THE FUTURE OF PHOENIX AT YOUR FINGERTIPS
DIGITAL DOWNTOWN IS FIRST DIGITAL TWIN OF CITY

Disclaimer: For visioning purposes only, document may not reflect current state of project

(January 15, 2022 - Phoenix, AZ) Today, DTPHX, Inc. launched Digital Downtown - a smart city digital twin of Downtown Phoenix. The digital twin is a digital replica of downtown Phoenix, including buildings, roads and systems like water, transportation and energy. Digital Downtown assembles multiple data sets and visualizes them in a real-time model to support planning and operations to guide planners in designing the future of Phoenix.

Downtown Phoenix is a vibrant, living, ever-changing 1.7 square mile urban core in the 5th largest and fastest growing city in the United States. With rapid growth, new buildings, light rail and the expansion of Arizona State University, downtown is changing from a 9 to 5 place to work to a 24/7 place to live, work, learn and play. Urban planning and decision making in this dynamic city with constantly changing information and evolving stakeholders can be challenging due the lack of a central source for accurate data and analytics.

Digital Downtown is a cloud-based software platform accessible to the public. DTPHX, Inc. assembled a universe of data sets into a 3D model of the buildings and built environment in the downtown core to create the foundational digital twin. Then they added additional data layers, including transportation, energy, land-use, affordable housing, historic preservation, economic development and healthcare. Users can access a suite of standard analytics or build their own using the data layers.

"The Phoenix digital twin allows for real time modeling of proposed downtown development to provide immediate answers to concerns or questions raised during the community outreach process," said Julie Jones, Chair of DTPHX,Inc. "Digital Phoenix makes urban planning, preservation and development processes more inclusive and efficient and the ability to model scenarios in real-time really speeds up the process."

Users access the Digital Twin program at digitalphx.com through any Internet browser. The Digital Phoenix homepage features a 3D model of all 1.7 square miles of the downtown Phoenix area, including all buildings and the surrounding environment. Users can access built-in use case layers like traffic and pedestrian counts, building energy use and land use. Users can also create their own layers by selecting data from the data catalog or by uploading new data sets. With a click of a button new layers are brought to life on the Digital Phoenix digital twin in 3D.

"Digital Phoenix was invaluable in my latest acquisition of a small office building for renovation," said Bob Builder, downtown developer. "Accurate information regarding public transportation routes, parking, local amenities, potential tenants and zoning was readily available that otherwise would have taken weeks and thousands of dollars to assemble and would have been

questionable at best. I answered all my investors' questions on the fly with data driven intelligence delivered in a visual way they could easily digest. It's magic."

For more information and to use Digital Phoenix please visit www.digitalphx.gov.

FAQ - Frequently Asked Questions

1. What are we building and why?

Digital Phoenix is a comprehensive digital twin, maintained and operated by DTPHX, Inc on the CityZenith digital twin platform. The digital twin is a digital replica of the DTPHX footprint, including a 3D model of all buildings and the built environment, including roads, bridges, parks and structures. On top of the model are use case layers that support specific use cases like building decarbonization, transportation congestion, pedestrian safety, historic preservation, affordable housing, health and social services resources.

2. Why is this needed?

Phoenix is the 5th largest and fastest growing city in the United States. In order to ensure the city's resilience and sustainability, leaders, urban planners, administrators and the public need access to accurate, complete and timely information to make the best decisions.

3. How does it work?

Using a collection of data sets, DTPHX is building a 3D model of the downtown area on the CityZenith digital twin platform. A digital twin platform is a software application designed to represent data sets as a replica of the city.

On top of the base model, users can develop use case specific layers that model different scenarios that represent what would happen in real world conditions.

Using a computer and accessing Digital Phoenix, users can see the digital twin and adjust data layers to model different use cases.

4. Who owns and manages it?

Digital Phoenix is owned and operated by DTPHX, Inc. DTPHX staff manage the digital twin and coordinate with the City of Phoenix, ASU and other stakeholders on the use of Digital Downtown.

5. What is DTPHX and what is the service area they cover?

6. Who can use it?

Digital Phoenix is open and accessible to anyone. There are different levels of access that are controlled by DTPHX. The different levels include the ability to upload and edit data sets.

7. What use cases does it support?

The proposed initial use cases are building decarbonization, historic preservation, affordable housing, building occupancy, land use and pedestrian safety. NOTE: These will be confirmed or refined at the solutions workshop in January,

8. What data is required and where does it come from?

Digital Phoenix uses a base set of data that is loaded into a Data Exchange. As new use cases are developed they may require additional data sets which can be loaded into the Data Exchange for use in the digital twin.

9. What languages is it available in?

The initial deployment of Digital Phoenix is available in English.

10. Can it work with AR/VR?

Yes, augmented and virtual reality use cases can be layered onto Digital Phoenix. However, the initial release does not include AR/VR capabilities.

11. How can I build out a new use case?

Anyone can develop a use case, by selecting data sets from the Digital Phoenix data inventory and provisioning them into a use case.

12. What are the limitations?

The limitations are the resources to build and operate the digital twin, including access to data, the staff to build out use cases.

13. How much will it cost to build and operate?

The digital twin will be developed at no cost by the ASU CIC, AWS and CityZenith. The ongoing cost to operation and maintenance will be $2,000 per month in data storage costs.

14. Will there be a cost to users? How is that structured?

There is no cost to users.

15. Where is the data coming from and how do I know if it is accurate?

The foundational data comes from the City of Phoenix open data sets, including LIDAR data set.

16. What will be the first set of use cases?

    Historic Building Preservation
    Building Decarbonization

17. What are digital twins mostly used for in cities?

Urban digital twins are used to support planning and operations of cities.

18. Is there a user playbook?

Yes. A comprehensive playbook that explains the governance and use of Digital Phoenix and how to access and build is available. There are also video tutorials to guide users.

19. Who will we partner with to build and maintain?

DTPHX is partnering with the ASU CIC and CityZenith to develop Digital Phoenix. Additional partners will be able to access and develop use case layers.

20. How will the data be stored, secured and what are the privacy capabilities?
The data is stored on AWS and is secure. Data owners are able to retain control of data using Identify and Access Management.

21. How can we prevent people from misusing the solution to do harm?

Digital Phoenix includes Identity and Access Management that governs who has access to the base data sets. Additional security features will identify potential misuse and limit access to prevent harm.

22. How will the governance model work?

DTPHX owns and operates the digital twin. The governance is detailed in the Digital Phoenix Playbook which explains how to access and use the digital twin.

23. What is the worst thing that could happen?

If the digital twin was hacked and altered to provide manipulated information it could alter decision making and lead to poor outcomes.