



Εθνικές Τεχνολογικές και Επιστημονικές Πρωτοβουλίες 'ΕΤΕΠ'

Ασφάλεια (Security)

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State of the art in the field

- **ICT Security**

- Internet Security
- Wireless Networks
- Networked compute, storage, and embedded systems
- Information Access Control & Privacy

- **Critical infrastructures security**

- Nuclear Security
- Nano-sciences & -technologies, Materials and new Production Technologies
- Situation awareness technologies
- Infrastructure networks

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R&D Map of Greece in the Field

- **Research institutions**

- Hellenic Institute of Transportation, CERTH
 - Transport networks, users behavioral analysis
- Institute of Computer Science, FORTH
 - Many areas of ICT security: internet, wireless, stored information
 - Privacy issues, e.g. medical data
- Greek Atomic Energy Commission
 - Nuclear, Radiological, Biological, Chemical Threats
- Laser-based Techniques and Applications, NHRF
 - Development of gas sensor structures

- **Higher Education Organizations**

- University of Athens, Patras, Macedonia, Pireaus, Aegean, Crete, NTUA

- **Industrial Organizations**

- Information Security, Telecom

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Greek Strengths in the Field

- **Information Security**

- Strong pool of researchers, established presence in global scene
- Researchers main partners in European-level activities
- Greece currently hosts ENISA, the European Networks and Information Security Agency

- **Critical Infrastructures**

- First programme internationally for the securing of major public events
 - Nuclear security and radiological preparedness for the Olympic Games in Athens 2004
- GAEC is recognised as regional training centre for security issues
 - Training of hundreds officers, technicians and scientists from the broader region (Europe, Middle East and Mediterranean Countries)

- **Recent developments in infrastructure networks in Greece led to strong industrial interest for both ICT as well as critical-infrastructures security**

Greek Weaknesses in the Field

- **Lack of focus towards issues that are not necessarily the focus of European programs**
 - Greece, due to its location, faces a number of issues that require special attention (physical borders & network operator connectivity)
- **Difficulty to grow further by attracting top-notch researchers in the area**
 - There is a need for attracting researchers at all levels (graduate, postdoctoral, senior) with expertise in related problems from within and outside the EU
 - Having a more significant impact on the global scene requires incentives to attract researchers for both short-term and long-term collaborations
- **Low amount of national funding for R&D due to the lack of a national research policy**
 - Low contribution of local industry to R&D funding
 - Limited collaboration with and support from public actors (e.g. defence organizations) and research

Greek Opportunities in the Field

- **Greece has critical mass to play an important role in the European and worldwide scene in security**
 - Especially if incentives are provided to further grow existing activities
- **The location of Greece places it in a unique position to play an important role**
 - South-east Europe, Mediterranean, and Middle-East domains
 - Both ICT and critical-infrastructures security
- **Security research has the potential for creating**
 - Security-specific positions that have a high degree of expertise
 - Products and services that are in demand by other countries

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Relevance of the field to Greece

- **Trends in modern societies**
 - (1) Information and communication technologies are becoming more and more essential for (a) business, (b) education, and (c) entertainment purposes
 - Public services make increasing use of ICT technologies for improving their efficiency
 - New services in communication rely heavily on the internet
 - TV & radio broadcasting are starting to use the internet
 - (2) Modern societies rely more and more on centralized infrastructure networks
 - Transportation, power, various natural resources
- **Crucial to protect the interests of both the “service provider” as well as the “service customer”**
 - Accidental or malicious mishandling of the offered services
 - Use of private information for service delivery only
- **Two sides**
 - Scientifically, security interesting as many of the current and future problems do not have good solutions today
 - Industrial-business, little already in place in terms of products/services for addressing problems

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Suggested areas of R&D priority

- **ICT security issues**
 - Internet and next-generation attacks
 - Networked compute, storage, and embedded systems
 - Wireless Networks
 - Large-scale peer-to-peer systems
 - Information access control
- **Critical Infrastructures Security**
 - Nuclear security
 - Toxic and explosive gas security
 - Situation awareness
 - Infrastructure networks

Linkage with EU Platforms

- **Key players in EU**
 - Security in broad sense main pillar in European activities and initiatives
 - Goal: Europe more secure for its citizens while increasing its industrial competitiveness
 - European Security Research Advisory Board (ESRAB) has been created to make recommendations to the Commission in security related areas
 - Europe has established ENISA for network and information security
 - Activities in coordination actions in critical infrastructures security (e.g. CI2RCO)
 - Nuclear security has been receiving significant, increasing attention
- **Internationally**
 - Significant activities (US DoE, SANDIA Labs, etc)
- **Security is a main focus specifically for research world-wide & in Europe**
 - Research in security intensified over last years
 - Trend is projected to continue due to the increasing importance

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Possibilities for linkage and requirements

- **Forming national-level committees for each major area in security and interfacing to corresponding EU-level committees and bodies**
 - ICT security and information privacy
 - Critical infrastructures security
- **Recent Joint Statement acknowledges the need to address the threat of nuclear and radiological terrorism to the EU**
 - and the need to encourage a broad discussion and exchange of experience between the MS
- **Alignment of funding in the area of security at the National level with efforts at the European level**
 - Achieve better complementarity
- **Complementing existing European mobility programs**
 - Provide additional incentives for longer-term mobility and for attracting excellent researchers to Greece

Long-term prospects for Greece and implications

- “One of the fundamental roles of government is to help ensure the security of its citizens. [...] Making Europe more secure for its citizens while increasing its industrial competitiveness is the goal of European Security Research. [...] better understand and respond to risks in a constantly changing world.”
- **For Greece, research is a main enabling instrument for this goal in the long term**

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Implementation tools of platform

- **Encourage and support long-term basic research**
 - Further build up the momentum that Greece has developed over the last few years
- **Long-term applied research**
 - Cultivate further applied research in security, especially by establishing ties to local industry
- **Networking at national and international level**
 - Promoting exchange of people and joined activities
- **Attracting top researchers & promoting mobility**
 - Incentives



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