


# HeKatE

## Hybrid Knowledge Engineering (HeKatE)

- NCN Grant no. NCN N516 024 32/2878 
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- **Project coordinator:** [dr hab. inż. Grzegorz J. Nalepa](#)
- **Timeline:** 2007-05 → 2009-11
- **Duration:** 30 months
- **Webpage:** <http://hekate.ia.agh.edu.pl>

## Introduction

The research project regards Software Engineering based on Knowledge Engineering. The scope of the project includes but it is not limited to Knowledge Representation, Processing and Visualization methods. Main areas include:

- Knowledge Representation Methods
- Software Design Methods based on Knowledge Engineering
- Knowledge-based Runtime Environments for Standalone and Embedded Systems

The main HeKatE Web Page: <http://hekate.ia.agh.edu.pl>

## Motivation

- There is a *semantic gap* in the contemporary Software Engineering which should be minimized
- Designed Knowledge Base is a 'program' capable of running, assuming that a proper runtime environment is supplied
- The Knowledge Base can be verified and its proper behavior can be assured.
- The Knowledge Base can be easily extended to meet new requirements, implement new functionality etc.

## Results

- [main conceptual background](#)
- [design architecture and process](#)
- knowledge concetualization with [ALSV\(FD\)](#)
- rulebase formalization with [XTT2](#)
- the [HaDEs](#) design environment and toolset includes:
  - conceptual modeling with [ARDplus](#) using [HJEd](#) and [VARDA](#)
  - logical design with [XTT2](#) using [HQEd](#)
  - automated implementation with [HeaRT](#)

- knowledge translation with [HaThoR](#)
- rule-based knowledgebase is:
  - described in a human-readable textual [HMR](#) notation, and
  - serialized to a machine-readable XML [HML](#) format
- number of [rule systems cases](#) has been modeled using the HeKatE approach
- **[all papers produced and related to the project](#)**

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