

# IS SMART THE SAME AS DIGITAL?

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**MALAGA**  
APRIL, 2018

**ferrovial**  
services

Centre of Excellence  
for Cities

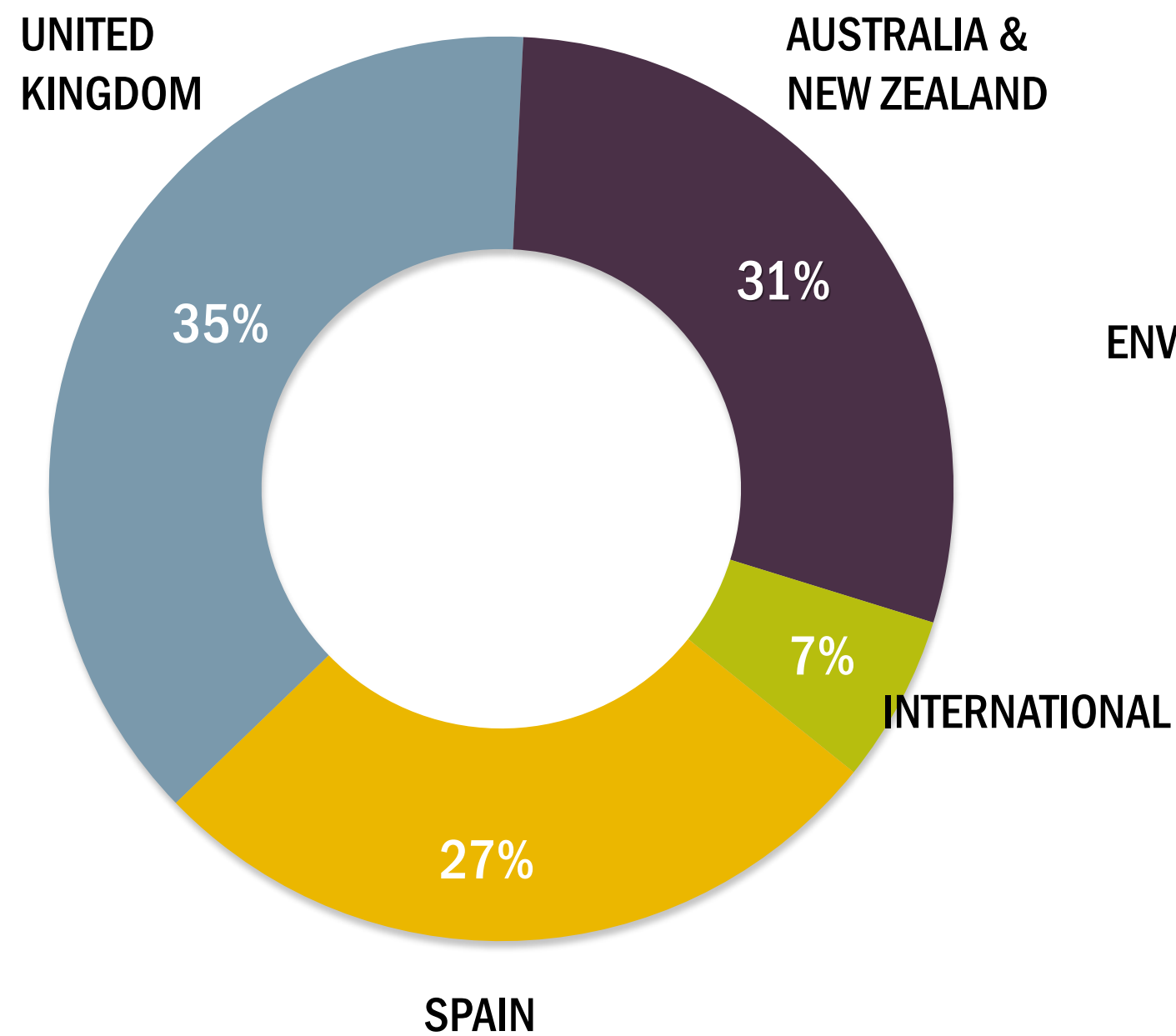
# FERROVIAL SERVICES - COMPANY INTRODUCTION

**7**  
REVENUES (BN€)

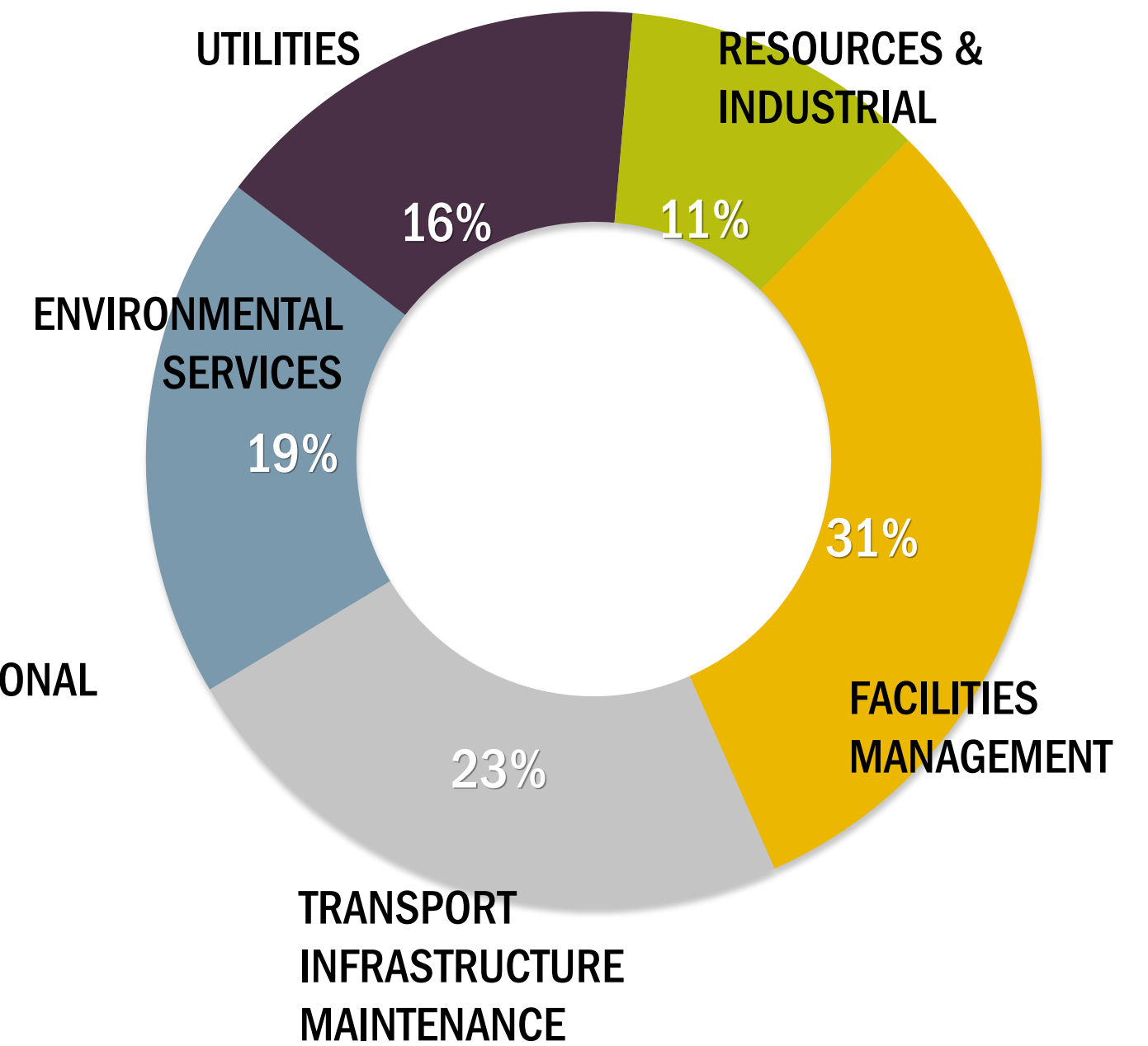
**20.9**  
ORDER BOOK (BN€)

**396**  
OPERATING CASH FLOW  
(M€) <sup>1</sup>

**REVENUES BY GEOGRAPHY**



**REVENUES BY SERVICES**



# OUR SCOPE: WORKING WITH MORE THAN 1,000 CITY COUNCILS WORLDWIDE



# OUR ECOSYSTEM: URBAN INNOVATION IS A MODEL DESIGNED FROM A CITIZEN CENTRIC PERSPECTIVE



# DIGITAL OR SMART?

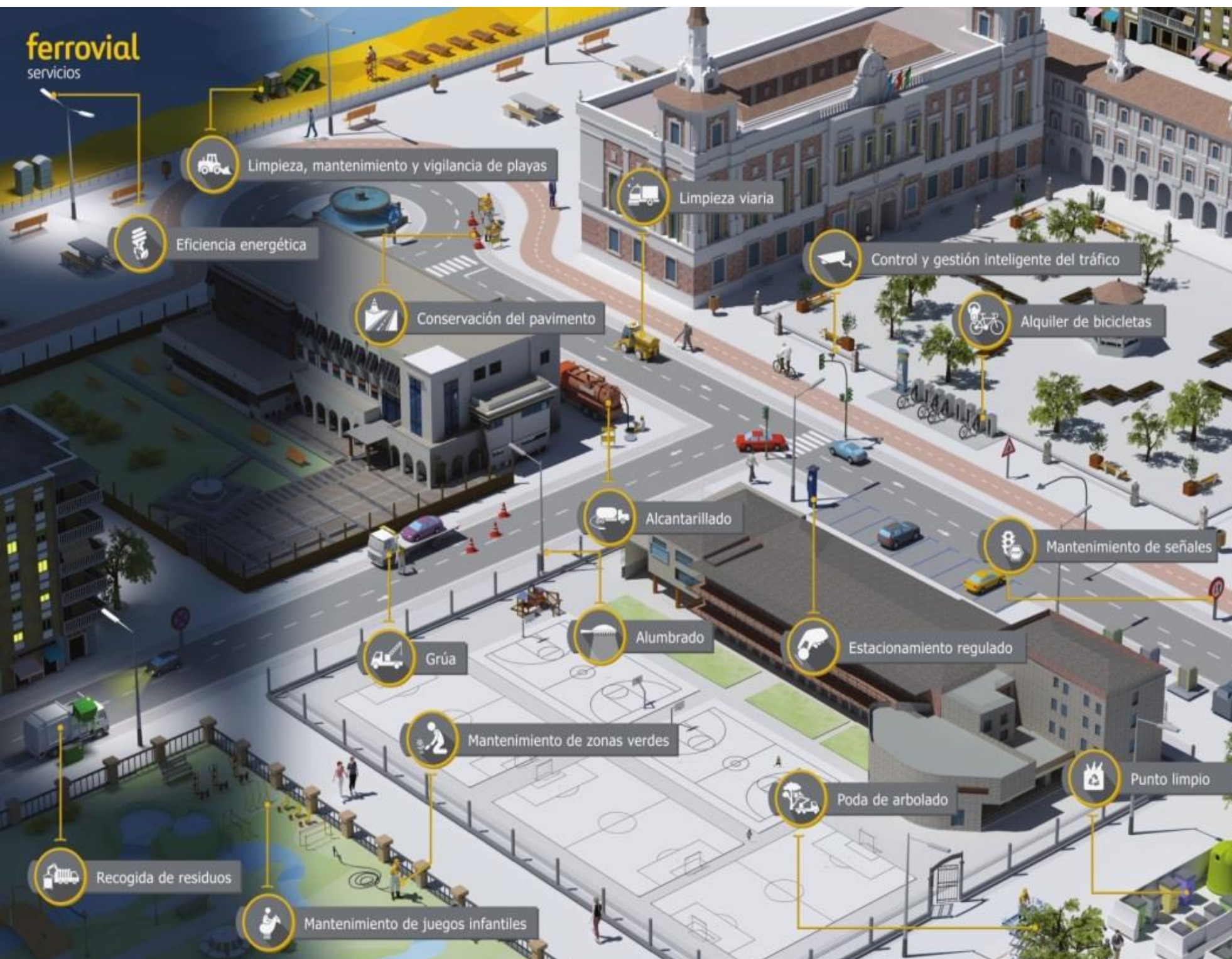


## WHAT IS SMART FOR CITIZENS?

– TAKE THEIR PROBLEMS AND SOLVE THEM

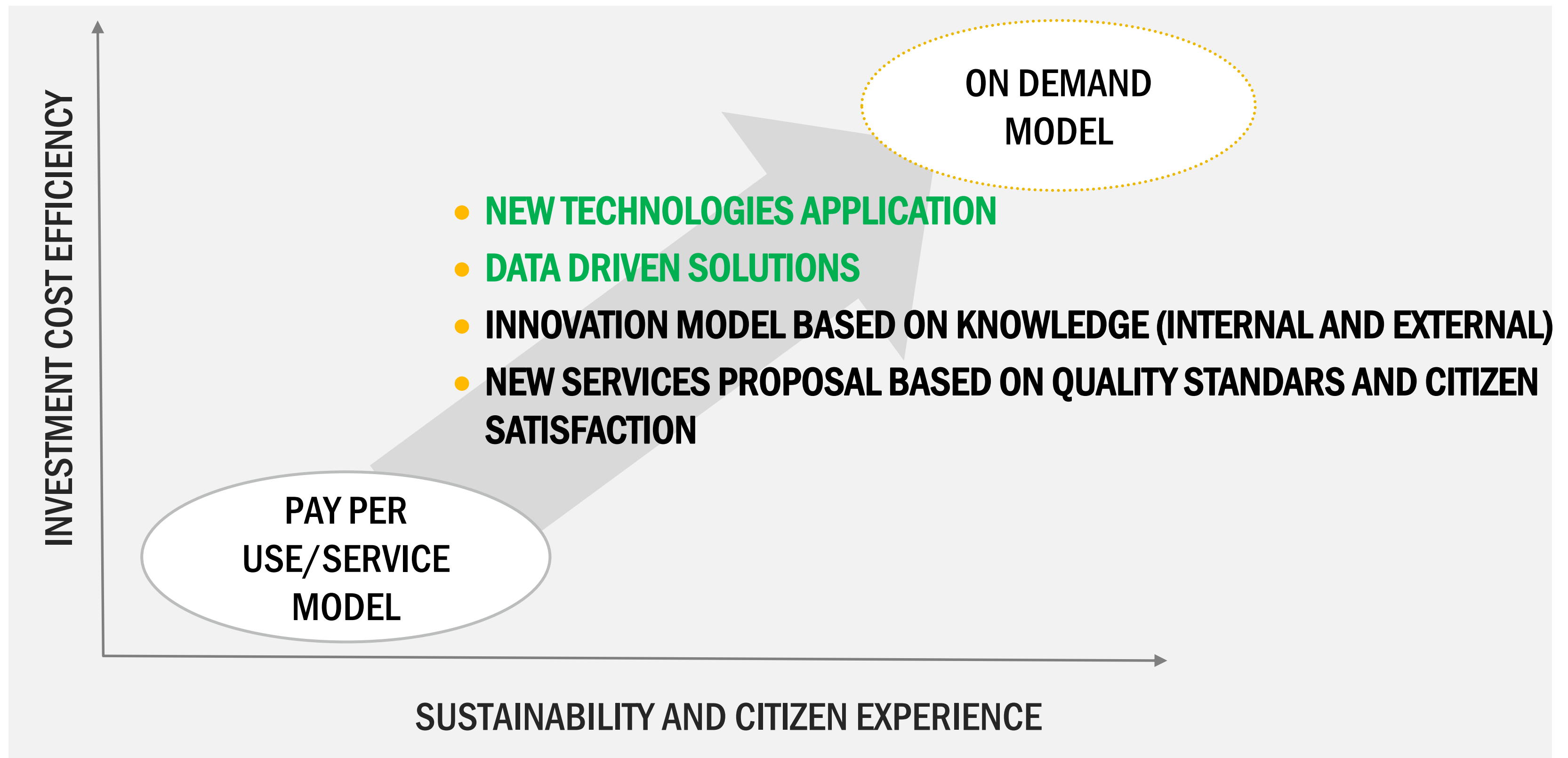
Source: All-party parliamentary group (APPG)

# WHAT ARE CITIZENS EXPECTING FROM CITIES?



- **EFFICIENCY: URBAN SERVICES REPRESENT ABOUT THE 50% ON URBAN BUDGETS**
- **SUSTAINABILITY: SERVICE DELIVERY MODEL HAS AN IMPACT ON URBAN ENVIRONMENTS**
- **CITIZEN EXPERIENCE: URBAN SERVICES HAVE TO MAKE DAILY ACTIVITIES EASIER**

# THE NEW MODEL REQUIRES A ROUTE MAP



# HOW DO WE DELIVER INNOVATION?



- USER CENTRIC SOLUTIONS
- DATA DRIVEN MANAGEMENT & IOT

- ASSET MANAGEMENT
- AI & ROBOTICS
- NEXT GENERATION FLEETS

- ENERGY EFFICIENCY & GENERATION
- CIRCULAR ECONOMY

- ZERO HARM



# Smart Gullies

AMEY TRIALS SENSORS  
TO COMBAT FLOODING  
IN HAMPSHIRE

#8 New Service Models

Amey is installing state-of-the-art sensors into gullies in a trial aimed at preventing road flooding. Heavy rains can flood roads, especially if drains are blocked with silt and waste. Installation of live sensors in gullies to alert when a gully needs to be cleaned.

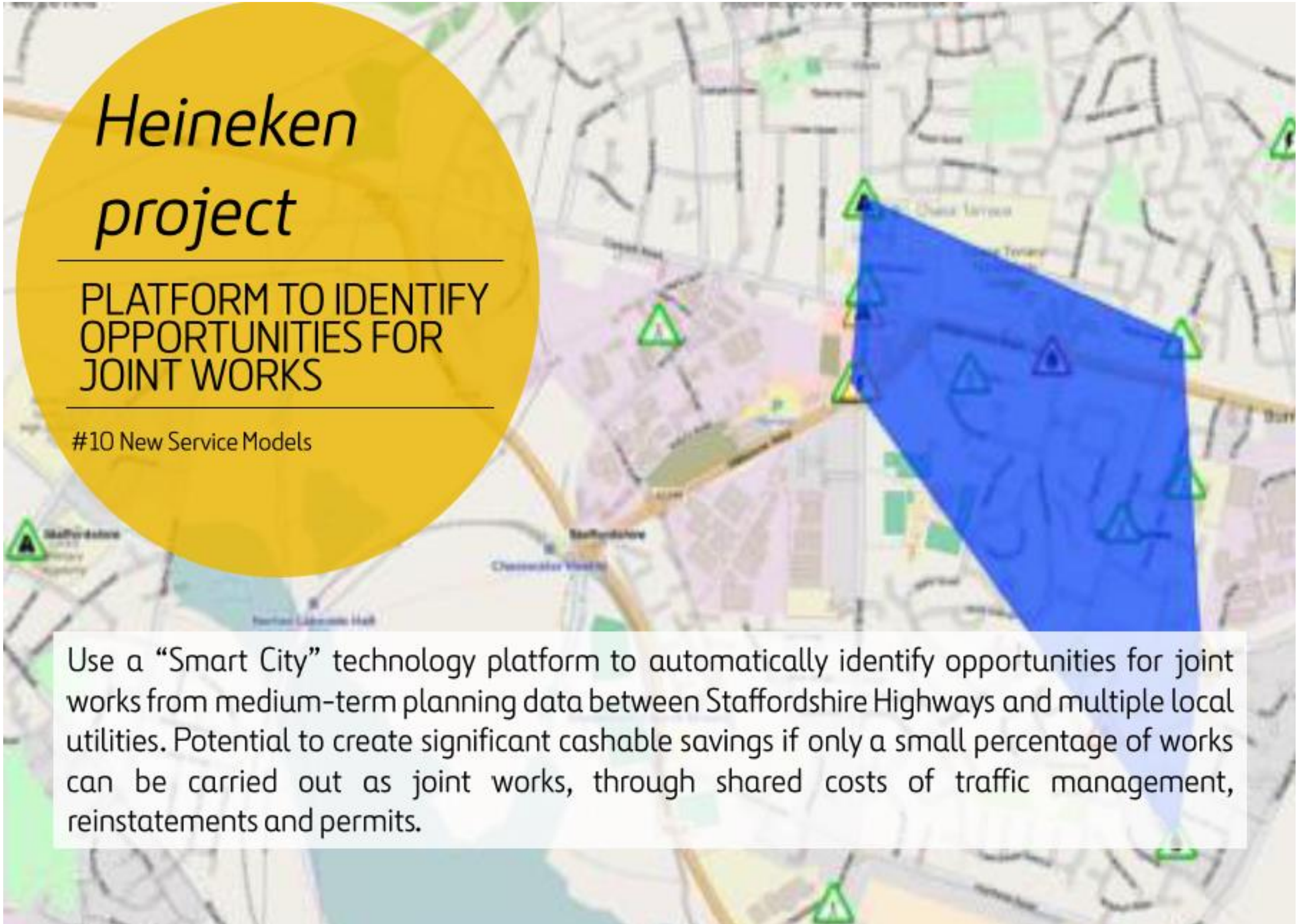
These sensors measure the level of silt and the water in the gully and feed this information instantly back to a control centre managed by Amey via web-based, mapped, visualisation software.

# Heineken project

PLATFORM TO IDENTIFY  
OPPORTUNITIES FOR  
JOINT WORKS

#10 New Service Models

Use a “Smart City” technology platform to automatically identify opportunities for joint works from medium-term planning data between Staffordshire Highways and multiple local utilities. Potential to create significant cashable savings if only a small percentage of works can be carried out as joint works, through shared costs of traffic management, reinstatements and permits.



# A1A3 Robot Trolley

ROBOT TO HELP  
STREET CLEANERS

#6 Operational Efficiency

Smart robotic cart for supporting street sweepers. The robotic trolley follows the street sweeper so that he/she no longer has to worry about keeping the trolley nearby while sweeping the street. The trolley also has an automatic dustpan that places the sweepings in the trolley's waste container without any lifting on the part of the operator.

The trolley is now being tested in daily cleaning operations on the streets of Barcelona , within the contract managed by Ferrovial Services

**THANK  
YOU**

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