TOULOUSE TECH TRANSFER

Optim Cell: ultra-fast spatial optimization algorithm

Many decision-support applications are not adapted to situations with many unexpected events, or which depend on human decisions. For example: where to deploy technical support teams during a storm? How to optimize in real time the use of rescue teams as a fire evolves?

COMPETITIVE ADVANTAGES

- Ultra-fast
- Adapts to context changes in real-time
- Single or multi-objectives

DESCRIPTION*

- Optimize spatial positioning of elements
- Based on biomimetic/genetic machine learning techniques
- Single or multi-objectives algorithm
- The system first learns the best behaviors based on business rules
- Once in operation, it provides recommendations for the next "best move" depending on the actual context
- Recommendations are updated in real-time depending on the context evolution: new constraints, human decisions, etc.

Example: decision-making support for the deployment of maintenance teams on an electricity grid during a storm
Objective: reduce unavailability for the end customer
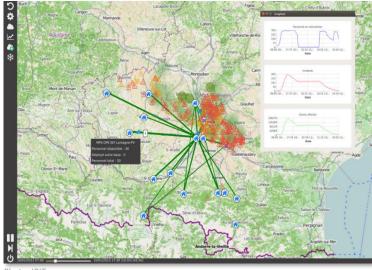*Parameters:* staff/equipment availability by station, working time, travel time, type of incident, weather, etc.

APPLICATIONS

- Decision-support systems in uncertain environments
- Civil security
- Military
- Repair services
- Logistics, production
- Allocation of datacenter servers

INTELLECTUAL PROPERTY

- Copyright

DEVELOPMENT STAGE

- Technology validated at lab level

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LABORATORY

- Team: Réel Expression Vie Artificielle (REVA)

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Photo: IRIT.

TECHNICAL SPECIFICATIONS

Langage	C++
OS	Linux/Mac OS
IT resource	Standard desktop machine

CONTACT

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