

Gate Vision

GATE Teaming 1 project vision is oriented towards the establishment and long term sustainability of a Big Data Centre that will produce excellent science by seamlessly integrating connected fields and associating complementary skills. GATE will play a dynamic role in the surrounding innovation system by adding value to knowledge, will boost the next-generation of early-stage researchers and will achieve high level of international visibility and scientific and industrial connectivity.

Gate Objectives

The general objective of GATE is to establish Centre of Excellence on Big Data in Bulgaria as a real joint venture initiative between Sofia University, Chalmers University of Technology and Foundation Chalmers Industrial Technology. The development and implementation of a robust Business plan will ensure a reasonable long term stability of funding and operating conditions over time, as the basis for investing in people and building strategic research and business partnerships.

- 1 Elaboration of a detailed and robust business plan for setting-up and sustaining of the CoE.
- 2 Strengthening the research capacity and potential in the area of Big Data
- 3 Establishment of an international collaborative network
- 4 Mobilization of a vivid community of stakeholders around the Centre of Excellence
- 5 Increasing quality of education and training
- 6 Wide dissemination and promotion of project aims, activities and outputs

Project Data

GATE: Big Data for Smart Society

Funding programme

Horizon 2020 WIDESPREAD-2016-2017 TEAMING Phase 1 programme

Acronym

GATE

Start date

1 September 2017

Duration

12 months

Project partners

Sofia University "St. Kliment Ohridski"
Chalmers University of Technology
Chalmers Industrial Technology

Contacts

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CHALMERS
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GATE

Big Data for Smart Society

Spreading excellence for Society

Methodology

Phase 1: Capacity building

The capacity building of GATE is focused on the way individuals, organisations and society will strengthen their abilities to perform functions, solve problems and formulate strategies to achieve the CoE objectives. The activities for capacity building aim human resource development by gaining skills, knowledge and training in order to act effectively while solving Big Data research challenges and Innovation Pillars.

Phase 2: Community building

The identified stakeholders include the following target groups: (1) Academia, including universities, institutes from Bulgarian Academy of Sciences, research centres; (2) Industry, including start-ups, SMEs and big companies; (3) Public administration and Governance, policy makers; (4) Non-profit organisations such as associations, clusters, societal initiatives. Their representative will be invited in organised workshops, online events, dedicated on the Innovation pillars of the GATE. A direct interaction with the stakeholders through face-to-face interviews and questionnaires will be initiated. An indirect engagement will be achieved through social media.

Phase 3: Business plan development

At this phase the two working groups, formed from leading researchers from SofiaUni, CHALMERS and CIT, will be performing - for Research agenda preparation and for Business Plan preparation. At the working group meetings based on the outputs of the previous two phases the joint research agenda of CoE GATE will be developed. (Data-Driven Innovations). The CoE GATE will follow the five key elements in the Open Innovation 2.0 process.

GATE crosscutting components

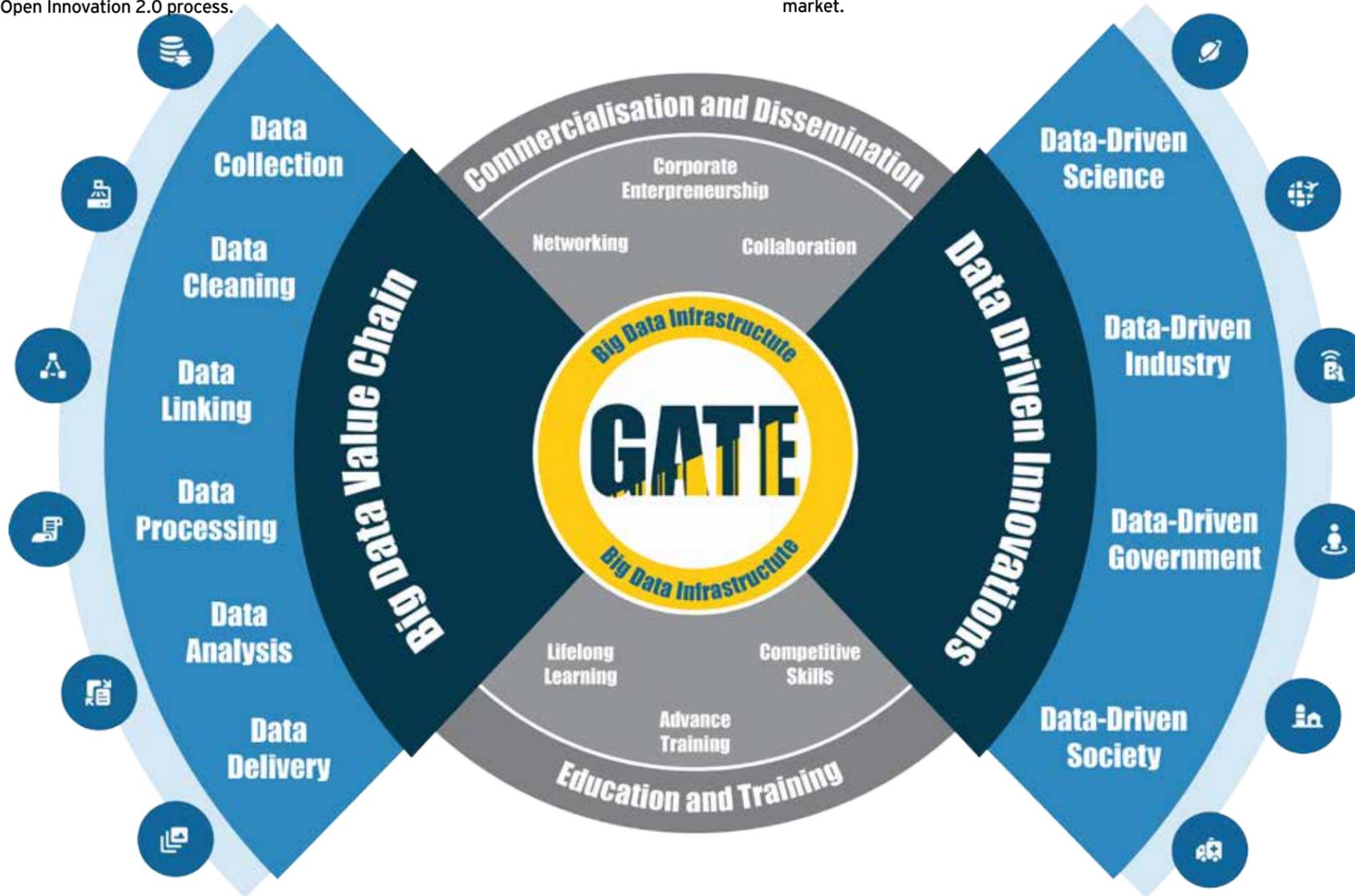
Education and Developing Big Data skills

To answer the need of data expertise GATE will research the demand for particular Data Science skills and expertise in RIS3 priority sectors. This will be done in collaboration with the stakeholders' community. Based on the analysis of the results obtained, multidisciplinary training and learning materials will be developed. New methods and methodologies for Data Science training will be applied, using advance teaching tools such as serious games, virtual worlds and simulations. Furthermore, creation of competences and training will be provided also for companies that want to experiment with digital technologies inside their products.

Innovation and Commercialization of GATE Big Data research results

A primary goal of the CoE GATE is not only to raise the research in advanced area such as Big Data, but using the outcomes of that research to force innovations in a wide range of industries (Data-Driven Innovations). The CoE GATE will follow the five key elements in the Open Innovation 2.0 process:

- ▶ Networking through a wide research network and community;
- ▶ Collaboration: involving partners, competitors, universities, and users;
- ▶ Corporate Entrepreneurship: enhancing corporate venturing, start-ups and spin-offs;
- ▶ Proactive Intellectual Property Management: creating new markets for technology;
- ▶ Research and Development (R&D): achieving competitive advantages in the market.



Interdisciplinary Research Approach

The following have been outlined by RIS3 and selected by project team as sectors that are especially promising with regard to Big Data Value and form GATE Data Driven Innovation Pillars:

1 Data Driven Government

Public services based on Open Data

The collection and exploitation of real-time data from people, public authorities, public registries, etc. will be the basis for the creation of new ICT services and networks. The advanced value-added Open Data services will facilitate access, navigation, searching and reuse of data for citizens and will increase efficiency in public administrations processes.

2 Data Driven Industry

Manufacturing and Production

With the advent of smart factories with intelligent and networked sensor-equipped machinery (Internet of Things), the production sectors in 2020 will be one of the major producers of (real-time) data. The application of Big Data into this sector will bring efficiency gains, predictive maintenance and entirely new business models.

3 Data Driven Society

Smart and Sustainable Cities

City mobility, transport and logistics are among the most complex Big Data settings. In addition to sensor data from infrastructure, vast amounts of mobility and social data are generated by smart phones, C2x technology (communication among and between vehicles), and end-users with location-based services and maps. Big Data will open up opportunities for innovative ways of monitoring, controlling and managing more effectively the whole city ecosystem.

4 Data Driven Science

New Generation Data Scientists

The scientific community is rapidly moving forward with the adoption of the Big Data technology stack. Big Data is steadily merging with traditional High Performance Computing architectures. Today significant amounts of data can be collected and analyzed in the pursuit of unparalleled understanding of nature and the universe.

Main Research Objective

GATE main research objective is to advance the state-of-the-art in the whole Big Data Value Chain, including development of advanced methods and tools for:

- 1 Data collection, structuring and storing
- 2 Data consistency checking and cleaning
- 3 Data aggregation and linking
- 4 Data processing, modeling and analysis
- 5 Data delivery by providing both accessibility and visualization