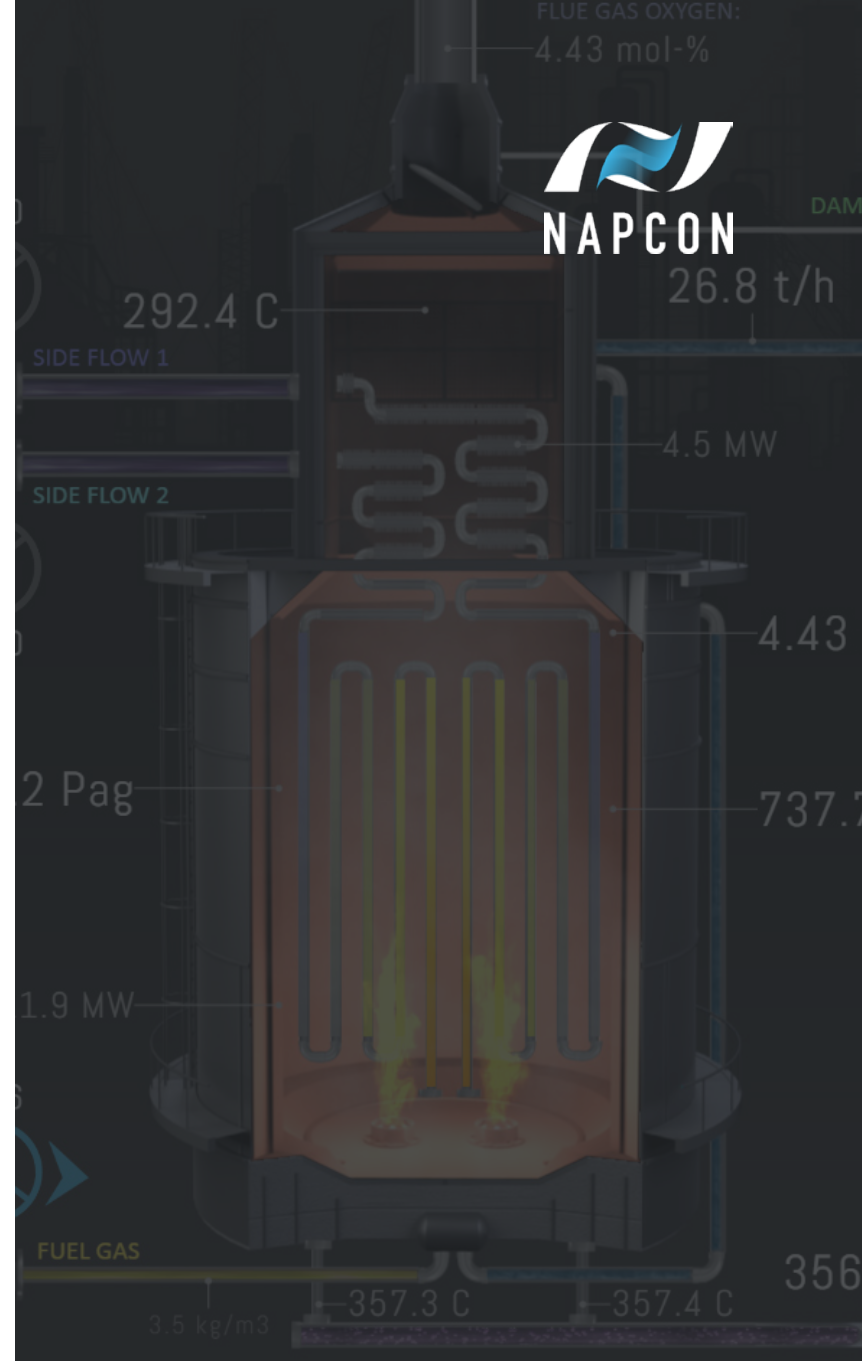


# NAPCON GAMES

## FURNACE

NAPCON Games Furnace is a simulation based learning game. With NAPCON Games Furnace, your operators are able to learn independently industrial process furnace principles and operating.



# STEP UP YOUR GAME WITH NAPCON GAMES

Gamification is an unbeatable way to make training more meaningful and motivating. NAPCON Games, a series of highly advanced training games turn work to play and play to work.

NAPCON Games Furnace is a process simulation based solution for learning the fundamentals of process furnace principles, phenomena and control.



## NAPCON GAMES MAIN BENEFITS

### COST- EFFICIENCY

NAPCON Games are cost-efficient tools for complementing other training methods, such as specific theoretical lectures.

### FAST LEARNING

NAPCON Games are an extremely efficient method both for onboarding newcomers and for strengthening the skills of more seasoned experts.

### REALISTIC

NAPCON Games improve employees' real-world skills, as the games are based on authentic phenomena.

### INDEPENDENT LEARNING

NAPCON Games allow independent learning, which makes it possible to utilize stand-by time during work shifts.

### FUN

Compared to traditional classroom training, gamification makes learning much more exciting.

## NAPCON GAMES OFFERING

### GENERIC TRAINING GAMES

A portfolio of training games for learning process industry equipment and phenomena

### CUSTOMIZED TRAINING GAMES

Training games tailored to your process and educational needs



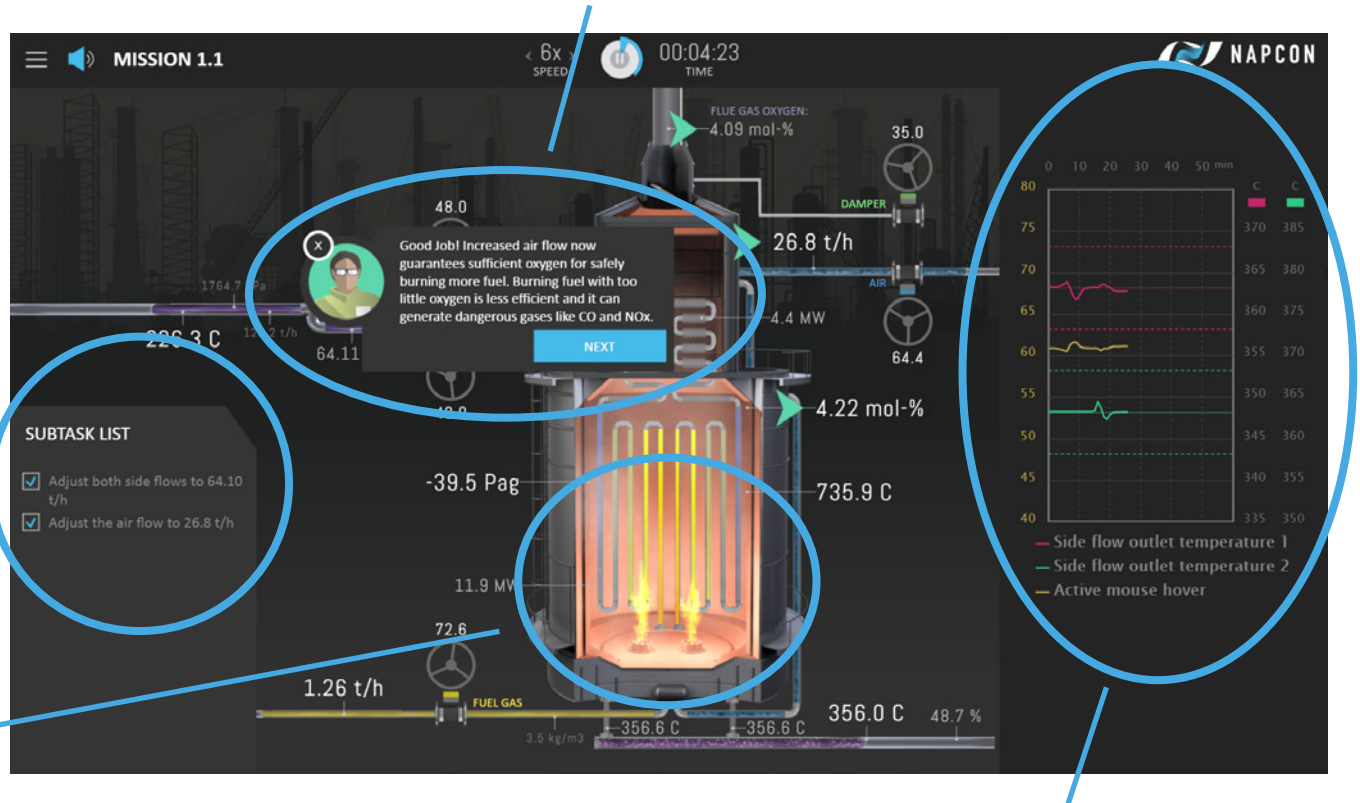
## NAPCON GAMES FURNACE

Learning is easy, fast and fun with carefully designed educational features

Relevant theoretical information of process furnace equipment and process is introduced in context of day-to-day real-world operating challenges

Step by step instructions with subtask system enables easy and independent hands-on learning and divides training into smaller and effective micro-learning tasks.

Animated flame reacts realistically to changes in fuel gas and air flows.

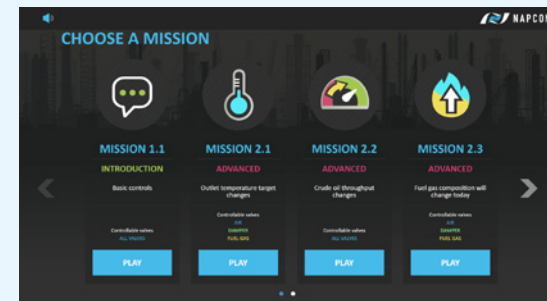
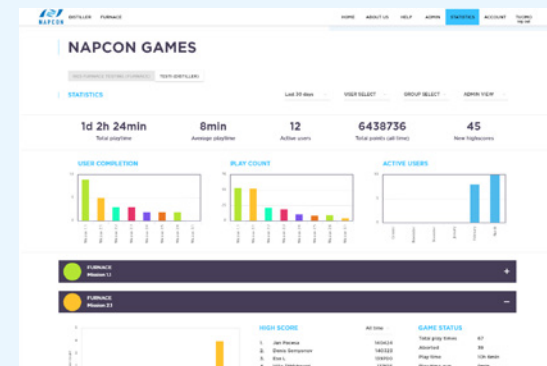
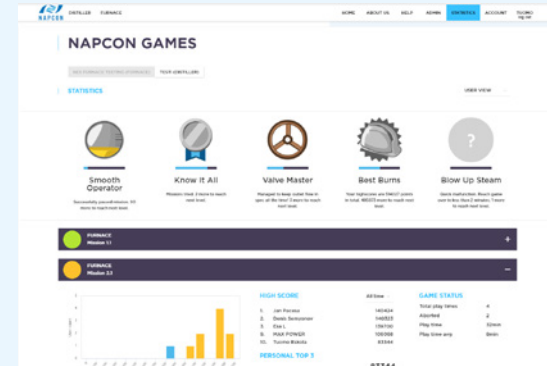


Trend System visualizes the player's operating in comparison to target values and simultaneously teaches the dynamic behavior of different process phenomena. It provides instant real-time feedback for both the player and the trainer of how well the target goals were met.

## NAPCON GAMES FURNANCE MAIN FEATURES

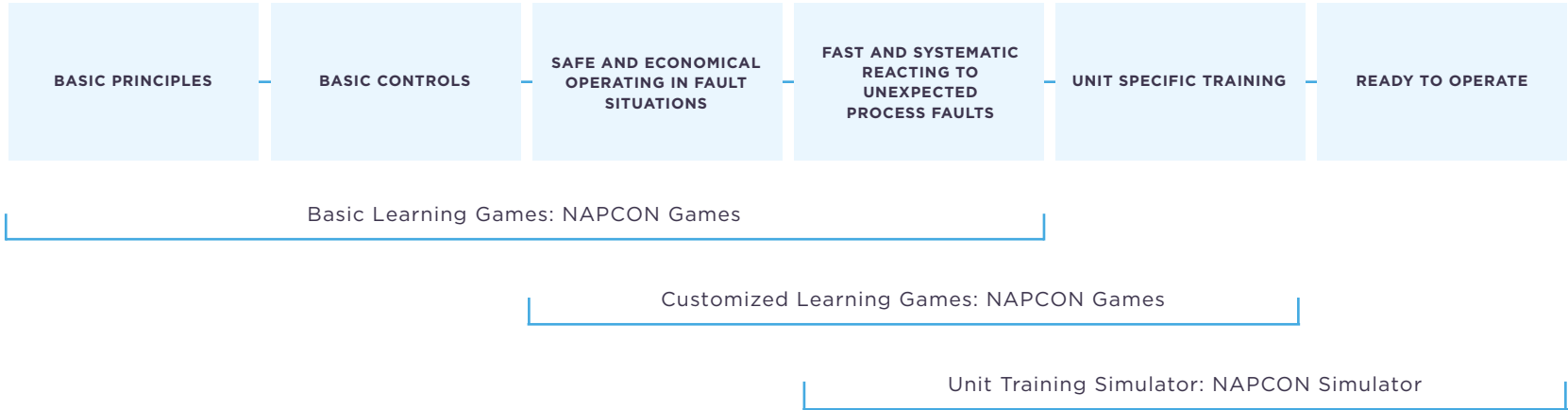
- **Goal directed missions** to complete and master
- **Gradually increasing difficulty** ensures a smooth learning curve
- **Statistics** show the operators' overall skill levels and progress of learning
- **Achievements** motivate the player to play NAPCON Games Furnace week after week.
- **Realistic Process Simulation** with ProsDS software\* by NAPCON

\*NAPCON ProsDS is a dynamic simulator for process and automation control system modeling and simulation. It is the engine running at the core of NAPCON Games Furnace. Process is modelled using first principles physical-chemical models, extensive chemical components and properties library and rigorous calculations.



CONTENT	LEARNING OUTCOMES
Tutorial	<ul style="list-style-type: none"> <li>• Step-by-step introduction to the process furnace principles</li> <li>• Connection of feed volume, air input, fuel gas input and damper position to process furnace operating conditions</li> </ul>
Fault Scenario Missions	<ul style="list-style-type: none"> <li>• Learn furnace control through typical process furnace operating challenges such as:               <ul style="list-style-type: none"> <li>• Changes in furnace feed volume</li> <li>• Changes in target output temperature</li> <li>• Effect of fuel gas type to operating</li> <li>• Dealing with an air leakage</li> <li>• Tube fouling situations</li> </ul> </li> </ul>
Theoretical Contents	<ul style="list-style-type: none"> <li>• NAPCON Games Furnace effectively educates process furnace theory by introducing theoretical content in middle of action. These contents include information about               <ul style="list-style-type: none"> <li>• Control strategy</li> <li>• Furnace mechanical structure</li> <li>• Terminology</li> <li>• Physical and chemical theory behind the phenomena</li> <li>• Feed composition changes</li> </ul> </li> </ul>
Sandbox	<ul style="list-style-type: none"> <li>• Sometimes it's easiest to learn when distractions are at minimum. Sandbox mode let's you play around with the furnace without any preset targets.</li> </ul>

**OPERATOR LEARNING PATH WITH NAPCON TRAINING SOLUTIONS**



**TRADITIONAL LEARNING PATH**



## LEARNING WITH NAPCON GAMES FURNACE

NAPCON Games Furnace is a tool for learning the basic process furnace controls, dynamics of furnace system, and theory behind the process. By filling the gap between class room training and unit specific training, NAPCON Games Furnace allows the trainee to learn furnace principles in a gamified environment before moving to work with complex real life process.

Example learning path of process furnaces with NAPCON Games Furnace:



### TRADITIONAL METHODS

Theory



### NAPCON GAMES FURNACE

Operating Principles



### NAPCON SIMULATOR & OPERATING ROOM TRAINING

Unit Specific Operating

## CUSTOMIZED NAPCON GAMES

- Existing Generic Games modified to fit your process and training needs
- Completely customized training game solutions



### DESIGN

Our experts gather your training needs and visions and synthesize a game concept



### PROTO

Game proto demonstrates the key features of the concept works as a milestone to adjust the development direction



### COMPLETE GAME

A complete and tested game customized to your training needs



## NAPCON PRODUCTS



### UNDERSTAND

NAPCON Understand solutions will turn the data provided by your plant into relevant information that help optimize your company's production.

[NAPCON Informer](#)  
[NAPCON Analytics](#)



### IMPROVE

NAPCON Improve solutions will bring out the maximum potential of your operations and help you ensure that your investments meet your strategic goals.

[NAPCON Controller](#)  
[NAPCON Optimizer](#)



### TRAIN

NAPCON Train solutions will bring the real life plant into the virtual world, making training operators and testing the limits of your plant safe and exciting.

[NAPCON Simulator](#)  
[NAPCON Games](#)



### DECIDE

NAPCON Decision support enables you to make the right decisions, even in complex conditions.

[NAPCON Energy Performance](#)  
[NAPCON Flow Dynamics](#)  
[NAPCON Business Optimizer](#)

HEAD OF SALES AND  
MARKETING, NAPCON:

Jaakko Nauha

[jaakko.nauha@neste.com](mailto:jaakko.nauha@neste.com)

+358 50 458 7534

[www.napconsuite.com](http://www.napconsuite.com)

[napcon@neste.com](mailto:napcon@neste.com)

+358(0)10 458 1200

