UMTCC
Serious Game Integrated Urban Planning: Real Estate, Energy, Underground and Water

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Introducing
Sustainable Urban Planning and Underground Development
Serious Gaming
Game Examplia
Demonstration of the software
Introducing.....

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Your solution mapped in 4 steps

Organize
We map all relevant spatial information and present the results in a comprehensive manner.
Read more

Analyze
We relate the map and underlying data with calculation tools, graphs and reports which make interpretations and analyses possible.
Read more

Simulate
We simulate all possible spatial interventions and immediately calculate the effects.
Read more

Solve
The most promising solutions for your project will be developed in detail and substantiated, so decisions can be made.
Read more
StrateGis Services

- **StrateGis Interactive Urban Development**
  collaborative decision making processes
- **StrateGis Urban Developer**
  integrating calculation and urban design plans
- **StrateGis Gaming**
  interactive urban training and gaming
- **StrateGis Research & Advice**
  scientific research and focusing on applied projects
- **StrateGis Project Visualisation**
  3D/4D visualisation and presentation
Urban Planning and Underground Development

**Sustainable Urban Planning**
- Real Estate Development (housing, offices, amenities)
- Social Development (public facilities, schools, welfare)
- Infrastructure (roads, public space, parking)
- Land Use Planning
- Water Management
- Energy Management

**Underground Development**
- Energy/water production
- Soil Pollution Management
- Underground infrastructure (cables/parking/roads)
- Archeology
Careful planning to prevent overlapping claims on space

balancing, prioritising

Attractive Living Environment

Extra storage facilities

Sustainable Transport

Sustainable Energy

potentially overlapping claim

subsurface as base for foundations: funderingen
subsurface as obstacle: tree-roots

uplifted groundlevel: Unilever building
parking: combination with water storage
cables and pipelines in utility ducts can save money in long term
underground serving better environment: Cooling/Heating with Thermal Storage Geothermal energy
From plan to integral volume

not only a zoning plan for ground level but a zoning plan for each layer ideally: one zoning volume
What happens underground?

Co 2 storage
Shale Gas

Public
Opinion
Serious Game for Awareness

Idea of Ignace van Campenhout (Rotterdam)
CASE Examplia: 1 City, 4 actors

Examplia, Mayors Office

Noxxo, Energy company

Watera, Water Company

Homesweethome, Housing Corporation
Objective:
Create a sustainable urban development by using measures above and below ground.
Sustainable ?: 6 Indicators

- People
- Planet
- Profit
- Energy production
- Water production
- Housing production

City scores for all parameters except profit.

Actors have different objectives
Total of 64 Measures divided over all actors and layers of development

Budget is net present value over 50 years

Positive NPV are revenues, negative are costs.
Each measures has an impact on the different scores

**People, Planet, Profit scores**

- **150 Luxe woningen**
  - Deze luxe woningen vallen in de smaak bij bewoners. Het nadeel ten opzichte van appartementen is dat op hetzelfde plot land maar de helft van de woningen gerealiseerd kan worden.
  - Budget €: -700.000,-
  - People: +5%
  - Planet: -2%
  - Energieverbruik: 375 MWh per jaar
  - Waterverbruik: 30.000 m³ per jaar

- **De civile constructie laag saneren**
  - Door de bodem volledig af te graven kan alle vervuilde grond worden verwijderd. Dit is een dure operatie, maar zorgt wel voor een schone bodem.
  - Budget €: -1.000.000,-
  - People: +5%
  - Planet: +10%

- **Geothermiecentrale**
  - Doormiddel van buizen kan er op zeer grote diepte aardwarmte gewonnen worden. Deze duurzame energiebron kan dan voor ongeveer vijftig jaar energie leveren. Het is wel nodig boringen tot anderhalf kilometer diep te maken. Deze zijn zeer kostbaar.
  - Budget €: 3.000.000,-
  - People: -1%
  - Planet: +8%
  - Energielevering: 14.000 MWh per jaar
  - Waterverbruik: 8.000 m³ per jaar

**Energy, Housing or Water production scores**
Each measure requires conditions to be met in order to take place.

Some measures will depend on development in other layers.

Some measures will take place if other actors support the measures.
Cost of measures can be shared by actors

Measures can be initiated by one stakeholder

Division of costs or revenues can be shared with other actors
Gameplay

Round 1
Understanding the game and role of the stakeholders

Round 2
Achieving highscore by co-operating and negotiating

Round 3
Improving highscore by mediation and renegotiation

Evaluation
Feedback and learning points
Adjusting existing situation:
(only by owner)
Adjusting zoning plan:  
(Only the municipality)
Initiating measures: (Each actor, different per layer)
Gamehints:

- You can use the handout to give you more information.
- Study possible measures.
- There are more ways to Rome!!.
- It’s a game so feel free to experiment.
- If you cancel a measure your budget will be restored.
- It’s a game, but a serious game, so please enjoy but also act according to your role and objectives as given in the handout.
ON YOUR MARKS:

GO!
More information

Company website
www.strategis.nl

Education website
www.strategisinternational.nl

Tool and game websites
- www.bodemtool.nl (in dutch)
- http://www.urbit.nl/en1/game_s.html