Aim

The aim of NORM-SYS is to prepare the standardisation of existing community standards for models and data in the field of systems biology and computational modelling in close cooperation with relevant stakeholders and existing standardisation initiatives.

NORM-SYS is a project funded in the frame of a standardisation support program of the German Federal Ministry for Economic Affairs and Energy. The project has a duration of two years and started in September 2014 as a cooperative project of three German organisations: HITS gGmbH, University of Potsdam, and LifeGlimmer GmbH.

Project Objectives

1. Harmonisation of formats and standards along the pipeline of systems biology research to achieve fast and efficient data integration (the basis for the automation: “from machine to model”).
2. The systems biology communities are still working relatively independent from each other; the challenge is to bring together the various activities and involve as early as possible the respective experts and representatives in the standardisation process.
3. Harmonisation of “bottom-up” and “top-down” approaches, i.e. formation of a joint working group consisting of the scientific communities and the relevant standardisation bodies at the international (e.g. ISO), European (e.g. CEN / CENELEC / ESTI) or national level (e.g. DIN).
4. The involvement of relevant decision makers and stakeholders from academia, industry and other interest groups as potential users or promoters for standards developed by the research communities in the field of systems biology and computational modelling.
5. Development of concepts for the transformation of existing standards into certified specifications or norms to achieve a wider acceptance of the developed standards and a more effective transfer of systems biology research results into applications.

NORM-SYS – Community

NORM-SYS embraces a broad spectrum of relevant stakeholders:

- **Research Communities**
  - Develop community standards and identify
  - Oversee standards for integrative research data
  - Help to define and promote standards

Overview about existing standardisation bodies:

Standardisation Bodies

- ISO
- DIN
- IEEE
- NIST
- NIA
- cancer.gov
- CancerBioinformatics
- ESTI
- NORM

Overview of some of the existing standards in systems biology data, models, simulations, results and their respective descriptions.

**Workplan**

The workplan forges four work packages:

- **WP1**: Identification and classification of standards
- **WP2**: Community building between relevant stakeholder groups
- **WP3**: Certification concept for existing standards
- **WP4**: Strategy development and dissemination

**Interaction with ISO/TC 276 Biotechnology**

ISO/TC 276 Biotechnology will work closely with related committees in order to identify standardisation needs and gaps, and collaborate with other organisations to avoid duplication and overlapping of standardisation activities.

Standardization activities of ISO/TC 276 in the field of biotechnology processes includes the following topics:

- **WG1**: Terminology
- **WG2**: Biobanks/BIorepositories
- **WG3**: Analytical Methods
- **WG4**: Bioprocesses
- **WG5**: Dataprocessing and Integration (in decision process)

**Project Partners**

- Babraham Institute
- LifeGlimmer GmbH
- University of Potsdam
- Heidelberg Institute for Theoretical Studies

Please visit our webpage for more information:

www.normsys.org