

# Indo-German Energy Programme (IGEN)

Energy Efficiency in Industry & Data



german  
cooperation

DEUTSCHE ZUSAMMENARBEIT

Implemented by

**giz** Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH

# Project Objectives

Energy Efficiency in Industry & Data

To capacitate Indian Non-PAT industries in the secondary steel and pulp & paper sector to implement and adopt energy efficiency measures

Gap Assessment

Baseline- Energy Audits(~ 400) -  
Technology Identification

Development of Industry service  
portfolio

Trainings (Web based, Simulation  
based & Physical training)

Policy/ Scheme  
Development

Implementation support

## CAPACITY BUILDING

Focus to capacitate both  
Industry and SDA

## POLICY

Support BEE in developing  
policy framework and its  
implementation

## KNOWLEDGE PRODUCTS

Focus on digitizing  
knowledge for disseminate

## PEER TO PEER LEARNING

Focused on inter cluster  
& inter SDA knowledge  
dissemination program

Video Tutorial \_ innovative  
technologies \_ SOPs

Know where you Stand-  
E-Tool

Technology Data base –  
with Vendor details

Peer exchange tours

Peer-to-Peer workshops

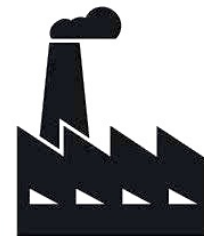
Experience sharing platform



Energy  
Efficiency



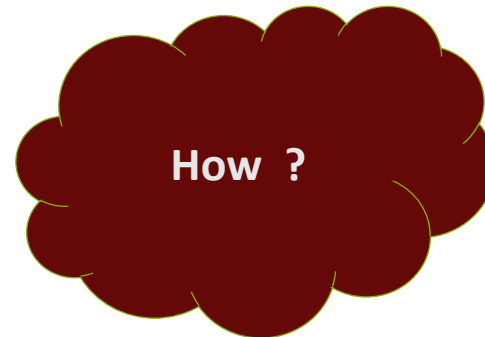
Where ?



Industry



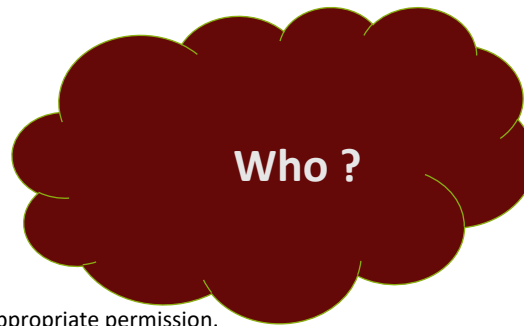
**RISK**  
Will it hamper  
my production ?



How ?



Are they  
trained to do so ?



Who ?



# Risk

**Can we erase the risk by doing the  
test trial in similar equipment outside the industry, where we could even monitor the saving  
and evaluate the risk**





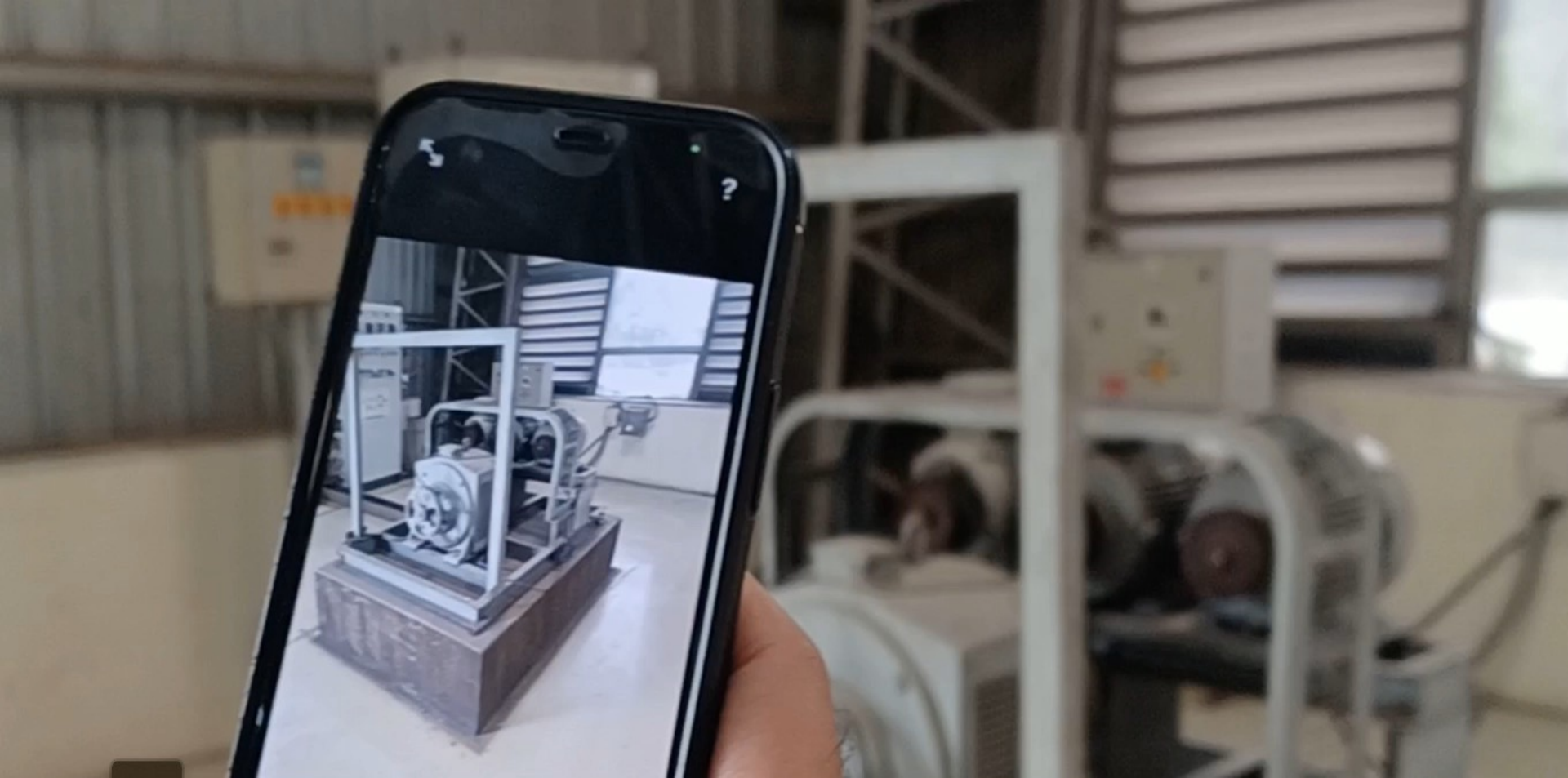
## UNDERSTANDING OF DIGITAL TOOL

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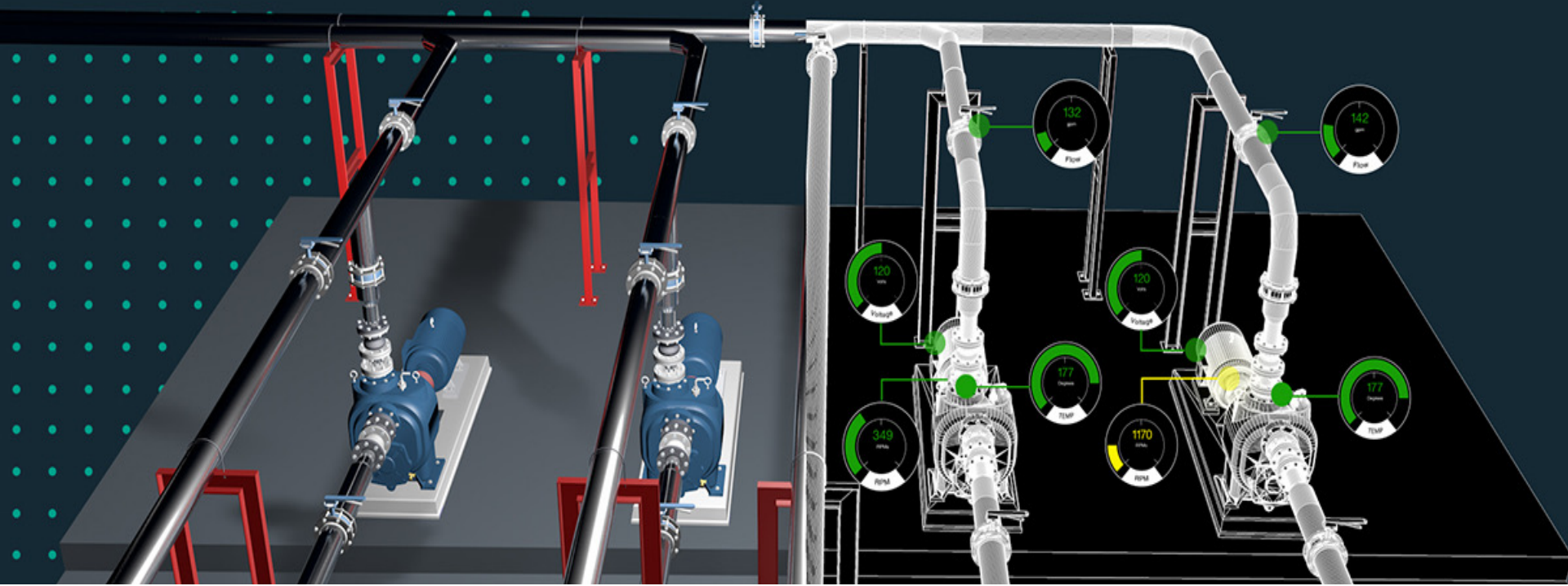
## DEVELOPMENT OF DIGITAL TOOL

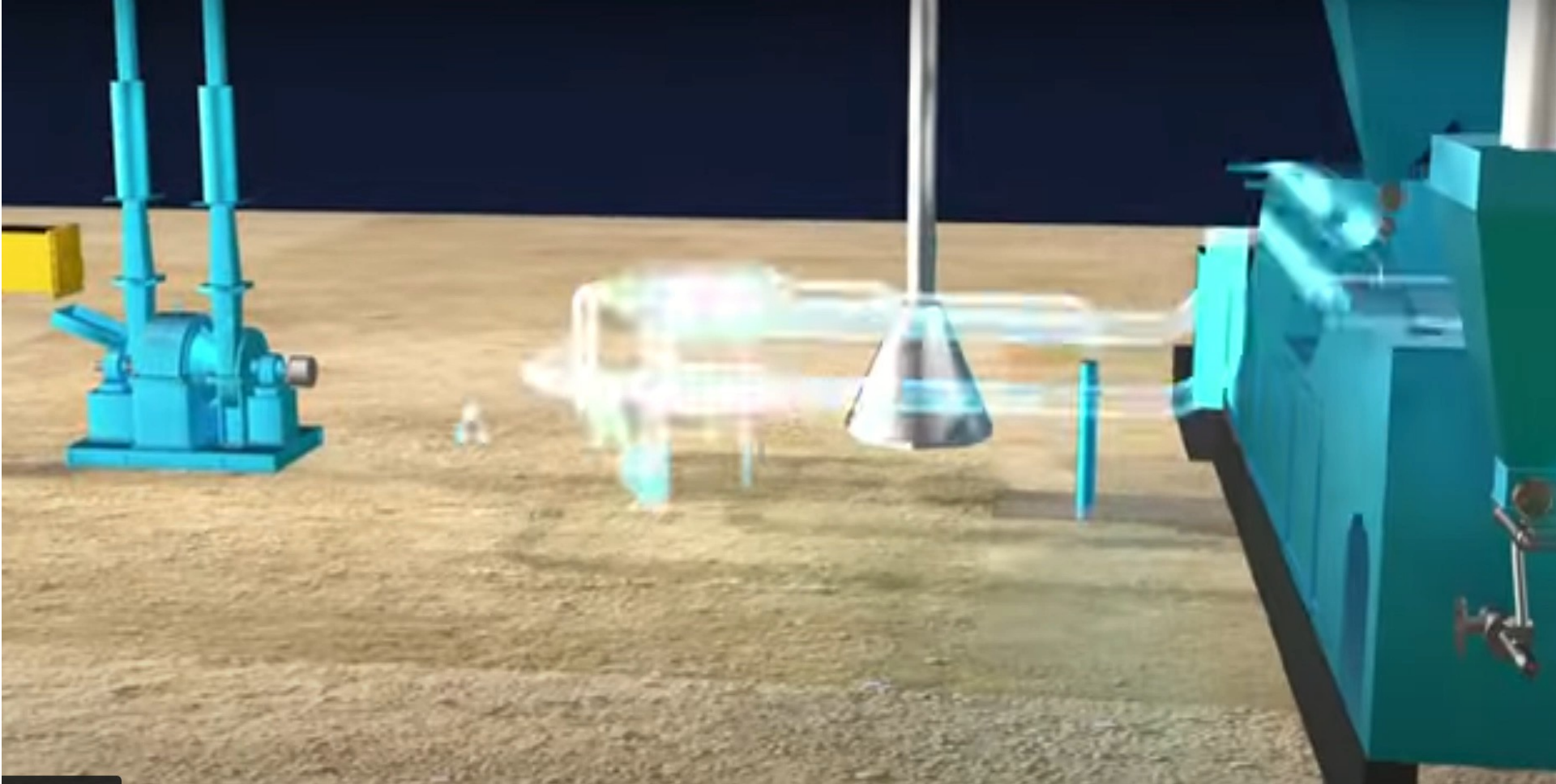
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# Digital Twin







**Actual model**



**With Digital Replica**



Model at Chennai Airport

**Now location is not a boundary any more**

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# Digi-Twin



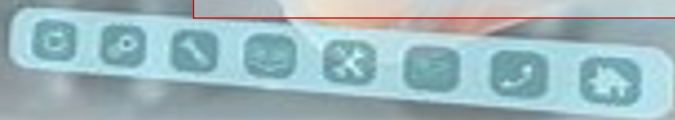
**exact digital replica** of the actual equipment



**operates** as per **ACTUAL** equipment



**RESPOND TO** the **CHANGE** of its **AMBIENT CONDITION**



# Digi-Twin



trainee can now play and **UNDERSTAND** the **EFFECTS OF THEIR ACTIONS** without impacting the actual plant operation.



help understand, how to **EVALUATE PERFORMANCE** of the system in various condition



TRAINING ON **BEST PRACTICES AND MEASURES**



info

### Compression Skid Inlet

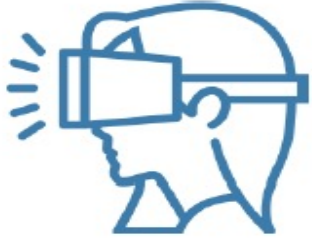
The inlet is where the gas to be compressed enters the first stage scrubber.

Close

STIT  
ECHN







(A.1)

Designing & development of  
Windows based VR  
Application for Trainers



(A.2)

Development of Non-VR  
windows & tablet based  
application for Trainees



(A.3)

Development of all the  
content

*Classroom Training Platform (CRTP)*



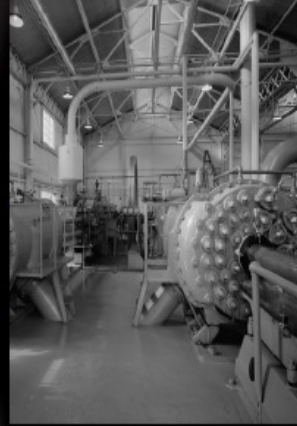
COMPRESSOR  
FACILITY



PUMP  
FACILITY



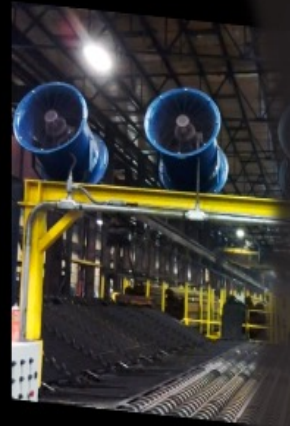
FAN  
FACILITY



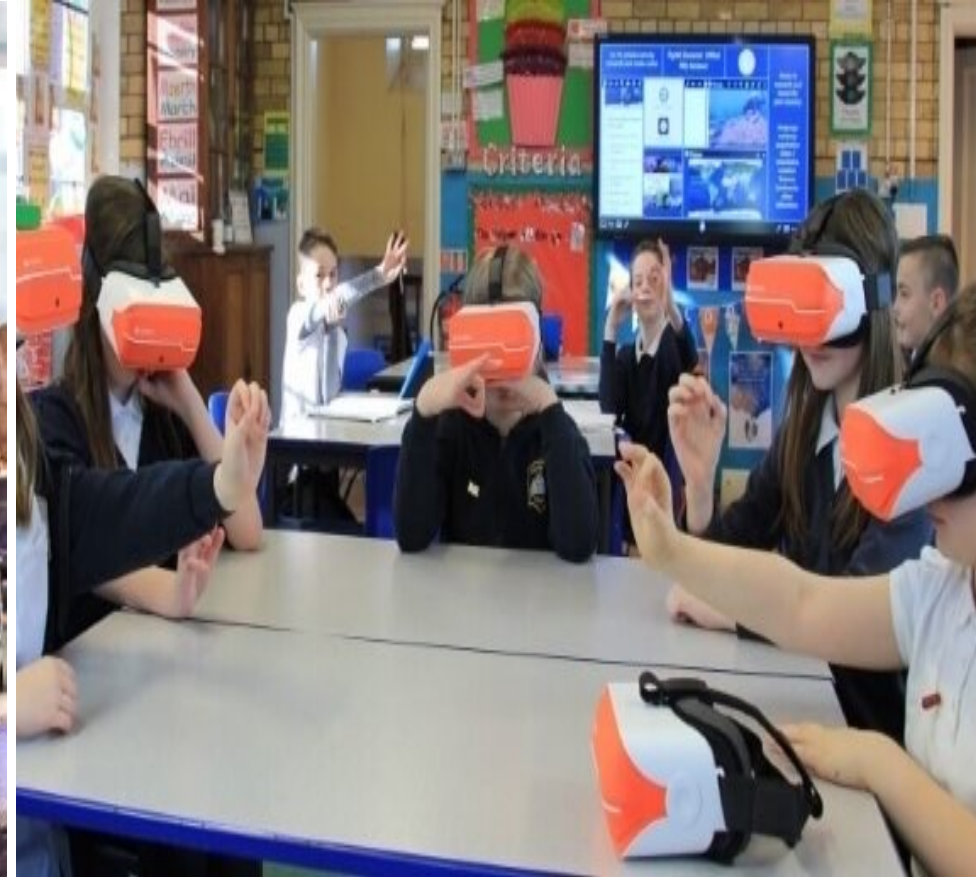
COMBUSTION  
FACILITY



FUNNACE  
FACILITY



MOTOR DRIVES



# Training

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# THANK YOU

## *Get trained in Digi twin*

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