Strategic Planning 2019

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https://www.lancaster.ac.uk/security-lancaster/
SL: Outlook, Coverage + Ambition

- The Holy Grail of Security (correct by design & analysis) has limits
  - Security needs to adapt to changes: churn in applications, in supporting technologies, in deployment (mobility, heterogeneity...), in usage patterns and changes in attacks
  - Security needs to be usable & measurable
  - Security =‘s E2E “systems” attribute; CIA over data collation, storage/transport & usage
  - A data-centric “systems” view allows adaptability to changes (in technology & usage)
- Security is NOT just a technology issue – it’s a “systems” issue!

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- Our uniqueness comes from a multi-disciplinary “socio-technical” approach to provide useful and usable security
- Our ambition is to be THE international hub for collaborative R&D for Socio-technical Systems Security (SSS-H). We advocate a Data Centric End-to-End System’s Security outlook that holistically covers multiple current and emergent application domains/technologies
- We provide TIDE-H as a shared community threat repository/testbeds to facilitate collaboration/exchange with Academia, Industry, Govt, SME’s etc
- SL’s research is supported by collaborations with Data Sciences, ACE & CREST
SL’s Application Domains (Current & Upcoming)

**CIP**
- Banking, Industrial Control Systems, Transport, Energy

**Societal**
- Child Abuse, Violence, Behavioral Mores, Privacy

**Defense**
- Terrorism, Crime, War

**Health**
- Technology Assisted Living, Health Data/Genomics Privacy

**AV**
- Autonomous Systems, Security Quantification, Security Composition, Data Integrity
- Adaptive Security
- Resilient Data Analytics/ML
SL’s Research Areas: Socio and Technical

LANC SSS-H: Data-Centric Socio-Technical “Systems” Security Hub
Development towards a Security Data Hub

**LANC TIDE-H**: Lancaster’s “Threat Intelligence Data Exchange Hub”

**TIDE-H**

- **Academia**
  - Threats Dataset Repository for Academic Collaborations (iDID, h-UNIQUE, ICS, OS, Network, Social...)

- **Industry**
  - Anonymized Sharing of Attacks & Threat Patterns (Banks, CIP...)

- **Government**
  - Repository for Threat Profiles, Health DBs... (Police, GCHQ+ Intl., NHS...)

- **Virtual Labs**
  - Incubator Env. Tools/Testbeds/IPR/Best Practices...

**Synergy:**
- Data Sciences Institute, Secure Digitalization (SecureD @UEZ), Lancaster Technology Accelerator, Manchester/Lancashire CyberFoundry, Health Innovation Campus, Eden, EC CONCORDIA...
The SL Community Building Approach  » Inform, Engage, Lead »

- **Academic Information Days**: Exposure of our research areas portfolio. Events on topical and emergent areas + road mapping to develop research cooperation clusters.

- **Industry Information Days**: Engagement for research, collaboration and technology transfer. Support for business incubation.

- **Policy/Funding Information Days**: Awareness, exposure, road mapping

- **Community Information Days**: Social outreach, exposure and awareness building for general public, school STEM programs and university-bound students to “research + educational + societal” aspects of Cyber Security.