Surveying the Trends in Geospatial Data

The View From the Great White North

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Dale Lutz, Co-founder, Safe Software

SAFE SOFTWARE

VENEZUELA
GUYANA
SURINAME
FRENCH GUIANA
COLOMBIA
ATLANTIC OCEAN
BOA VISTA
MACAPÁ
ECUADOR
AMAZON RIVER
BELÉM
SÃO LUÍS
MANAUS
FORTALEZA
AMAZONAS
TERESINA
RIO BRANCO
PORTO VELHO
NATAL
RECIFE
Brazil
MACEIÓ
PERU
CUIABÁ
SALVADOR DA BAHIA
BRASÍLIA
RIO SÃO FRANCISCO
BOLIVIA
GOIÂNA
THE PANTANAL
BELO HORIZONTE
VITÓRIA
PACIFIC OCEAN
CHILE
PARAGUAY
SÃO PAULO
RIO DE JANEIRO
IGUAÇU FALLS
CURITIBA
ARGENTINA
PORTO ALEGRE
URUGUAY
0
600 km

Ronaldo
Esplosivo e inarrestabile
nikefootball.com

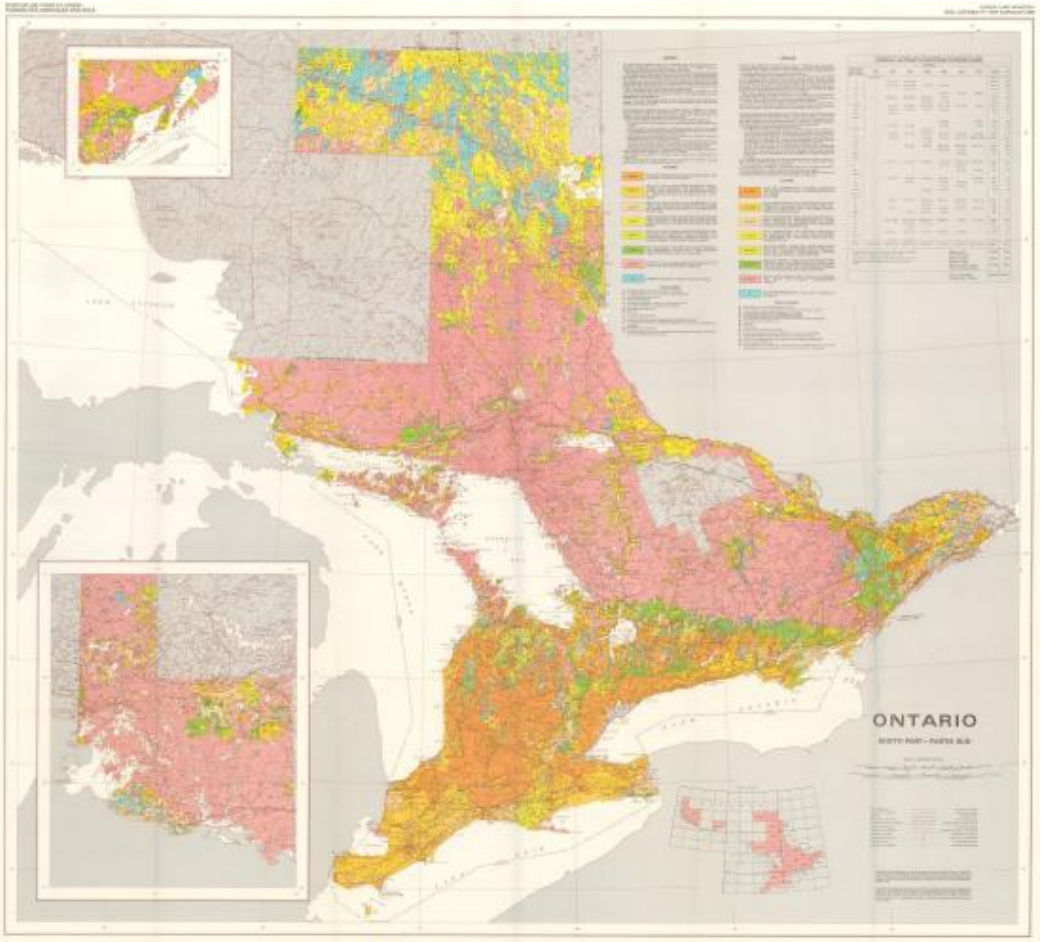
AIR CANADA
C-FNAP

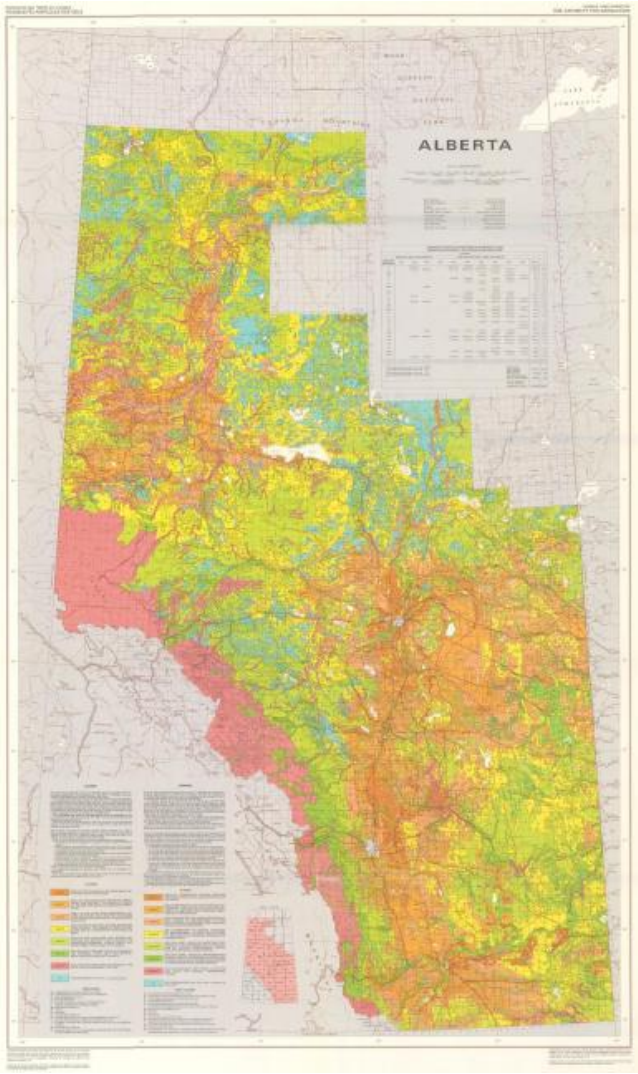
INOVAÇÃO

GREAT
WHITE
NORTH
SAFE SOFTWARE

In the Beginning (60s/70s)....

Canadian Land Inventory

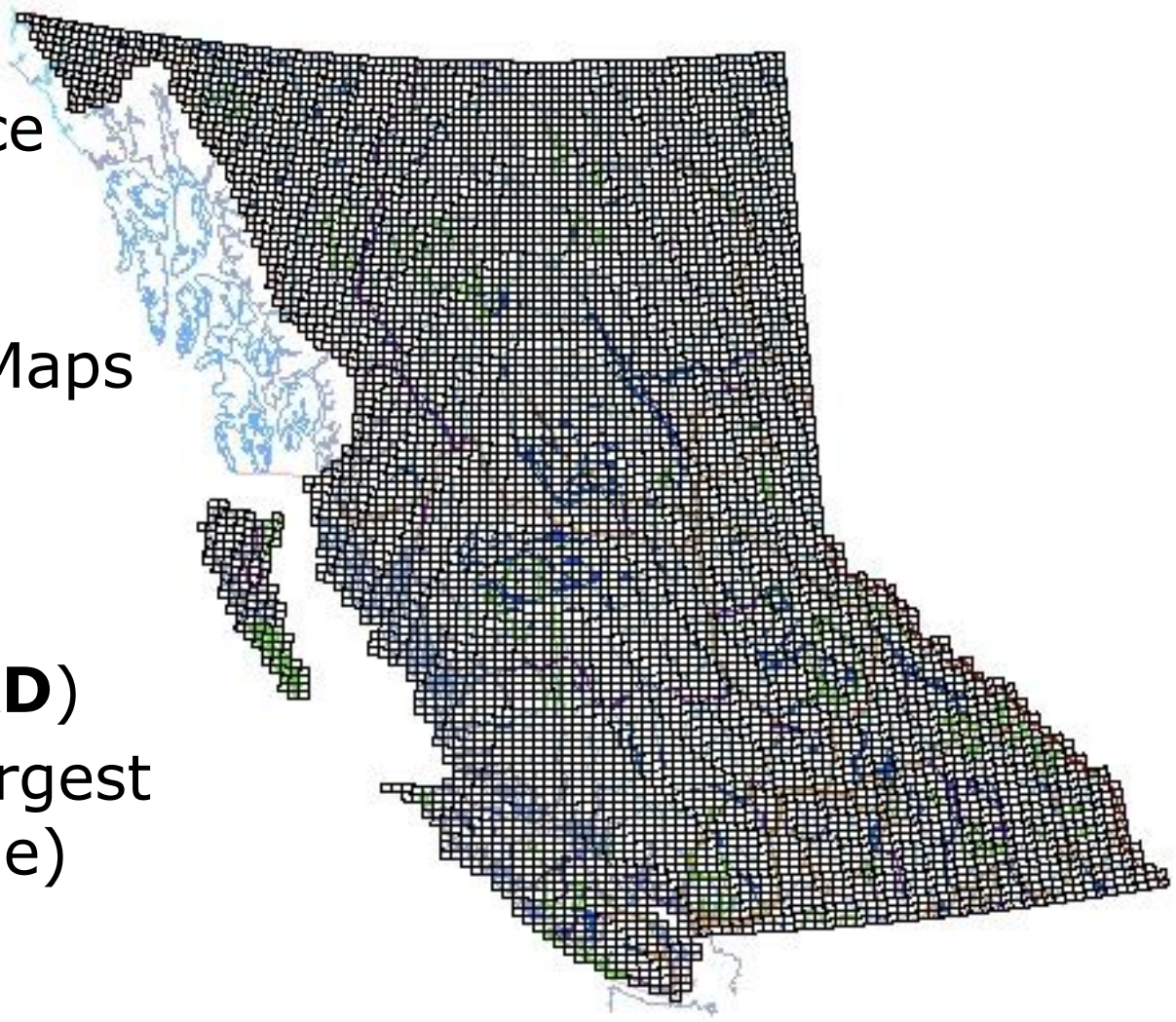




Source: Geoff Zeiss

In the Beginning (80s)....

- BC TRIM
  - **T**errain **R**esource **I**nformation **M**anagement
  - 7027 1:20000 Maps
  - Started in 1981
  - Heavy use of Microstation for Digitization (**CAD**)
  - Best mapped largest area (at the time)



So On the First Day....

GIS

CAD

And On the Second Day…

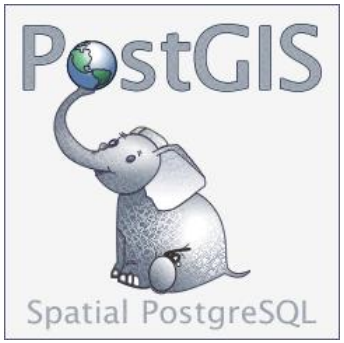
Raster

Rasters...

And On the Third Day…

Databases

Databases...



Microsoft® SQL Server® 2008

And On the Fourth Day…

Web

Earthquake Visualization (GeoRSS -> KML)

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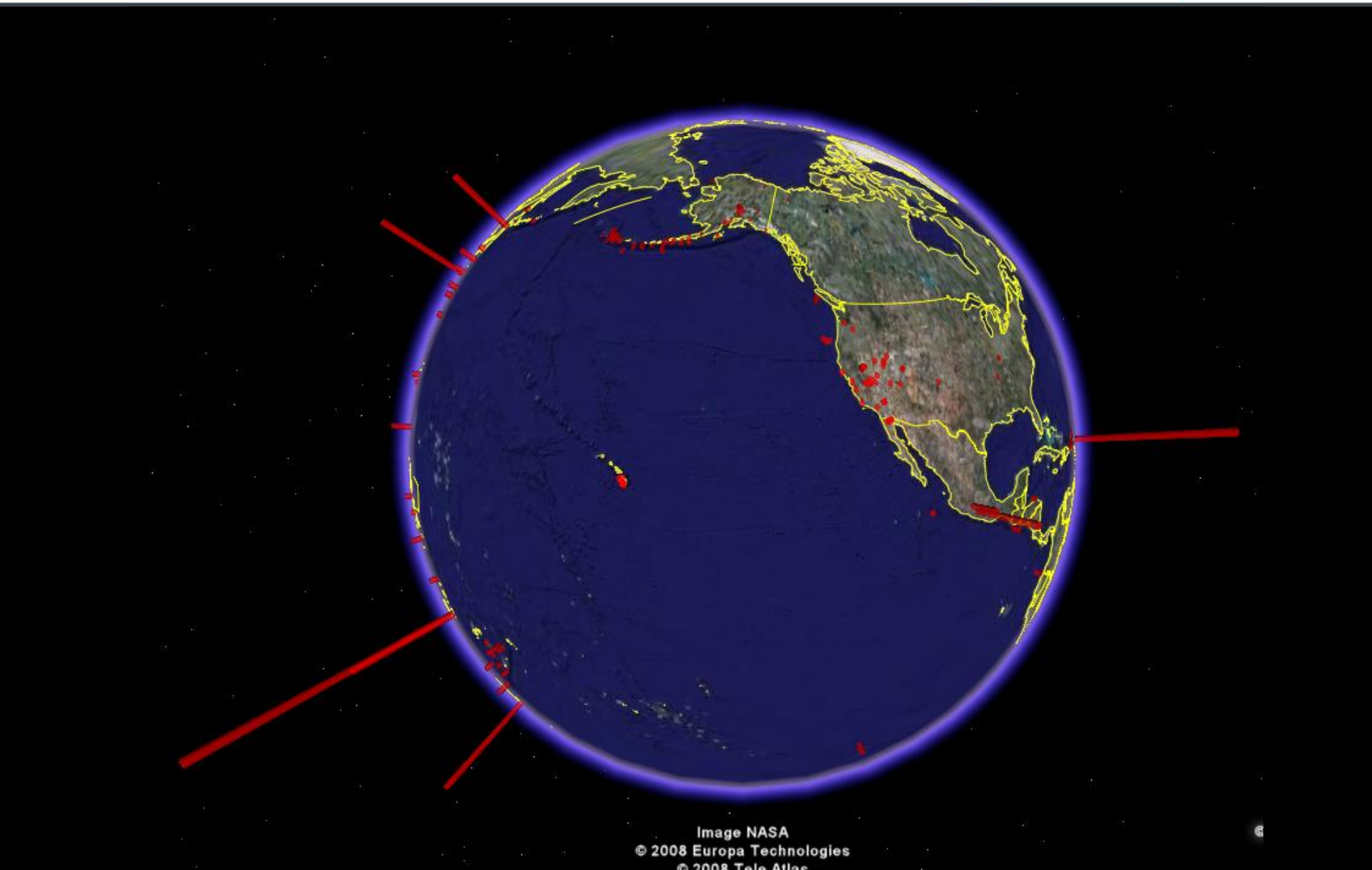
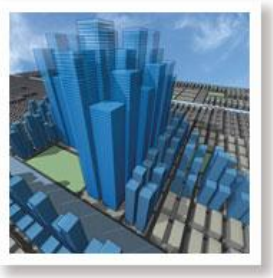


And On the Fifth Day…

3D/BIM



Take This...

And Specifically This...

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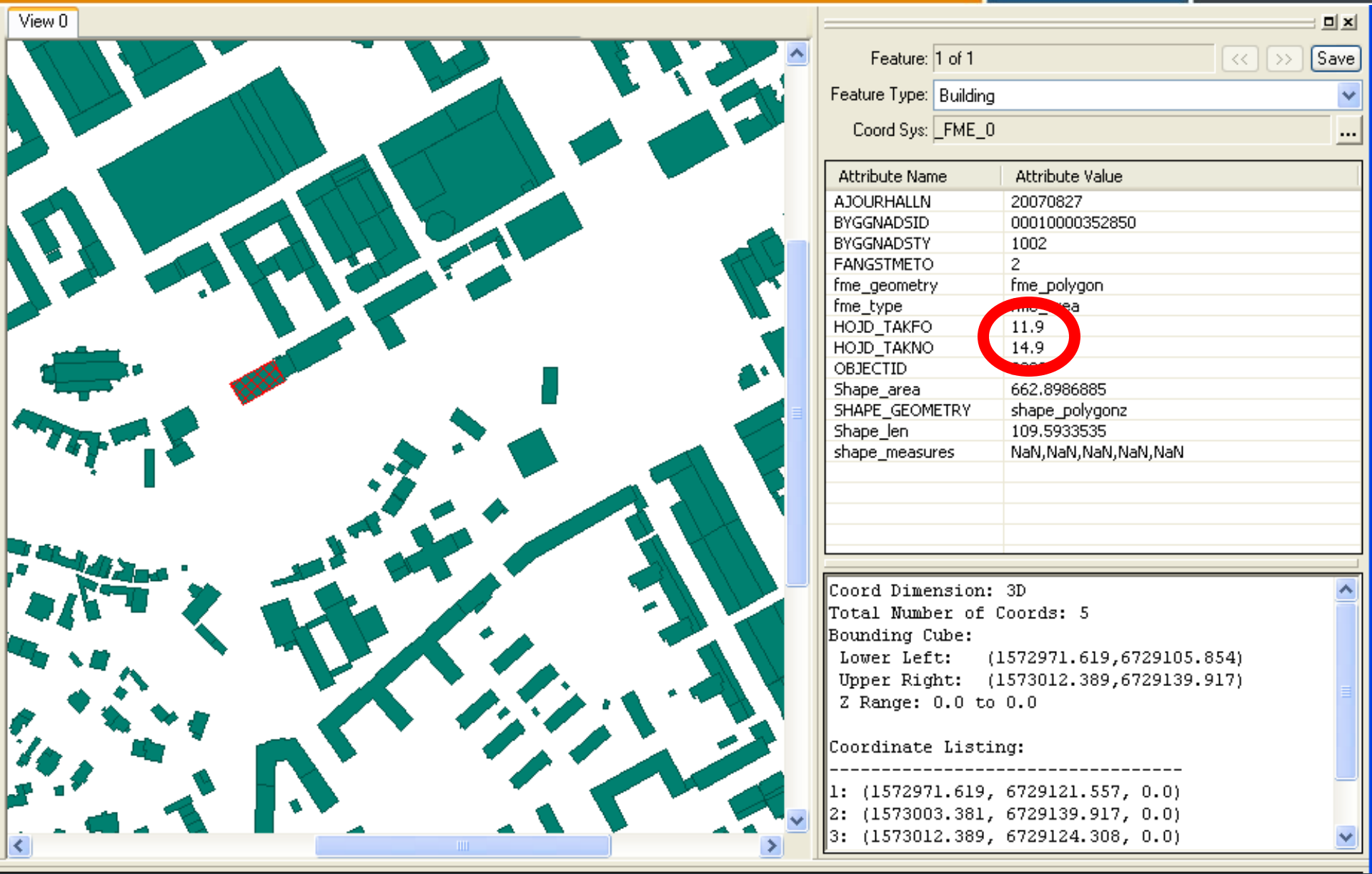
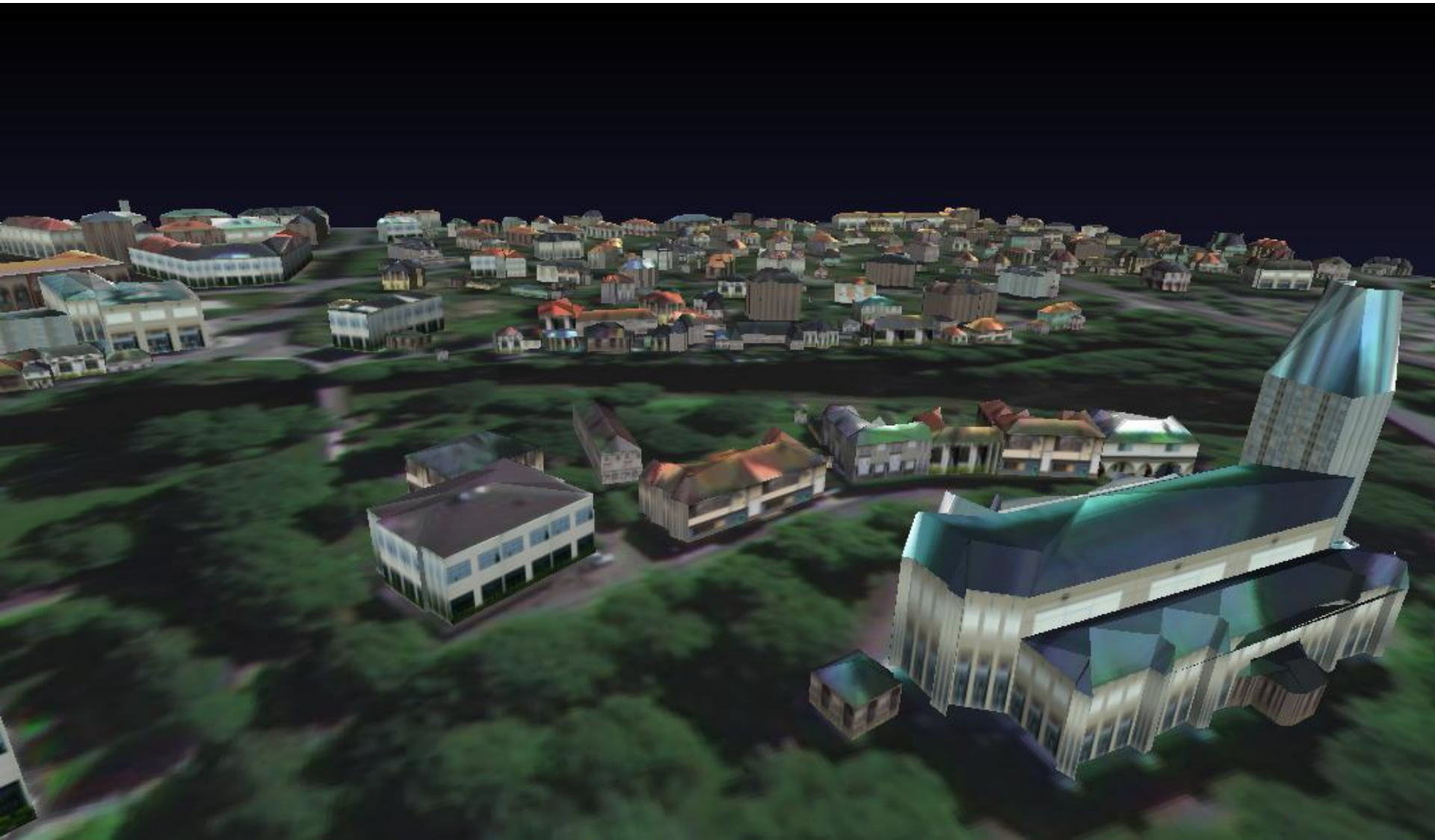
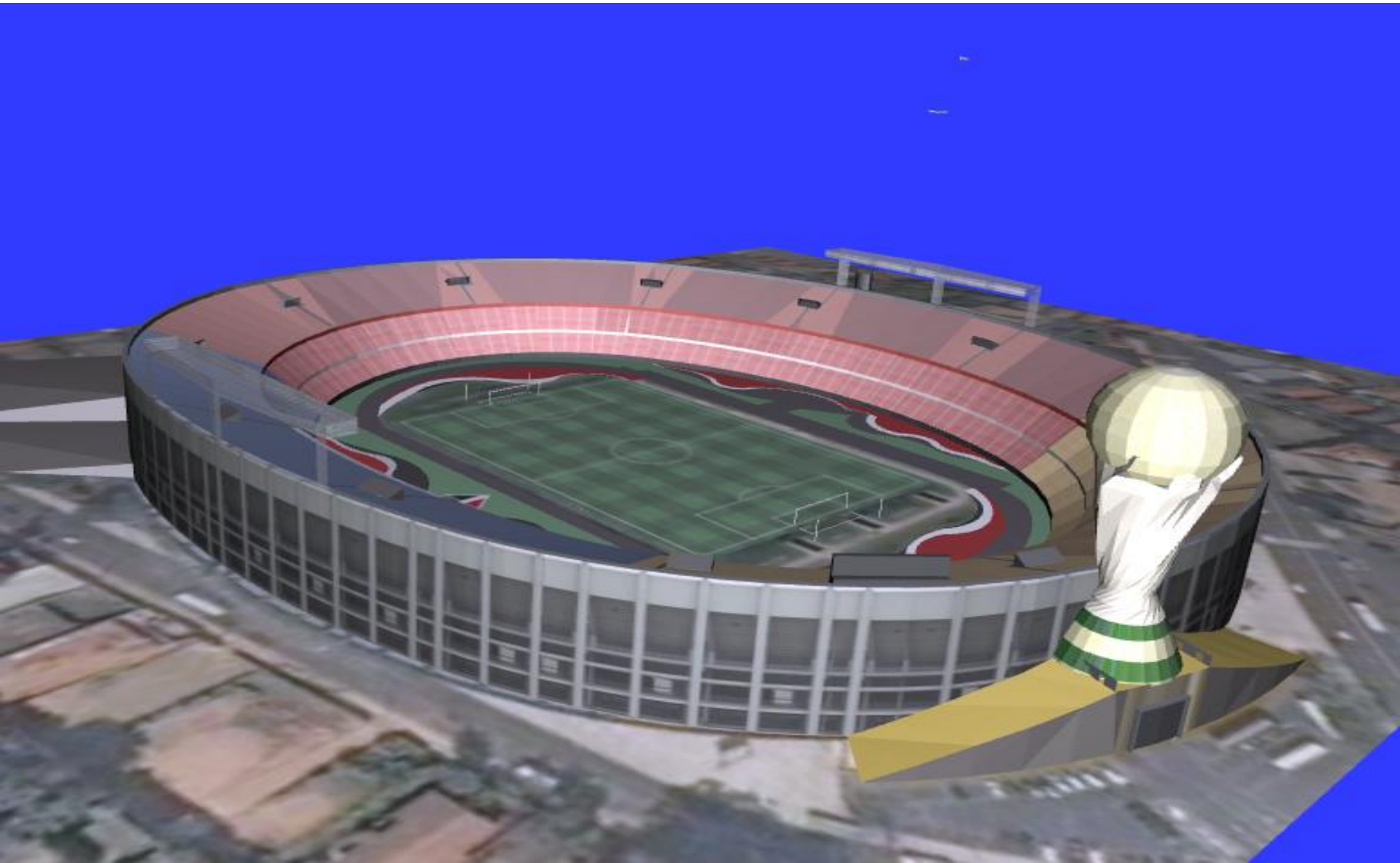


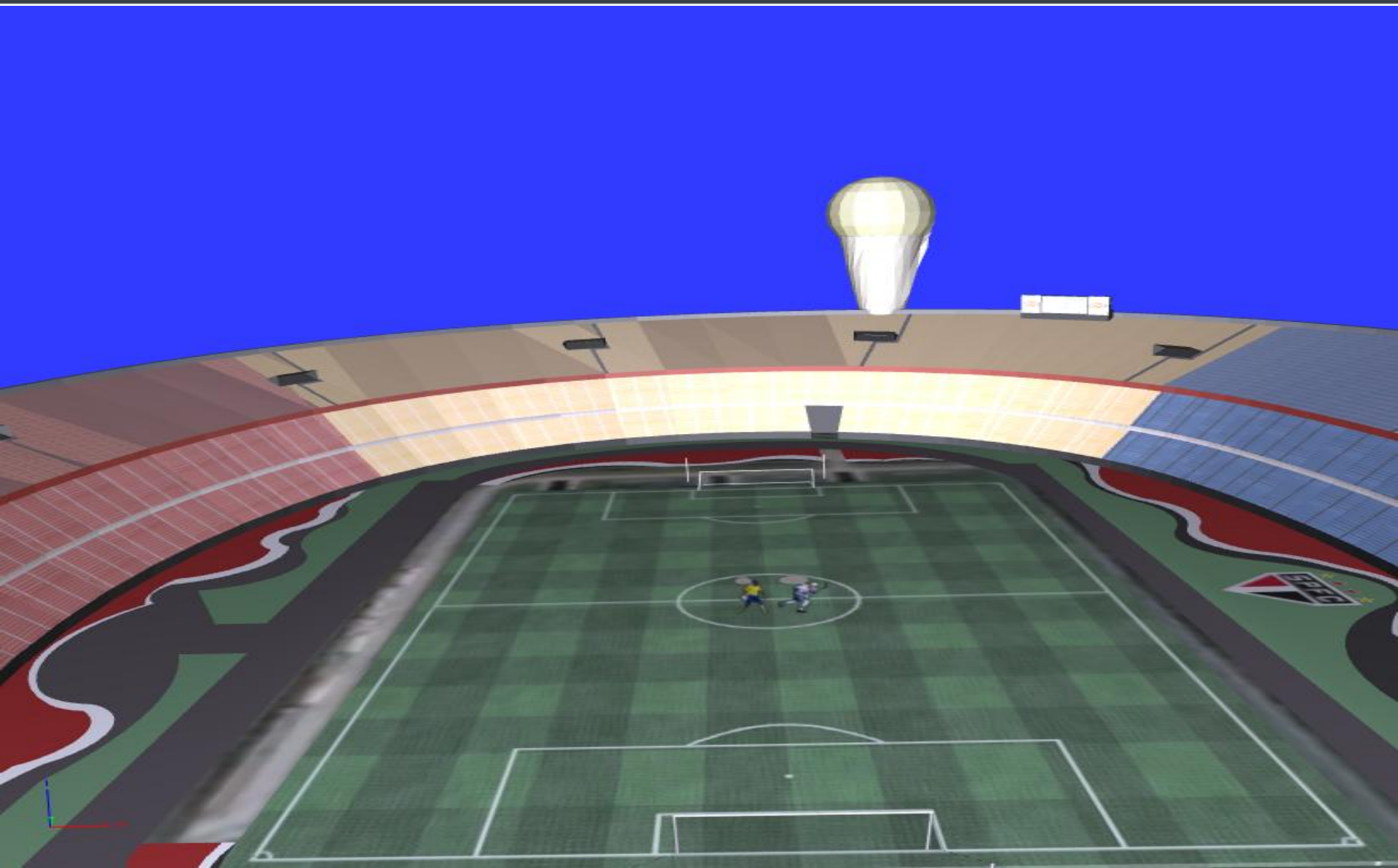
…And Make This…



...Or This...



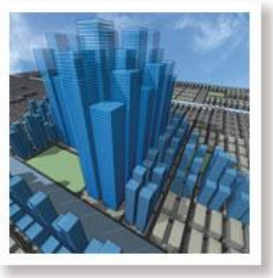
...And Even This...

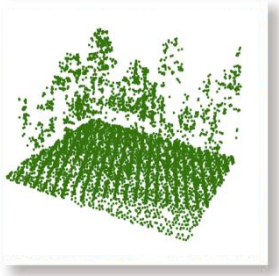


...And Even This...

And On the Sixth Day…

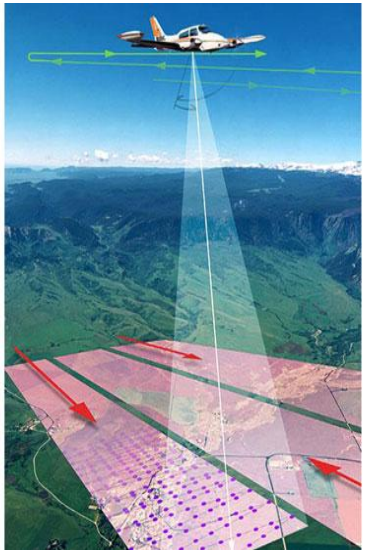
Point Clouds

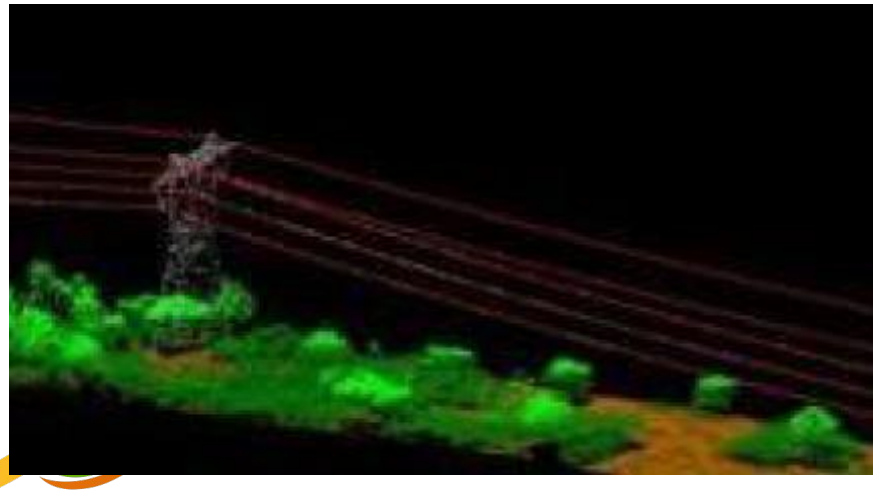


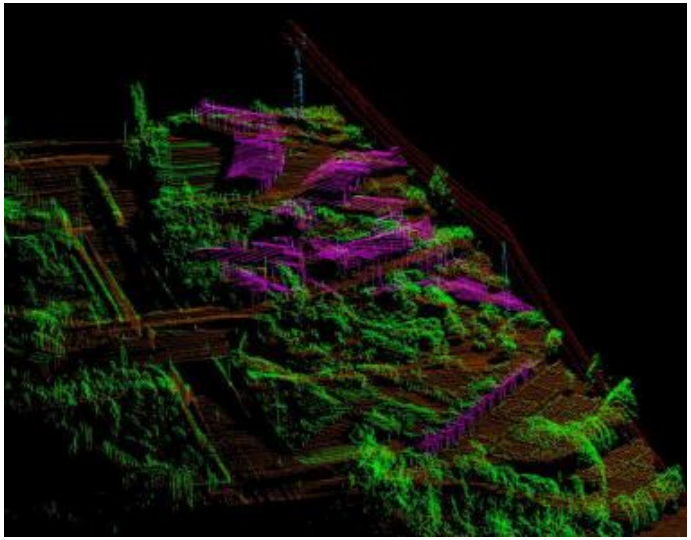


Inexpensive, Accurate, Voluminous

Inexpensive, Accurate, Voluminous







TopCon Sample File

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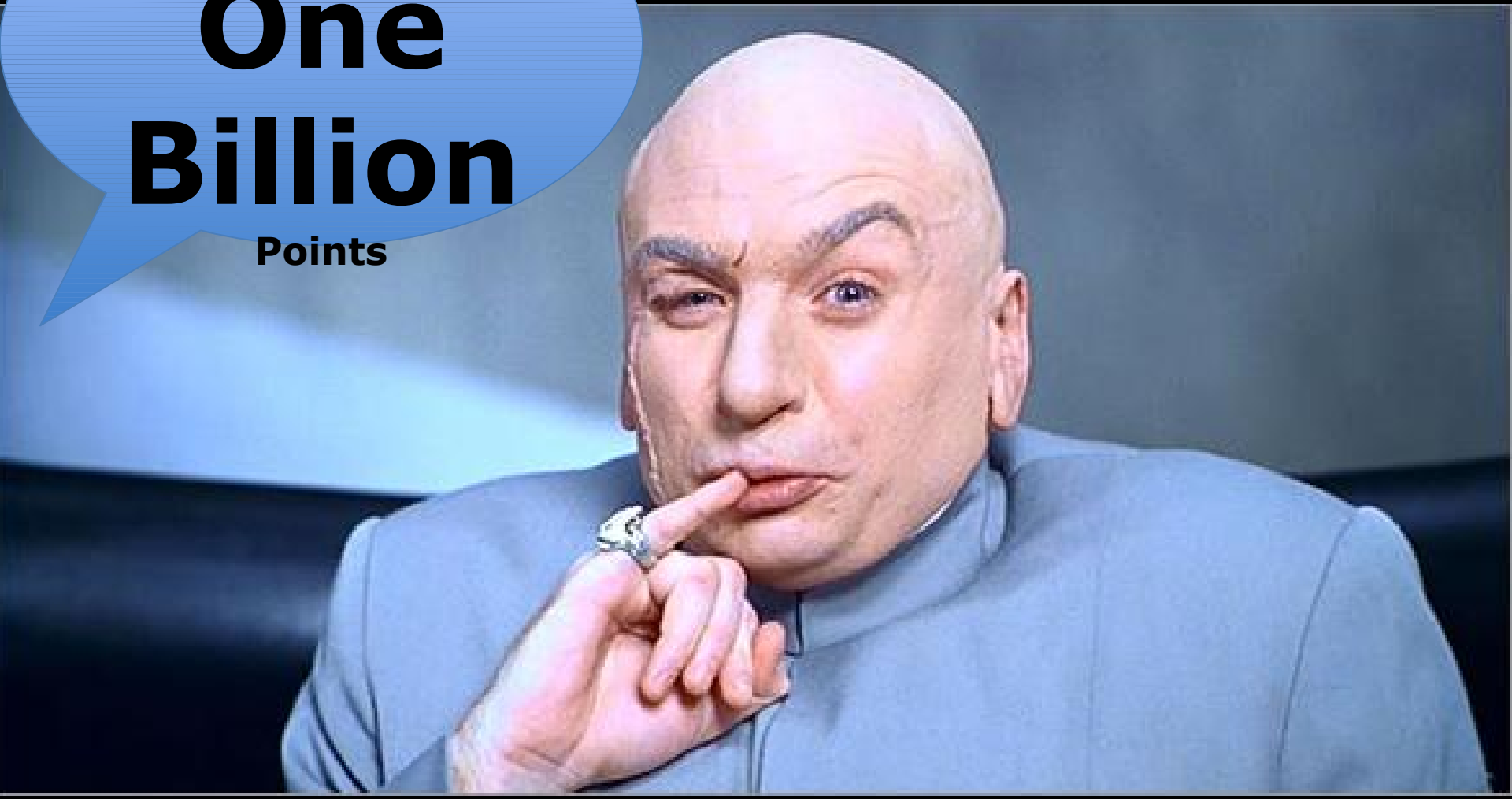
TopCon Sample File

Huge Data Volumes

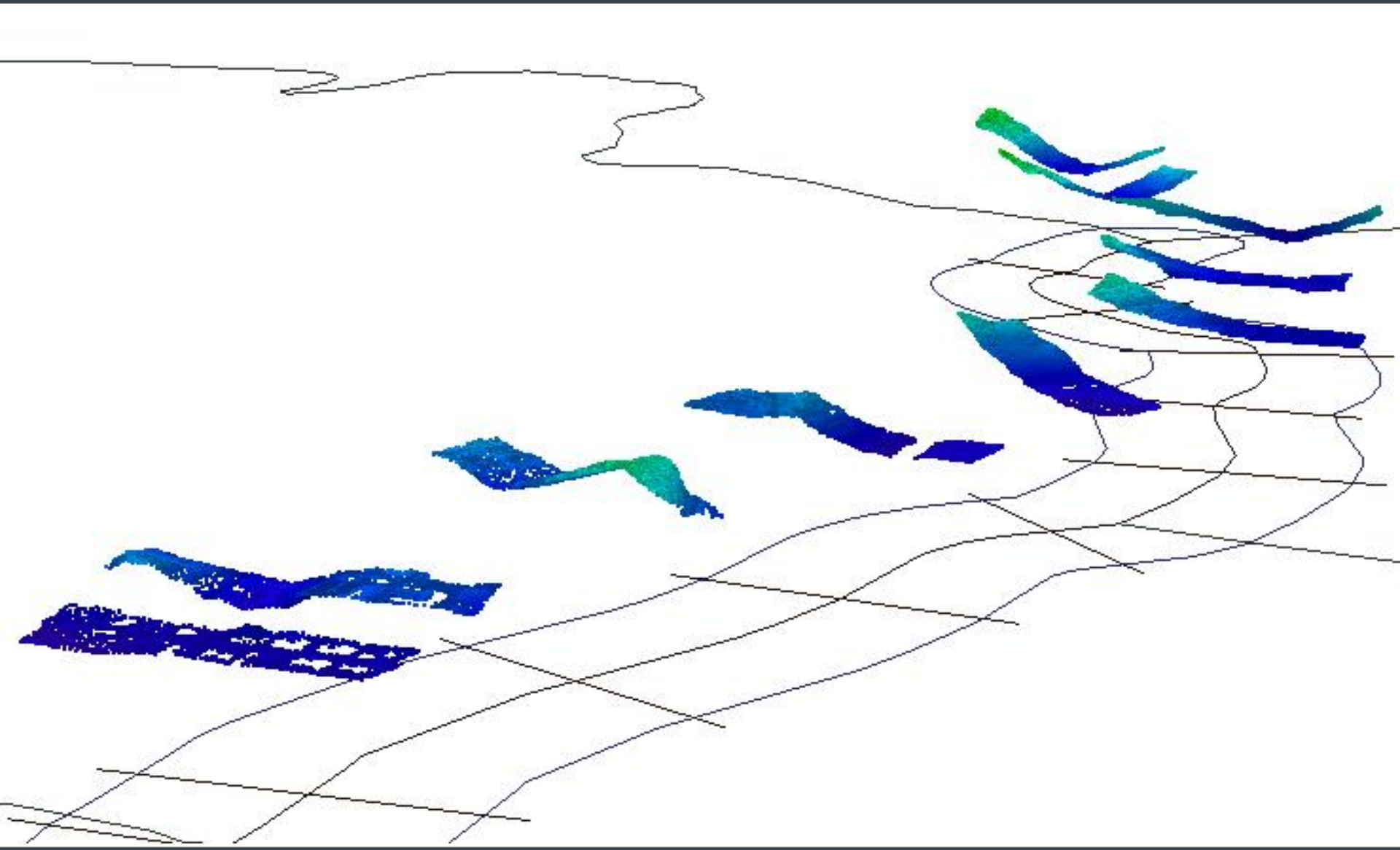
Over

One Billion

Points



Slice To Reduce Volumes...



After 6 Days...

...An Explosion of Formats

Top Formats By Country

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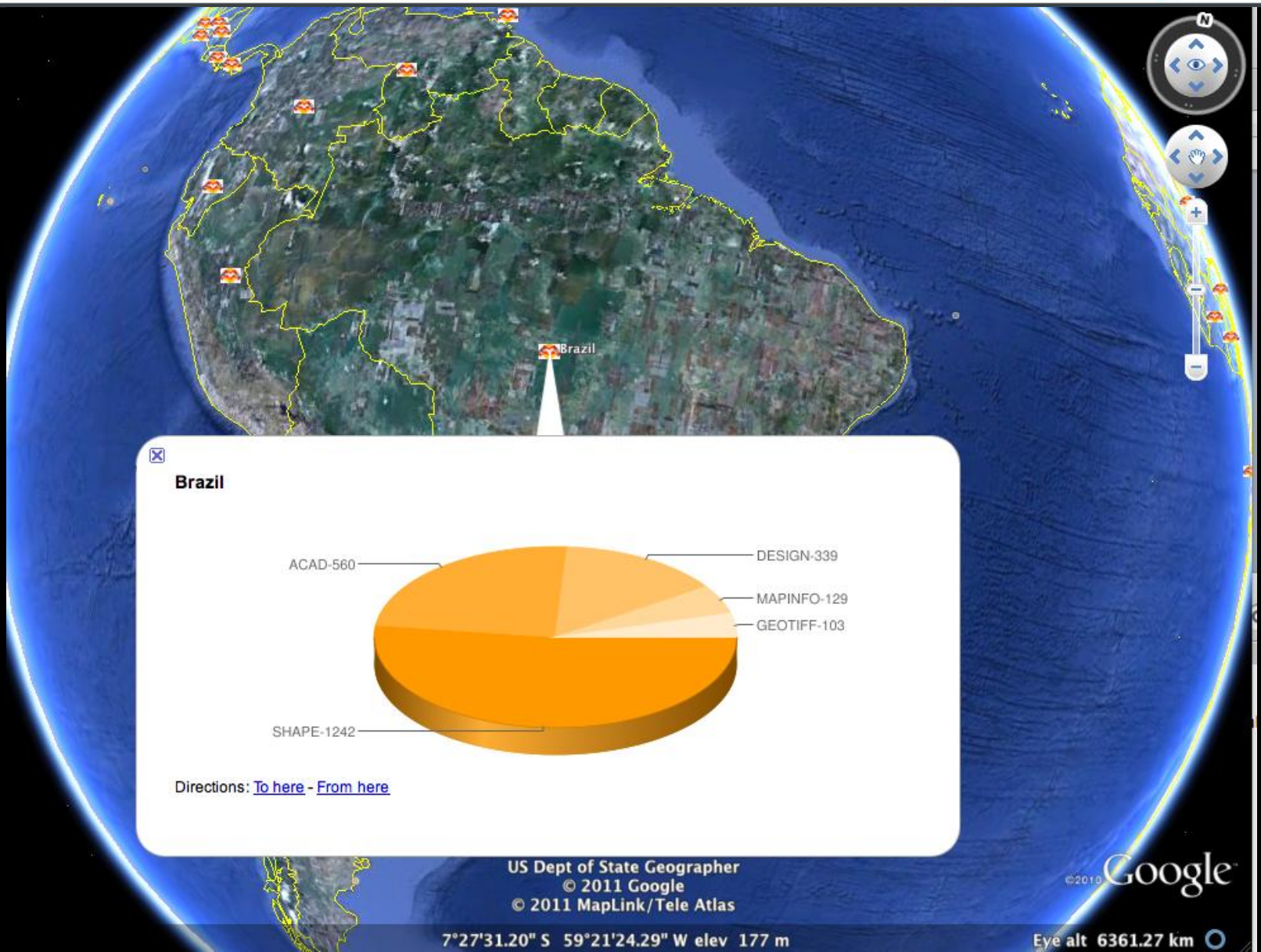
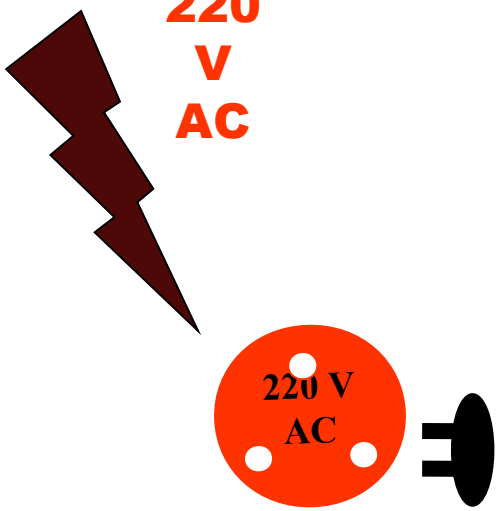


Spatial ETL: Solves the Format & Data Model Barrier

110 V AC

220 V AC



INTEROPERABILITY TOOL

220 V ~ 110 V CONVERTER

Spatial ETL: Solves the Format & Data Model Barrier

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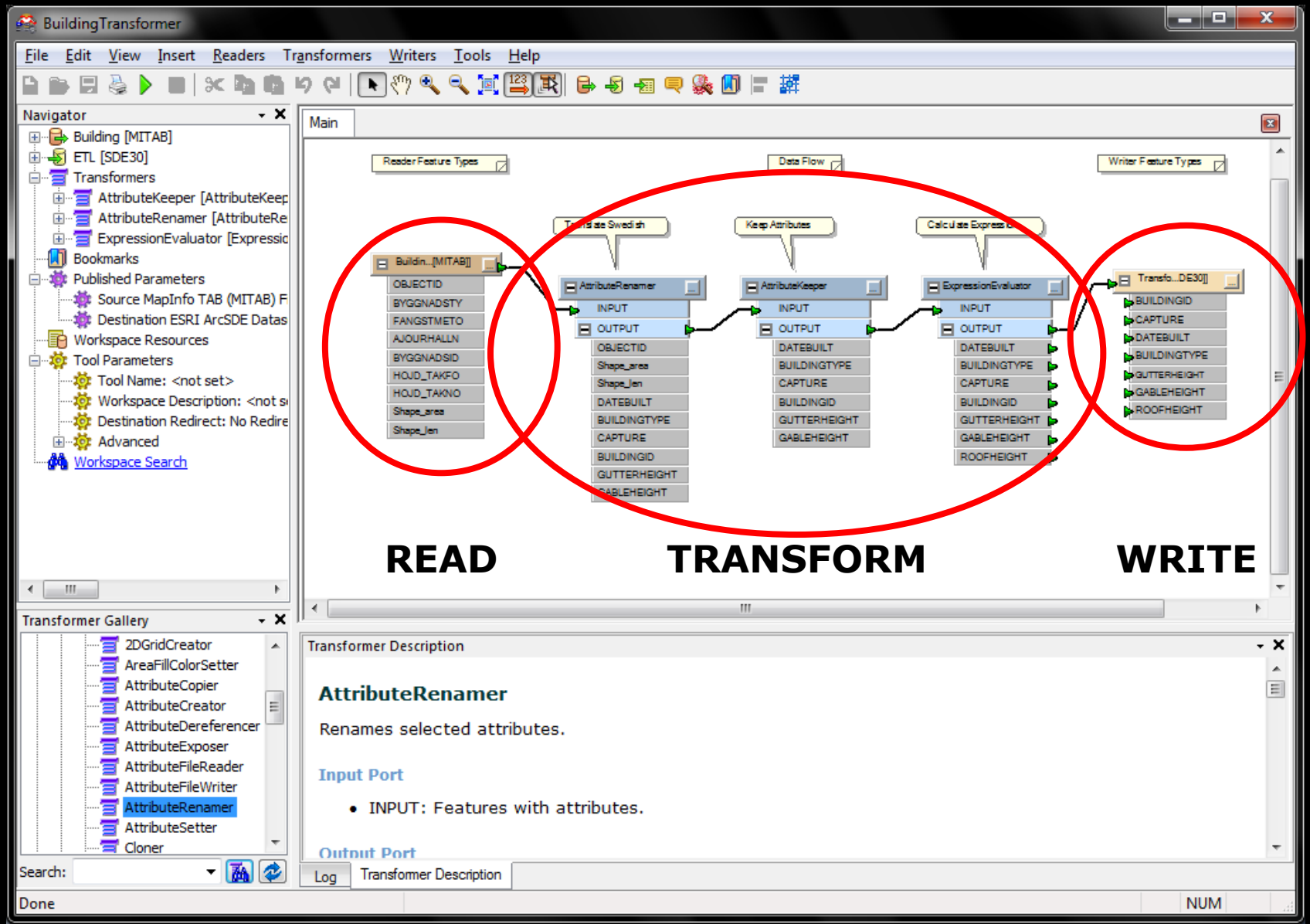


And On The 7th Day...

And On the Seventh Day?

Geotagged Video?

And On the Seventh Day?

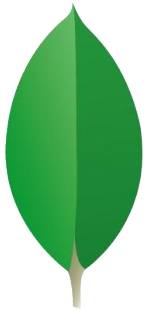
And On the Seventh Day?

OPENGOVERNMENT

Cloud Forma

amazon web services™

Google fusion tables beta



mongoDB

Online Data Translation?

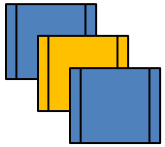
amazon web services™

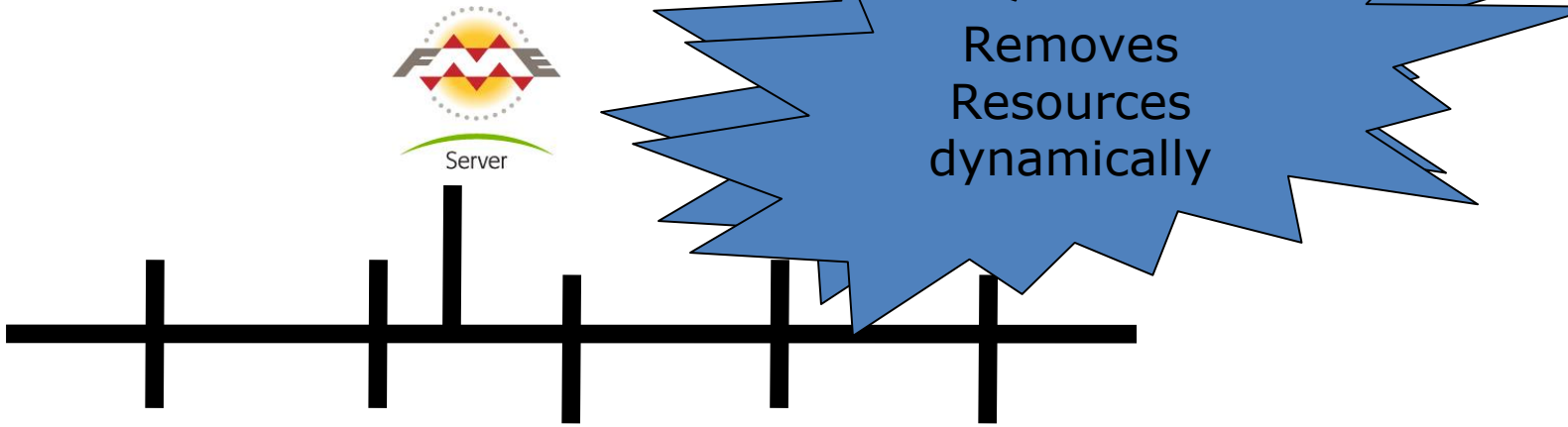
Moving From The Desktop To The Server...

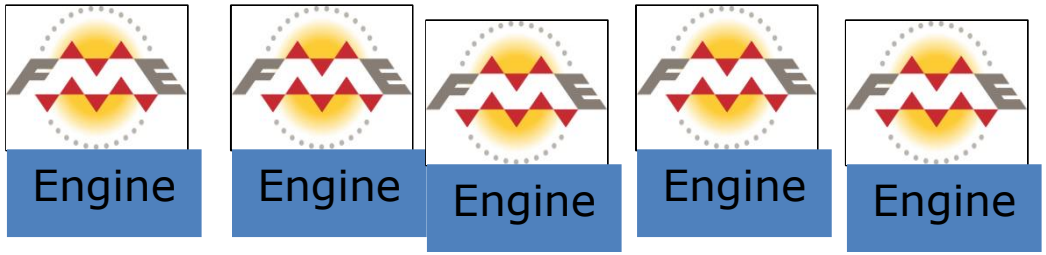
Desktop
Author and run
spatial ETL tasks

Server
Run and share
spatial ETL capabilities

...And To The Cloud...







But...

The More Things Change, The More Things Stay The Same

Format Usage Patterns

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READERS	WRITERS						
	GIS Vector	CAD	Raster	Spatial DB	Non-Spatial DB	Web	3D/BIM
GIS Vector	29.15%	7.14%	1.42%	4.29%	1.99%	2.05%	0.21%
CAD	12.30%	8.21%	0.50%	2.12%	0.62%	0.77%	0.13%
Raster	1.28%	0.35%	3.51%	0.23%	0.28%	0.20%	0.08%
Spatial DB	3.81%	1.09%	0.18%	5.42%	0.88%	0.27%	0.07%
Non-Spatial DB	2.63%	0.56%	0.28%	1.28%	3.96%	0.32%	0.05%
Web	1.17%	0.25%	0.09%	0.10%	0.07%	0.27%	0.02%
3D/BIM	0.10%	0.03%	0.03%	0.06%	0.02%	0.03%	0.09%

Why Is Using All This Data Important?

I MADE 120
DECISIONS TODAY...
ALL OF THEM WRONG.

Better Spatial
=
Better Decisions

"The world is getting tougher and we NEED TO SMARTEN UP."

- Ola Rollen
President and CEO
Hexagon

Obrigado

Contact

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- @DaleAtSafe

Achieve Total Spatial Data Mastery

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