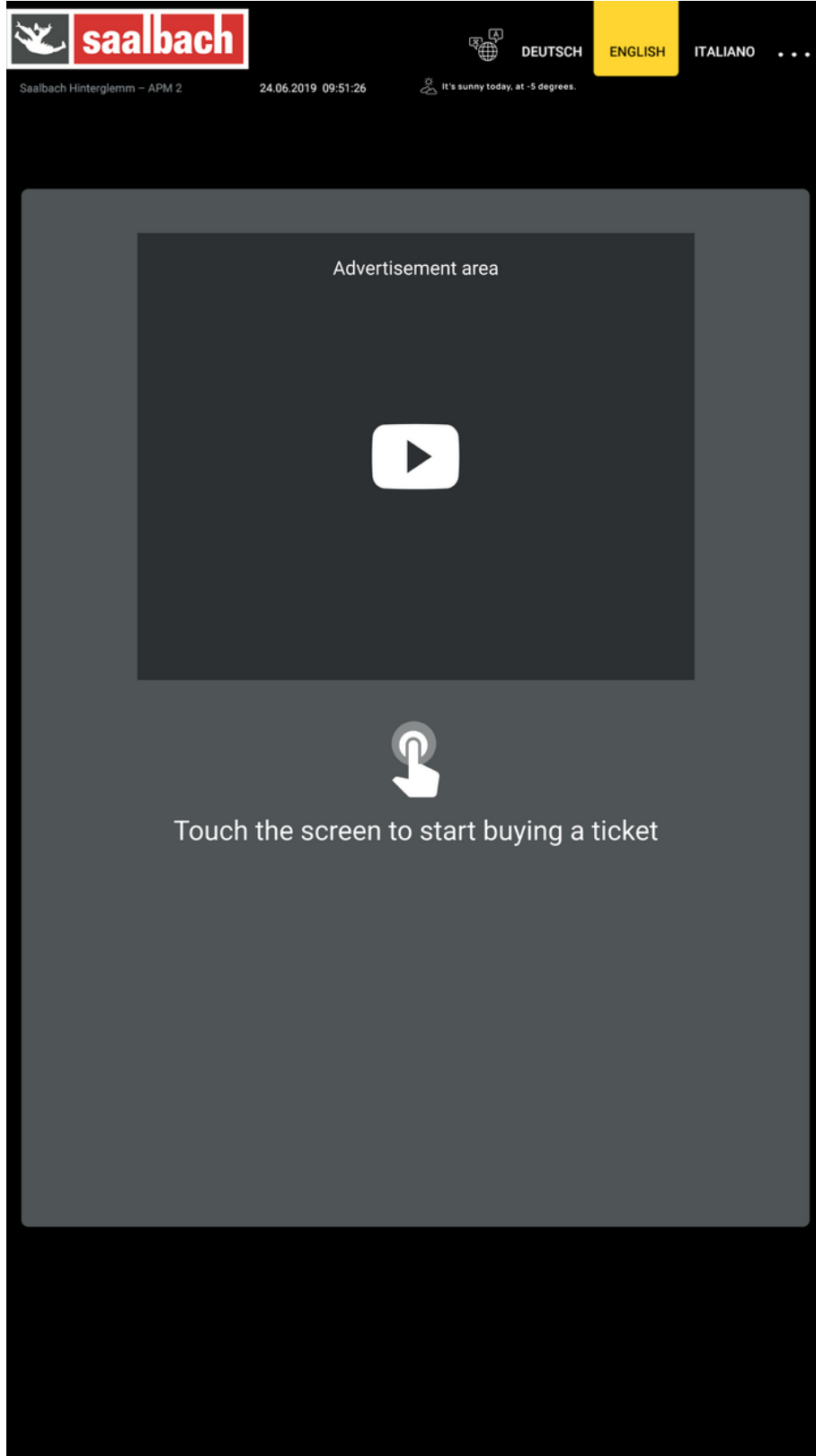
What adds value in the concept?




ADVERTISING STORY № 1

# UTILIZING WAITING TIMES





for SKIDATA customers

**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**

**Now the AD has a more noticeable display, it takes the full screen, it's displayed at a point when the user is not distracted. When no user is interacting with the machine it will always be displayed as a default splash screen, so the user will anyway see the AD until he clicks something on the screen to start buying a ticket.**

**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**



**for SKIDATA customers  
customers**

**It doesn't disrupt the user from doing his main user task, Users can access the screen functionalities in full screen giving them a clearer visibility.**

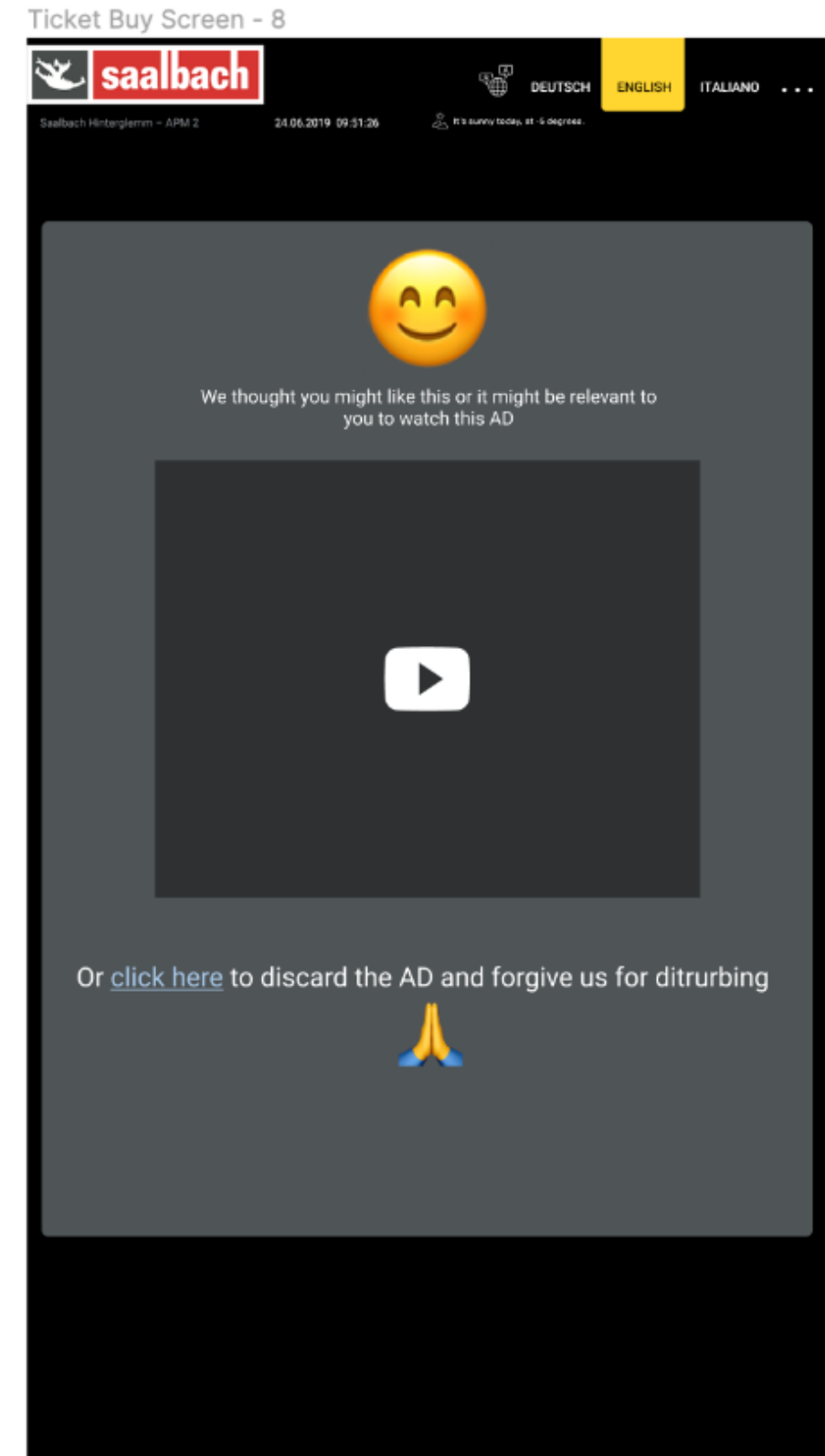
ADVERTISING STORY № 2

# EMOTION RECOGNITION




**If a +ve facial expressions detected**  
Show the AD

**If a -ve facial expressions detected**  
Don't show



for SKIDATA customers

**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**





**According to the indirect competitor research, ADs coupled with emotions leads better engagement, and when the user in a good mood he/she is more likely to give the AD more attention. Especially if the AD has a Call to Action to buy something, no user would take a buying decision under a negative emotion. Avoiding user's anger from the AD is a big added value to the advertisers**

**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**




**for SKIDATA customers  
customers**

**ADs are displayed only if the user is in a good mood, and not stressed. The message displayed with the AD with an emoji that mirror the user emotion might be a nice gesture for users.**

ADVERTISING STORY № 3

# GAMIFIED ADVERTISING


WHILE YOU WAIT



**Turn your high scores  
into loyalty points!**




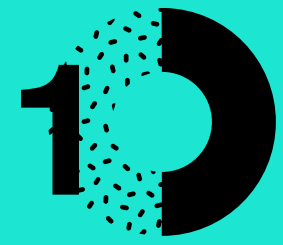
YOUR PURCHASE



Processing ...

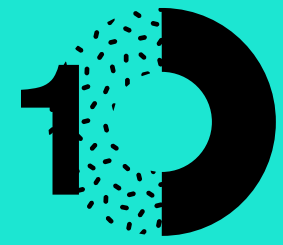
for SKIDATA customers

**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**



## **INCREASED USER ENGAGEMENT**

Let the user playfully explore something during their waiting time



## **INCREASED USER ENGAGEMENT**

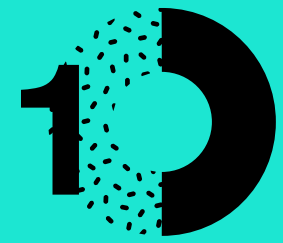
Let the user playfully explore something during their waiting time



## **CONNECT GAME SCORES TO LOYALTY POINTS**

SKIDATA's customers can give loyalty points to people with certain highscores





## **INCREASED USER ENGAGEMENT**

Let the user playfully explore something during their waiting time



## **CONNECT GAME SCORES TO LOYALTY POINTS**

SKIDATA's customers can give loyalty points to people with certain highscores



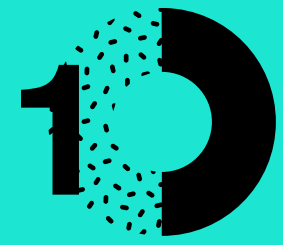
## **INCREASED BRAND CONNECTION**

Brand themed games can increase their significance for the user

**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**

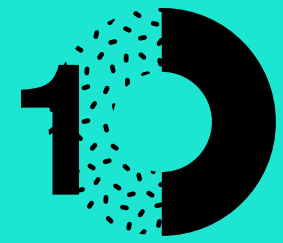


**for SKIDATA customers  
customers**



## **MAKING THE WAITING TIME JOYFUL**

Do not look at static ads, but have a playful experience instead



## **MAKING THE WAITING TIME JOYFUL**

Do not look at static ads, but have a playful experience instead



## **EARNING LOYALTY POINTS**

Users are motivated to earn points of the respective loyalty system

1

## MAKING THE WAITING TIME JOYFUL

Do not look at static ads, but have a playful experience instead

2

## EARNING LOYALTY POINTS

Users are motivated to earn points of the respective loyalty system

3

## EARN REAL WORLD BENEFITS

For high scores real world benefits could be given

ADVERTISING STORY № 4

# CONNECTED ADVERTISING

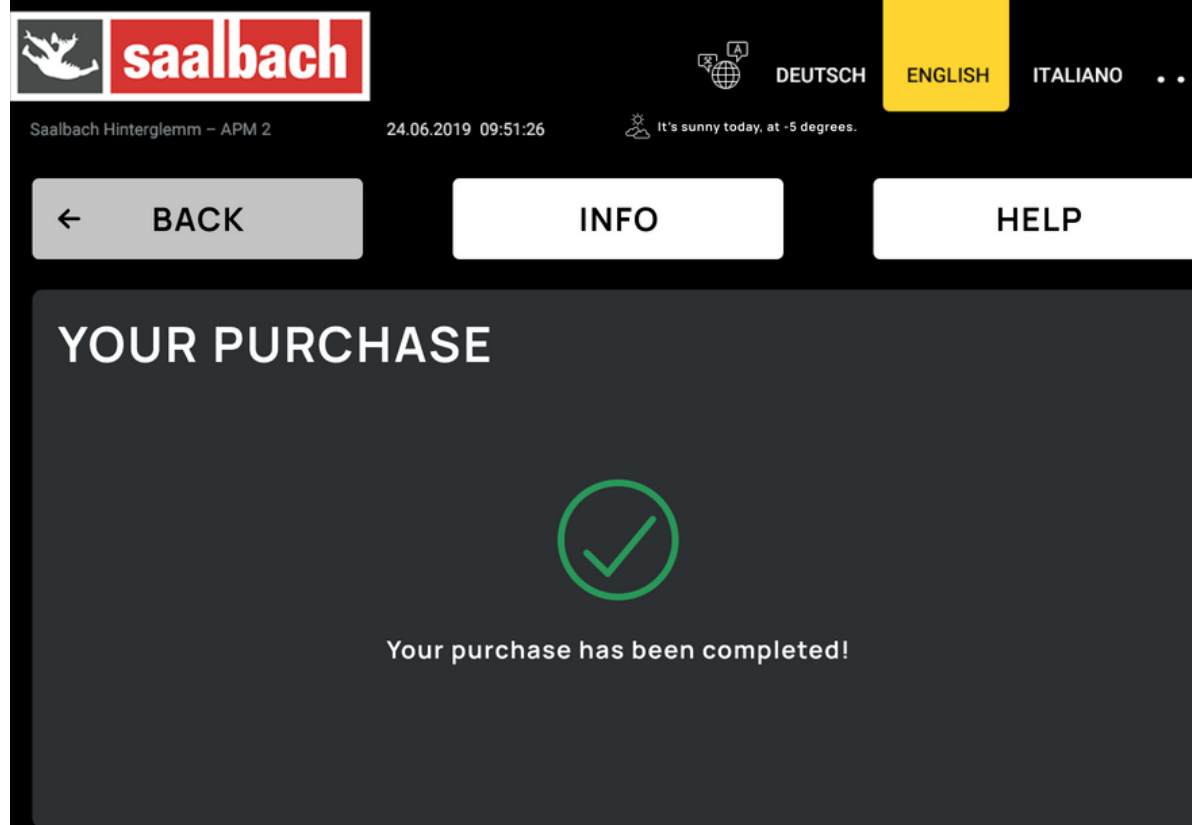
# CREATE AN ADVERTISING JOURNEY OVER MULTIPLE DEVICES





# 1 STARTING THE JOURNEY

Start tracking the user over multiple devices



Want to get notified on your phone if you're near our partners that offer discounts? Just scan this code!



# 2

## ANALYZE A POINT IN THE JOURNEY

Offer discounts based on the user's journey




saalbach Saalbach Hinterglemm - APM 2 24.06.2019 09:51:26

saalbach Saalbach Hinterglemm - APM 2 24.06.2019 09:51:26


It's sunny today, at -5 degrees.

SCAN YOUR TICKET



Waiting for your ticket ...

SCAN YOUR TICKET



Your ticket was scanned



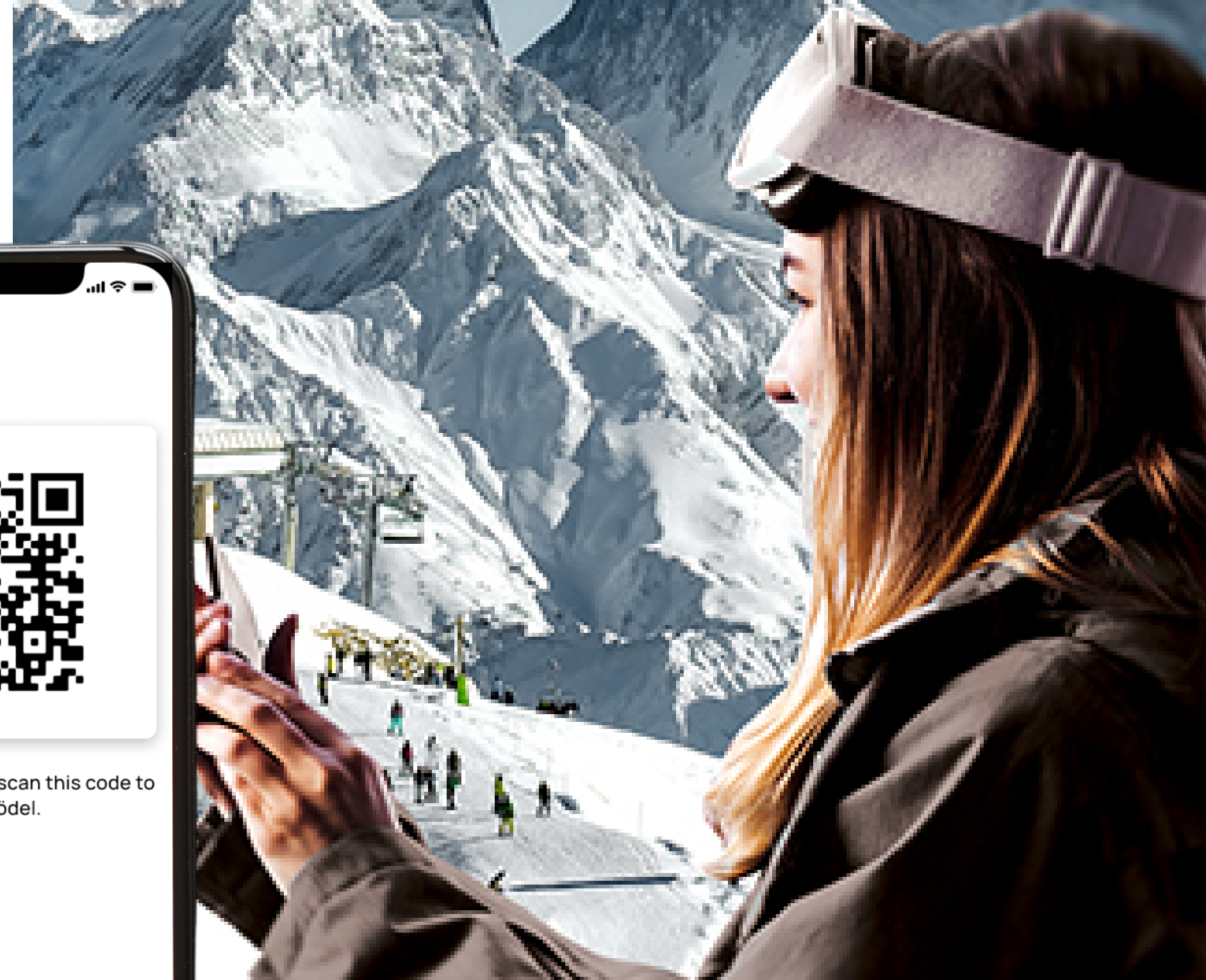
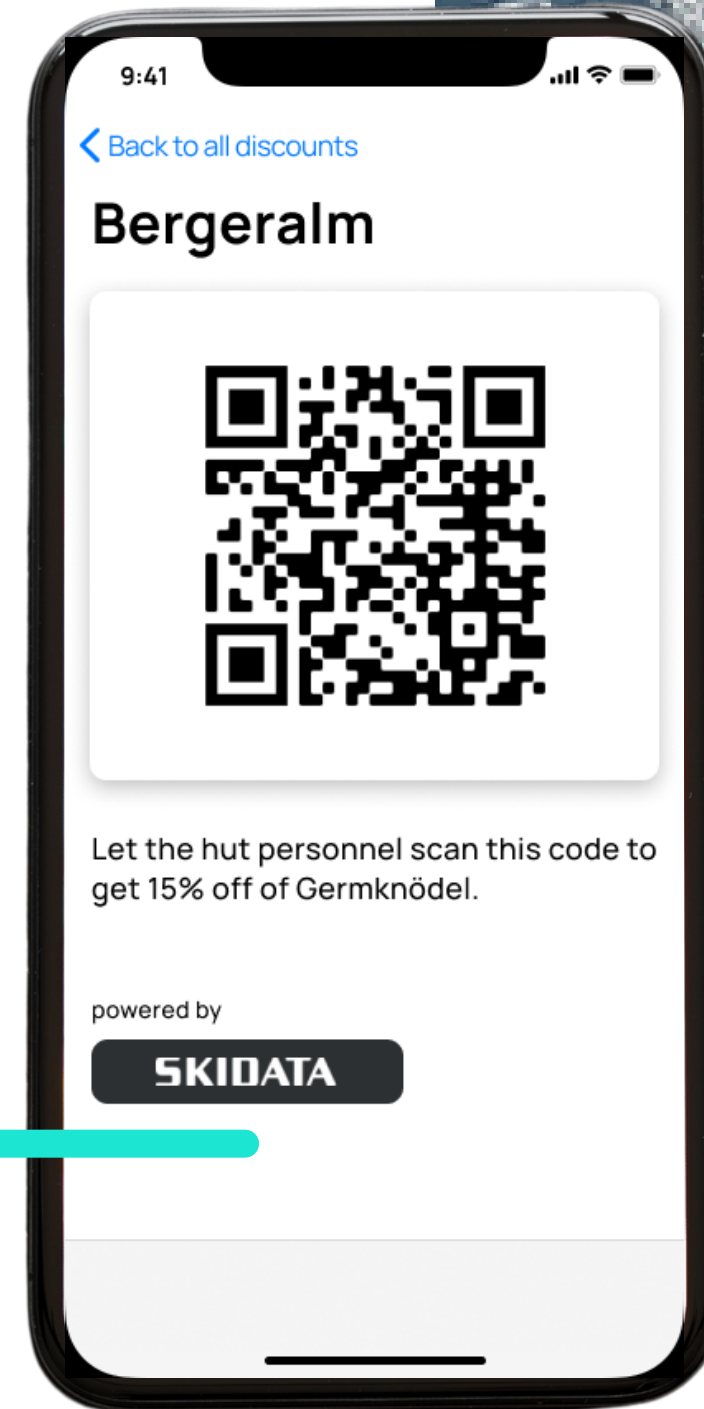
YOU'VE BEEN SKIING OVER 40KM!  
VISIT BERGERALM FOR A SHORT BREAK  
AND A GERMKNÖDEL AT 15% OFF



# 3 CONVERSION


Let users use their discounts on their devices

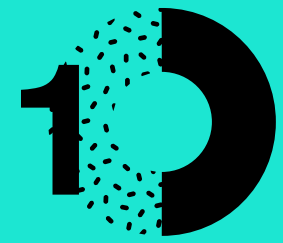
---



for SKIDATA customers

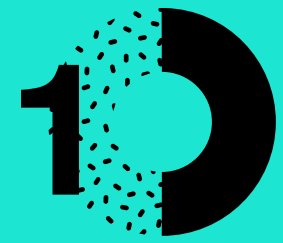
**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**





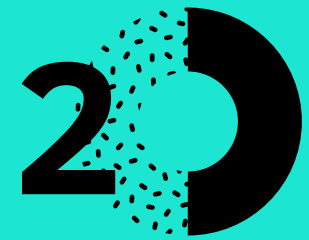
## **INCREASE TOUCH POINTS**

Reach the user at multiple locations/devices, increasing possibilities to show ads



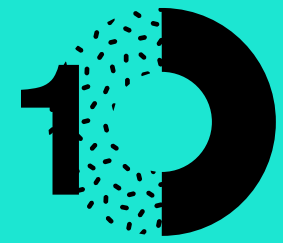
## **INCREASE TOUCH POINTS**

Reach the user at multiple locations/devices, increasing possibilities to show ads



## **GET MORE INFORMATION ABOUT THE USER**

Know which users are more susceptible to which ads and when in the journey



## **INCREASE TOUCH POINTS**

Reach the user at multiple locations/devices, increasing possibilities to show ads



## **GET MORE INFORMATION ABOUT THE USER**

Know which users are more susceptible to which ads and when in the journey



## **INCREASE INTERACTION WITH PARTNERS**

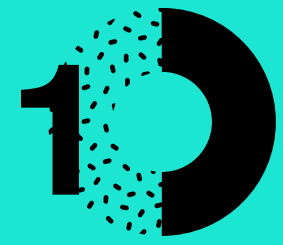
Of a pool of partners the most relevant is selected as an advertising

**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**



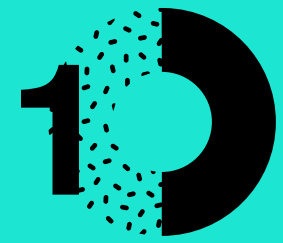
**for SKIDATA customers  
customers**





## **INCREASED RELEVANCY**

Utilizing contextual data we can show more valuable ads for the current situation



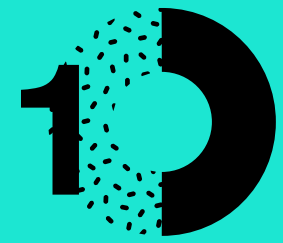
## **INCREASED RELEVANCY**

Utilizing contextual data we can show more valuable ads for the current situation



## **SHOW DISCOUNTS WHERE THEY CAN BE REDEEMED**

Ads are shown at the relevant locations, enabling users not to miss discounts



## **INCREASED RELEVANCY**

Utilizing contextual data we can show more valuable ads for the current situation



## **SHOW DISCOUNTS WHERE THEY CAN BE REDEEMED**

Ads are shown at the relevant locations, enabling users not to miss discounts



## **SEE STATUS UPDATES IN THE JOURNEY**

See where you are, how much you've skied and more, on all devices

ADVERTISING STORY № 5

# SEMANTIC ADVERTISING

1



2

Nº 49

The screenshot shows the mobile app interface for Saalbach Hinterglemm. At the top, there is a navigation bar with the Saalbach logo, language options (DEUTSCH, ENGLISH, ITALIANO), and a weather widget. Below the navigation bar are three buttons: BACK, INFO, and HELP. The main content area is titled "BUY TICKETS & SEASON PASSES" and displays a grid of ticket options. Each option includes the ticket type, price, and a small Saalbach-Hinterglemm logo. The options are: 1 Day Ticket Adult (45 €), 2 Day Ticket Adult (74 €), 1 Day Ticket Child (30 €), 2 Day Ticket Child (55 €), Family Package (120 €), Senior Ticket (39 €), Season Ticket Adult (450 €), and Season Ticket Child (310 €). Below this grid is a section titled "YOUR PURCHASE" which shows the items added to the cart. The first item is "1 DAY TICKET ADULT Saalbach-Hinterglemm 27.01.2021" with a quantity of 1 and a price of € 45,00. The second item is "1 DAY TICKET CHILD Saalbach-Hinterglemm 27.01.2021" with a quantity of 2 and a price of € 70,00. At the bottom, the total price is displayed as "TOTAL € 115,00" and a green "PAY NOW" button is visible.

Saalbach Hinterglemm - APM 2 24.06.2019 09:51:26 It's sunny today, at -5 degrees.

DEUTSCH ENGLISH ITALIANO

← BACK INFO HELP

### BUY TICKETS & SEASON PASSES

<b>1 Day Ticket Adult</b>	<b>45 €</b>	<b>2 Day Ticket Adult</b>	<b>74 €</b>
<small>Saalbach-Hinterglemm</small>		<small>Saalbach-Hinterglemm</small>	
<b>1 Day Ticket Child</b>	<b>30 €</b>	<b>2 Day Ticket Child</b>	<b>55 €</b>
<small>Children aged 4 to 12 years</small>	<small>Saalbach-Hinterglemm</small>	<small>Children aged 4 to 12 years</small>	<small>Saalbach-Hinterglemm</small>
<b>Family Package</b>	<b>120 €</b>	<b>Senior Ticket</b>	<b>39 €</b>
<b>2 Adults</b>		<b>1 Senior</b>	
<b>2 Children</b>	<small>Saalbach-Hinterglemm</small>	<small>From age 67 onwards</small>	<small>Saalbach-Hinterglemm</small>
<small>Children aged 4 to 12 years</small>			
<b>Season Ticket Adult</b>	<b>450 €</b>	<b>Season Ticket Child</b>	<b>310 €</b>

### YOUR PURCHASE

-	1	+	1 DAY TICKET ADULT Saalbach-Hinterglemm 27.01.2021	€ 45,00
-	2	+	1 DAY TICKET CHILD Saalbach-Hinterglemm 27.01.2021	€ 70,00

TOTAL  
**€ 115,00**

PAY NOW

# 2

## SEMANTIC INFORMATION TO LEVERAGE

In the morning

Family of Three

Purchasing Power

The screenshot shows the Saalbach Hinterglemm website interface. At the top, there is a navigation bar with the Saalbach logo, language options (DEUTSCH, ENGLISH, ITALIANO), and a weather forecast. Below the navigation bar are buttons for BACK, INFO, and HELP. The main content area is titled "BUY TICKETS & SEASON PASSES" and displays a grid of ticket options:

Ticket Type	Price
1 Day Ticket Adult	45 €
2 Day Ticket Adult	74 €
1 Day Ticket Child	30 €
2 Day Ticket Child	55 €
Family Package (2 Adults, 2 Children)	120 €
Senior Ticket (1 Senior)	39 €
Season Ticket Adult	450 €
Season Ticket Child	310 €

Below the grid is a "YOUR PURCHASE" section with a summary of the selected items:

Item	Quantity	Price
1 DAY TICKET ADULT Saalbach-Hinterglemm 27.01.2021	1	€ 45,00
1 DAY TICKET CHILD Saalbach-Hinterglemm 27.01.2021	2	€ 70,00

The total price is displayed as **TOTAL € 115,00**. A green "PAY NOW" button is located at the bottom right of the purchase summary.

# 3

## SHOW A PERSONALIZED AD


The screenshot shows the mobile app interface for 'saalbach'. At the top, there is a navigation bar with the 'saalbach' logo, a globe icon, and language options: 'DEUTSCH', 'ENGLISH', and 'ITALIANO'. Below the navigation bar, there is a status bar showing the location 'Saalbach Hinterglemm - APM 2', the date and time '24.06.2019 09:51:26', and a weather forecast 'It's sunny today, at -5 degrees.'.

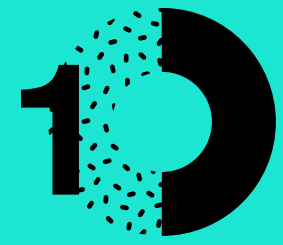
The main content area is a dark grey card with the following elements:

- A navigation bar with three buttons: '← BACK', 'INFO', and 'HELP'.
- The text 'WHILE YOU WAIT' in white.
- A QR code in the center.
- The promotional text 'Get family breakfast at 10% off!' in white.
- A high-quality photograph of a breakfast spread on a wooden table, featuring cinnamon rolls, bread, coffee, fruit, and cereal.
- The text 'YOUR PURCHASE' in white.
- A loading indicator consisting of a white circular arrow and the text 'Processing ...'.



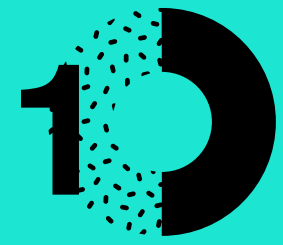
for SKIDATA customers

**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**



## **MORE RELEVANCY**

By utilizing semantic information, we can serve more relevant ads



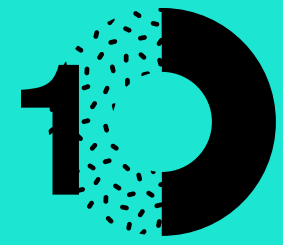
## **MORE RELEVANCY**

By utilizing semantic information, we can serve more relevant ads



## **USES EXISTING TECHNOLOGY**

No additional hardware (and therefore costs) needed



1

## **MORE RELEVANCY**

By utilizing semantic information, we can serve more relevant ads



2

## **USES EXISTING TECHNOLOGY**

No additional hardware (and therefore costs) needed



3

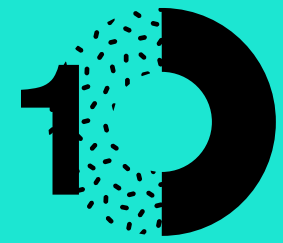
## **USER DATA**

No need to store user data, semantic analysis can happen on machine

**DEMONSTRATE WAYS TO  
ADD VALUE TO SKIDATAS  
IN-PRODUCT ADVERTISING**

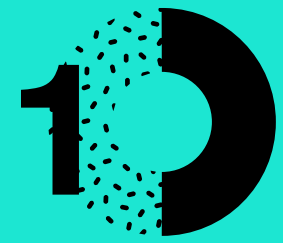


**for SKIDATA customers  
customers**



## **MORE RELEVANCY**

Users see ads that are semantically relevant to their current situation



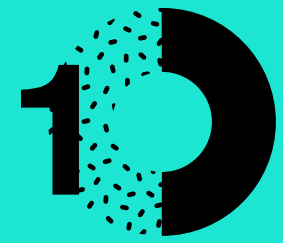
## **MORE RELEVANCY**

Users see ads that are semantically relevant to their current situation



## **NON INTRUSIVE ADS**

In combination with story 1, we only show ads when appropriate



## **MORE RELEVANCY**

Users see ads that are semantically relevant to their current situation



## **NON INTRUSIVE ADS**

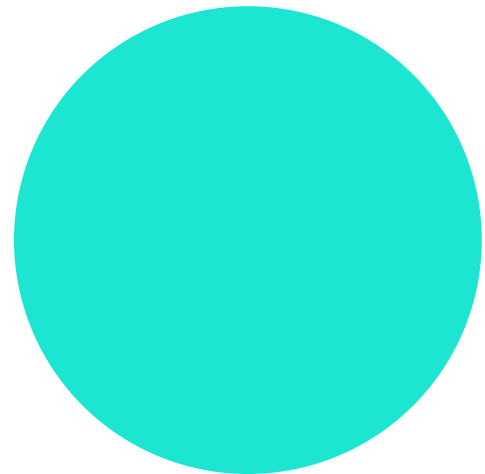
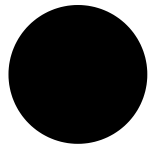
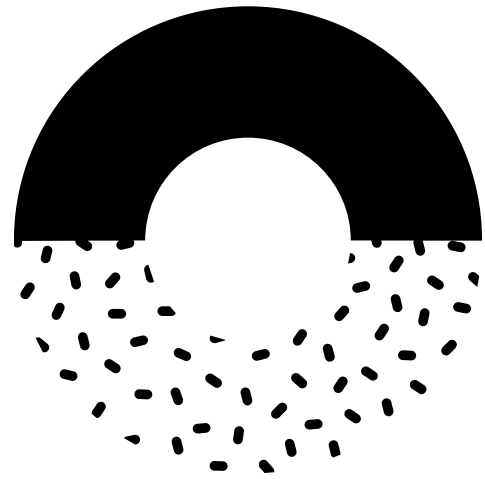
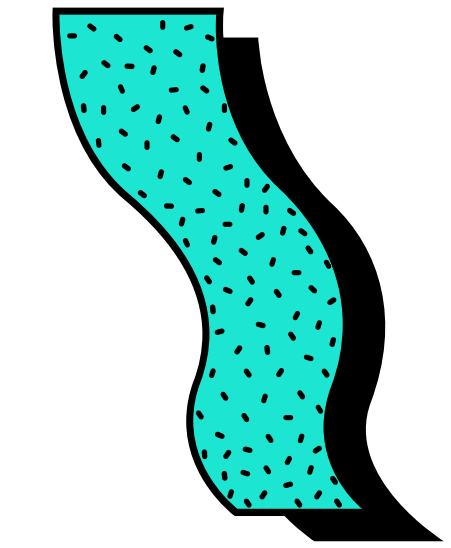
In combination with story 1, we only show ads when appropriate



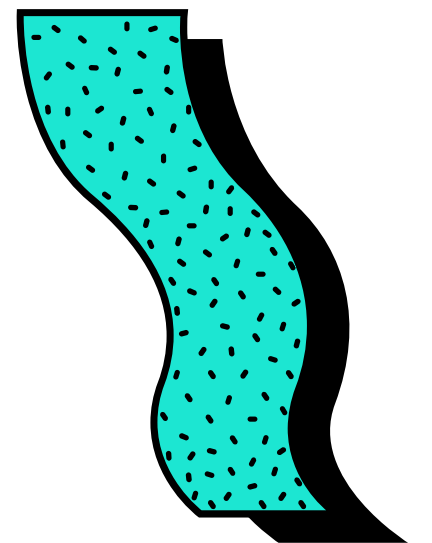
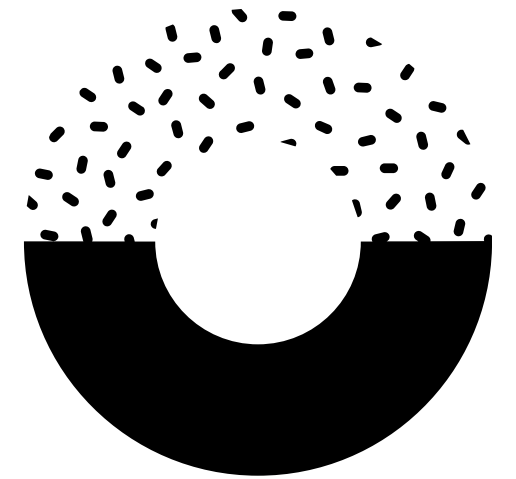
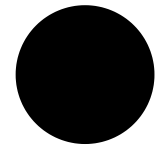
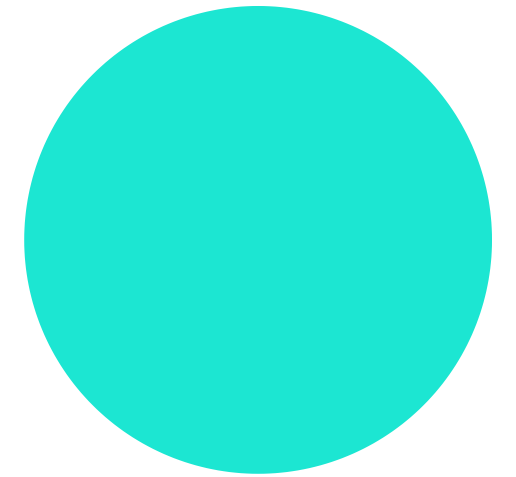
## **PRIVACY**

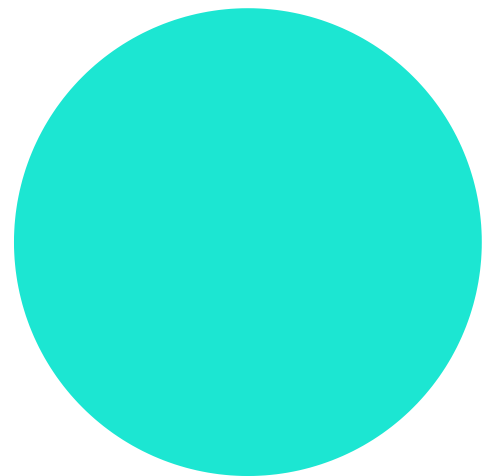
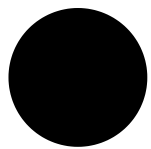
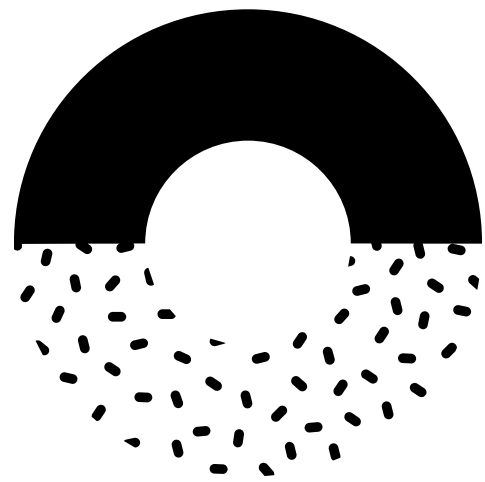
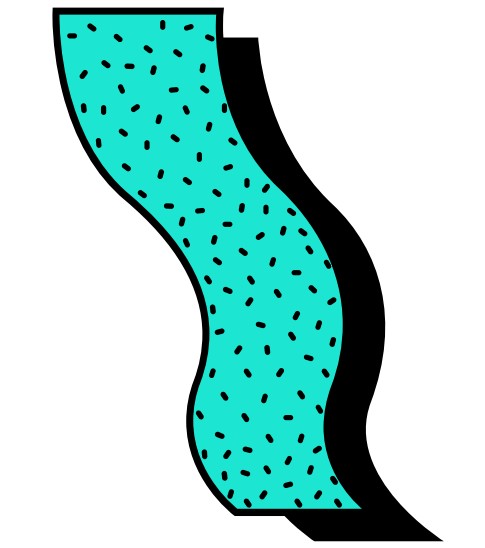
No data has to be stored or tracked, everything happens on the machine





**THANK YOU.**

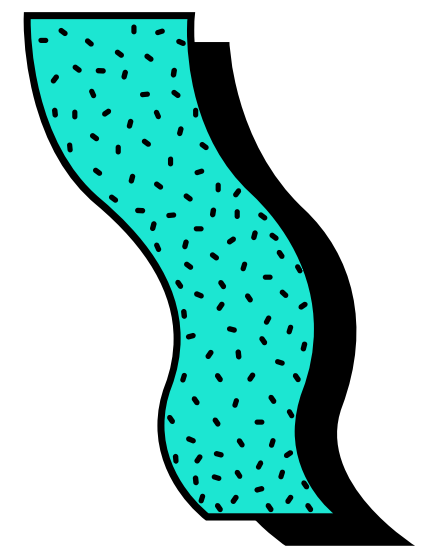
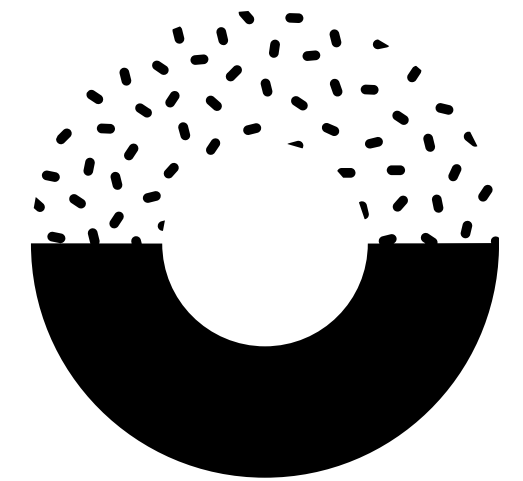
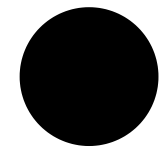
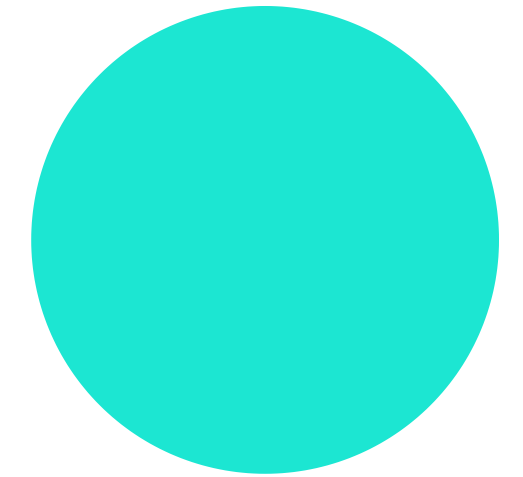




**THANK YOU.**



*Any questions?*



# BACKUP



## \* Paper

### \* Contextual advertising

- Distraction effects of contextual advertising
  - + Key Message: Low relevancy ads decrease quality of adjacent content
  - + Themes: Distraction, Relevancy of Ads
- MoCa - Privacy-preserving Contextual Advertising
  - + Key Message: Personalized ads without privacy infringement, based on semantic text and environment data
  - + Themes: Personalization, Semantics, Environment
- Semantic Matching of Queries to Ads
  - + Key Message: Incorporation of semantics together with link clicks, dwell time, ... increases ad relevancy
  - + Themes: Semantics, Leverage contextual information like dwell time (e.g. somebody who needs longer to finish process ,...)
- In-Image Advertising
  - + Key Message: Leverage Image Data to serve relevant ads in-image
  - + Themes: In-Image

### \* Future advertising

- Conceptualizing the Evolution and Future of Advertising
  - + Key Message: Advertising has become a two-way conversation, leverage that instead of going back to one-way
  - + Themes: Conversational Advertising
- Advertising in the Fourth Industrial Revolution
  - + Key Message: Trends for 2020 onwards are the themes below
  - + Themes: Five-Sensual Advertising, Mobile advertising, Viral advertising, Attention-Capture Advertising, Gamified Advertising
- Advancing Computational Advertising
  - + Key Message: Future of computational advertising is in multi-personalization targeting (Cars not only in car magazines, but bas
  - + Themes: Advertising Journey, Contextual semantics
- Native Advertising and the Future of Mass Communication
  - + Key Message: Multiple trends are laid out concerning native advertising and sponsored content
  - + Themes: Paid Content, Credibility of paid content
- Digital advertising: Present and future prospects
  - + Key Message: Big Data and AI are important for the future of advertising
  - + Themes: AI

### \* Advertising Trends

- Emerging Trends and Issues in Digital Advertising
  - + Key Message: Emerging Trends and Issues in Advertising
  - + Themes: The end of banner advertising, Contextual Advertising, In-Line Advertising, Paid Content
- Trend Report Advertising
  - + Key Message: Trends in Advertising
  - + Themes: Paid Content (Issues with unlabelled paid content)

### \* Vending machine advertising

- Location-aware advertising to vending machine users
  - + Key Message: Connecting multiple parking meters and their respective information to a vending machine
  - + Themes: Contextual advertising, Advertising Journey, Connection of physical contexts
- Physical parking advertising
  - + Key message: Patent for location-aware advertising and added-value pop-ups for parking vending machines
  - + Themes: Contextual Advertising, Advertising Journey

### \* Physical advertising

- Google Patent for location-aware advertising
  - + Key Message: Patent for location aware advertising