



Arup acknowledges the Traditional Custodians of the land on which our offices are located and pay respects to Elders past, present and emerging. We acknowledge and respect their continuing culture and the contribution they make to the life of this city and beyond.

**MODERNISING HACKATHONS:
URBAN INNOVATION DATA HACK 2024
HACKATHON AS A SERVICE**



URBAN INNOVATION DATA HACK 2024

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.





MID

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



CITY OF MELBOURNE



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

Melbourne Innovation District is located in Melbourne's City North

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. For example, how could decentralised infrastructure address net-zero standards?

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?

THEMES

Demographic and Workforce Transformation

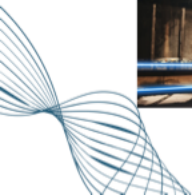
Analysing population dynamics, commuting patterns, and social structures to understand the evolving residential and workforce demographics within the Melbourne Innovation District.

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.



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!



PARTNERS & COLLABORATORS

From across academia, government and industry



Department of Transport

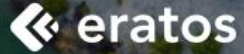


Australian Government
Geoscience Australia



DIGITAL ATLAS
OF AUSTRALIA

network| brand| impact



Eratos' **Data Platform-as-a-Service** helps organizations around the world to **modernize their data infrastructure** enabling **solutions at scale**

Eratos Platform Services: Urban Innovation Data Hack



Eratos Platform Interfaces



Eratos Data Toolkit
(Python & R)

Data Analysts

Data Scientists

Research Scientists



Graphical User Interface
(GUI)

Business Analysts

Data Administrators

Non-technical Stakeholders



Developers

Data Engineers

Software Engineers

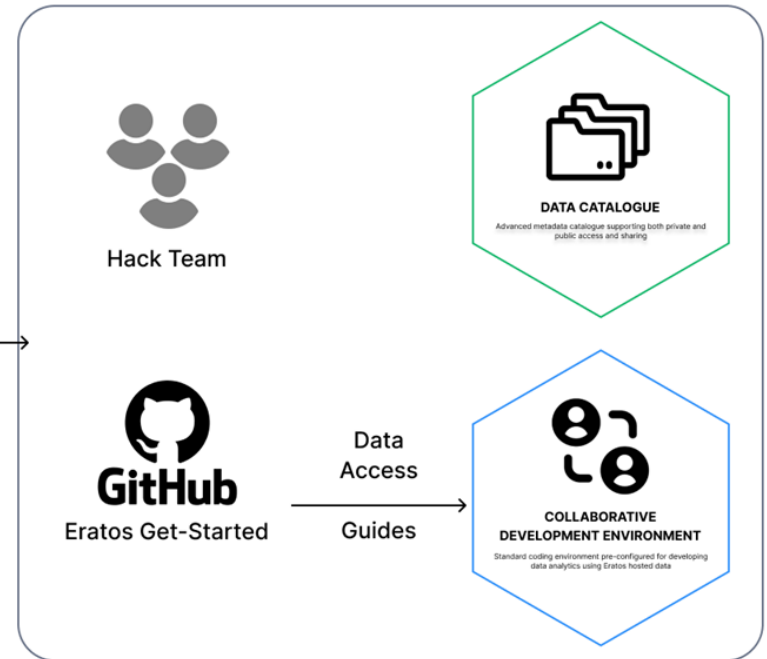


Application Programming Interface
(Any language)

Eratos Space: Organise Hackathon Team and Data Products in Secure data sharing environment



Eratos Space



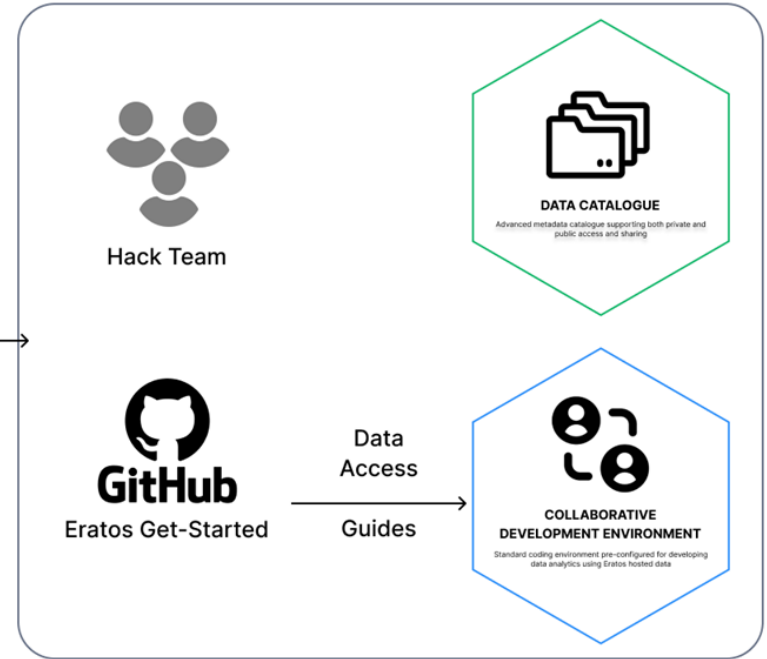
Eratos Space:
Organise Hackathon Team and Data Products in
Secure data sharing environment



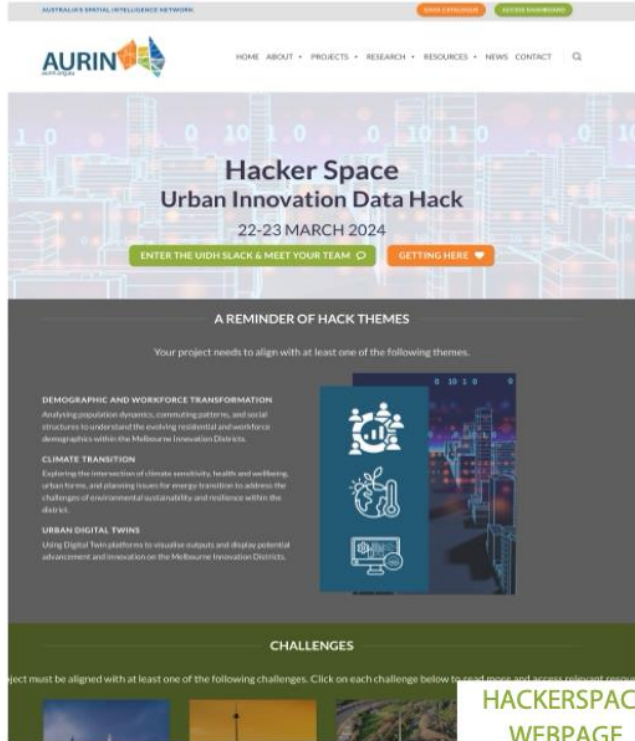
Hack Administrators



Eratos Space



SETTING HACKERS UP FOR SUCCESS



AURIN AUSTRALIA'S SPATIAL INTELLIGENCE NETWORK

HOME ABOUT PROJECTS RESEARCH RESOURCES NEWS CONTACT

Hacker Space Urban Innovation Data Hack

22-23 MARCH 2024

ENTER THE UDIH SLACK & MEET YOUR TEAM GETTING HERE


A REMINDER OF HACK THEMES

Your project needs to align with at least one of the following themes.

- DEMOGRAPHIC AND WORKFORCE TRANSFORMATION**
Analyzing population dynamics, commuting patterns, and social structures to understand the evolving residential and workforce demographics within the Melbourne Innovation Districts.
- CLIMATE TRANSITION**
Exploring the intersections of climate resiliency, health and wellbeing, urban forms, and planning issues for energy transition to address the challenges of environmental sustainability and resilience within the districts.
- URBAN DIGITAL TWINS**
Using Digital Twin platforms to visualize outputs and display potential advancement and innovation on the Melbourne Innovation Districts.

CHALLENGES

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



HACKERSPACE
WEBPAGE



AURIN HOME ABOUT PROJECTS RESEARCH RESOURCES NEWS CONTACT

CHALLENGE 3 THE 20-MINUTE INNOVATION DISTRICT

Problem Statement

The 20-Minute Innovation District (20-Minute ID) is a concept that aims to create a vibrant, walkable, and sustainable urban environment where residents can access essential services, amenities, and employment opportunities within a 20-minute walk from their homes. The 20-Minute ID is a key component of the Melbourne Innovation Districts (MID) strategy, which aims to create a more sustainable, resilient, and inclusive urban environment. The 20-Minute ID is a key component of the MID strategy, which aims to create a more sustainable, resilient, and inclusive urban environment. The 20-Minute ID is a key component of the MID strategy, which aims to create a more sustainable, resilient, and inclusive urban environment.

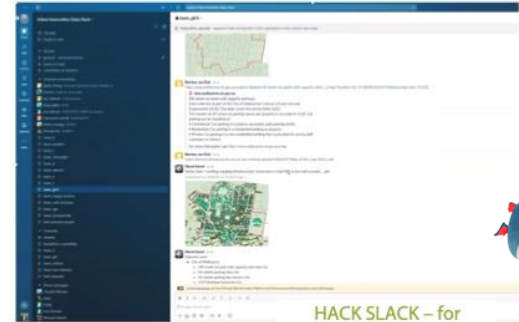


PERSONAS

DATA COMMONS

TOOLS AND ANALYTICS

CHALLENGE PROBLEM
STATEMENTS
AND
SERVING SUGGESTIONS



HACK SLACK - for participants and partners



URBAN INNOVATION DATA HACK: WINS

For participants

- Rapid time to value
- Swimming pool of geniuses, meeting and connecting with like-minded professionals
- Exposure to other areas of expertise
 - friends and enemies working together
- The Eratos platform enabled teams to achieve more developed solutions than before
- Impactful outcomes

For organizers

- Collaboration and sharing of skills, made everyone lives easier
- Simplified management and administration of data products and hackers access
- Scalable onboarding of participants and computational resources
- Meeting partner contributor expectations



URBAN INNOVATION DATA HACK: DIFFICULTIES

For participants

- Many Data Platforms and tools to learn
- Information overload
- Working with people they have never met before, understanding each others skills
- Short time frame

For organizer

- Managing and organizing hack participants and data products
- Had only 4 months to prepare and deliver, GovHack advises 9 -12 months
- Meet expectations and requirements of partners



URBAN INNOVATION DATA HACK: RECOMMENDATIONS

- Have all your data in 1 platform, Emma's recommendation is Eratos
- Consider the need for data curation
- Earlier start the better
- Invest time in creating scaleable resources with a consistent information architecture
 - Documentation
 - Videos
 - Troubleshooting cheatsheet
- Data-driven approach to team formation
- Provide participants with hack details in advance
- Establish clear, hack wide, communication channels
- Guaranteed, dedicated and funded resources to deliver the hack

Inspired to run a data hackathon?



Reach out to Emma for
hot tips how to herd
hacker cats!



Reach out to Quinten to explore
how Eratos can help streamline
your next hackathon!



URBAN INNOVATION DATA HACK 2024

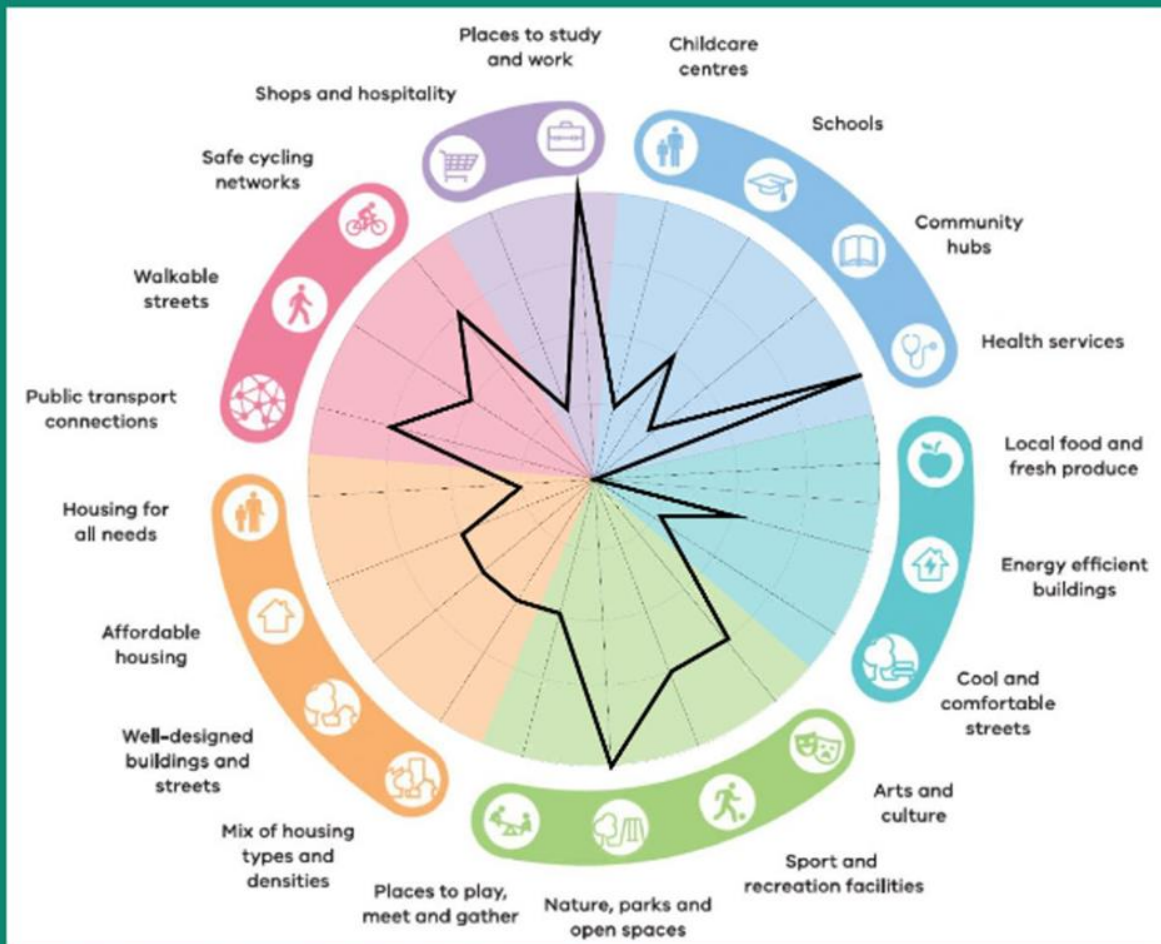




CHARGEQUEST:

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

