

SMART LISBON?

THE INTEGRATED OPERATIONS CENTER

OVERVIEW



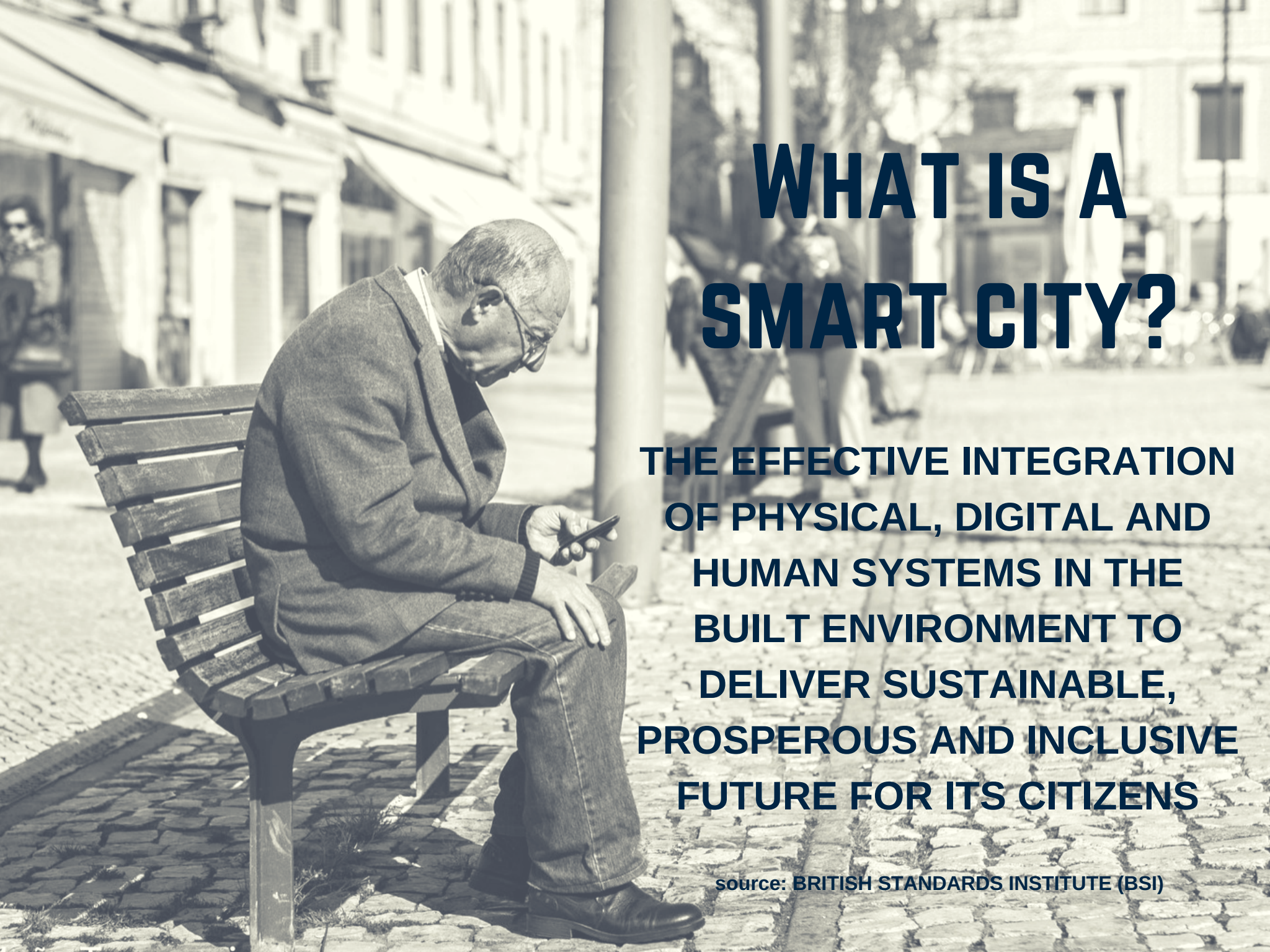
LISBOA

CÂMARA MUNICIPAL

An aerial night view of a city, likely London, showing the River Thames and several bridges. The city lights are illuminated, and the sky is a mix of blue and orange from the sunset. The text is overlaid on the image.

CITIES COMMON PROBLEMS LOCAL SOLUTIONS

66% of the world's population lived in cities

A black and white photograph of a man sitting on a wooden bench in a city street. He is wearing a suit jacket, glasses, and is looking down at a smartphone in his hands. The background shows a blurred city street with buildings and other people.

WHAT IS A SMART CITY?

**THE EFFECTIVE INTEGRATION
OF PHYSICAL, DIGITAL AND
HUMAN SYSTEMS IN THE
BUILT ENVIRONMENT TO
DELIVER SUSTAINABLE,
PROSPEROUS AND INCLUSIVE
FUTURE FOR ITS CITIZENS**

source: BRITISH STANDARDS INSTITUTE (BSI)

Initial Project Results Are Promising

Networked LED Street lighting



50%
operations and
energy costs,
6 year ROI

Connected Trash Bins



40-80%
cost
reductions

Smart Parking



cost reductions
20-30%,
2 year ROI

Smart Buildings



payback in
less than **6**
months

Smart Water



40% clean water loss
due to leaks, pipe bursts

source: IDC



OUR INITIAL DOUBTS

01

Do we want a platform that feeds only one operating room?

02

Do we want a platform that replaced some of the existing systems in the various verticals?

03

Do we want an operating room to manage all the operations of the city?

The answer is **NO**



THE INTEGRATIVE PLATFORM

WHAT TO DO WITH LEGACY SYSTEMS?

When possible
... integrate
... not replace



INFORMATION TO BE INTEGRATED

1. MUNICIPALITY'S INTERNAL SYSTEMS

e.g.: video, traffic, resource management, risk analysis, georeferenced information

2 - EXTERNAL PARTNERS' SYSTEMS

+20 partners (utilities, public transportation, government)

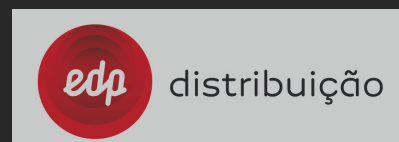
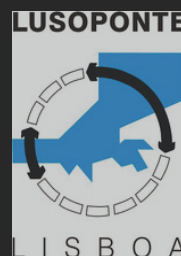
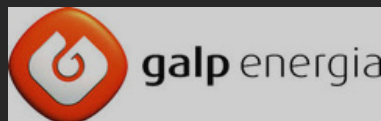
3. SENSORS

Smart cities initiatives

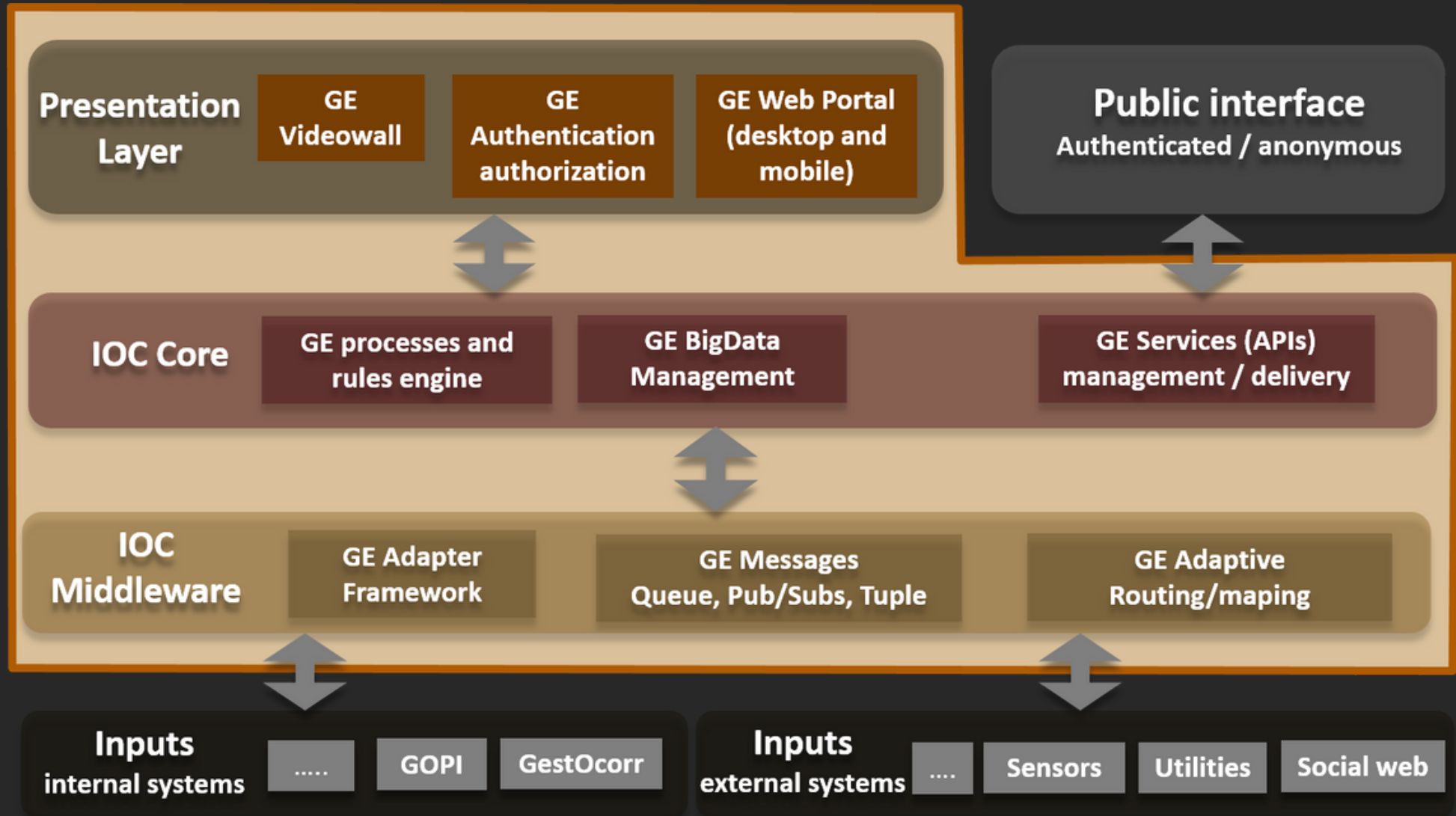
4. INTERNET

Web sentiment, social networks, media, etc.

PARTNERS WITH WHOM WE SHARE INFORMATION

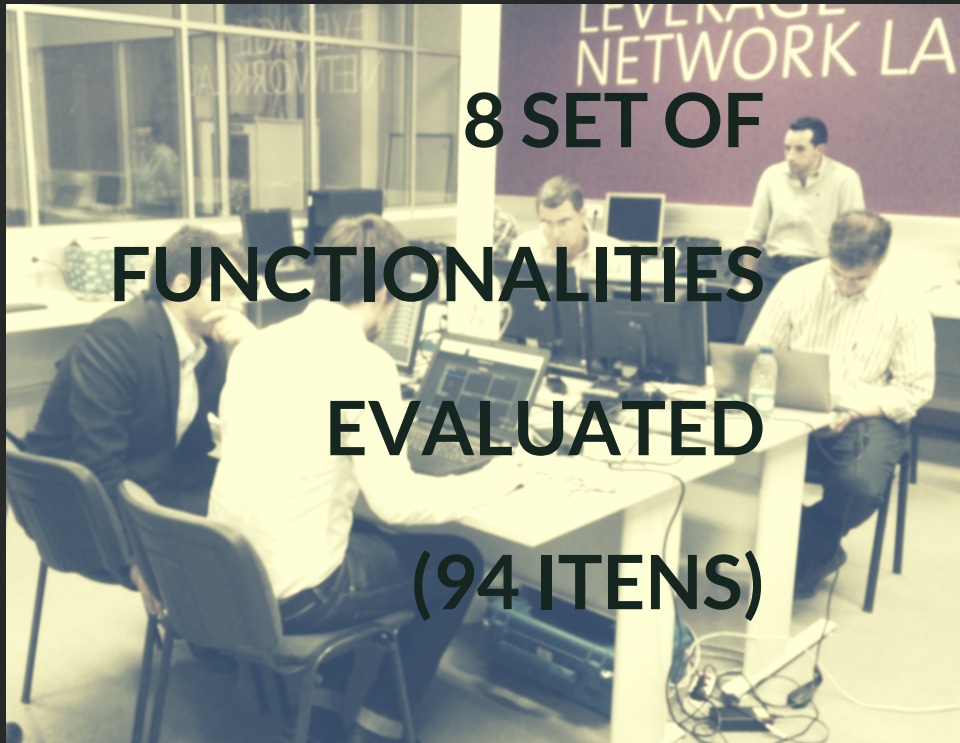


IOC INTEGRATED PLATFORM (FIWARE PROTOCOL)



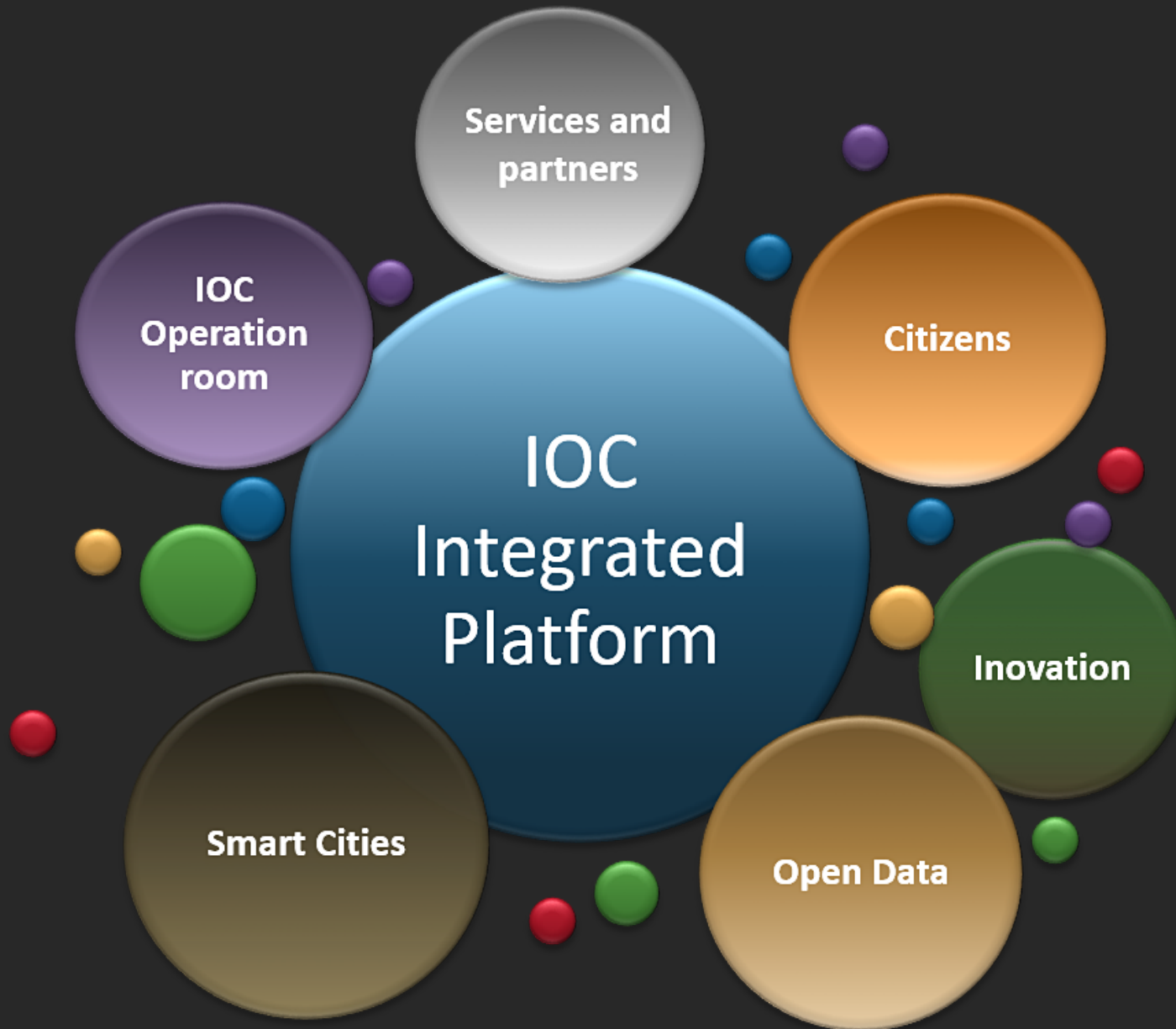
INTERNACIONAL PUBLIC TENDER FOR THE IOC PLATFORM

CONCEPT PROOF: EVALUATION OF A REPRESENTATIVE
PROTOTYPE OF THE PROPOSED SOLUTION



- Configurability
- API availability
- Interoperability with internal systems
- Dashboards
- Filters
- Export of information
- Presentation of different video broadcasts
- Video analytic

IOC INTEGRATED PLATFORM AS A DRIVER FOR LISBON'S MODERNIZATIONS AND INNOVATION





INTEGRATED OPERATIONS CENTER (IOC)



IOC MISSION

WHAT WE WANT TO DO

Ensure the intelligent management of the city through monitoring, forecasting, and operational management of all activity with implications for the safety, prevention, emergency response and quality of life.

IOC'S OPERATIONS ROOM



A woman with long blonde hair in a ponytail, wearing a dark sleeveless top and a light-colored skirt, is running away from the camera on a city street. Her arms are raised high in the air, and her right leg is lifted in a dynamic pose. The background shows urban buildings, a traffic light, and a street sign. A semi-transparent dark blue horizontal band is overlaid across the middle of the image, containing the text "OPEN DATA" in white, bold, sans-serif capital letters.

OPEN DATA



WHAT IS THE VALUE OF OPEN DATA

By 2020 in the EU

- Market value of EUR 75,7 billion
- Creation of 100,000 jobs
- Savings of EUR 1,7 billion in the reuse of data in public administration

CHARTER OF PRINCIPLES FOR OPEN DATA

APPROVED IN APRIL 2016

Aims to promote

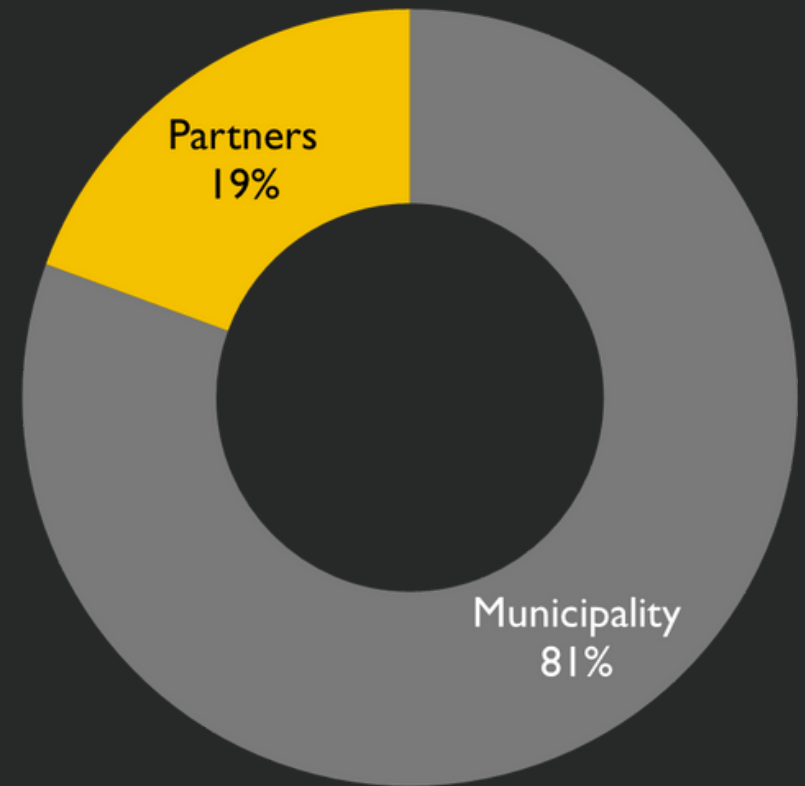
- Active participation of citizens
- Transparency
- Economic development
- Service and efficiency improvement
- Data with open license, machine-readable and free of charge



DATA IN THE "LISBOA ABERTA" PORTAL

<http://dadosabertos.cm-lisboa.pt>

- 364 datasets
- Data from 12 different organizations
- Data organized in 18 different themes



DISTRIBUTION OF DATA BY THEMES



SAÚDE
6



HABITAÇÃO E
DESENV. SOCIAL
23



EDUCAÇÃO
17



INFORMAÇÃO BASE
E CARTOGRAFIA
8



AMBIENTE
24



DESPORTO
7



TRANSPARÊNCIA
4



CULTURA E
PATRIMÓNIO
29



GESTÃO URBANA
18



POPULAÇÃO
21



SEGURANÇA E
SOCORRO
5



OUT. EQUIPAMENTOS
E SERVIÇOS
14



ENERGIA E
COMUNICAÇÕES
4



TURISMO E
LAZER
13



MOBILIDADE
25



ECONOMIA E
INOVAÇÃO
73



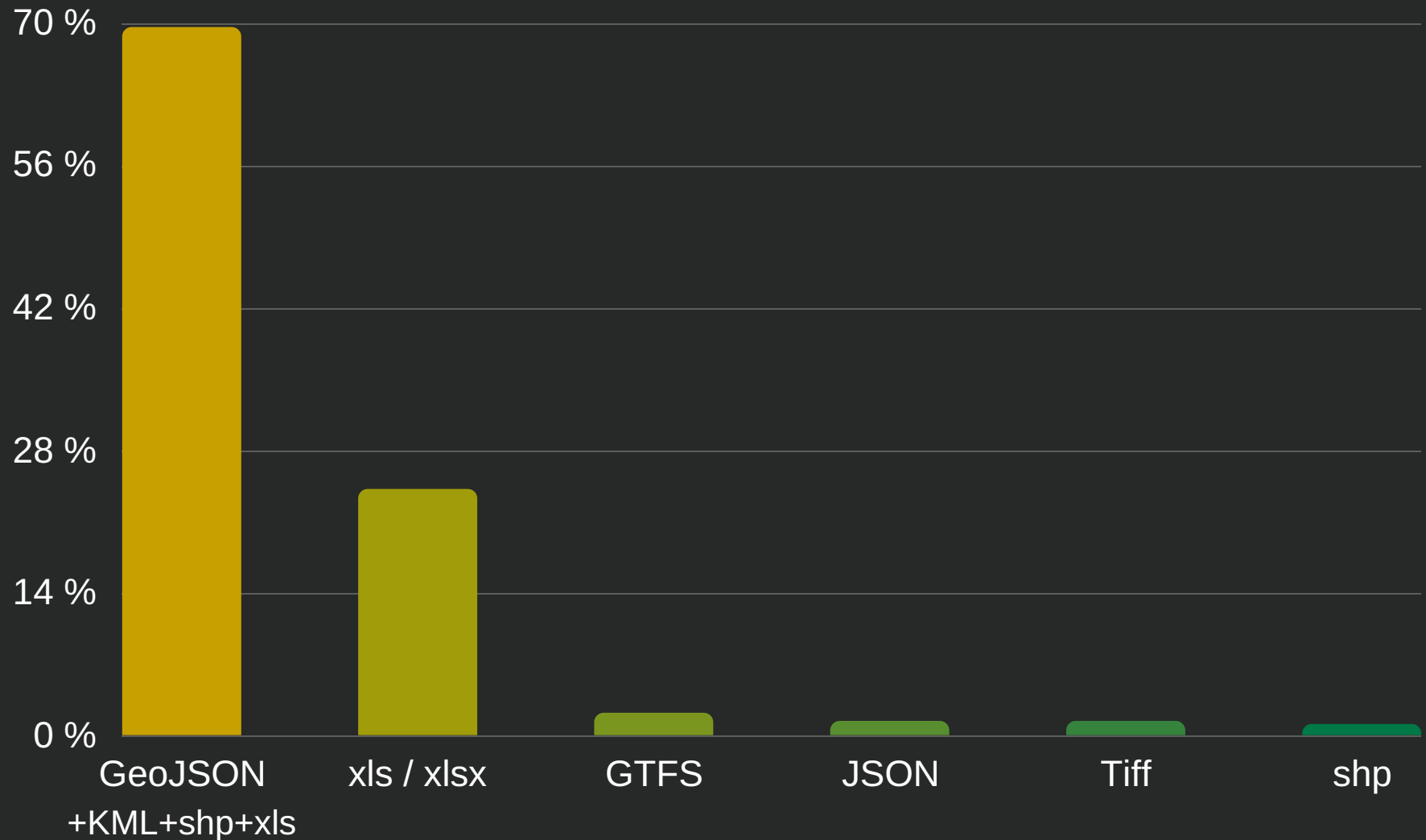
ADMINISTRAÇÃO
PÚBLICA E
JUSTIÇA
12



PLANEAMENTO
URBANO
54

DATA IN THE "LISBOA ABERTA" PORTAL

<http://dadosabertos.cm-lisboa.pt>





EXAMPLES OF DATA ALREADY IN THE PORTAL

Formation of new companies

Occupancy rates by type of hotel establishment

Municipal director plan

Geological surveys

Public car parks and EMEL parking meters

Lisbon's pedestrian map and pedestrian potential map

Charter of solar potential of Lisbon

Kiosks, newsstands, automatic public toilets

Temporary occupations of public space (next 5 days)

Circuits for the collection of municipal waste

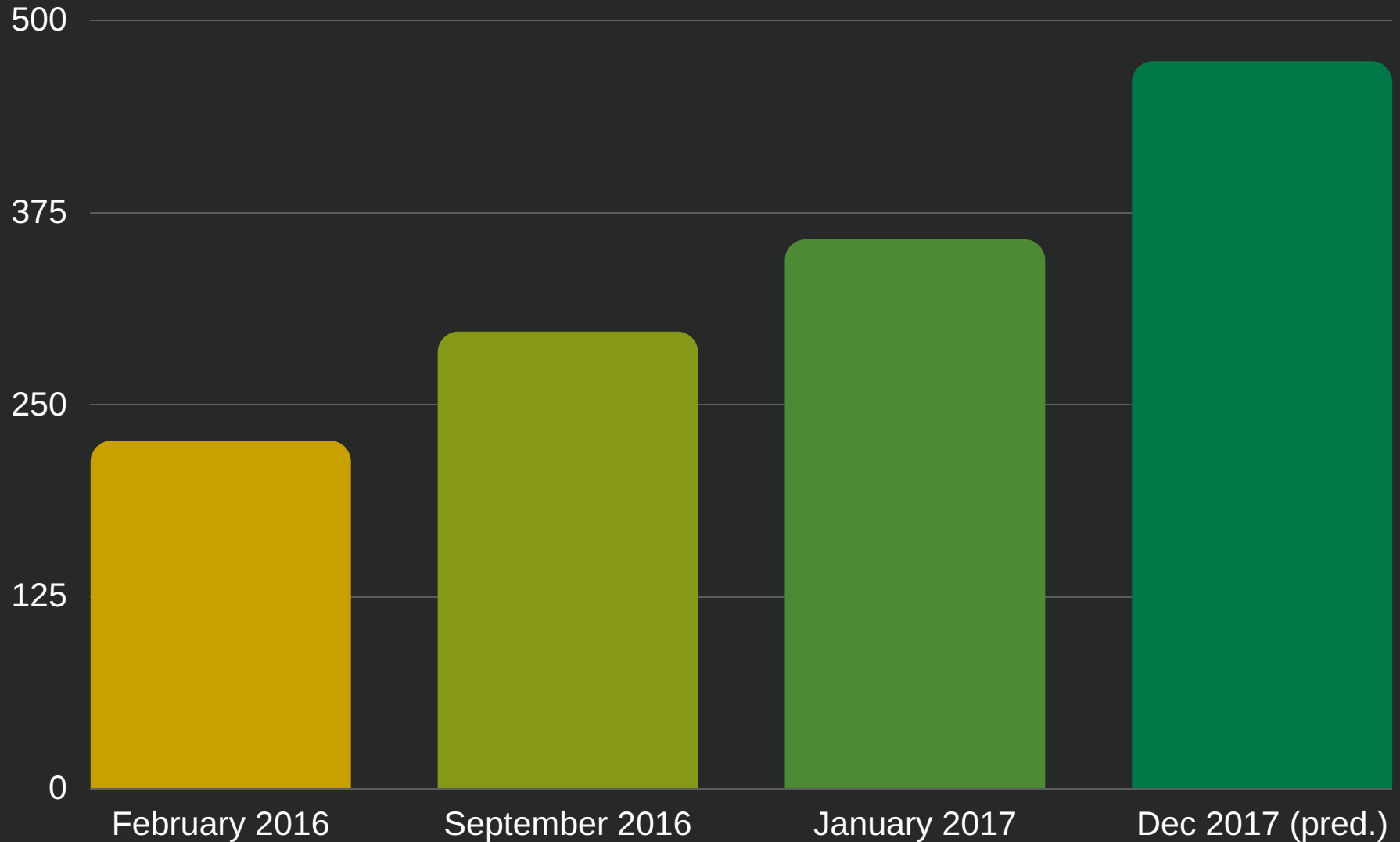
Cycle routes of the City of Lisbon

Parks, gardens, playgrounds and outdoor fitness
equipment

School Population

Timetables and public transport routes

THE FUTURE GROWTH OF THE PORTAL





OPEN DATA KEY FUTURE GOALS

01

Improve Open Data Portal interface and tools

02

Develop data sets that are most relevant to potential users

03

Increase publication and overall data quality

04

Promote data reuse

A thick, dark rope is tied in a complex knot around a weathered wooden post. The rope's frayed ends hang down. The background is a soft-focus view of a wooden pier extending into a body of water under a hazy sky. A semi-transparent dark blue horizontal band is overlaid across the middle of the image, containing the text.

MAIN CHALLENGES



IMPLEMENTATION OF THE INTEGRATED OPERATIONS CENTER

(NOT ONLY A TECHNOLOGY MATTER)

PROMOTE THE
REUSE OF
DATA

(OPEN DATA AND IOC DATA)

CHALLENGES

PROMOTING AN
INTEGRATED
STRATEGY FOR
LISBON SMART
CITY

(PUBLIC AND PRIVATE
SECTOR)

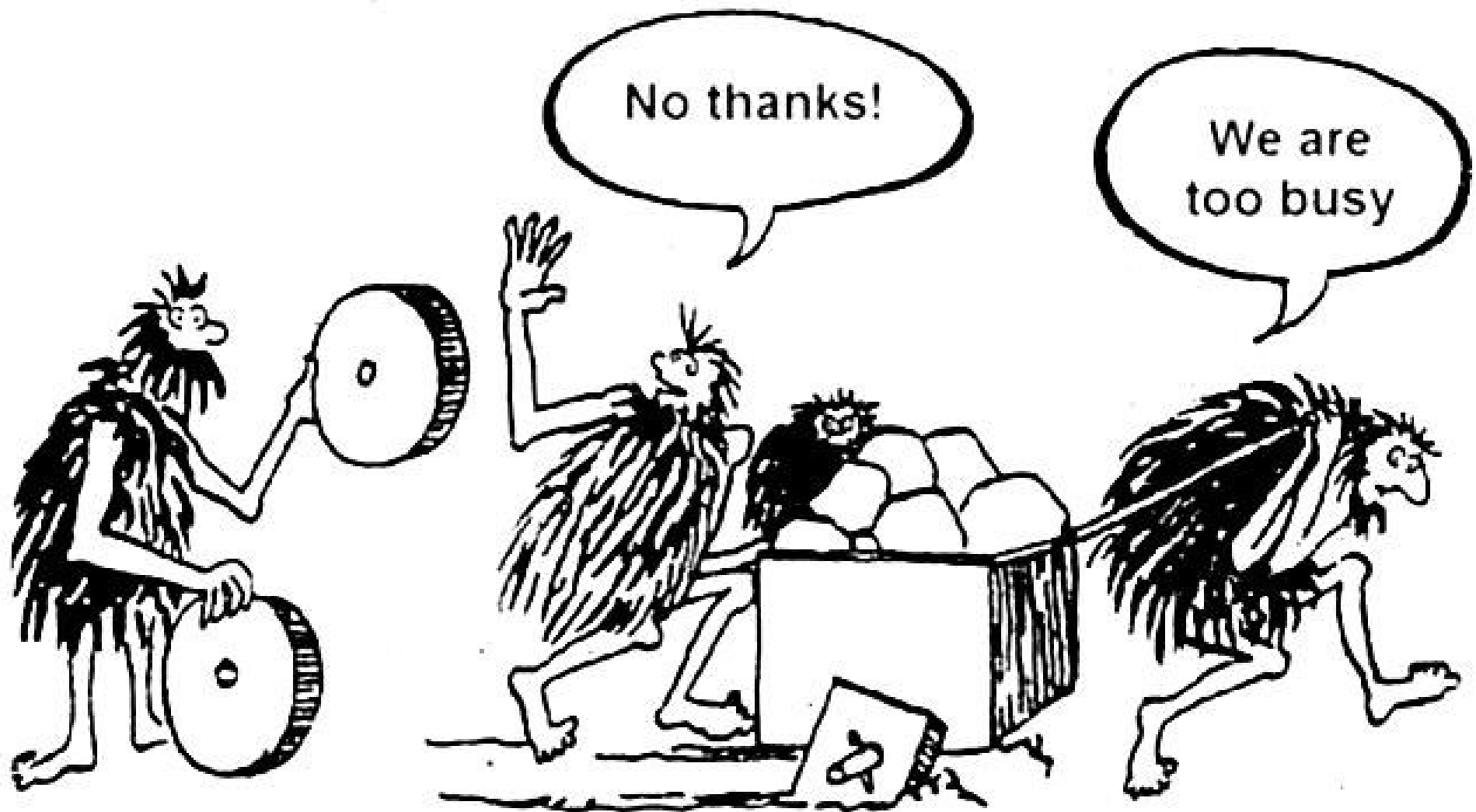
ENSURING SUSTAINABLE
DEVELOPMENT OF
IOC'S PLATFORM

(E.G.: VENDOR LOCK-IN, SECURITY, RIGHT TO
PRIVACY)

ADDRESS CHALLENGES IN PARTNERSHIP



GRAB THE OPPORTUNITY



THANK YOU

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