

Surveying the Trends in Geospatial Data



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The View From the Great White North

Click to edit Master subtitle style

Dale Lutz, Co-founder, Safe Software





A full-page background image of Ronaldo in a yellow Brazil national football team jersey with green accents. He is wearing blue shorts with the number 9. He is pointing his right index finger upwards and has a joyful expression. The image is framed by a large, semi-transparent circular graphic.

Ronaldo

Esplosivo e inarrestabile

nikefootball.com 





INOVAÇÃO
O



A stylized map of North America, including Canada and the United States, is shown against a dark blue background. The map is divided into two main regions: the northern part, which is light gray and labeled 'GREAT WHITE NORTH', and the southern part, which is light pink. The text 'GREAT WHITE NORTH' is written in large, bold, red capital letters across the gray region. The map has a simple, hand-drawn style with black outlines for the continents and blue outlines for the surrounding oceans.

**GREAT
WHITE
NORTH**



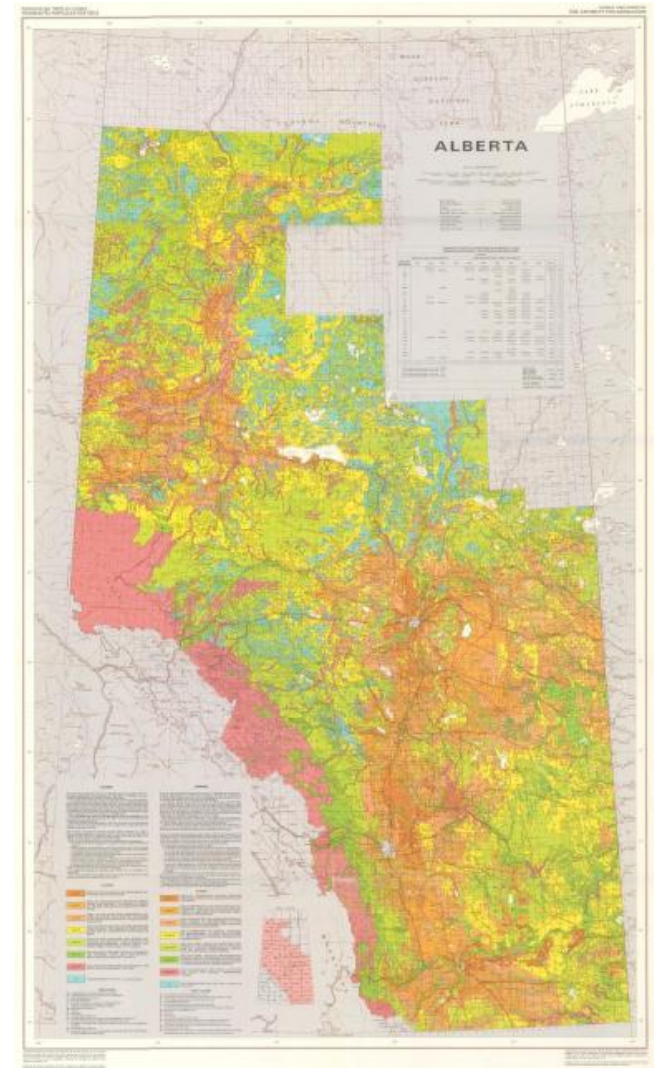
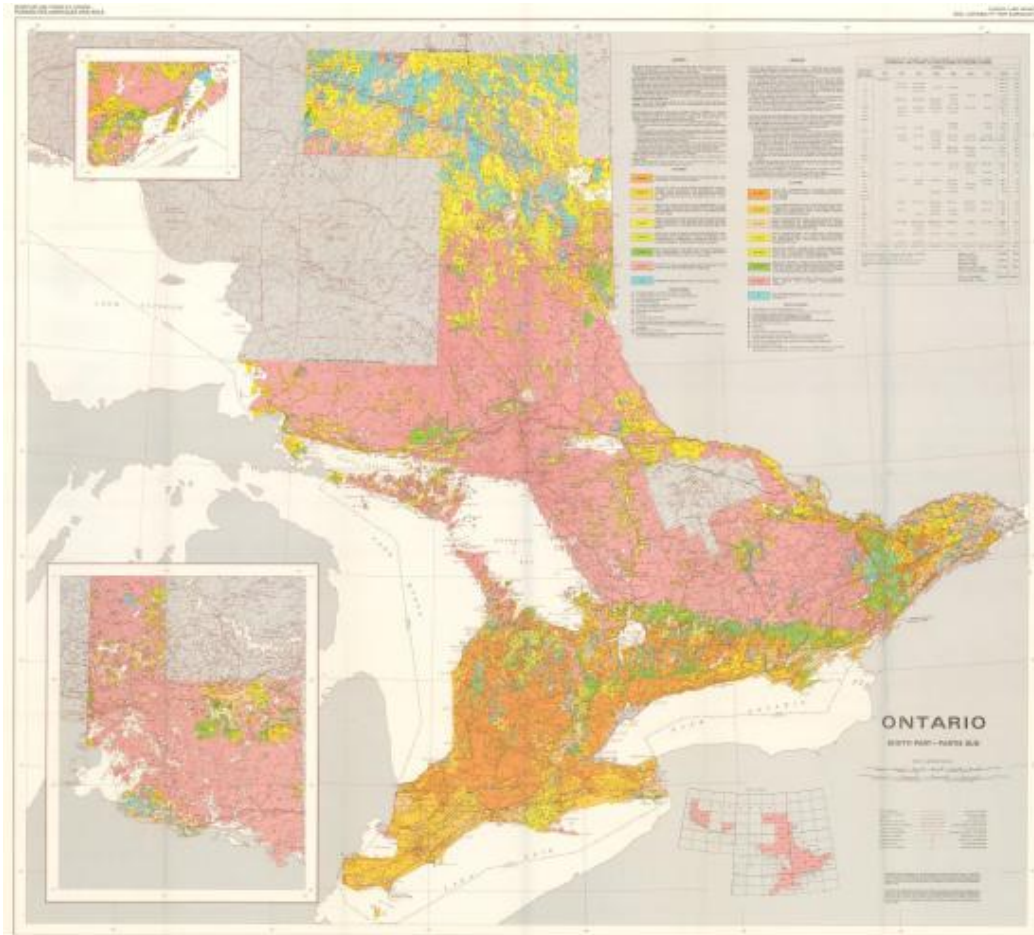


In the Beginning (60s/70s)....

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Canadian Land Inventory



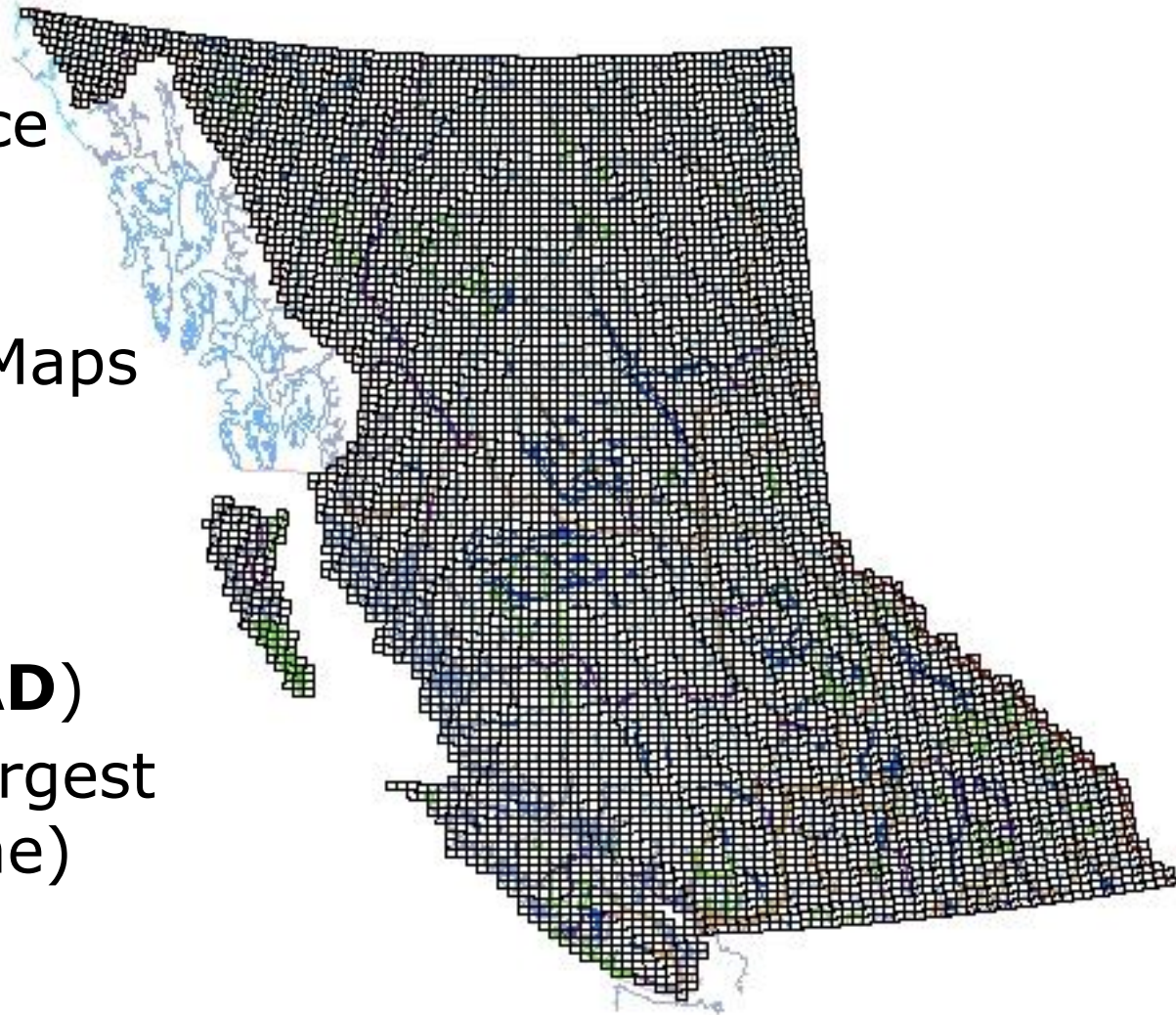
Source: Geoff Zeiss

In the Beginning (80s)....

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- 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....

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GIS



CAD

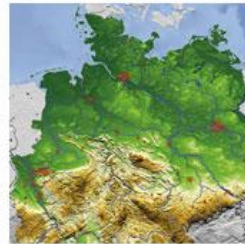


And On the Second Day...

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Raster



Rasters...

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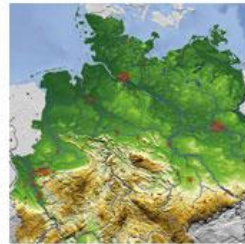


And On the Third Day...

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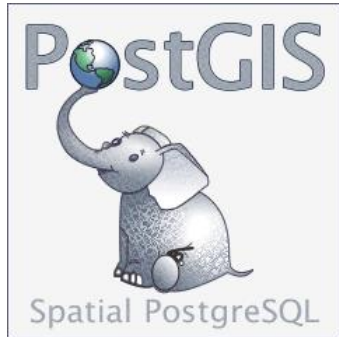


Databases



Databases...

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SMALLWORLD



NETEZZA



TERADATA
Raising Intelligence



Microsoft®
SQL Server® 2008

ORACLE®

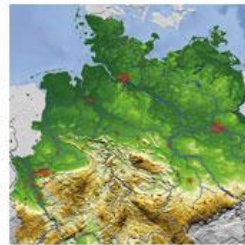


And On the Fourth Day...

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Web



Earthquake Visualization (GeoRSS -> KML)

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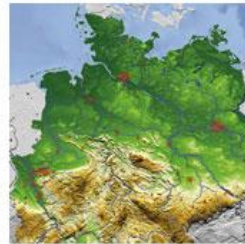
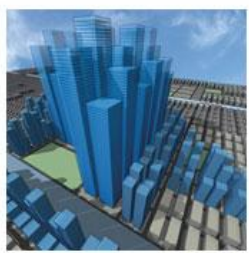
Image NASA
© 2008 Europa Technologies
© 2008 Tele Atlas

And On the Fifth Day...

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3D/BIM



Take This...

www.safe.com




And Specifically This...

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View 0



A 3D perspective view of a building complex. The buildings are rendered in a dark green color. One building, located in the lower-left quadrant of the view, is highlighted with a red rectangular selection box.

Feature: 1 of 1

Feature Type: Building

Coord Sys: _FME_0

Attribute Name	Attribute Value
AJOURHALLN	20070827
BYGGNADSID	00010000352850
BYGGNADSTY	1002
FANGSTMETO	2
fme_geometry	fme_polygon
fme_type	fme_area
HOJD_TAKFO	11.9
HOJD_TAKNO	14.9
OBJECTID	1001
Shape_area	662.8986885
SHAPE_GEOMETRY	shape_polygonz
Shape_len	109.5933535
shape_measures	NaN,NaN,NaN,NaN,NaN

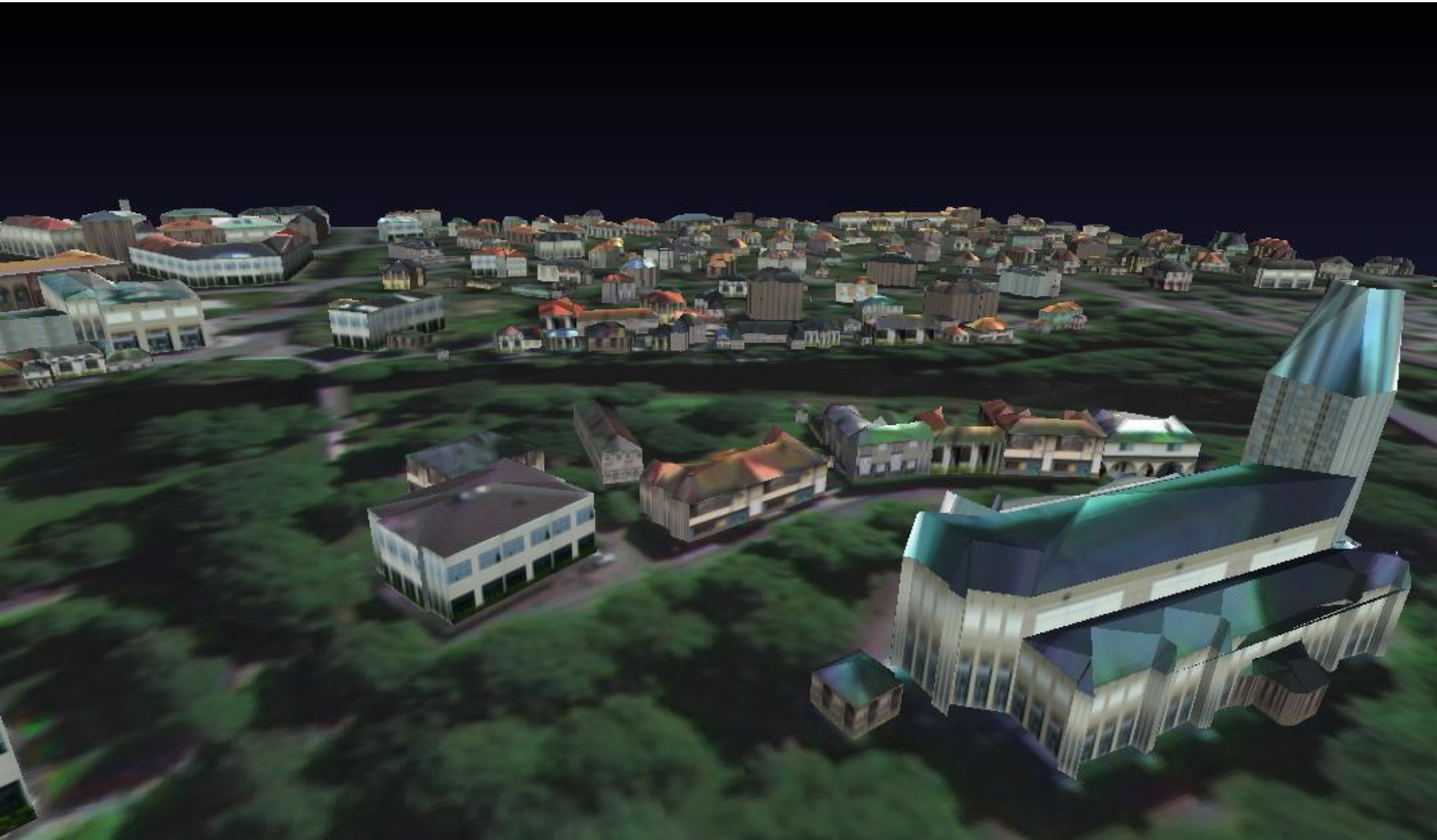
Coord Dimension: 3D
Total Number of Coords: 5
Bounding Cube:
Lower Left: (1572971.619,6729105.854)
Upper Right: (1573012.389,6729139.917)
Z Range: 0.0 to 0.0

Coordinate Listing:

```
-----  
1: (1572971.619, 6729121.557, 0.0)  
2: (1573003.381, 6729139.917, 0.0)  
3: (1573012.389, 6729124.308, 0.0)
```

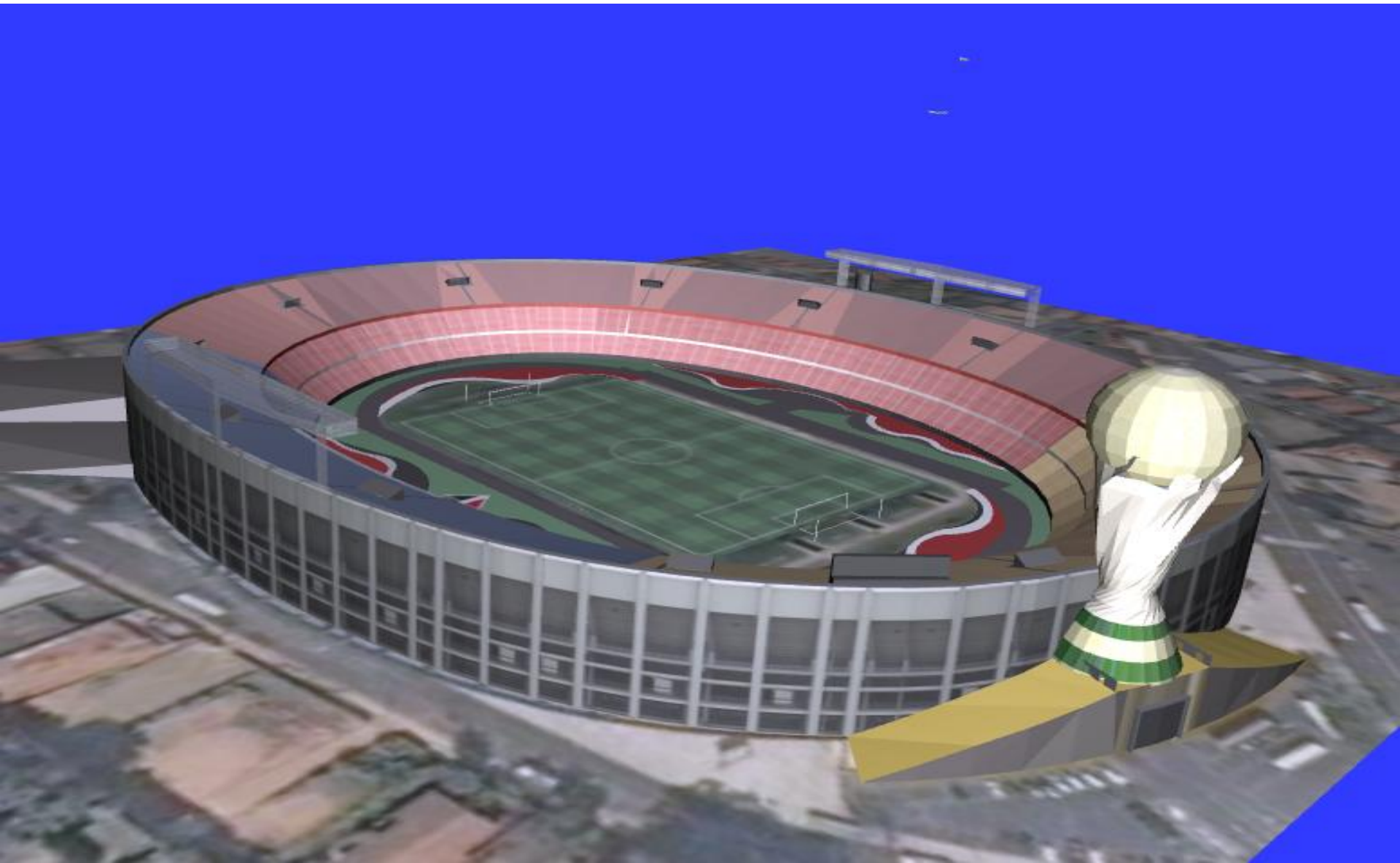

...And Make This...

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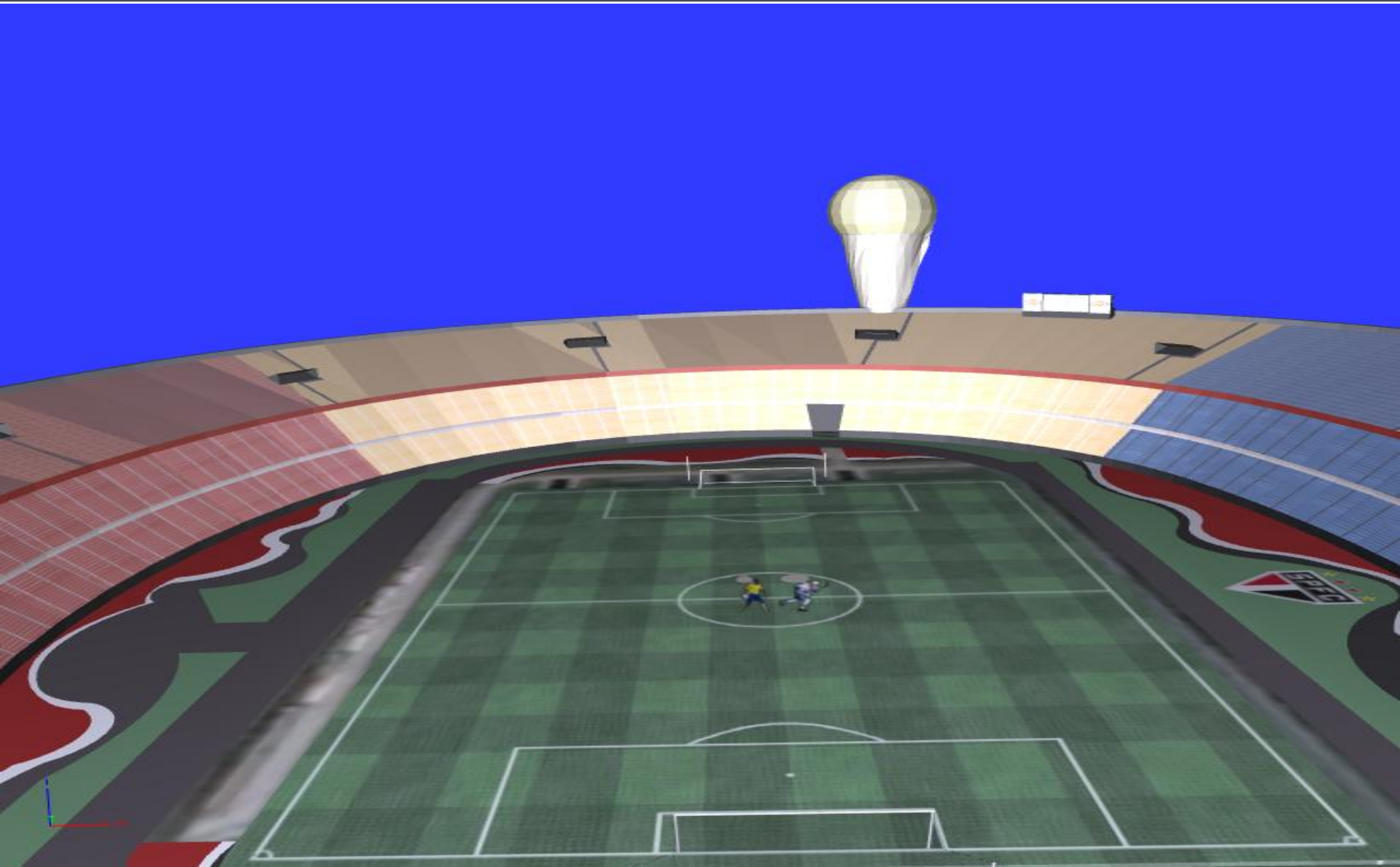
...Or This...

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...And Even This...

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...And Even This...

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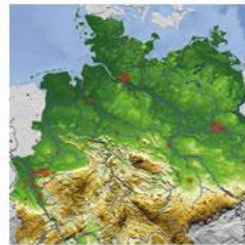
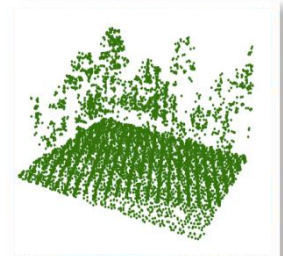
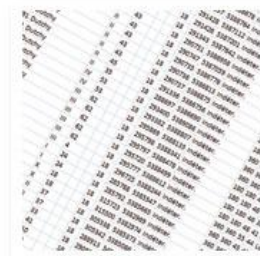
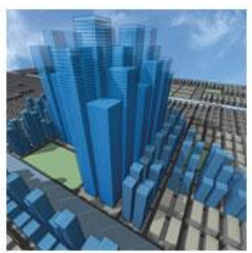


And On the Sixth Day...

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Point Clouds



**Inexpensive, Accurate,
Voluminous**

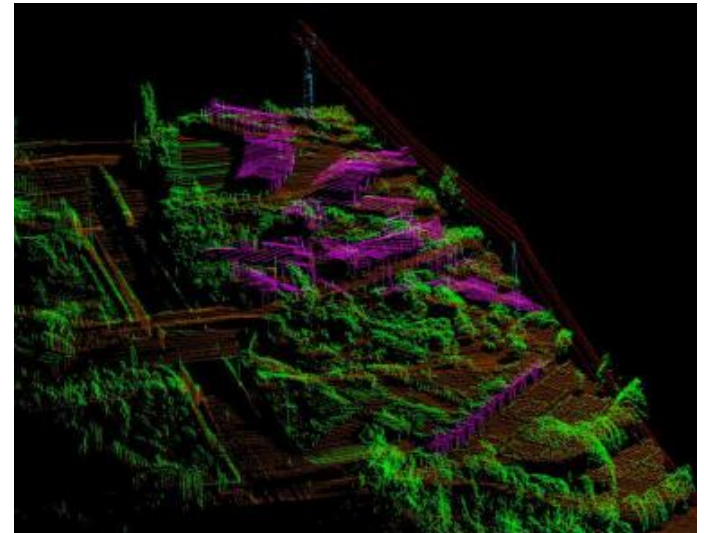
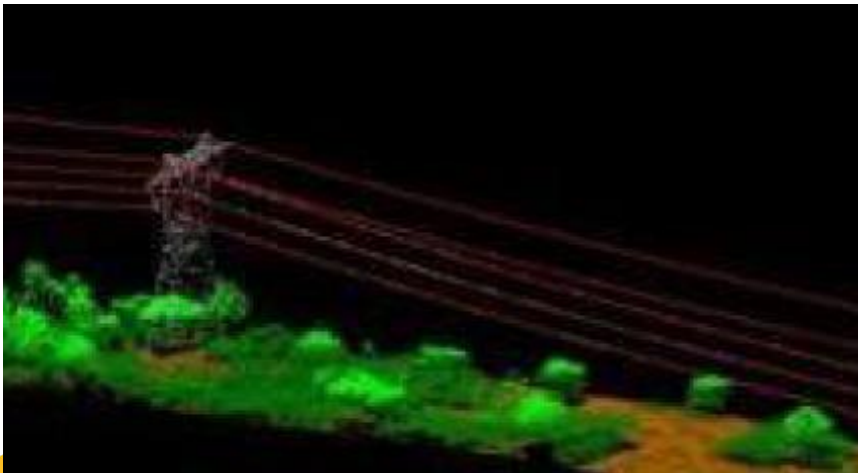
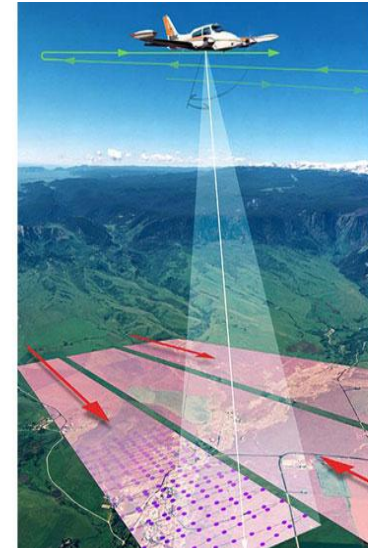
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LIDAR

Inexpensive, Accurate, Voluminous

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TopCon Sample File

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TopCon Sample File

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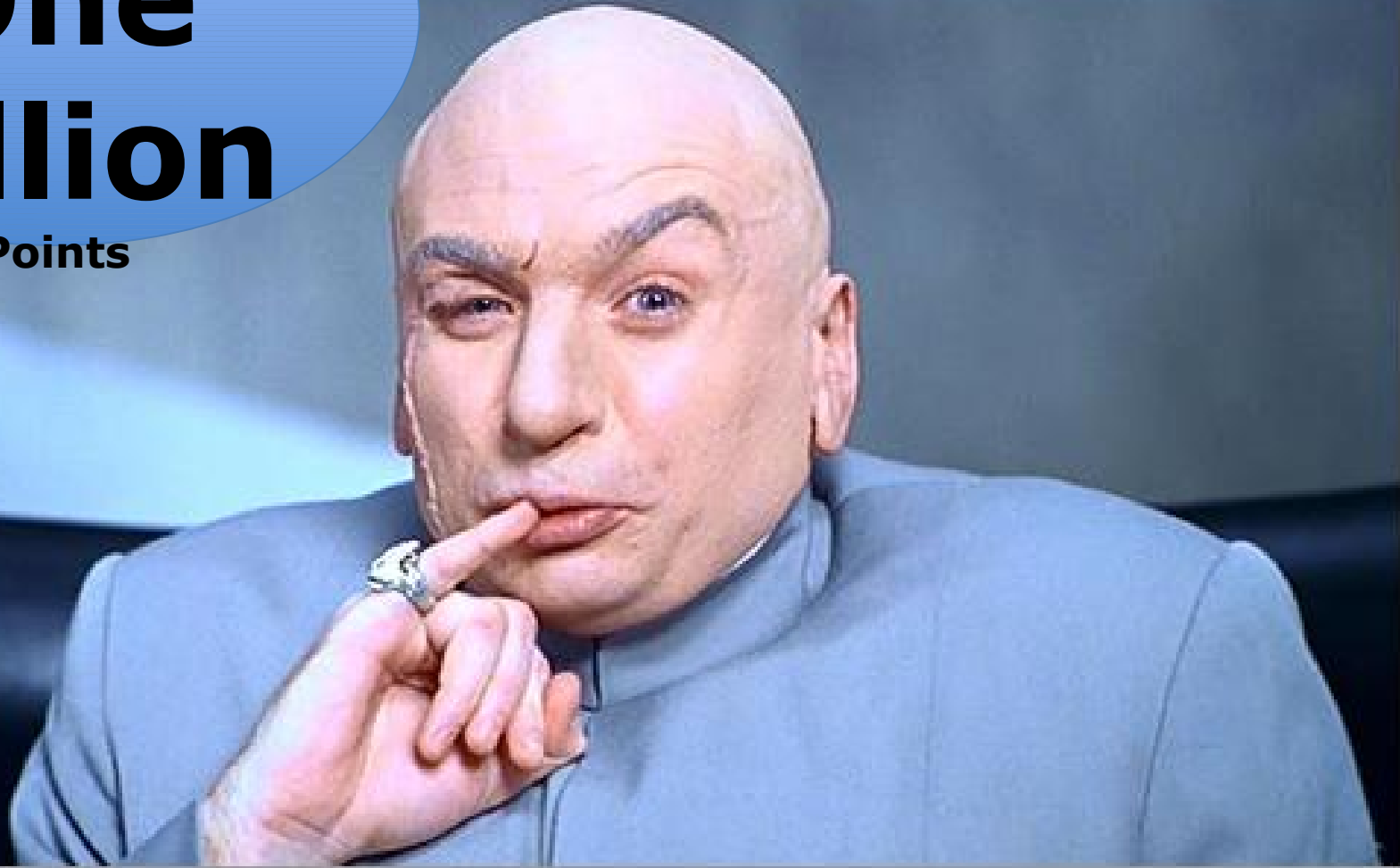


Huge Data Volumes

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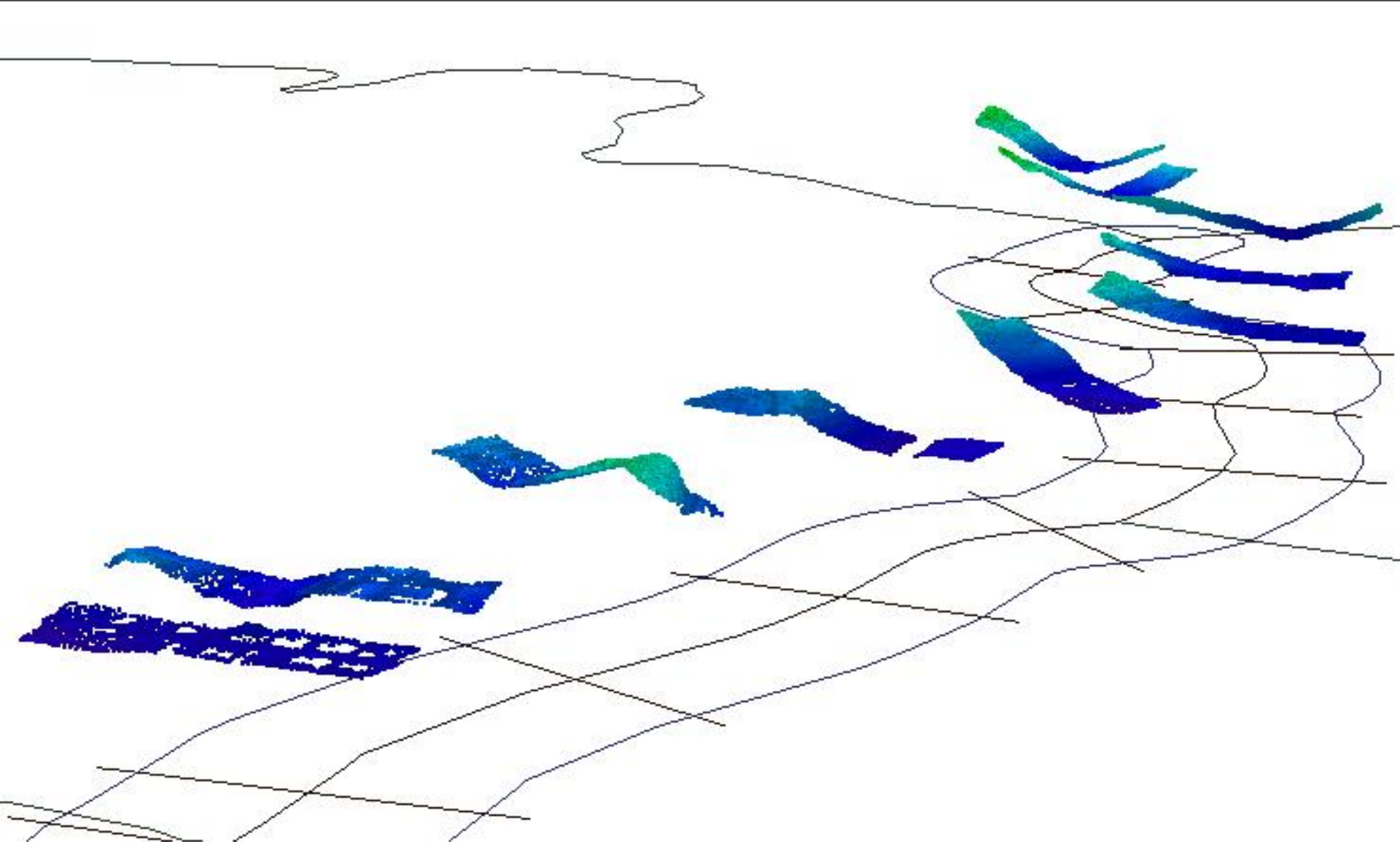


Over
**One
Billion**
Points



Slice To Reduce Volumes...

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**After
6
Days...**

...An Explosion of Formats

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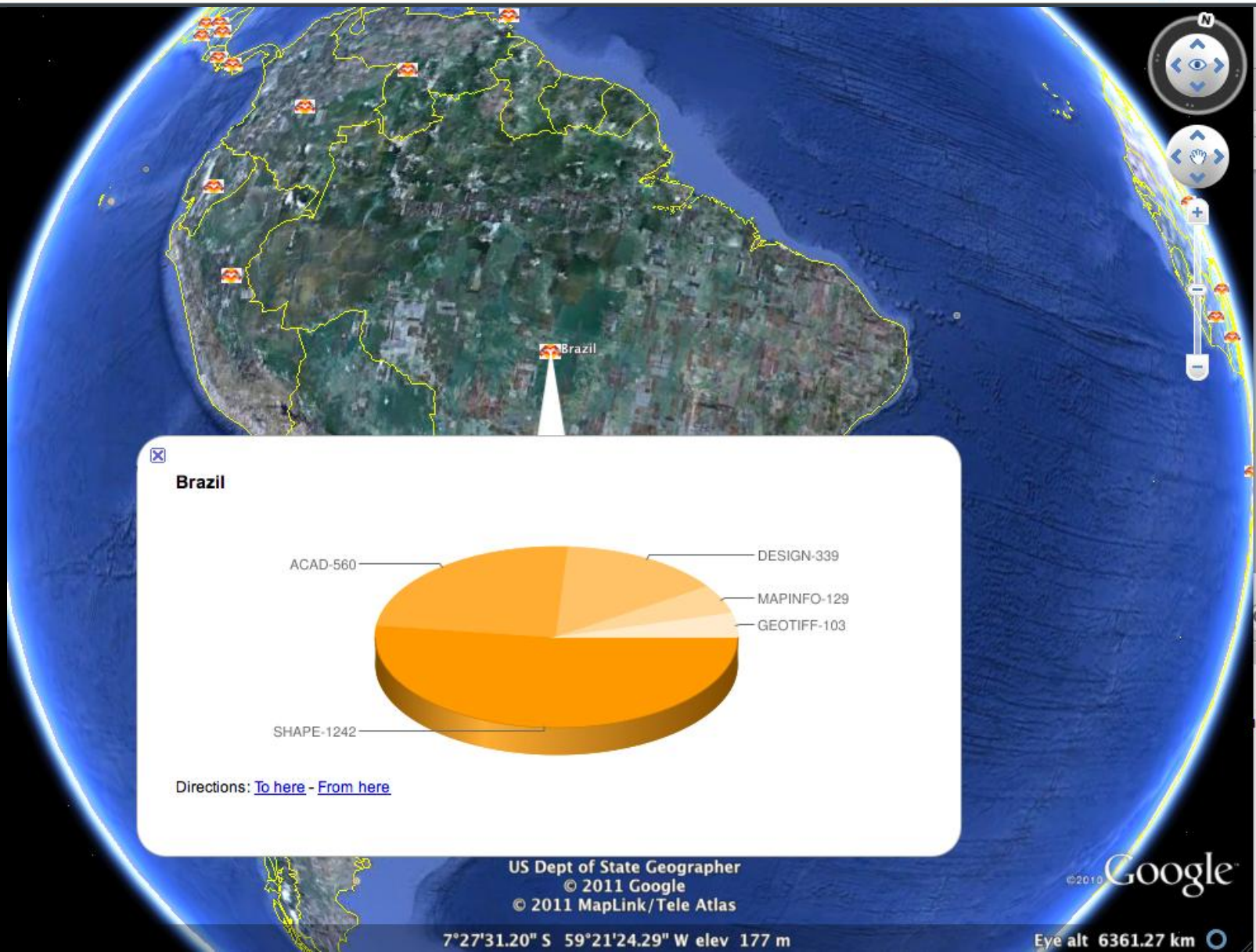


FME Formats by
Release



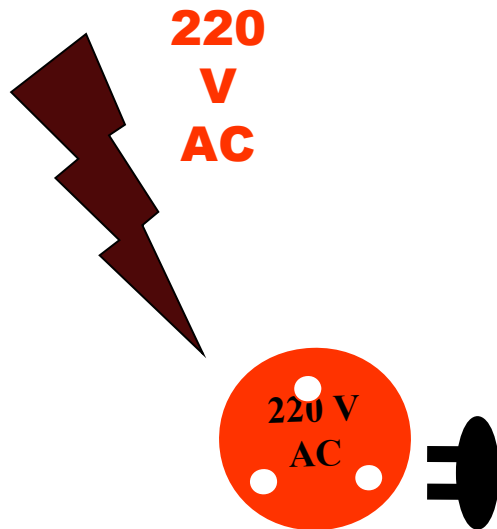
Top Formats By Country

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Spatial ETL: Solves the Format & Data Model Barrier

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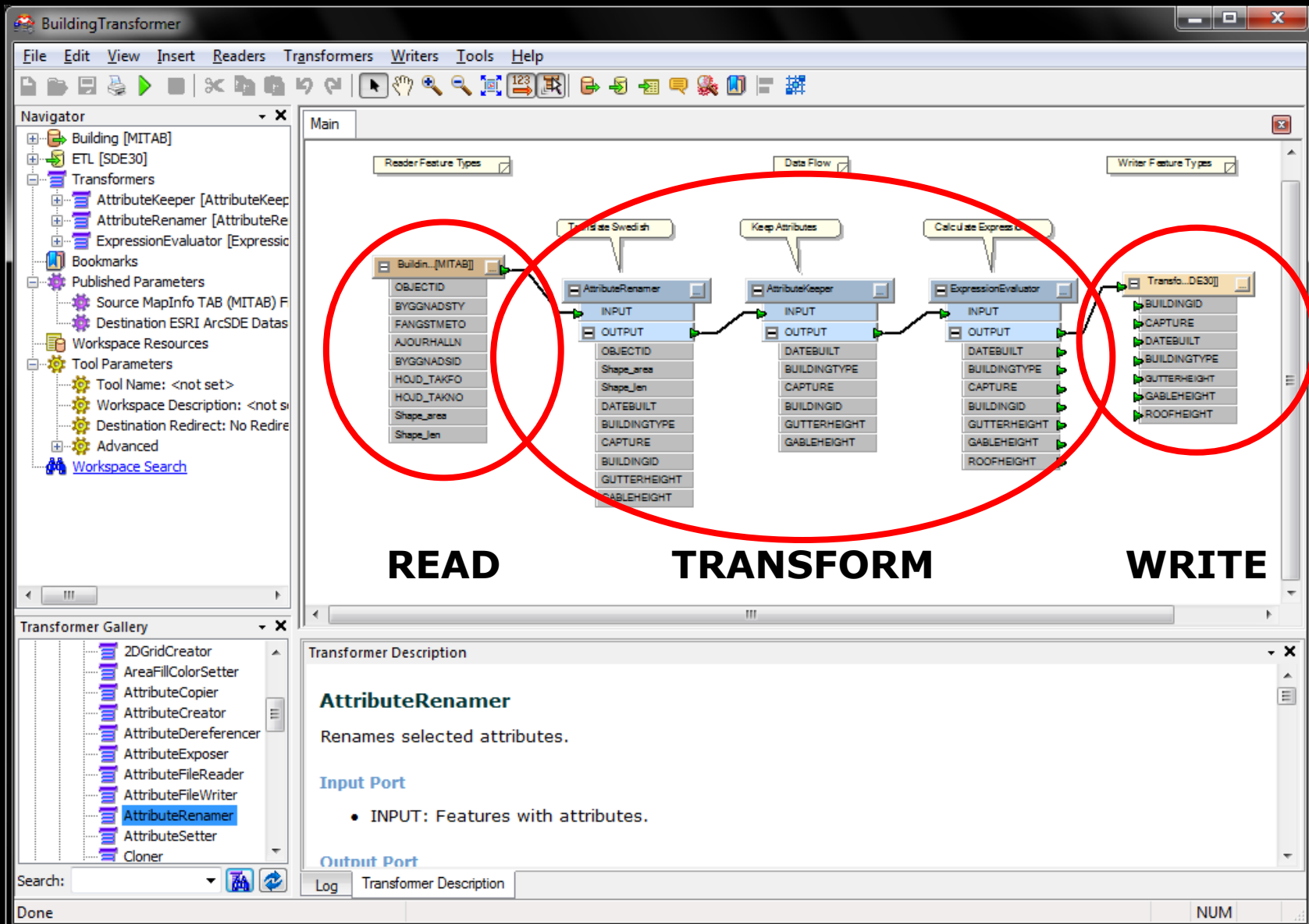
INTEROPERABILITY TOOL

220 V ~ 110
V
CONVERT
ER



Spatial ETL: Solves the Format & Data Model Barrier

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**And On
The
7th
Day...**



Geotagg ed Videos?



And On the Seventh Day?

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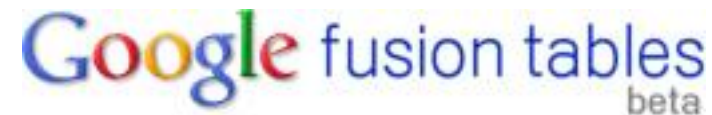


And On the Seventh Day?

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Cloud Forma



mongoDB





amazon
web services™

Moving From The Desktop To The Server...

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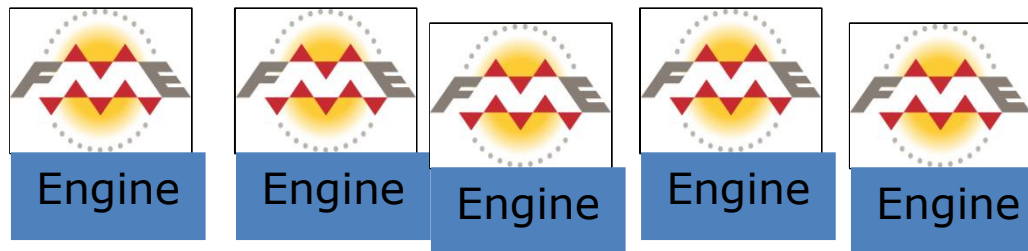
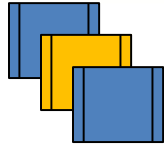
Desktop
Author and run
spatial ETL tasks



Server
Run and share
spatial ETL capabilities

...And To The Cloud...

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But...

**The More Things
Change,
The More Things
Stay The Same**

Format Usage Patterns

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		WRITERS						
		GIS Vector	CAD	Raster	Spatial DB	Non-Spatial DB	Web	3D/BIM
READERS	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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- <http://www.safe.com>
- <http://fmepedia.com>
- <http://blog.safe.com>
- dale.lutz@safe.com
-  @DaleAtSafe





Achieve Total Spatial Data Mastery



SAFE SOFTWARE