

Nanna Bonde Thylstrup,  
Københavns Universitet

Skyggesiden af 'smart'



# Om mig

- Forsker ved Københavns Universitet
  - FKK støttet projekt om big data
  - Velux støttet projekt om digital transformationer
- Tidligere arbejdet med rettigheder i forlagsverden.
- Nørd

# Oplæggets elementer

- Affald og teknologi - et nyt felt
- Smart cities
- Real time byer
- 5 skyggesider
  - Politiske dimensioner
  - Teknokratisk styring
  - Teknologisk lock-in
  - Skrøbelige infrastrukturer
  - Den panoptiske by
- Afsluttende bemærkninger



*Coprolites* (14.500 år gammel afføring fundet i Oregon )



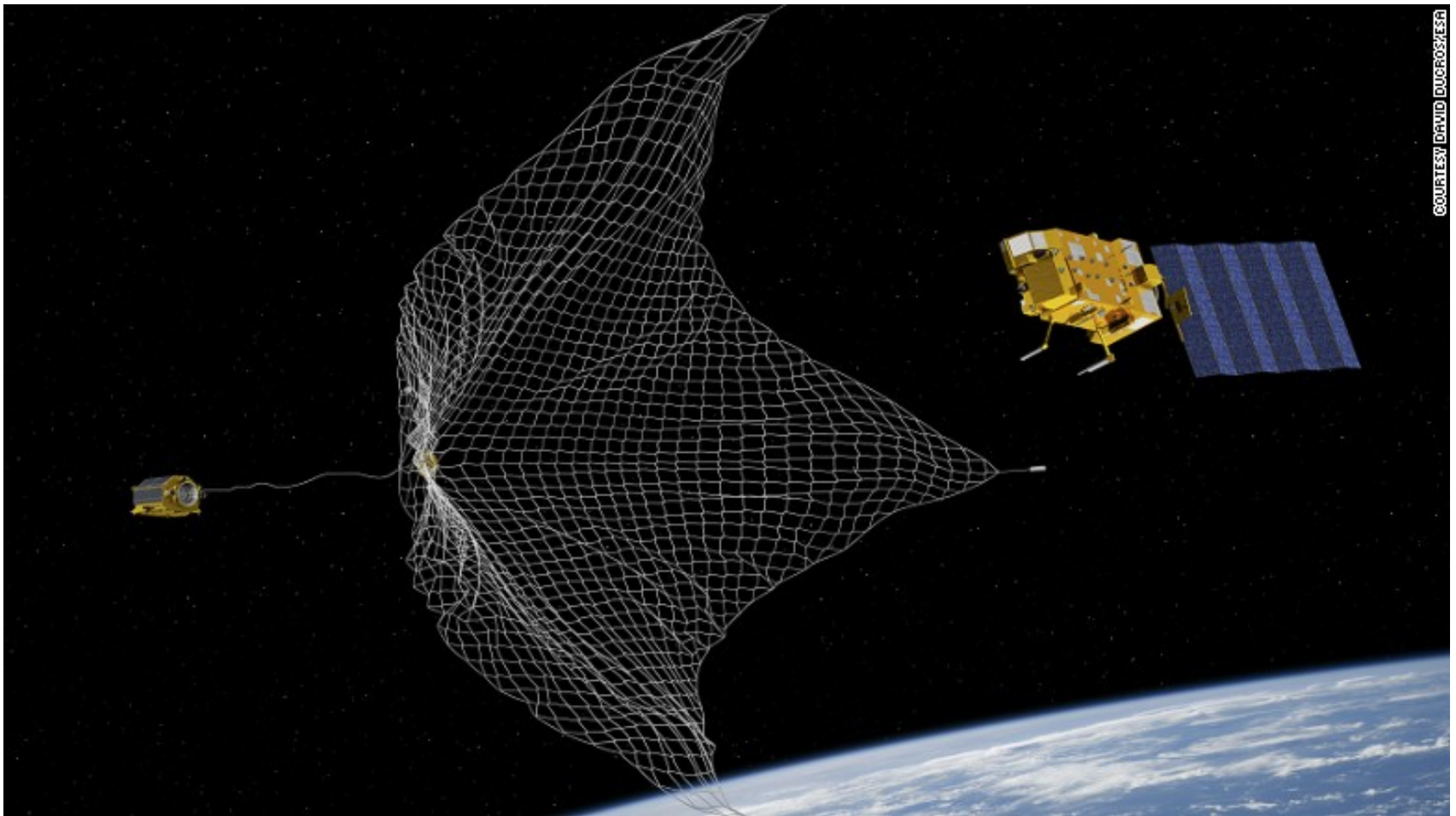
tor  
nørretranders  
afskaf  
affald  
*fremtidsskrift*

Dansk Affaldsforening

THE LIFE-CHANGING MAGIC OF SHOVING  
EVERYTHING INTO A HUGE HEFTY BAG AND  
LEAVING IT FOR SOMEBODY ELSE TO DEAL WITH



# Affald i rummet





# Smart affaldshåndtering

## Intelligent Waste Collection Solution

Dramatically reduces waste collection costs by up to 80%



### SELL SOMETHING

Turn your unwanted stock into cash. Super quick and easy

[Learn more about selling](#)

### BECOME A PARTNER

Build a network of buyers and sellers and earn commission

[Learn more about partner program](#)

## PAUL'S PRODUCE







## Business Improvement Districts

Business Improvement Districts use the Bigbelly platform to enhance streetscape aesthetics and keep constituents engaged. Cleaner, safer, and less congested pedestrian areas are made available. Deploy public space Wi-Fi to engage visitors to area, a location-based beacon network to drive customers to local businesses, and counting sensors to refine service delivery based on traffic patterns through the district.

“

*"I'm proud to say that Lower Manhattan, already the largest district in the city using this innovative technology, continues to raise the bar on adopting technology that meets the demands of a strong, bustling urban center."*

JESSICA LAPPIN, PRESIDENT

*The Alliance for Downtown New York*





Smart Waste & Recycling



Wi-Fi Hotspot



Beacons



Urban Sensors

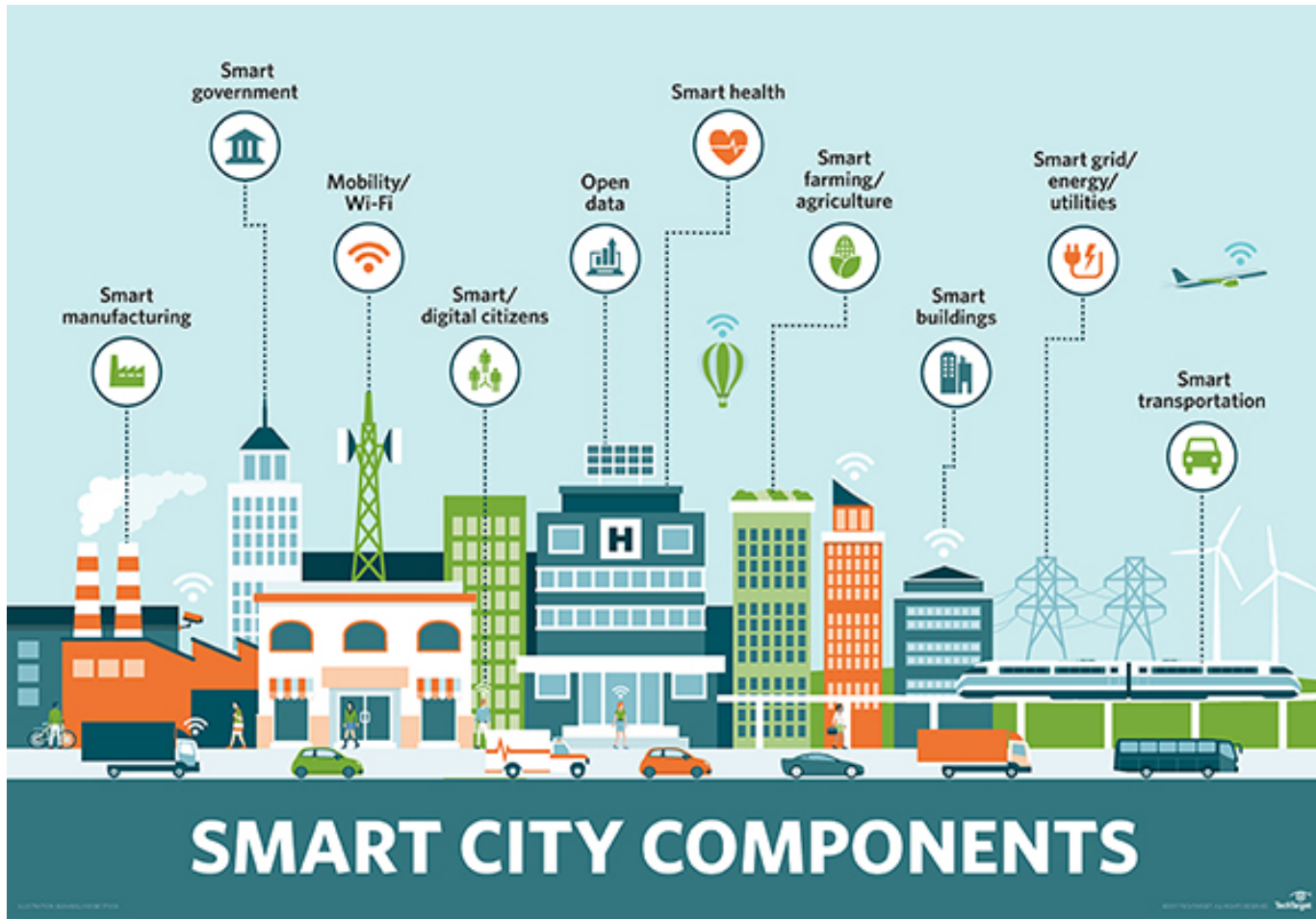


Small Cell



First Responder Networks









am smart erdam  
city



Amsterdam Smart  
City Experience

# COPENHAGEN

is using the City Performance Tool to evaluate alternative technologies currently not included in the CPH 2025 Climate Plan.



**570k**  
population

**3,509**  
Annual electricity demand per person in kilowatt hours

**41%**  
Share of passenger cars taken by public transport

**41m<sup>2</sup>**  
Average home size per inhabitant

The Siemens City Performance Tool identifies the right technologies for your city. [siemens.com/cptpt](http://siemens.com/cptpt)

The City Performance Tool complies with privacy, security, monitoring and national security laws. © 2017 Siemens AG. All rights reserved.

# CHANGE IS IN THE AIR

With a smart city, there's nothing to be afraid of. Smart cities are the future. They're the cities that are built to be smart. They're the cities that are built to be better. They're the cities that are built to be more. They're the cities that are built to be different. They're the cities that are built to be the cities of the future.

- Reduce pollution and operational costs**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- 10-20% more locations**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- Early warning alerts**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- Intel helps collect emissions data**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- Air quality alerts**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- 24/7 real-time monitoring**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- Community leaders can provide fitness recommendations**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- Notifications tailored to specific neighborhoods**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.



## THE CITY OF THE FUTURE: SMART AND CONNECTED

According to ABI Research, \$20.5 billion is projected to be spent on smart city technologies in 2019. From public transportation to shopping, the city of the future has the potential to significantly transform urban living—and might be closer than we think. This interactive not only explores technologies down the road, but also offers a few examples of specific technologies being deployed right now in the Cisco smart city project of Songdo, South Korea.

**CISCO**

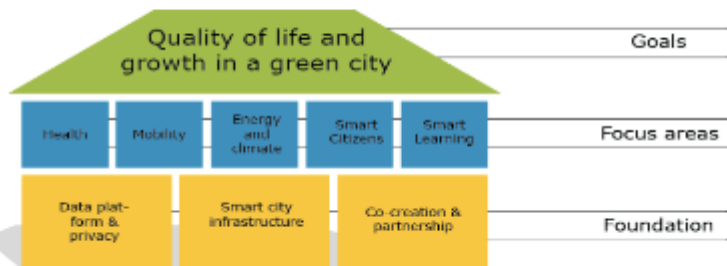
## Building a Smarter City and State

The City of New York and the State of New York are working together to build a smarter city and state. This is a smart city and state that is built to be smart. It is a smart city and state that is built to be better. It is a smart city and state that is built to be more. It is a smart city and state that is built to be different. It is a smart city and state that is built to be the city and state of the future.

- 1. Buildings**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- 2. Traffic**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- 3. Airports**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- 4. Highways**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- 5. Sports**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- 6. Special Events**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.
- 7. Parks**  
Use smart sensors to monitor air quality, traffic, and energy usage. This data can be used to optimize traffic flow, reduce energy consumption, and improve air quality.

**IBM**

# SMART CITY STRATEGY COPENHAGEN



European Innovation Partnership **Smart Cities & Communities**  
*Invitation for Commitments*

**1 Smart Cities and Communities: a European Innovation Partnership**

How to make our cities smarter?  
The Partnership integrates the ICT, energy and transport sectors. It aims to apply innovative solutions to tackle issues such as **competition, air pollution, high energy costs** and to achieve better mobility, cleaner urban environment, energy efficiency.

**2 Meet our Partners**

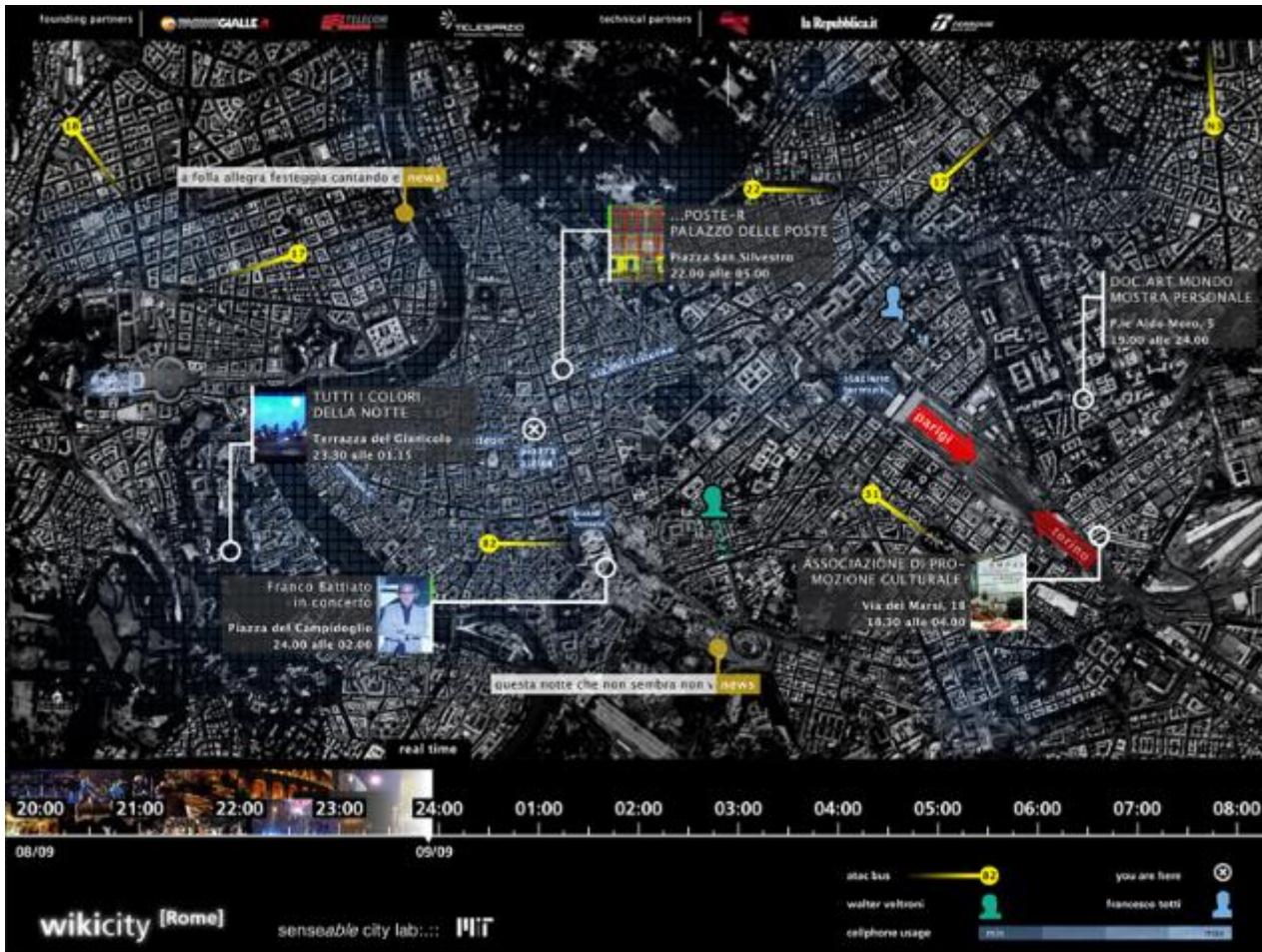
In 2014, **370 commitments** (standards, projects & solutions) were submitted by more than **3 000 partners**. The lead organisations come from **31 countries**.

**Classification of lead organisations**

Public Authorities	36%
Academia	16%
Private Industry	2%
NGOs	6%
Start-ups	10%
Others	28%

**3 Some of the areas we are working on**

Learn more: <http://ec.europa.eu/eip/smartcities/>  
Follow us @EIPSmartCities







# Not all celebrity female are bald

## Or you only get as good as your training data



## Productivity

# 'This Is Your City' dashboard

A customisable dashboard for City of Melbourne staff, which sits 'on top' of existing systems and presents a real-time update on information relevant to them. Pervasive distribution means that staff get used to 'living with data'.

## THIS IS YOUR CITY IN REAL TIME

HELLO ALEX  
SETTINGS / LOGOUT

Customised for each staff member, by each staff member, enabling each to configure what they're interested in.

Fluid 'live' data in fast-moving newsfeed/feeds, drawing from business systems, external websites, buildings, sensors etc.

Aggregates existing systems (e.g. CRM service requests aka "tickets" and equivalent) into one overall view.

Map-based navigation available for data sets with location information.

Shows moving' data to flow across the screen.

Dashboard modules are fully customisable to user, drawn from constantly updated suite managed by CIO functions.





# BIG DATA LANDSCAPE, VERSION 3.0

Edited August 2014 by IPO



# Rotter forpurrer Københavns intelligente revolution



Københavns Kommune havde håbet at kunne effektivisere rottebekæmpelsen med sensorer i rottefælder som led i en smart by, men løsningen viste sig kun at være smart for den ene part - nemlig rotterne. (Foto: Wikimedia Commons)

**Samspelet mellem big data og et væld af sensorer skal gøre hovedstaden til en af klodens mest effektive storbyer. Men gnavere, bilister og kløgtige skraldemænd rokker ved den ambition.**

Af [Mads Nyvold](#) 2. okt 2017 kl. 05:00

## Jobfinder

### RELATEREDE JOB

**ENERGINET** Praktikant til Stationer

**SIEMENS GAMESA** Lead Mechanical Designer for Electrical Hardware

**ENERGINET** Driftsvagt til styring af det danske el-net

**TEKNOLOGISK INSTITUT** Droneudvikler til fremtidens fleksible dronesystemer

**WILDON** Dygtig projektleder

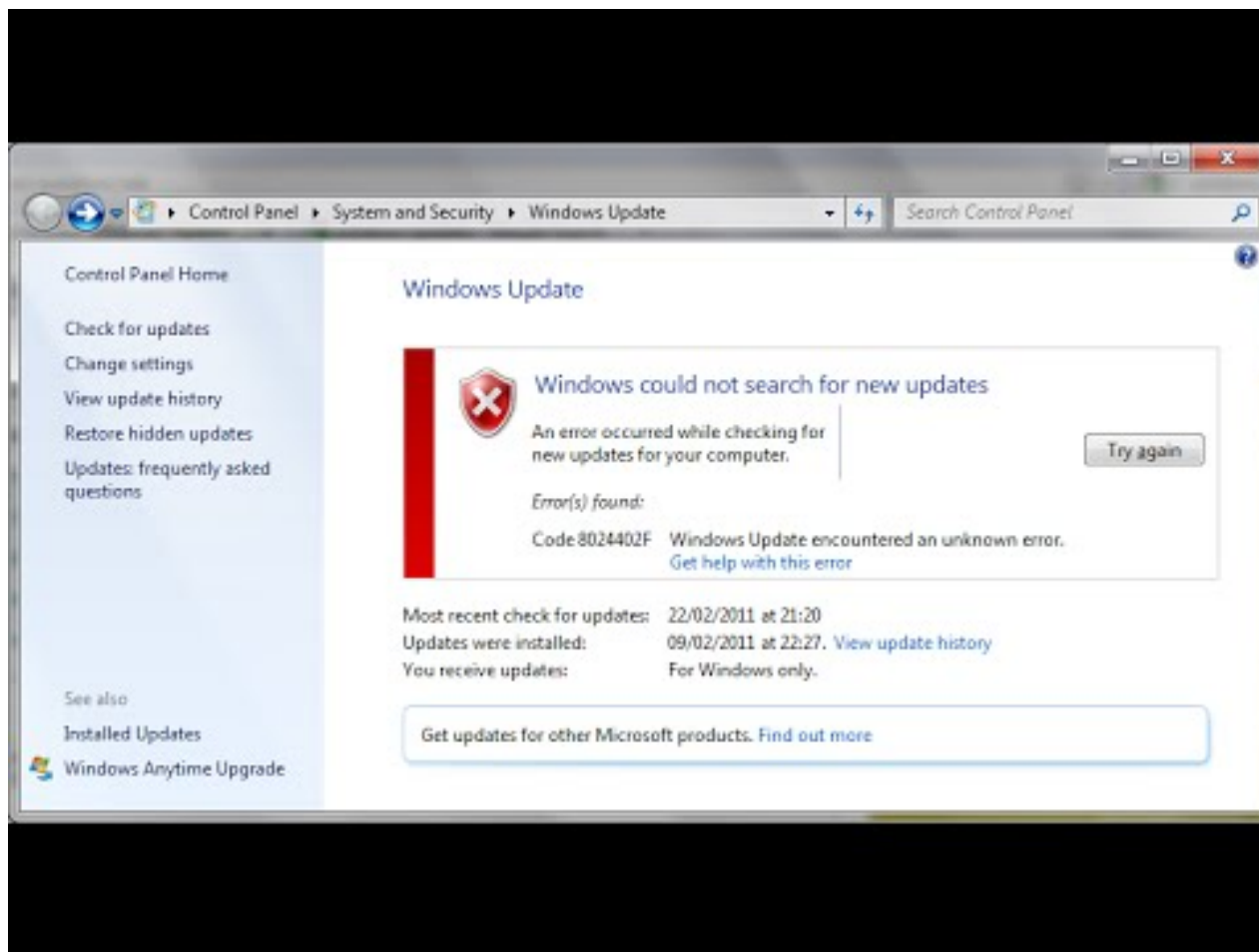
**ENERGINET** Stærkstrømsingeniør - Prøv kræfter med fremtidens helt store...

SE FLERE INGENIØRJOB PÅ JOBFINDER

## DPM results

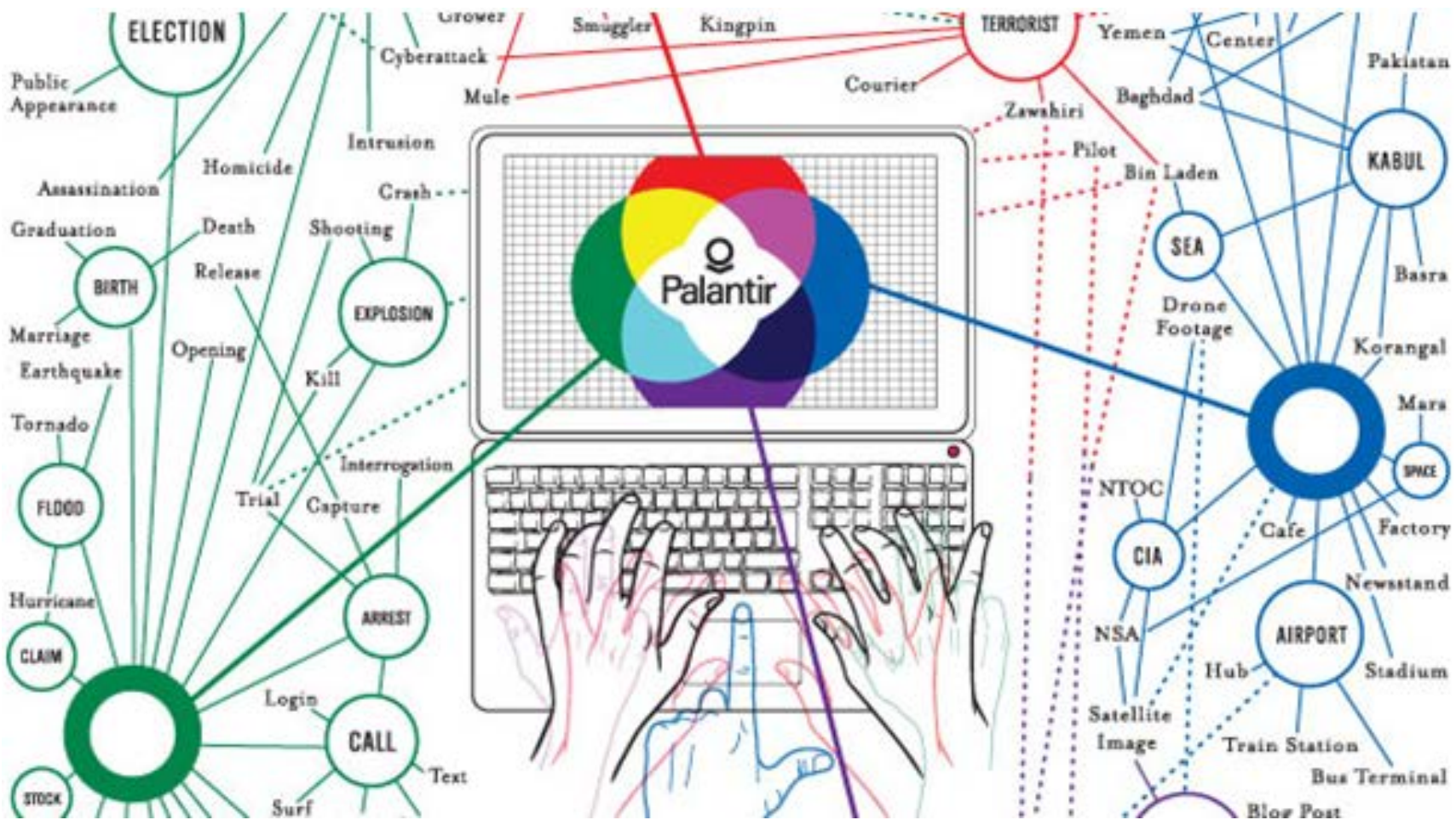
Can you spot the failures?



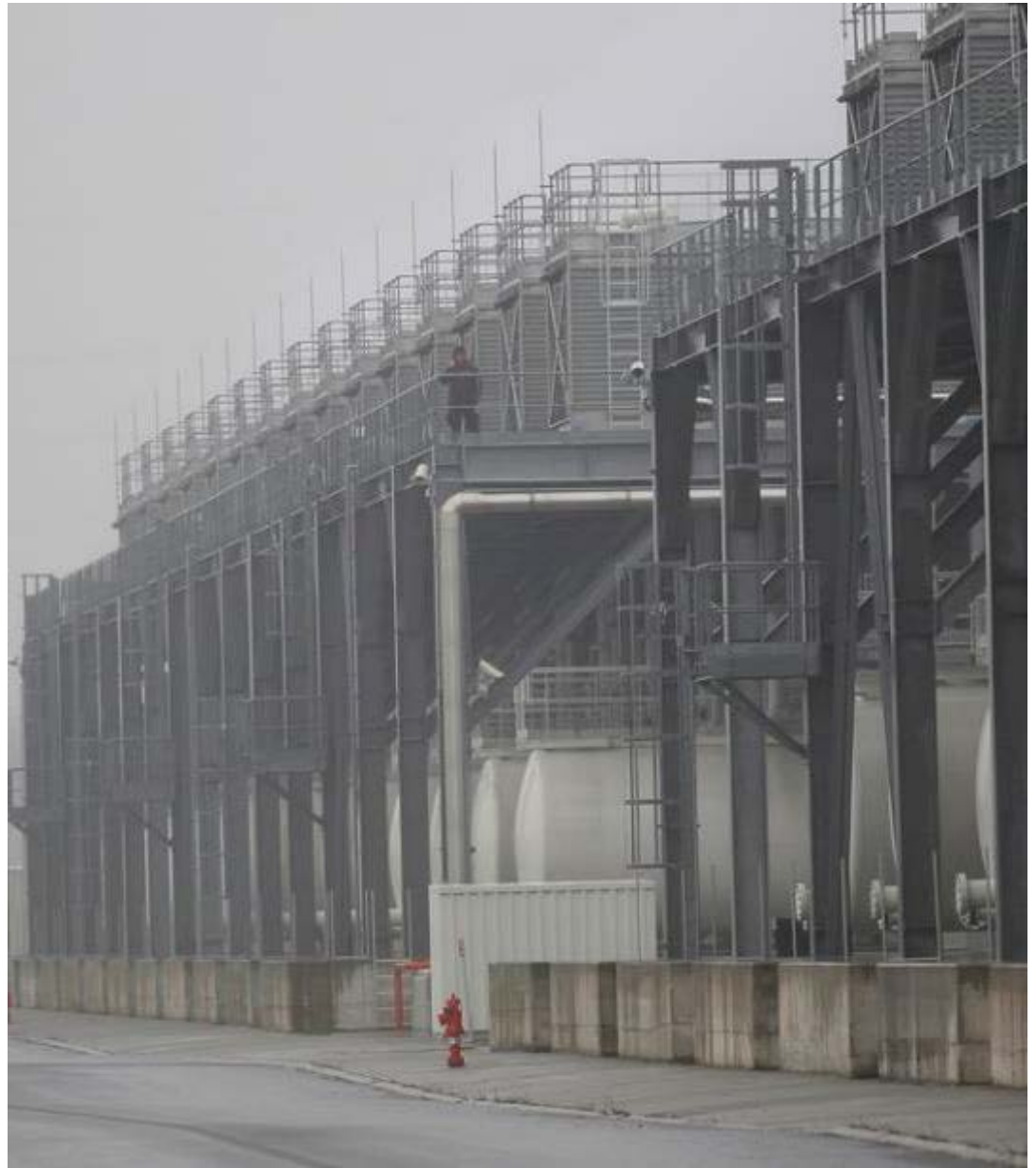




*"No, I'm not backing up our files—I'm just assuming that  
the N.S.A. is making copies."*



**Tanks containing coolant for servers at a Google Data center in Saint Ghislain, Belgium. Yves Herman / Reuters**



**Photograph of e-waste by  
baselactionnetwork**







*"I have just one more question—will it make me happy?"*



*"You know what I think, folks? Improving technology isn't important. Increased profits aren't important. What's important is to be warm, decent human beings."*



TOM GAULD