

# “PAY-PER-LUX”

Group 19

PHILIPS LIGHTING- RAU'S ARCHITECT  
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Amsterdam, Netherlands  
Consumption-based illumination

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# 1. DESCRIBE THE SERVICE

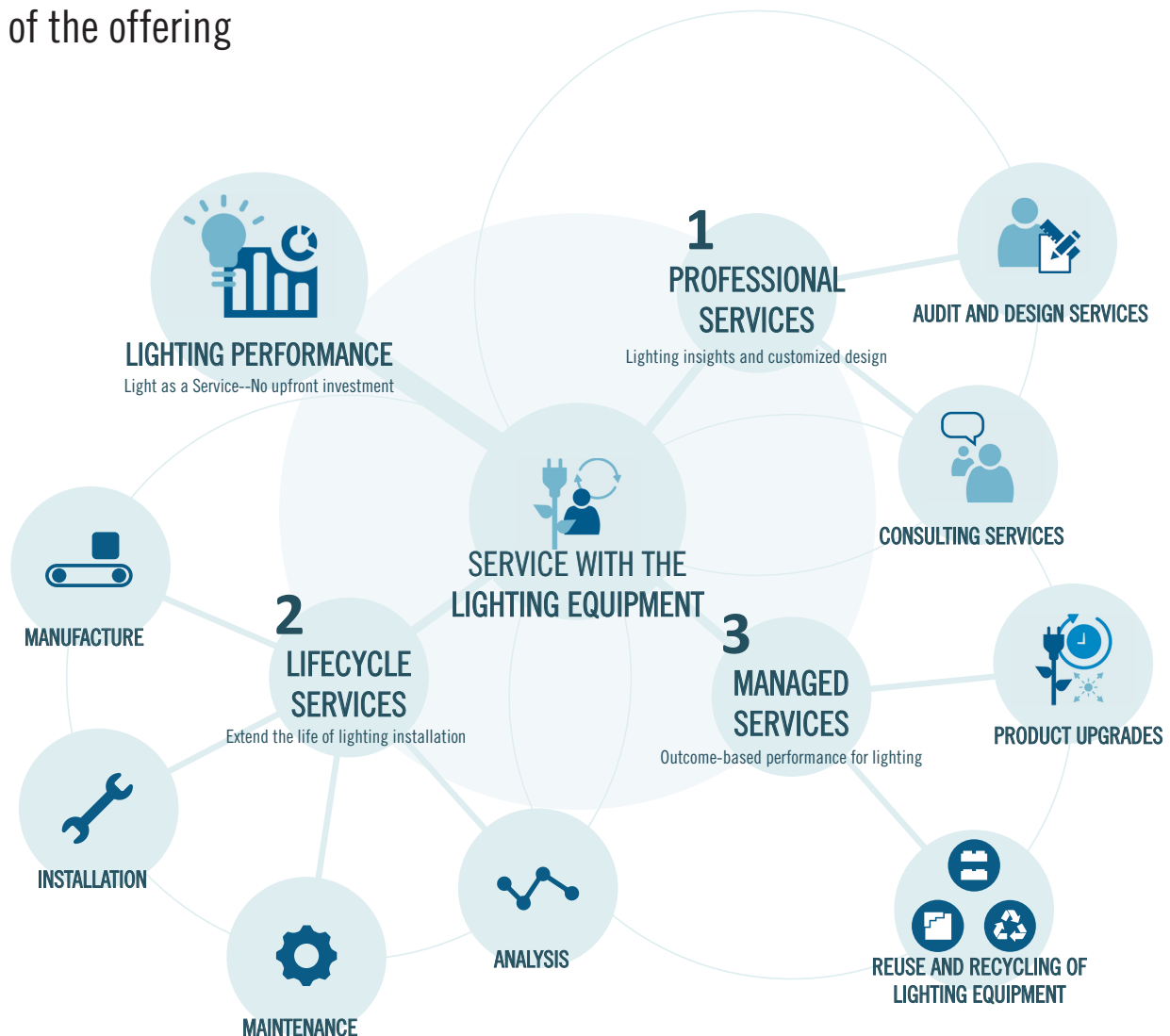
## 1.1 What

**Description of the service: service aims, value proposition, diffusion.**

The “Pay-per-lux” model was launched by Philips CEO, Frans van Houten and architect Thomas Rau, when he was trying to answer to his corporate sustainability ambitions.

Rau’s studio needed many hours of light every day but at the same time it is was not interested to actually own any lighting products at all because he wanted to buy only the service, with the purpose of getting maximum value from the lighting system. Therefore Philips decided to deliver product performance rather than the product itself. The customers pay only the fee for the firm to handle the entire lighting service, this means all the light infrastructure: design, equipment, installation, maintenance and life-end recycle. This service system aims to reduce costs associated both with the installation and with the energy use. The final project was a light plan that utilised the building’s natural sunlight as much as possible. This is possible thanks to a combined sensor and controller system by dimming or brightening the artificial lighting in response to motion or the presence of daylight.

## Map of the offering

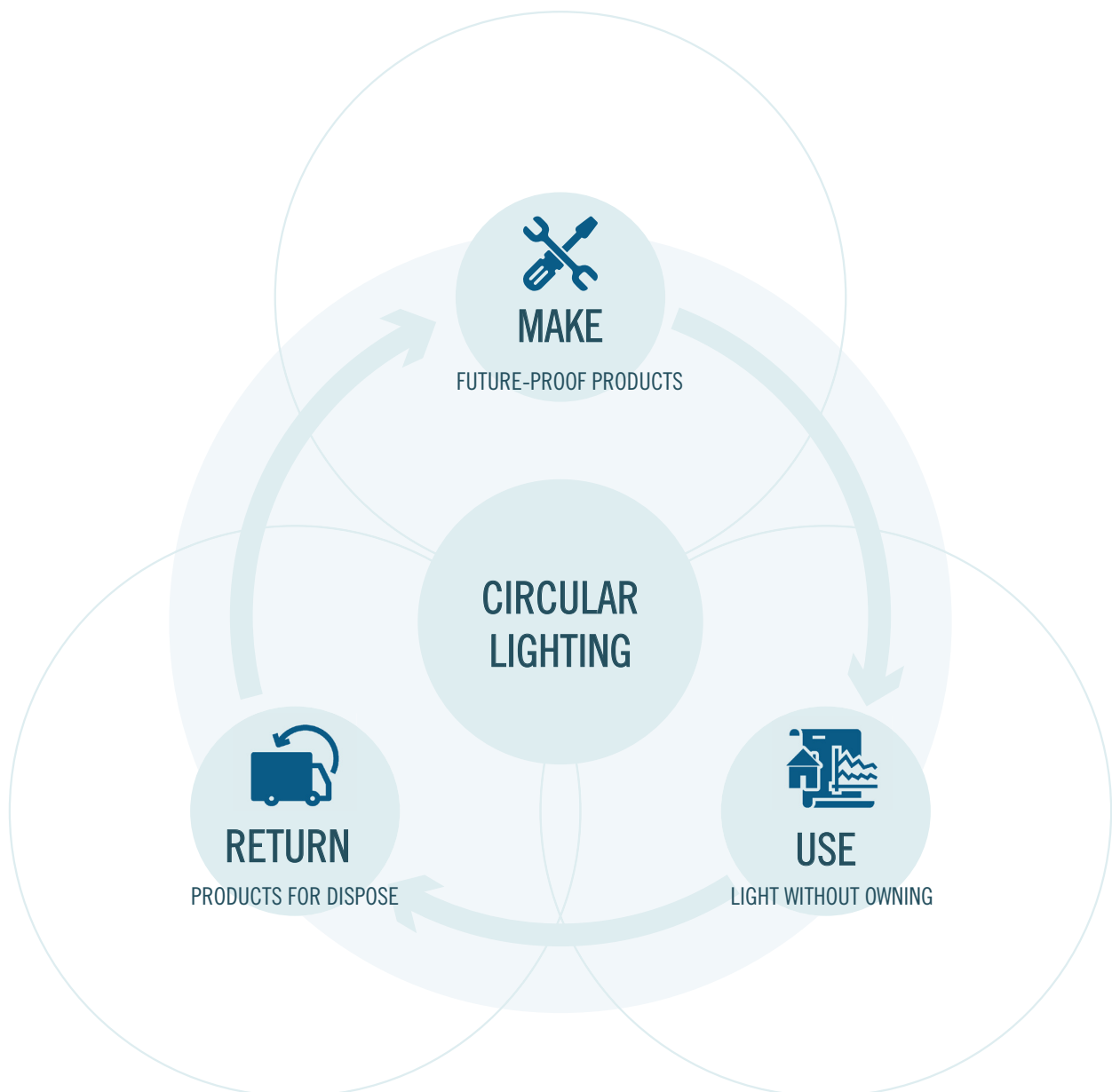


## 1.2 How

### Description of how the service works: the user journey

Imagine a client wants to update the lighting system. That can be an expensive proposition because the client have to buy new equipment, money that he might rather spend on core business activities. But a circular lighting business model adopts a different strategy. The clients simply buys the light they need and allows another party to take care of all the other details such as installing the equipment (which the clients simply leases) and service and performance for a contracted period of time.

As part of the service, Philips takes responsibility at the end of the contract for the materials. Circular lighting is vastly more sustainable, drastically reducing what goes to landfills. However, the most optimal situation when a client's contract term expires is to extend it for a new term. Philips do that by providing new functionality or upgrading the lighting system to meet the customer's evolving needs.



“PAY-PER-LUX” Customer journey

STAGE	BEFORE		DURING			AFTER
	PRE-SERVICE		SERVICE			POST-SERVICE
	Get in touch		Installation	Use	Maintenance	Contract renewal or service's end
CLIENT'S NEEDS	New lighting infrastructure  Understand which is Philip's contract proposal		Customized system with a cohesive design that fits with his building	Take care of the system's performance	Lighting's maintenance  Preventive maintenance	Have a new contract proposal or understand which could be the possible infrastructure's end-life actions.
ACTIONS	1. Client sends a request to Philips 2. Philips gives the possible contract's options 3. Detail audit of lighting system organization 4. Co-creation of the long-term lighting plan		CONTRACT SIGN  5. Architects plan for the installation 6. Installation of the infrastructure	7. Use of the service and payment by the client for the performance. 8. Trained service engineer on-site 9. Ongoing consultation	10. Maintenance 11. Philips delivers to the client performance analysis	RENEWAL  12A. Lighting upgrade and new contract sign 12B. Refurbishment, and install new luminaires  END  12C. Reclaim parts, take back the bulbs and harvest the spare parts and then re-use those. 12D. Recycling, left parts shipped to recycling partners
TOUCHPOINTS	Sponsorship Web site Marketing e-mailing  Customized Promotions Advertising		Designers Architects Installers	Philips My Services Portal	Philips My Services Portal	Philips My Services Portal Customer service hotline
INVOLVED DEPARTMENT	Front-end PHILIPS'S TRADE AGENT  Back-end		LOGISTICS department TECHNICAL SERVICE department DESIGN department	LOGISTICS department		PHILIPS LOGISTICS
STAKEHOLDERS	SUPPLIERS AND MANUFACTURERS RESEARCHERS		SUSTAINABILITY CONSULTANTS LOCAL INSTALLERS	LOGISTICS DHL	LOCAL INSTALLERS	RECYCLING and WASTE-PROCESSING COMPANIES
ENERGY USED diagram						

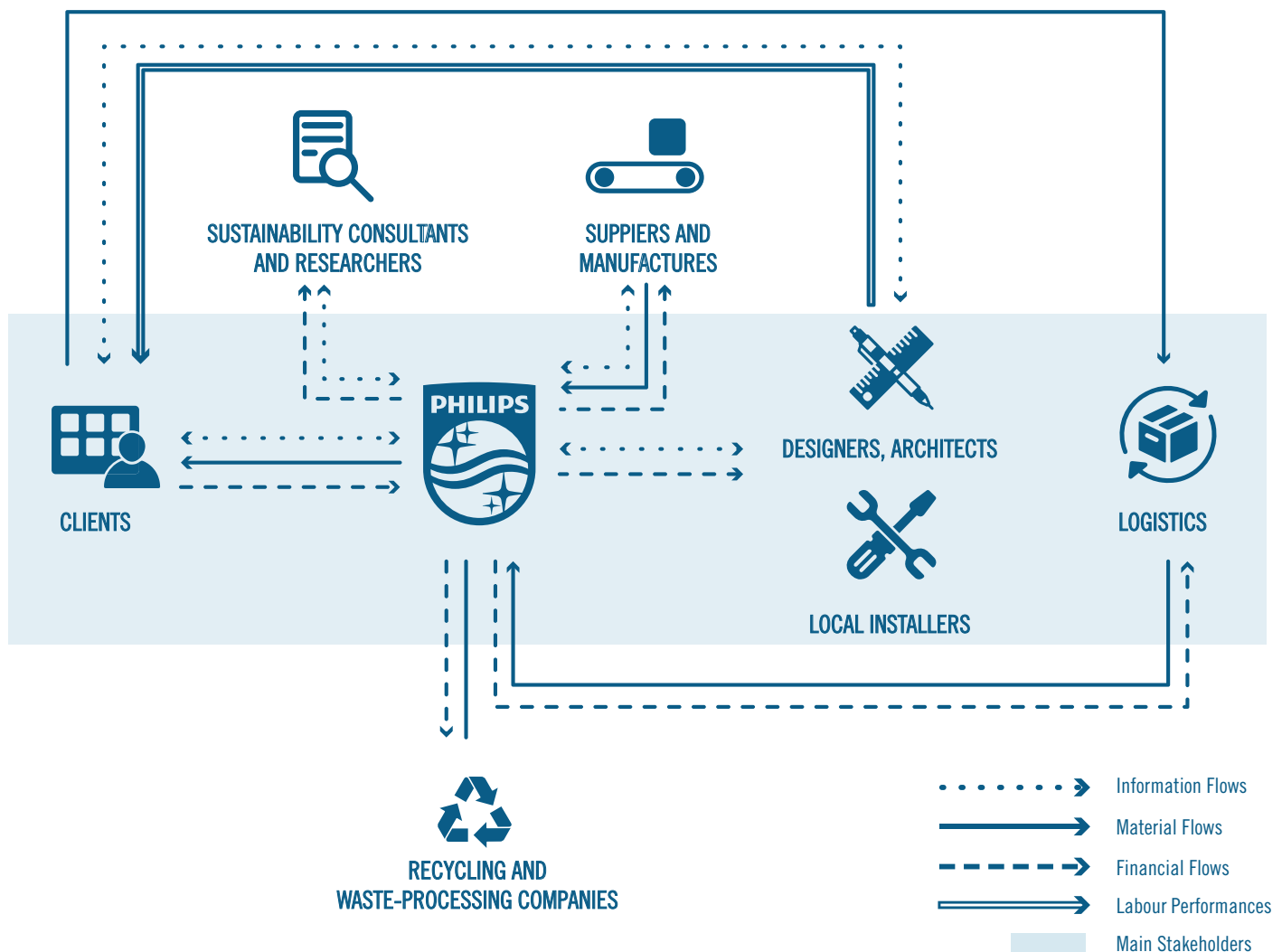
## 1.3 Who

### Description of the main stakeholders

In a circular economy, it is really important to collaborate with other parties.

At Philips Lighting, they are embarking upon a new service-based relationship with customers. Philips fulfill the role of a trusted long-term partner in sustainability; In deploying and managing the lighting installations on site, Philips work with many technical partners like **designers, architects and installers**; To enable ongoing innovations in production and performance, Philips collaborate with the top **suppliers and manufacturers** **in the supply chain**; Their good relationships with leading sustainability **consultants and researchers** let Philips stay at the cutting edge of lighting innovation creating brighter lives and a better world; For the logistics, Philips Lighting works together with **logistics company DHL**, to make sure that the transport is as efficient and environmentally friendly as possible; Finally, Philips works together with **recycling and waste-processing companies** to organize, separate and recycle its material streams as efficiently as possible.

## System Map





## 2. ANALYSE THE SERVICE INNOVATION

### 2.1 Level of newness

Define the characteristics of the existing market/service and highlight how the chosen service differs.

- ✓ ***New to the market (global, nation, local)***
- ✓ ***New to the firm***

#### **New to the firm**

Philips in 2014 was not agile enough to respond to rapid changing business models in the lighting industry and compete with LED newcomers. Therefore Philips has changed its goal from “selling more bulbs to more customers” to “selling complete systems related to lighting”. With a different strategy the firm offers illumination as a comprehensive product/service combination that includes the manufacture, installation, maintenance, reuse and recycling of lighting equipment. It's the most sustainable approach to illumination, in which you only pay for what you actually need: light.

#### **New to the market**

Philips was not the first company to understand that they need to step away from its loss-making traditional lighting products. Other companies like Siemens, General Electric and Samsung were looking at the role that innovation can play in redefining their value proposition. But they only spin off it's lighting division or re-vamped their product line.

### 2.2 Degree of change

Define the characteristics of the original market/organisation/dimension and articulate the depth of change.

- ✓ ***Radical innovation***
- ***Incremental innovation***
- ***Improvement innovation***

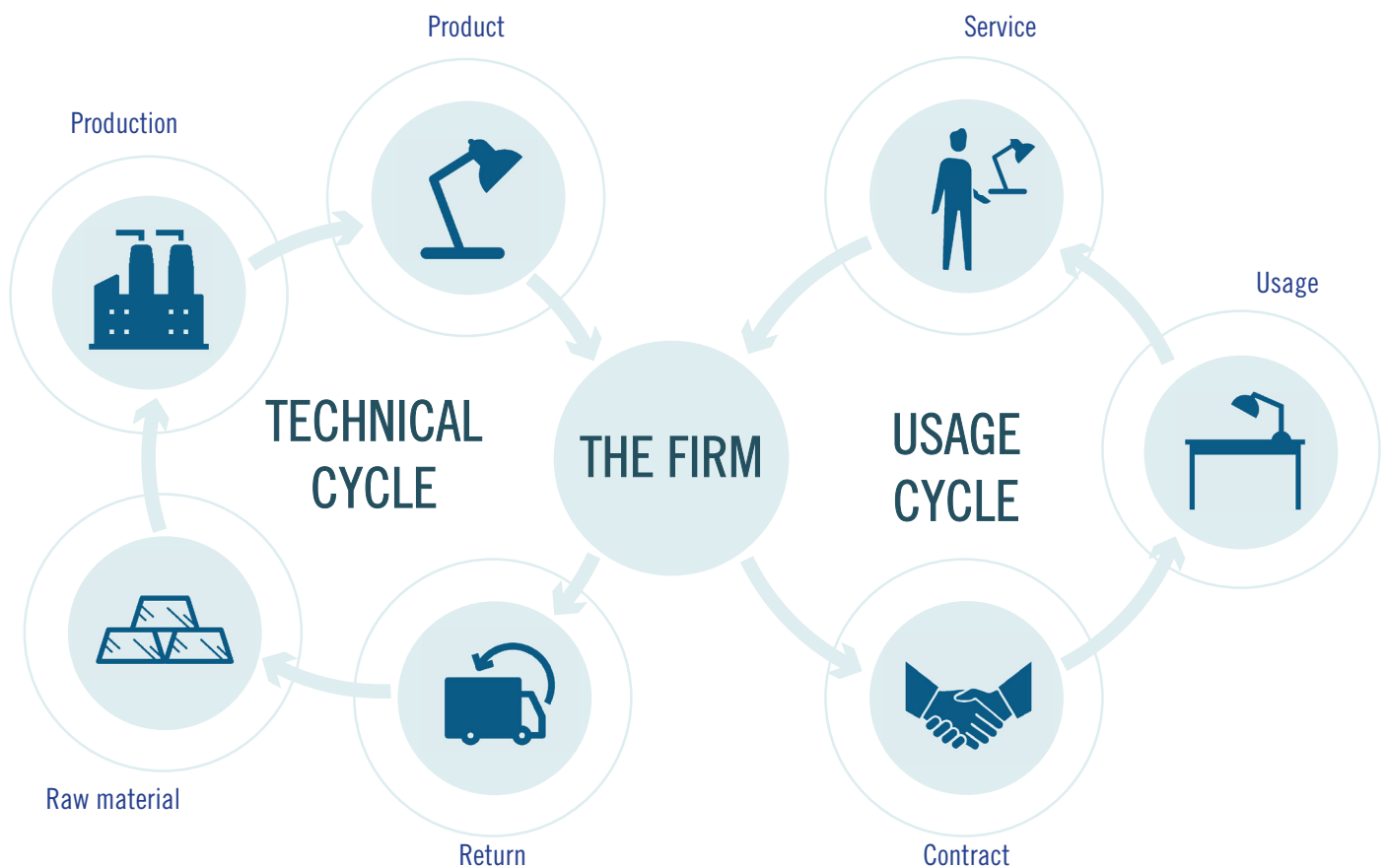
### Linear economy model

The traditional linear chain begins with the raw material, which then lands in the factory and finally moves forward to the client. The product location at the client is a dead end, which means as soon as the product is broken or of no interest any more, it ends as waste. Here the chain ends and a new one will start, for the next product. The customer has no contact to the factory because no services are offered.



## Circular economy model

The new business model has right at the beginning a different approach: during production the core factors: reduce, reuse and recycle are taken in consideration. Which means the design and assembling of the different parts are thought in order to be reintegrated in the chain in future. Further, when the client has no more interest in the lighting system or want to upgrade, he enters again in contact with Philips. Services for reparation, upgrade, renewal of contract or recycling can be taken in consideration. In any case everything that can be reused or recycled lands back in the factory and enters again the chain, creating in this way a circle with less waste.

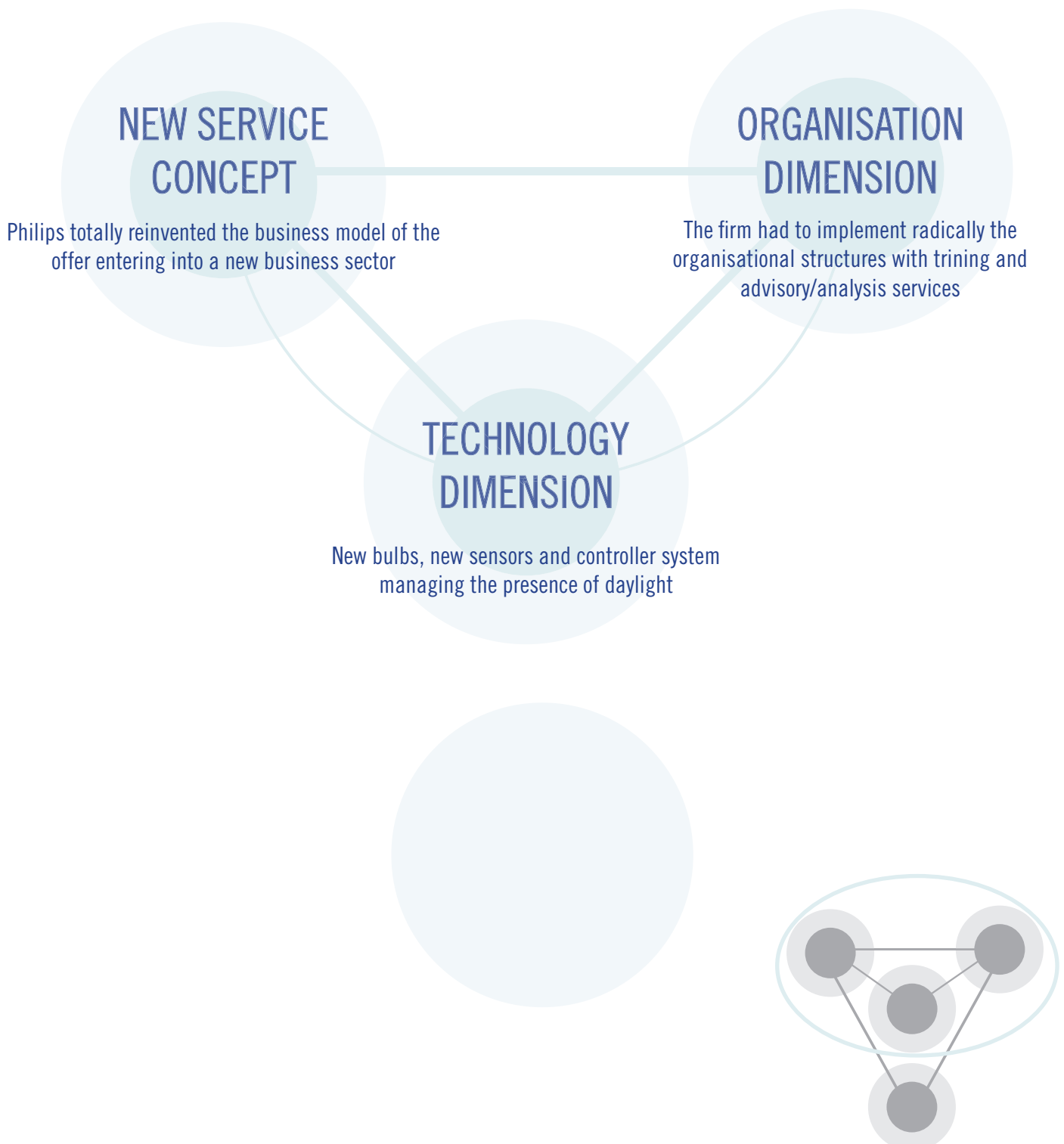


THE NEW CIRCULAR MODEL

## 2.3 Dimension of novelty

Define which dimensions are highly transformed and how (go in the details).

- ✓ **Concept (typology, offer, business model)**
- ✓ **Client interface (mode of interaction, touchpoints)**
- ✓ **Service delivery system (organisational structure, processes, partners)**
- ✓ **Technology developed**

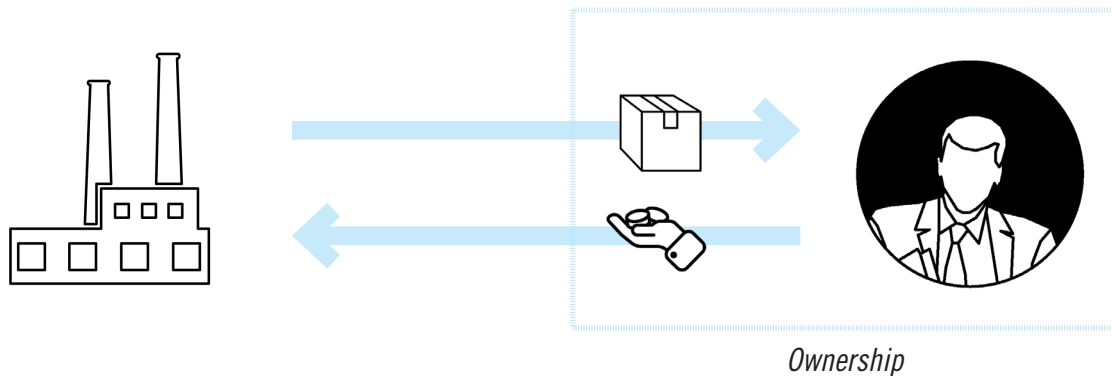




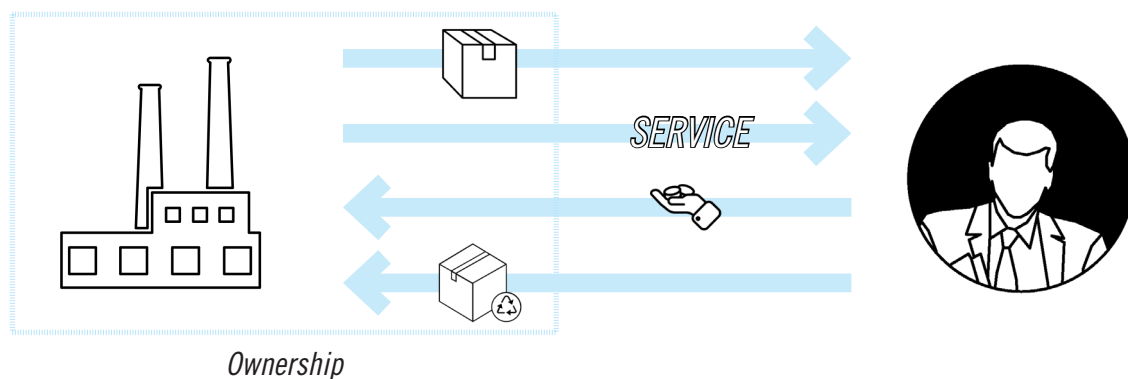
## Concept

**New business models:** Philips Lighting uses “Product as a service” model and retains ownership of all lighting equipment. The company also takes back the lighting equipment at the right moment, when it is suitable for recycling or upgrading.

## Existing business model



## New business model

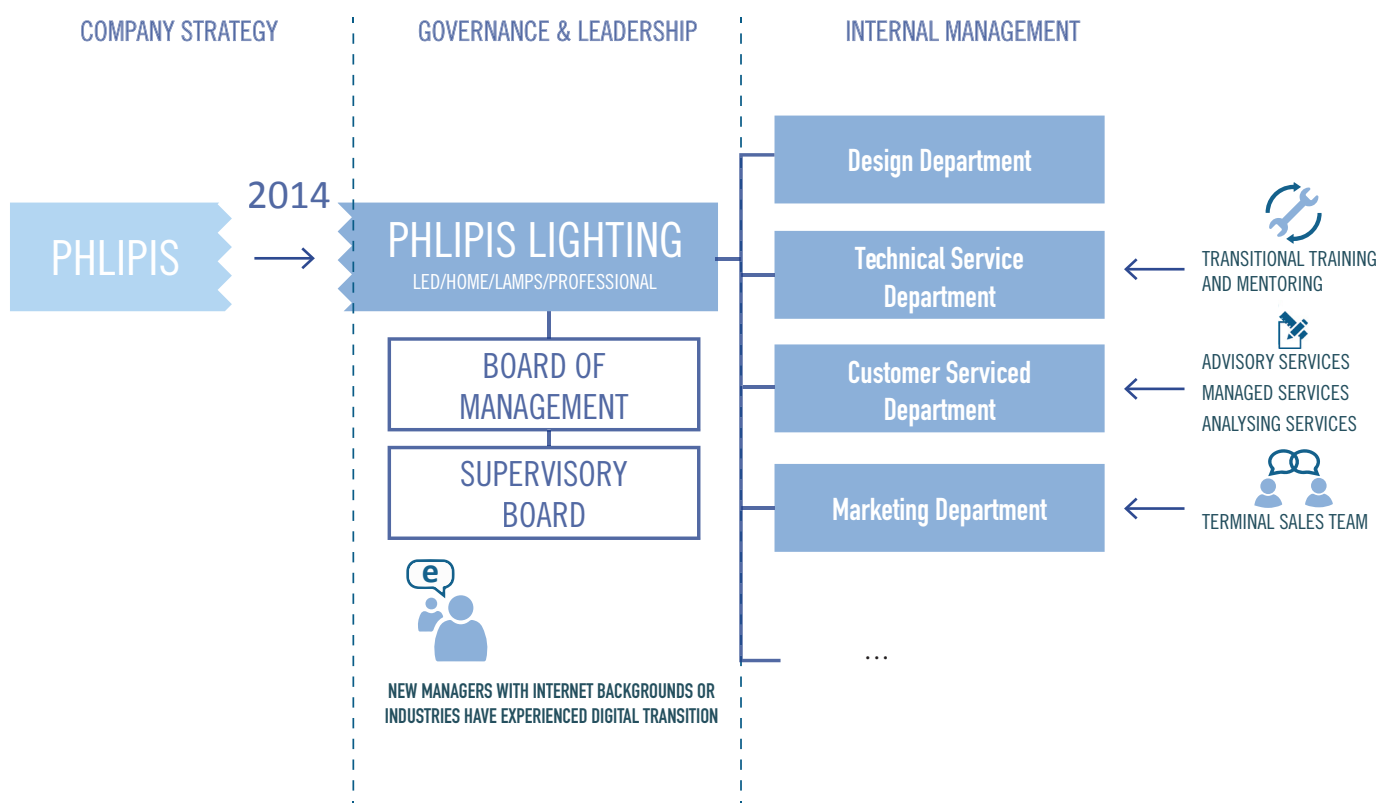


## Client interface

Pay by Lux dose not focus on a new client interface, it uses the existing personal portal of Philips in order to provide a precise documentation of the services. On the other hand they created a new physical touchpoint: a consulting group which visits/inspects the client's location.

## Organisational structure

After Philips Lighting separated from Philips in 2014, at least half of the executives have joined the last two years, with experience on digital transformation or from internet companies. Internally, extensive restructuring training and mentoring are provided to employees. Advisory, managed and analysing service are developed covering from the initial design and installation, to continued hassle-free operation and maintenance. Sales teams are set out to communicate directly to commercial real estate or even city managers that needs systemized services. The organization of the Pay per Lux service model needed the establishment a series of adjustment in the organisational structure.



## Technology developed

For energy saving, a combined sensor and controller system further helped keep energy use to an absolute minimum, by dimming or brightening the artificial lighting in response to motion or the presence of daylight. In addition, for recycling, Philips developed a series of technologies to make product be easy to repair and recycle. A new product family has been designed for the circular system, the features are low maintenance, upgradeable and excellent glare control.

## 2.4 Patterns of innovation

Where does the innovation comes from and how?

- ☐ **Supplier**
- ☒ **Clients**
- ☐ **Consultancy**
- ☐ **Organisation**
- ☐ **Paradigmatic change (e.g. legislation)**

How we have anticipated in the description of the service, the "Pay-per-lux" model was born from the real needs of the customer.

In fact Thomas Rau, was the first to have a mentality, on architecture's design, that goes beyond just focusing on energy-saving technology: the aim was to create buildings that can actually produce energy, and which consume and waste as few raw materials possible.

Rau has even launched a special platform "Turntoo" which advocates and facilitates "performance-based consumption", in which manufacturers retain ownership of products such as carpets, furniture, tiles and more. Consumers pay just for the "performance" of these materials, which can later be reused or recycled by the manufacturers for other customers. Philips Lighting had worked with Thomas Rau as a lighting partner on a number of the building's projects, but always as supplier of all lighting products. So when he wanted to try and extend the concept of performance-based consumption to lighting, he went to Philips.

## 2.5 Means of innovation

Indicate which kind of resources have been used to operationalise the innovation (mostly human or high-tech)

- ☒ **high-touch service (introduced new procedures, training, hiring, new roles, etc.)**
- ☒ **high-tech service (introduced new products, interface, new technology, etc.)**

**New products: Circular luminaires**, Luminaire design is the cornerstone of a circular lighting concept. Circular luminaires, which meet five major criteria (modular, upgrading, maintenance, disassembly, recycling) are designed and used for the innovation.

**New roles: Supply-chain manager** In the new model, clients don't have to explain which luminaires they want. Instead, Philips Lighting makes a selection of the luminaires that best suit a client's wishes and develops a lighting plan together with partners like technical consultant and energy supplier, who also vouch for the lighting plan. Philips Lighting is responsible for the luminaires' maintenance and whatever repairs are needed.

**New procedures: Organization of reverse logistics** Philips has also reviewed its reverse logistics and made adjustments to support in managing end-of-life lighting installations with minimal environmental impact, based on different scenarios (service, renovation, reclaiming parts, recycling).

## 2.6 Co-creation of value

Who is benefiting from the innovation and how

- ✓ **Provider**
- ✓ **Clients**
- ✓ **Partners**
- ✓ **Society**
- ✓ **Environment**

To create a meaningful and radical change in the whole system it is necessary to collaborate. Firms, employee and costumers, have to co-create together the best possible distribution of sources. The values of the outcomes for Philips will be to get direct feedback, the chance to collect data/ideas and creates constantly new insights to improve the service/product. All this as a result of a better or more direct communication with the end customer itself. Furthermore a higher productivity can be reached by a direct collaboration between the involved group.

On the other hand for the client, a direct relationship, will bring him more comfort, transparency and a certain power to customize his end product by co-designing the outcome. It is not any more a transaction of good, rather a relationship between firm and client: the customer get the performance and service of the light, without caring much about the hardware. In exchange the Philips has the chance to recycle and reuse product parts which will save the firms money by organizing better energy consume, resources and time. Obvious is that with a better management of the raw material, a hight percentage of recycling, less production, due to reuse, customers and firms create a lighter footprint in the environment by consuming only what is really necessary.

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