

Hack the borders!

Collaboration across invisible borders

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AURIN, Melbourne, Australia
PAERI 2024

URBAN INNOVATION
DATA HACK 2024

A graphic featuring a blue and purple background with binary code (0s and 1s) and various data-related icons such as a computer monitor, a gear, and a network diagram.

What does AURIN do?



Deliver high quality data through robust infrastructure



Access and share hard-to-get data



Contribute to hard-to-do digital development



Allow for infrastructure refreshment and scalability



Build data literacy through training and outreach



Coordinate its technological development with other relevant National Research Infrastructure

24,000+

users

5,000+

expertly curated, spatial/place-centric datasets

100+

data and tech partners

More than **\$133 million contributed to the Australian economy** by current projects

(ACIL Allen, 2021)

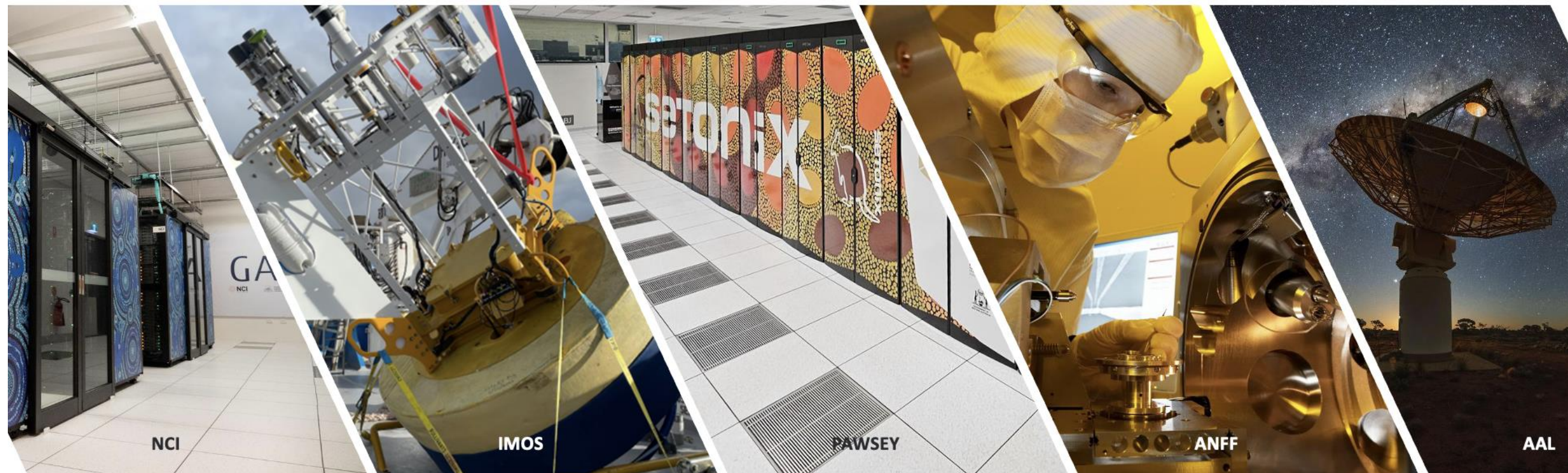


Australian Research Infrastructure

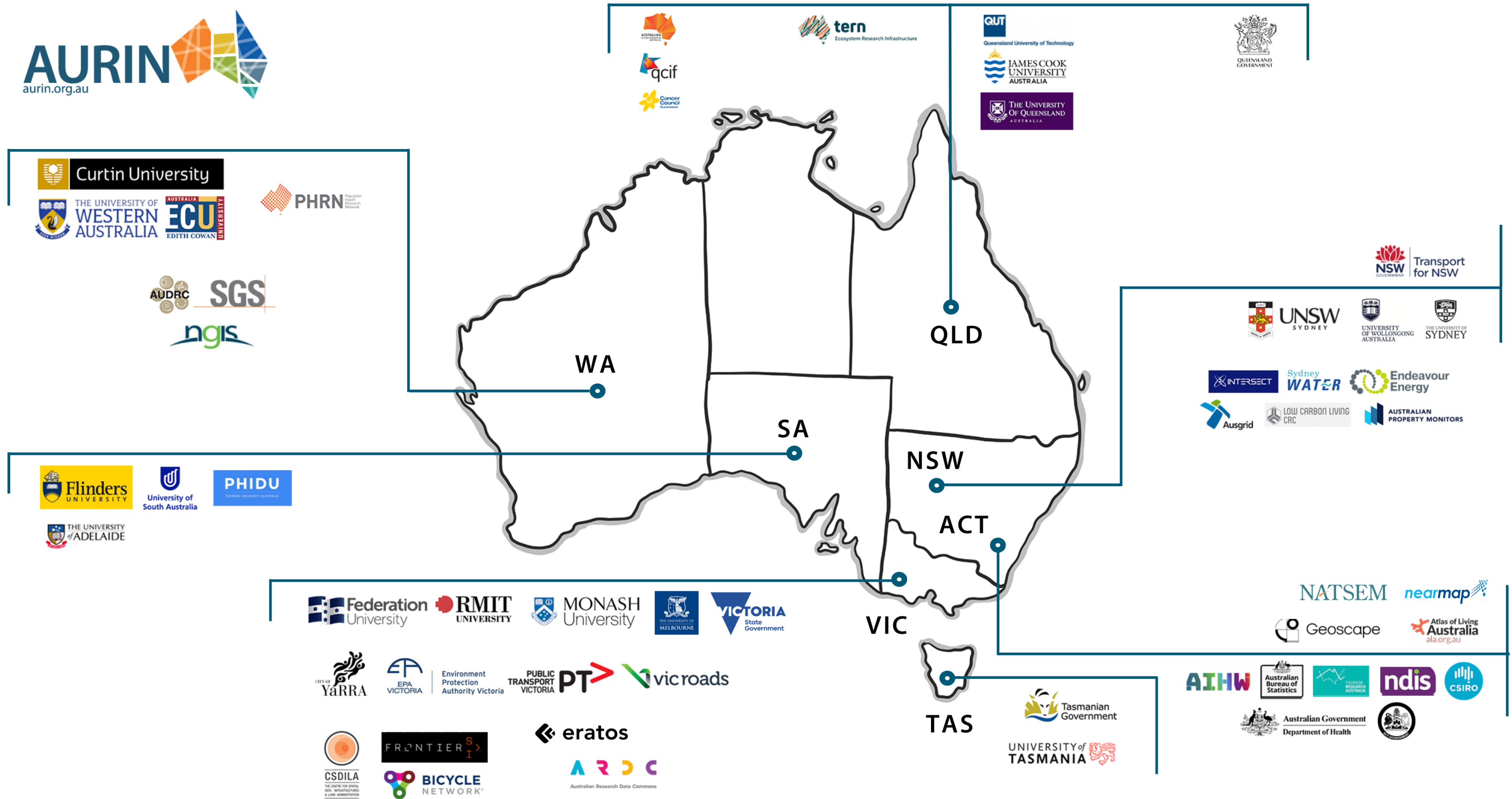
SUPPORTING AUSTRALIAN RESEARCH AND DEVELOPMENT



The National Collaborative Research Infrastructure Strategy (NCRIS) gives researchers and industry access to equipment, data, services and expertise to enable world-leading research and development for the benefit of all Australians.



The AURIN Network

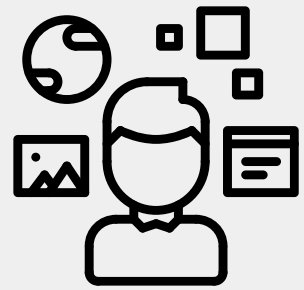


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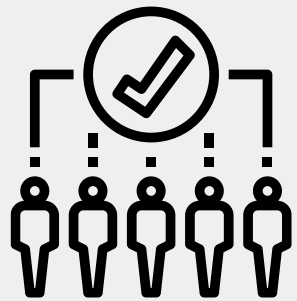


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Solve challenges, showcase data and harness opportunities for the Melbourne Innovation Districts (MID) in the age of urban digital twins.



Hackers can interrogate data, find insights, and prototype solutions for urban challenges, focusing on demographic transformation, climate transition, and urban digital twins.



The outcomes from this collaborative effort should help us intelligently prepare for the changing needs of our community, our workforce, the environment, and the economy.



URBAN INNOVATION DATA HACK 2024

network | brand | impact

Build Relationships

Connect with academic, government and industry movers and shakers – existing and potential AURIN collaborators.

Maintain Brand

Strengthen AURIN's position as a geospatial network – stay visible with partners and users

Make an Impact

Projects will be taken to key planning and policy decision makers



PARTNERS & COLLABORATORS

From across academia, government and industry



Department of Transport



URBAN INNOVATION DATA HACK 2024

collaborate | innovate | elevate

Network

Connect with academic, government and industry movers and shakers

Skill Up

Enhance technical and creative skills – access cool data and tools

Collaborate & Create

Work together to develop practical solutions to challenges faced by the Melbourne Innovation District

Make an Impact

Your project will be assessed by industry experts and can be developed for real world application

Win prizes

The winning teams will receive cash prizes, AWS credits, mentoring programs and more!



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HACK THEMES

Demographic and Workforce Transformation

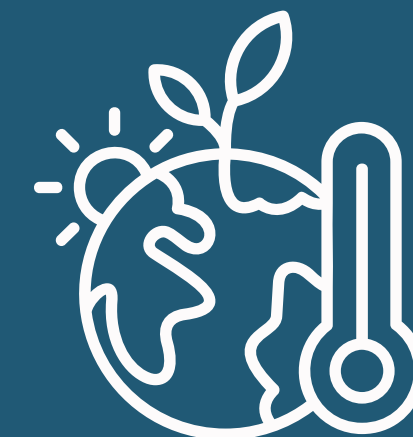
Analysing population dynamics, commuting patterns, and social structures to understand the evolving residential and workforce demographics within the Melbourne Innovation District.

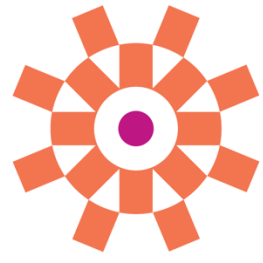
Climate Transition

Exploring the intersection of climate sensitivity, health and wellbeing, urban forms, and planning issues for energy transition to address the challenges of environmental sustainability and resilience.

Urban Digital Twins

Using Digital Twin platforms to visualise outputs and display potential advancement and innovation on the Melbourne Innovation District.


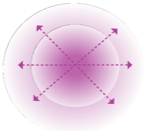








M I D

Established in 2017
To drive investment in
the knowledge
economy and help
shape our city's future.



-  Melbourne Innovation Districts
-  City North Social Innovation Precinct
-  Parkville NEIC
-  Innovation Spine
-  Landmarks
-  Train station



HACK CHALLENGES

The 20-Minute Innovation District

Explore the 20-minute neighbourhood concept and how it applies to service access, population dynamics, commuting patterns, and social structures to understand the evolving residential and workforce demographics within the Melbourne Innovation Districts.

Turning Down the Heat for Cool Innovation

Our city is heating up - how can we mitigate and manage future climate challenges through sound urban planning and design decision making? Ensuring an innovation district can thrive when the heat is on.

Innovation for the Circular City

Explore urban forms, infrastructure and planning challenges for renewable energy transitions, water sensitivities and waste circularity that address environmental sustainability and resilience within the district.

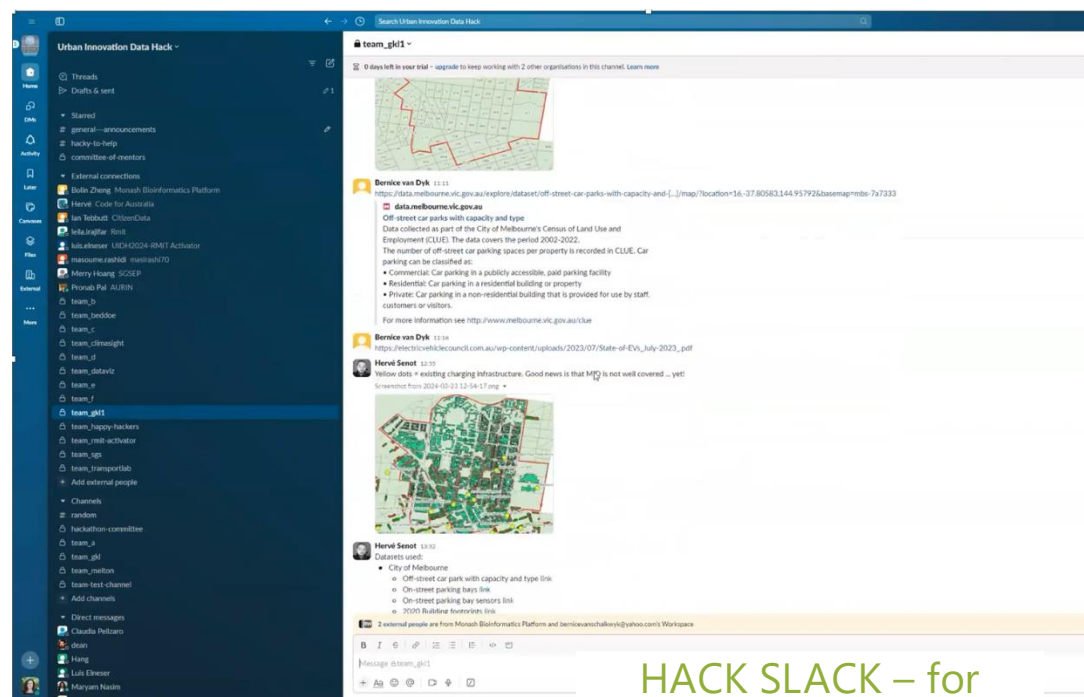
A People-Centric Innovation District

How does an innovation district come to life? How do we ensure people spark innovation? How do we design urban spaces that are safe, accessible, and inclusive? How does the innovation district currently measure up in terms of the experience for its inhabitants and visitors?

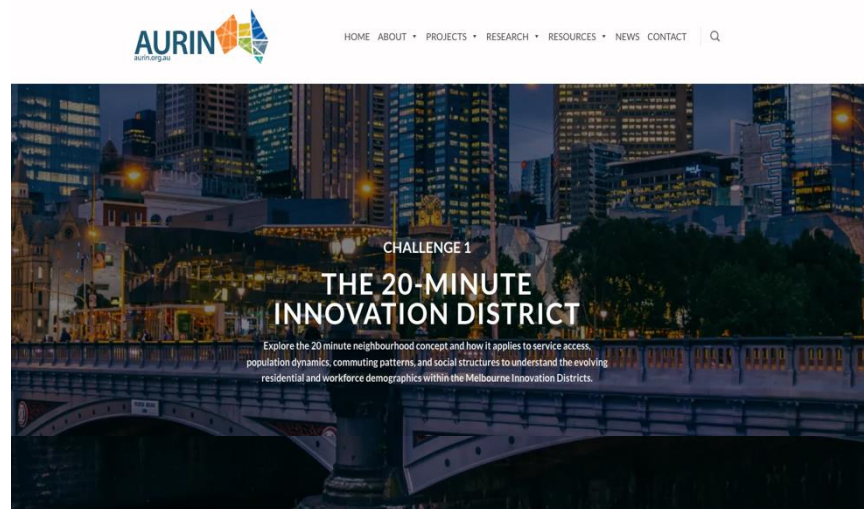


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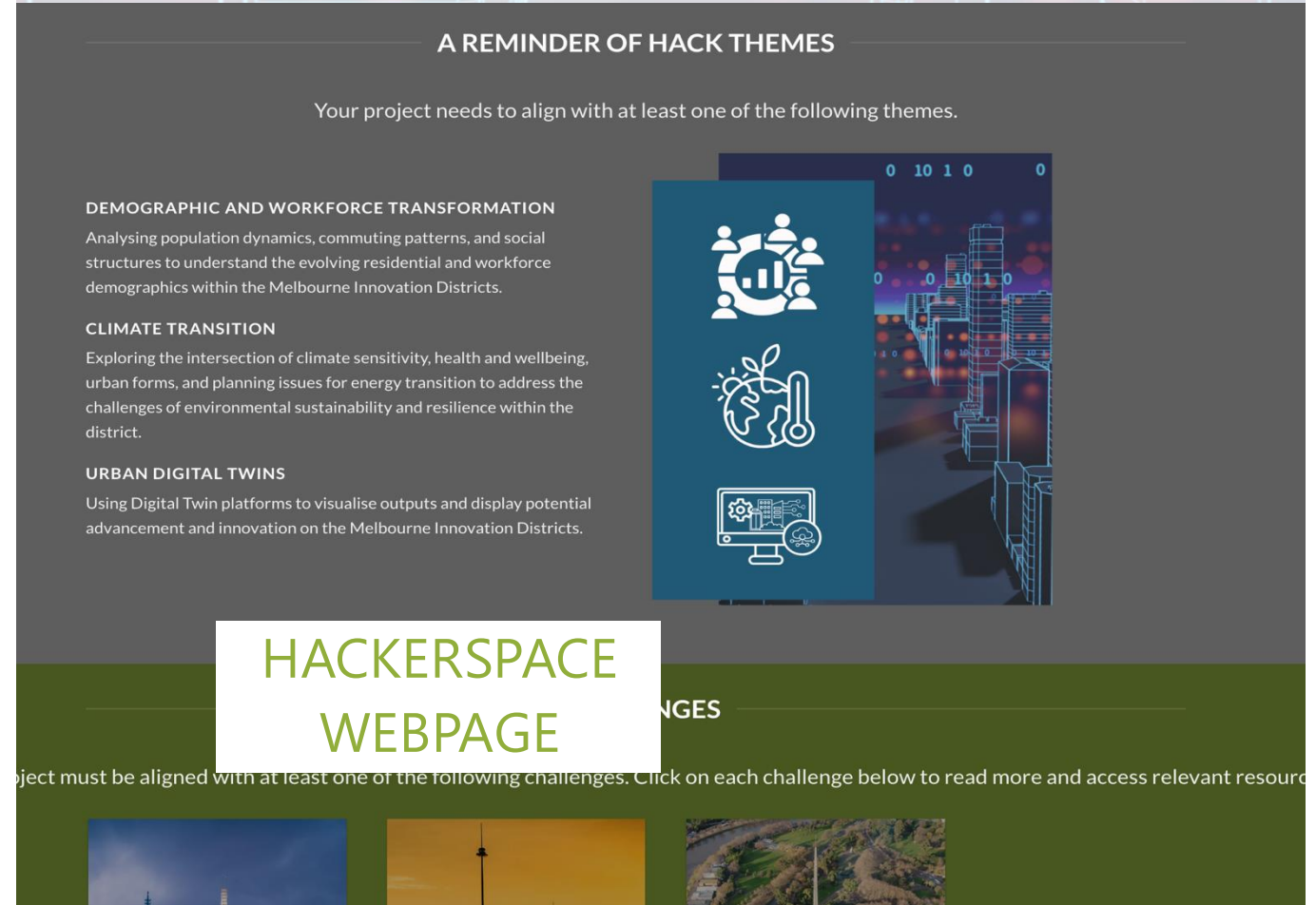
Setting Hackers up for success



HACK SLACK – for participants and partners



CHALLENGE PROBLEM STATEMENTS AND SERVING SUGGESTIONS



Project must be aligned with at least one of the following challenges. Click on each challenge below to read more and access relevant resources.





Hacker Space Urban Innovation Data Hack

22-23 MARCH 2024

[ENTER THE UIDH SLACK & MEET YOUR TEAM](#)

[GETTING HERE](#)

TIMELINE

To maximize your chances of success in this hackathon, we recommend connecting with your team and exploring the challenges, data and tech resources together.

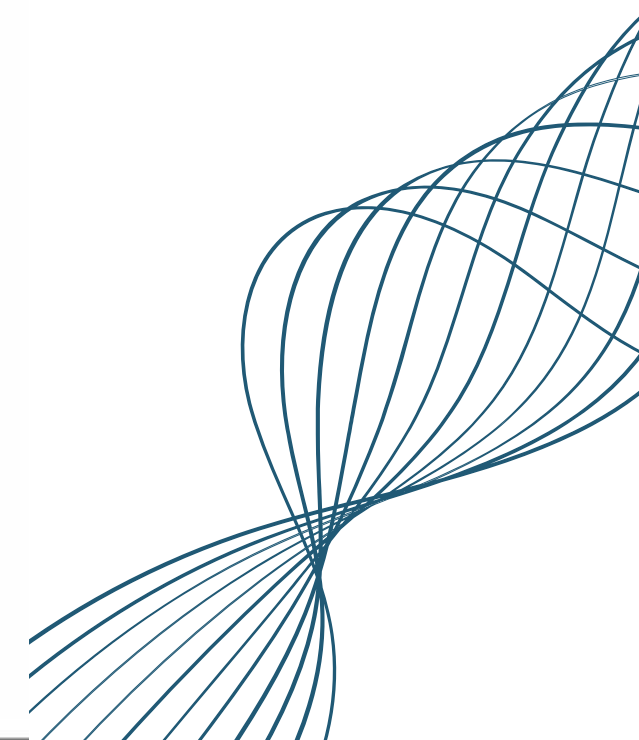
Engaging with your team members, discussing ideas, and establishing clear lines of communication will lay a strong foundation for collaboration and innovation throughout the event.

March 18



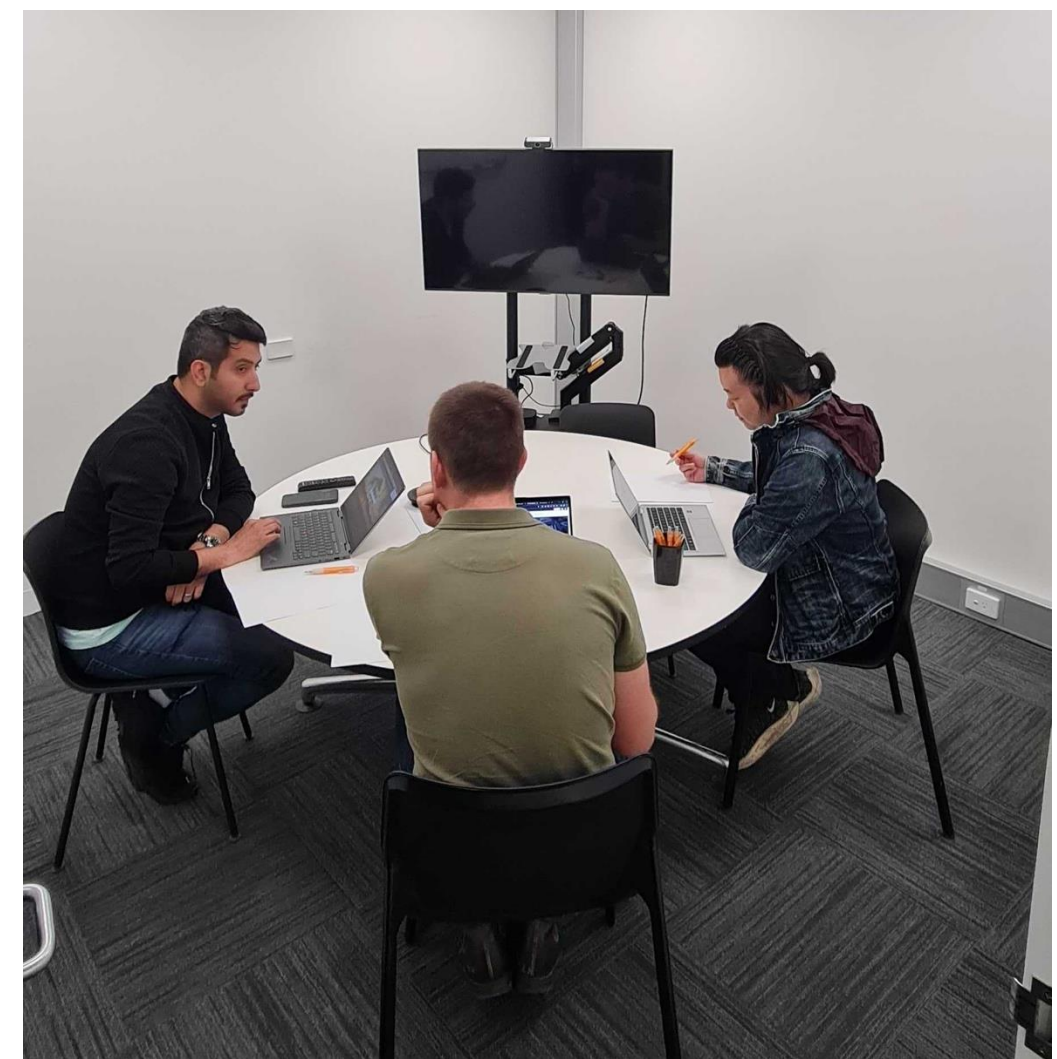
Familiarise with the Hackerspace

Before the hackathon begins, participants should make sure they are familiar with the hackerspace and all the relevant resources. This means understanding the themes, challenges, judging criteria, important dates, terms and conditions, available datasets, platforms, tools, and any



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Practice run – test all the things

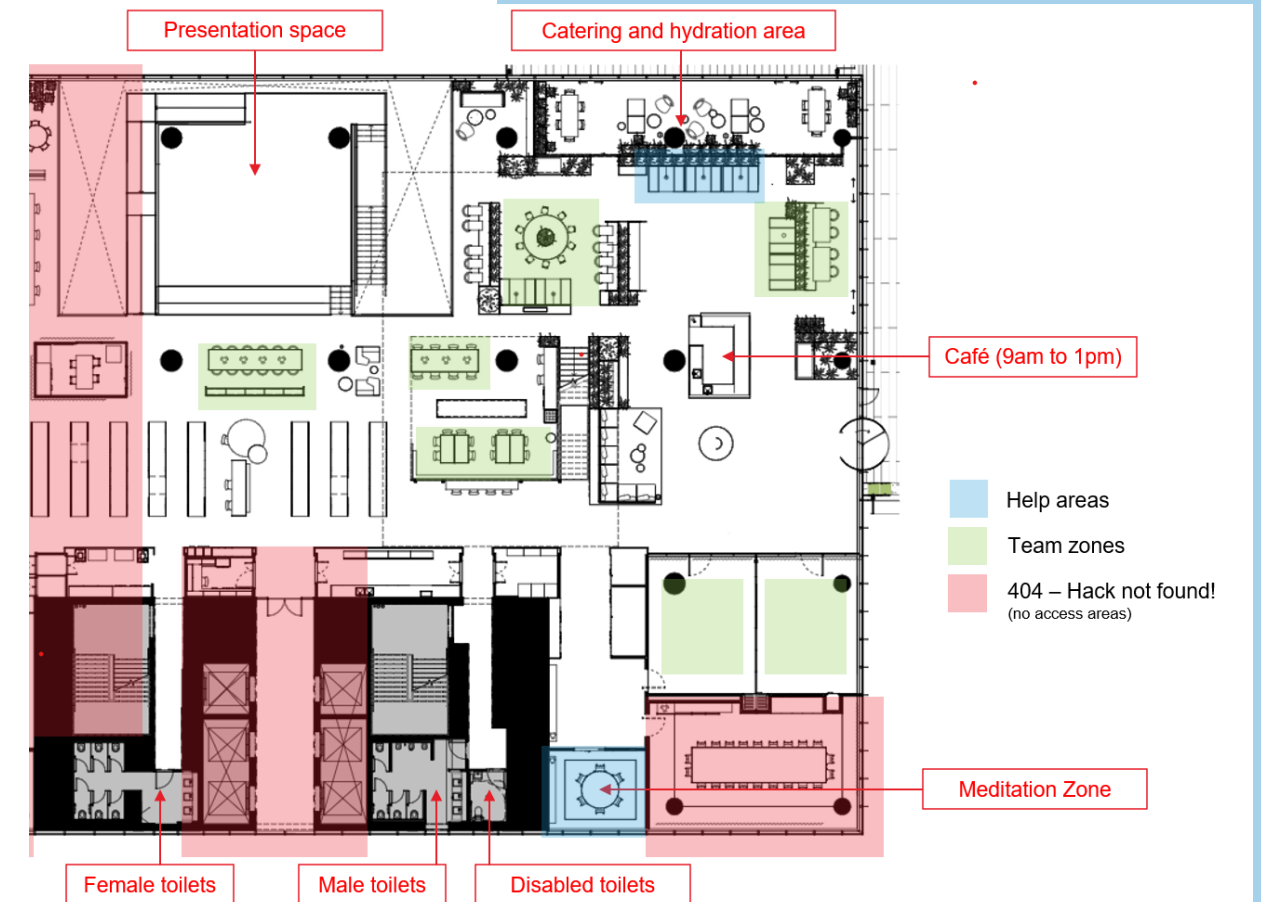
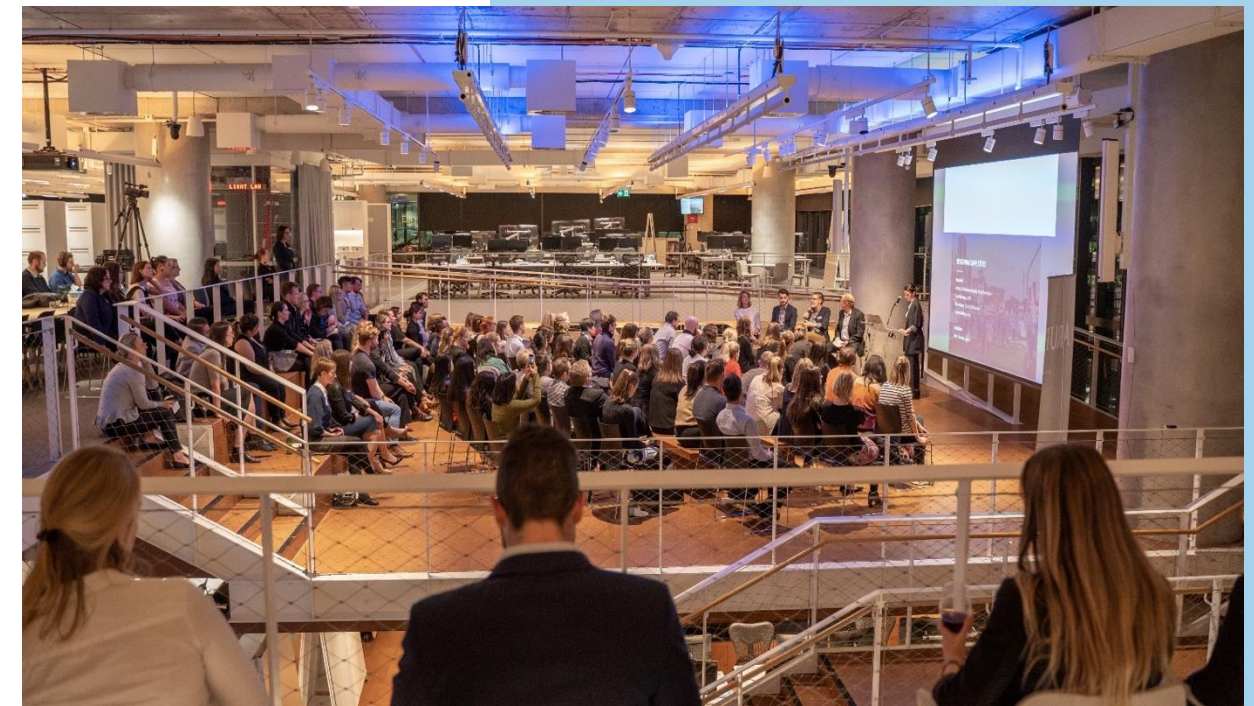


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URBAN INNOVATION DATA HACK 2024

- Hack day! Hackers can get stuck in
- Informal workshops to troubleshoot on data, tools, analytics, visualisation and presentations
- Ongoing mentoring throughout the day
- Projects due at 4.00pm for judging panel consideration, presentations from teams
- 5.30pm announcement of winners and prize presentation



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Hackathon Wins

- Rapid time to impact – tangible outcomes
- Immersion in community
- Unlocking potential of research infrastructure
- Memorable and fun!



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Hackathon Lessons

For hackers...

- Information and resource overload
- Working as a team with new people

For organisers...

- Short timeframe to deliver – 3 months from concept to delivery
- Resources stretched to limits



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Hackathon Recommendations



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Digital Advisory Lead
Arup



Dean Morris
Senior Digital Consultant
Arup

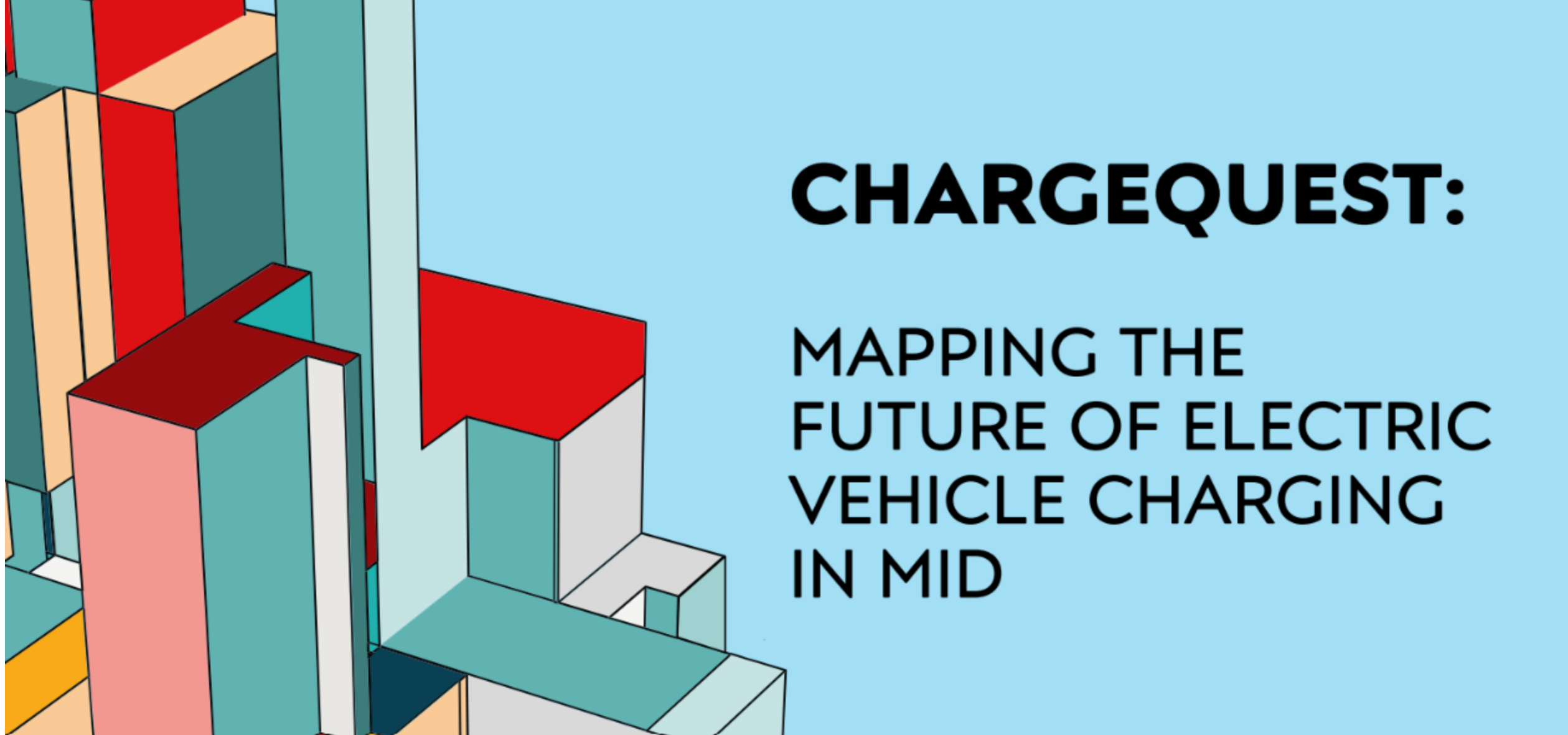


Emma Joughin
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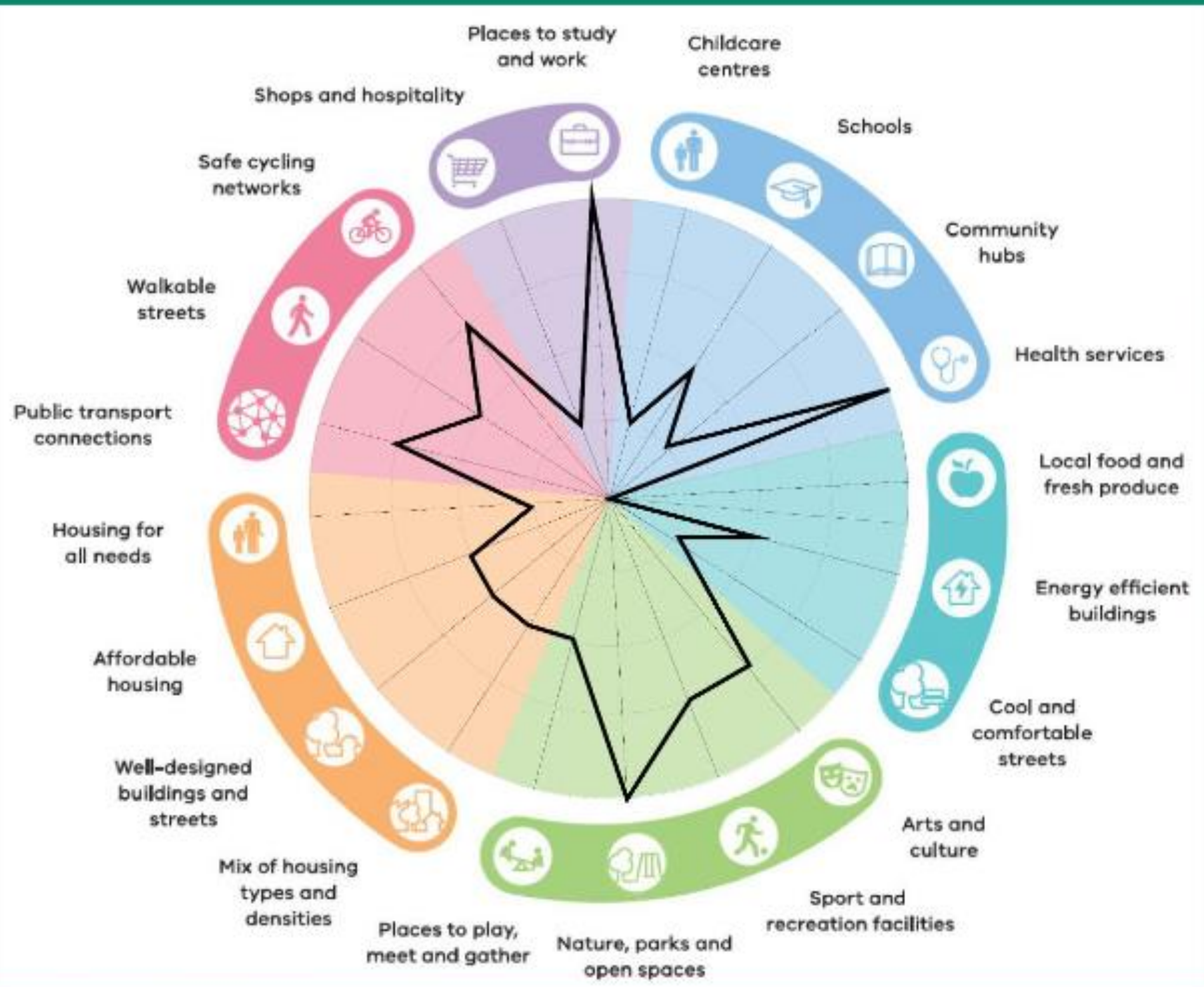




CHARGEQUEST:

MAPPING THE
FUTURE OF ELECTRIC
VEHICLE CHARGING
IN MID

The start of a multi-criteria Assessment Framework for 20-Minute Innovation Precincts.....



Multi-criteria assessment for 20-minute MID

Image further developed from the *Features of 20-minute neighbourhoods*, Department of Transport and Planning

City Fabric as Knowledge Production Space



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Any questions?



Operating context



POLICY DIRECTIONS

- Entrenched place based disadvantage
- Climate resilience and localised disaster management
- Investing in regional places, services, and economies
- Closing the gap
- Housing affordability
- Energy security, costs, and transitions

TECHNOLOGY

- Demand for machine-to-machine
- Growing geospatial capability
- Cloud computing
- Interactive discovery services

DATA

- Unrelenting appetite for small area data
- "How low can you go?" - Users
- More... and supply
- ... estimation

Australian Bureau of Statistics




• We deliver hard to get data and assist local to-do's with data for Australia's spatial research
 • We support innovative research and policy decisions in Australian cities and regions
 • We champion the development of an Urban Digital Twin for Australia

URBAN INNOVATION DATA HACK 2024

COLLABORATION FOR THE FUTURE OF INNOVATION DISTRICTS

URBAN CHALLENGES




- We deliver hard-to-get data and assist hard-to-do-analysis for Australia's spatial network
- We support innovative research and policy decisions in Australian cities and regions
- We champion the development of an Urban Digital Twin for Australia

URBAN INNOVATION DATA HACK 2024

COLLABORATE TO SOLVE URBAN CHALLENGES FOR THE MELBOURNE INNOVATION DISTRICTS

Use data to help us intelligently prepare for the changing needs of our community, our workforce, our environment, and the economy.

WORK TOGETHER | COLLABORATE & CREATE | MAKE AN IMPACT

HACK THEMES

Demographic and Workforce Transformation

Climate Transition

Urban Digital Twins



Up-to-date national datasets you can trust.

Explore, analyse and visualise data by location.

Make evidence-based, data-driven decisions.

© Commonwealth of Australia (Geoscience Australia 2023)





RESOURCES



Research Data
Australia

<https://eresearch.ch/rda>



Nectar Research
Cloud

<https://eresearch.ch/nrc>



ARDC Training
Pack

<https://eresearch.ch/ardc-training>

Urban Innovation Data Hack

URBAN INNOVATION DATA HACK 2024

COLLABORATE TO TACKLE URBAN CHALLENGES FOR THE METROPOLITAN INNOVATION DISTRICTS

Use data to help us prepare for the changing needs of our workforce and economy.

NETWORK | SKILLS | INNOVATION | MAKE AN IMPACT

HACK THEMES

Geographic and Workforce Transformation

Climate Transition

Urban Digital Twins

AURIN
aurin.org.au

- We deliver hard-to-get data and assist hard-to-do analysis for Australia's spatial network
- We support innovative research and policy decisions in Australian cities and regions
- We champion the development of new business models for Australia

AURIN

OP

Operatos

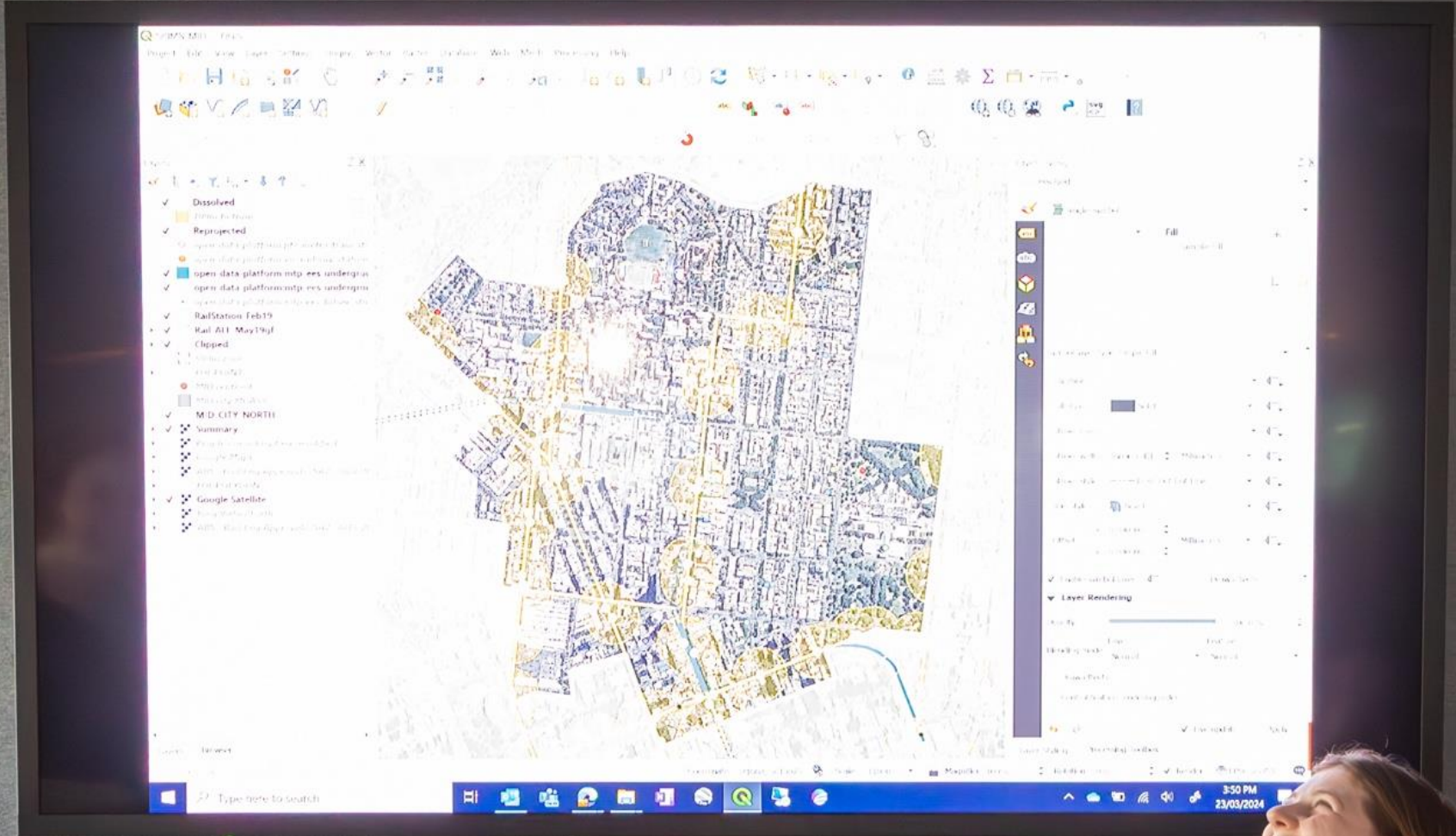
MID

ARDC

NCRIS







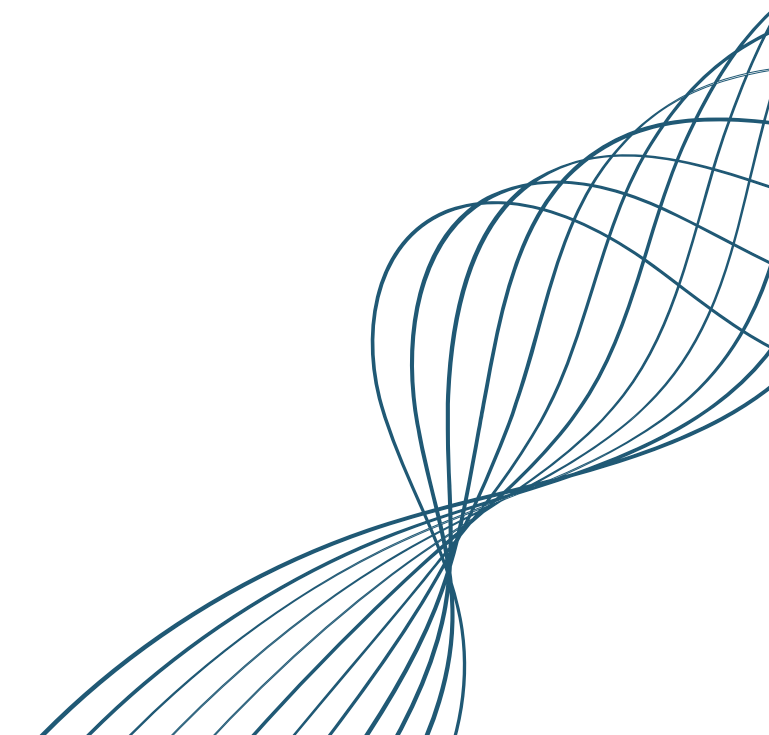




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SUPPORT TEAM & VOLUNTEERS

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