

Pressroom

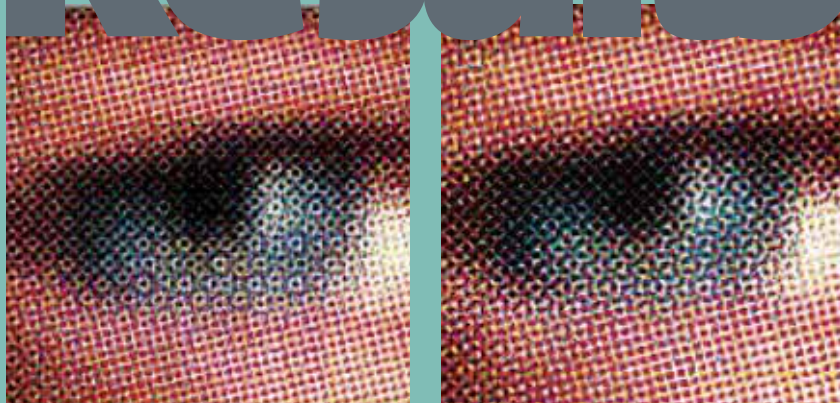
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Classroom

# Simulator



# Training, Real Results



## Who is Sinapse?

Sinapse provides simulators for sheet and web printing processes used in publication, packaging and commercial applications. Sinapse is the recognized leader in this field since 1993, and has around 2000 systems running worldwide in printing companies, at their suppliers and at education institutions. Industry accolades include the PIA Intertech Technology Award and selection as the evaluation tool of the WorldSkills Competition.

## The Sinapse team

Works with industry specialists to identify, simulate and validate a complete range of printing variables throughout the press line, its components and consumables. Expert workshops update the process models and extend the functionality of print fault analysis, print copy and fault display, machine and materials diagnostics.

# Simulator Training, Real Results

## How do simulators work?

Simulation-based learning improves skills through a virtual press that gives trainees a realistic “hands-on” printing experience . . . flight simulators for printers. The simulator can put its operator into a defined production situation within which unexpected problems arise. The operator’s analytical abilities are developed to produce solutions, and the results and costs of the decisions taken are shown. All press interactions are automatically tracked to assess results against targets. Hundreds of pre-programmed exercises are supplied. It is easy to integrate customized exercises and in-house training to improve understanding and knowledge retention. Simulator exercises are an integral part of Printing Industries of America’s Press Training Programs — ideal for companies in need of structured training.

## Simulator components & configuration

Software runs on standard multimedia hardware, equipped with one or two monitors. An optional third monitor can display the folded signature of web presses. The *console monitor* controls the press line from paper-in to paper-out; it allows all control settings and press components to be checked and adjusted. An interactive self-help diagnostic identifies possible problem causes, provides explanations and proposes solutions. The *print monitor* displays the printed page and proof. The operator compares differences between the printed sheet and the color OK. The magnifier allows the sheet and register to be inspected. The control strip can be checked with both the magnifier and densitometer to assess gray balance, dot gain, slurring, density, trapping, plate exposure and other printing characteristics.

## Why use simulators?

Simulation-based learning develops and improves skills faster, cheaper, and more comprehensively than can a real press on its own. Simulators do this without using any press time, paper, or consumables, while avoiding potential risks of safety and equipment damage. Simulators eliminate almost all environmental impacts because they consume hardly any energy. There is a zero carbon footprint for energy, paper, materials and transport. **At the print plant** Trainees can be presented with situations that are too difficult or risky to create on a real press and/or that might only rarely occur. Simulators reinforce the relationship between an operator’s actions and their costs, which are constantly displayed as virtual money spent during an exercise, and performance can be rated on them. This structured training tool also provides managers with simple supervision and assessment reporting to optimize results. **In schools** For the student the interactivity with and immediate feedback from simulators is highly stimulating. Educators can provide operators with the experience of printing on fully equipped multi-color presses without significant capital investment, consumables costs, maintenance or space requirements, or environmental and safety concerns.

## Skills enhancement & problem solving

Simulation perfects the training process because its flexibility allows adaptation to the production environment in which it is used and the pace of training required; it:

- improves problem solving and reduces avoidable errors;
- accelerates operator training and ensures higher print quality;
- offers structured skills evaluation, identifying improvement paths for all staff levels;
- provides consistent, documented, repeatable training for all shifts and plants; and
- builds confidence and communication inside and outside the company.

**“The simulator is the most cost effective way of accelerating learning.”**

*Singapore Press Holdings, Singapore.*

**On-going support** The Sinapse software is accompanied by a comprehensive manual, a set of trainee workbooks, and a multi-day ‘train the trainer’ introduction to its use. User workbooks are directly related to standard industry training such as PIA, FTA, NAA. Accredited competence centers are available worldwide to help develop and support operations and provide tutorial services.

Internet support sessions share applications between users and support staff, making it possible to review and solve problems without having to be on-site.

## Training & assessment

By providing a standard assessment method, simulators assist in optimizing human resource development and utilization, enabling more objective decisions on hiring, placement, promotion and new training. All training interactions are automatically tracked to assess results against targets. Supervisors have access to individual and group results. Simulators offer multilingual flexibility for the trainees and supervisors to select their preferred working language at a touch of a button — yet still understand one another. The “Read Out Loud” function for language learning makes it possible to have the sound in one language and the screen in another. There are 15 languages\* currently available depending on simulator version.

**“A mandatory part of our pay-for-skills program”**

*Shorewood Packaging, USA*

**NEW Distributed Learning Management System (DLMS)** The Cloud-based DLMS makes it easy for trainers to manage and evaluate large numbers of trainees, both on-site and across sites — see page 6.

*A Sinapse team works with industry specialists to identify, simulate and validate a complete range of printing variables throughout the press line, its components and consumables.*

## Productivity

Achieving productivity targets is highly dependent upon the competence of the press crews.

Simulators:

- make press crews aware of press time and cost management;
- ensure consistent quality
- reinforce best practices and standard operating procedures;
- reduce avoidable errors;
- provide training prior to the installation of a new press.

The simulator improves the cost awareness of the actions made by the trainee. The costs can be set to match the conditions of a specific press or plant.

**“After using SHOTS we reduced our makeready and spoilage significantly, while increasing net run speeds on our presses.”**

*Litho-Krome, USA.*

**Process control & PSO** Good printing control means correctly using process control tools: the simulators have a magnifier, densitometer, spectrophotometer, and gloss meter.

Official Supplier



The Sinapse Sheetfed simulator is an evaluation tool for the WorldSkills competition.



Console and print monitors.

\*Arabic, Chinese, Danish, Dutch, English, Finnish, French, German, Italian, Korean, Norwegian, Portuguese, Spanish, Japanese. Others are possible.

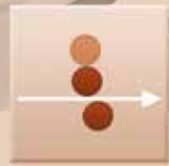




## OFFSET SIMULATORS



### SHEETFED



2-6 color press from feeder to delivery: Heidelberg Speedmaster or manroland. Input your own print jobs to make training realistic.



### HEATSET



16-page press from paster through to folder: Goss Omnicon or manroland generic press with touch screen control interfaces and multiple operators.



### NEWSPAPER



2x1 to 6x2, Jaw or Rotary Folders, multiple formers. Create your own impositions, web paths. Have multiple operators training on the same press.



This print copy with problems is from the WorldSkills competition. Use supplied problems or create your own.



Heatset adds new problems where hundreds of things can go wrong, like drying, rips, cut-off, tension.



Cut and fold problems, including some specific to coldset, and running multiple webs. Visible at the cut-off are ripped edges and web handling issues.



Compare print to proof. Use quality control tools to check the dots, color, gloss. This view shows bounce marks, bad register, TVI (dot gain).



Printing is only one aspect as problems in the folder create very expensive waste. Here the nip rolls are badly set (and the color is still bad - as cyan is missing).



Chemistry can affect print quality. This shows set-off with poor drying due to low conductivity.

## PACKAGING SIMULATORS



### FLEXP



8-color wide-web, flexible packaging, paper, film. Solvent or water-based ink, laminating...



### GRAVURE



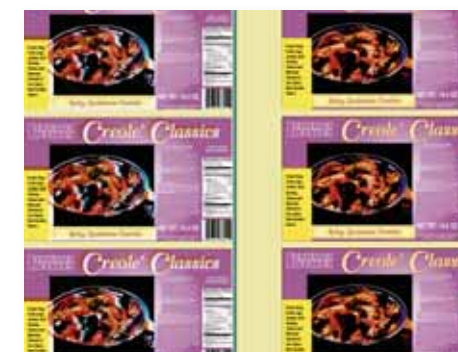
7-color press paper, foil, film, or carton. Reel/reel or reel/cut & crease configurations.



Narrow web, labels or carton, with die-cutter and stripper. Corrugated version: top or bottom print. Problem: boxes are not well cut.



Color, register, print-to-cut, just like the pressroom. This shows the box after it is cut and stripped (from FTA exercise). Cutting is skewed and there is too much pressure on one colour.



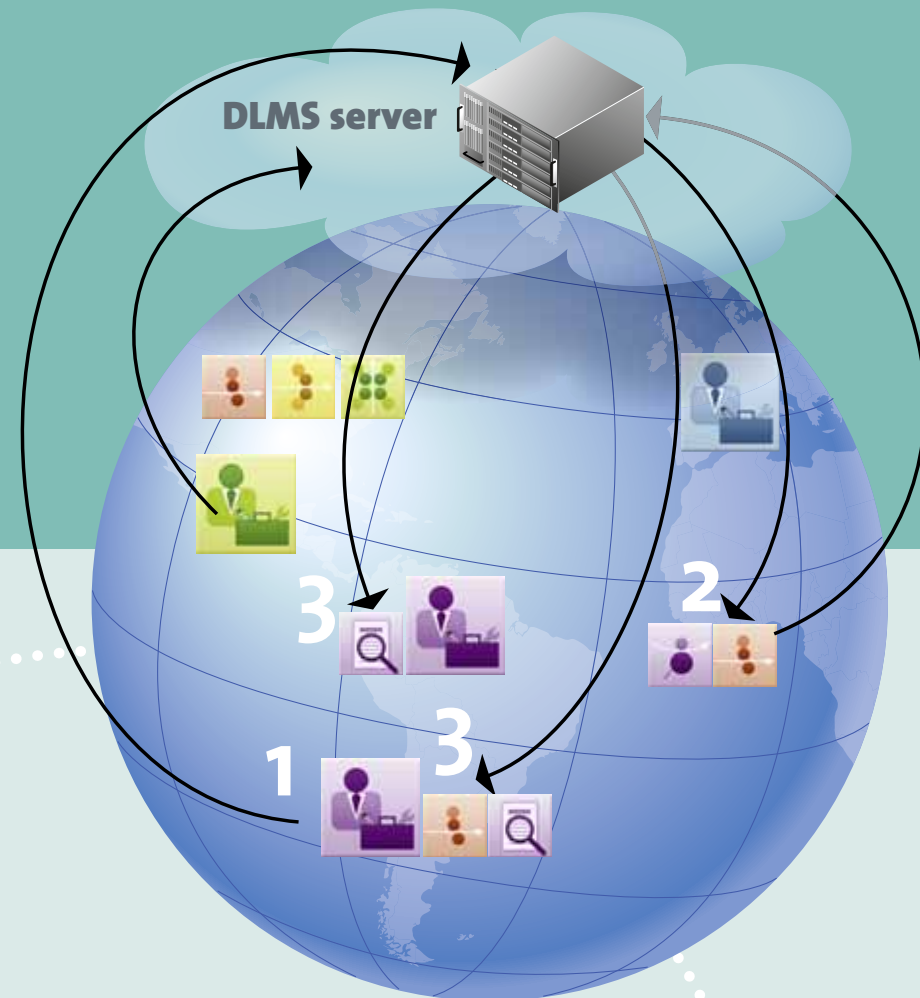
Input your own print jobs and production values. These are labels after stripping but before trimming.



Pan and zoom to take a close look at quality. Here there is the wrong pressure, causing color problems.



# Easy Distributed Learning Management



## NEW

The Cloud-based Distributed Learning Management System (DLMS) makes it easy for instructors to manage and evaluate large numbers of trainees, both on-site and across sites. DLMS provides automatic analysis of training sessions and language-independent reports to track results by time, production cost, and ranking.

All Sinapse users have access to the DLMS to improve their flexibility, ease of use, and effectiveness.

All simulators connect to the DLMS; for example, one instructor can follow both sheetfed and heatset trainees, or sheetfed, flexo and gravure operations.

Distributed learning makes it easier and more efficient to train with simulators wherever they are located: in production sites or classrooms, in multiple sites and different countries. It allows access to this information from anywhere on the corporate/educational network.

Sessions sent over the Internet are analyzed automatically. Summary user reports compare trainees within a group (costs, times, waste, ranking), groups within a site, sites within a country, or sites in different countries.

### User Reports and Benchmarking include:

- Overview of users/sites/countries
- Comparison of production costs and waste.
- Automatically compare user results to reference values
- Detailed analysis of each user session to summarize progress and problems.



Coursework can be independently certified with Training Certificates from industry associations PIA and FTA.

- 1 / Instructor:** Sets-up courses in his own language for the trainees that may be located anywhere speaking different languages.
- 2 / Trainees:** Use the simulator wherever they are located in their preferred language(s).
- 3 / Instructor:** Review summary results for groups, or individual results of trainees.

## New products NOW available

- Multi-Language DISTRIBUTED LEARNING MANAGEMENT
- All simulators in all languages unified NEW V5.0 under Windows7
- Heidelberg version of Sheetfed Simulator
- WorldSkills version — Sheetfed simulator is a competition evaluation tool
- Goss M600 & New Heatset<sup>EXPERT</sup> web version
- Simulator versions in Arabic, Chinese, Finnish, Japanese, Korean (& 10 other languages)
- Multi-user consoles for same press
- Techkon scanning densitometer interface
- Simulators on a tablet

## New products under development

- UV Sheetfed for metal decorating, plastic, and paper substrates.
- Climate cost calculation including carbon footprint
- PSO certification criteria and training scenarios

## DLMS Training and Management tools

**1.** The instructor enrolls the trainees in the system and sets up their coursework, creates or modifies problem scenarios, press configurations, costs, multimedia links, and reference values — hundreds of predefined courses are supplied.

**2.** The PrintJob Generator allows users to input their own print job images so trainees see on the simulator what they print on the press. Users can set problems to suit their own unique conditions and training needs. It takes only a click to alter the variables to create a new exercise to match a specific pressroom problem.

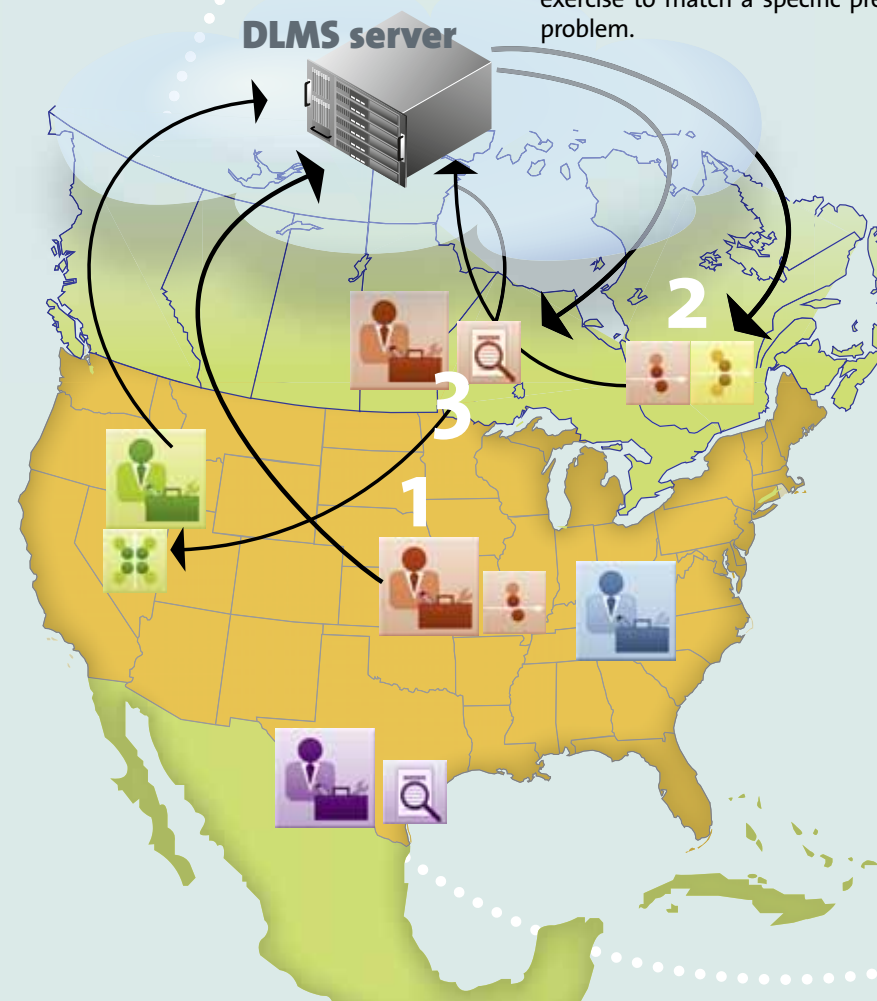
**3.** The Educational Server lets the administrator configure sites, groups, instructors, and trainees, each with their password, and access to problems and results. This can be done over the Internet.

**4.** When the trainee logs on, they see what has to be done. They can do it at any time, and from any of the simulation workstations in their local language. The simulators let trainees practice problem solving and gain experience running the press in any available language.

**5.** The instructor can review the results from any station on the network, or through their Cloud-based access to compare individual and group progress at anytime, anywhere. The system is language independent meaning a review can be in any language, even if it is not the same as the trainee's.

**6.** The Individual Results Report automatically analyzes a trainee's session and can compare it in detail to any other session.

**7.** The Group Report automatically compares ALL session costs, times, waste, ranking, averages ... and can be used to evaluate, compare and benchmark individuals and groups, and help to fine tune training.



# Real Results



*"The simulator helps minimize the learning curve... We plan to give our operators everything they need."*  
**Milwaukee Sentinel Journal, USA**



*"Sinapse simulators are an essential part of the operator skill evaluations we do for the industry."*  
**RM Globis, Philippines – 3 simulators**



*"Integrating videos with the simulator. The simulator gives them the feeling of actually printing a job. It's like working on a real press."*  
**Quebecor/Quad Graphics, USA – 10+ simulators**



*"Help train newspaper pressmen without them actually having to work on a press."*  
**WAN-IFRA, India – 3 simulators**



*"Companies using simulators report dramatically increased confidence and skill levels of current personnel, decreased average makeready times and increased good copies in the press runs."*  
**PIA, WOA Heatset Contest, USA**



*"Students are required to do simulator training before machine operation."*  
**Beijing, China – 35 simulators at one school, 100+ in city**



*"We have achieved a better rapport with our customers and enhanced the experience of our own people."*  
**Sun Chemical Europe, – 5 simulators**



*"The simulator has been found to be highly motivating."*  
**Franklin Press, Australia**



*"It's exactly what our operators need, and it provides the level of realism that really makes a difference."*  
**Salt Lake City, USA**



**Sinapse**  
**Print Simulators**

Batiment Epicure,  
 Parc des Algorithmes  
 91194 St Aubin - France  
 Tel +33 1 69 35 54 00  
 Fax +33 1 69 35 07 15  
 www.sinapseprint.com  
 info@sinapseprint.com