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Swiss Federal Institute of Technology Zurich
Prof. Dirk Helbing
Chair of Sociology, in particular
of Modeling and Simulation
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Munich, April 16, 2012

Dear Professor Helbing,

on behalf of the Fraunhofer Society and the Fraunhofer institutes IGD, IAIS, FIT and ITWM we write to express our support for the proposed FET Flagship project »FuturICT«.

Through the transfer of knowledge from research to practical applications, Fraunhofer contributes to the technological furtherance of European trade and industry. The Fraunhofer Society does applied research with the aim of further developing innovative information technology and of making the results of the new technology available for applications.

As core signing partner Fraunhofer-Gesellschaft would also take a prominent role in supporting the national hub in Germany for the FuturICT project. We estimate the Fraunhofer budget to be at least 2 Mio € per annum, where we expect that 50 per cent of the budget will be funded by the European Commission, 25 per cent by in-cash contributions and 25 per cent by in-kind contributions, provided by the Fraunhofer institutes that will be involved in FuturICT.

The four institutes, which are further described below, will focus specifically on the following areas:

- Visual analytics and visualization approaches and frameworks for the ICT platforms in FuturICT
- Semantically interoperable distributed federated simulation and system integration
- Data mining & knowledge discovery
- Internet of Things & Services (IoTS)
- HPC software platform for the Living Earth Simulator
- Open source sensor networks for the Planetary Nervous System
- Application domains
 - Disaster management
 - Energy efficiency
 - Finance

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Fraunhofer IGD focuses on the development of product prototypes (hard- and software) and the realization of concepts, models, and solutions for computer graphics and its adaptation to specific application requirements. Fraunhofer IGD will also act on behalf of the European community of visual analytics and information visualization in FuturICT that stems from the project »VisMaster«, a European Coordination Action in the FET Open area. We see visual analytics and visualization as highly relevant research topics within FuturICT. Fraunhofer IGD would contribute to visual analytics, presentation, visualization, and the Living Earth Simulator, the Planetary Nervous System and the Global Participatory Platform within FuturICT. Through its experience in visual analytics, Fraunhofer IGD will also contribute to enabling the various exploratories and observatories by designing a unified framework for data management, analysis, exploration and visualization. FuturICT will also profit from an entire community working on visual analytics by means of the established VisMaster structures. The representative for Fraunhofer IGD will be Dr. Jörn Kohlhammer.

Fraunhofer IAIS carries out research on innovative systems and algorithms for analyzing data, structuring and interacting with information, and for supporting better decisions. The institute is contributing intensively to scientific fields such as machine learning, data mining, visual analytics, multimedia pattern recognition or process intelligence. In dealing with big data, Fraunhofer IAIS supports its customers and partners with applied research, consulting and development, turning innovation into working solutions for optimizing products, services and processes. R&D activities that are relevant for FuturICT target the business areas preventive security, process intelligence, and market research and media analysis. Within FuturICT, Fraunhofer IAIS will contribute to the planned ICT hub with its competences in semantically interoperable distributed federated simulation, system integration, data mining and knowledge discovery. For FuturICT's Crisis Observatories, Fraunhofer IAIS contributes its modeling, simulation and analysis assets in the area of Critical Infrastructures. Fraunhofer IAIS is excellently cross-linked within the communities of security research, simulation, knowledge discovery and visual analytics and can mobilize support from these communities as well. The representative of Fraunhofer IAIS will be Dr. Erich Rome.

Fraunhofer FIT investigates human-centered computing in a process context. The goal is to develop technologies and IT systems focusing on their users throughout their complete life cycle providing effective personalized support for the processes and tasks at hand and that fit perfectly into the work environment. FuturICT will greatly profit from FITs contributions and reputation in the area of Future Internet and Internet of Things and Services. FITs service oriented and semantic model-based LinkSmart middleware for the Internet of Things and Services its expertise in context management, data- and sensor-fusion as well as large-scale event processing, will contribute to the Planetary Nervous System within FuturICT. The focus on the application domains of Energy-Efficiency and Disaster Management adds areas of outmost social and ecological relevance that play a major role for the Living Earth Simulator and add as well to FuturICTs Global Participatory Platform. The representative for Fraunhofer FIT will be Dr. Markus Eisenhauer.

Fraunhofer ITWM focuses on the development of platform technologies to manage large datasets, develop and execute complex workflows and on open source smart grid technologies. Fraunhofer ITWM will contribute its leading cloud programming (GPI-Space) and storage (FhGFS) tools to the Living Earth Simulator platform. GPI-Space represents a next generation cloud programming platform .It enables in memory analytics and large amounts of data and by being fault tolerant it provides a new functional approach to cloud programming. The FhGFS is the leading European high performance file system for distributed data. We have established a regional test-bed for open source smart metering, which leaves control to the users and is establishing a community process for further expansion. So we hope to contribute our practical experiences and knowledge of distributed systems as well to the Planetary Nervous System. The representative for Fraunhofer ITWM will be Dr. Franz-Josef Pfreundt.

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The representatives of our different institutes will be working closely together to support the setup and realization of the FuturICT proposal and project in any way possible.

Fraunhofer IGD will coordinate the Fraunhofer efforts during the next steps in FuturICT. Should you have any further questions concerning our support, please do not hesitate to get in touch.

Yours Sincerely,

