

# Inorganic Materials for Generating Energy Saving Coatings and Films

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# Underpinning Research

## Materials Chemistry @ Keele

Nationally and internationally recognised

>25 years leading aspect of Keele chemistry research

Synthesis - Structure – Function relationships



- Antimony doped Tin Oxide
- Limited R&D
- Expertise & Facilities

**Innovate UK**

Knowledge  
Transfer  
Partnerships

- Company, University, Associate
- Company (40 or 50%), Government (50 or 60%)

# Near IR Absorbing/Reflecting Materials

Does the material reflect near infrared radiation?

- Glazing in buildings.
- Reflective surfaces on buildings.
- Energy-saving buildings.
- Greenhouses (agriculture).

Does the material absorb near infrared radiation?

- Glazing in cars.
- MID/3D technology (mobile phones).
- Security inks (banknotes, passports).
- Laser welding & marking.



# KTP Project and Impact

2016 – 2018    Range of new materials

## Economic

- 5x investment by 2021 (>£900K)
- new senior R&D position at K&W

## Environmental

- application in energy films (on-going)

## Technological

- laser marking, security inks...

# Impact Development

KTP Final Reports – academic, company & associate

Outputs – papers, presentations, company reports

Continued engagement – student projects, consultancy, facilities

Testimony/Letters – K&W and customers

Anything else?

# Finally

KTPs – direct route to impact

New (or improved) product or service

Worth considering