AFRY
ÅF PÖYRY

Overall Performance

Unit Efficiency

Humidity

Temperature

%
89

%
49

%
25

°F
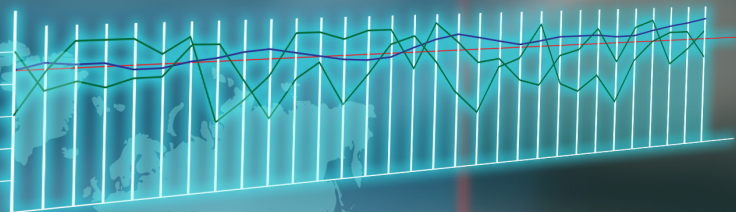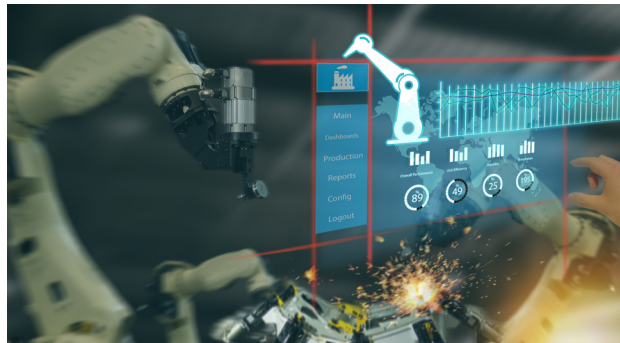195

Real Digital Twin

Real Digital Twin

The Game Changer

Using a Real Digital Twin of your production for commissioning and ramp-up can save you a lot of trouble, and up to 75% of the costs compared to traditional commissioning and ramp-up ad hoc.

What is a Real Digital Twin?

Real Virtual Commissioning (RVC) creates an exact digital twin of your production system including machines, sensors and actuators. It enables control of the reality through emulating plant modifications in a 100% accurate digital copy of your production environment before making changes to the actual plant.

With RVC, you can run 100% of operational testing without production stops when building or modifying a plant, which eliminates unnecessary downtime (both planned and unplanned) during commissioning and ramp-up.
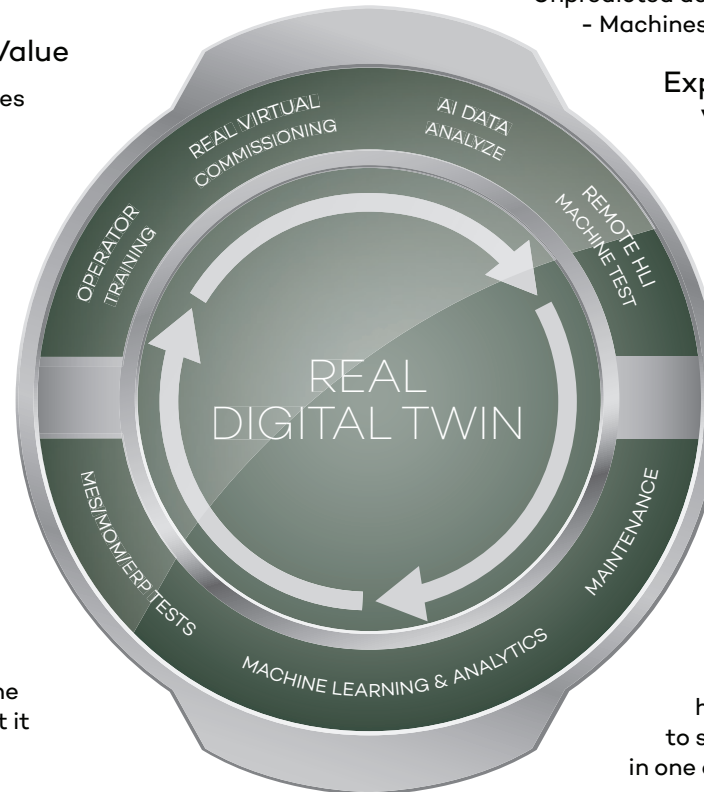
Working with RVC Drives Value

Faster RVC reduce risk and saves time.
Better Increased performance and profits.
Safer Use the digital twin to train operations and maintenance staff. Avoid the risk of downtime or revenue loss.

Simulation vs. Emulation

A simulator copies something from the real word into a virtual environment – often to give you an idea about how something works. It simulates the basic behavior but doesn't necessarily abide to all the rules of the real environment that it simulates.

An emulator, on the other hand, duplicates the thing exactly as it exists in real life. The emulation is efficiently a complete imitation of the real thing – it just operates in a virtual environment instead of the real world.

Typical Surprises Found During Ramp-Up and Production

- Operator interaction
- ERP data exchange
- MES/MOM data exchange
- Specifications not 100%
- Sequences
- Unusual modes
  - Unpredicted dependencies
    - Machines interfaces i.e. measuring devices

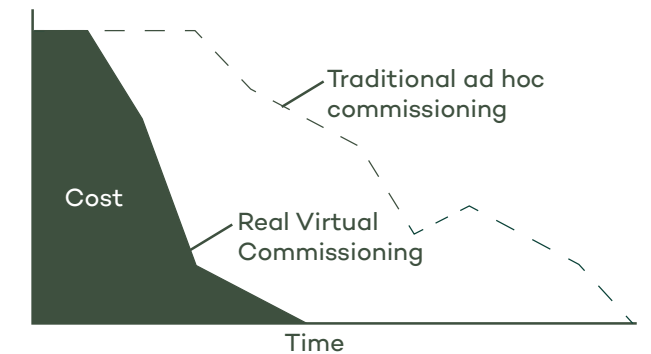## Experience Your Digital Twin in Virtual Reality

The digital twin is built in 3D and using VR glasses you can step into your future production system and experience all aspects of it.

Think Big, Start Small

To stay in front, your company will have to start the digital journey to a more architectural approach and work cross-functional to find the issues that occur between competences.

It´s important to think big and have great visions, and a good idea to start small and measure the savings in one area at a time. AFRY can help your company point out the direction and take the first step.

Financial Benefits

Traditional ad hoc commissioning

Cost

Real Virtual Commissioning

Time

The net achieved effect: a saving up to 75% to the costs and time of traditional practices.

Based on Siemens technology

REAL VIRTUAL COMMISSIONING
AI DATA ANALYZE
REMOTE HLI MACHINE TEST
MAINTENANCE
MACHINE LEARNING & ANALYTICS
MES/MOM/ERP TESTS
OPERATOR TRAINING

REAL DIGITAL TWIN

Contact Information

Head of Development RVC Digitalization
Andreas Buhlin
+46 (0) 10 505 8562
andreas.buhlin@afry.com

Business Development
Peter Andersson
+46 (0) 10 505 6578
peter.k.andersson@afry.com

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