

# SUMMER SCHOOL 2013

INNOVATION  
INSPIRED  
BY NATURE



## Case description: The Department of City Cleaning

### Introduction

The case description is a summary of the innovation challenge, which the team must solve for the company during the summer school *Innovation Inspired by Nature* in August 2013.

### The case description as a management tool

The case description forms the basis of the team's project and works as a continuous management tool while solving the challenge during the summer school. The case description also serves as the foundation for the company's assessment of the team's final solution.

### Procedure for changes in the innovation challenge

The team may discover that the challenge presented by the company needs to be rephrased. This might occur when the team gains deeper insight and discover new opportunities. If the team considers changing the innovation challenge both the company representative and the summer school facilitator and coordinator should always approve it.

### The case description entails

1. A brief presentation of the company
2. The innovation challenge
  - The background of the challenge
  - The specific innovation challenge
  - The company's expectations and requirements for the solution to the challenge
3. Contact information

## **1. Briefly about the company**

Department of City Cleaning (Center for Renhold) is a department under the Technical and Environmental Administration in the City of Copenhagen. The department handles the daily cleaning of the city's public spaces. They empty the public garbage bins and sweep, vacuum clean and remove garbage from public streets, squares and pavements 365 days a year. They also manage the public toilets in Copenhagen, and are responsible graffiti removal on public buildings and for keeping urban equipment (for instance public benches) clean and in good condition.

The department employs around 260 persons stationed in 8 sites around the city where each site handles 1 – 2 city districts. In the inner city district, which has the highest garbage pressure, the work is organized around 2 sites with both a day shift and afternoon shift. The two city districts of Amager is outsourced to a private entrepreneur as a part of the administration's need to benchmark itself with the private sector.

The Department of City Cleaning does not handle household waste or clean of public parks and green areas. These tasks are maintained respectively by the Department of Waste and Recycling and the Department of Parks and Nature. The City of Copenhagen is only responsible for public owned areas and roads. The maintenance of private cadastre and streets are the land owner's responsibility. Land owners are normally also responsible for pavement around their cadastre. However in a huge part of Copenhagen the City has taken over the cleaning responsibility on pavements in order to do a proper job by cleaning streets wall to wall.

## **2. The innovation challenge**

The City of Copenhagen has as its goal to be the cleanest capital in Europe by 2015. In order to reach this goal new innovative solutions must be created and the Copenhageners must change their habits and take loving responsibility for keeping Copenhagen clean. For that reason the department works with citizen involvement, volunteering clean ups and partnerships with companies and organizations which has a role to play in keeping the city clean. And the department also works with innovation of new garbage bins, ashtrays and cleaning machines and experimenting with new solutions.

Cigarette butts are the absolute biggest garbage fraction in Copenhagen. Between 60 and 80 percent of all garbage on the streets are cigarette butts when measured in pieces of garbage. For that reason the Department of City Cleaning wants the innovation challenge case to tent toward the problem of cigarette butts.

### **The background of the challenge**

First of all it is acceptable among smokers that you can throw your cigarette butts on the street. Secondly it is a much automated reflex for the smokers, when they have finished a cigarette to throw the butt on the ground and step on it afterwards almost without thinking about it. This despite that most garbage bins in Copenhagen has an integrated ashtray.

Especially after the implementation of the smoking regulations, smoking today takes place mostly outdoors when the smoker is on the way from one place to another, just outside of an entrance or in a waiting position, for instance while waiting for the bus. Therefore cigarette butts are concentrated in areas where people gather, walking by or take resident. For example public plazas, bus stops, pedestrian streets etc. The more people in an area and the more they staying the more cigarettes butts there are.

The cigarette butts are many and small and often they cannot be collected mechanically by a sweeping machine or a leaf blower. The problem is that the cigarette butts get stuck between the furrows on the cobblestones. A cigarette butt which needs to be picked up manually costs the municipality about 2 DKK each in man hours and equipment. However, if the cigarette butt lies on a flat surface where a sweeping machine or a leaf blower can do it, it is significantly cheaper to pick up.

It takes about 5 years for a cigarette butt in nature to be decomposed and if it ends up in the sewer systems the nylon in the butts will ruin the filters in the sewage treatment plants.

The City of Copenhagen is working on a clean city campaign called “REN Kærlighed til KBH” – “CLEAN/PURE Love for CPH”. The purpose is to engage the Copenhageners actively in keeping their city clean via partnerships, volunteering, commitment and nudging. As one of the actions taken the garbage bins have been foliated in a visible green color with a logo and footprints have been printed on the ground. The City of Copenhagen has handed out pocket ashtrays and lighters with text and pictures of the garbage bins. These have been handed out during the Jazz Festival. The campaign is the framework for the communication and partnerships which compromises street cleaning. Read more about the campaign at the municipality’s website.

### **The specific innovation challenge**

The City of Copenhagen would like to see a product/concept that solves the big garbage problem that the cigarette butts constitute in the streets of Copenhagen.

The solution must address both the behavior of the smokers, the placement and design of ashtrays in the urban space and how the street cleaning operation can more easily pick up cigarette butts.

All solutions are welcome as long as they can help reducing the problem of cigarette butts on the streets.

### **Expectations and requirements**

- The solution must be build on a behavioral analysis
- The solution must take into considerate existing activities and products eg the campaign Ren Kærlighed til KBH
- The solution must be economically viable
- If the solution addresses to design new street equipment (ashtray and garbage bins) the design has to some extent to blend with the design of the existing equipment

### **3. Contact information**

Contact information of people that are available for the summer school team.

#### **Company representative**

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Project Manager

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#### **Facilitator**

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