

MIT How to Design [almost] Anything Failure & User Experience

Jose dos Santos

Philips Lighting Head of Design | Americas

April 5th, 2017

innovation  you

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Jose dos Santos

I have over 25 years of experience in design and design management, an MA in industrial design from Central Saint Martins and an Executive MA from the Northwestern University. Started in Portugal in 1989 as an industrial, in Europe formed and sold two product design companies, worked as a product Design Director in Barcelona and led as a Chief Design Officer in a large Internet company. In 2011 came to the US and joined Masco as a Design Director and in 2016 joined Philips Lighting as Head of Design Americas. A designer, thought leader and passionate entrepreneur!



Design is part of the innovation organization within Philips Lighting



Design is part of the Innovation organization in the SVAL

We work together with the **Businesses**,
the **Markets** and with **Research**.

...and with

Marcom – Working People Light

Digital Marketing – Multi-stakeholder Customer Journeys

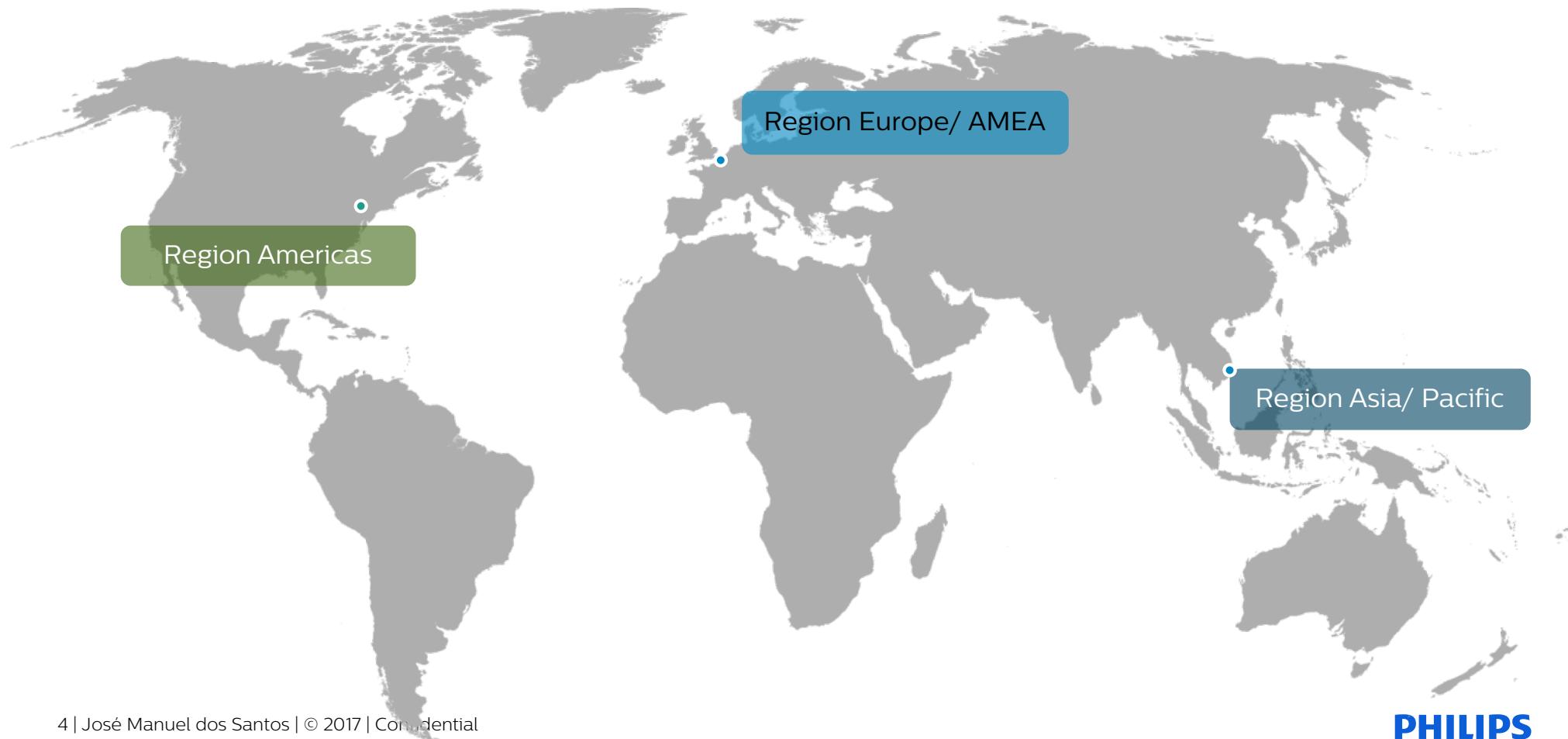
Strategy – Home Lighting Vision

Lighting University – ‘Light Can Do’ cards

Standards & Regulations – Human Centric Lighting Strategy

Ventures – Global Inspiration Team

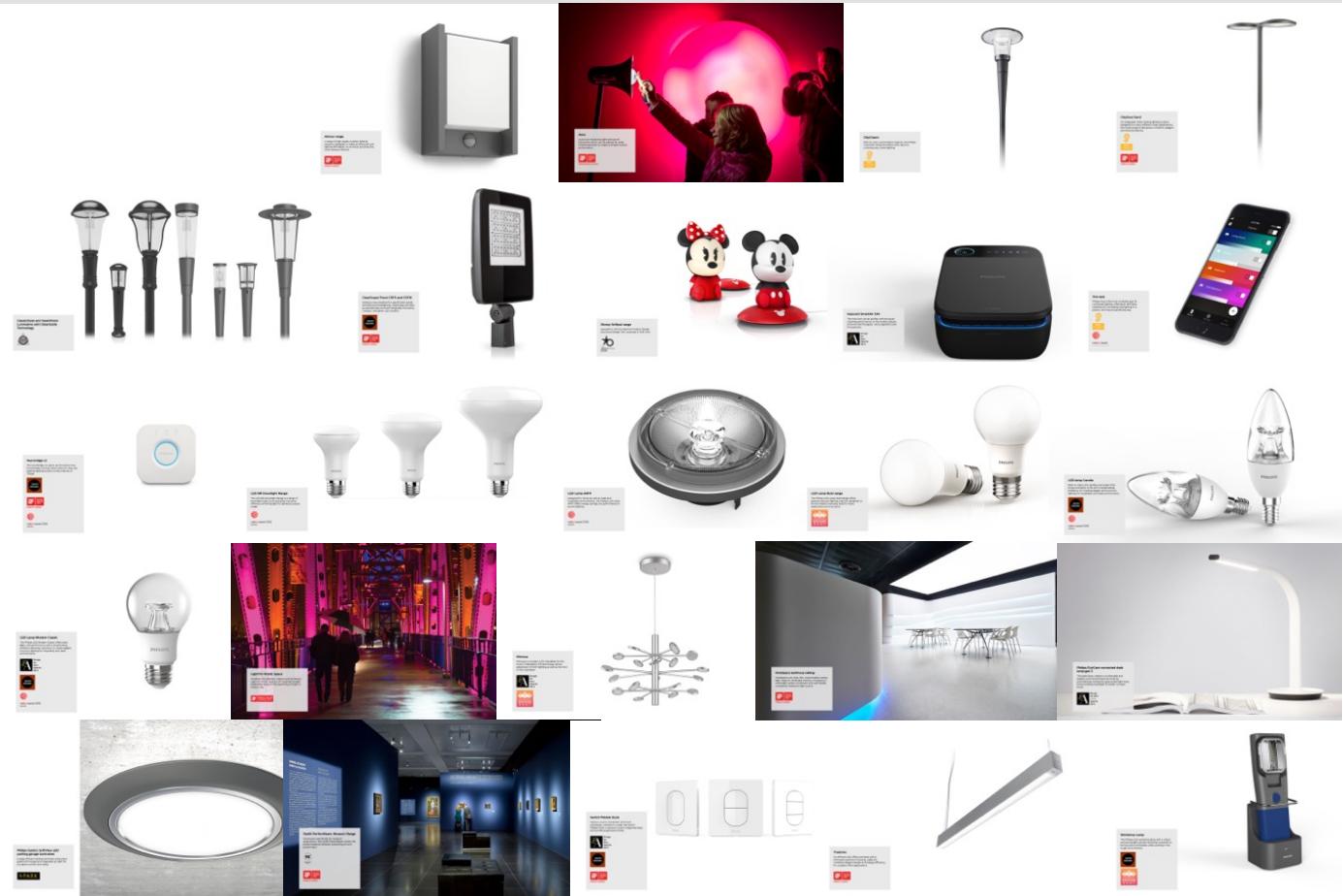
We are a network of creative people around the globe



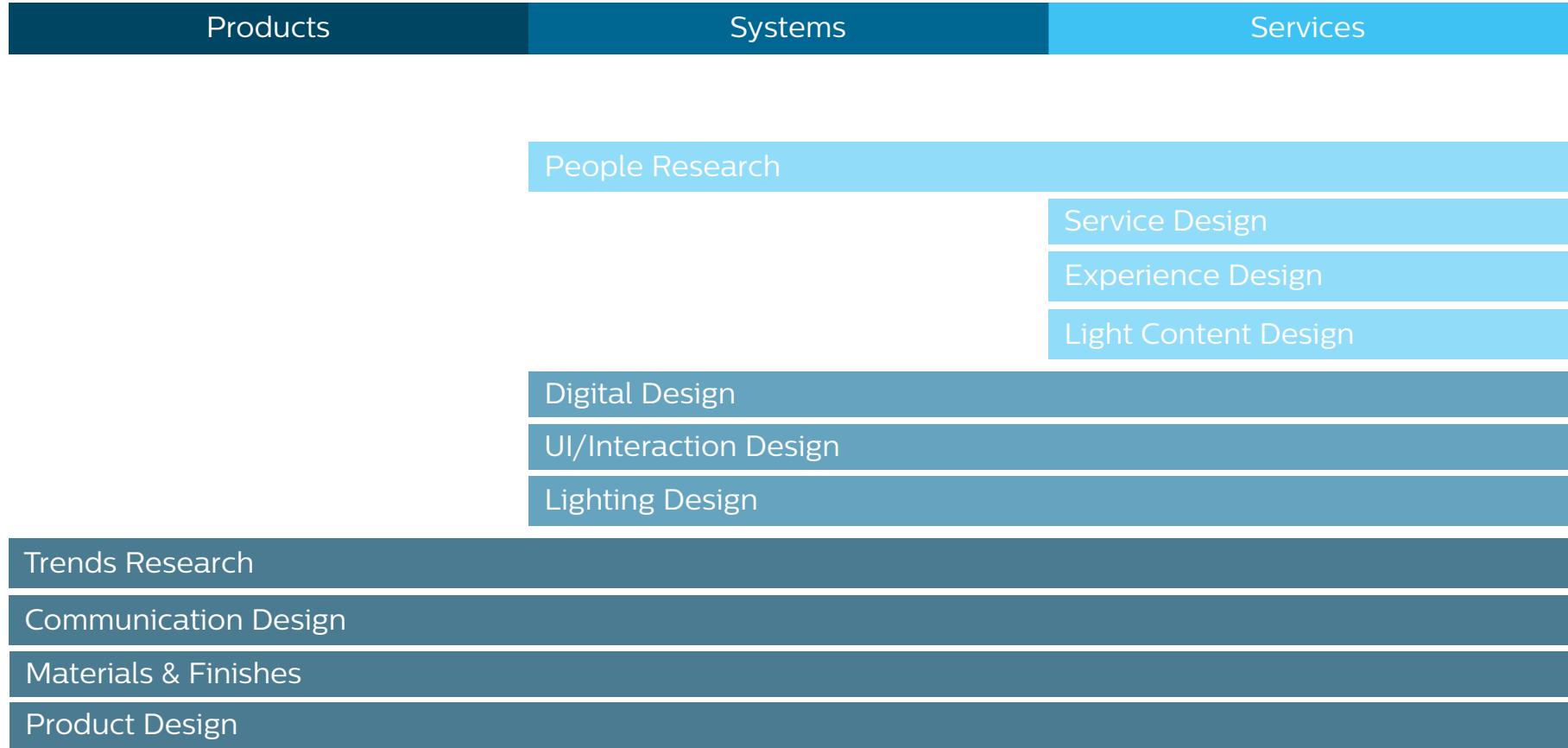
2016:

37

lighting
design awards
a new record



Our competences are growing to serve the business strategy



On Design

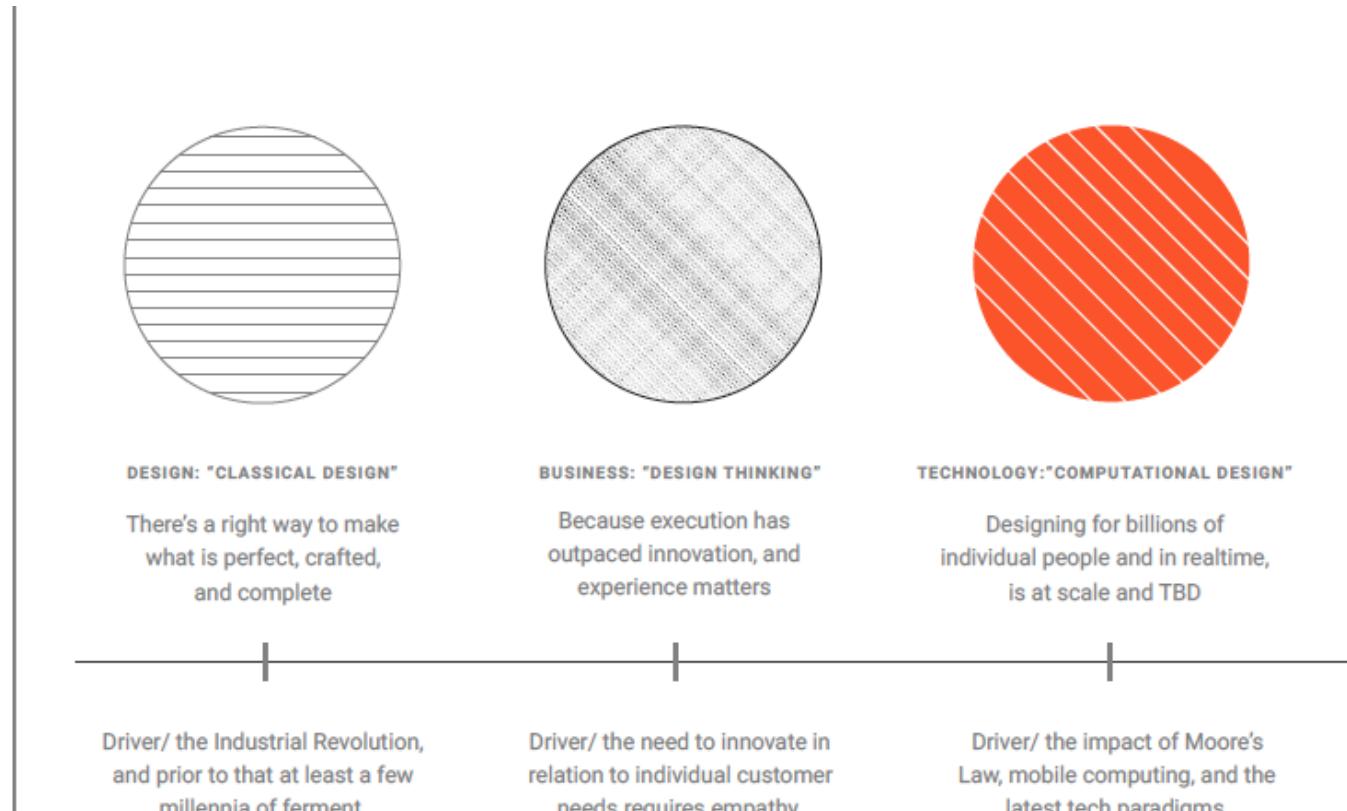
“We don’t know what we haven’t designed, only what we have already done,” he says. “It’s not like we’re scientists following some path towards finding a new sub-atomic particle. Design isn’t on a track. The only thing that charts our course is what we imagine.”

Victor Margolin, Professor Emeritus of Design History at the University of Illinois, Chicago

Review:

There are Three Types of Design

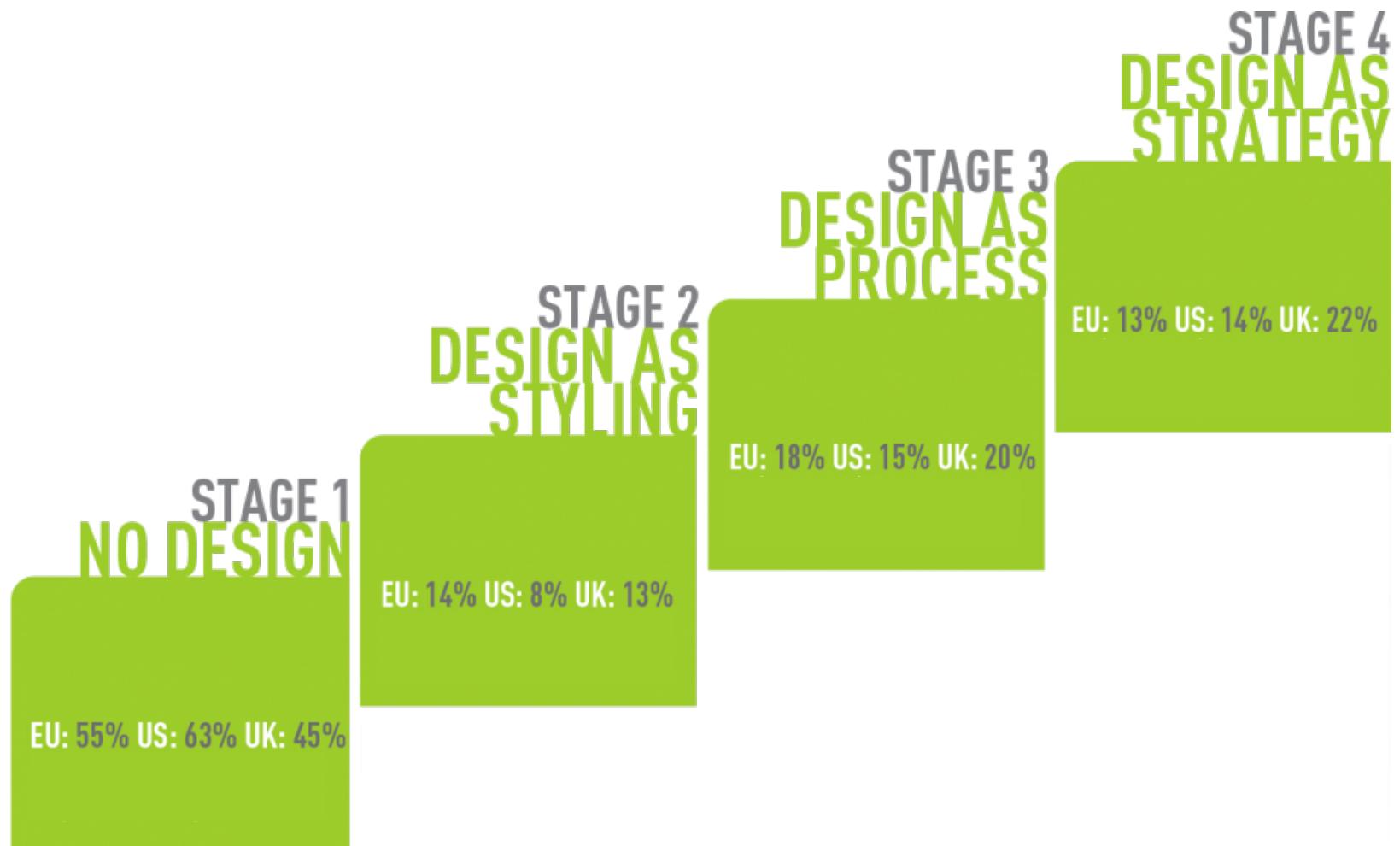
The last report reviewed the difference between Classical and Computational Design. This was somewhat controversial, but we review it here again.



John Maeda, Design in Tech 2017

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<http://www.designforeurope.eu/news-opinion/evidence-based-policy-design-ireland>

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On People



“Don’t spend too much time designing perfect products for imperfect people, focus on what makes people people.”

Jose dos Santos

Rotman Management Magazine, Beyond Bias: How to Shift Ingrained Thinking, Spring 2016

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Examples of Common Biases

SIMILARITY BIASES

In-group Bias: Perceiving people who are similar to you (in ethnicity, religion, socioeconomic status, profession, etc.) more positively. (“We can trust her; her hometown is near mine.”)

Out-group Bias: Perceiving people who are different from you more negatively. (“We can’t trust him; look where he grew up.”)

EXPEDIENCE BIASES

Confirmation Bias: Seeking and finding evidence that confirms your beliefs and ignoring evidence that does not. (“I trust only one news channel; it tells the truth about the political party I despise.”)

Halo Effect: Letting someone’s positive qualities in one area influence overall perception of that individual. (“He may not know much about people, but he’s a great engineer and a hard-working guy; let’s put him in charge of the team.”)

EXPERIENCE BIASES

False Consensus Effect: Overestimating the universality of your own beliefs, habits, and opinions. (“Of course I hate broccoli; doesn’t everyone?”)

Hindsight Bias: Seeing past events as having been predictable in retrospect. (“I knew the financial crisis was coming.”)

DISTANCE BIASES

Affective Forecasting: Judging your future emotional state based on how you feel now. (“I feel miserable about it, and I always will.”)

Temporal Discounting: Placing less value on rewards as they move further into the future. (“They made a great offer, but they can’t pay me for five weeks, so I’m going with someone else.”)

SAFETY BIASES

Loss Aversion: Making a risk-averse choice if the expected outcome is positive, but making a risk-seeking choice to avoid negative outcomes. (“We have to take a chance and invest in this, or our competitors will beat us to it.”)

Framing Effect: Basing a judgment on whether a decision is presented as a gain or as a loss, rather than on objective criteria. (“I hate this idea now that I see our competitors walking away from it.”)

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1. FEELING
2. SEEING
3. DREAMING
4. MAKING
5. LEARNING



On Failure

This is the logic driving businesses that operate in **highly uncertain environments**, such as **venture capital firms** (whose success rates range from about 10% to about 20%), **pharmaceutical companies** (which typically create hundreds of new molecular entities before coming up with one marketable drug), and the **movie business** (where, according to one study, 1.3% of all films earn 80% of the box office).

Principle 1: Decide what success and failure would look like before you launch an initiative.

Principle 2: Convert assumptions into knowledge.

Principle 3: Be quick about it—fail fast.

Principle 4: Contain the downside risk—fail cheaply.

Principle 5: Limit the uncertainty.

Principle 6: Build a culture that celebrates intelligent failure.

Principle 7: Codify and share what you learn.



01:39

<http://www.designkit.org/mindsets/>

HD vimeo

Why do we fail, really!

The 10 Worst Product Fails of All Time

1. **Edsel**
 > **Company:** Ford
 > **Year released:** 1957
 > **Revenue yr. released:** \$4.6 billion
2. **TouchPad**
 > **Company:** Hewlett Packard
 > **Year released:** 2011
 > **Revenue yr. released:** \$126.0 billion
3. **Crystal Pepsi**
 > **Company:** PepsiCo
 > **Year released:** 1992
 > **Revenue yr. released:** \$19.8 billion
4. **Clairol Touch of Yogurt Shampoo**
 > **Company:** Procter & Gamble
 > **Year released:** 1979
 > **Revenue yr. released:** \$8.1 billion
5. **Coors Rocky Mountain Sparkling Water**
 > **Company:** Adolph Coors Company
 > **Year released:** 1990
 > **Revenue yr. released:** \$1.8 billion
6. **WOW! chips**
 > **Company:** PepsiCo
 > **Year released:** 1998
 > **Revenue yr. released:** \$11.5 billion
7. **New Coke**
 > **Company:** Coca-Cola
 > **Year released:** 1985
 > **Revenue yr. released:** \$7.4 billion
8. **Zune**
 > **Company:** Microsoft
 > **Year released:** 2006
 > **Revenue yr. released:** \$39.8 billion
9. **The Newton MessagePad**
 > **Company:** Apple
 > **Year released:** 1993
 > **Revenue yr. released:** \$6.3 billion
10. **Arch Deluxe**
 > **Company:** McDonald's
 > **Year released:** 1996
 > **Revenue yr. released:** \$9.8 billion

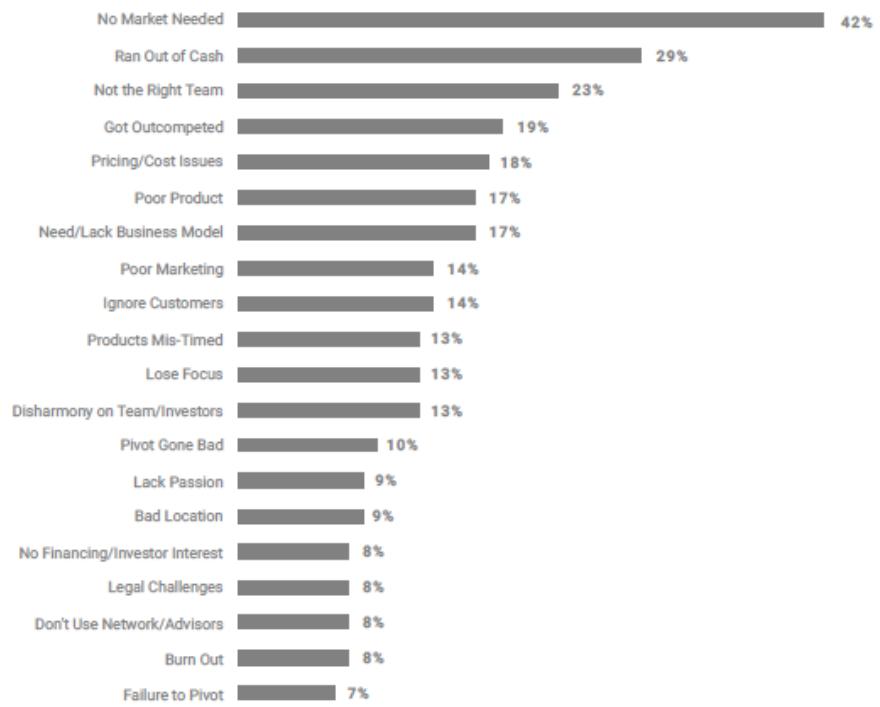
[http://247wallst.com/special-report/2014/03/03/worst-product-flops-of-all-time/2/](http://247wallst.com/special-report/2014/03/03/worst-product-flops-of-all-time/)

John Maeda, Design in Tech 2017

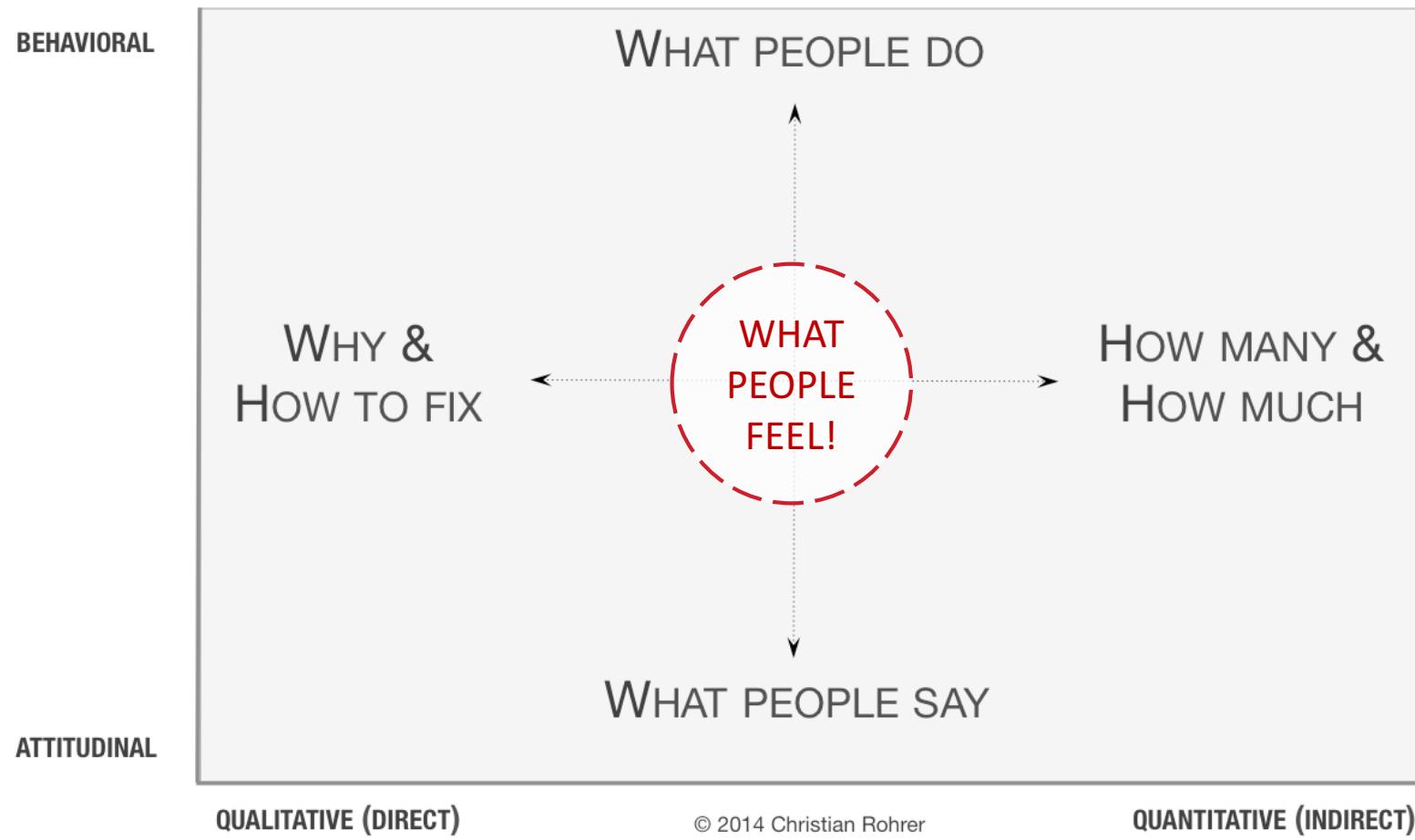
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Top 20 Reasons Startups Fail

CB Insights / Anand Sarwal [↗](#)



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When to Use Which User-Experience Research Methods, Nielsen Norman Group, CHRISTIAN ROHRER, October 12, 2014

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User Experience

Imperial College
London
BUSINESS SCHOOL

Designing Services

Analysing Customer 'Touchpoints'

Palette of 5 types touchpoints



People

Employees and other customers encountered while the service is produced.



Place

The physical space or the virtual environment through which the service is delivered.



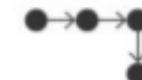
Prop

The objects and collateral used to produce the service encounter. Forms, products, signage, etc.



Partner

Other businesses or entities that help to produce or enhance the service encounter.



Process

Workflows and rituals that are used to produce the service encounter. Relates the people, place, props, and partners.

UX/UI in Digital Context



<https://www.pinterest.com/nahumespinosa/user-experience/>

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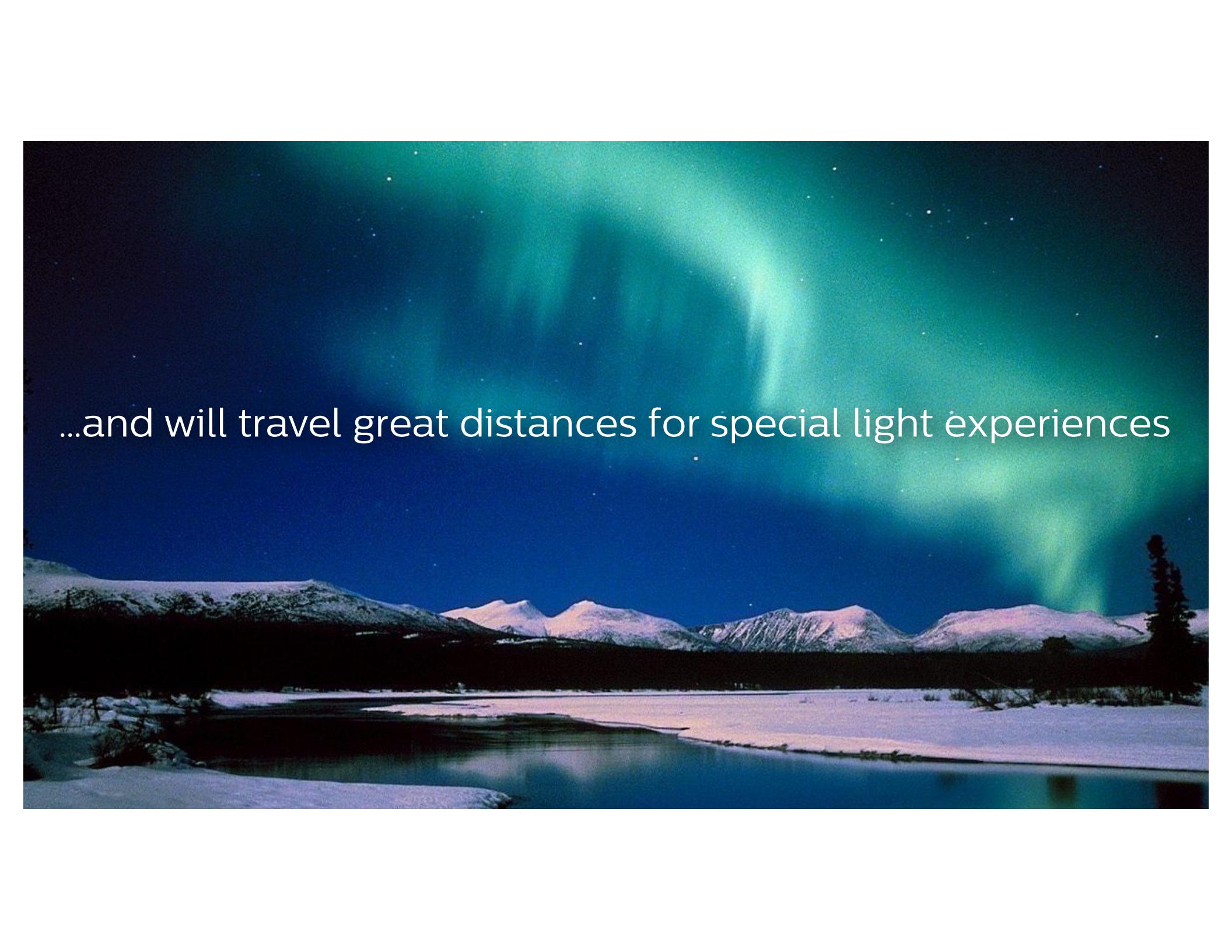


Our Vision

Putting people at the center

A photograph of a group of people gathered around a campfire at night. The scene is dimly lit by the fire, with bright orange and yellow flames in the center. Several people are visible, some sitting on the ground and others standing behind them. The background is dark, suggesting a forest or outdoor setting.

people are hardwired to appreciate experiences of light

A landscape photograph capturing a serene winter scene at night. In the foreground, a wide river flows from the bottom right towards the center, its surface calm and reflecting the surrounding light. The banks of the river are covered in a thick layer of white snow. Beyond the river, a range of mountains rises, their peaks also capped with snow. The sky above is a deep, dark blue, filled with numerous small, white stars. A vibrant, bright green aurora borealis (Northern Lights) is visible in the upper right quadrant, its light rays spreading across the sky. The overall atmosphere is one of tranquility and natural beauty.

...and will travel great distances for special light experiences

Closer to home, light can also offer powerful new experiences





..while public spaces are attracting people by using light
to create atmospheres that adapt to events and seasons



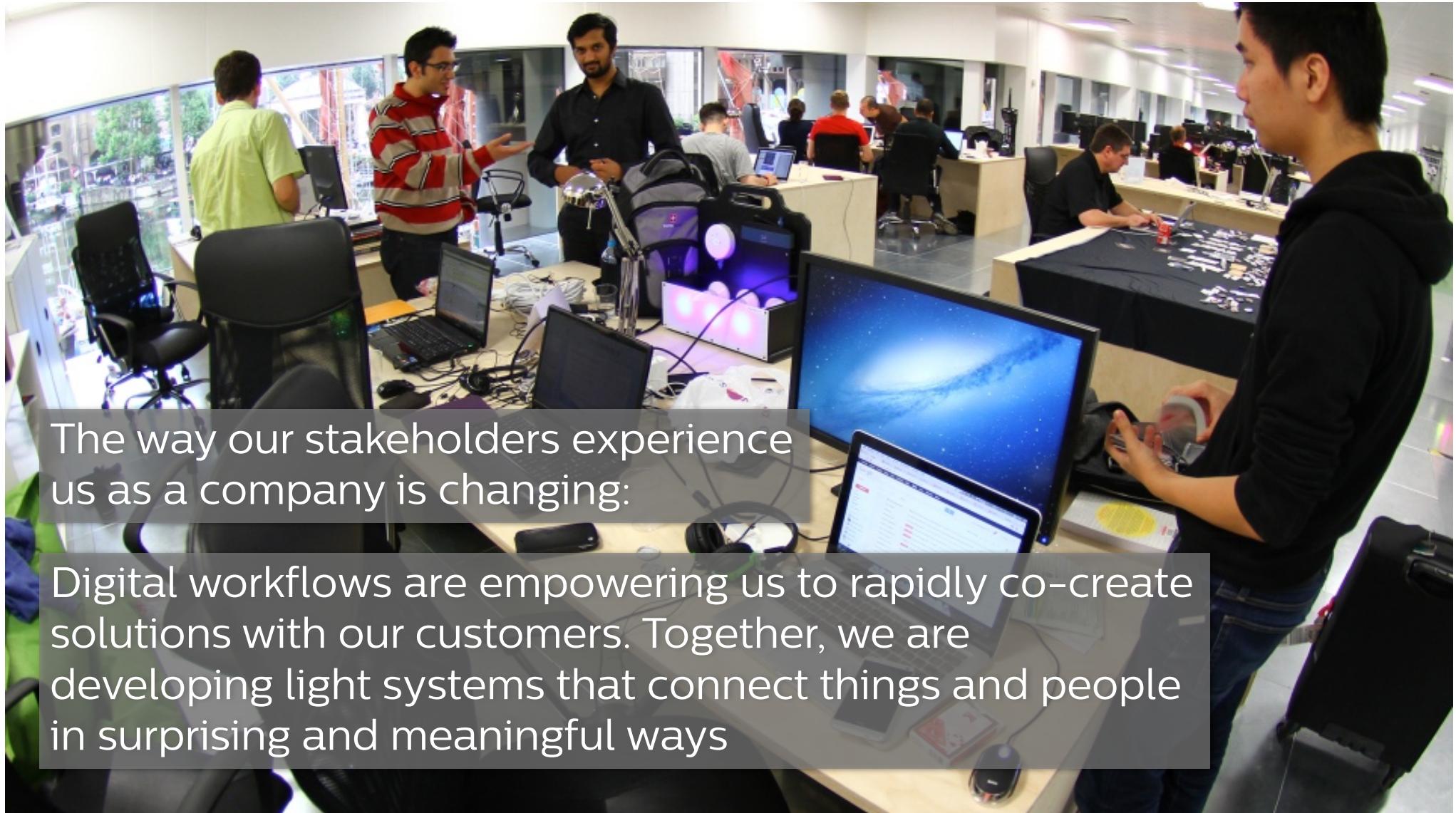
In addition to the way experience light, we are also understanding more about how light can improve people's health and sense of wellbeing



*“I've had very **positive** experiences. I feel sharper and quite simply more alert. This feels like the office of the future.”*

Emma Loven, Operations Manager at the Innovation Centre

Lighting has the power to create healthier indoor environments and promote social connectedness



The way our stakeholders experience us as a company is changing:

Digital workflows are empowering us to rapidly co-create solutions with our customers. Together, we are developing light systems that connect things and people in surprising and meaningful ways

LightMAP

1 2 3

Map

Highways

Primary Roads

Primary Streets

Streets

LED / Green Lights

Permitted Lights

Historic Lights

Parkings

Hospitals

Schools

City Parks

Shopping Centres

Gas Stations

Governmental Buildings

Museums

Entertainment Centres

Subway Stations

Lighting Flickr

The way we do business is also changing:

Emerging techniques for the way we manufacture, specify, install, (re)program, use, maintain and replace lighting are driving new business models, and are allowing us to address the needs of our customers in better ways...

Straße des 17. Juni

Primary Roads

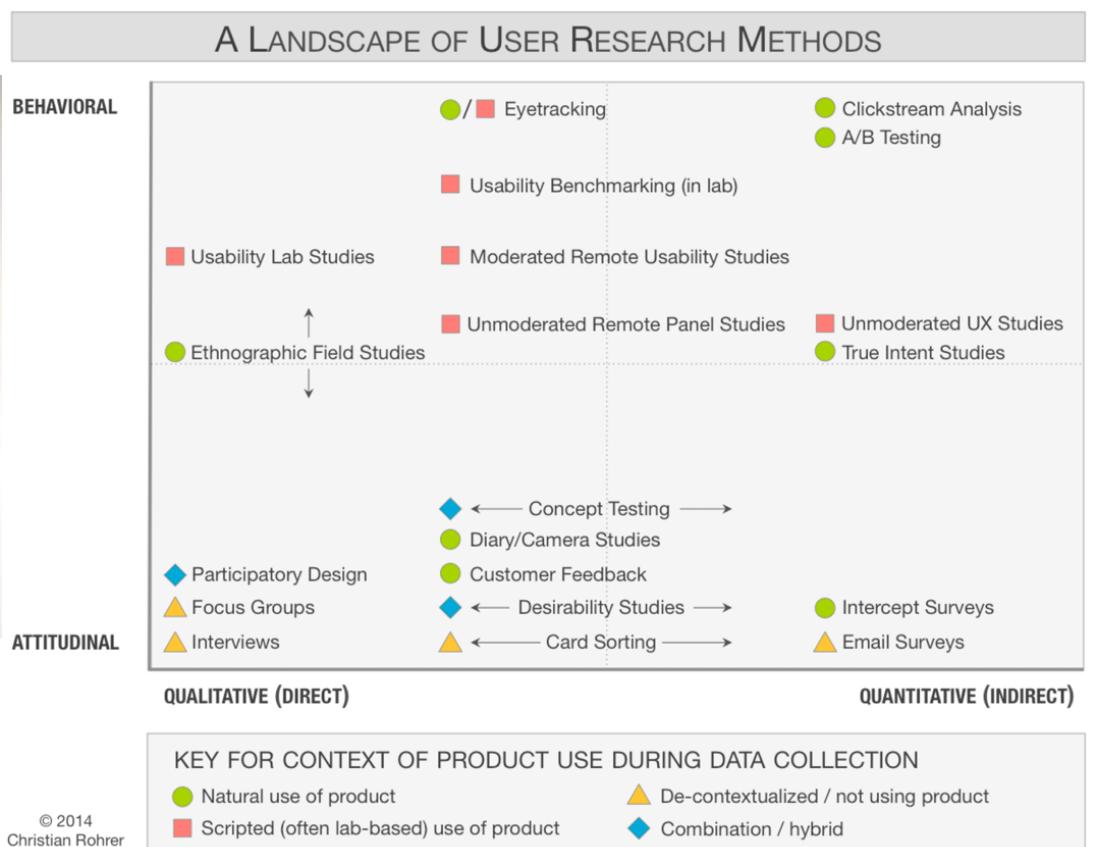
Lamp type: Permitted Lights

Number of lamps: 52

Number of defects: 0

...and opening a wealth of opportunities in systems and services

People Research



101 Design Methods, Vijay Kumar, 2011

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When to Use Which User-Experience Research Methods, Nielsen Norman Group, CHRISTIAN ROHRER, October 12, 2014

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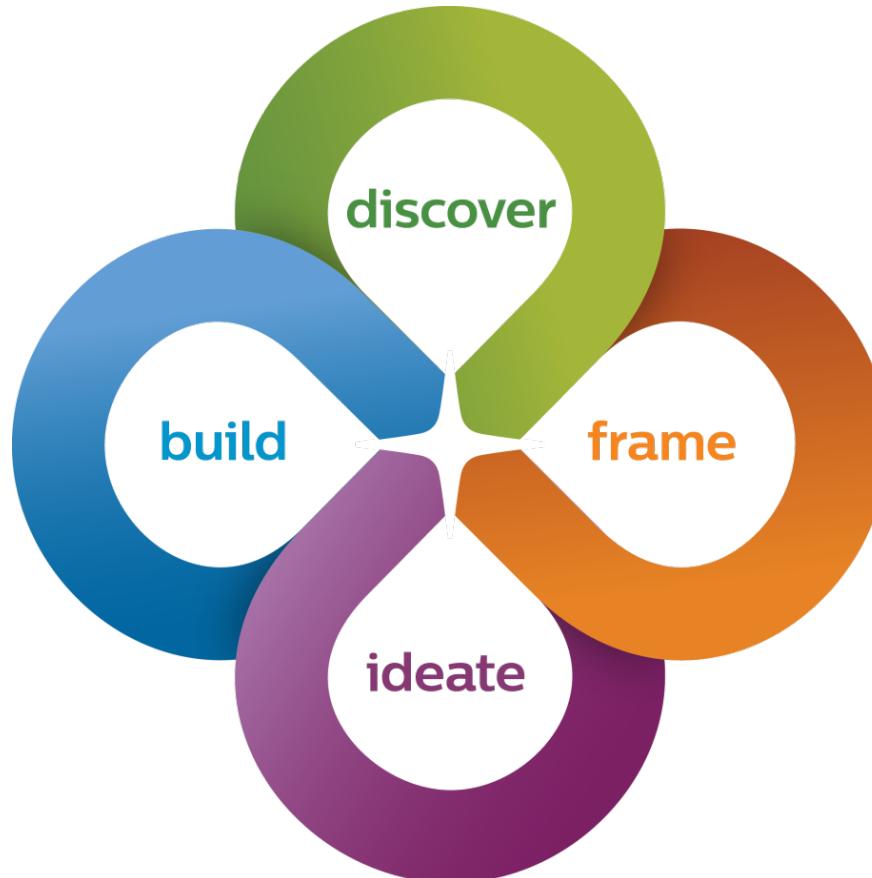
Co-create four stage design approach

Discover

Find Insight through exploring existing and new data, immersing yourself in people and their context and trying out ideas with targeted people at this early stage.

Build

Make ideas tangible by building a prototype, simulating behaviours or experiences, so the hypotheses can be tested in context with key stakeholders and users.



Frame

Define the opportunity area or challenge based on the 'as is' situation from the 'discover' phase using trends and foresight. Define a better future vs. current.

Ideate

Find solutions and ideas to the challenge using the power of creative thinking. Select the most relevant ideas and express them to create a shared understanding

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Design Personas

Design personas are models of the key behaviors, attributes, motivations, and goals of a company's target users/customers.

A persona is created from primary research with real users/ customers and takes the form of a vivid narrative description of a single person who represents a behavioral segment.

Organizations use personas to guide the design of products, channels, and messaging.

Steve Client: Persona Type: Prospect Sub Category: Male 35, new Family, financially stable Model Range: Octavia

Personal Overview

Name: Steve O'Connor	Internet: Proficient user / uses mainly for research at work and home / knowledge gathering
Age: 35	Facebook User ID: 6502934
Status: Married to Claire	Flickr ID: 5048304 (these are sample ID's for this doc)
Family: Amy (10 months) looking forward to the next one	Loves: His daughter / surfing and snowboarding / watching films
Trade: IT Manager (Public Sector)	Pet hates: Receiving too many emails
Salary: 50k	Superpower: Jedi Powers

I used to have a 5 year plan but then we had Amy, so now I have a 10 year plan. The last year has been taken up with having our first baby and this has lead to major changes for me and Claire and our plans, but all for the better.

Having a baby has changed everything! We used to go surfing and snowboarding and on holidays all the time with friends. We had an active social life enjoying going out to dinner and drinks. Now, we're lucky if we're able to get out at all, although we do try!

With both of us working in the public sector we have always been very focused – but now Claire's on extended maternity leave. Whilst my work is still very important to me, having Amy has changed my perspective. I don't work late as often as I did and I try not to take any work home. Home time is my time with the girls. I think I've achieved a good work/life balance now, and working for government has certainly helped me achieve this.

We have a lovely house in Earlefield, and I'm lucky to have a stable job. However my life aims and plans at the moment are more focused around my family rather than my work. We want another baby, will probably stick at two, not sure we can afford more.

I am quite careful and considered with money and don't like to waste it.

My current car is an old and battered Golf Mark 2. It's on its last legs and isn't very practical with the baby seat. Although I've always liked VWs I'm not sure I want to spend that much money on a car. With all the money we're spending, plus saving for Amy, I'm looking for a good deal on a reliable and safe car, I've seen the scrappage deals that are floating around and think that's the way I'll go. I need something practical for kids, economical to drive, safe and conformable for longer journeys as Claire's family is in Cheshire and my parents are in Canterbury. A better car will allow us to get out and about more and my dream would be to teach Amy to surf in Cornwall when she's older.

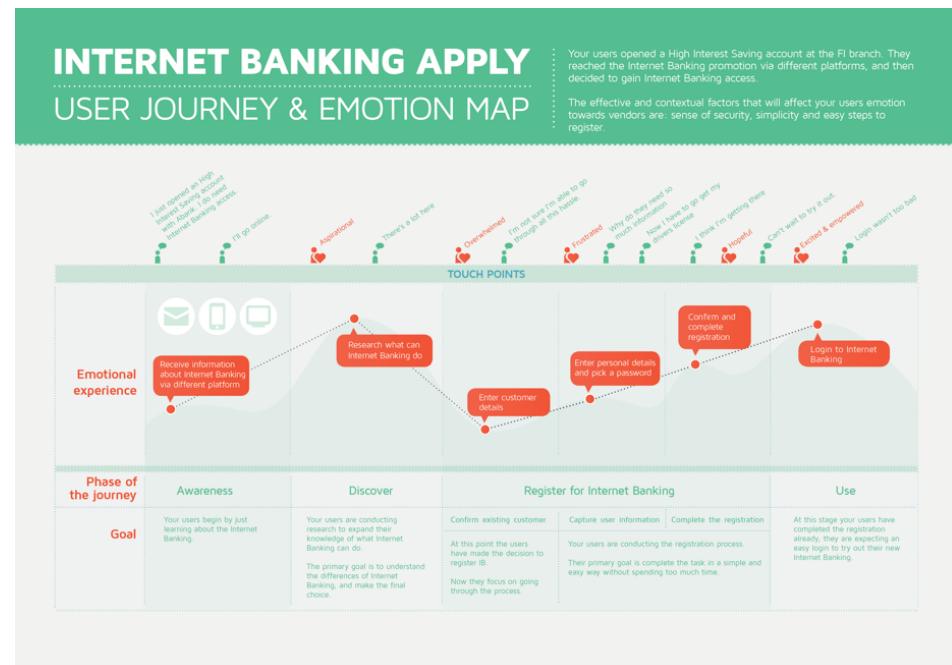
**"If I was to describe myself in four words it would be:
Father, Settled,
Active, Careful."**

Page 1

User Journey Maps

It's not enough to create user empathy, an effective customer journey map should help you prioritize and focus on touchpoints that generate the most value for the user.

1. Anticipate the Journey
2. Get Focused, Be Targeted
3. Capture the Experience
4. Identify the Touchpoints
5. Identify the Moments of Truth
6. Find the Pain Points
7. Amplify the Emotional Highs
8. Explore New Possibilities
9. Envision the Ideal Journey
10. Bring the Journey to Life



<https://www.linkedin.com/pulse/customer-journey-mapping-10-sure-fire-steps-success-jonathan-dalton>

Philips Stadion Experience Flow



Excuse, Excuses, Excuses...

1. We just don't see the value of user testing
2. We don't want to test with people who aren't our current users
3. We don't have enough internal talent and we can't hire new resources
4. We already know our users/Users are not experts
5. We don't have time for user research
6. We can't afford user testing, or we're not sure it's worth the investment



In how many ways will your design fail?

Products and services deliver fundamental elements of value that addresses four kinds of needs: functional, emotional, life changing and social impact. In general, the more elements provided, the greater the user/customer's loyalty and the higher the company's sustained revenue growth

