# AIRLIFT

Last mile drone logistics for humanitarian aid

Unmanned Aerial Vehicles (UAVs) can offer a flexible, low-cost, and efficient alternative for the distribution of relief goods. When equipped with sensors and cameras, UAVs can also identify the area. However, to deploy UAVs efficiently, new, flexible, and scalable methods are required, using spatial agent-based models, artificial intelligence, digital twin technology, and remote sensing techniques.

Generic simulation model for a disaster area and its essential attributes
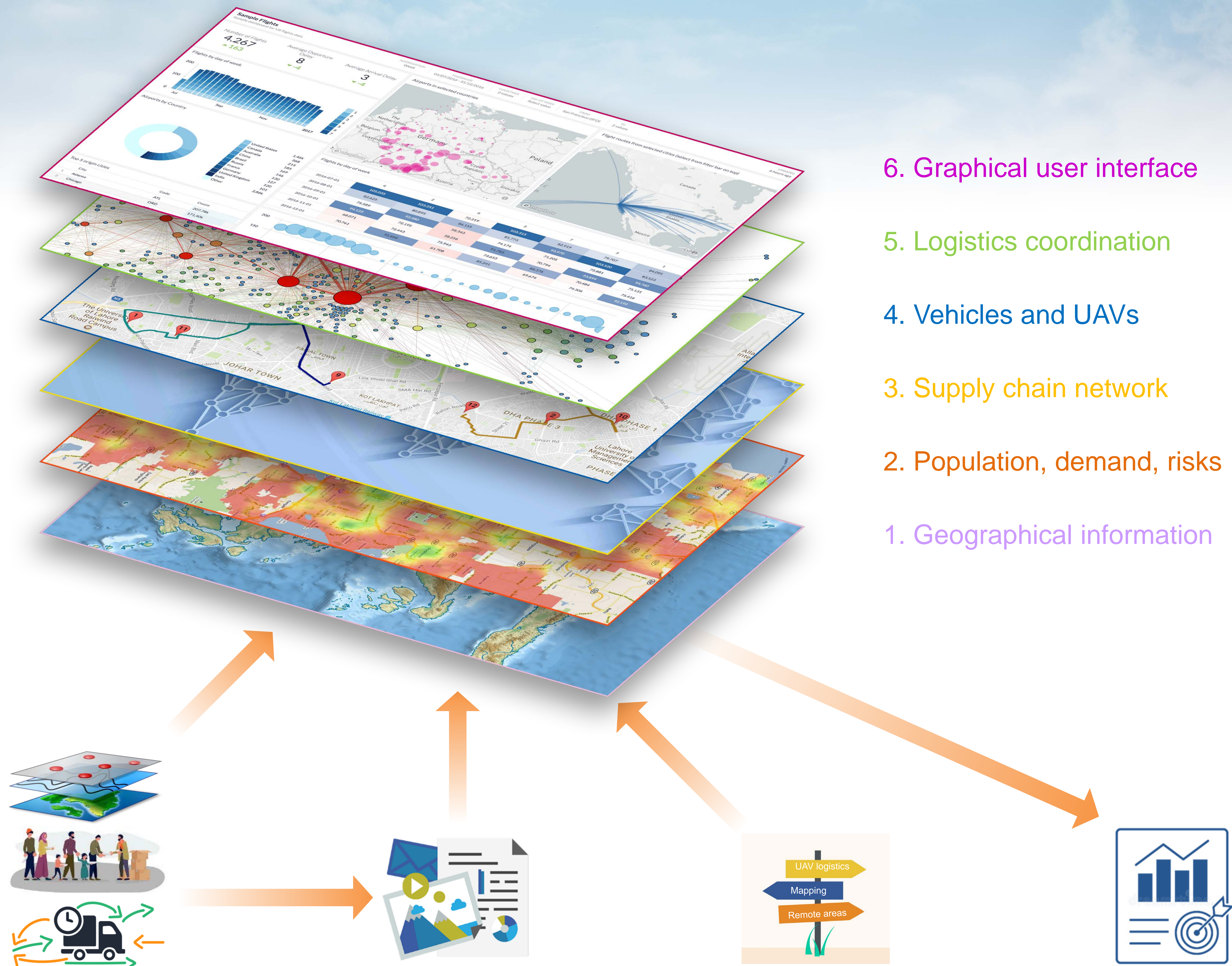
6. Graphical user interface

5. Logistics coordination

4. Vehicles and UAVs

3. Supply chain network

2. Population, demand, risks

1. Geographical information

Historical disasters

- Geographical information
- People and demand
- Logistics operations

Typical scenarios

- Derive typical scenarios from historical disasters
- Use scenarios to explore system behaviour

What If experiments

- What if UAVs collaborate with trucks?
- What if we use certain methods and technologies?
- What if UAVs also gather information about the area and inform trucks?

Performance

- Response times
- Demand coverage
- Operational costs
- Fairness
- Required number of vehicles, UAVs and rescue workers

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