

Research Priorities and Funding Aspects in the Fields of Communication Systems and IT Security

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Three Funding Priorities of the BMBF Unit „Communication Systems; IT Security“



IT Security

- **Research program for IT Security “Self-determined and secure in the digital world”**
- Secure Networking for a Data Center Cloud in Europe (SENDATE)
- Quantum Communication
- IT Security for Industry 4.0
- 3 Competence Centers for IT Security Research



Communication

- **5G: Tactile Internet**
- **5G: Industrial Internet**
- **Reliable wireless communication for industrial applications**
- Cognitive Radio
- Mobile Communication
- Future applications
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Digital Life

- Privacy and Self-determined Living in a Digital World
- Internet Privacy
- Linking social developments with technological solutions



IT Security

Research topics for the future

“Self-determined and secure in the digital world”

Hightech for IT security

- Hardware Security
- Digital Identities
- Kryptography
- Quantum communication

Secure and trustworthy ICT systems

- Protection against internet attacks
 - Quantifiable IT security
- IT security in heterogeneous systems
- Piracy protection

Research topics

IT security for application

- Industry 4.0
- Critical infrastructures
- Traffic and logistics
- Medicine

Privacy and protection of data

- Self-determined in the digital world
 - Cyber culture
- Privacy vs. big data



IT-Sicherheit



Leben digital



Kommunikation

Examples of recent Calls and Projects of BMBF Unit „Communication Systems; IT Security“



- **IT-Security for Autonomous Driving:** Goal is to significantly enhance IT security for autonomous and connected driving and to further strengthen the technological leadership of the German automotive industry (Deadline on Nov 4th, 2016)



- **5G: Tactile Internet:** High performance communication systems and secure networks in key application areas such as industry 4.0, mobility and medicine. (Deadline on February 19th, 2016)



- **Celtic-Plus Project SENDATE:** Secure Networking for a Data Center Cloud in Europe (SENDATE); Follow-on project of successful Celtic-Plus project SASER (Project started on April 1st, 2016)

Example Celtic-Plus Project SENDATE

SENDATE works on a solution to connect *European data centers* through *enhanced transport networks* and *improved networking concepts* that will result in *reinforced overall security*. The project will lead to better control of data flows and new security concepts on the internet.

- **81** Project partners from 4 European Countries (Finland, France, Germany, Sweden); Budget (total): 72826 k€
- Partners from Germany are active in four of the five different sub-projects. Thus, almost all topics are covered, except the intra-data center optimization, which is covered in SENDATE-EXTEND. In total, **40** partners from Germany are involved in SENDATE
- Budget (German partners): 32.576 k€; BMBF funding: 20.245 k€

<http://www.sendate.eu/>

Advices for Celtic Proposers

General aspects of project ideas

- Topics and consortia with *European relevance and impact*
- Topics “*complementary*” to those of the R&D programs of the EC
- Developing solutions for *current challenges*
- Bringing *research and industry together*
- Incorporating *interdisciplinary approaches*
- Sustainable *industrial exploitation* by the German partners is expected (important!)

Advices for Celtic Proposers

Technical focus

- The project work has *significantly to deal with R&D (and not merely with developing of applications!)* in the fields of Communication Systems and/or IT Security
- Research that *links Communication Systems topics and IT Security aspects*

But no projects with exclusive focus on infrastructure aspects of communication systems (such as more bandwidth, faster communication, saving of energy, lower costs ...)

Information on running and past calls and projects is available at

<http://www.forschung-it-sicherheit-kommunikationssysteme.de/>

To avoid unsuccessful steps: it is strongly recommended to contact the project management agency prior to submission

Advices for Celtic Proposers

- R&D funding of CELTIC-Plus projects (and generally all other EUREKA cluster projects) in Germany is not exclusively limited to one particular German ministry and funding programme
- Keep in mind that some Celtic-Plus projects might fit better to other programmes of BMBF or even of other ministries. Examples: ZIM-programme or the “Convergent ICT” programme of the Ministry of Economy and Energy BMWi
- A labelled CELTIC-plus project proposal might not fit at all to any R&D funding programme in Germany.

Further proposal evaluation criteria

- Level of innovation
- Technical R&D risks (extraordinary R&D risks are mandatory!)
- Societal relevance of the research goals
- Economic potential of the R&D results
- Technical and scientific quality of the R&D approach
- Appropriate composition (including industrial participation and participation of SME) and qualification of the partners
- Appropriate project management structure
- Plausible and convincing implementation- and exploitation plans

Funding scheme

Same scheme as for nat'l partners in projects from regular nat'l calls:

- Cost sharing for industrial partners
- 100% for academic partners

Thank you for your attention!

Further information:

<http://www.forschung-it-sicherheit-kommunikationssysteme.de/>

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