

# Decision Making for Multiple Autonomous Systems

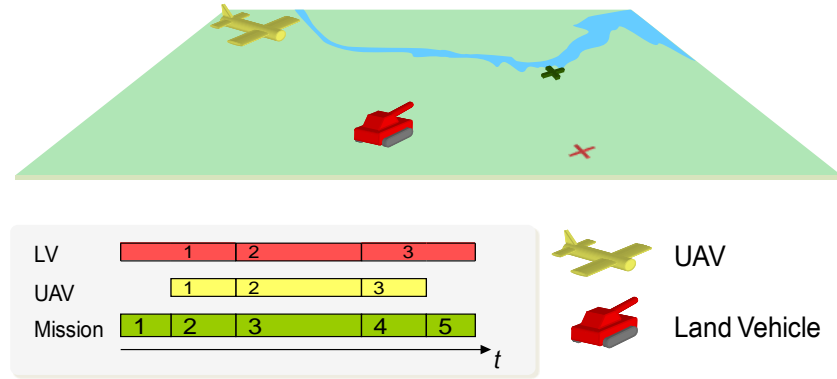


## Background

The use of autonomous systems, e.g. UAV, is increasing, along with their level of autonomy. When collaborating, they must be able to make fast, well-informed decisions as threats emerge.

## Objective

Use Phased Mission Analysis and Binary Decision Diagrams to rapidly quantify mission failure / success probabilities.



$$Q_{1,1} + Q_{1,2} + Q_{1,3} = Q_{1, \text{Miss}}$$

$$Q_{2,2} + Q_{2,3} = Q_{2, \text{Miss}}$$

$$Q_1 + Q_2 + Q_3 = Q_{\text{Miss}}$$

