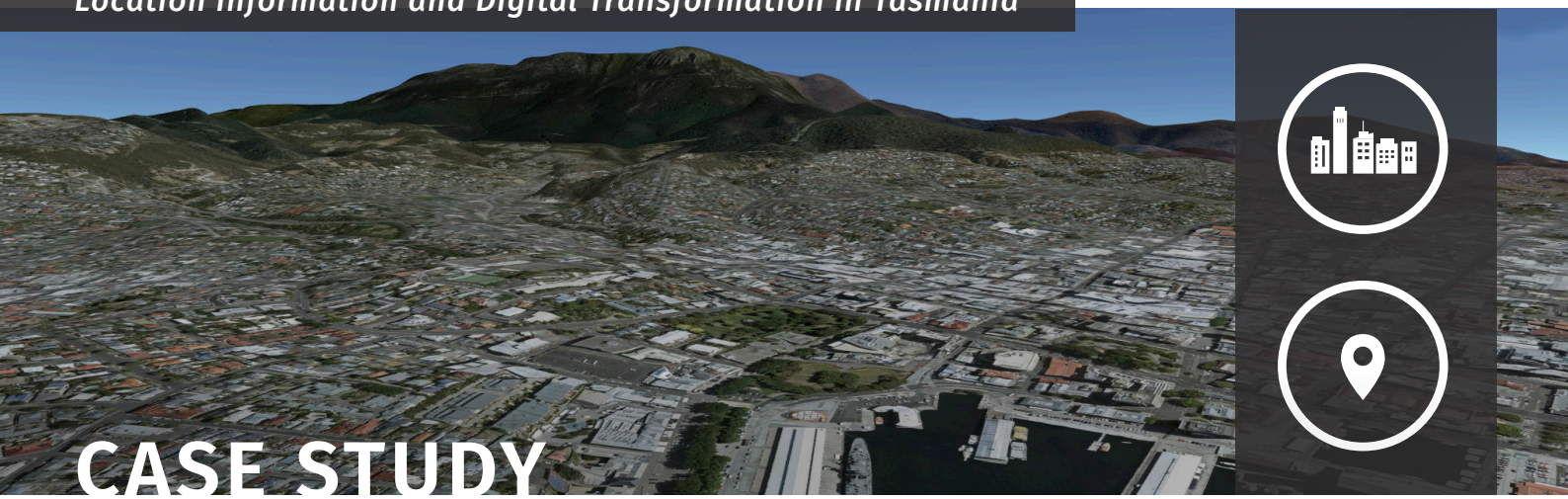

CASE STUDY

Greater Hobart Digital Twin

Tasmanian Spatial information council

The City of Hobart is developing a Digital Twin, a virtual representation of the city, integrating many data sources that give government, industry, and the public a better, integrated understanding of the current and planned environment.

INTRODUCTION

The Digital Twin will support the Hobart City Deal's objectives by providing a platform where the Greater Hobart councils' data sets are combined into a single borderless environment. Councils will uncover abundant opportunities for new insights and innovation about people and places by interfacing and interacting with a broader set of data.

The Digital Twin offers a 3-dimensional, immersive experience that combines base data as a canvas on which a raft of other mapping resources are added, including data from the LIST (Land Information System Tasmania), drone imagery, coastal erosion mapping, or real-time car park status to name a few. It is already used for applications such as virtual art and future applications include virtual tourism, flood modelling, and city planning.

Currently in Proof of Concept, it is demonstrating its potential to deliver strong positive social and economic impacts.

> ***"The Digital Twin is expected to return an economic benefit of several hundred million dollars over the next decade."***
>
> *Hobart City Deal, Smart City working group.*

THE CASE

Greater Hobart is undergoing record growth in numbers of visitors and new residents. This growth increases the pressure on the region's social infrastructure, housing affordability and services, and the natural environment.

The Hobart City Deal is a is a 10-year partnership between the federal and state Governments and the four Greater Hobart councils that will guide and encourage further investment in the city by embracing opportunities for growth and addressing key strategic and infrastructure challenges such as housing affordability, urban renewal, and a lagging transport system.

The Digital Twin Proof of Concept was initiated in 2021 in response to increasing community expectations for more accessible, decision ready, immersive applications. Furthermore, the explosion of available data, from disparate sources and Smart City initiatives needed a single point of integration and delivery.

The Digital Twin is growing, but already delivers rich and diverse information to its broad user base, including:

- Solar panel analysis that identifies maintenance and replacement priorities
- LIDAR and detailed imagery to help coastal erosion mapping
- 3D models of existing and planned developments supporting line-of-sight and shadow analysis
- Smart City sensor data, for real-time off-street parking analysis
- Integrated web cam images for transport and tourism
- Digital art projects under the 'City Pilots' program supporting culture and tourism

CASE STUDY - Greater Hobart Digital Twin

The Digital Twin gives the user a 3D, immersive, virtual experience of Hobart.

IMPACT

- **Engagement and Transparency**

  The ability for planners, developers, and the public alike to inspect existing and planned developments in a visual, 3D immersive environment, and perform line of sight and shadow analysis, greatly enhances stakeholder understanding and transparency. This improves community engagement and acceptance and contributes to shortened planning and development timelines.

- **Supporting Tourism**

  The immersive, game-like experience allows tourists to find the location of public infrastructure location and tourist locations, view digital art, plan transport routes, and find parking options.

- **Economic Benefits**

  The Digital Twin is demonstrating many economic benefits, with more to come as the program expands. Economic benefits include efficiency gains in asset inspections and maintenance, increased tourism, better climate resilience and impact mitigation.

A Business Case prepared by the Smart City Working Group of the Hobart City Deal along with external consultants predicts a return to the Hobart region of several hundred million dollars over the coming decade on an initial investment of around $10 million, due to efficiencies and economic development made possible through a Greater Hobart Digital Twin.

> ***"As a living 4D model, the digital twin is beautiful, but not only beautiful. It is more than an image or a map. It is a true visualisation of big data – cultural, geographical, historical, real-time and predicted."***
>
> *Kelly Grigsby, CEO Hobart City Council.*

Tasmanian Spatial information council | the List | Tasmanian Government

MORE INFORMATION

https://au.opencitiesplanner.bentley.com/cityofhobart/digitaltwin

https://www.hobartcity.com.au/Community/Creative-Hobart/Creative-Hobart-programs/CityPILOTS