5th High Level Forum on United Nations Global Geospatial Information Management.

Geospatial Innovations for Smart Cities: Managing Solar Energy

Innovación tecnológica en defensa y seguridad
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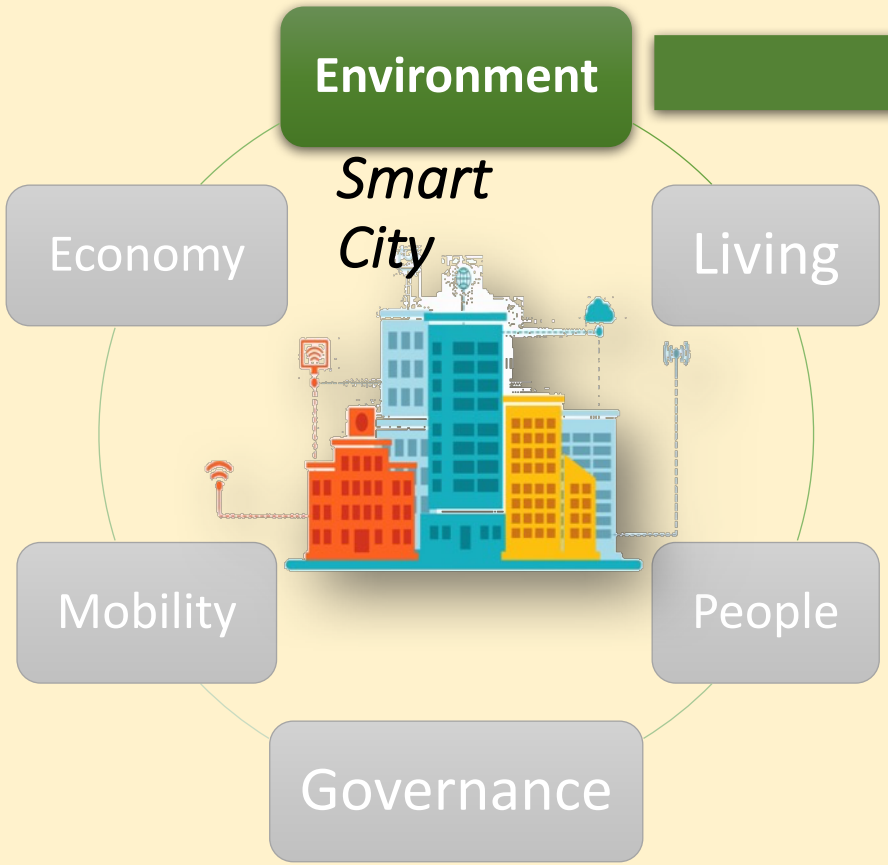
Agenda

- Smart Environment
- Solar Energy Management
- Geospatial Solution
- Case Study
- Proof of Concept
- Acknowledgement

Smart Environment



- **Buildings** are responsible of 40% of carbon emissions in the cities.
- **Promoting** Green Buildings and Renewable Energy is priority for Smart Cities.
- **Solar** Water Heating Systems promote reduction of CO_2 emissions.

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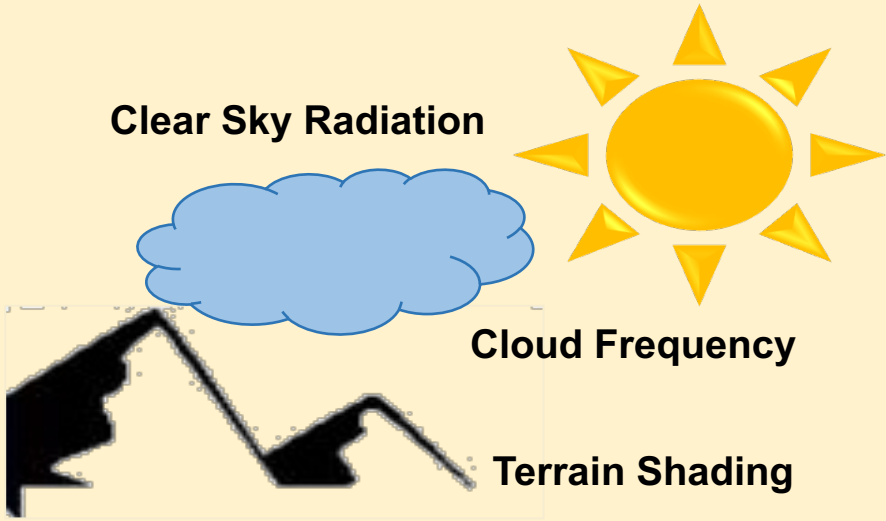
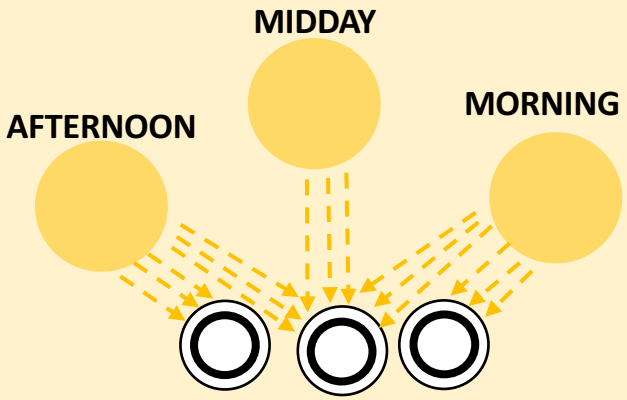
Solar Energy Management

- **Solar** energy generation is a spatially related task.
- **Potential** locations are in function of the latitude, altitude, slope, orientation and shaded.





- **Geospatial** solutions can improve decision support for the installation of Solar Water Heating Systems (Verma, 2013).
- **Real time** connection to weather data and services can help to calculate their performance.

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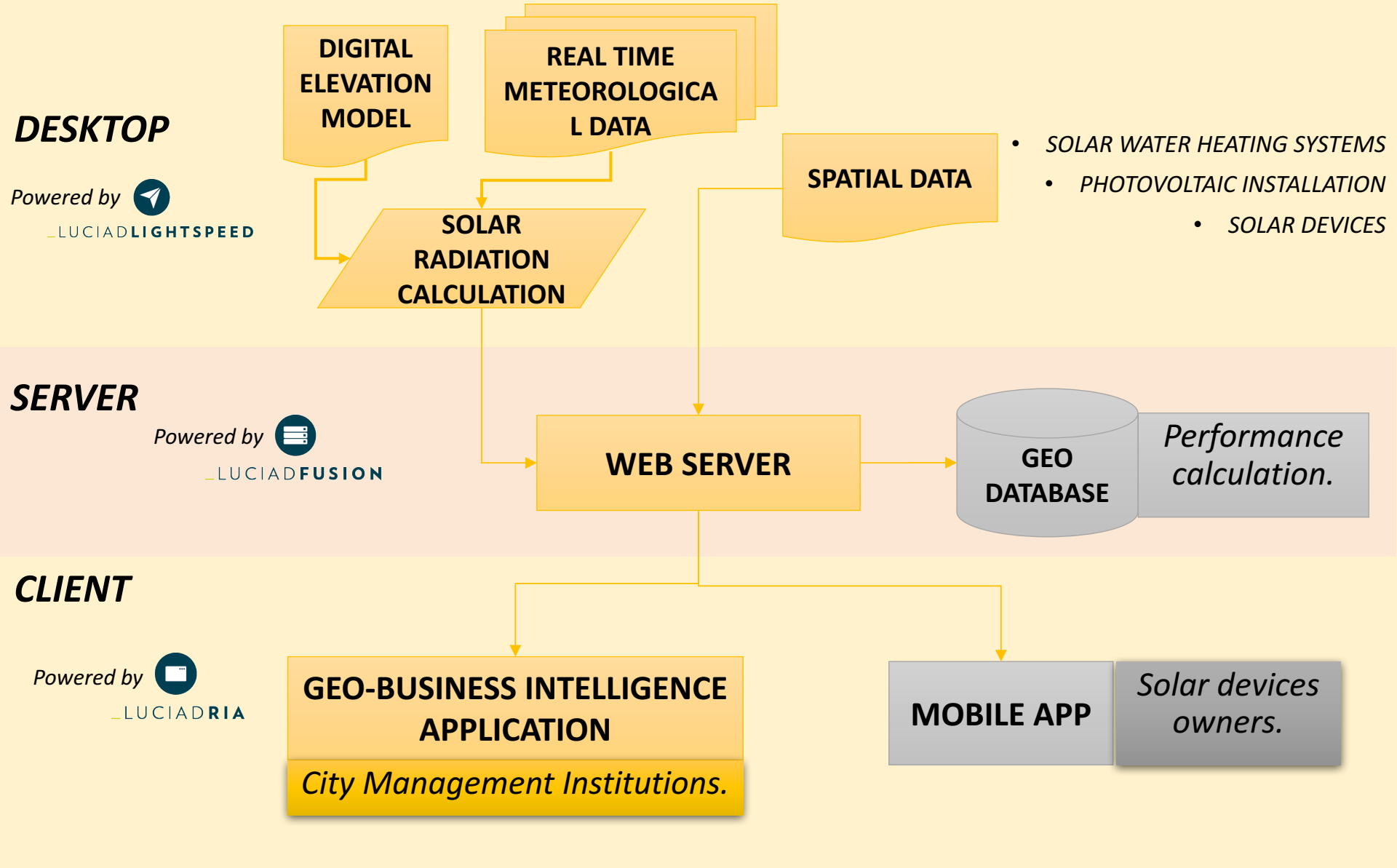
Geospatial Solution



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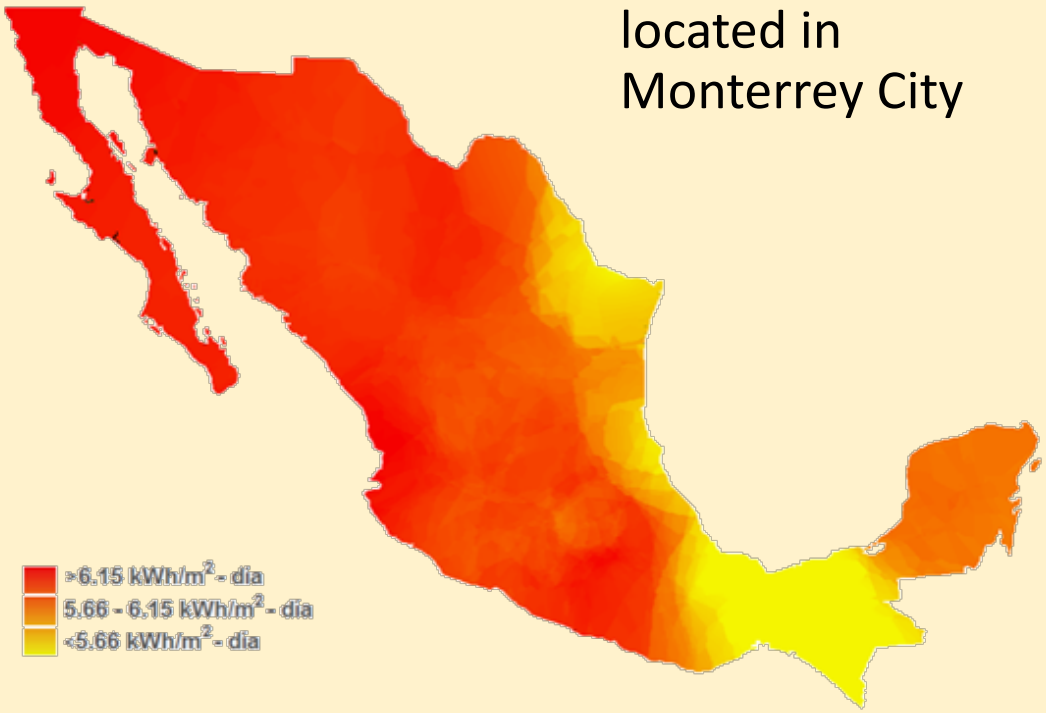
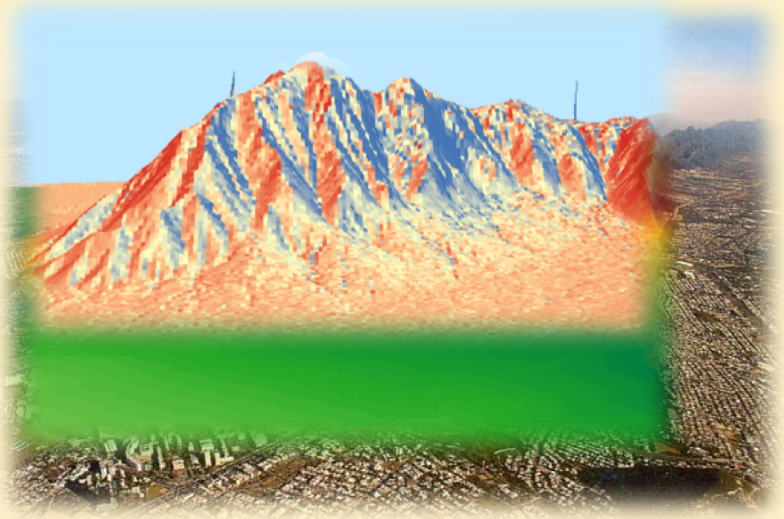
Case Study

- **Mexico** has a good geographic location for solar radiation.



- **Case study** is located in Monterrey City



Input data

- **Points** of Solar Water Heating Systems.
- **Polygons** of city blocks with building maximum height.
- **LiDAR** Digital Surface Model of Monterrey City.

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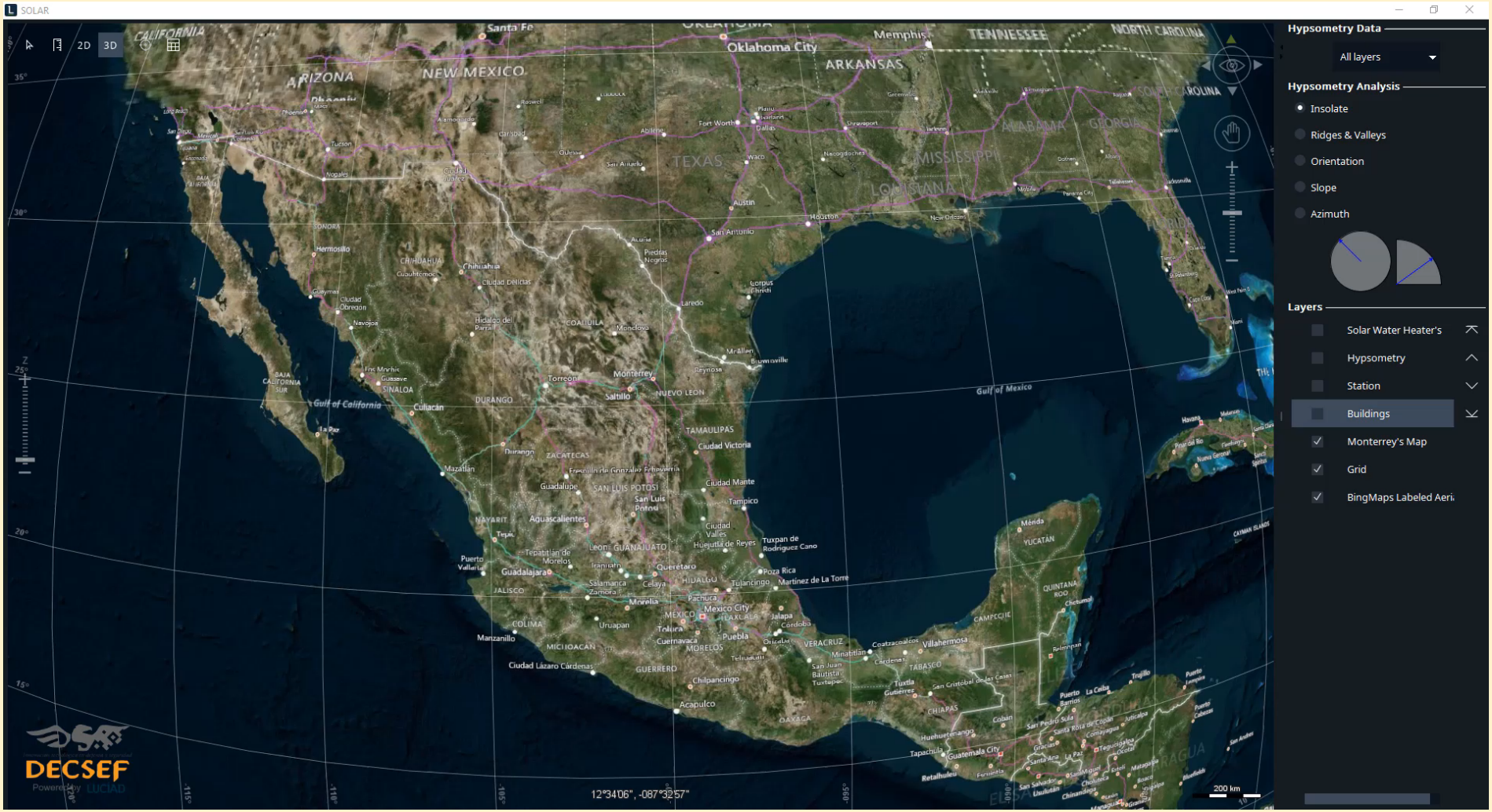
Proof of Concept



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Thank you