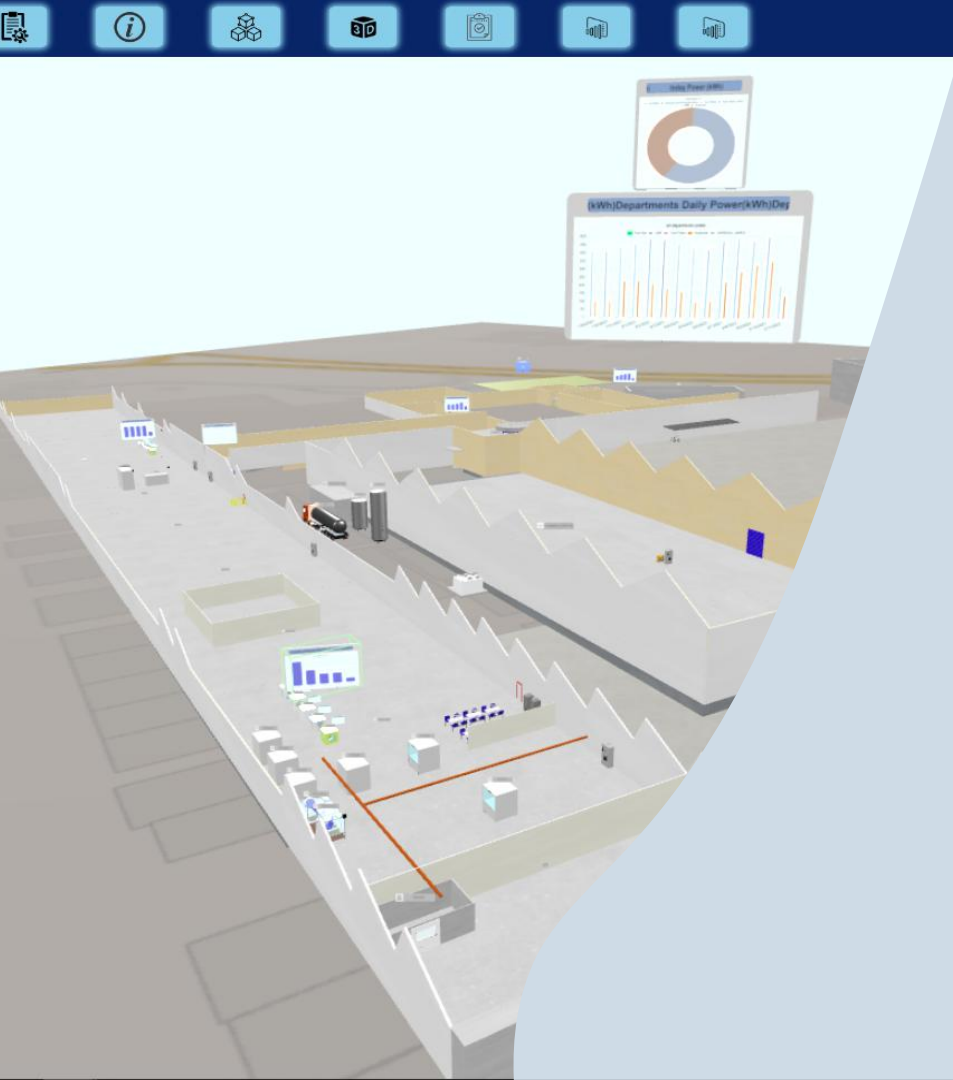


# Benefits of combining digital twins and AI in energy management



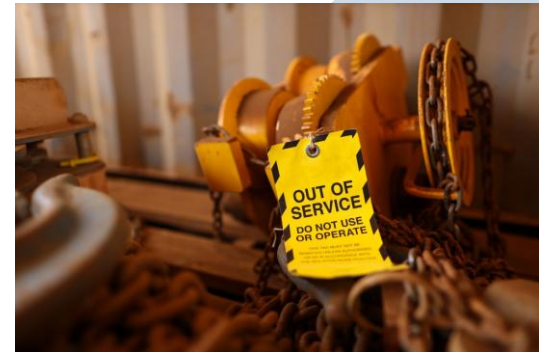
# Introduction

What is our mission?

...to transform large and complex business facilities and processes into a 3D digital mode so any user can see, understand, and manage such business and facilities quickly and effectively.

# Problem

- Rising energy prices
- High costs
- Late, unreliable and biased OEE reports
- Unknown energy efficiency and CO<sub>2</sub> in real-time
- Unnecessary stops and break-downs
- Utilities can't always be optimized with no diagnostics



# Solution

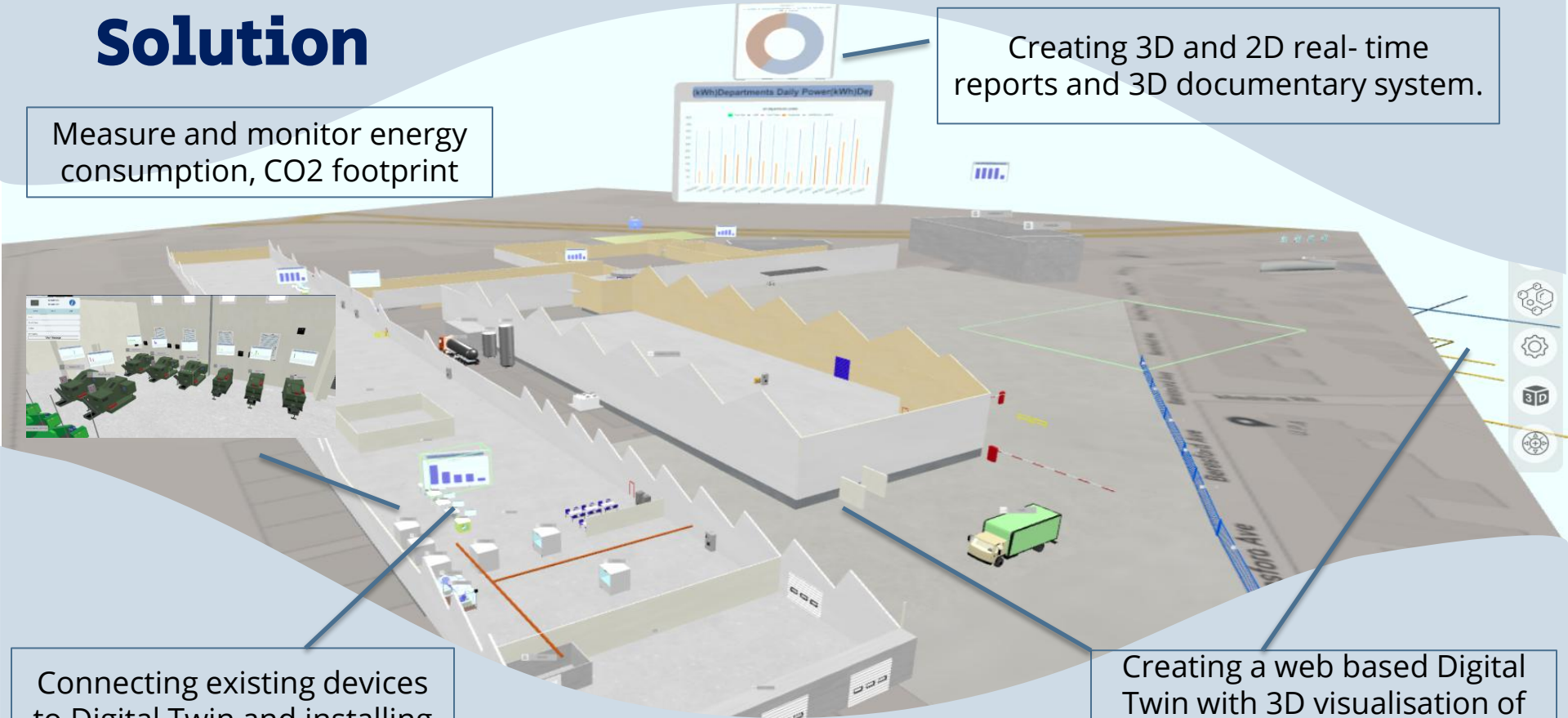
Measure and monitor energy consumption, CO2 footprint

Creating 3D and 2D real-time reports and 3D documentary system.



Connecting existing devices to Digital Twin and installing additional.

Creating a web based Digital Twin with 3D visualisation of all facilities, assets and installations.

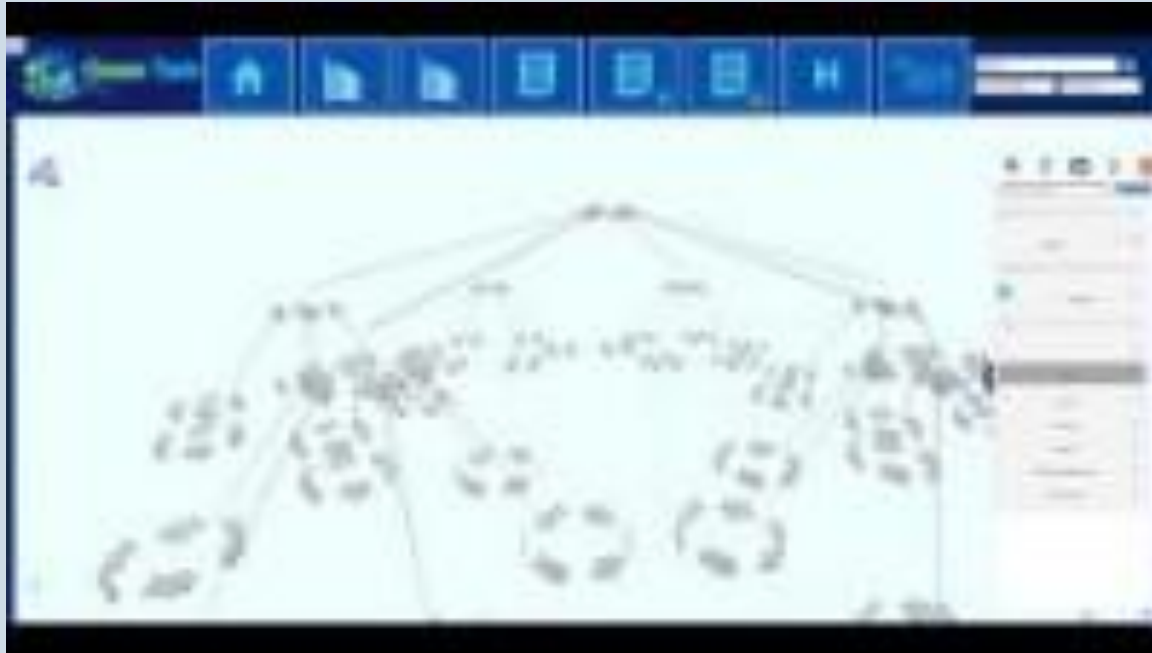


# Benefits of AI enhanced digital twin

- Real-time monitoring
- Predictive maintenance
- Improved efficiency
- Enhanced simulation
- Data-driven decision making
- Cost reduction
- Risk mitigation
- 3D visualisation
- sustainability



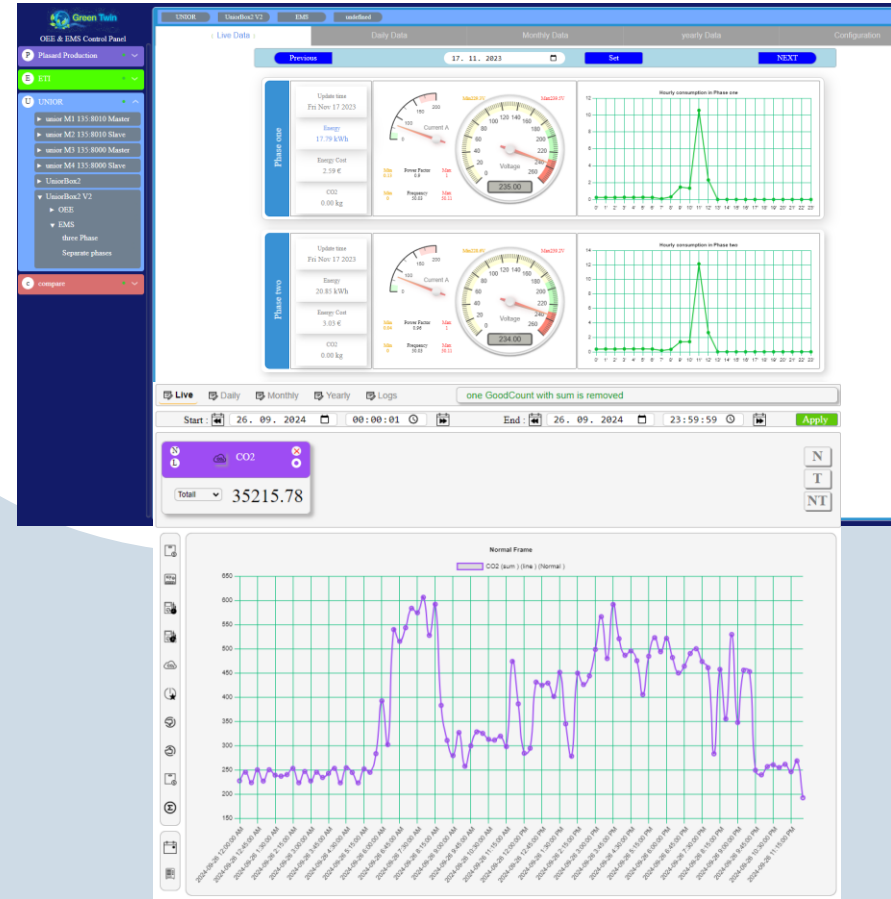
# Business Models Digital Twin



[4D BI Structure - YouTube](#)

# Energy management

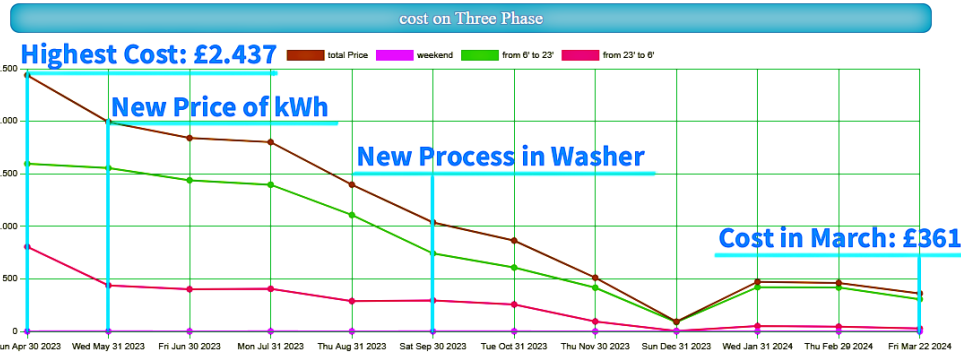
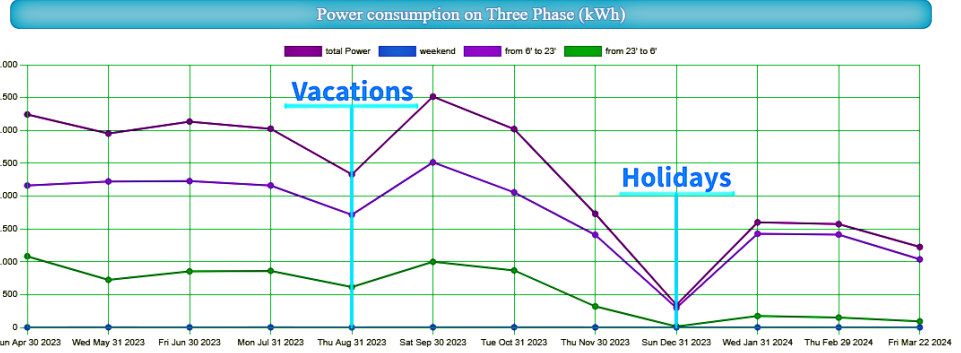
- Monitor and optimise all energy consumers
- Improve power factor efficiency
- See and control your carbon footprint
- Use GreenTwin to gain ISO 50001
- Facility management – create cleaning plans



# Case study

- Implementing GreenTwin digital twin
- Energy consumption measurement
- Identification of problems
- Implementing solutions
- Savings

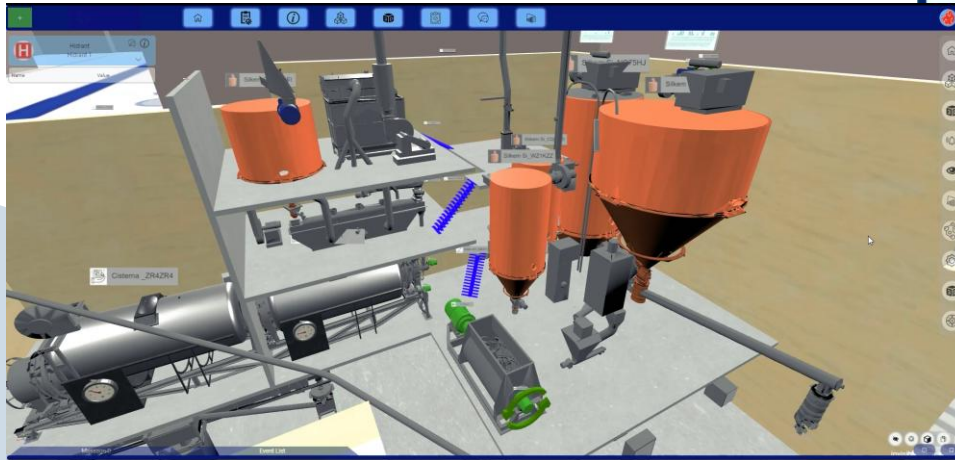
26% - 42% lower costs for our existing customers





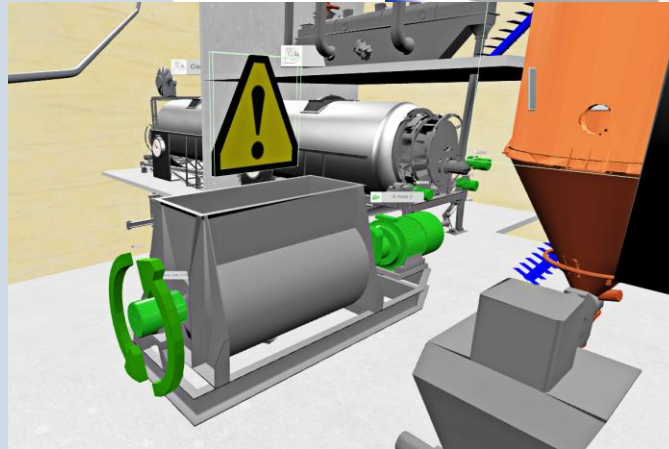
# Asset Management

- Control all assets in one app – info + local
- Create automatic work orders and let Green Twin run routine work
- Upgrade your existing asset management tools with 4D vision
- Upgrade your assets with IoT
- Real – time movements



# Predictive maintenance & AI

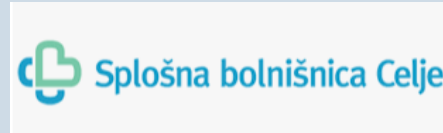
- Reduce costs with the help of AI
- Alarm before it happens
- Real - time data
- track machine operations & statuses
- Our own AI/ML/LLM model  
(multidimensional structure)



# The importance of diagnostics in the planning phase

- How the building behaves in energy terms?
- What are people's habits regarding the use of the building?
- Are there optimizations that can be made before implementing a green roof, as these can make the implementation cheaper?
- What is the energy performance in relation to dynamic changes in outdoor and indoor temperature, seasonality, number of occupants?
- Diagnostics should be based on empirical (measured) data, not on theoretical models for classical design?
- Why and how does the GreenTwin platform for digital twins serve empirical diagnostics?
- How to optimise performance with GreenTwin after a green roof implementation?

# References



Energy for life



# Contact us



**Green Twin**

 [GreenTwin - YouTube](#)

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