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GORE/KAOS in the industry:

Some lessons learnt

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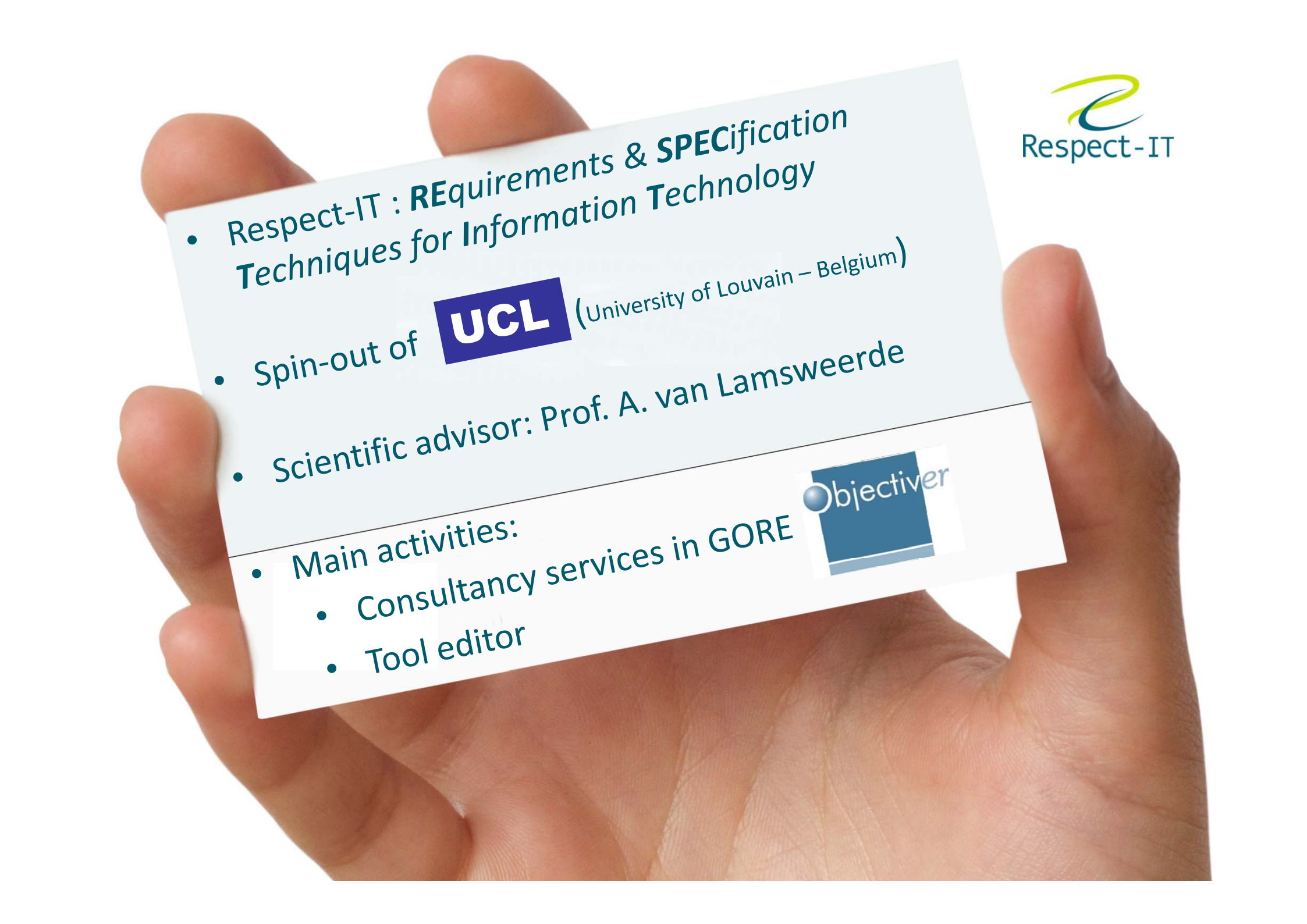
Contents

- Who's who
- **GORE**:
  - **KAOS method**: overview
  - **KAOS in practice** (elicitation, modeling, validation, documentation)
- Lessons learnt
  - GORE method
  - Requirements Document
  - Requirements Model
- Conclusion


Respect-IT : REquirements & SPECification Techniques for Information Technology
Spin-out of UCL (University of Louvain – Belgium)
Scientific advisor: Prof. A. van Lamsweerde
Main activities:
Consultancy services in GORE
Tool editor
Objectiver
Respect-IT

Goal Orientation

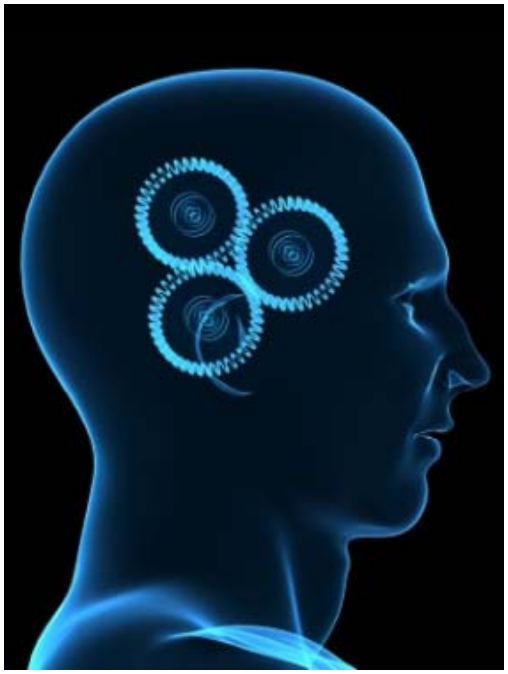
- A RE **method** focusing on
  - the **objectives**
    - **strategical**
    - **business**
    - **technical**

    + relationships
  - the **agents**
    - in the **system**
    - in the **environment**

    ➔**Responsibilities**, **Scope**, **Interfaces**
  - the **risks** (obstacles, threats, …)

to **build consistent and complete** sets of **requirements**

to **think & communicate** about **requirements**



Requirements Document: Process

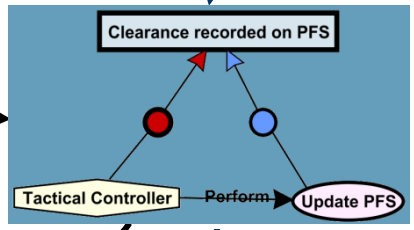
Interviews

Existing systems

Documents

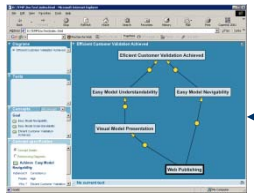
Modeling

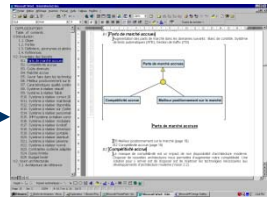
Validation



Objectiver

Web doc

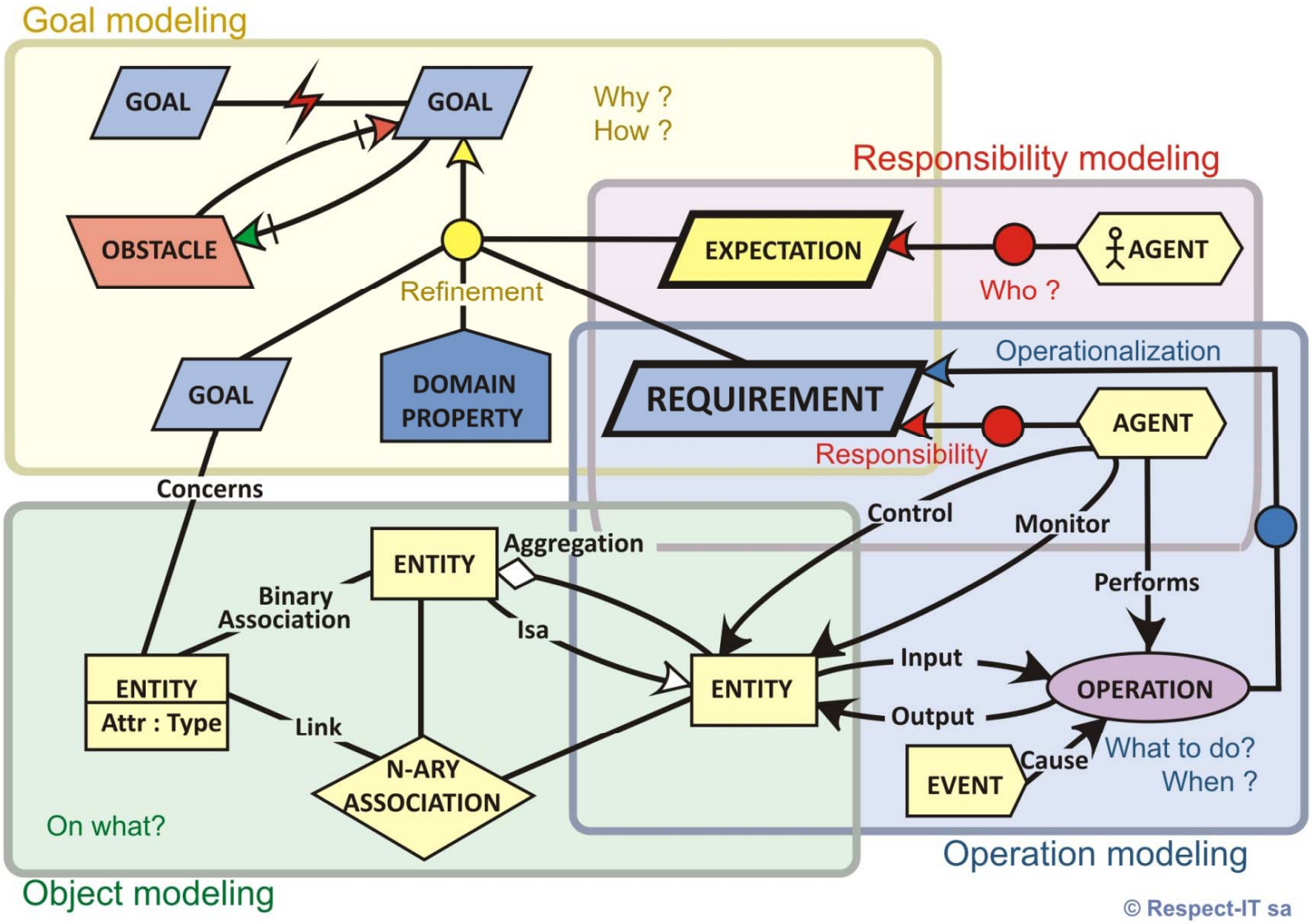




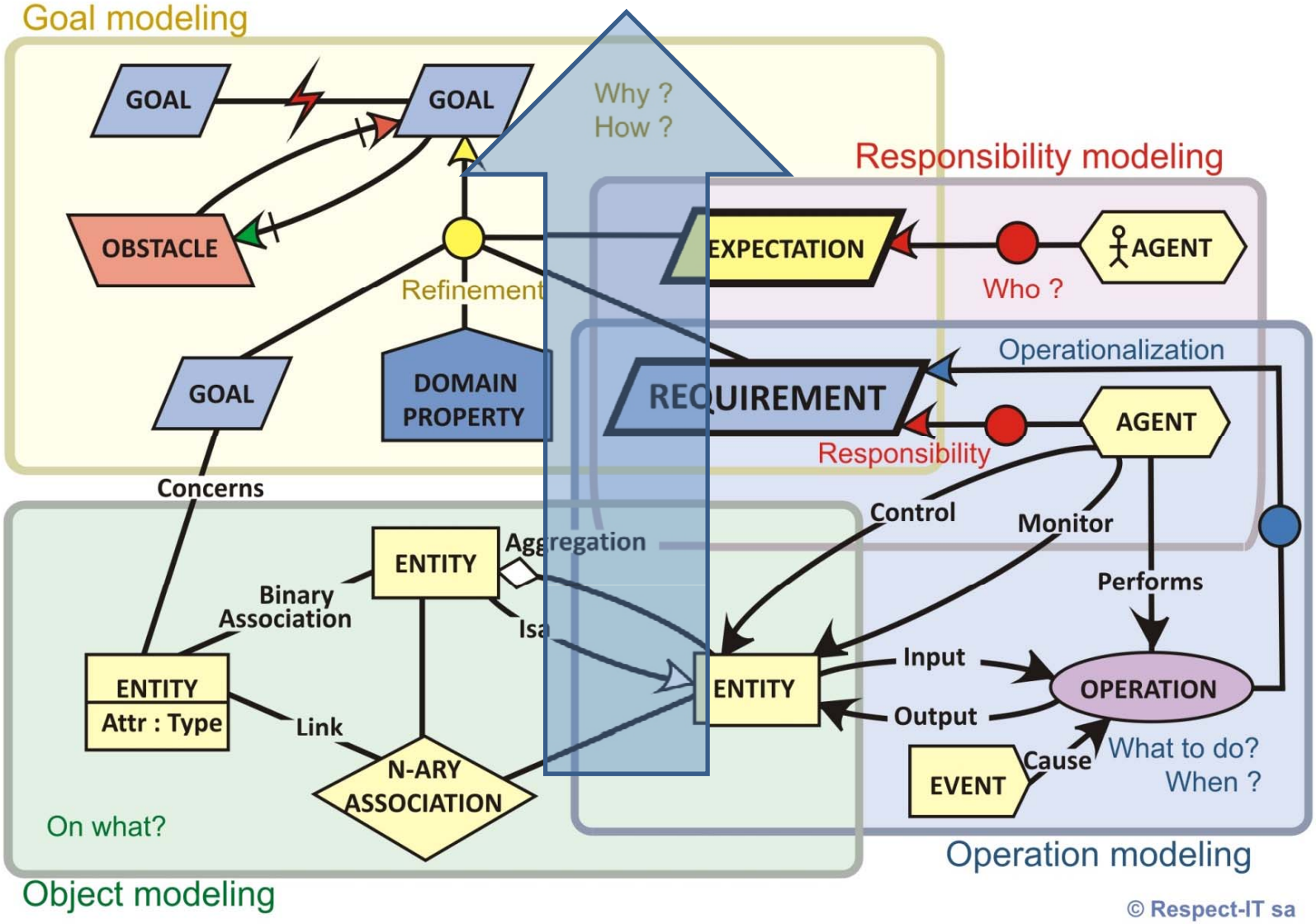
Requirements document

Generating

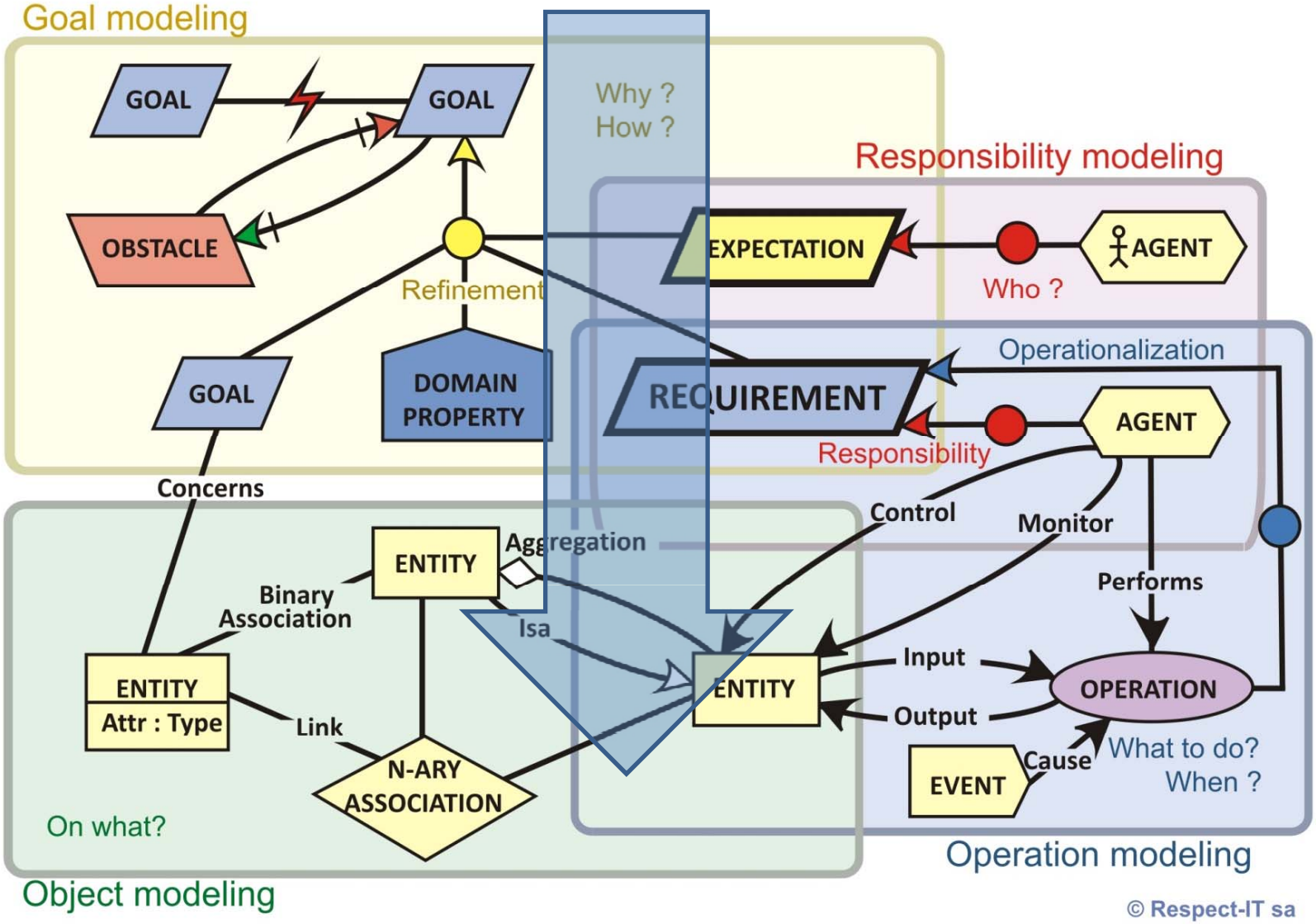
Goal Orientation (KAOS)



System As Is



System To Be



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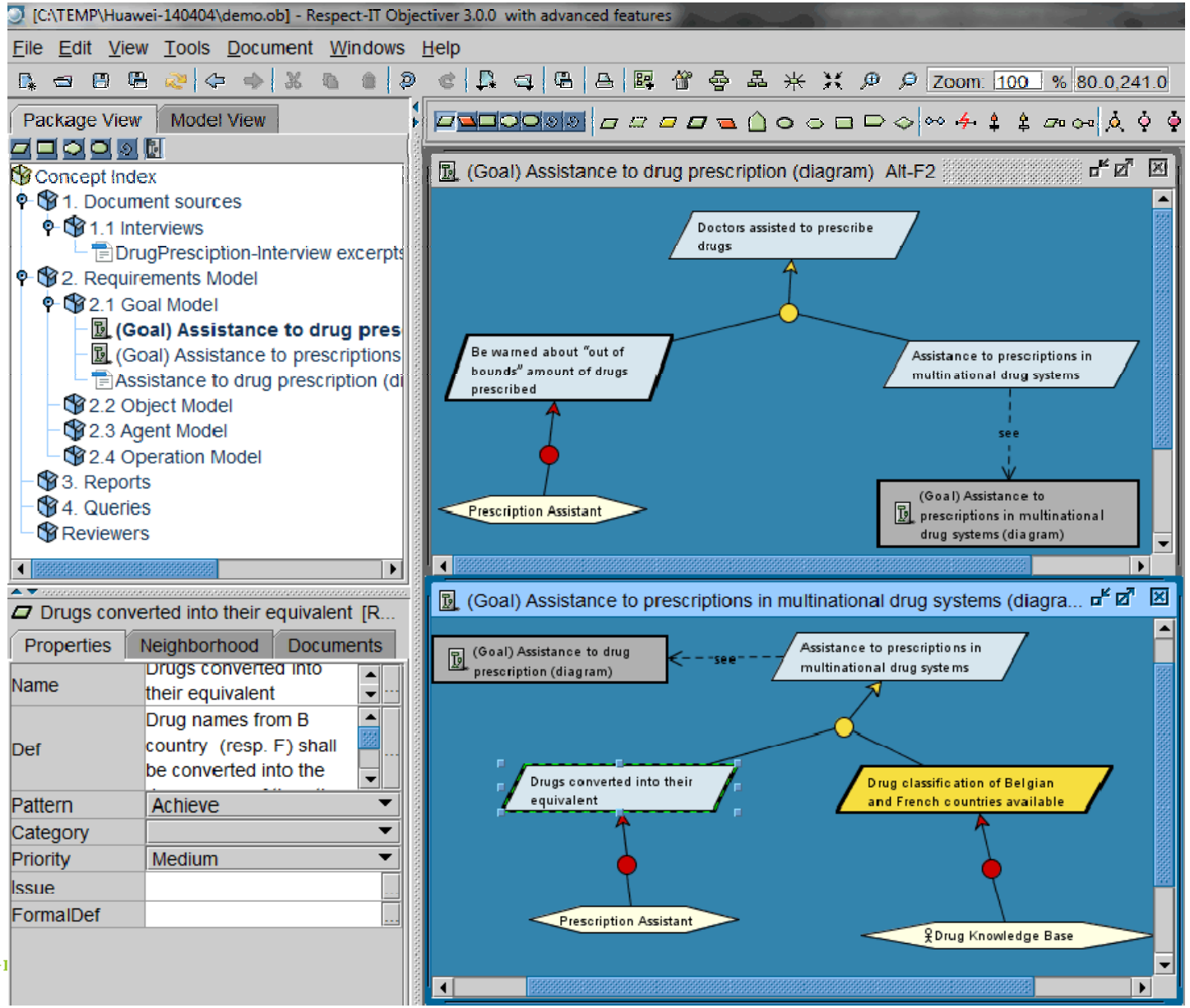
Requirements Elicitation

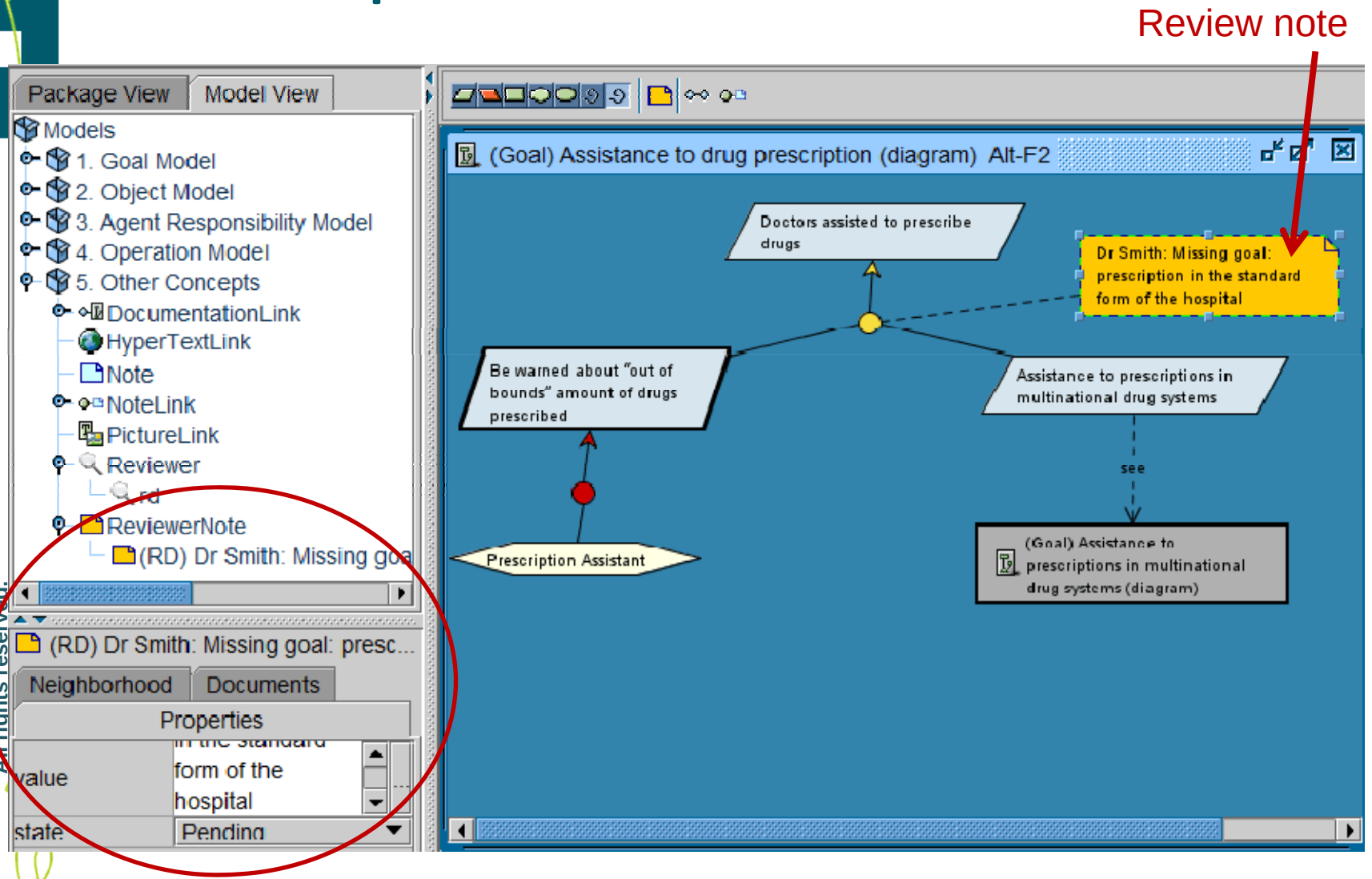
On the other hand, some doctors will be reluctant to use prescription software only to be complaint with the law. The software must also provide functionalities that will : doctors need to be aware about undesired interaction between prescribed drugs; they need to know what are the drugs that comply with the hospital standards defined by the hospital pharmacy; they need to be warned about "out of bounds" amount of drugs prescribed and so on. Additionally, you must know that our hospital is near the border; we have a lot of patients coming from the other side of the border and the drugs are completely different there. The software must therefore be capable of managing the drug classifications of both countries and of converting drugs into their equivalents in the other country (It is very useful for the prescription of the exit treatment that the patient has to follow at home after having left the hospital)...

- Doctors assisted to prescribe drugs
- Be warned about "out of bounds" amount of drugs prescribed
- Drug classification of Belgian and French countries available
- Drugs converted into their equivalent

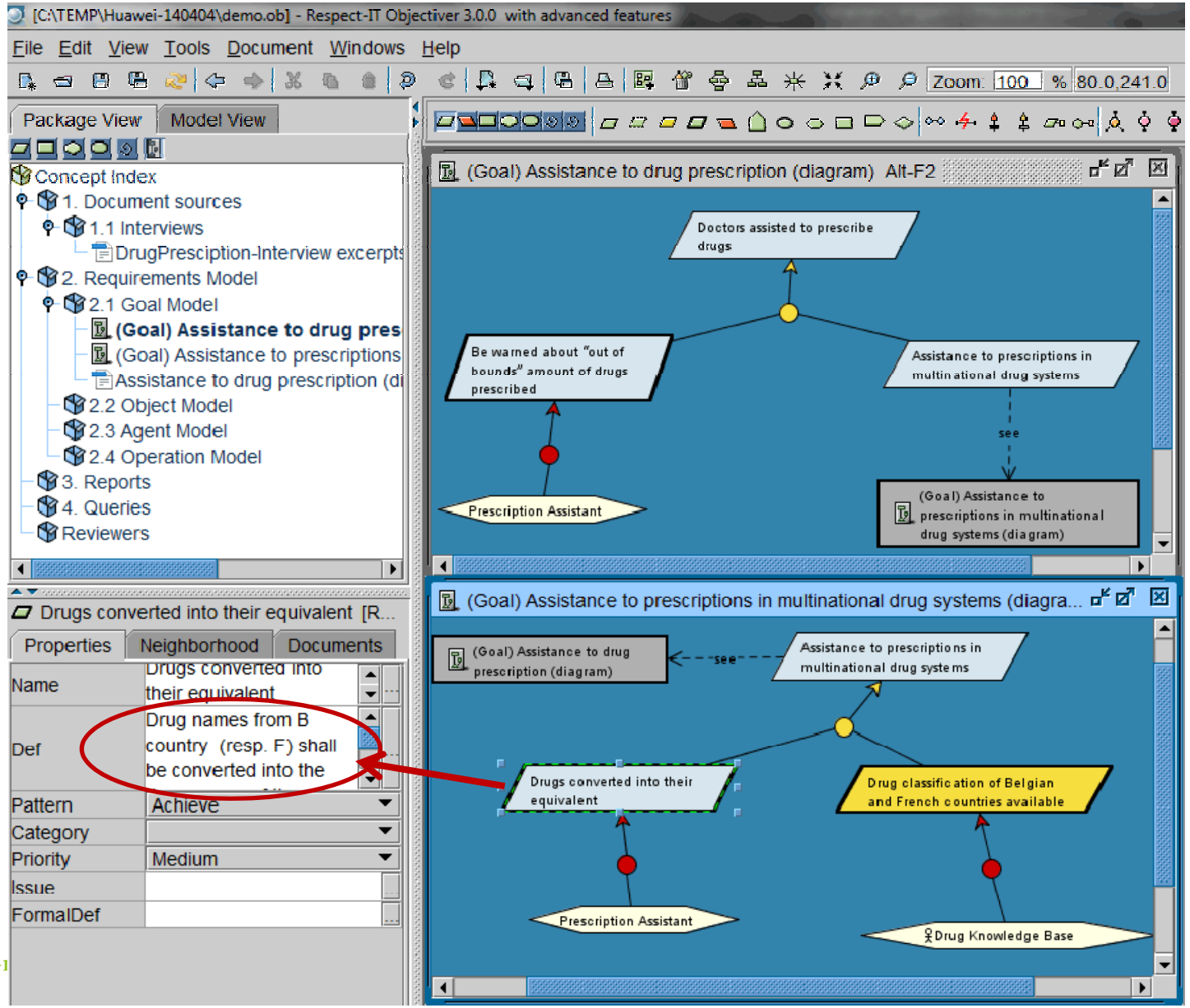
Requirements Modeling



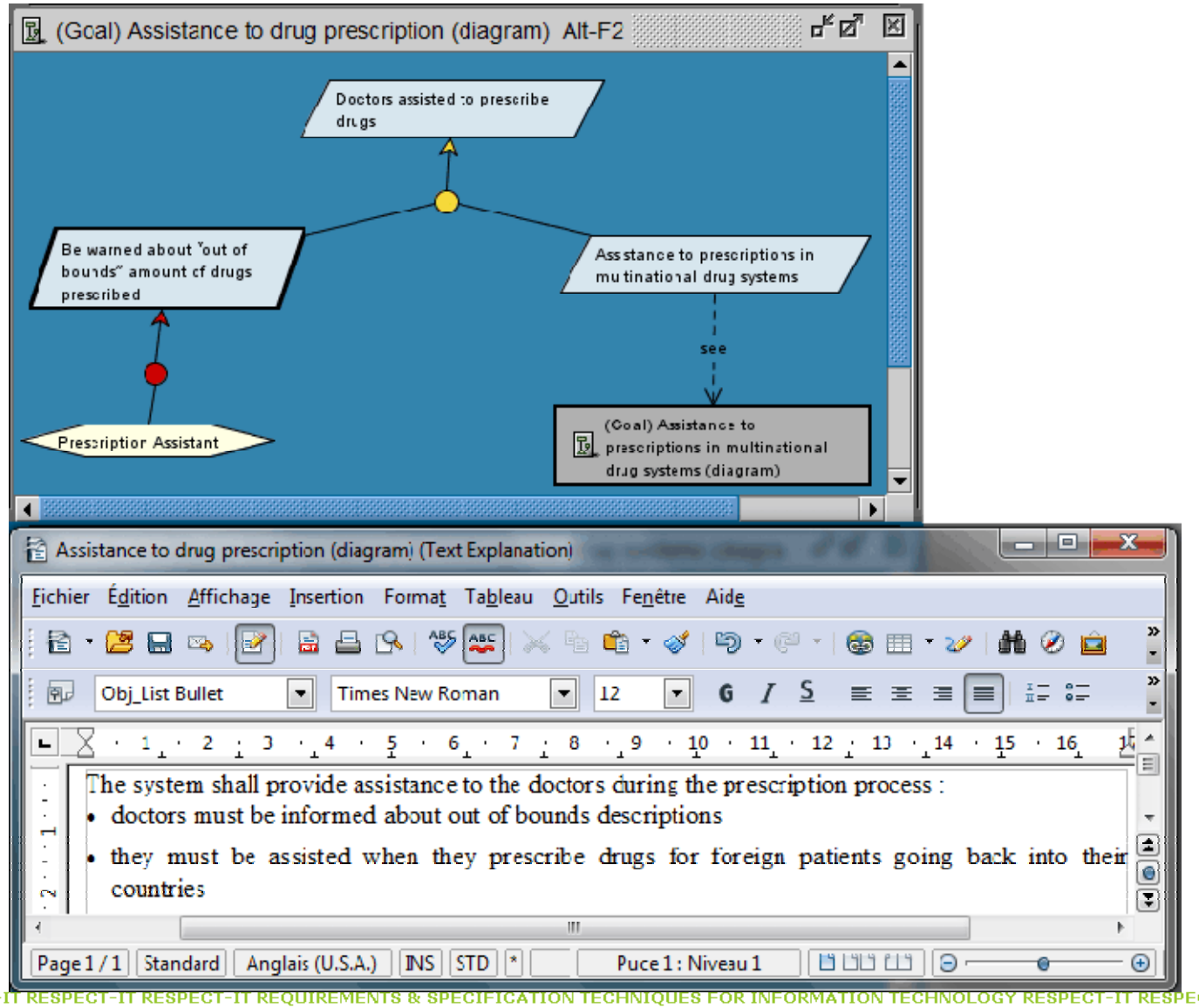
Requirements Validation



Requirements Documentation



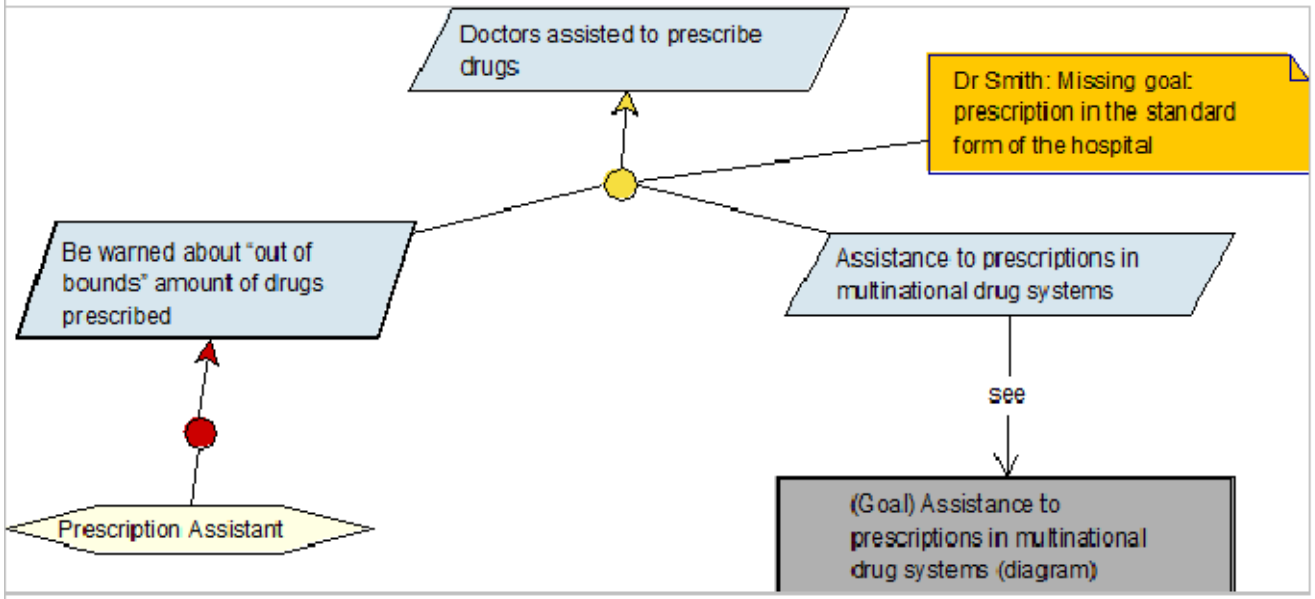
Requirements Documentation



B1 Doctors assisted to prescribe drugs

The system shall provide assistance to the doctors during the prescription process :

- doctors must be informed about out of bounds descriptions
- they must be assisted when they prescribe drugs for foreign patients going back into their countries



Doctors assisted to prescribe drugs

Notes

G2 Assistance to prescriptions in multinational drug systems (page 6)

List of Requirements

Requirement	Agent	Page
E-1. Be warned about "out of bounds" amount of drugs prescribed Drug prescription out of bounds wrt drug posology shall be reported to the prescriptor.	Prescription Assistant	

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GORE: Lessons learnt (I)

- fills the **gap** between business & IT
- improves the **understanding** among the stakeholders
- provides **reasoning continuity**

  (pb1 → sol1=pb2 → sol2 = pb3 → sol3 = …)

  – **connect** business goals to technical requirements

  – anchors the requirements into the **problem** definition

GORE: lessons learnt (II)

- Produces open-minded, **problem-oriented** requirements document (RD)

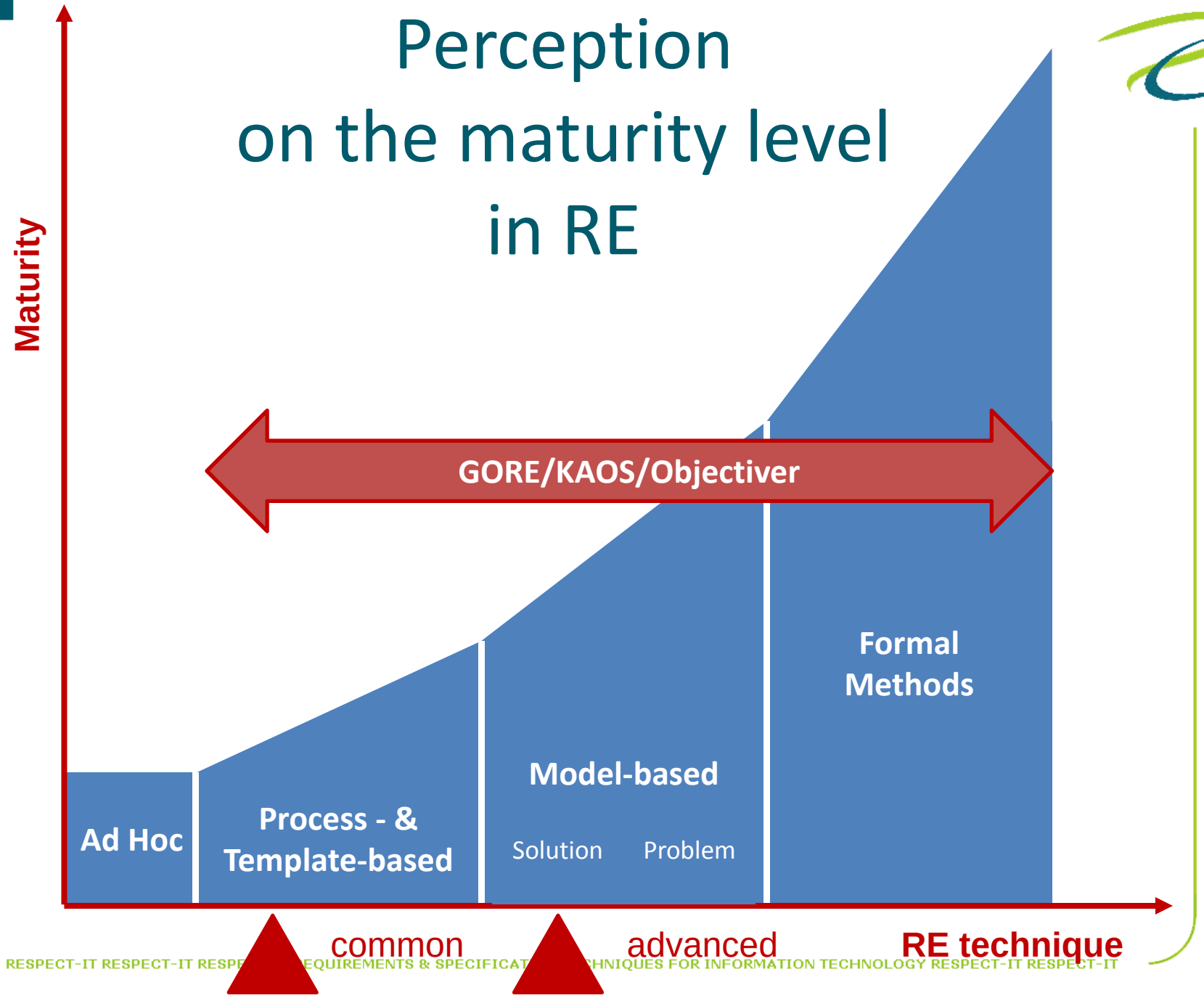
  Ideal RD: problem description + constraints on any solution+project desiderata

- Building a RD with GORE is like assembling a **jigsaw puzzle:** systematic but not rigid method

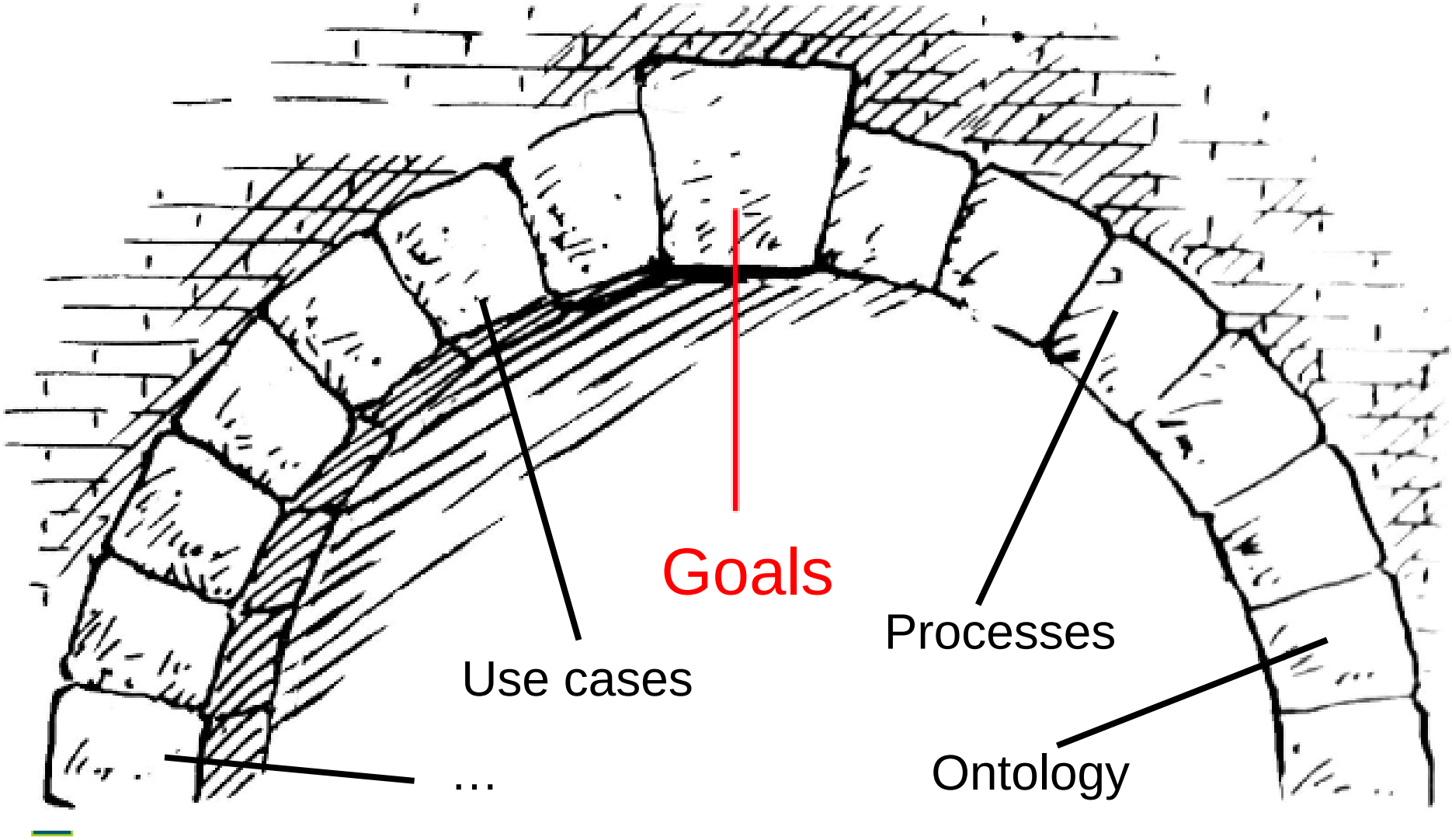
GORE: Lessons learnt (III)

- Model benefits
  - A lot of **by-products** (traceability matrices, queries & checks, document generation, …)
  - Goal model understandable by business people; most solution-oriented models not
  - help specify the problem **correctly & completely**
  - can be used in **waterfall SLC** or in **agile SLC**
- Model drawbacks
  - More difficult to elaborate (investigate behind the scene)
  - **Takes time**

Perception on the maturity level in RE



Conclusion
Goals: Keystone for RE



More information…

KAOS method

www.objectiver.com