RESEARCH PROJECT

SURVEY REPORT

FUTURE DESIGN PACKAGING

THE FUTURE OF PACKAGING DESIGN
TOWARDS A SMART AND SUSTAINABLE ERA

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DEPARTMENT OF ARCHITECTURE

research
advanced
design
unit

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA
DIPARTIMENTO DI ECCELLENZA MIUR
(L.232 DEL 1/12/2016)

06.12.2019

1. THE PREMISES, THE CONTEXT AND THE RESEARCH OBJECTIVES

2. THE RESEARCH PROCESS: A GLIMPSE AT A CHANGING WORLD

3. SURVEY OF MAIN DRIVERS FOR PACKAGING SECTOR

FUTURE DESIGN PACKAGING

1.

THE PREMISES, THE CONTEXT AND THE RESEARCH OBJECTIVES

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THE PREMISES AND THE GLOBAL CONTEXT

1) Unsustainable use of resources

2) Rapid changes at a regulatory level

3) Rapid evolution of enabling technology
and digital production/distribution processes

4) Increasing people's engagement
for environmental isuues

FUTURE
DESIGN
PACKAGING

HOW THIS RESEARCH WAS CARRIED ON

- We explored the packaging industry along the **entire value chain.**

- Secondly, we considered DESIGN as a whole: PROCESS, PRODUCT and SERVICE.
Observation of the **Product-Service-System**

FUTURE DESIGN PACKAGING

DESIGN AS A MEDIATOR*

1) Design as a **tool** capable of **redesigning packaging according to circularity criteria**

2) Design as a tool to support an **innovative packaging industry** (functionalization of Packaging through the integration of digital technologies)

3) Design as a **communication mean** for a widespread **sustainable culture**

* Celaschi, F. (2008). Il design come mediatore tra bisogni.
In: C. Germak (Ed.), **L'uomo al centro del progetto.** Torino, Italia: Allemandi.

FUTURE DESIGN PACKAGING

RESEARCH OBJECTIVES

- Exploring the **extended role of Design** in the Packaging Industry

- Exploring the **extended role of packaging in our life**

- Offering a first interpretation of the data collected, identifying **Main Drivers**

- Creating a **Permanent Observatory** on Packaging Design, “a network of specialised networks”

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2.

THE RESEARCH PROCESS:
A GLIMPSE AT A CHANGING WORLD

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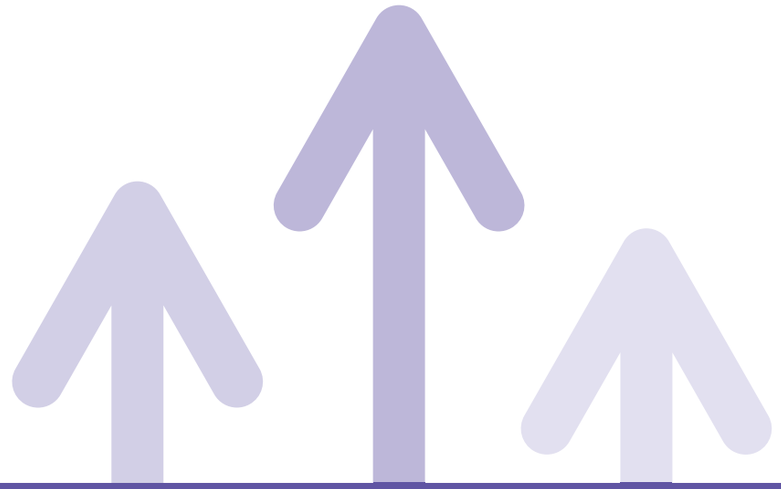
MULTIDIMENSIONAL FACTORS for the case studies selection

- Marketed products and research projects
- Relation with design-led drivers
- Type of organization and geographical location
- Quality and quantity of the information available
- Economic impact of solutions
- Type of project reported:
  > disciplinary areas
  > tools and methods adopted

FUTURE DESIGN PACKAGING



LIMITS AND SHORTCOMING

NOT a ranking or a taxonomy that distinguishes excellence and non excellence.
A GLIMPSE AT A CHANGING WORLD

The creation of a permanent and structured Observatory will overcome the limits of the research

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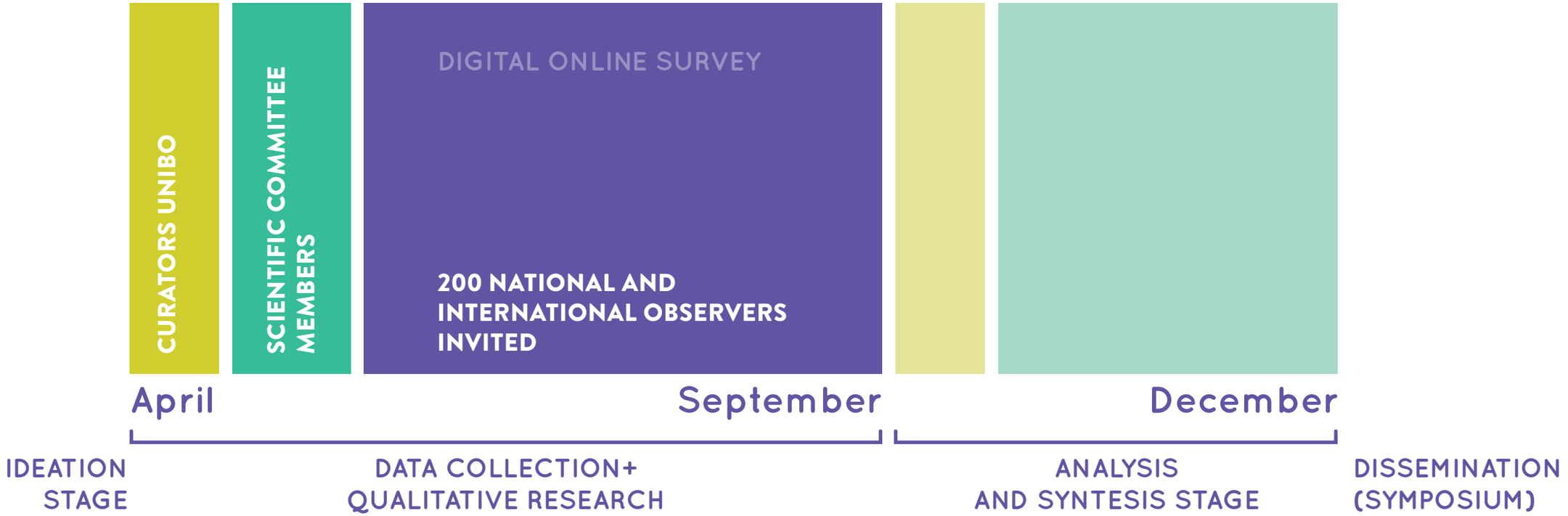
THE DATA COLLECTION



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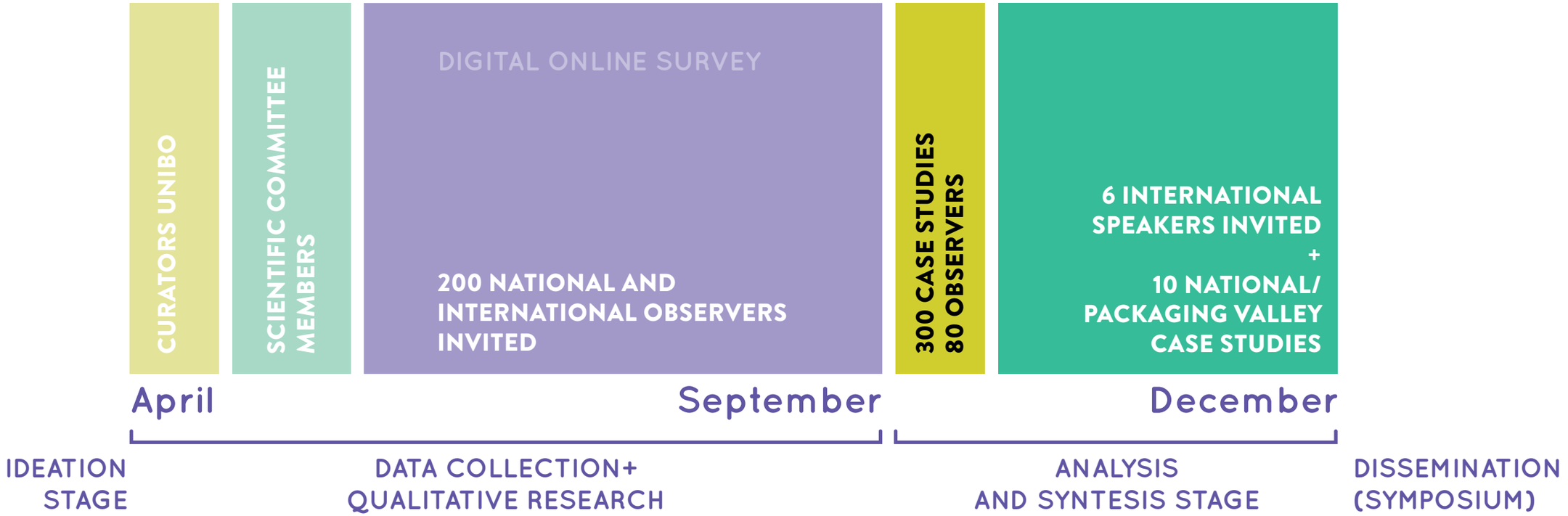
THE ANALYSIS AND SYNTHESIS

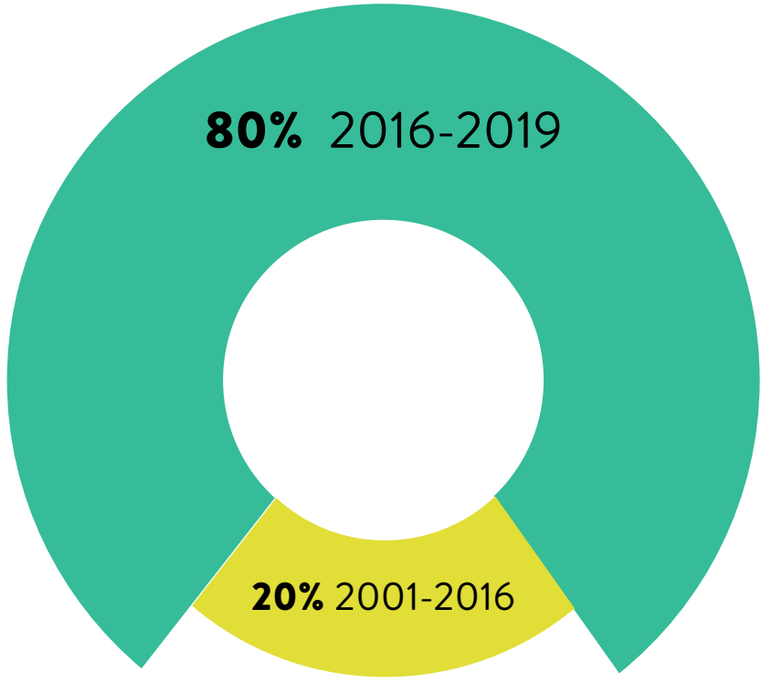


FUTURE DESIGN PACKAGING

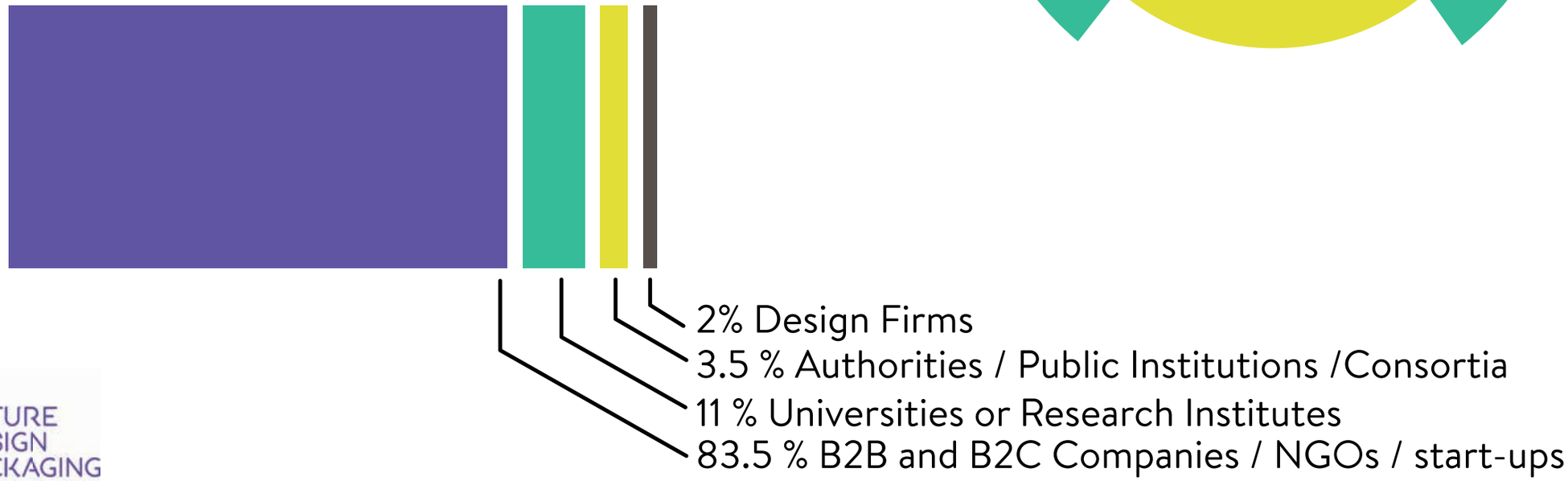
80 OBSERVERS

10 University
17 Companies
5 Design Firms
5 Consortia/Institutions
20+ Freelance/ Designer

325 CASE STUDIES (by October 1st 2019)



CASE STUDIES DEVELOPED BY



FUTURE DESIGN PACKAGING

GEOGRAFICAL DISTRIBUTION OF CASE STUDIES

110 Europe (excl. Italy)
108 Italy (40 only from Emilia Romagna)
84 Usa
7 Chile
6 China
5 Indonesia
4 Brazil
1 Greece

FUTURE DESIGN PACKAGING

MAIN AREAS OF CASE STUDIES

55 %
ECO
MATERIALS

21.5 %
SHAPE AND
FUNCTIONALITY

15.5 %
SMART
SOLUTIONS

8 %
AUTOMATION
AND LOGISTIC

SPECIFIC FEATURES OF CASE STUDIES

40.7 % WASTE REDUCTION
32.4 % RENEWABLE/BIOBASED MATERIALS
29.6 % RECYCLING PROCESS
21.6 % CIRCULAR PROCESS
21.5% LOGISTIC EFFICIENCY/ PRODUCTION EFFICIENCY
21.03 % REUSABILITY
17.6 % PACKAGE FEATURES/SIZING
17.3 % INTELLIGENT/ACTIVE PACKAGING
13 % CONSUMER ENGAGMENT
11.4 % CARBON FOOTPRINT
10.8 % E-COMMERCE / OMNICHANNEL
7.4 % TRACK AND TRACE
6.5 USABILITY/ACCESSIBILITY
4.3% AUGMENTED/VIRTUAL REALITY

FUTURE
DESIGN
PACKAGING

3.

SURVEY OF MAIN DRIVERS FOR PACKAGING SECTOR

FUTURE DESIGN PACKAGING

1. (NEW) MATERIALS ARE GOLD

PILLARS

- Attention to **Materials Origin** and **Waste issue**

> BIODEGRADABLE/COMPOSTABLE/EDIBLE MATERIALS
> (PLASTICS/) MATERIAL REDUCTION

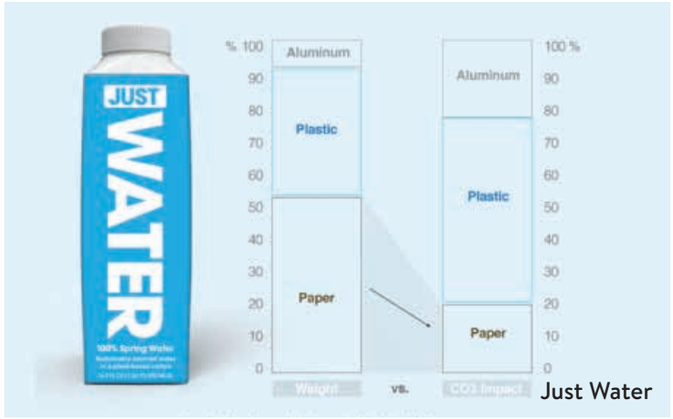
- Focus on **Overall Environmental Impact**

> RENEWABLE SOURCES
> CARBON, WATER OR ENERGY FOOTPRINT REDUCTION
> INCREASED DATA TRANSPARENCY

FUTURE DESIGN PACKAGING

Sulapac

Saltwater Brewery



Just Water

DESIGN ALERT #1

The design of packaging materials should take into account infrastructural and ecosystem aspects.

> CAN THIS MATERIAL BE RECYCLED WITH THE EXISTING INFRASTRUCTURES?

>WHAT IS THE ENVIRONMENTAL IMPACT OF THE OVERALL PRODUCTION PROCESS?

2. CLOSING THE LOOP

PILLARS

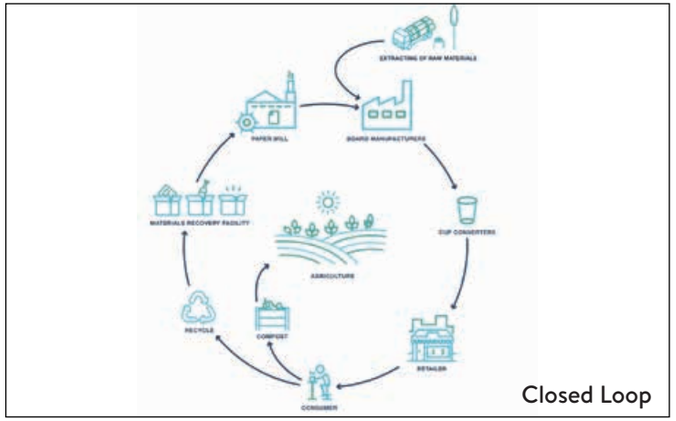
- **Shared Participation** in closing the circle

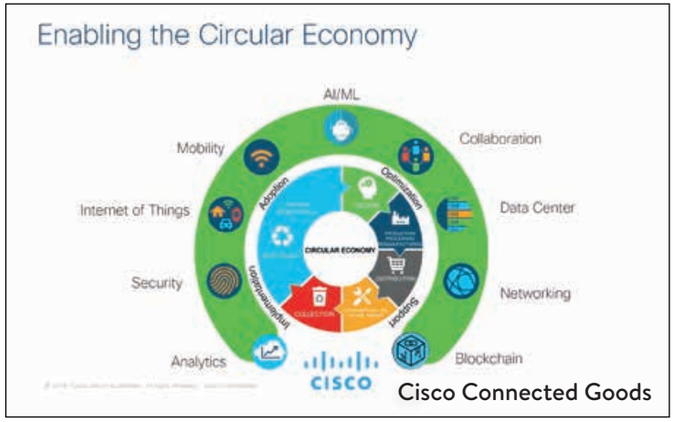
> CONSUMERS HAVE AN ACTIVE ROLE TO PLAY
> CIRCULARITY IS BASED ON COLLABORATION AMONG ACTORS IN THE SUPPLY CHAIN

- **Traceability** for Circularity

> PACKAGING TRACKING ALONG THE SUPPLY CHAIN HELPS TO CREATE CIRCULAR PROCESSES

Loop - Terracycle


Closed Loop



Cisco Connected Goods

FUTURE DESIGN PACKAGING

DESIGN ALERT #2

The packaging circular design should take into account gains and pains of all the players in the process.

> WHAT HAPPENS TO THE PLAYER WHO COME AFTER?

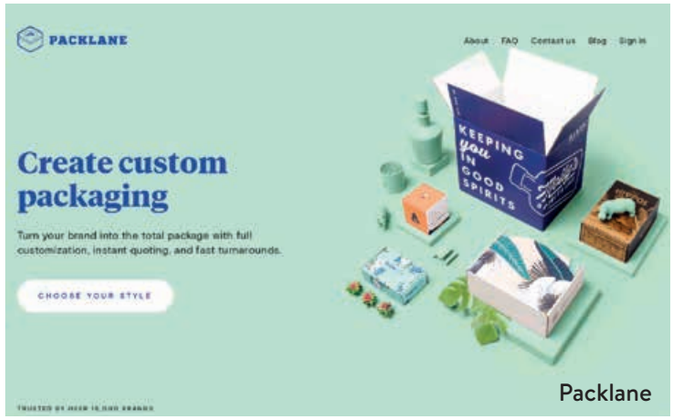
> HOW CAN OTHER ACTORS SUPPORT MY JOB IN A CIRCULAR APPROACH?

3. SHAKING THE VALUE CHAIN

PILLARS

- Digital Revolution, Ecommerce and Start-up ecosystem have intertwined the value chain (**value web** or **value network**)

> CONSUMER ENGAGEMENT EVEN BEFORE PRODUCTION (PROJECT CUSTOMIZATION)
> DISTRIBUTION AND SHARING AS NEW ASSETS

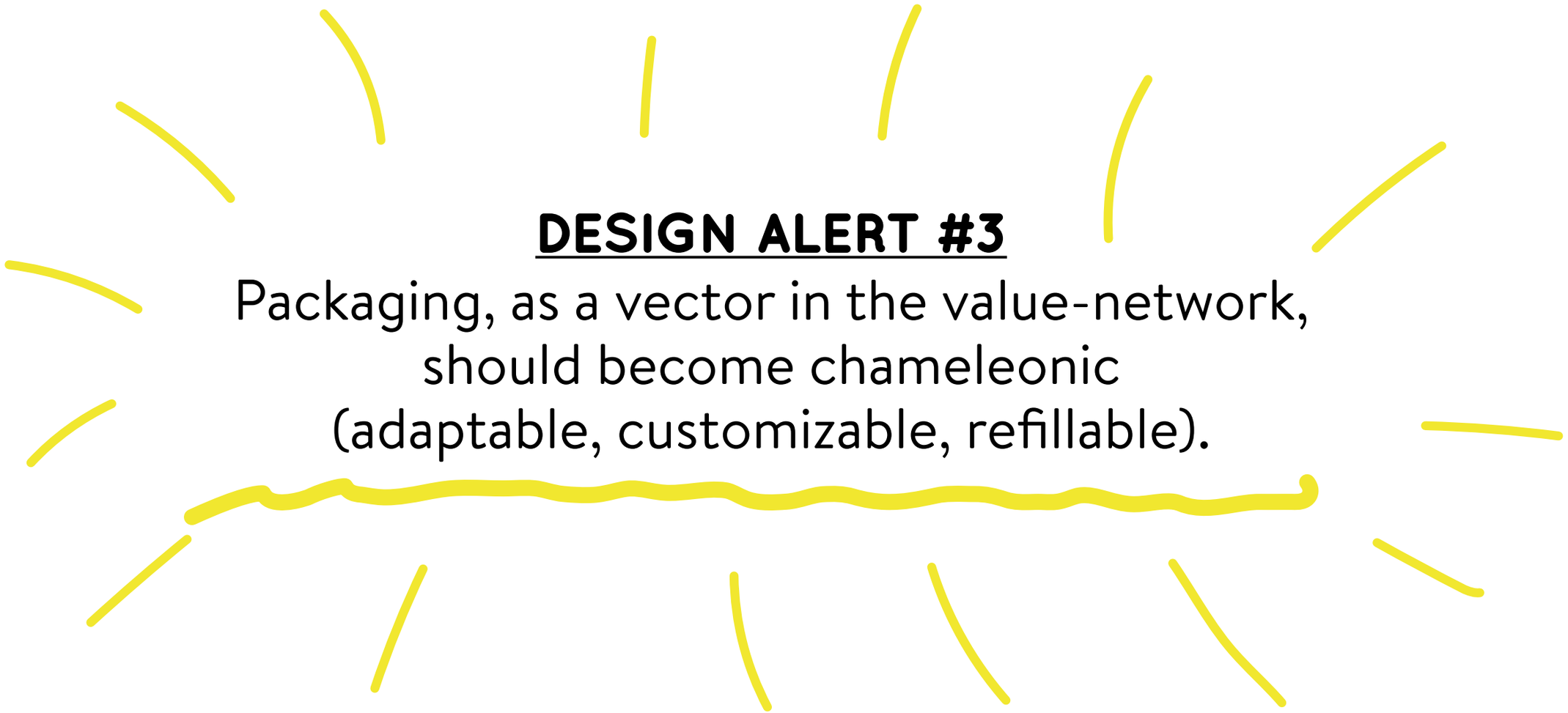


Packlane

Chiquita - Fuel the fun

Algramo

FUTURE DESIGN PACKAGING



DESIGN ALERT #3

Packaging, as a vector in the value-network,
should become chameleonic
(adaptable, customizable, refillable).

> HOW WILL MY PACKAGED PRODUCT BE DISTRIBUTED?

> HOW CONSUMERS, RETAILERS AND MANUFACTURERS COULD IMPROVE THE FLOW IN THE VALUE NETWORK?

4. LOGISTIC THINKING

PILLARS

- New and old players of value network needs to focus to **logistics as new competition element**

> OPTIMIZATION OF THE RELATION AMONG PRIMARY, SECONDARY AND/OR TERTIARY PACKAGING
> OPTIMIZATION OF STORE AND SHELF REPLENISHMENT
> FOCUS ON THE LAST MILE

Garçon Wines

Qopius

Uber Eats drones

FUTURE DESIGN PACKAGING

DESIGN ALERT #4

Packaging should be designed to maintain or improve logistics efficiency.

> MY PACKAGING WILL BE MOVED BY A ROBOT? (IS IT “DRONE-ABLE”?)

>IS IT MY PACKAGING EFFICIENT IN ALL CHANNELS?

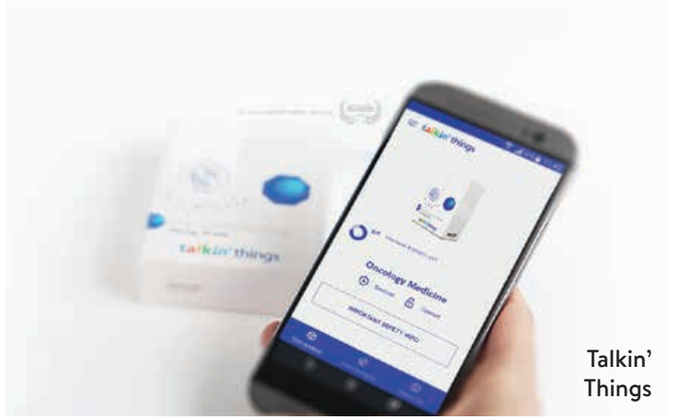
5. TALKING PACKAGE

PILLARS

- Digital / AR-VR technologies, IoT, Smart labels transform the **package in a digital item**

> GREATER TRANSPARENCY, SECURITY AND SAFETY, RELIABILITY
> CONSUMER ENGAGEMENT ON THE PRODUCT EXPERIENCE

Living Packets



Talkin' Things

Blippar for Coco Pops

FUTURE DESIGN PACKAGING

DESIGN ALERT #5

Packaging should be designed as
“digitally native”

> WHAT DO I WANT TO MONITOR THROUGH PACKAGING?

>WHAT KIND OF EXPERIENCE WILL MY PACKAGING BE ABLE TO PROVIDE?

6. PACKAGING AS A CHANNEL

PILLARS

- Packaging is **one of the channels** in omnichannel panorama

> MARKETING/BRANDING CHANNEL
> INFORMATION CHANNEL THROUGH LABELLING
> CULTURAL CHANNEL FOR ENVIRONMENTAL OR SOCIAL ISSUES

"Alto En" Chilean warning seals

Head&Shoulders
Beaches Plastic
Recyclable Packaging

Skipper Pride Edition

FUTURE DESIGN PACKAGING

DESIGN ALERT #6

Packaging should be designed as a
powerful mass-medium

> WHAT KIND OF MESSAGES I WANT TO SUPPORT AS A COMPANY?

> HOW I ENSURE ALL THE PRODUCT INFO ARE EASILY ACCESSIBLE TO EVERYBODY?

#MAIN DRIVERS #DESIGN ALERT

1.
(New) Materials are gold

The design of packaging materials should take into account infrastructural and ecosystem aspects.

2.
Closing the loop

The packaging circular design should take into account gains and pains of all players in the process.

3.
Shaking the value chain

The packaging, as a vector in this value-network, has to become chameleonic (adaptable, customizable, refillable).

4.
Logistic Thinking

Packaging should be designed to maintain or improve logistics efficiency.

5.
Talking Package

Packaging should be designed as “digitally native”

6.
Packaging as a Channel

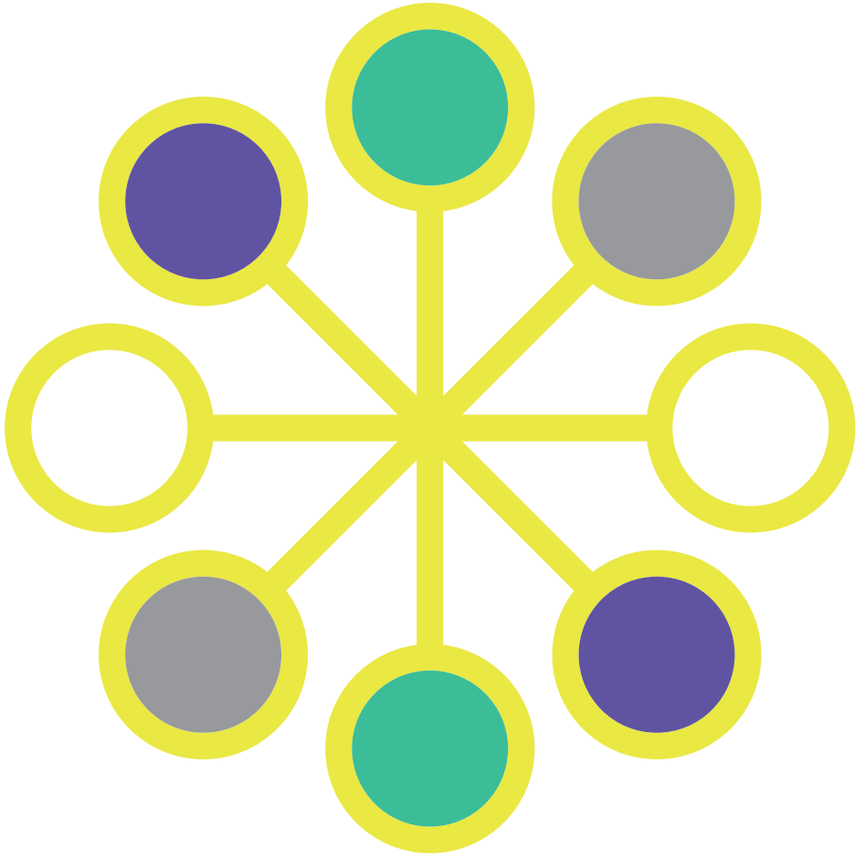
Packaging should be designed as a powerful mass-medium

FUTURE DESIGN PACKAGING

THANK YOU

"COMING TOGETHER IS THE BEGINNING.
KEEPING TOGETHER IS PROGRESS.
WORKING TOGETHER IS SUCCESS."

HENRY FORD



FUTURE DESIGN PACKAGING

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(L.232 DEL 1/12/2016)

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RESEARCH PROJECT
SURVEY REPORT

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