



JAMCEM
CONSULTING

KILN OPTIMISATION TRAINING

“The new benchmark in training and kiln simulator package”

CEMENT



Experts in plant optimization
Experienced personnel with global experience



Providers of kiln simulation software
Capability to customize simulator to your plant



KILN OPTIMISATION TRAINING

Focused training on kiln operations for all levels of personnel
Mixture of classroom based process training, group discussion and hands-on simulator use
Adapted to your plant and your requirements
Simulator can be customized to your plant, your fuel, your raw mix and your local conditions
Simulator includes scenarios for operators to test themselves
The software is yours – no need to book a timeslot and work from remote servers

BENEFITS OF THE TRAINING

THE CUSTOMISED
VERSION REPLICATES
THE PROCESS AND
PARAMETERS OF YOUR
PLANT – LIKE
OPERATING YOUR
PLANT OFF- LINE

A ONE-OFF FEE
TO PURCHASE THE
SOFTWARE WHICH IS
RUN ON CLIENT
COMPUTERS – NO
NEED TO PRE-BOOK
TIME TO USE

TRAINERS ARE
FORMER
OPERATORS – THEY
HAVE CREDIBILITY IN
FRONT OF THE
COURSE
PARTICIPANTS

BESPOKE
TRAINING FOR
DIFFERENT GROUPS
– OPERATIONS,
PROCESS, QUALITY

JAMCEM
CONSULTING



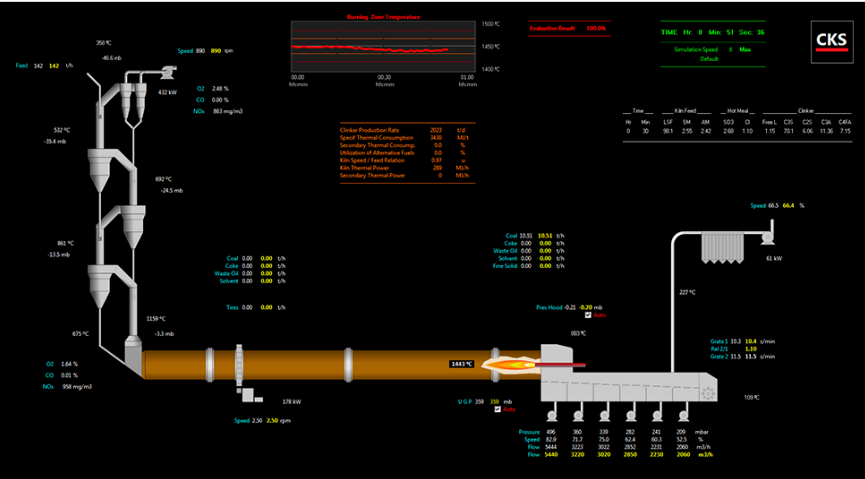
TRAIN THE
TRAINER OPTION SO
THE MATERIAL AND
THE USE OF THE
SIMULATOR CAN BE
SPREAD ACROSS THE
PLANT

SIMULATIONS
CAN BE SAVED AND
CONTINUED LATER
AND SIMULATIONS
PROVIDE A WIDE
RANGE OF
DIFFERENT
CONDITIONS

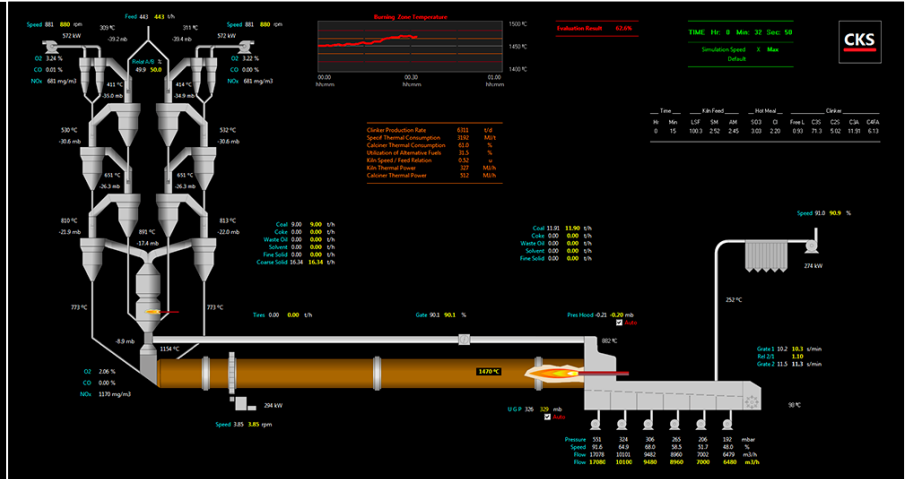
DEVELOP A PLANT
BASED COMMON
KILN BURNING
STRATEGY BY
TRAINING DIFFERENT
GRADES OF
PERSONNEL

SIMULATOR
FOCUSED ON
OPTIMISATION OF
THE KILN FOR
PERFORMANCE
IMPROVEMENT

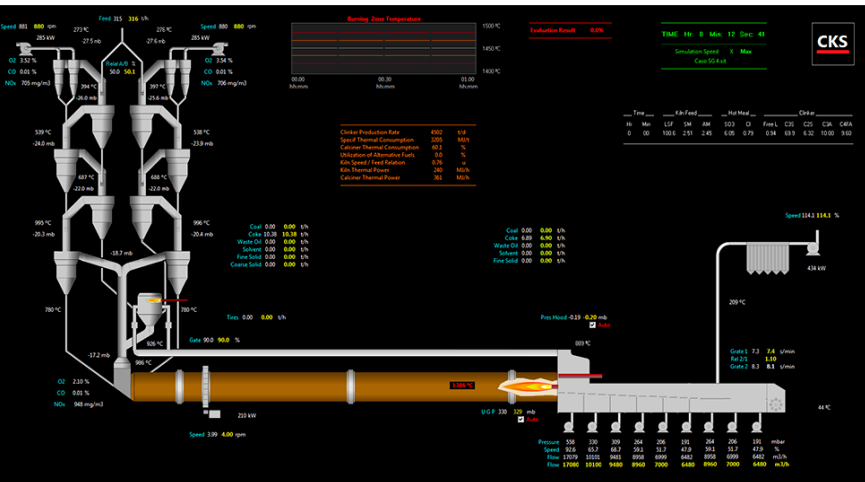
EXAMPLE OF CUSTOMISED SIMULATOR SCREENSHOTS



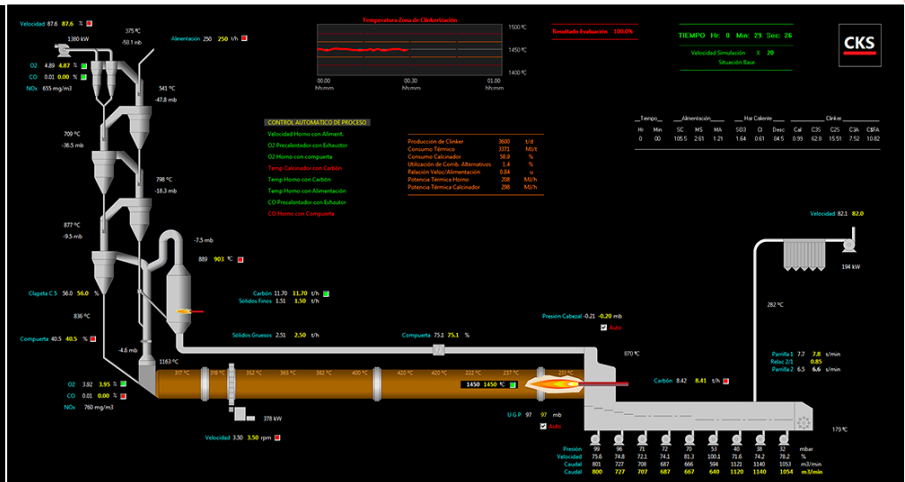
4 STAGE PREHEATER



5 STAGE, TWIN STRING IN-LINE CALCINER



5 STAGE, TWIN STRING RSP CALCINER



5 STAGE, SEPARATE LINE CALCINER

Customized simulator can include:

Preheater or precalciner systems
One or more preheater streams
Online or offline precalciner
Grate or planetary cooler
By pass system
SCNR system

Features include:

Complete mass and heat balances
Material chemistry of raw meal, hot meal and clinker
Material and Gas chemical reactions
Impact of different characteristics of fuels.
Circulation phenomena of chlorine, sulphur, etc.
Impact of fuel ashes in clinker chemistry
Fans and gas flow resistance system.
False air impact on gas analysis
Dimension of equipment
Convection and radiation losses
Process Interlocks
Kiln rings and material built-ups effect

Simulator tool includes many features:

Different speed of simulation
Black or grey background screen
Identification of all variables
Simple actuator for all controls
Dynamic trends for all variables
Default situation for starting
Save a new situation at any time
Record of simulation to save and recover later
Online evaluation
Quality information update every 15 min
Feedback on most process technical indicators

Kevin McAdam – JAMCEM Expert kiln operator

Kevin has been in the cement industry for 36 years, having started in the production department as an operator and worked his way up to the position of Senior Kiln Burner in Blue Circle Cement/Lafarge Cement UK.

He has also worked as a kiln operations specialist - optimising kilns, trouble-shooting process issues, assisting operators work with new fuels and equipment such as by-pass systems and commissioning new systems. More recently, Kevin has been working for KHD Humboldt Wedag as a Commissioning Supervisor covering commissioning, performance guarantee tests, advising on operational issues with KHD equipment and operator training.

Key areas of Kevin's work are kiln operator training, coaching and development, pyro-processing troubleshooting relating to output and fuel consumption, optimisation of kiln control and reduction of kiln by-pass usage, petcoke and alternative fuels substitution rate optimisation and pyro-processing system commissioning.

Emilio Plano Fenoglio – CKS Simulator Expert

Emilio is a qualified Chemical Engineer who has over 30 years of experience in the cement industry, working in countries such as Argentina, Spain, Switzerland and Brazil. He started his career as a Quality Manager for Juan Minetti Cement in Argentina and worked his way through technical positions and then into Production Management.

He subsequently moved to Holcim Group Support in 2002 where he became involved with the development of kiln simulators for operator and process engineer training. Following on from this, he returned to operations in Spain where he continued working in performance improvement, analysis of the progress and effectiveness of automation and knowledge transfer.

His wide range of roles and knowledge – from quality to process engineering to operations – have allowed him to develop the simulator which mirrors the process and has an easy interface to allow users to see the cause and effect of their actions and easily understand the process.

SUGGESTED LEVELS OF PACKAGE

PACKAGE	STANDARD	CUSTOMISED	HIGH-LEVEL
SIMULATOR TYPE	STANDARD CKS SIMULATOR	CUSTOMISED CKS SIMULATOR COVERING PROCESS TYPE, FUEL, CHEMISTRY	CUSTOMISED CKS SIMULATOR COVERING PROCESS TYPE, FUEL, CHEMISTRY
SIMULATOR TRAINING PROVIDED	3 DAY "TRAIN THE TRAINER"	3 "DAY TRAIN THE TRAINER"	3 "DAY TRAIN THE TRAINER"
PROCESS AND KILN OPERATIONS TRAINING	NOT INCLUDED	1 WEEK PLANT PROCESS AND KILN OPERATIONS SESSION	1 WEEK PLANT PROCESS AND KILN OPERATIONS SESSION
KILN OPERATORS TRAINING	NOT INCLUDED	NOT INCLUDED	1 WEEK OPERATOR TRAINING AND DEVELOPMENT SESSION
TARGET AUDIENCE	PLANT WISHING TO PURCHASE SIMULATOR ONLY	PLANT WISHING TO PURCHASE SIMULATOR, TRAIN KEY PERSONNEL AND DEVELOP AGREED KILN OPERATING STRATEGY	PLANT WISHING TO PURCHASE SIMULATOR, TRAIN KEY PERSONNEL, DEVELOP AGREED KILN OPERATING STRATEGY AND DEVELOP OPERATORS WITH JAMCEM EXPERT KILN BURNER

**WE CAN, OF COURSE, PROVIDE BESPOKE PACKAGES BASED ON YOUR REQUIREMENTS
FOR FURTHER INFORMATION PLEASE CONTACT [SIMULATOR@JAMCEM.COM](mailto:simulator@jamcem.com)**

“The CKS Simulator is a great off line learning tool - we have just used the Simulator to do some basic training with a new control room operator and a Shift manager. What the simulator allows you to do as a Coach is to allow the trainees to be hands on and learn the principals of kiln burning with out the danger of doing damage. The difference I have found with the CKS version is that it is tailored to how our kiln reacts, so making for a better all round experience.”

Mark Collier, Production Operation Coach, Lafarge Caudon Plant, United Kingdom

“We could summarize CKS as the tool that allows us to train and develop control room operators, as well as to measure the operating performance of them.”

Serrafin Sanchez Berrocal, Process Engineer, Carboneras Plant, LafargeHolcim, Spain

“It is a useful tool to instruct new operators in a practical way and so they become familiar with critical signals from the system, lets analyse the reaction of the kiln with the changes carried out to operate the Simulator prior to do it in real time.”

David Molina, Optimisation Training Manager, San Gabriel Plant, Cempro, Guatemala

“I have had the opportunity of working with “CKS Simulator”, I believe it has important advantages compared to others that I have used: it is not standard, it is the first that I had been see that adapts fully to the conditions of operation of the plant. It has an expert system that show the operator how react that system. It also includes a full specific course on kiln operation. Finally, it contains an evaluation system that allows a very good follow-up on the knowledge gained by the new operators and check the level of the most experienced operators.”

Adrián Adelmo Belli, Plant Manager, Nobsa Plant, Colombia, Holcim Colombia