



**TNO** Science and Innovation  
at the Front Line

## Virtual Mission and Training Areas at the Dutch Land Training Centre

*Interoperable by Design*

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and Safety

**READY FOR NEXT MISSION**

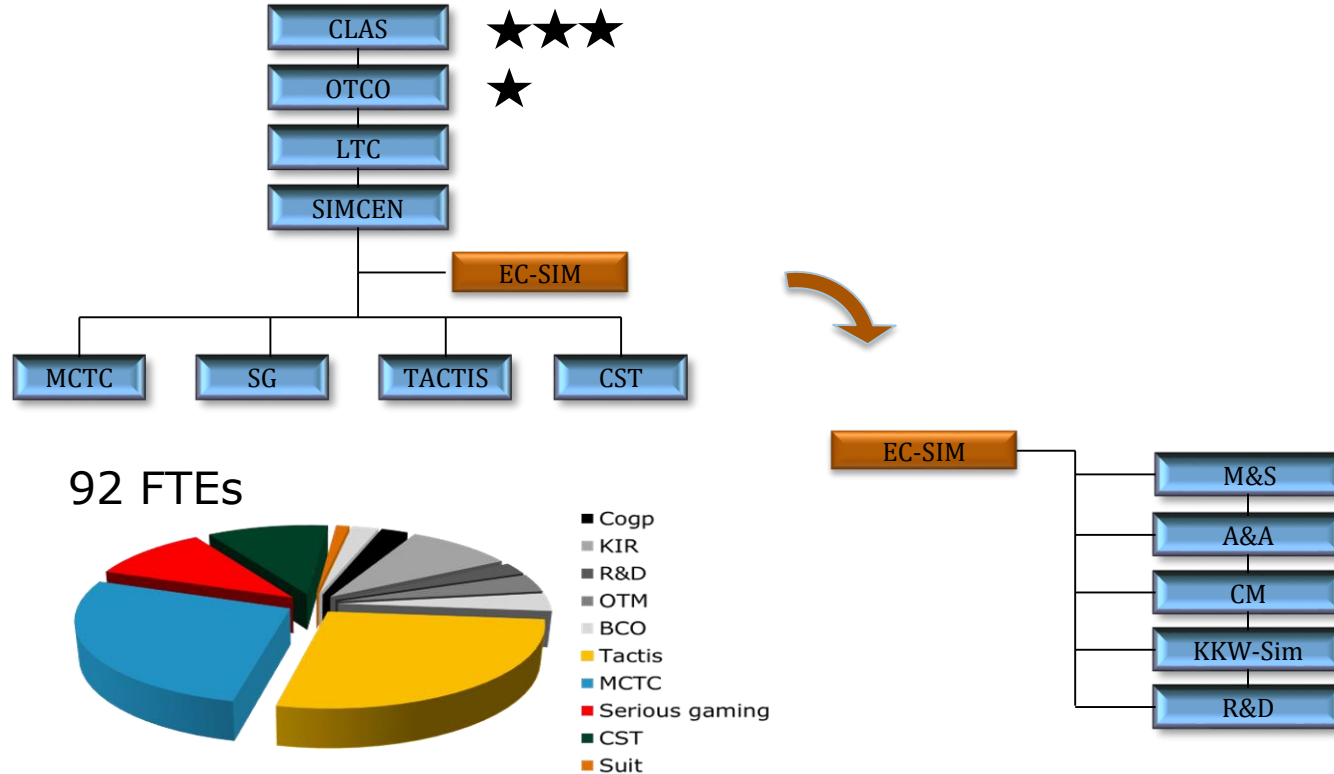
ITEC, Stockholm, mei 2019



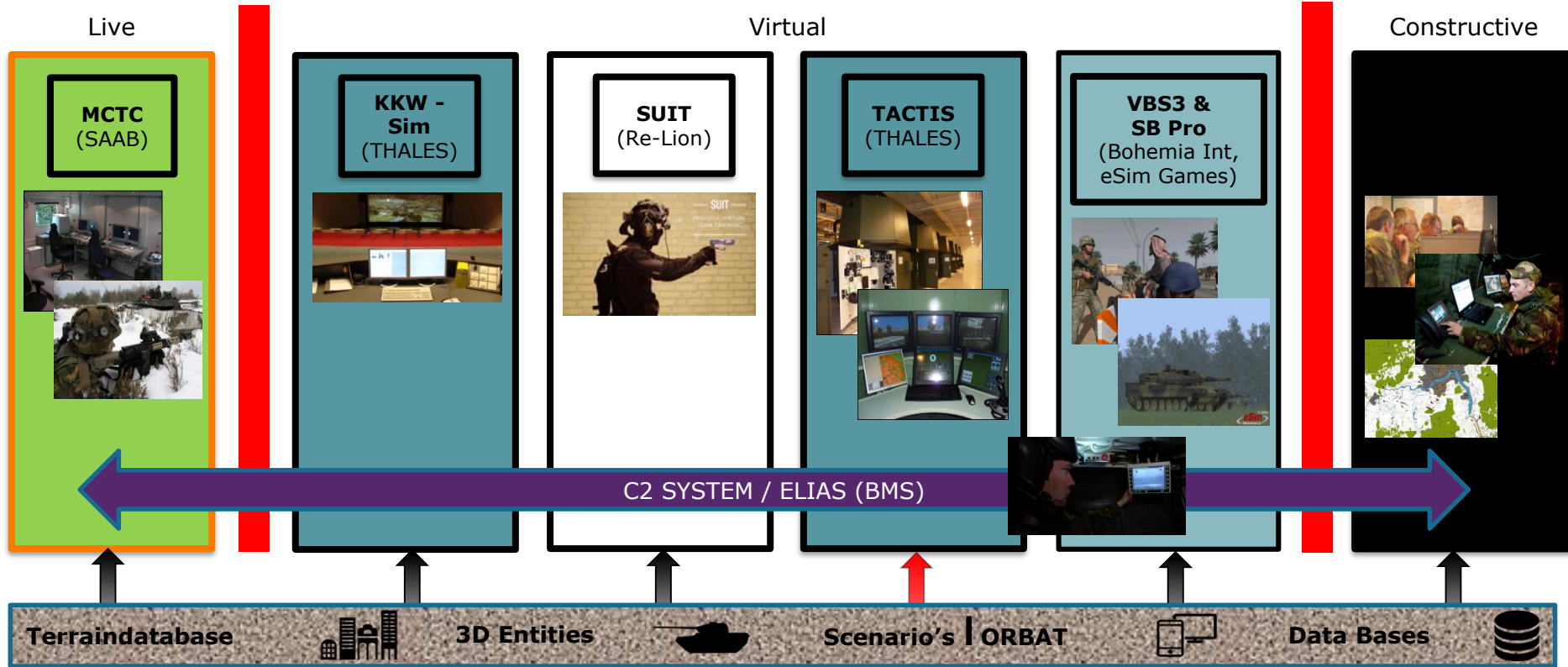
## Mission Simulation Centre Land Warfare

- Support our troops by improving the quality of their education and training
- Support our commanders by improving the quality of their decision-making (process)
- Contribute to the acquisition of new materiel and the development of new concepts
- Subject matter expert for knowledge and innovation for simulation

# Organization RNLA



# Simulation suite







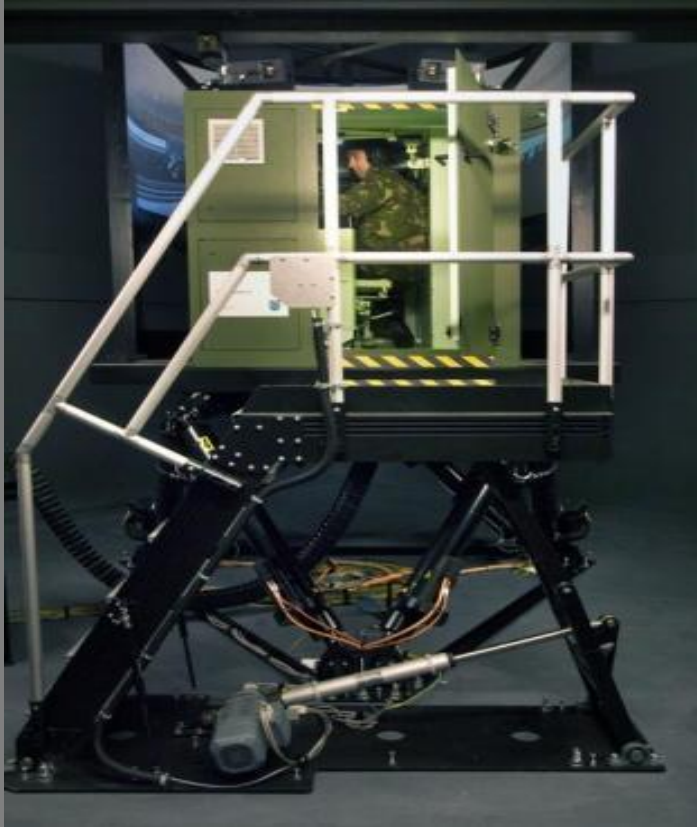


# Small Unit Immersive Trainer (SUIT)



Level 2









# Tactical Indoor Simulator (Tactis)



Level 1-4



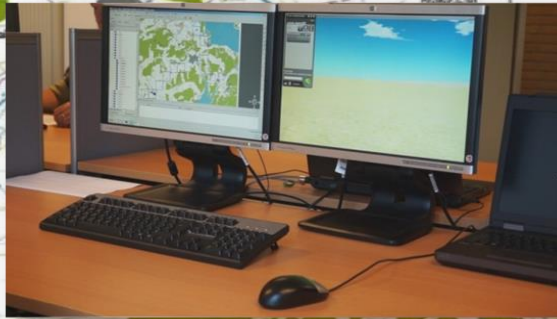
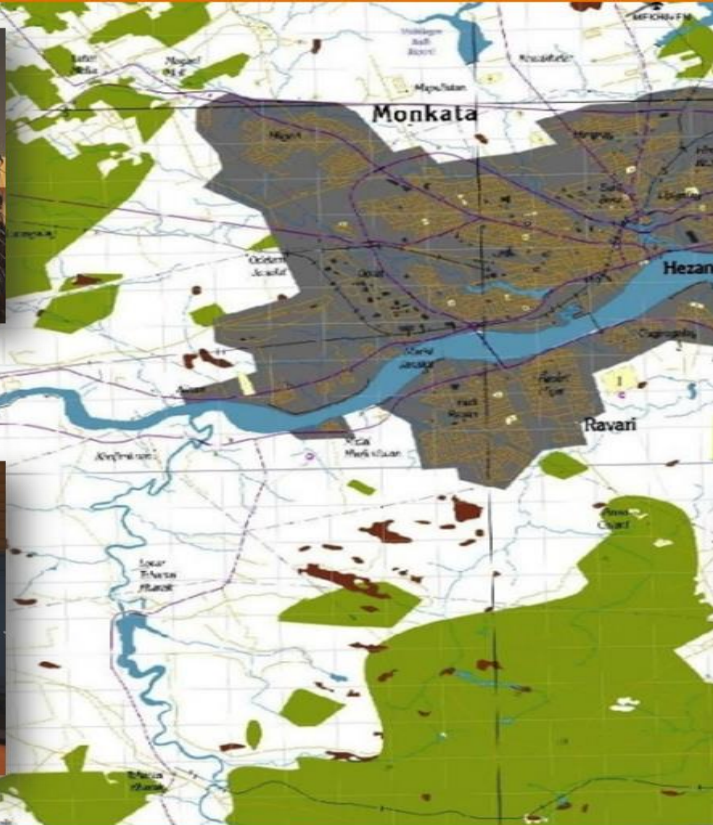




# Command and Staff Trainer (CST)

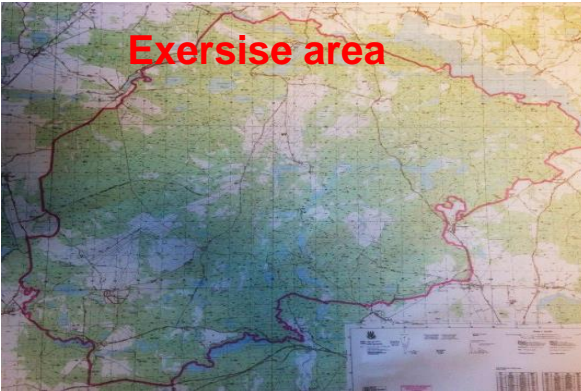


Level 5-6





# Train as you fight Train where you fight





*"How do we get all these systems into virtual mission and training areas..."*



## Needs and bottlenecks

### Simulation users

- all have their specific requirements for scenario and terrain
- have a tendency to put forward their requirements last-minute

### Simulation centre needs to

- react quickly and adequate to user needs
- realize short turn-around times of terrain generation

*"For purpose, on time"*



## Needs and bottlenecks

Limited resources

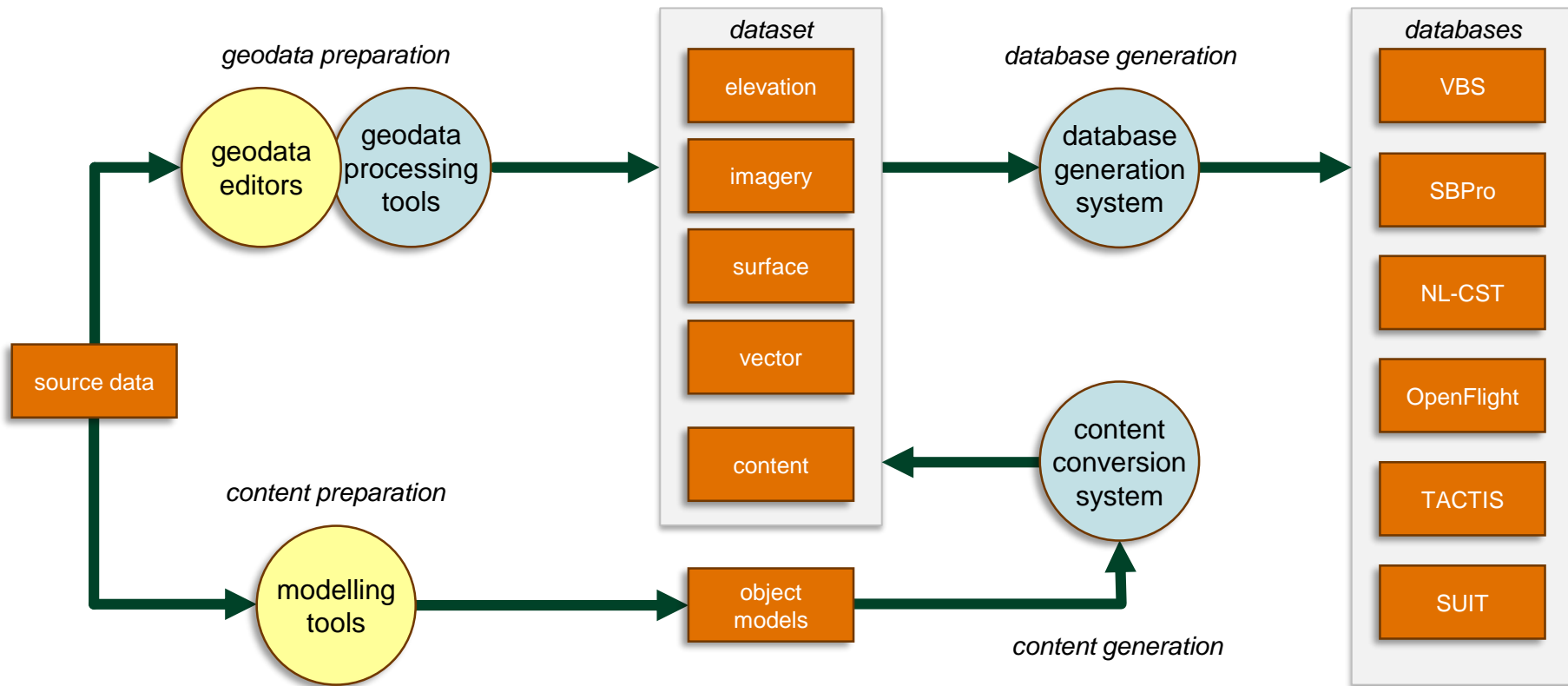
- personnel capacity
- restricted budgets

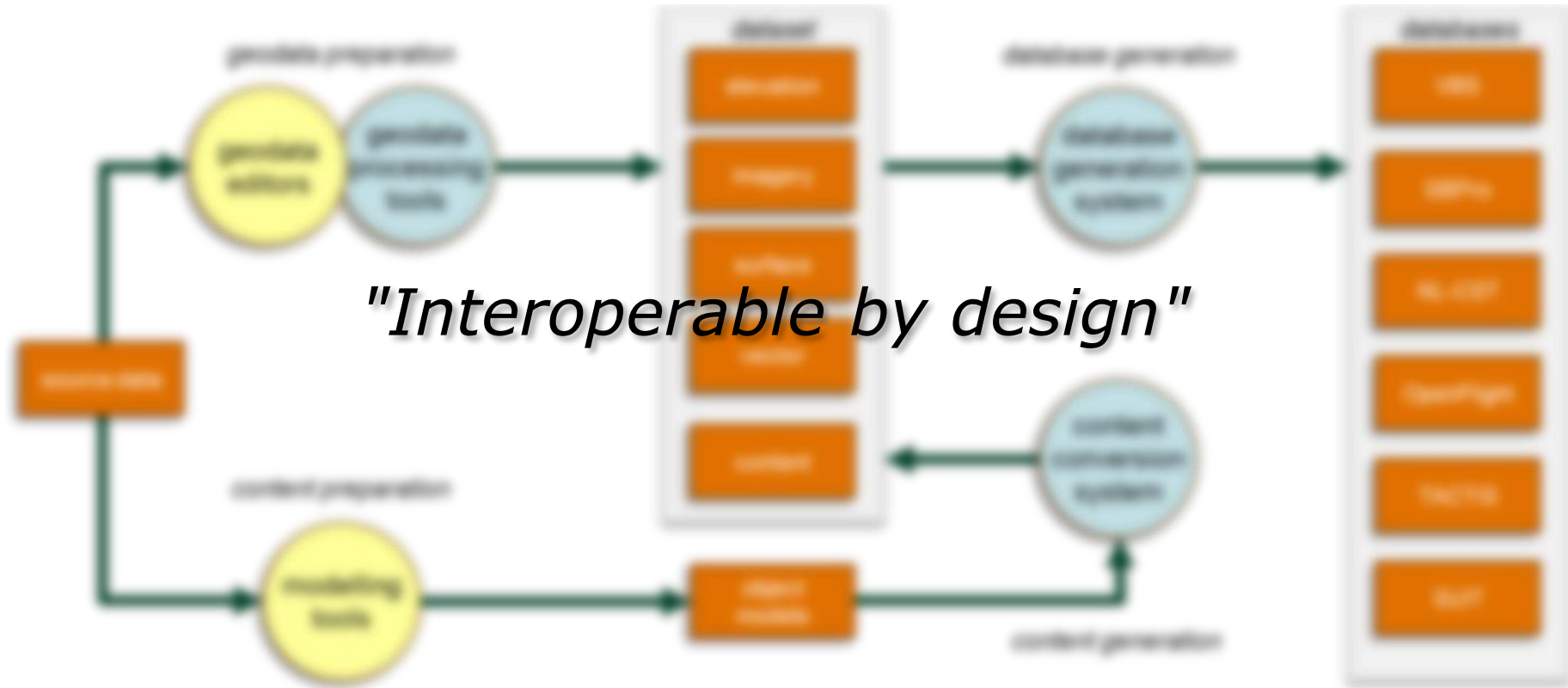
Need for efficiency

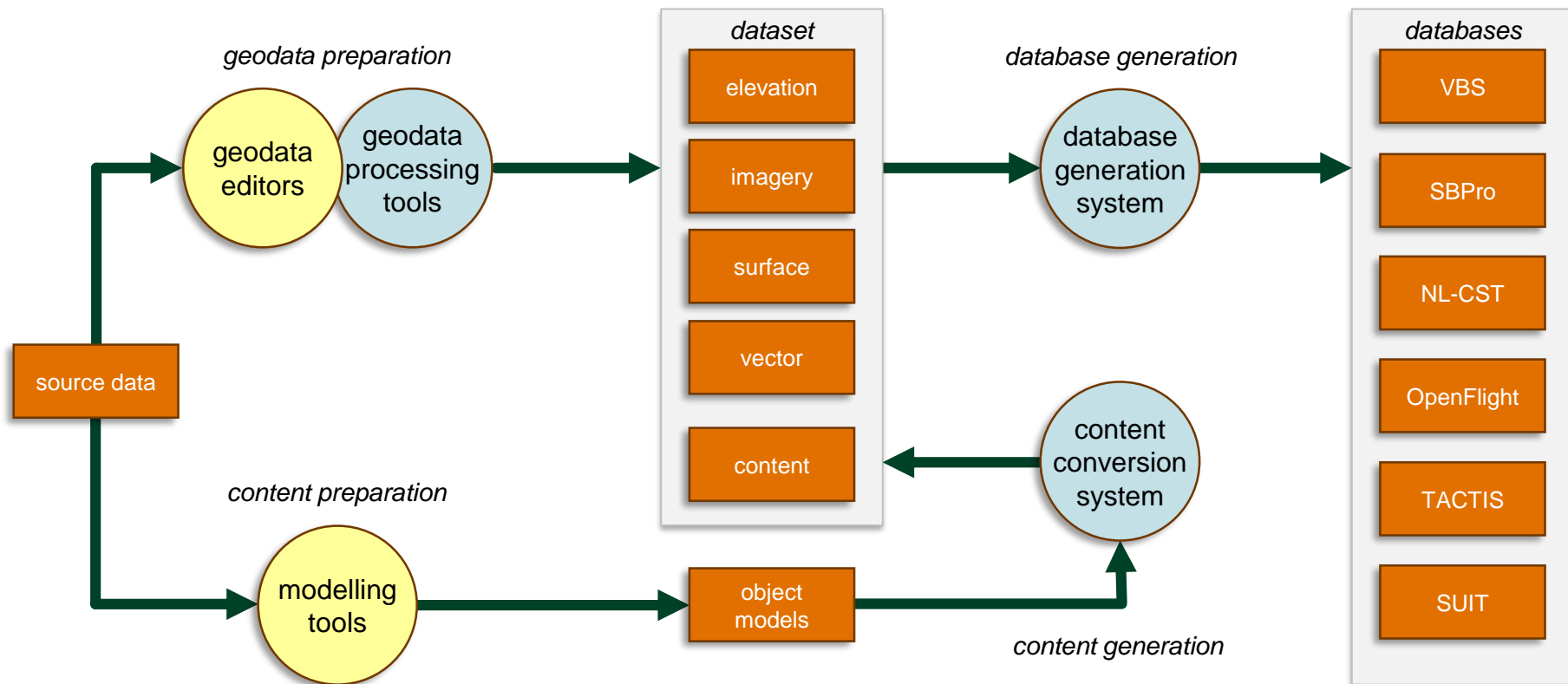
- interoperable by design, *single work flow serves all*
- direct influence on work flow, *be 'in control'*

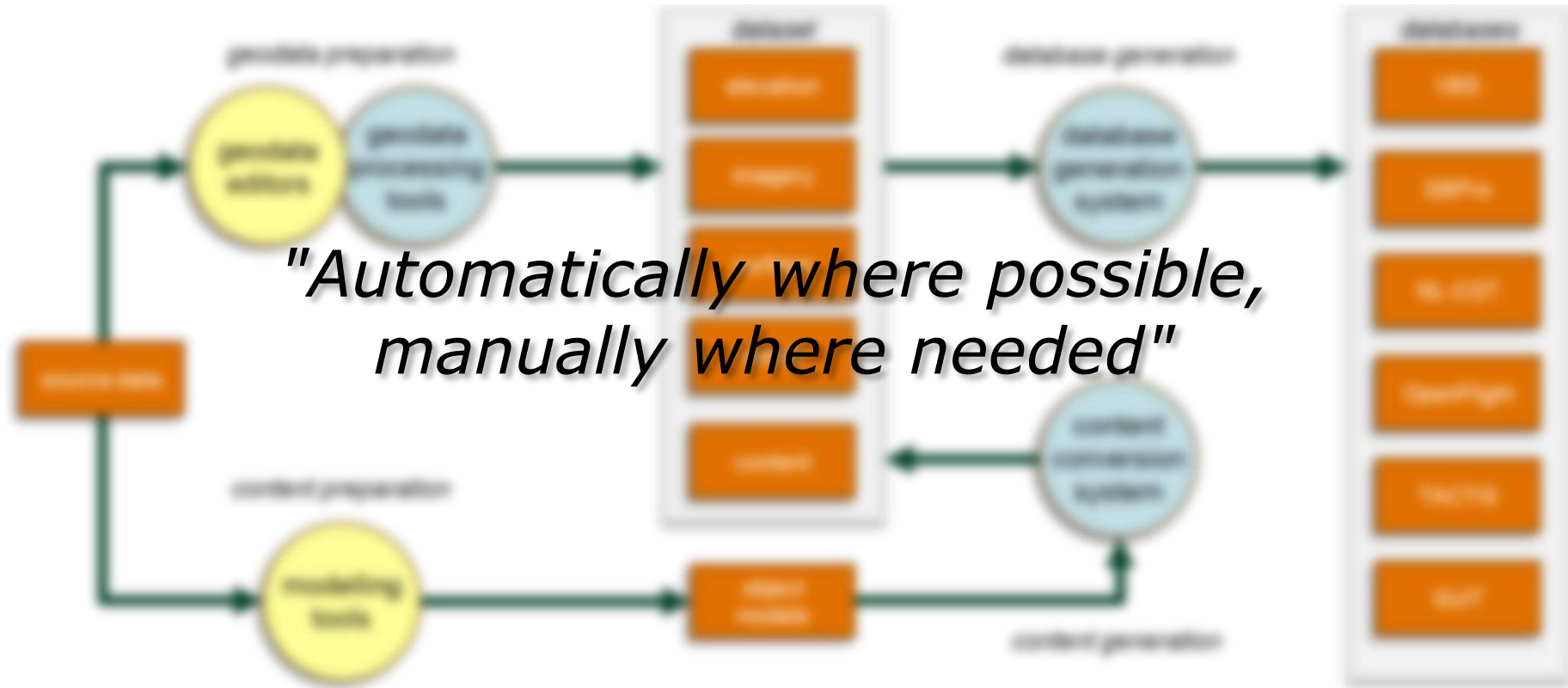
*"For purpose, on time"*



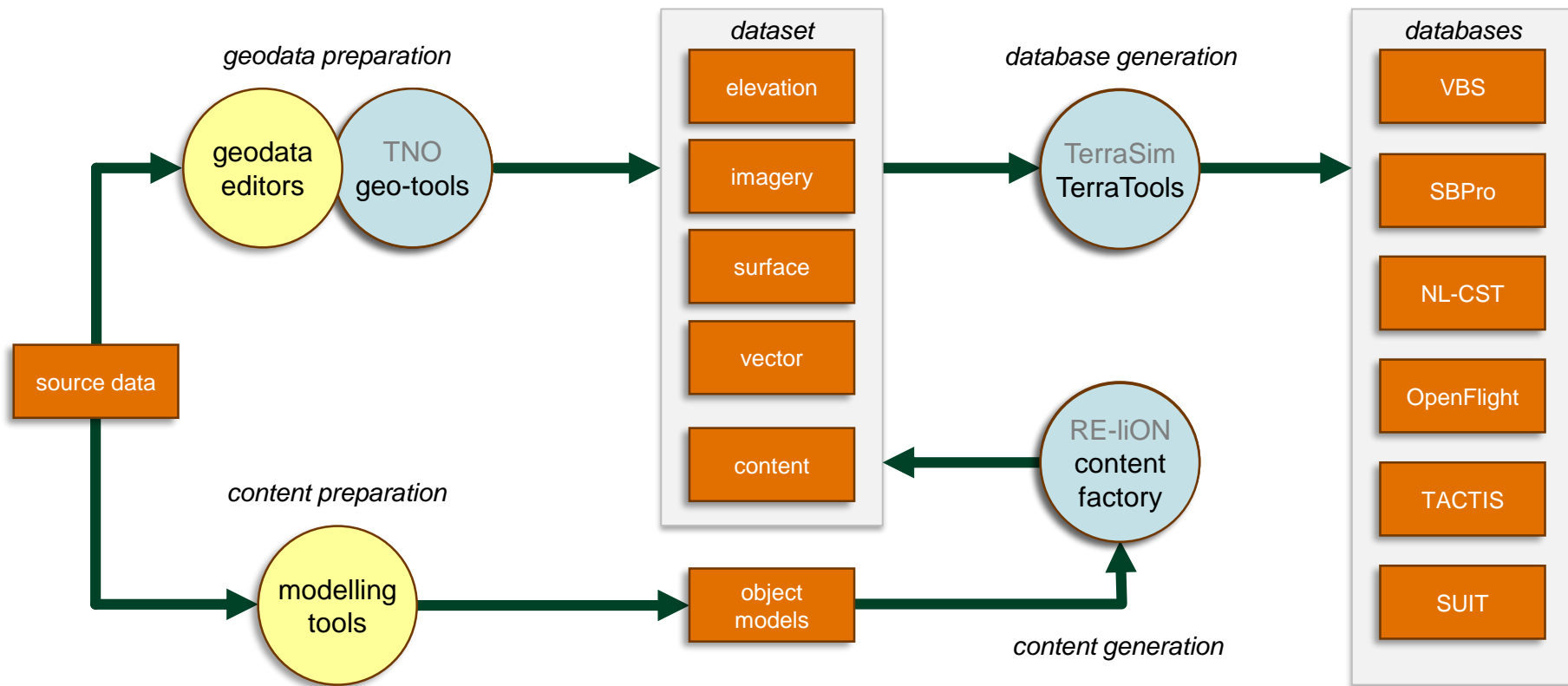






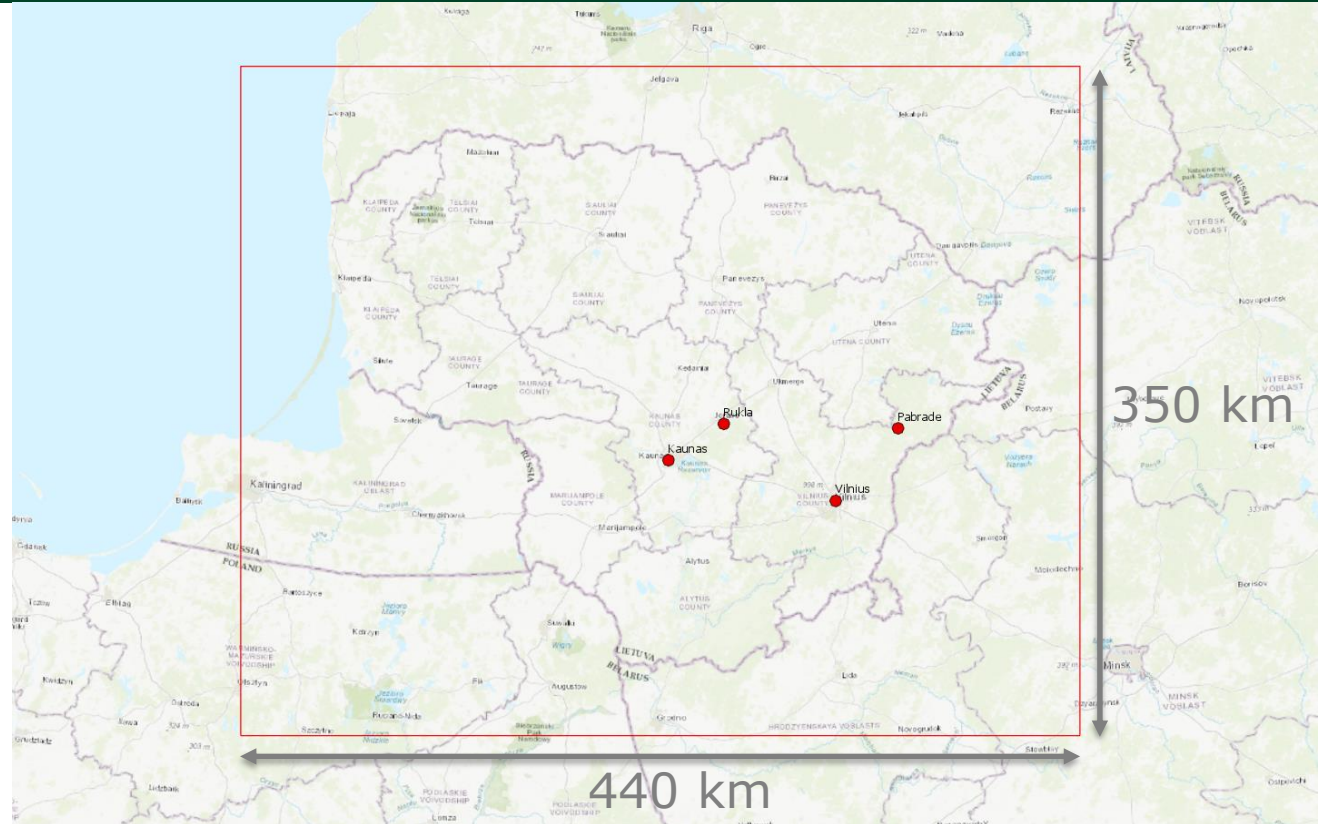








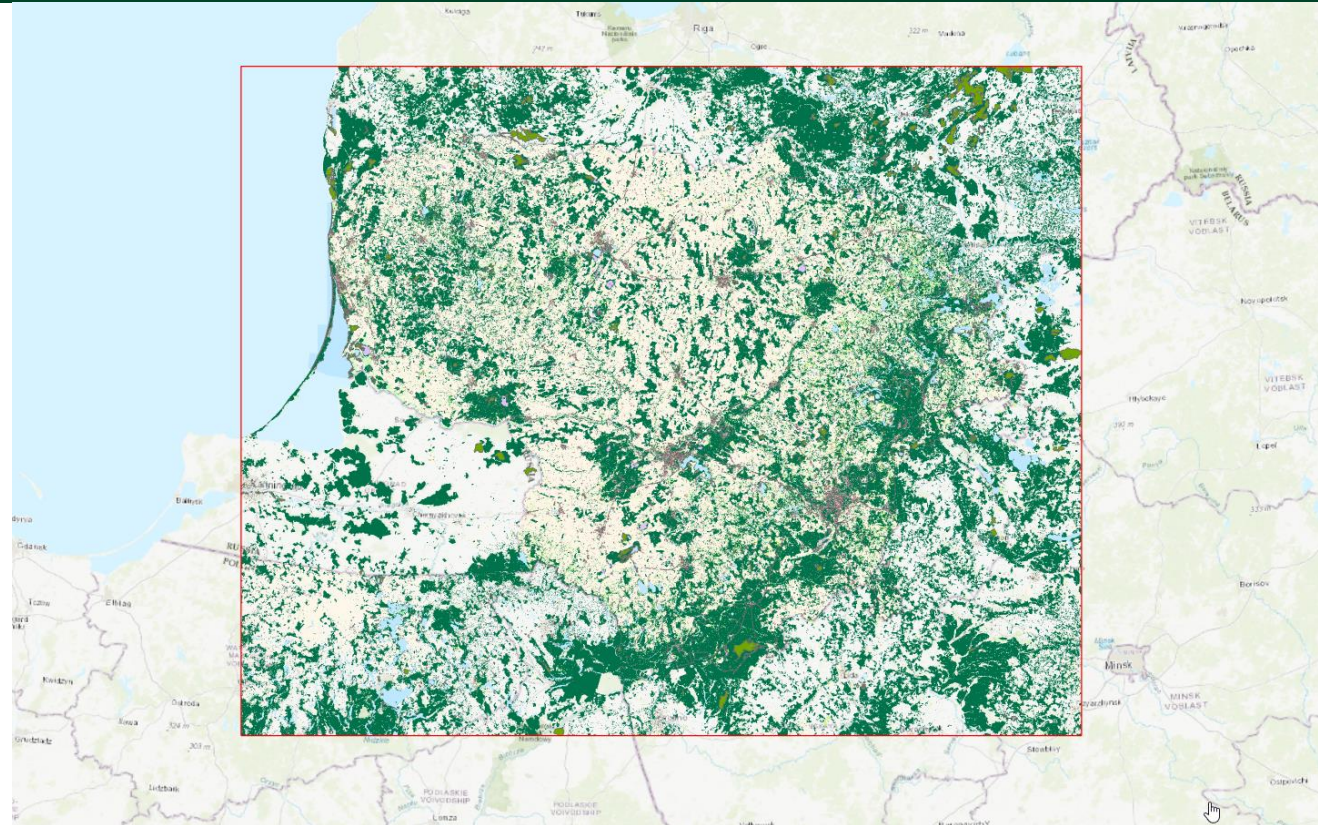
# Lithuania





## Lithuania

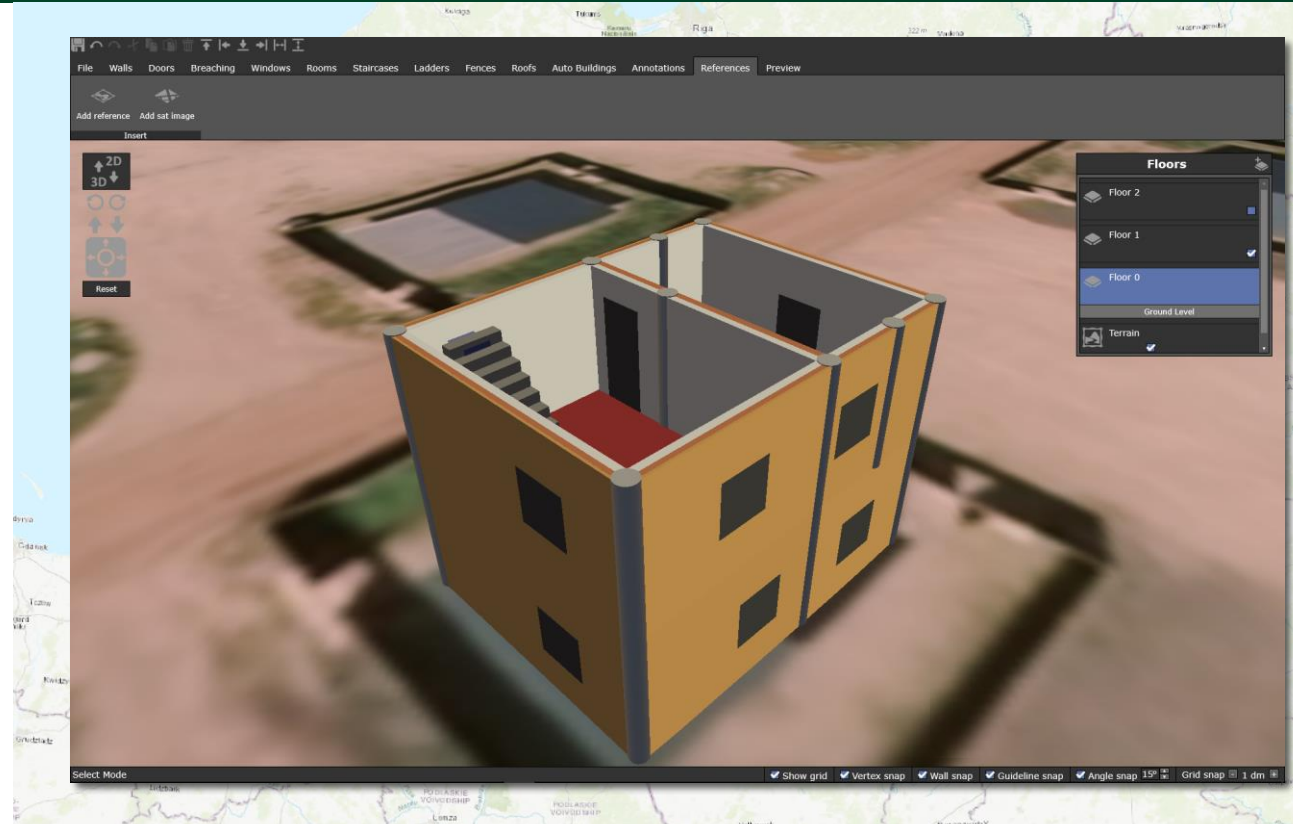
Set-up scripts  
for geodata  
processing





## Lithuania

Build case specific  
buildings models



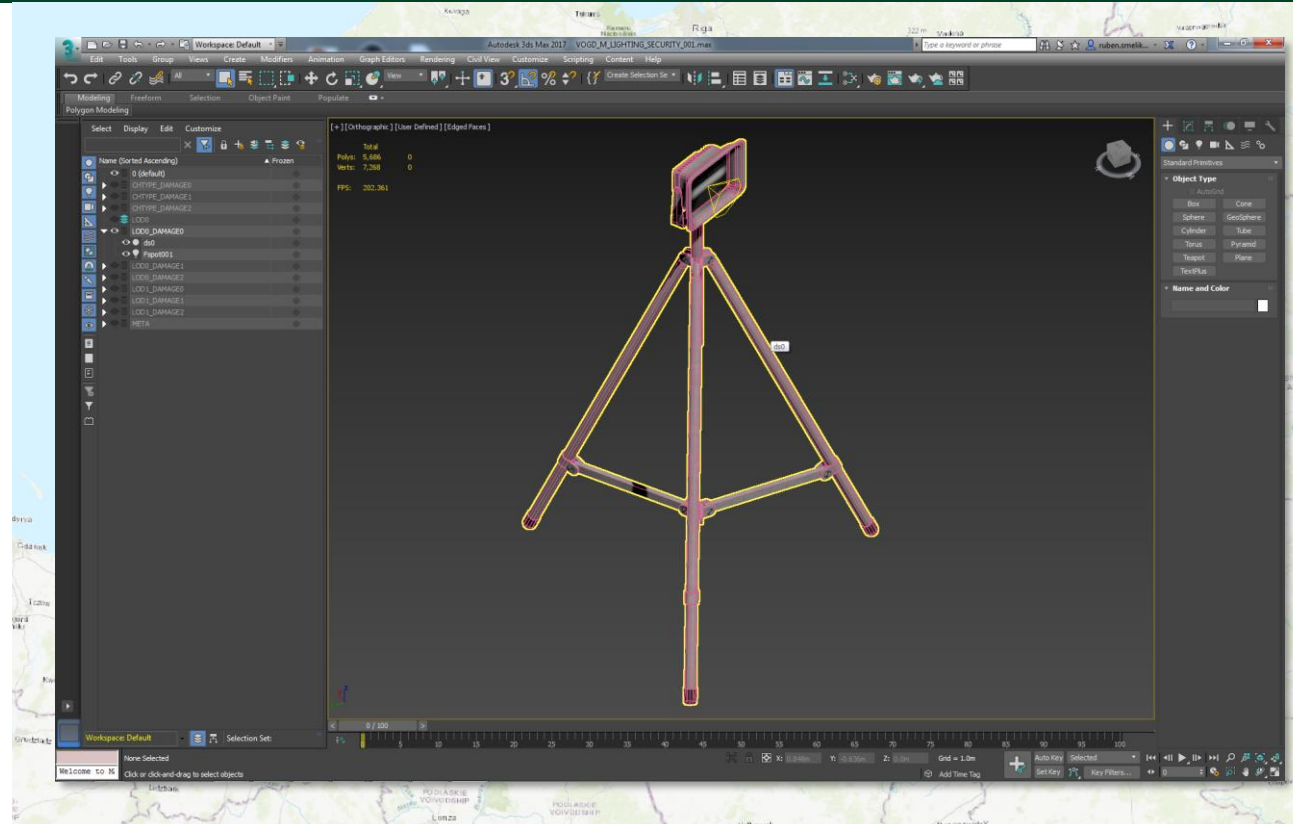






# Lithuania

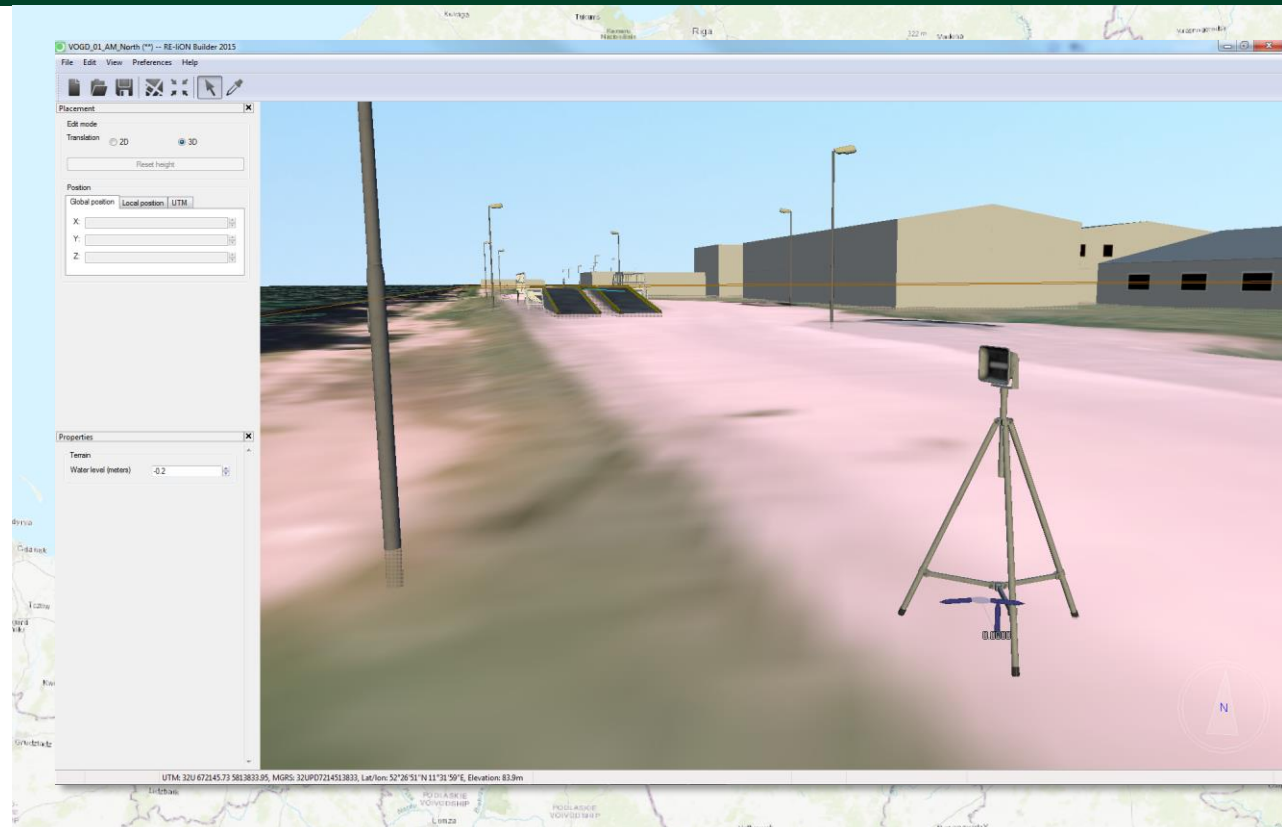
Build case specific  
object models





# Lithuania

Author user  
areas of interest



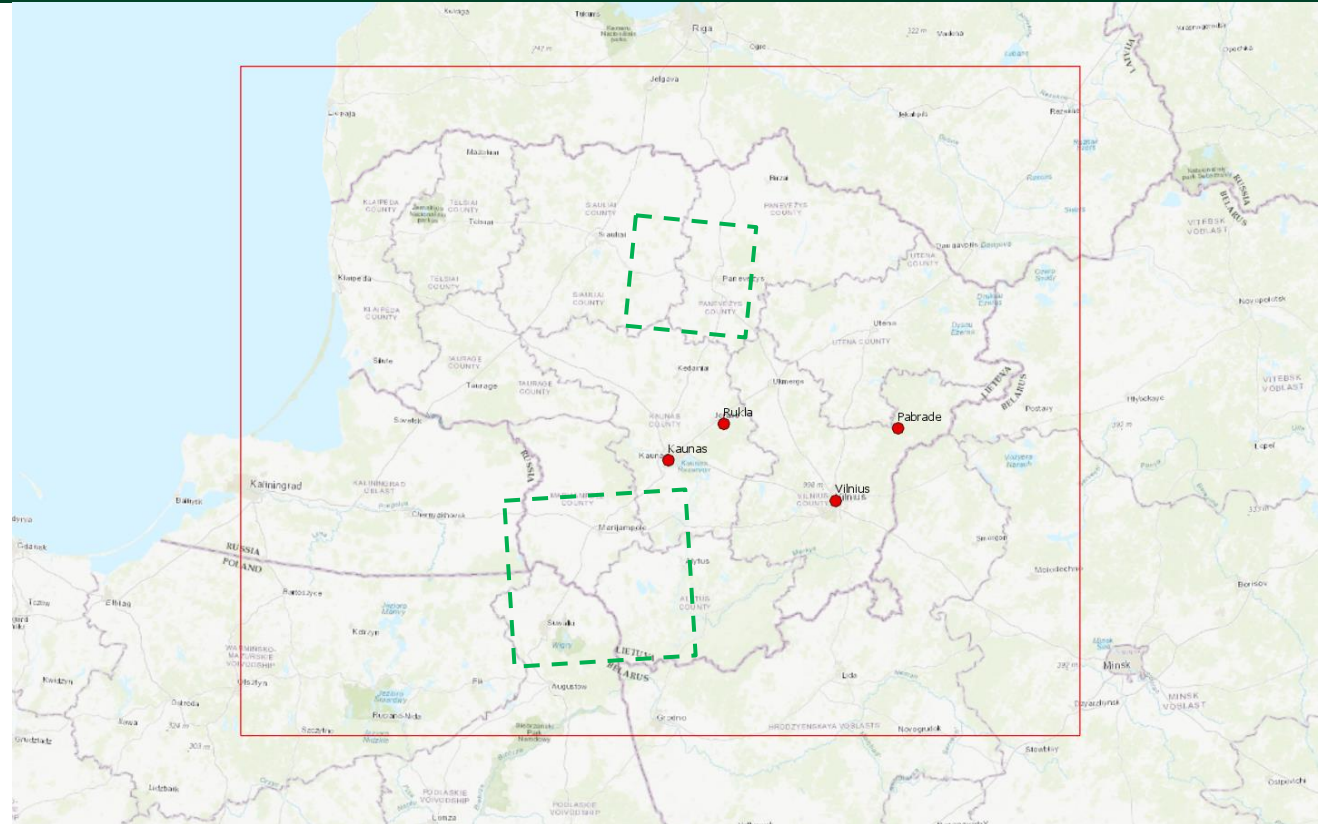






# Lithuania

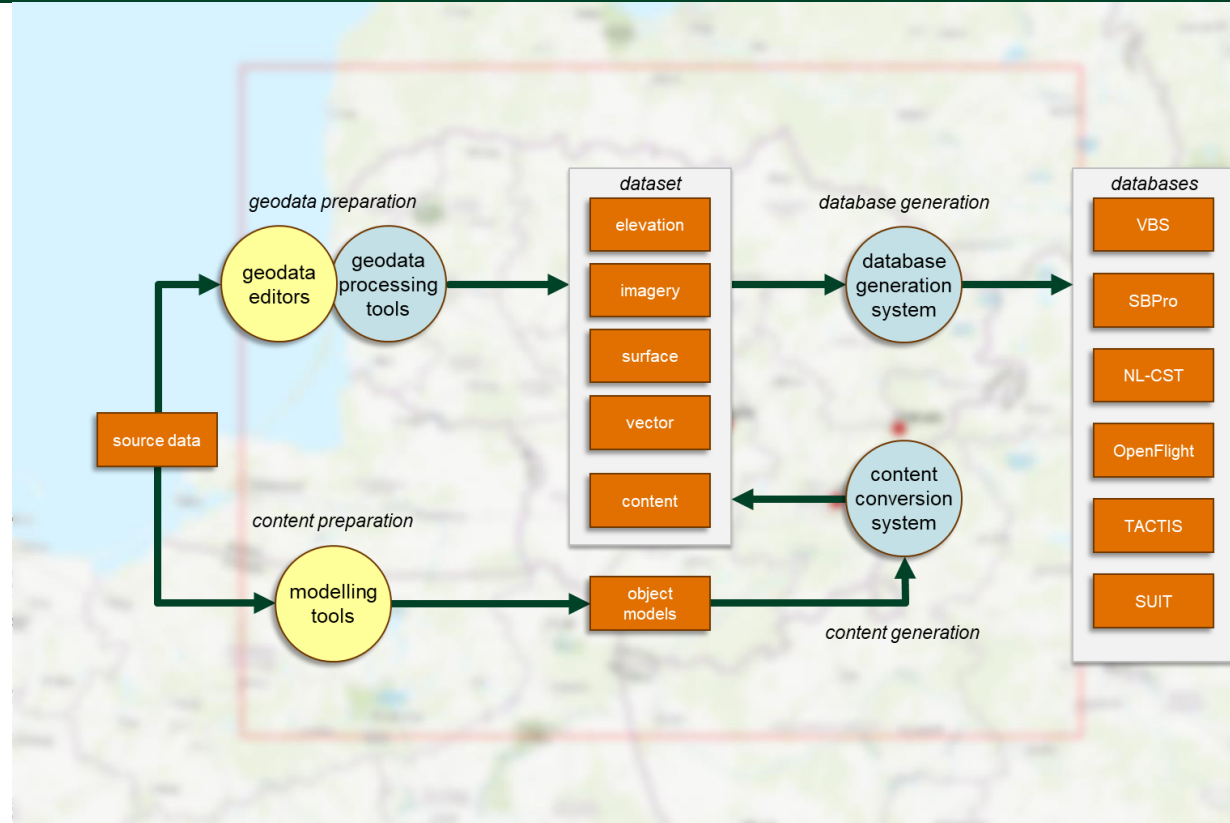
Set-up  
user required  
gaming areas





## Lithuania

Set-up  
user required  
gaming areas  
and  
run the work flow!



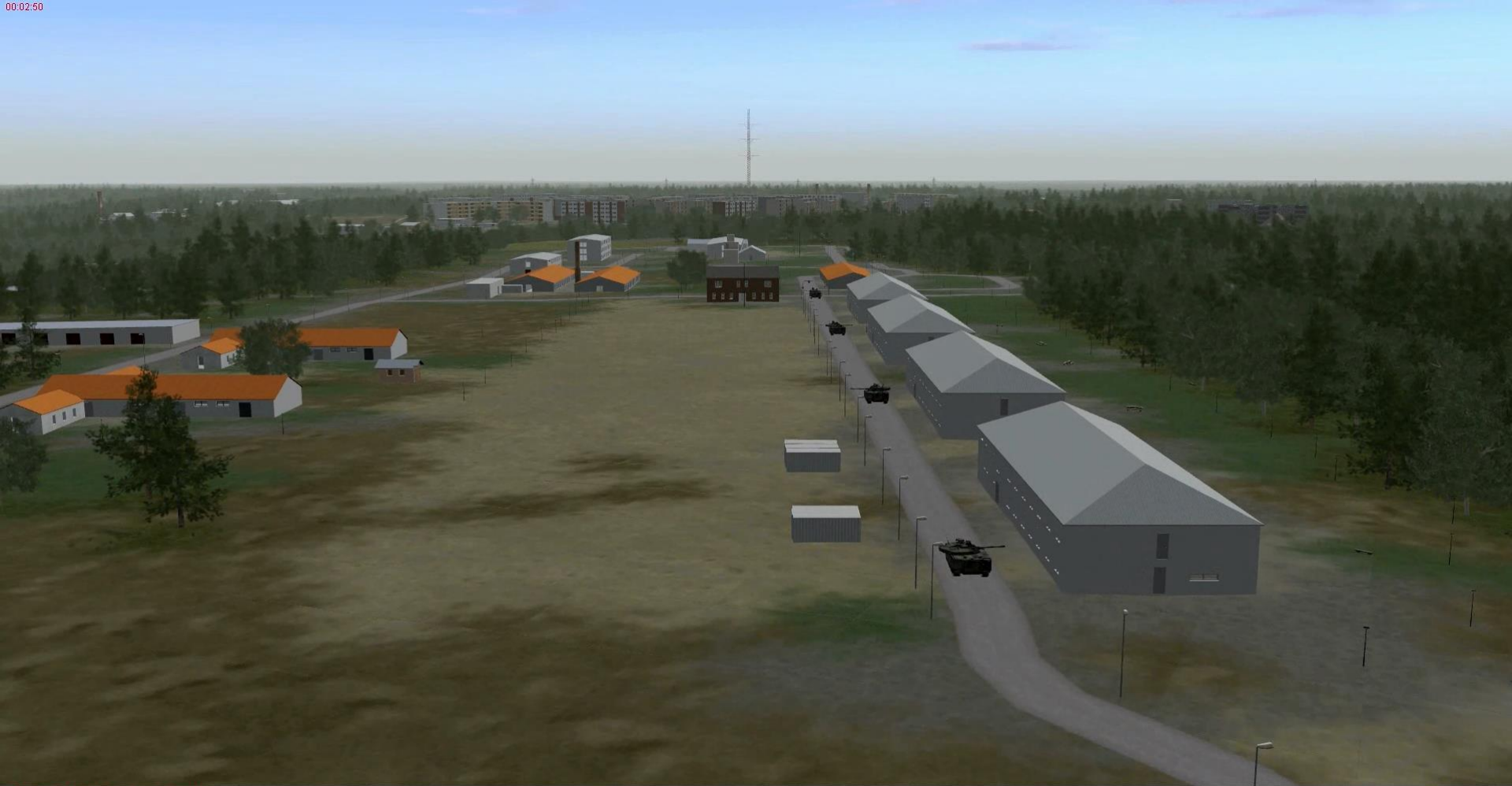




## Lithuania

Get the users in  
and roll it!





[01:41] eenheid 1 / A. Rukt op naar waypoint 1



## In-house capability

Enables quick response to user requirements

- content modelling
  - building models
  - object models
- geodata edit
  - manual placement of content
  - manual edits on vector data
- user specific gaming areas
  - set-up areas
  - generate database products



## Improvements ahead

- How to combine external expertise input with in-house control?
- Tools to improve efficiency of in-house team
  - multi-user environment
  - managing ground-truth data for geospecific areas
  - job assignment
    - content modelling
    - content placement



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# Questions?







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