

attoma

# La Cheap Economy

A hauteur d'homme, la perspective des usages

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Aristote | Palaiseau | 2017 06 29

innovation for real life

# 1.

**Préambule : le cheap, c'est chic (ou pas)**

# Cheap



base, brassy, bum, cheap, cheesy, chinchy, chintzy, common, contemptible, crummy, economical, gross, inexpensive, inferior, jerry-built, low, low-cost, low-priced, mean, paltry, plebeian, poor, punk, reasonable, second-rate, shoddy, sleazy, sordid, tacky, tawdry, tinny, trashy, vulgar, worthless

source : [dico.isc.cnrs.fr](http://dico.isc.cnrs.fr)

# Parcimonie



avarice, lésine, mesquinerie, économie, épargne, pingrerie, restriction

source : [cnrtl.fr](http://cnrtl.fr)



**Des compétences diverses, le même cerveau**

Hadza de Tanzanie © Thierry, Flickr / CC by-nc 2.0



Realité virtuelle @ Kuassimodo - Fotolia



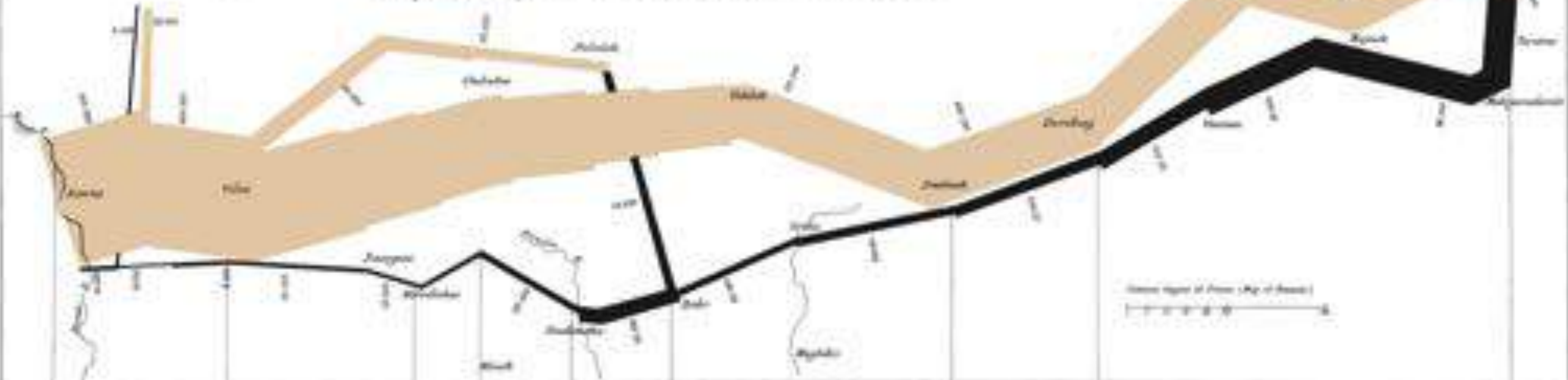






*Figurative Map of the routes taken in one of the Scotch Wars in the Canadian campaign, 1812-1813.*

Drawn up by a U. S. Minister, Inspector General of Bridges and Roads in attendance. Paris, November 22, 1862.

[illegible]

GRAPHIC TABLE of the temperature in degrees of the Réaumur thermometer



# lean

## une opportunité ou une nécessité ?

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À un extrême, le lean est déployé de telle sorte qu'il est l'instrument de la traque systématique des temps improductifs et se présente donc volontiers comme un facteur d'intensification du travail. À un autre extrême, le lean est avant tout **une occasion de remettre à plat les manières d'opérer** et les temps que les personnels de terrain consacrent à effectuer des opérations sans grande utilité pour le fonctionnement d'ensemble, notamment celles voulues par les directions fonctionnelles centrales, qui s'ajoutent, se sédimentent, sans coordination ni révision régulière.

Le travail à l'heure du lean  
Pascal Ughetto

# Who won ?



Google Search

I'm Feeling Lucky

Swim with sea lions and trek with turtles on [Google Maps](#). Hello Galapagos.

YAHOO!

WEB IMAGES VIDEO LOCAL SHOPPING MORE

My Yahoo! Make Y! your homepage

Sign In New to Yahoo!

MY FAVORITES Add

- View Yahoo! Sites
  - Yahoo! Mail
  - Autos
  - eBay
  - Facebook
  - Finance (Dow Jones)
  - Games
  - HotJobs
  - Maps
  - Messenger
  - Movies
  - Sports
  - Updates
  - Weather (101°F)
- RECOMMENDED
- Deal Of The Day
  - HowStuffWorks.com
  - Personals
  - Flickr
  - Yellow Pages

Edit

Add

TODAY - August 26, 2009



## Live: Remembering Sen. Kennedy

Family and friends gather to remember the life of Sen. Edward Kennedy.  
Watch tributes live

Read memorial story  
Nixon dug for dirt on Ted  
Kennedy family dynasty



1 of 24



Teen star now unusual mom



Inside Kennedy's compound



MP's death ruled homicide

NEWS WORLD LOCAL FINANCE

- Kennedy had strong links to Mass. funeral church
- Bomb makes August deadliest month for US in Afghanistan
- Questions arise over how kidnapper went undetected
- Boy missing in NC waves caused by Tropical Storm Denny
- WHO warns of severe form of swine flu that attacks lungs
- 11-year-old given new house after saving family from fire
- Cal State Dominguez Hills loses its...
- Foster parents arrested in boy's...
- Gill named Antioch district interim...
- MLB | NFL | NCAA | NASCAR | Soccer | Golf

Updated 6:53 pm EDT

More: News Popular Buzz

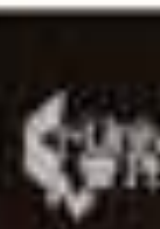
Markets Dow: 9,544.20 -0.38% Nasdaq: 2,028.77 0.88%

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GO to take...

Latest entertainment



1 of 3



# 2.

**Entreprendre, c'est chic aussi (ou pas)**



**Startup survival rates**  
5 to 15 %



**The world of tomorrow**  
Unlimited mobility



**That's what we got!**  
Beijing (China)



**That's what we got!**  
Traffic Jam on National Highway 110,  
Hebei Province (China)



**That's what we got!**  
Rush hour in Taipei (Taiwan)



**That's what we got!**  
Rush hour in the Santiago metro  
(Chili)



**You're not stuck in traffic. You Are Traffic.**

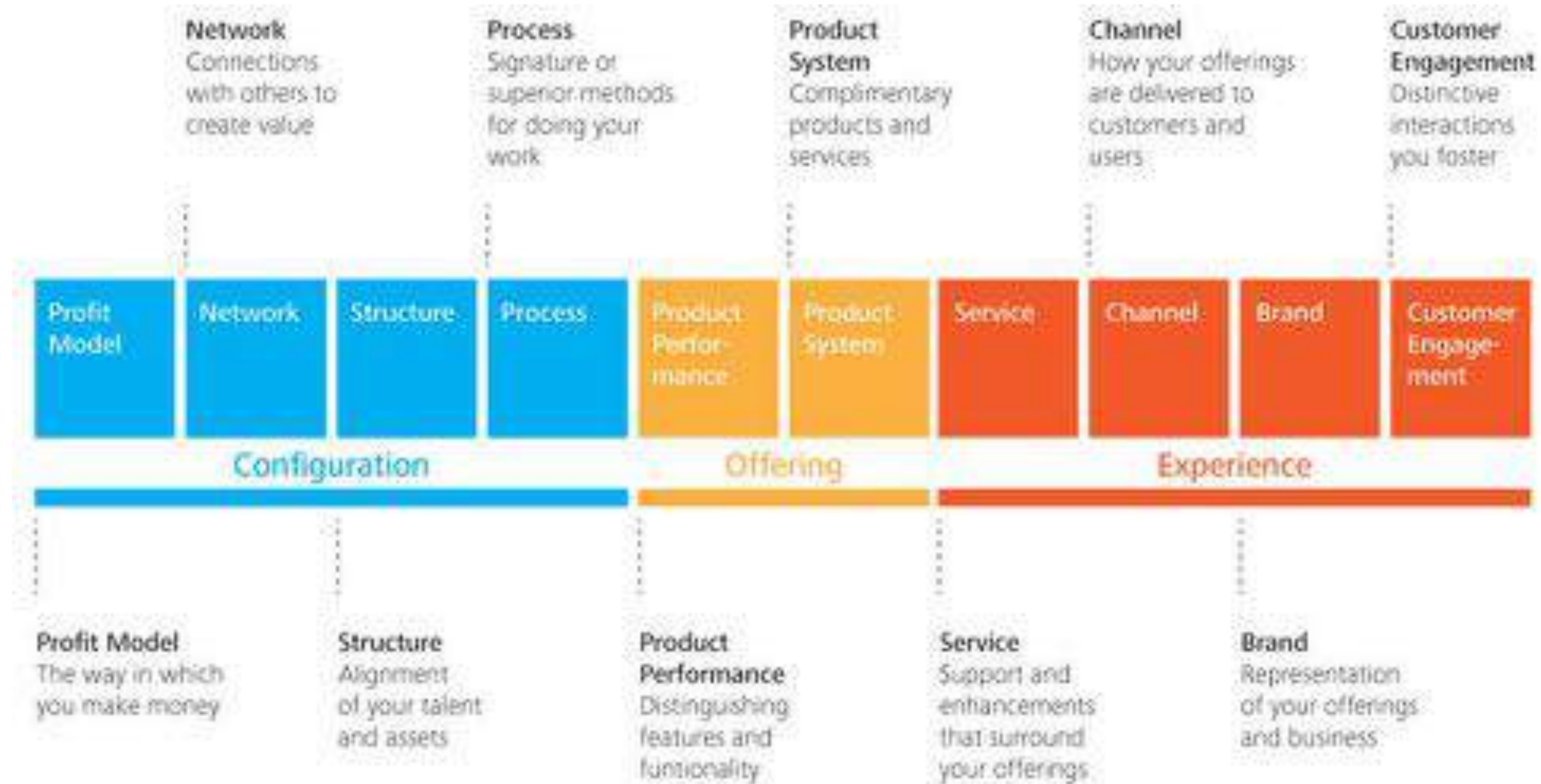
**Chris Burden: "Metropolis II"**  
©LACMA, Los Angeles USA

# 3.

Observations et heuristiques

# Innovation

Pre and post “product”, human-in-the-loop



Source: The Ten Types of Innovation [Dublin]

# Innovation

mutations, hybridations, ... VUCA

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**On assiste à l'émergence d'un monde nouveau et une remise en cause généralisée, du global au local... tout devient glocal**

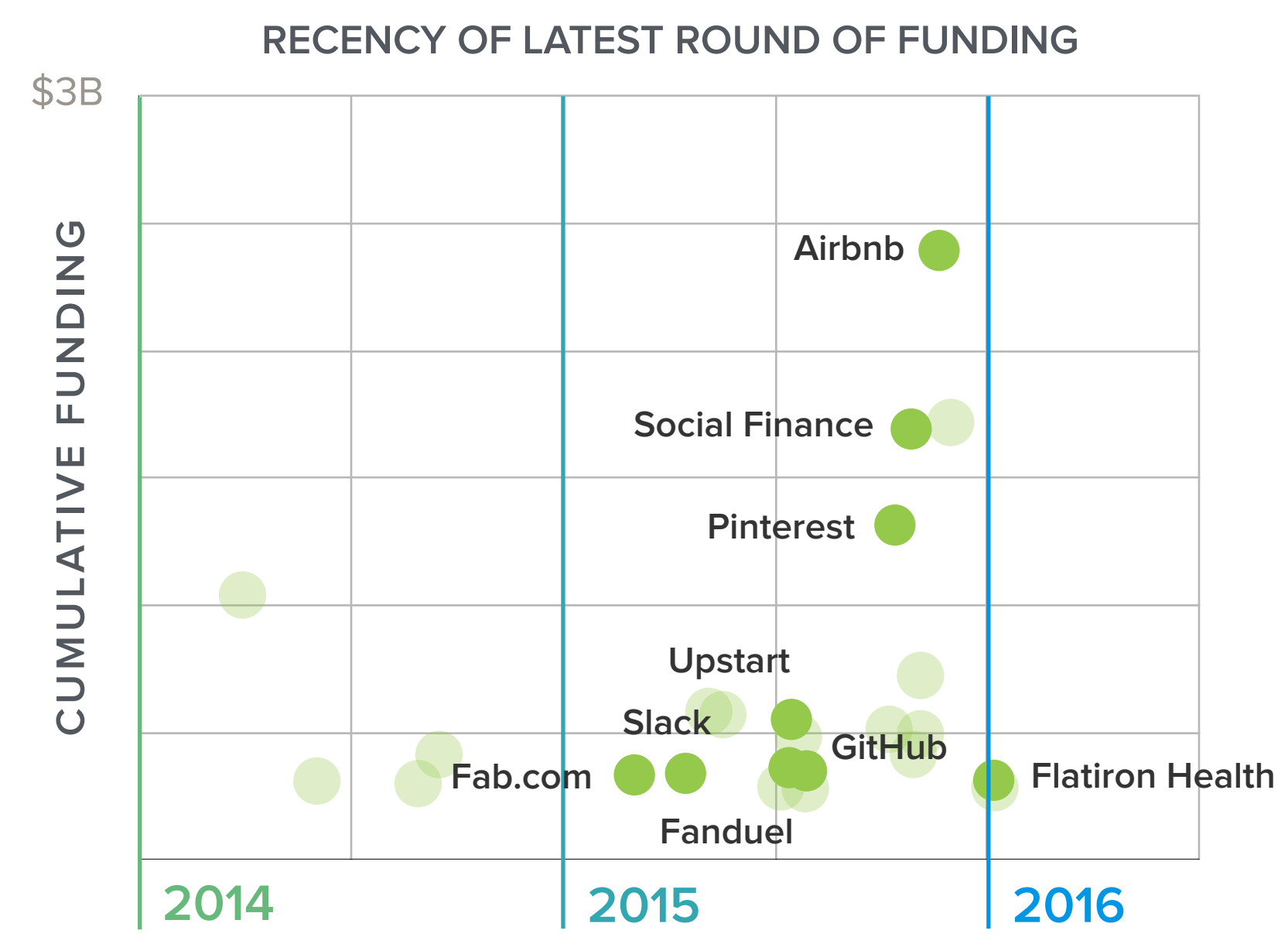
## **Exemple, le logiciel :**

- 1997, The Cathedral and the Bazaar; Eric Raymond
- ...
- 2007, The End of an Architectural Era; Michael Stonebraker (VLDB)
- 2009, The End of Software Engineering; Tom DeMarco (IEEE, Software Engineering)
- 2011, The End of Hardware; Marc Andreessen (WSJ, Why Software Is Eating the World)
- ...
- 2015, Design in Tech Report #1; John Maeda (KPCB, annual report)

# Successful Startups Co-Founded by Designers Are Not Uncommon

**36%** of the 25 startups with a recent fundraise in CB Insight’s “Internet Sector” category are designer co-founded

**21%** of the so-called global “unicorn” startups across all sectors have co-founders who have embraced design or come from a design, arts, or human-centered background including architecture, design, music, visualization, fine arts, media arts.



- 23andMe, ActiFio, Adyen, African Internet Group, [AirBnB](#), Aiwujiwu, Anaplan, AppDirect AppDynamics, AppNexus, Apttus, Apus Group, Atlassian, Auto1 Group, [Automatic](#), Avant, [AVAST Software](#), Avito, BeiBei, Beijing LaKala Billing Services, BlaBlaCar, Bloom Energy, [Blue Apron](#), [Buzzfeed](#), [Carbon3D](#), China Rapid Finance, CJ Games, Cloudera, [CloudFlare](#), ContextLogic/Wish, Coupa Software, Coupang, Credit Karma, Dada, Datto, Decolar, Deem, Delivery Hero, Dianping, Didi Kuaidi, DJI Innovations, Docker, DocuSign, Domo Technologies, DraftKings, Dropbox, Ele.me, Eventbrite, Evernote, Fanatics, [FanDuel](#), Fanli, [FarFetch](#), Flipkart, Forescout, Funding Circle, Gilt Groupe, [GitHub](#), Global Fashion Group, GrabTaxi, Greensky, Guahao Technology Co., Gusto, HelloFresh, Home24, [Hootsuite](#), Houzz, Illumio, Infinidat, InMobi, InsideSales.com, [Instacart](#), Intarcia Therapeutics, IronSource, Jasper Technologies, [Jawbone](#), jet.com, Jiuxian, JustFab, [Kabam](#), Kabbage, Kik Interactive, Klarna, Koudai Gouwu, Lazada, Legendary Entertainment, Lookout, Lufax, Lyft, Magic Leap, MarkLogic, Medallia, Meituan, Mercari, MindMaze, Moderna, Mogujie, MongoDB, Mozido, Mu Sigma, MuleSoft, NantHealth, Nextdoor, Nutanix, Okta, Olacabs, One97 Communications, Oscar Health Insurance Co., Palantir Technologies, Panshi, [Pinterest](#), Pluralsight, Powa Technologies, [Prosper Marketplace](#), [Proteus Digital Health](#), Pure Storage, Qualtrics, Quikr, [Razer](#), Rong360, [Shazam](#), SimpliVity, [Skyscanner](#), [Slack Technologies](#), [Snapchat](#), Snapdeal, [Social Finance](#), Souq, SpaceX, Spotify, Sprinklr, [Square](#), Stemcentrx, Stripe, [SurveyMonkey](#), TangoMe, Tanium, [The Honest Company](#), [Theranos](#), Thumbtack, TransferWise, [Trendy Group International](#), TuJia Online Information Technology, TutorGroup, Twilio, Uber, [Udacity](#), Ucar Group, [Uptake](#), VANCL, [Vice Media](#), Vox Media, [Warby Parker](#), [WeWork](#), [Xiaomi](#), Xuanyuxia, Yello Mobile, Zenefits, [Zeta Interactive](#), Zhangyue, ZocDoc, Zomato Media, Zscaler

via CB Insights, “Since January 1 2013 to February 29, 2016, in the U.S. Internet-Only category top 25 recently funded VC-backed companies.”

via CBInsights, “Private VC-Backed Companies with Valuations Over \$1B”

Last year **20%** (5 out of 25) of the top venture-backed startups had designer co-founders. We check one year later and that number moves to **36%** (9 out of 25).

Source // @kpcb #DesignInTech @justinsayarath @cbinsights  
[cbinsights.com/research-unicorn-companies](https://cbinsights.com/research-unicorn-companies)



1 Walmart, 2 Exxon Mobil, 3 Chevron, 4 Berkshire Hathaway, [5 Apple](#), [6 General Motors](#), 7 Phillips 66, [8 General Electric](#), [9 Ford Motor](#), 10 CVS Health, 11 McKesson, 12 AT&T, 13 Valero Energy, 14 UnitedHealth Group, 15 Verizon, 16 AmerisourceBergen, 17 Fannie Mae, 18 Costco, 19 HP, 20 Kroger, 21 JP Morgan Chase, 22 Express Scripts Holding, 23 Bank of America Corp., [24 IBM](#), 25 Marathon Petroleum, 26 Cardinal Health, 27 Boeing, 28 Citigroup, 29 Amazon.com, 30 Wells Fargo, [31 Microsoft](#), [32 Proctor & Gamble](#), 33 Home Depot, 34 Archer Daniels Midland, 35 Walgreens, [36 Target](#), [37 Johnson & Johnson](#), 38 Anthem, 39 MetLife, [40 Alphabet](#), 41 State Farm Insurance Cos., 42 Freddie Mac, 43 Comcast, [44 PepsiCo](#), 45 United Technologies, 46 AIG, 47 UPS, 48 Dow Chemical, 49 Aetna, 50 Lowe's, 51 ConocoPhillips, 52 Intel, 53 Energy Transfer Equity, 54 Caterpillar, 55 Prudential Financial, 56 Pfizer, [57 Walt Disney](#), 58 Humana, 59 Enterprise Products Partners, 60 Cisco Systems, 61 Sysco, 62 Ingram Micro, [63 Coca-Cola](#), 64 Lockheed Martin, 65 FedEx, 66 Johnson Controls, 67 Plains GP Holdings, 68 World Fuel Services, 69 CHS, 70 American Airlines Group, 71 Merck, 72 Best Buy, 73 Delta Air Lines, 74 Honeywell International, 75 HCA Holdings, 76 Goldman Sachs Group, 77 Tesoro, 78 Liberty Mutual Insurance Group, 79

## Of the 2015 Fortune 100, Over **10%** Place Design as an Executive Priority

Warner, 105 Macy's, [110 Nike](#), 107 Tech Data, 108 Avnet, 109 Northwestern Mutual, [110 McDonald's](#), 111 Exelon, 112 Travelers Cos, 113 Qualcomm, 114 International Paper, 115 Occidental Petroleum, 116 Duke Energy, 117 Rite Aid, 118 Gilead Sciences, 119 Baker Hughes, 120 Emerson Electric, 121 EMC, 122 USAA, 123 Union Pacific, 124 Northrup Grumman, 125 Alcoa, [126 Capital One Financial](#), 127 National Oilwell Varco, 128 US Foods, 129 Raytheon, 130 Time Warner Cable, 131 Arrow Electronics, 132 Aflac, 133 Staples, 134 Abbott Laboratories, 135 Community Health Systems, 136 Fluor, 137 Freeport-McMoRan, 138 U.S. Bancorp, 139 Nucor, 140 Kimberly-Clark, 141 Hess, 142 Chesapeake Energy, 143 Xerox, 144 ManpowerGroup, 145 Amgen, 146 AbbVie, 147 Danaher, 148 Whirlpool, 149 PBF Energy, 150 HollyFrontier, 151 Eli Lilly, 152 Devon Energy, 153 Progressive, 154 Cummins, 155 Icahn Enterprises, 156 AutoNation, [110 Kohl's](#), 158 Paccar, 159 Dollar General, 160 Hartford Financial Services Group, 161 Southwest Airlines, 162 Anadarko Petroleum, 163 Southern, 164 Supervalu, 165 Kraft Foods Group, 166 Goodyear Tire & Rubber, 167 EOG Resources, 168 CenturyLink, 169 Altria Group, 170 Tenet Healthcare, 171 General Mills, 172 eBay, 173 ConAgra Foods, 174 Lear, 175 TRW Automotive Holdings, 176 United States Steel, 177 Penske Automotive Group, 178 AES, 179 Colgate-Palmolive, 180 Global Partners, 181 Thermo Fisher Scientific, 182 PG&E Corp, 183 NextEra Energy, 184 American Electric Power, 185 Baxter International, 186 Centene, [187 Starbucks](#), [188 Gap](#), 189 Bank of America New York Mellon Corp., 190 Micron Technology, 191 Jabil Circuit, 192 PNC Financial Services Group, 193 Kinder Morgan, 194 Office Depot, 195 Bristol-Myers Squibb, 196 NRG Energy, 197 Monsanto, 198 PPG Industries, 199 Genuine Parts, 200 Omnicom Group

But with the many acquisitions of design firms into the client services sector, it's not impossible to imagine that design will enter these organizations now through the board room.

Source // [@kpcb](#) [#DesignInTech](#) [@fortune](#) [@johnmaeda](#) [@danharrelson](#)

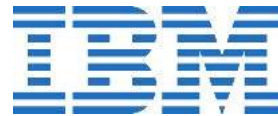
[dmi.org/?page=designdrivesvalue](http://dmi.org/?page=designdrivesvalue)



# Meeker report (2107, p188)

Design = Increasingly Core to Enterprise R&D...  
End-Users Demanding Consumer-Quality Product Experiences

Change in Designer : Developer Ratio, Selected Enterprises, 2010-2017

|                                                                                      | 2010 - 2012                   | 2017                                                               |
|--------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------|
|    | 1 designer :<br>25 developers | 1 designer :<br>9 developers                                       |
|   | N/A                           | 1 designer :<br>6 developers                                       |
|  | 1 designer :<br>72 developers | 1 designer : 8 developers<br>On Mobile – 1 designer : 3 developers |
|  | N/A                           | 1 designer :<br>5 developers                                       |
|  | 1 designer:<br>11 developers  | 1 designer :<br>8 developers                                       |

# Design

une collection d'heuristiques pour concevoir

**Centré sur l'humain, basé sur l'observation et la co-conception itérative et interactive, ayant pour objectifs**

- d'identifier et adresser les facteurs de risque d'un projet, produit ou processus
- d'augmenter la pertinence du résultat d'un projet, produit ou processus
- de réduire les délais par l'alignement et la tangibilisation d'une vision cible

# 4.

**L'économie de moyens**  
Simple, robuste et efficace

# 4.1

**Interface d'une borne de billettique**

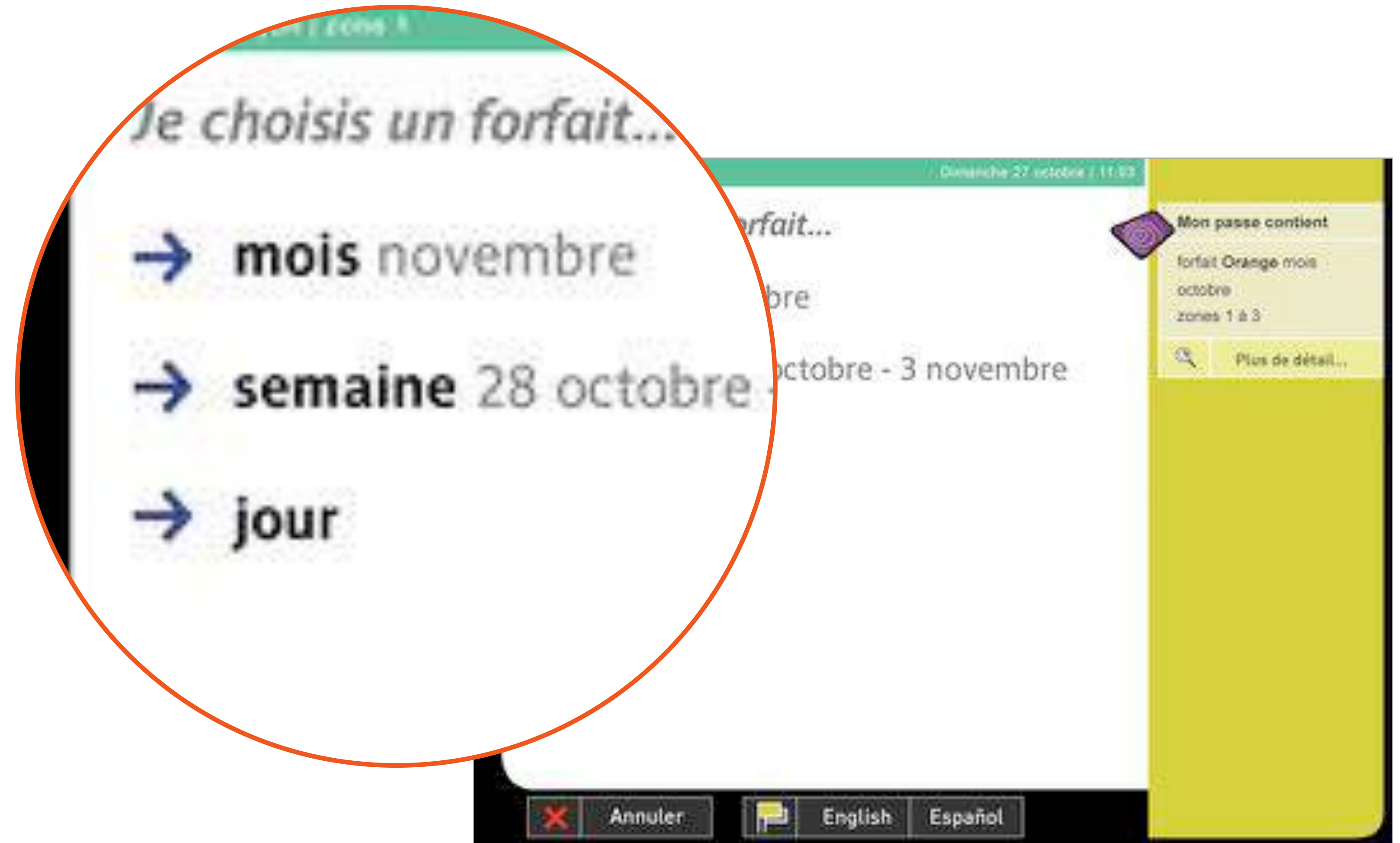
RATP - Navigo

# Robust look and feel, urban and unique in ... 2002

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# Simplicity, may seem evident today but wasn't then



# 4.2

**Service d'information voyageurs d'une gare**  
Châtelet-Les Halles











# 4.3

**Schéma Directeur d'un réseau métropolitain**

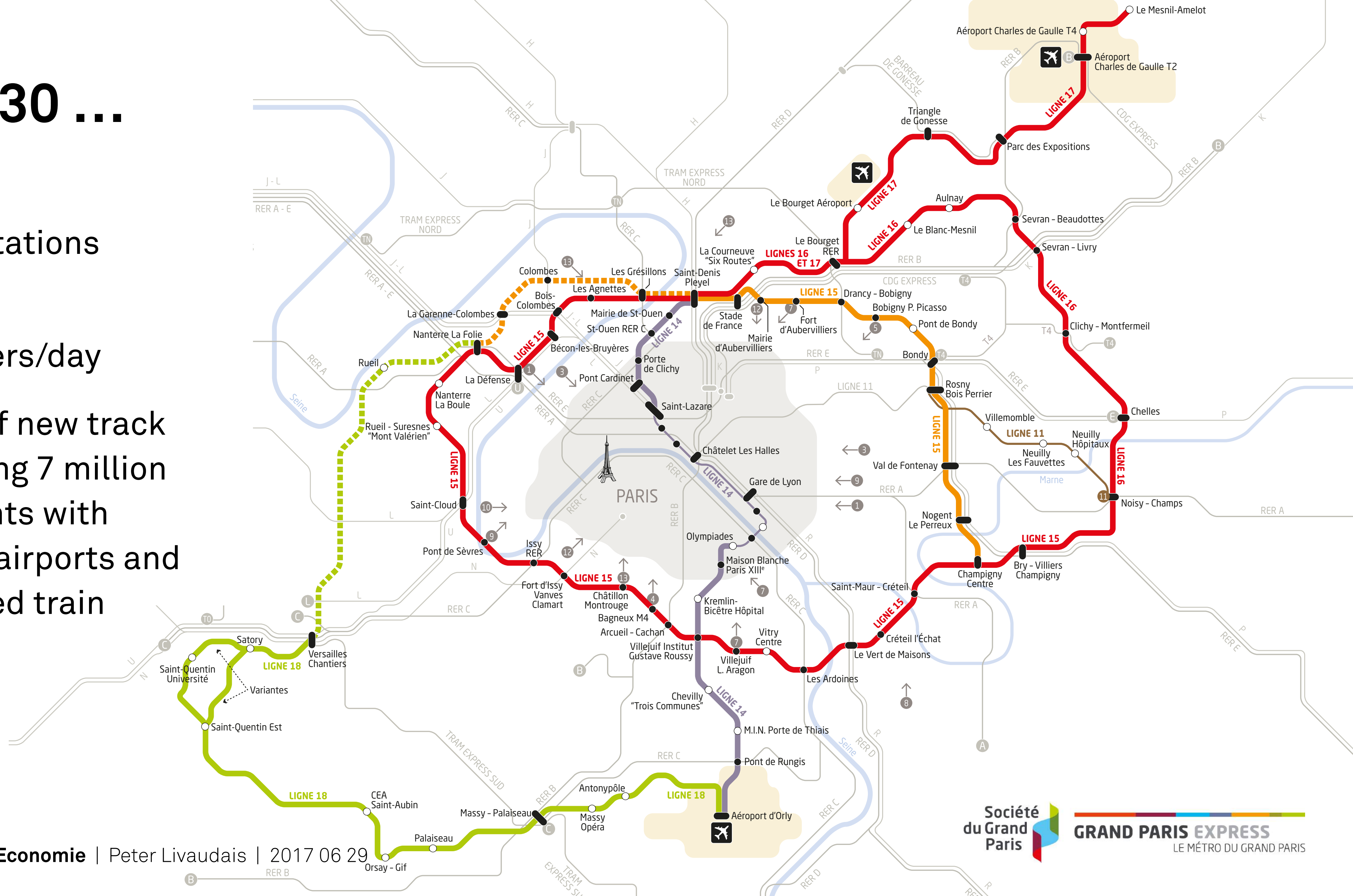
SGP - Grand Paris Express

# By 2030 ...

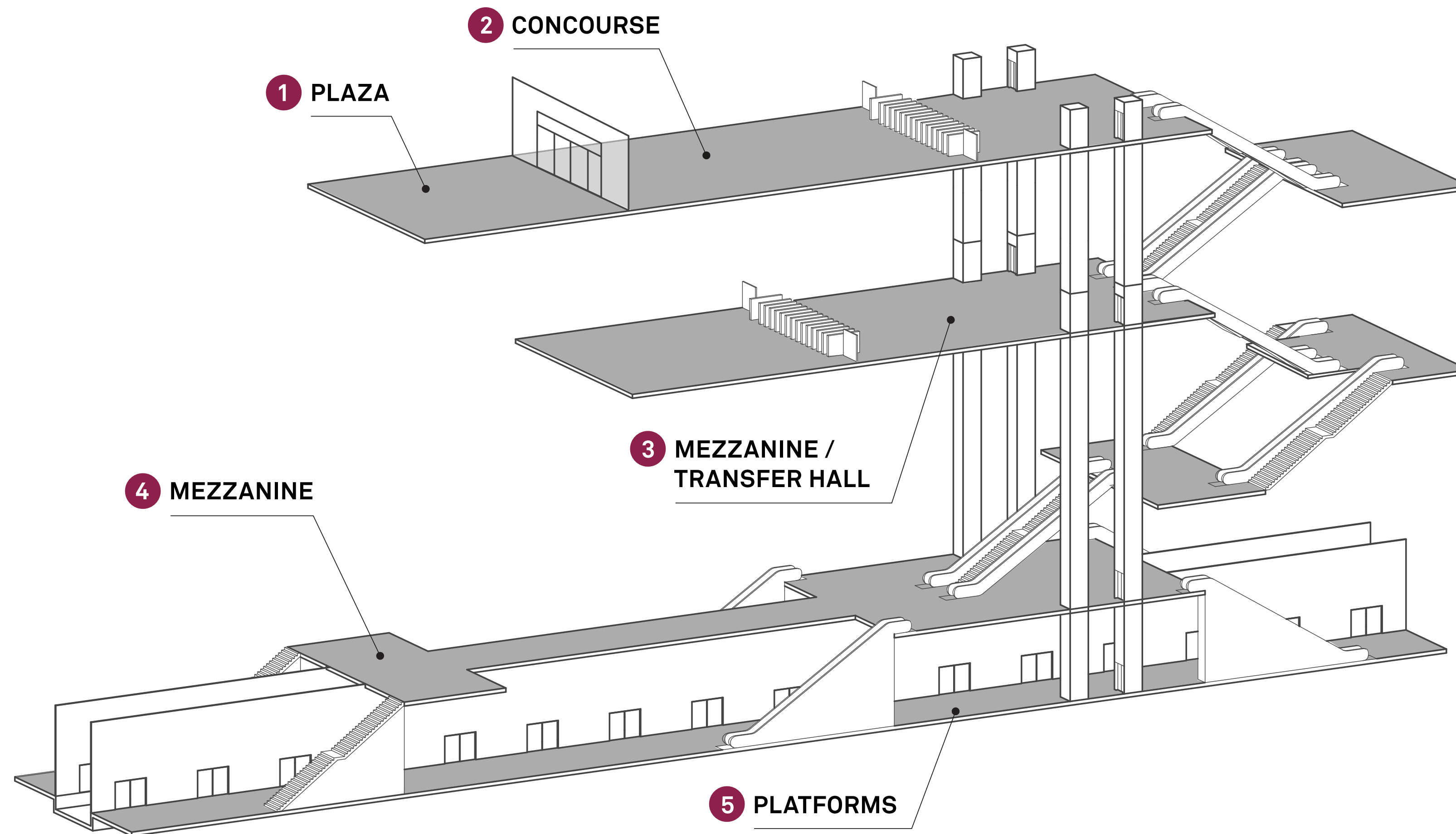
68 new stations

2 million  
passengers/day

205 km of new track  
connecting 7 million  
inhabitants with  
multiple airports and  
high speed train  
stations.



# A station as a unique “transportation engine” ...



... embedded in a  
variety of architectural  
shapes

---

Saint-Denis-Pleyel  
Kengo Kuma



... embedded in a  
variety of architectural  
shapes

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Villejuif Louis-Aragon Station  
Philippe Gazeau Architecte



... embedded in a  
variety of architectural  
shapes

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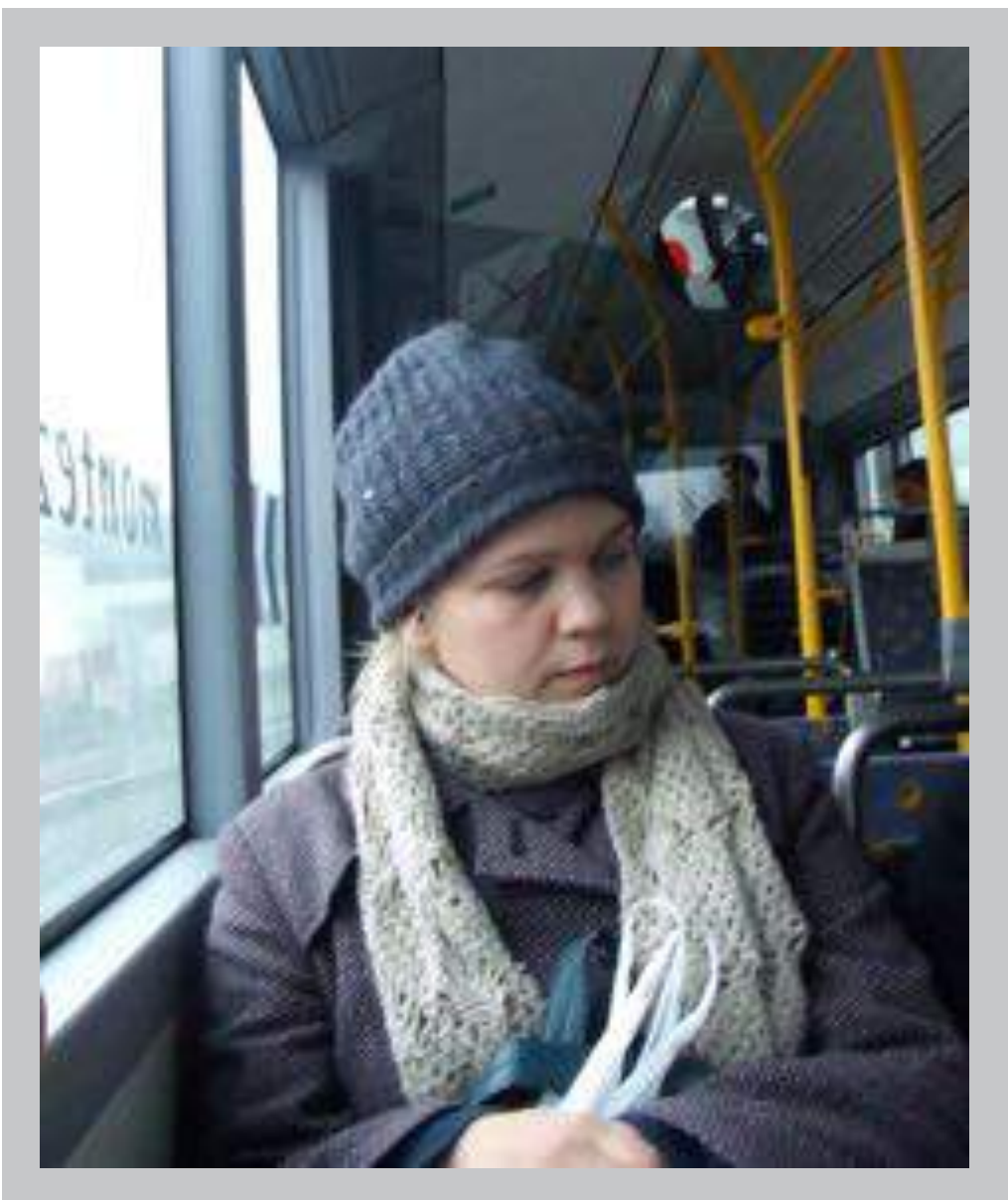
Clichy-Montfermeil Station  
Miralles Tagliabue | Bordas + Peiro2



# User research

Field observation

Personas



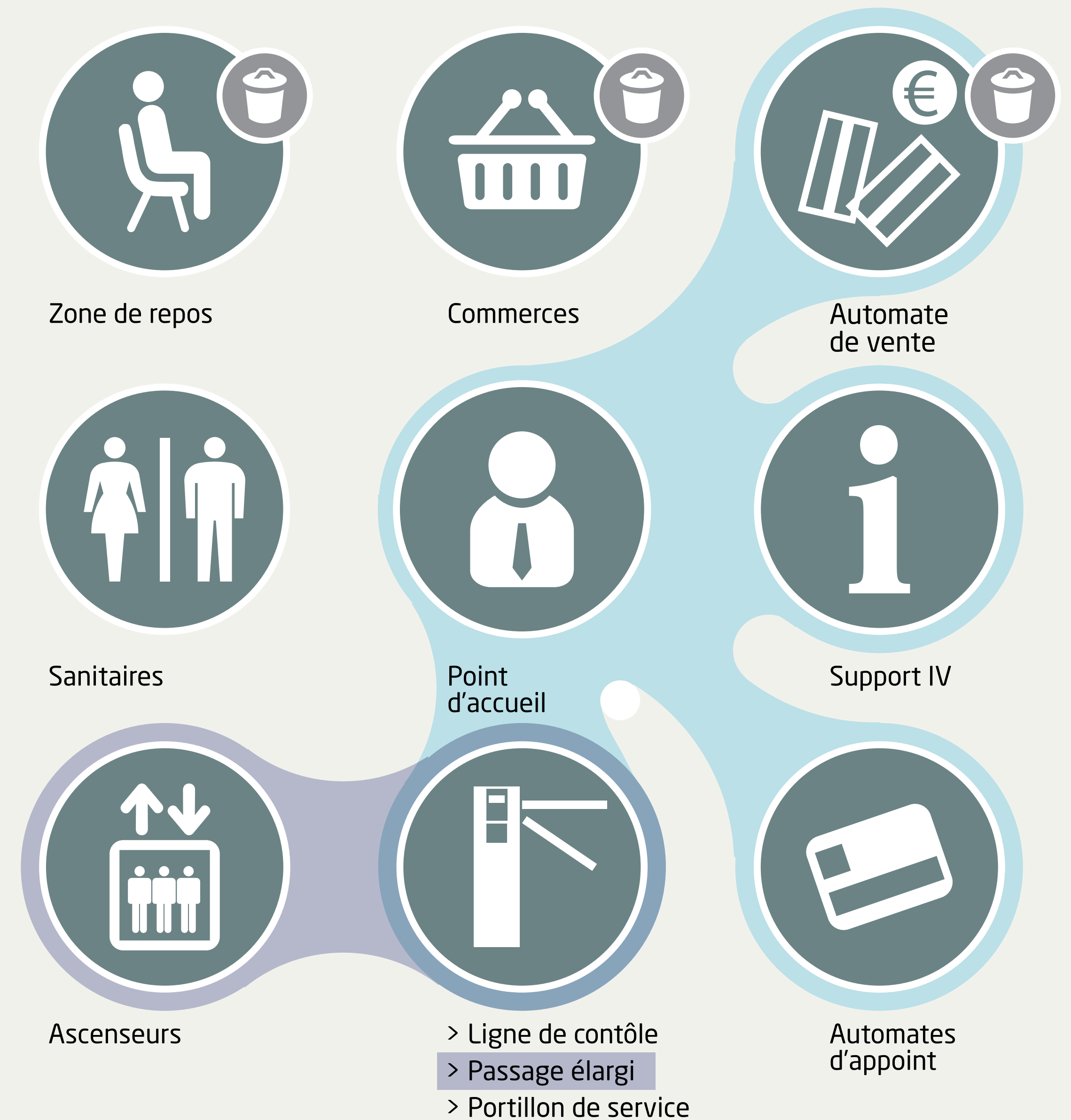
Name: Valérie  
Age: 30  
Company: Neurospin  
Job: Research Engineer  
Starting point: 23 Boulevard de la Villette,  
North of Paris  
Destination: Saclay.



# Services taxonomy

## Functional categorization

- Creating clusters of service touchpoints



# Services taxonomy

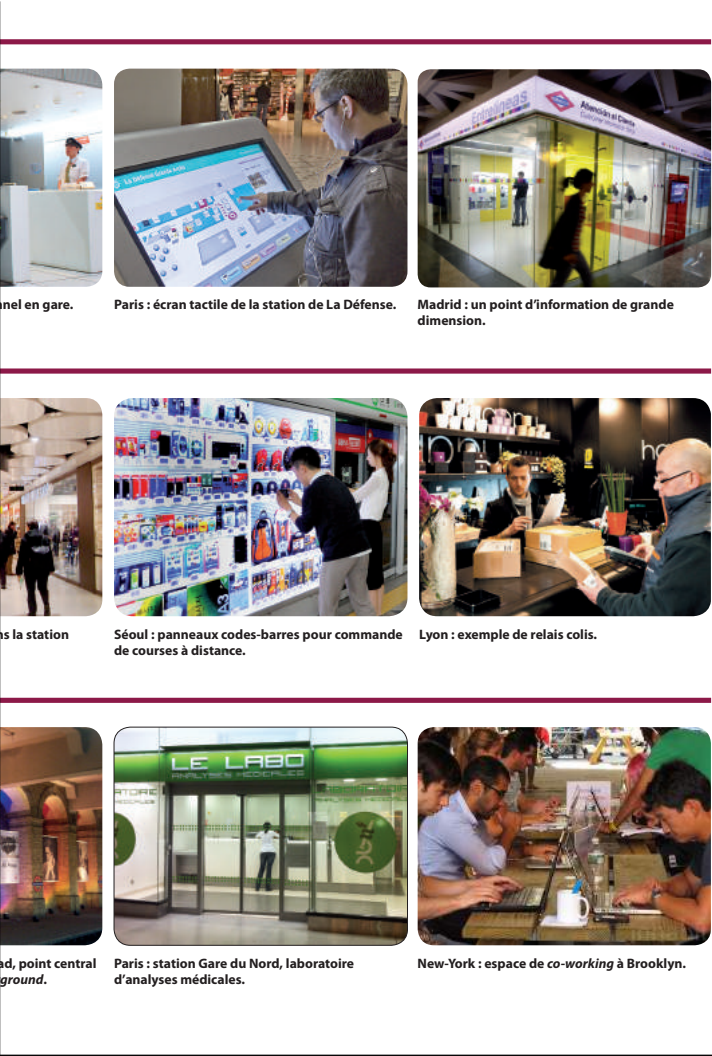
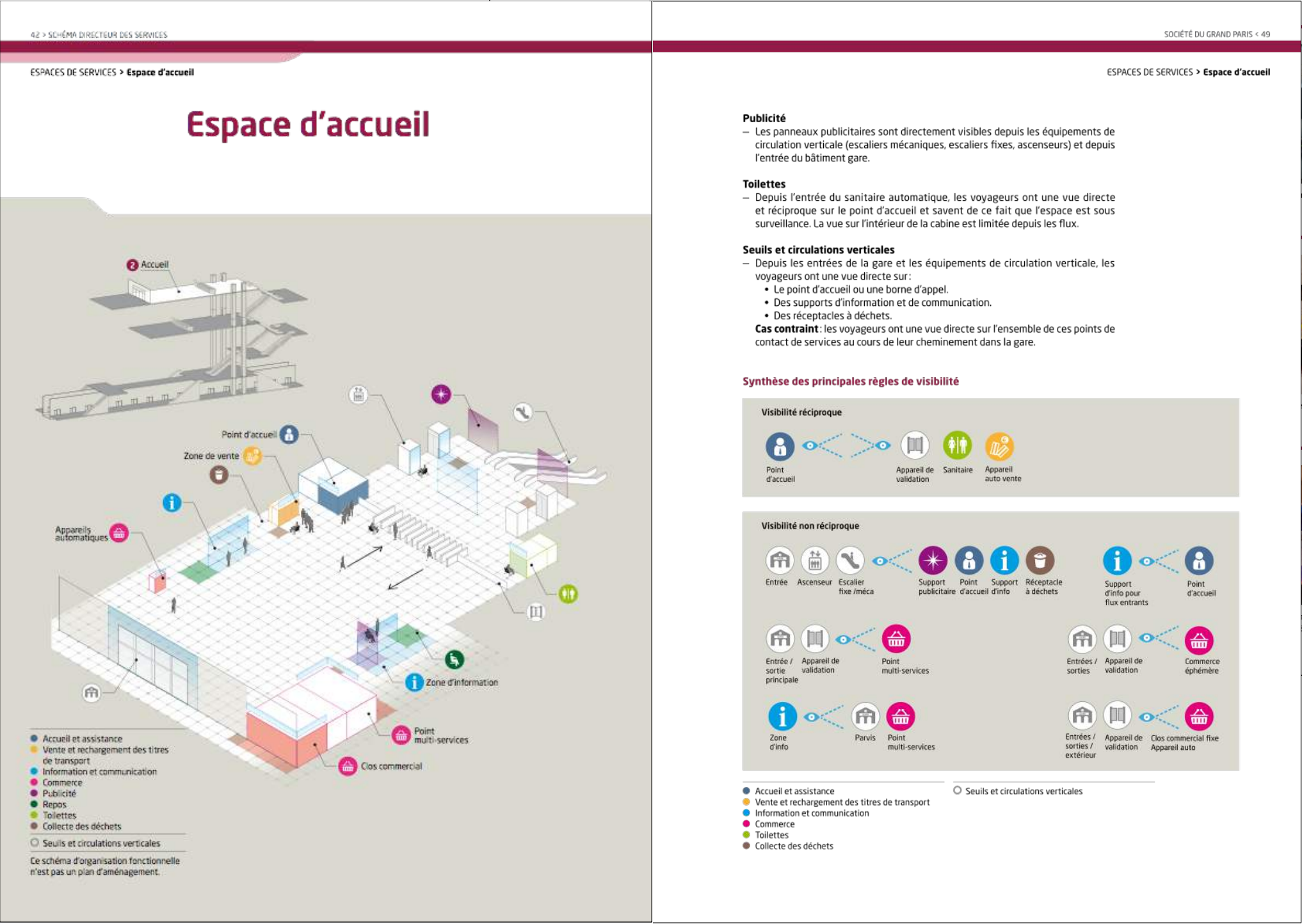
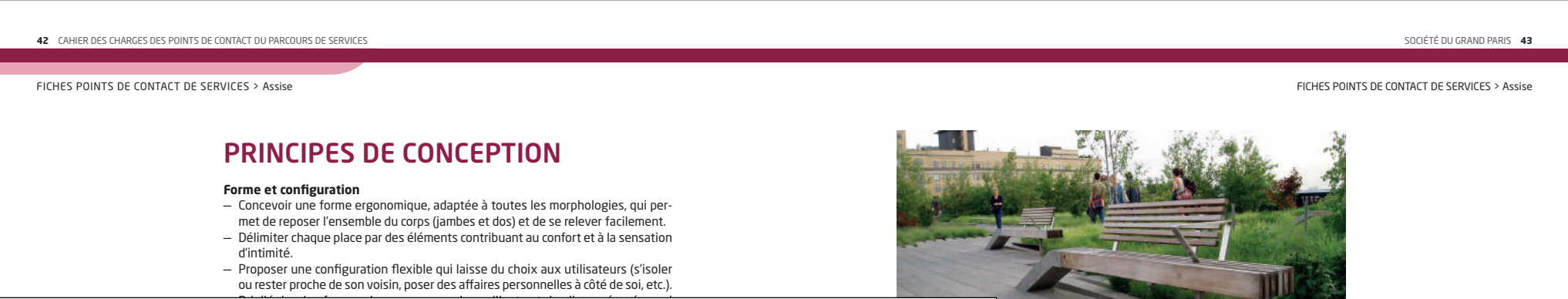
Definition and localization  
of service touchpoints

- Customer care
- Ticketing
- Shops
- Rest, waiting area
- Toilets
- Trash bins
- Travel information and communication
- Advertising
- Thresholds and vertical circulation



# Final deliverable

## Completion of the final Service Design Masterplan



# 5.

En guise de conclusion



# 地下鉄京都駅きっぷうりば Subway Tickets



○使えます / 1-1000 yen  
乗車券 (Fare ticket)











**Des compétences diverses, le même cerveau**

Hadza de Tanzanie © Thierry, Flickr / CC by-nc 2.0



Realité virtuelle @ Kuassimodo - Fotolia

# Merci !

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