Current Status of Scenario for Modelling Contaminant Transport and Countermeasures

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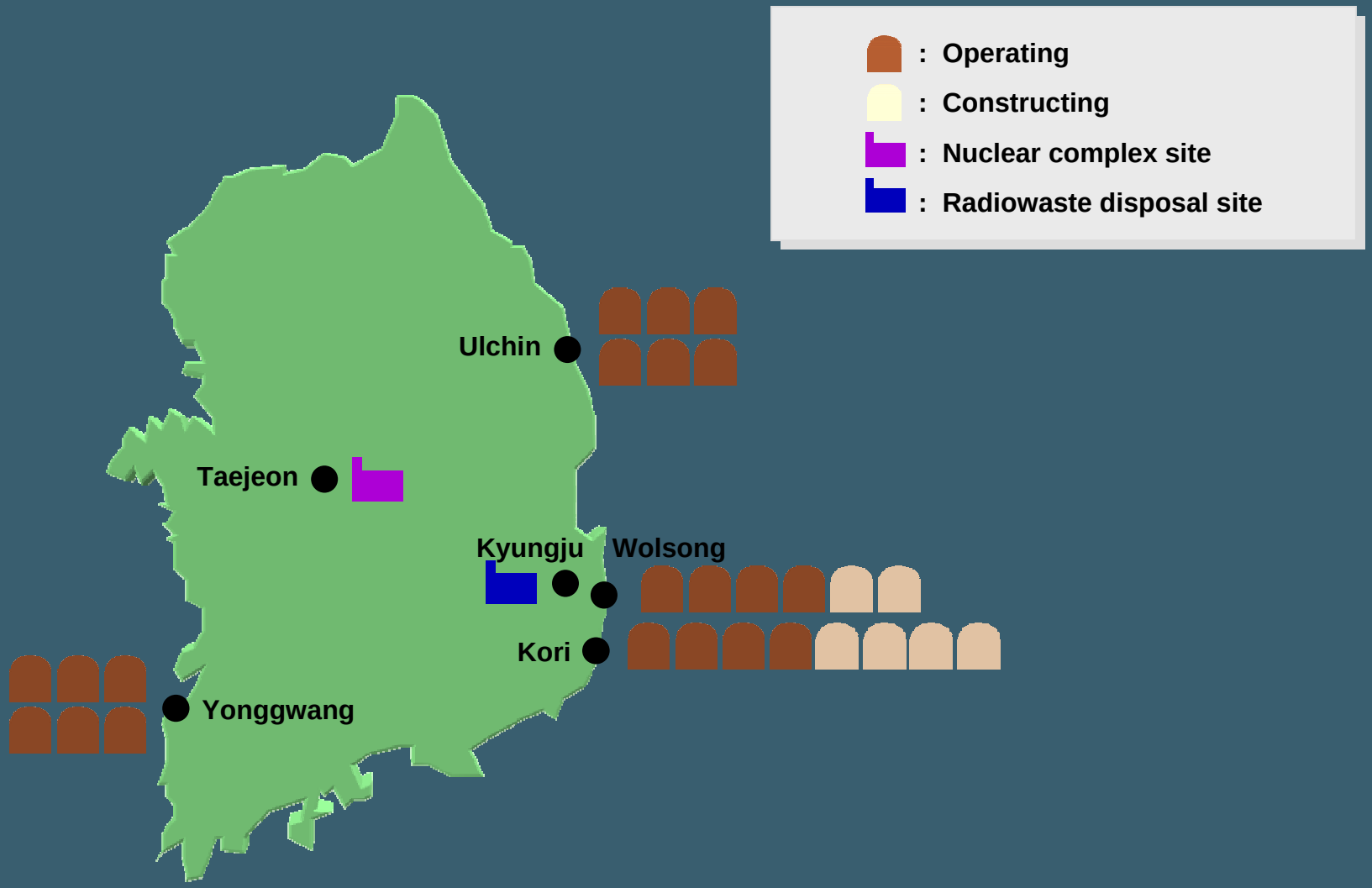
Geographical Location

Nuclear Facilities in Korea



Description of a Selected Region

- A central region of Seoul (capital city of Korea) was selected for model testing
- Provided geographical information
  - Climate characteristics (Seoul)
    - Temperature/Precipitation/Humidity/ Wind elements etc.

Description of a Selected Region

- (To be continued)
  - Human geographical characteristics (Seoul)
    - Population/Living type/Land use/ Traffic condition/Street cleaning etc.
  - Detailed information on a test site
    - BD attributes (height/width/material)
    - Land-use attributes (street/road/park)

Aerial Photo of the Test Site

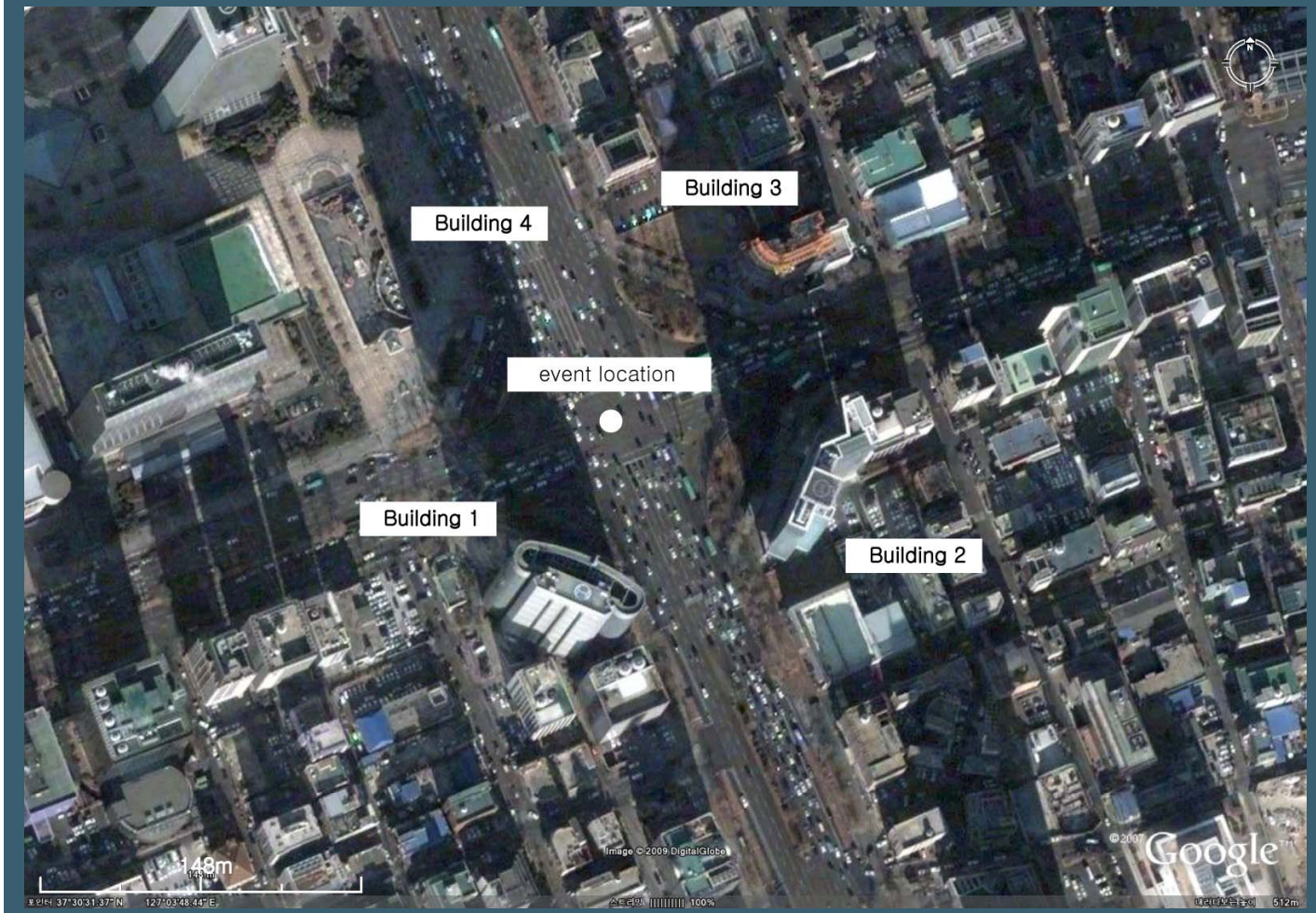
Region 1

Business area

Region 2

Park area

Close-up Photo of Region 1



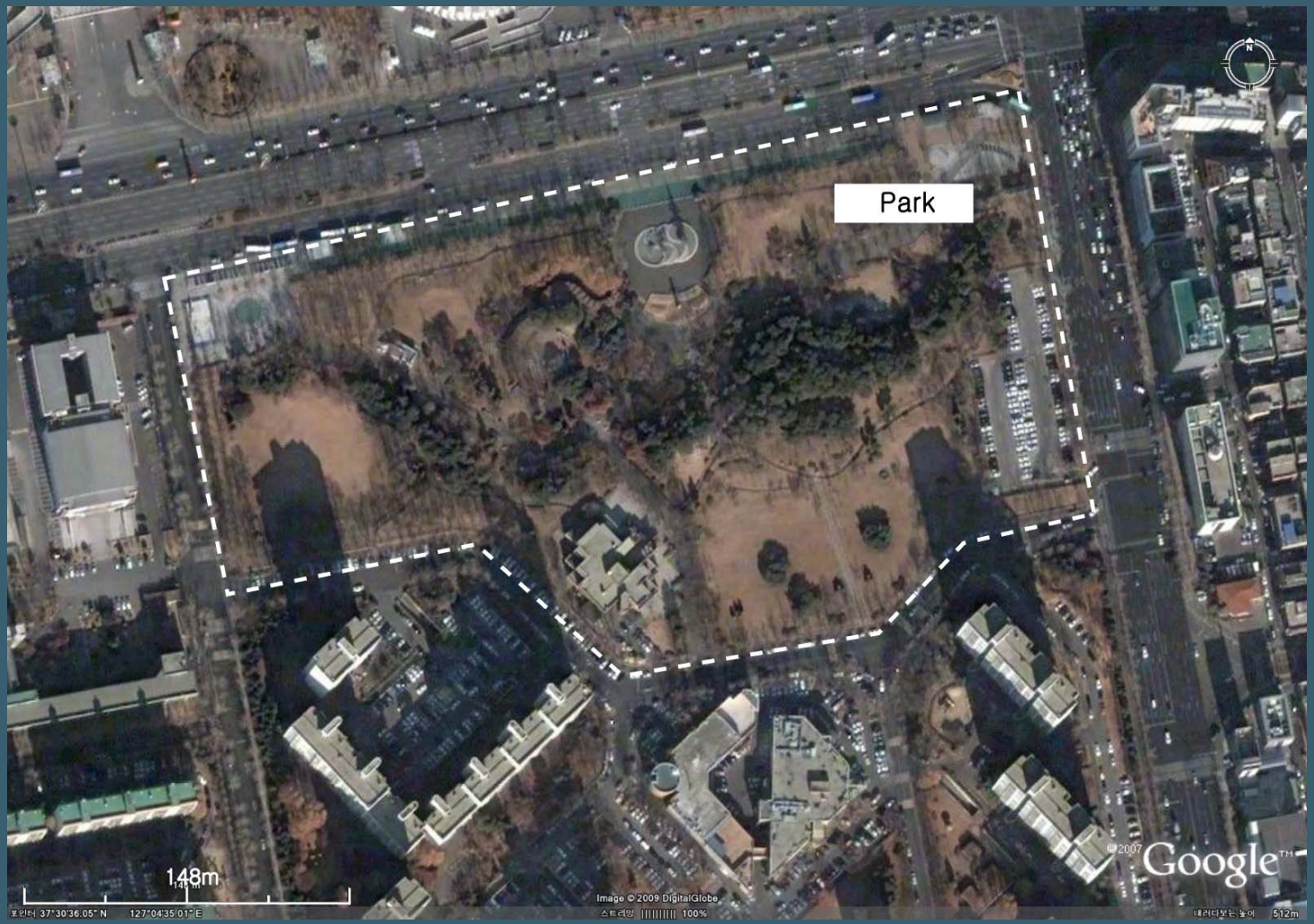
Building 1
24 story office BD

Building 2
30 story office BD

Building 3
16 story office BD

Building 4
Pavilion for Exhibition (KOEX)

Close-up Photo of Region 2



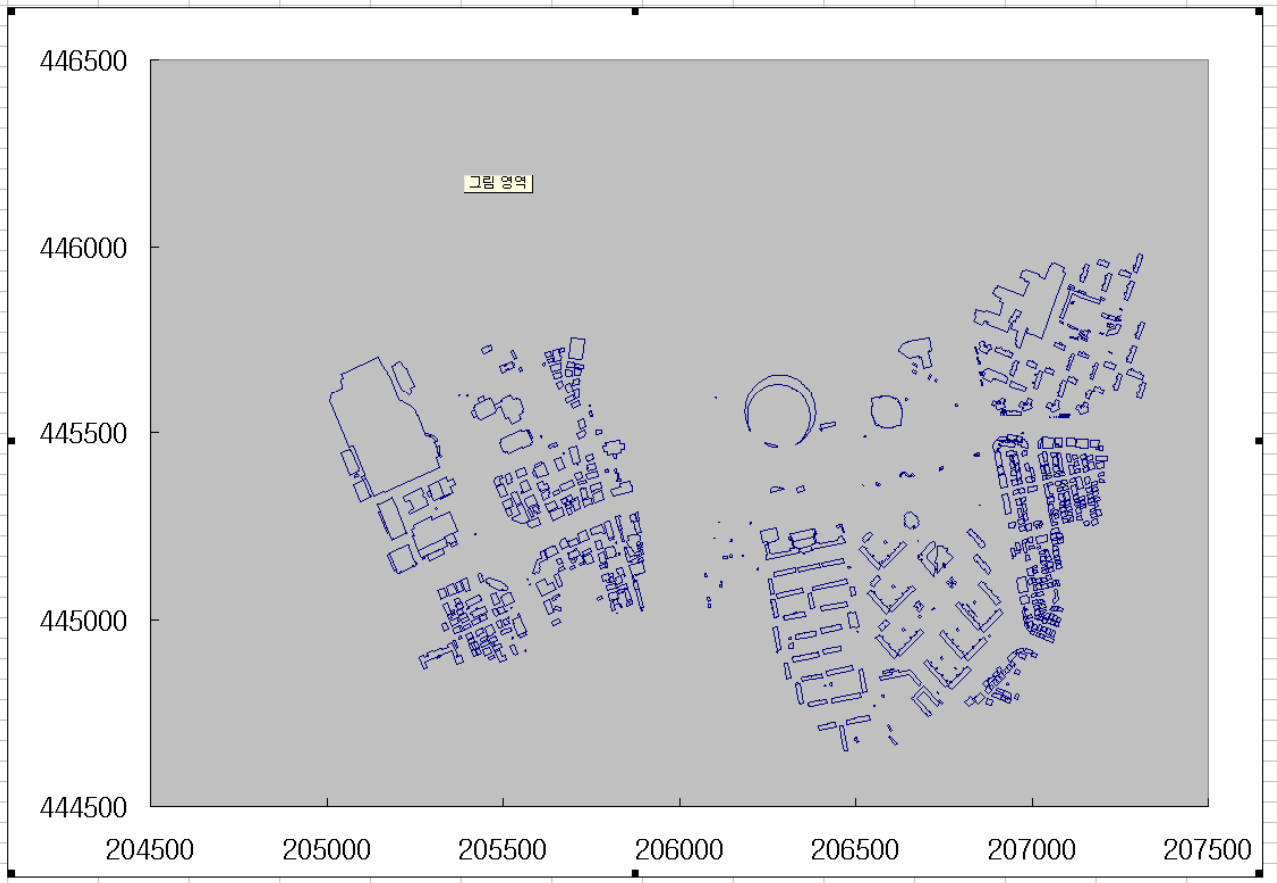
Additional Information (1)

Microsoft Excel - BD-Coordinate.xls

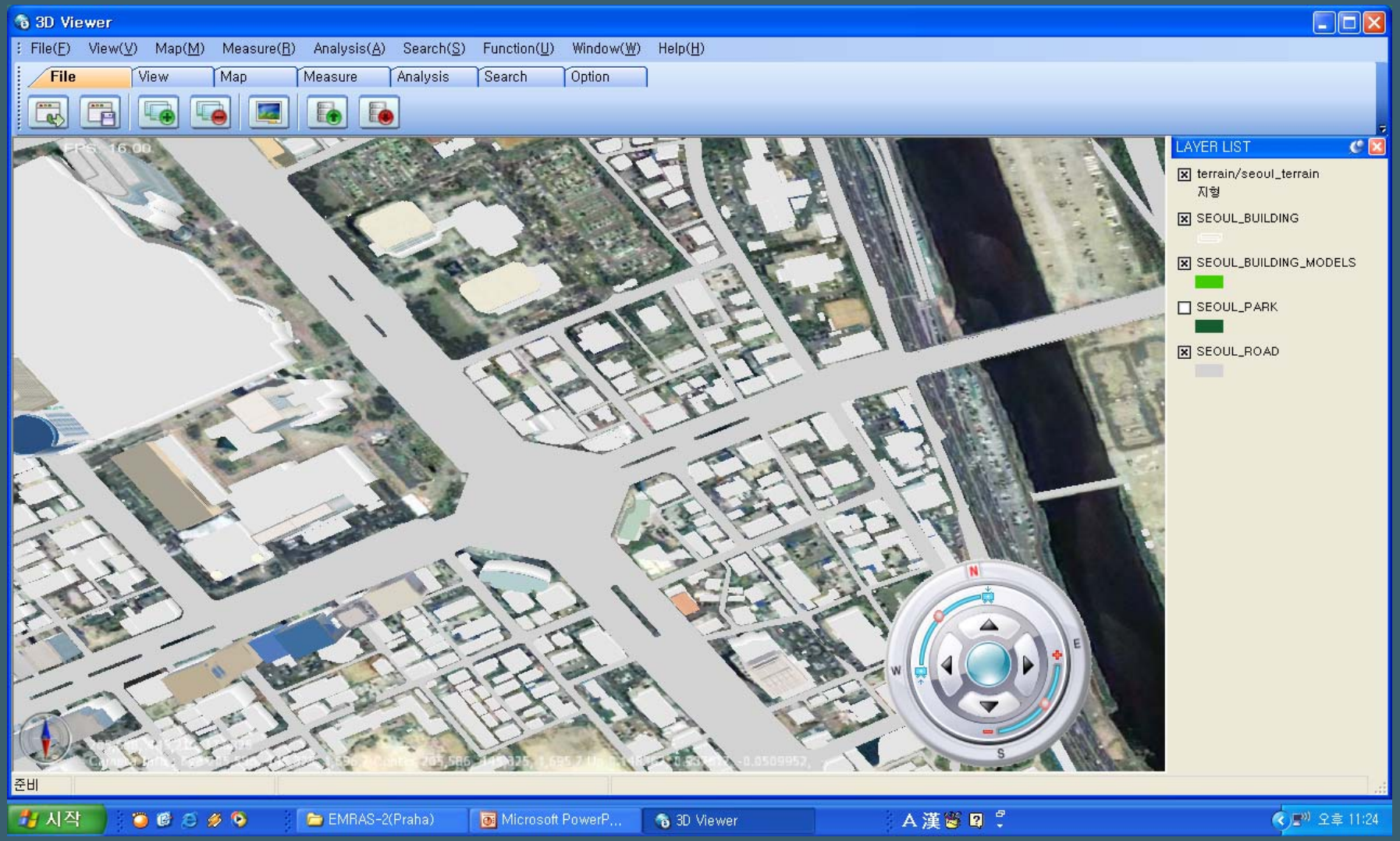
파일(F) 편집(E) 보기(V) 삽입(I) 서식(O) 도구(T) 차트(C) 창(W) 도움말(H)

Chart 2

	A	B	C	D
27	104234	Glass Tower 82	1192.87	30 6 1
28	0	205500	445097	
29	1	205506	445092	
30	2	205508	445091	
31	3	205509	445090	
32	4	205510	445090	
33	5	205511	445089	
34	6	205512	445088	
35	7	205512	445087	
36	8	205512	445086	
37	9	205513	445085	
38	10	205513	445083	
39	11	205513	445082	
40	12	205512	445081	
41	13	205512	445080	
42	14	205511	445079	
43	15	205510	445078	
44	16	205509	445077	
45	17	205508	445077	
46	18	205507	445077	
47	19	205506	445077	
48	20	205505	445076	
49	21	205504	445077	
50	22	205503	445077	
51	23	205502	445077	
52	24	205501	445078	
53	25	205500	445078	
54	26	205500	445079	
55	27	205499	445079	
56	28	205499	445080	
57	29	205498	445081	
58	30	205496	445080	
59	31	205497	445077	
60	32	205493	445076	
61	33	205491	445077	
62	34	205462	445089	
63	35	205460	445093	
64	36	205463	445094	
65	37	205463	445096	
66	38	205461	445096	
67	39	205460	445096	
68	40	205459	445096	
69	41	205458	445096	
70	42	205457	445096	
71	43	205456	445097	
72	44	205455	445097	
73	45	205455	445098	
74	46	205454	445099	



Additional Information (2)

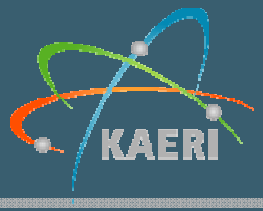


Input Information

- Radionuclides
  - Co-60/Pu-239
- Weather conditions during an event
  - Dry/Light rain (3mm)/Heavy rain (20mm)
- Date of an event
  - 1 June (summer)/1 January (winter)
- Initial time-integrated radionuclide concentration in air at ground level is 1 MBq d /m^3

Modelling Endpoints

- Contamination density at outdoor
- External total dose rate at outdoor and at different floors of indoor
- Contribution of each surface for total dose rate
- Internal dose for hypothetical scenarios
- Countermeasure effectiveness



Thank you