



Nottingham Trent  
University

# Nottingham Trent University

## P-ACE

**Prof. Andy Newton**

[pace.ntu.ac.uk](http://pace.ntu.ac.uk)

15/10/2025

# NTU P-ACE: ARIs

## ■ Building & maintaining public trust

- Marginalised communities and racial disproportionality
- Public perceptions of police use of technology, AI and data



## ■ Climate crisis

- Climate change
- Net Zero
- Sustainability in policing
- Civil Contingencies



## ■ Crime prevention

- Anti-social behaviour, Burglary,
- Business crime, Hate crime,
- Knife crime, Modern slavery
- Public transport, Shoplifting
- VAWG/gendered violence



## ■ Identification & tracing

- Firearm investigations
- Forensic science including digital

## ■ Surveillance & sensing

- Interviewing
- Sensors, novel, remote and wearable



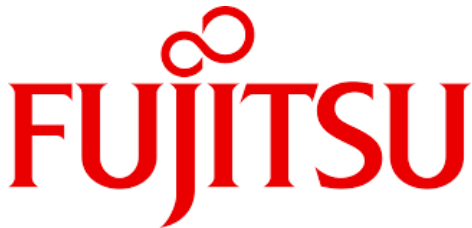
# Project Partners (14)



SOUTH WALES  
**POLICE**  
**HEDDLU**  
DE CYMRU



NTU



# Building & Maintaining Public Trust

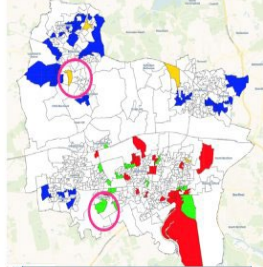
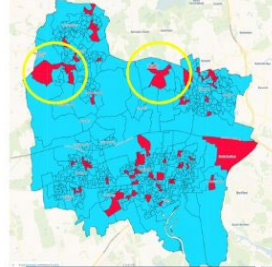
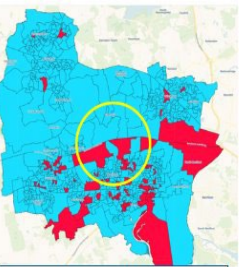
- **Victim-centred research** on bias crimes including gendered violence
- **Co-production** with survivors to shape policing policy and practice
- **Improving victim engagement** with the criminal justice system (CJS)
- **Collaborative innovation** between victims, communities, and justice stakeholders
- Building **sustainable policing ecosystems** through trust and accountability



# Crime Prevention



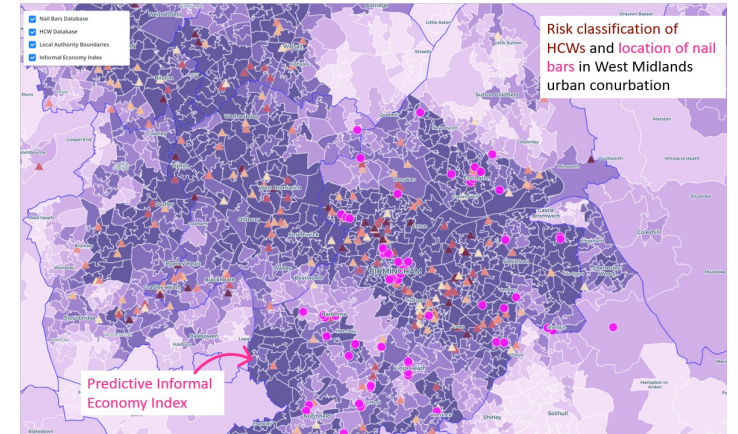
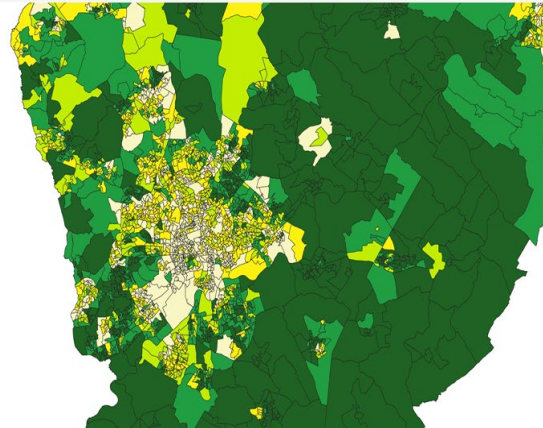
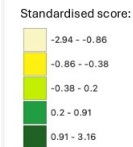
Moves away from traditional focus on high volume crime (hot spots)



HL HIGH VOLUME neighbourhood surrounded by low-volume n/hoods  
 LH LOW VOLUME neighbourhood surrounded by high-volume n/hoods

**Predicted neighbourhood belonging**

Nottingham and surrounding localities, Output Areas



## The Minerva Approach

- VAWG
- ASB
- Youth Violence/Knife Crime
- Homicide and Near Misses

## CEAC

- Community Engagement and Fear of Crime
- Classification

## The Informal Economy/Modern Slavery

- Hand Car Washes
- Nail Bars



# Crime Prevention



Theft/Robbery



Shop Theft/Business Crime



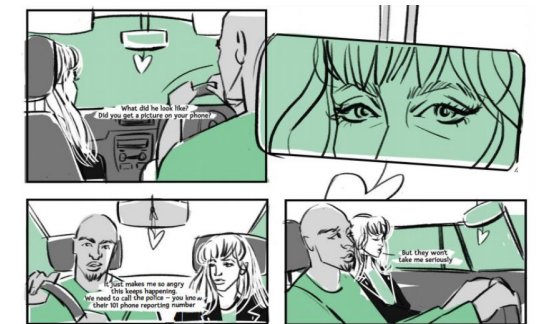
Domestic Abuse



Violence/NTE



Public Transport



Misogyny as a Hate Crime  
Sexual Harassment




# Climate Change Mitigation & Adaptation

We provide embedded  
scientific advice to the  
Climate Security National  
Foresight Group  
(ACC Mark Williams)



**Climate Security National Foresight Group**



**About the Climate Security National Foresight Group**

This cross-government multi-agency group was set up to support the UK response to climate security and adaptation. It is sponsored by the Department for Environment, Food and Rural Affairs and the National Police Chiefs Council.

[Find out more about the group](#)

**Climate Security National Foresight Group Outputs**

**Cascading Risks and Resilience Crescendos**  
Climate Security National Foresight Group  
Report 3

# Risk to local resilience: Planning and emergency service response capabilities – BE8

- *This risk considers the ability of local and regional systems to prepare for, respond to, and recover from climate-related emergencies. It includes disruption to the operation of emergency services (e.g. fire, police, and voluntary organisations) and local resilience planning structures responsible for emergency coordination, such as Local Resilience Forums (LRFs) and Regional Resilience Partnerships (RRPs).*
  - Davidson and Hill (2025)



[Home](#) / [Publications](#) / [Report](#) / [UK climate risk](#)

## UK climate risk



15 May 2024

Proposed methodology for the Fourth Climate Change Risk Assessment – Independent Assessment (CCRA4-IA)



16 June 2021

Independent Assessment of UK Climate Risk

[Read more](#)

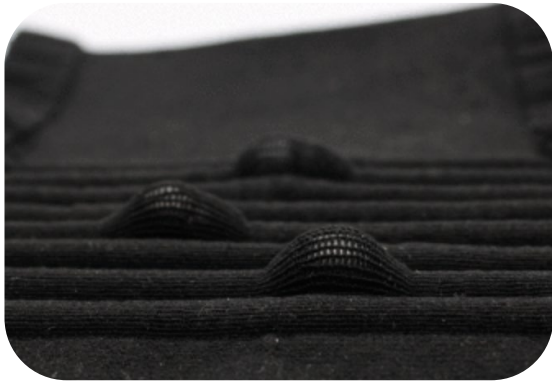


12 July 2016

UK Climate Change Risk Assessment 2017

[Read more](#)

# Sensing & Surveillance



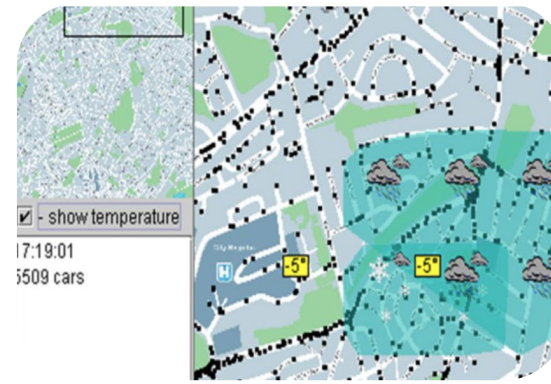
## Smart Sensing Lab, Pervasive Computing & Smart Materials Research Groups

Inc. AI tagging technology, smart cities, mobile sensing & smart sensors, digital PPE, 3D & 4D printing



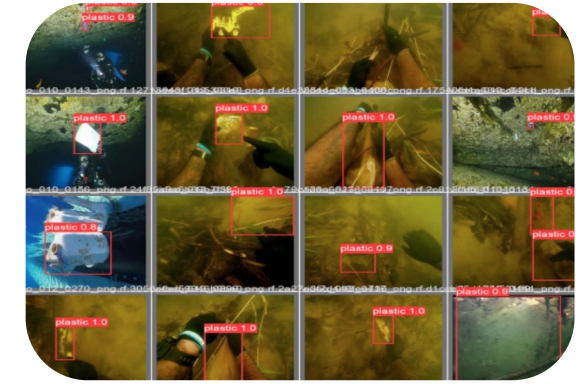
## Interactive Systems Research Group

Inc. AI-driven sustainable learning platforms, assistive technologies, serious games & virtual environments



## Network Infrastructure & Cyber Security Research Group

Inc. intelligent decision support systems, drone security, autonomous vehicles



## Computational Intelligence & Applications Research Group

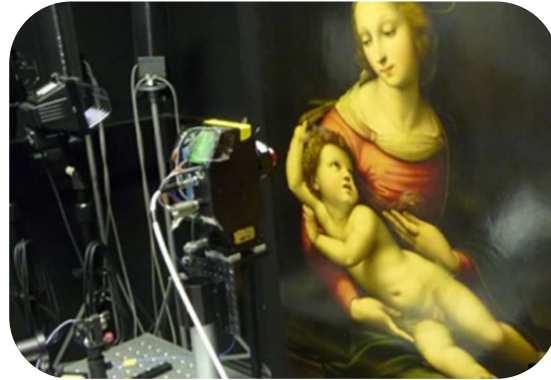
Inc. fake image detection, object classification, human behaviour monitoring, energy efficiency, signature verification, assistive robotics, smart environments, AI applications

# Identification & Tracing



## Geolocation & Provenance

Inc. objects & people, missing persons & unidentified bodies



## Advanced Optical Imaging & Spectroscopic Analysis

Remote imaging, mobile lab for wildlife, art & heritage crimes, archaeology & cave examination



## Non-Destructive Examination & Testing

Inc. document security, firearms & shooting incidents, armour/stab-vest penetration, security documents



## Forensic-Led Intelligence, Profiling & Evidential Workflow

Inc. toxicology & drug profiling, firearms & ammunition, fire investigation, crime scene investigation, DNA & fingerprints, anthropology

# NTU P-ACE: ARIs

## ■ Building & maintaining public trust

- Professor Loretta Trickett
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## ■ Climate crisis

- Professor Rowena Hill
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## ■ Crime prevention

- Professor Andy Newton
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## ■ Identification & tracing

## ■ Surveillance & sensing

- Dr Rachel Bolton King
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