NOMAD

Policy Formulation and Validation through non-moderated crowd-sourcing

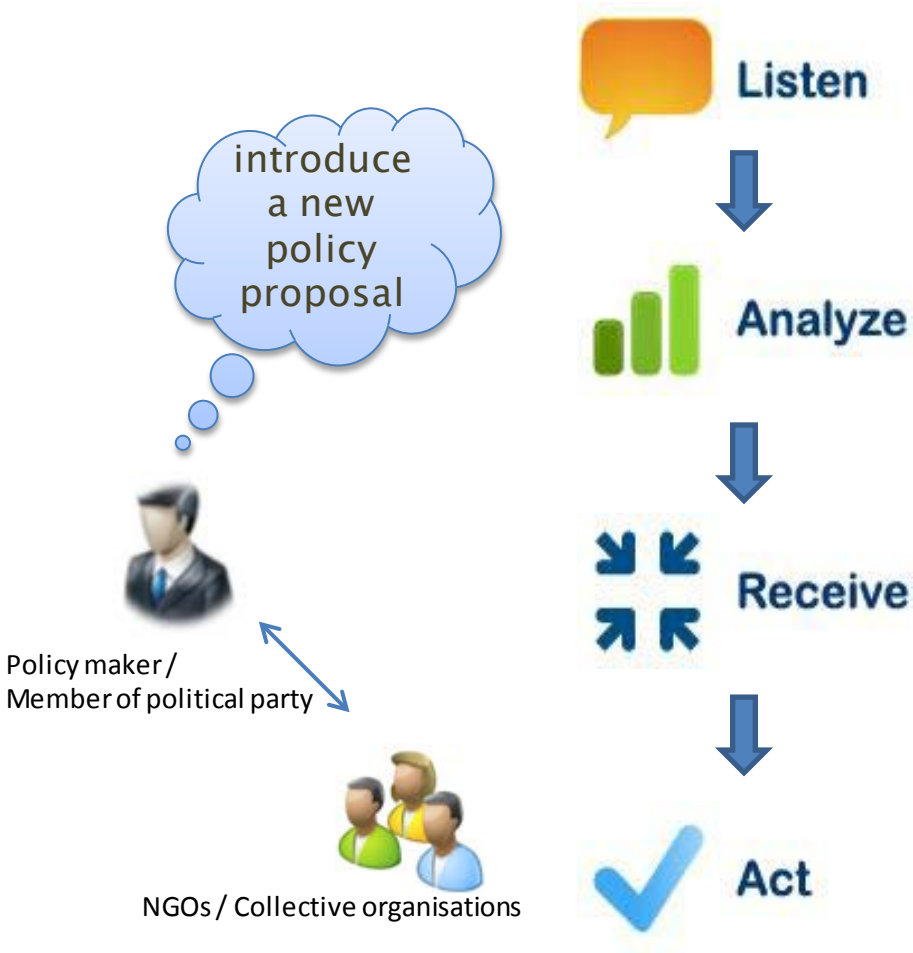
NOMAD Delivers:

- A **novel methodology** for treating the social web as a valuable resource of information for policy making, through non-moderated crowdsourcing
- A **complete set of tools** for searching, analysing and visualising arguments, opinions and sentiments regarding a policy domain
- An **open, modular platform** for policy support, applied in specific policy making cases in three countries

NOMAD: Scientific Impact

- Advancing the policy making process, by injecting **crowdsourcing and web mining** in the policy making lifecycle
- Providing a **novel view on accessing the social web** as a valuable resource for policy formulation
- Exploiting a **structured view of citizens' opinion**, to discover implicit meaning in the social web
- Creating an innovative **policy and argumentation model**, capable of achieving machine processing to vast amounts of textual data
- Assisting the policy maker to:
  - Achieve a policy formulation process driven by the needs and the opinions of citizens
  - Observe how does the public opinion evolve over time, as a result of a public discussion and on-line deliberation

The NOMAD approach



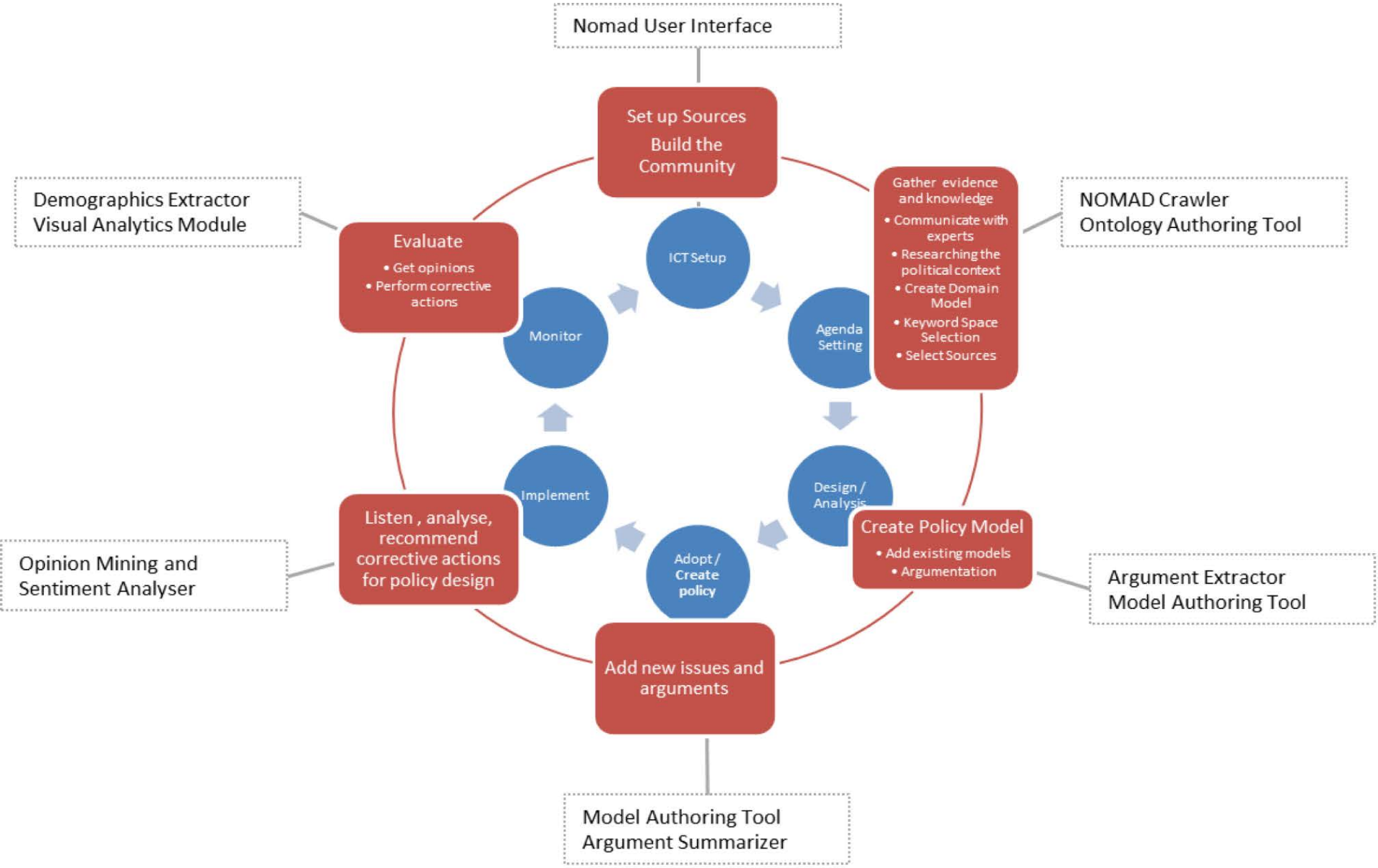
Citizens' needs and proposed solutions on the current political scene

Sentiment Classification on society's opinion, analytics on argumentations, objections or justifications (e.g. geo-demographical distribution)

Feedback on published policy elements

Release a policy proposal triggering a new NOMAD cycle

A NOMAD example: Social Web tools in the Policy Life cycle



The NOMAD pilot application scenarios

- Greece: The Strategy for Energy planning / renewables
- UK: European policies on the treatment of allergy
- Austria: Open Data legislation

Research Area #1: Opinion mining and Sentiment Analysis

- 3 main approaches
  - Lexicon-based methods
    - Make use of a sentiment lexicon, a collection of known and pre-compiled sentiment terms
    - Problem when shifting to new domains
  - Machine Learning methods
    - Make use of syntactic and/or linguistic features
    - Good for low quality text, especially in social media
  - **Hybrid methods**
- Current NOMAD implementation is Lexicon-based
- We examine N-gram graphs
  - A machine learning based, language-agnostic, fully scalable method

Research Area #2: Argument Summarization

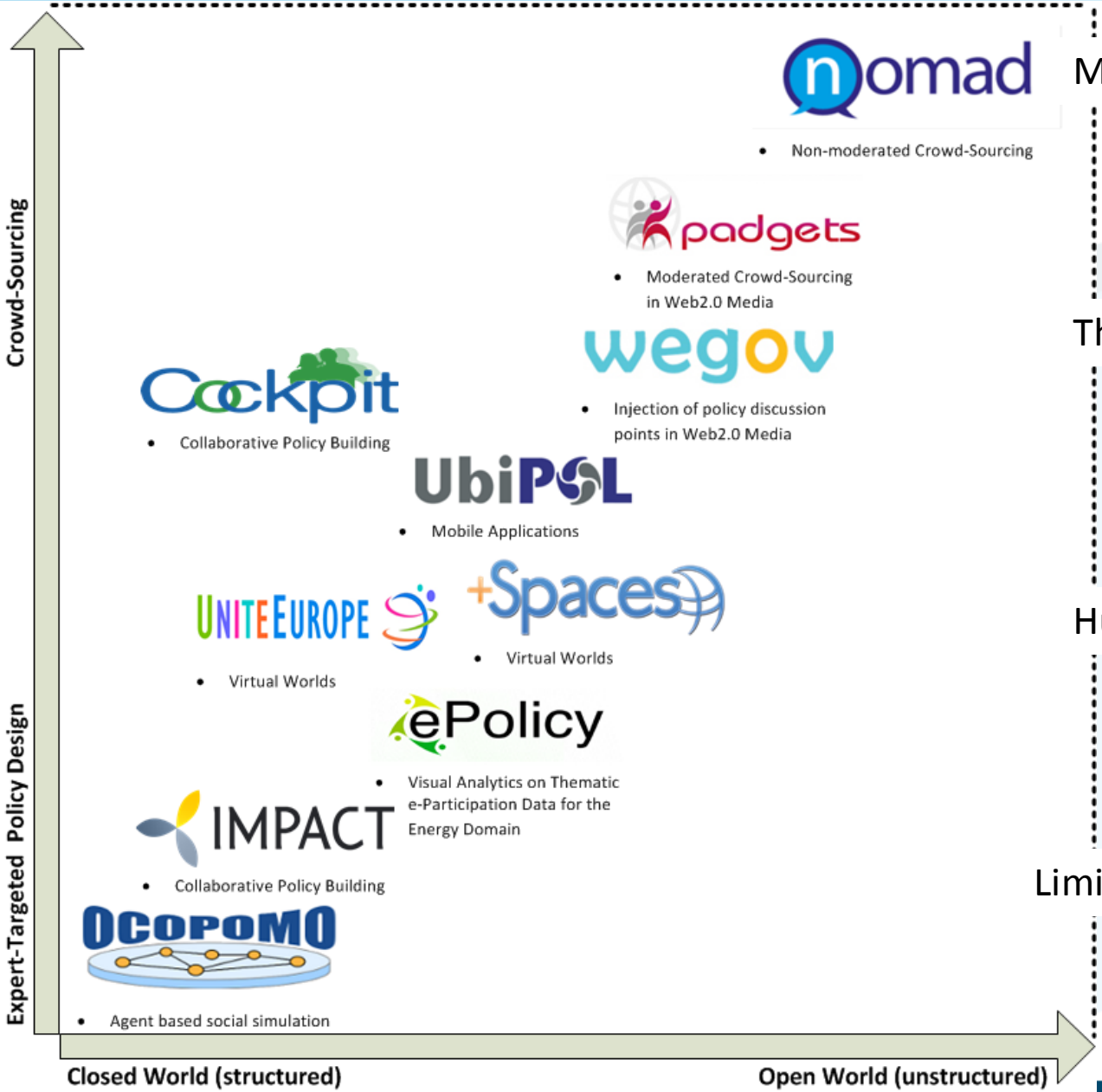
- Summarizes the extracted arguments in the form of anonymity-preserving and faceted automatically-generated summaries

- Summarization using n-gram graphs
  - Subtopic detection (via sentence clustering)
  - Redundancy removal (via sentence similarity)
  - Evolution of the initial system MUDOS-NG
  - First application: NewSum, to be presented:
    - CICLing 2013, MultiLing 2013 at ACL 2013
  - Language independent and Open source

Achievements so far

- A web-based policy formulation / authoring tool
- A set of crawlers for more than 500 blogs, facebook and twitter profiles
- A web-based argument annotation and correlation tool
- Language components for opinion mining in English, German and Greek
- Argument visualisation components
- Policy representation in the 3 respective areas (energy, allergy, open data)

NOMAD and other Projects in Policy Modelling



Millions of interactions

Thousands of interactions

Hundreds of interactions

Limited citizen interaction

NOMAD Consortium

Project Coordinator:

University of the Aegean (Greece)

Project Partners:

- Google (Switzerland)
- Athens Technology Center - ATC (Greece)
- CRITICAL PUBLICS (United Kingdom)
- QWENTES KANTOR (Belgium)
- Austrian Parliamentary Administration (Austria)
- Hellenic Parliament (Greece)
- NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS" (Greece)
- FRAUNHOFER INSTITUTE FOR COMPUTER GRAPHICS RESEARCH(Germany)