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# A smart city starts with a smart design!

Geo World Forum 2016 – Jan Blaauboer, Bentley Systems

# How can a 'thing' be smart?

- Smart cars, - buildings, - phones, - cities, - etc.

A **smart city** is an urban development vision to integrate multiple information and communication technology (ICT) solutions in a secure fashion to manage a **city's** assets – the **city's** assets but not limited to, local departments information systems, schools, libraries, transportation systems, hospitals, power ...

Source: Wikipedia

**S.M.A.R.T.**  
Specific  
Measurable  
Attainable  
Realistic  
Timely

A developed urban area that creates sustainable economic development and high quality of life by in multiple key areas; economy, mobility, environment, people, living, and government. In these key areas can be done so through human capital, social capital, and/or ICT infrastructure.

re:

<http://www.businessdictionary.com/definition/smart-city.html#ixzz43ojSoDMZ>

# One thing is certain...

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- Cities are NOT born smart!
- If you want a city to be smart – it starts with designing it smart...
- And... what does that mean?

**Well... I am no expert and have only 20 minutes...**

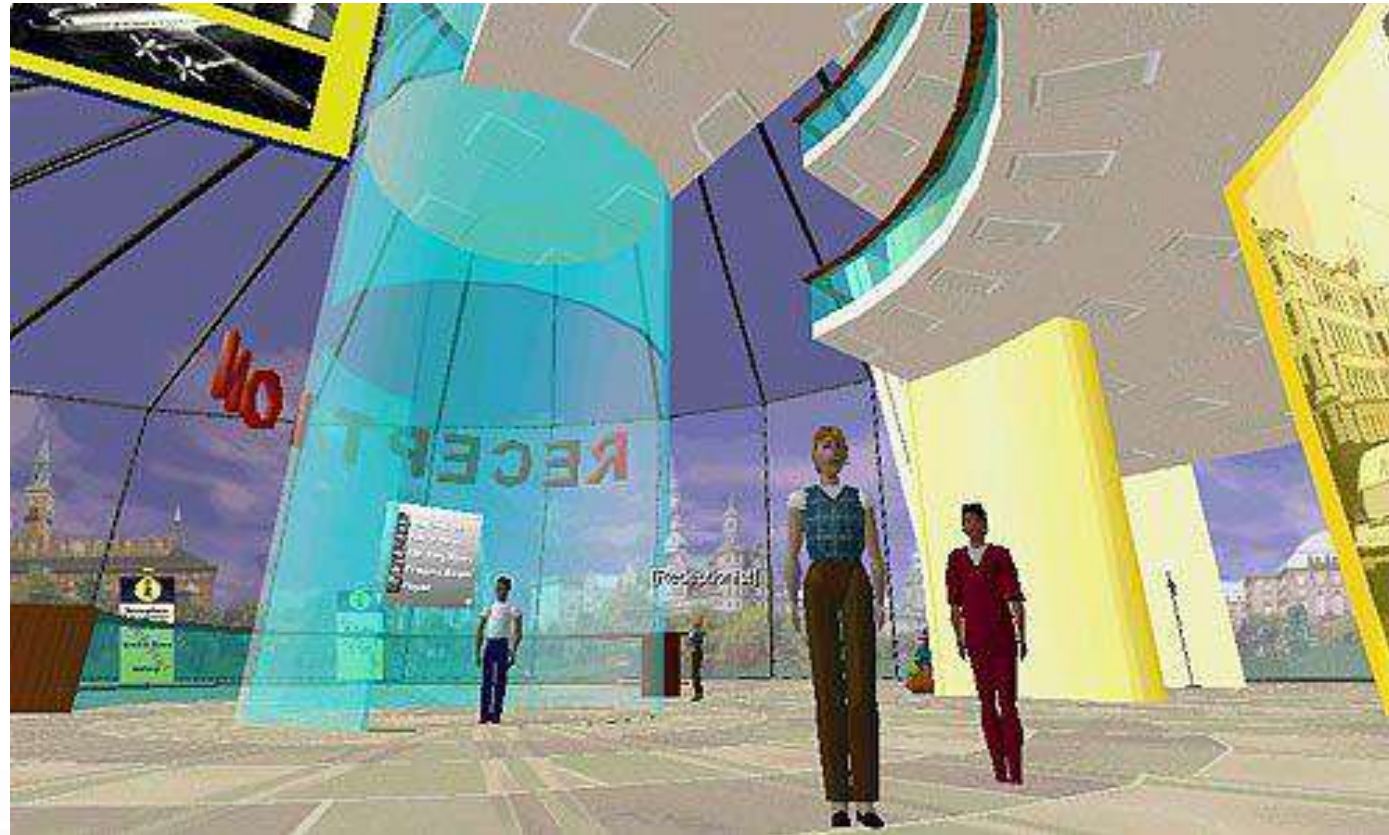
# Focus on 1 example

Developments carried out according to plans developed in collaboration with existing residents have provided some of the most interesting examples of successful placemaking. Social media, virtual reality and other digital technologies offer the opportunity to enable richer, more widespread consultations and explorations of planned developments by the communities that they will effect. Candidate principles twelve and thirteen express the possibility for these technologies to contribute to placemaking and successful urban developments:

***Principle 12:*** *Consultations on plans for new developments should fully exploit the capabilities of social media, virtual worlds and other technologies to ensure that communities affected by them are given the widest, most immersive opportunity possible to contribute to their design.*

Source: <http://theurbantechnologist.com/smarter-city-design-principles/>

# Virtual worlds assist decision making



Source: [www.digitalspace.com](http://www.digitalspace.com)

# Real life example



Current situation captured and modeled - Reality



New design

Current situation and new design merged: Virtual Reality



# Philosophy and consequences

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- Any 'urban object' has to integrate with its surroundings
- As such there never is a 'green field'
- As such the surroundings are of vital importance and have to be taken into consideration in the new design
- As such capturing the 'now' at a high level of detail is a must
- As such any new design must be geo-referenced



# Virtual reality...



- Allow stakeholders to provide much better comments to the new, planned situation
  - Easy to study alternatives, also for non-experts
- Will create a better (smarter) design
  - Safety, sustainability, environmental, esthetics
  - Supported by the relevant communities
- Cost effective (using new technologies)

# Infrastructure objects have a long life...



Inside one of the ventilation buildings of the Maastunnel, Rotterdam: 1942 - ...

# Maastunnel

## Some sight seeing information

- Not too far from WTC Rotterdam
- Pedestrian tunnel as well, about 1,5 km long
- Address: Parkkade 27 (the restaurant opposite)

Plan your journey

**9 2**

**9 2** Journey advice  
0:23 hours  
0 changes

Price of your journey  
€ 1.14

Ecological footprint  
How environmental  
conscious is your tr

Winkelcentrum Beursplein, Rotterdam → Parkkade, Rotterdam

Departure Friday 25 March 2016 at 9:30

Change journey Plan your return journey

Earlier options

09:28 09:27 → 09:47 09:45  
changes 0  
total time 0:18

09:30 → 09:53  
changes 0  
total time 0:23

09:32 → 09:56  
changes 0  
total time 0:24

09:37 09:38 → 10:00 10:01  
changes 0  
total time 0:23

Walk (4 minutes) Show the route to walk on the map

09:30 Winkelcentrum Beursplein, Rotterdam

09:34 Metro Station Beurs, Rotterdam

Metro C (direction C De Akkers) RET

09:34 Metro Station Beurs, Rotterdam

09:38 Metro Station Coolhaven, Rotterdam

Walk (15 minutes) Show the route to walk on the map

09:38 Metro Station Coolhaven, Rotterdam

09:53 Parkkade, Rotterdam

Maastunnel

# Back to business...

By courtesy of Crossrail, London



# Conclusions

Smart design supports these two meanings of 'smart': **stylish**, i.e. of sustainable, environmental design by the community AND **intelligent**, effective, sustainable

All this is supported by visual form of a fully functional,

British American Business

"smart" in British English  
▶ See all translations

**smart**

Smart adjective (INTELLIGENT)  
B1 MAINLY US intelligent, or able to think quickly or intelligently in difficult situations:  
Maddy's teacher says she's one of the smartest kids in the class.  
Why don't you fix it if you're so smart?  
I'm not smart enough to understand computers.

Word cloud: danke, 謝謝, ngiyabonga, tesekkür ederim, gracias, thank you, go raibh maith agat, sukriya, kop khun krap, arigato, takk, dakujem, trugarez, obrigado, terima kasih, merci, etc.

4 Stages to Heart Attack  
4 Signs

Source: Cambridge Dictionaries Online