

EU WORLD CITIES PROJECT

*INNOVATION FOR SMART AND
GREEN CITIES*

Manchester and Adelaide



CITY OF
ADELAIDE

Delegates to Canberra

Professor Christopher Saint

Dean Research and Innovation

University of South Australia

Michelle English

Associate Director Sustainability

City of Adelaide



Thank You from Manchester

Sadly, representatives from Manchester have not been able to attend this event today. However, a delegation from Manchester visited Adelaide this month where we continued to cement our partnership between the two cities and agreed an exciting letter of intent to collaborate on a range of matters from climate change through to cultural exchanges.

The World Cities programme has given us a unique opportunity to make these connections between the two cities and we are committed to capitalise on this opportunity.

Thank you for the support of World Cities in allowing this partnership to form and develop over the past 12 months. Thank you also to the team at the City of Adelaide, the University of South Australia and University of Adelaide, the Government of South Australia and Renewal SA for contributing to this exciting opportunity.

Mark Duncan
Manchester City Council



Adelaide



The City of Adelaide is surrounded by **760 hectares** of parklands

The **city** receives **262,000** daily visitors and accounts for **20%** of the state's economy

Greater metropolitan Adelaide is home to **75%** of the State's population

South Australia is home to **1.7 million** people

- Nearly 1 in 3 houses in South Australia have solar panels
- Our current C&D recycling rate is over 81%
- Our renewable energy production in 2015-16 was 52% of the State's total
- Adelaide is the first Cisco Lighthouse City in Australia – Gig economies
- We are one of the first states to complete regional adaptation plans for all regions

Manchester



2.7 million
RESIDENTS

10



authorities
working
together

UK's first
combined
authority



GREATER MANCHESTER



Economic potential
exceeds all other
UK city regions

Heart
of the
north



Centre of innovation,
education, industry
and culture



Participating organisations

Manchester City Council



MANCHESTER
CITY COUNCIL

Greater Manchester

Manchester Metropolitan University



Manchester
Metropolitan
University

University of Manchester

CityVerve

Triangulum

msa Manchester
School of Architecture

Ordnance Survey

Siemens

SIEMENS
Ingenuity for life

MANCHESTER
1824
The University of Manchester

Cisco



Participating organisations

City of Adelaide



State Government of SA

Renewal SA



Tonsley Innovation Park

University of South Australia

University of Adelaide



SA Power Networks

Siemens



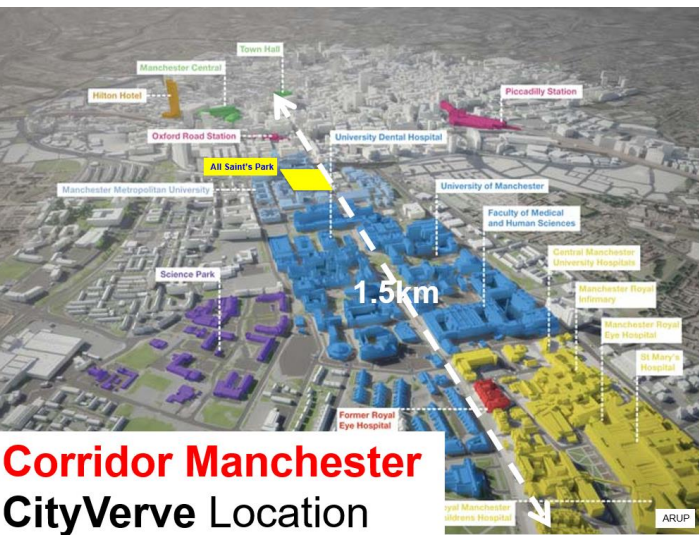
Cisco



Outcome

- Letter of Intent
- Agreement to exchange experience and best practice
- Partners comprise local government, universities and business partnerships
- Focus on innovation and sustainable solutions





A city of pioneering innovation

1780



1830



**WORLD'S
FIRST
INDUSTRIAL
CITY**

**WORLD'S FIRST
INTER-CITY
PASSENGER RAIL
SERVICE**

1894



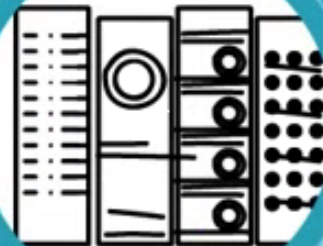
**MANCHESTER
SHIP CANAL**

1917



**FIRST
OBSERVED
NUCLEAR
REACTION**

1948



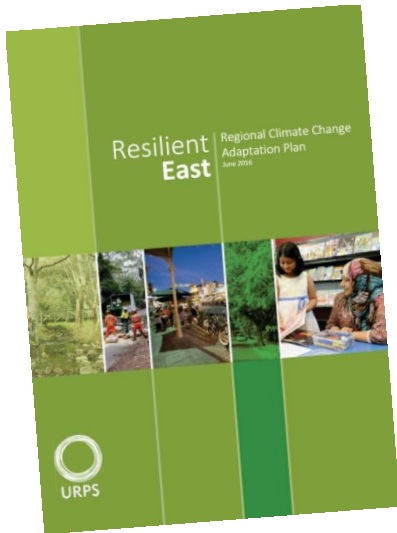
**WORLD'S
FIRST
STORED-
PROGRAM
COMPUTER**

2004



**DISCOVERY
OF
GRAPHENE**

Sustainable cities



Energy and Environment Analytics

BMS Simulations have been completed are progressing their work into Business School and Benzie buildings on the Manchester Met estate.

Discussions with Bruntwood about collaboration of building management teams, once their flagship buildings BMS online.

Working with 'Asset Mapping' to enable Business School and Sandra Burslum buildings BMS data onto their platform for visualisation. Hoxton cameras are to be installed into Business School and Sandra Burslum buildings as a means of validating data.

Spica have provided training to relevant estates teams for their Devicepoint dashboard.

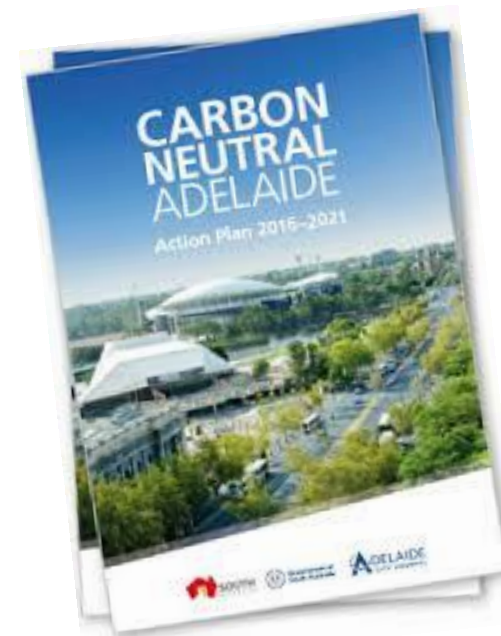
Working with Cisco LORA coverage team to improve range of the network and install antenna on Manchester Met buildings.

CityVerve WP13

Energy + environment

Next Gen Building Management User Patterns

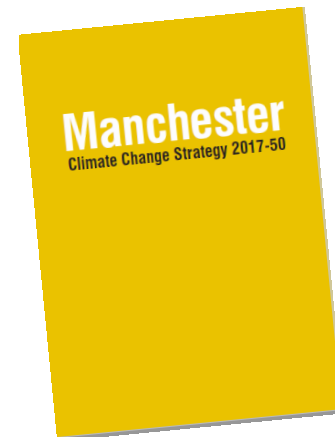
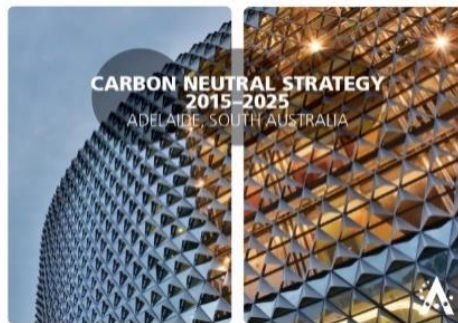
Dr. Bamidele Adebisi b.adebisi@mmu.ac.uk + Dr. Liangxiu Han l.han@mmu.ac.uk
Manchester Metropolitan University School of Engineering
School of Computing Mathematics and Digital Technology



Activity areas

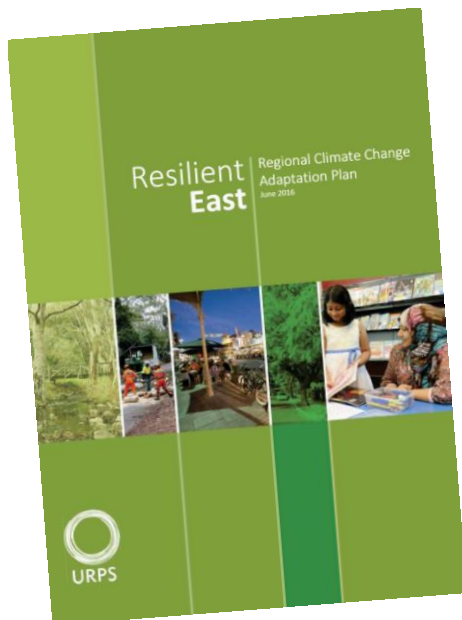
Knowledge exchange and collaboration:

- South Australian Climate Change Strategy
- Carbon Neutral Strategy
- Zero Carbon Manchester
 - Greenhouse gas inventories
 - Energy efficiency, building optimisation and asset management
 - Establishment of collaborative partnerships
 - Renewable energy



Activity areas

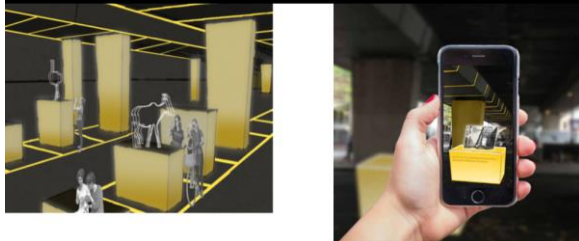
Working collaboratively across our respective networks of international cities and regions to leverage knowledge and leadership opportunities in the areas of **climate change adaptation and mitigation, smart cities and green infrastructure.**



Activity areas

Municipal exchange and collaboration between the City of Manchester and City of Adelaide and the university sector on **3D city modelling and data visualisation, libraries, cultural strategy, culture and heritage impact surveys and community engagement.**

The Manchester Plinth: Tom Jefferies/Jane Anderson/Jack Poulton/Dan Renoso-Urmston/Emma Lindblom/Enrica Stanzani/Robin Morgan/Joseph Stooke



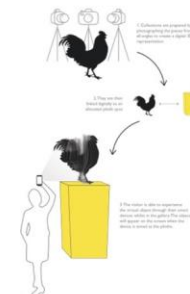
A gallery without walls and 'limitations'. Augmented and virtual reality, when combined with the use of connected sensors around our urban environments, enables us to think about collections storytelling in entirely new ways.

MMU Special Collections: Archive Collection/ Artists' Books/ Book Design/ Children's Book Collection/ Manchester School of Art Collection fine + decorative arts, Arts + Crafts movement, contemporary crafts/ Manchester Society of Architects' Library/ Mary Butcher collection of Baxter prints/North West Film Archive / Poster Collection / Schmolzer Collection of Decorated Papers



Virtual Gallery

The gallery could create an opportunity for a new curated virtual exhibition space showcasing the various collections available in the Universities and other collaborators. Using geolocating technology, exhibition pieces could be seen through smart devices while in the gallery. This would make for easily interchangeable exhibitions, and the opportunity for the user to choose from a variety of simultaneously ongoing exhibitions.



CityVerve

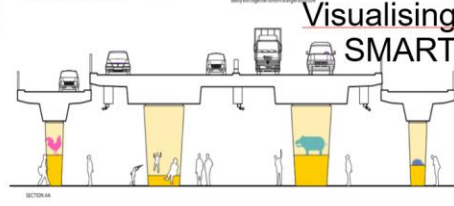
Exhibition WP4

Culture, public realm and community

Visualising SMART



Plinth: North West, Telford Square, London



Activity areas

Cultural exchange between the City of Manchester and City of Adelaide linked to City Festivals in 2019.

**Manchester & The Industrial Revolution 1
Abel Heywood, Manchester's Mayor**

With City of Manchester Design and Heritage 'Our Town Hall'

Alderman Abel Heywood (25 February 1810 –19 August 1870) was a liberal, publisher, radical and twice mayor of Manchester. This subscription funded marble bust, inscribed ALDERMAN ABEL HEYWOOD, MAYOR, 1862-1870 was originally presented by Dr John Watts and Henry Suttler in 1880. Abel Heywood came to prominence and was recognised for his fight against taxes on knowledge and publishing. The Father of the Council shared the committee overseeing the building of Manchester Town Hall, which he opened 1877.

PROJECT 5



CityVerve Internet of Things Demonstrator:

CityVerve Commissions: The Manchester Plinth. Out of the Gallery and into the City

The cultural strand of the £10M CityVerve demonstrator currently underway in Manchester, UK, focuses on innovative public realm installations that marry design, virtual technology, contemporary art and heritage.

This ground-breaking project is designed to show the applications of IoT based approaches and solutions to the questions posed by the SMART City. Running over 24 months, from summer 2016, CityVerve involves 21 partners, led by Manchester City Council and CISC0, working on a wide variety of themes and use cases that are designed to test and develop the capacity the Internet of Things in the operation in the city.

The Manchester Plinth project is the first of its kind in the UK, combining a physical plinth and augmented reality to bring artefacts out of the gallery and into the city, meaning they're accessible for everybody to experience and enjoy. This deliberate mediation between the real and the virtual explores a type of emergent space in our cities, a space that is currently underinvested as a cultural asset. CityVerve is focused on enhancing the culture and arts to engage citizens with the project and the possibilities of IoT.

With the contribution of curators, artists, architects, students, academics and computer programmers, the Manchester Plinth interrogates the relationship between the public and art through different lenses: place, history, culture, system and environment. By its very nature as an augmented reality exhibition, the project challenges our understanding of space in our cities, and demonstrates the way that urban places can be addressed as new sites of culture.

1. Jefferies et al. Published in Proceedings of Electronic Visual Arts conference, London (2017). UK. http://ewic.bcs.org/uploadpdf/ewic_2017_mapping_paper1.pdf

Digital artefacts for The Manchester Plinth, curated by Prof. Tom Jefferies, Jane Anderson and collaborative partners

Out of the gallery and into the city

POCKET GUIDE

**Manchester & The Industrial Revolution 2
The Glass Sword**

With City of Manchester Design and Heritage 'Our Town Hall'

Believed to be the only item held by the City from Manchester Town Hall's opening day on 15 September 1877, 50,000 tradesmen from 58 trades marched through Albert Square in the Procession of Trades. Carrying specially made objects celebrating their occupations, 'the first glass cutters... (came) armed with glass swords'.

In 2014 Jonette Cox returned the sword from Australia, in thanks Lord Mayor Councillor Sue Coady said: 'The sword symbolises the greater role Manchester Town Hall plays in the city and reminds us of the sheer scale of spectacle the opening created over 130 years ago.'

PROJECT 6

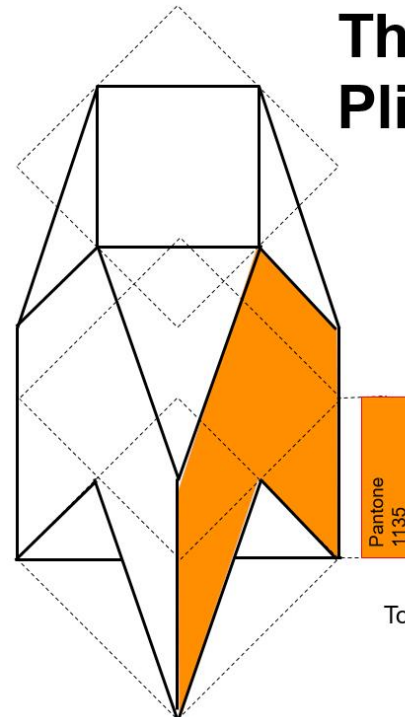


Using augmented reality to bring cultural artefacts into new public spaces



DOWNLOAD THE BUZZING APP
The app can be easily downloaded for free from the Apple App Store and Google Play Store.

The Manchester Plinth



Tom Jefferies/Jane Anderson/Sparta Digital/Ben Jane
Manchester School of Architecture
 Plinth May/June 2017
 Sketch/Test

Activity areas

Collaboration between Manchester Metropolitan University and University of South Australia to share knowledge and experience and test new ideas and initiatives to support **Low and Zero Carbon Campus** initiatives.



University of
South Australia



Manchester
Metropolitan
University

Activity areas

University collaboration:

- Manchester School of Architecture (Manchester Metropolitan University and University of Manchester) and the University of South Australia and University of Adelaide.
- Building a **practical research partnership** between the Research Node for Low Carbon Living at the University of South Australia and the University of Manchester on addressing key urban development issues.



The University of Manchester

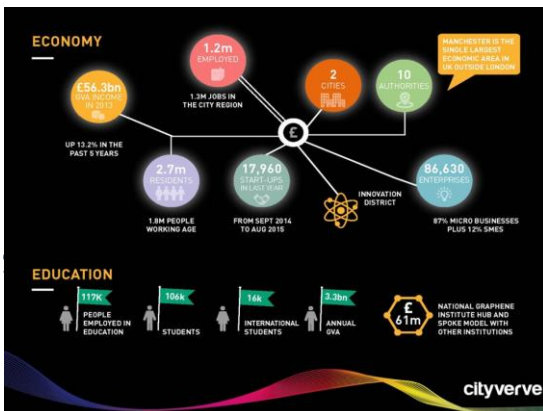


Activity areas

Joint support for development of commercial opportunities

- CityVerve and Triangulum business partners
- City of Adelaide
- University of South Australia
- Tonsley Innovation Park

Exploration of a research partnership between Siemens and University of South Australia.





25 Pirie Street, Adelaide
Ph 08 8203 7203

cityofadelaide.com.au