

# Strengthening the Security of Information and Communication Technology

## The Information Security Group, Royal Holloway, University of London

### Meeting Global Challenges

- The Information Security Group (ISG) is one of the largest academic security groups in the world. It conducts research on the protection of critical infrastructures, security for fixed and mobile networks, systems and device security, management and organisational aspects of security and fundamental security technologies.

### A Multidisciplinary Approach

- The ISG draws on expertise from a wide range of academic disciplines including mathematical, computer science and high-tech science-based research into technical information security problems and sociological and management research into the human factors issues of information security. The multi-disciplinary approach and deep engagement with industry ensures maximum impact from the Group's research.

### Impact of Research

- The Smart Card Centre of Excellence is a partnership between the ISG and Vodafone, and one of the largest global card manufacturers. The centre is leading the development of this major new industry.
- ISG staff have acted as consultants to more than 100 organisations, including national governments, major financial institutions and the telecommunications industry.
- The ISG is a partner in the International Technology Alliance, a joint MoD (UK) - DoD (US) programme conducting research on networks deployed in warfare situations including humanitarian relief, civilian and insurgent control, or full combat operations. The ISG worked on a Ministry of Defence Security Programme which explores the use of commercial 'off the shelf' equipment to provide high level security in Information Technology structures within affordable costs.
- Members of the mobile communication industry commissioned ISG to investigate the future of SIMs/USIMs and alternative security solutions for mobile devices which led to more than ten vendors updating their products in response to vulnerabilities.
- Collaborations between the ISG and European partners on a succession of European Union Framework programmes, including a roadmap for future mobile privacy and security; a study examining security issues for post 3rd generation mobile networks and a project developing secure computing systems based on open source software. The ISG has designed and analysed algorithms for the European Telecommunications Standards Institute which are used by millions of mobile phone users across Europe.

### Funding sources

- The ISG was established with QR funding and SERC Industrial CASE awards. EPSRC research grants have allowed the Group to develop. In many cases, the case for funding has been built on new research ideas developed with QR funding.
- Much of the ISG's current research portfolio and consultancy is sponsored by business and government departments including British Telecom, Giesecke and Devrient, Hewlett-Packard, Microsoft Research, the UK Ministry of Defence and Vodafone, and the EU.