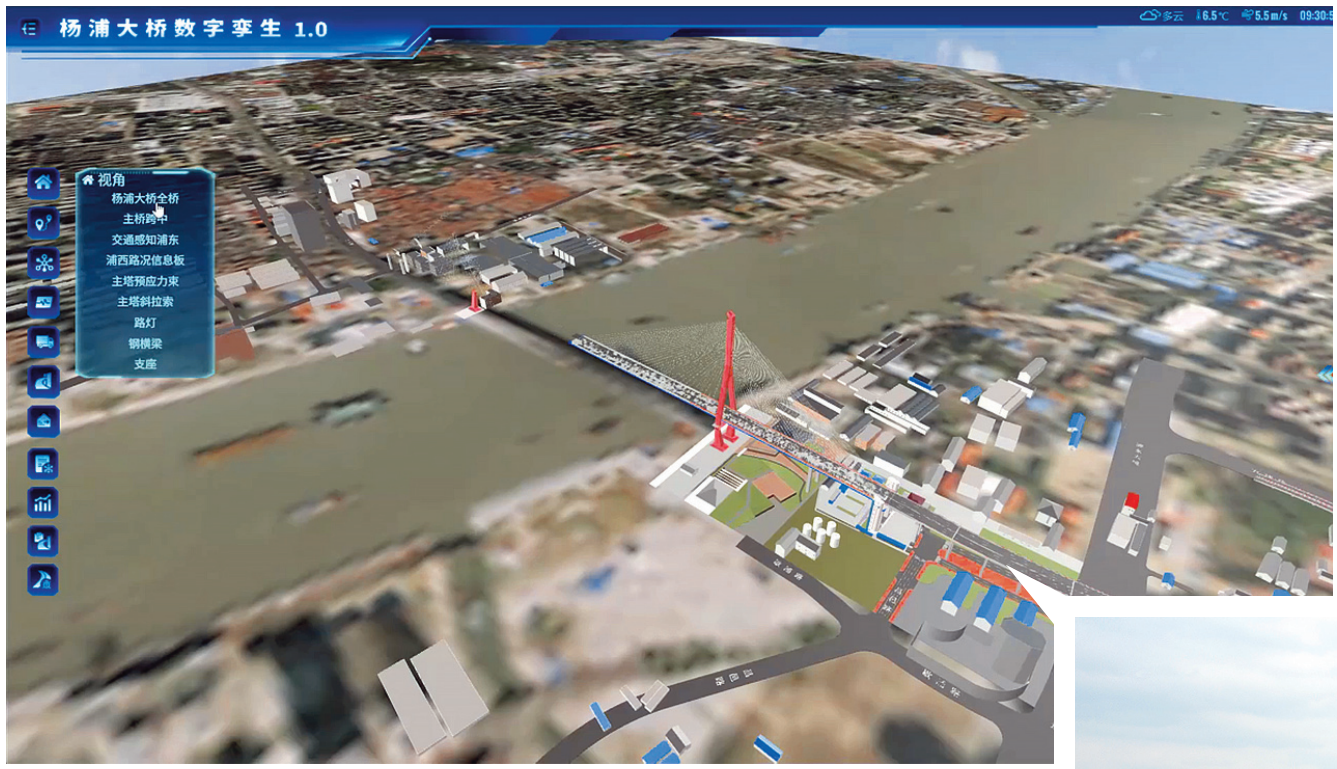

The digital Yangpu Bridge. — Ti Gong

Yangpu Bridge. — IC

Virtual twin platforms a bridge to city's future

ShanghaiTech University uses artificial intelligence technology in making vital building.

Zhu Yuting

Shanghai's application of "digital twin" technology is greatly benefiting the city's urban management.

The "digital twin" concept refers to a virtual platform or model that accurately reflects real-time physical objects and systems.

This means that every element and object in the city can be found in its digital reflection in a digital system.

The city has adopted digital twins in many urban management aspects, such as residential complex management amid COVID-19 epidemic control and governance.

Also, the "digital twin" concept has been embedded into Shanghai's transport system, historic landmarks and university campus.

Transport system under digital supervision

The Shanghai Public Security Bureau has applied the digital-twin concept to build an advanced transport system, on which, traffic lights, detailed traffic flows, emergency situations and road problems can be accessed at any time.

The system now is running and supervising the city's entire transport lines. Its digital detectors reach the smallest traffic units, just like the "nerve cells" in the human body.

The system can help transport police officers release traffic pressure during peak times.

In the Shanghai Airport Economic Demonstration Zone, traffic jams used to be a headache for local police officers. They solved the problem by using the digital system to evaluate and calculate flow, then coordinated 11 key signal lights in the zone.

About 2,300 accident danger spots citywide have been put under the digital system's monitoring, as well as 3,400 roads near water danger.

The digital Yangpu Bridge

The 28-year-old Yangpu Bridge has a digital twin with a "smart brain", according to the Shanghai Urban Operation and Management Center.

When people cross the bridge in a car, the information will be displayed on a digital system, which also carries a weighing function to detect overloaded vehicles.