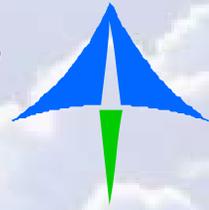




Systems and
Air Navigation Area

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PROMAS PROJECT

PROcesses MAnagement Simulator

AIMING TO SIMULATE ATM PROCESSES



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CONTENTS

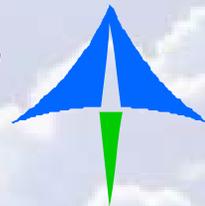
- WHY?** Need for PROMAS
- WHAT??** Objectives and scope
- HOW?????** Software engineering ideas



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WHY?





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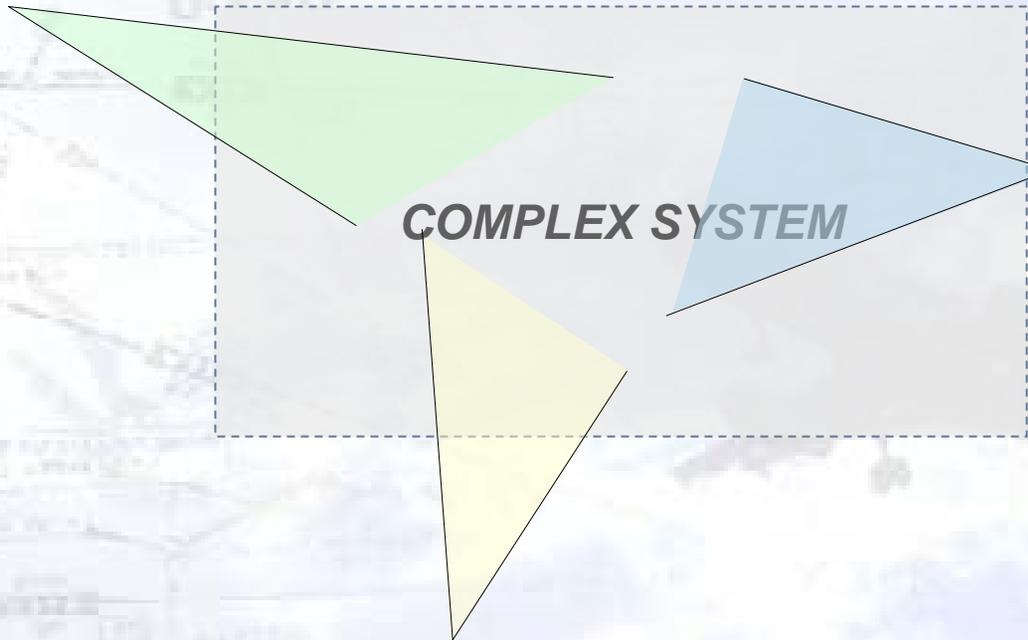
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WHY?

STRUCTURE



FUNCTIONALITY

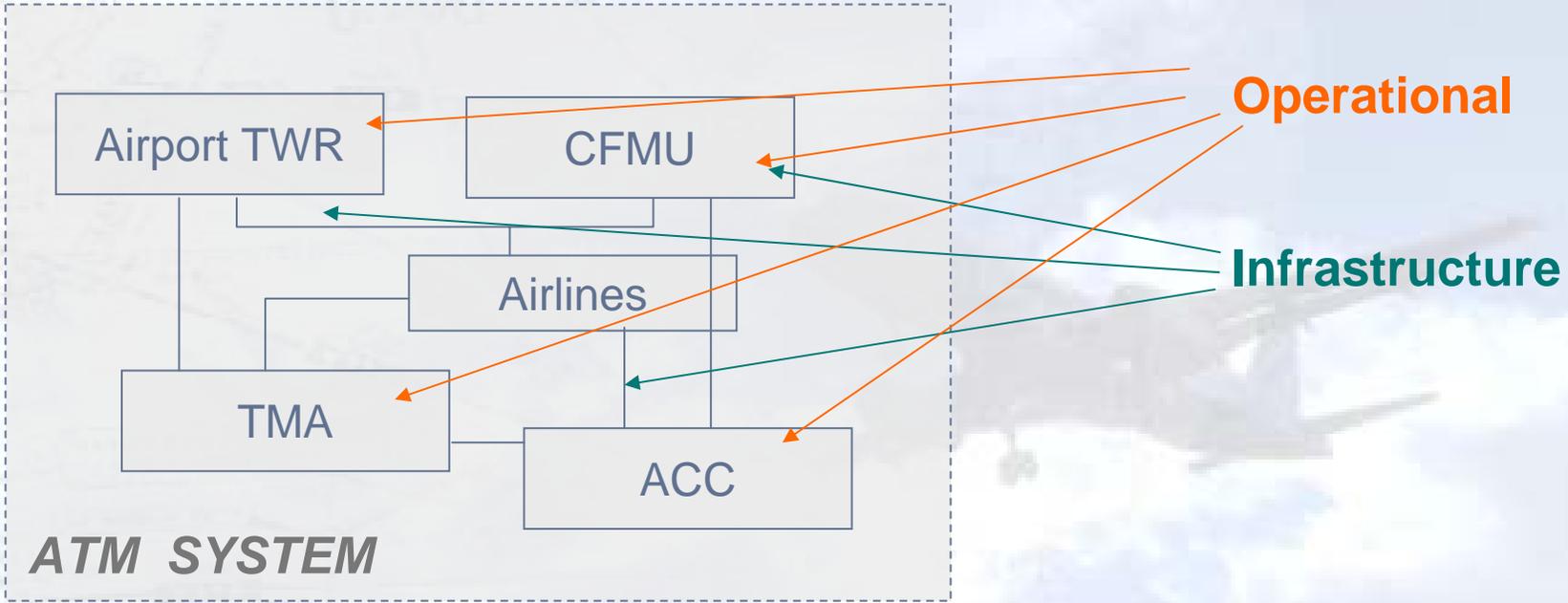
PERFORMANCE



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WHY?

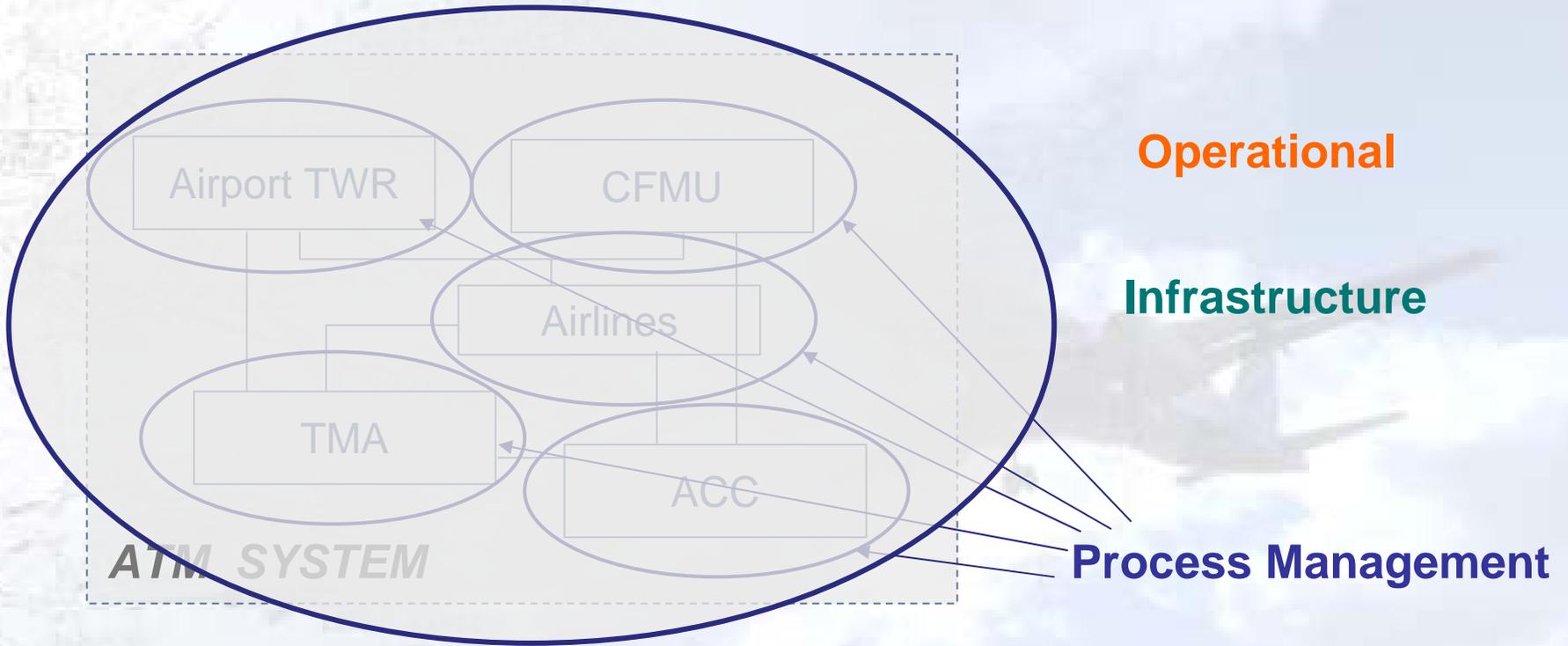




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WHY?





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WHY?

EVALUATION OF ↓	FTS	RTS
Operative environments	RAMS Plus, TAAM, Simmod, etc	At the RTS facilities, with qualified participants
Organizational environments	??	Wargaming, “role games”



WHY?

ATM Future Concept Example:

- SESAR
- CDM
- ASAS
- DMAN/AMAN
- SWIM
-

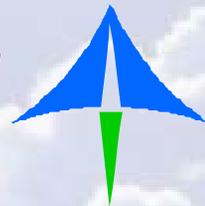




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WHAT?



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WHAT?

OBJECTIVE:

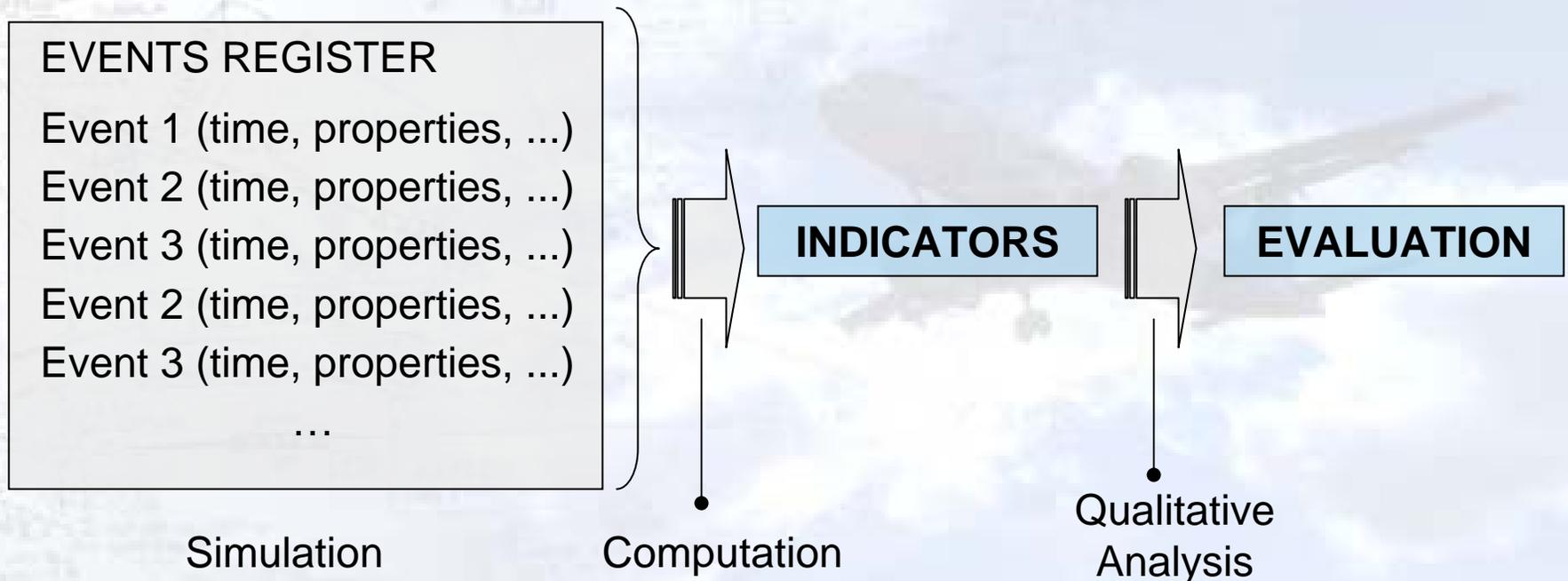
TO DEVELOP A TOOL TO MODEL AND SIMULATE THE ROLES AND PROCESS MANAGEMENT IN A SYSTEM.

This tool must provide the analyst with the necessary information to allow the evaluation of the system, by means of indicators.



WHAT?

**FAST TIME SIMULATION TOOL BUILT ON A
DISCRETE-EVENTS SIMULATION ENGINE**





WHAT?

Tasks Events:

- Completed
- Pendant
- Statistics (the actors involved, type of task, duration....)

Meetings and/or Communications Events:

- Participants
- Agreements/decisions taken
- Statistics



WHAT?

Documentation Events:

- Documents created
- Pendant documentation
- Authors/Responsible/Distribution List
- Main contents

Actor's Events:

- Accomplished tasks
- Time scattering by activities, types of task, ...



WHAT?

Information Flow Charts:

- Information evolution
- Actors or entities informed

Work duplicity:

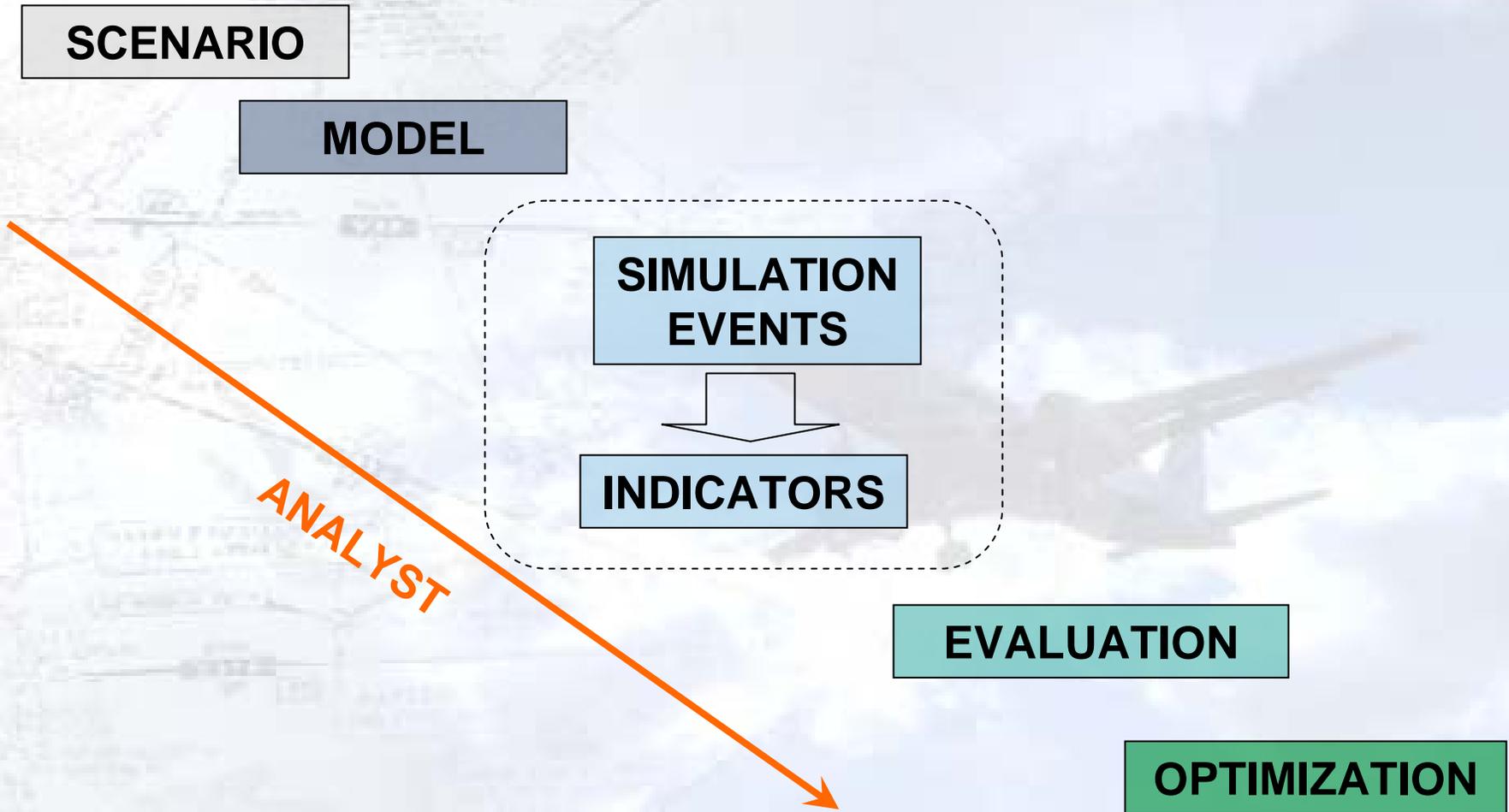
- Duplicity of Information in the Databases
- Duplicity and incongruity of results in different reports
- Duplicity and incongruity of different studies
- Duplicity in data collection
- Duplicity in working groups



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WHAT?

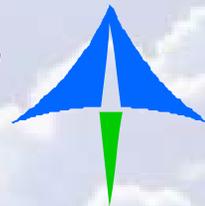




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HOW?





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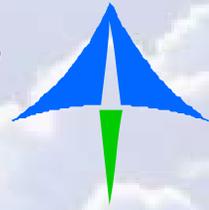
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HOW?

- Requirements Definition Phase
- Object-Oriented Design (OOD)



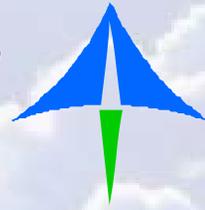
HOW?

Basic elements in the model

Object: defined by its properties. The properties are changed by the *Actions*

Actions: What properties are changed and how.

Actor: *Object* that does the *Actions*. As an *Object*, it also has properties that change.



HOW?

Other requirements

- **Modularity and Integration Capability**
- **Statistics Module**
- **Predefined Indicators Computation**
- **Outputs: Standard Format**
- ...



HOW?

OBJECTIVES DEFINITION AND SCOPE

REQUIREMENTS DEFINITION

PROTOTYPE DEVELOPMENT AND VALIDATION

REQUIREMENTS REFINEMENT

TOOL DEVELOPMENT AND VALIDATION



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