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# THE USE OF MULTIPLE METHODS TO MAP THE OLD CITY OF JERUSALEM AND IT'S USE AS A FOUNDATION FOR A SMART CITY

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# Firas Fahoum

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- Certified Land Surveyor, MOI
- CTO - Galilee Surveyors Ltd
- Geo location consultant in various construction sites
- Experienced GIS-BIM integration advocate
- contributor for many Geospatial world communities



# Overview

- Challenges in planning city scale mapping
- VRS networks and their use
- Alternatives and uses
- Challenges during execution
- Accuracies & results
- Costs & alternatives
- About Smart cities and key factors
- Geo spatial data in Smart cities
- Longevity of relevance of data
- Key Takeaways
- Conclusion and takeaway



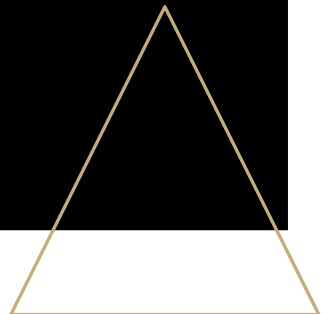
What makes the old city of Jerusalem one of the hardest mapping areas on earth?



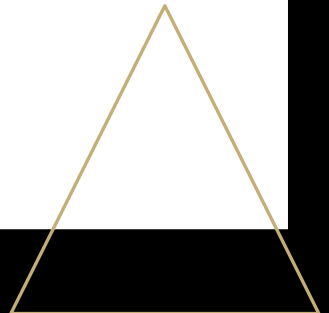
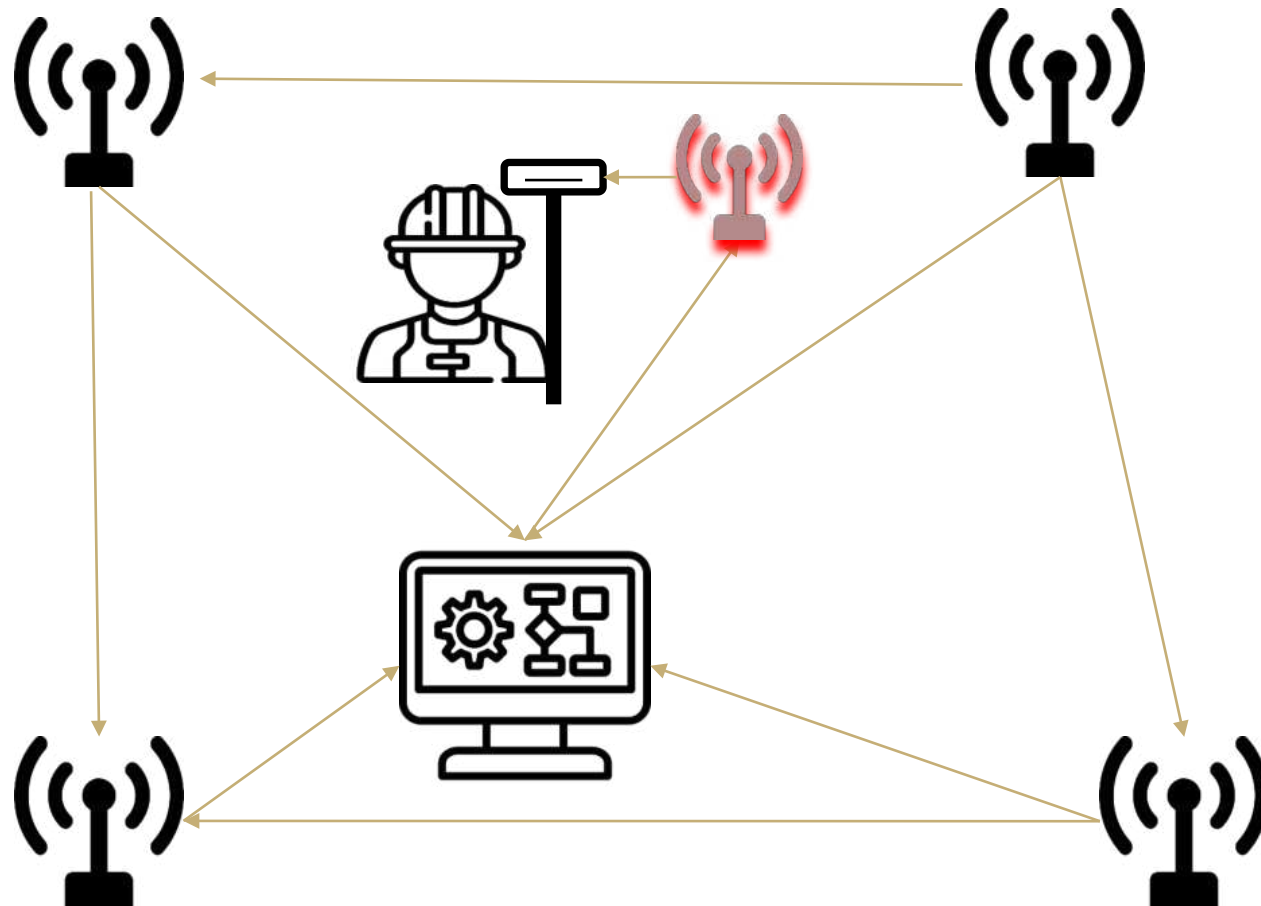


# The VRS Networks

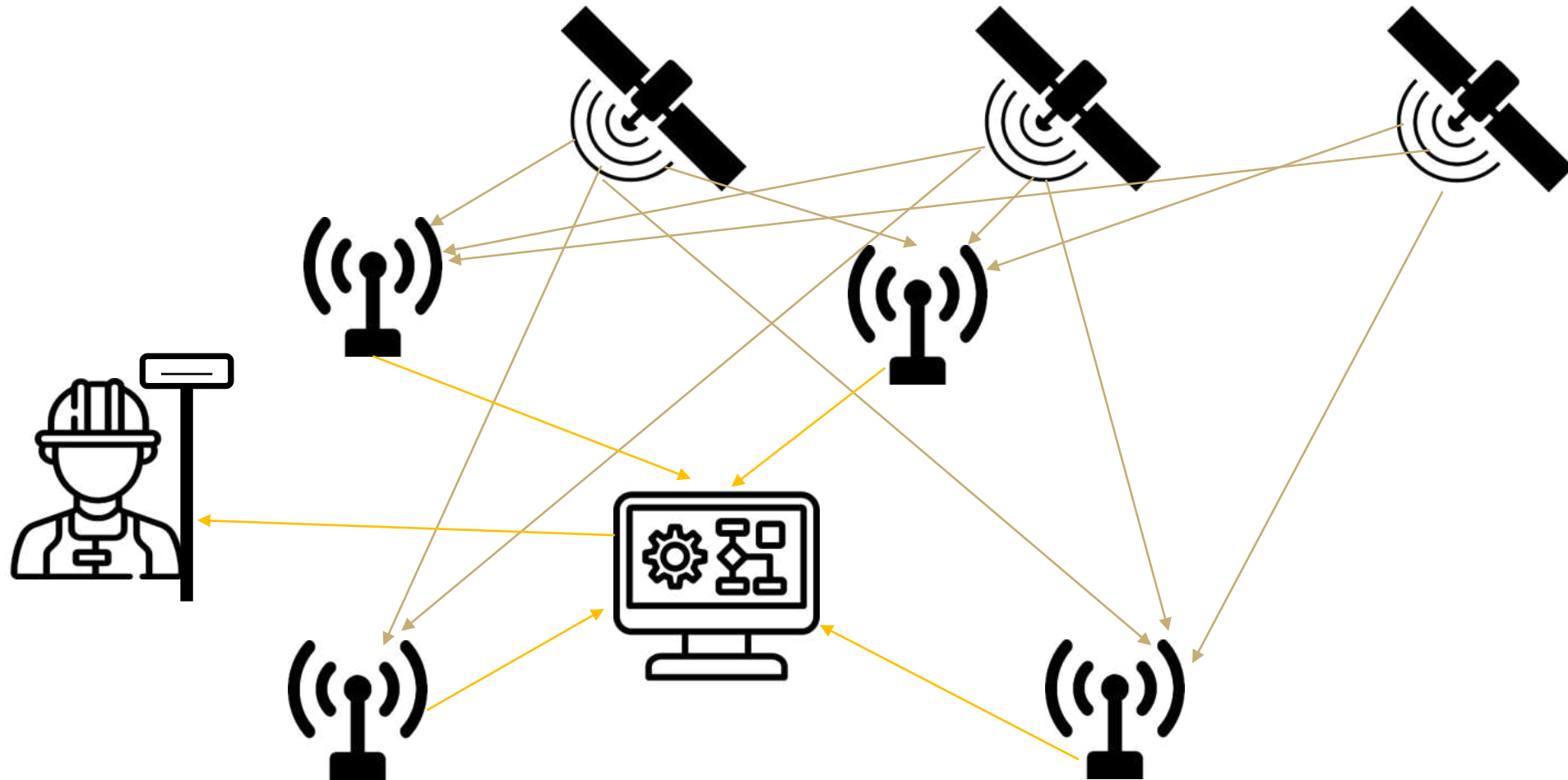
- How do you define your subject?
- What is it all about?
- Make sure your audience has a shared understanding of your subject matter.



# VRS NETWORK METHODOLOGY



# VRS NETWORK METHODOLOGY







# ALTERNATIVES?

## VRS BASED SOLUTION



Land RTK

Drones

Mobile MAPPER

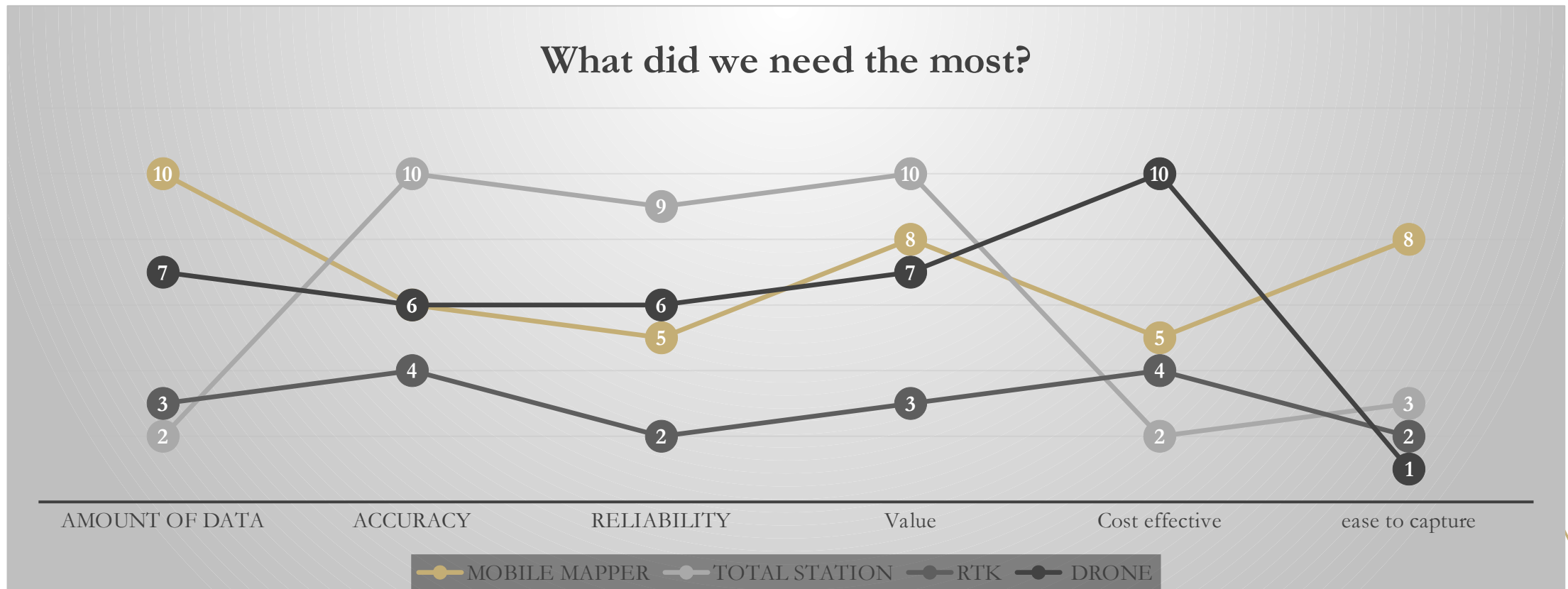
## NOT VRS BASED



TOTAL/MULTI STATION

LASER SCANNER

# RESULTS & FINDINGS





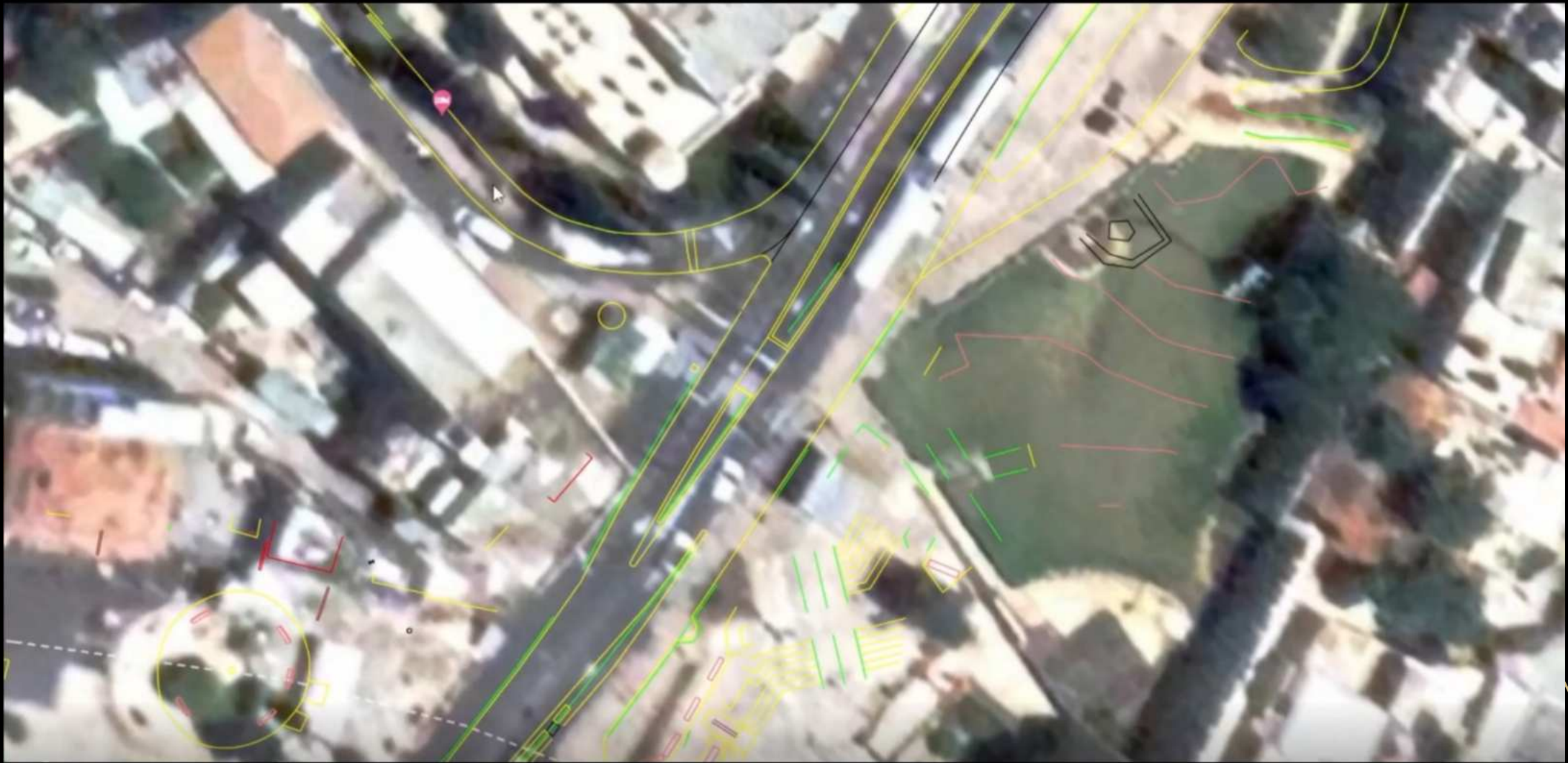
Accurate 3d point  
clouds & smart cities.



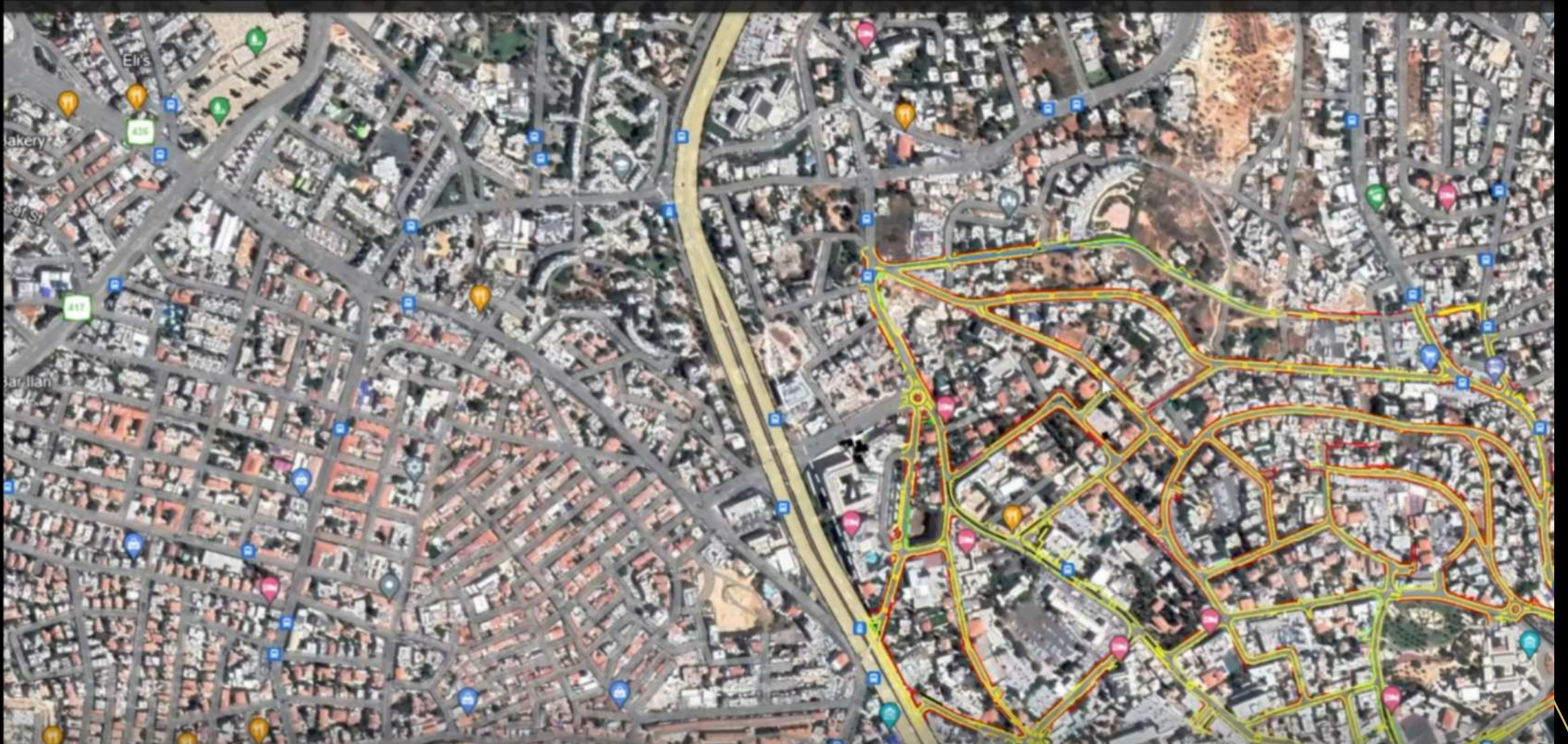
A foundation for a  
digital twin!

A city scale  
accurate GIS  
data

NABLUS RD



# HATEM A-TAWI St



# ALI IBN ABU TALEB St



# HA-NEVI'IM St



# Common autonomous live Data for smart cities



Electricity



Parking Spots



Traffic Data

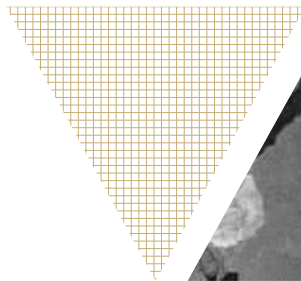


Smart city trash bins



# Summery

- The project should provides 500+ parking spots for local businesses
- Accessibility
- Increase the value of properties
- Foundation for future planning



# Thank You



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