# Secure and Trusted Cyberspace

SaTC.

## Security Research at NSF

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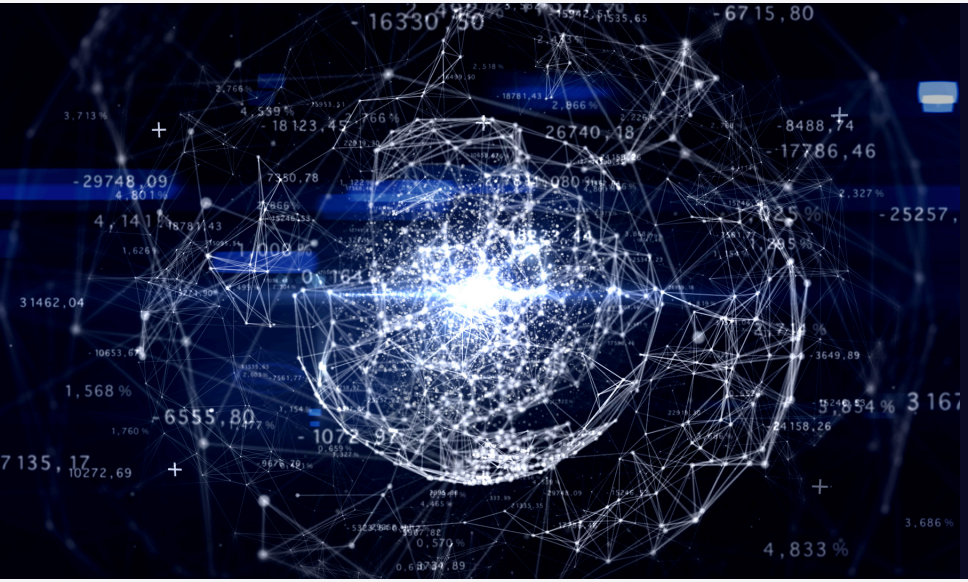
# In today’s networked, distributed, and asynchronous world



cybersecurity involves hardware, software, networks, data, people, and integration with the physical world

# society's overwhelming reliance on this complex cyberspace has exposed its fragility and vulnerabilities

A truly secure cyberspace requires addressing both scientific and engineering problems and vulnerabilities that arise from human behaviors

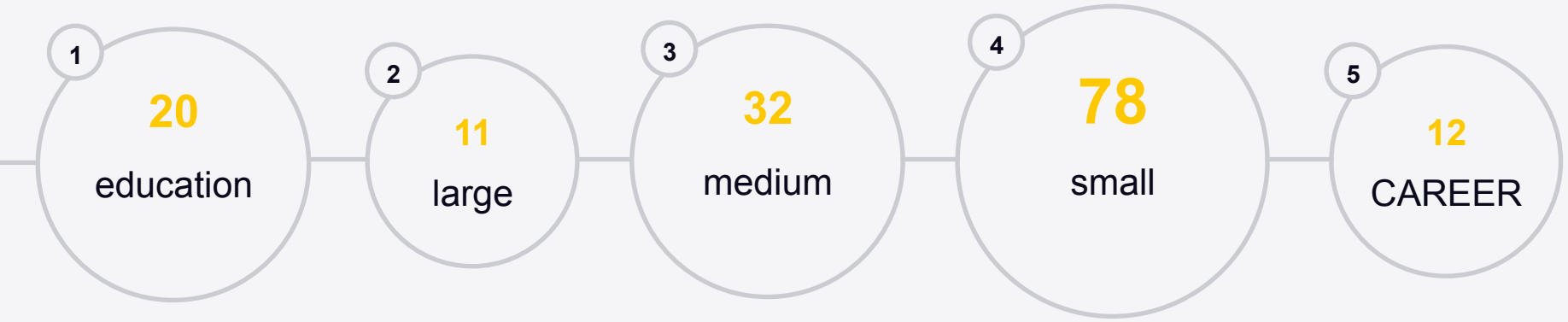
SaTC is NSF's flagship research program that approaches security and privacy as a multidisciplinary subject to find fundamentally new ways to design, build and operate cyber systems, protect existing infrastructure, and motivate and educate individuals about cybersecurity.

# satc is jointly supported by five nsf directorates

# satc invites proposals in a broad range of topics in the area of cybersecurity


additional details on topics can be found in the most recent SaTC solicitation

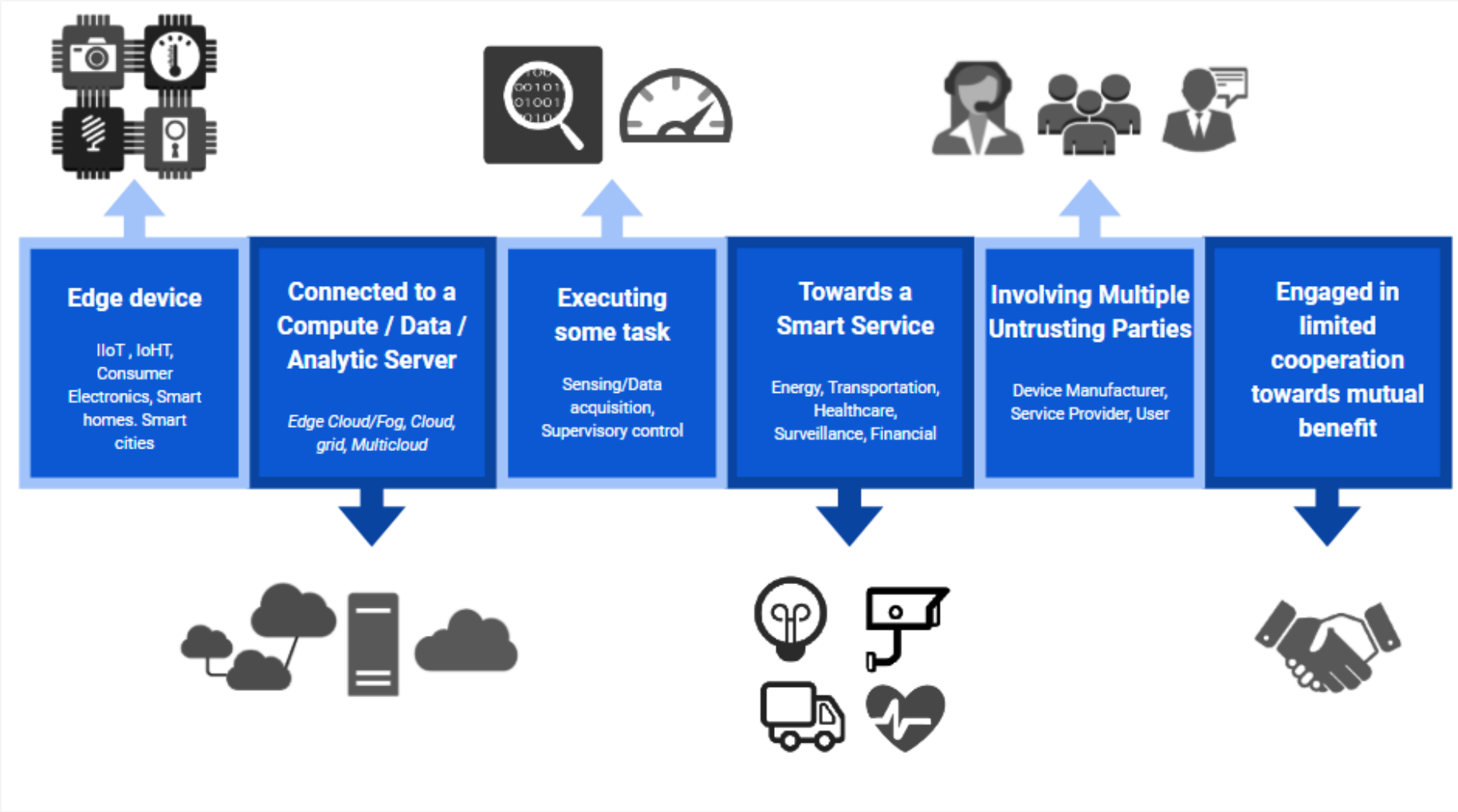
# in 2016, satc's core program made 154 awards



## SaTC core

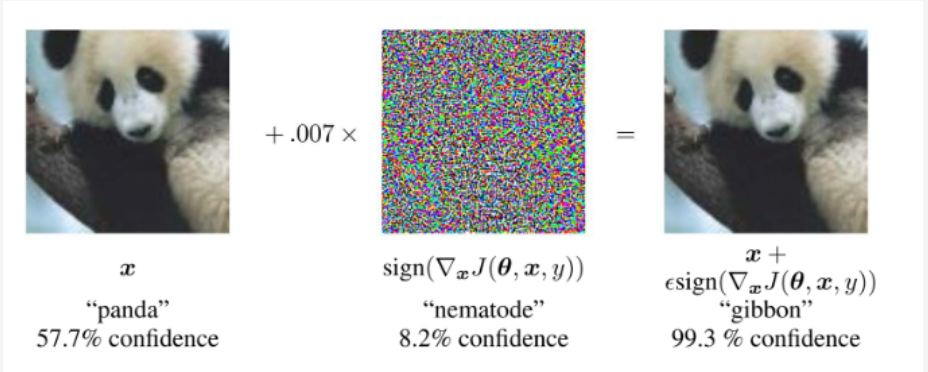
- **small**
  up to $500K over 3 years
- **medium**
  up to $1.2M over 4 years
- **large & frontier**
  large up to $3M over 5 years; frontier up to $10M over 5 years
- **cybersecurity edu**
  up to $300K over 2 years

# Embedded Security



# Embedded Security

- Broadly covers all aspects of security, privacy and trust
  - threat models, cryptography, design, implementation, verification, empirical evaluation, metrics, measurement, forensics, telematics, cost modeling, pay-off analysis
  - Sensor poisoning
    - Trust, authentication
    - Digital certificates
      - Issuance, installation, update
  - Data
    - Volume, spiking, velocity, validity
    - Time stamping, distribution, expiration
    - Model hijacking
  - Service
    - Discovery, segmentation, privacy
    - Forensics, telematics, supervisory backdoor?
  - Protecting legacy systems
  - Security verification
    - Construct adversarial examples that actually lead to system-level failures
    - Compositional verification without compositional specification?




Somesh Jha, Wisconsin

## SaTC-announce mailing list

Announcements relevant to the SaTC program

To subscribe:

Send email to: listserv@listserv.nsf.gov
with message body = “`subscribe SaTC-announce`”